

FDMQ

Fire damper

Technical Documentation

Installation, Commissioning, Operation, Maintenance and Service Manual



These technical specifications state a row of manufactured sizes and models of fire dampers FDMQ
It is valid for production, designing, ordering, delivery, maintenance and operation.

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I. GENERAL

Description

Fire dampers are shutters in ducts of air-conditioning devices that prevent the spread of fire and combustion products from one fire segment to the other one by means of closing the duct in the points of fire separating constructions.

Damper blade automatically closes air duct using a closing spring or a spring return actuator. The closing spring is actuated by pressing a button on the manual control or by melting a thermal fuse.

The return spring of the actuator is actuated when a thermoelectric activation device BAT is activated, when a test button on BAT is pressed or when power supply of the actuator is interrupted.

After closing the blade, the damper is sealed with silicon against smoke penetration. On request by customer, the damper can be supplied silicon-free. In the closed position, the damper is also sealed with material which increases its volume due to increasing temperature and air proofs the air duct.



FDMQ with spring return actuator



FDMQ with manual control

Damper characteristics

- CE certified acc. to EN 15650
- Tested in accordance with EN 1366-2
- Classified acc. to EN 13501-3+A1
- External Casing leakage class C, Internal leakage class 2 acc. to EN 1751
- Cycling test in class C₁₀₀₀₀ acc. to EN 15650
- Corrosion resistant acc. to EN 15650
- Certificate of constancy of performance No. 1391-CPR-XXXX/XXXX
- Declaration of Performance No. PM/FDMQ/01/XX/X
- Hygienic assessment of fire dampers - Report No. 1.6/pos/19/19b

Working conditions

- Exact damper function is provided under the following conditions:
 - maximum air velocity 12 m/s
 - maximum pressure difference 1200 Pa
 - the air circulation in the whole damper section must be secured steady over the entire surface.
- Dampers can be installed in arbitrary position
- Dampers are suitable for systems without abrasive, chemical and adhesive particles.
- Dampers are designed for macroclimatic areas with mild climate according to EN IEC 60 721-3-3 ed.2., class 3K22. (Environment 3K22 is typically protected place with regulated temperature)
- Temperature in the place of installation is permitted to range from -30°C to +50°C.

II. DESIGN

Design with manual control

Design .01

- Design with manual control with a thermal fuse which actuates the shutting device, after the nominal activation temperature 72°C has been reached.
- Automatic initiation of the manual control is not activated if the temperature does not exceed 70°C.
- In case that other activation temperatures are required, thermal fuses with nominal activation temperature +104°C or +147°C can be supplied (this requirement must be specified in the order).



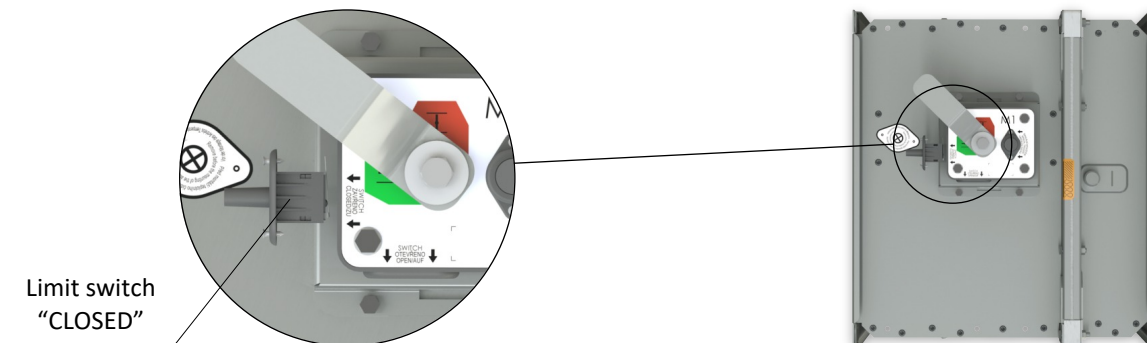
Design .01

ATTENTION:

- Manual controls are produced in five sizes M1 to M5, difference is only in size of a closing spring, which closes the fire damper.
- For the size of fire dampers is always assigned the size of the manual control → see pages 20 to 25
- It is not recommended to use different size of the manual control than given by the manufacturer, otherwise there is a risk of damaging the fire damper.

Design .11

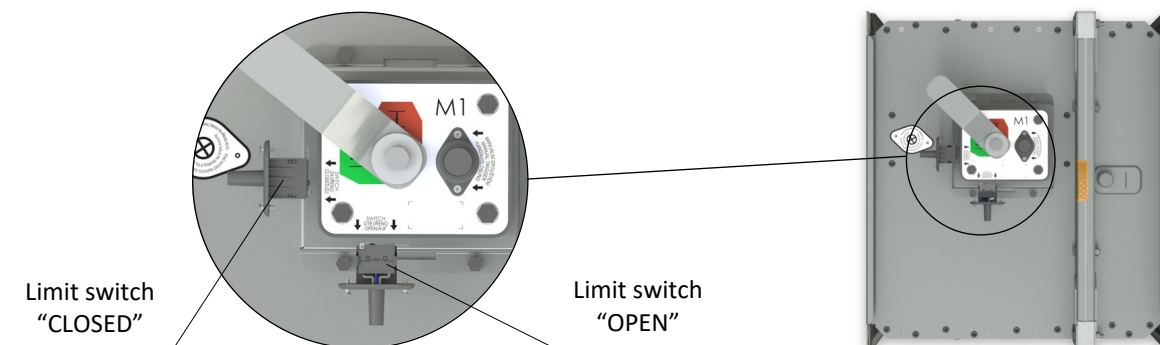
- Design .01 with manual control can be complemented with a limit switch signaling of the damper blade position "CLOSED".
- Cable is connected directly to limit switch.
- Limit switch detail → see page 5



Design .11

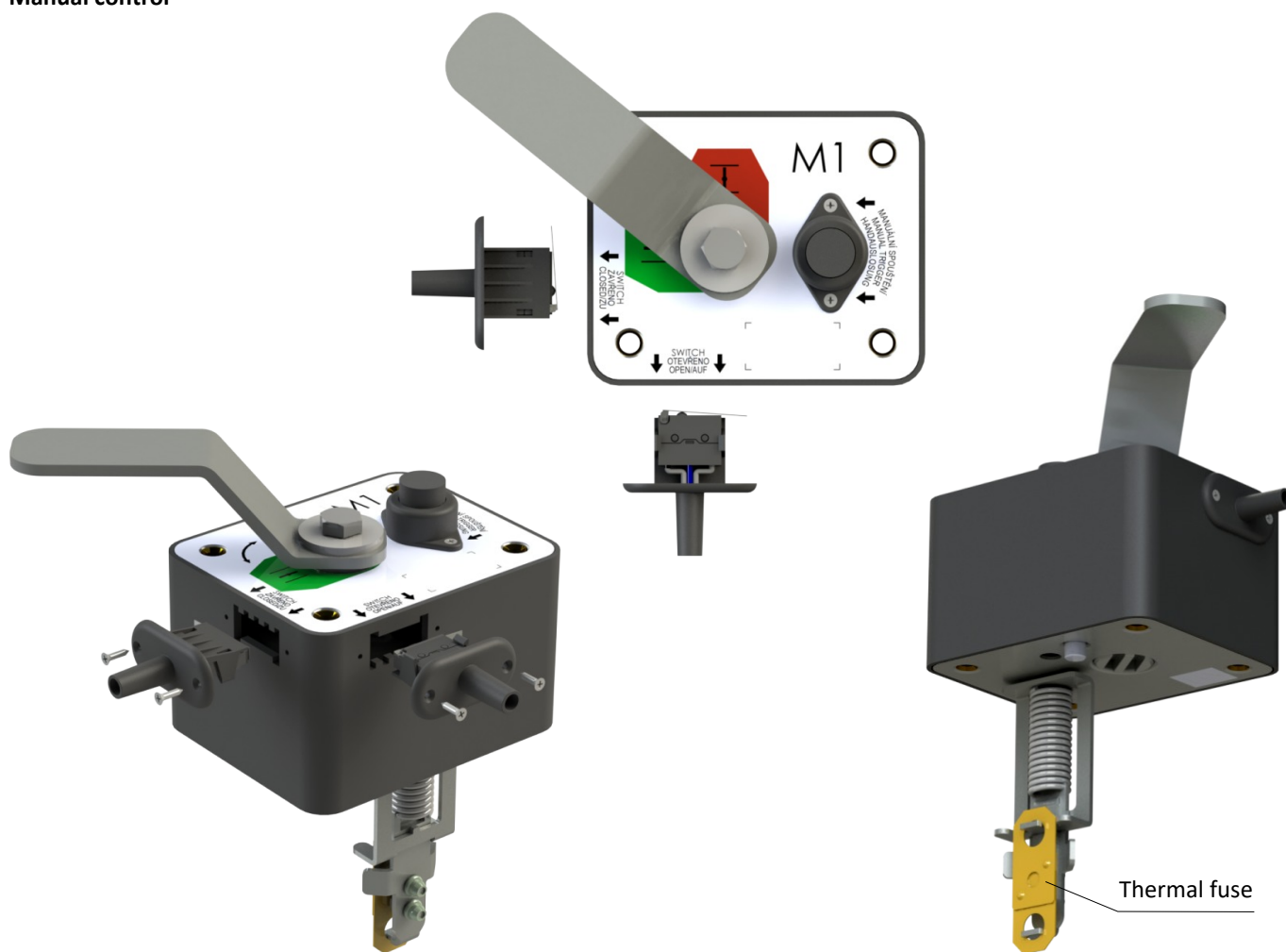
Design .80

- Design .01 with manual control can be complemented with two limit switches signaling of the damper blade position "CLOSED" and "OPEN".
- Cables are connected directly to limit switches.
- Limit switch detail → see page 5

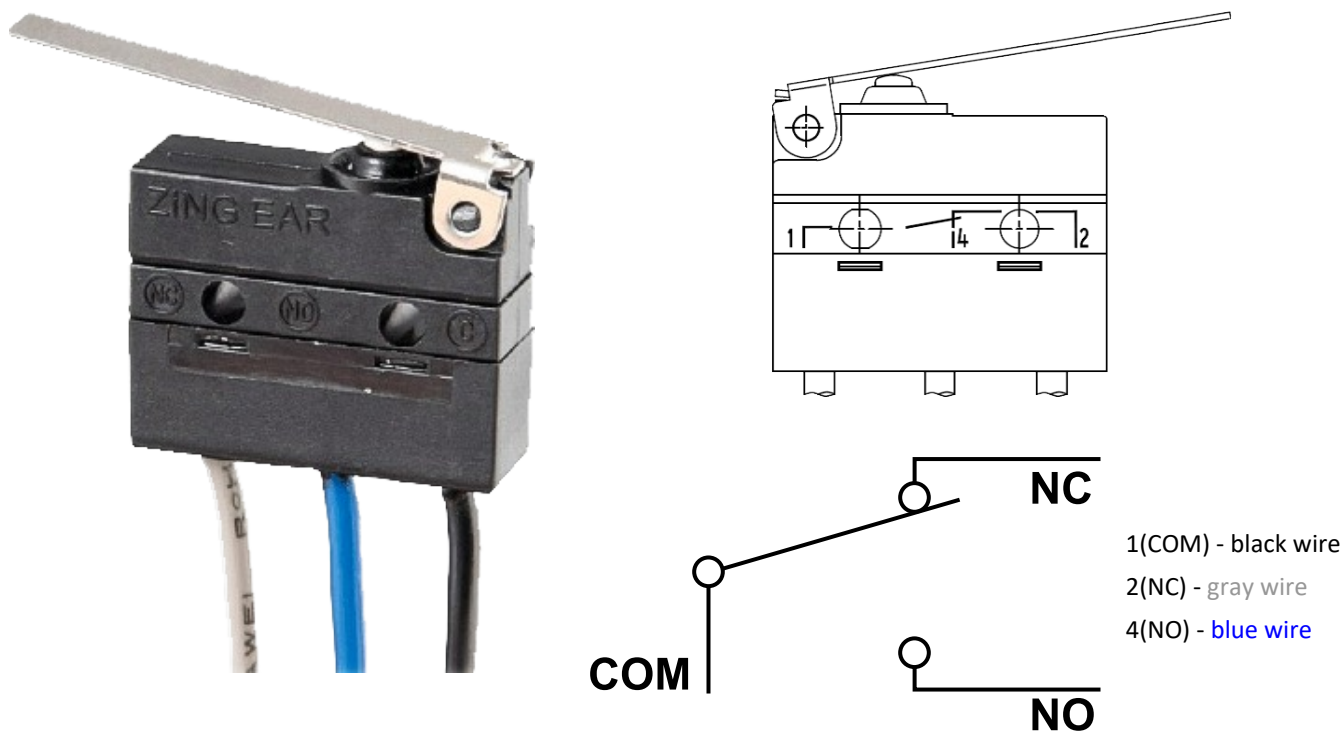


Design .80

Manual control



Limit switch G905-300E03W1



| | |
|-------------------------------------|------------------|
| Nominal voltage and maximal current | AC 230V / 5A |
| Class of protection | IP 67 |
| Working temperature | -25°C ... +120°C |

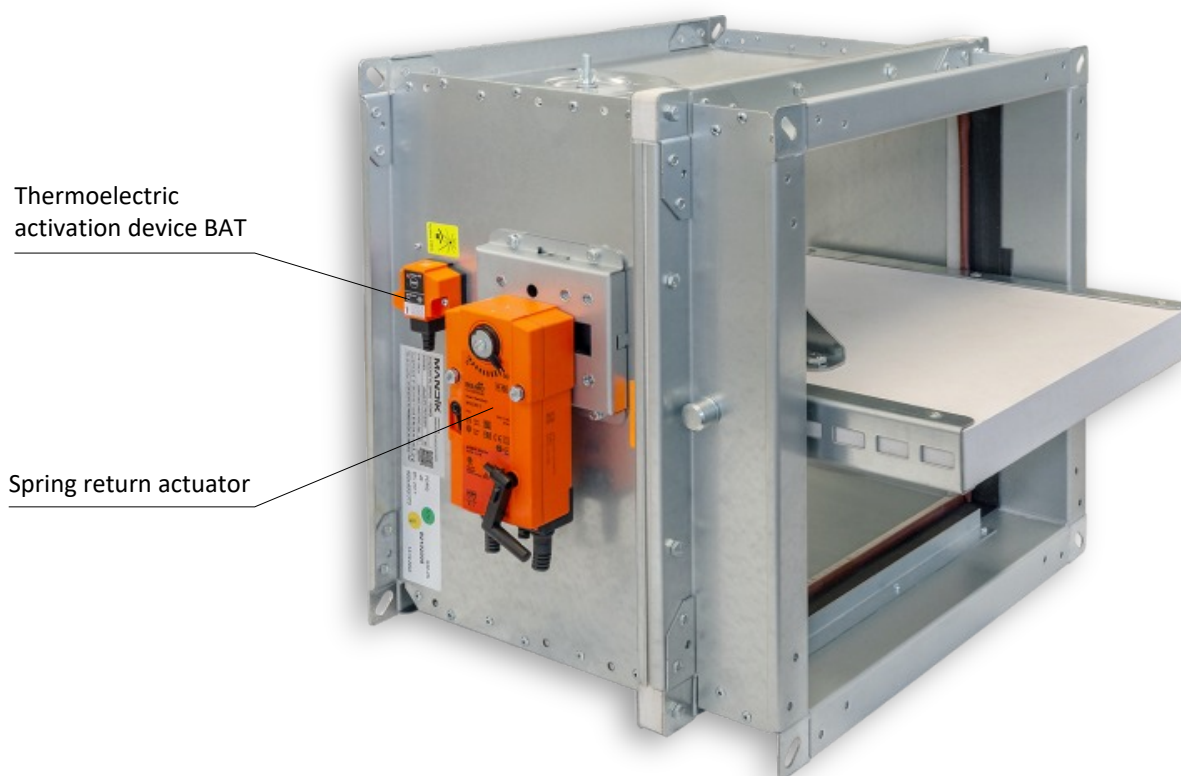
This limit switch is possible to connect in two following ways

- CUT-OFF if the arm is moving ... connect wire 1+2
- SWITCH-ON if the arm is moving ... connect wire 1+4

Design with spring return actuator

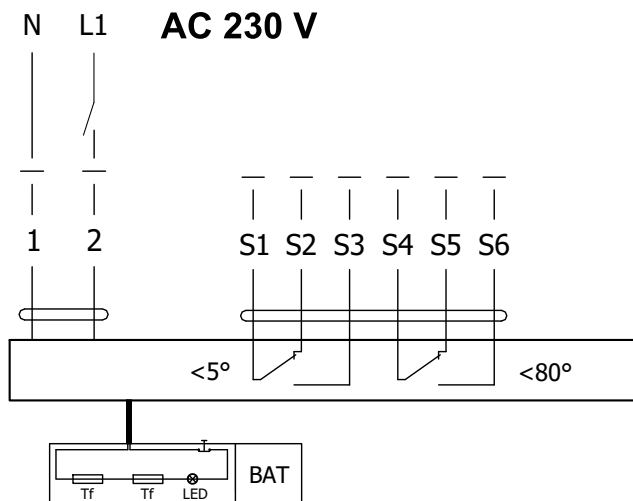
Design .40 and .50

- The fire dampers are equipped with Belimo spring return actuators with thermoelectric activation device BAT. The spring return actuator types are BFL, BFN or BF depending on the damper size. (Further mentioned as „actuator“).
- After being connected to power supply 230V or AC/DC 24V, the actuator rotates the damper blade to the operating position "OPEN" and at the same time pre-stretches its return spring.
- When the actuator is power supplied, the damper blade is in the position "OPEN" and the return spring is pre-stretched.
- Time needed for full opening of the damper blade from the position "CLOSED" to the position "OPEN" is maximum 120 sec. If the actuator power supply is interrupted (due to loss of supply voltage, or pressing a test button on the thermoelectric activation device BAT), the actuator rotates the damper blade to the breakdown position "CLOSED".
- The time of closing the damper blade from the position "OPEN" to the position "CLOSED" takes maximum 20 sec.
- In case that the power supply is restored again (the blade can be in any position), the actuator starts to rotate the damper blade back to the position "OPEN".
- A thermoelectric activation device BAT, which contains two thermal fuses Tf1 and Tf2, is an integral part of the actuator.
- These fuses are activated when temperature +72°C has been reached (the fuse Tf1 due to temperature outside the duct and the fuse Tf2 due to temperature inside the duct). The thermoelectric activation device can also be equipped with a Tf2 thermal fuse type ZBAT 95/120/140 (must be specified in the order). In this case, the activation temperature inside the duct is +95°C, +120°C or +140°C (depending on the type).
- After the thermal fuse Tf1 or Tf2 has been activated, the power supply is permanently and irreversibly interrupted and the actuator, by means of the pre-stretched spring, rotates the damper blade into the breakdown position "CLOSED".
- Signalisation of damper blade position "OPEN" and "CLOSE" is provided by two microswitches.

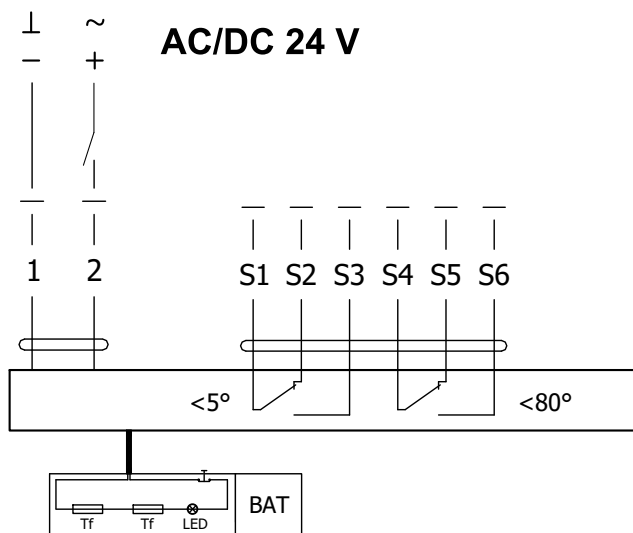


Design .40 and .50

Actuator BELIMO BFL 230-T



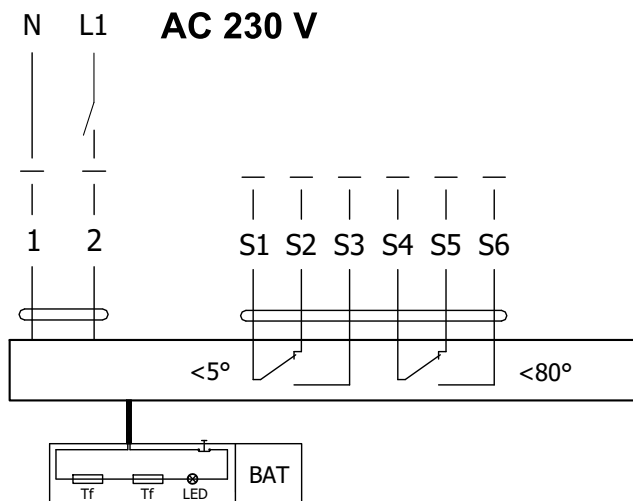
Actuator BELIMO BFL 24-T(-ST)



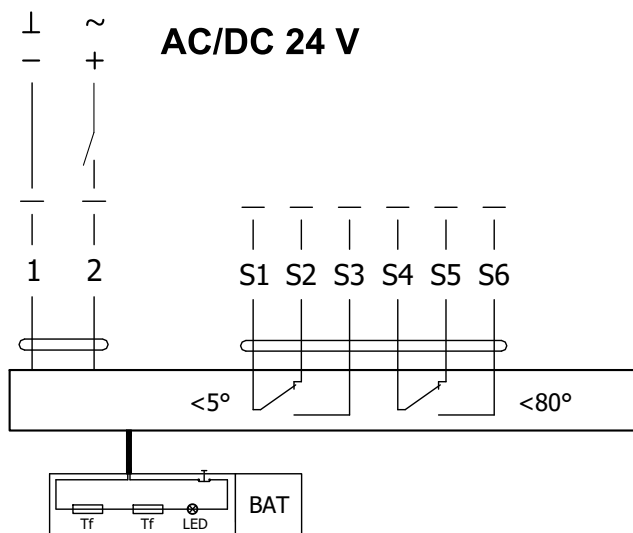
Actuator BELIMO BFL 230-T(-ST), BFL 24-T(-ST)

| Actuator BELIMO - 4 Nm/ 3 Nm Spring | BFL 230-T(-ST) | BFL 24-T(-ST) |
|--|--|--------------------------------------|
| Power voltage | AC 230 V 50/60Hz | AC/DC 24 V 50/60Hz |
| Power consumption - in operation - in rest position | 3,5 W 1,1 W | 2,5 W 0,8 W |
| Dimensioning | 6,5 VA (I _{max} 4 A @ 5 ms) | 4 VA (I _{max} 8,3 A @ 5 ms) |
| Protection class | II | III |
| Degree of protection | IP 54 | |
| Running time - motor - spring return | < 60 s ~ 20 s | |
| Ambient temperature - normal duty - safety duty - non-operating temperature | -30°C ... +55°C The safe position will be attained up to max. +75°C -40°C ... +55°C | |
| Connection - supply/control - auxiliary switch | cable 1 m, 2 x 0,75 mm ² (BFL 2xx-T-ST) with 3-pin plug-in connectors cable 1 m, 6 x 0,75 mm ² (BFL 2xx-T-ST) with 6-pin plug-in connectors | |
| Response temperature thermal fuse | duct outside temperature +72°C duct inside temperature +72°C | |

Actuator BELIMO BFN 230-T



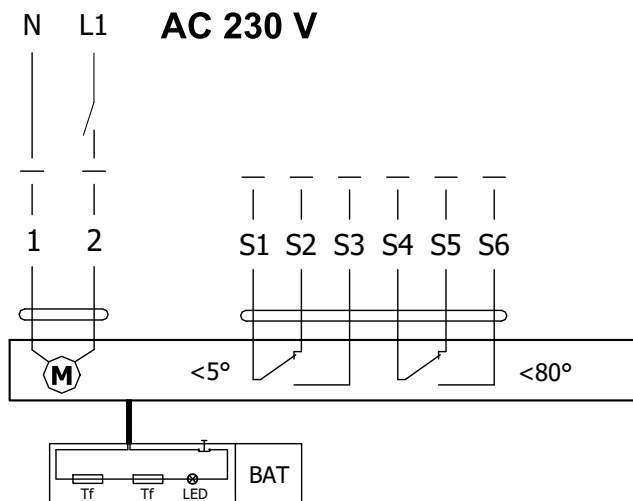
Actuator BELIMO BFN 24-T(-ST)



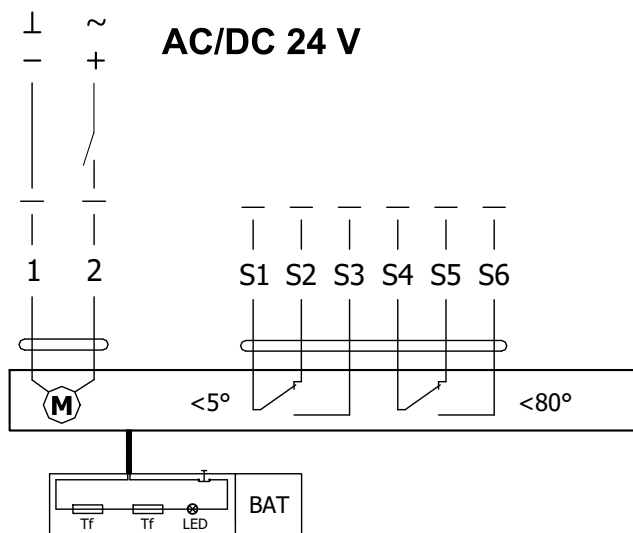
Actuator BELIMO BFN 230-T(-ST), BFN 24-T(-ST)

| Actuator BELIMO - 9 Nm/ 7 Nm Spring | BFN 230-T(-ST) | BFN 24-T(-ST) |
|--|--|--------------------------|
| Power voltage | AC 230 V 50/60Hz | AC/DC 24 V 50/60Hz |
| Power consumption - in operation - in rest position | 5 W 2,1 W | 4 W 1,4 W |
| Dimensioning | 10 VA (Imax 4 A @ 5 ms) | 6 VA (Imax 8,3 A @ 5 ms) |
| Protection class | II | III |
| Degree of protection | IP 54 | |
| Running time - motor - spring return | <math>< 60\text{ s}</math> $\sim 20\text{ s}$ | |
| Ambient temperature - normal duty - safety duty - non-operating temperature | -30°C ... +55°C The safe position will be attained up to max. +75°C -40°C ... +55°C | |
| Connection - supply/control - auxiliary switch | cable 1 m, 2 x 0,75 mm ² (BFN 2xx-T-ST) with 3-pin plug-in connectors cable 1 m, 6 x 0,75 mm ² (BFN 2xx-T-ST) with 6-pin plug-in connectors | |
| Response temperature thermal fuse | duct outside temperature +72°C duct inside temperature +72°C | |

Actuator BELIMO BF 230-TN



Actuator BELIMO BF 24-TN (-ST)



Actuator BELIMO BF 230-TN(-ST), BF 24-TN(-ST)

| Actuator BELIMO - 18 Nm/ 12 Nm Spring | BF 230-TN(-ST) | BF 24-TN(-ST) |
|--|--|---------------------------------------|
| Power voltage | AC 230 V 50/60Hz | AC/DC 24 V 50/60Hz |
| Power consumption - in operation - in rest position | 8,5 W 3 W | 7 W 2 W |
| Dimensioning | 11 VA (I _{max} 8,3 A @ 5 ms) | 10 VA (I _{max} 8,3 A @ 5 ms) |
| Protection class | II | III |
| Degree of protection | IP 54 | |
| Running time - motor - spring return | 120 s ~ 16 s | |
| Ambient temperature - normal duty - safety duty - non-operating temperature | -30°C ... +50°C The safe position will be attained up to max. +75°C -40°C ... +50°C | |
| Connection - supply/control - auxiliary switch | cable 1 m, 2 x 0,75 mm ² (BF 2xx-TN-ST) with 3-pin plug-in connectors cable 1 m, 6 x 0,75 mm ² (BF 2xx-TN-ST) with 6-pin plug-in connectors | |
| Response temperature thermal fuse | duct outside temperature +72°C duct inside temperature +72°C | |

Thermoelectric activation device BAT

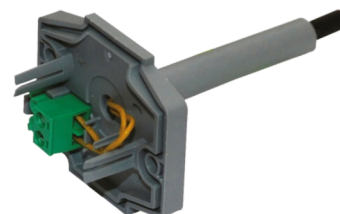
- If the thermal fuse Tf1 is interrupted (due to temperature outside the duct), it is necessary to replace the spring return actuator. Thermoelectric activation device BAT is integral part of the actuator.
- If the thermal fuse Tf2 is interrupted (due to temperature inside the duct), only the spare part ZBAT 72 (95/120/140) needs to be replaced (acc.to the activation temperature).
- When one of the thermal fuses responds, the supply voltage is interrupted permanently and irreversibly.
- The function (interruption of the supply voltage) can be checked by pressing the test button.
- Installation is carried out with the pre-assembled, self-tapping screws.



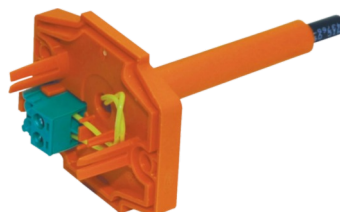
BELIMO ZBAT 72
Black (BK) = 72°C (standard)



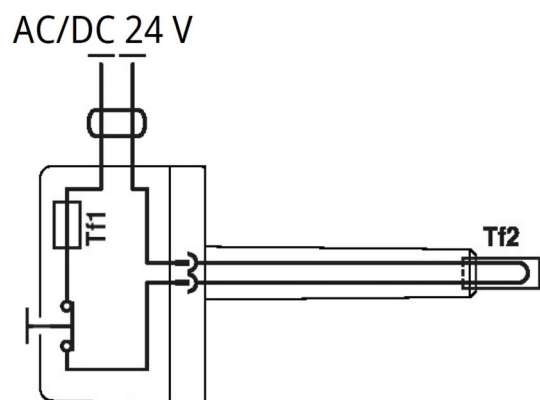
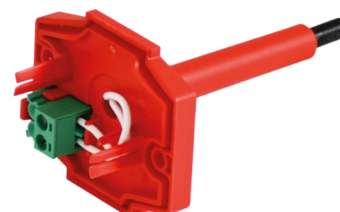
BELIMO ZBAT 95
Grey (GY) = 95°C



BELIMO ZBAT 120
Orange (OG) = 120°C



BELIMO ZBAT 140
Red (RD) = 140°C



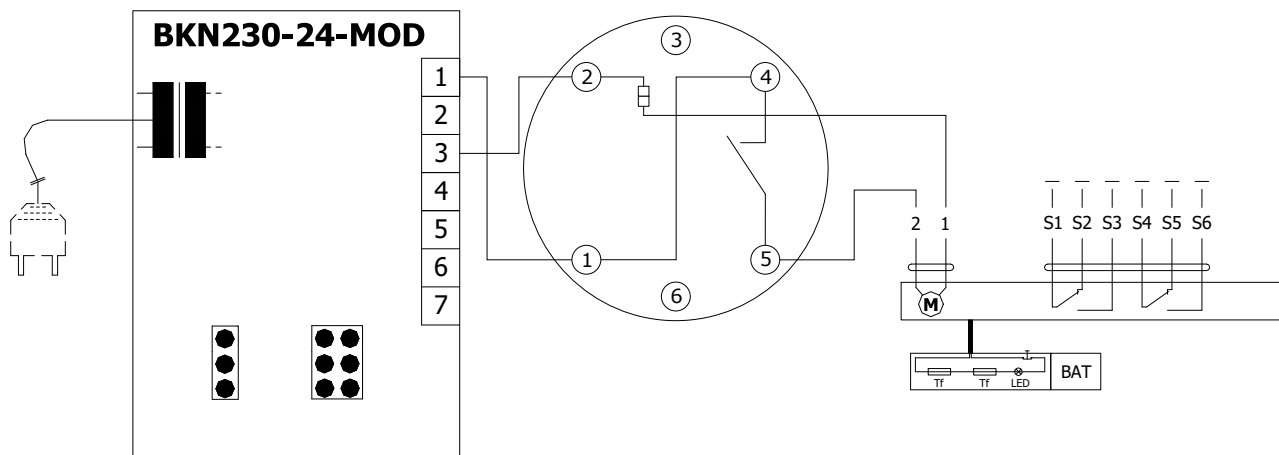
Thermoelectric activation device BAT 72 (95/120/140)

| | |
|-----------------------------------|---|
| Power voltage | AC/DC 24 V 50/60Hz |
| Rated current | 1 A |
| AC/DC throughput resistance | <1 Ω |
| Protection class | III |
| Degree of protection | IP 54 |
| Probe length | 65 mm |
| Ambient temperature | -30°C ... +50°C |
| Storage temperature | -40°C ... +50°C |
| Ambient humidity | Max. 95% RH, non-condensing |
| Connection supply | Cable 1 m, 2 x 0.5 mm ² , Betaflam cable heatresistant up to 145°C |
| Response temperature thermal fuse | Duct inside temperature +72 (95/120/140)°C Duct outside temperature +72 (95/120/140)°C |

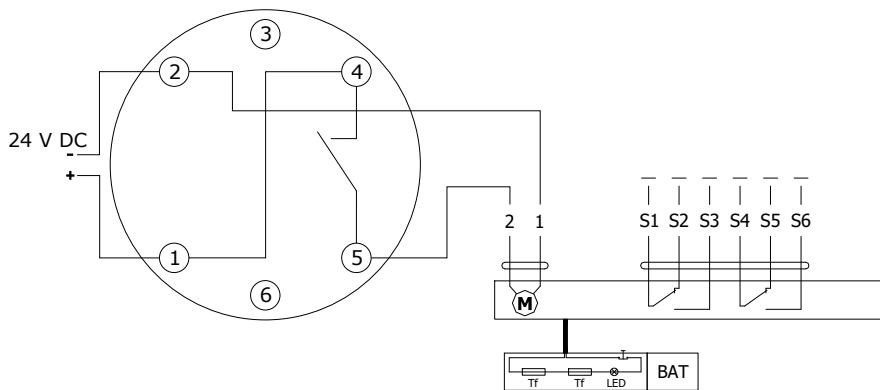
Design .41 and .51

- Design .41 or .51 with actuator and smoke detector ORS 142 K. The voltage can be AC 230 V or 24 V DC. Design .41 with voltage AC 230 V is equipped with communication and supply device BKN 230-24-MOD and with actuator BF 24-TN (BFL 24-T, BFN 24-T).
- The smoke detector is activated when smoke spreads in air duct system. Deactivation of the smoke detector alarm status is provided by interruption of supply voltage for min. 2s.
- Signalisation of damper blade position "OPEN" and "CLOSE" is provided by two microswitches.

Design .41 with actuator BF 24-TN (BFL, BFN 24-T), with smoke detector ORS 142 K and with supply device BKN 230-24-MOD (voltage AC 230 V)



Design .51 with actuator BF 24-TN (BFL, BFN 24-T), with smoke detector ORS 142 K (voltage 24 V DC)



Communication and supply device BKN 230-24-MOD

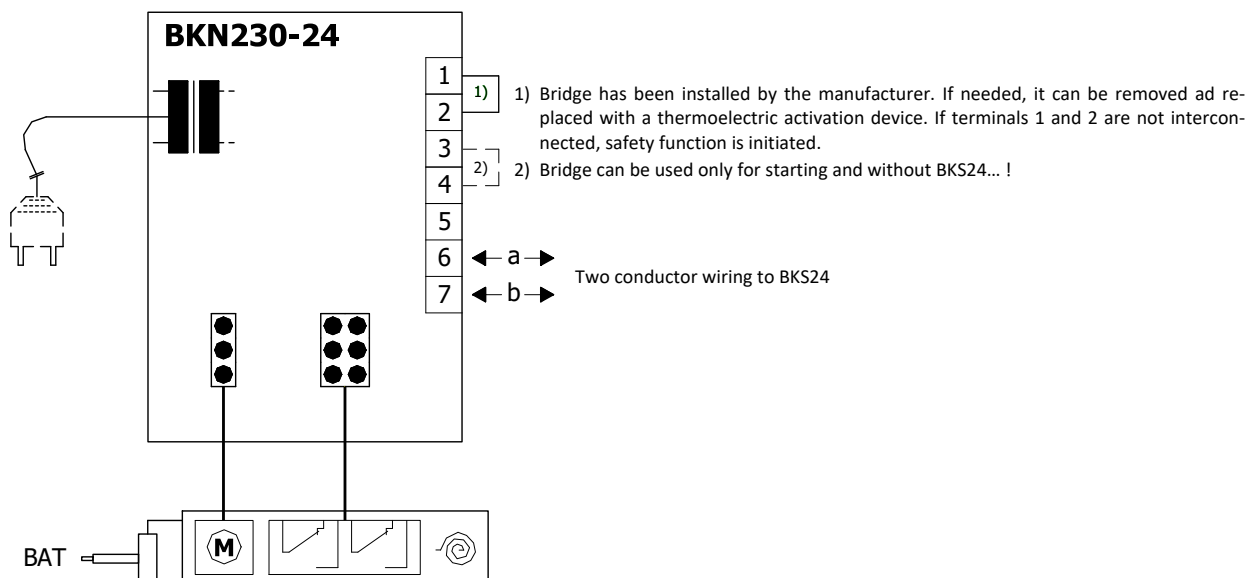
| | |
|---------------------------|---|
| Nominal voltage | AC 230 V 50/60Hz |
| Power consumption | 3 W (operating position) |
| Dimensioning | 14 VA (including actuator) |
| Protection Class | II |
| Degree of protection | IP 40 |
| Ambient temperature | -20°C ... +50°C |
| Non-operating temperature | -40°C ... +80°C |
| Connection - net | cable 0,9 m with EURO plug type 26 |
| - motor | 6-pole connector, 3-pole connector |
| - terminal board | screw terminals for cable 2x1,5 mm ² |

Design with the communication and supply device

Design .60

- Design with the communication and supply device BKN 230-24 and actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST). It simplifies electrical wiring and interconnection of fire dampers. It facilitates on site check and enables central control and checks of fire dampers by means of a simple 2-conductor wiring.
- BKN 230-24 functions as a decentralized network device for supplying the actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) further it transmits the signal informing about the damper blade position OPERATION and FAILURE through 2-conductor wiring to the central.
- Control command SWITCHED ON - SWITCHED OFF from the central through BKN 230-24 goes through the same wiring to the actuator.
- To simplify the connection, the actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) is equipped with connecting plugs that are inserted directly to BKN 230-24. BKN 230-24 is supplied with a conductor and an EURO plug to be connected to the 230V mains. 2-conductor wiring is connected to BKN 230-24 by means of terminals 6 and 7. If the actuator is supposed to be controlled without any signal from the central, it can be switched on by means of a bridge between the terminals 3 and 4.
- A green LED on BKN 230-24 is on when voltage is present in the drive (AC 24V).
- If the test button on BAT is pressed or if the power supply (e.g. by a signal from ELECTRICAL FIRE SIGNALISATION) is disconnected, the damper blade position will be "FAILURE".

Communication and supply device BKN 230-24, with actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST)



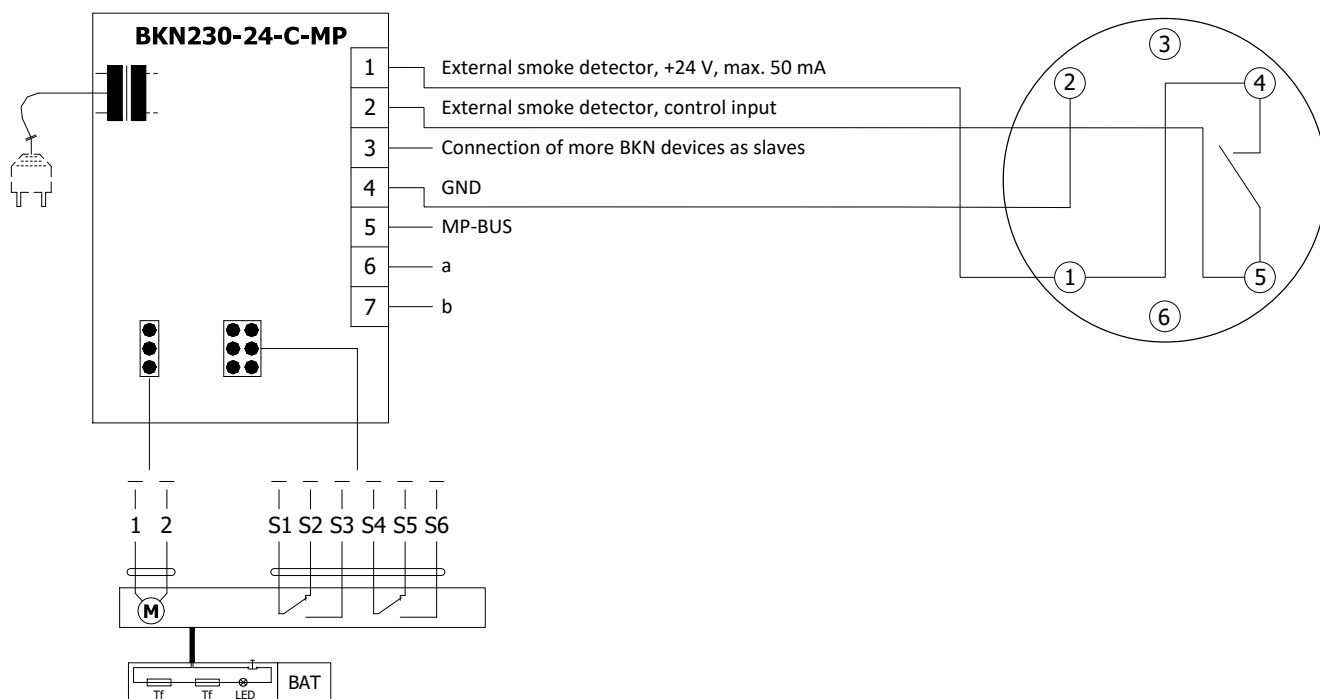
Communication and supply device BKN 230-24

| | |
|---------------------------|---|
| Nominal voltage | AC 230 V 50/60Hz |
| Power consumption | 3,5 W (operating position) |
| Dimensioning | 11 VA (including actuator) |
| Protection Class | II |
| Degree of protection | IP 40 |
| Ambient temperature | -20°C ... +50°C |
| Non-operating temperature | -40°C ... +80°C |
| Connection - net | cable 0,9 m with EURO plug type 26 |
| - motor | 6-pole connector, 3-pole connector |
| - terminal board | screw terminals for cable 2x1,5 mm ² |

Design .61, 61S

- Design with the communication and supply device BKN 230-24-C-MP, and actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST). It simplifies electrical wiring and interconnection of fire dampers. Enables central control and checks of fire dampers by means of a simple 2-conductor wiring and it also allows connection to the system via MP-BUS communication. Design 61. can be extended with an optical smoke detector ORS 142 K (design .61S).
- BKN 230-24-C-MP functions as a decentralized network device for supplying the actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) further it transmits the signal informing about the damper blade position OPERATION and FAILURE through 2-conductor wiring to the central.
- Control command SWITCHED ON - SWITCHED OFF from the central through BKN 230-24-C-MP goes through the same wiring to the actuator.
- To simplify the connection, the actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) is equipped with connecting plugs that are inserted directly to BKN 230-24-C-MP. BKN 230-24-C-MP is supplied with a conductor and an EURO plug to be connected to the 230V mains. 2- conductor wiring is connected to BKN 230-24-C-MP by means of terminals 6 and 7. If the actuator is supposed to be controlled without any signal from the central, it can be switched on by means of a bridge between the terminals 3 and 4.
- A green LED on BKN 230-24-C-MP is on when voltage is present in the drive (AC 24V).
- If the test button on BAT is pressed or if the power supply (e.g. by a signal from ELECTRICAL FIRE SIGNALISATION) is disconnected, the damper blade position will be "FAILURE".
- For design .61S the smoke detector is activated when smoke spreads in air duct system. Deactivation of the smoke detector alarm status is provided by interruption of supply voltage for min. 2s.

Design with communication and supply device BKN 230-24-C-MP, with actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) and smoke detector ORS 142 K



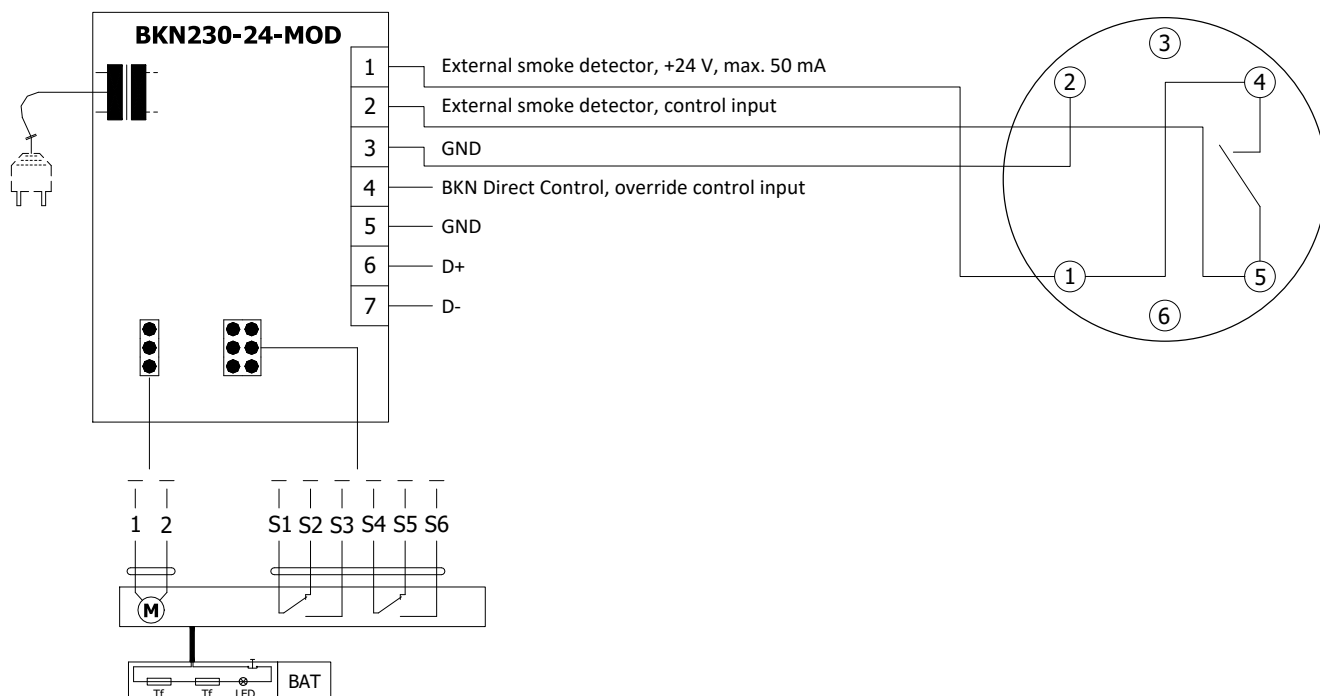
Communication and supply device BKN 230-24-C-MP

| | |
|---------------------------|---|
| Nominal voltage | AC 230 V 50/60Hz |
| Power consumption | 3,5 W (operating position) |
| Dimensioning | 10 VA (including actuator) |
| Protection Class | II |
| Degree of protection | IP 40 |
| Ambient temperature | -20°C ... +50°C |
| Non-operating temperature | -40°C ... +80°C |
| Connection | - net - motor - terminal board |
| | cable 0,9 m with EURO plug type 26 6-pole connector, 3-pole connector screw terminals for cable 2x1,5 mm ² |

Design .63, 63S

- Design with the communication and supply device BKN 230-24-MOD and actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) for communication with control systems using the Modbus RTU or BACnet MS / TP. Design 63. can be extended with an optical smoke detector ORS 142 K (design .63S).
- The wiring of the line is to be carried out in accordance with applicable RS485 regulations.
- Parameterization of the communication is done using DIL switches.
- BKN 230-24-MOD can be installed separately, without a connection to a master control system, in which case the connection bridge between the terminals 1 and 4 must be installed.
- If the test button on BAT is pressed or if the power supply (e.g. by a signal from ELECTRICAL FIRE SIGNALISATION) is disconnected, the damper blade position will be "FAILURE".
- For design .63S the smoke detector is activated when smoke spreads in air duct system. Deactivation of the smoke detector alarm status is provided by interruption of supply voltage for min. 2s.

Design with communication and supply device BKN 230-24-MOD, with actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) and smoke detector ORS 142 K



Communication and supply device BKN 230-24-MOD

| | |
|---------------------------|---|
| Nominal voltage | AC 230 V 50/60Hz |
| Power consumption | 3 W (operating position) |
| Dimensioning | 14 VA (including actuator) |
| Protection Class | II |
| Degree of protection | IP 40 |
| Ambient temperature | -20°C ... +50°C |
| Non-operating temperature | -40°C ... +80°C |
| Connection - net | cable 0,9 m with EURO plug type 26 |
| - motor | 6-pole connector, 3-pole connector |
| - terminal board | screw terminals for cable 2x1,5 mm ² |

Optical smoke detector ORS 142 K with the socket 143A

- The smoke detector ORS 142 K is used for early smoke detection in rooms or inside the ventilation system.
- The sensor operates on the light scatter principle. Inside the scanning chamber is a light source and a light sensor, in the normal state the light from the source does not fall on the sensor. Only when smoke enters the scanning chamber the light is scattered and falls on the sensor.
- The smoke detector can be connected directly to the actuator (design .41 and .51) which, in case of smoke detection, passes to the safety position, or to the BKN communication and supply device (design .61, .63).
- By early detection of smoke, it can be effectively prevented from spreading of smoke through the ventilation system. In addition to smoke detection, the sensor can distinguish and signal slight and heavy contamination, e.g. the presence of large amounts of dust.
- The ORS 142 K smoke detector has an alarm memory, i.e. if the alarm is triggered, the safety relay opens and stays in this state even if the smoke disappears from the scanning chamber. The sensor remains in the alarm state until the power supply is briefly reset.
- On the pin 3, an external device can be connected via RS-Bus communication to report the status of the sensor.
- Pin 6 has no connection to the detector and is designed as a load-bearing structure in the base.

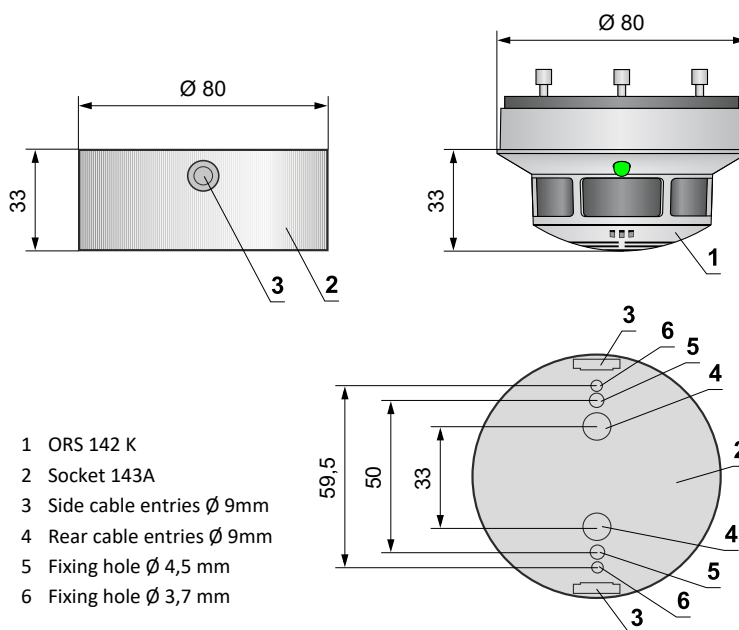
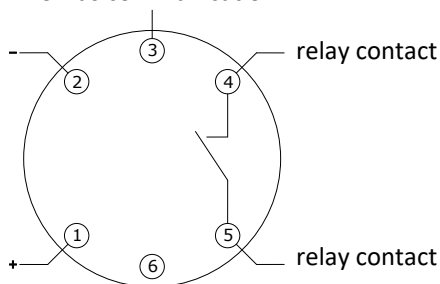
ORS 142 K



Socket 143A



RS-Bus communication



| Relay contact | | LED | |
|----------------------|--|----------------|---------|
| In operation | | Green | Shines |
| Slight contamination | | Green / Yellow | Flashes |
| Heavy contamination | | Green / Yellow | Flashes |
| Fault | | Yellow | Shines |
| Alarm | | Red | Shines |
| Power Off | | Off | - |

- 1 ORS 142 K
- 2 Socket 143A
- 3 Side cable entries Ø 9mm
- 4 Rear cable entries Ø 9mm
- 5 Fixing hole Ø 4,5 mm
- 6 Fixing hole Ø 3,7 mm

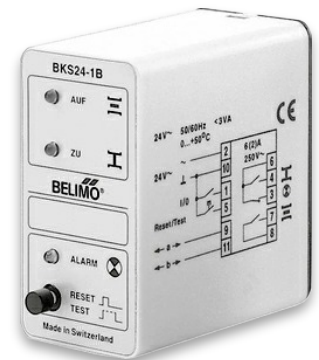
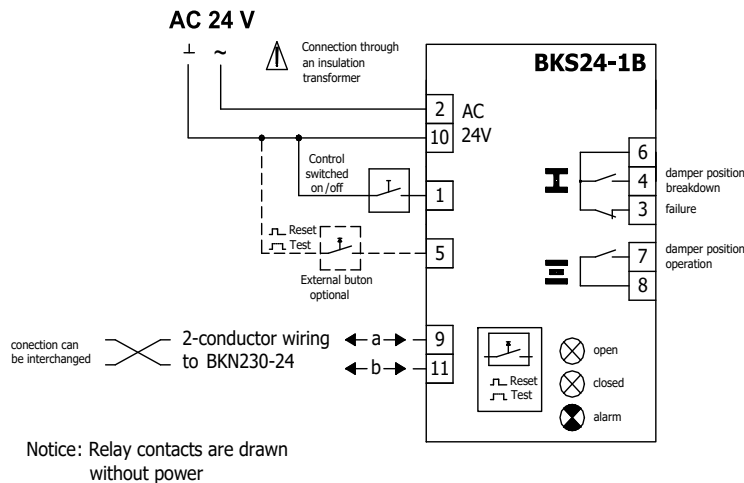
Optical smoke detector ORS 142 K with the socket 143A

| | |
|---|--|
| Operating voltage | 18 ... 28 V DC |
| Residual ripple | ≤ 200 mV |
| Power Consumption Socket (without actuator) | max. 22 mA |
| Degree of protection | IP 42 |
| Ambient temperature | -20°C ... +75°C |
| Additional temperature sensor | +70°C |
| Connection - net | Cabel 1m, connected to terminals 1, 2 and 4 |
| - motor | Actuator connected on the terminals 2 and 5 |
| - communication and supply device BKN | Cabel 1m, connected to terminals 1, 2, 4 and 5 |

Communication and control device BKS 24-1B and BKS 24-9A

Communication and control device BKS 24-1B

- BKS 24-1B communication and control device is used for control and checks of fire dampers with the BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) actuator in conjunction with the BKN 230-24 supply and communication device.
- BKS 24-1B receives information about the situation of the fire damper through BKN 230-24 supply and communication device and issues controlling commands.
- The device is intended for building in into the distribution board.
- Light diodes on the front side of the device signalise the operating situations of the damper and breakdowns of the whole system.
- Potentialless auxiliary contacts enable connection to the master control system (signaling of the damper position, failure reports, release of the ventilators etc.).
- While a flashing green LED pilot light signalises damper blade motion towards the given position, the same pilot light reports reaching the required position when shining constantly.
- If the damper blade, with respect to the given time, does not reach the required position, then a red LED pilot light starts to flash and at the same time, the failure contact is active.
- Once the damper blade reaches the given position, this contact is deactivated.
- The LED pilot light keeps flashing unless the failure is unblocked by means of the RESET button.
- Except for reporting failures, other three auxiliary contacts are available. Contacts showing operating and failure position of the damper are active when the damper is in the given position. Function check can be done by pressing and holding the button "RESET/TEST" for longer time. While holding the button, the damper blade rotates in the direction of the failure position. Fault function is indicated by the LED pilot light.
- BKS 24-1B can be connected by means of ZSO-11 11 pole connector for DIN 35 mm panel.



| Signals and diagnosis | | | | Description |
|-----------------------|------------|------------|----------|--|
| light diodes | | alarm | contacts | state |
| ⊗ open | ⊗ closed | ⊗ alarm | 6-3 | Power supply AC 24V not available |
| ⊗ closed | ⊗ closed | ⊗ closed | 6-3 | Check test cca 35sec, starting with switching AC 24 on or pressing «Reset/Test» button |
| ⊗ open | ⊗ open | ⊗ open | 6-3 | Current failure, possible cause: • short circuit or interruption of 2-conductor wiring or damper failure (at BKN..) • Power supply AC 230V missing • defective thermoelectrical starting • smoke detector activated • exceeded operation time • damper blocked |
| ⊗ closed | ⊗ closed | ⊗ flashing | 6-3 | Failure saved in memory • Fault in system signalled, system check should be done |
| ⊗ closed | ⊗ closed | ⊗ open | 6-3 | Damper (drive) turning into the direction of breakdown position |
| ⊗ closed | ⊗ flashing | ⊗ closed | 6-4 | Damper (drive) in breakdown position |
| ⊗ closed | ⊗ open | ⊗ closed | 6-4 | Damper (drive) in operating position |
| ⊗ flashing | ⊗ closed | ⊗ closed | 6-7 | Damper (drive) turning into the direction of operating position |
| ⊗ open | ⊗ closed | ⊗ closed | 6-7 | Damper (drive) in operating position |

Communication and control device BKS 24-1B

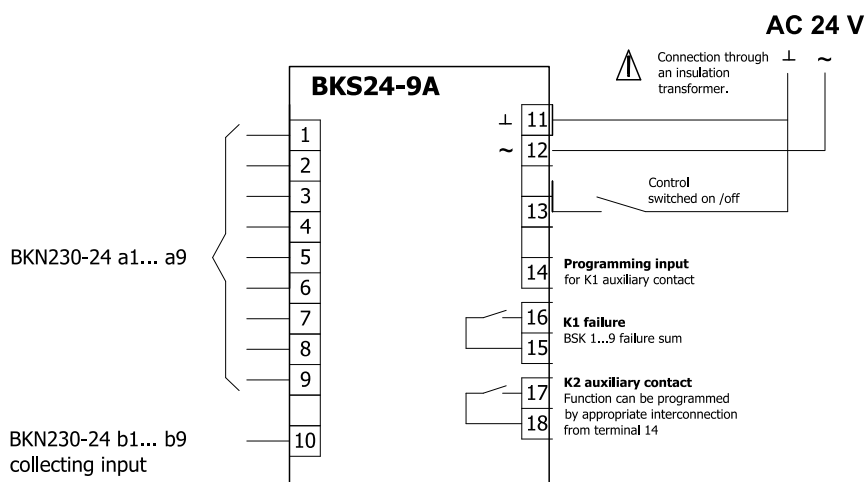
| | |
|----------------------|---|
| Nominal voltage | AC 24 V 50/60Hz |
| Power consumption | 2,5 W (operating position) |
| Dimensioning | 5 VA |
| Protection Class | III |
| Degree of protection | IP 30 |
| Ambient temperature | 0°C ... +50°C |
| Connection | 11-pole connector ZSO-11, it is not part of BKS24-1B, ZSO-11 is 11-pole screw terminal 11 x 1,5 mm ² |

Communication and control device BKS 24-9A

- BKS 24-9A communication and control device is used for group control and checks of 1 to 9 fire dampers with the actuator BF 24-TN-ST (BFL 24-T-ST, BFN 24-T-ST) in connection with the supply and communication device BKN 230-24.
- Signalisation of the damper position is individual; the damper can be controlled and tested only as a group.
- BKS 24-9A is intended for use in the distribution board and displays the operation situations and failure reports of the connected fire dampers.
- It is possible to signalise functions such as the damper position and failure reports or to transmit them further to the system by means of integrated auxiliary switches.
- BKS 24-9A receives signals from BKN 230-24 through the two-conductor wiring and issues control commands.
- Proper damper operation is indicated by two light LED diodes:
 - Control ON = position OPERATION
 - Control OFF = position FAILURE
- If the fire damper do not reach the given position in time tolerable for displacing, the appropriate light diode FAILURE starts to flash and **K1** contact is opened (current failure).
- In case that the faulty damper finally reaches its given position, **K1** is closed and the failure report light shines (the failure is saved in memory).
- **K2** - the auxiliary contact - is used for signaling of the damper blade position to the master device.
- Function of this auxiliary contact can be programmed through the terminal 14.

| Function contact K1 | | Programming K2 Auxiliary Contact | | |
|---------------------|-----------|--|-----------------|-----------|
| situation | state | function | interconnection | state |
| current failure | 15 ——— 16 | K2 contact is on if all dampers are open | 14 ——— 11 | |
| no failure | 15 ——— 16 | K2 contact is on if damper No. 1 is open | 14 ——— 12 | 17 ——— 18 |
| | | K2 contact is on if all dampers are closed | 14 open | |

- Function check can be done in the position OPERATION by means of pressing the TEST button.
- While the test button is pressed, damper blade is rotating into the position FAILURE.
- Fault function is indicated by a report "FAILURE".
- Assembly and connection BKS 24-9A can be made by DIN 35 mm panel. It is connected by two 9-pole plug-in connectors.



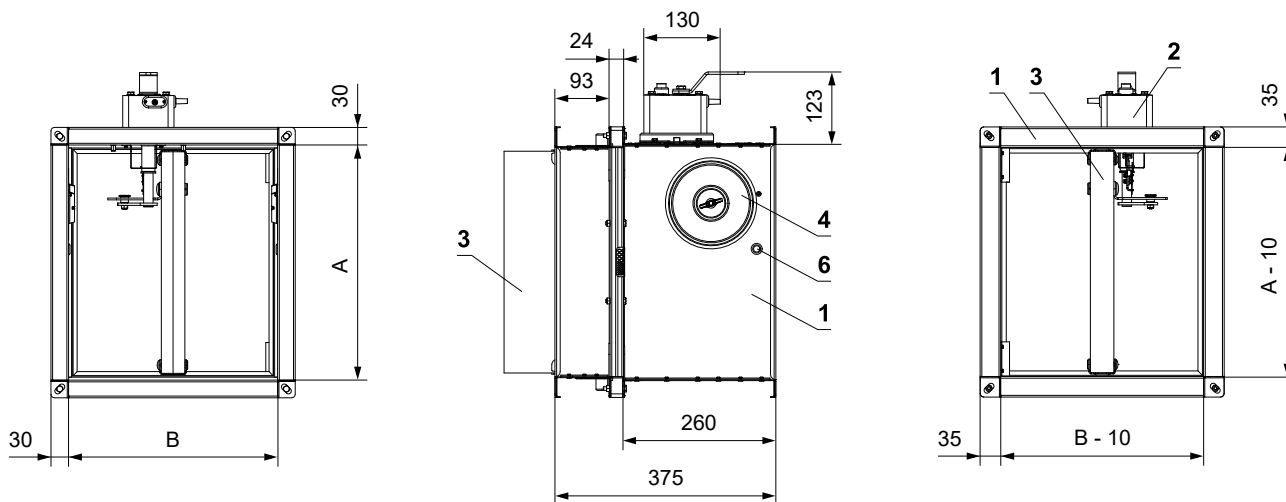
Notice: Relay contacts K1 and K2 are drawn without power

Communication and control device BKS 24-9A

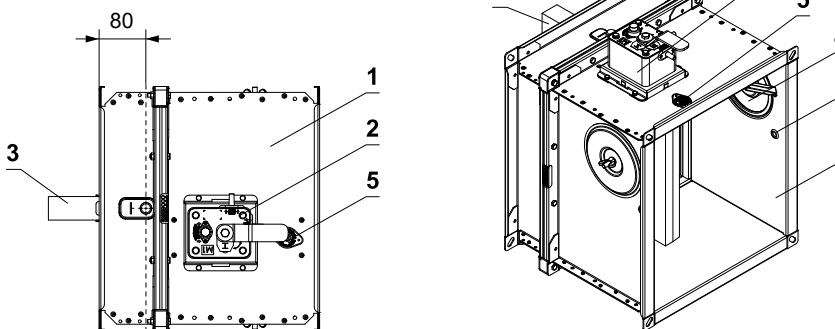
| | |
|----------------------|----------------------------------|
| Nominal voltage | AC 24 V 50/60Hz |
| Power consumption | 3,5 W |
| Dimensioning | 5,5 VA |
| Protection Class | III |
| Degree of protection | IP 30 |
| Ambient temperature | 0°C ... +50°C |
| Connection | terminal 2 x 1,5 mm ² |

III. DIMENSIONS

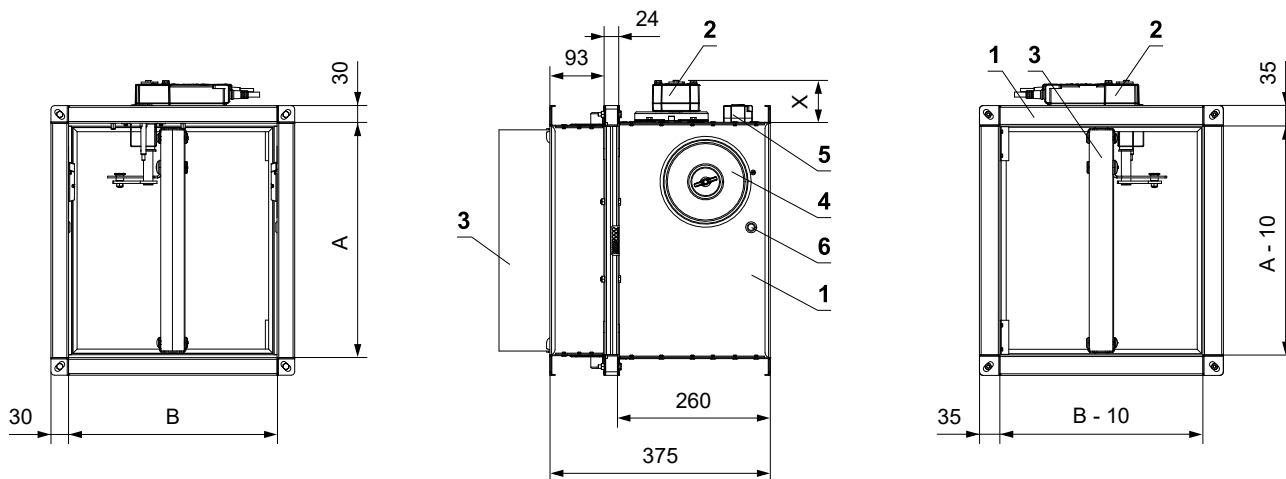
FDMQ with manual control



- 1 Damper casing
- 2 Manual control
- 3 Damper blade
- 4 Inspection opening cover
- 5 Sensor sticker
- 6 Hole for camera

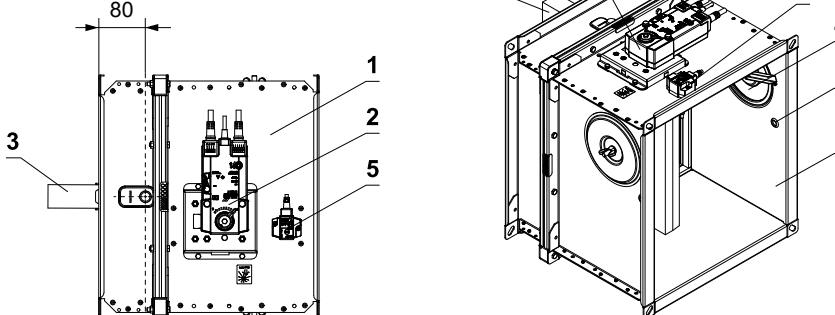


FDMQ with spring return actuator



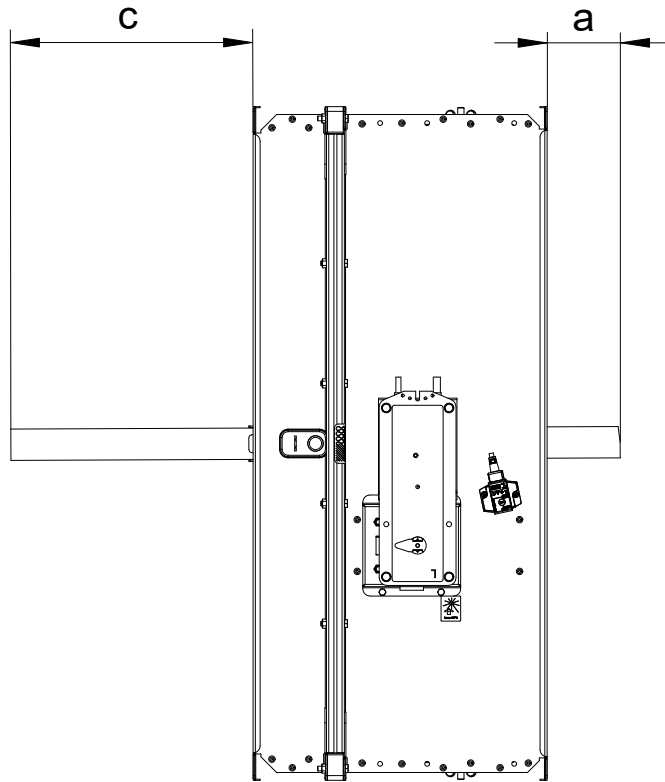
X=72 mm (BFL)
 X=76 mm (BFN)
 X=83 mm (BF)

- 1 Damper casing
- 2 Spring return actuator
- 3 Damper blade
- 4 Inspection opening cover
- 5 Thermoelectric activation device
- 6 Hole for camera



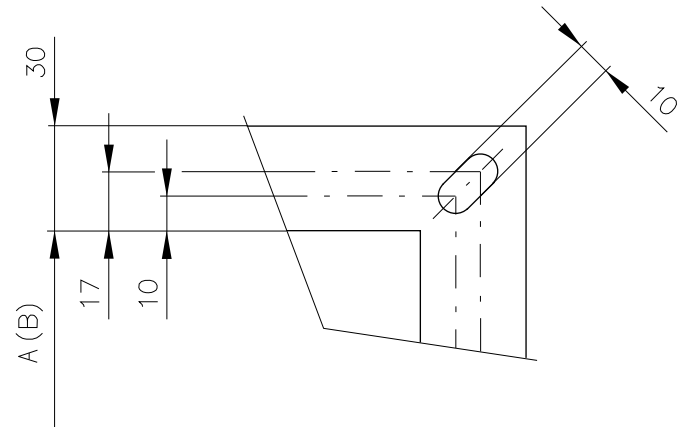
Damper blade overlaps

- Open damper blade overlaps the damper casing by the value "a" or "c". These values are specified in chapter Technical parameters → see pages 20 to 25

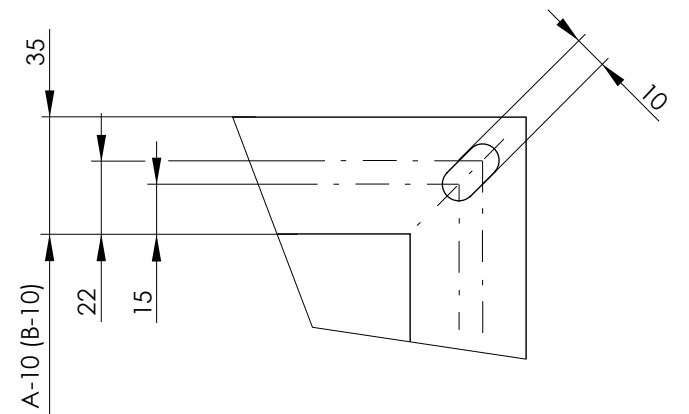


Values "a" and "c" has to be respected when projecting following air-conditioning duct.

Flange of a damper - CONTROL SIDE



Flange of a damper - INSTALLATION SIDE



30 mm wide flanges are fitted with oval holes in the corners

Technical parameters

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m²] | Spring return actuator | Manual control | | | |
|------------|-----------------------|--------|-----------|-------------|-------------------------|------------------------|----------------|------------|-----------------------|--------|-----------|-------------|-------------------------|------------------------|----------------|----|--------|----|
| | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | | |
| 150 x | - | - | 8 | 8,1 | 0,0106 | BFL | M1 | 200 x | 650 | 18,5 | 233,5 | 19,5 | 22,5 | 0,1024 | BFL | | | |
| | - | - | 8,5 | 8,6 | 0,0144 | | | | 700 | 43,5 | 258,5 | 20,5 | 25 | 0,1111 | BFN | M2 | | |
| | - | 8,5 | 8,9 | 9 | 0,0169 | | | | 710 | 48,5 | 263,5 | 21 | 24 | 0,1129 | | | | |
| | - | 21 | 9,4 | 9,5 | 0,0200 | | | | 750 | 68,5 | 283,5 | 21,5 | 24,5 | 0,1199 | | | | |
| | - | 33,5 | 9,9 | 10 | 0,0231 | | | | 800 | 93,5 | 308,5 | 23 | 26 | 0,1286 | | | | |
| | - | 48,5 | 10,5 | 10,6 | 0,0269 | | | | 150 | - | - | 9,5 | 9,7 | 0,0170 | BFL | M1 | | |
| | - | 59 | 11,1 | 11,2 | 0,0294 | | | | 180 | - | - | 10 | 11,5 | 0,0230 | | | | |
| | - | 66 | 11,4 | 11,5 | 0,0313 | | | | 200 | - | 8,5 | 10,5 | 12 | 0,0270 | | | | |
| | - | 86 | 12,4 | 12,6 | 0,0363 | | | | 225 | - | 21 | 11 | 12,5 | 0,0320 | | | | |
| | - | 108,5 | 13,5 | 13,6 | 0,0419 | | | | 250 | - | 33,5 | 11,5 | 13 | 0,0370 | | | BFL | M1 |
| | - | 133,5 | 14,5 | 14,6 | 0,0481 | | | | 280 | - | 48,5 | 12 | 13,5 | 0,0430 | | | | |
| | - | 158,5 | 15,5 | 15,6 | 0,0544 | | | | 300 | - | 59 | 12,5 | 14 | 0,0470 | | | | |
| | - | 183,5 | 16,4 | 16,6 | 0,0606 | | | | 315 | - | 66 | 13 | 14,5 | 0,0500 | | | | |
| | - | 188,5 | 16,6 | 16,8 | 0,0619 | | | | 355 | - | 86 | 14 | 15,5 | 0,0580 | | | BFL | M2 |
| - | 208,5 | 17,4 | 17,5 | 0,0669 | 400 | - | 108,5 | 15 | 16,5 | 0,0670 | | | | | | | | |
| 8,5 | 223,5 | 18 | 18,1 | 0,0706 | 450 | - | 133,5 | 16 | 17,5 | 0,0770 | | | | | | | | |
| - | - | 8,8 | 8,9 | 0,0132 | 500 | - | 158,5 | 17 | 18,5 | 0,0870 | BFL | M2 | | | | | | |
| - | - | 9 | 10,5 | 0,0178 | 550 | - | 183,5 | 18 | 19,5 | 0,0970 | | | | | | | | |
| - | 8,5 | 9,5 | 11 | 0,0209 | 560 | - | 188,5 | 18 | 19,5 | 0,0990 | | | | | | | | |
| - | 21 | 10,0 | 11,5 | 0,0248 | 600 | - | 208,5 | 19 | 20,5 | 0,1070 | | | | | | | | |
| - | 33,5 | 10,5 | 12 | 0,0287 | 630 | 8,5 | 223,5 | 19,5 | 21 | 0,1130 | | | BFN | M2 | | | | |
| - | 48,5 | 11 | 12,5 | 0,0333 | 650 | 18,5 | 233,5 | 20 | 21,5 | 0,1170 | | | | | | | | |
| - | 59 | 11,5 | 13 | 0,0364 | 700 | 43,5 | 258,5 | 21 | 22,5 | 0,1270 | | | | | | | | |
| - | 66 | 12 | 13,5 | 0,0388 | 710 | 48,5 | 263,5 | 21 | 22,5 | 0,1290 | | | | | | | | |
| - | 86 | 13 | 14,5 | 0,0450 | 750 | 68,5 | 283,5 | 22 | 23,5 | 0,1370 | | | BFL | M1 | | | | |
| - | 108,5 | 14 | 15,5 | 0,0519 | 800 | 93,5 | 308,5 | 23 | 24,5 | 0,1470 | | | | | | | | |
| - | 133,5 | 15 | 16,5 | 0,0597 | 150 | - | - | 10 | 10,1 | 0,0191 | | | | | | | | |
| - | 158,5 | 16 | 17,5 | 0,0674 | 180 | - | - | 10,5 | 12 | 0,0259 | | | | | BFL | M2 | | |
| - | 183,5 | 17 | 18,5 | 0,0752 | 200 | - | 8,5 | 10,5 | 12,5 | 0,0304 | | | | | | | | |
| - | 188,5 | 17 | 18,5 | 0,0767 | 225 | - | 21 | 11 | 13 | 0,0360 | | | | | | | | |
| - | 208,5 | 18 | 19,5 | 0,0829 | 250 | - | 33,5 | 12 | 13,5 | 0,0416 | | | | | | | | |
| 8,5 | 223,5 | 18,5 | 20 | 0,0876 | 280 | - | 48,5 | 13 | 14,5 | 0,0484 | BFL | M1 | | | | | | |
| 18,5 | 233,5 | 19 | 20,5 | 0,0907 | 300 | - | 59 | 13 | 15 | 0,0529 | | | | | | | | |
| 43,5 | 258,5 | 20 | 21,5 | 0,0984 | 315 | - | 66 | 13,5 | 15 | 0,0563 | | | | | | | | |
| 48,5 | 263,5 | 20 | 21,5 | 0,1000 | 355 | - | 86 | 14,5 | 16 | 0,0653 | | | | | | | | |
| 68,5 | 283,5 | 21 | 22,5 | 0,1062 | 400 | - | 108,5 | 15,5 | 17 | 0,0754 | BFL | M3 | | | | | | |
| 800 | 93,5 | 308,5 | 22 | 23,5 | 0,1139 | 450 | - | 133,5 | 16,5 | 19,5 | | | | | | | 0,0866 | |
| - | - | 9,1 | 9,2 | 0,0149 | 500 | - | 158,5 | 18 | 21 | 0,0979 | | | | | | | | |
| - | - | 9,5 | 11 | 0,0201 | 550 | - | 183,5 | 19 | 22 | 0,1091 | | | BFL | M2 | | | | |
| - | 8,5 | 10 | 11,5 | 0,0236 | 560 | - | 188,5 | 19 | 22 | 0,1114 | | | | | | | | |
| - | 21 | 10,5 | 13,5 | 0,0280 | 600 | - | 208,5 | 20 | 23 | 0,1204 | | | | | | | | |
| - | 33,5 | 11 | 12,5 | 0,0324 | 630 | 8,5 | 223,5 | 21 | 24 | 0,1271 | | | | | | | | |
| - | 48,5 | 11,5 | 14,5 | 0,0376 | 650 | 18,5 | 233,5 | 21,5 | 24,5 | 0,1316 | | | | | BFN | M2 | | |
| - | 59 | 12 | 13,5 | 0,0411 | 700 | 43,5 | 258,5 | 22,5 | 25,5 | 0,1429 | | | | | | | | |
| - | 66 | 12,5 | 14 | 0,0438 | 710 | 48,5 | 263,5 | 23 | 26 | 0,1451 | | | | | | | | |
| - | 86 | 13 | 15 | 0,0508 | 750 | 68,5 | 283,5 | 23,5 | 26,5 | 0,1541 | | | | | | | | |
| - | 108,5 | 14 | 16 | 0,0586 | 800 | 93,5 | 308,5 | 25 | 28 | 0,1654 | | | | | BFL | M1 | | |
| - | 133,5 | 15 | 18 | 0,0674 | 150 | - | - | 10,5 | 10,6 | 0,0217 | | | | | | | | |
| - | 158,5 | 16,5 | 18 | 0,0761 | 180 | - | - | 11 | 12,5 | 0,0293 | | | | | | | | |
| - | 183,5 | 17,5 | 20,5 | 0,0849 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0344 | | | | | | | | |
| - | 188,5 | 17,5 | 20,5 | 0,0866 | 225 | - | 21 | 12 | 14 | 0,0408 | BFL | M1 | | | | | | |
| - | 208,5 | 18,5 | 23 | 0,0936 | 250 | - | 33,5 | 13 | 14,5 | 0,0472 | | | | | | | | |
| 8,5 | 223,5 | 19 | 22 | 0,0989 | 280 | - | 48,5 | 14 | 15,5 | 0,0548 | | | | | | | | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 280 x | 300 | - | 59 | 14 | 16 | 0,0599 | BFL | 315 x | 710 | 48,5 | 263,5 | 25 | 28 | 0,1871 | BFL | M1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | - | 66 | 14,5 | 16,5 | 0,0638 | | | 355 | - | 86 | 15,5 | 17,5 | 0,0740 | | | 400 | - | 108,5 | 17 | 18,5 | 0,0854 | 450 | - | 133,5 | 18 | 21 | 0,0982 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1109 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | 560 | - | 188,5 | 21 | 24 | 0,1262 | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | 0,0234 | BFL | 355 x | 450 | - | 133,5 | 19,5 | 22,5 | 0,1271 | BFL | M2 | 180 | - | - | 11,5 | 13 | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 355 | - | 86 | 15,5 | 17,5 | 0,0740 | | | 400 | - | 108,5 | 17 | 18,5 | 0,0854 | | | 450 | - | 133,5 | 18 | 21 | 0,0982 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1109 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | 560 | - | 188,5 | 21 | 24 | 0,1262 | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | 133,5 | | | 19,5 | 22,5 | 0,1271 | BFL | M2 | 180 | | | - | - | 11,5 | 13 | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | BFL | 400 x | 450 | - | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | - | 108,5 | 17 | 18,5 | 0,0854 | | | 450 | - | 133,5 | 18 | 21 | 0,0982 | | | 500 | - | 158,5 | 19,5 | 22,5 | 0,1109 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | 560 | - | 188,5 | 21 | 24 | 0,1262 | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | 0,1271 | | | BFL | M2 | 180 | | | - | | | - | 11,5 | 13 | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | BFL | 400 x | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | | 26,5 | 0,1712 | 700 | 43,5 | | 258,5 | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 450 | - | 133,5 | 18 | 21 | 0,0982 | | | 500 | - | 158,5 | 19,5 | 22,5 | 0,1109 | | | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | 560 | - | 188,5 | 21 | 24 | 0,1262 | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | 180 | | | | | - | | | - | | | 11,5 | 13 | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | | 650 | 18,5 | 233,5 | 23,5 | | 26,5 | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 500 | - | 158,5 | 19,5 | 22,5 | 0,1109 | | | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | | | 560 | - | 188,5 | 21 | 24 | 0,1262 | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | - | | | | | - | | | 11,5 | | | 13 | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | | 223,5 | 23 | 26 | 0,1697 | | 650 | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 550 | - | 183,5 | 20,5 | 23,5 | 0,1237 | | | 560 | - | 188,5 | 21 | 24 | 0,1262 | | | 600 | - | 208,5 | 22 | 25 | 0,1364 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | - | | | | | 11,5 | | | 13 | | | 0,0316 | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | | 25,5 | 0,1639 | 630 | 8,5 | | 223,5 | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | | 24 | 27 | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 560 | - | 188,5 | 21 | 24 | 0,1262 | | | 600 | - | 208,5 | 22 | 25 | 0,1364 | | | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | 11,5 | | | | | 13 | | | 0,0316 | | | 200 | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | | 600 | - | 208,5 | 22,5 | | 25,5 | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 600 | - | 208,5 | 22 | 25 | 0,1364 | | | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | | | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | 13 | | | | | 0,0316 | | | 200 | | | - | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | | 188,5 | 21,5 | 24,5 | 0,1436 | | 600 | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | | 21 | 24 | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1441 | | | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | | | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | | 13 | | | | | 0,0316 | | | | | 200 | | | - | | | 8,5 | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | | 24 | 0,1407 | 560 | - | | 188,5 | | | 21,5 | 24,5 | 0,1436 | | 600 | | | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 650 | 18,5 | 233,5 | 23 | 26 | 0,1492 | | | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | | | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | | 13 | | | | | | 0,0316 | | | | | 200 | | | | | - | | | 8,5 | | | 11,5 | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | | 550 | - | 183,5 | 21 | | 24 | | | 0,1407 | 560 | - | | 188,5 | | | | | 21,5 | 24,5 | 0,1436 | | 600 | | | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | 66 | | 17 | 18,5 | 0,0938 | 355 | - | 86 | | | 18 | 20 | 0,1088 | | 400 | - | | | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1619 | | | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | | | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | | 13 | | | | | | 0,0316 | | | | | | 200 | | | | | - | | | | | 8,5 | | | 11,5 | | | 13,5 | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | | 158,5 | 19,5 | 22,5 | 0,1262 | | 550 | | | - | 183,5 | 21 | | 24 | | | | | 0,1407 | 560 | - | | 188,5 | | | | | 21,5 | 24,5 | 0,1436 | | 600 | | | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | | 300 | - | 59 | 16,5 | 18 | 0,0881 | | | 315 | - | 66 | | 17 | 18,5 | | | 0,0938 | 355 | - | 86 | | | 18 | 20 | 0,1088 | | 400 | - | | | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | |
| | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1645 | | | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | | | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | | 13 | | | | | | 0,0316 | | | | | | 200 | | | | | | - | | | | | 8,5 | | | | | 11,5 | | | 13,5 | | | 0,0371 | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | | 21,5 | 0,1117 | 500 | - | | 158,5 | | | 19,5 | 22,5 | 0,1262 | | 550 | | | | | - | 183,5 | 21 | | 24 | | | | | 0,1407 | 560 | - | | 188,5 | | | | | 21,5 | 24,5 | 0,1436 | | 600 | | | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | | 15 | 17 | 0,0694 | 280 | - | 48,5 | | | 16 | 18 | 0,0806 | | 300 | - | | | 59 | 16,5 | 18 | 0,0881 | | | 315 | - | 66 | | 17 | 18,5 | | | 0,0938 | 355 | - | 86 | | | 18 | 20 | 0,1088 | | 400 | - | | | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | |
| | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1747 | | | 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | | | 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | | | 19,5 | 22,5 | | 0,1271 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | | 11,5 | | | | | | 13 | | | | | | 0,0316 | | | | | | 200 | | | | | | - | | | | | | 8,5 | | | | | 11,5 | | | | | 13,5 | | | 0,0371 | | | 225 | - | 21 | 12 | 14 | 0,0440 | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | | | | | | | | | | | | | 150 | - | - | 11,8 | 11,9 | 0,0281 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | BFL | 400 x | | | 450 | - | | | 133,5 | 21 | | | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | | 450 | - | 133,5 | 18,5 | | 21,5 | | | 0,1117 | 500 | - | | 158,5 | | | | | 19,5 | 22,5 | 0,1262 | | 550 | | | | | - | 183,5 | 21 | | 24 | | | | | 0,1407 | 560 | - | | 188,5 | | | | | 21,5 | 24,5 | 0,1436 | | 600 | | | | | - | 208,5 | 22,5 | | 25,5 | | | | | 0,1639 | 630 | 8,5 | | 223,5 | | | | | 23 | 26 | 0,1697 | | 650 | | | | | 18,5 | 233,5 | 23,5 | | 26,5 | | | | | 0,1712 | 700 | 43,5 | | 258,5 | | | | | 25 | 28 | 0,1842 | 355 x | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | BFL | | | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | | | 250 | - | 33,5 | | 15 | 17 | | | 0,0694 | 280 | - | 48,5 | | | 16 | 18 | 0,0806 | | 300 | - | | | 59 | 16,5 | 18 | 0,0881 | | | 315 | - | 66 | | 17 | 18,5 | | | 0,0938 | 355 | - | 86 | | | 18 | 20 | 0,1088 | | 400 | - | | | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | | | 22,5 | 25,5 | 0,1631 | | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | | | 650 | 18,5 | 233,5 | | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | 308,5 | | | 31 | 34 | 0,2756 | 400 x | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 |
| 800 | 93,5 | 308,5 | 27 | 30 | 0,1874 | 300 x | 150 | - | - | 10,8 | 11 | 0,0234 | BFL | 355 x | 450 | - | | 133,5 | 19,5 | 22,5 | 0,1271 | BFL | | M2 | | | 180 | - | | - | | | 11,5 | 13 | | 0,0316 | | | | | | 200 | | | | | | - | | | | | | 8,5 | | | | | | 11,5 | | | | | | 13,5 | | | | | | 0,0371 | | | | | | 225 | | | | | | - | | | | | | 21 | | | | | 12 | | | | | 14 | | | 0,0440 | | | 250 | - | 33,5 | 13 | 14,5 | 0,0509 | 280 | - | 48,5 | 14 | 15,5 | 0,0591 | 300 | - | 59 | 14 | 16 | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | | | | | | | | | | | | | 0,0281 | BFL | 400 x | 450 | - | 133,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 21 | 24 | | | 0,1444 | BFL | | | M3 | 180 | | | - | - | 12 | 13,5 | 0,0334 | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | 225 | - | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | | - | 133,5 | 18,5 | 21,5 | | 0,1117 | | | 500 | - | 158,5 | | 19,5 | | | | | 22,5 | 0,1262 | 550 | | - | | | | | 183,5 | 21 | 24 | | 0,1407 | | | | | 560 | - | 188,5 | | 21,5 | | | | | 24,5 | 0,1436 | 600 | | - | | | | | 208,5 | 22,5 | 25,5 | | 0,1639 | | | | | 630 | 8,5 | 223,5 | | 23 | | | | | 26 | 0,1697 | 650 | | 18,5 | | | | | 233,5 | 23,5 | 26,5 | | 0,1712 | | | | | 700 | 43,5 | 258,5 | | 25 | | | | | 28 | 0,1842 | 355 x | | 150 | | | | | - | - | 12,6 | 12,7 | 0,0319 | | | | | BFL | 450 x | 450 | - | 133,5 | 21 | | | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | 225 | - | | | 21 | 14,5 | 16,5 | | 0,0600 | 250 | | | - | 33,5 | 15 | 17 | | | 0,0694 | 280 | - | | 48,5 | 16 | | | 18 | 0,0806 | 300 | - | | | 59 | 16,5 | 18 | | 0,0881 | 315 | | | - | 66 | 17 | 18,5 | | | 0,0938 | 355 | - | | 86 | 18 | | | 20 | 0,1088 | 400 | - | | | 108,5 | 19,5 | 21 | | 0,1256 | 450 | | | - | 133,5 | 21 | 24 | | | 0,1444 | 500 | - | | 158,5 | 22,5 | | | 25,5 | 0,1631 | 550 | - | | | 183,5 | 23,5 | 26,5 | | 0,1819 | 560 | | | - | 188,5 | 24 | 27 | | | 0,1856 | 600 | - | | 208,5 | 25,5 | | | 28,5 | 0,2006 | 630 | 8,5 | | | 223,5 | 26 | 29 | | 0,2119 | 650 | | | 18,5 | 233,5 | 26,5 | 29,5 | | | 0,2194 | 700 | 43,5 | | 258,5 | 28 | | | 31,5 | 0,2381 | 710 | 48,5 | | | 263,5 | 28,5 | 31,5 | | 0,2419 | 750 | | | 68,5 | 283,5 | 29,5 | 32,5 | | | 0,2569 | 800 | 93,5 | | 308,5 | 31 | | | 34 | 0,2756 | 400 x | 150 | | | - | - | 13,5 | 13,6 | 0,0361 | BFL | | | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 |
| 300 x | 150 | - | - | 10,8 | 11 | | 0,0234 | BFL | 355 x | 450 | - | 133,5 | | | 19,5 | 22,5 | | 0,1271 | BFL | M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180 | - | - | 11,5 | 13 | | 0,0316 | | | 200 | - | 8,5 | | | 11,5 | 13,5 | | 0,0371 | | | 225 | | | | | | - | 21 | | 12 | | | 14 | 0,0440 | | 250 | | | | | | - | | | | | | 33,5 | | | | | | 13 | | | | | | 14,5 | | | | | | 0,0509 | | | | | | 280 | | | | | | - | | | | | 48,5 | 14 | | | | | 15,5 | 0,0591 | 300 | - | | | 59 | 14 | 16 | | | 0,0646 | 315 | - | 66 | 14,5 | 16,5 | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | 180 | - | - | 12 | 13,5 | 0,0334 | | 200 | - | 8,5 | 12 | 13,5 | | | | | | | | | | | | 0,0392 | 225 | - | | | 21 | 12,5 | 14 | 0,0464 | 250 | - | 33,5 | | | | | 13,5 | 15 | | | 0,0537 | 280 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - | 48,5 | | | 14,5 | | | | | 16 | | | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | | 150 | | - | - | | 12,6 | 12,7 | 0,0319 | | BFL | | | | | 450 x | 450 | - | | 133,5 | | | | | 21 | 24 | 0,1444 | | BFL | | | | | M1 | 180 | - | | - | | | | | 13,5 | 15,5 | 0,0431 | | 200 | | | | | - | 8,5 | 14 | | 15,5 | | | | | 0,0506 | 225 | - | | 21 | | | | | 14,5 | 16,5 | 0,0600 | | 250 | | | | | - | 33,5 | | | 15 | | | | | 17 | 0,0694 | 280 | - | 48,5 | | | | | | | 16 | 18 | 0,0806 | 300 | | | - | 59 | | | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | | | 24 | 27 | 0,1856 | | 600 | - | | | 208,5 | 25,5 | 28,5 | 0,2006 | | | 630 | 8,5 | 223,5 | | 26 | 29 | | | 0,2119 | 650 | 18,5 | 233,5 | | | 26,5 | 29,5 | 0,2194 | | 700 | 43,5 | | | 258,5 | 28 | 31,5 | 0,2381 | | | 710 | 48,5 | 263,5 | | 28,5 | 31,5 | | | 0,2419 | 750 | 68,5 | 283,5 | | | 29,5 | 32,5 | 0,2569 | | 800 | 93,5 | | | 308,5 | 31 | 34 | 0,2756 | | | 400 x | 150 | - | | - | 13,5 | | | 13,6 | 0,0361 | BFL | 450 x | | | 250 | - | 33,5 | | 16 | 18 | | | 0,0786 | BFL | M2 | 180 | | | - | - | 14,5 | | 16,5 | 0,0489 | | | 200 | - | 8,5 | 15 | | | 16,5 | 0,0574 | 225 | | - | 21 | | | 15,5 | 17,5 | 0,0680 | 250 | | | - | 33,5 | 16 | | 18 | 0,0786 | | | 280 | - | | 48,5 | | | 17 | 19 | 0,0914 | 300 | - | | | | | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | | | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | - | 8,5 | 11,5 | 13,5 | | 0,0371 | | | 225 | - | 21 | | | 12 | 14 | | 0,0440 | | | 250 | | | | | | - | 33,5 | | 13 | | | 14,5 | 0,0509 | | 280 | | | | | | - | | | | | | 48,5 | | | | | | 14 | | | | | | 15,5 | | | | | | 0,0591 | | | | | | 300 | | | | | - | 59 | | | | | 14 | 16 | 0,0646 | 315 | | | - | 66 | 14,5 | 16,5 | | | 0,0688 | 355 | - | 86 | 15,5 | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | - | 12 | 13,5 | 0,0334 | | | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | | 225 | - | 21 | 12,5 | 14 | | | | | | | | | | | 0,0464 | 250 | - | 33,5 | | | 13,5 | 15 | 0,0537 | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | | | 300 | - | | | 59 | 14,5 | | | 16,5 | 0,0682 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 315 | - | | | 66 | | | | | 15 | | | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | 133,5 | | | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | | | | 13,5 | 15,5 | | | 0,0431 | 200 | | - | | | | | 8,5 | 14 | 15,5 | | | | | | | | 0,0506 | 225 | | - | | | | | 21 | 14,5 | 16,5 | | 0,0600 | | | | | 250 | - | 33,5 | | 15 | | | | | 17 | 0,0694 | 280 | | - | | | | | 48,5 | 16 | 18 | | 0,0806 | | | | | 300 | - | | | 59 | | | | | 16,5 | 18 | 0,0881 | 315 | - | | | | | | | 66 | 17 | 18,5 | 0,0938 | | | 355 | - | | | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | | | 31,5 | 0,2381 | 710 | | 48,5 | 263,5 | | | 28,5 | 31,5 | 0,2419 | 750 | | | 68,5 | 283,5 | 29,5 | | 32,5 | 0,2569 | | | 800 | 93,5 | 308,5 | 31 | | | 34 | 0,2756 | 400 x | | 150 | - | | | - | 13,5 | 13,6 | 0,0361 | | | BFL | 450 x | 250 | | - | 33,5 | | | 16 | 18 | 0,0786 | BFL | | | | M2 | 180 | | - | - | | | 14,5 | 16,5 | | | | | 0,0489 | 200 | - | | 8,5 | 15 | | | 16,5 | | | 0,0574 | | | 225 | - | 21 | | 15,5 | 17,5 | | | 0,0680 | 250 | - | 33,5 | | | 16 | 18 | 0,0786 | | 280 | - | | | 48,5 | 17 | 19 | 0,0914 | | | 300 | - | 59 | | 17,5 | 19,5 | | | 0,0999 | 315 | | - | | | 66 | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 225 | - | 21 | 12 | 14 | | 0,0440 | | | 250 | - | 33,5 | | | 13 | 14,5 | | 0,0509 | | | 280 | | | | | | - | 48,5 | | 14 | | | 15,5 | 0,0591 | | 300 | | | | | | - | | | | | | 59 | | | | | | 14 | | | | | | 16 | | | | | | 0,0646 | | | | | 315 | - | | | | | 66 | 14,5 | 16,5 | 0,0688 | | | 355 | - | 86 | 15,5 | | | 17,5 | 0,0798 | 400 | - | 108,5 | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | 8,5 | 12 | 13,5 | 0,0392 | | | 225 | - | 21 | 12,5 | 14 | 0,0464 | | 250 | - | 33,5 | 13,5 | 15 | | | | | | | | | | 0,0537 | 280 | - | 48,5 | 14,5 | | | 16 | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | 315 | - | 66 | 15 | 16,5 | | | 0,0725 | 355 | | | - | 86 | | | 16 | 17,5 | | | | | | | | | | | | | | | | | | | | | | | | | 0,0841 | 400 | | | - | | | | | 108,5 | | | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | - | | 13,5 | 15,5 | 0,0431 | 200 | | | - | 8,5 | 14 | | | 15,5 | 0,0506 | 225 | - | | 21 | 14,5 | | 16,5 | | 0,0600 | 250 | | - | 33,5 | 15 | | | | | | | | 17 | 0,0694 | | 280 | | | | | - | 48,5 | 16 | | 18 | | | | | 0,0806 | 300 | - | | 59 | | | | | 16,5 | 18 | 0,0881 | | 315 | | | | | - | 66 | 17 | | 18,5 | | | | | 0,0938 | 355 | | | - | | | | | 86 | 18 | 20 | 0,1088 | 400 | | | | | | | - | 108,5 | 19,5 | 21 | | | 0,1256 | 450 | | | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | | | 13,6 | 0,0361 | BFL | | 450 x | 250 | | | - | 33,5 | 16 | 18 | | | 0,0786 | BFL | | | M2 | 180 | | | - | - | 14,5 | 16,5 | | | | | 0,0489 | | 200 | - | | | 8,5 | 15 | 16,5 | | | | | | 0,0574 | | 225 | - | | | 21 | 15,5 | | | | | 17,5 | 0,0680 | 250 | | - | 33,5 | | | 16 | | | 18 | | | 0,0786 | 280 | - | | 48,5 | 17 | | | 19 | 0,0914 | 300 | - | | | 59 | 17,5 | 19,5 | | 0,0999 | 315 | | | - | 66 | 18 | 20 | | | 0,1063 | 355 | - | | 86 | 19,5 | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | - | 33,5 | 13 | 14,5 | | 0,0509 | | | 280 | - | 48,5 | | | 14 | 15,5 | | 0,0591 | | | 300 | | | | | | - | 59 | | 14 | | | 16 | 0,0646 | | 315 | | | | | | - | | | | | | 66 | | | | | | 14,5 | | | | | | 16,5 | | | | | 0,0688 | 355 | | | | | - | 86 | 15,5 | 17,5 | | | 0,0798 | 400 | - | 108,5 | | | 17 | 18,5 | 0,0921 | 450 | - | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | 21 | 12,5 | 14 | 0,0464 | | | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | | 280 | - | 48,5 | 14,5 | 16 | | | | | | | | | 0,0624 | 300 | - | 59 | 14,5 | 16,5 | | | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | | | 19 | 0,0972 | | | 450 | - | | | 133,5 | 18,5 | | | | | | | | | | | | | | | | | | | | | 21,5 | 0,1117 | | | 500 | | | | | - | | | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | 8,5 | | 14 | 15,5 | 0,0506 | 225 | | | - | 21 | 14,5 | 16,5 | | 0,0600 | 250 | - | 33,5 | | 15 | 17 | | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | | | | - | 59 | | | 16,5 | 18 | | 0,0881 | | | | | 315 | - | 66 | | 17 | | | | | 18,5 | 0,0938 | 355 | | - | | | | | 86 | 18 | 20 | | 0,1088 | | | | | 400 | - | 108,5 | | 19,5 | | | | | 21 | 0,1256 | | | 450 | | | | | - | 133,5 | 21 | 24 | 0,1444 | | | | | | | 500 | - | 158,5 | 22,5 | | | 25,5 | 0,1631 | | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | | | | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | | | 16,5 | | | | | 0,0574 | | | 225 | - | 21 | 15,5 | | | | | 17,5 | | 0,0680 | 250 | | | - | 33,5 | 16 | | | | | | 18 | | 0,0786 | 280 | | | - | 48,5 | | | | | 17 | 19 | 0,0914 | | 300 | - | | | 59 | | | 17,5 | | | 19,5 | 0,0999 | 315 | | - | 66 | | | 18 | 20 | 0,1063 | 355 | | | - | 86 | 19,5 | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 280 | - | 48,5 | 14 | 15,5 | | 0,0591 | | | 300 | - | 59 | | | 14 | 16 | | 0,0646 | | | 315 | | | | | | - | 66 | | 14,5 | | | 16,5 | 0,0688 | | 355 | | | | | | - | | | | | | 86 | | | | | | 15,5 | | | | | 17,5 | 0,0798 | | | | | 400 | - | 108,5 | 17 | | | 18,5 | 0,0921 | 450 | - | | | 133,5 | 18 | 21 | 0,1059 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | 33,5 | 13,5 | 15 | 0,0537 | | | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | | 300 | - | 59 | 14,5 | 16,5 | | | | | | | | 0,0682 | 315 | - | 66 | 15 | 16,5 | 0,0725 | | | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | | | 19,5 | 22,5 | | | 0,1262 | 550 | | | - | 183,5 | | | | | | | | | | | | | | | | | 21 | 24 | | | 0,1407 | | | | | 560 | | | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | 21 | | 14,5 | 16,5 | 0,0600 | 250 | | | - | 33,5 | 15 | 17 | | 0,0694 | 280 | - | 48,5 | | 16 | 18 | 0,0806 | 300 | - | 59 | 16,5 | 18 | 0,0881 | 315 | - | | | 66 | 17 | 18,5 | 0,0938 | | 355 | - | | 86 | | 18 | 20 | | 0,1088 | 400 | - | | 108,5 | | | | | 19,5 | 21 | 0,1256 | | 450 | | | | | - | 133,5 | 21 | | 24 | | | | | 0,1444 | 500 | - | | 158,5 | | | | | 22,5 | 25,5 | | | 0,1631 | | | | | 550 | - | 183,5 | 23,5 | 26,5 | | | | | | | 0,1819 | 560 | - | 188,5 | | | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | - | | 14,5 | 16,5 | 0,0489 | | | 200 | - | 8,5 | | 15 | | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | | | | | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | | | | | 17 | | 19 | 0,0914 | | | 300 | - | 59 | | | | | | 17,5 | | 19,5 | 0,0999 | | | 315 | - | | | | | 66 | 18 | 20 | | 0,1063 | 355 | | | - | | | 86 | | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 300 | - | 59 | 14 | 16 | | 0,0646 | | | 315 | - | 66 | | | 14,5 | 16,5 | | 0,0688 | | | 355 | | | | | | - | 86 | | 15,5 | | | 17,5 | 0,0798 | | 400 | | | | | | - | | | | | | 108,5 | | | | | 17 | 18,5 | | | | | 0,0921 | 450 | - | 133,5 | | | 18 | 21 | 0,1059 | 500 | | | - | 158,5 | 19,5 | 22,5 | 0,1196 | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | 48,5 | 14,5 | 16 | 0,0624 | | | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | | 315 | - | 66 | 15 | 16,5 | | | | | | | 0,0725 | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | | | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | | | 188,5 | 21,5 | | | 24,5 | 0,1436 | | | 600 | - | | | | | | | | | | | | | 208,5 | 22,5 | | | 25,5 | | | | | 0,1639 | | | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | 33,5 | | 15 | 17 | 0,0694 | 280 | | | - | 48,5 | 16 | 18 | | 0,0806 | 300 | - | 59 | | 16,5 | 18 | 0,0881 | 315 | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | | 18 | 20 | 0,1088 | 400 | | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | | 0,1444 | | 500 | - | | 158,5 | 22,5 | 25,5 | | 0,1631 | | | | | 550 | - | 183,5 | | 23,5 | | | | | 26,5 | 0,1819 | 560 | | - | | | | | 188,5 | 24 | | | 27 | | | | | 0,1856 | 600 | - | 208,5 | 25,5 | | | | | | | 28,5 | 0,2006 | 630 | 8,5 | | | 223,5 | 26 | | | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | 8,5 | | 15 | 16,5 | 0,0574 | | | 225 | - | 21 | | 15,5 | | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | | | 48,5 | | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | | | 315 | | - | 66 | 18 | 20 | 0,1063 | 355 | - | | | | | | 86 | | 19,5 | 21 | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | - | 66 | 14,5 | 16,5 | | 0,0688 | | | 355 | - | 86 | | | 15,5 | 17,5 | | 0,0798 | | | 400 | | | | | | - | 108,5 | | 17 | | | 18,5 | 0,0921 | | 450 | | | | | | - | | | | | 133,5 | 18 | | | | | 21 | 0,1059 | 500 | - | | | 158,5 | 19,5 | 22,5 | 0,1196 | | | 550 | - | 183,5 | 20,5 | 23,5 | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | 59 | 14,5 | 16,5 | 0,0682 | | | 315 | - | 66 | 15 | 16,5 | 0,0725 | | 355 | - | 86 | 16 | 17,5 | | | | | | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | | | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | | | 8,5 | 223,5 | | | 23 | 26 | | | 0,1697 | 650 | | | | | | | | | 18,5 | 233,5 | | | 23,5 | | | | | 26,5 | | | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | 48,5 | | 16 | 18 | 0,0806 | 300 | | | - | 59 | 16,5 | 18 | | 0,0881 | 315 | - | 66 | | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | | 188,5 | | 24 | 27 | | 0,1856 | 600 | - | | 208,5 | | | | | 25,5 | 28,5 | 0,2006 | | 630 | | | | | 8,5 | 223,5 | | | 26 | | | | | 29 | 0,2119 | 650 | 18,5 | 233,5 | | | | | | | 26,5 | 29,5 | 0,2194 | 700 | | | 43,5 | 258,5 | | | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | 21 | | 15,5 | 17,5 | 0,0680 | | | 250 | - | 33,5 | | 16 | | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | | | 59 | | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 355 | - | 86 | 15,5 | 17,5 | | 0,0798 | | | 400 | - | 108,5 | | | 17 | 18,5 | | 0,0921 | | | 450 | | | | | | - | 133,5 | | 18 | | | 21 | 0,1059 | | 500 | | | | | - | 158,5 | | | | | 19,5 | 22,5 | 0,1196 | 550 | | | - | 183,5 | 20,5 | 23,5 | | | 0,1334 | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | 66 | 15 | 16,5 | 0,0725 | | | 355 | - | 86 | 16 | 17,5 | 0,0841 | | 400 | - | 108,5 | 17 | 19 | | | | | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | | | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | | | 700 | 43,5 | | | 258,5 | 25 | | | 28 | 0,1842 | | | | | 355 x | 150 | | | - | | | | | - | | | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | 59 | | 16,5 | 18 | 0,0881 | 315 | | | - | 66 | 17 | 18,5 | | 0,0938 | 355 | - | 86 | | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | | 21 | 24 | 0,1444 | 500 | | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | | 0,2119 | | 650 | 18,5 | | 233,5 | 26,5 | 29,5 | | 0,2194 | | | | | 700 | 43,5 | | | 258,5 | | | | | 28 | 31,5 | 0,2381 | 710 | 48,5 | | | | | | | 263,5 | 28,5 | 31,5 | 0,2419 | | | 750 | 68,5 | | | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | 33,5 | | 16 | 18 | 0,0786 | | | 280 | - | 48,5 | | 17 | | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | | | 66 | | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | - | 108,5 | 17 | 18,5 | | 0,0921 | | | 450 | - | 133,5 | | | 18 | 21 | | 0,1059 | | | 500 | | | | | | - | 158,5 | | 19,5 | | | 22,5 | 0,1196 | 550 | - | | | | | 183,5 | 20,5 | 23,5 | 0,1334 | | | 560 | - | 188,5 | 21 | | | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | 86 | 16 | 17,5 | 0,0841 | | | 400 | - | 108,5 | 17 | 19 | 0,0972 | | 450 | - | 133,5 | 18,5 | 21,5 | | | | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | | | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | | | 12,7 | 0,0319 | | | BFL | 450 x | | | 450 | - | | 133,5 | | | 21 | | | | | 24 | | | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | 66 | | 17 | 18,5 | 0,0938 | 355 | | | - | 86 | 18 | 20 | | 0,1088 | 400 | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | | 22,5 | 25,5 | 0,1631 | 550 | | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | | 263,5 | | 28,5 | 31,5 | | 0,2419 | 750 | | | 68,5 | | | | | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | | | | | | | 93,5 | 308,5 | 31 | 34 | | | 0,2756 | 400 x | | | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | 48,5 | | 17 | 19 | 0,0914 | | | 300 | - | 59 | | 17,5 | | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | | | 86 | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 450 | - | 133,5 | 18 | 21 | | 0,1059 | | | 500 | - | 158,5 | | | 19,5 | 22,5 | | 0,1196 | | | 550 | | | | | | - | 183,5 | 20,5 | 23,5 | | | 0,1334 | 560 | - | 188,5 | 21 | 24 | | | 0,1361 | 600 | - | 208,5 | | | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | | 86 | 16 | 17,5 | 0,0841 | | | | | 400 | - | 108,5 | 17 | 19 | 0,0972 | | | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | | 500 | - | 158,5 | 19,5 | 22,5 | | | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | | | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | | BFL | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | | | | | | | BFL | M1 | | 180 | - | - | 13,5 | | | | | 15,5 | | | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | 86 | | 18 | 20 | 0,1088 | 400 | | | - | 108,5 | 19,5 | 21 | | 0,1256 | 450 | - | 133,5 | | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | | 23,5 | 26,5 | 0,1819 | 560 | | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | | | 34 | | 0,2756 | 400 x | | 150 | - | - | 13,5 | 13,6 | | | | | | | 0,0361 | BFL | 450 x | 250 | | | - | | | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | 59 | | 17,5 | 19,5 | 0,0999 | | | 315 | - | 66 | | 18 | | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 500 | - | 158,5 | 19,5 | 22,5 | | 0,1196 | | | 550 | - | 183,5 | | | 20,5 | 23,5 | | 0,1334 | | | 560 | | - | | | | 188,5 | 21 | 24 | 0,1361 | 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | | | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | | 86 | 16 | 17,5 | 0,0841 | | | | | 400 | - | | 108,5 | 17 | 19 | 0,0972 | | | | | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | | | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | | 550 | - | 183,5 | 21 | 24 | | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | | | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | | BFL | 450 x | 450 | - | 133,5 | 21 | | | | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | | | | | | | | 15,5 | 0,0431 | 200 | - | | 8,5 | 14 | | 15,5 | | | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | | | - | 133,5 | 21 | 24 | | 0,1444 | 500 | - | 158,5 | | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | | 24 | 27 | 0,1856 | 600 | | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | | | 13,6 | 0,0361 | BFL | | 450 x | 250 | - | 33,5 | 16 | 18 | | 0,0786 | BFL | | | | M2 | | | 180 | | | - | | | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | 66 | | 18 | 20 | 0,1063 | | | 355 | - | 86 | | 19,5 | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 550 | - | 183,5 | 20,5 | 23,5 | | 0,1334 | | | 560 | - | 188,5 | | | 21 | 24 | 0,1361 | 600 | | | - | | 208,5 | | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | | 86 | 16 | 17,5 | 0,0841 | | | | | 400 | - | | 108,5 | 17 | 19 | 0,0972 | | | | | 450 | - | | 133,5 | 18,5 | 21,5 | 0,1117 | | | | | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | | | 550 | - | 183,5 | 21 | 24 | 0,1407 | | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | | | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | | BFL | 450 x | 450 | - | 133,5 | 21 | | | | 24 | 0,1444 | BFL | M1 | | | | 180 | - | | | - | 13,5 | 15,5 | 0,0431 | | | 200 | - | | | | 8,5 | 14 | 15,5 | 0,0506 | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | 133,5 | | 21 | 24 | 0,1444 | 500 | | | - | 158,5 | 22,5 | 25,5 | | 0,1631 | 550 | - | 183,5 | | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | | 25,5 | 28,5 | 0,2006 | 630 | | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | | - | 33,5 | 16 | | | | 18 | 0,0786 | BFL | M2 | 180 | - | - | | 14,5 | | | | | | 16,5 | 0,0489 | 200 | - | | | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | 86 | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 560 | - | 188,5 | 21 | 24 | 0,1361 | 600 | | | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | | | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | | 86 | 16 | 17,5 | 0,0841 | | | | | 400 | - | | 108,5 | 17 | 19 | 0,0972 | | | | | 450 | - | | 133,5 | 18,5 | 21,5 | 0,1117 | | | | | 500 | - | | 158,5 | 19,5 | 22,5 | 0,1262 | | | | | 550 | - | 183,5 | 21 | 24 | 0,1407 | | | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | | 450 | - | 133,5 | 21 | 24 | 0,1444 | | | | BFL | M1 | 180 | - | | | | - | 13,5 | | | | | | 15,5 | 0,0431 | | | 200 | - | 8,5 | 14 | | | 15,5 | 0,0506 | | | | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | | 133,5 | 21 | 24 | 0,1444 | | | | | 500 | - | 158,5 | | 22,5 | 25,5 | 0,1631 | 550 | | | - | 183,5 | 23,5 | 26,5 | | 0,1819 | 560 | - | 188,5 | | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | | 26 | 29 | 0,2119 | 650 | | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | 0,0786 | BFL | M2 | | | | 180 | - | | | - | 14,5 | 16,5 | | 0,0489 | 200 | - | | | | 8,5 | 15 | 16,5 | 0,0574 | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 600 | - | 208,5 | 22 | 25 | 0,1471 | 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M3 | | | 180 | - | | - | 12 | 13,5 | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | | 86 | 16 | 17,5 | 0,0841 | | | | | 400 | - | | 108,5 | 17 | 19 | 0,0972 | | | | | 450 | - | | 133,5 | 18,5 | 21,5 | 0,1117 | | | | | 500 | - | | 158,5 | 19,5 | 22,5 | 0,1262 | | | | | 550 | - | | 183,5 | 21 | 24 | 0,1407 | | | | | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | | | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | 133,5 | | | | 21 | 24 | 0,1444 | BFL | M1 | 180 | | | | | | - | - | | | | 13,5 | 15,5 | | | | | | 0,0431 | 200 | | | - | 8,5 | 14 | 15,5 | | | 0,0506 | 225 | | | | - | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | | | | | - | 48,5 | | 16 | 18 | 0,0806 | 300 | | | | | - | 59 | | 16,5 | 18 | 0,0881 | 315 | | | | | - | 66 | | 17 | 18,5 | 0,0938 | 355 | | | | | - | 86 | | 18 | 20 | 0,1088 | 400 | | | | | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | | | | | - | 133,5 | | 21 | 24 | 0,1444 | 500 | | | | | - | 158,5 | 22,5 | | 25,5 | 0,1631 | 550 | - | | | 183,5 | 23,5 | 26,5 | 0,1819 | | 560 | - | 188,5 | 24 | | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | | 29 | 0,2119 | 650 | 18,5 | | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | | 150 | - | - | 13,5 | 13,6 | | 0,0361 | | | BFL | 450 x | | 250 | | | - | 33,5 | 16 | | | | | | 18 | 0,0786 | | | BFL | M2 | 180 | | - | - | 14,5 | | | | 16,5 | 0,0489 | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | | | | | 21 | 15,5 | | 17,5 | 0,0680 | 250 | - | | | | | 33,5 | 16 | | 18 | 0,0786 | 280 | - | | | | | 48,5 | 17 | | 19 | 0,0914 | 300 | - | | | | | 59 | 17,5 | | 19,5 | 0,0999 | 315 | - | | | | | 66 | 18 | | 20 | 0,1063 | 355 | - | | | | | 86 | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 630 | 8,5 | 223,5 | 22,5 | 25,5 | 0,1554 | 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | 133,5 | | | 21 | 24 | | 0,1444 | BFL | M3 | 180 | | | | | - | - | | 12 | 13,5 | 0,0334 | 200 | | | | | - | 8,5 | | 12 | 13,5 | 0,0392 | 225 | | | | | - | 21 | | 12,5 | 14 | 0,0464 | 250 | | | | | - | 33,5 | | 13,5 | 15 | 0,0537 | 280 | | | | | - | 48,5 | | 14,5 | 16 | 0,0624 | 300 | | | | | - | 59 | | 14,5 | 16,5 | 0,0682 | 315 | | | | | - | 66 | | 15 | 16,5 | 0,0725 | 355 | | | | | - | 86 | | 16 | 17,5 | 0,0841 | 400 | | | | | - | 108,5 | | 17 | 19 | 0,0972 | 450 | | | | | - | 133,5 | | 18,5 | 21,5 | 0,1117 | 500 | | | | | - | 158,5 | | 19,5 | 22,5 | 0,1262 | 550 | | | | | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | | | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | 0,1444 | | | | BFL | M1 | 180 | | | - | | | | | | - | 13,5 | | | | 15,5 | 0,0431 | | | | | | 200 | - | | | 8,5 | 14 | 15,5 | 0,0506 | | | 225 | - | | | | 21 | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | | | | | 48,5 | 16 | | 18 | 0,0806 | 300 | - | | | | | 59 | 16,5 | | 18 | 0,0881 | 315 | - | | | | | 66 | 17 | | 18,5 | 0,0938 | 355 | - | | | | | 86 | 18 | | 20 | 0,1088 | 400 | - | | | | | 108,5 | 19,5 | | 21 | 0,1256 | 450 | - | | | | | 133,5 | 21 | | 24 | 0,1444 | 500 | - | | | | | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | | | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | | | | 16 | | | 18 | 0,0786 | BFL | | | | | | M2 | 180 | | | | | - | | - | 14,5 | 16,5 | | | | 0,0489 | 200 | - | 8,5 | | 15 | 16,5 | 0,0574 | 225 | - | 21 | | | | | 15,5 | 17,5 | | 0,0680 | 250 | - | 33,5 | | | | | 16 | 18 | | 0,0786 | 280 | - | 48,5 | | | | | 17 | 19 | | 0,0914 | 300 | - | 59 | | | | | 17,5 | 19,5 | | 0,0999 | 315 | - | 66 | | | | | 18 | 20 | | 0,1063 | 355 | - | 86 | | | | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 650 | 18,5 | 233,5 | 23 | 26 | 0,1609 | 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | 0,1444 | | | BFL | M3 | | 180 | | | - | | | | | - | 12 | | 13,5 | 0,0334 | 200 | - | | | | | 8,5 | 12 | | 13,5 | 0,0392 | 225 | - | | | | | 21 | 12,5 | | 14 | 0,0464 | 250 | - | | | | | 33,5 | 13,5 | | 15 | 0,0537 | 280 | - | | | | | 48,5 | 14,5 | | 16 | 0,0624 | 300 | - | | | | | 59 | 14,5 | | 16,5 | 0,0682 | 315 | - | | | | | 66 | 15 | | 16,5 | 0,0725 | 355 | - | | | | | 86 | 16 | | 17,5 | 0,0841 | 400 | - | | | | | 108,5 | 17 | | 19 | 0,0972 | 450 | - | | | | | 133,5 | 18,5 | | 21,5 | 0,1117 | 500 | - | | | | | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | | | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | 180 | | | | | | - | | | - | | | | | | 13,5 | 15,5 | | | | 0,0431 | 200 | | | | | | - | 8,5 | | | 14 | 15,5 | 0,0506 | 225 | | | - | 21 | | | | 14,5 | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | | | | | 16 | 18 | | 0,0806 | 300 | - | 59 | | | | | 16,5 | 18 | | 0,0881 | 315 | - | 66 | | | | | 17 | 18,5 | | 0,0938 | 355 | - | 86 | | | | | 18 | 20 | | 0,1088 | 400 | - | 108,5 | | | | | 19,5 | 21 | | 0,1256 | 450 | - | 133,5 | | | | | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | | | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | | 33,5 | | | 16 | 18 | | 0,0786 | | | | | | BFL | | | M2 | 180 | | | | | | | | - | | | | | - | | 14,5 | 16,5 | 0,0489 | | | | 200 | - | 8,5 | 15 | | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | | | | | 17,5 | 0,0680 | | 250 | - | 33,5 | 16 | | | | | 18 | 0,0786 | | 280 | - | 48,5 | 17 | | | | | 19 | 0,0914 | | 300 | - | 59 | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 700 | 43,5 | 258,5 | 24,5 | 27,5 | 0,1746 | 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M3 | 180 | | | | | | - | | | - | | | | | 12 | 13,5 | | 0,0334 | 200 | - | 8,5 | | | | | 12 | 13,5 | | 0,0392 | 225 | - | 21 | | | | | 12,5 | 14 | | 0,0464 | 250 | - | 33,5 | | | | | 13,5 | 15 | | 0,0537 | 280 | - | 48,5 | | | | | 14,5 | 16 | | 0,0624 | 300 | - | 59 | | | | | 14,5 | 16,5 | | 0,0682 | 315 | - | 66 | | | | | 15 | 16,5 | | 0,0725 | 355 | - | 86 | | | | | 16 | 17,5 | | 0,0841 | 400 | - | 108,5 | | | | | 17 | 19 | | 0,0972 | 450 | - | 133,5 | | | | | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | | | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | | 180 | | | | | - | | | | | | - | | | 13,5 | | | | | | 15,5 | 0,0431 | | | | 200 | - | | | | | | 8,5 | 14 | | | 15,5 | 0,0506 | 225 | - | | | 21 | 14,5 | | | | 16,5 | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | | | | | 18 | 0,0806 | | 300 | - | 59 | 16,5 | | | | | 18 | 0,0881 | | 315 | - | 66 | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | | | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | | 0,0786 | | | BFL | M2 | | 180 | | | | | | | | | | - | | | | | | | | - | | | | | 14,5 | | 16,5 | 0,0489 | 200 | | | | - | 8,5 | 15 | 16,5 | | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | | | | | 0,0680 | 250 | | - | 33,5 | 16 | 18 | | | | | 0,0786 | 280 | | - | 48,5 | 17 | 19 | | | | | 0,0914 | 300 | | - | 59 | 17,5 | 19,5 | | | | | 0,0999 | 315 | | - | 66 | 18 | 20 | | | | | 0,1063 | 355 | | - | 86 | 19,5 | 21 | | | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 710 | 48,5 | 263,5 | 24,5 | 27,5 | 0,1774 | 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M3 | | 180 | | | | | - | | | | | | - | | | 12 | | | | | 13,5 | 0,0334 | | 200 | - | 8,5 | 12 | | | | | 13,5 | 0,0392 | | 225 | - | 21 | 12,5 | | | | | 14 | 0,0464 | | 250 | - | 33,5 | 13,5 | | | | | 15 | 0,0537 | | 280 | - | 48,5 | 14,5 | | | | | 16 | 0,0624 | | 300 | - | 59 | 14,5 | | | | | 16,5 | 0,0682 | | 315 | - | 66 | 15 | | | | | 16,5 | 0,0725 | | 355 | - | 86 | 16 | | | | | 17,5 | 0,0841 | | 400 | - | 108,5 | 17 | | | | | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | | | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | | 180 | | | | | | - | | | | | - | | | | | | 13,5 | | | 15,5 | | | | | | 0,0431 | 200 | | | | - | 8,5 | | | | | | 14 | 15,5 | | | 0,0506 | 225 | - | 21 | | | 14,5 | 16,5 | | | | 0,0600 | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | | | | | 0,0806 | 300 | | - | 59 | 16,5 | 18 | | | | | 0,0881 | 315 | | - | 66 | 17 | 18,5 | | | | | 0,0938 | 355 | | - | 86 | 18 | 20 | | | | | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | | 180 | | | | | | - | | | | | | | | | | - | | | | | | | | 14,5 | | | | | 16,5 | | 0,0489 | 200 | - | | | | 8,5 | 15 | 16,5 | 0,0574 | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | 68,5 | 283,5 | 25,5 | 28,5 | 0,1884 | 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M3 | | 180 | | | | | | - | | | | | - | | | | | | 12 | | | 13,5 | | | | | 0,0334 | 200 | | - | 8,5 | 12 | 13,5 | | | | | 0,0392 | 225 | | - | 21 | 12,5 | 14 | | | | | 0,0464 | 250 | | - | 33,5 | 13,5 | 15 | | | | | 0,0537 | 280 | | - | 48,5 | 14,5 | 16 | | | | | 0,0624 | 300 | | - | 59 | 14,5 | 16,5 | | | | | 0,0682 | 315 | | - | 66 | 15 | 16,5 | | | | | 0,0725 | 355 | | - | 86 | 16 | 17,5 | | | | | 0,0841 | 400 | - | 108,5 | 17 | 19 | 0,0972 | | | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | | 180 | | | | | | - | | | | | | - | | | | | 13,5 | | | | | | 15,5 | | | 0,0431 | | | | | | 200 | - | | | | 8,5 | 14 | | | | | | 15,5 | 0,0506 | | | 225 | - | 21 | 14,5 | | | 16,5 | 0,0600 | | | | 250 | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | | | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | | | - | | | | | | - | | | | | | | | | | 14,5 | | | | | | | | 16,5 | | | | | 0,0489 | | 200 | - | 8,5 | | | | 15 | 16,5 | 0,0574 | 225 | | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | | | | | - | 33,5 | | 16 | 18 | 0,0786 | 280 | | | | | - | 48,5 | | 17 | 19 | 0,0914 | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | 18 | 20 | 0,1063 | 355 | - | | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 800 | 93,5 | 308,5 | 27 | 30 | 0,2021 | 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M3 | | 180 | | | | | | - | | | | | | - | | | | | 12 | | | | | | 13,5 | | | 0,0334 | | | | | 200 | - | | 8,5 | 12 | 13,5 | 0,0392 | | | | | 225 | - | | 21 | 12,5 | 14 | 0,0464 | | | | | 250 | - | | 33,5 | 13,5 | 15 | 0,0537 | | | | | 280 | - | | 48,5 | 14,5 | 16 | 0,0624 | | | | | 300 | - | | 59 | 14,5 | 16,5 | 0,0682 | | | | | 315 | - | | 66 | 15 | 16,5 | 0,0725 | | | | | 355 | - | 86 | 16 | 17,5 | 0,0841 | 400 | | | - | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | | 180 | | | | | | - | | | | | | - | | | | | | 13,5 | | | | | 15,5 | | | | | | 0,0431 | | | 200 | | | | | | - | 8,5 | | | | 14 | 15,5 | | | | | | 0,0506 | 225 | | | - | 21 | 14,5 | 16,5 | | | 0,0600 | 250 | | | | - | 33,5 | 15 | 17 | 0,0694 | 280 | - | 48,5 | 16 | 18 | 0,0806 | 300 | | | | | - | 59 | | 16,5 | 18 | 0,0881 | 315 | | | | | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | | | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | | - | | | | | | | - | | | | | | 14,5 | | | | | | | | | | 16,5 | | | | | | | | 0,0489 | | | | | 200 | | - | 8,5 | 15 | | | | 16,5 | 0,0574 | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | | | | | 33,5 | 16 | | 18 | 0,0786 | 280 | - | | | | | 48,5 | 17 | | 19 | 0,0914 | 300 | - | | | | | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | | | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315 x | 150 | - | - | 11,8 | 11,9 | | 0,0281 | BFL | 400 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180 | - | - | 12 | 13,5 | | 0,0334 | | | 200 | - | | 8,5 | | | 12 | 13,5 | | 0,0392 | | | | | | 225 | | | | | | - | | | | | | 21 | | | | | | 12,5 | | | | | 14 | | | | | | 0,0464 | | | 250 | | | | | - | 33,5 | | 13,5 | 15 | 0,0537 | 280 | | | | | - | 48,5 | | 14,5 | 16 | 0,0624 | 300 | | | | | - | 59 | | 14,5 | 16,5 | 0,0682 | 315 | | | | | - | 66 | | 15 | 16,5 | 0,0725 | 355 | | | | | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | 180 | - | - | 13,5 | 15,5 | 0,0431 | | 200 | - | 8,5 | 14 | 15,5 | | 0,0506 | | | 225 | - | | 21 | | | 14,5 | 16,5 | | 0,0600 | | | | | | 250 | | | | | | - | | | | | | 33,5 | | | | | | 15 | | | | | 17 | | | | | | 0,0694 | | | 280 | | | | | | - | 48,5 | | | | 16 | 18 | | | | | | 0,0806 | 300 | | | - | 59 | 16,5 | 18 | | | 0,0881 | 315 | | | - | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | 20 | 0,1088 | 400 | - | | | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | 200 | - | 8,5 | 15 | 16,5 | | 0,0574 | 225 | - | 21 | 15,5 | | 17,5 | | | 0,0680 | 250 | | - | | | 33,5 | 16 | | 18 | | | | | | 0,0786 | | | | | | 280 | | | | | | | - | | | | | | 48,5 | | | | | | | | | | 17 | | | | | | | | 19 | | | | | 0,0914 | | 300 | - | 59 | | | | 17,5 | 19,5 | 0,0999 | 315 | | - | 66 | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | - | 8,5 | 12 | 13,5 | | 0,0392 | | | 225 | - | | 21 | | | 12,5 | 14 | | 0,0464 | | | | | | 250 | | | | | | - | | | | | | 33,5 | | | | | | 13,5 | | | | | 15 | | | | | | 0,0537 | | | 280 | | | | | - | 48,5 | | 14,5 | 16 | 0,0624 | 300 | | | | | - | 59 | | 14,5 | 16,5 | 0,0682 | 315 | | | | | - | 66 | | 15 | 16,5 | 0,0725 | 355 | | | | | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | - | 13,5 | 15,5 | 0,0431 | | | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | | 225 | - | 21 | 14,5 | 16,5 | | 0,0600 | | | 250 | - | | 33,5 | | | 15 | 17 | | 0,0694 | | | | | | 280 | | | | | | - | | | | | | 48,5 | | | | | | 16 | | | | | 18 | | | | | | 0,0806 | | | 300 | | | | | | - | 59 | | | | 16,5 | 18 | | | 0,0881 | | | 315 | - | | | 66 | 17 | 18,5 | 0,0938 | 355 | - | 86 | 18 | | | 20 | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | - | 14,5 | 16,5 | 0,0489 | | | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | 225 | - | 21 | 15,5 | 17,5 | | 0,0680 | 250 | - | 33,5 | 16 | | 18 | | | 0,0786 | 280 | | - | | | 48,5 | 17 | | 19 | | | | | | 0,0914 | | | | | | 300 | | | | | | | - | | | | | | 59 | | | | | | | | | | 17,5 | | | | | | | | 19,5 | | | | | 0,0999 | | 315 | - | 66 | | | | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 225 | - | 21 | 12,5 | 14 | | 0,0464 | | | 250 | - | | 33,5 | | | 13,5 | 15 | | 0,0537 | | | | | | 280 | | | | | | - | | | | | | 48,5 | | | | | | 14,5 | | | | | 16 | | | | | | 0,0624 | | | 300 | | | | | - | 59 | | 14,5 | 16,5 | 0,0682 | 315 | | | | | - | 66 | | 15 | 16,5 | 0,0725 | 355 | | | | | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | 8,5 | 14 | 15,5 | 0,0506 | | | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | | 250 | - | 33,5 | 15 | 17 | | 0,0694 | | | 280 | - | | 48,5 | | | 16 | 18 | | 0,0806 | | | | | | 300 | | | | | | - | | | | | | 59 | | | | | | 16,5 | | | | | 18 | | | | | | 0,0881 | | | 315 | | | | | | - | 66 | 17 | | | 18,5 | 0,0938 | | | 355 | - | 86 | 18 | 20 | | | 0,1088 | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | 250 | - | 33,5 | 16 | 18 | | 0,0786 | 280 | - | 48,5 | 17 | | 19 | | | 0,0914 | 300 | | - | | | 59 | 17,5 | | 19,5 | | | | | | 0,0999 | | | | | | 315 | | | | | | | - | | | | | | 66 | | | | | | | | | | 18 | | | | | 20 | | | 0,1063 | | | | | 355 | | - | 86 | 19,5 | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | - | 33,5 | 13,5 | 15 | | 0,0537 | | | 280 | - | | 48,5 | | | 14,5 | 16 | | 0,0624 | | | | | | 300 | | | | | | - | | | | | | 59 | | | | | | 14,5 | | | | | 16,5 | | | | | | 0,0682 | | | 315 | | | | | - | 66 | | 15 | 16,5 | 0,0725 | 355 | | | | | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | 21 | 14,5 | 16,5 | 0,0600 | | | 250 | - | 33,5 | 15 | 17 | 0,0694 | | 280 | - | 48,5 | 16 | 18 | | 0,0806 | | | 300 | - | | 59 | | | 16,5 | 18 | | 0,0881 | | | | | | 315 | | | | | | - | | | | | | 66 | | | | | | 17 | | | | | 18,5 | | | | | | 0,0938 | | | 355 | - | | | | | 86 | 18 | 20 | 0,1088 | 400 | - | 108,5 | | | 19,5 | 21 | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | | | 250 | - | 33,5 | 16 | 18 | 0,0786 | 280 | - | 48,5 | 17 | 19 | | 0,0914 | 300 | - | 59 | 17,5 | | 19,5 | | | 0,0999 | 315 | | - | | | 66 | 18 | | 20 | | | | | | 0,1063 | | | | | | 355 | | | | | | | - | | | | | | 86 | | | | | 19,5 | | | | | 21 | | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 280 | - | 48,5 | 14,5 | 16 | | 0,0624 | | | 300 | - | | 59 | | | 14,5 | 16,5 | | 0,0682 | | | | | | 315 | | | | | | - | | | | | | 66 | | | | | | 15 | | | | | 16,5 | | | | | | 0,0725 | | | 355 | | | | | - | 86 | 16 | 17,5 | 0,0841 | 400 | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | 33,5 | 15 | 17 | 0,0694 | | | 280 | - | 48,5 | 16 | 18 | 0,0806 | | 300 | - | 59 | 16,5 | 18 | | 0,0881 | | | 315 | - | | 66 | | | 17 | 18,5 | | 0,0938 | | | | | | 355 | | | | | | - | | | | | | 86 | | | | | | 18 | | | | | 20 | | | 0,1088 | | | 400 | | | - | 108,5 | 19,5 | 21 | | | 0,1256 | 450 | - | 133,5 | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | 33,5 | 16 | 18 | 0,0786 | | | 280 | - | 48,5 | 17 | 19 | 0,0914 | 300 | - | 59 | 17,5 | 19,5 | | 0,0999 | 315 | - | 66 | 18 | | 20 | | | 0,1063 | 355 | | - | | | 86 | 19,5 | | 21 | | | | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 300 | - | 59 | 14,5 | 16,5 | | 0,0682 | | | 315 | - | | 66 | | | 15 | 16,5 | | 0,0725 | | | | | | 355 | | | | | | - | | | | | | 86 | | | | | | 16 | | | | | 17,5 | | | | | 0,0841 | 400 | | | - | | | 108,5 | 17 | 19 | 0,0972 | 450 | - | 133,5 | 18,5 | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | 48,5 | 16 | 18 | 0,0806 | | | 300 | - | 59 | 16,5 | 18 | 0,0881 | | 315 | - | 66 | 17 | 18,5 | | 0,0938 | | | 355 | - | | 86 | | | 18 | 20 | | 0,1088 | | | | | | 400 | | | | | | - | | | | | | 108,5 | | | | | 19,5 | 21 | | | | | 0,1256 | 450 | - | 133,5 | | | 21 | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | 48,5 | 17 | 19 | 0,0914 | | | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | 315 | - | 66 | 18 | 20 | | 0,1063 | 355 | - | 86 | 19,5 | | 21 | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | - | 66 | 15 | 16,5 | | 0,0725 | | | 355 | - | | 86 | | | 16 | 17,5 | | 0,0841 | | | | | | 400 | | | | | | - | | | | | | 108,5 | | | | | 17 | 19 | | | | | 0,0972 | 450 | - | | | 133,5 | 18,5 | | | 21,5 | 0,1117 | 500 | - | 158,5 | 19,5 | 22,5 | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | 59 | 16,5 | 18 | 0,0881 | | | 315 | - | 66 | 17 | 18,5 | 0,0938 | | 355 | - | 86 | 18 | 20 | | 0,1088 | | | 400 | - | | 108,5 | | | 19,5 | 21 | | 0,1256 | | | | | | 450 | | | | | | - | | | | | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | | | 158,5 | 22,5 | 25,5 | 0,1631 | | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | | | 315 | - | 66 | 18 | 20 | 0,1063 | 355 | - | 86 | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 355 | - | 86 | 16 | 17,5 | | 0,0841 | | | 400 | - | | 108,5 | | | 17 | 19 | | 0,0972 | | | | | | 450 | | | | | | - | | | | | 133,5 | 18,5 | | | | | 21,5 | 0,1117 | 500 | - | | | 158,5 | 19,5 | 22,5 | | | 0,1262 | 550 | - | 183,5 | 21 | 24 | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | 66 | 17 | 18,5 | 0,0938 | | | 355 | - | 86 | 18 | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | 21 | | 0,1256 | | | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | | | | 500 | | | | | - | 158,5 | | | | | 22,5 | 25,5 | 0,1631 | 550 | | | - | 183,5 | 23,5 | 26,5 | | | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | 66 | 18 | 20 | 0,1063 | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | - | 108,5 | 17 | 19 | | 0,0972 | | | 450 | - | | 133,5 | | | 18,5 | 21,5 | | 0,1117 | | | | | | 500 | | | | | - | 158,5 | | | | | 19,5 | 22,5 | 0,1262 | 550 | | | - | 183,5 | 21 | 24 | | | 0,1407 | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | 86 | 18 | 20 | 0,1088 | | | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | | 450 | - | 133,5 | 21 | 24 | | 0,1444 | | | 500 | - | | 158,5 | | | 22,5 | 25,5 | | 0,1631 | | | | | 550 | - | | | | | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | 24 | | | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 450 | - | 133,5 | 18,5 | 21,5 | | 0,1117 | | | 500 | - | | 158,5 | | | 19,5 | 22,5 | | 0,1262 | | | | | 550 | - | | | | | 183,5 | 21 | 24 | 0,1407 | | | 560 | - | 188,5 | 21,5 | | | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | 108,5 | 19,5 | 21 | 0,1256 | | | 450 | - | 133,5 | 21 | 24 | 0,1444 | | 500 | - | 158,5 | 22,5 | 25,5 | | 0,1631 | | | 550 | - | | 183,5 | | | 23,5 | 26,5 | 0,1819 | 560 | | | | | - | 188,5 | 24 | 27 | | | 0,1856 | 600 | - | 208,5 | | | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 500 | - | 158,5 | 19,5 | 22,5 | | 0,1262 | | | 550 | - | | 183,5 | | | 21 | 24 | 0,1407 | 560 | | | | | - | 188,5 | 21,5 | 24,5 | | | 0,1436 | 600 | - | 208,5 | | | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | 133,5 | 21 | 24 | 0,1444 | | | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | | 550 | - | 183,5 | 23,5 | 26,5 | | 0,1819 | | | 560 | - | 188,5 | 24 | | | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | | | 28,5 | 0,2006 | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 550 | - | 183,5 | 21 | 24 | | 0,1407 | | | 560 | - | 188,5 | 21,5 | | | 24,5 | 0,1436 | 600 | - | 208,5 | 22,5 | | | 25,5 | 0,1639 | 630 | 8,5 | | | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | | 133,5 | 21 | 24 | 0,1444 | | | | | 500 | - | 158,5 | 22,5 | 25,5 | 0,1631 | | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | | | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | | | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 560 | - | 188,5 | 21,5 | 24,5 | 0,1436 | 600 | | | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | | | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | | 133,5 | 21 | 24 | 0,1444 | | | | | 500 | - | | 158,5 | 22,5 | 25,5 | 0,1631 | | | | | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | | | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 600 | - | 208,5 | 22,5 | 25,5 | 0,1639 | 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | 21 | 24 | 0,1444 | BFL | M1 | | | 180 | - | | - | 13,5 | 15,5 | 0,0431 | | | | | 200 | - | | 8,5 | 14 | 15,5 | 0,0506 | | | | | 225 | - | | 21 | 14,5 | 16,5 | 0,0600 | | | | | 250 | - | | 33,5 | 15 | 17 | 0,0694 | | | | | 280 | - | | 48,5 | 16 | 18 | 0,0806 | | | | | 300 | - | | 59 | 16,5 | 18 | 0,0881 | | | | | 315 | - | | 66 | 17 | 18,5 | 0,0938 | | | | | 355 | - | | 86 | 18 | 20 | 0,1088 | | | | | 400 | - | | 108,5 | 19,5 | 21 | 0,1256 | | | | | 450 | - | | 133,5 | 21 | 24 | 0,1444 | | | | | 500 | - | | 158,5 | 22,5 | 25,5 | 0,1631 | | | | | 550 | - | | 183,5 | 23,5 | 26,5 | 0,1819 | | | | | 560 | - | 188,5 | 24 | 27 | 0,1856 | | | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | 33,5 | | | 16 | 18 | | 0,0786 | BFL | M2 | 180 | | | | | - | - | | 14,5 | 16,5 | 0,0489 | 200 | | | | | - | 8,5 | | 15 | 16,5 | 0,0574 | 225 | | | | | - | 21 | | 15,5 | 17,5 | 0,0680 | 250 | | | | | - | 33,5 | | 16 | 18 | 0,0786 | 280 | | | | | - | 48,5 | | 17 | 19 | 0,0914 | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 630 | 8,5 | 223,5 | 23 | 26 | 0,1697 | 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | 133,5 | | | 21 | 24 | | 0,1444 | BFL | M1 | 180 | | | | | - | - | | 13,5 | 15,5 | 0,0431 | 200 | | | | | - | 8,5 | | 14 | 15,5 | 0,0506 | 225 | | | | | - | 21 | | 14,5 | 16,5 | 0,0600 | 250 | | | | | - | 33,5 | | 15 | 17 | 0,0694 | 280 | | | | | - | 48,5 | | 16 | 18 | 0,0806 | 300 | | | | | - | 59 | | 16,5 | 18 | 0,0881 | 315 | | | | | - | 66 | | 17 | 18,5 | 0,0938 | 355 | | | | | - | 86 | | 18 | 20 | 0,1088 | 400 | | | | | - | 108,5 | | 19,5 | 21 | 0,1256 | 450 | | | | | - | 133,5 | | 21 | 24 | 0,1444 | 500 | | | | | - | 158,5 | | 22,5 | 25,5 | 0,1631 | 550 | | | | | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | | | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | 0,0786 | | | BFL | M2 | | 180 | | | - | | | | | - | 14,5 | | 16,5 | 0,0489 | 200 | - | | | | | 8,5 | 15 | | 16,5 | 0,0574 | 225 | - | | | | | 21 | 15,5 | | 17,5 | 0,0680 | 250 | - | | | | | 33,5 | 16 | | 18 | 0,0786 | 280 | - | | | | | 48,5 | 17 | | 19 | 0,0914 | 300 | - | | | | | 59 | 17,5 | | 19,5 | 0,0999 | 315 | - | | | | | 66 | 18 | | 20 | 0,1063 | 355 | - | | | | | 86 | 19,5 | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 650 | 18,5 | 233,5 | 23,5 | 26,5 | 0,1712 | 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | 0,1444 | | | BFL | M1 | | 180 | | | - | | | | | - | 13,5 | | 15,5 | 0,0431 | 200 | - | | | | | 8,5 | 14 | | 15,5 | 0,0506 | 225 | - | | | | | 21 | 14,5 | | 16,5 | 0,0600 | 250 | - | | | | | 33,5 | 15 | | 17 | 0,0694 | 280 | - | | | | | 48,5 | 16 | | 18 | 0,0806 | 300 | - | | | | | 59 | 16,5 | | 18 | 0,0881 | 315 | - | | | | | 66 | 17 | | 18,5 | 0,0938 | 355 | - | | | | | 86 | 18 | | 20 | 0,1088 | 400 | - | | | | | 108,5 | 19,5 | | 21 | 0,1256 | 450 | - | | | | | 133,5 | 21 | | 24 | 0,1444 | 500 | - | | | | | 158,5 | 22,5 | 25,5 | 0,1631 | 550 | - | 183,5 | | | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | 180 | | | | | | - | | | - | | | | | 14,5 | 16,5 | | 0,0489 | 200 | - | 8,5 | | | | | 15 | 16,5 | | 0,0574 | 225 | - | 21 | | | | | 15,5 | 17,5 | | 0,0680 | 250 | - | 33,5 | | | | | 16 | 18 | | 0,0786 | 280 | - | 48,5 | | | | | 17 | 19 | | 0,0914 | 300 | - | 59 | | | | | 17,5 | 19,5 | | 0,0999 | 315 | - | 66 | | | | | 18 | 20 | | 0,1063 | 355 | - | 86 | | | | | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 700 | 43,5 | 258,5 | 25 | 28 | 0,1842 | 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | 180 | | | | | | - | | | - | | | | | 13,5 | 15,5 | | 0,0431 | 200 | - | 8,5 | | | | | 14 | 15,5 | | 0,0506 | 225 | - | 21 | | | | | 14,5 | 16,5 | | 0,0600 | 250 | - | 33,5 | | | | | 15 | 17 | | 0,0694 | 280 | - | 48,5 | | | | | 16 | 18 | | 0,0806 | 300 | - | 59 | | | | | 16,5 | 18 | | 0,0881 | 315 | - | 66 | | | | | 17 | 18,5 | | 0,0938 | 355 | - | 86 | | | | | 18 | 20 | | 0,1088 | 400 | - | 108,5 | | | | | 19,5 | 21 | | 0,1256 | 450 | - | 133,5 | | | | | 21 | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | | | 25,5 | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | - | | | | | | - | | | 14,5 | | | | | 16,5 | 0,0489 | | 200 | - | 8,5 | 15 | | | | | 16,5 | 0,0574 | | 225 | - | 21 | 15,5 | | | | | 17,5 | 0,0680 | | 250 | - | 33,5 | 16 | | | | | 18 | 0,0786 | | 280 | - | 48,5 | 17 | | | | | 19 | 0,0914 | | 300 | - | 59 | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 355 x | 150 | - | - | 12,6 | 12,7 | | 0,0319 | BFL | 450 x | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | BFL | M1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180 | - | - | 13,5 | 15,5 | | 0,0431 | | | 200 | - | | 8,5 | | | 14 | 15,5 | | 0,0506 | | | | | | 225 | | | | | - | | | | | | 21 | | | 14,5 | | | | | 16,5 | 0,0600 | | 250 | - | 33,5 | 15 | | | | | 17 | 0,0694 | | 280 | - | 48,5 | 16 | | | | | 18 | 0,0806 | | 300 | - | 59 | 16,5 | | | | | 18 | 0,0881 | | 315 | - | 66 | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | 180 | - | - | 14,5 | 16,5 | 0,0489 | | 200 | - | 8,5 | 15 | 16,5 | | 0,0574 | | | 225 | - | | 21 | | | 15,5 | 17,5 | | 0,0680 | | | | | | 250 | | | | | - | | | | | | 33,5 | | | 16 | | | | | 18 | 0,0786 | | 280 | - | 48,5 | 17 | | | | | 19 | 0,0914 | | 300 | - | 59 | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | - | 8,5 | 14 | 15,5 | | 0,0506 | | | 225 | - | | 21 | | | 14,5 | 16,5 | | 0,0600 | | | | | | 250 | | | | | - | | | | | | 33,5 | | | 15 | | | | | 17 | 0,0694 | | 280 | - | 48,5 | 16 | | | | | 18 | 0,0806 | | 300 | - | 59 | 16,5 | | | | | 18 | 0,0881 | | 315 | - | 66 | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | - | 14,5 | 16,5 | 0,0489 | | | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | | 225 | - | 21 | 15,5 | 17,5 | | 0,0680 | | | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | | | | 280 | | | | | - | | | | | | 48,5 | | | 17 | | | | | 19 | 0,0914 | | 300 | - | 59 | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 225 | - | 21 | 14,5 | 16,5 | | 0,0600 | | | 250 | - | | 33,5 | | | 15 | 17 | | 0,0694 | | | | | | 280 | | | | | - | | | | | | 48,5 | | | 16 | | | | | 18 | 0,0806 | | 300 | - | 59 | 16,5 | | | | | 18 | 0,0881 | | 315 | - | 66 | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | 8,5 | 15 | 16,5 | 0,0574 | | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | | 250 | - | 33,5 | 16 | 18 | | 0,0786 | | | 280 | - | | 48,5 | | | 17 | 19 | | 0,0914 | | | | | | 300 | | | | | - | | | | | | 59 | | | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | - | 33,5 | 15 | 17 | | 0,0694 | | | 280 | - | | 48,5 | | | 16 | 18 | | 0,0806 | | | | | | 300 | | | | | - | | | | | | 59 | | | 16,5 | | | | | 18 | 0,0881 | | 315 | - | 66 | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | 21 | 15,5 | 17,5 | 0,0680 | | | 250 | - | 33,5 | 16 | 18 | 0,0786 | | 280 | - | 48,5 | 17 | 19 | | 0,0914 | | | 300 | - | | 59 | | | 17,5 | 19,5 | | 0,0999 | | | | | | 315 | | | | | - | | | | | | 66 | | | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 280 | - | 48,5 | 16 | 18 | | 0,0806 | | | 300 | - | | 59 | | | 16,5 | 18 | | 0,0881 | | | | | | 315 | | | | | - | | | | | | 66 | | | 17 | | | | | 18,5 | 0,0938 | | 355 | - | 86 | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | 33,5 | 16 | 18 | 0,0786 | | | 280 | - | 48,5 | 17 | 19 | 0,0914 | | 300 | - | 59 | 17,5 | 19,5 | | 0,0999 | | | 315 | - | | 66 | | | 18 | 20 | | 0,1063 | | | | | | 355 | | | | | - | | | | | | 86 | | | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 300 | - | 59 | 16,5 | 18 | | 0,0881 | | | 315 | - | | 66 | | | 17 | 18,5 | | 0,0938 | | | | | | 355 | | | | | - | | | | | | 86 | | | 18 | | | | | 20 | 0,1088 | | 400 | - | 108,5 | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | 48,5 | 17 | 19 | 0,0914 | | | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | | 315 | - | 66 | 18 | 20 | | 0,1063 | | | 355 | - | | 86 | | | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | - | 66 | 17 | 18,5 | | 0,0938 | | | 355 | - | | 86 | | | 18 | 20 | | 0,1088 | | | | | | 400 | | | | | - | | | | | | 108,5 | | | 19,5 | | | | | 21 | 0,1256 | | 450 | - | 133,5 | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | 59 | 17,5 | 19,5 | 0,0999 | | | 315 | - | 66 | 18 | 20 | 0,1063 | | 355 | - | 86 | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 355 | - | 86 | 18 | 20 | | 0,1088 | | | 400 | - | | 108,5 | | | 19,5 | 21 | | 0,1256 | | | | | | 450 | | | | | - | | | | | | 133,5 | | | 21 | | | | | 24 | 0,1444 | 500 | - | 158,5 | 22,5 | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | 66 | 18 | 20 | 0,1063 | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | - | 108,5 | 19,5 | 21 | | 0,1256 | | | 450 | - | | 133,5 | | | 21 | 24 | | 0,1444 | | | | | | 500 | | | | | - | | | | | 158,5 | 22,5 | | | 25,5 | | | 0,1631 | 550 | - | 183,5 | 23,5 | 26,5 | 0,1819 | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 450 | - | 133,5 | 21 | 24 | | 0,1444 | | | 500 | - | | 158,5 | | | 22,5 | 25,5 | | 0,1631 | | | | | 550 | - | | | | | 183,5 | 23,5 | 26,5 | | | 0,1819 | 560 | | | - | 188,5 | 24 | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 500 | - | 158,5 | 22,5 | 25,5 | | 0,1631 | | | 550 | - | | 183,5 | | | 23,5 | 26,5 | 0,1819 | 560 | | | | | - | 188,5 | 24 | 27 | | | 0,1856 | 600 | - | | | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 550 | - | 183,5 | 23,5 | 26,5 | | 0,1819 | | | 560 | - | 188,5 | 24 | | | 27 | 0,1856 | 600 | - | 208,5 | 25,5 | | | 28,5 | 0,2006 | 630 | 8,5 | | | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 560 | - | 188,5 | 24 | 27 | 0,1856 | 600 | | | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | | | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 600 | - | 208,5 | 25,5 | 28,5 | 0,2006 | 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | 16 | 18 | 0,0786 | BFL | M2 | | | 180 | - | | - | 14,5 | 16,5 | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 630 | 8,5 | 223,5 | 26 | 29 | 0,2119 | 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | 33,5 | | | 16 | 18 | | 0,0786 | BFL | M2 | 180 | | | | | - | - | | 14,5 | 16,5 | 0,0489 | 200 | | | | | - | 8,5 | | 15 | 16,5 | 0,0574 | 225 | | | | | - | 21 | | 15,5 | 17,5 | 0,0680 | 250 | | | | | - | 33,5 | | 16 | 18 | 0,0786 | 280 | | | | | - | 48,5 | | 17 | 19 | 0,0914 | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 650 | 18,5 | 233,5 | 26,5 | 29,5 | 0,2194 | 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | 0,0786 | | | BFL | M2 | | 180 | | | - | | | | | - | 14,5 | | 16,5 | 0,0489 | 200 | - | | | | | 8,5 | 15 | | 16,5 | 0,0574 | 225 | - | | | | | 21 | 15,5 | | 17,5 | 0,0680 | 250 | - | | | | | 33,5 | 16 | | 18 | 0,0786 | 280 | - | | | | | 48,5 | 17 | | 19 | 0,0914 | 300 | - | | | | | 59 | 17,5 | | 19,5 | 0,0999 | 315 | - | | | | | 66 | 18 | | 20 | 0,1063 | 355 | - | | | | | 86 | 19,5 | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 700 | 43,5 | 258,5 | 28 | 31,5 | 0,2381 | 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | 180 | | | | | | - | | | - | | | | | 14,5 | 16,5 | | 0,0489 | 200 | - | 8,5 | | | | | 15 | 16,5 | | 0,0574 | 225 | - | 21 | | | | | 15,5 | 17,5 | | 0,0680 | 250 | - | 33,5 | | | | | 16 | 18 | | 0,0786 | 280 | - | 48,5 | | | | | 17 | 19 | | 0,0914 | 300 | - | 59 | | | | | 17,5 | 19,5 | | 0,0999 | 315 | - | 66 | | | | | 18 | 20 | | 0,1063 | 355 | - | 86 | | | | | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 710 | 48,5 | 263,5 | 28,5 | 31,5 | 0,2419 | 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | - | | | | | | - | | | 14,5 | | | | | 16,5 | 0,0489 | | 200 | - | 8,5 | 15 | | | | | 16,5 | 0,0574 | | 225 | - | 21 | 15,5 | | | | | 17,5 | 0,0680 | | 250 | - | 33,5 | 16 | | | | | 18 | 0,0786 | | 280 | - | 48,5 | 17 | | | | | 19 | 0,0914 | | 300 | - | 59 | 17,5 | | | | | 19,5 | 0,0999 | | 315 | - | 66 | 18 | | | | | 20 | 0,1063 | | 355 | - | 86 | 19,5 | | | | | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 750 | 68,5 | 283,5 | 29,5 | 32,5 | 0,2569 | 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | | - | | | | | - | | | | | | 14,5 | | | 16,5 | | | | | 0,0489 | 200 | | - | 8,5 | 15 | 16,5 | | | | | 0,0574 | 225 | | - | 21 | 15,5 | 17,5 | | | | | 0,0680 | 250 | | - | 33,5 | 16 | 18 | | | | | 0,0786 | 280 | | - | 48,5 | 17 | 19 | | | | | 0,0914 | 300 | | - | 59 | 17,5 | 19,5 | | | | | 0,0999 | 315 | | - | 66 | 18 | 20 | | | | | 0,1063 | 355 | | - | 86 | 19,5 | 21 | | | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 800 | 93,5 | 308,5 | 31 | 34 | 0,2756 | 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | 180 | | | | | | - | | | | | | - | | | | | 14,5 | | | | | | 16,5 | | | 0,0489 | | | | | 200 | - | | 8,5 | 15 | 16,5 | 0,0574 | | | | | 225 | - | | 21 | 15,5 | 17,5 | 0,0680 | | | | | 250 | - | | 33,5 | 16 | 18 | 0,0786 | | | | | 280 | - | | 48,5 | 17 | 19 | 0,0914 | | | | | 300 | - | | 59 | 17,5 | 19,5 | 0,0999 | | | | | 315 | - | | 66 | 18 | 20 | 0,1063 | | | | | 355 | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 x | 150 | - | - | 13,5 | 13,6 | | 0,0361 | BFL | 450 x | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | BFL | M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180 | - | - | 14,5 | 16,5 | | 0,0489 | | | 200 | - | | 8,5 | | | 15 | 16,5 | | 0,0574 | | | | | | 225 | | | | | | - | | | | | | 21 | | | | | | 15,5 | | | | | 17,5 | | | | | | 0,0680 | | | 250 | | | | | - | 33,5 | | 16 | 18 | 0,0786 | 280 | | | | | - | 48,5 | | 17 | 19 | 0,0914 | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | - | 8,5 | 15 | 16,5 | | 0,0574 | | | 225 | - | | 21 | | | 15,5 | 17,5 | | 0,0680 | | | | | | 250 | | | | | | - | | | | | | 33,5 | | | | | | 16 | | | | | 18 | | | | | | 0,0786 | | | 280 | | | | | - | 48,5 | | 17 | 19 | 0,0914 | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 225 | - | 21 | 15,5 | 17,5 | | 0,0680 | | | 250 | - | | 33,5 | | | 16 | 18 | | 0,0786 | | | | | | 280 | | | | | | - | | | | | | 48,5 | | | | | | 17 | | | | | 19 | | | | | | 0,0914 | | | 300 | | | | | - | 59 | | 17,5 | 19,5 | 0,0999 | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | - | 33,5 | 16 | 18 | | 0,0786 | | | 280 | - | | 48,5 | | | 17 | 19 | | 0,0914 | | | | | | 300 | | | | | | - | | | | | | 59 | | | | | | 17,5 | | | | | 19,5 | | | | | | 0,0999 | | | 315 | | | | | - | 66 | | 18 | 20 | 0,1063 | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 280 | - | 48,5 | 17 | 19 | | 0,0914 | | | 300 | - | | 59 | | | 17,5 | 19,5 | | 0,0999 | | | | | | 315 | | | | | | - | | | | | | 66 | | | | | | 18 | | | | | 20 | | | | | | 0,1063 | | | 355 | | | | | - | 86 | 19,5 | 21 | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 300 | - | 59 | 17,5 | 19,5 | | 0,0999 | | | 315 | - | | 66 | | | 18 | 20 | | 0,1063 | | | | | | 355 | | | | | | - | | | | | | 86 | | | | | | 19,5 | | | | | 21 | | | | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | - | 66 | 18 | 20 | | 0,1063 | | | 355 | - | | 86 | | | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 355 | - | 86 | 19,5 | 21 | | 0,1233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | |
|---------------|-----------------------|-------|--------|--------|--------------------------------------|------------------------|----------------|------------|-----------------------|-------|--------|--------|--------------------------------------|------------------------|----------------|--|
| | a | c | Man. | Actu. | | | | | a | c | Man. | Actu. | | | | |
| | [mm] | [mm] | [kg] | [kg]* | | | | | [mm] | [mm] | [kg] | [kg]* | | | | |
| 450 x | - | 108,5 | 20,5 | 22,5 | 0,1424 | BFL | M1 | 150 | - | - | 15,4 | 15,5 | 0,0455 | | | |
| | - | 133,5 | 22 | 25 | 0,1636 | | | 180 | - | - | 16,5 | 18,5 | 0,0615 | | | |
| | - | 158,5 | 24 | 27 | 0,1849 | | | 200 | - | 8,5 | 17 | 18,5 | 0,0722 | | | |
| | - | 183,5 | 25,5 | 28,5 | 0,2061 | | | 225 | - | 21 | 17,5 | 19,5 | 0,0856 | | | |
| | - | 188,5 | 25,5 | 28,5 | 0,2104 | BFN | | 250 | - | 33,5 | 18,5 | 20 | 0,0990 | BFL | M1 | |
| | - | 208,5 | 27 | 30 | 0,2274 | | M2 | 280 | - | 48,5 | 19,5 | 21 | 0,1150 | | | |
| | 8,5 | 223,5 | 27,5 | 30,5 | 0,2401 | | | 300 | - | 59 | 20 | 22 | 0,1257 | | | |
| | 18,5 | 233,5 | 28,5 | 31,5 | 0,2486 | | | 315 | - | 66 | 20,5 | 22,5 | 0,1338 | | | |
| | 43,5 | 258,5 | 30 | 33 | 0,2699 | | | 355 | - | 86 | 22 | 23,5 | 0,1552 | | | |
| | 48,5 | 263,5 | 30 | 33 | 0,2741 | | | 400 | - | 108,5 | 23,5 | 25,5 | 0,1792 | | | |
| | 68,5 | 283,5 | 31,5 | 34,5 | 0,2911 | BF | | 560 x | 450 | - | 133,5 | 25,5 | 28,5 | 0,2060 | | |
| | 93,5 | 308,5 | 33 | 36 | 0,3124 | | M3 | 500 | - | 158,5 | 27 | 30 | 0,2327 | | | |
| | - | - | 14,3 | 14,5 | 0,0404 | | | 550 | - | 183,5 | 29 | 32 | 0,2595 | BFN | | |
| | - | - | 15,5 | 17 | 0,0546 | | | 560 | - | 188,5 | 29,5 | 32,5 | 0,2648 | | | |
| - | 8,5 | 16 | 17,5 | 0,0641 | | | 600 | - | 208,5 | 31 | 34 | 0,2862 | | M2 | | |
| - | 21 | 16,5 | 18 | 0,0760 | | | 630 | 8,5 | 223,5 | 31,5 | 34,5 | 0,3023 | | | | |
| - | 33,5 | 17 | 19 | 0,0879 | | | 650 | 18,5 | 233,5 | 32 | 35 | 0,3130 | | | | |
| - | 48,5 | 18 | 20 | 0,1021 | BFL | M1 | 700 | 43,5 | 258,5 | 34 | 37 | 0,3397 | | | | |
| - | 59 | 19 | 20,5 | 0,1116 | | | 710 | 48,5 | 263,5 | 34,5 | 37,5 | 0,3451 | BF | | | |
| - | 66 | 19,5 | 21 | 0,1188 | | | 750 | 68,5 | 283,5 | 35,5 | 38,5 | 0,3665 | | | | |
| - | 86 | 20,5 | 22,5 | 0,1378 | | | 800 | 93,5 | 308,5 | 37,5 | 40,5 | 0,3932 | | M3 | | |
| - | 108,5 | 22 | 23,5 | 0,1591 | | | 150 | - | - | 16,1 | 16,2 | 0,0489 | | | | |
| 450 x | - | 133,5 | 23,5 | 26,5 | 0,1829 | BFN | | 180 | - | - | 17,5 | 19,5 | 0,0661 | | | |
| - | 158,5 | 25,5 | 28,5 | 0,2066 | | | 200 | - | 8,5 | 18 | 20,5 | 0,0776 | | | | |
| - | 183,5 | 27 | 30 | 0,2304 | | | 225 | - | 21 | 18,5 | 21,5 | 0,0920 | | | | |
| - | 188,5 | 27 | 30 | 0,2351 | BFN | M2 | 250 | - | 33,5 | 19 | 22 | 0,1064 | BFL | M1 | | |
| - | 208,5 | 28,5 | 31,5 | 0,2541 | | | 280 | - | 48,5 | 20 | 23 | 0,1236 | | | | |
| 8,5 | 223,5 | 29,5 | 32,5 | 0,2684 | | | 300 | - | 59 | 21 | 24 | 0,1351 | | | | |
| 18,5 | 233,5 | 30 | 33 | 0,2779 | | | 315 | - | 66 | 21,5 | 24,5 | 0,1438 | | | | |
| 43,5 | 258,5 | 32 | 35 | 0,3016 | | | 355 | - | 86 | 23 | 26 | 0,1668 | | | | |
| 48,5 | 263,5 | 32 | 35 | 0,3064 | BF | | 400 | - | 108,5 | 24,5 | 27,5 | 0,1926 | | | | |
| 68,5 | 283,5 | 33,5 | 36,5 | 0,3254 | | M3 | 600 x | 450 | - | 133,5 | 26,5 | 29,5 | 0,2214 | | | |
| 93,5 | 308,5 | 35 | 38 | 0,3491 | | | 500 | - | 158,5 | 28,5 | 31,5 | 0,2501 | BFN | | | |
| - | - | 15,2 | 15,3 | 0,0446 | | | 550 | - | 183,5 | 30 | 33 | 0,2789 | | | | |
| - | - | 16,5 | 18 | 0,0604 | | | 560 | - | 188,5 | 30,5 | 33,5 | 0,2846 | | M2 | | |
| - | 8,5 | 17 | 18,5 | 0,0709 | | | 600 | - | 208,5 | 32 | 35 | 0,3076 | | | | |
| - | 21 | 17,5 | 19 | 0,0840 | | | 630 | 8,5 | 223,5 | 33 | 36 | 0,3249 | | | | |
| - | 33,5 | 18 | 20 | 0,0971 | BFL | M1 | 650 | 18,5 | 233,5 | 33,5 | 36,5 | 0,3364 | | | | |
| - | 48,5 | 19 | 21 | 0,1129 | | | 700 | 43,5 | 258,5 | 35,5 | 38,5 | 0,3651 | BF | | | |
| - | 59 | 20 | 21,5 | 0,1234 | | | 710 | 48,5 | 263,5 | 36 | 39 | 0,3709 | | | | |
| - | 66 | 20,5 | 22 | 0,1313 | | | 750 | 68,5 | 283,5 | 37,5 | 40,5 | 0,3939 | | | | |
| - | 86 | 22 | 23,5 | 0,1523 | | | 800 | 93,5 | 308,5 | 39 | 42 | 0,4226 | | M3 | | |
| - | 108,5 | 23,5 | 25 | 0,1759 | | | 150 | - | - | 16,6 | 16,7 | 0,0514 | | | | |
| 450 x | - | 133,5 | 25 | 28 | 0,2021 | BFN | | 180 | - | - | 18 | 20 | 0,0696 | | | |
| - | 158,5 | 27 | 30 | 0,2284 | | | 200 | - | 8,5 | 18,5 | 21 | 0,0817 | | | | |
| - | 183,5 | 28,5 | 31,5 | 0,2546 | | | 225 | - | 21 | 19 | 22 | 0,0968 | | | | |
| - | 188,5 | 29 | 32 | 0,2599 | | | 250 | - | 33,5 | 20 | 23 | 0,1119 | BFL | M1 | | |
| - | 208,5 | 30,5 | 33,5 | 0,2809 | | M2 | 280 | - | 48,5 | 21 | 24 | 0,1301 | | | | |
| 8,5 | 223,5 | 31 | 34 | 0,2966 | | | 300 | - | 59 | 21,5 | 24,5 | 0,1422 | | | | |
| 18,5 | 233,5 | 32 | 35 | 0,3071 | | | 315 | - | 66 | 22,5 | 25,5 | 0,1513 | | | | |
| 43,5 | 258,5 | 34 | 37 | 0,3334 | | | 355 | - | 86 | 24 | 27 | 0,1755 | | | | |
| 48,5 | 263,5 | 34 | 37 | 0,3386 | BF | | 400 | - | 108,5 | 25,5 | 28,5 | 0,2027 | | | | |
| 68,5 | 283,5 | 35,5 | 38,5 | 0,3596 | | M3 | 450 | - | 133,5 | 27,5 | 30,5 | 0,2329 | BFN | M2 | | |
| 93,5 | 308,5 | 37 | 40 | 0,3859 | | | 500 | - | 158,5 | 29 | 32 | 0,2632 | | | | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | |
|------------|-----------------------|--------|-----------|-------------|--------------------------------------|------------------------|----------------|------------|-----------------------|--------|-----------|-------------|--------------------------------------|------------------------|----------------|------|
| | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | |
| 630 x | 550 | - | 183,5 | 31 | 34 | 0,2934 | BFN | 225 | - | 21 | 21,5 | 23,5 | 0,1096 | BFL | M1 | |
| | 560 | - | 188,5 | 31,5 | 34,5 | 0,2995 | | | | | | | | | | |
| | 600 | - | 208,5 | 33 | 36 | 0,3237 | | | | | | | | | | |
| | 630 | 8,5 | 223,5 | 34 | 37 | 0,3418 | M2 | | | | | | | | | |
| | 650 | 18,5 | 233,5 | 34,5 | 37,5 | 0,3539 | | | | | | | | | | |
| | 700 | 43,5 | 258,5 | 36,5 | 39,5 | 0,3842 | BF | | | | | | | | | |
| | 710 | 48,5 | 263,5 | 37 | 40 | 0,3902 | | | | | | | | | | |
| | 750 | 68,5 | 283,5 | 38,5 | 41,5 | 0,4144 | M3 | | | | | | | | | |
| | 800 | 93,5 | 308,5 | 40,5 | 43,5 | 0,4447 | M4 | | | | | | | | | |
| | 650 x | 150 | - | - | 17 | 17,1 | 0,0531 | M1 | 710 x | 225 | - | 21 | 21,5 | | | 23,5 |
| 180 | | - | - | 19 | 20,5 | 0,0719 | | | | | | | | | | |
| 200 | | - | 8,5 | 20 | 21,5 | 0,0844 | | | | | | | | | | |
| 225 | | - | 21 | 21 | 22,5 | 0,1000 | | | | | | | | | | |
| 250 | | - | 33,5 | 22 | 23,5 | 0,1156 | | | | | | | | | | |
| 280 | | - | 48,5 | 23 | 24,5 | 0,1344 | | | | | | | | | | |
| 300 | | - | 59 | 24 | 25,5 | 0,1469 | | | | | | | | | | |
| 315 | | - | 66 | 24,5 | 26 | 0,1563 | | | | | | | | | | |
| 355 | | - | 86 | 26 | 27,5 | 0,1813 | | | | | | | | | | |
| 400 | | - | 108,5 | 28 | 29,5 | 0,2094 | | | | | | | | | | |
| 650 x | 450 | - | 133,5 | 30 | 31,5 | 0,2406 | BFN | 750 x | 150 | - | - | 18,7 | 18,8 | 0,0616 | BFL | M1 |
| | 500 | - | 158,5 | 32 | 33,5 | 0,2719 | | | | | | | | | | |
| | 550 | - | 183,5 | 34 | 35,5 | 0,3031 | M2 | | | | | | | | | |
| | 560 | - | 188,5 | 34,5 | 37,5 | 0,3094 | | | | | | | | | | |
| | 600 | - | 208,5 | 36 | 39 | 0,3344 | BF | | | | | | | | | |
| | 630 | 8,5 | 223,5 | 37 | 40 | 0,3531 | | | | | | | | | | |
| | 650 | 18,5 | 233,5 | 38 | 41 | 0,3656 | | | | | | | | | | |
| | 700 | 43,5 | 258,5 | 40 | 43 | 0,3969 | M3 | | | | | | | | | |
| | 710 | 48,5 | 263,5 | 40,5 | 43,5 | 0,4031 | M4 | | | | | | | | | |
| | 750 | 68,5 | 283,5 | 42 | 45 | 0,4281 | | | | | | | | | | |
| 800 | 93,5 | 308,5 | 44 | 47 | 0,4594 | | | | | | | | | | | |
| 700 x | 150 | - | - | 17,8 | 18 | 0,0574 | M1 | 800 x | 150 | - | - | 19,6 | 19,7 | 0,0659 | BFL | M1 |
| | 180 | - | - | 20 | 21,5 | 0,0776 | | | | | | | | | | |
| | 200 | - | 8,5 | 21 | 22,5 | 0,0911 | | | | | | | | | | |
| | 225 | - | 21 | 22 | 23,5 | 0,1080 | | | | | | | | | | |
| | 250 | - | 33,5 | 23 | 24,5 | 0,1249 | | | | | | | | | | |
| | 280 | - | 48,5 | 24,5 | 26 | 0,1451 | | | | | | | | | | |
| | 300 | - | 59 | 25,5 | 27 | 0,1586 | | | | | | | | | | |
| | 315 | - | 66 | 26 | 27,5 | 0,1688 | | | | | | | | | | |
| | 355 | - | 86 | 27,5 | 29 | 0,1958 | | | | | | | | | | |
| | 400 | - | 108,5 | 29,5 | 31 | 0,2261 | | | | | | | | | | |
| 700 x | 450 | - | 133,5 | 31,5 | 33 | 0,2599 | BFN | 800 x | 180 | - | - | 22 | 23,5 | 0,0891 | BFL | M1 |
| | 500 | - | 158,5 | 33,5 | 35 | 0,2936 | | | | | | | | | | |
| | 550 | - | 183,5 | 35,5 | 38,5 | 0,3274 | M2 | | | | | | | | | |
| | 560 | - | 188,5 | 36 | 39 | 0,3341 | | | | | | | | | | |
| | 600 | - | 208,5 | 37,5 | 40,5 | 0,3611 | BF | | | | | | | | | |
| | 630 | 8,5 | 223,5 | 39 | 42 | 0,3814 | | | | | | | | | | |
| | 650 | 18,5 | 233,5 | 40 | 43 | 0,3949 | | | | | | | | | | |
| | 700 | 43,5 | 258,5 | 42 | 45 | 0,4286 | M3 | | | | | | | | | |
| | 710 | 48,5 | 263,5 | 42,5 | 45,5 | 0,4354 | M4 | | | | | | | | | |
| | 750 | 68,5 | 283,5 | 44 | 47 | 0,4624 | | | | | | | | | | |
| 800 | 93,5 | 308,5 | 46 | 49 | 0,4961 | | | | | | | | | | | |
| 710 x | 150 | - | - | 18 | 18,1 | 0,0582 | BFL | M1 | 150 | - | - | 19,6 | 19,7 | 0,0659 | BFL | M1 |
| | 180 | - | - | 20 | 21,5 | 0,0788 | | | | | | | | | | |
| | 200 | - | 8,5 | 21 | 22,5 | 0,0925 | | | | | | | | | | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | | | | |
|---------------|-----------------------|--------|-----------|-------------|--------------------------------------|------------------------|----------------|------------|-----------------------|--------|-----------|-------------|--------------------------------------|------------------------|----------------|----|----|-----|----|
| | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 800 x | 630 | 8,5 | 223,5 | 40 | 43 | 0,4379 | BF | M3 | 315 | - | 66 | 36 | 37,5 | 0,2688 | BFN | M2 | | | |
| | 650 | 18,5 | 233,5 | 40,5 | 43,5 | 0,4534 | | | 355 | - | 86 | 38 | 40 | 0,3118 | | | | | |
| | 700 | 43,5 | 258,5 | 43 | 46 | 0,4921 | | | 400 | - | 108,5 | 38,5 | 41 | 0,3601 | | | | | |
| | 710 | 48,5 | 263,5 | 43,5 | 46,5 | 0,4999 | | | 450 | - | 133,5 | 40,5 | 43,5 | 0,4139 | | | | | |
| | 750 | 68,5 | 283,5 | 45 | 48 | 0,5309 | | | 500 | - | 158,5 | 43 | 46 | 0,4676 | | | | | |
| | 800 | 93,5 | 308,5 | 47 | 50 | 0,5696 | | | 550 | - | 183,5 | 46 | 49 | 0,5214 | | | | | |
| 900 x | 150 | - | - | 21,3 | 21,5 | 0,0744 | BFL | M1 | 1100 x | 560 | - | 188,5 | 46,5 | 49,5 | 0,5321 | BF | M3 | | |
| | 180 | - | - | 24 | 25,5 | 0,1006 | | | 600 | - | 208,5 | 49 | 52 | 0,5751 | | | | | |
| | 200 | - | 8,5 | 25 | 26,5 | 0,1181 | | | 630 | 8,5 | 223,5 | 50 | 53 | 0,6074 | | | | | |
| | 225 | - | 21 | 26,5 | 28 | 0,1400 | | | 650 | 18,5 | 233,5 | 51,5 | 54,5 | 0,6289 | | | | | |
| | 250 | - | 33,5 | 28 | 29,5 | 0,1619 | | | 700 | 43,5 | 258,5 | 54,5 | 57,5 | 0,6826 | | | | | |
| | 280 | - | 48,5 | 29,5 | 31 | 0,1881 | | | 710 | 48,5 | 263,5 | 54,5 | 57,5 | 0,6934 | | | | | |
| | 300 | - | 59 | 30 | 31,5 | 0,2056 | | | 750 | 68,5 | 283,5 | 56,5 | 59,5 | 0,7364 | | | | | |
| | 315 | - | 66 | 30,5 | 32 | 0,2188 | | | 800 | 93,5 | 308,5 | 59,5 | 62,5 | 0,7901 | | | | | |
| | 355 | - | 86 | 31 | 33,5 | 0,2538 | | | 1250 x | 180 | - | - | 31 | 32,5 | 0,1409 | | | BFL | M2 |
| | 400 | - | 108,5 | 32,5 | 35,5 | 0,2931 | | | | 200 | - | 8,5 | 32,5 | 34 | 0,1654 | | | | |
| | 450 | - | 133,5 | 35 | 38 | 0,3369 | | | | 225 | - | 21 | 34 | 35,5 | 0,1960 | | | | |
| | 500 | - | 158,5 | 37 | 40 | 0,3806 | | | | 250 | - | 33,5 | 35,5 | 37 | 0,2266 | | | | |
| | 550 | - | 183,5 | 39,5 | 42,5 | 0,4244 | | | | 280 | - | 48,5 | 37,5 | 39 | 0,2634 | | | | |
| | 560 | - | 188,5 | 40 | 43 | 0,4331 | | | | 300 | - | 59 | 39 | 40,5 | 0,2879 | | | | |
| 600 | - | 208,5 | 42 | 45 | 0,4681 | 315 | - | 66 | | 40 | 41,5 | 0,3063 | | | | | | | |
| 630 | 8,5 | 223,5 | 43,5 | 46,5 | 0,4944 | 355 | - | 86 | | 42,5 | 45,5 | 0,3553 | | | | | | | |
| 650 | 18,5 | 233,5 | 44,5 | 47,5 | 0,5119 | 400 | - | 108,5 | | 45,5 | 48,5 | 0,4104 | | | | | | | |
| 700 | 43,5 | 258,5 | 47 | 50 | 0,5556 | 450 | - | 133,5 | | 49 | 52 | 0,4716 | | | | | | | |
| 710 | 48,5 | 263,5 | 47 | 50 | 0,5644 | 500 | - | 158,5 | | 47,5 | 50,5 | 0,5329 | | | | | | | |
| 750 | 68,5 | 283,5 | 49 | 52 | 0,5994 | 550 | - | 183,5 | | 50,5 | 53,5 | 0,5941 | | | | | | | |
| 800 | 93,5 | 308,5 | 51,5 | 54,5 | 0,6431 | 560 | - | 188,5 | | 51,5 | 54,5 | 0,6064 | | | | | | | |
| 1000 x | 150 | - | - | 23,1 | 23,2 | 0,0829 | BFL | M1 | | 600 | - | 208,5 | 54 | 57 | 0,6554 | BF | M3 | | |
| | 180 | - | - | 26 | 27,5 | 0,1121 | | | 630 | 8,5 | 223,5 | 55,5 | 58,5 | 0,6921 | | | | | |
| | 200 | - | 8,5 | 27 | 28,5 | 0,1316 | | | 650 | 18,5 | 233,5 | 56,5 | 59,5 | 0,7166 | | | | | |
| | 225 | - | 21 | 28,5 | 30 | 0,1560 | | | 700 | 43,5 | 258,5 | 60 | 63 | 0,7779 | | | | | |
| | 250 | - | 33,5 | 30 | 31,5 | 0,1804 | | | 710 | 48,5 | 263,5 | 60 | 63 | 0,7901 | | | | | |
| | 280 | - | 48,5 | 31,5 | 33 | 0,2096 | | | 750 | 68,5 | 283,5 | 62,5 | 65,5 | 0,8391 | | | | | |
| | 300 | - | 59 | 32,5 | 34 | 0,2291 | | | 800 | 93,5 | 308,5 | 65,5 | 68,5 | 0,9004 | | | | | |
| | 315 | - | 66 | 33,5 | 35 | 0,2438 | | | 1400 x | 180 | - | - | 34 | 35,5 | 0,1581 | | | BFL | M2 |
| | 355 | - | 86 | 35,5 | 37 | 0,2828 | | | | 200 | - | 8,5 | 35,5 | 37 | 0,1856 | | | | |
| | 400 | - | 108,5 | 35 | 38 | 0,3266 | | | | 225 | - | 21 | 37,5 | 39 | 0,2200 | | | | |
| | 450 | - | 133,5 | 37,5 | 40,5 | 0,3754 | | | | 250 | - | 33,5 | 39,5 | 41 | 0,2544 | | | | |
| | 500 | - | 158,5 | 40 | 43 | 0,4241 | | | | 280 | - | 48,5 | 41,5 | 43 | 0,2956 | | | | |
| | 550 | - | 183,5 | 42,5 | 45,5 | 0,4729 | | | | 300 | - | 59 | 43 | 44,5 | 0,3231 | | | | |
| | 560 | - | 188,5 | 43 | 46 | 0,4826 | | | | 315 | - | 66 | 44 | 47 | 0,3438 | | | | |
| 600 | - | 208,5 | 45 | 48 | 0,5216 | 355 | - | 86 | | 47 | 50 | 0,3988 | | | | | | | |
| 630 | 8,5 | 223,5 | 47 | 50 | 0,5509 | 400 | - | 108,5 | | 50 | 53 | 0,4606 | | | | | | | |
| 650 | 18,5 | 233,5 | 48 | 51 | 0,5704 | 450 | - | 133,5 | | 53,5 | 56,5 | 0,5294 | | | | | | | |
| 700 | 43,5 | 258,5 | 51 | 54 | 0,6191 | 500 | - | 158,5 | | 52 | 55 | 0,5981 | | | | | | | |
| 710 | 48,5 | 263,5 | 51 | 54 | 0,6289 | 550 | - | 183,5 | | 55,5 | 58,5 | 0,6669 | | | | | | | |
| 750 | 68,5 | 283,5 | 53 | 56 | 0,6679 | 560 | - | 188,5 | | 56 | 59 | 0,6806 | | | | | | | |
| 800 | 93,5 | 308,5 | 55,5 | 58,5 | 0,7166 | 600 | - | 208,5 | | 59 | 62 | 0,7356 | | | | | | | |
| 1100 x | 180 | - | - | 28 | 29,5 | 0,1236 | BFL | M1 | 630 | 8,5 | 223,5 | 60,5 | 63,5 | 0,7769 | BF | M4 | | | |
| | 200 | - | 8,5 | 29 | 30,5 | 0,1451 | | | 650 | 18,5 | 233,5 | 62 | 65 | 0,8044 | | | | | |
| | 225 | - | 21 | 30,5 | 32 | 0,1720 | | | 700 | 43,5 | 258,5 | 65,5 | 68,5 | 0,8731 | | | | | |
| | 250 | - | 33,5 | 32 | 33,5 | 0,1989 | | | 710 | 48,5 | 263,5 | 66 | 69 | 0,8869 | | | | | |
| | 280 | - | 48,5 | 34 | 35,5 | 0,2311 | | | 750 | 68,5 | 283,5 | 68,5 | 71,5 | 0,9419 | | | | | |
| | 300 | - | 59 | 35 | 36,5 | 0,2526 | | | 800 | 93,5 | 308,5 | 71,5 | 74,5 | 1,0106 | | | | | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

| A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control | A x B [mm] | Damper blade overlaps | | Weight | | Effective area Sef [m ²] | Spring return actuator | Manual control |
|---------------|-----------------------|-----------|--------------|----------------|--------------------------------------|------------------------|----------------|---------------|-----------------------|-----------|--------------|----------------|--------------------------------------|------------------------|----------------|
| | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | | | a [mm] | c [mm] | Man. [kg] | Actu. [kg]* | | | |
| 1500 x | 180 | - | - | 36 | 37,5 | 0,1696 | | 1500 x | 500 | - | 158,5 | 57 | 60 | 0,6416 | |
| | 200 | - | 8,5 | 37,5 | 39 | 0,1991 | BFL | | 550 | - | 183,5 | 58,5 | 61,5 | 0,7154 | M3 |
| | 225 | - | 21 | 39,5 | 41 | 0,2360 | | | 560 | - | 188,5 | 59,5 | 62,5 | 0,7301 | |
| | 250 | - | 33,5 | 41,5 | 43 | 0,2729 | M2 | | 600 | - | 208,5 | 62,5 | 65,5 | 0,7891 | M4 |
| | 280 | - | 48,5 | 44 | 45,5 | 0,3171 | | | 630 | 8,5 | 223,5 | 64 | 67 | 0,8334 | |
| | 300 | - | 59 | 45,5 | 48,5 | 0,3466 | BFN | | 650 | 18,5 | 233,5 | 65,5 | 68,5 | 0,8629 | BF |
| | 315 | - | 66 | 46,5 | 49,5 | 0,3688 | | | 700 | 43,5 | 258,5 | 69,5 | 72,5 | 0,9366 | |
| | 355 | - | 86 | 49,5 | 52,5 | 0,4278 | | | 710 | 48,5 | 263,5 | 69,5 | 79,5 | 0,9514 | M5 |
| | 400 | - | 108,5 | 53 | 56 | 0,4941 | M3 | | 750 | 68,5 | 283,5 | 72,5 | 75,5 | 1,0104 | |
| | 450 | - | 133,5 | 55 | 58 | 0,5679 | BF | | 800 | 93,5 | 308,5 | 75,5 | 78,5 | 1,0841 | |

Sizes in increments of 5 mm can be manufactured on request.

* For designs with BKN a weight of 0.5 kg must be added.

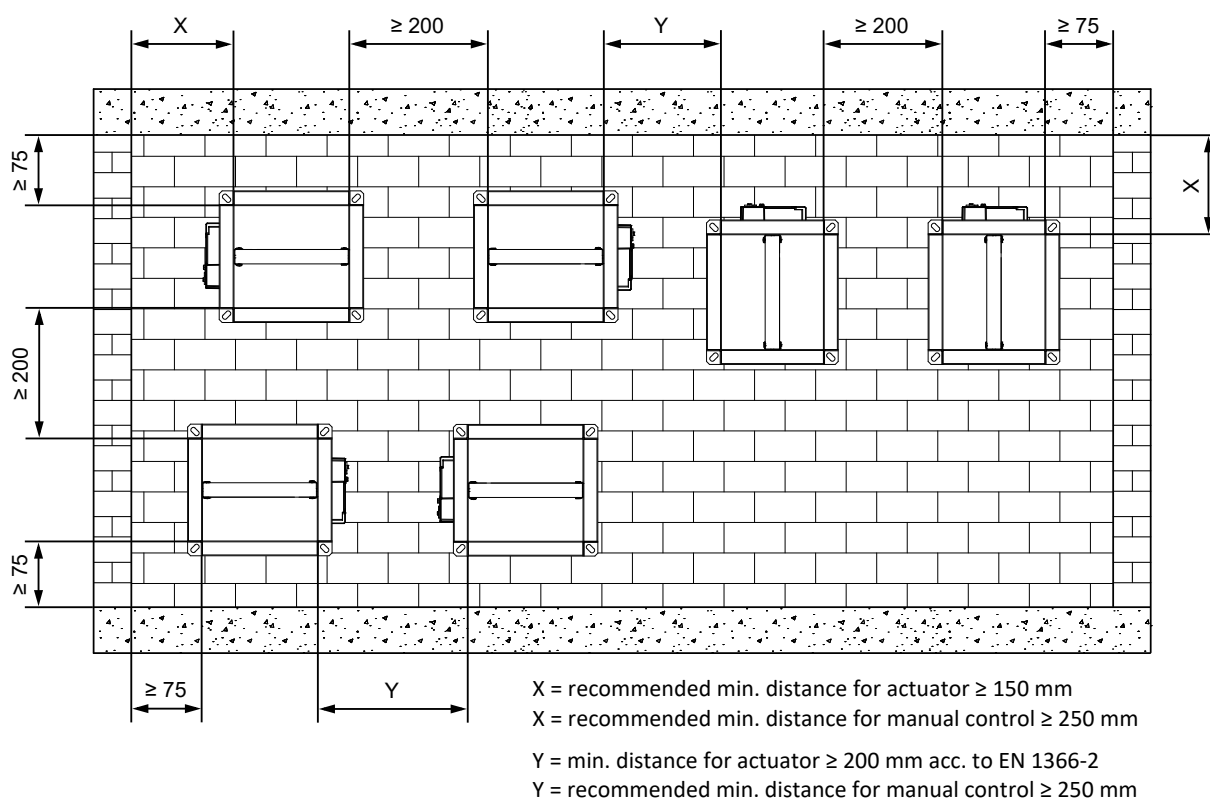
IV. INSTALLATION

Placement and installation

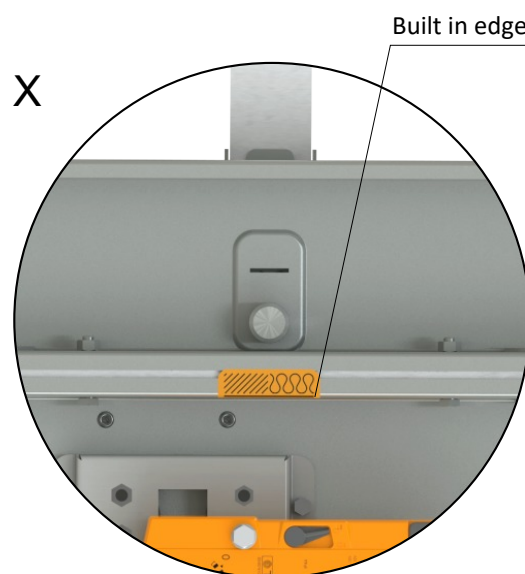
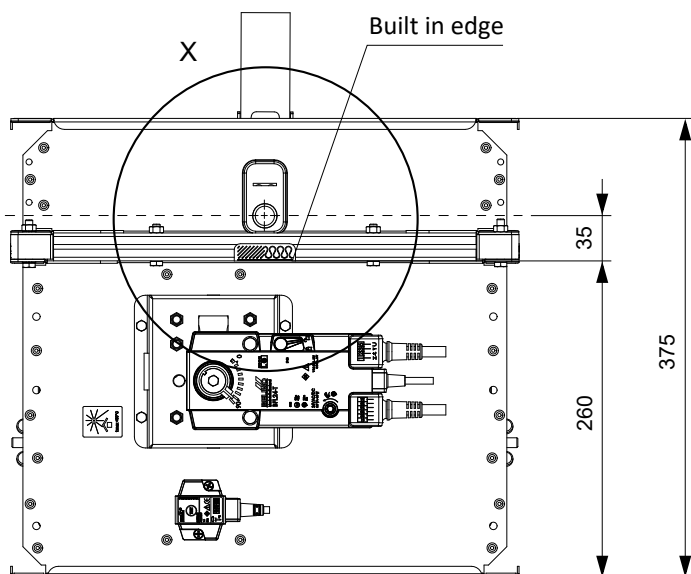
- The fire dampers are suitable for installation in arbitrary position in vertical and horizontal passages of fire separating constructions. The damper installation procedures must be done so that all load transfer from the fire separating constructions to the damper is absolutely excluded. Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. The gap between the installed damper and the fire separating construction must be perfectly filled with approved material.
- The damper must be installed so that the damper blade (in closed position) is situated in the fire separating construction - marked by the label BUILT-IN EDGE on the damper casing. If such solution is not possible, the duct between the fire separating construction and the damper blade must be protected according to the certified installation method → see pages 29 to 77
- During the installation and plastering process, the actuating mechanism must be protected (covered) against damage and pollution. The damper casing should not be deformed during bricking in. Once the damper is built in, the damper blade should not grind against the damper casing during opening or closing.
- The distance between the fire damper and the construction (wall, ceiling) must be 75 mm at the minimum, according to EN 1366-2. If two or more dampers are to be installed in one fire separating construction, the distance between adjacent dampers must be 200 mm at the minimum, according to EN 1366-2.
- Fire dampers can be installed without following duct on one or both sides. Installation without following duct is only possible in vertical constructions. In this case, the fire dampers must be installed with cover grilles (additional extension parts may be required due to overlapping of the damper blade → see pages 20 to 25). The damper must be installed so that the activation device (thermal fuse/thermoelectric activation device/smoke detector) is located at the highest possible point of the damper (top of the casing).

Minimum distance between the fire dampers and the construction

- minimum distance 200 mm between dampers, according to EN 1366-2
- minimum distance 75 mm between damper and construction (wall/ceiling), according to EN 1366-2
- recommended minimum distance 150 mm necessary for access to the actuator
- recommended minimum distance 250 mm necessary for access to the manual control

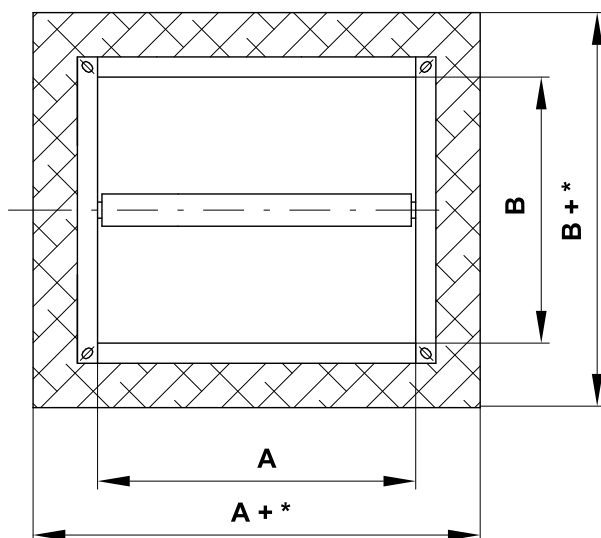


Built in edge



"BUILT IN EDGE label" indicates the recommended edge of installation of a fire damper in the fire separating construction (wall/ceiling). The damper must be installed so that the entire damper blade (in the closed position) is located in the fire separating construction (wall/ceiling) and at the same time the actuating mechanism and inspection openings are freely accessible.

Dimensions of an installation opening



- * Mortar or gypsum
 - min. A(B)+100
 - max. A(B)+300
- * Weichschott
 - min. A(B)+80
 - max. A(B)+800
- * Stuffing box with fire protective boards
 - min. A(B)+80
 - max. A(B)+220

Examples of constructions for fire damper installation

- The fire damper can be installed into:
 - Solid wall construction made e.g. of normal concrete/masonry or porous concrete with min. thickness 100 mm.
 - Gypsum wall construction with min. thickness 100 mm.
 - Solid ceiling construction made e.g. of normal concrete or porous concrete, with minimum thickness according to EN 1366-2.
- Outside the wall/ceiling construction. The duct and damper must be protected by fire insulation.
- If the damper is installed outside the fire separation construction, a damper side A ≥ 800 mm and fire resistance is EI 90 S, VRM-Q reinforcement frame must be used. → see page 90

NOTE: For lower fire resistance than EI 90 S, VRM-Q reinforcement frame is not necessary!

Statement of installations

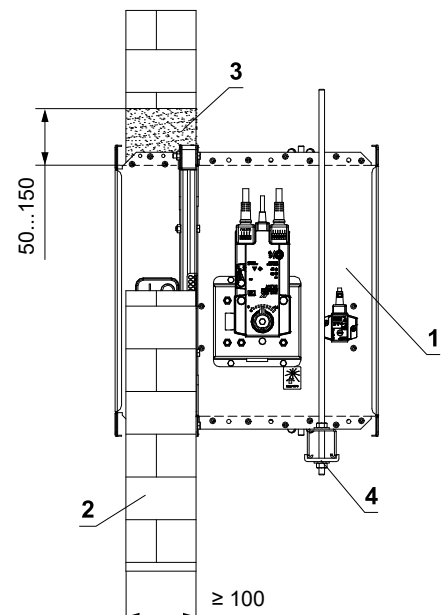
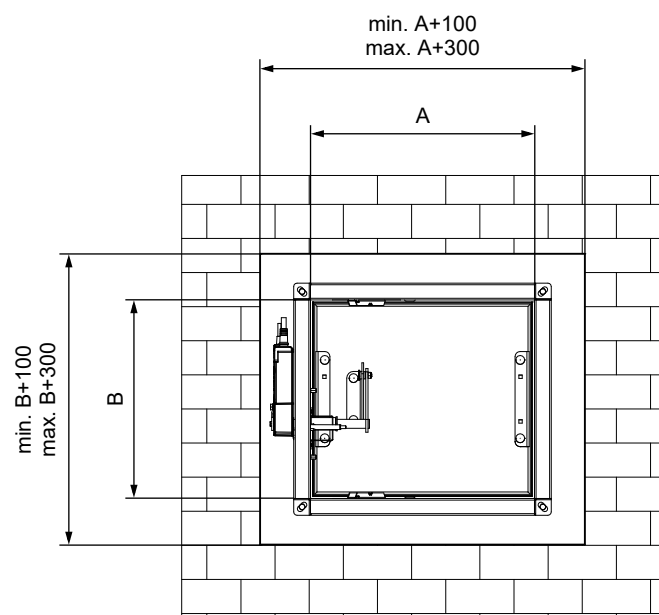
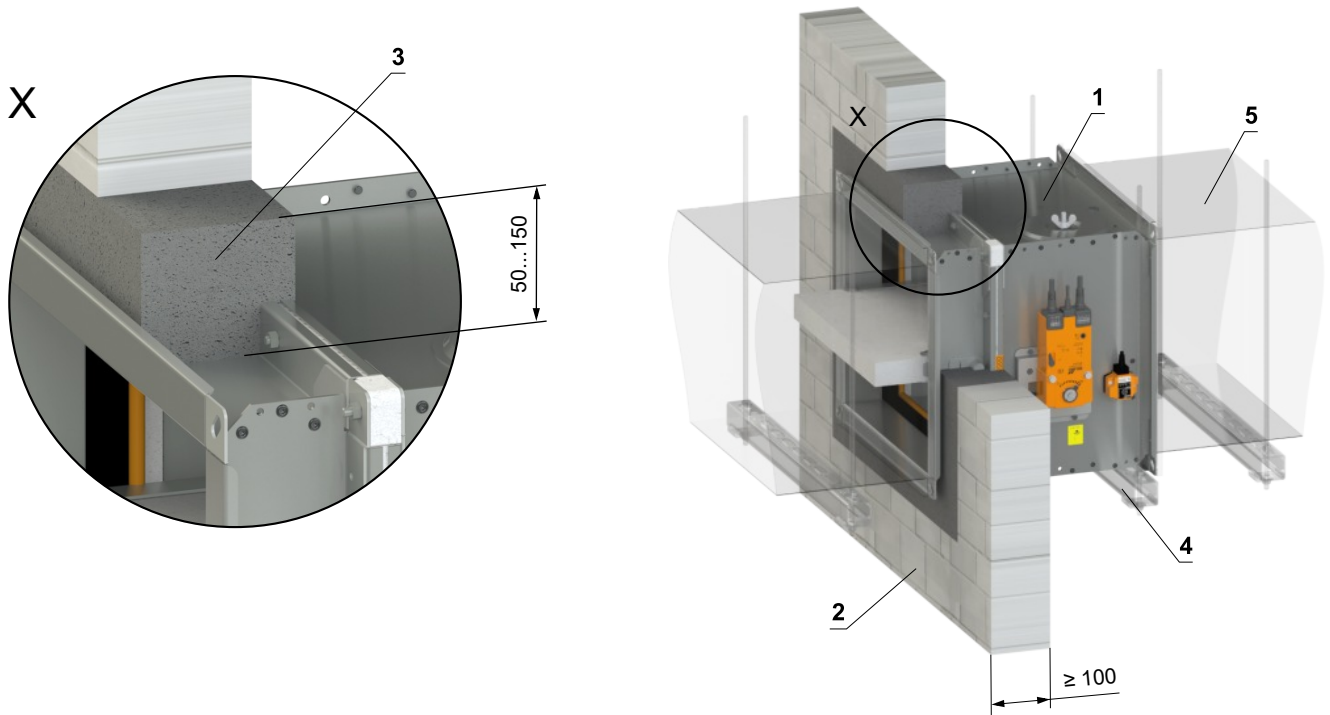
| Placement | wall/ceiling min. thickness [mm] | Method of installation | Fire resistance | Page |
|---|--|--|------------------------------|------------------------------|
| In solid wall construction | 100 | Mortar or gypsum | EI 90 (v _e i↔o) S | 29 |
| | | 2 dampers in battery - mortar or gypsum | | 30 |
| | | 4 dampers in battery - mortar or gypsum | | 31 |
| | | Weichschott system | | 32 |
| | | Mineral wool with fire-resistant coating and fire-resistant boards | | 33 |
| | | Installation next to the wall/ceiling - mortar or gypsum + mineral wool | | 34 |
| Outside solid wall construction | 100 | ISOVER Ultimate Protect - mortar or gypsum | EI 60 (v _e i↔o) S | 35 |
| | | ISOVER Ultimate Protect - Weichschott system | | 36 |
| | | Mineral wool ROCKWOOL - Mineral wool with fire-resistant coating and fire-resistant board | | EI 90 (v _e i↔o) S |
| In gypsum wall construction | 100 | Mortar or gypsum | EI 90 (v _e i↔o) S | 38 |
| | | 2 dampers in battery - mortar or gypsum | | 39 |
| | | 4 dampers in battery - mortar or gypsum | | 40 |
| | | Weichschott system | | 41 |
| | | Mineral wool with fire-resistant coating and fire-resistant boards | | 42 |
| | | Installation next to the wall/ceiling - mortar or gypsum + mineral wool | | 43 |
| Outside gypsum wall construction | 100 | ISOVER Ultimate Protect - mortar or gypsum | EI 60 (v _e i↔o) S | 44 |
| | | ISOVER Ultimate Protect - Weichschott system | | 45 |
| | | Mineral wool ROCKWOOL - Mineral wool with fire-resistant coating and fire-resistant boards | | EI 90 (v _e i↔o) S |
| In sandwich wall construction | 100 | Weichschott system with fire-resistant boards | EI 90 (v _e i↔o) S | 47 |
| In shaft wall Rigips | 110 | Mortar or gypsum | EI 90 (v _e i↔o) S | 49 |
| | 80 | Installation frame E1 | | 50 |
| In solid ceiling construction | 110 - Concrete 125 - Aerated concrete | Mortar or gypsum | EI 90 (h _o i↔o) S | 51 |
| | | 2 dampers in battery - mortar or gypsum | | 52 |
| | | 4 dampers in battery - mortar or gypsum | | 53 |
| | | Weichschott system | | 54 |
| | | Mineral wool with fire-resistant coating and fire-resistant boards | | 55 |
| Outside solid ceiling construction | 110 - Concrete 125 - Aerated concrete | Mineral wool ROCKWOOL - mortar or gypsum | EI 90 (h _o i↔o) S | 56 |
| | | Concreting | | 57 |
| Installation frame in solid wall construction | 100 | Installation frame E1 | EI 90 (v _e i↔o) S | 60 |
| | | Installation frame E2 | | 64 |
| | | Installation frame E4 | | 69 |
| Installation frame outside solid wall construction | 100 | Insulation from fire-resistant boards - mortar or gypsum - installation frame E6 | EI 90 (v _e i↔o) S | 76 |
| Installation frame in gypsum wall construction | 100 | Installation frame E1 | EI 90 (v _e i↔o) S | 61 |
| | | Installation frame E3 | | 67 |
| | | Flexible ceiling - installation frame E5 | | 73-74 |
| Installation frame in solid ceiling construction | 110 - Concrete 125 - Aerated concrete | Installation frame E1 | EI 90 (h _o i↔o) S | 62 |
| | | Installation frame E2 | | 65 |
| | | Installation frame E4 | | 70 |
| Installation frame outside solid ceiling construction | 110 - Concrete 125 - Aerated concrete | Concreting - Installation frame E4 | EI 90 (h _o i↔o) S | 71 |
| | | Insulation from fire-resistant boards - mortar or gypsum - installation frame E6 | | 77 |

In solid wall construction

In solid wall construction - mortar or gypsum

EI 90 (v_e i↔o) S

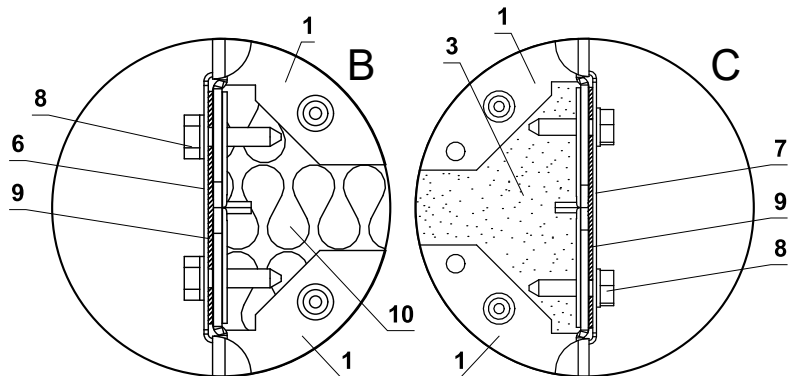
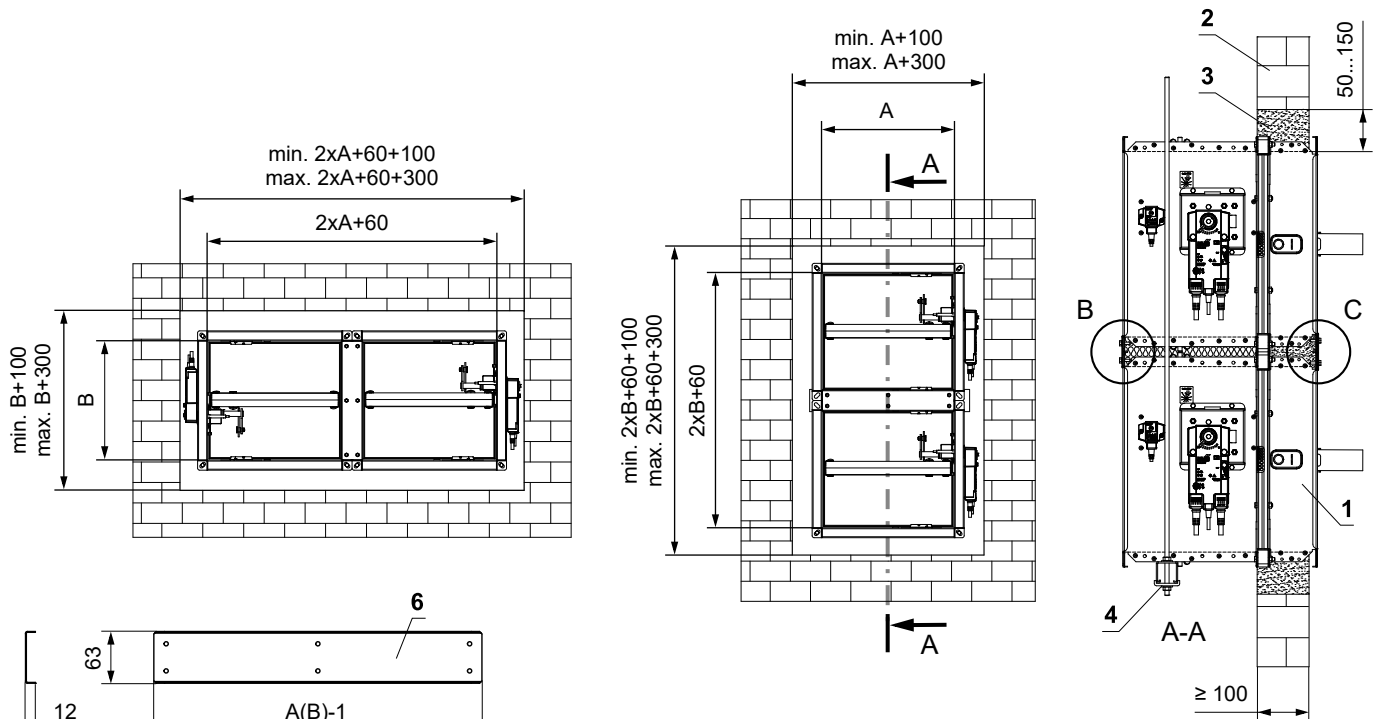
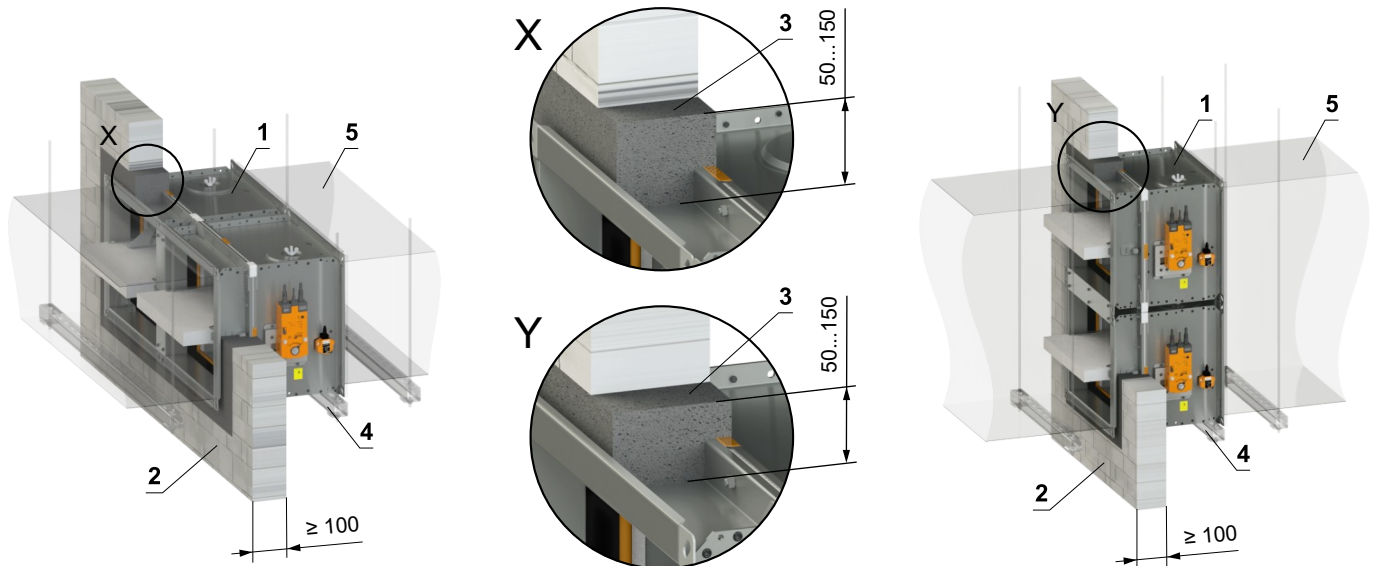
- For connection of following duct → see page 82



- 1 FDMQ
- 2 Solid wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct

In solid wall construction - 2 dampers in battery - mortar or gypsum

EI 90 (v_e i↔o) S

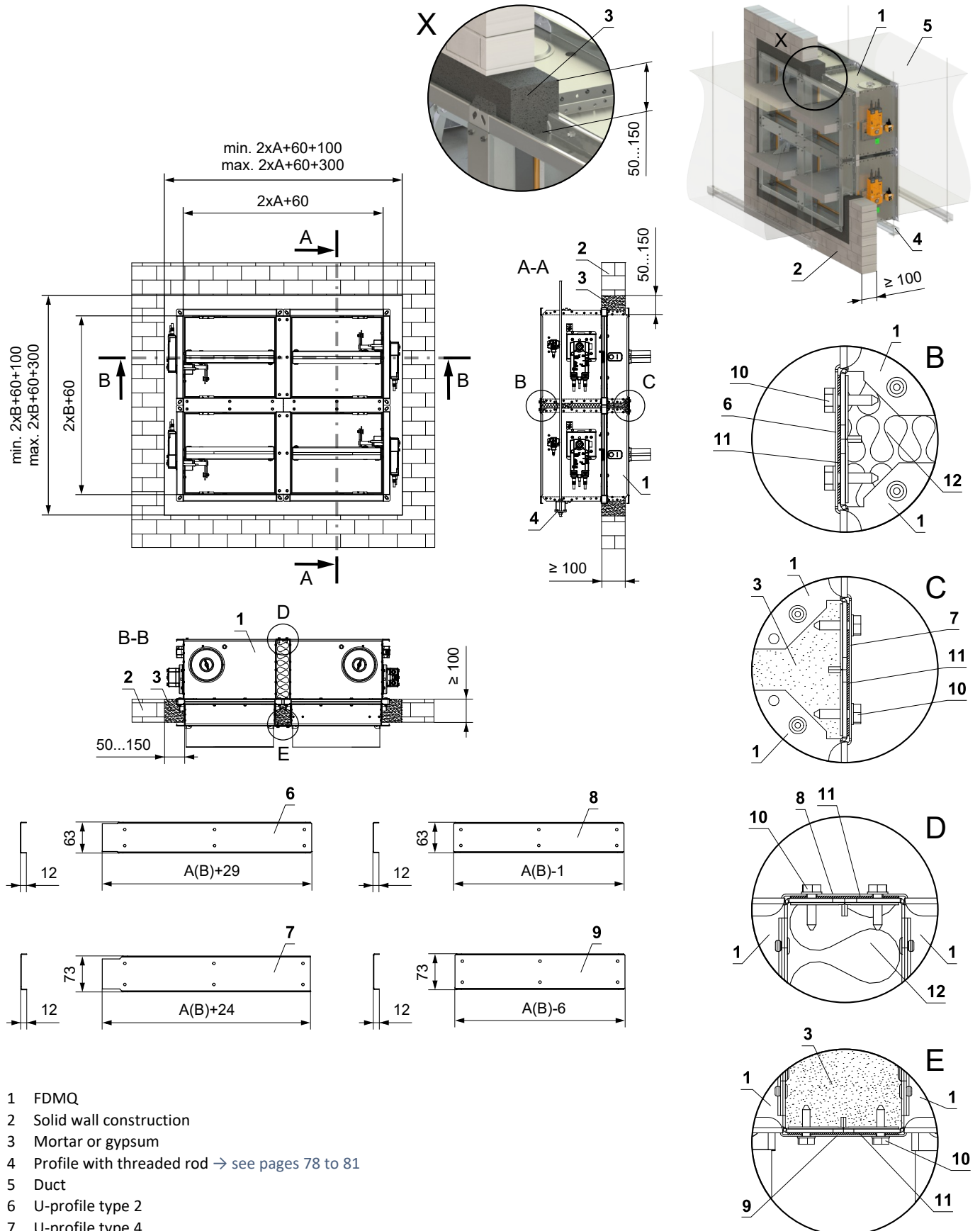


- 1 FDMQ
- 2 Solid wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 3
- 7 U-profile type 1
- 8 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 9 Sealing
- 10 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

In solid wall construction - 4 dampers in battery - mortar or gypsum

EI 90 (v_e i↔o) S



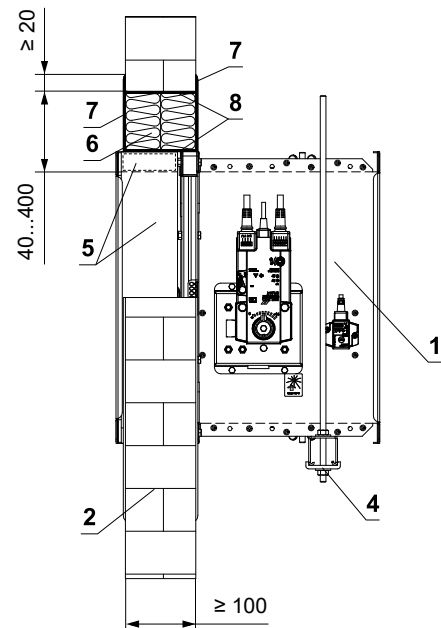
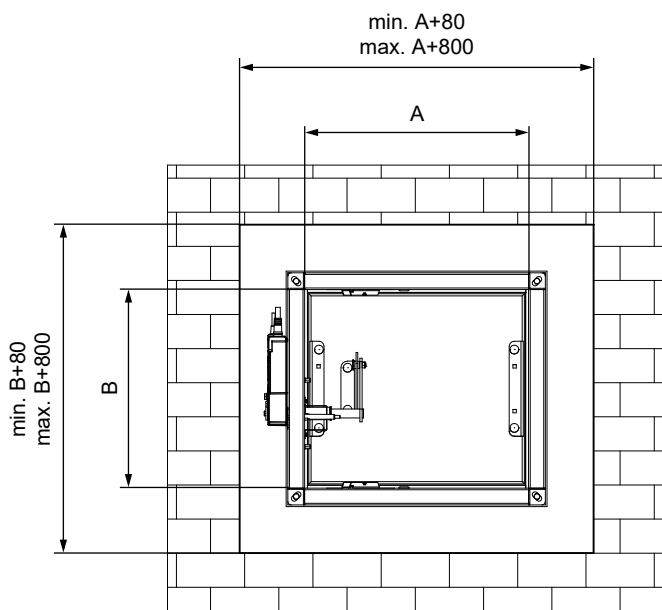
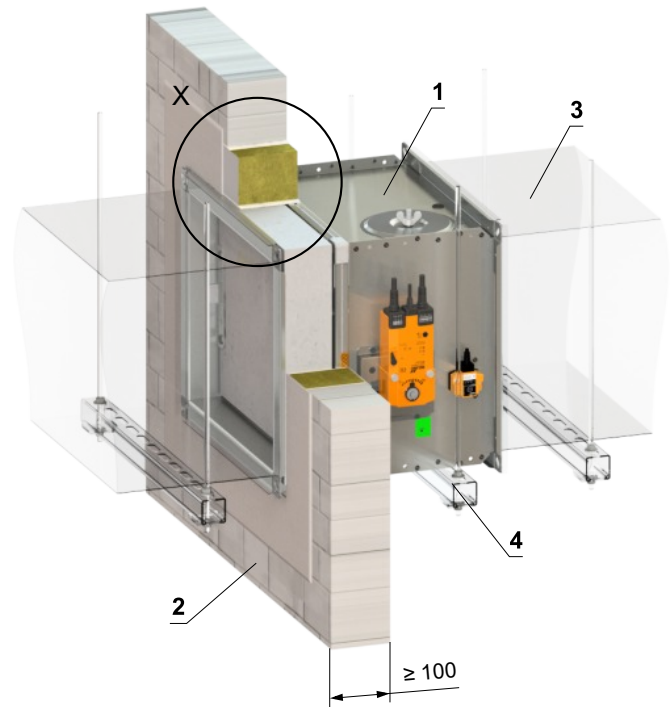
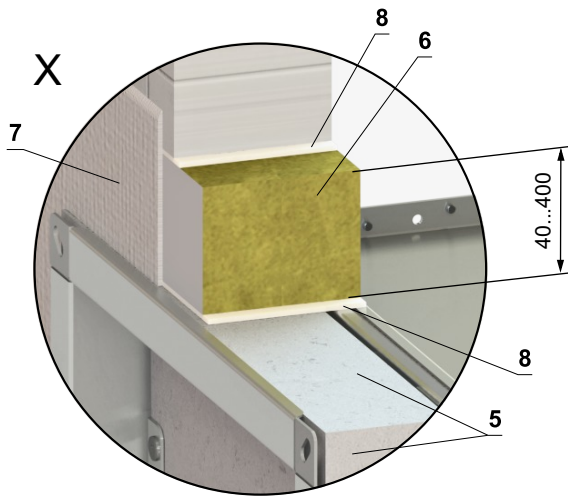
- 1 FDMQ
- 2 Solid wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 2
- 7 U-profile type 4
- 8 U-profile type 1
- 9 U-profile type 3
- 10 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 11 Sealing
- 12 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

In solid wall construction - Weichschott system

EI 90 (v_e i↔o) S

■ For connection of following duct → see page 82



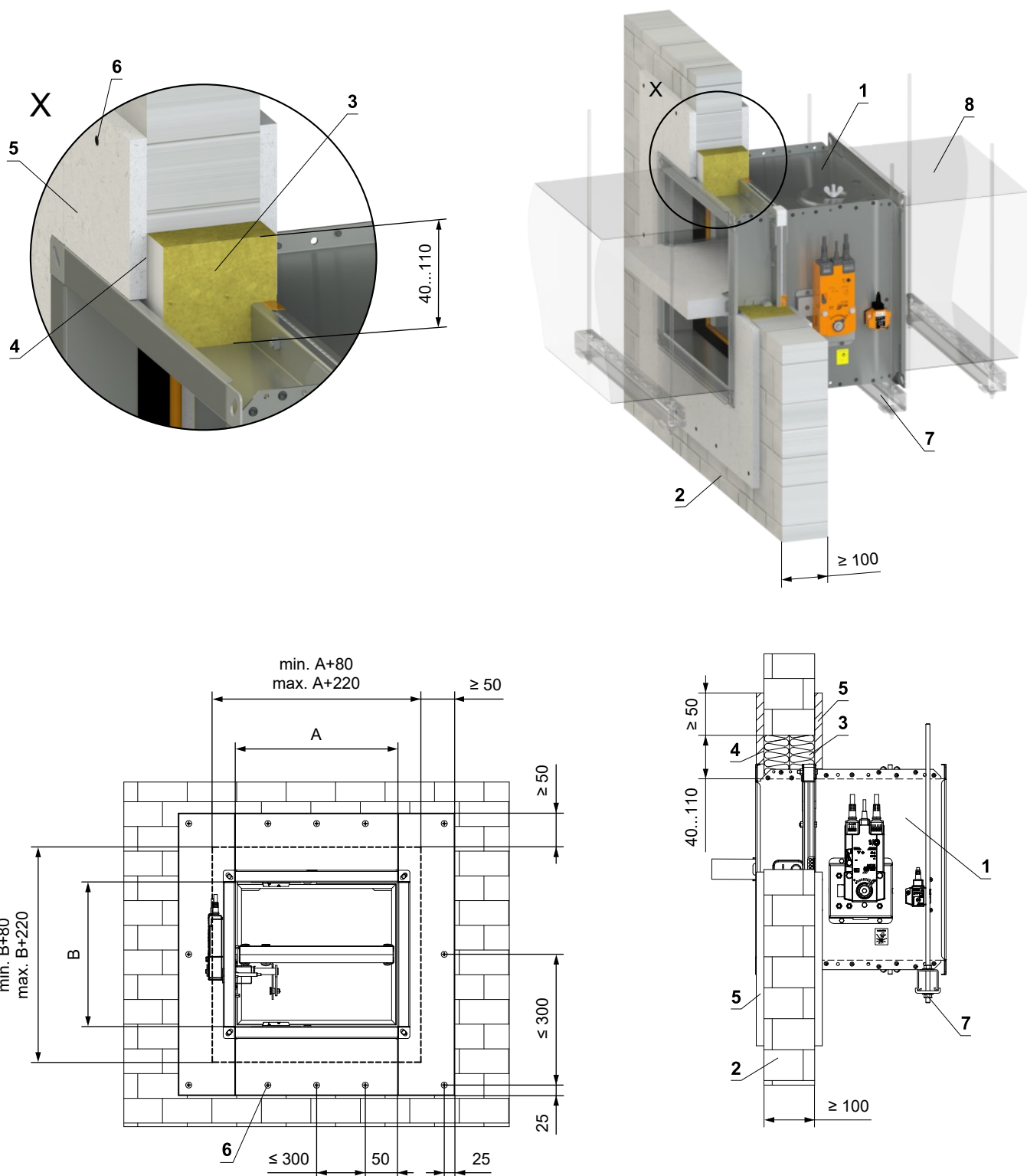
- 1 FDMQ
 - 2 Solid wall construction
 - 3 Duct
 - 4 Profile with threaded rod → see pages 78 to 81
 - 5 Protective cladding board - min. th. 30 mm, min. density 750 kg/m³ (e.g. PROMATECT-MST) → see page 91
- Weichschott system HILTI*
- 6 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
 - 7 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
 - 8 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.

In solid wall construction - mineral wool with fire-resistant coating and fire-resistance boards

EI 90 (v_e i↔o) S

■ For connection of following duct → see page 82

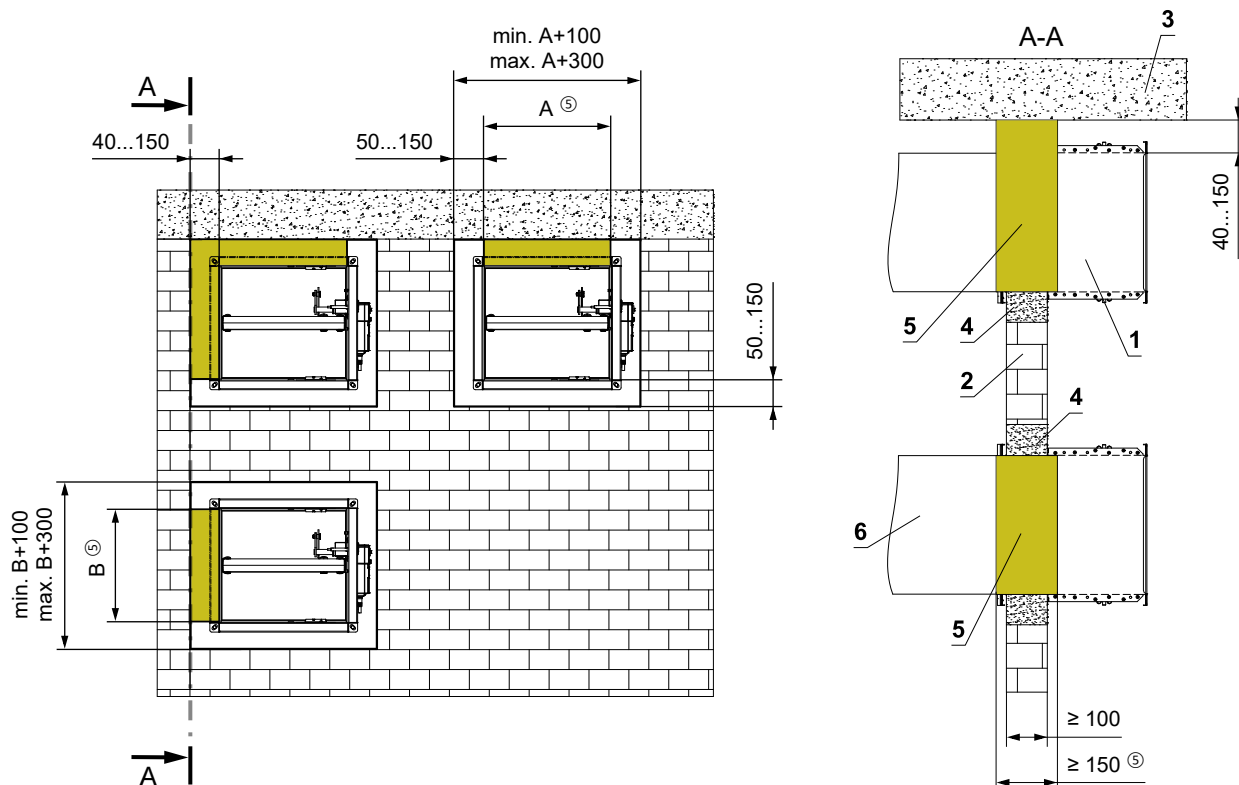
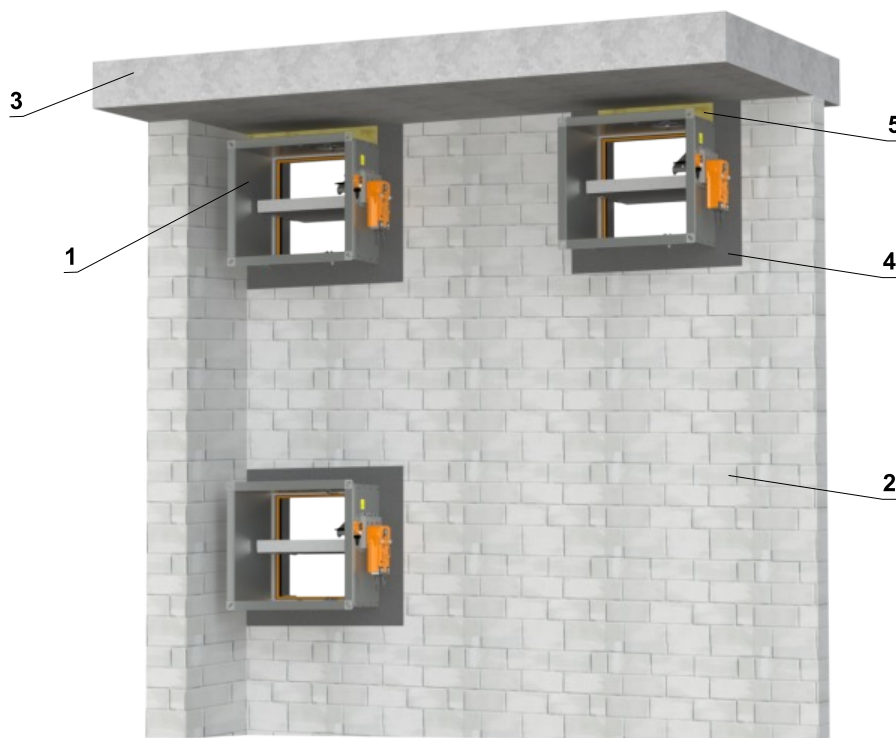


- 1 FDMQ
- 2 Solid wall construction
- 3 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPROCK HD)
- 4 Fire-resistant coating - th. 1 mm (e.g. PROMASTOP-I)
- 5 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H)
- 6 Screw 4x50 mm - screws must be fixed in the wall construction, use steel anchors if necessary
- 7 Profile with threaded rod → see pages 78 to 81
- 8 Duct

In solid wall construction - installation next to the wall/ceiling - mortar or gypsum + mineral wool

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Conditions of this installation are also valid for the installation in **Solid ceiling construction**
- Penetration is filled with mortar or gypsum + mineral wool (shape, according to the location of the damper). Fix the mineral wool with glue (e.g. Promat K84 or equivalent) to the construction and damper casing



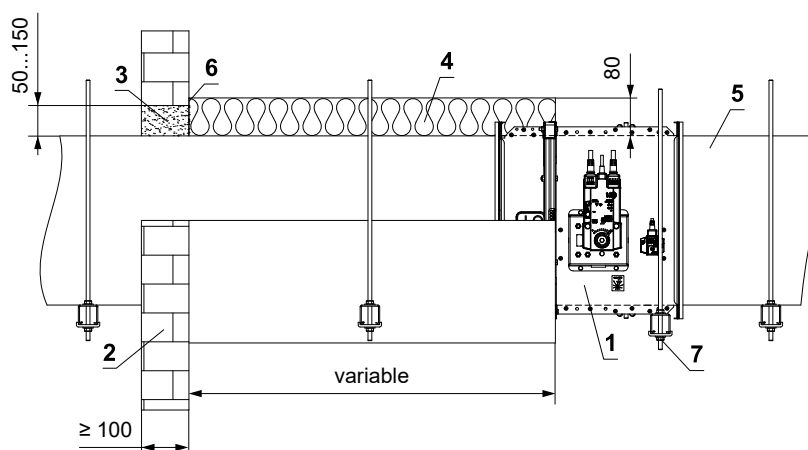
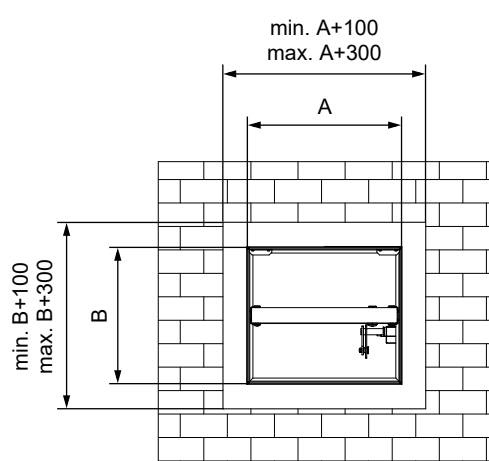
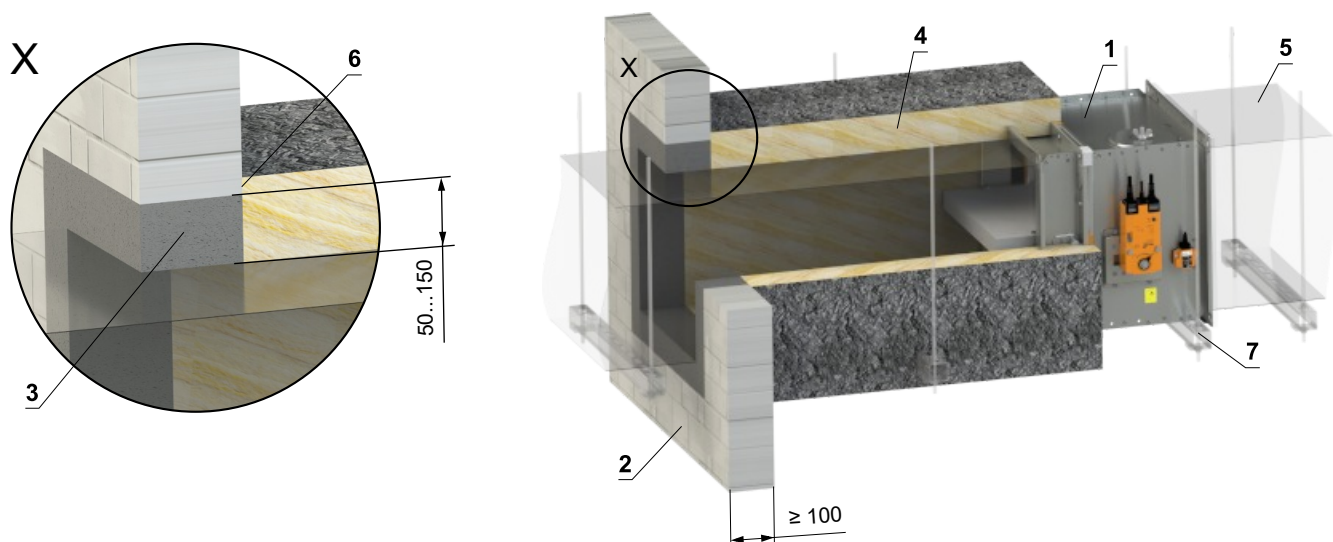
- 1 FDMQ
- 2 Solid wall construction
- 3 Solid ceiling construction
- 4 Mortar or gypsum
- 5 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPROCK HD)
- 6 Duct

Installation outside solid wall construction

Outside solid wall construction - ISOVER Ultimate Protect - mortar or gypsum

EI 60 (v_e i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ISOVER manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm

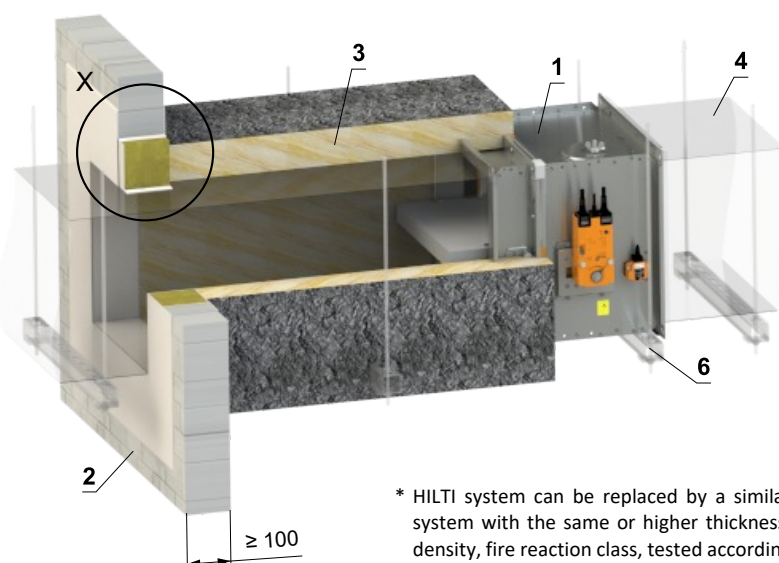
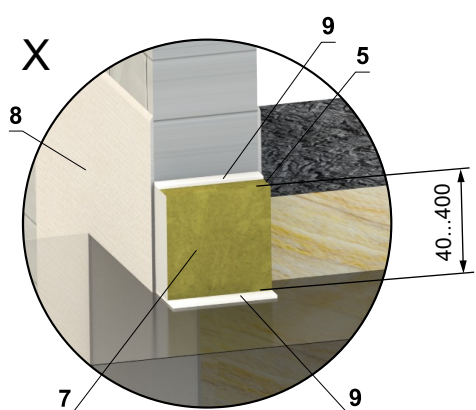


- 1 FDMQ
- 2 Solid wall construction
- 3 Mortar or gypsum
- 4 Insulation board made of mineral wool, with a surface treatment of aluminum foil, min. thickness 80 mm, min. density 66 kg/m³ (System ISOVER Ultimate Protect Wired Mat 4.0 Alu1)
- 5 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm
- 6 ISOVER Protect BSK glue - apply on the insulation and fix it to the fire separation construction
- 7 Profile with threaded rod → see pages 78 to 81

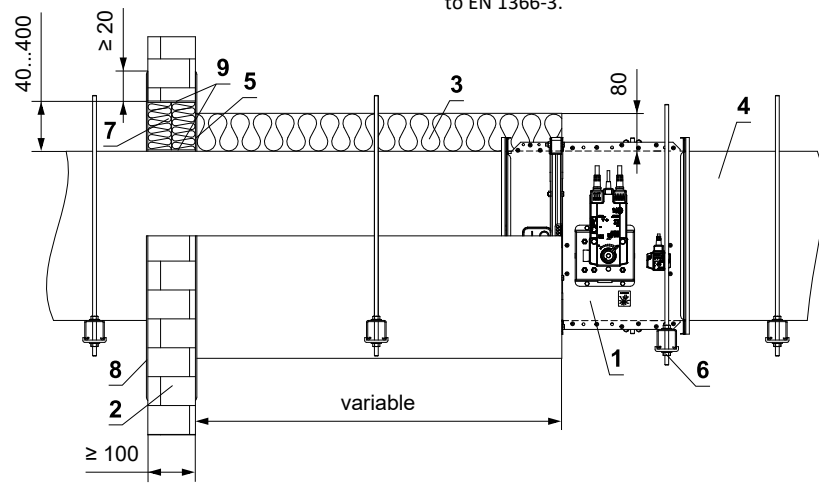
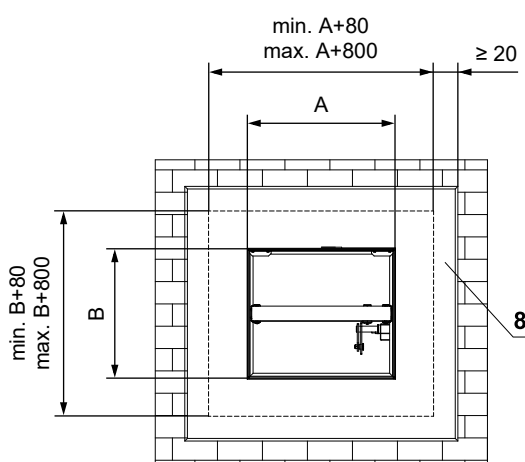
Outside solid wall construction - ISOVER Ultimate Protect - Weichschott system

EI 60 (v_e i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ISOVER manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm



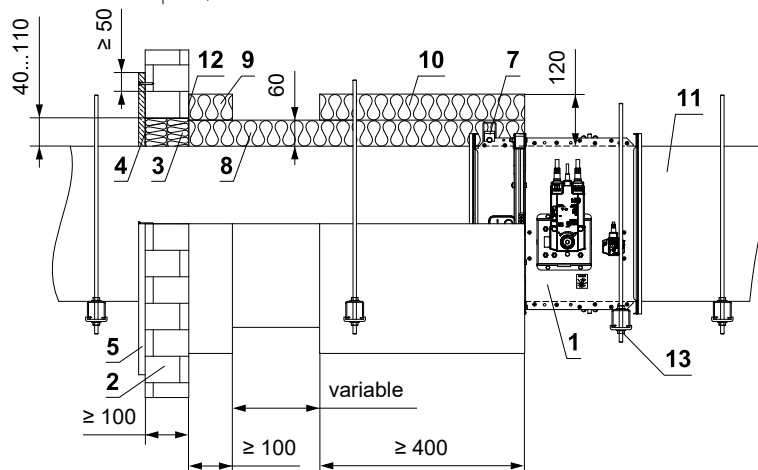
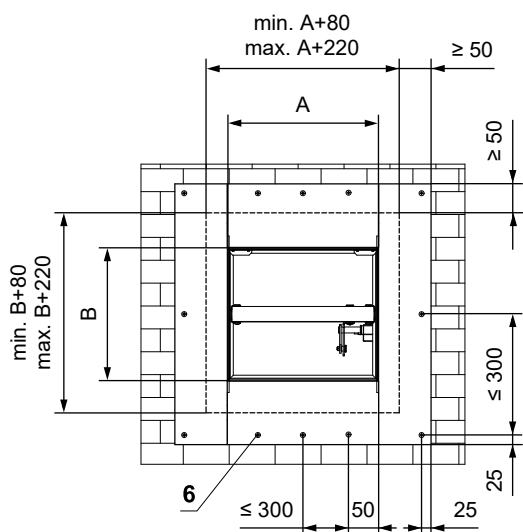
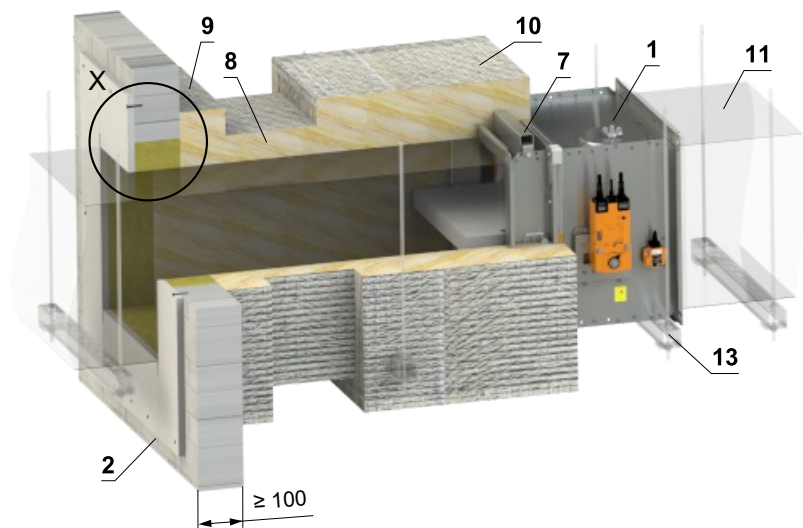
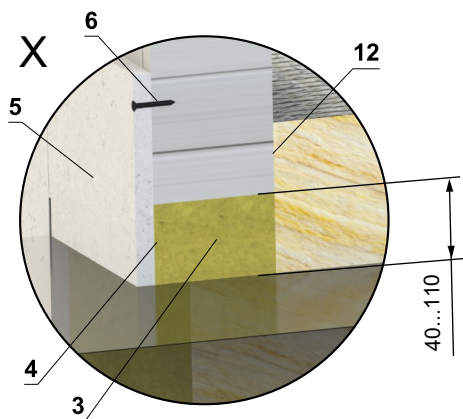
* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.



- 1 FDMQ
- 2 Solid wall construction
- 3 Insulation board made of mineral wool, with a surface treatment of aluminum foil, min. thickness 80 mm, min. density 66 kg/m³ (System ISOVER Ultimate Protect Wired Mat 4.0 Alu1)
- 4 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm
- 5 ISOVER Protect BSK glue - apply on the insulation and fix it to the fire separation construction
- 6 Profile with threaded rod → see pages 78 to 81
Weichschott system HILTI*
- 7 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
- 8 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
- 9 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

Outside solid wall construction - mineral wool ROCKWOOL - mineral wool with fire-resistant coating and fire-resistant board EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ROCKWOOL manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Duct at the point of penetration must be fixed to the fire separation structure
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm
- If the damper is installed outside the fire separation construction and a damper side A ≥ 800 mm, VRM-Q reinforcement frame must be used → see page 90



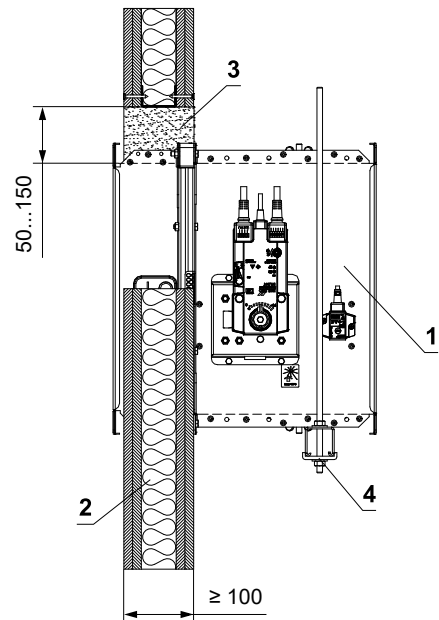
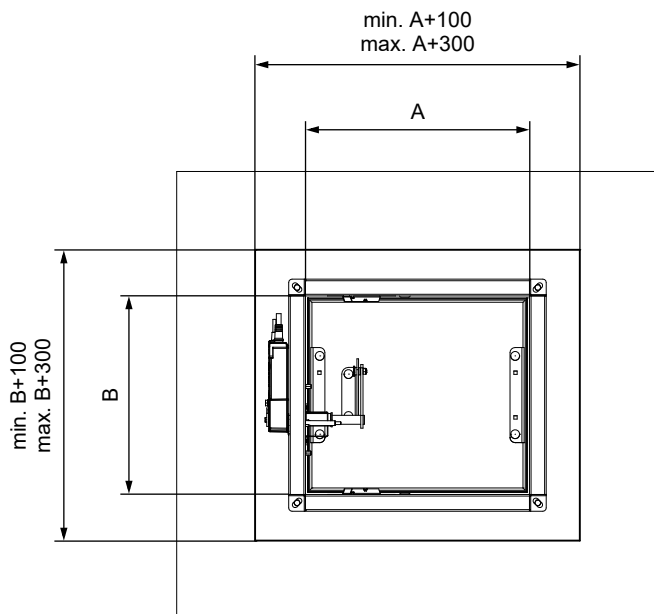
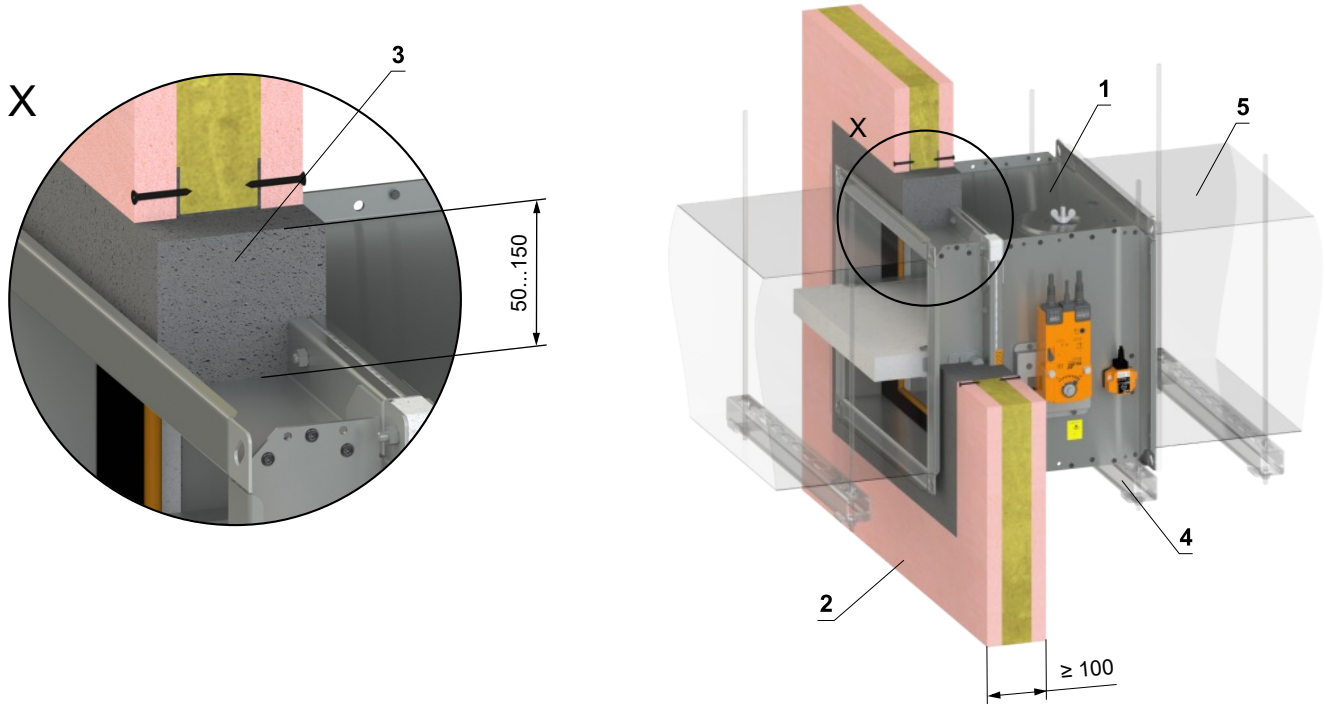
- | | |
|--|---|
| <ol style="list-style-type: none"> 1 FDMQ 2 Solid wall construction 3 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPLOCK HD) 4 Fire-resistant coating - th. 1 mm (e.g. PROMASTOP-I) 5 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H) 6 Screw 4x50 mm - screws must be fixed in the wall construction, use steel anchors if necessary 7 VRM-Q → see page 90 | <ol style="list-style-type: none"> 8 Insulation board made of mineral wool, with a surface treatment of aluminum foil - th. 60 mm, min. density 300 kg/m³ - (System ROCKWOOL Conlit Ductrock 90) 9 Duct penetration insulation collar - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) - glued (pos. 12) and fixed with screws to the wall construction 10 Insulation collar of the damper and duct connection - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) 11 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm 12 ROCKWOOL Firepro glue - apply on the insulation and fix it to the fire separation construction 13 Profile with threaded rod → see pages 78 to 81 |
|--|---|

In gypsum wall construction

In gypsum wall construction - mortar or gypsum

EI 90 (v_e i↔o) S

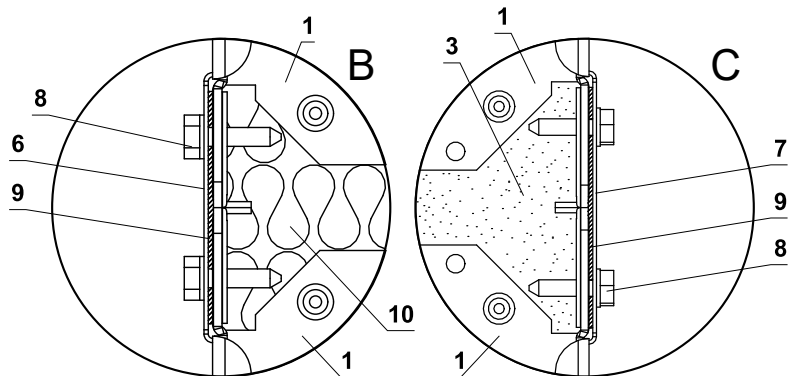
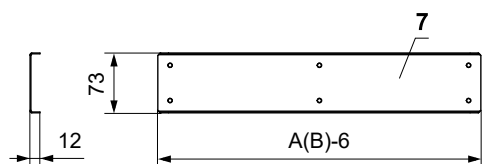
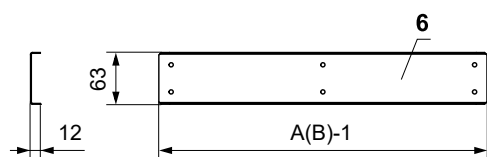
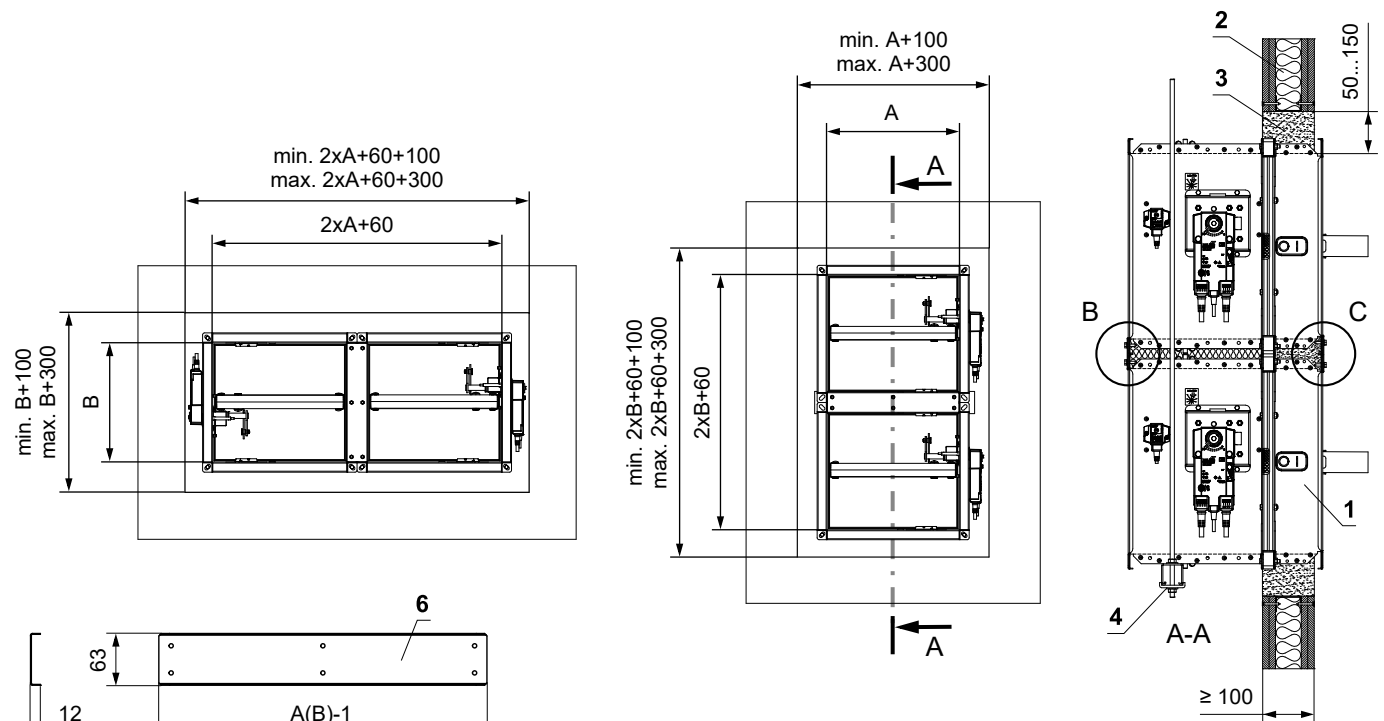
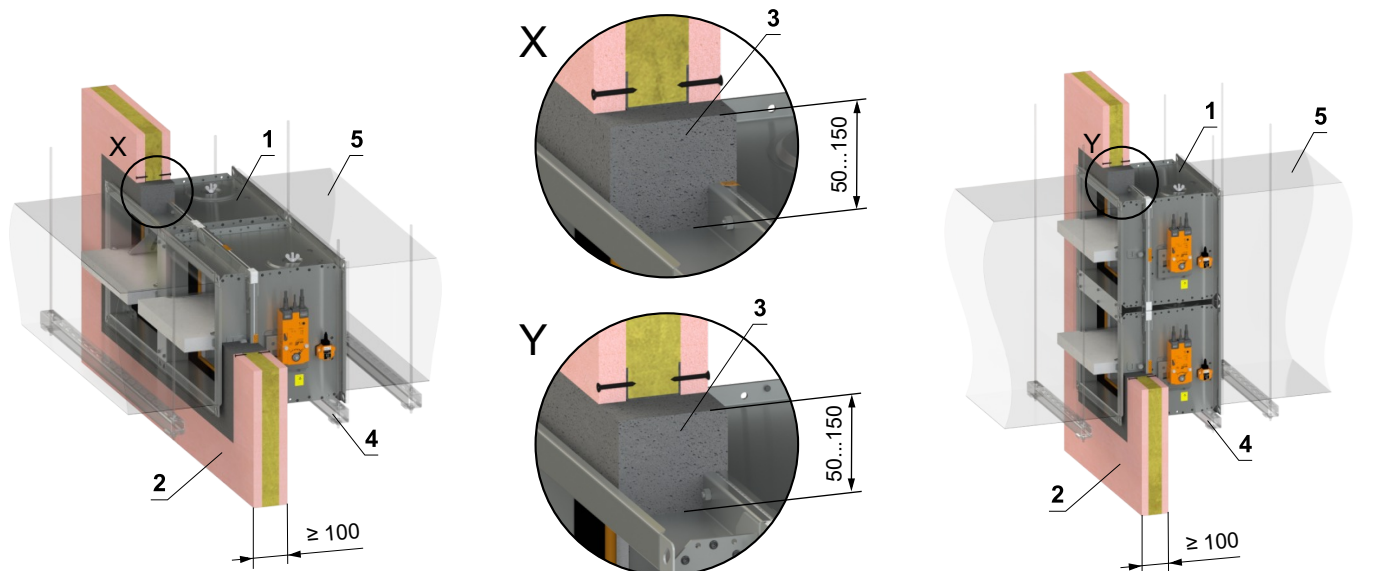
- For connection of following duct → see page 82



- 1 FDMQ
- 2 Gypsum wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct

In gypsum wall construction - 2 dampers in battery - mortar or gypsum

EI 90 (v_e i↔o) S

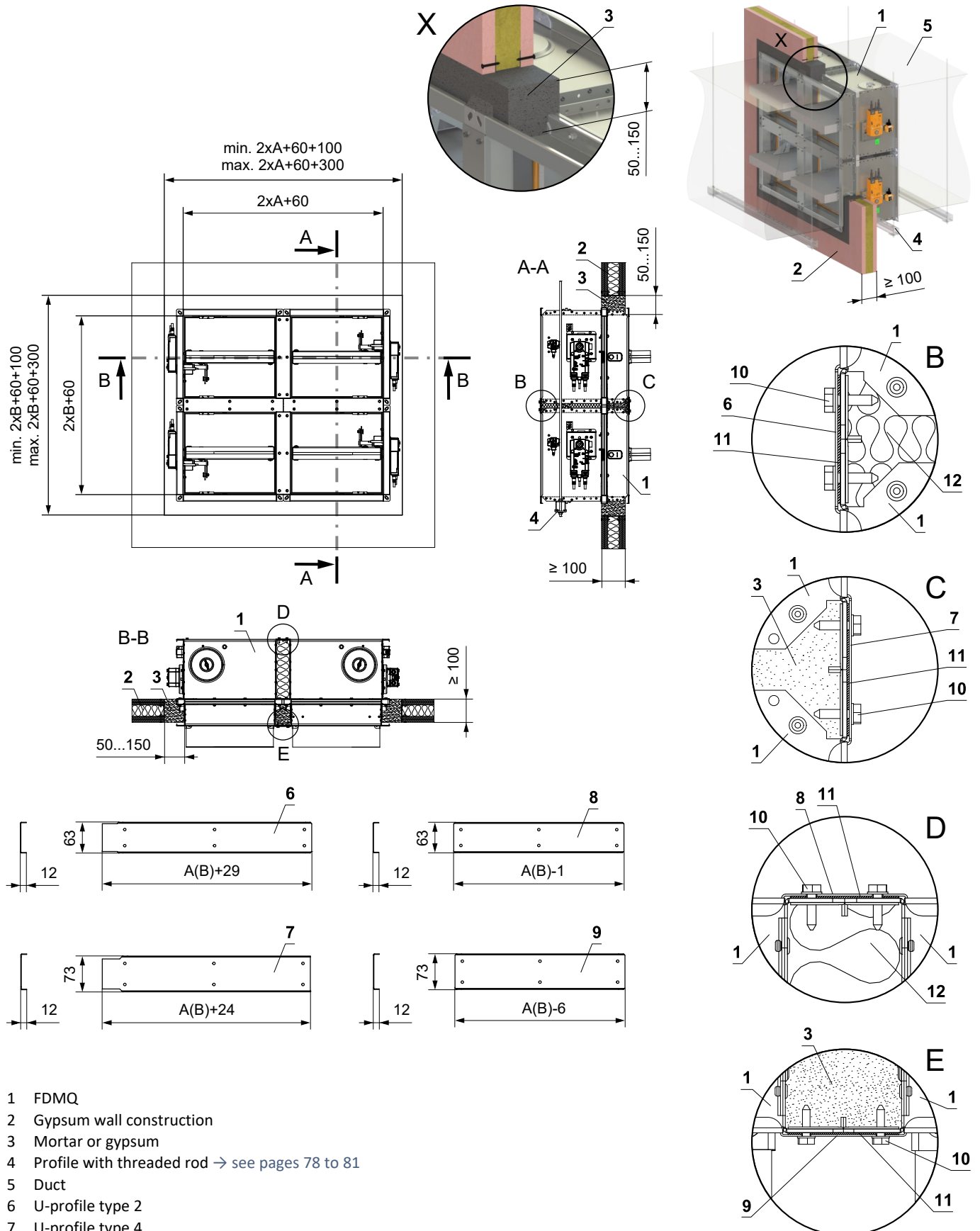


- 1 FDMQ
- 2 Gypsum wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 3
- 7 U-profile type 1
- 8 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 9 Sealing
- 10 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

In gypsum wall construction - 4 dampers in battery - mortar or gypsum

EI 90 (v_e i↔o) S



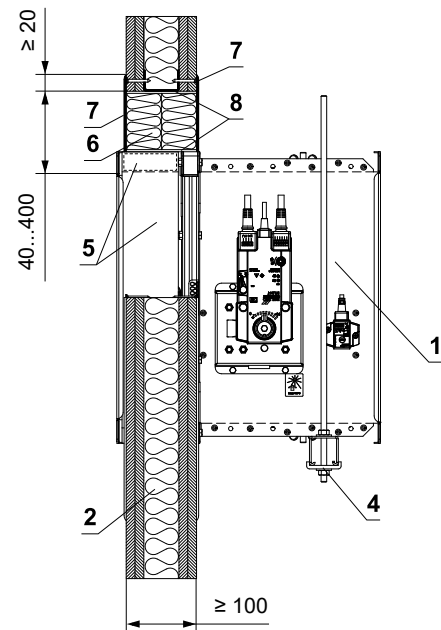
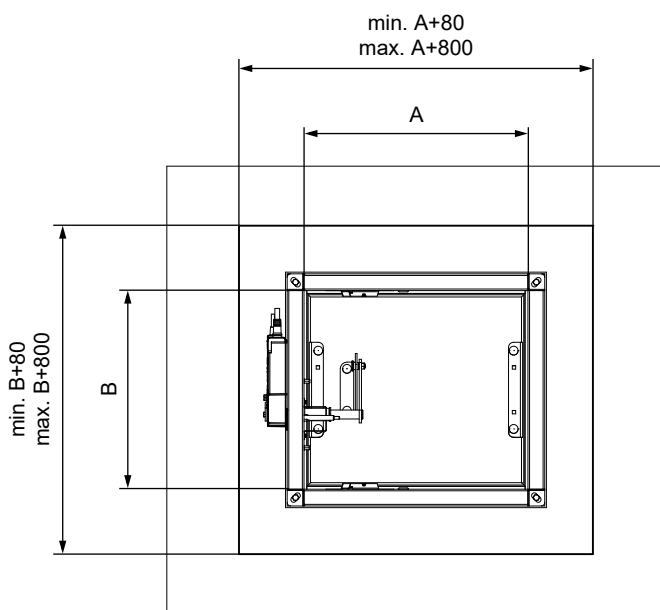
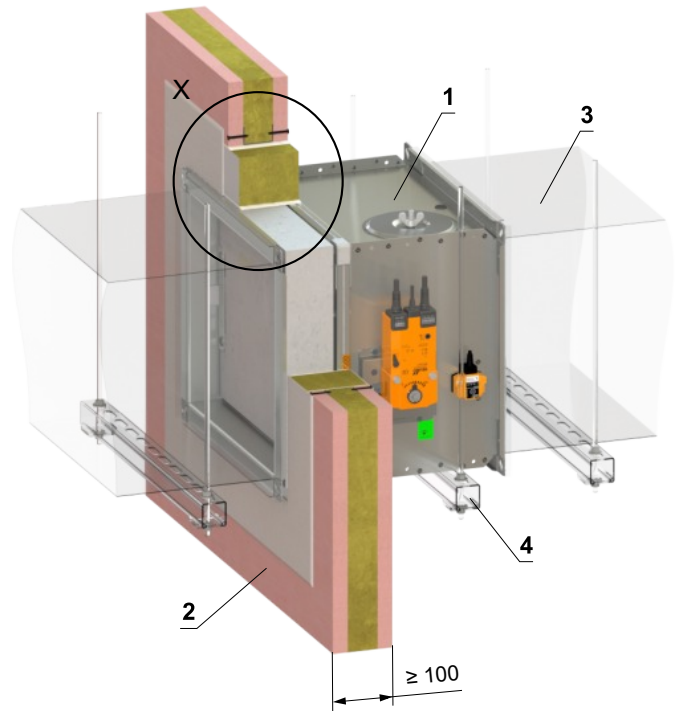
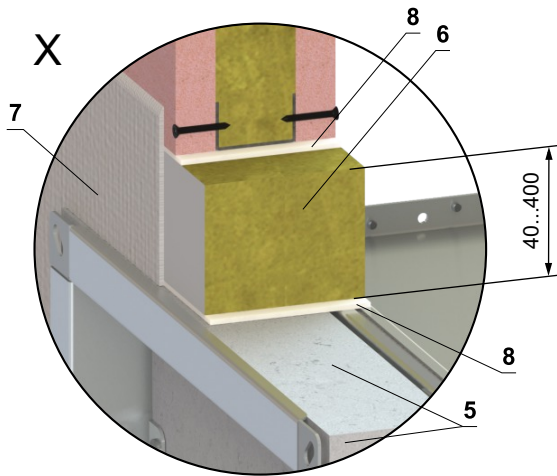
- 1 FDMQ
- 2 Gypsum wall construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 2
- 7 U-profile type 4
- 8 U-profile type 1
- 9 U-profile type 3
- 10 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 11 Sealing
- 12 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

In gypsum wall construction - Weichschott system

EI 90 (v_e i↔o) S

■ For connection of following duct → see page 82



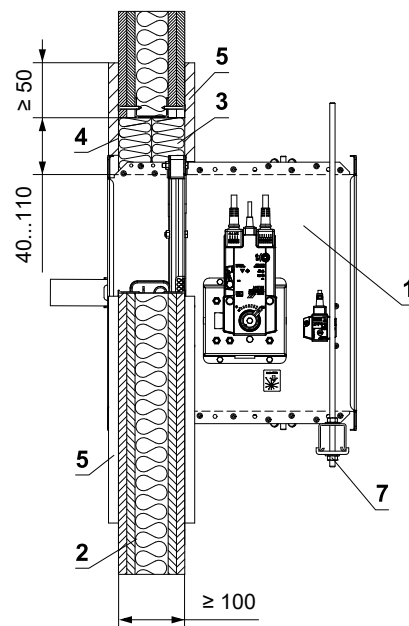
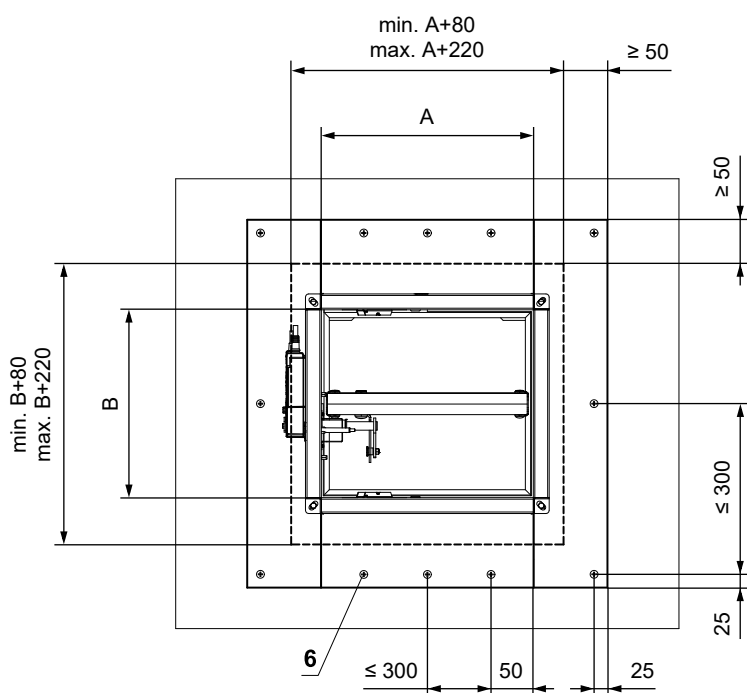
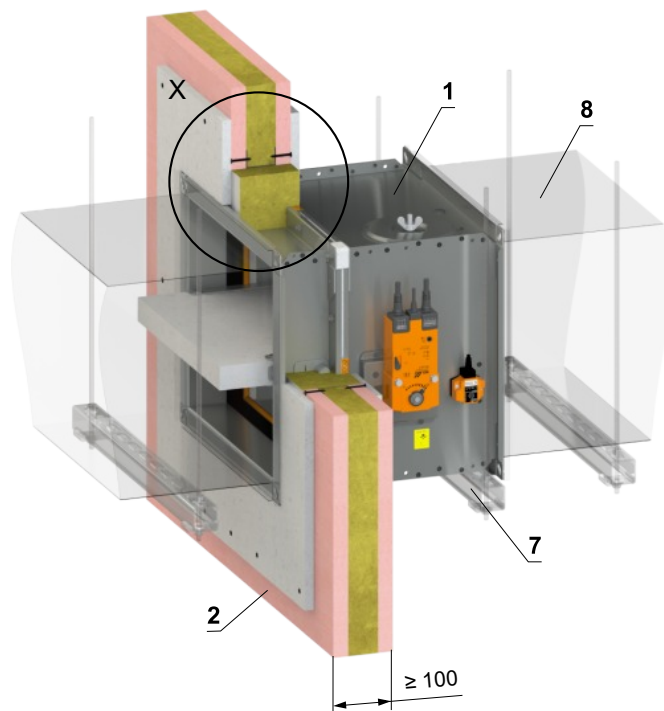
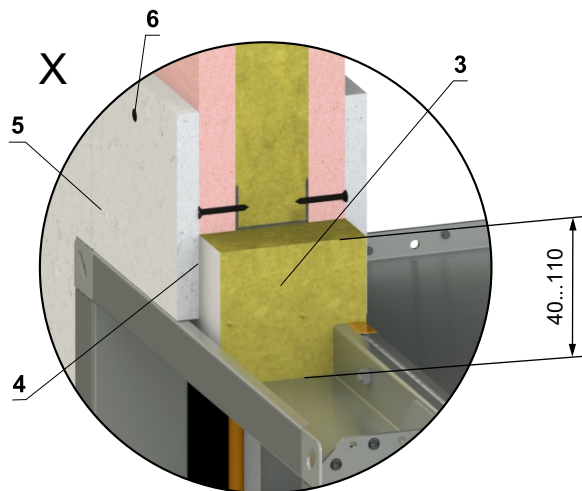
- 1 FDMQ
- 2 Gypsum wall construction
- 3 Duct
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Protective cladding board - min. th. 30 mm, min. density 750 kg/m³ (e.g. PROMATECT-MST) → see page 91 Weichschott system HILTI*
- 6 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
- 7 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
- 8 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.

In gypsum wall construction - mineral wool with fire-resistant coating and fire-resistance boards

EI 90 (v_e i↔o) S

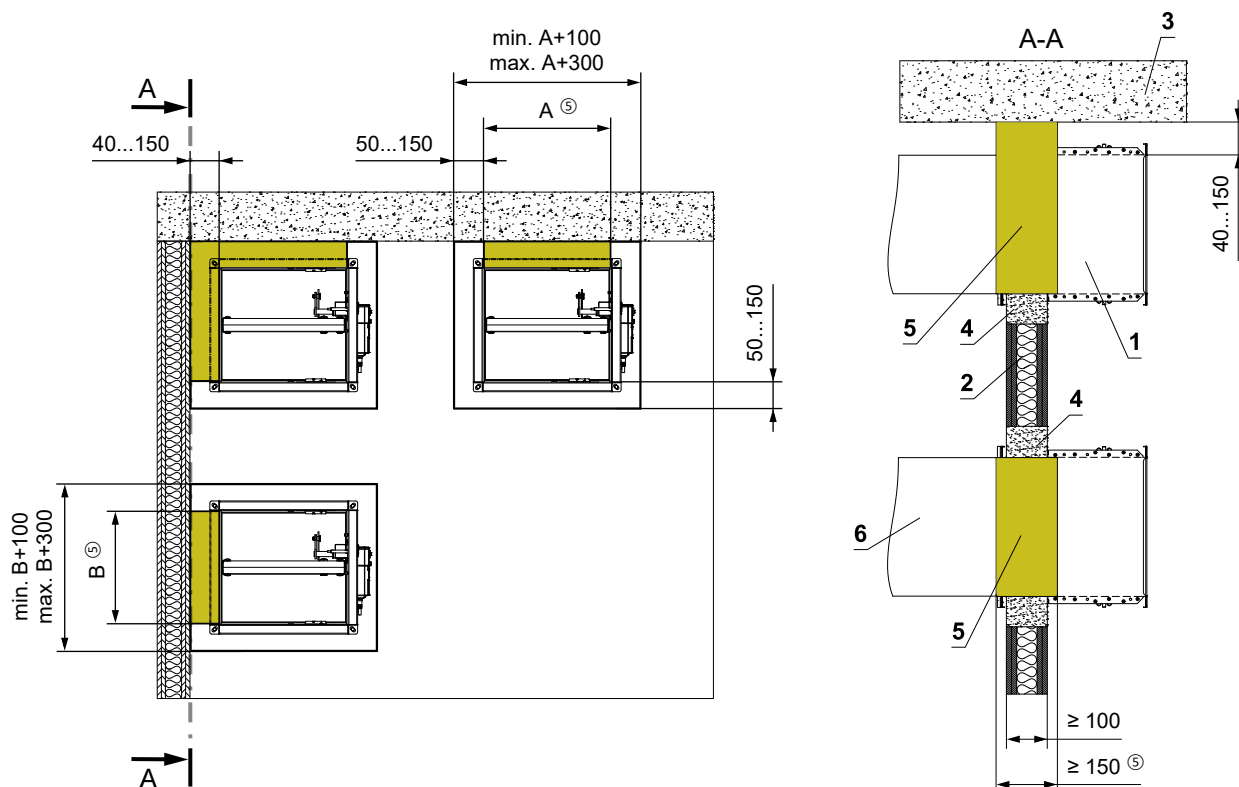
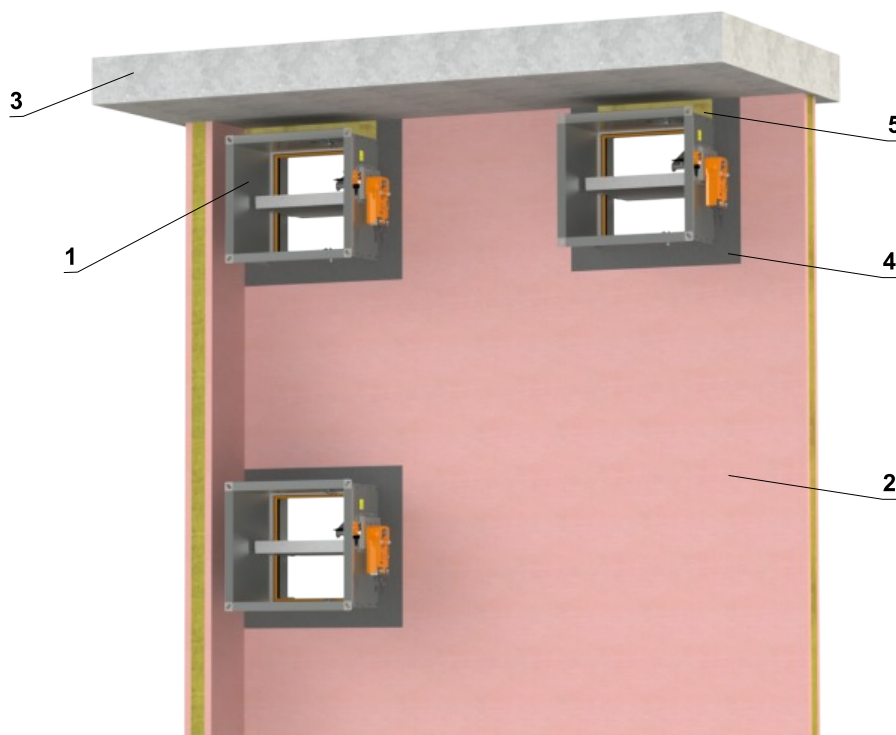
■ For connection of following duct → see page 82



- 1 FDMQ
- 2 Gypsum wall construction
- 3 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPROCK HD)
- 4 Fire-resistant coating - th. 1 mm (e.g. PROMASTOP-I)
- 5 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H)
- 6 Screw 4x50 mm - screws must be fixed in the wall construction, use steel anchors if necessary
- 7 Profile with threaded rod → see pages 78 to 81
- 8 Duct

In gypsum wall construction - installation next to the wall/ceiling - mortar or gypsum + mineral wool EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Conditions of this installation are also valid for the installation in **Solid ceiling construction**
- Penetration is filled with mortar or gypsum + mineral wool (shape, according to the location of the damper). Fix the mineral wool with glue (e.g. Promat K84 or equivalent) to the construction and damper casing



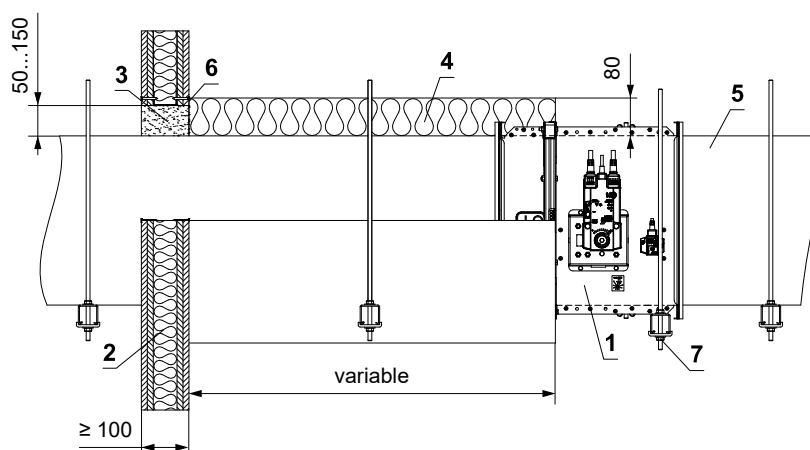
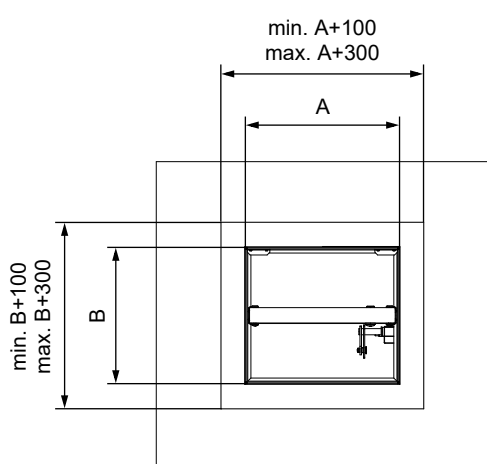
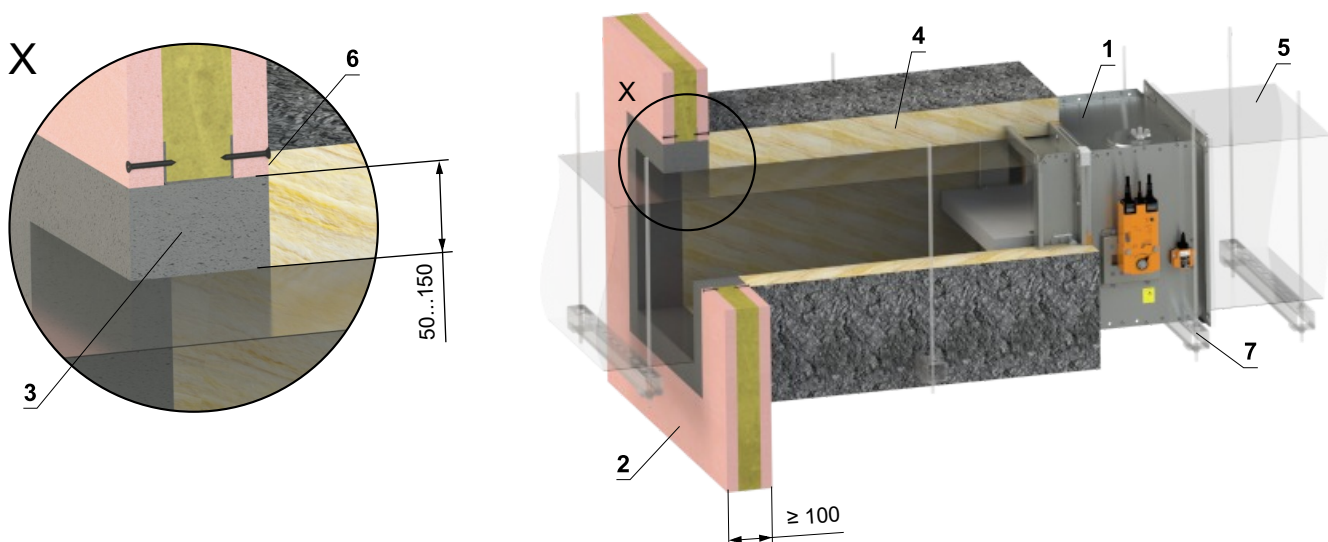
- 1 FDMQ
- 2 Gypsum wall construction
- 3 Solid ceiling construction
- 4 Mortar or gypsum
- 5 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPROCK HD)
- 6 Duct

Installation outside gypsum wall construction

Outside gypsum wall construction - ISOVER Ultimate Protect - mortar or gypsum

EI 60 (v_e i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ISOVER manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm

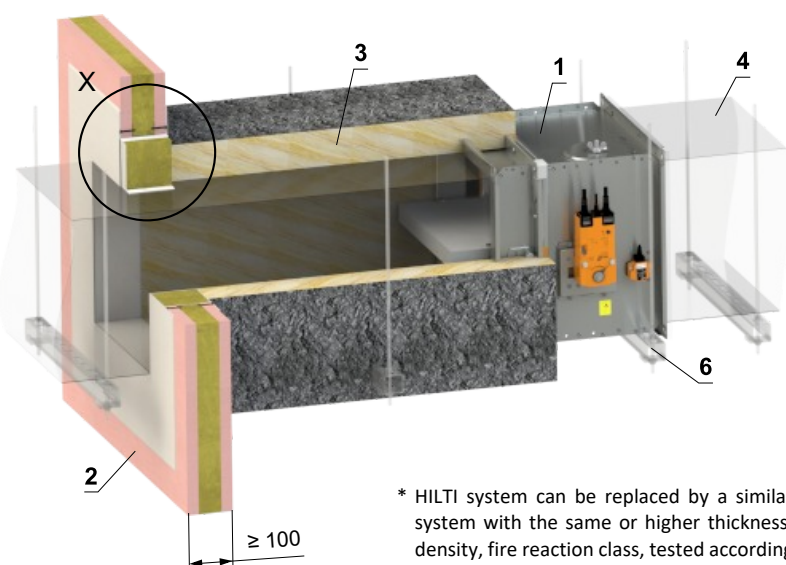
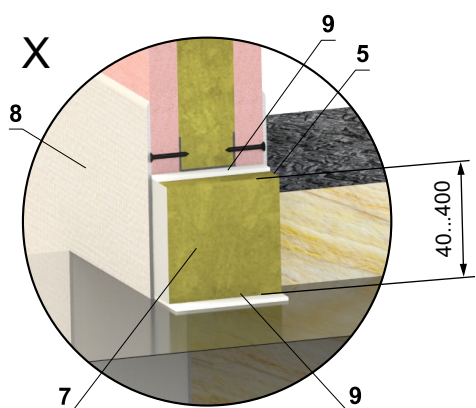


- 1 FDMQ
- 2 Gypsum wall construction
- 3 Mortar or gypsum
- 4 Insulation board made of mineral wool, with a surface treatment of aluminum foil, min. thickness 80 mm, min. density 66 kg/m³ (System ISOVER Ultimate Protect Wired Mat 4.0 Alu1)
- 5 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm
- 6 ISOVER Protect BSK glue - apply on the insulation and fix it to the fire separation construction
- 7 Profile with threaded rod → see pages 78 to 81

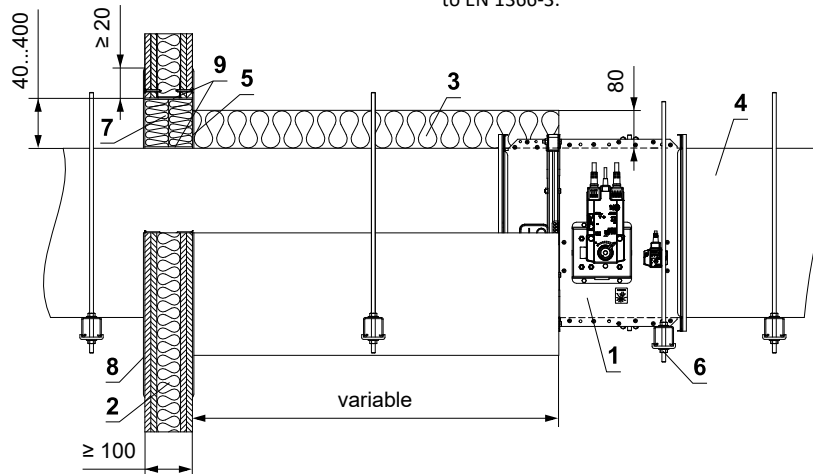
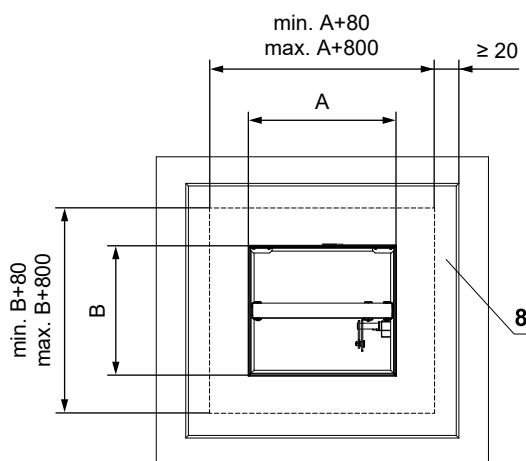
Outside gypsum wall construction - ISOVER Ultimate Protect - Weichschott system

EI 60 (v_e i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ISOVER manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm



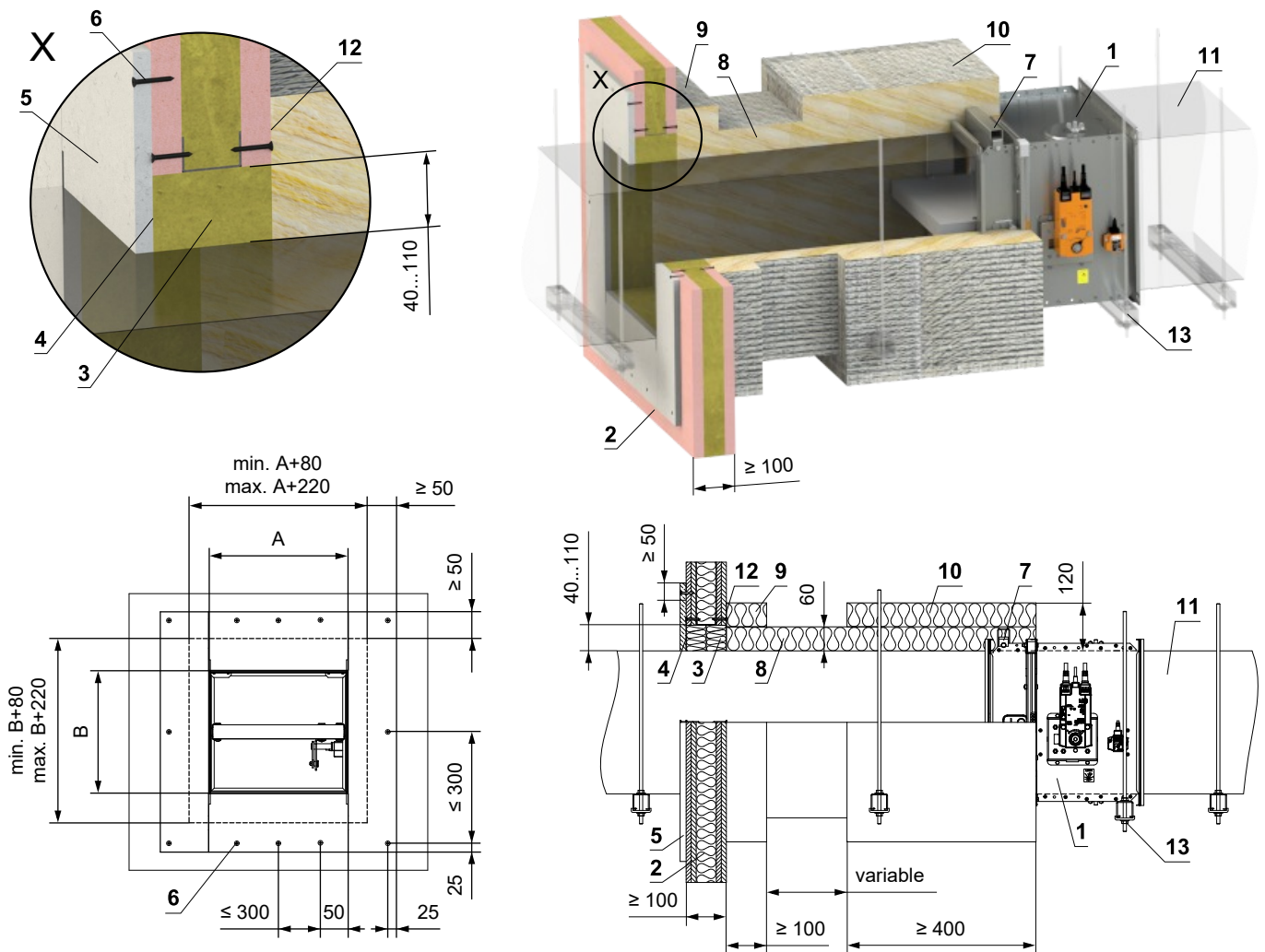
* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.



- 1 FDMQ
- 2 Gypsum wall construction
- 3 Insulation board made of mineral wool, with a surface treatment of aluminum foil, min. thickness 80 mm, min. density 66 kg/m³ (System ISOVER Ultimate Protect Wired Mat 4.0 Alu1)
- 4 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm
- 5 ISOVER Protect BSK glue - apply on the insulation and fix it to the fire separation construction
- 6 Profile with threaded rod → see pages 78 to 81
Weichschott system HILTI*
- 7 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
- 8 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
- 9 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

Outside gypsum wall construction - mineral wool ROCKWOOL - mineral wool with fire-resistant coating EI 90 (v_e i↔o) S and fire-resistant board

- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- When installing the insulation, follow the ROCKWOOL manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Duct at the point of penetration must be fixed to the fire separation structure
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm
- If the damper is installed outside the fire separation construction and a damper side A ≥ 800 mm, VRM-Q reinforcement frame must be used → see page 90



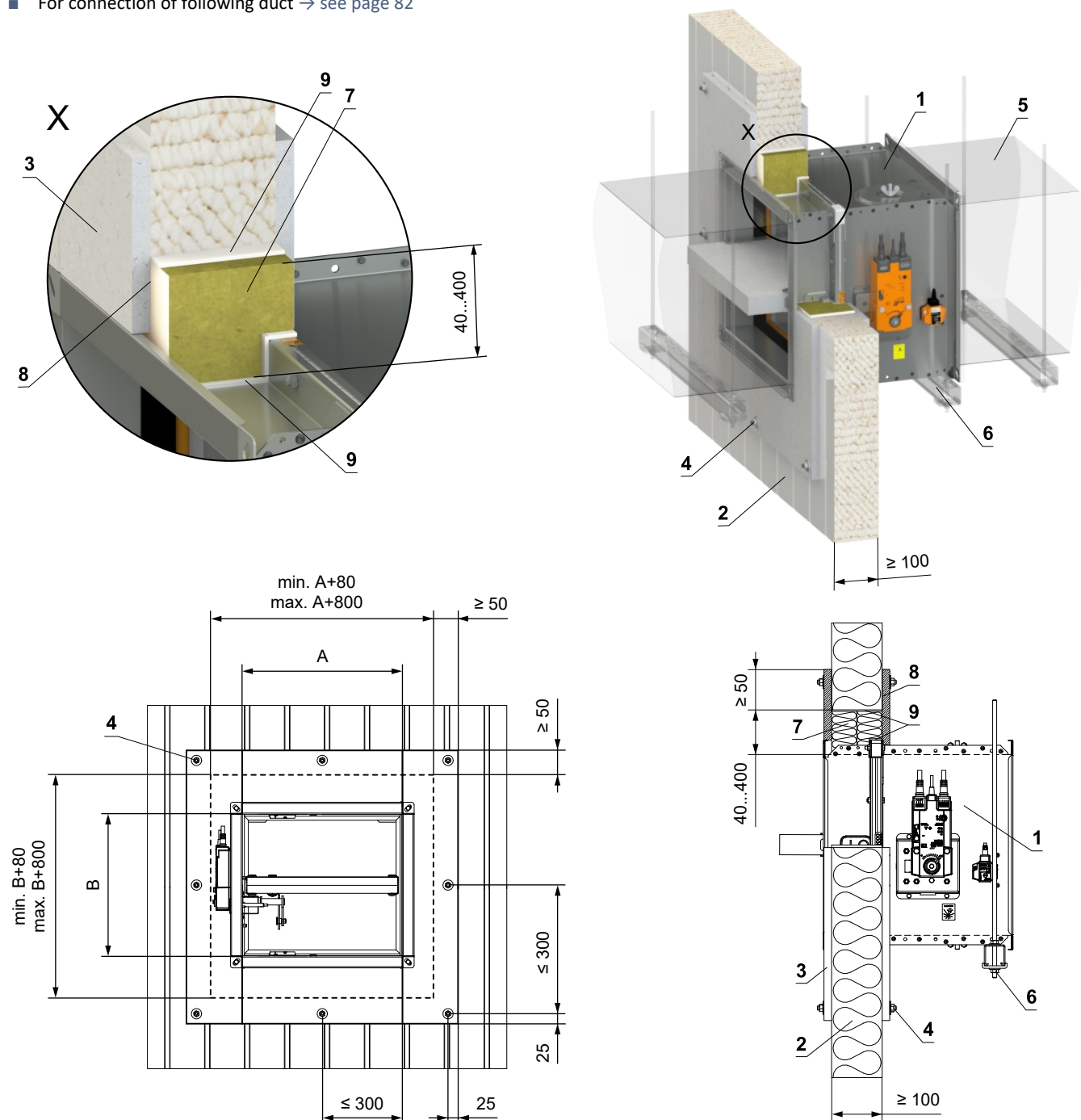
- | | |
|---|---|
| <ol style="list-style-type: none"> 1 FDMQ 2 Gypsum wall construction 3 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPLOCK HD) 4 Fire-resistant coating - th. 1 mm (e.g. PROMASTOP-I) 5 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H) 6 Screw 4x50 mm - screws must be fixed in the wall construction, use steel anchors if necessary 7 VRM-Q → see page 90 | <ol style="list-style-type: none"> 8 Insulation board made of mineral wool, with a surface treatment of aluminum foil - th. 60 mm, min. density 300 kg/m³ - (System ROCKWOOL Conlit Ductrock 90) 9 Duct penetration insulation collar - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) - glued (pos. 12) and fixed with screws to the wall construction 10 Insulation collar of the damper and duct connection - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) 11 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm 12 ROCKWOOL Firepro glue - apply on the insulation and fix it to the fire separation construction 13 Profile with threaded rod → see pages 78 to 81 |
|---|---|

Installation in sandwich wall construction

In sandwich wall construction - Weichschott system with fire-resistant boards

EI 90 (v_e i↔o) S

■ For connection of following duct → see page 82



* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.

- 1 FDMQ
- 2 Sandwich wall construction - min. th. 100 mm (Paroc AST S or RUUKKI SPB W)
- 3 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H)
- 4 Fixing connection of boards - threaded rod M8 (length of the threaded rod for 100 mm sandwich construction is approx. 150 mm, 2 pcs large washer M8, 2 pcs nut M8). The boards must be tightly fixed to the sandwich wall construction!
- 5 Duct
- 6 Profile with threaded rod → see pages 78 to 81
- Weichschott system HILTI*
- 7 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
- 8 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
- 9 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

Shaft walls

Rigips

- Shaft wall is a vertical, non-bearing partition construction meeting the double-sided fire requirements. The shaft wall can be mounted only from one side. No mineral insulation is used in the construction.
- First of all, the shaft wall construction must be laid out. Apart from other vertical constructions, the perimeter sections must be fitted with connection sealing made from A1 or A2 fire reaction materials (for instance floor strips Orsil N/PP). The perimeter sections must be anchored using steel plugs \varnothing 6 mm (for example DN6 or ZHOP) with 500 mm span.
- Sheathing is carried out using two layers of Glasroc F boards Ridurit with 20 mm thickness, the boards are oriented horizontally. First sheathing layer is fixed with TN 212 screws in spacing 200mm to the support construction. The boards are mounted to tight butt joints without need of cementing. The second sheathing layer is screwed to the first sheathing layer using screws Rodurit in square net 250 mm. Reset of joints of the first and second layer of Ridurit sheathing is set to 600 mm vertically and 300 mm horizontally.

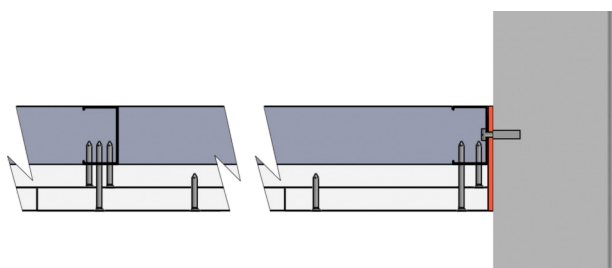
Assembly with support structure

- Vertical intermediate R-CW sections are fixed in 1000 mm layout spacing between R-UW sections and vertical perimeter R-CW sections.

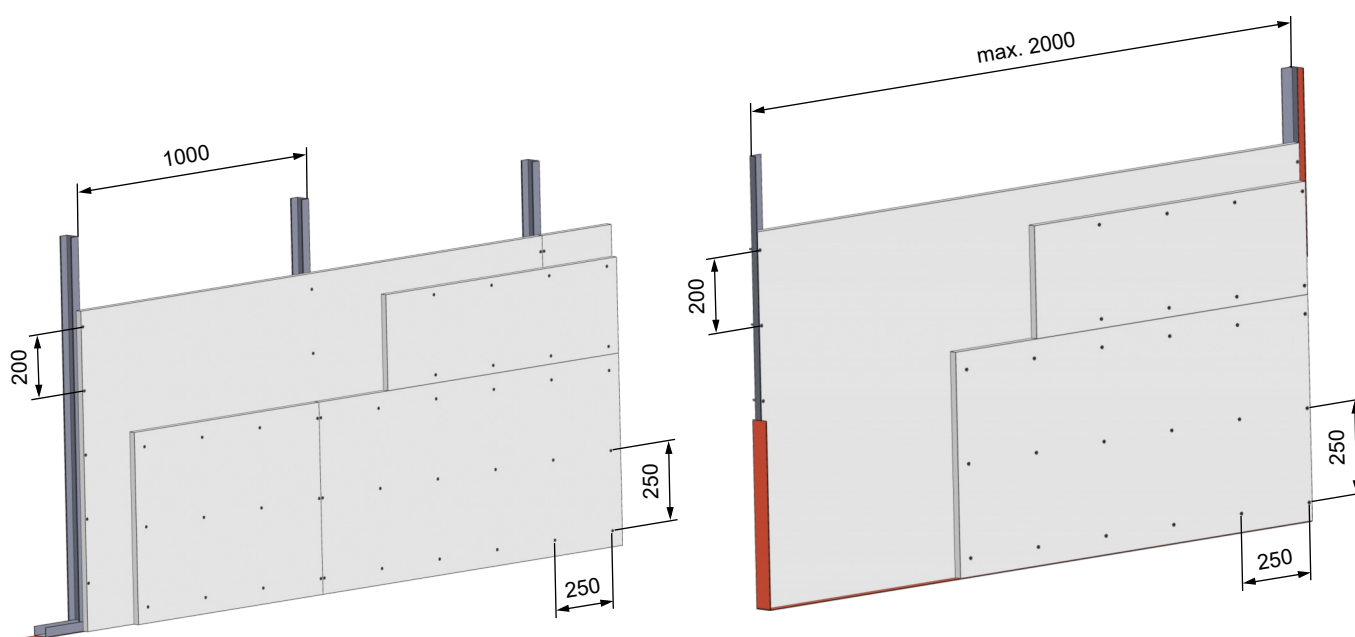
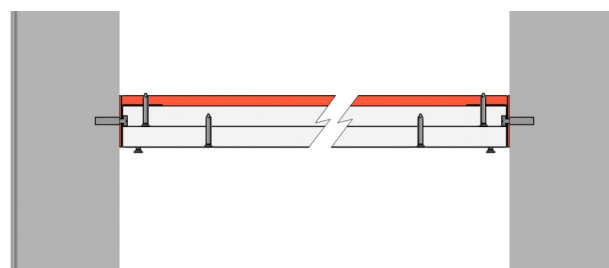
Assembly without support structure

- Maximum width of the shaft wall is 2 metres in this case (board length). Steel squares made from steel galvanized sheet metal 40/20/1 mm are used as perimeter sections, they are anchored to bearing wall using \varnothing 6 mm steel plugs (for example DN6 or ZHOP) with 500 mm spacing.

Assembly with support structure



Assembly without support structure

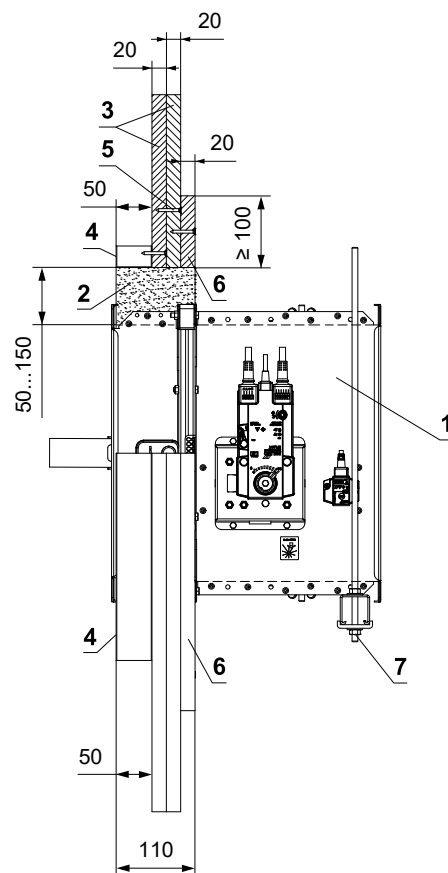
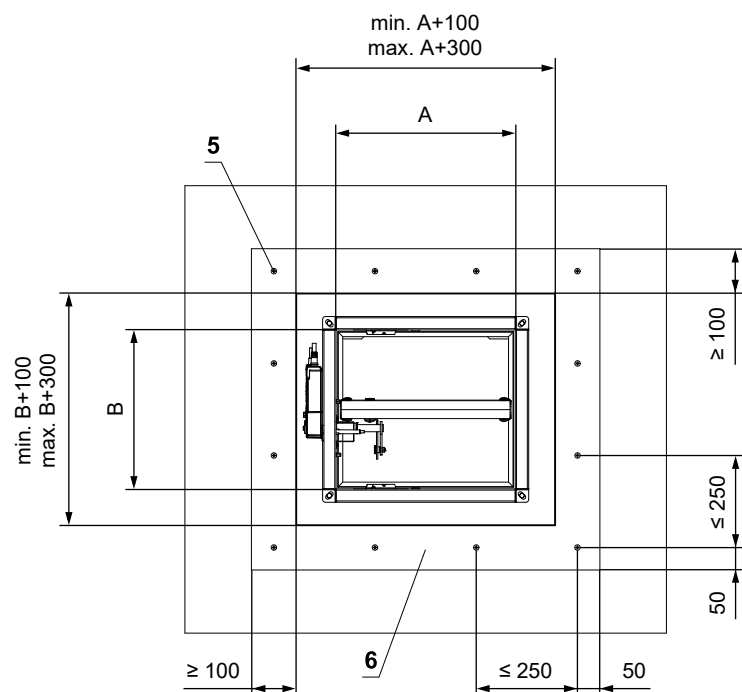
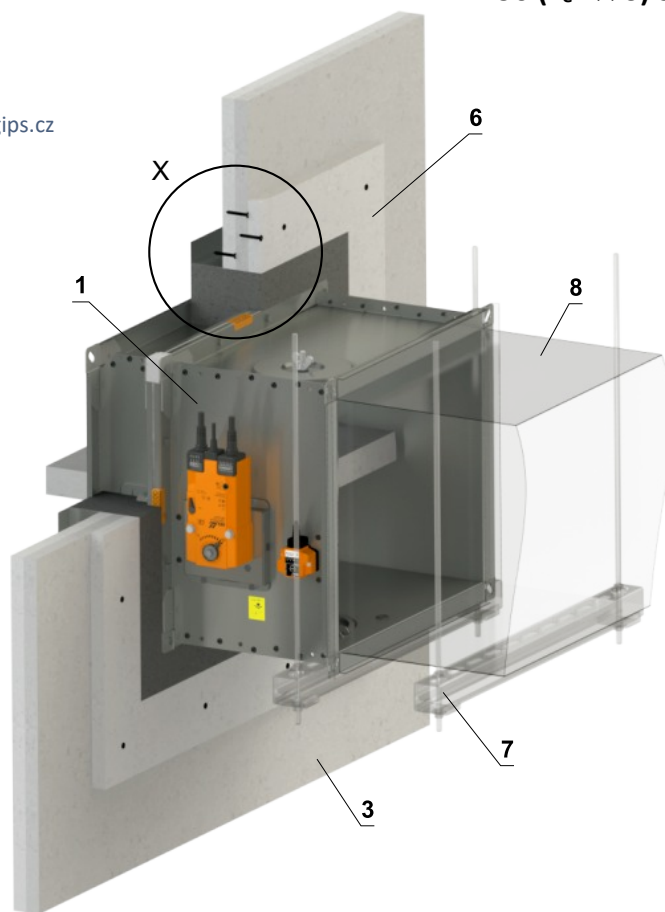
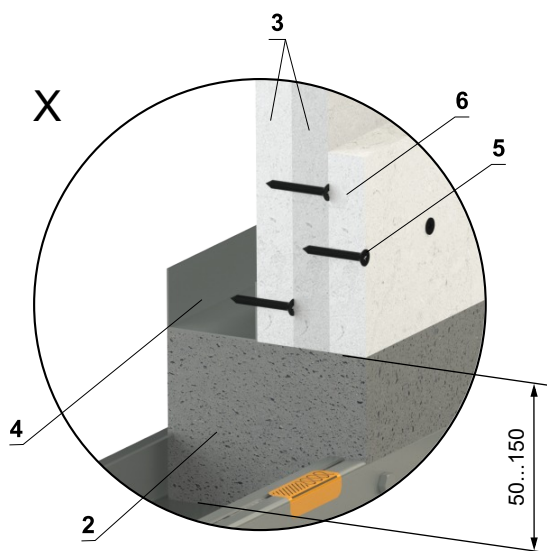


- Rigips solution is shown here as an example. Alternatively it is possible to apply the solution from Knauf or Promat. In such a case follow the instructions of the producer.

In shaft wall Rigips - mortar or gypsum

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Follow shaft wall manufacturer's instructions
- All technical specifications and conditions can be found at www.rigips.cz

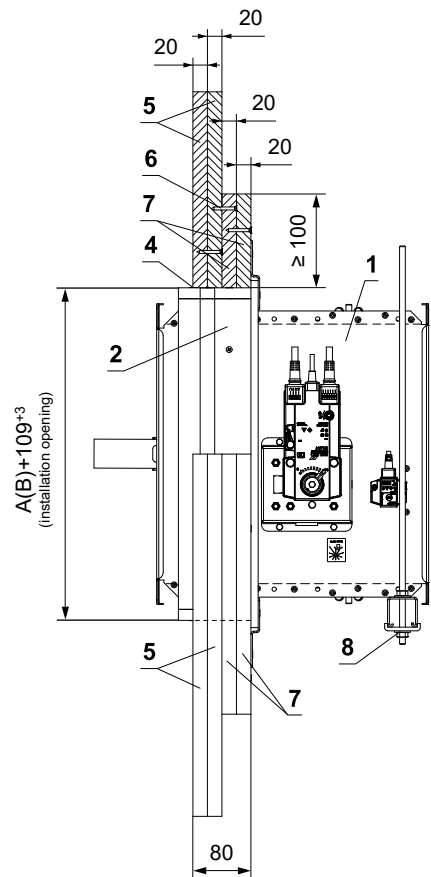
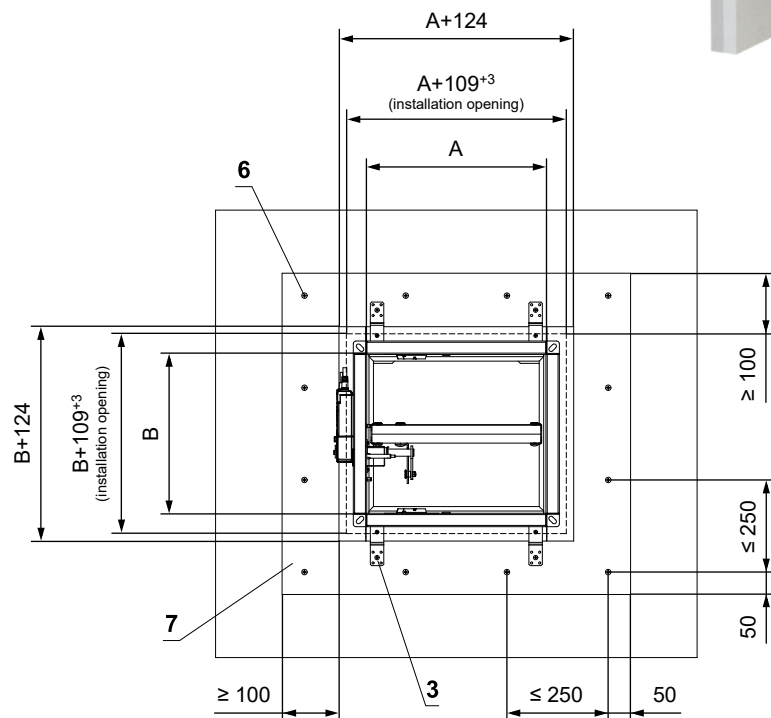
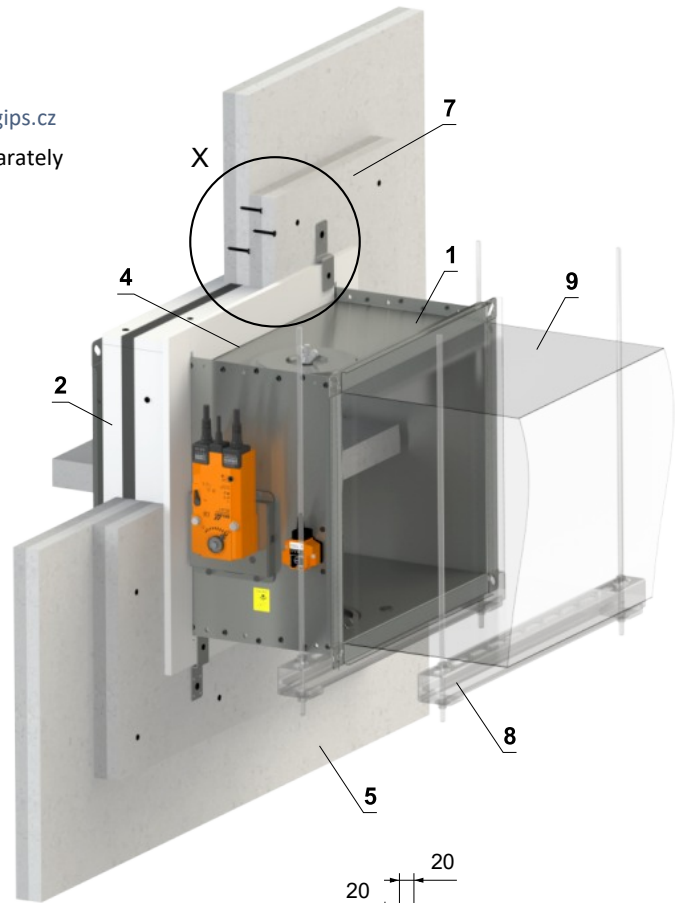
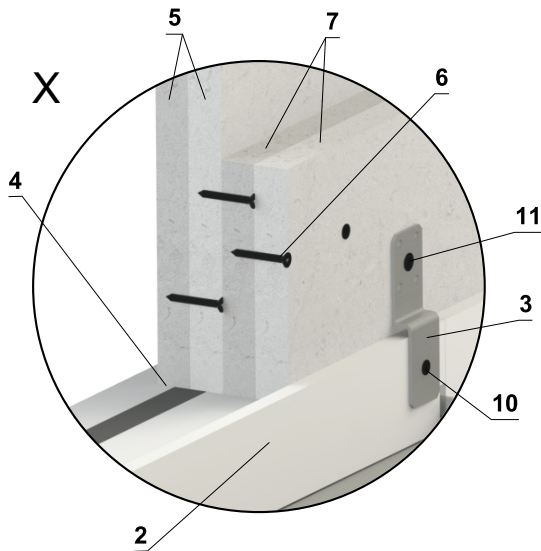


- 1 FDMQ
- 2 Mortar or gypsum
- 3 Fire-resistant board th. 20 mm Rigips Glasroc F Ridurit
- 4 Steel U-profile Rigips R-UW 50 or Rigips R-CW 50
- 5 Screw Rigips Ridurit TX 3,5x35 mm
- 6 Additional fire-resistant board tl. 20 mm Rigips Glasroc F Ridurit
- 7 Profile with threaded rod → see pages 78 to 81
- 8 Duct

In shaft wall Rigips - installation frame E1

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Follow shaft wall manufacturer's instructions
- All technical specifications and conditions can be found at www.rigips.cz
- Installation frame can be installed on the damper or delivered separately
- For more E1 frame details → see page 59



- 1 FDMQ
- 2 Installation frame E1
- 3 Bracket (fastening material included in frame delivery)
- 4 Fill the gaps with glue PROMAT K84
- 5 Fire-resistant board th. 20 mm Rigips Glasroc F Ridurit
- 6 Screw Rigips Ridurit TX 3,5x35 mm
- 7 Additional fire-resistant board th. 20 mm Rigips Glasroc F Ridurit
- 8 Profile with threaded rod → see pages 78 to 81
- 9 Duct
- 10 Screw 4x16 mm to attach bracket to the frame
- 11 Screw 5x60 mm to attach bracket to the construction

Number of brackets $X = ZA + ZB$ Number of screws $Y = 2 \times X$

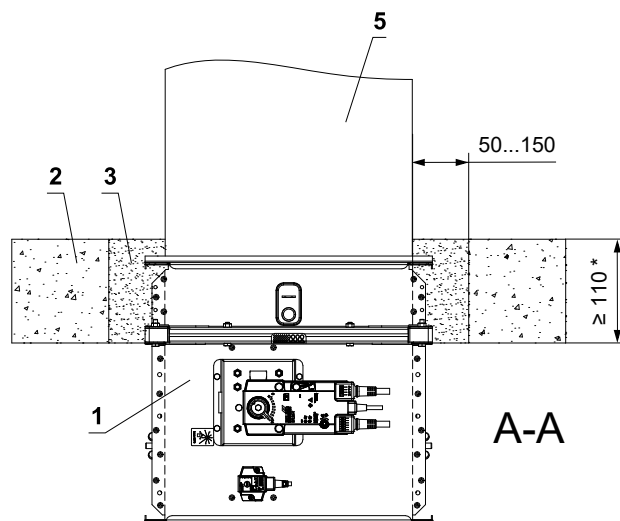
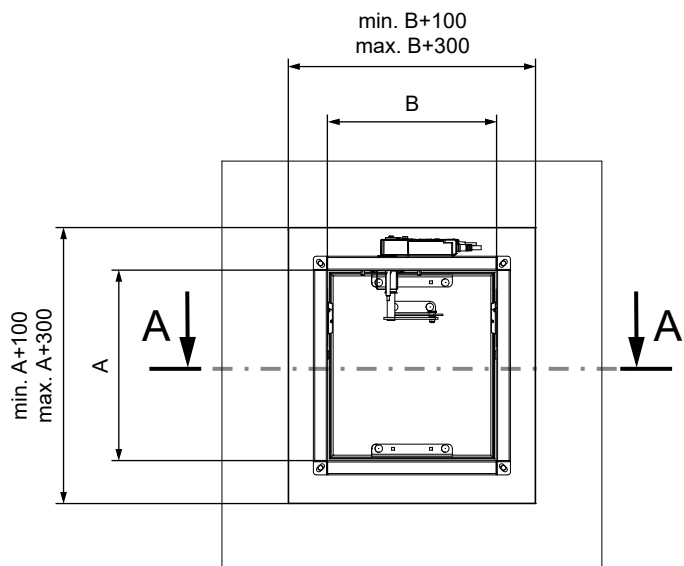
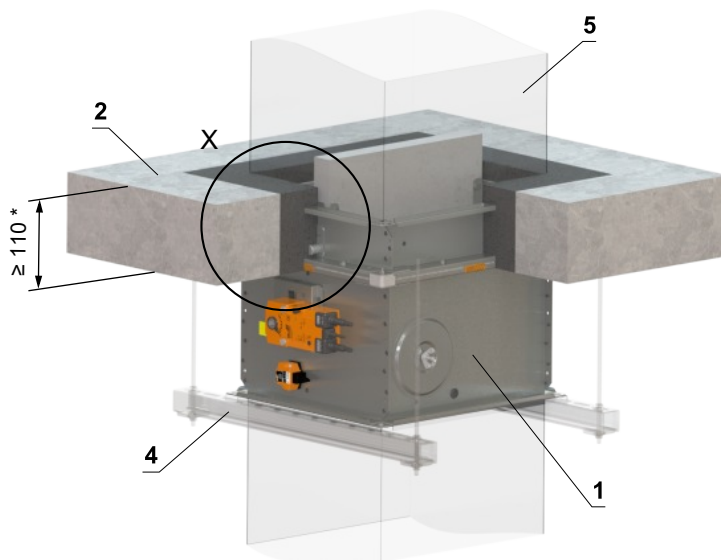
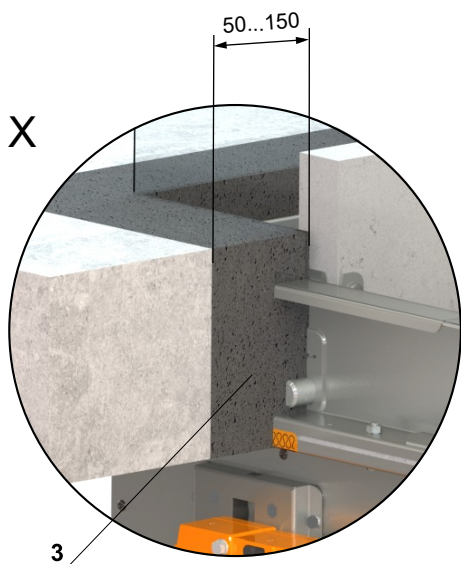
| Side A | Number of brackets ZA | Side B | Number of brackets ZB |
|----------------------|-----------------------|--------------------|-----------------------|
| $A \leq 500$ | 4 | $B \leq 500$ | 0 |
| $500 < A \leq 1000$ | 6 | $500 < B \leq 800$ | 4 |
| $1000 < A \leq 1500$ | 8 | | |

In solid ceiling construction

In solid ceiling construction - mortar or gypsum

EI 90 (h_o i↔o) S

■ For connection of following duct → see page 82



- 1 FDMQ
- 2 Solid ceiling construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct

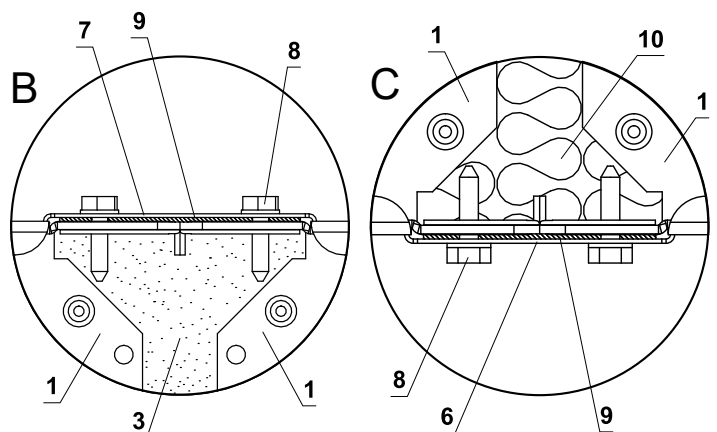
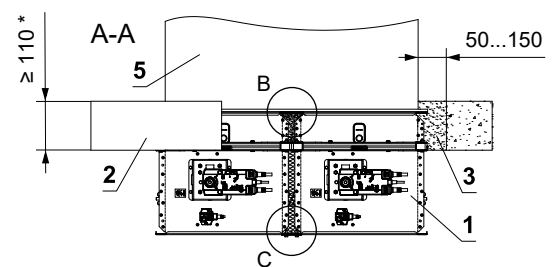
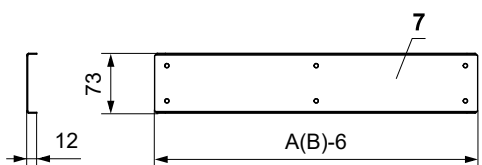
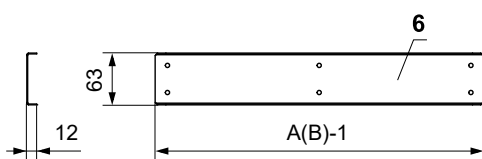
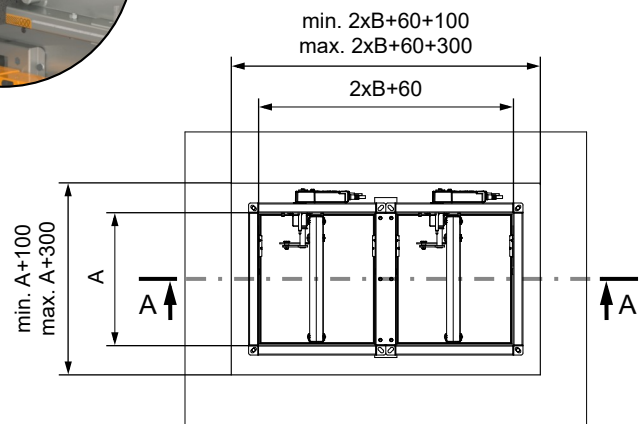
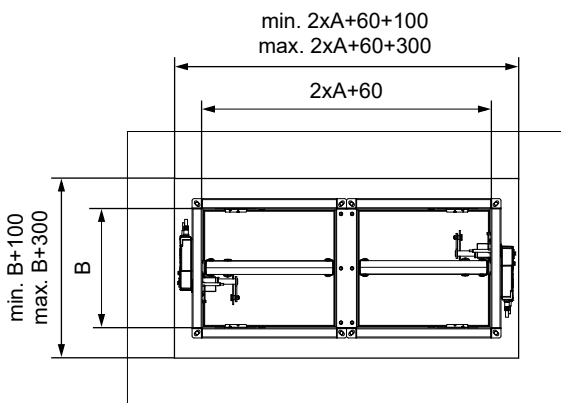
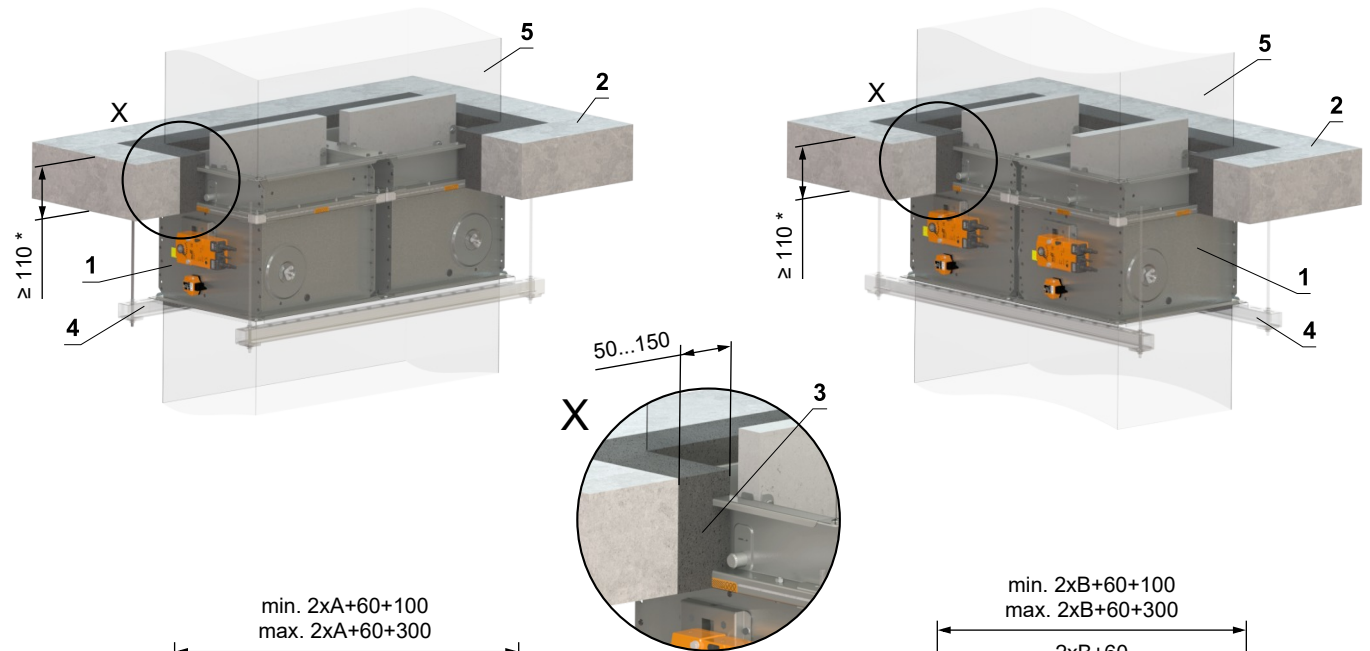
* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

In solid ceiling construction - 2 dampers in battery - mortar or gypsum

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

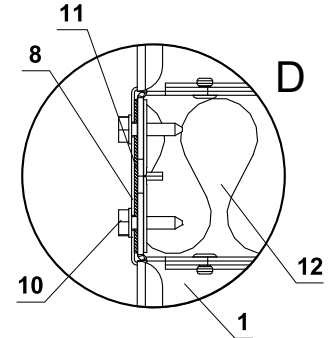
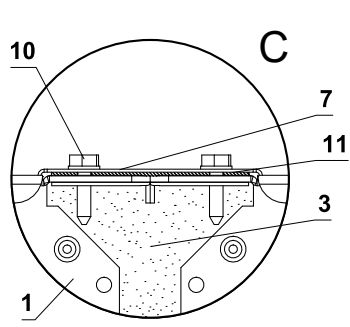
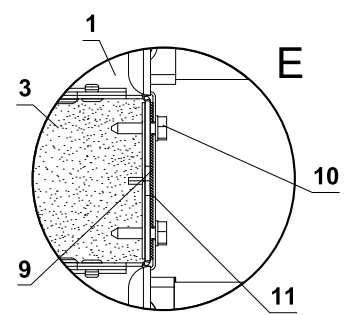
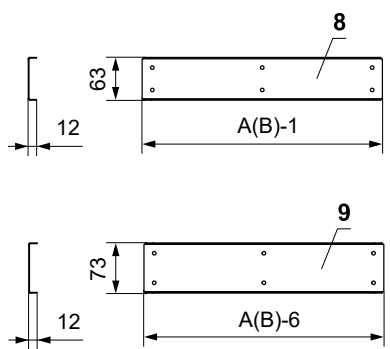
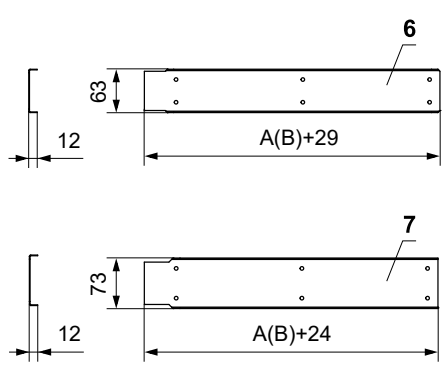
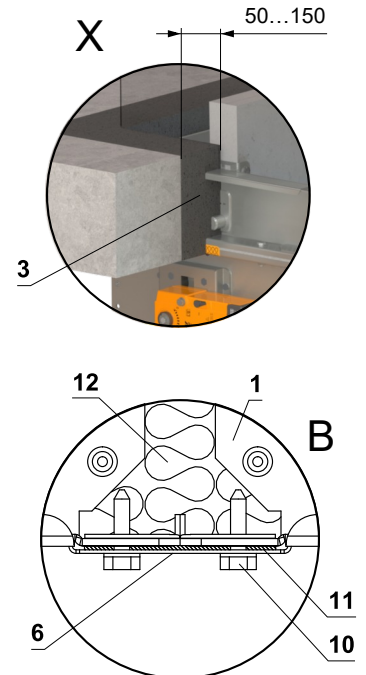
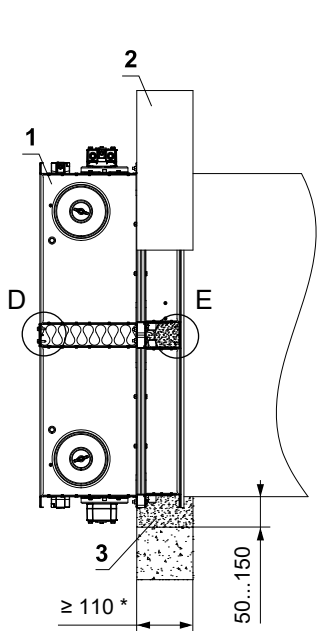
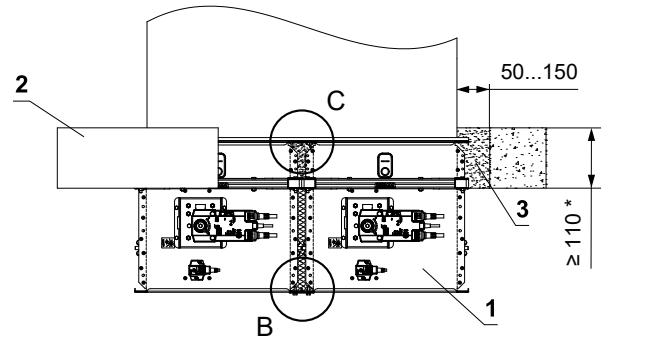
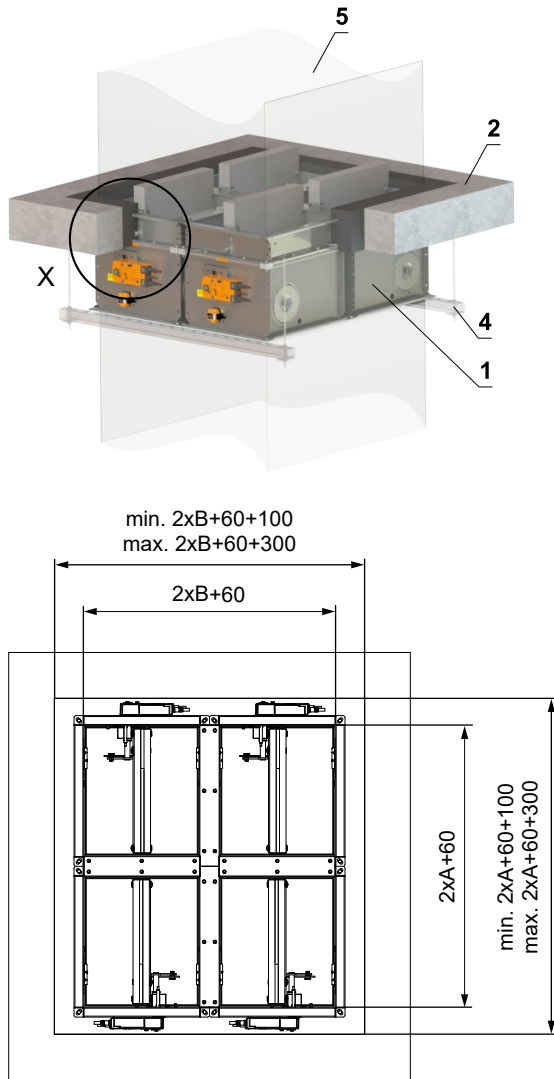
* min. 110 mm - Concrete
min. 125 mm - Aerated concrete



- 1 FDMQ
- 2 Solid ceiling construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 3
- 7 U-profile type 1
- 8 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 9 Sealing
- 10 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

In solid ceiling construction - 4 dampers in battery - mortar or gypsum

EI 90 (h_o i↔o) S



- 1 FDMQ
- 2 Solid ceiling construction
- 3 Mortar or gypsum
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Duct
- 6 U-profile type 2
- 7 U-profile type 4
- 8 U-profile type 1
- 9 U-profile type 3
- 10 Screw TEX 4,8x18 mm (pitch ≤ 200 mm)
- 11 Sealing
- 12 Insulation board made of mineral wool - recommended for easy filling of gap with mortar/gypsum.

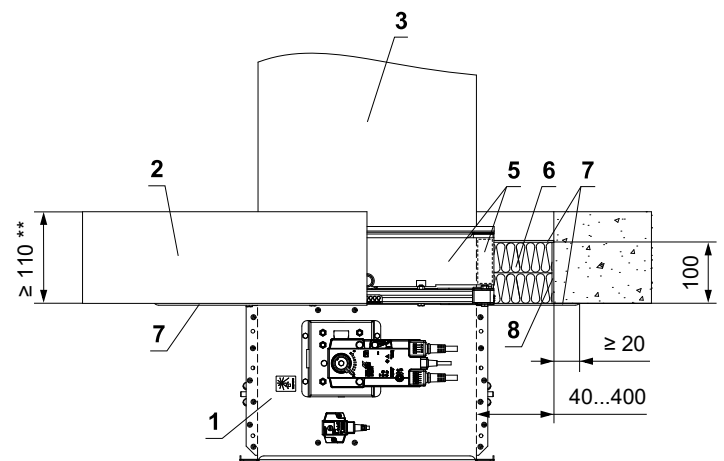
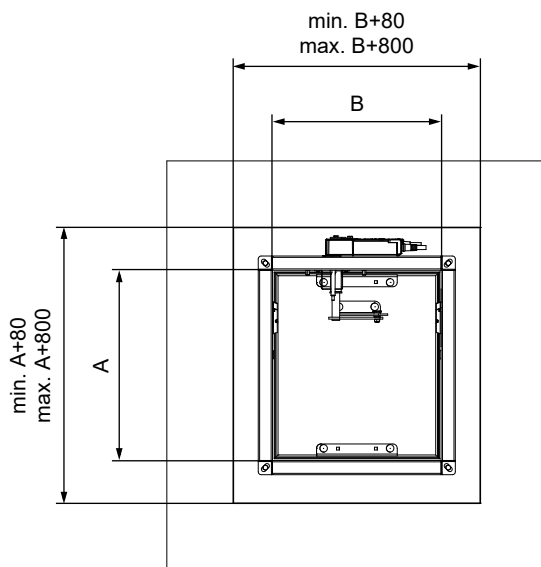
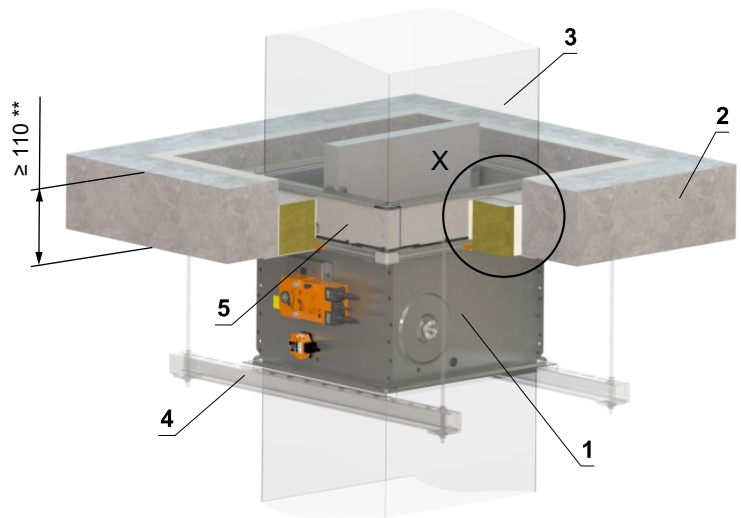
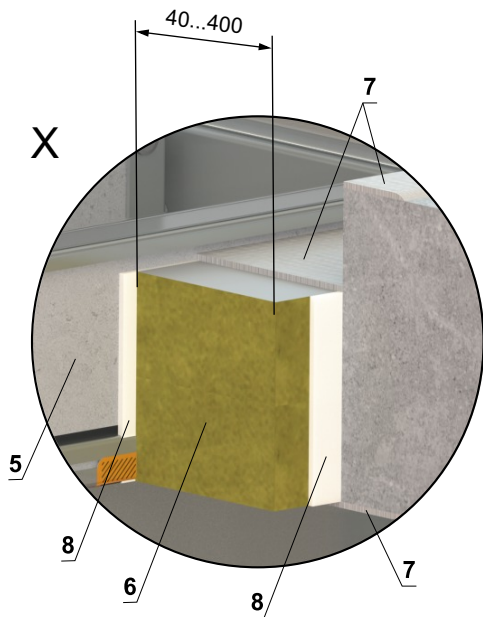
* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

- For connection of following duct → see page 82
- The gap between the damper and construction is filled with mortar or gypsum

In solid ceiling construction - Weichschott system

EI 90 (h_o i↔o) S

■ For connection of following duct → see page 82



* HILTI system can be replaced by a similar system with the same or higher thickness, density, fire reaction class, tested according to EN 1366-3.

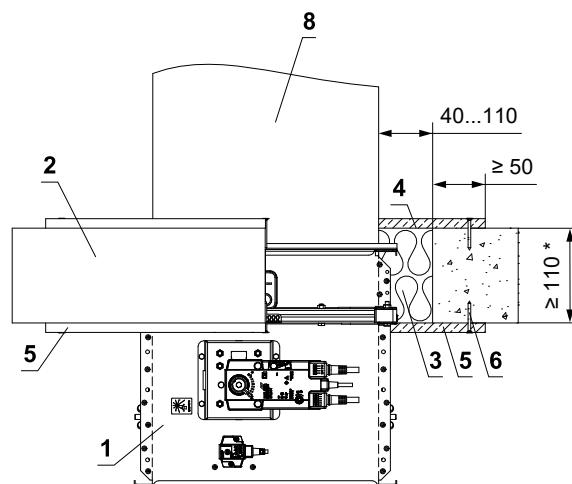
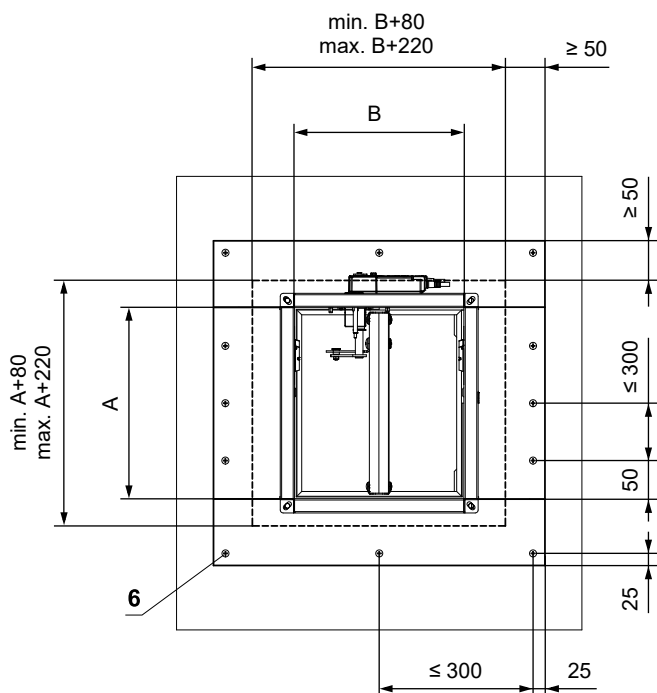
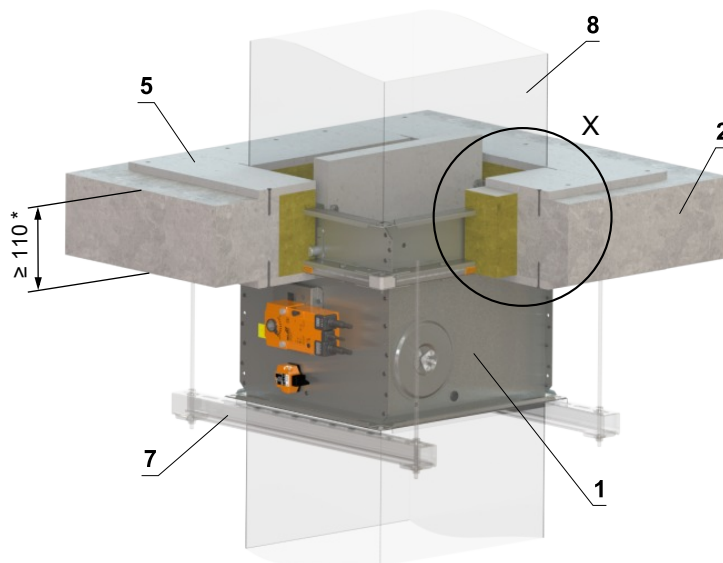
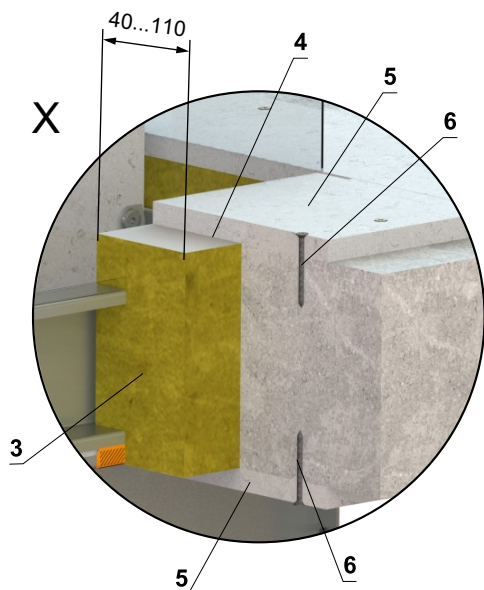
** min. 110 mm - Concrete
min. 125 mm - Aerated concrete

- 1 FDMQ
- 2 Solid ceiling construction
- 3 Duct
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Protective cladding board - min. th. 30 mm, min. density 750 kg/m³ (e.g. PROMATECT-MST) → see page 91 Weichschott system HILTI*
- 6 Mineral wool board - min. density 140 kg/m³ (HILTI CFS-CT B 1S 140/50...)
- 7 Fire stop coating - th. 1 mm (HILTI CFS-CT...) - coating is overcoated on the support construction and on the damper casing/duct
- 8 Fire-resistant mastic - (HILTI CFS-S ACR...) fill the gap from both sides of the fire separation construction and around the perimeter of penetration and damper casing

In solid ceiling construction - mineral wool with fire-resistant coating and fire-resistance boards

EI 90 (h_o i↔o) S

■ For connection of following duct → see page 82



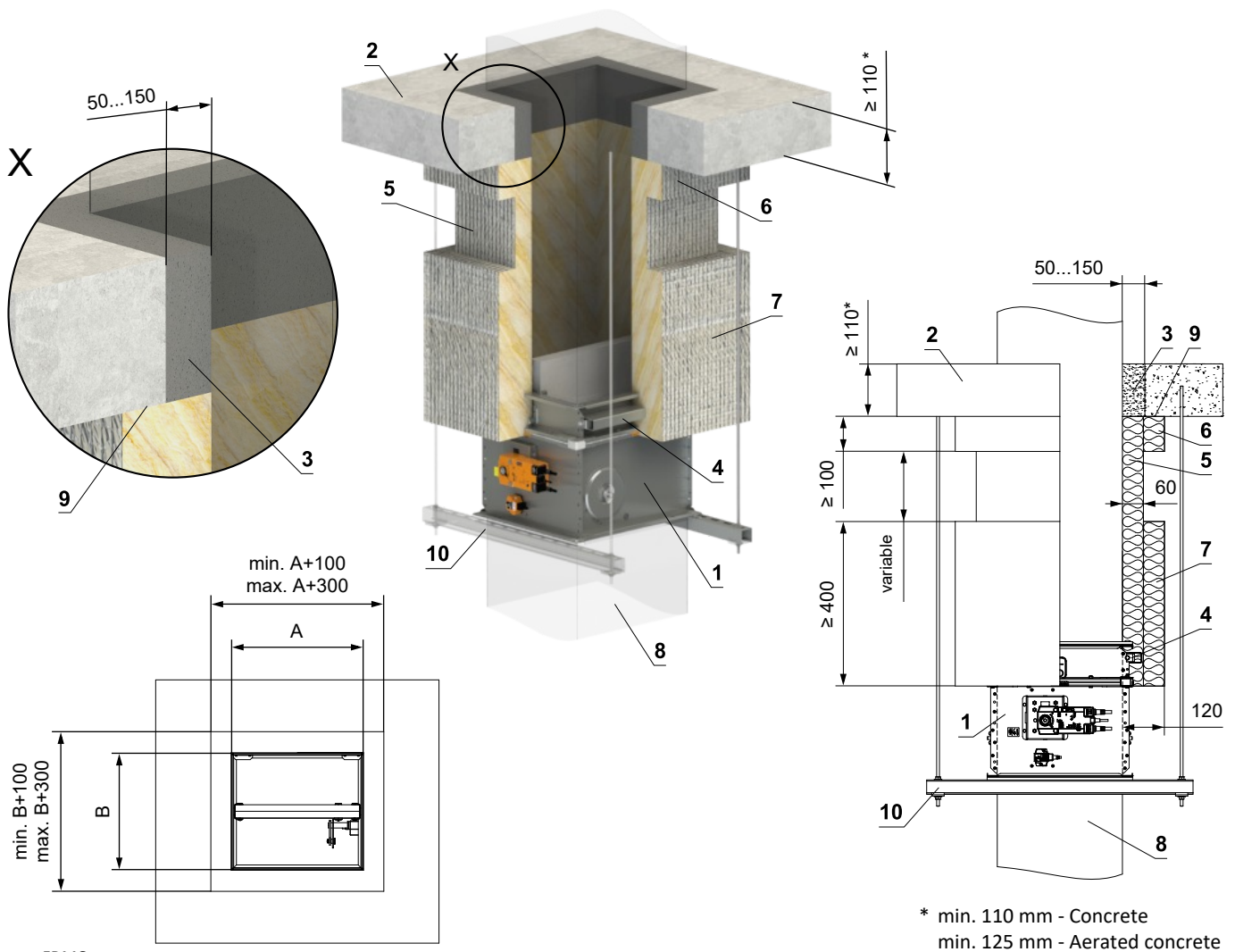
* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

- 1 FDMQ
- 2 Solid ceiling construction
- 3 Mineral wool board - min. density 140 kg/m³ (e.g. PROMAPYR-T150, ROCKWOOL HARDROCK / STEPROCK HD)
- 4 Fire-resistant coating - th. 1 mm (e.g. PROMASTOP-I)
- 5 Fire-resistant board - min. th. 15 mm, min. density 870 kg/m³ (e.g. PROMATECT-H)
- 6 Screw 4x50 mm - screws must be fixed in the wall construction, use steel anchors if necessary
- 7 Profile with threaded rod → see pages 78 to 81
- 8 Duct

Outside solid ceiling construction

Outside solid wall construction - mineral wool ROCKWOOL - mineral wool with fire-resistant coating and fire-resistant board EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- Minimum and maximum distance between the ceiling and fire damper is unlimited
- When installing the insulation, follow the ROCKWOOL manufacturer's instructions
- The damper and the duct must be suspended separately
- The duct must be suspended on both sides of damper acc. to national rules
- Duct between fire damper and fire separating construction must be suspended by using threaded rods and mounting profiles, or another mounting system acc. to national standards
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Duct at the point of penetration must be fixed to the fire separation structure
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- If the threaded rod is located inside the duct insulation, distance between threaded rod and duct is max 30 mm
- If the threaded rod is located outside the duct isolation, distance between threaded rod and isolation is max. 40 mm
- If the damper is installed outside the fire separation construction and a damper side A ≥ 800 mm, VRM-Q reinforcement frame must be used → see page 90

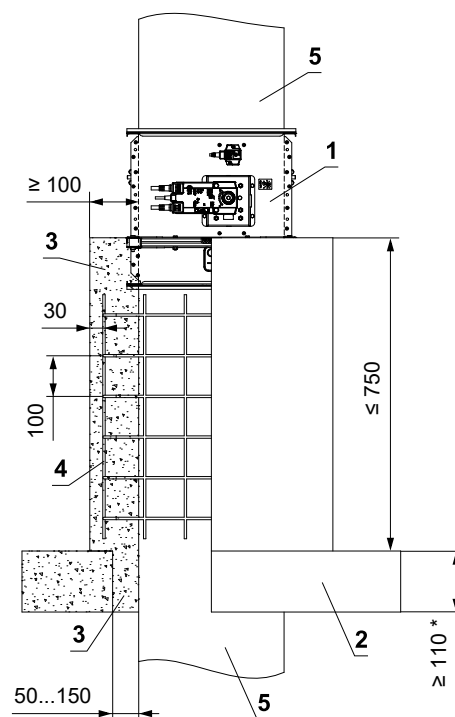
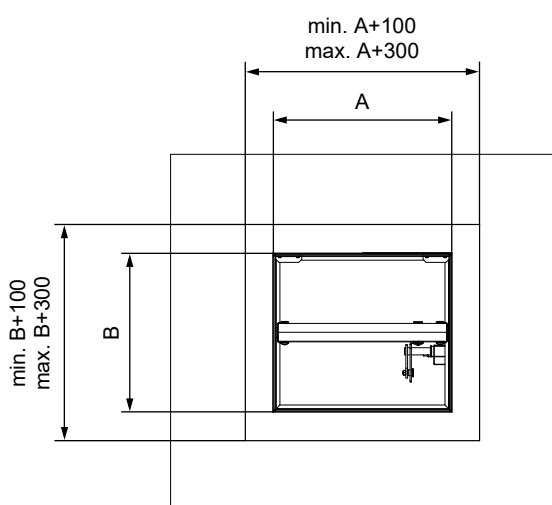
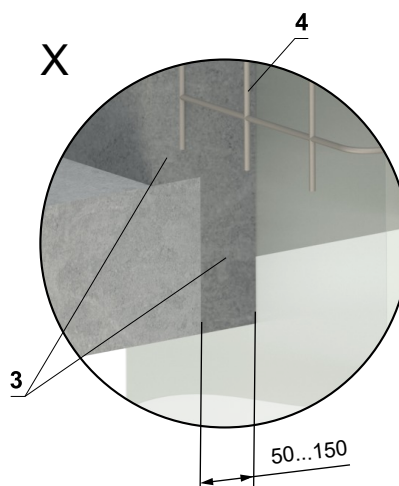
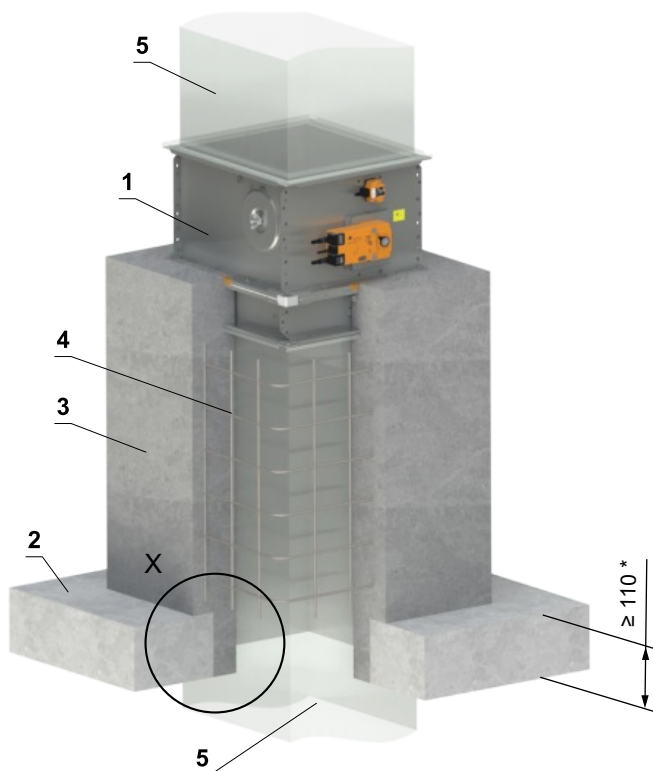


- | | |
|---|--|
| <ul style="list-style-type: none"> 1 FDMQ 2 Solid ceiling construction 3 Mortar or gypsum 4 VRM-Q → see page 90 5 Insulation board made of mineral wool, with a surface treatment of aluminum foil - th. 60 mm, min. density 300 kg/m³ - (System ROCKWOOL Conlit Ductrock 90) 6 Duct penetration insulation collar - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) - glued (pos. 12) and fixed with screws to the wall construction | <ul style="list-style-type: none"> 7 Insulation collar of the damper and duct connection - th. 60 mm (System ROCKWOOL Conlit Ductrock 90) 8 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm 9 ROCKWOOL Firepro glue - apply on the insulation and fix it to the fire separation construction 10 Profile with threaded rod → see pages 78 to 81 |
|---|--|

Outside solid ceiling construction - concreting

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- The duct must be suspended or supported on both sides of the damper acc. to national rules
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers



- 1 FDMQ
- 2 Solid ceiling construction
- 3 Concrete B20
- 4 Rebar - steel rod \varnothing 6 mm, mesh hole 100 mm
- 5 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm

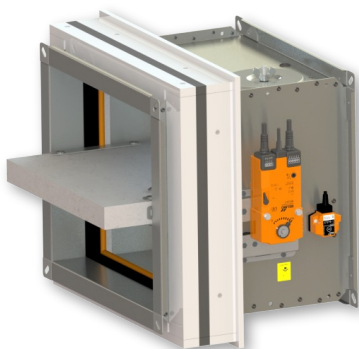
* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

Installation frames

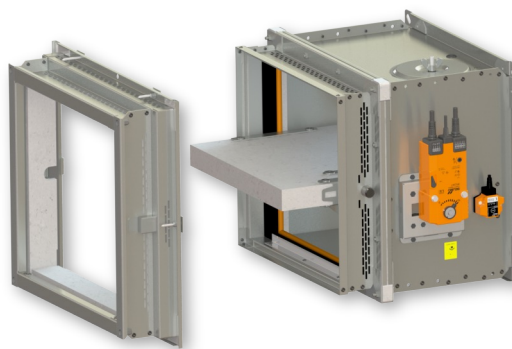
List of installation frames and installation options

| Installation frame | Wall thickness (mm) | | | | | | | | |
|--------------------|-------------------------|----------------------|-----------------|--------------------------|----------------------|-----------------|----------------------------|----------------------|-----------------|
| | Solid wall construction | | | Gypsum wall construction | | | Solid ceiling construction | | |
| | In construction | Outside construction | On construction | In construction | Outside construction | On construction | In construction | Outside construction | On construction |
| E1 | ≥ 100 | - | - | ≥ 100 | - | - | ≥ 110/125 | - | - |
| E2 | ≥ 100 | - | - | - | - | - | ≥ 110/125 | - | - |
| E3 | - | - | - | ≥ 100 | - | - | - | - | - |
| E4 | - | - | ≥ 100 | - | - | ≥ 100 | - | ≥ 110/125 | ≥ 110/125 |
| E5 | - | - | - | ≥ 100 | - | - | - | - | - |
| E6 | - | ≥ 100 | - | - | - | - | - | ≥ 110/125 | - |

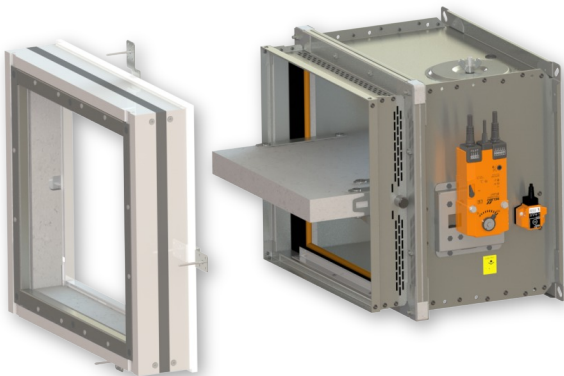
Installation frame E1



Installation frame E2



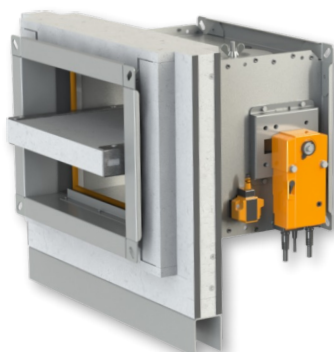
Installation frame E3



Installation frame E4



Installation frame E5



Installation frame E6

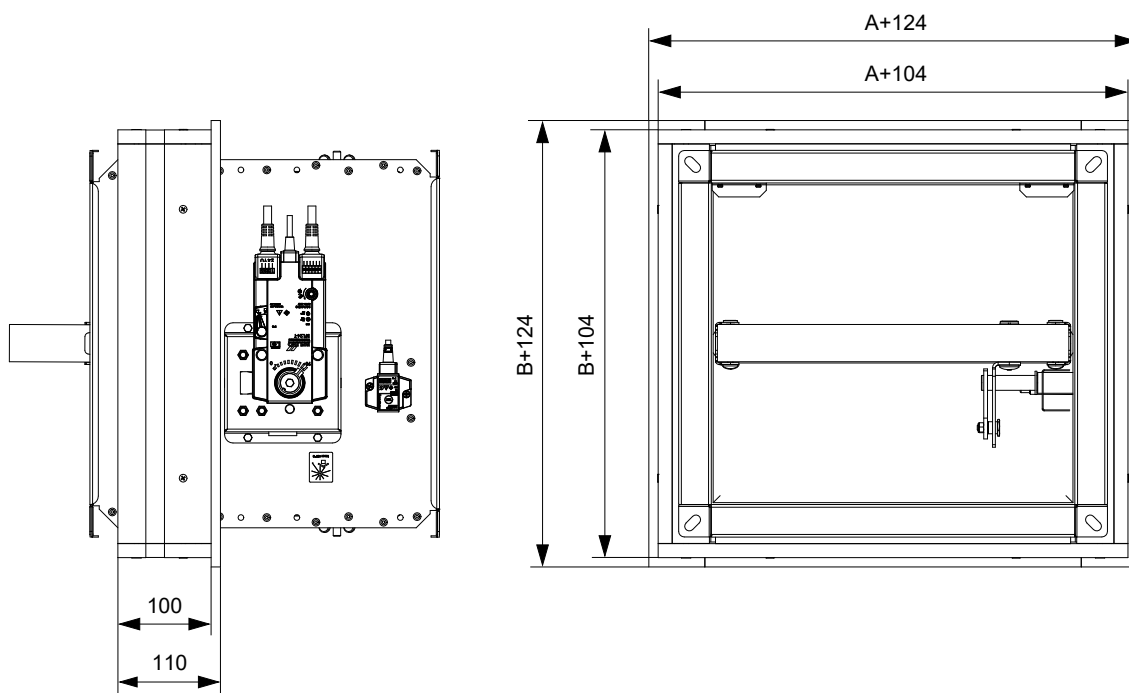
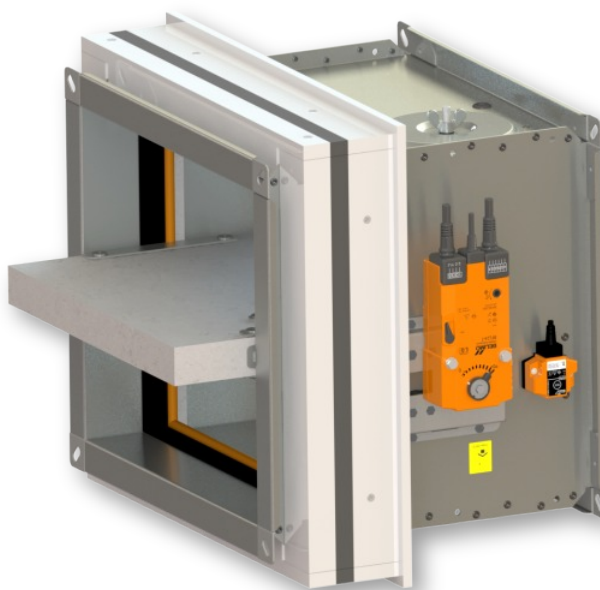


- Installation frame can be installed on the damper or delivered separately

Installation frame E1

- Installation frame E1 is designed for installation without additional sealing of the penetration into:
 - Solid wall construction
 - Gypsum wall construction
 - Solid ceiling construction
- Installation frame is equipped with an intumescent sealing on the inside and outside. This sealing fills the gap between the damper casing and frame and between the frame and construction in the event of a fire
- **Solid wall/gypsum wall th. 100 mm or solid ceiling th. 110 mm**
- Material:
 - Installation frame - cement-lime boards
 - Fasteners - galvanized steel

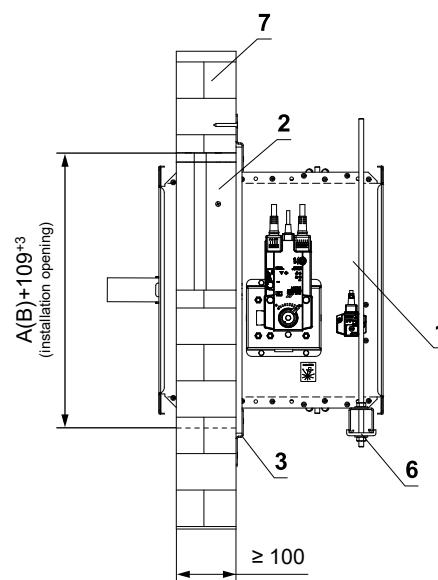
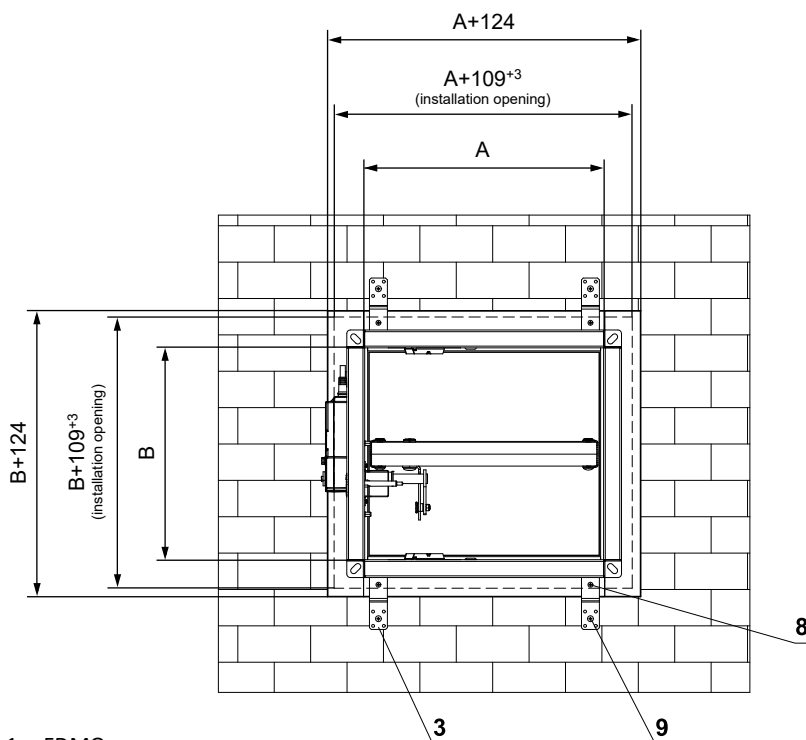
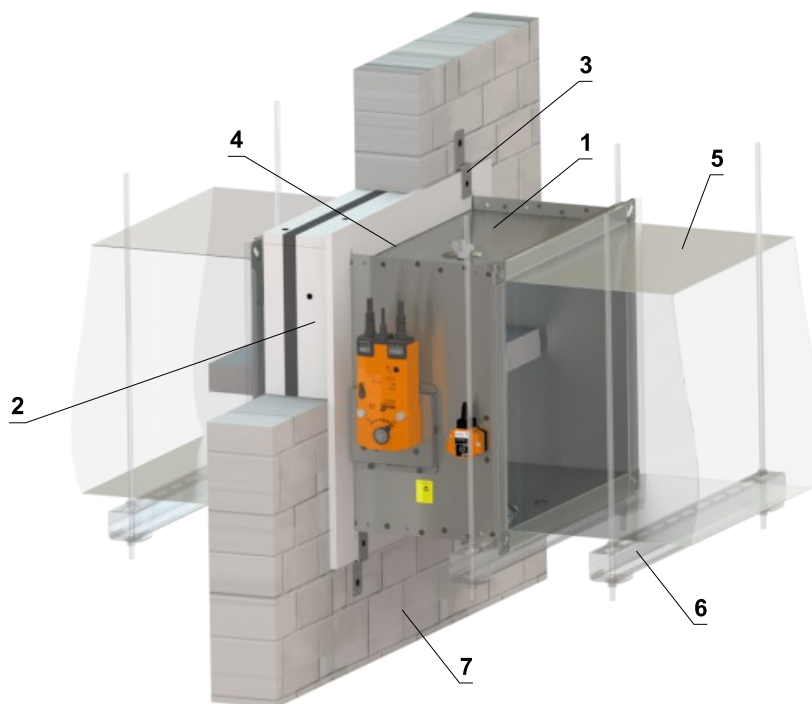
Installation frame E1



In solid wall construction - installation frame E1

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



- 1 FDMQ
- 2 Installation frame
- 3 Bracket (fastening material included in frame delivery)
- 4 Fill the gaps with glue PROMAT K84
- 5 Duct
- 6 Profile with threaded rod → see pages 78 to 81
- 7 Solid wall construction
- 8 Screw 4x16 mm to attach bracket to the frame
- 9 Screw 5x60 mm to attach bracket to the construction

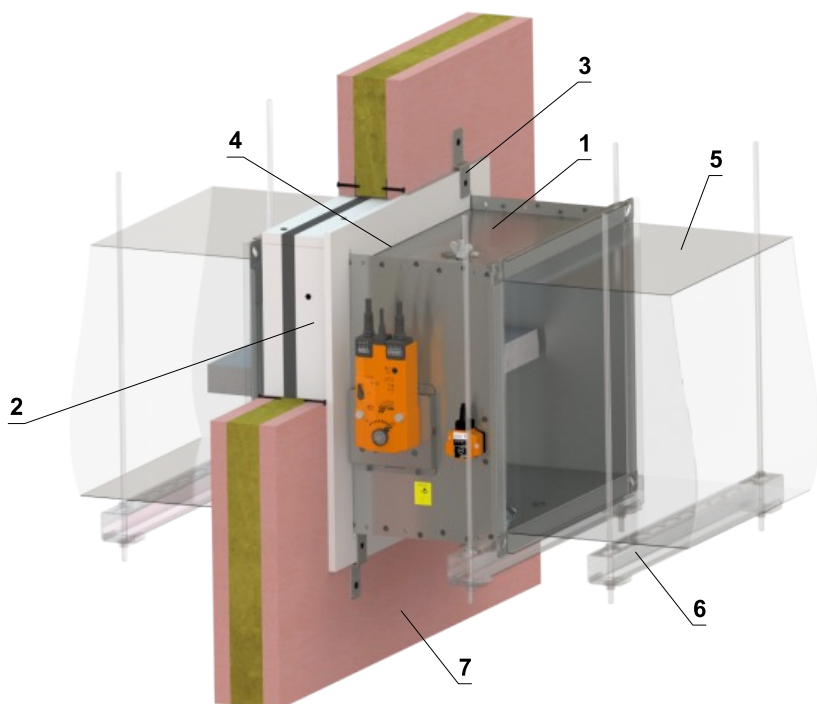
Number of brackets X = ZA + ZB Number of screws Y = 2 x X

| Side A | Number of brackets ZA | Side B | Number of brackets ZB |
|-----------------|-----------------------|---------------|-----------------------|
| A ≤ 500 | 4 | B ≤ 500 | 0 |
| 500 < A ≤ 1000 | 6 | 500 < B ≤ 800 | 4 |
| 1000 < A ≤ 1500 | 8 | | |

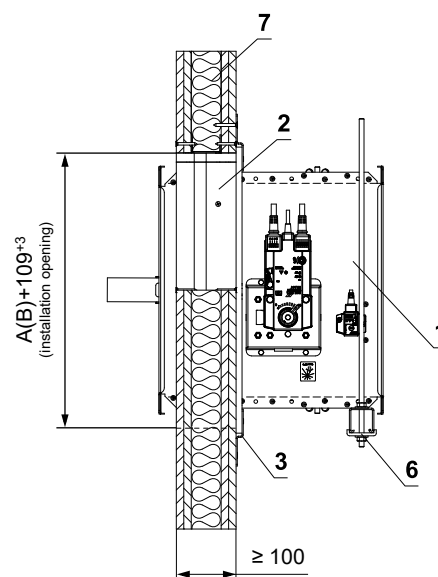
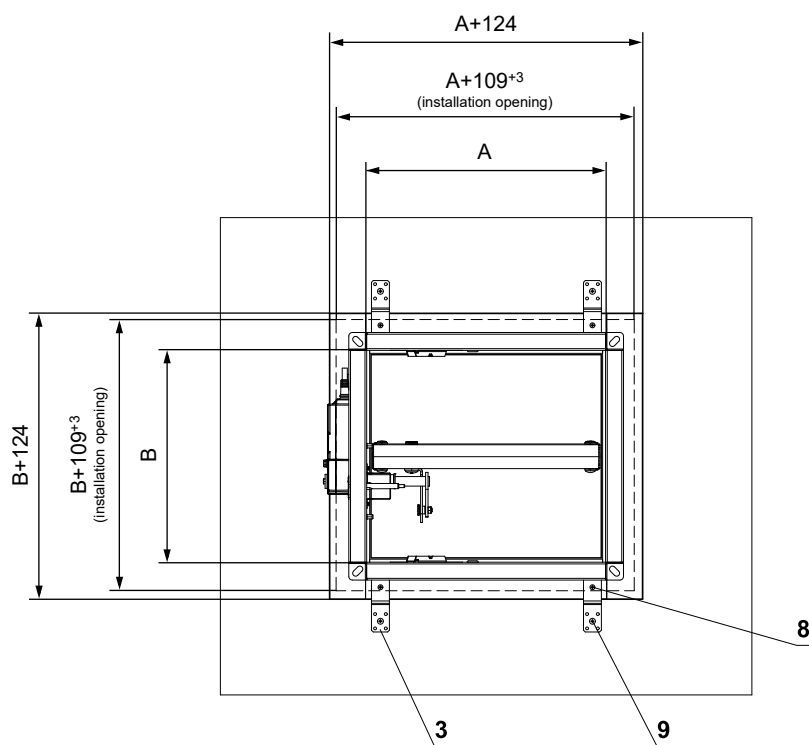
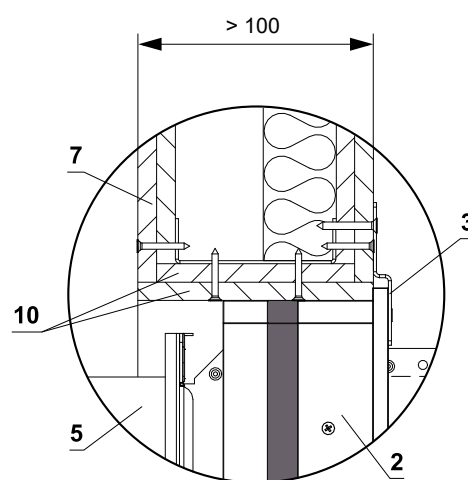
Gypsum wall construction - installation frame E1

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



Detail of the wall > 100 mm



- 1 FDMQ
- 2 Installation frame
- 3 Bracket (fastening material included in frame delivery)
- 4 Fill the gaps with glue PROMAT K84
- 5 Duct
- 6 Profile with threaded rod → see pages 78 to 81
- 7 Gypsum wall construction
- 8 Screw 4x16 mm to attach bracket to the frame
- 9 Screw 5x60 mm to attach bracket to the construction
- 10 Additional boards made from plasterboard

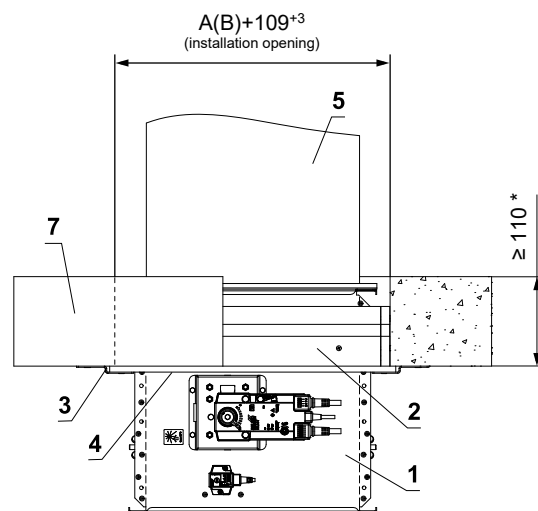
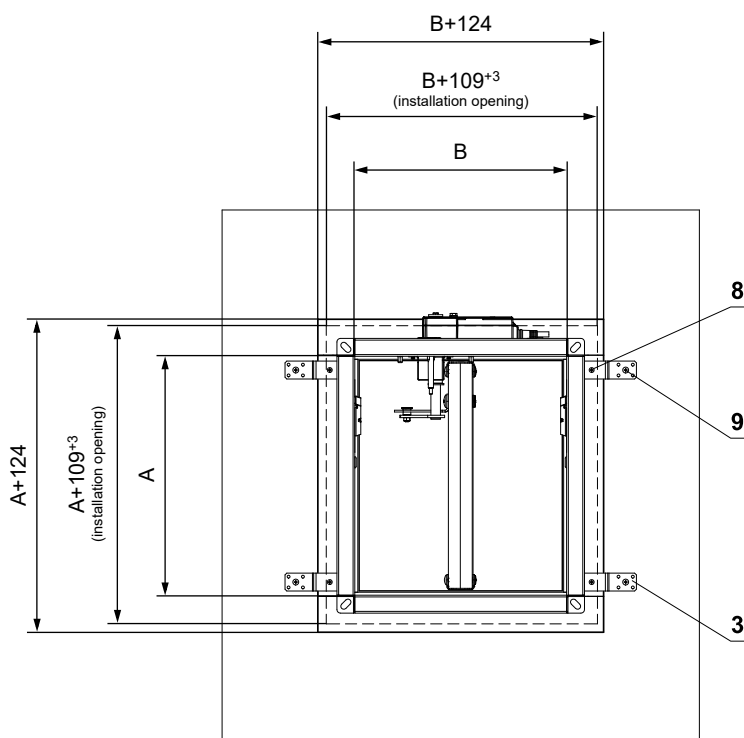
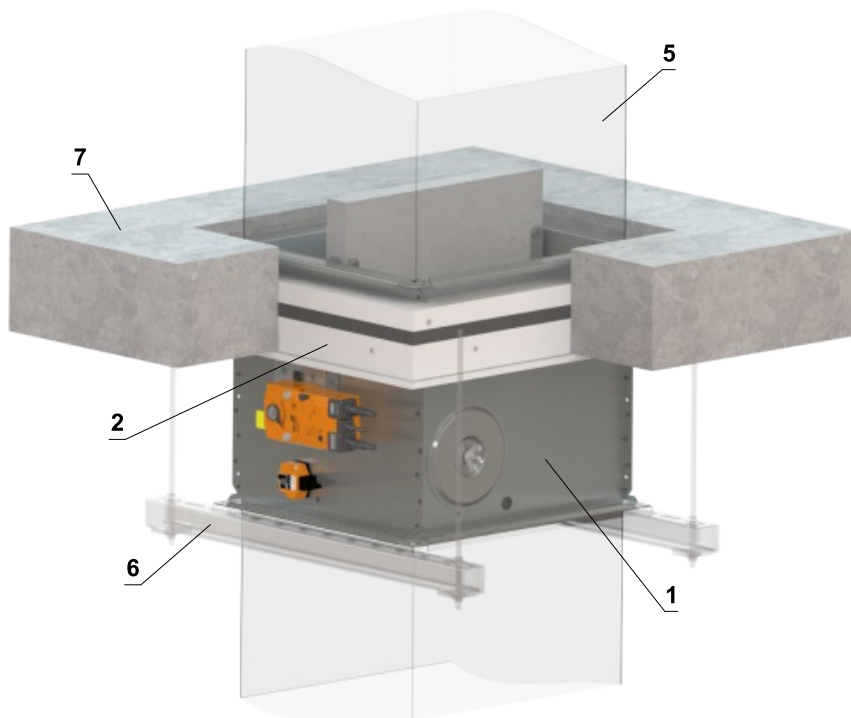
Number of brackets X = ZA + ZB Number of screws Y = 2 x X

| Side A | Number of brackets ZA | Side B | Number of brackets ZB |
|-----------------|-----------------------|---------------|-----------------------|
| A ≤ 500 | 4 | B ≤ 500 | 0 |
| 500 < A ≤ 1000 | 6 | 500 < B ≤ 800 | 4 |
| 1000 < A ≤ 1500 | 8 | | |

Solid ceiling construction - installation frame E1

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

- 1 FDMQ
- 2 Installation frame
- 3 Bracket (fastening material included in frame delivery)
- 4 Fill the gaps with glue PROMAT K84
- 5 Duct
- 6 Profile with threaded rod → see pages 78 to 81
- 7 Solid ceiling construction
- 8 Screw 4x16 mm to attach bracket to the frame
- 9 Screw 5x60 mm to attach bracket to the construction

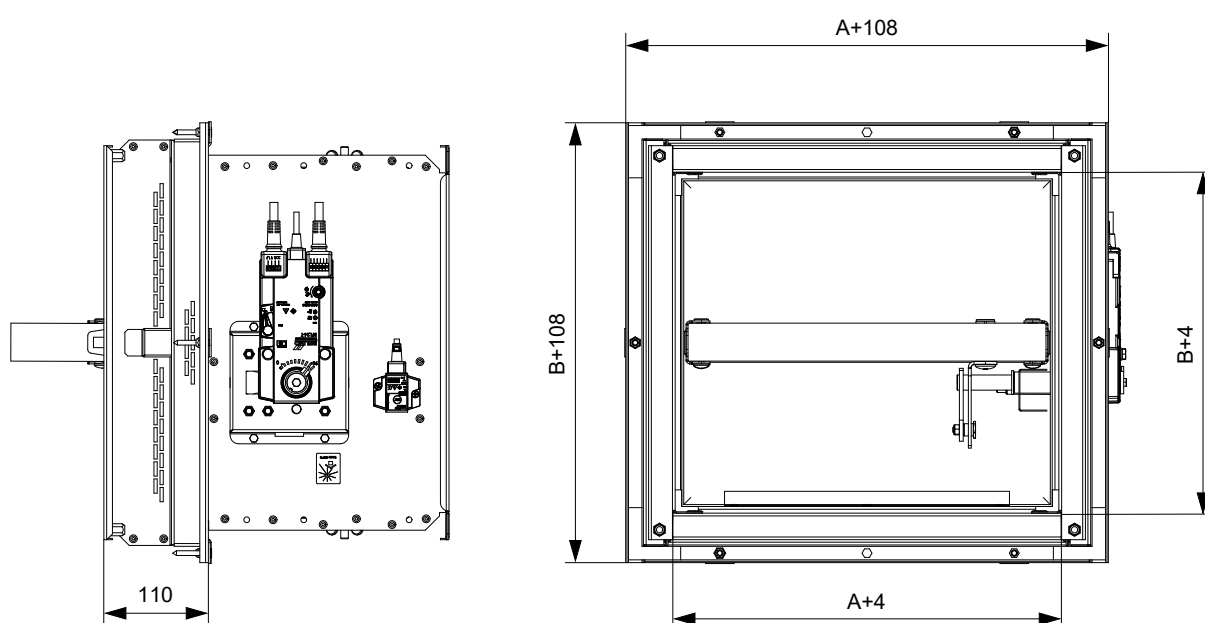
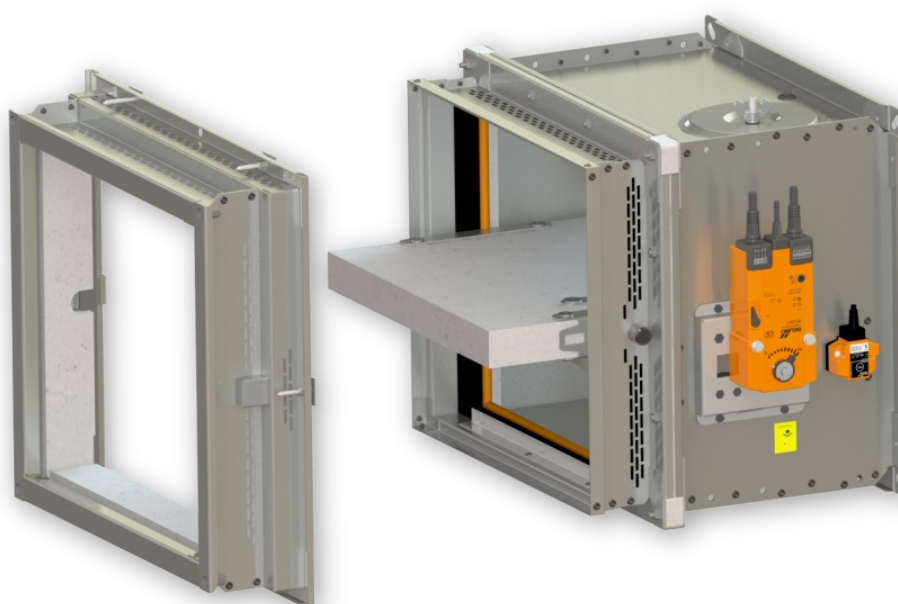
Number of brackets X = ZA + ZB Number of screws Y = 2 x X

| Side A | Number of brackets ZA | Side B | Number of brackets ZB |
|-----------------|-----------------------|---------------|-----------------------|
| A ≤ 500 | 4 | B ≤ 500 | 0 |
| 500 < A ≤ 1000 | 6 | 500 < B ≤ 800 | 4 |
| 1000 < A ≤ 1500 | 8 | | |

Installation frame E2

- Installation frame E2 is designed for installation with steel insert and mortar or gypsum into:
 - Solid wall construction
 - Solid ceiling construction
- The damper is equipped with an intumescent sealing on the casing. This sealing fills the gap between the steel insert and the damper in the event of a fire
- **Solid wall th. 100 mm or solid ceiling th. 110 mm**
- Material:
 - Installation frame - cement-lime boards
 - Fasteners - galvanized steel

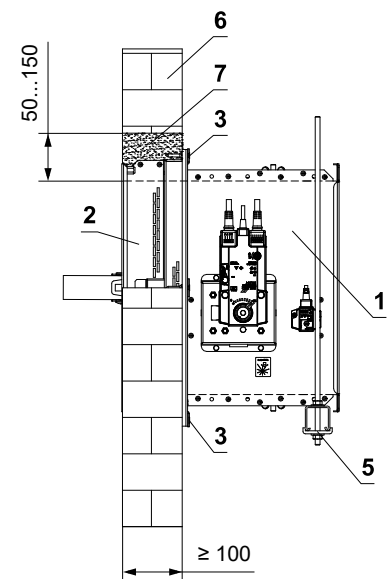
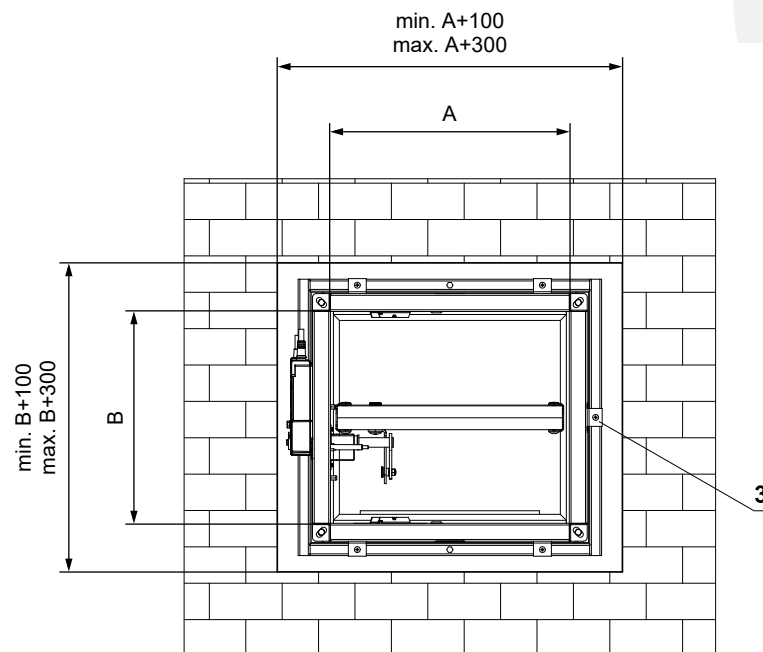
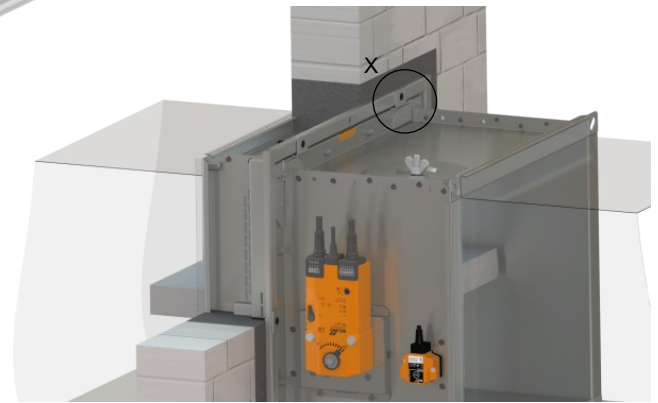
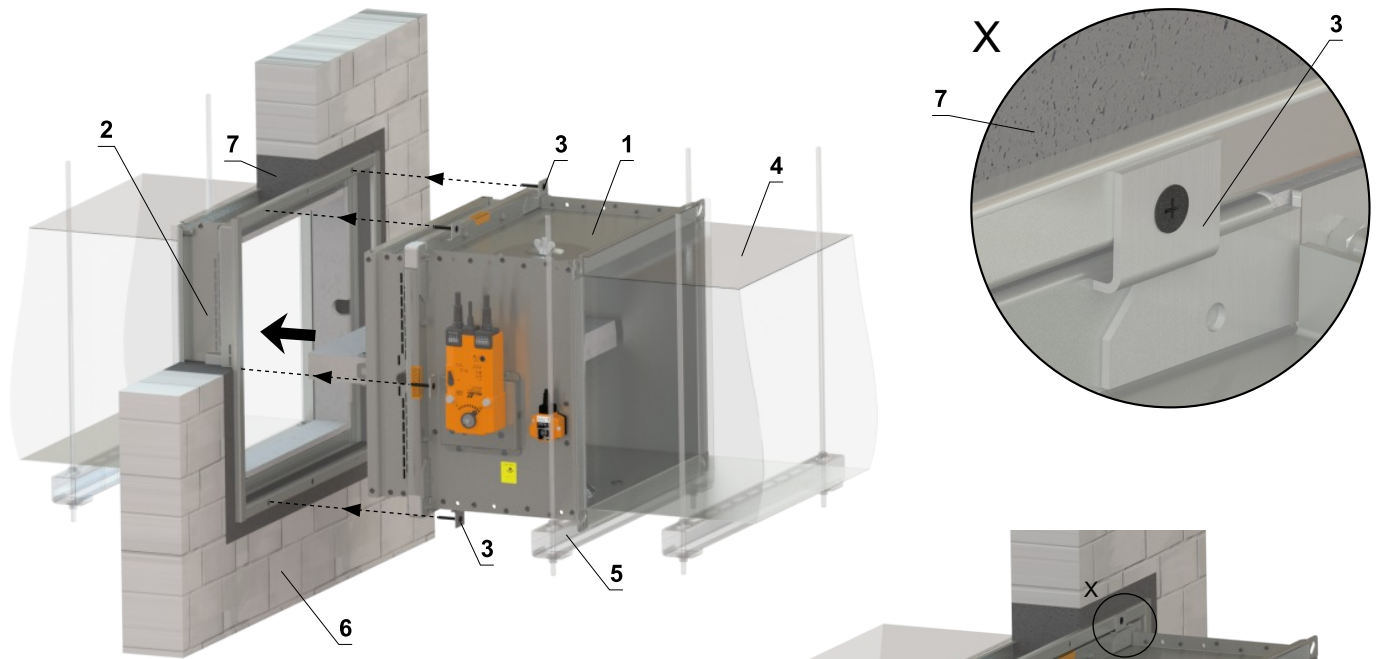
Installation frame E2



In solid wall construction - installation frame E2

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately

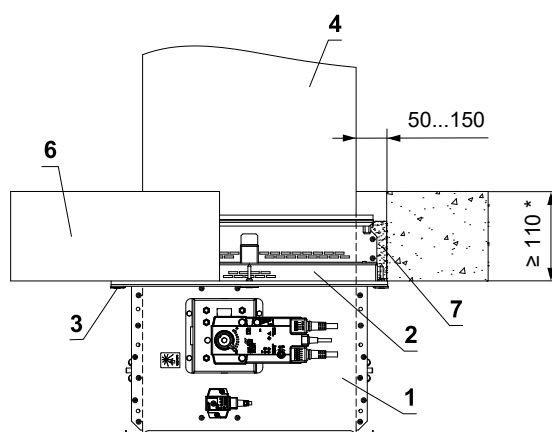
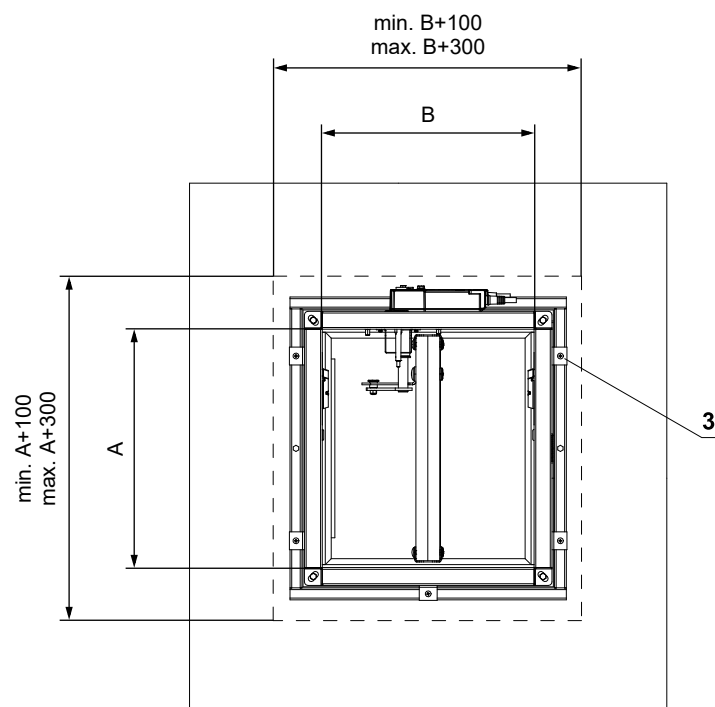
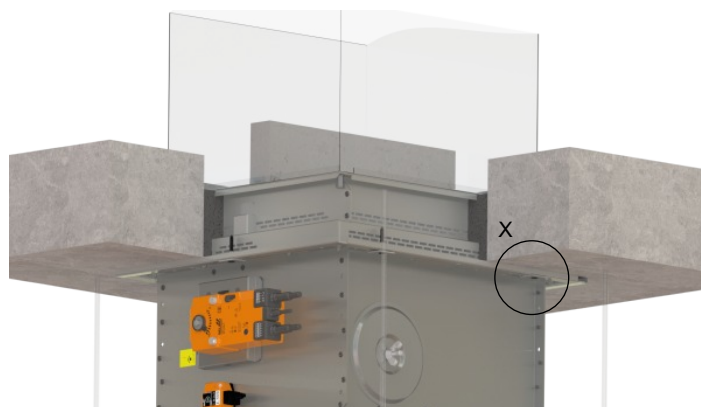
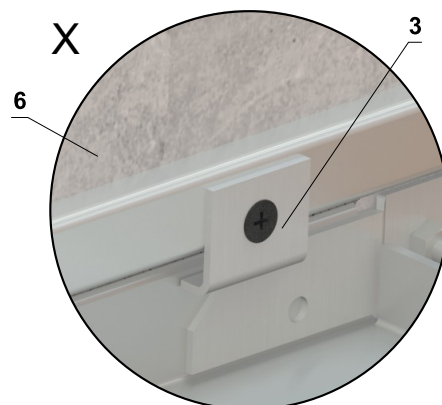
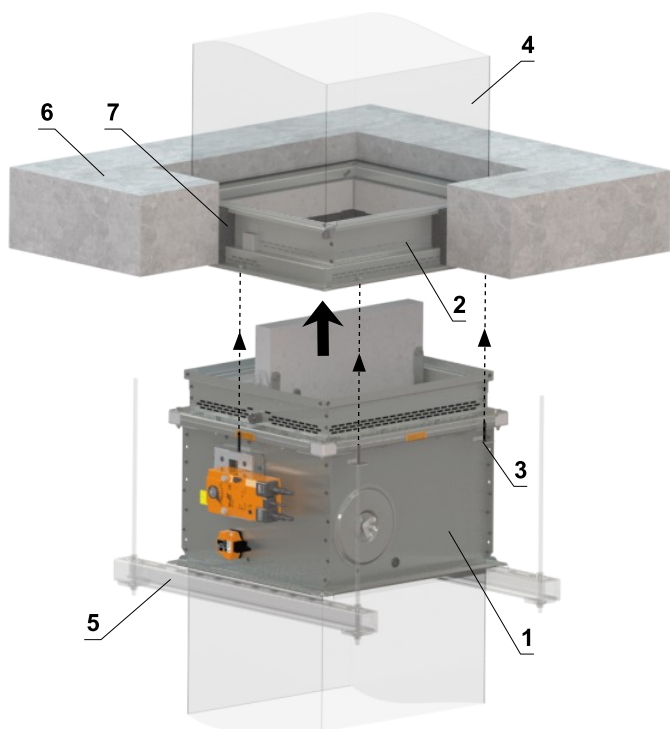


- 1 FDMQ
- 2 Installation frame
- 3 Mounting of the damper to the frame (delivered with frame)
- 4 Duct
- 5 Profile with threaded rod → see pages 78 to 81
- 6 Solid wall construction
- 7 Mortar or gypsum

In solid ceiling construction - installation frame E2

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



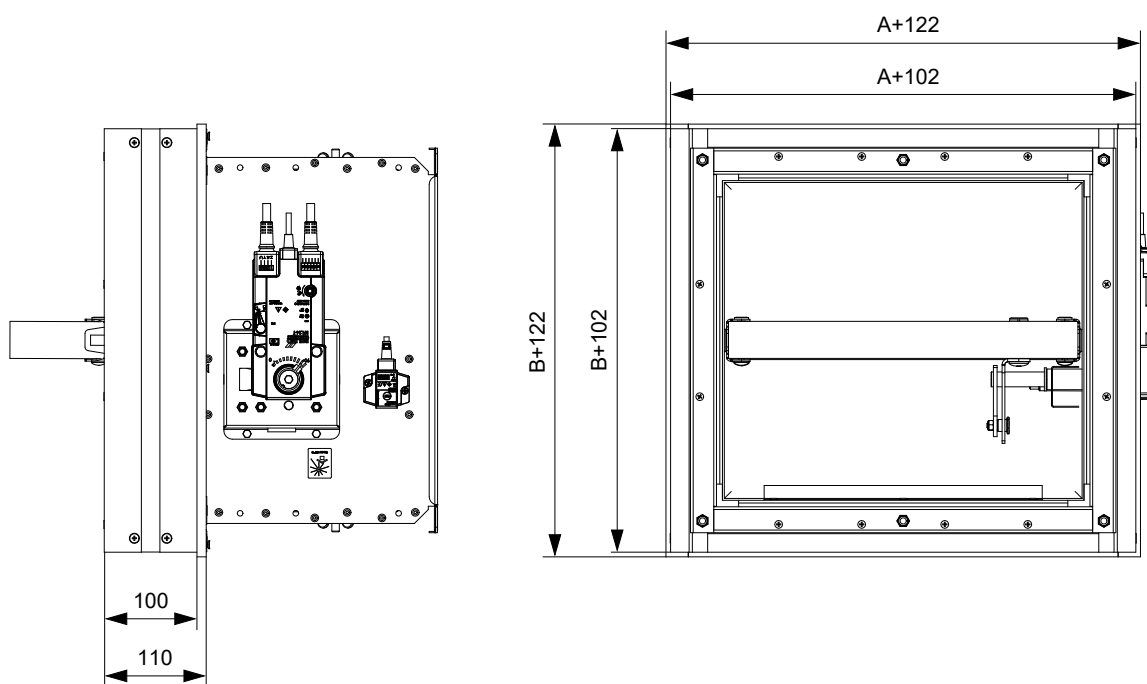
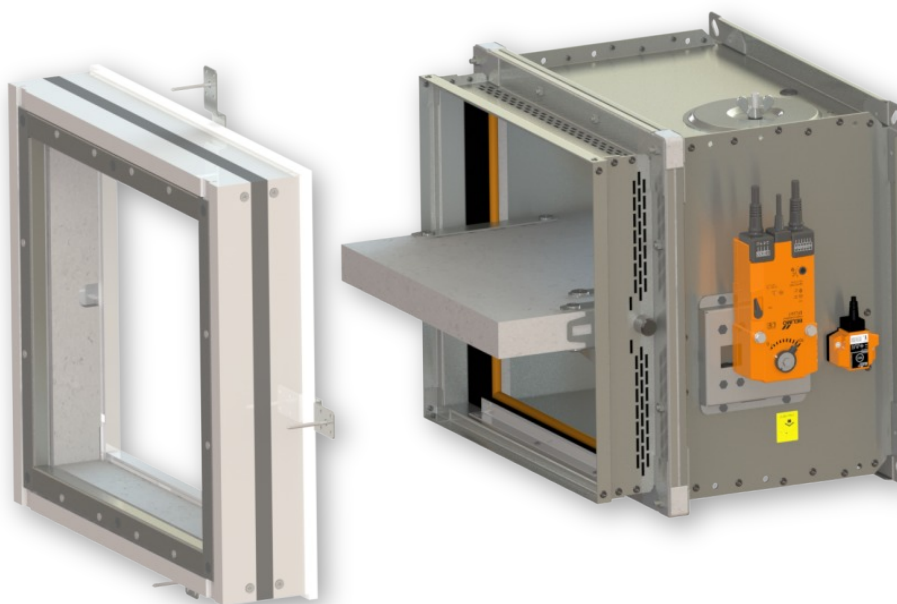
- 1 FDMQ
- 2 Installation frame
- 3 Mounting of the damper to the frame (delivered with frame)
- 4 Duct
- 5 Profile with threaded rod → see pages 78 to 81
- 6 Solid ceiling construction
- 7 Mortar or gypsum

* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

Installation frame E3

- Installation frame E3 is designed for installation into:
 - Gypsum wall construction
- The damper is equipped with an intumescent sealing on the casing. This sealing fills the gap between the damper casing and frame in the event of a fire. The frame is equipped with an intumescent sealing on external side. This sealing fills the gap between the frame and construction in the event of a fire
- **Gypsum wall th. 100 mm**
- Material:
 - Installation frame - cement-lime boards and galvanized steel
 - Fasteners - galvanized steel

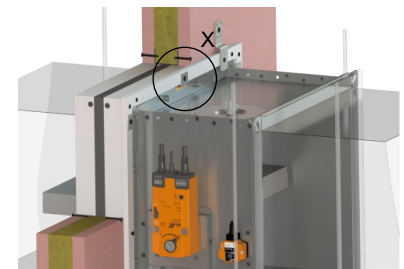
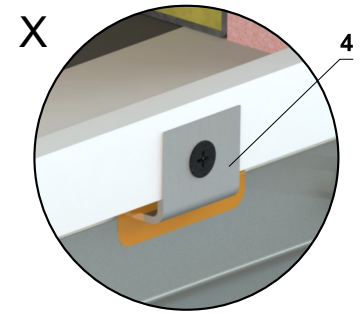
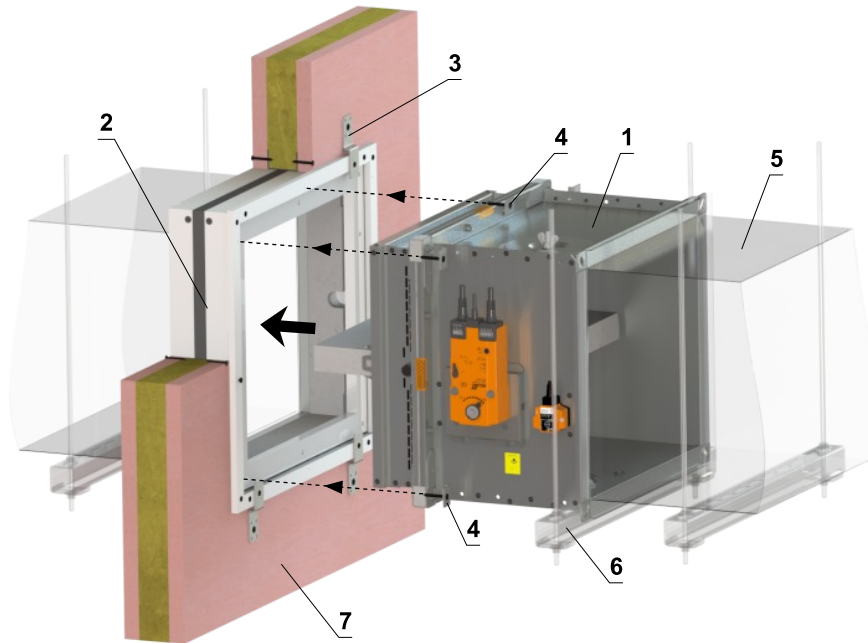
Installation frame E3



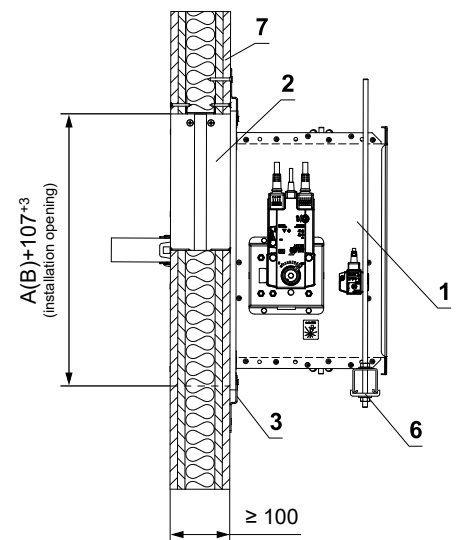
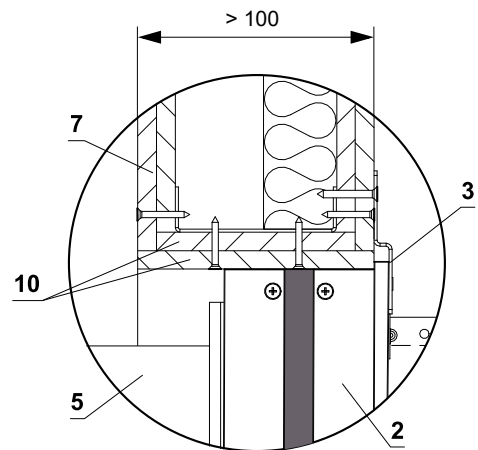
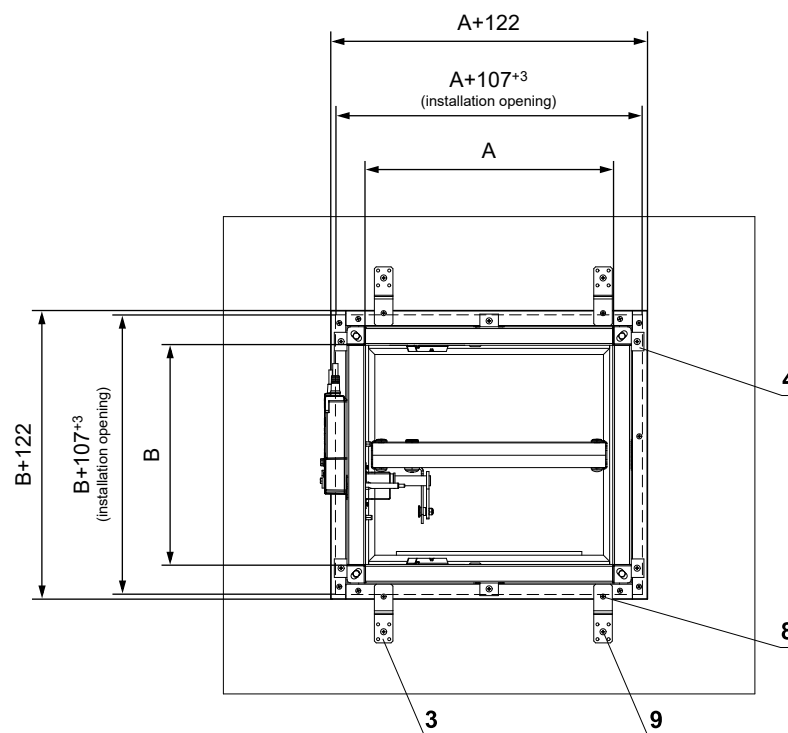
In gypsum wall construction - installation frame E3

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



Detail of the wall > 100 mm



- 1 FDMQ
- 2 Installation frame
- 3 Bracket (fastening material included in frame delivery)
- 4 Mounting of the damper to the frame (delivered with frame)
- 5 Duct
- 6 Profile with threaded rod → see pages 78 to 81
- 7 Gypsum wall construction
- 8 Screw 4x16 mm to attach bracket to the frame
- 9 Screw 5x60 mm to attach bracket to the construction
- 10 Additional boards made from plasterboard

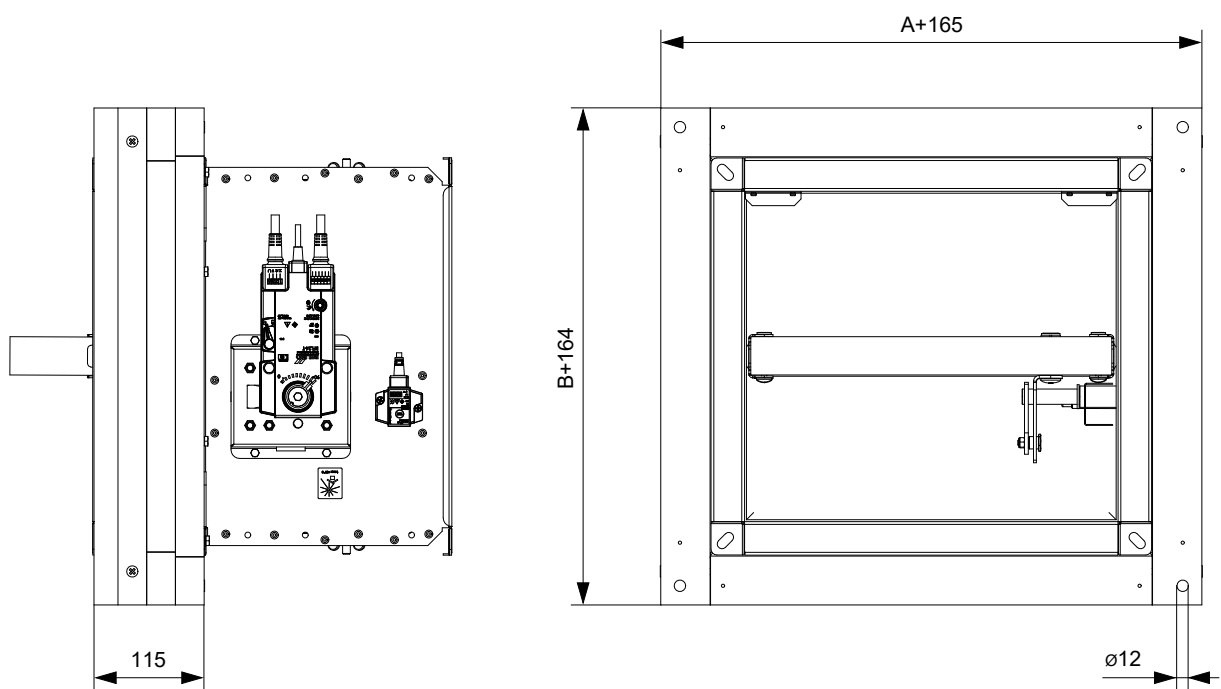
Number of brackets X = ZA + ZB Number of screws Y = 2 x X

| Side A | Number of brackets ZA | Side B | Number of brackets ZB |
|-----------------|-----------------------|---------------|-----------------------|
| A ≤ 500 | 4 | B ≤ 500 | 0 |
| 500 < A ≤ 1000 | 6 | 500 < B ≤ 800 | 4 |
| 1000 < A ≤ 1500 | 8 | | |

Installation frame E4

- Installation frame E4 is designed for installation on:
 - Solid wall construction
 - Solid ceiling construction
 - Outside solid ceiling construction with concreting
- Installation frame is equipped with an intumescent sealing on the inside. This sealing fills the gap between the damper casing and frame in the event of a fire
- Material:
 - Installation frame - cement-lime boards
 - Fasteners - galvanized steel

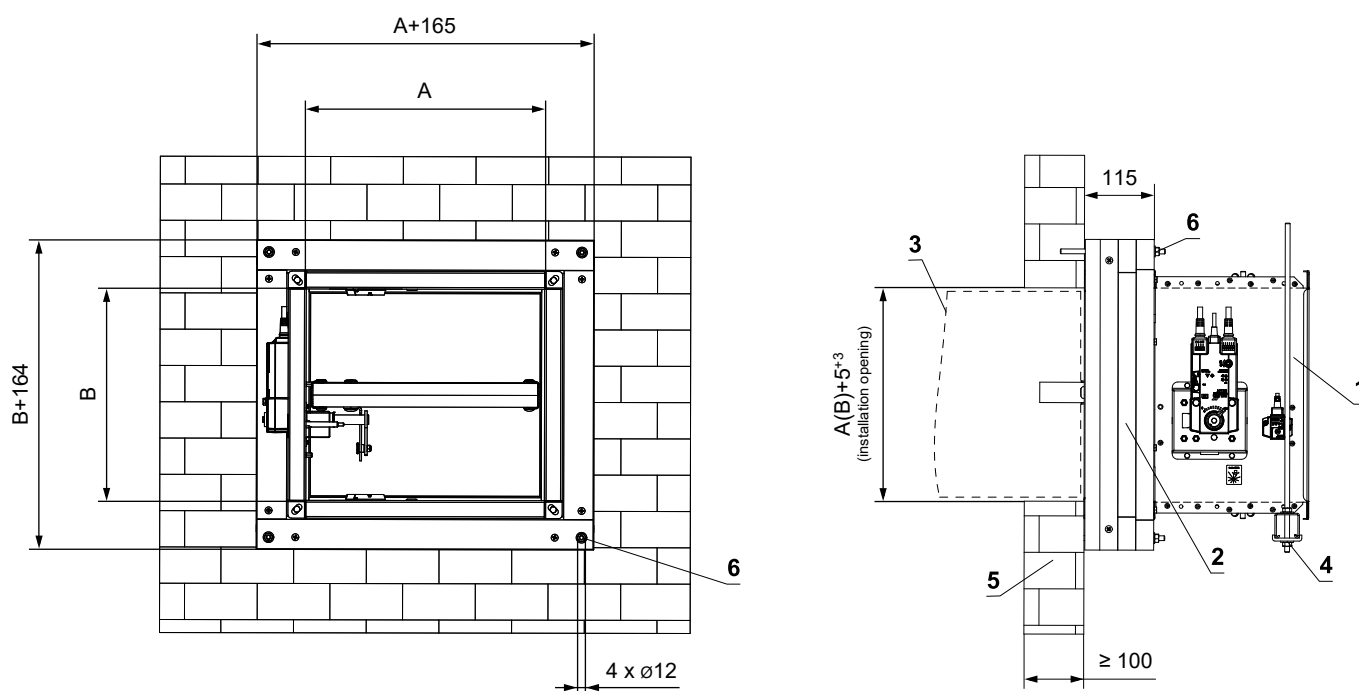
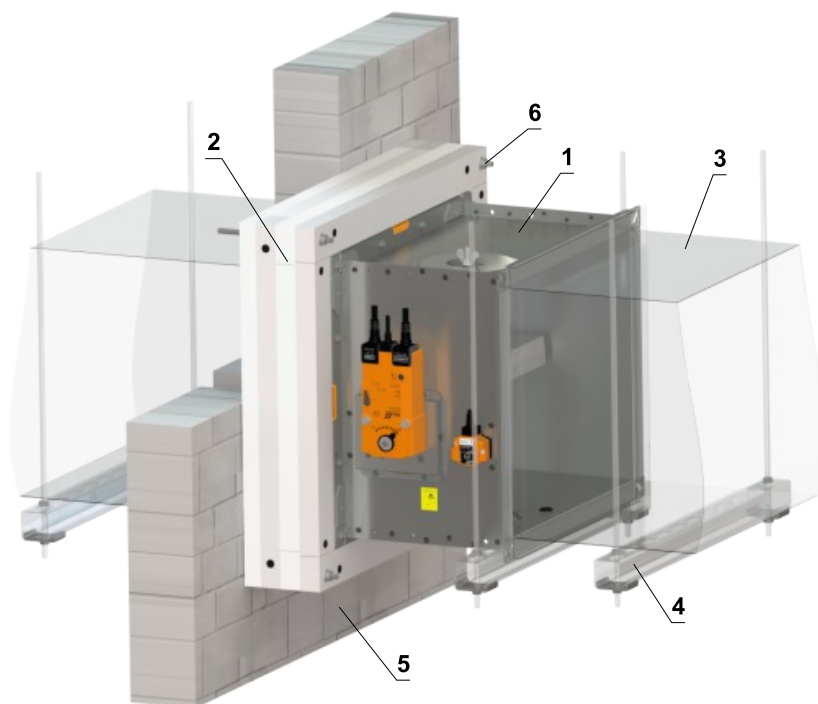
Installation frame E4



In solid wall construction - installation frame E4

EI 90 (v_e i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately

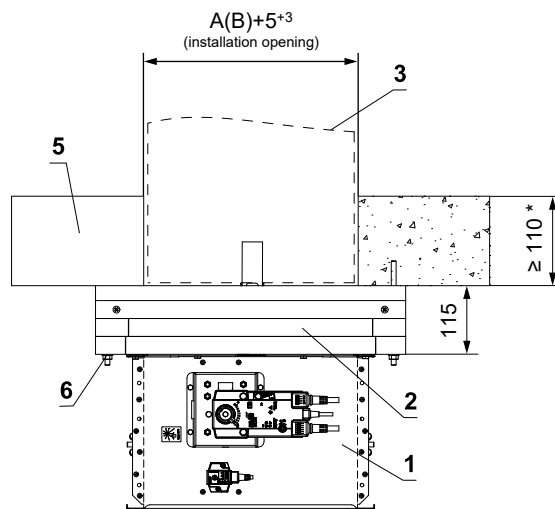
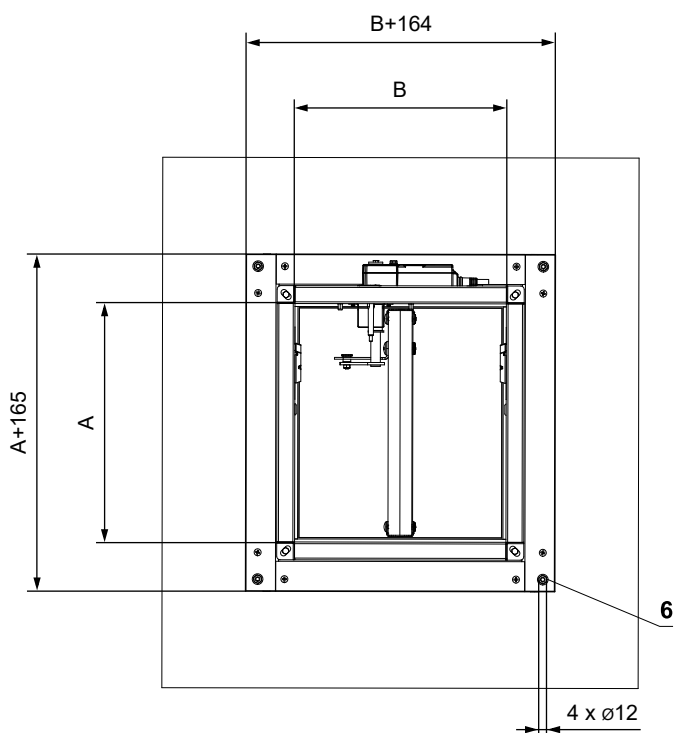
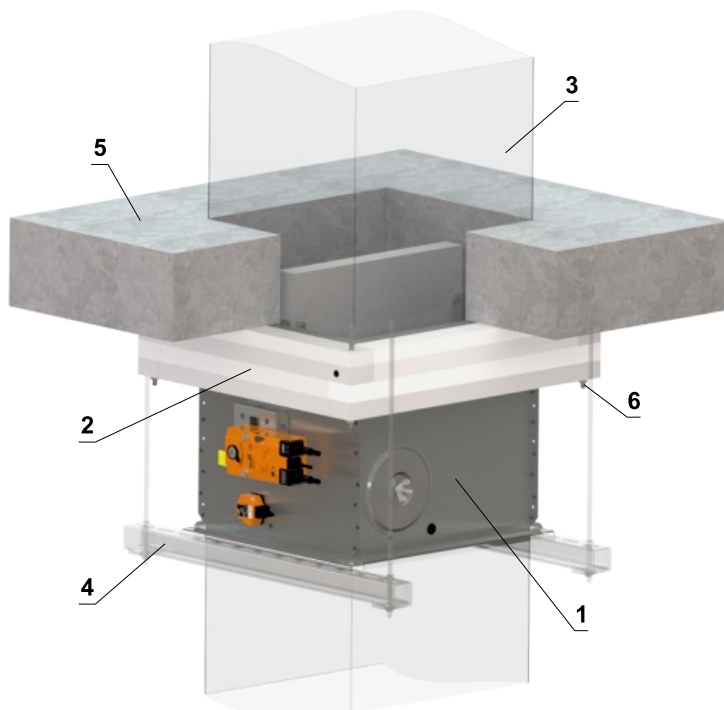


- 1 FDMQ
- 2 Installation frame - apply HILTI CFS-S ACR mastic at the entire area and glue it to the fire separating construction
- 3 Duct
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Solid wall construction
- 6 Holes for fixing the frame with threaded rods or steel anchors (material for fixing the frame is not included)

In solid ceiling construction - installation frame E4

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately



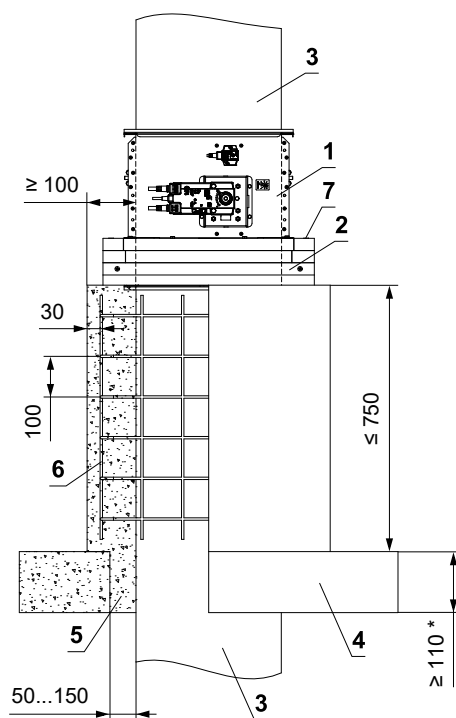
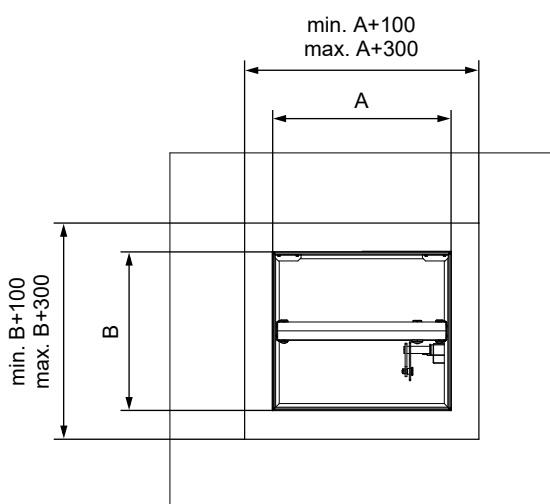
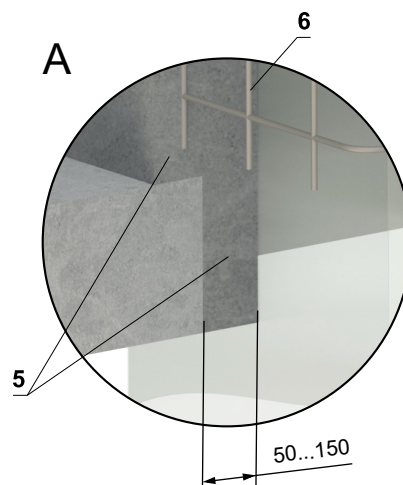
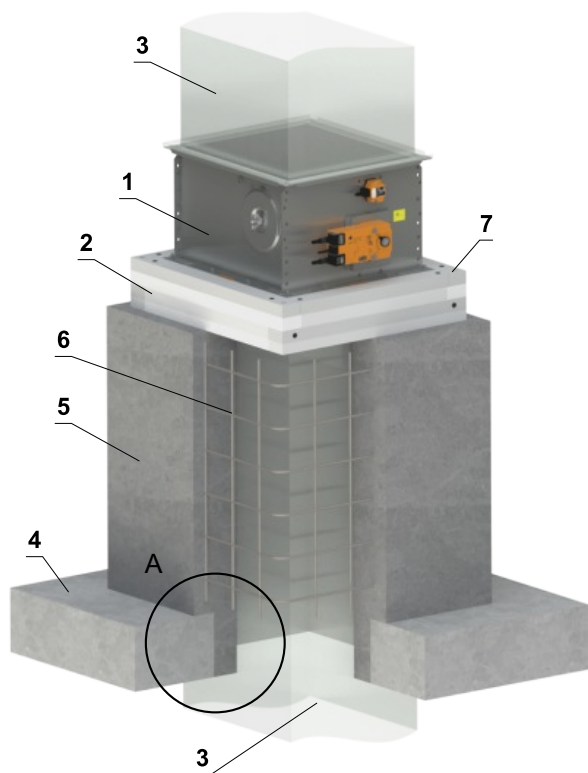
- 1 FDMQ
- 2 Installation frame - apply HILTI CFS-S ACR mastic at the entire area and glue it to the fire separating construction
- 3 Duct
- 4 Profile with threaded rod → see pages 78 to 81
- 5 Solid ceiling construction
- 6 Holes for fixing the frame with threaded rods or steel anchors (material for fixing the frame is not included)

* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

Outside solid ceiling construction - concreting - installation frame E4

EI 90 (h_o i↔o) S

- For connection of following duct → see page 82
- The duct must be suspended or supported on both sides of the damper acc. to national rules
- Load of the suspension system depends on weight of the fire damper and duct system → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers
- Installation frame can be installed on the damper or delivered separately



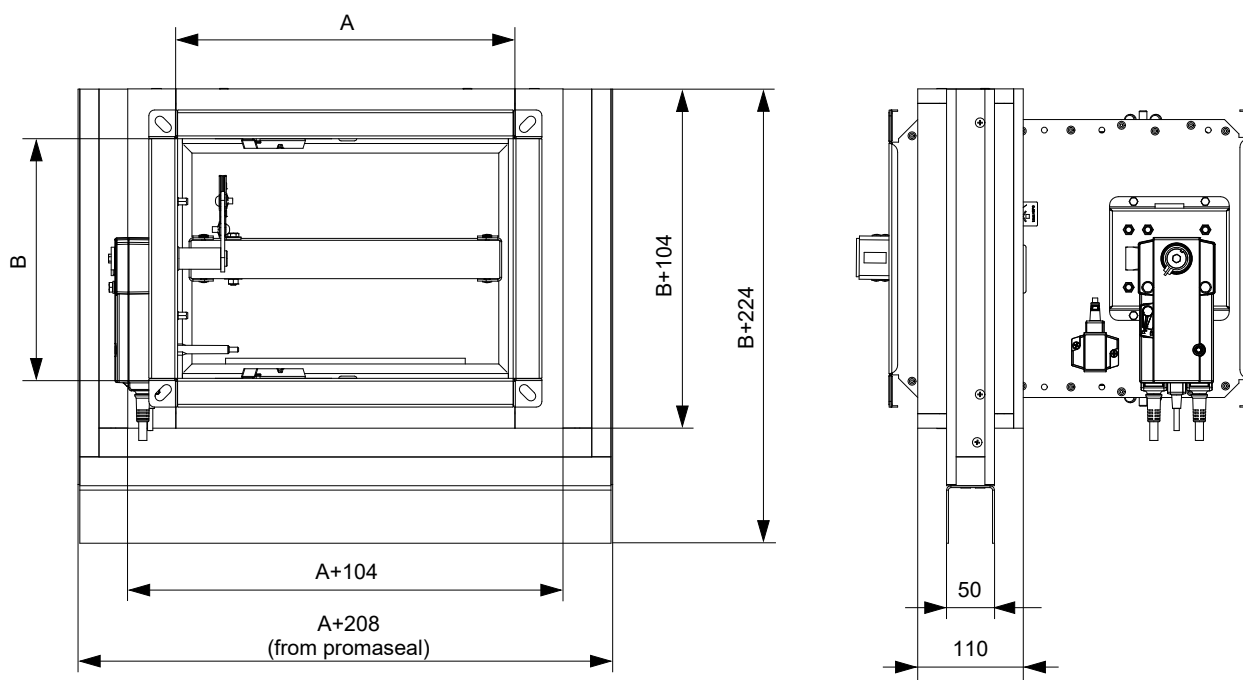
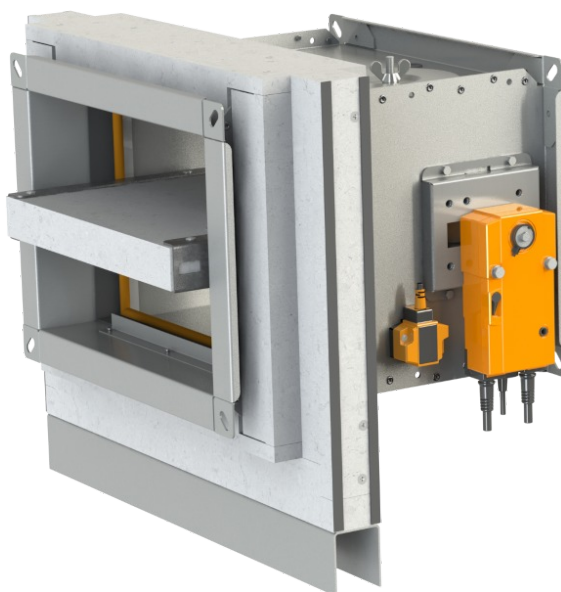
- 1 FDMQ
- 2 Installation frame - apply HILTI CFS-S ACR mastic at the entire area and glue it to the fire separating construction
- 3 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm
- 4 Solid ceiling construction
- 5 Concrete B20
- 6 Rebar - steel rod \varnothing 6 mm, mesh hole 100 mm
- 7 Holes for fixing the frame with threaded rods or steel anchors (frame fixing material not included)

* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

Installation frame E5

- Installation frame E5 is designed for installation without additional sealing of the penetration for:
 - Installation in gypsum walls under flexible ceilings with a maximum movement of 40 mm
 - Wall thicknesses 100 or ≥ 115 mm
- Installation frame is equipped with an intumescent sealing on the inside and outside. This sealing fills the gap between the damper casing and frame and between the frame and construction in the event of a fire
- Position of the damper can be directly on the ceiling or at a distance of max. 80 mm from the ceiling
- Material:
 - Installation frame - cement-lime boards and galvanized steel
 - Fasteners - galvanized steel

Installation frame E5

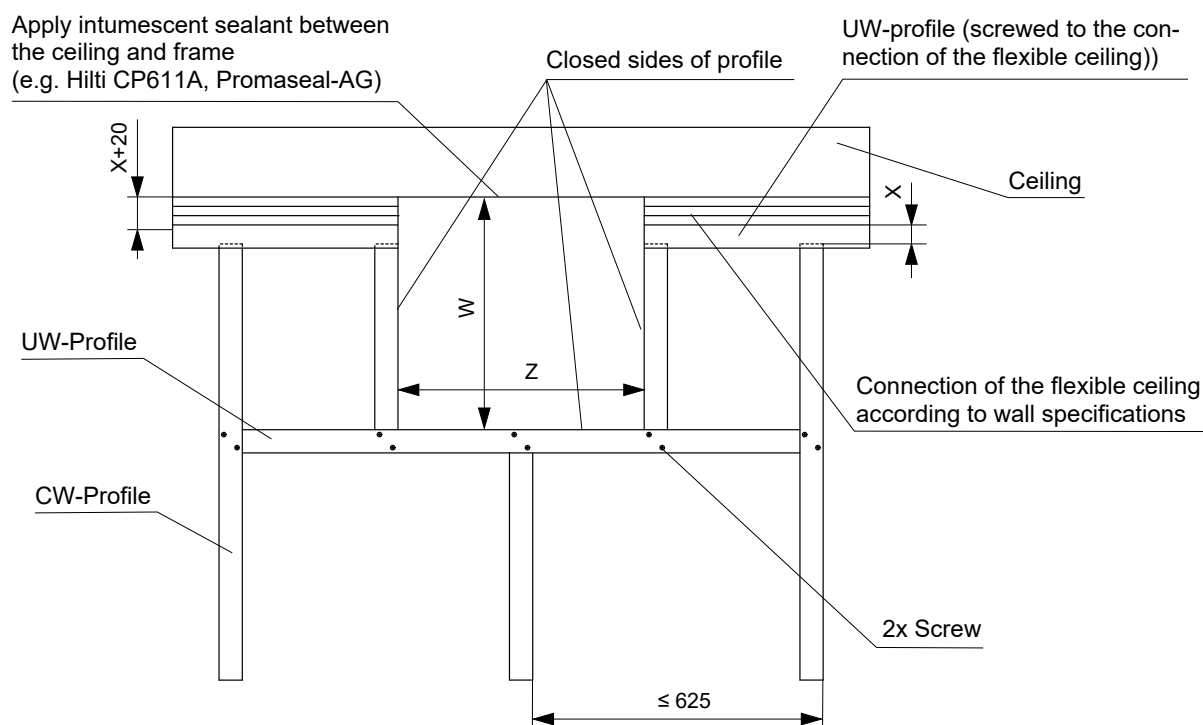
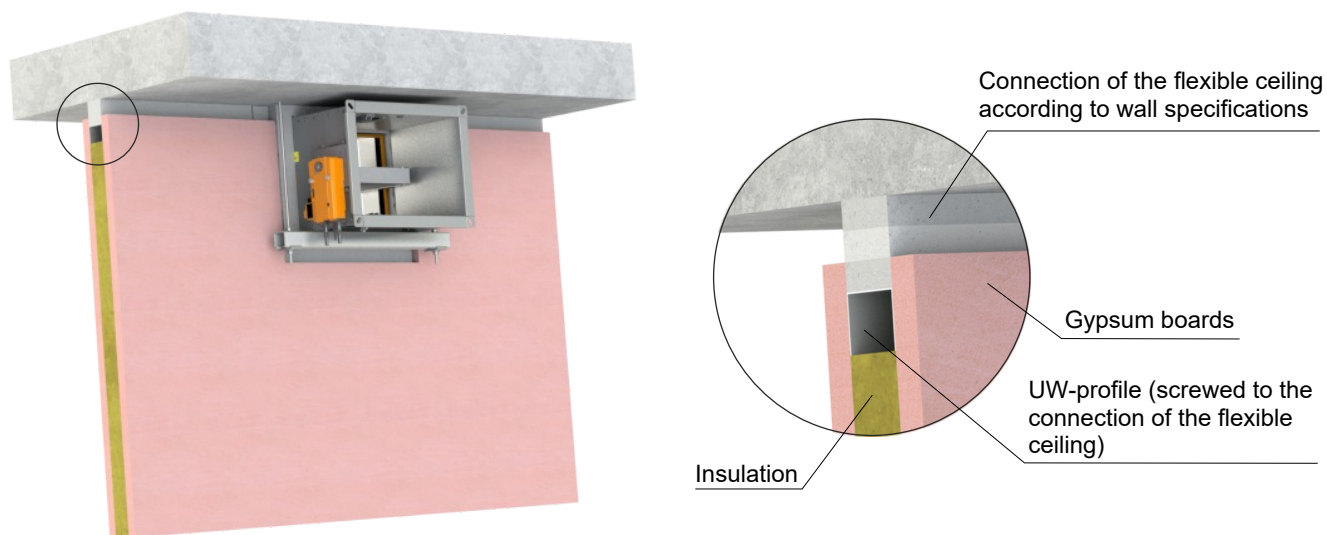


In gypsum wall construction - flexible ceiling - installation frame E5

Installation directly on the ceiling

EI 90 (v_e i↔o) S

- Detailed instructions for installation E5 frame → see manual
- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately
- Gypsum construction must be made in accordance with the specifications of the wall system manufacturer



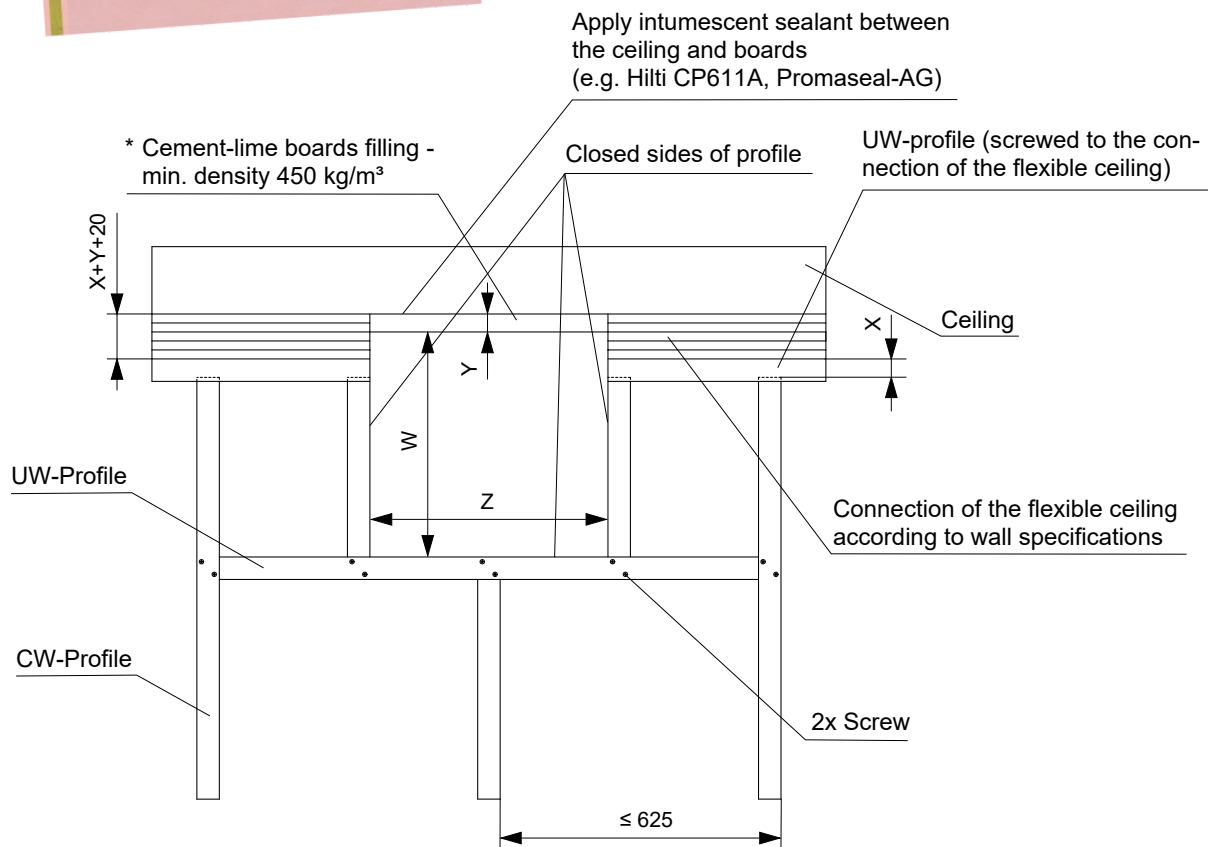
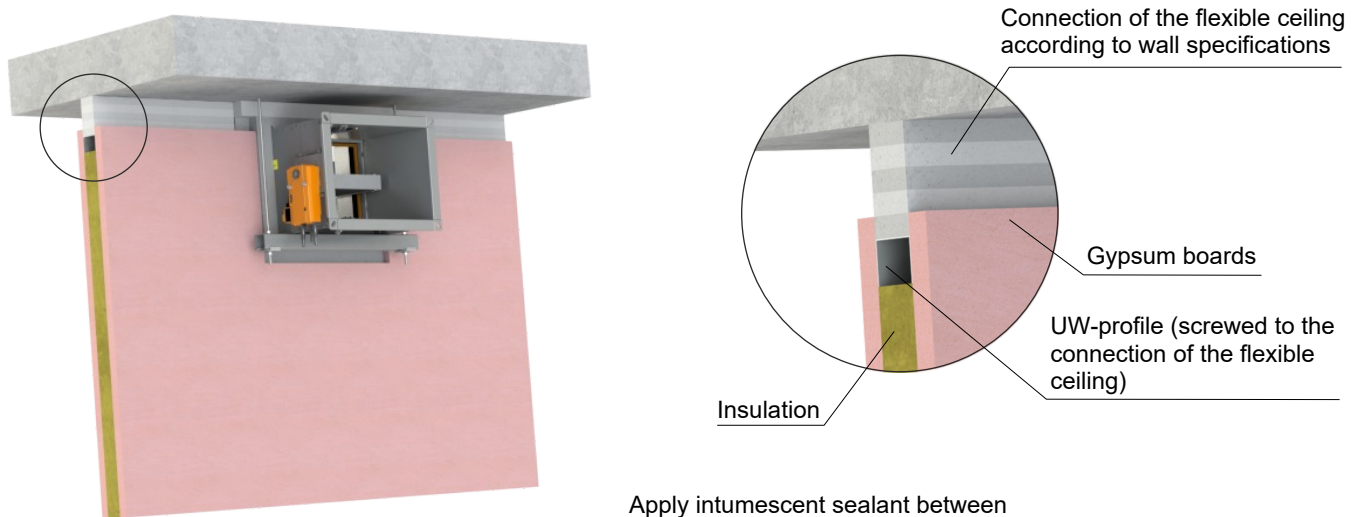
| Installation frame | W [mm] | Z [mm] |
|--------------------|-------------|-------------------|
| E5 | B + 224 + X | A + 208 + (2 x F) |

- X = ceiling movement = 10 to 40 mm
- F = gap between frame (promaseal) and profile = 2 to 5 mm

Installation at a maximum distance of 80 mm from the ceiling

EI 90 (v_e i↔o) S

- Detailed instructions for installation E5 frame → see manual
- For connection of following duct → see page 82
- Installation frame can be installed on the damper or delivered separately
- Gypsum construction must be made in accordance with the specifications of the wall system manufacturer



| Installation frame | W [mm] | Z [mm] |
|--------------------|-------------------|--------------------------|
| E5 | $B + 224 + X + Y$ | $A + 208 + (2 \times F)$ |

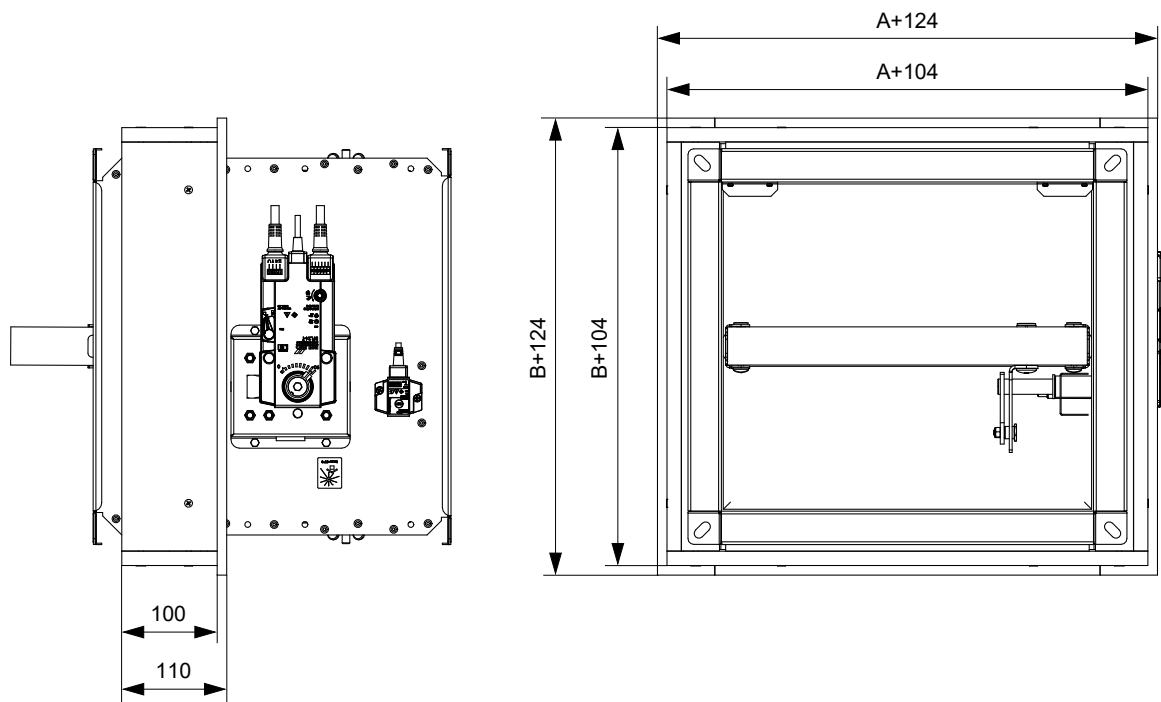
* Width of the boards for frame E5 = 110 mm

- X = ceiling movement = 10 to 40 mm
- Y = distance of frame from ceiling max. 80 mm
- F = gap between frame (promaseal) and profile = 2 to 5 mm

Installation frame E6

- Installation frame E6 is designed for installation without additional sealing of the penetration into:
 - Installation outside solid wall/ceiling construction with insulation from fire-resistant boards
- Installation frame is equipped with an intumescent sealing on the inside. This sealing fills the gap between the damper casing and frame in the event of a fire
- Material:
 - Installation frame - cement-lime boards
 - Fasteners - galvanized steel

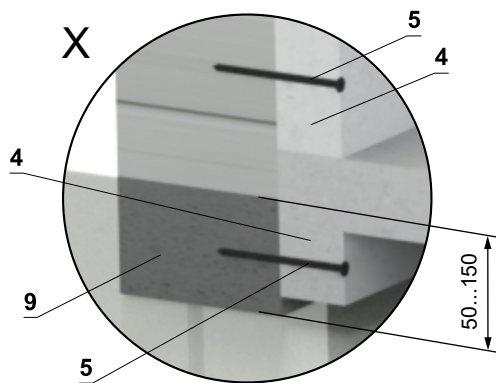
Installation frame E6



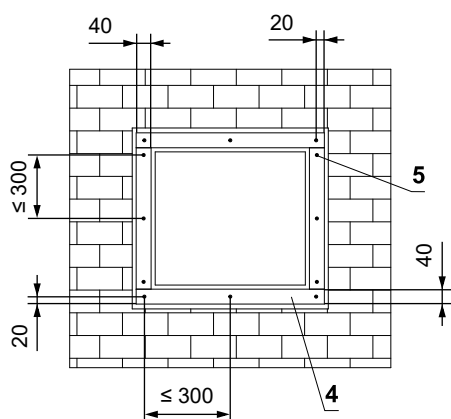
Outside solid wall construction - insulation from fire-resistant boards - mortar or gypsum - installation frame E6

EI 90 (v_e i↔o) S

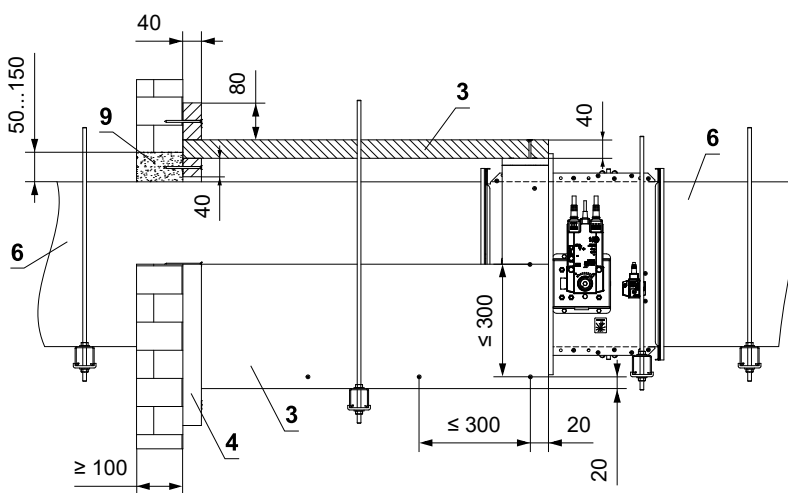
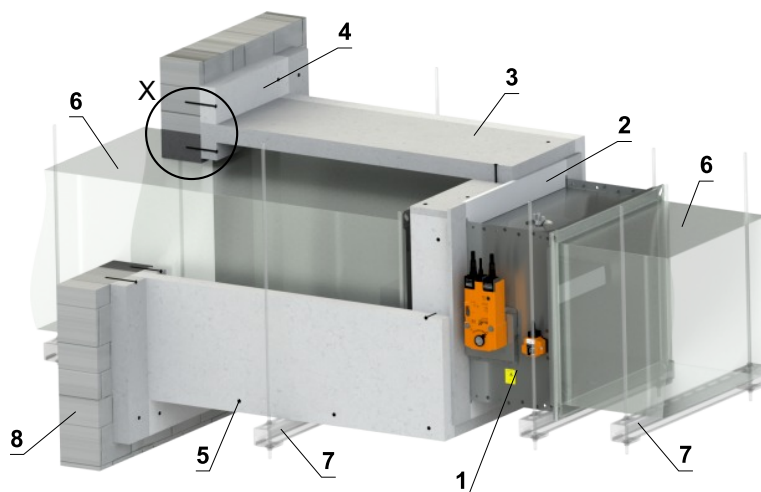
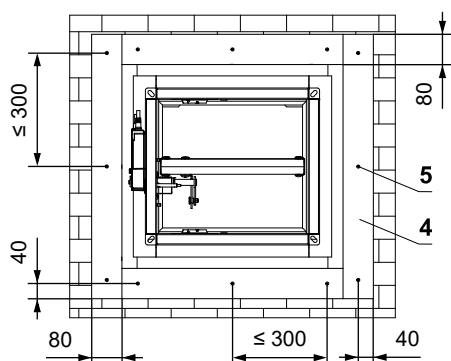
- For connection of following duct → see page 82
- Minimum and maximum distance between the wall and fire damper is unlimited
- Insulation must be suspended using threaded rods and mounting profiles or other mounting system, according to national standards
- Duct inside the insulation must be suitably supported. The insulation must be suspended at the point of the duct support using threaded rods and mounting profiles
- Load of the suspension system depends on weight of the fire damper, duct system and the insulation → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded
- Adjacent duct must be suspended or supported, as required by the duct suppliers
- Installation frame can be installed on the damper or delivered separately



Additional board of duct



Additional board of frame

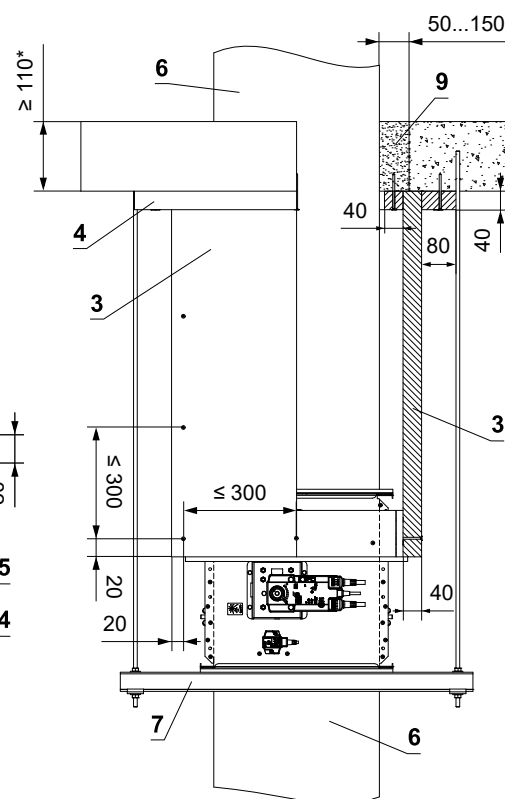
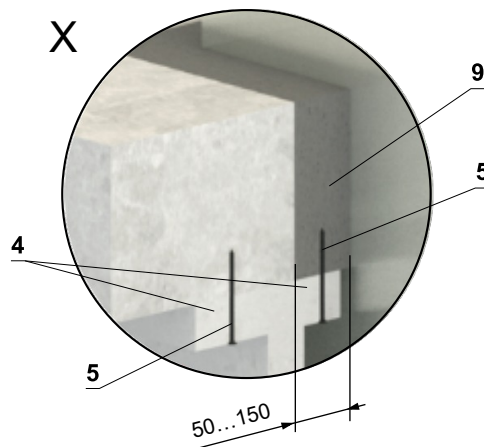
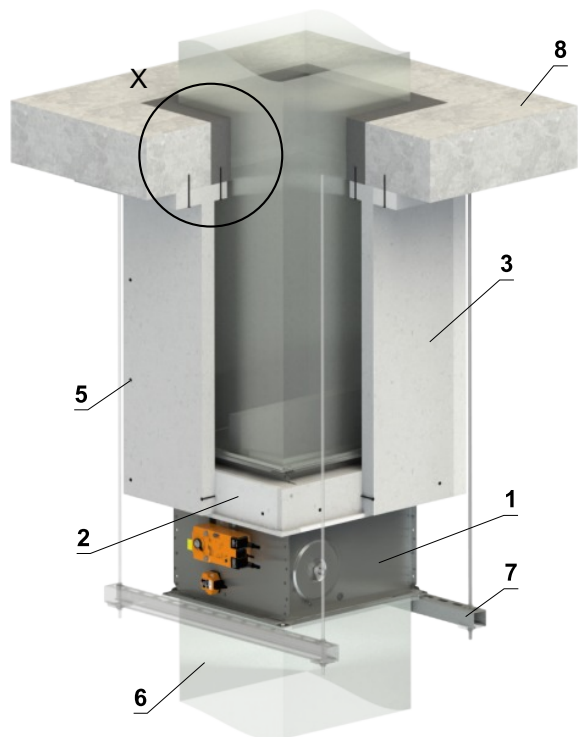


- | | |
|---|--|
| <ul style="list-style-type: none"> 1 FDMQ 2 Installation frame 3 Insulation made of cement-lime board - min. thickness 40 mm, min. density 450 kg/m³ (e.g. PROMATECT-L). All parts are glued with glue Promat K84 and secured with screws 4x80 mm 4 Additional board made of cement-lime board - min. thickness 40 mm, min. density 450 kg/m³ (e.g. PROMATECT-L). Apply HILTI CFS-S ACR mastic at the entire area and secure it with screws 4x80 mm | <ul style="list-style-type: none"> 5 Screw 4x80 mm - screws must be firmly fixed in the wall construction, if necessary use steel anchors 6 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm 7 Clamp with threaded rod → see pages 78 to 81 8 Solid wall construction 9 Mortar or gypsum |
|---|--|

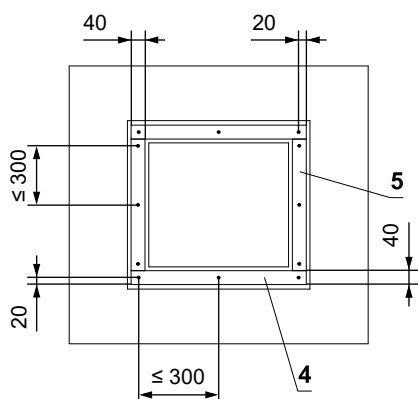
Outside solid ceiling construction - insulation from fire-resistant boards - mortar or gypsum - installation frame E6

EI 90 (h_o i↔o) S

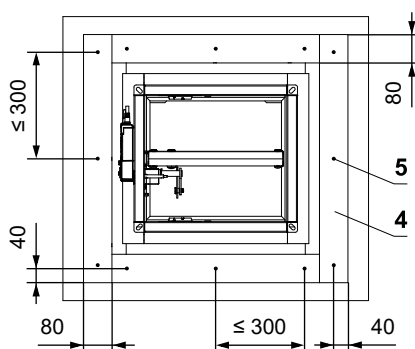
- For connection of following duct → see page 82
- Minimum and maximum distance between the ceiling and fire damper is unlimited
- Insulation must be suspended using threaded rods and mounting profiles or other mounting system, according to national standards
- Load of the suspension system depends on weight of the fire damper, duct system and the insulation → see page 78
- Max. distance between two suspension systems is 1500 mm
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the fire damper is absolutely excluded
Adjacent duct must be suspended or supported, as required by the duct suppliers
- Installation frame can be installed on the damper or delivered separately



Additional board of duct



Additional board of frame



* min. 110 mm - Concrete
min. 125 mm - Aerated concrete

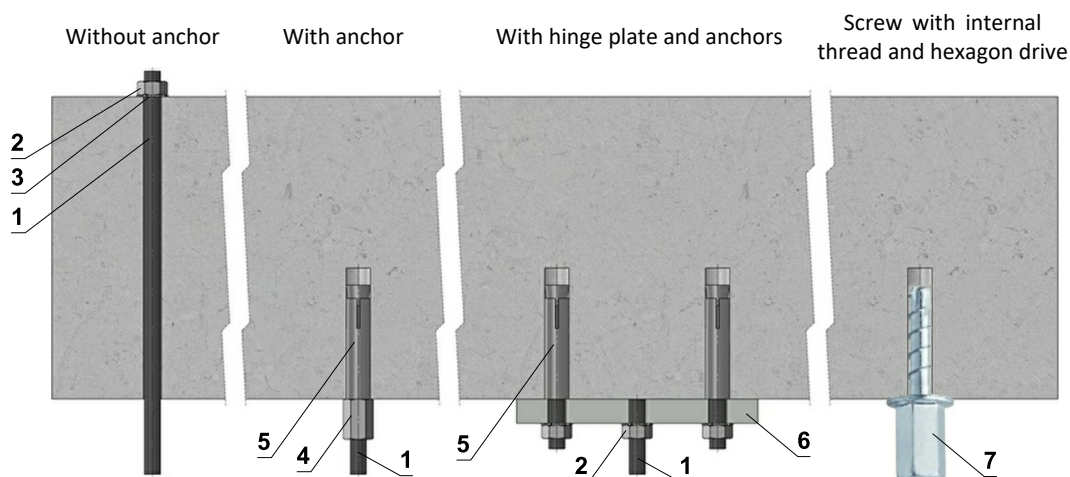
- | | |
|--|--|
| <p>1 FDMQ</p> <p>2 Installation frame</p> <p>3 Insulation made of cement-lime board - min. thickness 40 mm, min. density 450 kg/m³ (e.g. PROMATECT-L). All parts are glued with glue Promat K84 and secured with screws 4x80 mm</p> <p>4 Additional board made of cement-lime board - min. thickness 40 mm, min. density 450 kg/m³ (e.g. PROMATECT-L). Apply HILTI CFS-S ACR mastic at the entire area and secure it with screws 4x80 mm</p> | <p>5 Screw 4x80 mm - screws must be firmly fixed in the wall construction, if necessary use steel anchors</p> <p>6 Standard air duct, made of galvanized sheet metal min. thickness 0,8 mm</p> <p>7 Clamp with threaded rod → see pages 78 to 81</p> <p>8 Solid ceiling construction</p> <p>9 Mortar or gypsum</p> |
|--|--|

V. SUSPENSION SYSTEMS

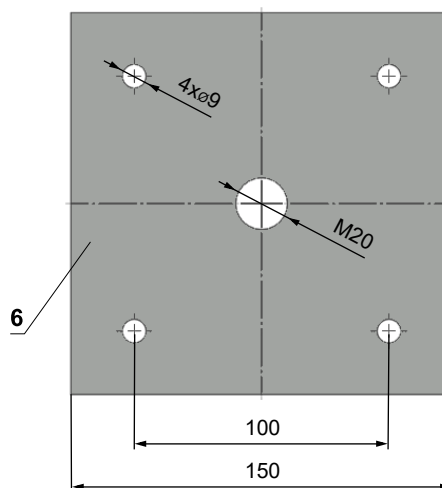
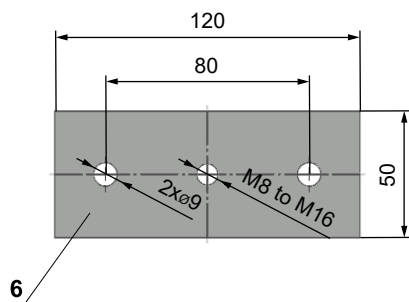
Mounting to the ceiling wall

- The dampers must be suspended using threaded rods and mounting profiles. Their dimensioning depend on the weight of the damper.
- The dampers and the duct must be suspended separately.
- Following air-conditioning duct must be suspended or supported so that all load transfer from the following duct to the damper flanges is absolutely excluded. Adjacent duct must be suspended or supported, as required by the duct suppliers.
- Threaded rods longer than 1,5 m must be protected by fire insulation.

Examples of anchoring to the ceiling construction Follow the instructions of fixing specialist or installation company



Hinge plates



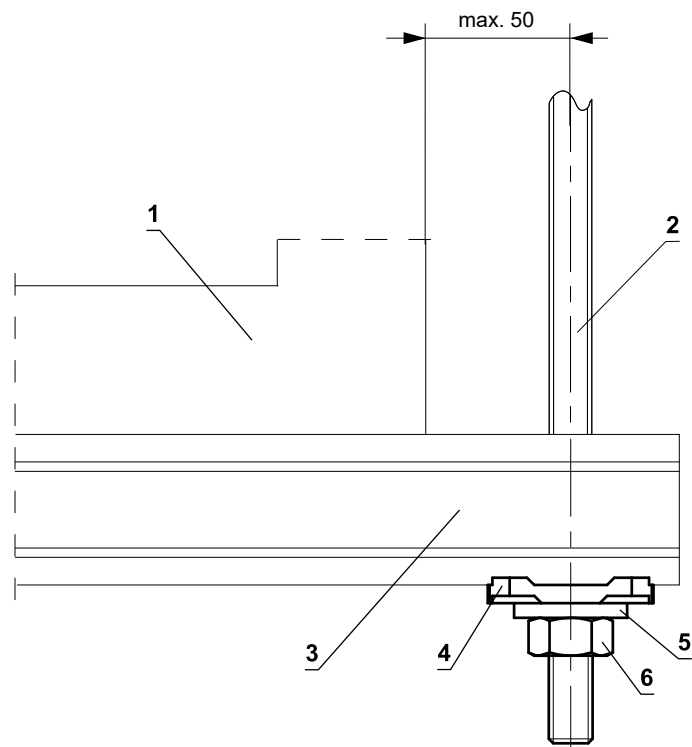
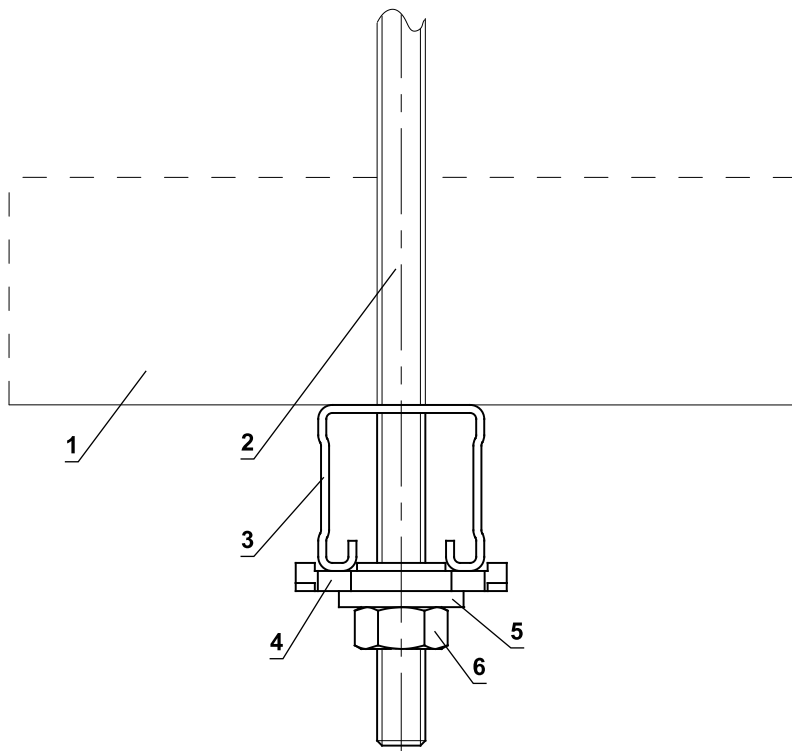
- If in doubt, always consult an anchor specialist engineer such as Halfen or Hilti.

Load capacities of threaded rods at the required fire resistance 60 min. $t \le 120 \text{ min.}$

| Size | As [mm ²] | Weight [kg] | |
|------|-----------------------|-------------|------------|
| | | for 1 rod | for 2 rods |
| M8 | 36,6 | 22 | 44 |
| M10 | 58 | 35 | 70 |
| M12 | 84,3 | 52 | 104 |
| M16 | 157 | 96 | 192 |
| M18 | 192 | 117 | 234 |
| M20 | 245 | 150 | 300 |

- 1 Threaded rod M8 - M20
- 2 Nut M8 - M20
- 3 Washer for M8 - M20
- 4 Coupling Nut M8 - M20
- 5 Anchor
- 6 Hinge plate - min. thickness 10 mm
- 7 Concrete screw tested for fire resistance R30-R90, max. Tension up to 0.75 KN (length 35 mm)

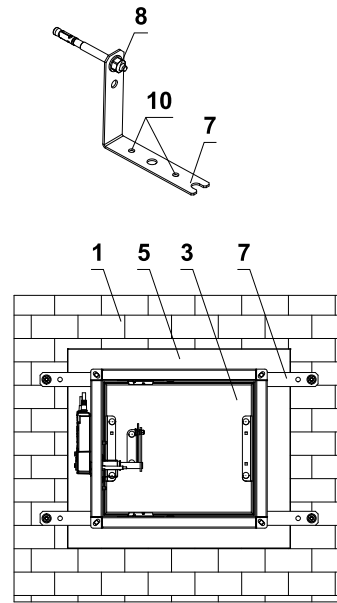
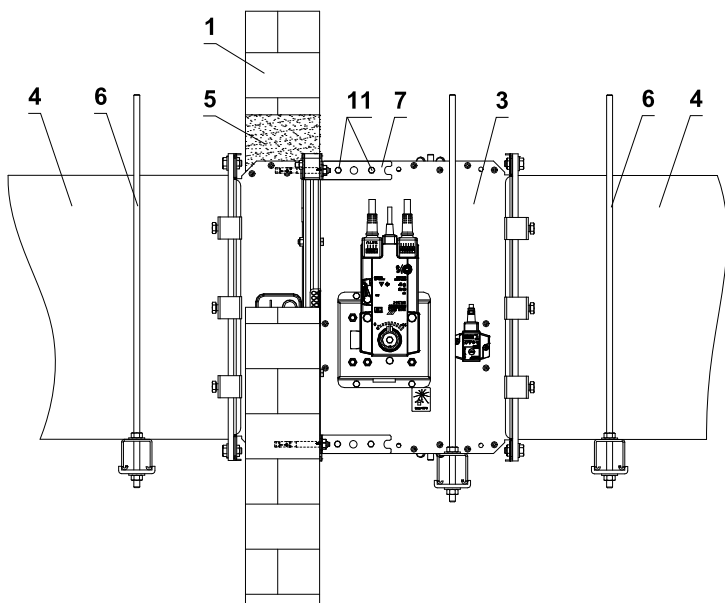
Example of placing of mounting profiles HILTI



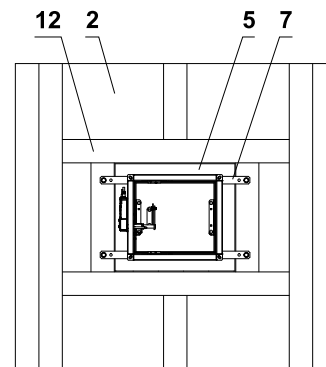
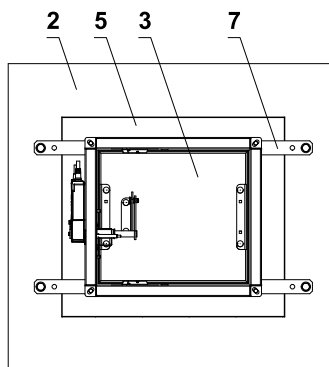
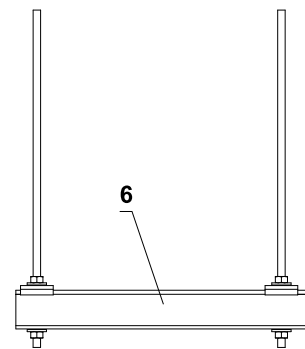
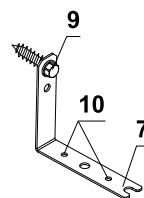
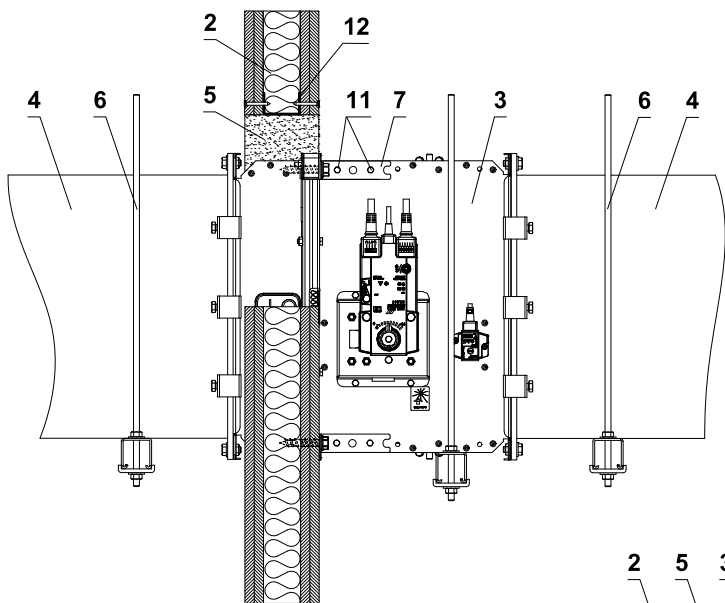
- 1 FDMQ
- 2 Threaded rod M8 - M12
- 3 Support HILTI MQ-41 or MQ-41/3
- 4 Bored plate HILTI MQZ-L
- 5 Washer for M8 - M12
- 6 Nut M8 - M12

Example of fixing FDMQ to the wall ceiling

In solid wall construction



In gypsum wall construction



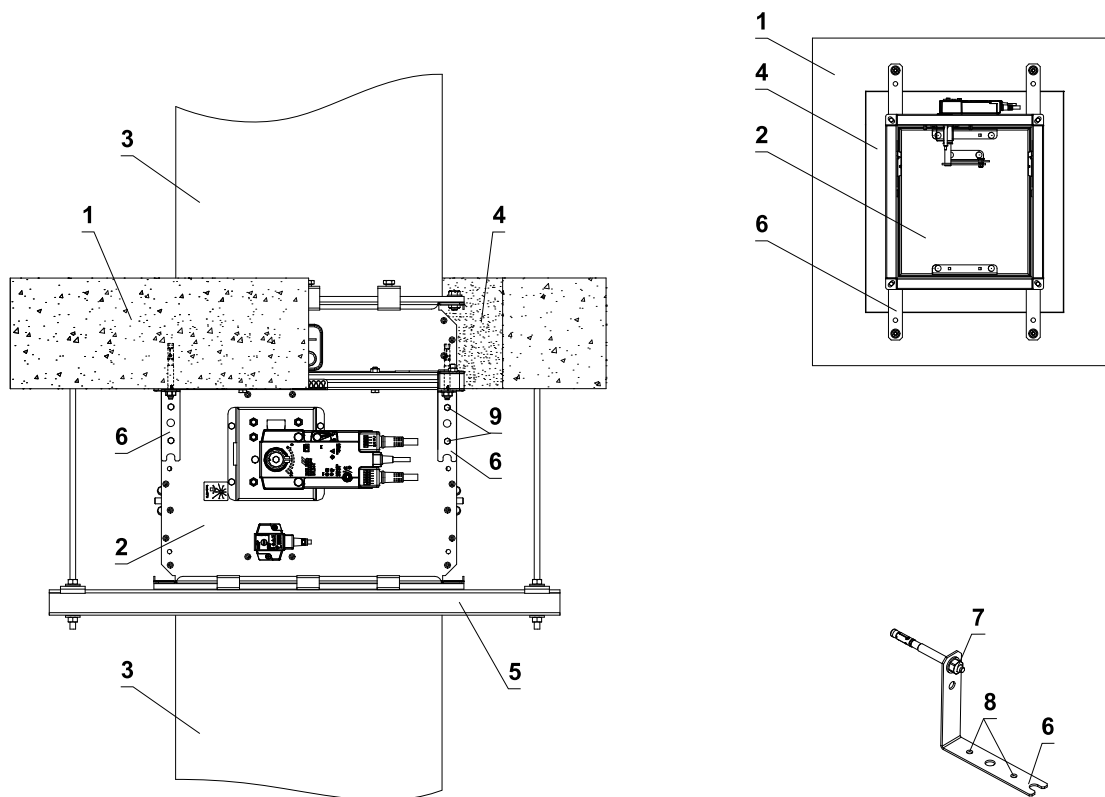
Grid from "U" profile

- 1 Solid wall construction
- 2 Gypsum wall construction
- 3 FDMQ
- 4 Duct
- 5 Penetration
- 6 Profile with threaded rod → see page 79
- 7 Fixing element/steel bracket for fixing the damper to the wall (optional accessories from MANDÍK, a.s. or sheet metal min. thickness 2 mm and min. width 60 mm)
- 8 Nut M8 with anchor
- 9 Hexagon head screw
- 10 Installation holes
- 11 Screw assembly M6 (screw M6x10, nut M6)
- 12 Gypsum grid from "U" profile

■ The method of attachment must follow the minimum requirements for attachment and connection of ductwork in accordance with national regulations. Also, the elements can be suspended from the top, or supported from bottom, or fastened from the side.

Example of fixing FDMQ to the ceiling

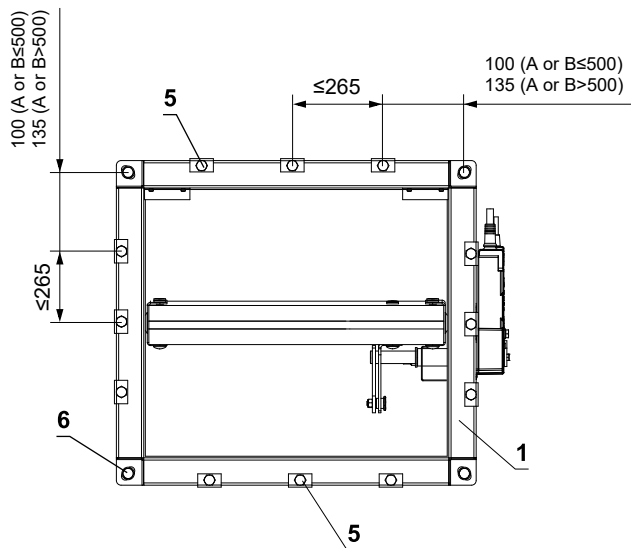
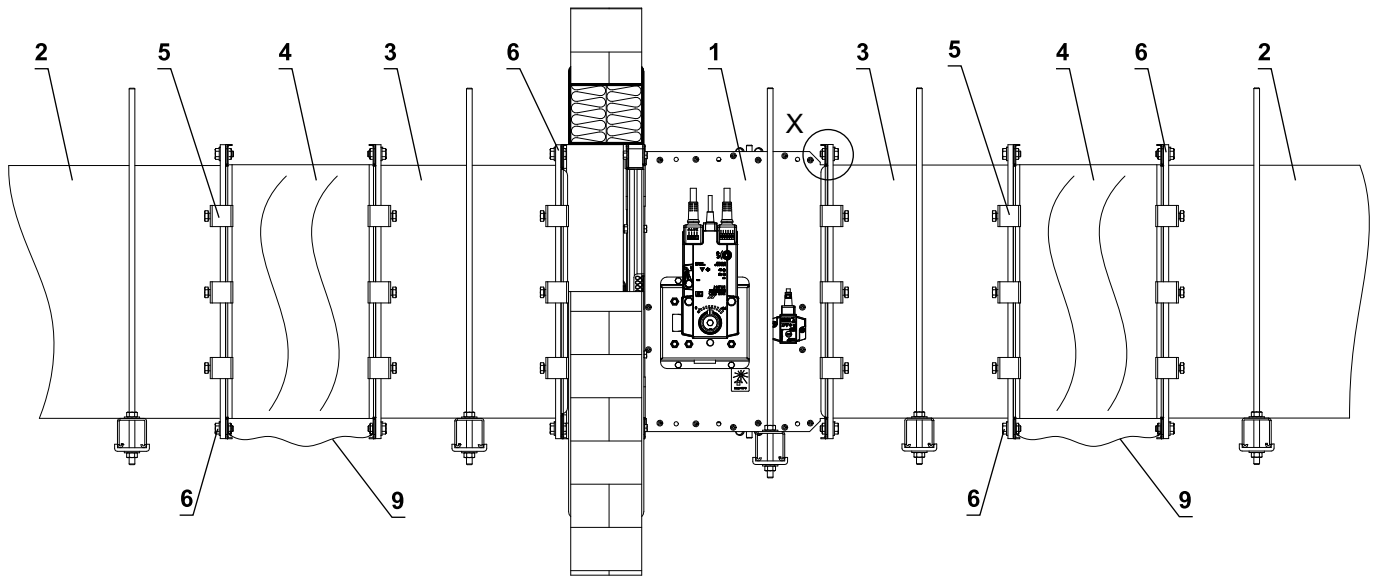
In solid ceiling construction



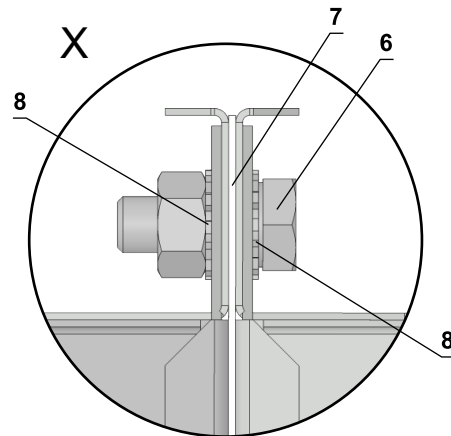
- 1 Solid ceiling construction
- 2 FDMQ
- 3 Duct
- 4 Penetration
- 5 Profile with threaded rod → see page 79
- 6 Fixing element/steel bracket for fixing the damper to the wall (optional accessories from MANDÍK, a.s. or sheet metal min. thickness 2 mm and min. width 60 mm)
- 7 Nut M8 with anchor
- 8 Installation holes
- 9 Screw assembly M6 (screw M6x10, nut M6)

- The method of attachment must follow the minimum requirements for attachment and connection of ductwork in accordance with national regulations. Also, the elements can be suspended from the top, or supported from bottom, or fastened from the side.

Example of duct connection



Electrically conductive connection



* at least one connection must be electrically conductive

- 1 FDMQ
- 2 Duct
- 3 Extension piece (if required)
- 4 Damping pad
- 5 Steel clamp min. screw M8
- 6 Screw assembly M8 (screw M8x20 mm, 2 pcs toothed lock washer M8, nut M8) *
- 7 Sealing
- 8 Toothed lock washer M8
- 9 Protective bonding conductor

VI. TECHNICAL DATA

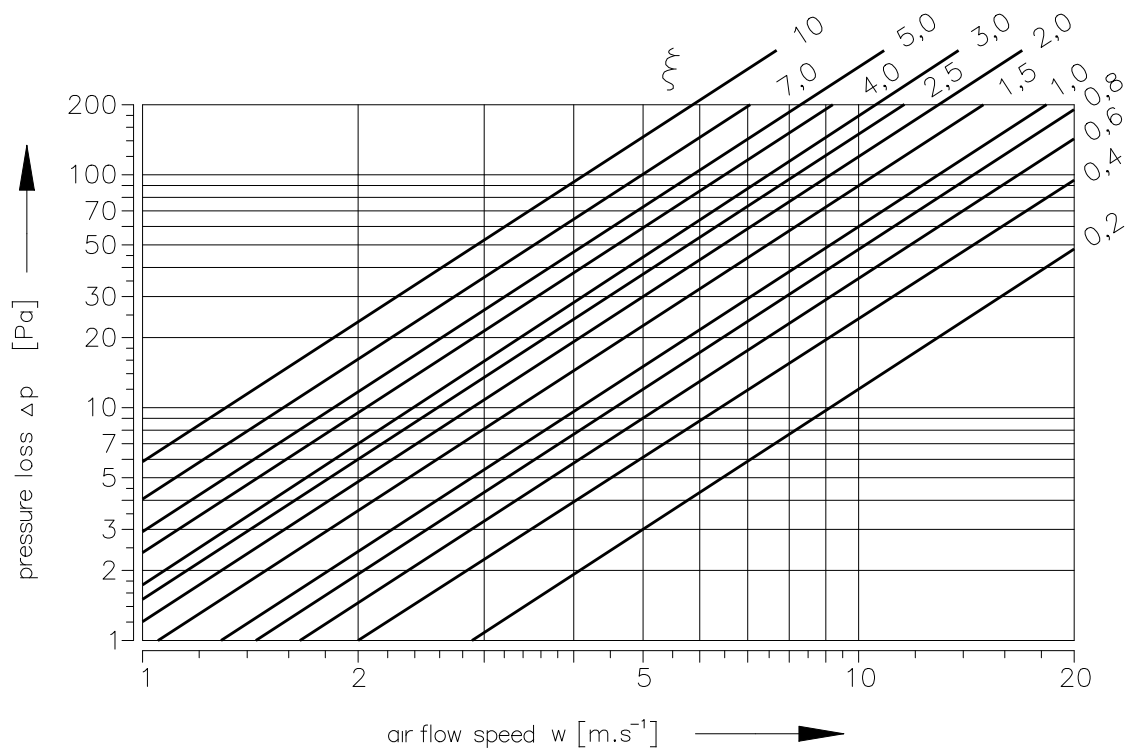
Pressure loss

Pressure loss calculation

$$\Delta p = \xi \cdot \rho \cdot \frac{w^2}{2}$$

| | | |
|------------|----------------------|---|
| Δp | [Pa] | pressure loss |
| w | [m/s] | air flow speed in nominal damper section |
| ρ | [kg/m ³] | air density |
| ξ | [-] | coefficient of local pressure loss for the nominal damper section → see page 84 |

Determination of pressure loss by using diagram $\rho = 1,2 \text{ kg/m}^3$



Coefficient of local pressure loss

| B | A | | | | | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 150 | 180 | 200 | 225 | 250 | 280 | 300 | 315 | 355 | 400 | 450 | 500 | 550 | 560 |
| 150 | 2,742 | 2,575 | 2,399 | 2,320 | 2,219 | 2,105 | 2,047 | 1,954 | 1,885 | 1,811 | 1,753 | 1,703 | 1,686 | 1,665 |
| 180 | 2,132 | 1,992 | 1,864 | 1,795 | 1,721 | 1,636 | 1,575 | 1,502 | 1,440 | 1,387 | 1,342 | 1,308 | 1,290 | 1,275 |
| 200 | 1,691 | 1,580 | 1,477 | 1,417 | 1,363 | 1,288 | 1,244 | 1,186 | 1,136 | 1,094 | 1,059 | 1,030 | 1,017 | 1,005 |
| 225 | 1,338 | 1,288 | 1,161 | 1,052 | 1,031 | 1,003 | 0,972 | 0,938 | 0,892 | 0,847 | 0,833 | 0,806 | 0,783 | 0,774 |
| 250 | 1,118 | 1,042 | 0,969 | 0,934 | 0,902 | 0,852 | 0,807 | 0,776 | 0,741 | 0,715 | 0,691 | 0,673 | 0,661 | 0,655 |
| 280 | 1,030 | 0,938 | 0,911 | 0,873 | 0,842 | 0,801 | 0,752 | 0,710 | 0,662 | 0,641 | 0,623 | 0,612 | 0,605 | 0,591 |
| 300 | 0,954 | 0,868 | 0,821 | 0,789 | 0,754 | 0,710 | 0,668 | 0,621 | 0,594 | 0,582 | 0,551 | 0,543 | 0,538 | 0,535 |
| 315 | 0,797 | 0,740 | 0,690 | 0,667 | 0,639 | 0,606 | 0,570 | 0,548 | 0,524 | 0,503 | 0,486 | 0,473 | 0,464 | 0,460 |
| 355 | 0,685 | 0,638 | 0,595 | 0,568 | 0,545 | 0,518 | 0,492 | 0,472 | 0,450 | 0,433 | 0,418 | 0,406 | 0,399 | 0,395 |
| 400 | 0,602 | 0,561 | 0,522 | 0,498 | 0,479 | 0,453 | 0,436 | 0,413 | 0,395 | 0,378 | 0,366 | 0,355 | 0,349 | 0,345 |
| 450 | 0,538 | 0,500 | 0,465 | 0,446 | 0,429 | 0,408 | 0,384 | 0,367 | 0,351 | 0,337 | 0,325 | 0,315 | 0,313 | 0,307 |
| 500 | 0,491 | 0,456 | 0,423 | 0,407 | 0,394 | 0,369 | 0,352 | 0,334 | 0,319 | 0,306 | 0,296 | 0,287 | 0,284 | 0,280 |
| 550 | 0,470 | 0,436 | 0,404 | 0,388 | 0,374 | 0,352 | 0,330 | 0,313 | 0,304 | 0,288 | 0,277 | 0,275 | 0,267 | 0,264 |
| 560 | 0,450 | 0,417 | 0,388 | 0,374 | 0,356 | 0,335 | 0,321 | 0,305 | 0,291 | 0,279 | 0,270 | 0,262 | 0,259 | 0,255 |
| 600 | 0,423 | 0,394 | 0,370 | 0,354 | 0,342 | 0,321 | 0,304 | 0,290 | 0,278 | 0,271 | 0,260 | 0,249 | 0,244 | 0,235 |
| 630 | 0,414 | 0,384 | 0,357 | 0,344 | 0,331 | 0,311 | 0,295 | 0,281 | 0,268 | 0,258 | 0,248 | 0,241 | 0,229 | 0,234 |
| 650 | – | 0,366 | 0,344 | 0,330 | 0,318 | 0,299 | 0,287 | 0,274 | 0,257 | 0,248 | 0,242 | 0,232 | 0,221 | 0,225 |
| 700 | – | 0,363 | 0,337 | 0,323 | 0,311 | 0,296 | 0,280 | 0,266 | 0,254 | 0,242 | 0,236 | 0,227 | 0,215 | 0,214 |
| 710 | – | 0,357 | 0,332 | 0,319 | 0,306 | 0,291 | 0,276 | 0,260 | 0,249 | 0,239 | 0,230 | 0,223 | 0,212 | 0,212 |
| 750 | – | 0,344 | 0,320 | 0,312 | 0,300 | 0,278 | 0,263 | 0,252 | 0,239 | 0,231 | 0,223 | 0,216 | 0,213 | 0,209 |
| 800 | – | 0,335 | 0,311 | 0,301 | 0,289 | 0,274 | 0,257 | 0,244 | 0,233 | 0,223 | 0,215 | 0,209 | 0,205 | 0,203 |

| B | A | | | | | | | | | | | | | |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | 600 | 630 | 650 | 700 | 710 | 750 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1500 | |
| 150 | 1,644 | 1,628 | 1,622 | 1,609 | 1,605 | 1,591 | 1,580 | 1,551 | 1,535 | – | – | – | – | |
| 180 | 1,261 | 1,246 | 1,234 | 1,225 | 1,219 | 1,208 | 1,197 | 1,177 | 1,162 | 1,148 | 1,136 | 1,124 | 1,117 | |
| 200 | 0,989 | 0,981 | 0,970 | 0,963 | 0,960 | 0,951 | 0,942 | 0,926 | 0,914 | 0,903 | 0,892 | 0,884 | 0,878 | |
| 225 | 0,768 | 0,757 | 0,739 | 0,732 | 0,724 | 0,718 | 0,712 | 0,699 | 0,690 | 0,681 | 0,666 | 0,654 | 0,650 | |
| 250 | 0,649 | 0,639 | 0,631 | 0,630 | 0,625 | 0,620 | 0,613 | 0,602 | 0,595 | 0,587 | 0,580 | 0,574 | 0,571 | |
| 280 | 0,586 | 0,583 | 0,561 | 0,556 | 0,551 | 0,546 | 0,539 | 0,532 | 0,524 | 0,512 | 0,499 | 0,491 | 0,482 | |
| 300 | 0,522 | 0,508 | 0,504 | 0,503 | 0,502 | 0,496 | 0,488 | 0,480 | 0,465 | 0,455 | 0,449 | 0,447 | 0,440 | |
| 315 | 0,454 | 0,449 | 0,443 | 0,441 | 0,439 | 0,433 | 0,430 | 0,423 | 0,417 | 0,412 | 0,407 | 0,402 | 0,400 | |
| 355 | 0,391 | 0,386 | 0,380 | 0,378 | 0,377 | 0,372 | 0,370 | 0,363 | 0,358 | 0,353 | 0,349 | 0,345 | 0,343 | |
| 400 | 0,342 | 0,337 | 0,331 | 0,330 | 0,329 | 0,325 | 0,323 | 0,316 | 0,312 | 0,308 | 0,305 | 0,302 | 0,299 | |
| 450 | 0,303 | 0,299 | 0,295 | 0,294 | 0,293 | 0,290 | 0,286 | 0,281 | 0,278 | 0,274 | 0,271 | 0,267 | 0,266 | |
| 500 | 0,275 | 0,272 | 0,271 | 0,268 | 0,266 | 0,263 | 0,261 | 0,256 | 0,252 | 0,249 | 0,246 | 0,244 | 0,242 | |
| 550 | 0,261 | 0,258 | 0,253 | 0,248 | 0,246 | 0,244 | 0,243 | 0,238 | 0,235 | 0,232 | 0,227 | 0,224 | 0,223 | |
| 560 | 0,253 | 0,249 | 0,246 | 0,245 | 0,243 | 0,240 | 0,238 | 0,234 | 0,230 | 0,227 | 0,224 | 0,222 | 0,221 | |
| 600 | 0,233 | 0,232 | 0,230 | 0,229 | 0,228 | 0,224 | 0,220 | 0,218 | 0,214 | 0,211 | 0,208 | 0,206 | 0,204 | |
| 630 | 0,232 | 0,229 | 0,226 | 0,225 | 0,224 | 0,221 | 0,218 | 0,215 | 0,212 | 0,209 | 0,206 | 0,204 | 0,202 | |
| 650 | 0,222 | 0,219 | 0,217 | 0,215 | 0,214 | 0,212 | 0,209 | 0,203 | 0,201 | 0,199 | 0,194 | 0,191 | 0,189 | |
| 700 | 0,212 | 0,212 | 0,211 | 0,210 | 0,208 | 0,206 | 0,204 | 0,201 | 0,198 | 0,196 | 0,193 | 0,190 | 0,188 | |
| 710 | 0,210 | 0,210 | 0,209 | 0,208 | 0,207 | 0,205 | 0,203 | 0,199 | 0,195 | 0,193 | 0,191 | 0,189 | 0,187 | |
| 750 | 0,205 | 0,202 | 0,200 | 0,199 | 0,198 | 0,197 | 0,195 | 0,191 | 0,187 | 0,184 | 0,182 | 0,180 | 0,178 | |
| 800 | 0,200 | 0,198 | 0,196 | 0,195 | 0,194 | 0,192 | 0,189 | 0,186 | 0,183 | 0,181 | 0,178 | 0,177 | 0,176 | |

Noise data

Level of acoustic output corrected with filter A

$$L_{WA} = L_{W1} + 10 \log(S) + K_A$$

| | | |
|----------|-------------------|---|
| L_{WA} | [dB(A)] | level of acoustic output corrected with filter A |
| L_{W1} | [dB] | level of acoustic output L_{W1} related to the 1 m ² section |
| S | [m ²] | duct cross section |
| K_A | [dB] | correction to the weight filter A |

Level of acoustic output in octave ranges

$$L_{Woct} = L_{W1} + 10 \log(S) + L_{rel}$$

| | | |
|------------|-------------------|---|
| L_{Woct} | [dB] | spectrum of acoustic output in octave range |
| L_{W1} | [dB] | level of acoustic output L_{W1} related to the 1 m ² section |
| S | [m ²] | duct cross section |
| L_{rel} | [dB] | relative level expressing the shape of the spectrum |

Tables of acoustic values

Level of acoustic output L_{W1} [dB] related to the 1 m² section

| w [m/s] | ξ [-] | | | | | | | | | | | | | | | | |
|-----------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0,2 | 0,3 | 0,4 | 0,5 | 0,6 | 0,7 | 0,8 | 0,9 | 1 | 1,5 | 2 | 2,5 | 3 | 4 | 5 | 8 | 10 |
| 2 | 15,5 | 18,7 | 20,9 | 22,6 | 24 | 25,2 | 26,3 | 27,2 | 28 | 31,2 | 33,4 | 35,1 | 36,5 | 38,8 | 40,5 | 44,2 | 45,9 |
| 3 | 26,1 | 29,2 | 31,5 | 33,2 | 34,6 | 35,8 | 36,9 | 37,8 | 38,6 | 41,7 | 44 | 45,7 | 47,1 | 49,4 | 51,1 | 54,7 | 56,5 |
| 4 | 33,6 | 36,7 | 39 | 40,7 | 42,1 | 43,3 | 44,3 | 45,3 | 46,1 | 49,2 | 51,5 | 53,2 | 54,6 | 56,9 | 58,6 | 62,2 | 64 |
| 5 | 39,4 | 42,5 | 44,8 | 46,5 | 47,9 | 49,1 | 50,2 | 51,1 | 51,9 | 55 | 57,3 | 59 | 60,4 | 62,7 | 64,4 | 68 | 69,8 |
| 6 | 44,1 | 47,3 | 49,5 | 51,3 | 52,7 | 53,9 | 54,9 | 55,8 | 56,6 | 59,8 | 62 | 63,8 | 65,2 | 67,4 | 69,2 | 72,8 | 74,5 |
| 7 | 48,2 | 51,3 | 53,5 | 55,3 | 56,7 | 57,9 | 58,9 | 59,8 | 60,7 | 63,8 | 66,1 | 67,8 | 69,2 | 71,4 | 73,2 | 76,8 | 78,6 |
| 8 | 51,6 | 54,8 | 57 | 58,8 | 60,2 | 61,4 | 62,4 | 63,3 | 64,1 | 67,3 | 69,5 | 71,3 | 72,7 | 74,9 | 76,7 | 80,3 | 82 |
| 9 | 54,7 | 57,9 | 60,1 | 61,8 | 63,2 | 64,4 | 65,5 | 66,4 | 67,2 | 70,4 | 72,6 | 74,3 | 75,7 | 78 | 79,7 | 83,4 | 85,1 |
| 10 | 57,4 | 60,6 | 62,8 | 64,6 | 66 | 67,2 | 68,2 | 69,1 | 70 | 73,1 | 75,3 | 77,1 | 78,5 | 80,7 | 82,5 | 86,1 | 87,9 |
| 11 | 59,9 | 63,1 | 65,3 | 67,1 | 68,5 | 69,7 | 70,7 | 71,6 | 72,4 | 75,6 | 77,8 | 79,6 | 81 | 83,2 | 85 | 88,6 | 90,3 |
| 12 | 62,2 | 65,4 | 67,6 | 69,3 | 70,7 | 71,9 | 73 | 73,9 | 74,7 | 77,9 | 80,1 | 81,8 | 83,2 | 85,5 | 87,2 | 90,9 | 92,6 |

Correction to the weight filter A

| w [m/s] | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------|-----|-------|------|------|------|------|------|----|------|----|------|
| K_A [dB] | -15 | -11,8 | -9,8 | -8,4 | -7,3 | -6,4 | -5,7 | -5 | -4,5 | -4 | -3,6 |

Relative level expressing the shape of the spectrum L_{rel}

| w [m/s] | f [Hz] | | | | | | | |
|-----------|----------|------|-------|-------|-------|-------|-------|-------|
| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 2 | -4,5 | -6,9 | -10,9 | -16,7 | -24,1 | -33,2 | -43,9 | -56,4 |
| 3 | -3,9 | -5,3 | -8,4 | -13,1 | -19,5 | -27,6 | -37,4 | -48,9 |
| 4 | -3,9 | -4,5 | -6,9 | -10,9 | -16,7 | -24,1 | -33,2 | -43,9 |
| 5 | -4 | -4,1 | -5,9 | -9,4 | -14,6 | -21,5 | -30,0 | -40,3 |
| 6 | -4,2 | -3,9 | -5,3 | -8,4 | -13,1 | -19,5 | -27,6 | -37,4 |
| 7 | -4,5 | -3,9 | -4,9 | -7,5 | -11,9 | -17,9 | -25,7 | -35,1 |
| 8 | -4,9 | -3,9 | -4,5 | -6,9 | -10,9 | -16,7 | -24,1 | -33,2 |
| 9 | -5,2 | -3,9 | -4,3 | -6,4 | -10,1 | -15,6 | -22,7 | -31,5 |
| 10 | -5,5 | -4 | -4,1 | -5,9 | -9,4 | -14,6 | -21,5 | -30 |
| 11 | -5,9 | -4,1 | -4 | -5,6 | -8,9 | -13,8 | -20,4 | -28,8 |
| 12 | -6,2 | -4,3 | -3,9 | -5,3 | -8,4 | -13,1 | -19,5 | -27,6 |

VII. MATERIAL, FINISHING

- Damper casings are made from galvanized sheet metal without further surface treatment.
- Damper blades are made from fire resistant asbestos free boards made of mineral fibres.
- Manual control have cover made of mechanically resistant and durable plastic and the other parts are galvanized without further surface treatment.
- Thermal fuses are made of sheet brass, thickness 0,5 mm.
- Fasteners and springs are galvanized.
- According to the customer's requirements, dampers can be made of stainless steel material.

Specifications for stainless-steel design:

- Class A2 – Food-grade stainless steel (AISI 304 – EN 1.4301)
- Class A4 – Chemistry-grade stainless steel (AISI 316, 316L – EN 1.4401, EN 1.4404)

The respective stainless steel is the material for all components that are located or entering the damper inner space; components outside the damper casing are typically from galvanised sheet metal (fasteners for mounting the actuator or manual control, mechanical components except Item 4), frame components.

The following components, including the fasteners, are made from stainless steel at all times:

- 1) Damper casing and all components permanently attached
- 2) Blade holders including pins, metal parts of blades
- 3) Control components inside the damper (L-profile, pin with lever, rod, fasteners)
- 4) Parts of a manual control entering the inner space of a damper casing (lower sheet of a manual control, lock holder "1", lock lever "2", closing spring, 8 dia. stopper pin, manual control pin)
- 5) Inspection opening cover including the stirrup and fasteners (if they are parts of the cover)
- 6) Bearing for torque transfer from the lever with pin on the blade L-profile (made from AISI 440C)

The damper blade is made from a board of homogeneous material Promatect- MST, thickness 40 mm or it is composed of two Promatect-H boards, thickness 20 mm, connected by galvanized "U" clips on the outside, sealed with Promat K84 glue.

Thermal fuse is identical for all material variants of the dampers. Upon specification by customer, the thermal fuse can be made from A4 from stainless steel sheet metal.

Thermoelectric activation device BAT is modified for stainless-steel variant of the dampers; standard galvanised screws are replaced with stainless-steel M4 screws of corresponding class. Damper casing has stainless-steel riveting M4 nuts.

Plastic, rubber and silicon components, sealants, foaming tapes, glass-ceramic seals, housings, brass bearings of the blade, actuators, and end switches are identical for all material variants of the dampers.

Some fasteners and components are only available in one class of stainless steel; the type will be used in all stainless-steel variants.

The damper blade in the variant for chemical environments (Class A4) is always treated with a coating of chemically resistant Promat SR.

Any other requirements for the design will be considered atypical and will be addressed on an individual basis.

VIII. TRANSPORTATION, STORAGE AND WARRANTY

Logistic terms

- Dampers are delivered on pallets. As standard, the dampers are wrapped in plastic foil for protection during transport and must not be used for long-term storage. Temperature changes during transport can cause condensation of water inside the packaging and thereby cause corrosion of materials used in the dampers (e.g. white corrosion on zinc-coated items or mould on calcium silicate). Therefore, it is necessary to remove the transport packaging immediately after unloading to allow air to circulate around the product.
- The dampers must be stored in clean, dry, well ventilated and dust-free environment out of direct sunlight. Ensure protection against moisture and extreme temperatures (minimum temperature +5°C). The dampers must be protected against mechanical and accidental damage prior to installation.
- Another required packaging system should be approved and agreed by manufacturer. Packaging material is not returnable in case that another packaging system (material) is required and used and it is not included into final price of damper.
- Dampers are transported by box freight vehicles without direct weather impact, there must not occur any shocks and ambient temperature must not exceed +50°C. Dampers must be protected against impact when transported and manipulated. During transportation, the damper blade must be in the "CLOSED" position.
- Dampers must be stored indoor in environment without any aggressive vapours, gases or dust. Indoor temperature must be in the range from -30°C to +50°C and maximum relative humidity 95%.

Warranty

- The manufacturer provides a warranty of 24 months from the date of dispatch for the dampers.
- In case of using a Schischek actuator, the manufacturer provides a 12-month warranty for the actuator from the date of shipment.
- The warranty for fire dampers FDMQ, provided by the manufacturer, is completely void if actuating, closing and control devices are unprofessionally handled by untrained workers or if electric components, i.e. limit switches, actuators, communication and supply devices and thermoelectric activation devices are dismantled.
- The warranty is void if dampers are used for other purposes, devices and working conditions than those allowed by these technical conditions or if the dampers are mechanically damaged during handling.
- If the dampers are damaged by transport, a record must be written down with the forwarder at reception for later complaint.

IX. ASSEMBLY, ATTENDANCE AND MAINTENANCE

- Assembly, maintenance and damper function check can be done only by qualified and trained person, i.e. "AUTHORIZED PERSON" according to the manufacturer documentation. All works done on the fire dampers must be done according international and local norms and laws.
- All effective safety standards and directives must be observed during damper assembly.
- To ensure reliable damper function it is necessary to avoid blocking the actuating mechanism and contact surfaces with collected dust, fibre and sticky materials and solvents.
- Flange and screw joints must be conductively connected to protect against dangerous contact. 2 galvanized lock washers that are placed under the head of one screw and a fastened nut are used for conductive connection.

Manual operation - actuator control without electric voltage

- A special wrench (part of the actuator) can be used to manually turn the damper blade to any position. When the wrench is turned in the direction of the arrow, the damper blade rotates to its open position. As the blade rotation is stopped, in every position, the actuator will be locked. Unlocking is possible even manually as per instructions on the actuator, or by the activation of the supply voltage.
- If the actuator is manually locked, the damper blade will not close in the event of a fire after the activation of the thermoelectric activation device BAT. To restore correct damper operation, the actuator must be unlocked (manually or by applying power supply).

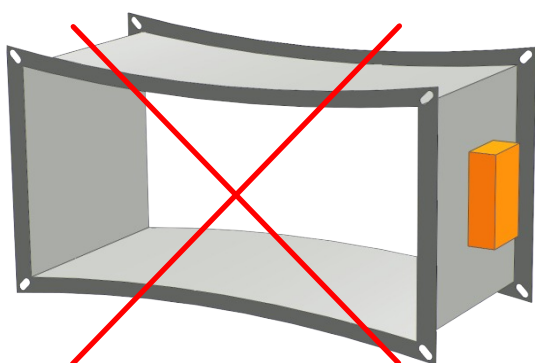
Limit switches

- If the damper is equipped with limit switches and these switches are not used during operation (e.g. because of a project change), they can be left on the damper and not connected (they need not be dismantled).
- On the other hand, if the limit switch is to be added to the damper design, the change can be implemented by change kit.
- These facts must be recorded in the respective operation documentation of the damper (record books of the damper, fire logs, etc.) and subsequently, adequate function checks must be carried out.

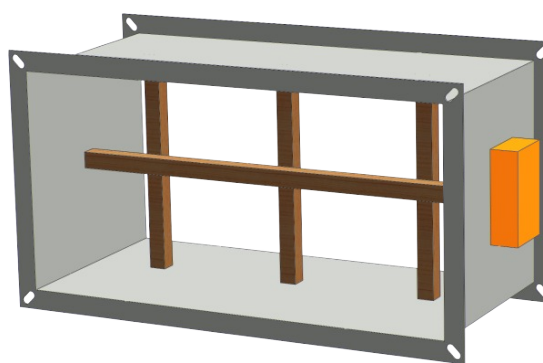
Installation / fixing the damper

- The damper casing shall not be deformed in the course of bricking in.
- Once the damper is built in, the damper blade shall not grind on the damper casing during opening or closing.

Protection of the damper casing against buckling during installation, especially for large sizes!

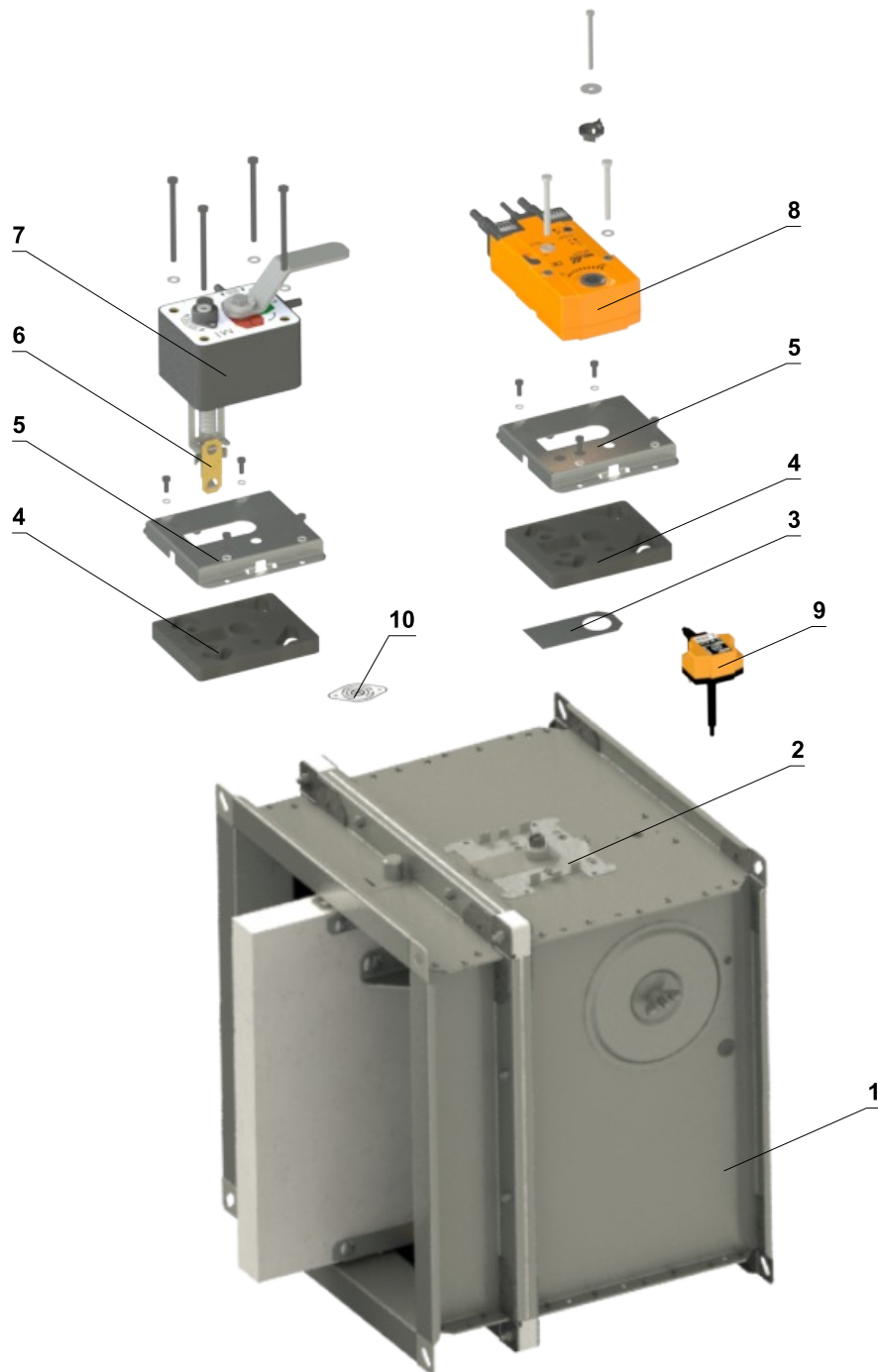


WRONG!



Reinforcement of the casing with wooden beams

Change of manual control for the actuator or vice versa

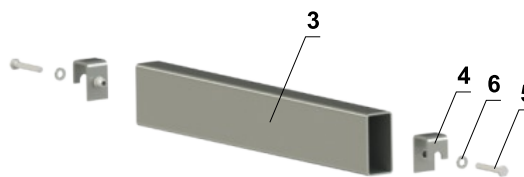
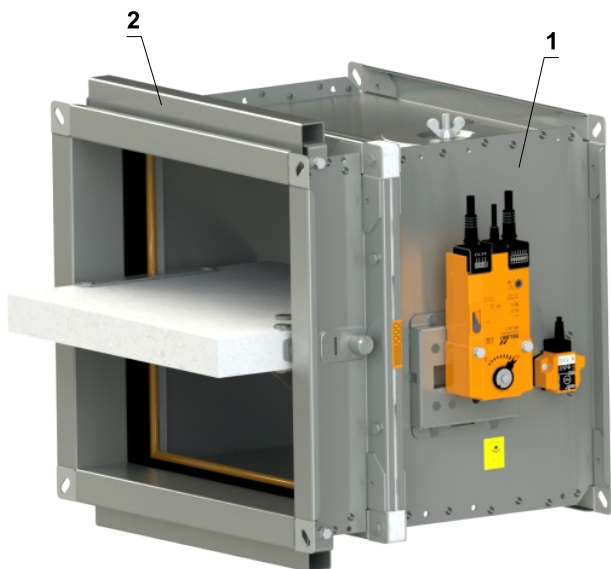


- | | |
|-------------------------------|--|
| 1 Damper | 6 Thermal fuse |
| 2 Mounting plate | 7 Manual control |
| 3 Sealing cover | 8 Spring return actuator |
| 4 Sealing of a mounting plate | 9 Thermoelectric activation device BAT |
| 5 Cover of a mounting plate | 10 Sensor sticker |

Reinforcement frame VRM-Q

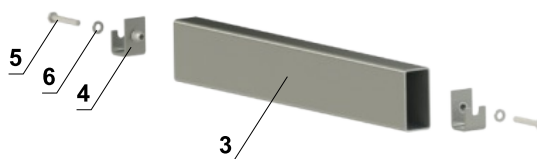
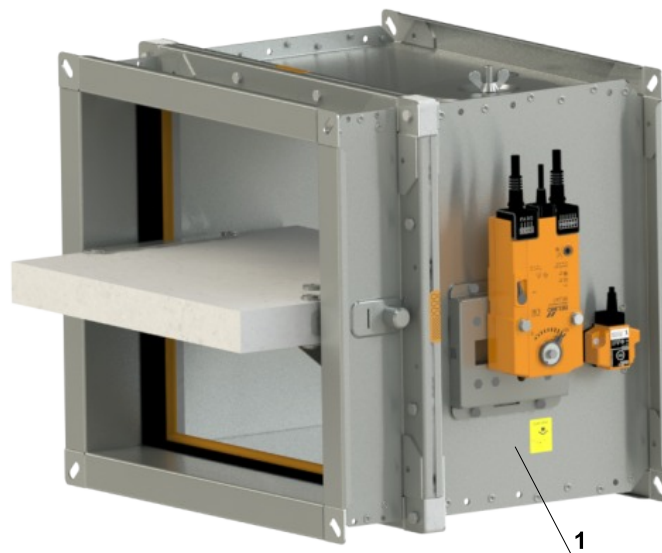
- If the damper is installed outside the fire separation construction, a damper side A \geq 800 mm and fire resistance is EI 90 S, VRM-Q reinforcement frame must be used.
- For lower fire resistance than EI 90 S, VRM-Q reinforcement frame is not necessary!
- VRM-Q is mounted only on "A" sides

Fixing of reinforcing frame VRM-Q to the damper casing



Installation procedure

- 1) Place part A on the damper casing
- 2) Insert part B to the part A
- 3) Adjust a nut of part B against a hole on the damper casing and fasten it with M6x40 mm hexagon head screw DIN 931 with washer M6/6,4 DIN 7349
- 4) Repeat the procedure on the other side of the VRM-Q and an opposite side "A" of the fire damper



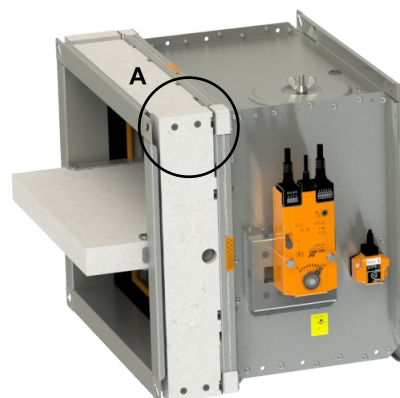
- 1 FDMQ
- 2 VRM-Q
- 3 Part A of VRM-Q
- 4 Part B of VRM-Q
- 5 Hexagon head screw M6x40 mm DIN 931
- 6 Washer M6/6,4 DIN 7349

Protective cladding boards

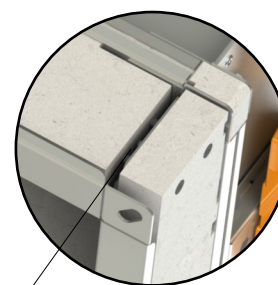
- Protective cladding boards must be used as a part of installation with weichschott system.
- Can be ordered from MANDIK (installed on the damper or as an accessory) or can be sourced from local supplier
- If protective cladding boards are required, this must be specified in the ordering key
- Protective cladding boards are made of PROMATECT-MST, thickness 30 mm.
- Glue K84 is not included in the package

Installation procedure

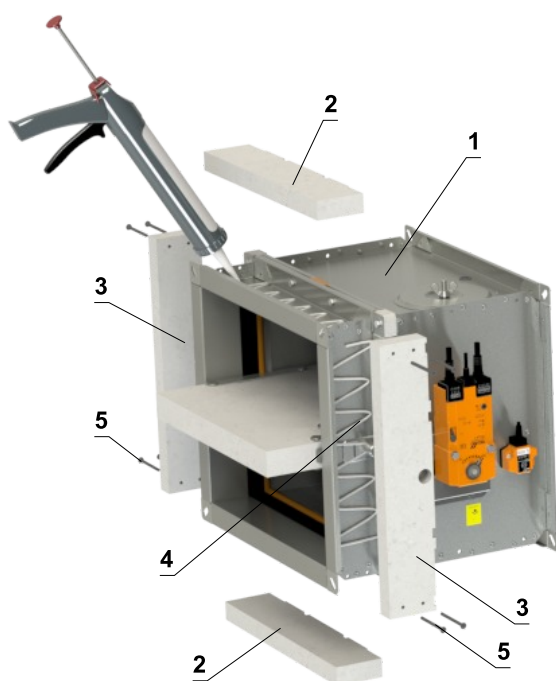
- 1) Apply K84 glue over the entire surface
- 2) Attach protective cladding boards on all sides of a fire damper and glue them on the damper casing
- 3) Screw parts A and B using four screws 5x70 mm
- 4) Completely fill the gaps with glue



DETAIL A

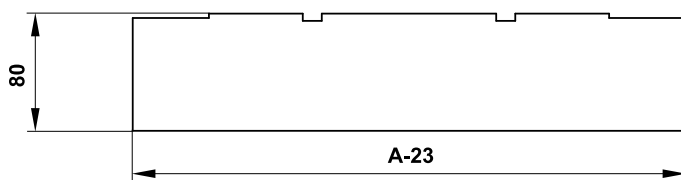


Completely fill the gaps between boards!

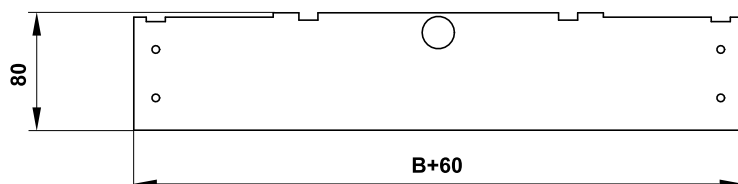


- 1 FDMQ
- 2 Part A
- 3 Part B
- 4 Glue PROMAT K-84
- 5 Screw 5x70 mm

Part A



Part B



- Detailed dimensions of protective cladding boards on request.

Commissioning and revisions

- Before putting the damper into operation, serviceability checks and functional tests must be carried out including testing of functionality of all electrical elements. After putting into operation these serviceability checks must be carried out at least twice a year. If no defect is found during two subsequent serviceability checks, these checks can be carried out once a year.
- In case that dampers are found unable to serve for their function for any cause, it must be clearly marked. The operator is obliged to ensure that the damper is put into condition in which it is ready for function and meanwhile he is obliged to provide the fire protection by another appropriate way.
- Results of regular checks, imperfections found and all important facts connected with the damper function must be recorded in the "FIRE BOOK" and immediately reported to the operator.
- Before entering the dampers with actuator into operation after their assembly and by sequential checks. Check of blade rotation into the breakdown position "CLOSED" can be done after disconnecting the actuator supply (e.g. by pressing the test button at the thermoelectric activation device BAT or disconnecting the supply from ELECTRICAL FIRE SIGNALISATION). Check of blade rotation back into the "OPEN" position can be done after restoration of power supply (e.g. by releasing the test button or restoration of supply from ELECTRICAL FIRE SIGNALISATION). Without power supply, the damper can be operated manually and fixed in any required position. Release of the locking mechanism can be achieved manually or automatically by applying the supply voltage. It is recommended to provide periodical checks, maintenance and service actions on fire equipment by authorized persons. The authorized persons can be trained by producer, or by authorized distributor. All effective safety standards and directives must be observed during fire damper assembly.
- Visual inspection of proper damper installation, inner area of a damper, damper blade, contact surfaces and silicon seal.
- For regular or exceptional inspection of interior of fire damper, micro-camera device can be used. On each fire damper is an inspection opening. In the case of inspection by camera, take out the black rubber cap, insert the camera inside the damper, check interior and at the end of inspection, put the rubber cap back tightly to cover the empty hole.

For dampers with manual control, following checks must be carried out

Check of a manual control and thermal fuse

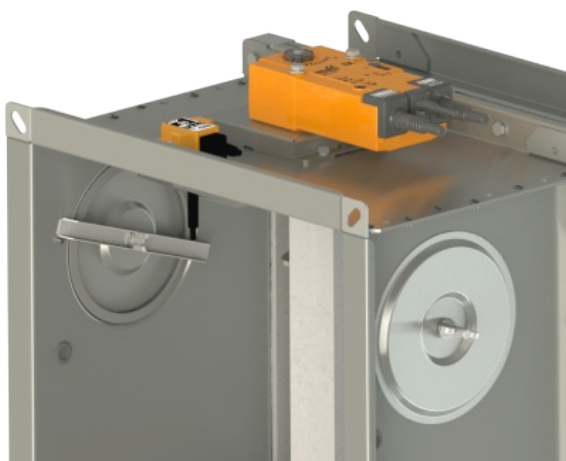
- **To check the function of the manual control proceed as follows:**
- Turn the damper blade to "CLOSED" position as follows:
 - The damper blade is in "OPEN" position.
 - Press the control button of the manual control to turn the damper blade to "CLOSED" position.
 - Check the damper blade rotation to "CLOSED" position.
 - Damper blade closing shall be smooth and fast, the control lever shall be in „CLOSED“ position.
- Turn the damper blade to "OPEN" position as follows:
 - Turn the control lever by 90°.
 - Check the damper blade rotation to "OPEN" position.
 - The lever will automatically lock in "OPEN" position.
- **Check of function and condition of the thermal fuse:**
 - To check the function and the status of the fuse it's possible to remove the manual control from the casing of the fire damper which is attached to the damper casing with four screws M6.
 - Removing the thermal fuse from the fuse holder of a manual control, checks its correct functionality.
 - The manual control is identified as M1 to M5, depending on the closing spring strength.

For dampers with actuators, following checks must be carried out

- Check the rotation of the blade to "CLOSED" failure position after disconnection the power supply of the actuator (e.g. by pressing the test button on the thermoelectric activation device BAT or by disconnection the power supply from electrical fire signalization). Check the rotation of the blade back to "OPEN" position by restoring the power supply to the actuator (e.g. by releasing the test button or by restoring the power supply from electrical fire signalization).

Before putting the dampers into operation and during subsequent function checks, the following checks must be carried out for dampers with optical smoke detector

- The function checks of the optical smoke detector are to be carried out by employees of an authorized organization who have corresponding electrotechnical qualification and have been properly trained by the manufacturer. The function checks are to be carried out as a part of function checks of the fire dampers, at least 1x a year.
- For the function checks, the damper blade should be in "CLOSED" position with the fan off or with closed air regulation situated between the fan and the fire damper.
- Inspection opening disassembly
 - Release the covering lid by turning the wing nut and while turning the lid right or left release it from the security belt. Then tilt the lid and remove it from its original position.



Inspection opening detail

- Ensure each damper is fully checked for operational capability, control should be initiated from the control system or by manual control. Damper blades should open and close correctly and operation should be visually inspected and documented prior to handover.

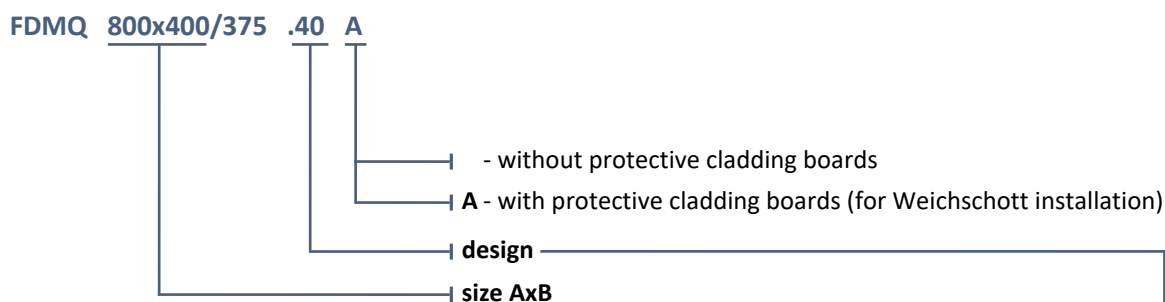
How to proceed after Tf1 or Tf2 fuses have been activated

- If the thermal fuse **Tf1** is interrupted (due to temperature outside the duct), it is necessary to replace the spring return actuator. → see page 10
- If the thermal fuse **Tf2** is interrupted (due to temperature inside the duct) , only the spare part ZBAT 72 (95/120/140) needs to be replaced (acc.to the activation temperature). → see page 10

X. ORDERING INFORMATIONS

Ordering key

Fire damper



EXAMPLE:

FDMQ 800x400/375 .40 A - 800x400-damper size, .40-damper design, A-with protective cladding boards

| Damper design | Additional digit |
|--|------------------|
| Manual control and thermal | .01 |
| Manual control and thermal (Zone 1,2) | .02 |
| Manual control and thermal with a terminal switch („CLOSED“) | .11 |
| Manual control and thermal with a terminal switch („CLOSED“) (Zone 1,2) | .12 |
| Manual control and thermal with two terminal switches („OPEN“, „CLOSED“) | .80 |
| Manual control and thermal with two terminal switches („OPEN“, „CLOSED“) (Zone 1,2) | .81 |
| With actuator BF 230-TN (BFL, BFN 230-T) - voltage AC 230 V | .40 |
| With actuator BF 24-TN (BFL, BFN 24-T), with smoke detector ORS 142 K and with supply device BKN 230-24-MOD (voltage AC 230 V) | .41 |
| With actuator ExMax-15-BF, with thermoelectric activation device ExPro-TT (Zone 1,2) - supply voltage range 24 to 230 VAC/DC | .42 |
| With actuator BF 24-TN (BFL, BFN 24-T) - voltage AC/DC 24 V | .50 |
| With actuator BF 24-TN (BFL, BFN 24-T), with smoke detector ORS 142 K (voltage AC/DC 24 V) | .51 |
| With communication and supply device BKN 230-24 and actuator BF 24-TN-ST (BFL, BFN 24-T-ST) | .60 |
| With communication and supply device BKN 230-24-C-MP, with actuator BF 24-TN-ST (BFL, BFN 24-T-ST) | .61 |
| With communication and supply device BKN 230-24-C-MP, with actuator BF 24-TN-ST (BFL, BFN 24-T-ST) and with smoke detector ORS 142 K | .61S |
| With communication and supply device BKN 230-24-MOD, with actuator BF 24-TN-ST (BFL, BFN 24-T-ST) | .63 |
| With communication and supply device BKN 230-24-MOD, with actuator BF 24-TN-ST (BFL, BFN 24-T-ST) and with smoke detector ORS 142 K | .63S |

- If dampers with installation frame are required, that must be specified separately in the order. The installation frame can be installed on the damper or delivered separately.
- Detailed information for ATEX dampers (ZONE 1,2) → see Appendix

Accessories

Reinforcing frame VRM-Q




Protective cladding boards



Data label

- Data label is placed on the damper casing (example)

| | | | | | |
|----------------------------|---|---|--|---|--------|
| MANDÍK [®] | | MANDÍK, a.s. Dobříšská 550, 267 24 Hostomice, Czech Republic | |  | |
| FIRE DAMPER - XXXX | | | | | MANUAL |
| DIMENSION: | | DESIGN: | | | |
| SERIAL.NO.: | | WEIGHT (kg): | | | |
| CLASSIFICATION: | | | | CE 1391 | |
| TPM XXX/XX | Cert. No.: 1391-CPR-XXXX/XXXX, DoP: PM/XXXX/XX/XX/X | EN 15650:2010 | | | |

The producer reserves the right for innovations of the product.
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