

Mounting instructions

UP Flush-mounted boxes



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Mounting instructions

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1 About these instructions

1.1 Target group



These mounting instructions are intended for the following target group:

- Engineers and architects charged with the planning of flush-mounted box systems.
- Specialists trained in electrical engineering and charged with the mounting of flush-mounted box systems.

1.2 Relevance of these instructions

Follow the instructions given in this manual to ensure correct, safe use. Keep it handy for future reference.

Any images are intended merely as examples. Mounting results may look different.

1.3 Types of warning information



Type of risk!

Shows a risky situation. If the safety instruction is not observed, then serious or fatal injuries may occur.



Type of risk!

Shows a risky situation. If the safety instruction is not observed, then medium or minor injuries may occur.

ATTENTION

Type of risk!

Shows a hazardous situation. If the safety instruction is not observed, then damage to the product or the surroundings may occur.

Note! *Indicates important information or assistance.*

1.4 Depiction conventions



Correct design



Incorrect design



Audible or tangible engagement

1.5 Basic standards and regulations

The flush-mounted device boxes, as well as the flush-mounted electronic boxes, fulfil the requirements of IEC 60670 – Boxes and enclosures for electrical accessories for household and similar fixed electrical installations.

1.6 Applicable documents

- For the declaration of conformity, see <https://www.obo.global/service/downloads/declarations-of-conformity/connection-and-fastening-systems/>
- VDE symbol approval

2 Correct use

The flush-mounted boxes are used in unplastered masonry (calcareous sandstone, hollow brick, gas concrete blocks, lightweight concrete blocks) in interiors. They are used for the acceptance/installation of, for example, sockets, switches, dimmers, thermostats, telephone or aerial sockets or for branches and cable relays, as well as terminal sockets for connections possibly required at a later date. The flush-mounted boxes may not be used in chimneys.

The flush-mounted boxes are not designed for any purpose other than that described here. If the flush-mounted boxes are used for another purpose, then this shall render all liability, warranty and replacement claims null and void.

3 Safety

3.1 General safety information

Observe the following general safety information:

- Only have electrical work carried out by specialist personnel with electrical training.

3.2 Personal protective equipment

Overview of the personal protective equipment to be used:



Wear hearing protection



Wear a mask



Wear eye protection

4 Necessary tools

List of required tools:

- Folding measuring stick
- Pencil
- Drilling template
- Spirit level
- Plaster container, trowel
- Slotted and Philips screwdrivers
- Countersink machine/drill with drill bit Ø 68/82 mm
- Chisel, mallet/hammer

5 System description

The range of flush-mounted boxes comprises flush-mounted device boxes, flush-mounted device boxes for additional terminal space and electronic boxes for the installation of additional electronics components or cable reserves. The flush-mounted boxes are available in standard and airtight versions. The product range is supplemented by matching accessories such as covers, distance connectors, compensation rings, sealing inserts and quick fastenings.

5.1 System overview, flush-mounted boxes

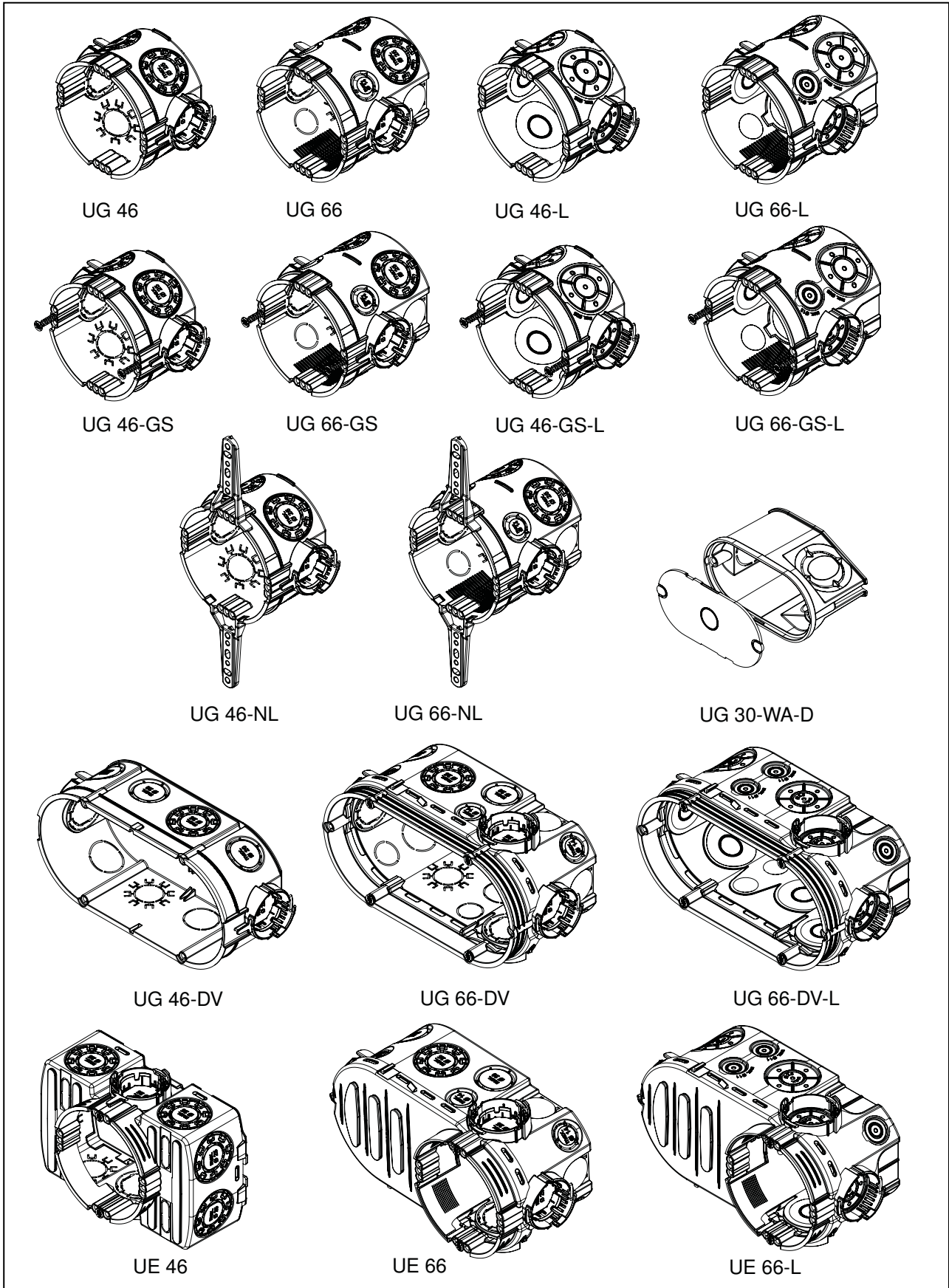


Fig. 1: Overview, flush-mounted box range

The flush-mounted boxes are available with depths of 46 and 66 mm.

Type	Designation	Number of device screws	Air-tight	Number of screw domes	Number of entries				
					Ø 20/25	Ø 20	Ø 14 mm	Miscellaneous	Floor
UG 46	UP Flush-mounted device box	0	-	4 x 3	6	0	0	0	1x Ø 20 mm
UG 66	UP Flush-mounted device box	0	-	4 x 3	6	2	2	0	1x Ø 20 mm
UG 46-L	UP Flush-mounted device box, airtight	0	X	4 x 3	4	2	0	0	2x Ø 12 mm
UG 66-L	UP Flush-mounted device box, airtight	0	X	4 x 3	4	2	0	4x Ø 12 mm	2x Ø 12 mm
UG 46-GS	UP Flush-mounted device box, with device screws	2	-	4 x 3	6	0	0	0	1x Ø 20 mm
UG 66-GS	UP Flush-mounted device box, with device screws	2	-	4 x 3	6	2	2	0	1x Ø 20 mm
UG 46-GS-L	UP Flush-mounted device box, with device screws, airtight	2	X	4 x 3	4	2	0	0	2x Ø 12 mm
UG 66-GS-L	UP Flush-mounted device box, with device screws, airtight	2	X	4 x 3	4	2	0	4x Ø 12 mm	2x Ø 12 mm
UG 46-NL	UP Flush-mounted device box, with nail straps	0	-	4 x 3	6	0	0	0	1x Ø 20 mm
UG 66-NL	UP Flush-mounted device box, with nail straps	0	-	4 x 3	6	2	2	0	1x Ø 20 mm
UG 30-WA-D	UP Flush-mounted outlet box, with cover	0	-	2	0	3	0	0	1x Ø 20 mm
UG 46-DV	UP Flush-mounted device box, double combination	0	-	4	4	6	0	0	2x Ø 20 mm
UG 66-DV	UP Flush-mounted device box, double combination	2	-	6	6	8	6	0	2x Ø 20 mm
UG 66-DV-L	UP Flush-mounted device box, double combination, airtight	2	X	6	4	4	0	14x Ø 11 mm	2x Ø 20 mm
UE 46	UP Flush-mounted electronic box, with terminal space at the side	2	-	4 x 3	10	0	0	0	2x Ø 20 mm
UE 66	UP Flush-mounted electronic box, with device screws	2	-	4 x 3	6	8	6	0	2x Ø 20 mm
UE 66-L	UP Flush-mounted electronic box, with device screws, airtight	2	X	4 x 3	4	4	0	14x Ø 11 mm	2x Ø 20 mm

Tab. 1: Product features, flush-mounted box range

5.2 Accessories, flush-mounted boxes

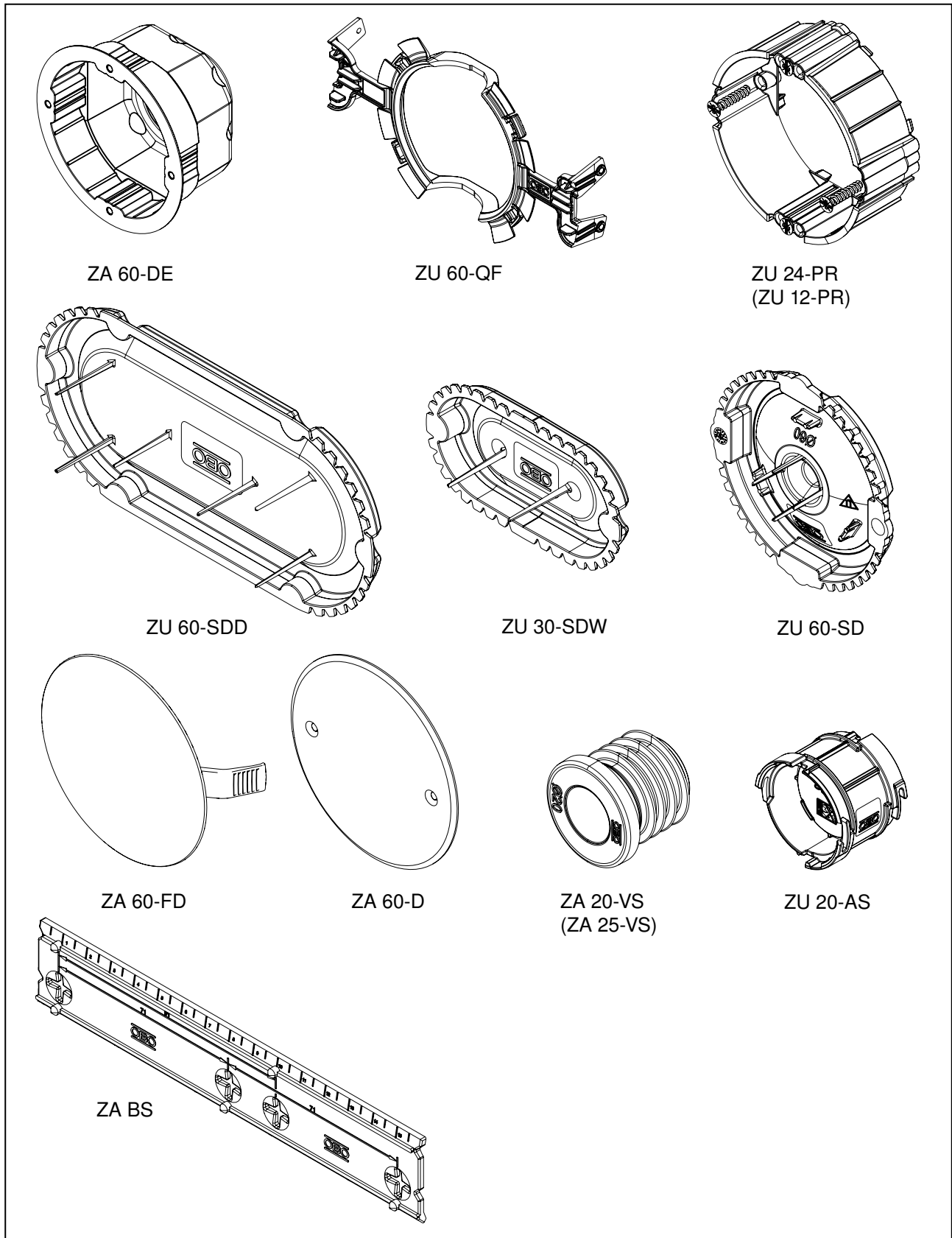


Fig. 2: Accessories, flush-mounted boxes

Type	Designation	Function
ZA 60-DE	Sealing insert for device boxes	Airtight insert for standard flush-mounted box
ZU 60-QF	UP Quick-Fix for flush-mounted boxes	Quick fastening of flush-mounted box in the masonry
ZU 24-PR/ ZU 12-PR	UP Plaster compensation ring for flush-mounted device box (depths 24 and 12 mm)	Compensation of offset between top edge of flush-mounted box and wall or plaster surface
ZU 60-SDD	UP Signal cover for double combination	Protection during plastering, with signal bristles to find the flush-mounted box again after plastering
ZU 30-SDW	UP Signal cover for flush-mounted outlet box	Protection during plastering, with signal bristles to find the flush-mounted box again after plastering
ZU 60-SD	UP Signal cover for flush-mounted device box	Protection during plastering, with signal bristles to find the flush-mounted box again after plastering
ZA 60-FD	Spring cover	Closure of empty box, protection during plastering
ZA 60-D	Universal cover	Closure of empty box, protection during plastering
ZA 20-VS/ ZA 25-VS	Sealing plug for M20/M25, airtight	Closure of empty corrugated pipes
ZU 20-AS	UP Distance connector for flush-mounted device box	Connection with additional flush-mounted box through bayonet lock, extension of the standard centre spacing from 71 to 91 mm
ZA BS	Drilling template	Template for drawing on the fastening spacings of 71 or 91 mm

Tab. 2: Overview of accessories

5.3 Details, flush-mounted boxes

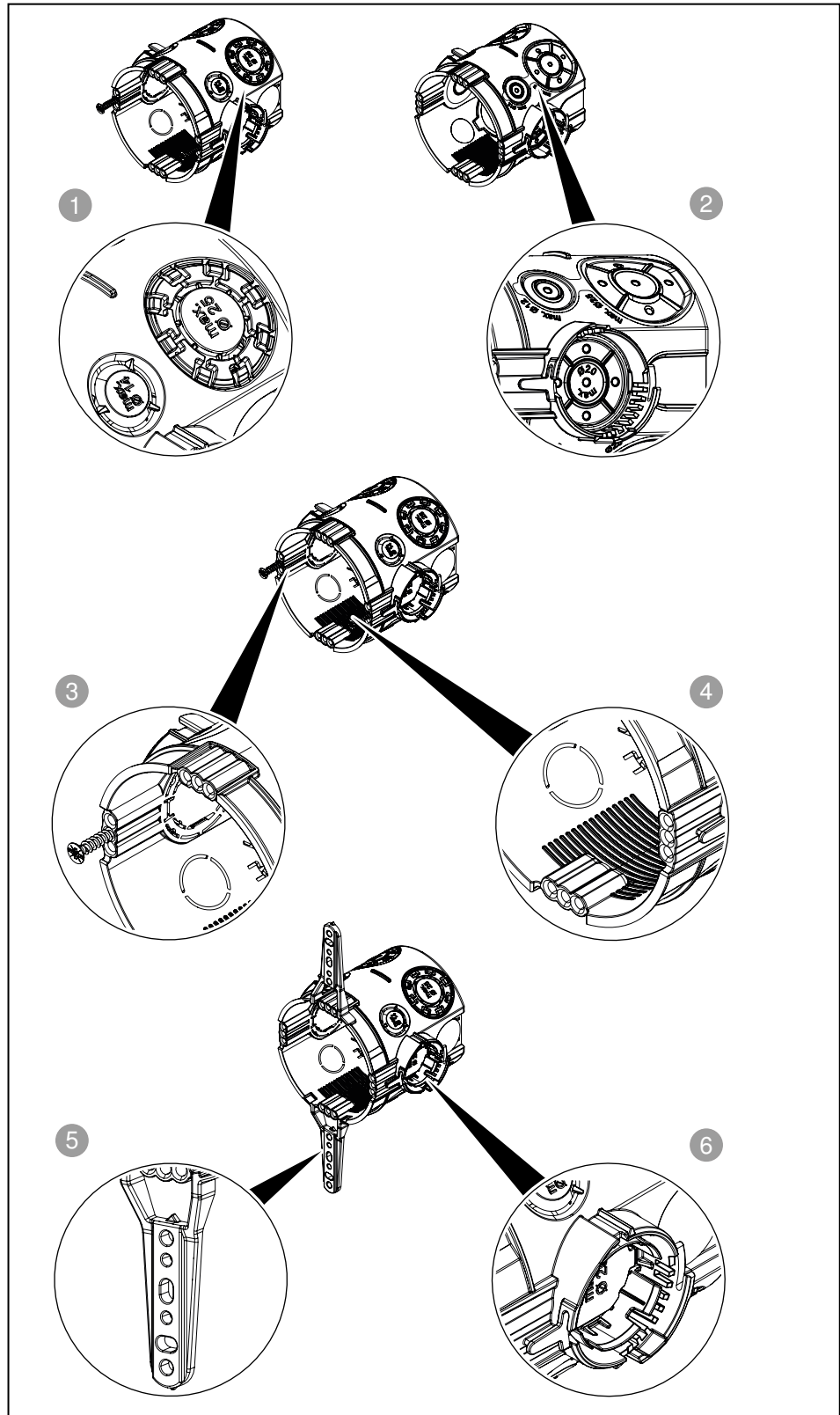


Fig. 3: Details, flush-mounted boxes

No.	Designation	Function
1	Combination entry up to M20/25	Entry for cables and corrugated pipes – to be broken out – with locking lugs against unintentional pulling out
2	Airtight membrane entry up to M20/25	Entry for cables and corrugated pipes – to be penetrated – tear stop guarantees airtightness
3	3 screw domes with device screw	Flexible fastening of devices guarantees a straight alignment of the devices, spacing corresponds to standard spacing of 60 mm
4	Grooves for spreading claws	Fastening of devices with spreading claws
5	Nail strap with slots and marks for alignment	Flexible fixing of the flush-mounted box with nails in the masonry, instead of plastering
6	Connection support with bayonet lock	Connection of 2 or more flush-mounted boxes whilst maintaining the standard centre spacing of 71 mm

Tab. 3: Details, flush-mounted box

6 Mounting

6.1 Observing preconditions

Maintaining installation zones

To prevent damage to cables, e.g. through drilling, cables routed in a concealed manner according to DIN 18015-3:2016-09 may only be routed vertically or horizontally and, if possible, only in the pre-specified installation zones.

Spacings and installation zones according to DIN 18015-3:2016-09

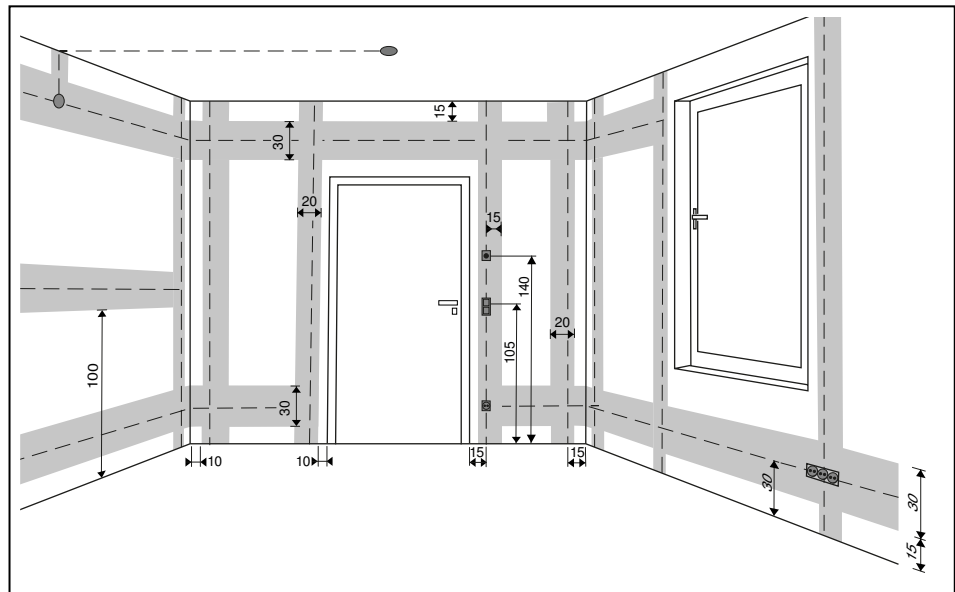


Fig. 4: Installation zones, dimensions in cm

Horizontal installation zones, maximum width 30 cm	
Upper installation zone	15 cm from ceiling
Middle installation zone (for work surfaces in kitchens and work-shops)	100 cm from floor
Lower installation zone	15 cm from floor
Vertical installation zones, maximum width 20 cm	
Windows and doors	10 cm at the side from raw structure edge
Corners and edges	10 cm at the side from raw structure edge

Fig. 5: Installation zones

Installation height, devices and switches	
Centre of sockets	30 cm from floor
Centre of switches	105 cm from floor
Centre of thermostats	140 cm from floor

Fig. 6: Installation heights

- Maintain spacings and installation zones according to DIN 18015-3:2016-09.

Observing other preconditions

- Always install flush-mounted boxes for data and extra-low-voltage devices separately from flush-mounted boxes for low-voltage devices.
- Install flush-mounted boxes for device with different circuits separately from one another.

6.2 Inserting cables and pipes

Note! *Cables or pipes can be inserted into the wall before or after the flush-mounted boxes are inserted. During plastering, it is usually simpler to insert the cables or pipes in advance.*

Note! *The insertion openings are labelled with dimensional data, guaranteeing the right selection for the appropriate cable.*

With the standard boxes, the pre-marked break-out openings are broken out with a screwdriver. With the airtight flush-mounted boxes, cables and pipes are simply pushed through the membrane.



CAUTION

Risk of injury!

When piercing the insertion openings with the screwdriver, it is possible to hit and injure your hand. When holding the box, do not place your hand over the box opening.

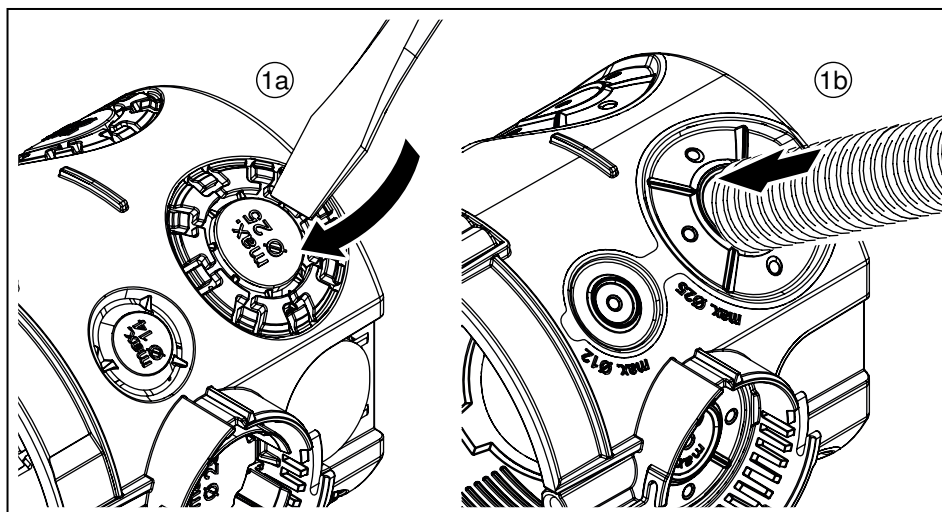


Fig. 7: Creating openings

1. Break out the standard opening with the screwdriver (1a).
2. Insert the cable or corrugated pipes.

Note! *It is possible to pull the corrugated pipes out of the break-out openings, although this is hindered by locking lugs on the openings.*

1. Pierce the airtight opening with the cable or corrugated pipe (1b).

Note! *A tear stop on the airtight TPE membrane entry prevents the membrane from tearing open more after penetration, thus guaranteeing the airtightness of the flush-mounted boxes.*

6.3 Connecting multiple flush-mounted device boxes with bayonet lock

Multiple flush-mounted device boxes can be connected with the bayonet lock. In addition, they can be combined and the standard centre spacing of 71 mm is complied with.

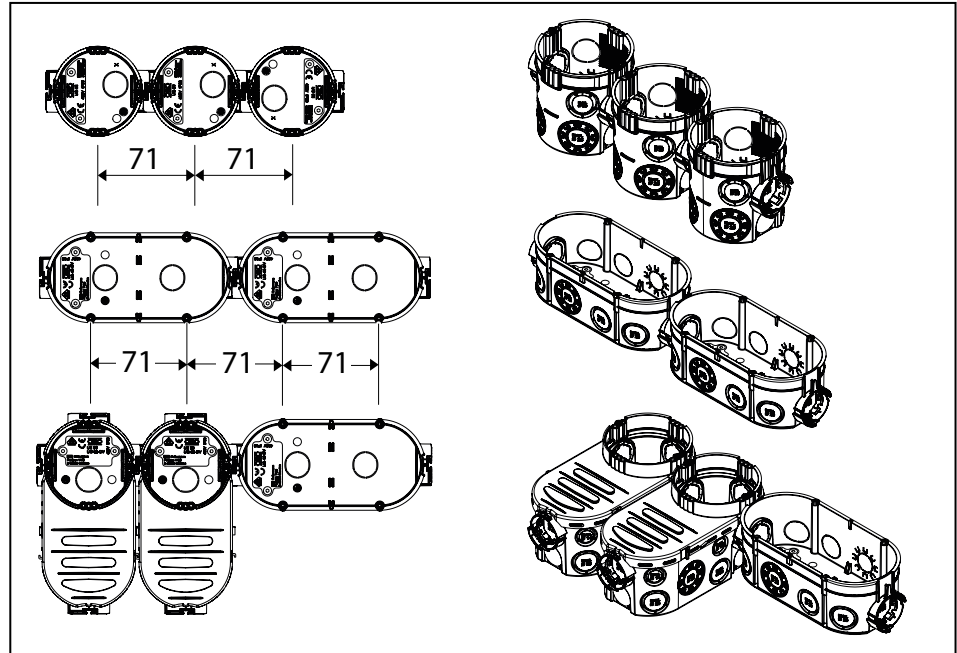


Fig. 8: Example of combination options

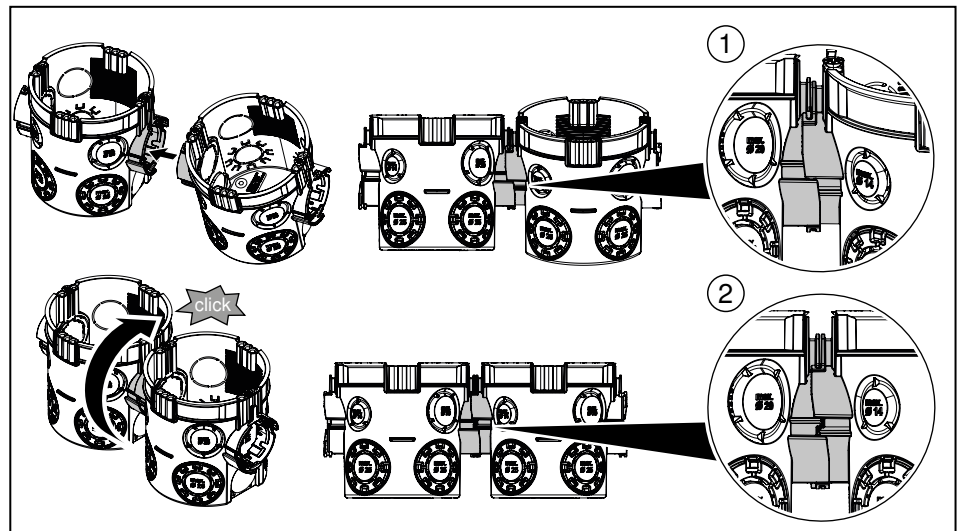


Fig. 9: Connecting flush-mounted device boxes with bayonet lock

1. Place the bayonet locks against each other at a slight angle (①).
2. Turn the flush-mounted boxes against each other until the bayonet lock engages (②).

6.4 Creating drill holes

The holes for the flush-mounted boxes are created using a countersink machine or drill with the appropriate drill bit for the masonry to be drilled through. A centring tip must be used for better guidance. The drilling diameters are 68 or 82 mm for single boxes, if the bayonet locks are not removed. For double boxes, two holes are drilled and the cavity chiselled out. The rectangular hole for the flush-mounted electronic boxes must be chiselled out or milled. The same applies for the flush-mounted outlet box.

Note! *The centre spacing between two adjacent or superimposed flush-mounted boxes must be 71 mm, so that devices and cover frames can be mounted appropriately.*

Note! *If the drill hole is drilled wider than the socket, then there is more space for tolerance compensation. The drill hole should be drilled to be 5–10 mm deeper than the concealed box, in order to provide escape space for the plaster.*

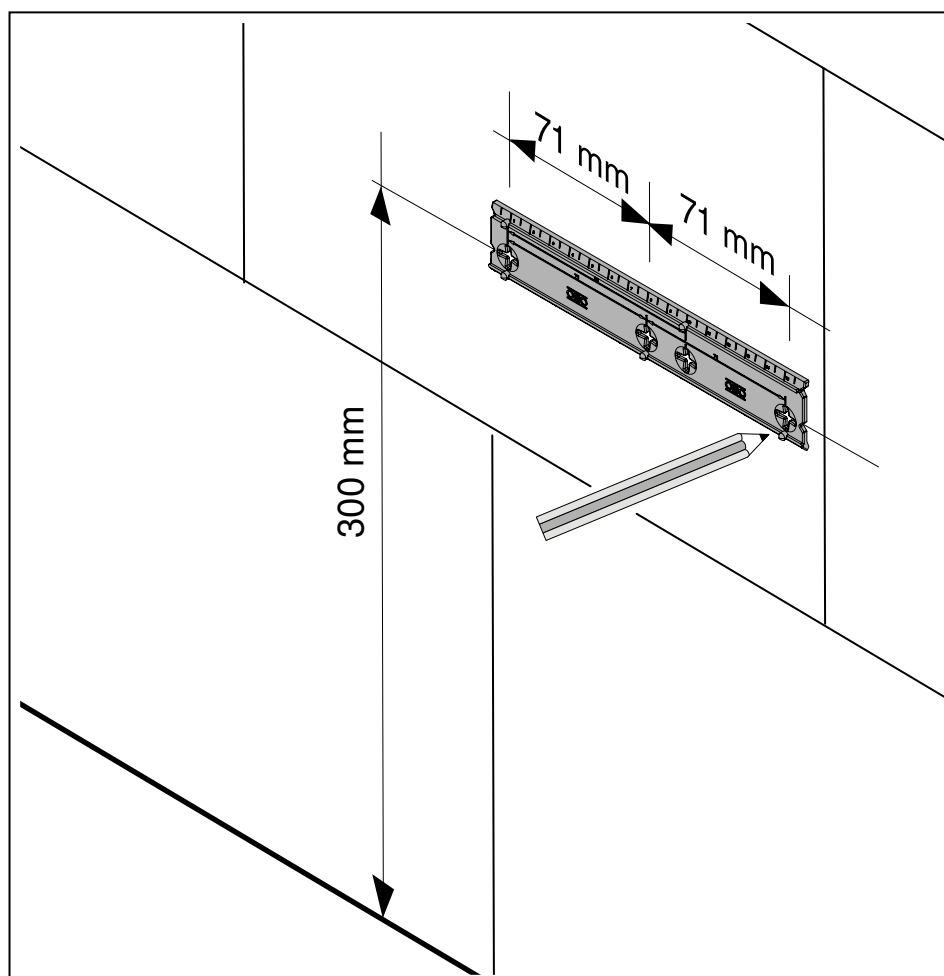


Fig. 10: Draw on the drill holes with the drilling template

1. Draw on the drill holes, ensuring a standardised horizontal or vertical alignment.

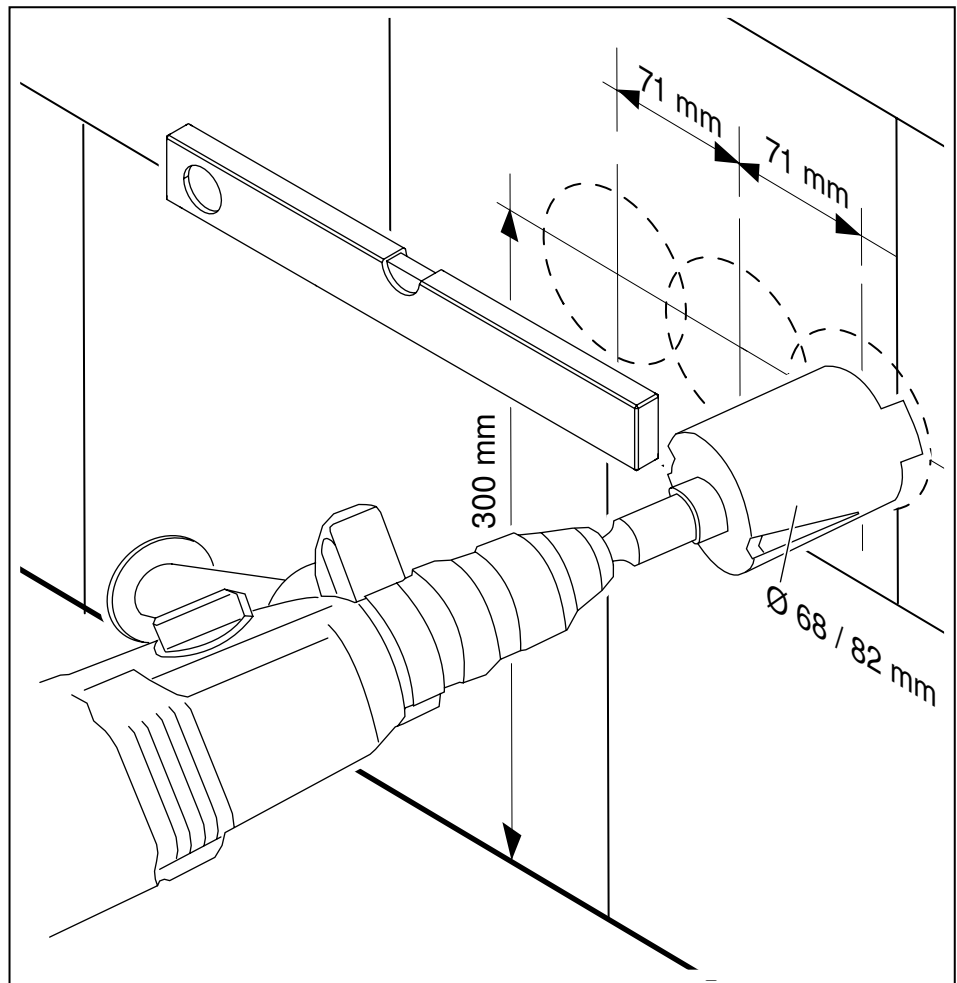


Fig. 11: Creating drill holes

2. Drill the hole for the flush-mounted boxes.
3. If necessary, chip out the drilling core from the hole using a hammer and chisel.

6.5 Fixing flush-mounted boxes in the wall

Flush-mounted boxes can be plastered, stuck or foamed into the masonry or fixed with quick fastenings or nails. Before inserting the flush-mounted boxes, the slots for cable routing must be milled in the wall.

The following section describes plastering and fixing with Quick-Fix and nail straps. The appropriate processing information is stated on the packaging for sticking, cementing or foaming.

6.5.1 Plastering flush-mounted boxes in

Note! *During insertion, observe the later plaster thickness and let the flush-mounted box protrude out of the drill hole.*

Note! *If some plaster enters the box from behind, then this can improve the hold in the masonry.*

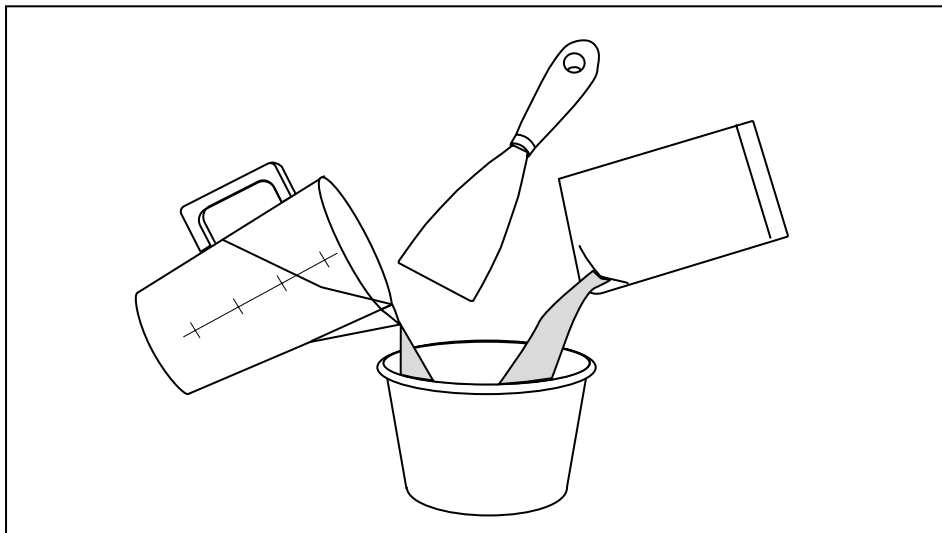


Fig. 12: Stirring the plaster

1. Stir the plaster with water according to the description on the packaging.

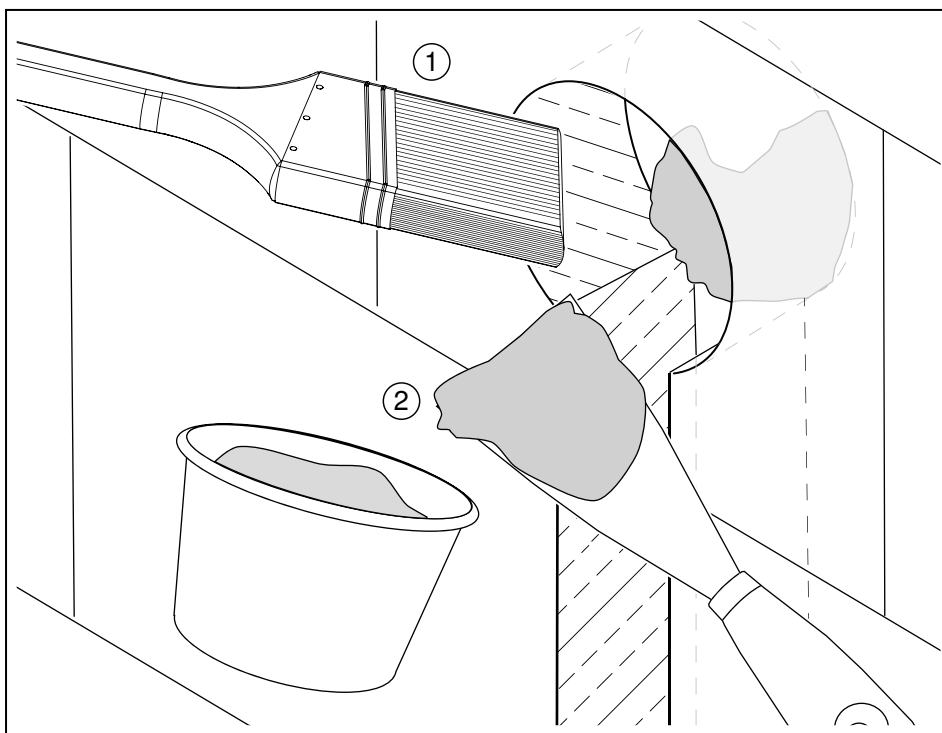


Fig. 13: Wet the drill hole and apply the plaster

2. Wet the drill holes in order to increase the adhesion of the plaster.
3. Apply the plaster to the points in the drill hole where no cables are to be inserted.

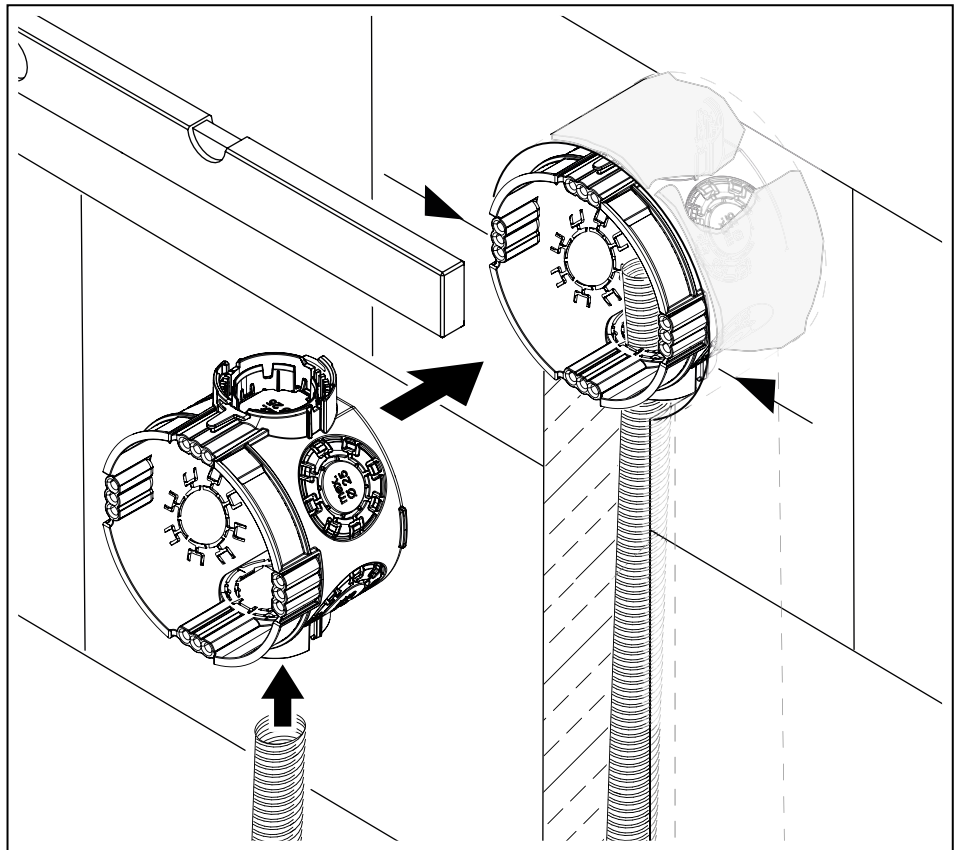


Fig. 14: Inserting the flush-mounted box

4. Insert the flush-mounted box, observing the horizontal or vertical alignment of the screw domes and the insertion depth.
5. Let the plaster harden before inserting cables and devices.

6.5.2 Fixing flush-mounted boxes with Quick-Fix

It is possible to fix the flush-mounted box in the drill hole without plastering or sticking using the Quick-Fix quick fastening. For this, the drill hole must have a diameter of 82 mm. The final fixing of the flush-mounted box is carried out by plastering. Multiple interconnected flush-mounted boxes can be fixed using multiple Quick-Fix quick fastenings.

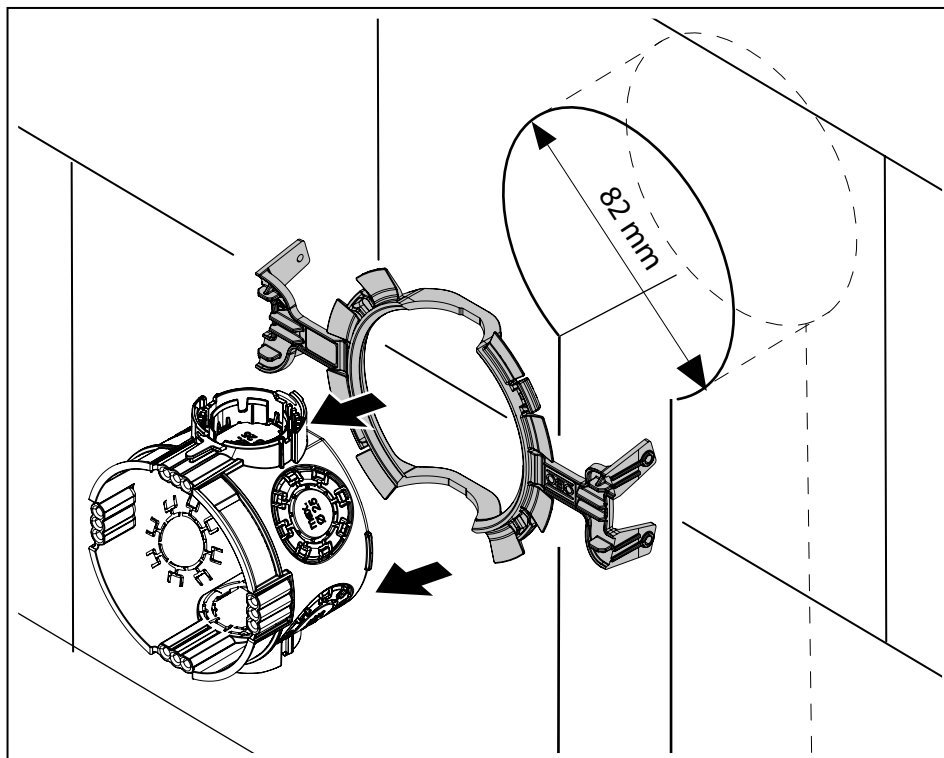


Fig. 15: Pushing the Quick-Fix onto the flush-mounted box

1. Push the Quick-Fix onto the flush-mounted box from behind.

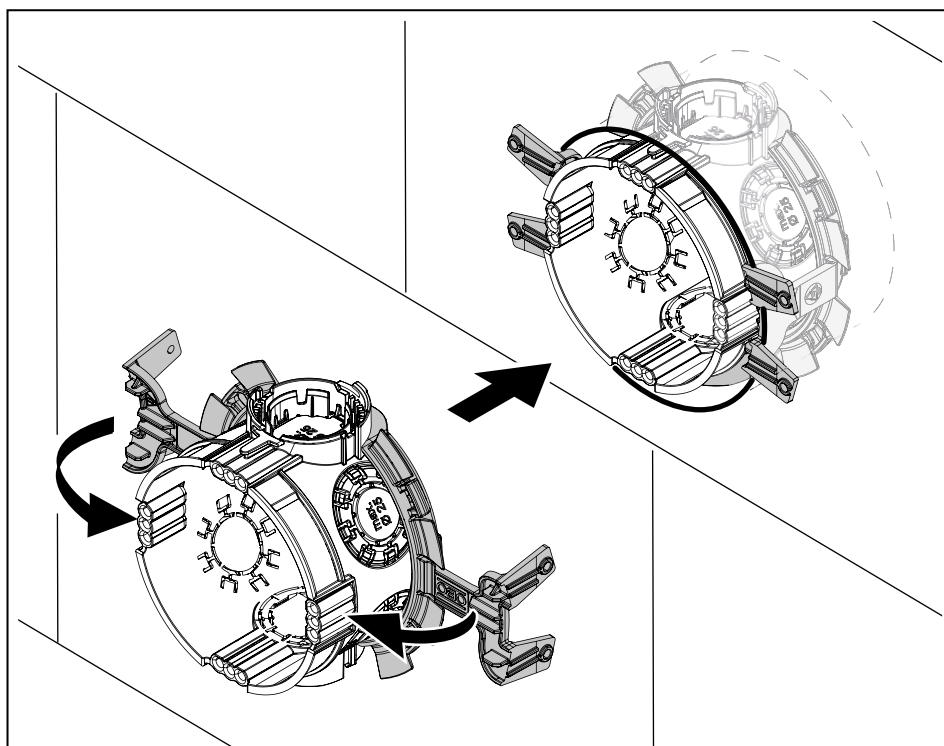


Fig. 16: Pushing the flush-mounted box with Quick-Fix into the drill hole

2. Push the flush-mounted box into the drill hole, until the straps of the Quick-Fix quick fastening are folded over completely and are located on the masonry.

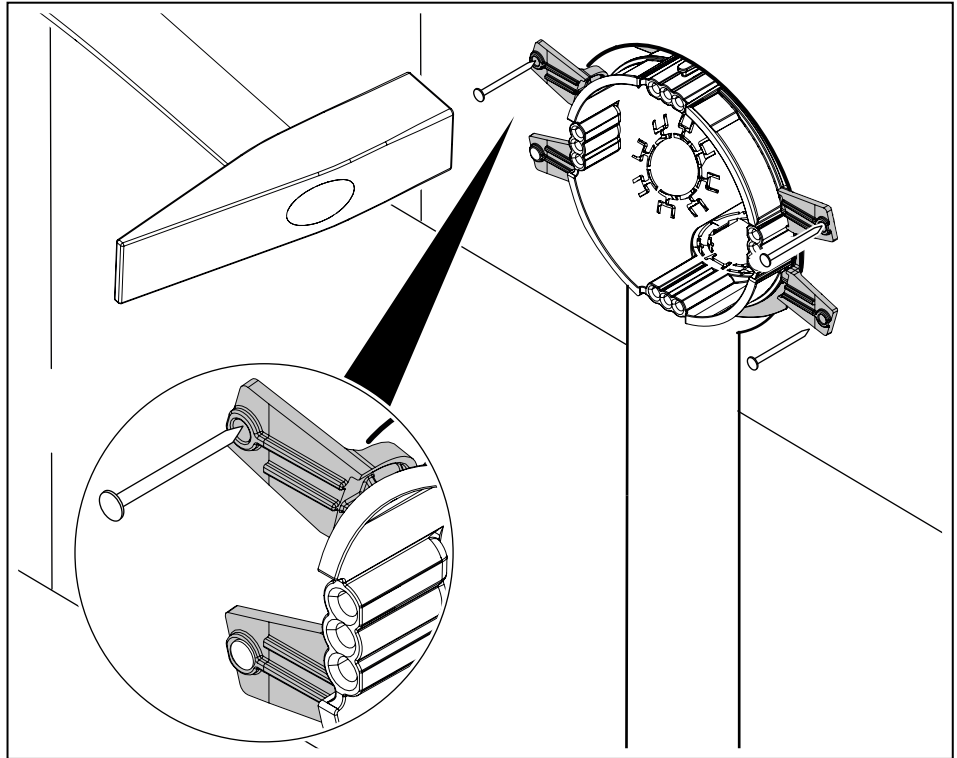


Fig. 17: Fixing the Quick-Fix

3. Optionally fix the Quick-Fix to the wall with steel nails.

6.5.3 Fixing flush-mounted boxes with nail straps

Using the nail straps, it is possible to fix the flush-mounted box in the drill hole without plastering or sticking. The precondition is soft stone or the option of nailing into the mortar joint. The final fixing of the flush-mounted box is carried out by plastering.

Note! *Tolerances during fixing can be compensated for using the slots in the nail straps.*

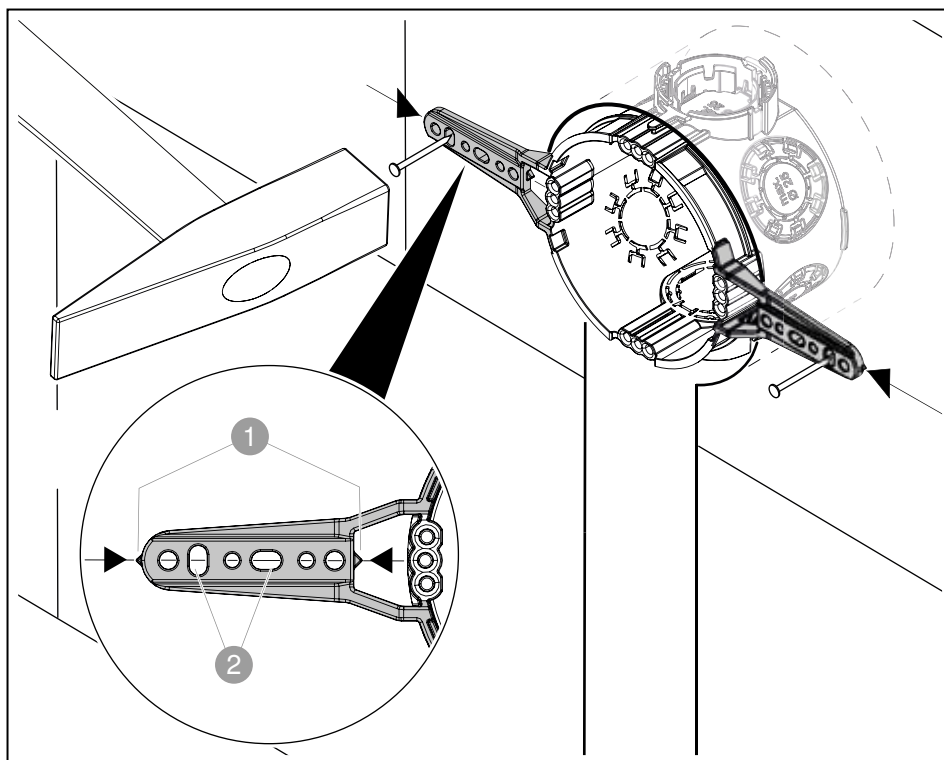


Fig. 18: Fixing the flush-mounted device box with nail straps

- ① Marking for alignment of the socket
- ② Slots for tolerance compensation

1. Push the flush-mounted box into the drill hole until the nail straps are located on the masonry.
2. Align the box and fix it to the wall with steel nails.

6.6 Inserting devices



Danger to life!

Work in and on electrical systems pose the risk of electrical accidents with lethal injuries. To prevent this, apply the 5 safety rules: Before starting work, disconnect the system, secure it against switch-on, ensure de-energisation, earth it and short-circuit it, cover or restrict any adjacent energised parts.

The devices can be used after plastering. The 4 x 3 screw domes allow exact alignment of the devices.

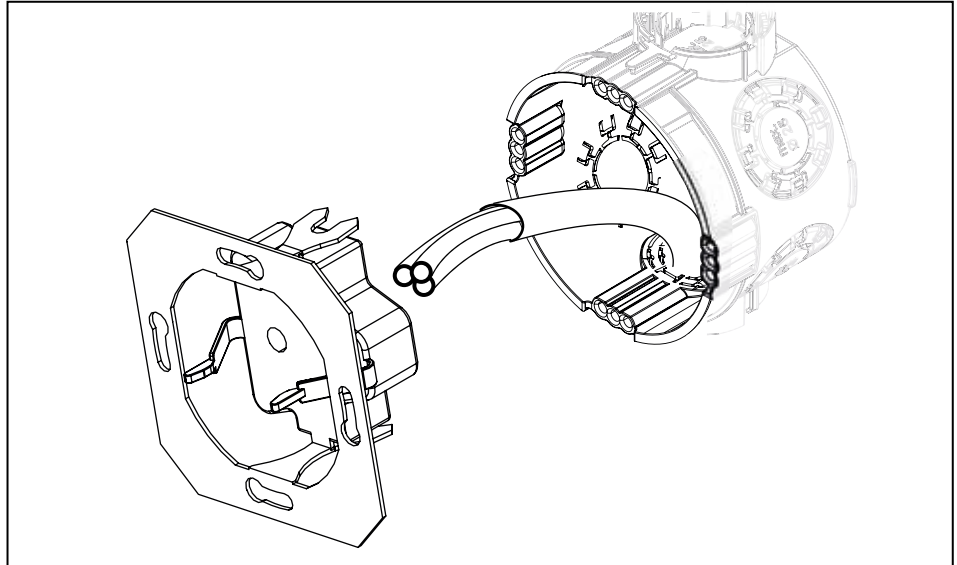


Fig. 19: Connecting the device

1. Connect the device with cables.

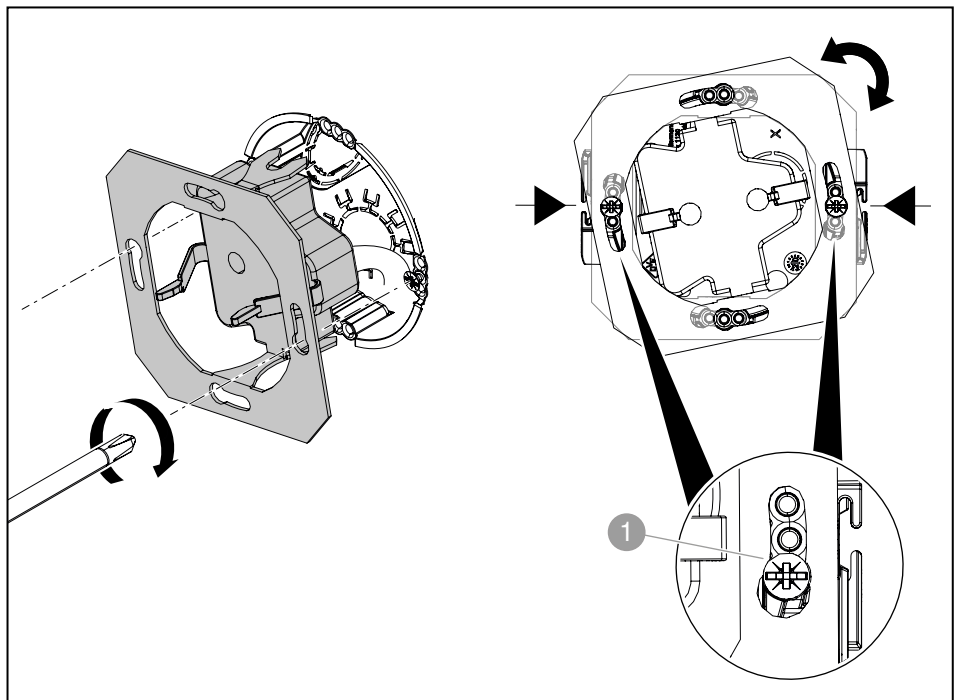


Fig. 20: Inserting a device

2. Align the device horizontally/vertically.
3. Fasten the device in the matching screw domes ① with device screws.

Aligning multiple devices

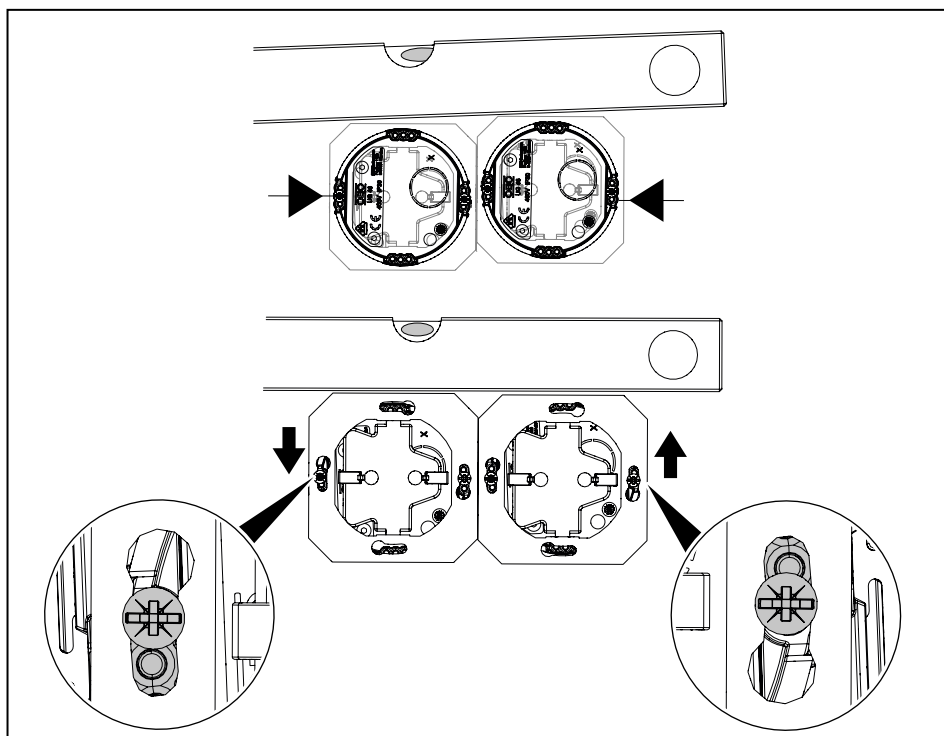


Fig. 21: Aligning multiple devices

1. Align the devices horizontally.
2. Fasten the devices in the matching screw domes with device screws.

6.7 Mounting accessories

6.7.1 Mounting distance connectors

The distance connectors can be used to extend the centre spacing of 2 flush-mounted boxes from 71 to 91 mm, in order to separate extra-low and low voltages.

Note! *The distance connector can also be combined with itself, in order to extend the centre spacing to 111 mm.*

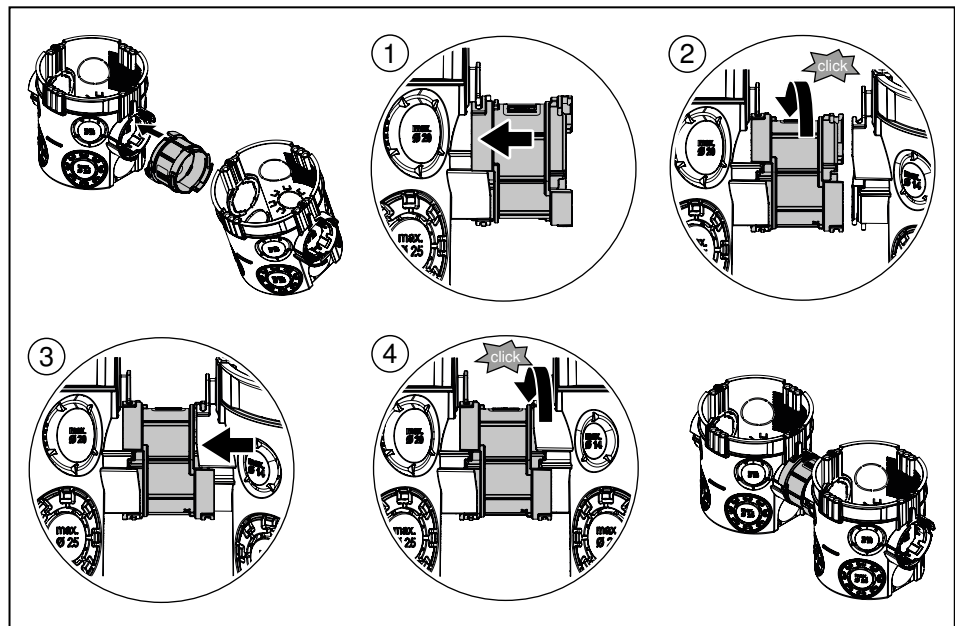


Fig. 22: Mounting distance connectors

1. Place the distance connector against the bayonet lock of the first flush-mounted box (①).
2. Turn the distance connector and flush-mounted box against each other until the distance connector engages (②).
3. Place the bayonet lock of the second flush-mounted box against the distance connector (③).
4. Turn the flush-mounted box and distance connector against each other until the flush-mounted box engages (④).

6.7.2 Inserting a sealing plug

The screw plug can be used to close empty corrugated pipes or pipes with cables airtight. Cables laying in the pipe can be pushed airtight through the screw plug.

Inserting the sealing plug in an empty pipe

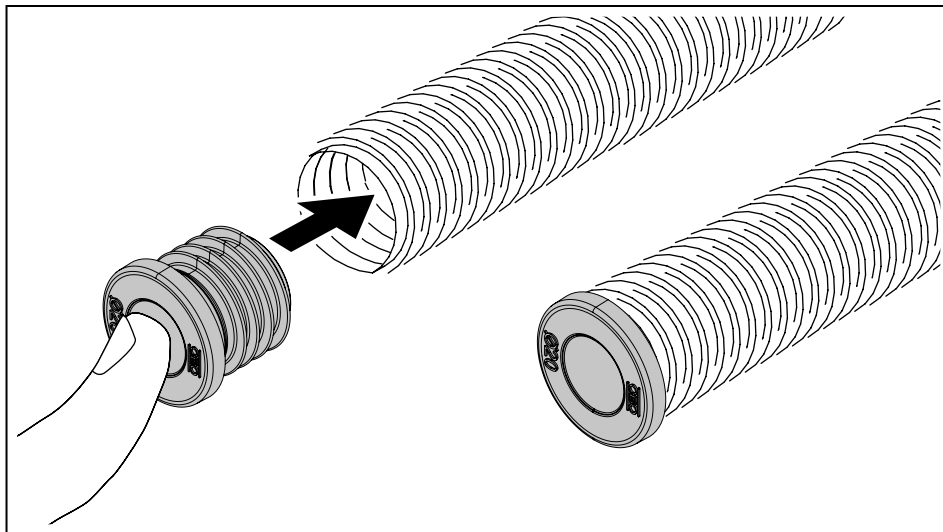


Fig. 23: Inserting the sealing plug

1. Push the sealing plug into the corrugated pipe up to the stop.

Inserting the sealing plug in a pipe with cable

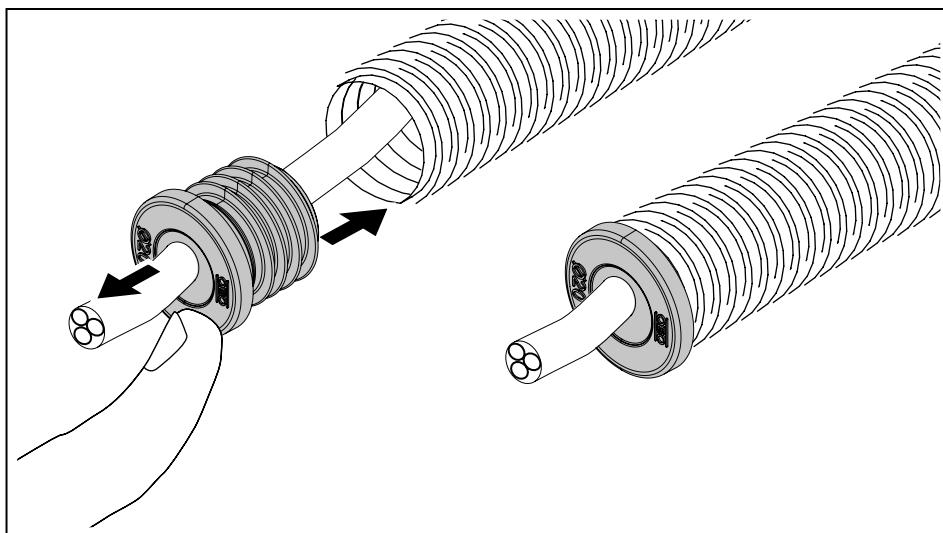


Fig. 24: Inserting sealing plug with cable

1. Pierce the sealing plug with the cable.
2. Push the sealing plug into the corrugated pipe up to the stop.

6.7.3 Inserting a sealing insert

Using a sealing insert, the standard flush mounted boxes can be made airtight at a later stage when mounting the devices.

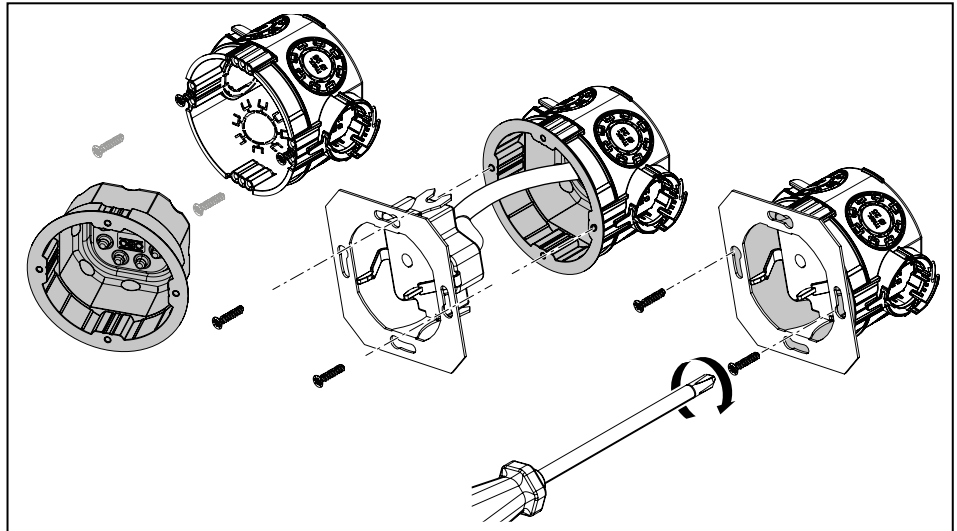


Fig. 25: Inserting a sealing insert

1. Screw the device screws out of the flush-mounted box.
2. Pierce the sealing insert with the cables.
3. Insert the sealing insert in the flush-mounted box.
4. Connect the device with cables and insert it in the sealing insert.
5. Fasten the sealing insert and the device using the device screws.

6.7.4 Mounting a plaster compensation ring

The compensation ring can be used to compensate for an offset of 10 or 20 mm between the top edge of the flush-mounted box and the wall or plaster surface.

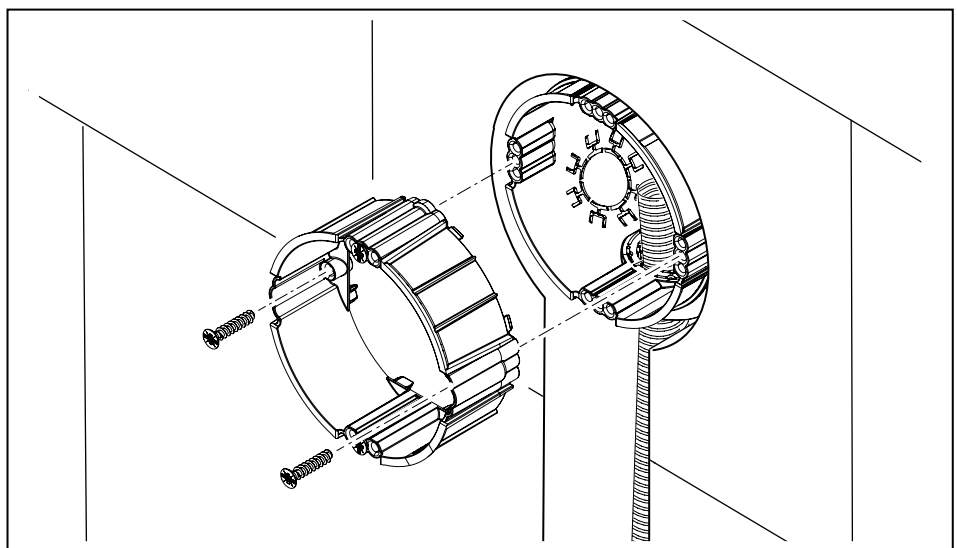


Fig. 26: Mounting a plaster compensation ring

1. Screw the device screws out of the flush-mounted box.

2. Place the screw domes of the plaster compensation ring on the screw domes of the flush-mounted box.
3. Screw on the plaster compensation ring with the device screws.

6.7.5 Mounting the cover

Attaching/removing the signal cover

The signal cover can be used to protect flush-mounted boxes during plastering. After plastering, the signal bristles show the position of the flush-mounted boxes. The signal cover can be removed with a screwdriver.

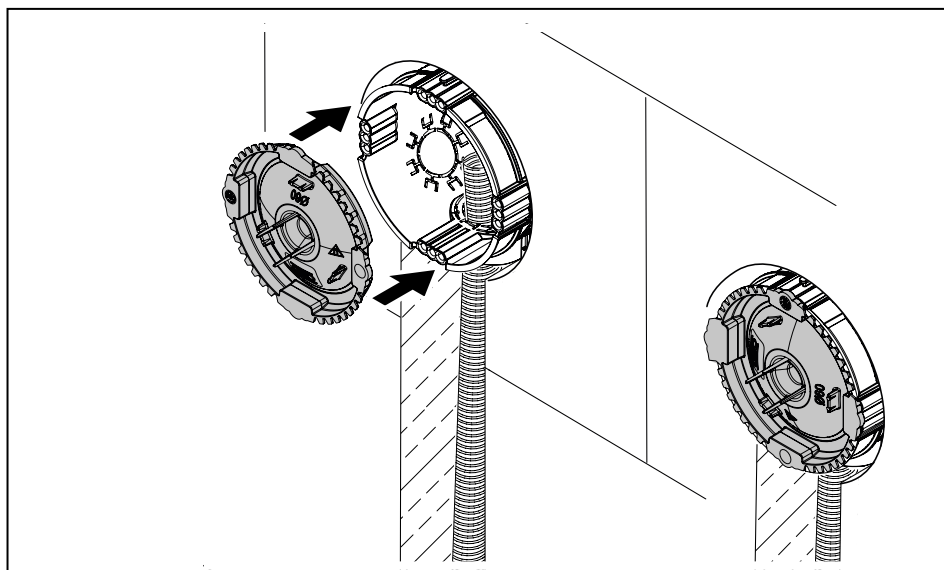


Fig. 27: Attaching the signal cover

1. Before plastering, push the signal cover onto the flush-mounted box.

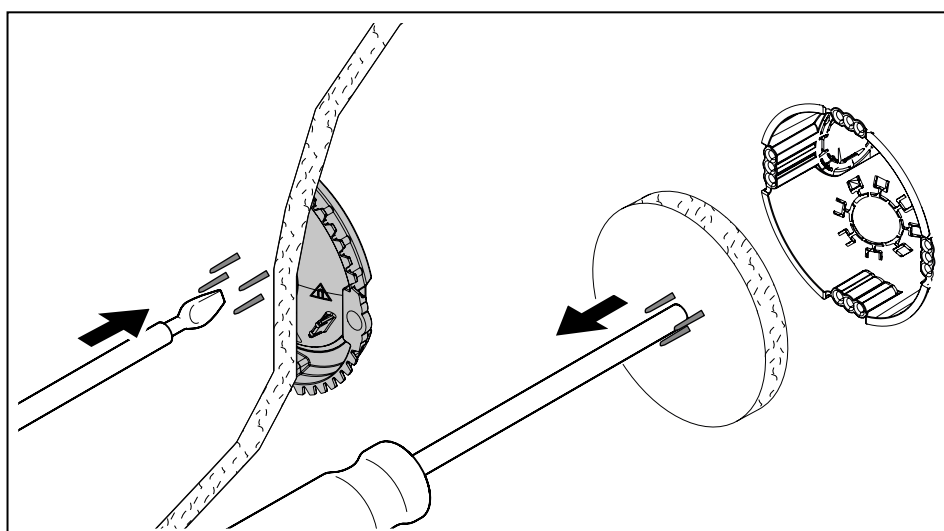


Fig. 28: Removing the signal cover

2. Push the screwdriver through the plaster between the signal bristles and carefully remove the cover.

Mounting other covers

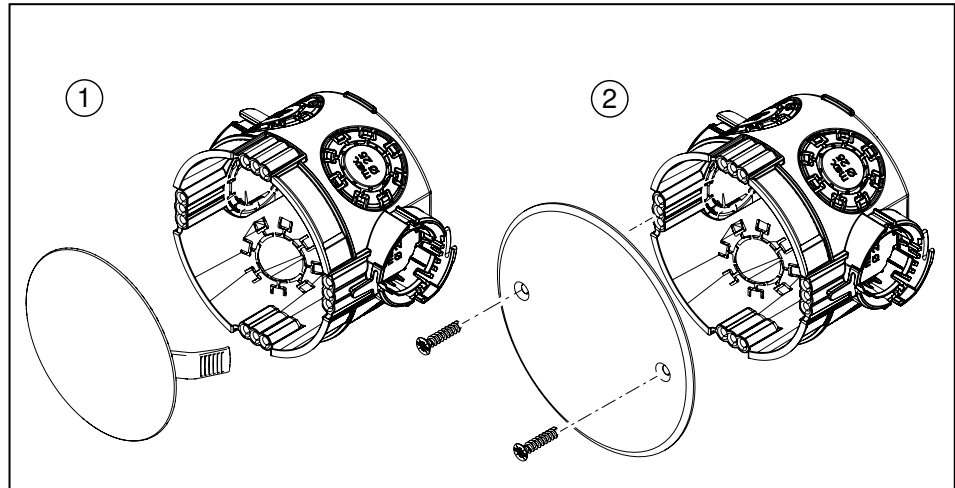


Fig. 29: Mounting the cover

①	Clampable universal cover for the flush-mounted box	Clamp the cover in the box.
②	Universal cover for single flush-mounted box	Screw the cover to the box.

6.7.6 Using partitions

The partition can be used to wire cables with different voltages in electronic boxes. The partition has a clip for fixing and three break-out openings, which can be broken out by hand.

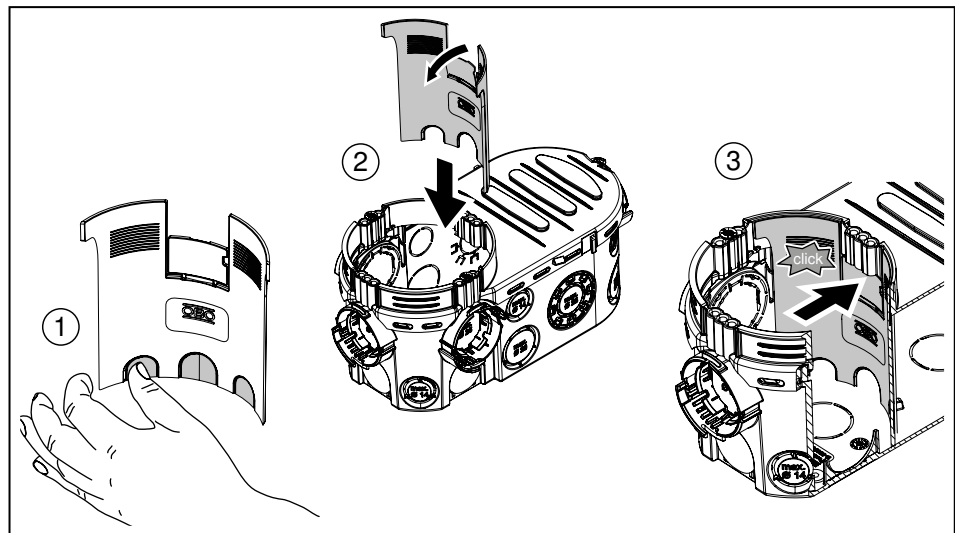


Fig. 30: Using partitions

1. Break out the required number of break-out openings from the partition.
2. Bend over the clip and insert the partition in the electronic box.
3. Push the clip under the screw domes to fix the partition.

7 Maintaining flush-mounted boxes

Flush-mounted boxes do not require maintenance.

8 Dismantling flush-mounted boxes

Plastered or stuck-in flush-mounted boxes must be chiselled or broken out of the wall with an appropriate tool, e.g. a crowbar. If the flush-mounted boxes are only nailed on, then the nail connections can be removed again, e.g. with pliers.

9 Disposing of the system

Comply with the local waste disposal regulations.

- Metal: As scrap metal
- Plastic parts: As plastic
- Packaging: As household waste/as metal (depending on packaging type)

10 Technical data

PP = Polypropylene

ABS = Acrylonitrile butadiene-styrene

TPE = Thermoplastic elastomer

PE = Polyethylene

PC = Polycarbonate

PS = Polystyrene

UP Flush-mounted boxes

Designation	Type	Dimensions mm Ø x depth	Material	Item no.
UP Flush-mounted device box	UG 46	Ø 60 x 46	PP	2003700
UP Flush-mounted device box	UG 66	Ø 60 x 66	PP	2003702
UP Flush-mounted device box, airtight	UG 46-L	Ø 60 x 46	PP + TPE	2003706
UP Flush-mounted device box, airtight	UG 66-L	Ø 60 x 66	PP + TPE	2003708
UP Flush-mounted device box, with device screws	UG 46-GS	Ø 60 x 46	PP	2003701
UP Flush-mounted device box, with device screws	UG 66-GS	Ø 60 x 66	PP	2003703
UP Flush-mounted device box, with device screws, airtight	UG 46-GS-L	Ø 60 x 46	PP + TPE	2003707
UP Flush-mounted device box, with device screws, airtight	UG 66-GS-L	Ø 60 x 66	PP + TPE	2003709
UP Flush-mounted device box, with nail straps	UG 46-NL	Ø 60 x 46	PP	2003714
UP Flush-mounted device box, with nail straps	UG 66-NL	Ø 60 x 66	PP	2003716
UP Flush-mounted outlet box, with cover	UG 30-WA-D	Ø 60 x 30	PP	2003732
UP Flush-mounted device box, double combination	UG 46-DV	2x Ø 60 x 46	PP	2003722
UP Flush-mounted device box, double combination	UG 66-DV	2x Ø 60 x 66	PP	2003720
UP Flush-mounted device box, double combination, airtight	UG 66-DV-L	2x Ø 60 x 67	PP + TPE	2003723
UP Flush-mounted electronic box, with lateral terminal area	UE 46	Ø 60(114) x 50	PP	2003725
UP Flush-mounted electronic box, with device screws	UE 66	Ø 60(148) x 66	PP	2003726
UP Flush-mounted electronic box, with device screws, airtight	UE 66-L	Ø 60(148) x 67	PP + TPE	2003727

Accessories

Designation	Type	Dimensions mm	Material	Item no.
Sealing insert for device boxes	ZA 60-DE	Ø 61 x 40	TPE	2003719
UP Quick-Fix for flush-mounted device box	ZU 60-QF	Ø 60	PP	2003740
Plaster compensation ring for flush-mounted device box (depths 24 and 12 mm)	ZU 24-PR/	Ø 60, H 24	PS	2003744
	ZU 12-PR	Ø 60, H 12	PS	2003742
UP Signal cover for double combination	ZU 60-SDD	2x Ø 60	PE	2003762
UP Signal cover for flush-mounted outlet box	ZU 30-SDW	65 x 35	PE	2003768
UP Signal cover for flush-mounted device box	ZU 60-SD	Ø 60	PE	2003760
Spring cover	ZA 60-FD	Ø 72	PS	2003749
Universal cover	ZA 60-D	Ø 84	PC/ABS	2003748
Sealing plug for M20/M25, airtight	ZA 20-VS/	Ø 20	TPE	2003737
	ZA 25-VS	Ø 25		2003738
UP Distance connector for flush-mounted device box	ZU 20-AS	Ø 20	PS	2003746

Own notes

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Building Connections

