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## Installation materials

Many possibilities for fast and easy installation





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# ABB on market leadership

Leadership means responsibility, responsibility which we take for more than 130 years of providing our customers and partners with innovative products and reliable services. The trust we are given is a responsibility and motivation for building up a great mutual future.



ABB Wiring Accessories unit in Porvoo, Finland have produced installation materials and wiring accessories to the Nordic countries in more than 30 years and is a leading supplier in the region. The products are designed to meet the special requirements related to installation culture, standards/requirements and climate conditions.

**Quality and reliability are a top priority at ABB Wiring Accessories**

This applies to products and services equally. Our multiple award-winning products and solutions have made us the market leader, the same as our comprehensive services have made us a trusted partner for electrical installers and our customers.

Due to the close cooperation with our trading partners, customers, and referrers from the designer sector, we have been able to establish systems without equal in the area of private household and functional building control. As a member of the ABB Group, we have powerful partners to support us in the area of development. The high standing of the ABB brand rounds off the high quality of your property and promotes the retention of its value.

# One supplier, many possibilities

So many possibilities that only the imagination sets the limits. ABB delivers wiring accessories to all kinds of applications, from private homes to hotels, office and public buildings and other facilities.



## ABB is a reliable partner

Regardless of whether you are an electrical installer, consultant or any other kind of partner, we are happy to serve you. We offer a wide range of products and solutions to all kinds of electrical installations.

We at ABB have worked for a long time in the business and believe that the most important task for us is to improve our customers' business and efficiency by developing installation products which are fast to install, safe to use and solve the technical application needs of every customer.



## Installation materials

With a few installation boxes and accessories the installer is able to complete demanding installations.



## Wiring accessories and electronics

We have produced switches and socket outlets for more than 130 years.



## Signal products

Signal solutions for versatile calling and alarm systems.



## ABB-Welcome

Door entry systems for all buildings with high design and functionality.



## ABB-free@home

Simply and smart ABB-free@home® transforms the house or the apartment into an intelligent home. Whether blinds, lights, heating, air conditioning, door communication or scenes.



## ABB i-bus® KNX

For intelligent building automation optimizing safety, comfort and energy saving. Suits all building types well, e.g. private homes, office and public buildings.

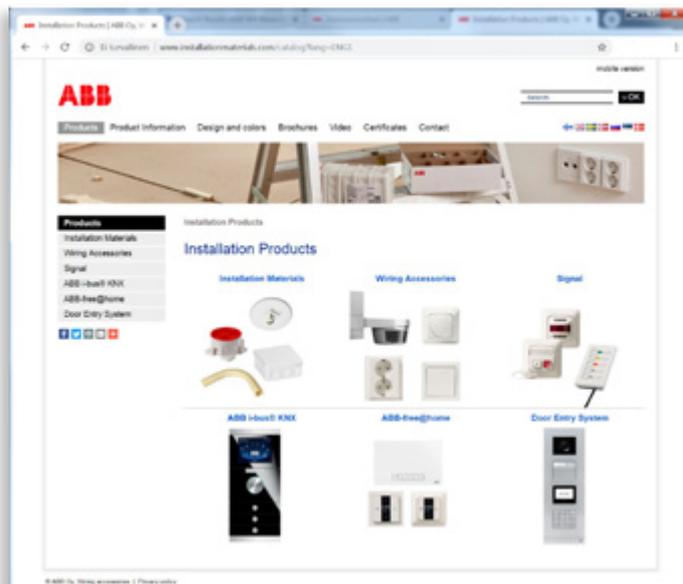
# ABB is there wherever you need us

For us, customer service means being at the side of our partners and customers with all our services, solutions, and knowledge. Whether round the clock on the Internet, by telephone and email during business hours, or personally by appointment on site.

## Project planning and product information

The ABB Wiring Accessories online catalogue offers direct access to all products and applications. Here you will find all relevant product information such as wiring diagrams, dimensional drawings and installation instructions, and can print

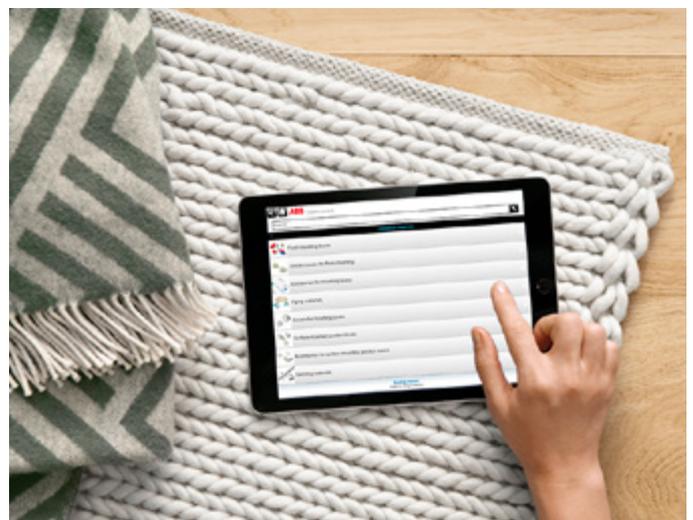
and upload product cards. Also available are installation videos to explain in more detail how the products are designed to be used. In many areas, tips and tricks provided in advance help to make sure that you are prepared for your installations. Unnecessary trips for repairs or missing parts are thus prevented.



**Web:**  
[www.installationmaterials.com](http://www.installationmaterials.com)



- Technical informations
- Dimensional drawings
- Installation instructions
- Wiring diagrams
- Brochures
- Video



**Mobile:**  
[m.installationmaterials.com](http://m.installationmaterials.com)

# Sustainability and quality

For ABB, sustainability is about balancing economic success, environmental stewardship and social progress to benefit all our customers, partners and employees.



Sustainability considerations cover how we design and manufacture products, what we offer customers, how we engage suppliers, how we assess risks and opportunities, and how we behave in the communities where we operate and towards one another, while striving to ensure the health, safety and security of our employees, contractors and others affected by our activities.



ABB installation materials are designed to meet all relevant requirements in regard to health, safety and quality.



ABB Wiring Accessories is certified according to ISO9001, ISO 140001 and OHSAS18001.

## EN standard compliance

All products are designed to meet the requirements of current EN standards.

## Certifications

ABB Wiring Accessories guarantees the quality of its products and all products are CE certified. Products are also certified to FI, S, N, D, Gost and other European national requirements, when relevant.

## ROHS, Reach

Statements are available for all products

## Environmental documentation

More and more requirements are presented from our customers on more detailed environmental documentation. ABB is collaborating with several institutions in the Nordic countries to meet the highest requirements of environmental documentation in the industry worldwide.

Halogen-free product declarations available.

# Installation materials

ABB Installation materials are continuously developed in cooperation with installers, paying close attention to ease of installation and a high quality end result. The products function as a system and are easily adaptable to different installations.

Most installations can be completed using only a few selected products. All installation boxes are GOST certified and fulfill the standard EN 60670-1:2005 for boxes and enclosures for electrical accessories for household and similar fixed electrical installations.



#### Easy and fast to install

It is highly important that the products are easy and fast to install. Effective project execution is a demand in overall cost-efficiency.



#### Material properties selected to wide temperature area

Material properties are selected to meet challenging weather conditions; outdoor conditions, high temperature variations, frost and rain.



#### Reliable connections in hollow, concrete and stone structures

Faulty installations are expensive and difficult to fix. Therefore we put effort in ensuring that the connections are reliable.



#### Special applications available

The demands on environment and safety aspects are increasing, which is without exception taken into account in product development. Special applications to fire walls and exterior walls (airtight solutions) are available.





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- 01 Flush mounting boxes
- 02 Junction boxes for flush mounting
- 03 Accessories for mounting box
- 04 Piping materials
- 05 Covers for mounting boxes
- 06 Surface-mounted junction box
- 07 Accessories for surface mounting junction boxes
- 08 Earthing materials

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**System ABB boxes are developed to function as a system and are easy to adapt in different installations. The products are made of halogen-free material (IEC/61249-2-21) and fulfill the requirements of the glow wire test in accordance with the IEC/EN 60670:2005 standard (850 °C).**

# System ABB boxes

## Features

- The System ABB series includes flush-mounted mounting boxes with or without inlets, as well as boxes in several heights for a range of applications.
- System ABB also includes products for post-mounting in board walls as well as outlet boxes with or without inlets.



# System ABB boxes

## Mounting boxes

### Wall boxes for various installations and materials

The wall boxes can be installed in various ways to different materials. There is a wide selection of different accessories, to adapt the boxes into desired application. Screw distance to attach devices is c/c 60 mm.

### Mounting boxes for hollow walls and concrete casting

The white ABB box is a rigid box with design depths ranging from 38-74 mm. It is installed to hollow walls before mounting the boards on the frame. Deep versions are designed especially for concrete and brick walls. The boxes can be equipped with various accessories for different applications. The installation hole diameter is 74 mm. There are fixed inlets and/or knockouts for inlets on the sides of the box. Additionally, there are two knockout inlets in the bottom of the box.



—  
01 AU5.2 mounting box, branched 2-way.

—  
02 AU5.32 high mounting box for concrete and brick walls, with two fixed inlets.



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01



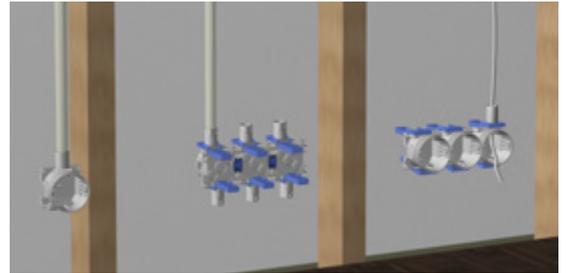
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# System ABB boxes

## Mounting boxes for hollow wall installations

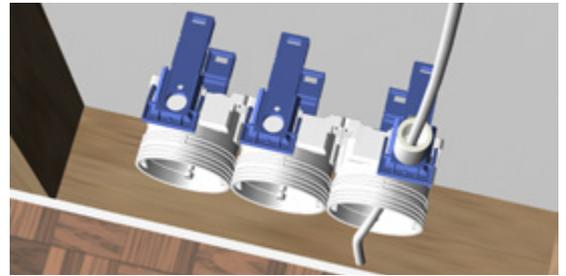
### Combinations

Mounting boxes are easy to combine and install, creating an efficient platform for the installation of switches, outlets and other devices.



### Box supports

Box supports PMR577 and PMR577.65 are used to secure the boxes between the boards. No further fixing of the boxes is needed, they are simply placed in their final positions when the top board layer is mounted in place.



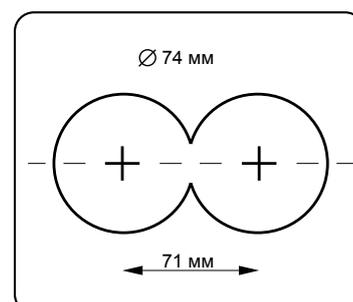
### Side nailing and wall clamps

The mounting box can be fastened to wall studs by side nailing. Use nails with wooden studs and screws with light metal studs. Wall clamps AS8.13 are used for attaching mounting boxes AU3.2 or AU5.2 to a 12-13 mm thick board wall. The box is pushed through the hole from behind of the board, and locks firmly between the board clamps.



### Fastening with an adjustment adaptor

A box is attached to its base from the inside with a PMR135 installation adaptor through the opened center knock-out. The adapter is delivered with a plug, that can be used to cover the head of the screw. The box position can be adjusted.



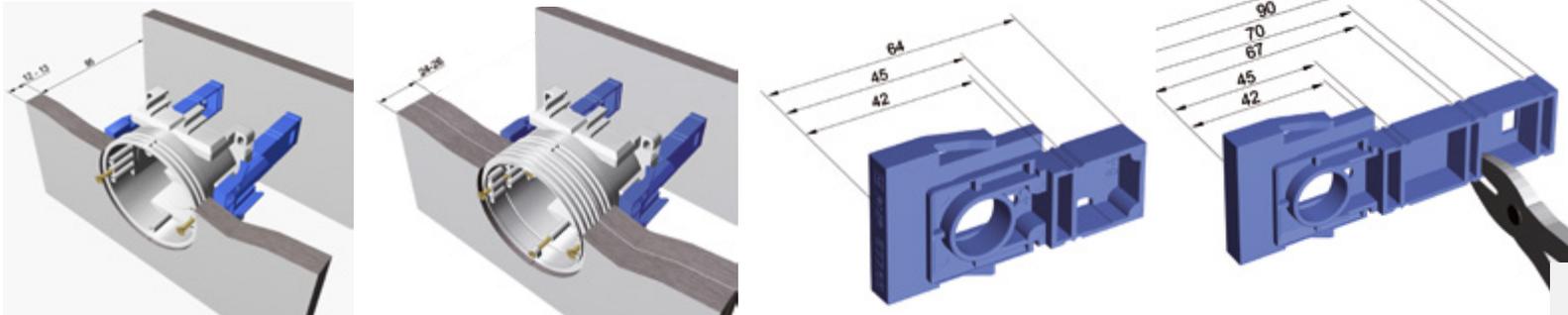
# System ABB boxes

## Mounting box supports and interconnectors

### Box supports

There are two lengths of box supports that can be used with ABB mounting boxes: 65 mm (PMR577.65) and 95 mm (PMR577). Both box supports feature cut-off sections for different stud sizes. When box supports are combined, a mounting box can be installed with a spar width of up to 120 mm.

The heights of the extension rings are 13, 28, and 60 mm. The 13-mm extension ring is suitable when a mounting box is installed on a double board; the higher ones are suitable for mounting on, for example, brick walls or during renovation.



### Interconnectors

PMR474 interconnectors are used to connect ABB mounting boxes to each other with standard distance c/c 71 mm, creating a conduit between boxes for conductors when necessary.

PMR490 interconnectors are used when an 85 mm distance is desired between the mounting boxes. This means that two 85 mm wide frames can be mounted next to each other, for instance to separate power and weak current devices. PMR502 interconnectors are used when a 100 mm distance is desired between the mounting boxes.



# System ABB boxes

## Junction boxes

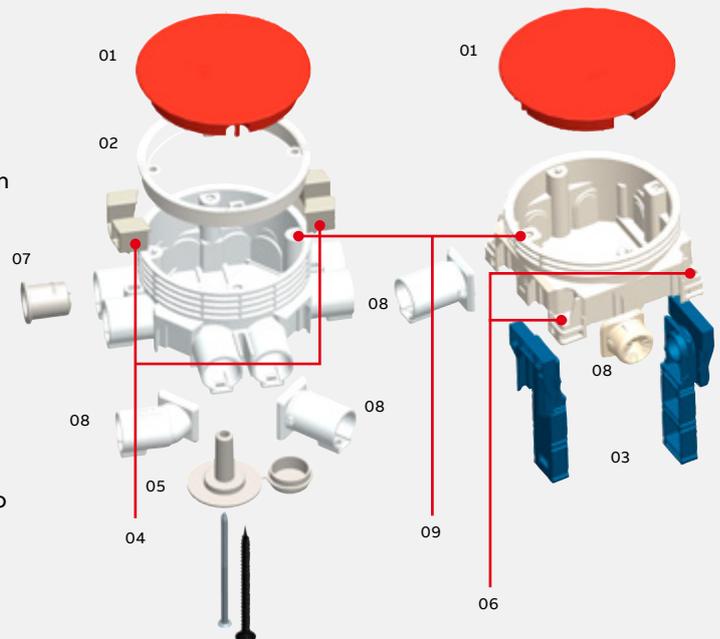
### High-quality junction boxes for demanding conditions

The junction boxes used in ceiling installations are made of high-quality materials, suitable for demanding climate conditions including frost. The installer-friendly junction boxes have rigid and reliable connections to pipings and cable. The boxes can be installed in various ways to different materials. A wide selection of accessories is available. The installation hole diameter is 100 mm. Screw distance to attach devices and covers is c/c 78 mm.



### Adapting junction boxes with accessories

- 01** Covers protect the boxes during casting and construction work.
- 02** The height of the mounting box can be increased with extension rings.
- 03** Box supports ranging from 42-90 mm.
- 04** Supports available for installation in 12-13 mm board wall.
- 05** The installation plug is used to attach the box to a casting mould either by nail or screw.
- 06** There are fixed nailing/screw channels in the box for fastening to framework.
- 07** Strain relief for fixed inlets.
- 08** Separate inlets (ø 116, 20 and 25 mm) or strain reliefs available.
- 09** Screw holes for M4 and 3,5 mm screws.

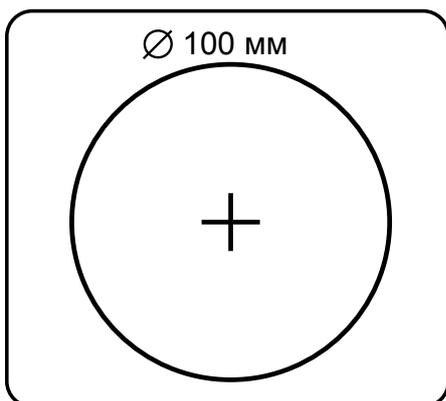
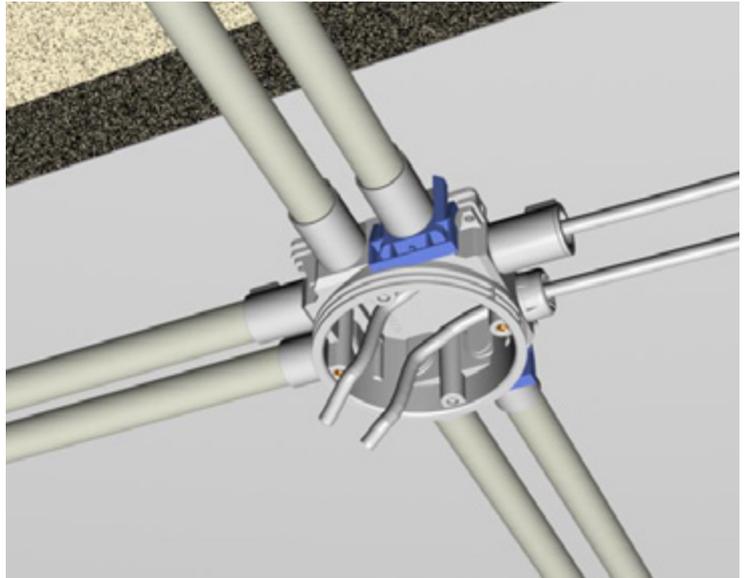


## System ABB boxes

### Ceiling installations in hollow structures

#### Junction boxes and covers

The junction boxes can be mounted in ceiling by nailing or using box supports. Piping and insulated cables are easily connected. The installation can be finished with covers or devices using M4 or 3,5 mm screws.

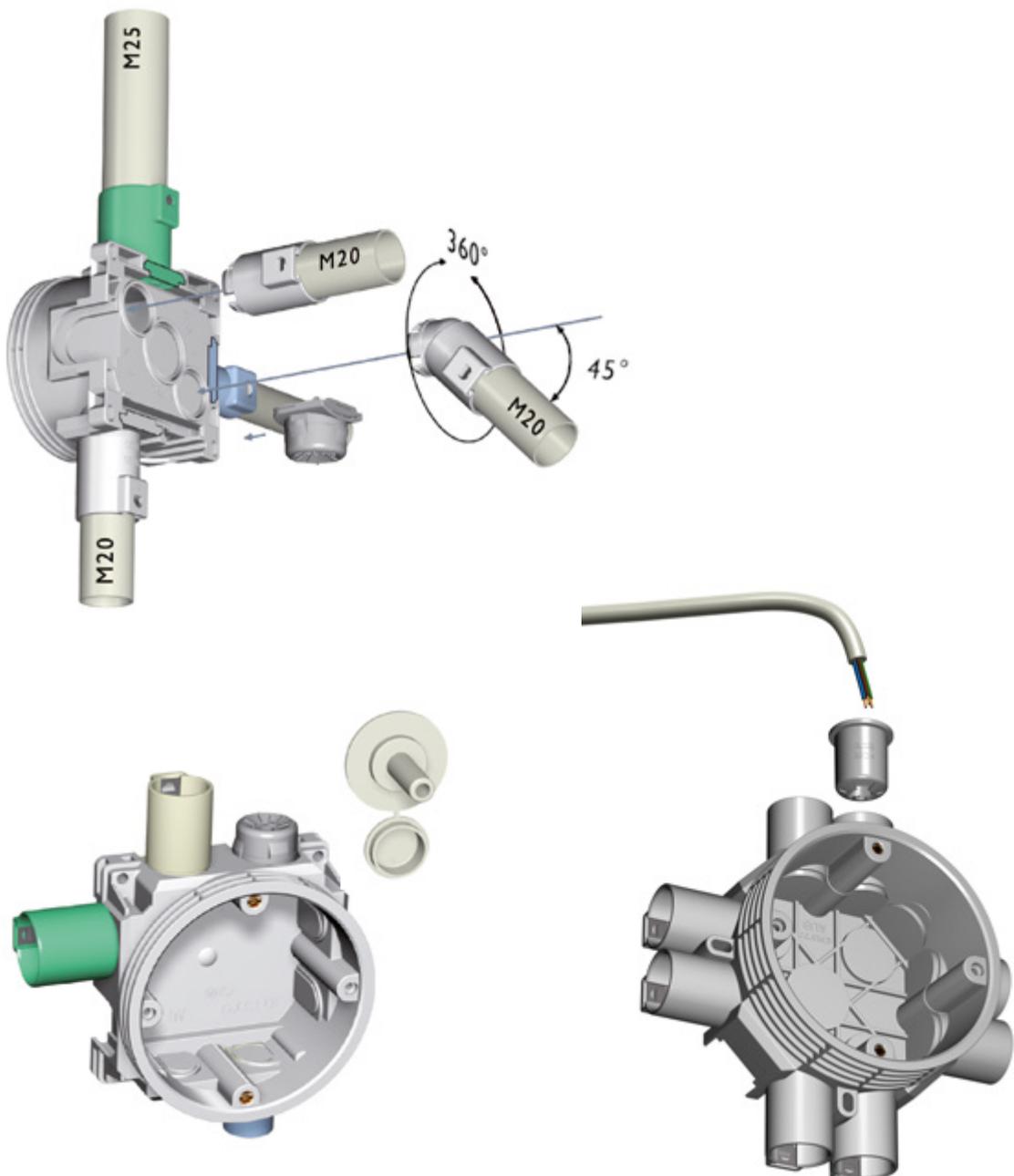


# System ABB boxes

## Inlets and bottom mounting flange

The boxes are suited to a variety of installations when the side and bottom inlets are used. There are side inlets for the boxes for conduit sizes 16, 20, and 25 mm, and bottom inlets for sizes 16 and 20 mm.

A strain relief for insulated cables is also available for the fixed 20 mm inlets in the junction box, with a maximum cable size of 5 x 2.5 mm<sup>2</sup>.



# System ABB boxes

## Installation solutions for concrete casting

The ABB box system is designed for both on-site concrete casting and building with prefabricated concrete elements.



—  
01 Mounting box AU5.32

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02 Bushing insulator AJ10.20

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03 Pre-bent conduit extension with locking glue JMKL40

—  
04 High junction box AU8.73

Mounting boxes are easy to install in walls and ceilings. Conduits of various diameters, usually 20 mm or 25 mm, are mounted between the boxes. The reliability of the system is high, due to the robust boxes and connections between piping.

All connections are secured with a metal locking spring. In addition to the boxes, the system includes also conduit extensions and pre-bent conduit bends for different angles. Bushing insulators are used when moving, for example, from wall to the space above a suspended ceiling.

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# System ABB boxes

## High mounting boxes

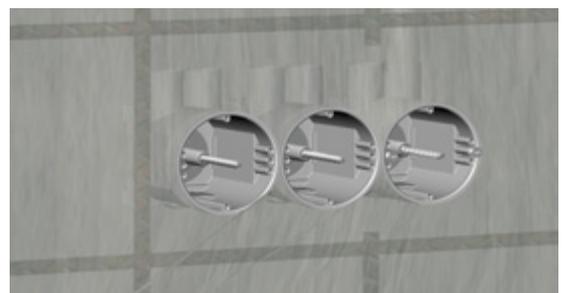
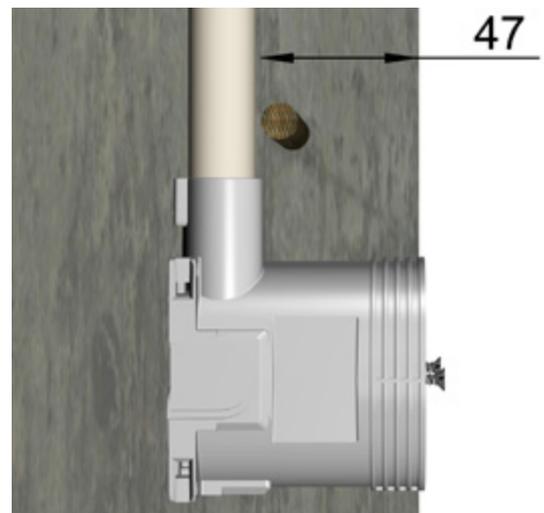
AU5.32 is a high mounting box with two fixed 20 mm inlets. Its height is sufficient to allow the installation of piping behind reinforcements without difficult extra work.

AU3.32 is compatible with AU5.32 and it does not have any fixed inlets. Both AU5.32 and AU3.32 can be completed with additional 16 mm, 20 mm or 25 mm inlets.

The overall height of the box is 73 mm which gives plenty of connecting space. The height from the conduit to the edge of the box is 47 mm. It is sufficient for the installation of piping above the reinforcements, without difficult and time-consuming extra work.

### Combinations mounting boxes

The mounting boxes are easy to combine into groups with interconnectors, thus enabling a flexible installation of switches, outlets and other devices.



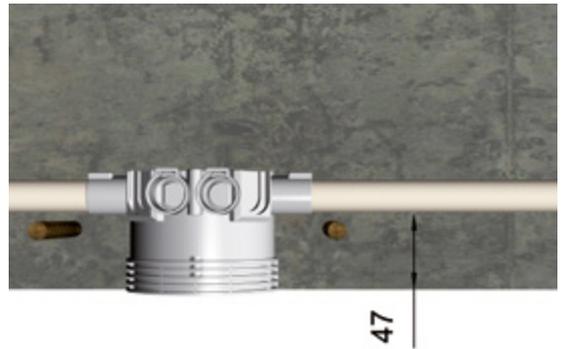
# System ABB boxes

## High junction boxes

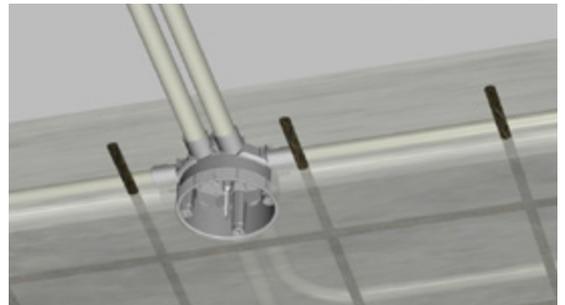
The junction box AU8.73 is designed to fulfill the needs of prefabrication factories and on-site casting.



The overall height of the box is 73 mm which gives plenty of connecting space. The height from the conduit to the edge of the box is 47 mm. It is sufficient for the installation of piping above the reinforcements, without difficult and time-consuming extra work.



Available accessories like bends and conduit end pieces in different sizes enable a flexible installation and offer simple layout solutions for bends and the transition from ceiling to wall.



# System ABB boxes

## Mounting examples for concrete casting

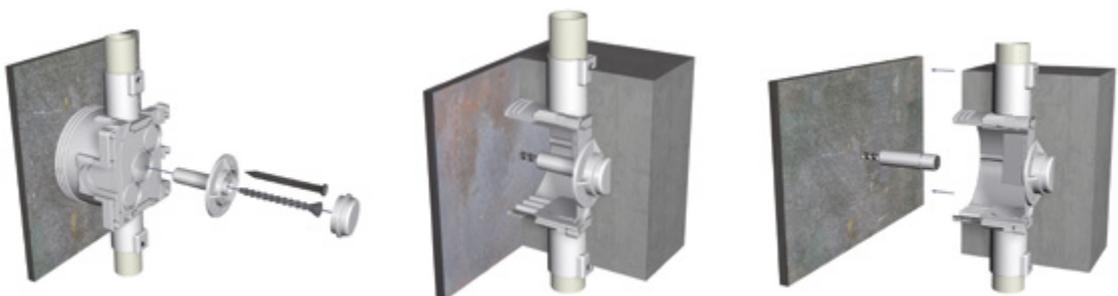
In a concrete element factory, the boxes are usually fastened to the mold with magnets. The boxes are high in order to keep the conduits behind the reinforcement bars. Installation is completed with necessary piping.



When attaching the boxes to plywood moulds, they can either be nailed or screwed.



Installation plug AS25 is used together with a screw or a nail to fasten boxes to a casting mould through the center knockout in the bottom. When the mould is disassembled, the screw or nail will follow the plywood mould and does not have to be separately removed.



## System ABB boxes

### Finalizing piping in walls and ceilings



#### Conduit end-pieces

Conduit end-pieces are used to protect the conduit. During casting, the plug prevents concrete from entering the conduit. After the casting has been finished, the end-piece is cut to a suitable length. Some conduit end-pieces feature pre-made cutting notches.



When extending with a 90° elbow, pre-bent conduit elbows make installation work faster and easier. The piping is extended using a conduit of the same size.

# System ABB boxes

## Bushing and flanges

### Bushing insulator

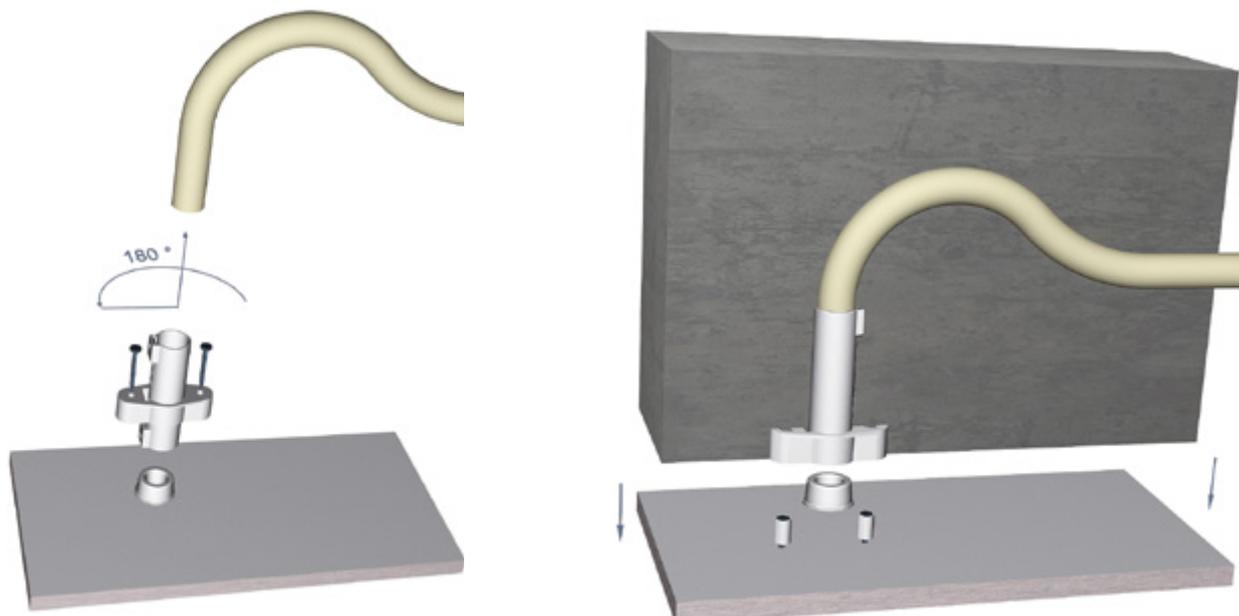
Bushing insulators are used in concrete casting, for example when moving from the ceiling to the partition walls. The bushing is fastened by nailing it to the mould. When the mould is disassembled, the nails come loose with the mould. The casting protector included with the bushing prevents the concrete from entering the conduit.

There is bushing for conduits between 16 and 50 mm thick. When bushing is used, the conduit's angle of departure is either 45° or 90°. The pre-bent conduit elbows speed up installation significantly.



### Wall bushing

Wall bushing AS20 is used in the fastening of Ø 20 piping materials to the mould during concrete casting. Once the mould has been disassembled, an installation conduit of the same size can be attached to the extension bushing, and pipe laying can be continued.



## System ABB boxes



### Mounting box

The mounting box is designed for installation in all kind of wall materials, e.g. hollow walls and stone based materials. It has a total of five knock-out inlets, two of which are on the same side. The bottom of the box provides access for two rear inlets. The boxes can be connected to each other with the PMR474 interconnector. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU3.2	6410011523643	Mounting box	100



### Mounting box + extension ring 12 mm

The mounting box is designed for hollow walls with double plaster board. It consists of AU3.2 modified with a 12 mm high extension ring. The boxes can be connected to each other with the PMR474 interconnector. Manufactured from halogen-free material, the box complies with the IEC/EN60670:2005 standard filament test (850°C).

Type	EAN	Description	Package
AU3.24	6438199002927	Mounting box + extension ring 12 mm	100



### Mounting box for concrete and brick walls

The mounting box is designed for concrete and brick walls. It consists of item AU3.2 modified with a 28 mm high extension ring. No branch inlets are required at the bottom of the box - straight access from side makes wiring easier, with piping or cable. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard EC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU3.32	6410011523674	Brick wall mounting box	50



### Low mounting box with two fixed inlets

The mounting box has 2 fixed inlets with locking devices for Ø20 conduits. A separate inlet can be attached to the side opposite the fixed inlets. The bottom of the box has two inlets. Inlets cannot be attached to the sides of the box, but the sides can be used to connect boxes with each other using a PMR474 interconnector, which is cut at the bottom level of the box. The height of the box is 38 mm, and some high defices might not fit into the box. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU6.2	6410011523155	Low mounting box, height 38 mm, branched 2-way	100



### Mounting box with two fixed inlets

The mounting box is designed for installation in all kind of wall materials, e.g. hollow walls and stone based materials. The box has 2 fixed inlets for Ø20 conduits. There are also 3 knock-out on the side, and 2 on the bottom. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU5.2	6410011523032	Mounting box, branched 2-way	100



### High mounting box for concrete and brick walls, with two fixed inlets

The mounting box is designed for concrete and brick walls and it is 73 mm high. The box has 2 fixed inlets for Ø20 conduit. There are also 3 knock-out inlets altogether at the side, and possibility to insert 2 back inlets. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU5.32	6418677335068	High mounting box, 73 mm	50

**2-gang mounting box**

The box AU17.2 has knock-outs for 11 inlets on the side, and 6 on the bottom. If necessary, the box may be divided in two by using partition plate PMR345. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).



Type	EAN	Description	Package
AU17.2	6410011523896	Double mounting box	50
PMR345	6410011523940	Partition plate for AU17.2	100/1000

**Junction box**

The AU19 junction box has knock-outs for 8 inlets and 4 bottom inlets. The box can be fastened using side nailing or a PMR577 support. The box has four screw pillars, two for M4 screws and two for 3,5 mm universal screws. The box is possible to install in cramped spaces. The height, 47 mm, is the same as the depth of the mounting boxes. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).



Type	EAN	Description	Package
AU19	6410011521199	Junction box	100

**Junction box with 8 fixed inlets**

The AU8 junction box is 53 mm high and has eight branch inlets with locking devices for Ø20 conduits. The box also has knock-outs for 4 side inlets and 4 bottom inlets. In wall installation the box can be attached with a AS13 support. The box has four screw pillars, two for M4 screws and two for 3,5 mm universal screws. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).



Type	EAN	Description	Package
AU8	6410011521083	Junction box	100

**Concrete junction box with 8 fixed inlets**

The AU8.73 junction box is 73 mm high and is designed especially for concrete casting. It has eight fixed inlets with locking devices for Ø20 conduits. The box also has knock-outs for 4 side inlets and 4 bottom inlets. In wall installation the box can be attached with a AS25 support. The box has four screw pillars, two for M4 screws and two for 3,5 mm universal screws. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).



Type	EAN	Description	Package
AU8.73	6438199000435	Junction box, 73 mm	40

**Extension ring, 13 mm**

The height of the PMR94 is 13 mm. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR94	6410011523902	Extension ring, 13 mm	50/500

**Extension ring, 28 mm**

The height of the PMR410 is 28 mm and it is designed to use in e.g. concrete and brick walls.



Type	EAN	Description	Package
PMR410	6410011523964	Extension Ring, 28 mm	50

**Extension ring, 60 mm**

The height of the PMR399 is 60 mm and it is typically used in renovation of old houses, when adding 50 mm thermal insulation to inside walls while leaving existing conduit installations in place. The extension ring is attached to the old mounting box to extend it to the level of the new boarding.



Type	EAN	Description	Package
PMR399	6410011523971	Extension ring, 60 mm	50

**Extension ring for AU17.2**

The height of the AK17 extension ring is 13 mm, and it is used to modify the AU17.2 mounting box.



Type	EAN	Description	Package
AK17	6410011523919	Extension ring for double mounting box, 13 mm	50

**Extension ring for junction boxes, 13 mm**

The height of the junction box can be increased by 13 mm with the AK7 extension ring. Screw distance c/c 78 mm.



Type	EAN	Description	Package
AK7	6410011521908	Extension ring for junction box, 13 mm, screw distance c/c 78 mm	50

**Extension ring for junction boxes, 45 mm**

The height of the junction box can be increased by 45 mm with the AK14 extension ring. It suits to boxes with c/c 78 mm screw distance, i.e. AU8, AU19 and AU8.73



Type	EAN	Description	Package
AK14	6410011521953	Extension ring for junction box, 45 mm, for junction boxes with c/c 78 mm screw distance	50

**Interconnectors**

Mounting boxes are connected together with interconnectors. The boxes are attached side by side with PMR474, with c/c distance 71 mm. The PMR490 and PMR502 are used, when a larger distance between the boxes are desired, e.g. to separate antenna/data outlets and socket outlets and use own coverplates. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR474	6410011527740	Interconnector c/c 71 mm	100/1000
PMR490	6410011527887	Interconnector c/c 85 mm	50/250
PMR502	6410011527924	Interconnector c/c 100 mm	50/500

**Box support**

The box supports are compatible with the mounting boxes AU3.2, AU3.24, AU5.2, AU17 and junction box AU19.

The supports are used for the installation of boxes into hollow walls and roofs, with frame thickness 42, 45, 66, 70, 90 and 95 mm. It is possible to mount an inlet or a strain-relief on the support. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR577	6410011527764	Box support 42–95 mm	20/500
PMR577.65	6418677307256	Box support 42–65 mm	100/500
AS95	6438199005126	Box support 66–95 mm	20/500

**Inlets**

Inlets are equipped with a locking device which secures a strong connection to both rigid and flexible conduits. The conduit can be unfastened by twisting and pulling out at the same time. The inlets can be used both in mounting boxes and junction boxes. The inlets are color coded; Ø16 mm is blue, Ø20 mm is white and Ø25 mm is green. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN16	6410011527542	Inlet, Ø16 mm	100/500
AN20	6410011527573	Inlet, Ø20 mm	100/500
AN25	6410011527252	Inlet, Ø25 mm	100/500

**Angle inlet**

The ANK20 angle inlet is equipped with a locking device, which secures a strong connection to both 20 mm rigid and flexible conduits. The conduit can be unfastened by twisting and pulling out at the same time. Angle inlet ANK20 is both right and left handed. The inlet can be used both in mounting boxes and in junction boxes. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ANK20	6410011527221	Angle inlet, Ø20 mm	100/500

**Back inlets**

Back inlets are equipped with a locking device, which secures a strong connection to both rigid and flexible conduits. The conduit can be unfastened by twisting it. The inlets can be used in mounting boxes, junction boxes and in the bottom of the front-mounted box AUS15.2. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ANP16	6410011527146	Back inlet 16 mm	100/500
ANP20	6410011527184	Back inlet 20 mm	100/500
ANP20.1	6410011527214	Angle back inlet 20 mm	100/500

**Strain relief inlet**

The AS12 strain-relief inlet is used in conduitless installations to fasten max. 5 x 2,5 mm<sup>2</sup> insulated cables to the mounting boxes, front-mounted mounting boxes and junction boxes. The boxes are installed in a normal way in the board or other structure. Conduitless flush mounting is acceptable in hollow structures under special circumstances. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS12	6410011525784	Strain relief inlet for mounting- and junction boxes	100/500

**Strain relief inlet**

The AS12.4 strain relief is used in insulated cable mounting to secure max. 5 x 2,5 mm<sup>2</sup> cables in the 20 mm inlets of mounting or junction boxes. The strain relief can also be used with a 20 mm AJ20 conduit extension e.g. in the transition between conduit and insulated cable installation. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS12.4	6438199003467	Strain relief for 20 mm inlets, e.g. for mounting/junction boxes and conduit extensions	50/250

**Reducer**

Converts a Ø20 mm inlet to Ø16 mm. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN20.16	6410011527306	Reducer Ø20/16 mm	100/500

**Reducer**

Enables easy inlet reduction from Ø 25 mm to Ø 20 mm when a Ø 20 conduit needs to be connected into a Ø 25 inlet (AJ25). Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN25.20	6438199005119	Reducer Ø25/20 mm	100/500

**Plug to inlets**

To seal inlets in mounting and junction boxes, 16 mm or 20 mm.

Type	EAN	Description	Package
ATI44	6418677308314	Seal for 16 mm inlet	100/1000
ATI45	6418677310447	Seal for 20 mm inlet	100/1000

**Support for junction box**

Support AS13.12 is designed for wall installations with junction box AU8. By using the support, the open end of the box and the board can be brought to the same level. Fits to 12-13 mm wall boards. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS13.12	6418677334832	Support for AU8 junction box, 12-13 mm board	100/500

**Installation plug**

The AS25 installation plug is used for fixing mounting and junction boxes through their bottom to e.g. concrete casting moulds. When the casts are removed, the plugs break at the groove which is at the same level with the bottom. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS25	6418677329876	Installation plug for mounting/junction boxes	10/100

**Board wall clamp**

Wall clamps are used for attaching mounting boxes AU3.2 or AU5.2 to a 12-13 mm thick board wall. The hole diameter is 74 mm and the board clamps are placed on each side of the hole in the board. The box is pushed through the hole from behind of the board, and locks firmly between the board clamps.

Type	EAN	Description	Package
AS8.13	6410011527689	Wall clamp, for 12-13 mm board	100/1000

**Installation adaptor**

A mounting/junction box is fastened to a surface behind the box with a PMR135 installation adaptor through the opened center blank. The adaptor enables an adjustment possibility and makes installation easier. The screw-head is covered with the plug in the adaptor.

Type	EAN	Description	Package
PMR135	6410011527894	For mounting-/ and junction boxes	100/2500

**Screws for mounting boxes**

Devices are attached to the mounting and junction boxes by using self-tapping PLP4 screws. The screws fit to all mounting boxes. If necessary, it is possible to raise the device up to 10 mm by using the longer PLP5 screws.

Type	EAN	Description	Package
PLP4.100	6418677335150	3 x 16 mm, 100 pcs	1/100
PLP5.100	6418677335167	3 x 29 mm, 100 pcs	1/50

**Protective cover**

Protective cover for the white 1-gang AU serie mounting boxes and blue AU605. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS32	6438199001746	Protective cover, for white AU range mounting boxes	100/1000

**Protective cover**

The PM107 protective cover is used to close off junction boxes AU8, AU19 and AU8.73 during casting.



Type	EAN	Description	Package
PM107	6410011525067	Protective cover, for junction boxes AU8, AU19 and AU8.73	100



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**The System Ideal series includes a wide range of products that covers even the most demanding installation needs.**

# System IDEAL boxes

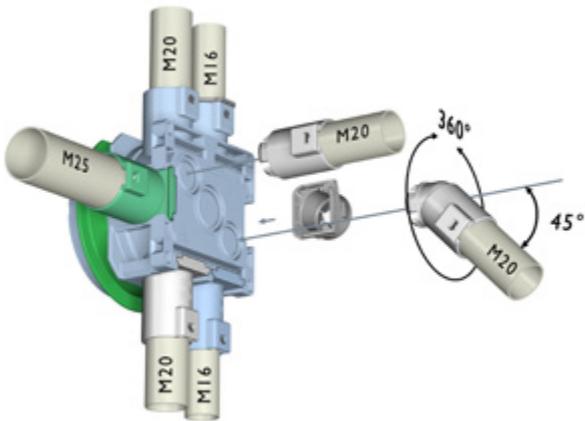
- The structure of the installation ring makes adjusting the height easy, quick and reliable.
- Adjustment for 1–2 plasterboard walls.
- In addition, the ring allows the device to be mounted in the desired position.
- The box can be mounted to wall frames with truss fixtures.



System Ideal was developed with a focus on details that streamline the work and produce good, cost-effective results. The available accessories make it a comprehensive system. System IDEAL meets the IEC/EN 60670:2005 standard and is approved for mounting in EI30 and EI60 firewalls. All Ideal boxes are made of halogen free material (IEC/61249-2-21). System ideal is widely used in both hollow wall and concrete structures.

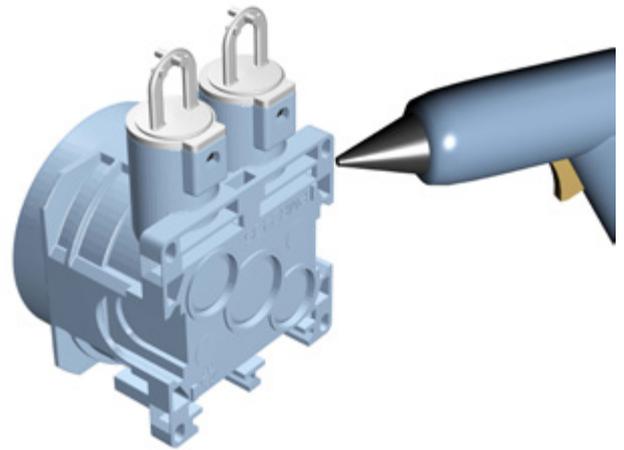
# System IDEAL boxes

## Installation methods

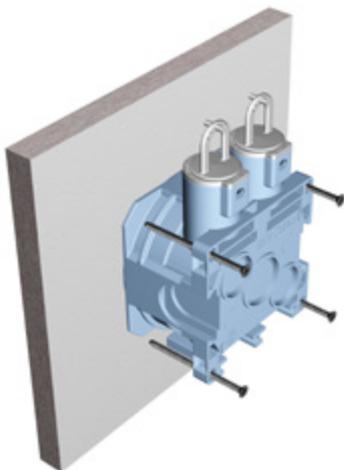


Side and bottom inlets

- Suitable for mounting and junction boxes
- All inlets have locking devices
- AN - side inlets for pipe sizes
- 16 mm, 20 mm and 25 mm
- ANP - bottoms inlets for pipe sizes 16 mm and 20 mm

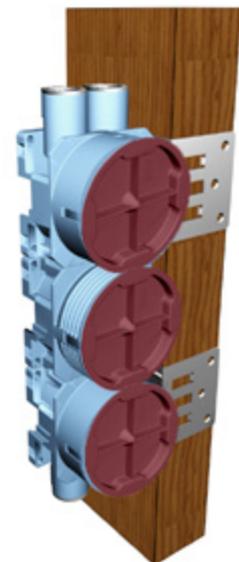


Fixing with e.g. glue gun



Fixing of mounting box in timber studs

- The box can be fixed in the stud by nailing from the side

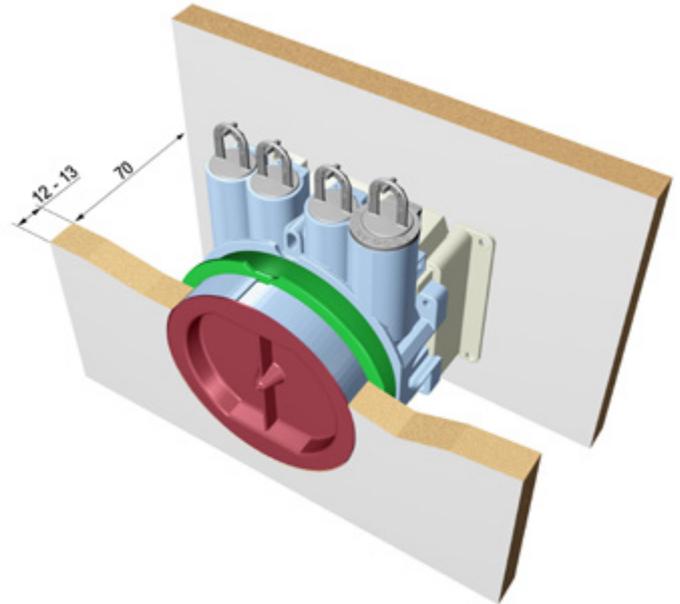


Mounting with truss fixtures

- Box combinations also possible.

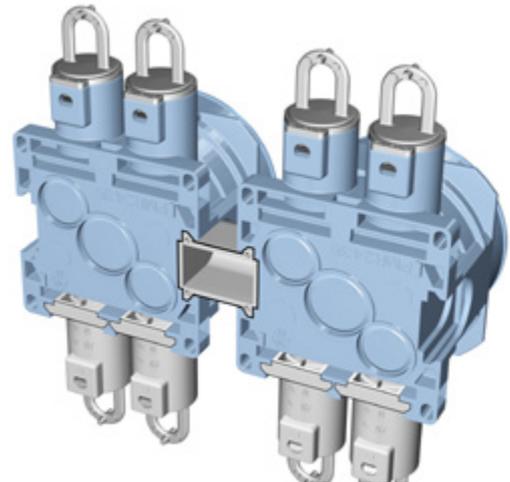
## Mounting box supports

- Mounting box supports are used to fit the blue mounting boxes AU5.6, AU60.1 and AU60.5 between two boards in hollow walls



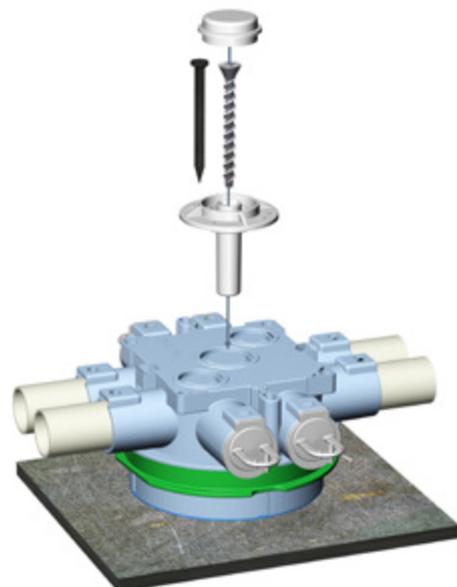
## PMR - interconnector

- Mounting boxes can be connected together and the cable guided between boxes with a PMR474
- PMR490 is used for 1-gang devices and 100 mm coverplates
- The centreplate distance of the box is 85 mm
- Low voltage and strong current circuits can be installed under different coverplates
- Align the coverplates horizontally next to each other



## Installation in concrete wall

- You can fix the ceiling box with an AS25 installation plug from a hole in the base of the box into e.g. the formwork
- When the formwork is opened, the installation plug is knocked out at the base of the box



## System IDEAL boxes



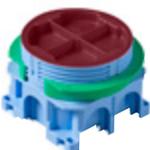
### Mounting box AU60.1

The mounting box has a rotating ring for adjusting the screw holes for device installation in optimal angle and screw distance is c/c 60 mm. The green adapter ring, delivered with the box, is used in single-board walls (12-13 mm). The ring is removed when the wall thickness is two boards (24-26 mm). The box has two fixed inlets, one of them is open and both inlets are equipped with a locking device in metal for reliable connection between the conduits and the box. Both flexipipe and stiff conduits can be connected to the inlets and the inlets have 16/20 mm piping adapters. In addition, there are four openable holes on the sides and two in bottom for different inlets.

The box is also tested in firewalls EI60 (mounting instruction separately).

Manufactured from halogen free material (IEC/61249-2-21), the box complies with the IEC/EN60670:2005 glow wire test (850 °C).

Type	EAN	Description	Package
AU60.1	6418677334788	Mounting box, 12-13 / 24-26 mm board	80



### Mounting box AU60.5

The mounting box has a total of six knock-out inlets, two of which are on the same side. The bottom of the box provides access for two rear inlets. The green adapter ring, delivered with the box, is used in single-board walls (12-13 mm). The ring is removed when the wall thickness is two boards (24-26 mm). The boxes can be connected to each other with the PMR474 interconnector. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU60.5	6438199003405	for 12-13 / 24-26 mm board	80



### Mounting box AU5.6

The mounting box includes a rotating, steplessly adjustable extension ring enabling installation on boards with a thickness of 13-27 mm. Installation depth is 55 mm and overall height 58-72 mm. The extension ring can be tilted 0-4° and the box has 2 opened branch inlets for 16/20 mm conduits. In addition, there are four knock-out inlets on the side, two 16 mm and one 20 mm inlet in the bottom. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670:2005 (850 °C).

Type	EAN	Description	Package
AU5.6	6438199005027	Mounting box, board thickness 13-27 mm	50



### Junction box AU67

The mounting box has a rotating ring for adjusting the screw holes for device installation in optimal angle and screw distance is c/c 67 mm. The green adapter ring, delivered with the box, is used in single-board walls (12-13 mm). The ring is removed when the wall thickness is two boards (24-26 mm). There are five fixed inlets for 16 mm conduits, three are open, and two fixed inlets for 20 mm conduits. All inlets are equipped with a locking device in metal for reliable connection between the conduits (flexi or stiff pipe) and the box. In addition, there are two openable holes on the sides and two in the bottom for different inlets.

Manufactured from halogen free material (IEC/61249-2-21), the box complies with the IEC/EN60670:2005 glow wire test (850 °C).

Type	EAN	Description	Package
AU67	6418677332340	for 12-13 / 24-26 mm board	40



### Ceiling junction box AU70, with 8 fixed inlets

The ceiling junction box has two screw pillars for M4 screws, e.g. for attaching lamp connectors or roof lids and screw distance is c/c 70 mm. The green adapter ring, delivered with the box, is used when board thickness is 12-13 mm. The ring is removed when the board thickness is 24-26 mm e.g. double plaster board. There are 8 fixed inlets for 20 mm conduits, and 6 have an adapter for 16 mm conduit. All inlets are equipped with a locking device in metal for reliable connection between the conduits (flexi or stiff pipe) and the box. In addition, there are two openable holes in the bottom for different inlets. Manufactured from halogen free material (IEC/61249-2-21), the box complies with the IEC/EN60670:2005 glow wire test (850 °C).

Type	EAN	Description	Package
AU70	6418677332357	Ceiling junction box for 13/26 mm board	50

**Extension ring 2 mm**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ATI16	6418677301087	S-PBR60/2	50/1000

**Extension ring 4 mm**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ATI17	6418677301094	S-PBR60/4	50/1200

**Extension ring, 13 mm**

The height of the PMR94 is 13 mm. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR94	6410011523902	Extension ring, 13 mm	50/500

**Extension ring, 28 mm**

The height of the PMR410 is 28 mm and it is designed to use in e.g. concrete and brick walls.



Type	EAN	Description	Package
PMR410	6410011523964	Extension Ring, 28 mm	50

**Extension ring, 60 mm**

The height of the PMR399 is 60 mm and it is typically used in renovation of old houses, when adding 50 mm thermal insulation to inside walls while leaving existing conduit installations in place. The extension ring is attached to the old mounting box to extend it to the level of the new boarding.



Type	EAN	Description	Package
PMR399	6410011523971	Extension ring, 60 mm	50

**Interconnectors**

Mounting boxes are connected together with interconnectors. The boxes are attached side by side with PMR474, with c/c distance 71 mm. The PMR490 and PMR502 are used, when a larger distance between the boxes are desired, e.g. to separate antenna/data outlets and socket outlets and use own coverplates. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR474	6410011527740	Interconnector c/c 71 mm	100/1000
PMR490	6410011527887	Interconnector c/c 85 mm	50/250
PMR502	6410011527924	Interconnector c/c 100 mm	50/500

**Box support**

The box supports are compatible with the mounting boxes AU3.2, AU3.24, AU5.2, AU17 and junction box AU19. The supports are used for the installation of boxes into hollow walls and roofs, with frame thickness 42, 45, 66, 70, 90 and 95 mm. It is possible to mount an inlet or a strain-relief on the support. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR577	6410011527764	Box support 42–95 mm	20/500
PMR577.65	6418677307256	Box support 42–65 mm	100/500
AS95	6438199005126	Box support 66–95 mm	20/500

**Inlets**

Inlets are equipped with a locking device which secures a strong connection to both rigid and flexible conduits. The conduit can be unfastened by twisting and pulling out at the same time. The inlets can be used both in mounting boxes and junction boxes. The inlets are color coded; Ø16 mm is blue, Ø20 mm is white and Ø25 mm is green. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN16	6410011527542	Inlet, Ø16 mm	100/500
AN20	6410011527573	Inlet, Ø20 mm	100/500
AN25	6410011527252	Inlet, Ø25 mm	100/500

**Angle inlet**

The ANK20 angle inlet is equipped with a locking device, which secures a strong connection to both 20 mm rigid and flexible conduits. The conduit can be unfastened by twisting and pulling out at the same time. Angle inlet ANK20 is both right and left handed. The inlet can be used both in mounting boxes and in junction boxes. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ANK20	6410011527221	Angle inlet, Ø20 mm	100/500

**Back inlets**

Back inlets are equipped with a locking device, which secures a strong connection to both rigid and flexible conduits. The conduit can be unfastened by twisting it. The inlets can be used in mounting boxes, junction boxes and in the bottom of the front-mounted box AUS15.2. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
ANP16	6410011527146	Back inlet 16 mm	100/500
ANP20	6410011527184	Back inlet 20 mm	100/500
ANP20.1	6410011527214	Angle back inlet 20 mm	100/500

**Strain relief inlet**

The AS12 strain-relief inlet is used in conduitless installations to fasten max. 5 x 2,5 mm<sup>2</sup> insulated cables to the mounting boxes, front-mounted mounting boxes and junction boxes. The boxes are installed in a normal way in the board or other structure. Conduitless flush mounting is acceptable in hollow structures under special circumstances. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS12	6410011525784	Strain relief inlet for mounting- and junction boxes	100/500

**Strain relief inlet**

The AS12.4 strain relief is used in insulated cable mounting to secure max. 5 x 2,5 mm<sup>2</sup> cables in the 20 mm inlets of mounting or junction boxes. The strain relief can also be used with a 20 mm AJ20 conduit extension e.g. in the transition between conduit and insulated cable installation. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS12.4	6438199003467	Strain relief for 20 mm inlets, e.g. for mounting/junction boxes and conduit extensions	50/250

**Reducer**

Converts a Ø20 mm inlet to Ø16 mm. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN20.16	6410011527306	Reducer 20/16 mm	100/500

**Reducer**

Enables easy inlet reduction from Ø 25 mm to Ø 20 mm when a Ø 20 conduit needs to be connected into a Ø 25 inlet (AJ25). Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN25.20	6438199005119	Reducer Ø25/20 mm	100/500



#### Plug to inlets

To seal inlets in mounting and junction boxes, 16 mm or 20 mm.

Type	EAN	Description	Package
ATI44	6418677308314	Seal for 16 mm inlet	100/1000
ATI45	6418677310447	Seal for 20 mm inlet	100/1000



#### Installation adaptor

A mounting/junction box is fastened to a surface behind the box with a PMR135 installation adaptor through the opened center blank. The adaptor enables an adjustment possibility and makes installation easier. The screw-head is covered with the plug in the adaptor.

Type	EAN	Description	Package
PMR135	6410011527894	For mounting-/ and junction boxes	100/2500



#### Screws for mounting boxes

Devices are attached to the mounting and junction boxes by using self-tapping PLP4 screws. The screws fit to all mounting boxes. If necessary, it is possible to raise the device up to 10 mm by using the longer PLP5 screws.

Type	EAN	Description	Package
PLP4.100	6418677335150	3 x 16 mm, 100 pcs	1/100
PLP5.100	6418677335167	3 x 29 mm, 100 pcs	1/50



#### Protective cover

Protective covers for blue AU mounting boxes (except AU60.5) and blue junction boxes. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS60	6418677332371	Protective cover for AU60.1 and AU5.5	100/1000
AS67	6418677332388	Protective cover for AU67	100
AS70	6418677332395	Protective cover for AU70	100



#### Mounting fixtures to wooden or steel frames, for blue mounting boxes

The blue mounting boxes can be mounted in hollow walls with mounting fixtures, which are nailed to wooden frames or screwed to steel frames.

Type	EAN	Description	Package
AS26.12	6418677335907	Truss fixture 12 mm, e.g. for single plaster board	10/100
AS26.24	6418677335914	Truss fixture 24 mm, e.g. for double plaster board	10/100



#### Mounting box support

Mounting box supports are used to fit the blue mounting boxes AU5.5, AU60.1 and AU60.5 between two boards in hollow walls. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS27	6418677329890	Box support, 25 mm	50
AS27.12	6418677332425	Box support, 12 mm	50

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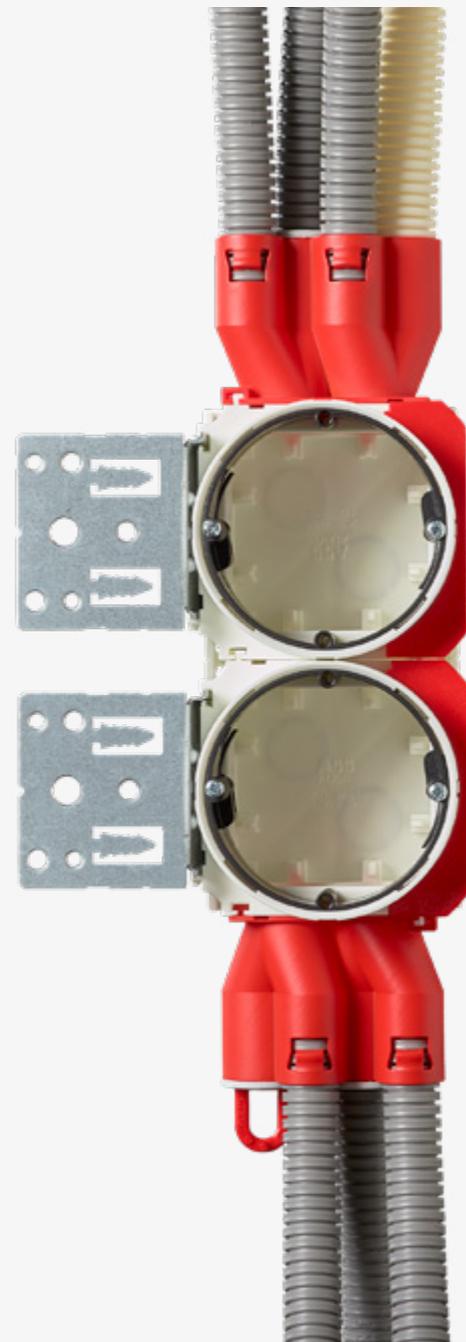
**Smart box contains a installation ring that is rotating and adjustable. This makes it suitable for 12-37 mm thick walls. It has a red adapter ring that can be removed, using double or triple plasterboard.**

# Smart boxes

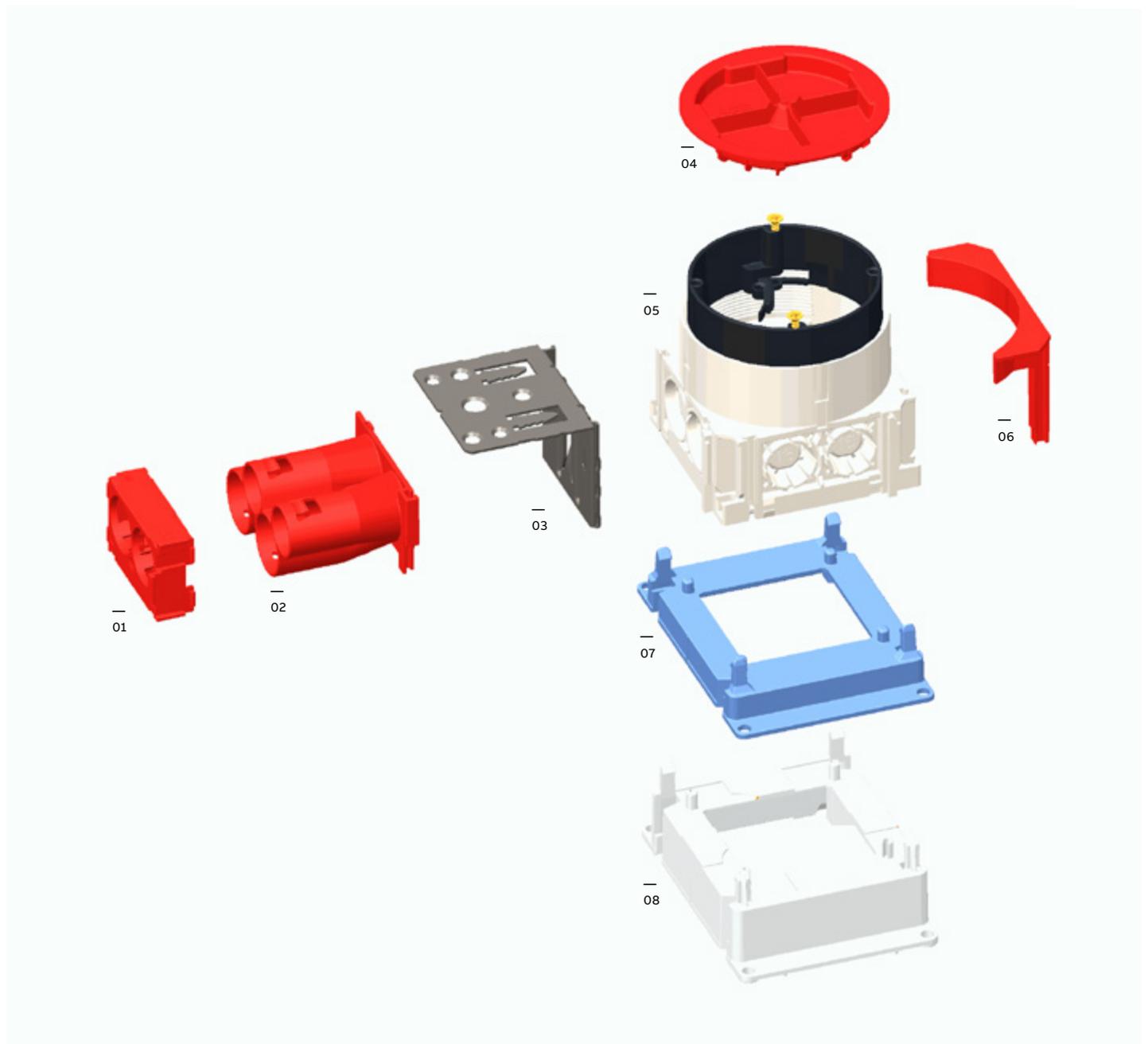
## Features

- Smart box contains a installation ring that is rotating and adjustable.
- Equipped with a mounting fixture that can be adjusted for single or double plaster walls.
- Boxes can be fastened without interconnectors.

Our smartboxes are custom-made for Norwegian installations with flexible pipes. They provide many possibilities and provide flexibility during assembly. At the construction site only a few variants of wall boxes are required, which accelerates and facilitates installation work. All of our smartboxes, of course, meet the standard requirements for installation materials, are manufactured in halogen-free material, and comply with the IEC/EN60670: 2005 (850 C) glow wire test.



# Smart boxes



— 01 Interconnector C/C 85mm og C/C 100mm

— 02 Inlet 2 x 16mm, 2 x 16/20mm

— 03 Mounting fixtures to wooden or steel frames.

— 04 Protective cover

— 05 There is six knock outs for 16 mm pipes and two for the 20 mm pipe. In the bottom there is two knock outs for the bottom inlets. The mounting box includes a rotating, steplessly adjustable extension ring with two locking wings and two red half circles enabling installation on boards with a thickness of 12- 39 mm.

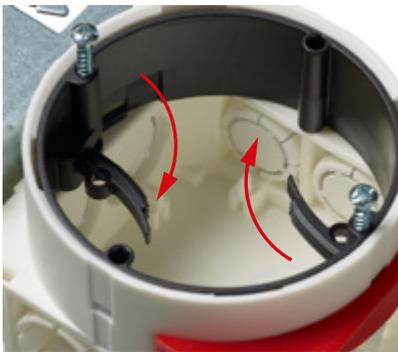
— 06 When using two gypsumboards, remove red ring and adjust mounting fixture one snep.

— 07 Mounting box support has large gluing surfaces, each support being 12 mm high. Due to the support's modular design, it suits wall frame thickness of 70 / 95 / 120 mm etc..

— 08 This stackable support has large gluing surfaces, each support being 25 mm high. Due to the support's modular design, it suits wall frame thickness of 70 / 95 / 120 mm etc. They can also be attached using screws.

# Smart boxes

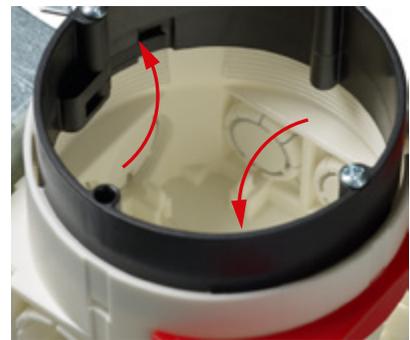
## Installation solutions



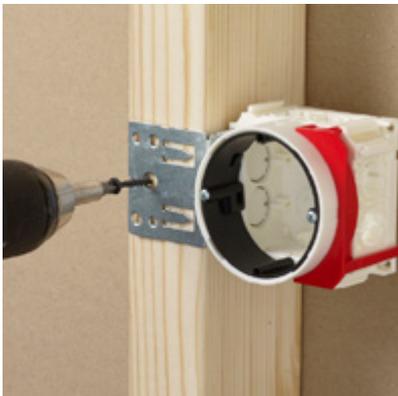
Ring can be adjusted by opening/locking wings.



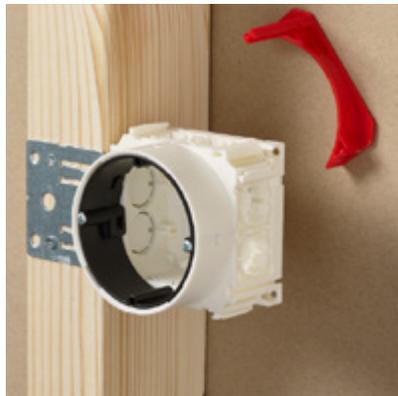
The ring can be adjusted 1-13 mm for additional depth.



Wings are locked when needed height adjusted.



Fastening with one gypsum screw.



When using two gypsumboards, remove red ring and adjust mounting fixture one snep.



Also possible to fasten with nails.



One plasterboard.



Two plasterboards.



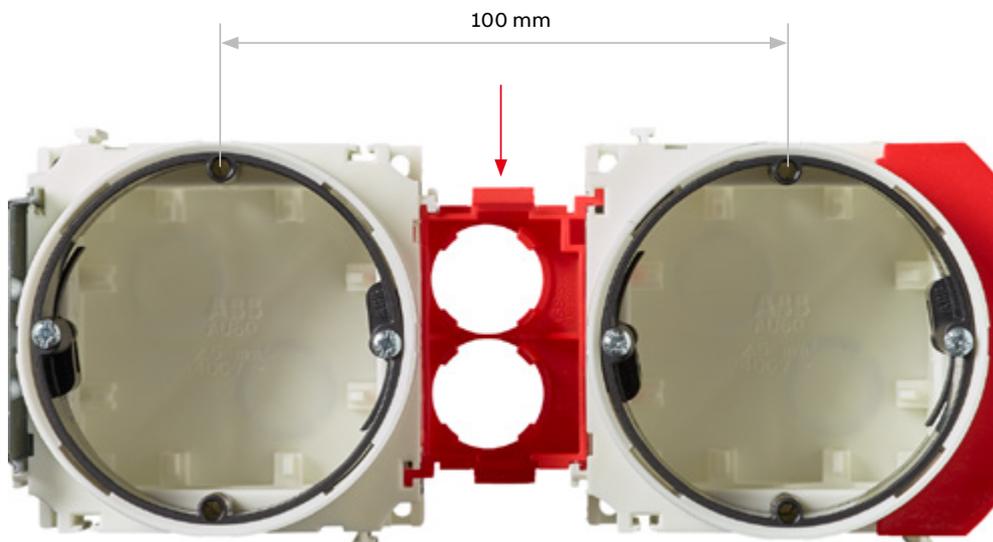
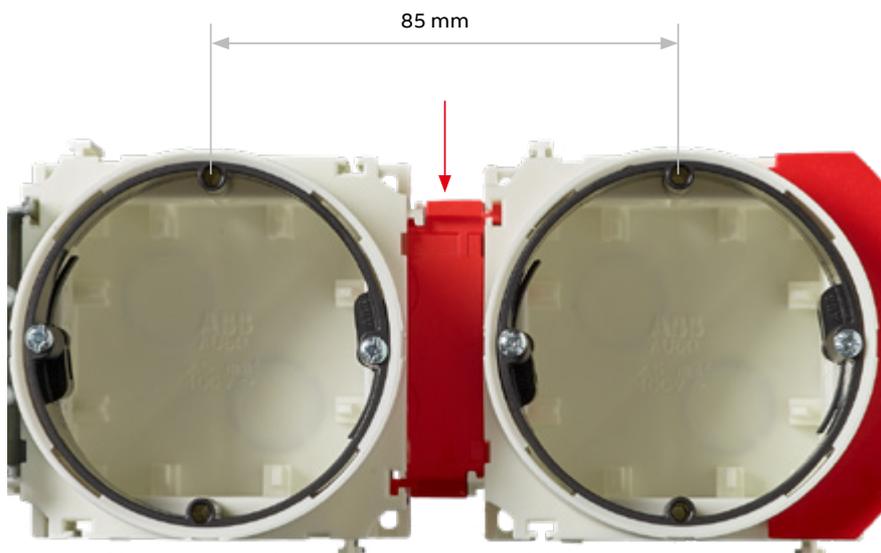
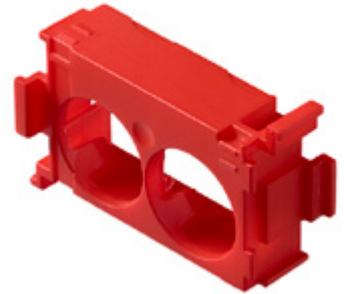
Three plasterboards.

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# Smart boxes

## Interconnector

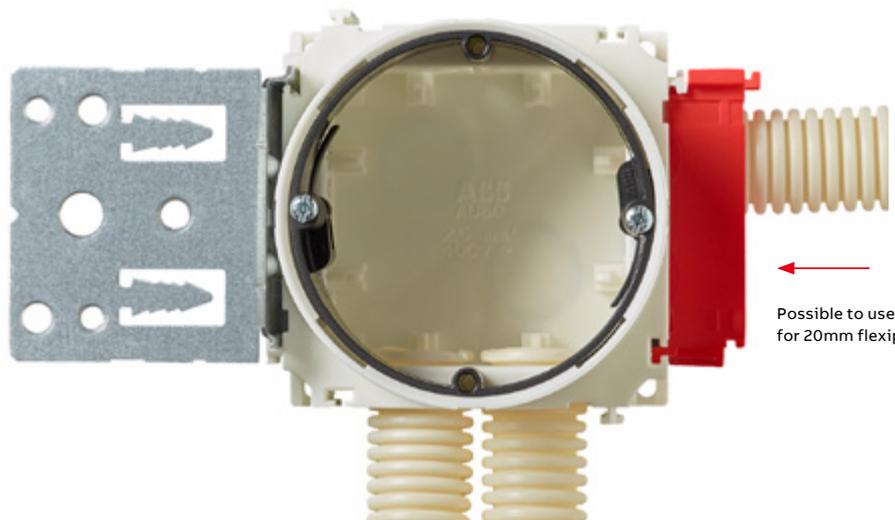
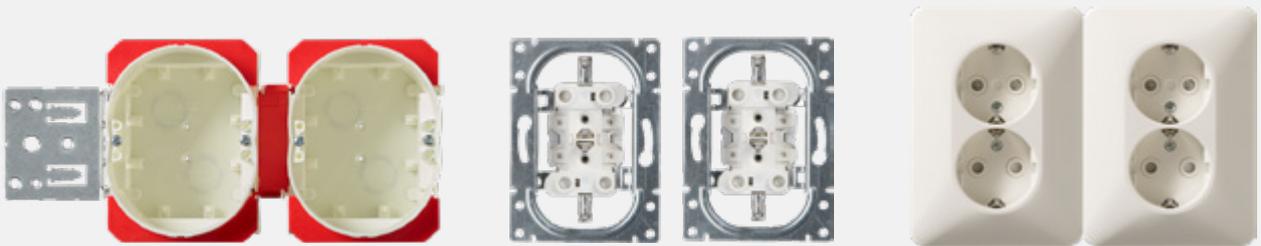
With Interconnector AS8.3 the centre distance can be 85 mm or 100 mm, depending on installation.



—  
Installation of DSO :s side by side



—  
Installation of flat DSO:s side by side.



Possible to use as adapter for 20mm flexipipe.

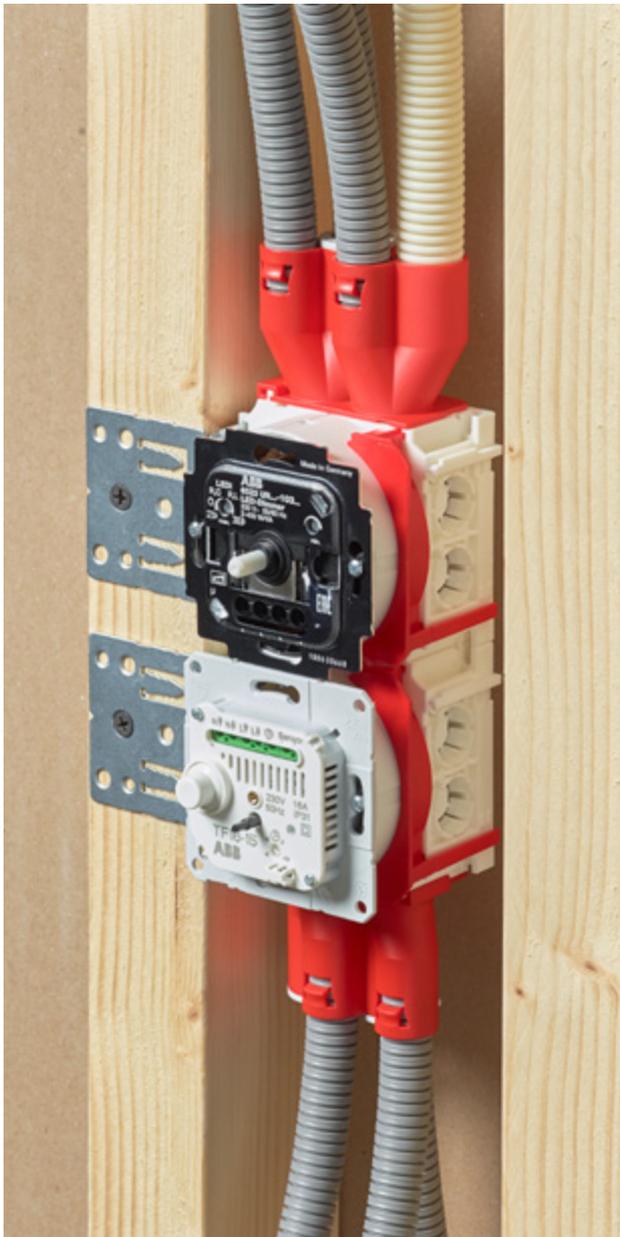
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# Smart boxes

## Inlet

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Inlet AN8.4 with pipe fittings for flexi pipes. Easily fastened by pushing on the integrated fasteners in the box.

**AN8.4 can be used with:**

- two 20 mm flexi pipe (both with a 16 mm reduction plugg )
- two 16 mm flexi pipe



## Smart boxes



### AU80 -range

AU80 -range is designed to be used with flexible conduit, 6 pcs 16mm knock-outs and 2 pcs 20mm knock-outs. With use of red distance ring the box will always stay on the plaster wall level. With two plaster boards (24 mm) the distance ring will be removed.

Type	EAN	Description	Package
AU80	6438199004266	Mounting box	80
AU80.2	6438199004273	Mounting box with truss fixture	60
AU81	6438199004839	Mounting box for flat socket outlet	30
AU81.2	6438199004846	Mounting box for flat socket outlet	25



### Interconnector Nordic Box

Interconnector AS8.3 is used when low-voltage or strong-current circuit box groups are installed under different cover plates. With interconnector AS8.3 the distance between box centers are either 85 mm or 100 mm depending on installation. Additionally, AS8.3 can be used as a inlet for 20 mm flexible conduit with AU80 -range boxes. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS8.3	6438199005133	Interconnector C/C 85 mm and C/C 100 mm	50/250



### Quadruple inlet for flexipipe

Quadruple inlet for AU80 -range installation boxes, with locking device for flexible conduit. Can be used with two Ø16 mm and with additional two Ø16/20 mm flexipipe (20 mm inlets are equipped with reducer to Ø16 mm and with plugs). To be installed to the side of the installation box where there are two Ø20 mm knock-outs. IP rating IP3X. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AN8.4	6438199005140	Quadruple inlet for flexipipe, 2 x Ø16 mm + 2 x Ø16/20 mm	20/100



### Mounting box support

Mounting box supports are used to fit the blue mounting boxes AU5.5, AU60.1 and AU60.5 between two boards in hollow walls. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AS27	6418677329890	Box support, 25 mm	50
AS27.12	6418677332425	Box support, 12 mm	50

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**Renovation boxes are suitable for installation in hollow board walls in new buildings as well as renovation projects.**

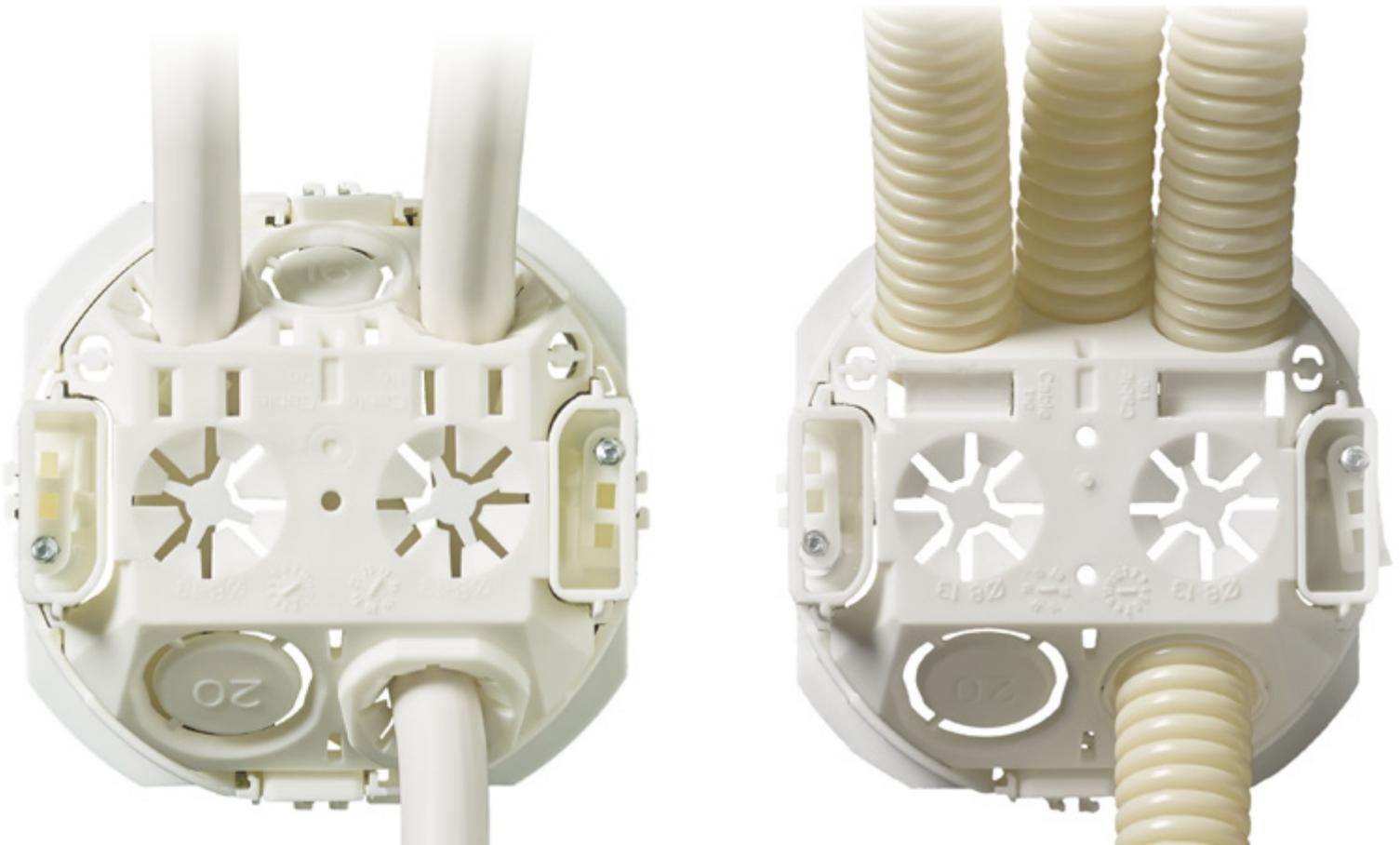
# Renovation boxes

## Features

- For 1-3 plasterboard walls
- The box is suitable for both flexible plastic conduit and cable
- The optimal design includes several inlet positions
- It is easy to make box combinations in both horizontal and vertical directions.

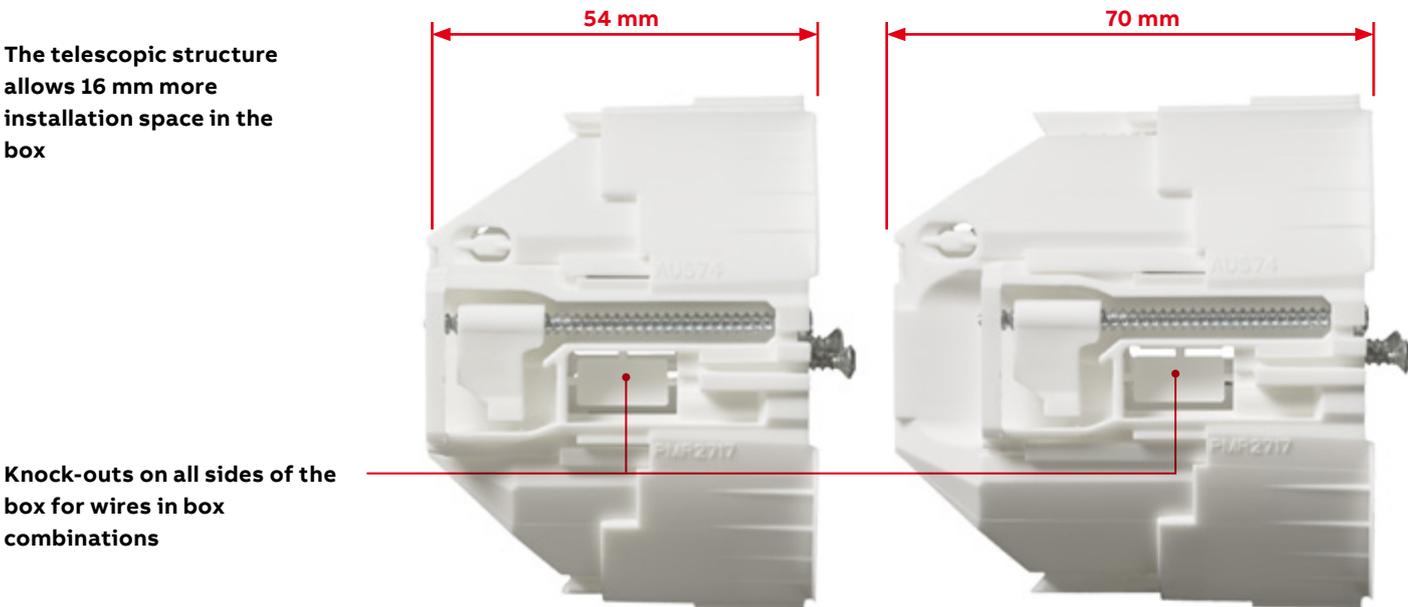
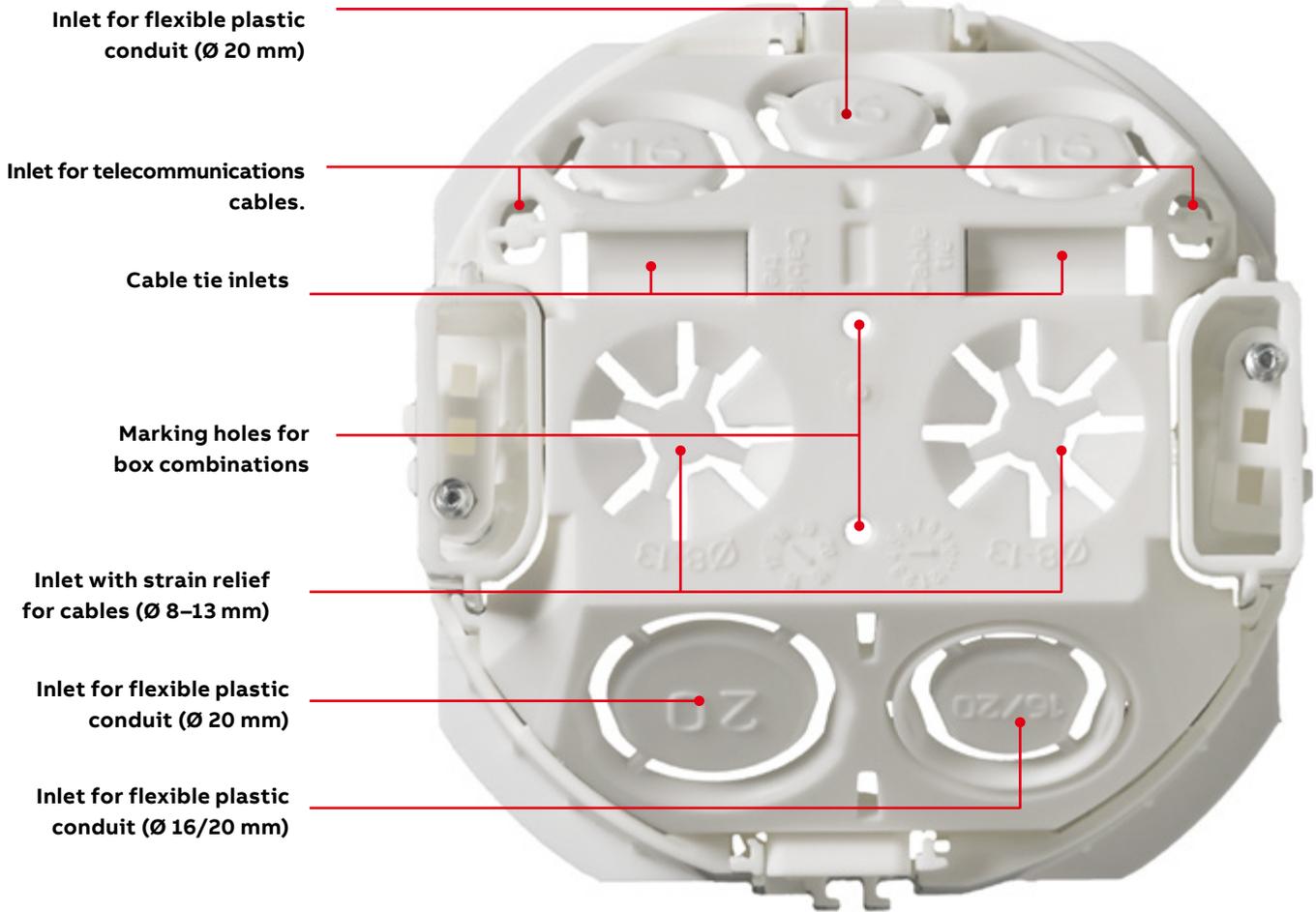


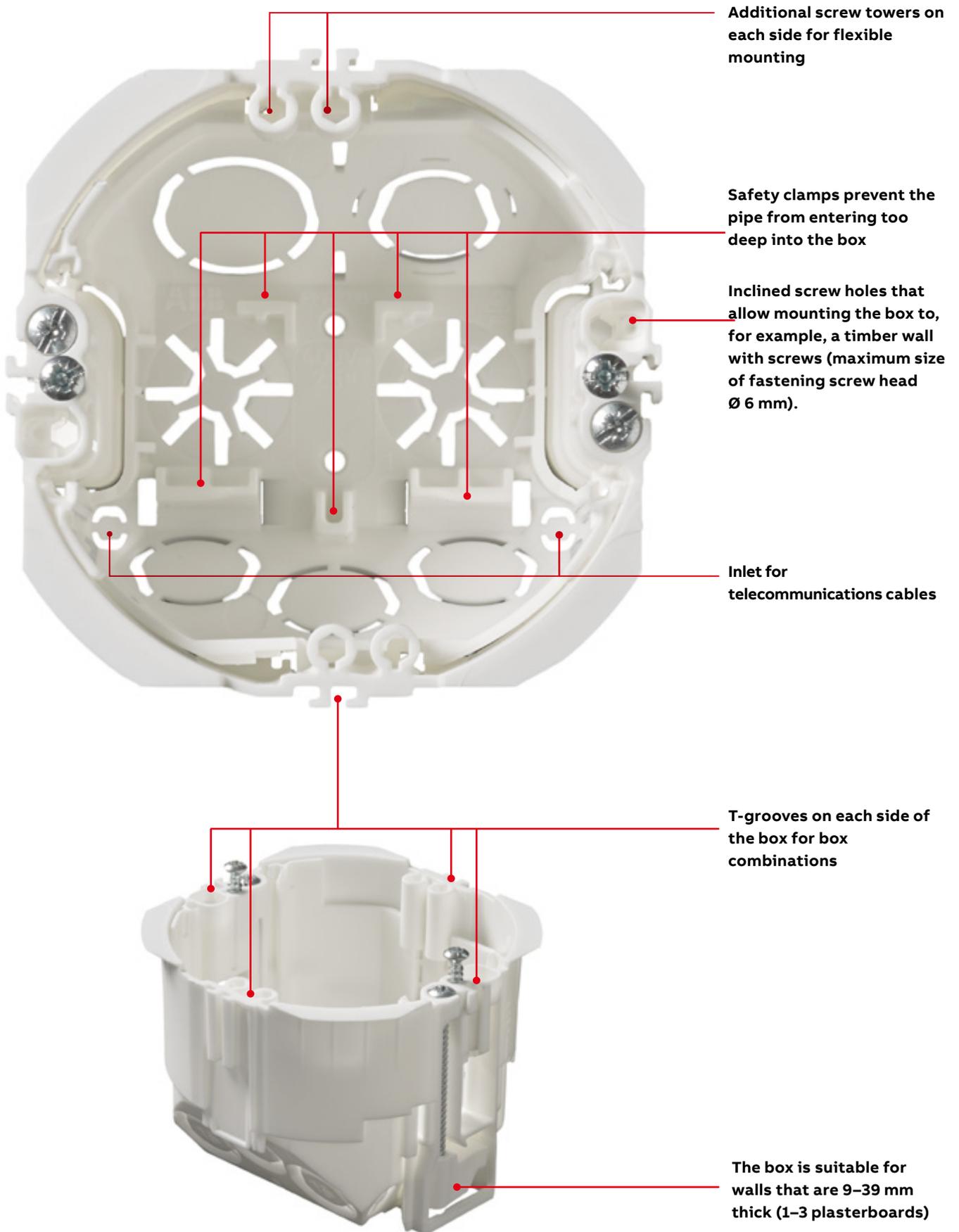
With these boxes it is easy, for example, to add socket outlets or other devices afterwards, when the wall is already closed. The box is also easy to remove.



# AUS74 features

## For flexible plastic conduit





# AUS74 installation methods

## For flexible plastic conduit



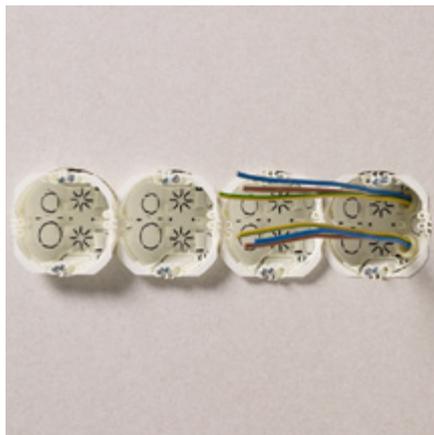
Flexible plastic conduit installation.



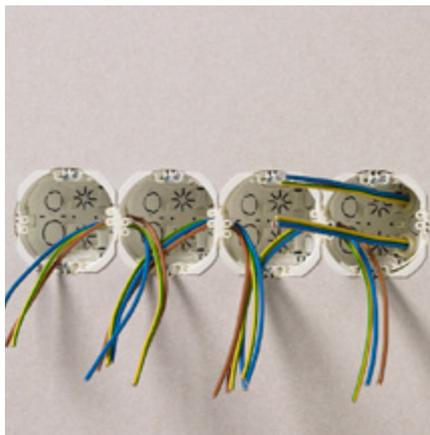
You can connect a maximum of four Ø 16 mm flexible plastic conduit to the box



Adjustable box depth provides lots of installation space.



Boxes combinations are easy to assemble before installing it into the wall.



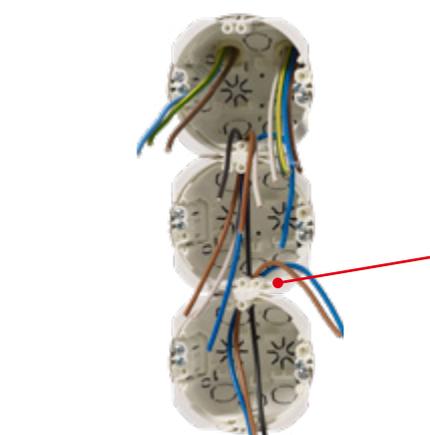
They have retractable deflections for three wires from box to box.



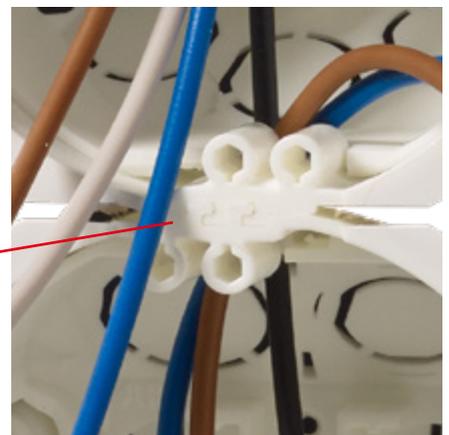
Ø 16 mm pipe entries can be used for cable. Strips are used as strain reliefs.



At the bottom of the box there are two cable entries for 8-13 mm cables.



It is easy to make combinations in any direction. Boxes can be joined to each other using the T-grooves on the sides of the box without separate accessories.

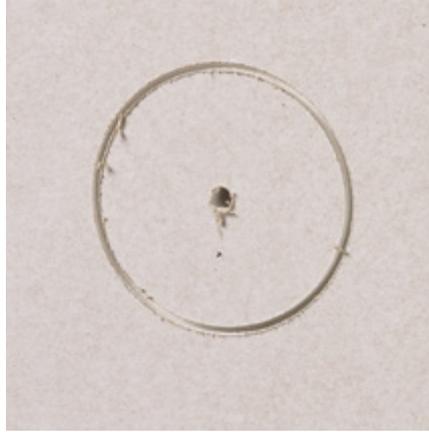


# AUS90 installation methods

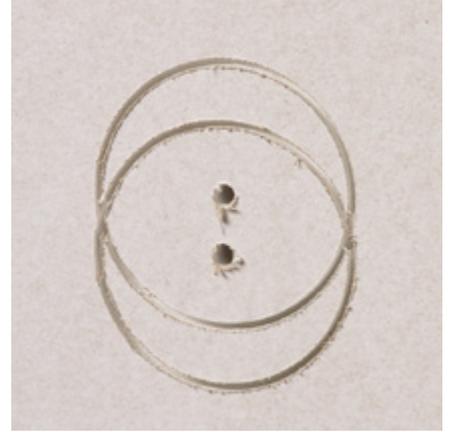
## For double socket outlet



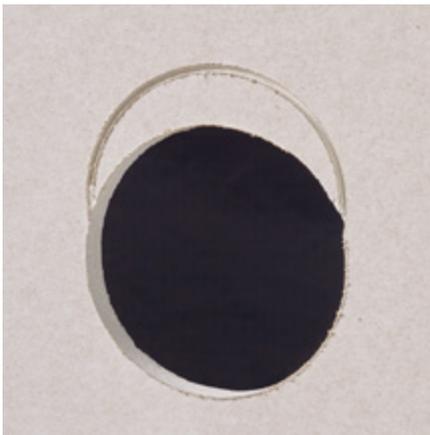
Drilling template is marked on the bottom of the box.



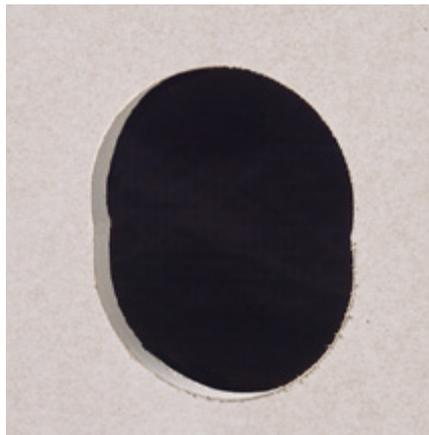
Do not drill the first hole completely.



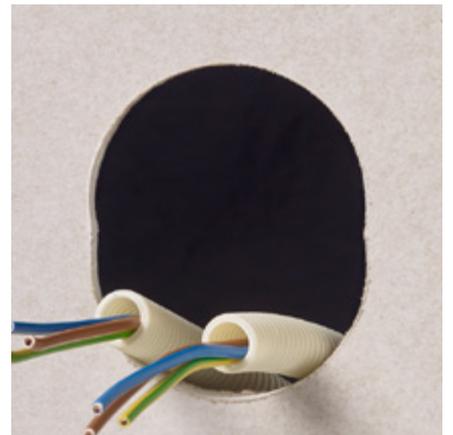
Hole no. 2 can be drilled right through.



When the second hole is drilled, the first hole can be completed.



Finished hole for 1.5 box.



Pull out the flexible plastic conduits from the hole.



Flexible plastic conduits are attached and the box is fully installed in the hole.



1.5 socket in the box.



Finished installation.

# AUS74.2 features

## For cable installations

Inlet for flexible plastic conduit (Ø 20 mm)

Inlet with strain relief for cables (Ø 8–13 mm) or flexible plastic conduit (Ø 20 mm)

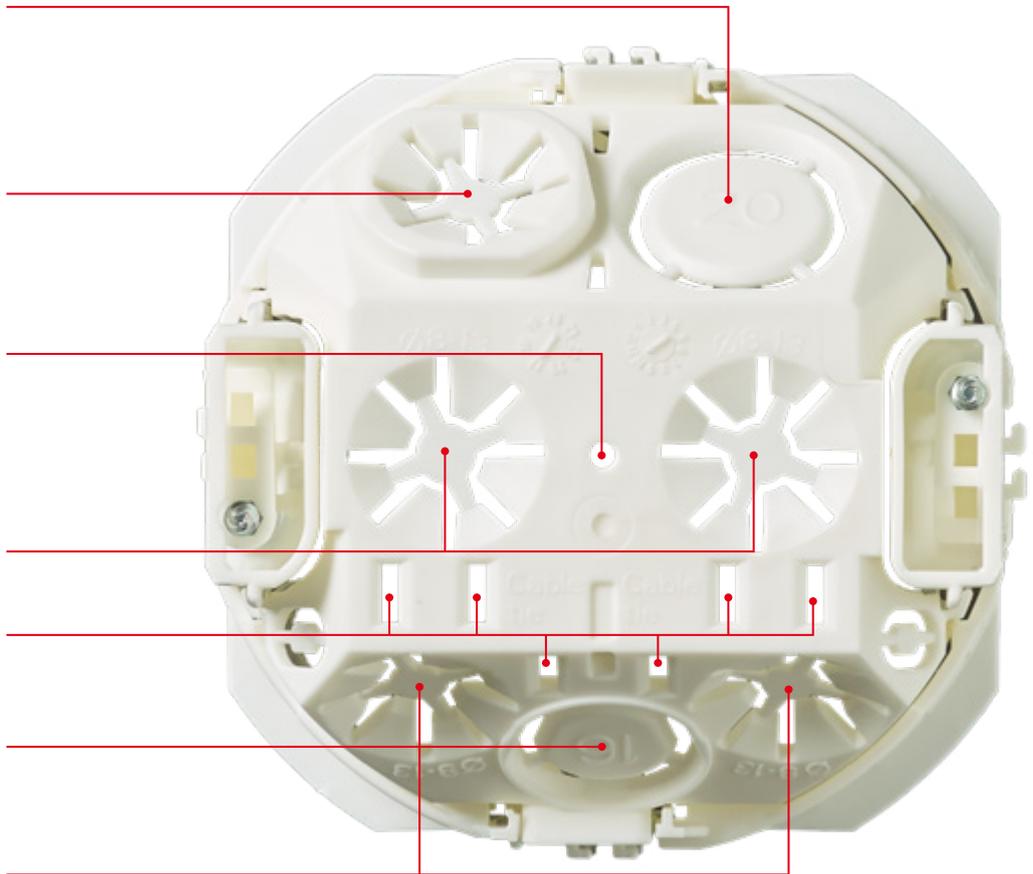
Marking holes for box combinations

Inlet with strain relief for cables (Ø 8–13 mm)

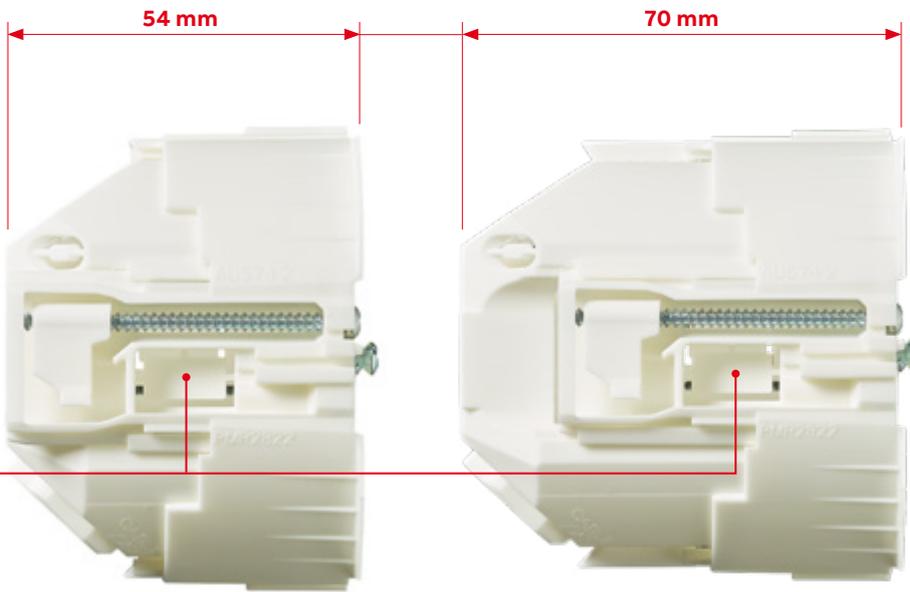
Cable tie inlets

Inlet for flexible plastic conduit (Ø 16 mm)

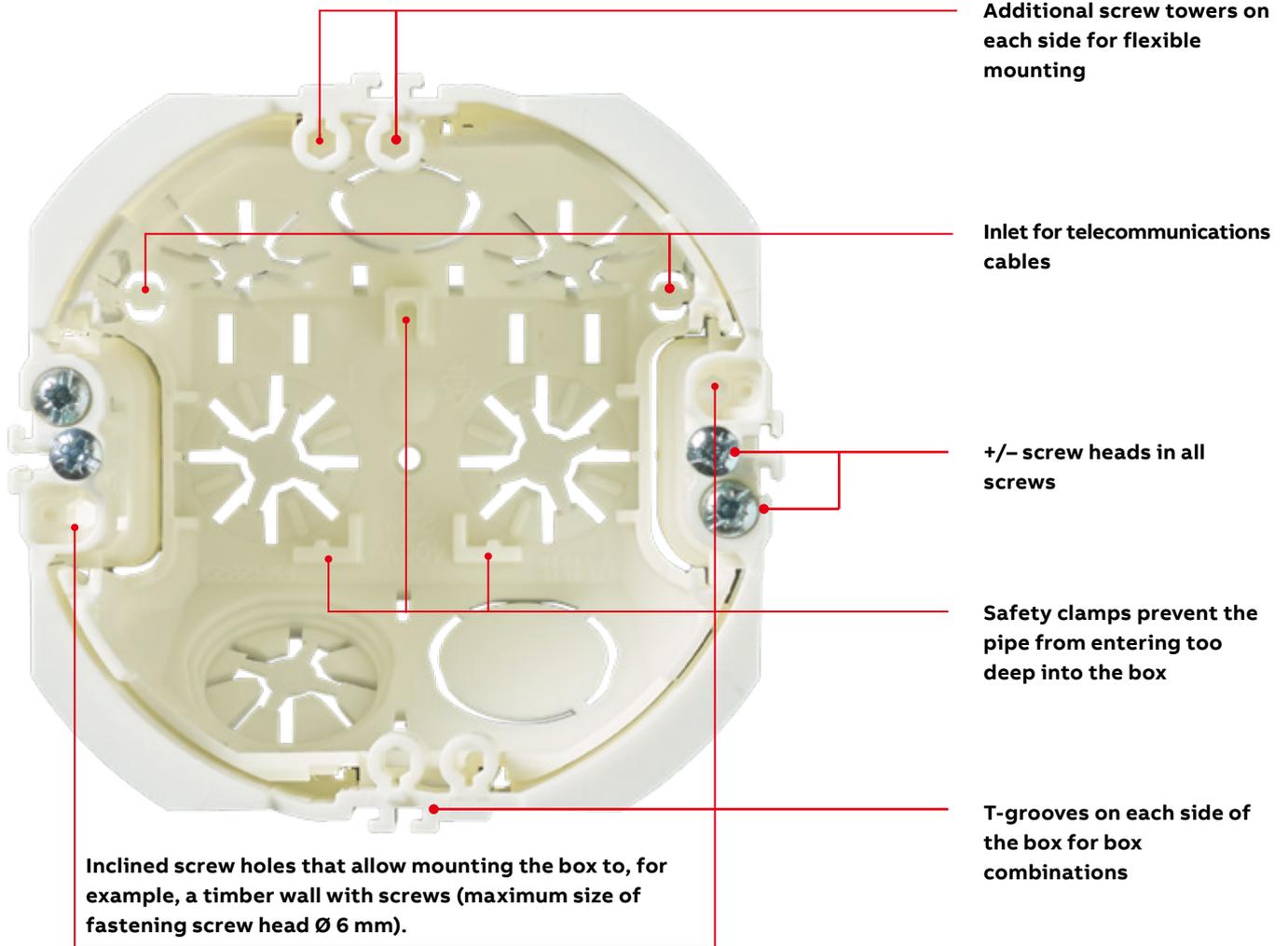
Inlet with strain relief for cables (Ø 8–13 mm)



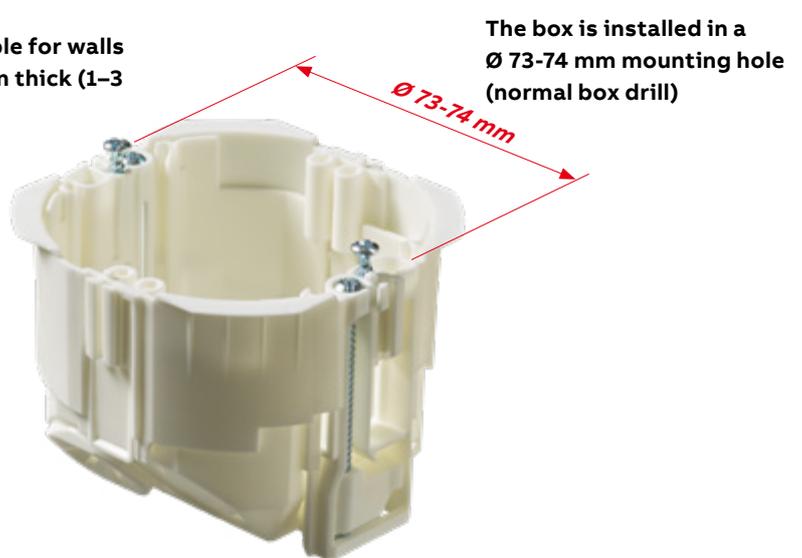
The telescopic structure allows 16 mm more installation space in the box



Knock-outs on all sides of the box for wires in box combinations



The box is suitable for walls that are 9–39 mm thick (1–3 plasterboards)

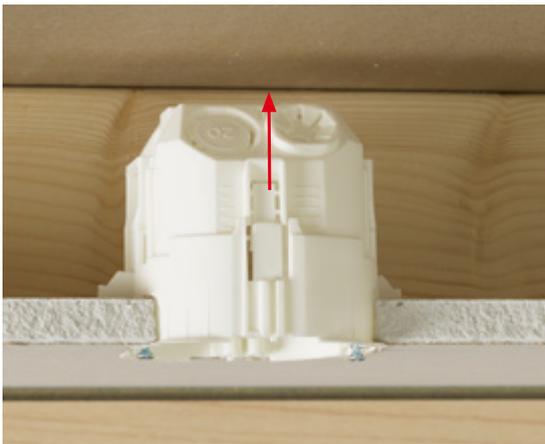


# AUS74.2 features

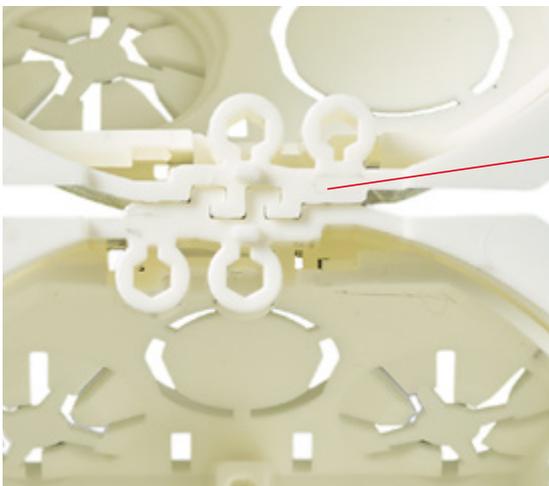
## Multi-functionality at its best



The strain relief can be modified for a flexible installation conduit by cutting it along the bottom of the box. It is easy and safe to cut using the bottom of the box. This way, the diameter of the hole is precisely 20 mm, as required for a flexible installation conduit.



The telescopic structure allows extending the space inside the box when necessary, which makes installing the devices easy and leaves space for wiring.



It is easy to make combinations in any direction. Boxes can be joined to each other using the T-grooves on the sides of the box without separate accessories.

## AUS74.2 installation methods



Cable installation.



Flexible plastic conduit installation.



Flexible plastic inlet can be used for cable installations by using cable ties as cable clamps.



Installation when using one plasterboard.



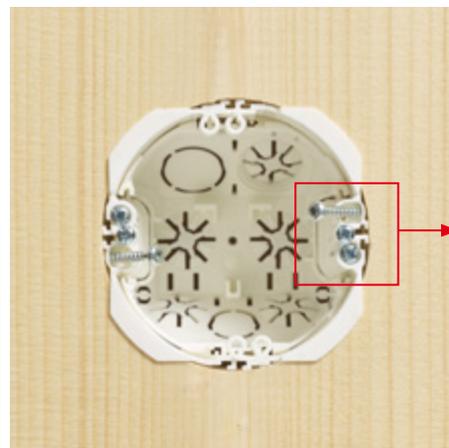
Installation when using two plasterboards.



Installation when using three plasterboards.



Cables are installed in inlet positions and cable ties can be used additionally as cable clamps.



The box can be mounted on, for example, a timber wall or wooden frame with inclined screws (the maximum size of fastening screw head  $\varnothing$  6 mm).



## Renovation boxes



### Front-mounted box AUS74

Type	EAN	Description	Package
AUS74	6438199004570	Renovation box for board walls hole 74 mm	60



### Front-mounted box AUS90

Type	EAN	Description	Package
AUS90	6438199004563	Mounting box for flat socket outlet	50



### Mounting box for board walls

AUS74.2 is a front-mounted mounting box with a telescopic bottom part for walls of 1–3 plasterboards (wall thickness 9–39 mm). Due to the telescopic bottom part, the depth of the box can be adjusted between 54mm and 70 mm. Mounting hole diameter 73–74 mm (normal box drill). The protection rating of the box is IP3X. Made from halogen-free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the IEC/EN 60670 standard: 2005 (850 °C).

Type	EAN	Description	Package
AUS74.2	6438199005041	Mounting box for hollow walls, hole Ø74 mm	60



### Front-mounted box for hollow walls

The AUS15.2 mounting box is designed for board walls. The installation hole diameter is 70 mm. After the required conduit or cable inlets have been knocked out, the box is inserted in the hole. Turning the screws clockwise tightens the fastener against the board and secures the box in place, the box is mounted in place. Conduits and cables are attached by using inlets that are pushed through from inside the box. Made of halogen free material (IEC/61249-2-21) and fulfills the requirements of the glow wire test according to the standard IEC/EN60670: 2005 (850 °C).

Type	EAN	Description	Package
AUS15.2	6410011523841	Mounting box for board walls	50

### Interconnector, for mounting box AUS15.2

The AS15 interconnect AUS15.2 mounting boxes. AS15 is pushed through the boxes from inside, and is used to guide the cable from box to another.



Type	EAN	Description	Package
AS15	6410011523803	Interconnector for AUS15.2	50/500

### Inlets for broad wall mounting boxes, 20 mm

The AN9.20 and ANK14.20 inlets are compatible with mounting boxes AUS15.2, AUS15.12 and AUS15.24. The inlets are designed for Ø20 mm pipes and they can be reduced to 16 mm with reducer AN20.16. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AN9.20	6410011527351	Inlet 20 mm	100/500
ANK14.20	6410011527405	Angle inlet 20 mm	100/500

# Piping materials

The installation materials product range is developed to function as a system and is easy to adapt to different installations. The piping materials ensure a safe and cost-efficient installation, for example in monolith concrete and concrete element factories as preparation time is cut considerably.

The ABB range includes a comprehensive selection of different conduit extensions and inlets for continuing and bending as well as for connecting them to different boxes. These materials are used to ensure the protection and safety of cables even in locations where demanding connections, bends or corners are left without the protection of a conduit. The fixing of

the conduit extensions is secured with a special locking device developed by ABB. The design function and reliability of this tab has received praise for many years. Conduit extensions of different size are manufactured in different colors, so the selection of a correct conduit size during installation is easy.



## Conduit extensions

Designed for all structures and both indoor and outdoor use. The innovative metal locking device ensures reliable connections to both rigid and flexipipe.

## Conduit end pieces and plugs

Special details to be used in concrete casting, to piping connections.

## Bushing insulators

Bushing insulators are used in concrete casting, for example when cabling from the space above the suspended ceiling to walls.

## Conduit bends

Efficient connections in concrete and hollow walls. Bending conduits onsite is tough for the installer in the long run. Conduit bends are the more ergonomic and sustainable way of working.

## Piping materials



### Conduit extensions

The purpose of conduit extensions, curve conduit extensions, bushing insulators and other accessories, e.g. inlets, is to extend installation pipes and to make it easier to attach them to mounting and junction boxes. Use of ready-made curve conduit extensions saves in installation costs; furthermore, the curves do not open when a bent conduit straightens out. Bushing insulators make it possible to add an installation pipe to a concreting mould e.g. during vaulting masonry of a building. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AJI6	6418677300110	Ø16 mm, 90°	100/200
AJI7	6418677300127	2 x Ø16 mm, 90°	50/100
AJI9	6418677300141	4 x Ø16 mm, 90°	50/100
AJI10	6418677300158	Ø20 mm, 90°	50/100
AJI11	6418677300165	2 x Ø20 mm, 90°	20/100
AJI12	6418677300172	Ø25 mm, 90°	20/100
AJI13	6418677300189	Ø32 mm, 90°	20/100
AJI14	6418677300196	Ø40 mm, 90°	20/100
AJI15	6418677300202	Ø50 mm, 90°	20/100

### Bushing insulators 45 degrees

Bushing insulators are designed for feedthrough situations of electrical conduits in concrete structures. They are also used for connecting conduits in concrete slabs (floors) to conduits in hollow walls. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJI52	6418677300301	Ø16 mm, 45°	50/200
AJI53	6418677300318	Ø20 mm, 45°	20/100
AJI54	6418677300325	Ø25 mm, 45°	20/100
AJI55	6418677300332	Ø32 mm, 45°	20/100

### Bushing insulators 45 degrees

Bushing insulators are designed for feedthrough situations of electrical conduits in concrete structures. They are also used for connecting conduits in concrete slabs (floors) to conduits in hollow walls. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJI60	6418677300257	Ø16 mm	50/200
AJI61	6418677300264	Ø20 mm	50/200
AJI62	6418677300271	Ø25 mm	20/100
AJI63	6418677300288	Ø32 mm	20/100

### Conduit extensions, type BAM



Type	EAN	Description	Package
AJI18	6418677300592	2 x Ø16 mm	20/100
AJI19	6418677300608	Cover for AJI18	50/500

**Conduit extensions**

Conduit extensions are used to join both rigid and flexible plastic conduits together. It is suitable to both hollow walls and concrete casting. Each extension has a locking device, which can be opened by twisting and pulling out at the same time. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJ16	6410011301166	Ø16 mm	100/500
AJ20	6410011301203	Ø20 mm	100/500
AJ25	6410011301258	Ø25 mm	50/250
AJ32	6410011301326	Ø32 mm	25/200
AJ40	6410011301401	Ø40 mm	20/100
AJ50	6410011301500	Ø50 mm	50

**Conduit adaptor**

The AJ16.20 conduit adaptor is used when changing the plastic conduit size from 16 mm to 20 mm. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJ16.20	6410011305164	Ø16 mm / 20 mm	100/500

**Conduit adaptor**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJF16.20	6418677300073	Ø16 mm / 20 mm	50/500

**Bushing flange**

The AS20 bushing insulator is used to attach conduit extensions e.g. AJ20, which have locking springs and a diameter of 20 mm, to a concrete casting mould. After the mould has been dismantled, an installation pipe of the same size can be connected to the insulator, and the piping can be continued. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS20	6410011301746	For conduit extension Ø20 mm	50/250

**The Flexible conduit extension**

The Ø20 mm flexible conduit extension can be bent to any desired angle. The spacious, wide curve section facilitates easy wire installation. There is a locking device at each end.



Type	EAN	Description	Package
AJP20	6410011301838	Ø20 mm	25/250

**Bushing insulators**

Bushing insulators are designed for feedthrough situations of electrical conduits in concrete structures. They are also used for linking conduits in concrete slabs (floors) to conduits in hollow walls leading directly to a switch or a plug socket, or to a junction box on the wall. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJ9.16	6410011301562	Ø16 mm	50/250
AJ10.20	6410011301609	Ø20 mm	50/250
AJ10.25	6410011301616	Ø25 mm	25/150



#### Bushing insulators

Bushing insulators are designed for feedthrough situations of electrical conduits in concrete structures. They are also used for connecting conduits in concrete slabs (floors) to conduits in hollow walls. The bushings have a protective foil that prevents the casting from entering the conduit. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AJI10	6418677300158	Ø20 mm, 90°	50/100
AJI12	6418677300172	Ø25 mm, 90°	20/100
AJI13	6418677300189	Ø32 mm, 90°	20/100
AJI14	6418677300196	Ø40 mm, 90°	20/100
AJI15	6418677300202	Ø50 mm, 90°	20/100
AJI55	6418677300332	Ø32 mm, 45°	20/100

#### Curve 90° conduit bends

The conduit bends are equipped with locking glue and are used to improve working efficiency and safety in conduit installations. The most common bend is 90°, but the range also includes other angles.



Type	EAN	Description	Package
JMKL16	6410011110164	Ø16 mm	10/300
JMKL20	6410011110201	Ø20 mm	10/300
JMKL25	6410011110256	Ø25 mm	10/100
JMKL32	6410011110324	Ø32 mm	10/100
JMKL40	6410011110409	Ø40 mm	5/50
JMKL50	6410011110508	Ø50 mm	5/25

#### Pre-bent curve conduit extensions 45°

Pre-bent conduit extensions with a 45° angle are used with bushing insulators AJI10.20, AJI10.25 and AJI55 in concrete casting. Conduit extensions are equipped with a wider sleeve in the long end for easy connecting of a conduit to the conduit bend.



Type	EAN	Description	Package
JMKL20.1	6418677300226	Curve conduit extension, Ø20 mm, 45° sleeve on the long end	20/100
JMKL25.1	6418677300233	Curve conduit extension, Ø25 mm, 45° sleeve on the long end	20/100
JMKL32.1	6418677300240	Curve conduit extension, Ø32 mm, 45° sleeve on the long end	5/50

#### Pre-bent 90° conduit bends with sleeve in short end

Curve conduit extensions are equipped with a sleeve for continuing the conduit from the product's short end.



Type	EAN	Description	Package
JMKL16.2	6418677300349	Ø16 mm, 90°	10/100
JMKL16.3	6418677300363	Ø16 mm, 90°	20/200
JMKL20.2	6418677300356	Ø20 mm, 90°	10/100

#### Pre-bent 90° conduit bends with sleeve in long end

Pre-bent curve conduit extensions with a 90° angle and small radius are used alongside the conduit end pieces AJ5.20, JMKL25.11 and JMKL32.11, the bushing insulators AJ5.20, AJI13, AJI14 and AJI15 and the mounting and junction boxes in concrete casting. Curve conduit extensions are equipped with a sleeve for continuing the conduit from the product's long end.



Type	EAN	Description	Package
JMKL20.3	6418677300400	Ø20 mm, 90°	20/100
JMKL20.4	6418677300424	Ø20 mm, 90°	20/100

**Conduit end piece**

A plug is supplied with each conduit end piece. The AJ5.16 conduit end piece is primarily used for the termination of plastic conduits in concrete casting. After casting, the conduit end piece is cut to the desired length at one of the cut-off grooves, and the trunking is continued with a conduit of the same size. The plug protects the conduit from dirt, concrete and foreign particles. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AJ5.16	6410011301661	Ø16 mm	25/250
AJ5.20	6410011301708	Ø20 mm	25/250

**Pre-bent 90° conduit bends with sleeve in long end**

Pre-bent curve conduit extensions with a 90° angle and small radius are used alongside the conduit end pieces AJ5.20, JMKL25.11 and JMKL32.11, the bushing insulators AJ5.20, AJI13, AJI14 and AJI15 and the mounting and junction boxes in concrete casting. Curve conduit extensions are equipped with a sleeve for continuing the conduit from the product's long end.



Type	EAN	Description	Package
JMKL16.4	6418677300370	Ø16 mm, 90°	20/200
JMKL16.5	6418677300387	Ø16 mm, 90°	20/100
JMKL16.6	6418677300394	Ø16 mm, 90°	100/200
JMKL16.8	6418677300431	Ø16 mm, 90°	20/200
JMKL20.3	6418677300400	Ø20 mm, 90°	20/100
JMKL20.4	6418677300424	Ø20 mm, 90°	20/100
JMKL20.5	6418677300448	Ø20 mm, 90°	20/200
JMKL25.2	6418677300455	Ø25 mm, 90°	20/100
JMKL32.2	6418677300462	Ø32 mm, 90°	20/100
JMKL40.1	6418677300479	Ø40 mm, 90°	10/50
JMKL50.1	6418677300486	Ø50 mm, 90°	10/50

**Bushing insulators**

This conduit end piece is used for the termination of plastic conduits in concrete casting. The end piece is cut to the desired length after casting. The trunking is continued with a conduit of the same size. The plug prevents the casting from entering the conduit. It is easy to extend trunking from the end pieces with the pre-bent curve conduit extensions.



Type	EAN	Description	Package
JMKL16.11	6418677300493	Ø16 mm, 750N	100/400
JMKL20.11	6418677300509	Ø20 mm, 750N	20/200
JMKL25.11	6418677300516	Ø25 mm, sleeve on the plugged end, 750N	20/100
JMKL32.11	6418677300523	Ø32 mm, sleeve on the plugged end, 750N	20/100
JMKL16.12	6418677300547	Ø16 mm, 750N	100/400
JMKL20.12	6418677300554	Ø20 mm, 750N	20/200
JMKL25.12	6418677300561	Ø25 mm, sleeve on both ends, 750N	20/100
JMKL16.13	6418677300578	Ø16 mm, 750N	20/200
JMKL20.13	6418677300585	Ø20 mm, 750N	20/200

**Conduit sealing plug**

End plug for Ø16, Ø20 and Ø25 mm conduits. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
PMR38	6410011310915	For Ø16 / 20 / 25 mm conduits	100/1000

**Conduit sleeve**

Conical cable protection. Pushed into the end of a (metallic) conduit to protect the cable. Thermoplastic.



Type	EAN	Description	Package
ATI38	6418677300639	Conduit cover for 16 mm pipe	100/1000
ATI39	6418677300646	Conduit cover for 20 mm pipe	100/1000
ATI40	6418677300653	Conduit cover for 25 mm pipe	100/1000
ATI41	6418677300660	Conduit cover for 32 mm pipe	100/1000
ATI42	6418677308291	Conduit cover for 40 mm pipe	50/500
ATI43	6418677308307	Conduit cover for 50 mm pipe	50/500

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# Covers

## For mounting and junction boxes

Covers for both fixed and semi-fixed installations provide for a finished look of ceiling and wall surfaces.

The cover range includes halogen-free products for connecting, conversion as well as ceiling covers with suspension hooks. Suitable products are available for both damp and dry areas.



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## Features and benefits



### Connection cover AK12.2

The AK12.2 is a connection cover for junction boxes. It can be used both in flush mounting (screw distance c/c 78 mm) and surface mounting (on AP7 box). The cover features three membrane seals, center membrane for  $\varnothing$  20 mm, and side membranes for  $\varnothing$  16 mm. The cover has three strain reliefs. Especially suitable for connecting kitchen stoves, ovens and sauna stoves.



### Ceiling rose cover AK20.1

The ceiling rose cover AK20.1 is used in dry spaces for both flush and surface mounting when installing grounded crown luminaires. In surface mounting, the AKL2 extension ring is used. The cover comes with a suspension hook for suspension of lighting appliance of max. 15 kg.



### Connection cover AK4

The cover AK4 is a connection cover for mounting boxes (screw distance c/c 60 mm). The cover features two membrane seals with strain reliefs for  $\varnothing$  6-15 mm cables. Suitable for connecting different appliances. IP44.



—  
01 Smooth cover AK1.1,  
 $\varnothing$  115 mm, IP20

—  
03 Smooth cover  
AK5,  $\varnothing$  90 mm, IP20

# DCL lighting outlets

## In compliance with new standard

With the DCL lighting outlets the installations are already in compliance with the new standard EN 61995 (EU/ESS).



The flush-mounted lighting outlets for ceiling installation are compatible with AU8, AU8.73, AU19 and AU70 junction boxes. Outlets are also available as wall outlets in Jussi and Impressivo design.

—  
01 DCL lighting outlet, ceiling outlet for flush mounting

—  
02 DCL lighting outlet, ceiling outlet for surface mounting

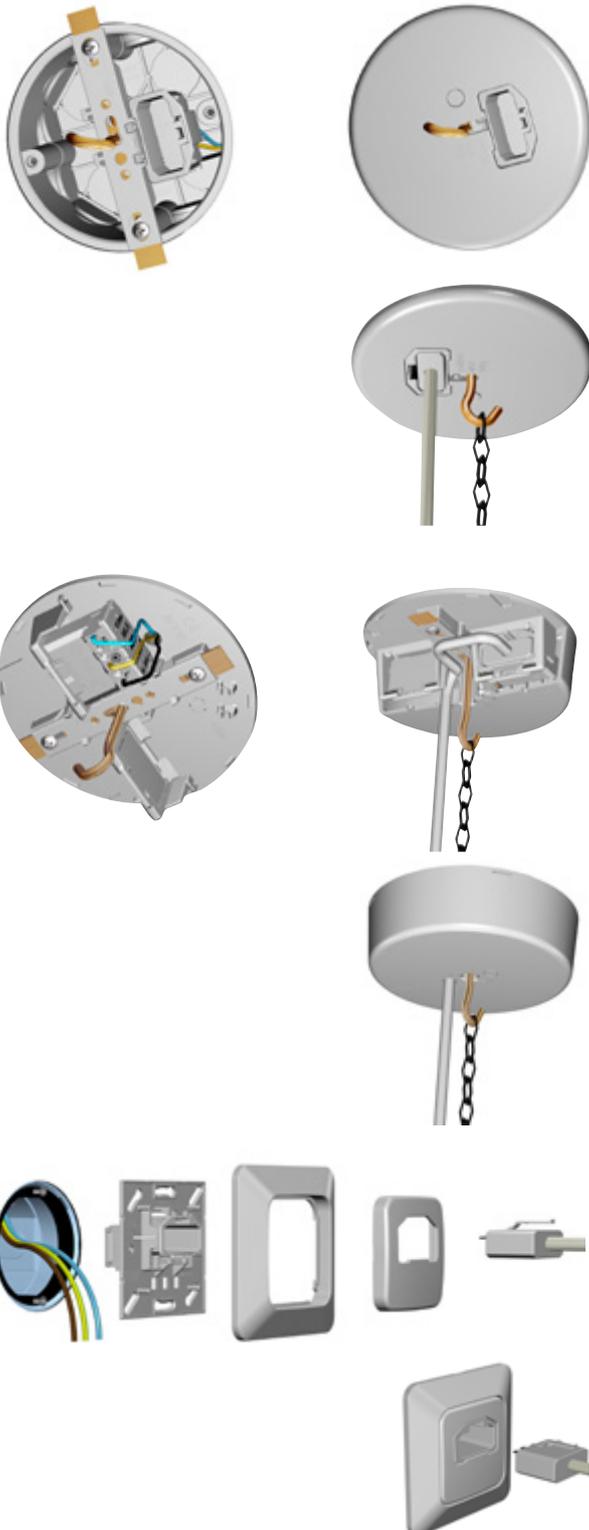
—  
03 DCL lighting outlet, wall outlet 85 x 85 mm, Jussi

—  
04 DCL lighting outlet, wall outlet 85 x 85 mm, Impressivo white



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## Features and benefits



### Rated voltage of the lighting outlet is 250 V ~ / 6 A

The DCL lighting outlets feature plugs which are completely inside the socket. Due to the lower socket outlet profile, there is plenty of connecting space. The outlets are equipped with spring connectors for 2 x 2,5 mm<sup>2</sup> wires. Additional connectors enable the branching of the wiring. It is possible to install a second DCL outlet (AKL6) in a ceiling cover (AKK14 and AKK15), turning it into a 2-gang lighting fixture.

### Ceiling lighting outlet for flush mounting

The ceiling outlet AKK14 is a lighting outlet for junction box installation, with a screw distance of c/c 70-78 mm. A pendant luminaire of max. 15 kg can be installed on accompanying hook. The outlet is designed for dry spaces with a normal room temperature. The spring connectors are designed for max 2,5 mm<sup>2</sup> wire. The lid has a prepared knock-out for a possible extra outlet. One lighting plug is always included.

### Ceiling lighting outlet for surface mounting

The ceiling outlet AKK15 is a lighting outlet for surface installation, or installation on top of a junction box with a screw distance of c/c 70-78 mm. A pendant luminaire of max. 15 kg can be installed on accompanying hook. The outlet is designed for dry spaces with a normal room temperature. A second lighting outlet AKL6 can be installed. One lighting plug is always included.

### Lighting socket outlet for flush mounting on wall or ceiling

The AKK6 is a lighting outlet for installation in a mounting box, with screw distance c/c 60 mm. The spring connectors are designed for max 2,5 mm<sup>2</sup> wire. Available in Jussi and Impressivo wiring accessories series. The 100 x 100 mm Jussi flush-mounted wall outlet AKK7 is also suitable for ABB IDEAL junction and ceiling boxes AU60.1, AU60.5, AU67 and AU70. One lighting plug is always included.

## Covers

### Ceiling cover with DCL lamp outlet

The ceiling cover with DCL outlet can be installed on Junction boxes AU70, AU8, AU19 and AU8.73. It is very safe and easy to use for the end consumer, as they can snap-in the DCL plug in the socket. The hook is pre-installed and is approved for 15 kg load. The cover has a knock-out for an extra DCL outlet AKL6, which can be ordered separately.



Type	EAN	Description	Package
AKK14	6438199002316	DCL lighting outlet, ceiling outlet, flush mounting	4/40
<b>Accessories</b>			
AKL6	6438199002392	DCL lighting outlet, socket outlet	5/100
AKL9	6438199003610	DCL, lighting plug	5/100

### Ceiling cover/junction box with DCL lamp outlet, surface installation

The ceiling cover/junction box with DCL outlet can be installed on surface, no installation box is needed. It is very safe and easy to use for the end consumer, as they can snap-in the DCL plug in the socket. The hook is included in the product and can be easily installed in place and is approved for 15 kg load. The cover has space for an extra DCL outlet AKL6, which can be ordered separately.



Type	EAN	Description	Package
AKK15	6438199003078	DCL lighting outlet, ceiling outlet, surface mounting	4/40
<b>Accessories</b>			
AKL6	6438199002392	DCL lighting outlet, socket outlet	5/100
AKL9	6438199003610	DCL, lighting plug	5/100

### Jussi DCL lamp outlet for mounting boxes

The Jussi DCL outlet can be installed on standard wall mounting boxes (screw distance c/c 60 mm). It is safe and easy to use for the end consumer, as they can snap-in the DCL plug in the socket. The outlet is typically installed on wall but can also be installed in ceiling.



Type	EAN	Description	Package
AKK6-214	6438199002323	DCL lighting outlet, wall outlet	10/100

### Jussi DCL lamp outlet for mounting boxes

The Jussi 100 mm x 100 mm DCL outlet can be installed on standard wall mounting boxes (screw distance c/c 60 mm). It is safe and easy to use for the end consumer, as they can snap-in the DCL plug in the socket. The outlet is typically installed on wall but can also be installed in ceiling.



Type	EAN	Description	Package
AKK7-214	6438199002385	DCL lighting outlet, wall outlet, 100 x 100mm	5/50

### Impressivo DCL lamp outlet for mounting boxes

The Impressivo DCL outlet can be installed on standard wall mounting boxes (screw distance c/c 60 mm). It is safe and easy to use for the end consumer, as they can snap-in the DCL plug in the socket. The outlet is typically installed on wall but can also be installed in ceiling.



Type	EAN	Description	Package
AKK6-84	6438199002330	DCL lighting outlet, wall outlet, 85 x 85 mm, white	10/100
AKK6-81	6438199002361	DCL lighting outlet, wall outlet, 85 x 85 mm, anthracite	10/100
AKK6-83	6438199002354	DCL lighting outlet, wall outlet, 85 x 85 mm, aluminum	10/100

**DCL lamp outlet**

DCL lamp outlet, to be used with ceiling covers AKK14 and AKK15 when two outlets are needed.

Type	EAN	Description	Package
AKL6	6438199002392	DCL lighting outlet, socket outlet	5/100

**DCL lighting plug**

Type	EAN	Description	Package
AKL9	6438199003610	DCL, lighting plug	5/100

**Connection cover, IP 44**

The AK4 is a two-component conversion cover (85 x 85 mm) for use in wet and dry conditions. The screw distance is 60 mm. It has two cable entries for cables Ø6,0-15,0 mm and the cover is equipped with two strain reliefs.

Type	EAN	Description	Package
AK4	6410011525753	Connection cover for mounting box, IP 44	5/50

**Cover for mounting box**

The AK5 is a cover for mounting boxes (screw distance c/c 60 mm) for dry conditions. It has coverplugs for hiding the screws. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AK5	6410011525357	Cover for mounting box, IP20	10/100

**Cover for junction box IP 20**

The AK1.1 is a cover for junction boxes with screw distance c/c 70-78 mm. The AK1.1 is delivered with screws and coverplugs. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AK1.1	6410011525210	Cover for junction box	10/100
AK1.11	6418677307898	Cover for junction box	1/100
AKI30	6418677307713	Cover for junction box	10/100
AKI31	6418677307720	Cover for junction box c/c 67 mm	10/100

**Cover, IP 44**

The AK11 is a cover for wet conditions, IP44. It can be used with the junction boxes AU8, AU8.73 and AU19 (screw distance c/c 78 mm). Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AK11	6418677333521	Cover for junction box, IP 44	10/100

**Conversion cover, IP20**

The AK13 is a smooth conversion cover designed for situations when flush mounting is converted to surface mounting. The cover has 8 knock-outs and it is delivered with screws. Screw distance in cover is c/c 78 mm. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AK13	6410011525647	Conversion cover, IP20	10/100

**Connection cover, IP 20**

The AK12.1 is a connection cover for junction boxes in dry conditions. The cover is equipped with a strain relief. Screw distance in the cover is c/c 78 mm. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AK12.1	6410011525630	For junction box, IP20	10/50

**Connection cover for junction box, IP 44**

The AK12.2 is a connection cover for junction boxes. It can be used in both flush mounting (screw distance c/c 78 mm) and surface mounting (on AP7 box). The cover features three membrane seals, center membrane for Ø20 mm (max. 5 x 6 mm) and side membranes for Ø16 mm. The cover has three strain reliefs. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AK12.2	6418677311680	Connection cover, IP44	10/50

**Ceiling rose**

The AKK2 ceiling rose is a bipolar class 0 overhead plug socket cover with a lamp hook. The AKK2 plug socket cover can be mounted directly on a flush mounted junction box (screw distance c/c 78 mm) or on surface on a junction box, like AP7. The group cables 2,5 mm<sup>2</sup> (-o-), may be branched. Each ceiling rose can carry a max. 6 A 250 V lighting appliance up to the weight of a 15 kilos. The hook in the ceiling rose is released when the cover is opened.



Type	EAN	Description	Package
AKK2	6410011525104	Ceiling rose cover, bipolar, lighting plug socket, class 0, hook	5/50

**Ceiling rose**

The AKK3 ceiling rose is a 2-gang class 0 cover for two different light groups. The AKK3 2-gang cover can be mounted directly on a flush mounted junction box (screw distance c/c 78 mm) or on top of a surface junction box, like AP7. Max. 2,5 mm<sup>2</sup> wires (-o-) may be branched. Each ceiling rose can carry a max. 6 A 250 V lighting appliance up to the weight of a 15 kilos. The hook in the ceiling rose is released when the cover is opened.



Type	EAN	Description	Package
AKK3	6410011525111	Ceiling rose, triple pole, lighting plug socket, class 0	5/50

**Ceiling rose**

The AKK13 is an earthed bipolar class 1 ceiling rose. The cover can be mounted directly on a flush mounted junction box (screw distance c/c 78 mm) or on top of a surface junction box, like AP7, in a dry space where temperature is normally max 25 °C . Max. 2,5 mm<sup>2</sup> wires (-o-) may be branched. The ceiling rose can carry a max CA 250 V / 6 A lighting appliance of 15 kg. The hook in the ceiling rose is released when the cover is opened.



Type	EAN	Description	Package
AKK13	6410011525128	Surface mounted ceiling rose with a lighting plug socket, earthed, bipolar, class 1, IP20	5/50

**Ceiling rose, earthed, bipolar IP 20**

The AKK13J bipolar, earthed lighting ceiling rose features screwless connectors, which makes installation faster and easier. Ceiling rose AKK13J (IP 20) is suitable for both flush and surface mounting. Max. 2,5 mm<sup>2</sup> wires (-o-) may be branched. The ceiling rose can carry a max CA 250 V / 6 A lighting appliance of 15 kg.



Type	EAN	Description	Package
AKK13J	6410011525135	Ceiling rose, earthed, bipolar, IP20	5/50
AKK13J.2	6418677307935	Ceiling rose, earthed, bipolar, IP20	5/50

**Ceiling rose cover IP 20**

The AK20.1 ceiling rose cover is used in dry spaces, for both flush and surface mounting when installing two earthed light groups (2-gang). A max. 15 kg lighting appliance can be attached to the ceiling cover hook. Protection class 1.



Type	EAN	Description	Package
AK20.1	6410011525470	Ceiling rose cover for junction box, IP 20	5/50

**Accessories for AKK13J**

A second lamp-outlet AKL3 to the ceiling rose AKK13J. The longer hook, which is standard in AKK13J, need to be changed to the one that is included in the package of accessory, when installing a second socket.



Type	EAN	Description	Package
AKL3	6410011525326	Lighting plug socket for AKK13J	5/100

**Surface installation adapter**

Surface mounting of a lamp outlet is done with the AKL2 adapter (extension ring). The height of the ring is 11 mm. Designed to fit AKK13J, AK20.1 and AK1.1. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AKL2	6410011525302	Surface mounting ring for AKKJ13 / 20.1 / 1.1	10/100

**Ceiling rose cover, bipolar**

Ceiling rose cover, flush mounting. For installation in ceiling rose with a hook in the middle. Screwless connection. Delivered with a hook. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AKI38	6418677305269	Lighting socket outlet TL 21/75	10/100

**Lamp outlets, wall mounting**

Lamp outlet for walls, 6 A, 250 V. AKK4 lamp outlet can be outlet in standard wall mounting box and AKK5 for junction- or mounting box.



Type	EAN	Description	Package
AKK4	6418677305238	Lighting socket outlet 85x85 mm	20/200
AKK5	6418677305245	Lighting socket outlet 100x100 mm	10/100

**Mounting box cover**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AKI1	6418677300837	Box cover KDL	50/200
AKI2	6418677300851	BOX COVER KFL	20/200
AKI7	6418677301117	Box cover STL60	50/500

**Mounting box cover with inlet for insulated cable**

Type	EAN	Description	Package
AKI3	6418677300868	BOX COVER KDL-U	20/200
AKI4	6418677300875	BOX COVER KFL-U	20/200
AKI8	6418677301124	Box cover STL-U60	20/200

**Ceiling rose cover**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AKI35	6418677301414	Ceiling rose cover	10/100

**Hooks for ceiling roses**

Type	EAN	Description	Package
ATR15	6418677301421	Hook 38 mm	100/1000
ATR16	6418677301438	Hook 45 mm	100/1000
ATR17	6418677301445	Hook 75 mm	100/1000

**Cover**

Type	EAN	Description	Package
AKI37	6418677307751	Cover 38 mm	50/1500

# Surface-mounted junction boxes

Fast and reliable in all conditions



ABB junction boxes are the professional benchmark due to their ease of installation and functionality. From the selection of surface boxes you can find the optimal solution and accessories for all regular electric installations.

A junction box for connecting wires is selected according to where it is being used. Protection class IP 20 for dry environments. For humid environments, protection class IP 44 is sufficient.

There are ABB junction boxes in the IP 20, IP 44, IP 55 and IP 65 protection classes.

The junction boxes are also suitable for semi-fixed installation, e.g. sauna ovens, geysers, cookers etc., when a strain relief is used in the box for the connection cable of the mobile device.

—  
01 Surface-mounted junction box AP9, 86 x 86 mm, IP65, white

—  
02 Surface-mounted junction box AP10, 104 x 104 mm, IP55, white

—  
03 Surface-mounted junction box AP75, 75 x 75 mm, IP65, white

—  
04 Junction box AP7, Ø 115 mm, IP44, white



01



02



03



04

## Features and benefits



### AP9 and AP10 junction box

The two-component junction boxes are better than ever. The AP9 and AP10 boxes includes 14 membrane cable entries, 3 on each side and 2 at the bottom. The entries include markings for the maximum cable size. Both boxes are approved for IP65 classification and they are protected against cold environment and suitable for use at the temperature down to -25°C.



### Multiple color options in AP9 family

The AP9 boxes are available in the colors white, grey, black, red and green. Box color can be chosen according to color scheme of the surroundings or can be used for color coding different wiring groups, for example green boxes for KNX, red boxes for fire or alarm systems etc. The distance between the mounting screws is now 60 mm, which means it can be attached straight onto amounting box.

Enclosure class IP65.



### AP10 - When extra installation space is needed.

AP10 is a larger box with plenty of connecting space. AP10 boxes are now available in three colors: white, grey and black.

Enclosure class IP65.



### AP75 - Compact type with a lot of functionalities

Pull-out brackets make it easy to fix to the wall. There is a place, for example, for PCB.



### Boxes for indoor use

There are some junction boxes in the selection with IP20 classification for installations in dry conditions. However, the trend is towards installing the higher IP classified products of the AP family in dry spaces as well, due to their fast installation and easiness to have just one box in stock.

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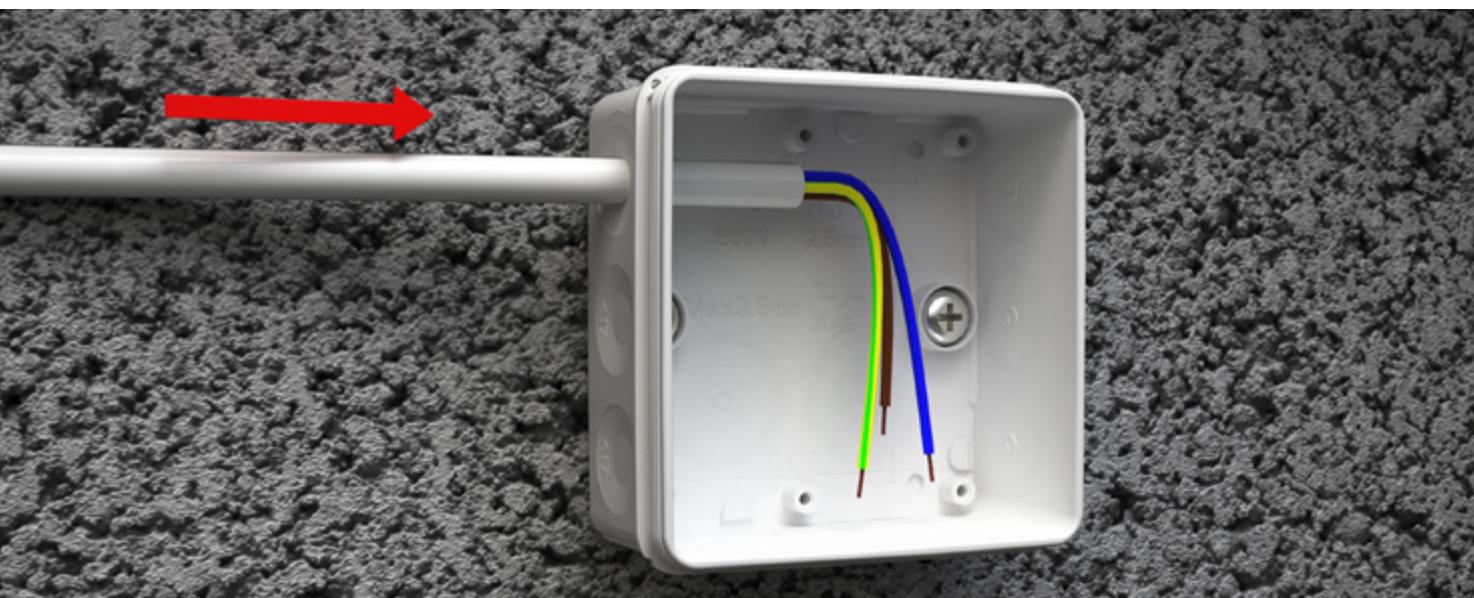
## Sturdy structure with innovative two component technology

### For proper classification

The installation of surface-mounted junction boxes is simple and quick. The two-component boxes include easily perforated knockouts on all sides. Simultaneously, the knockout membranes operate as gaskets.



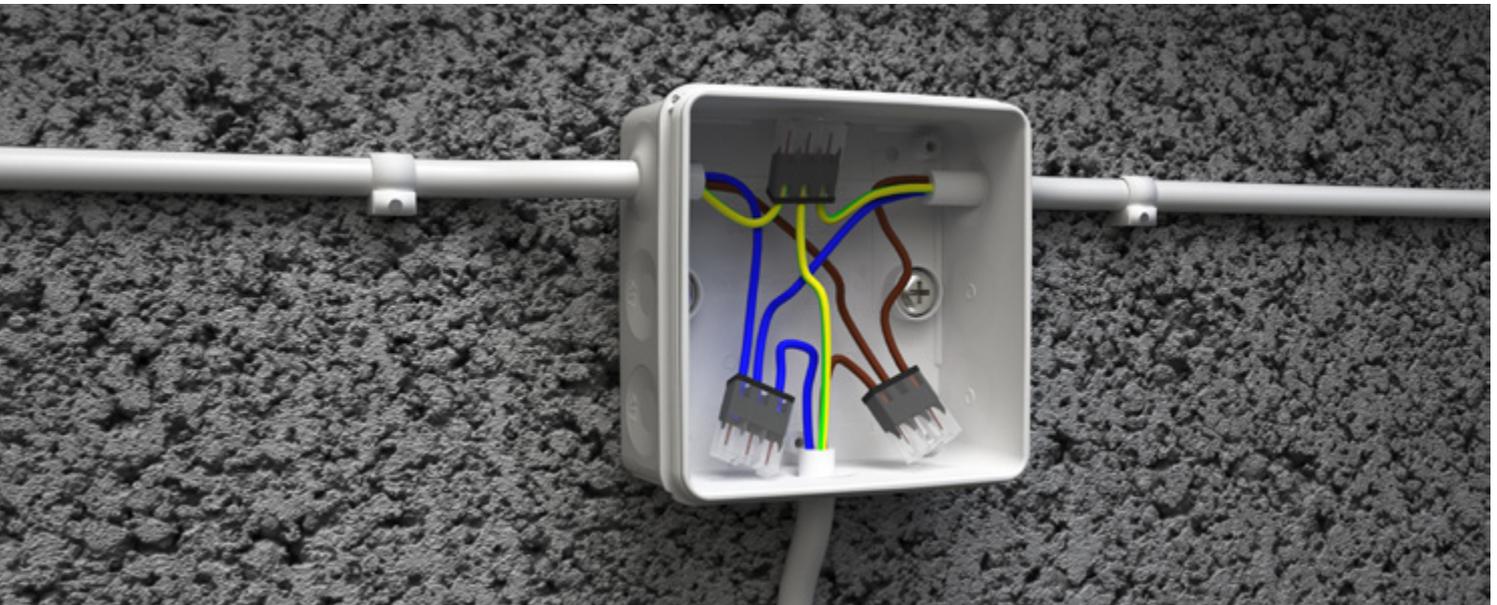
Open entries with a screwdriver or cable.



Pull cable into box.



Pull cable back to seal entry. Box enclosure class IP65.



Large space for wires and connectors.



Quick snap-on cover fastening. No screws are needed. The lids can be sealed.

## Surface-mounted junction boxes

### Junction box IP20

The box is equipped with an insulated 5-way connector. The maximum wire size per connector is 4 x 2,5 mm<sup>2</sup> or 6 x 1,5 mm<sup>2</sup>. The box has 6 knock-outs at the side and 2 in the bottom. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AP6	6410016020062	Junction box IP20, white, 60 x 60 mm	10/100
AP6.2	6418677308055	Junction box, grey, 60 x 60 mm, incl. connector	10/100

### Junction box 59 x 79 mm, IP20

The AP12 junction box has two 3-pole insulated 6 mm<sup>2</sup> connectors. The base plate offers a choice of eight different connection points for the connectors. There are three knock-outs in the bottom of the box. The cover has knock-outs in the corners and on the long sides of the cover. The maximum wire capacity per connector is 8 x 1,5 mm<sup>2</sup> or 5 x 2,5 mm<sup>2</sup>.



Type	EAN	Description	Package
AP12	6410016020123	Junction box IP20, 59 x 79 mm	10/50
AP12.1	6418677301452	without conn.	10/50

### Surface-mounted junction box 75 x 75 mm, IP65

The AP75 junction box (2,5 mm<sup>2</sup>, 400 V, IP65) is equipped with fixed, two-component membranelid cable entries, 10 in the sides and three on the bottom. It has a stiff frame. Suitable for cables up to Ø18. The locks box by snapping and can be opened by inserting a screwdriver into the opening slots. Pull-out brackets make it possible to mount it to a conductive base. The box can also be sealed. Mounting temperature -15... +60 °C. Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AP75	6410016125200	Surface-mounted junction box, white 75 x 75 mm	5/50
<b>Accessory</b>			
AS12.3	6410016125217	Strain relief, Ø8 - 12, for junction box AP75	10/250

### Strain-relief for 3 cables, Ø 6 – 17 mm

Junction boxes AP9 and AP10 can be furnished with the strain-relief AS9.10 for 3 cables.

AP9: 3x 6 - 17 mm. AP10: 1x 6 - 19 mm (middle) and 2x 6 - 12mm (sides). It can also be used with 3 flexible connecting cables H03VVH2-F 2x0,75. Strain relief is done with help of cable tie (not included). Two strain-reliefs can be used in opposite sides the box with AP9 and AP10, or crosswise in AP9 boxes.



Type	EAN	Description	Package
AS9.10	6438199005355	Strain-relief for 3 cables, Ø6–17 mm	10/100

### Junction box 86 x 86 mm, IP65

The square junction box AP9 (2.5 mm<sup>2</sup>, 500 V, IP65) is equipped with 12 membrane cable entries (Ø17 mm) in the sides, and two (Ø19 mm) in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The box locks by snapping and can be opened by inserting a screwdriver into the opening slots - no screws are needed. The box can also be sealed. The box can be furnished with the strain-reliefs AS9.10, AS9, AS9.1 and AS9.3. Fits Ø6-15.5 mm cable. VDE-approved. Mounting temperature is -25... +60 °C. Made of halogen-free material (IEC/61249-2-21).



Type	Colour	EAN	Description	Package
AP9		6410016125095	Surface-mounted junction box, IP65, 86 x 86 mm, white	5/50
AP9/G		6410016125088	Surface-mounted junction box IP65, 86 x 86 mm, grey	5/50
AP9M		6418677329906	Surface-mounted junction box, IP65, 86 x 86 mm, black	5/50
AP9V		6438199003177	Surface-mounted junction box, IP65, 86 x 86 mm, green	5/50
AP9R		6438199003184	Surface-mounted junction box, IP65, 86 x 86 mm, red	5/50
<b>Accessories</b>				
AS9.10		6438199005355	Strain-relief for 3 cables, Ø6–17 mm	10/100

**Junction box 104 x 104 mm, IP65**

The square junction box AP10 (6.0 mm<sup>2</sup>, 500 V, IP65) is equipped with 14 membrane cable entries (Ø19 mm), three on each sides, and two in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The box locks by snapping and can be opened by inserting a screwdriver into the opening slots - no screws are needed. The box can also be sealed. The box can be furnished with the strain-reliefs AS9.10, AS9, AS9.1 and AS9.3. Mounting temperature is -25... +60 °C. Made of halogen-free material (IEC/61249-2-21)

Type	Colour	EAN	Description	Package
AP10		6410016125101	Surface-mounted junction box, IP65, 104 x 104 mm, white	5/30
AP10/G		6418677307287	Surface-mounted junction box, IP65, 104 x 104 mm, grey	5/30
AP10M		6438199008158	Surface-mounted junction box, IP65, 104 x 104 mm, black	5/30

**Accessories**

AS9.10	6438199005355	Strain-relief for 3 cables, Ø6–17 mm	10/100
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**Junction box Ø115 mm, IP44**

The round junction box AP7 (2,5 mm<sup>2</sup>, 400 V, IP44) is similar to the AP9 and the AP10 is equipped with 10 membrane cable entries (Ø17 mm) at the sides and two in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The cover is locked with two screws at distance of 78 mm. The box can be furnished with strain-reliefs AS9, AS9.1 and AS9.3. Made of halogen free material (IEC/61249-2-21).

Type	EAN	Description	Package
AP7	6410016125170	Junction box, IP44, Ø115 mm, white	5/50

**Junction box Ø115 mm, with connection cover, IP44**

The round, dual-component connection box AP7.1 (2,5 mm<sup>2</sup>, 400 V, IP44) is equipped with 10 membrane cable entries (17 mm) and two in the bottom. The cover of the box is equipped with three membrane seals (one Ø20 mm and two Ø16 mm) and with three strain-reliefs.

Type	EAN	Description	Package
AP7.1	6410016125187	Junction box with connection cover, IP44, Ø115 mm, white	50

**Strain-relief for junction box AP75**

Made of halogen free material (IEC/61249-2-21).



Type	EAN	Description	Package
AS12.3	6410016125217	Strain relief, Ø8-12 mm, for junction box AP75	10/250

**Strain-relief and connector**

The junction boxes AP7, AP9 and AP10 can be furnished with the strain-relief AS9 for Ø6-19 mm cables. The strain-relief AS9 has a 5-pole connector (2,5 mm<sup>2</sup>). The maximum wire capacity per connector is 4 x 2,5 mm<sup>2</sup> or 6 x 1,5 mm<sup>2</sup>.



Type	EAN	Description	Package
AS9	6410016125903	Strain-relief and connector, for 1 cable, Ø 6–19 mm	1/50

**Strain-reliefs**

The junction boxes AP7, AP9 and AP10 can be furnished with the strain-relief AS9.3 for three cables Ø6-13,5 mm or the strain-relief AS9.1 for one cable Ø10,5-20 mm.



Type	EAN	Description	Package
AS9.1	6410016125927	Strain-relief for 1 cable, Ø10,5–20 mm	1/50
AS9.3	6410016125910	Strain-relief for 3 cables, Ø6–13,5 mm	1/50

# Earthing materials

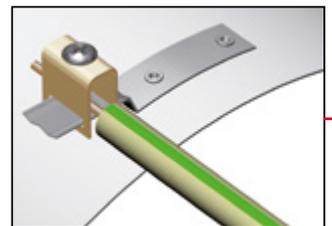
Earthing products are made tough and durable to guarantee reliable earthing and to complete safe electrical installation in a building.



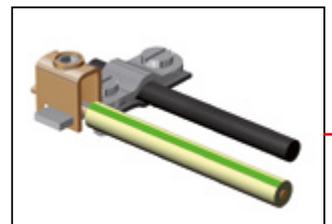
The AM8 earthing terminal is mainly used for connecting the earthing conductors to various pipework. Due to the structure of the terminal, it is possible to adjust it to suit to four different pipe thicknesses between 8 to 28 mm. The terminal has two 35 mm<sup>2</sup> pillar terminals. The conductor bar is made of tinned copper and the strap of zinc-plated steel.



The AM11 earthing terminal is used, for example, for the potential equalization of air-conditioning and ventilation ducts. The earthing terminal is affixed using two pull rivets (pop-rivets) c/c 3,2 mm to the surface of the duct. The terminal bar is made of tinned copper and has a single <math><10\text{ mm}^2\text{ Cu}</math> terminal.



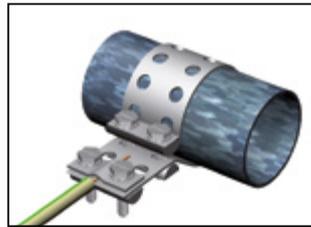
The earthing terminal AM9 is mainly used to connect earthing conductors to various kinds of pipework in sizes c/c 6-15 mm. The earthing conductor has one 4-35 mm<sup>2</sup> strap. The earthing terminal can also be used to connect earthing conductors to a building's concrete reinforcement - protective gap must be used. The conductor bar is made of tinned copper and the strap is made of zinc-plated, yellow-passivated steel.



The potential equalizer bars AM4 and AM5 are intended for the connection of system earthing conductors in buildings. Into AM4 it is possible to connect 8 pcs of max. 50 mm<sup>2</sup> and 2 pcs of max. 70 mm<sup>2</sup> conductors. into AM5 it is possible to connect 5 pcs of max. 50 mm<sup>2</sup> conductors. Both bars are made of tinned copper. If necessary, the bars can be covered with protective housing PMR576.



The earthing strap PP36 (strap clamp AM2 and terminal AM3) is for earthing heavy-duty pipework. The strap is 1 meter long, and it is made of tinned annealed copper 1,5 mm thick. The Cu-conductor of max. 35 mm<sup>2</sup> is connected using the earthing terminal AM3. In case a 50 mm<sup>2</sup> or 70 mm<sup>2</sup> Cu-conductor is connected to the earthing block, both ends of the earthing strap must be pressed together with the terminal to get sufficient conductivity. The terminals and the strap clamp are made of zinc-plated and yellow-passivated steel.



## Earthing materials

### Strap clamp, terminal

With the terminal AM3 it is possible to connect Cu-conductor, max. 35mm<sup>2</sup>, to the earthing strap PP36. Earthing strap PP36 is tightened with the strap clamp AM2. The distance between the screws is 10mm. The terminal and the strap clamp are made of zinc-plated and yellow passivated steel.



Type	EAN	Description	Package
AM2	6410050260950	Strap clamp for the earthing strap PP36	20/100
AM3	6410050260967	For the earthing strap PP36	20/100

### Earthing strap

The earthing conductors, max. 35 mm<sup>2</sup> Cu, are connected to the various pipework using an earthing strap PP36 with a strap clamp AM2 and terminal AM3. In case a 50 mm<sup>2</sup> or 70 mm<sup>2</sup> Cu-conductor is connected to the earthing block, both ends of the earthing strap must be pressed together with the terminal to get sufficient conductivity. The earthing strap is made of tinned annealed copper 1,5 mm thick. Length 1 m.



Type	EAN	Description	Package
PP36	6410050260974	Earthing strap	20

### Potential equalizer bars

The potential equalizer bars are intended for the connection of system earthing conductors in buildings. Into AM4 it is possible to connect 8 pcs max. 50 mm<sup>2</sup> and 2 pcs max. 70 mm<sup>2</sup> conductors. Into AM5 it is possible to connect 5 pcs max. 50 mm<sup>2</sup> conductors. Both bars are made of tinned copper and fitted with zinc-plated steel screws and tracking-resistant thermoplastic spacers.



Type	EAN	Description	Package
AM4	6410019130959	Potential equalizer bar, max. 70 mm <sup>2</sup> Cu	5/50
AM5	6410019130966	Potential equalizer bar, max. 50 mm <sup>2</sup> Cu	5/50

### Protective cover

In surface mounting, a cover PMR576 is used to protect AM4 and AM5. The cover has provisions for the conductors to fit to the bar's spacing and it is fixed on the wall with two screws.



Type	EAN	Description	Package
PMR576	6410019130973	Protective cover for potential equalizer bars	25

### Earthing terminal

The earthing terminal AM9 is mainly used to connect earthing conductors to various kinds of pipework, in sizes Ø6-15 mm. The earthing terminal can also be used to connect earthing conductors to a building's concrete reinforcement. A suitable concrete reinforcement bar has a diameter of between 8-15 mm. The earthing conductor has one 4-35 mm<sup>2</sup> terminal. If there is a need for a 25 mm<sup>2</sup> copper connector, two AM9 terminals must be used in parallel. The conductor bar is made of tinned copper and the terminal is made of zinc-plated, yellow-passivated steel.



Type	EAN	Description	Package
AM8	6410019130478	Earthing terminal D = 8-28 mm	1/50
AM9	6410019130492	Earthing terminal D = 6-15 mm	1/50

### Earthing terminal

The AM11 earthing terminal is used, for example, for the potential equalization of air-conditioning and ventilation ducts. The earthing terminal has a single 10 mm<sup>2</sup> Cu-terminal. The terminal bar is made of tinned copper. It is affixed with two pull rivets (pop-rivets), Ø3,2 mm, in the air-conditioning or ventilation duct and the protective lead is connected to the connector attachment point. The conductors having a cross-section of Cu 1,5-10 mm<sup>2</sup> are suited to a conductor connector equipped with conductor protection.



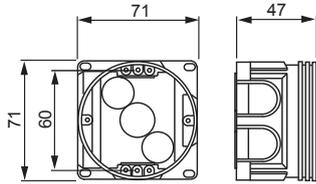
Type	EAN	Description	Package
AM11	6410019130515	Earthing terminal	1/50

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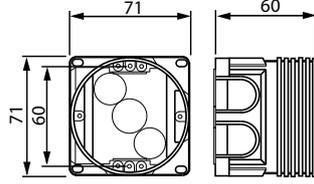
# Dimensional drawings

<b>80</b>	<b>System ABB boxes</b>
<b>83</b>	<b>System IDEAL boxes</b>
<b>86</b>	<b>Smart boxes</b>
<b>87</b>	<b>Renovation boxes</b>
<b>88</b>	<b>Piping materials</b>
<b>93</b>	<b>Covers</b>
<b>96</b>	<b>Surface-mounted junction boxes</b>
<b>97</b>	<b>Earthing products</b>

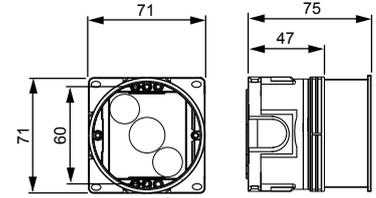
## System ABB boxes



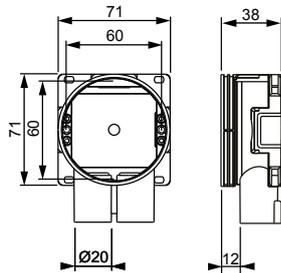
AU3.2



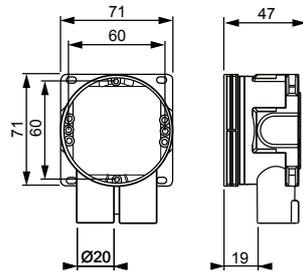
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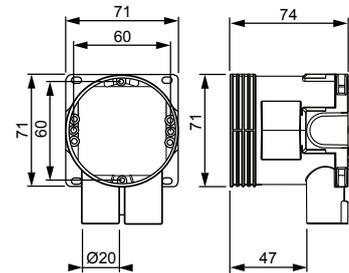
AU3.32



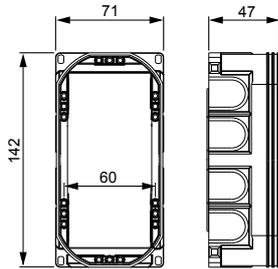
AU6.2



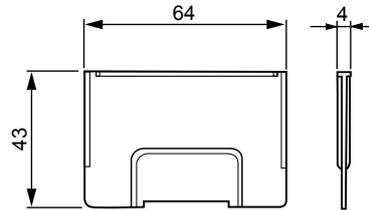
AU5.2



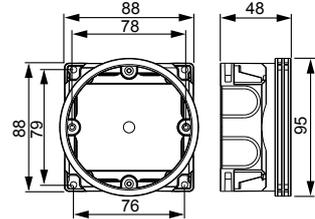
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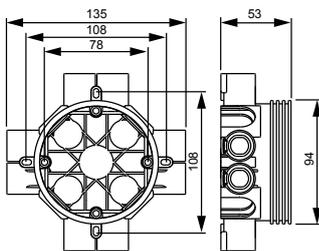
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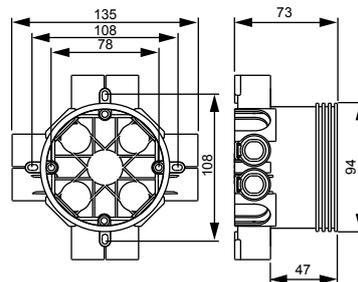
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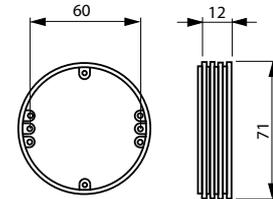
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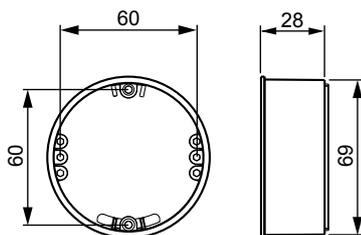
AU8



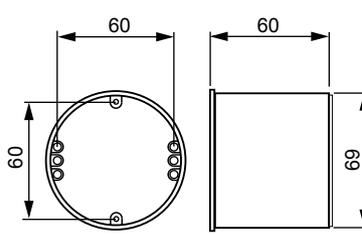
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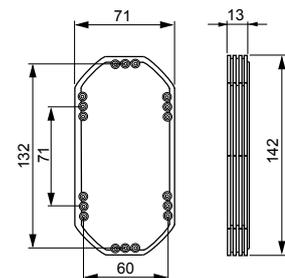
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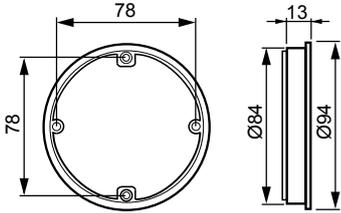
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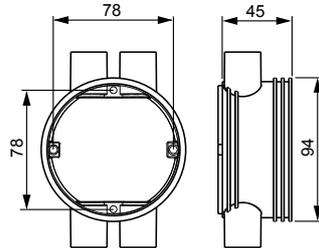
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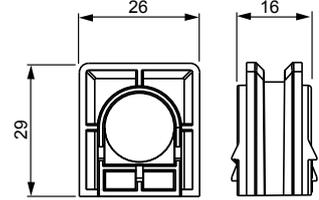
AK17



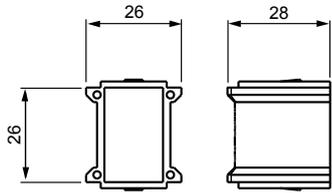
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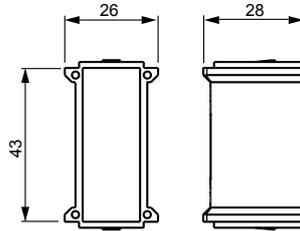
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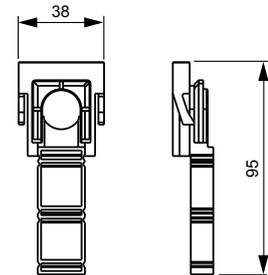
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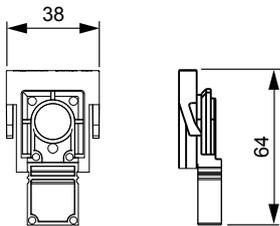
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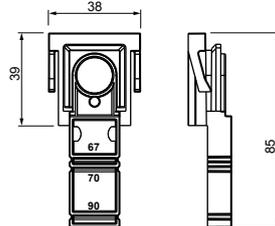
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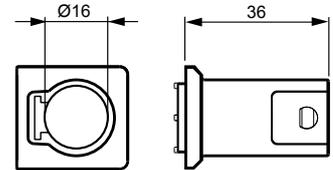
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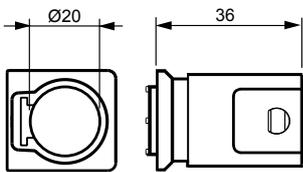
PMR577.65



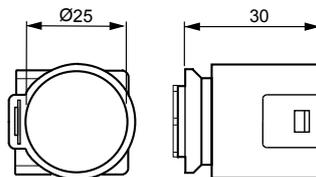
AS95



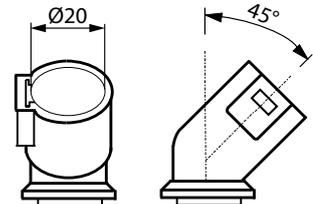
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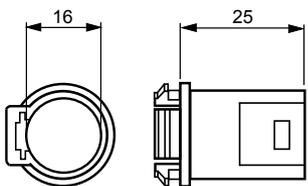
AN20



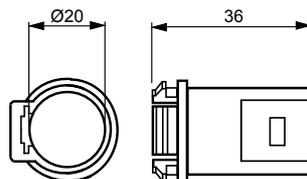
AN25



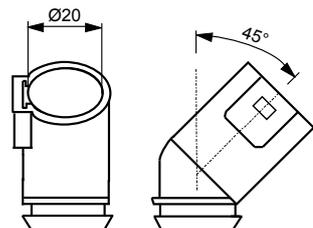
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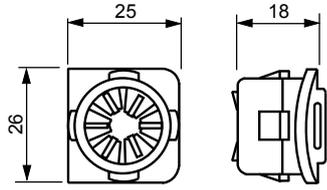
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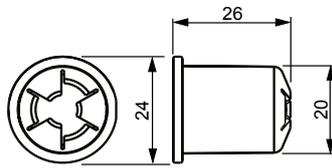
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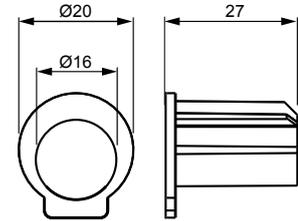
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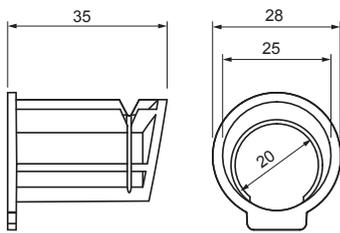
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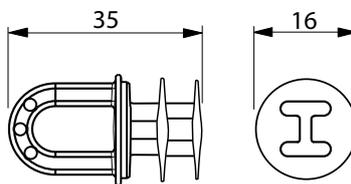
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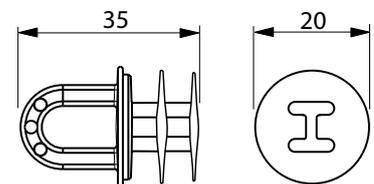
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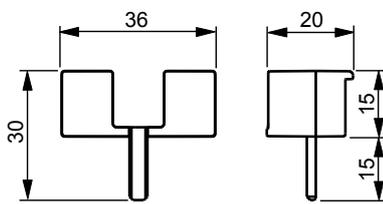
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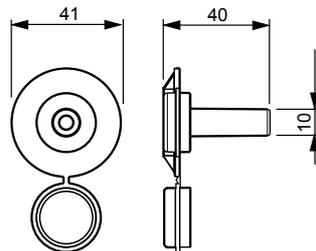
ATI44



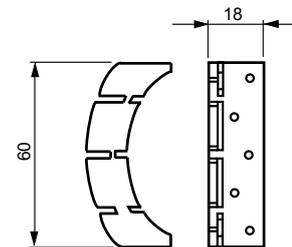
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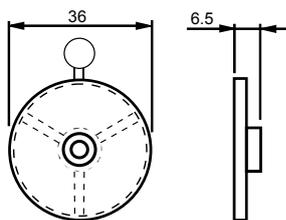
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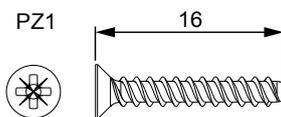
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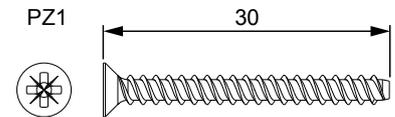
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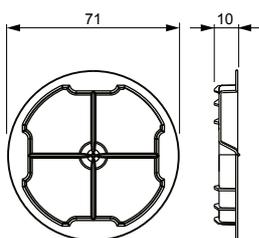
PMR135



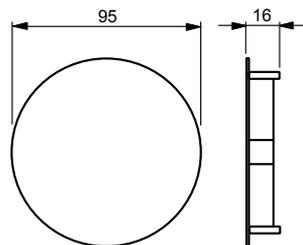
PLP4.100



PLP5.100

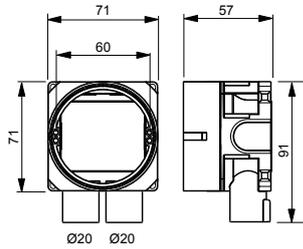


AS32

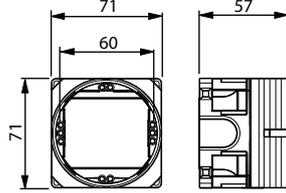


PM107

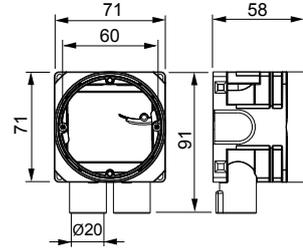
# System IDEAL boxes



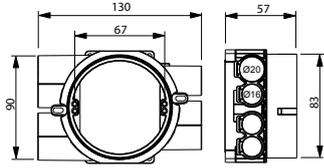
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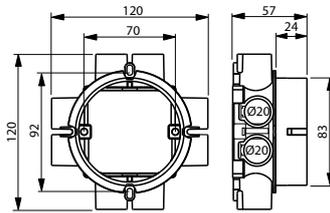
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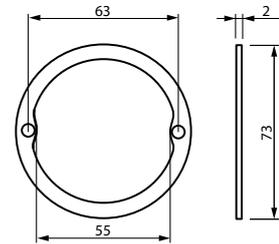
AU5.6



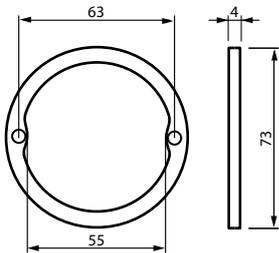
AU67



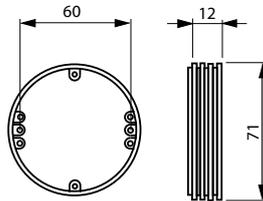
AU70



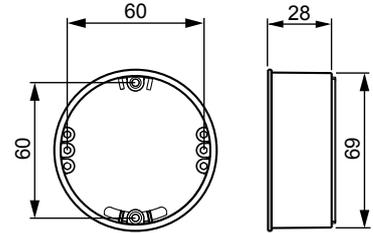
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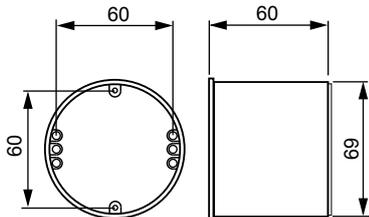
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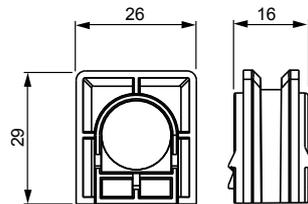
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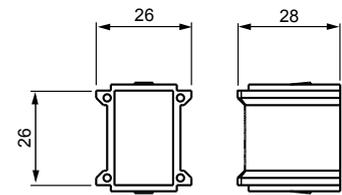
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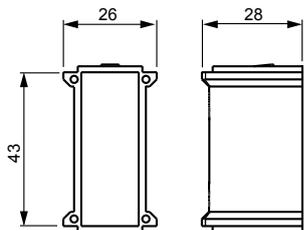
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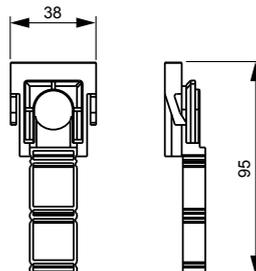
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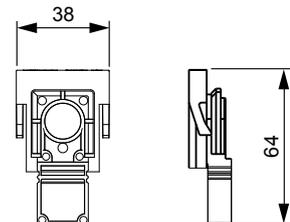
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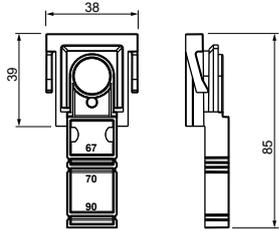
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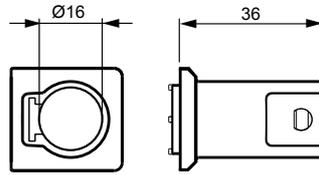
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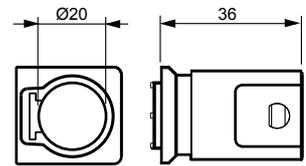
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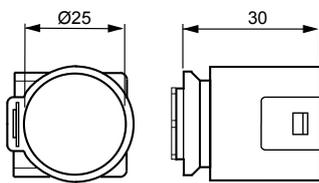
AS95



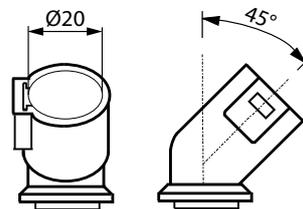
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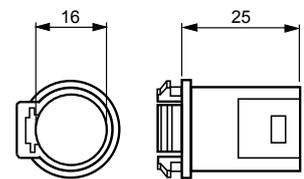
AN20



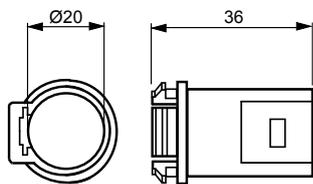
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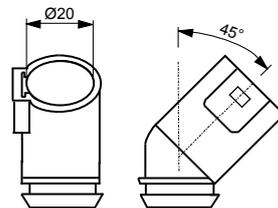
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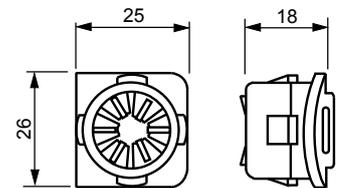
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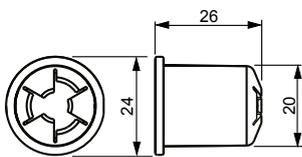
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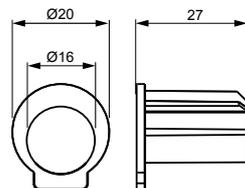
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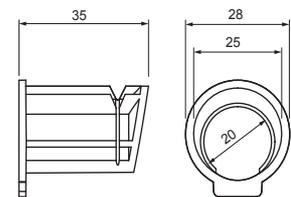
AS12



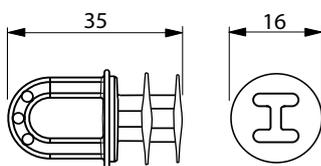
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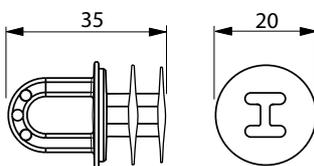
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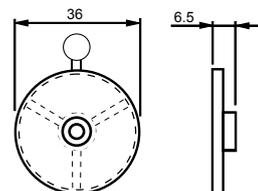
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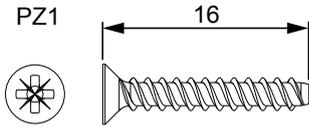
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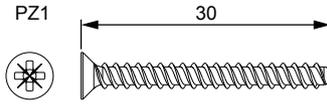
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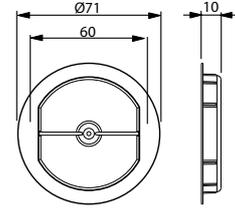
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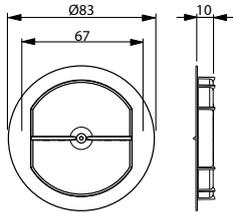
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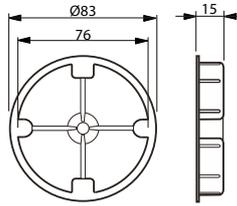
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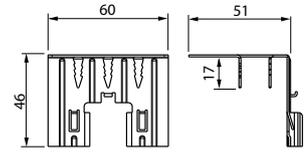
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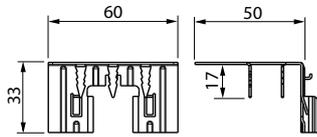
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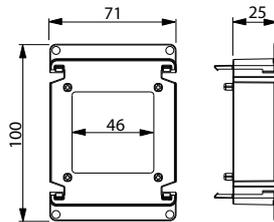
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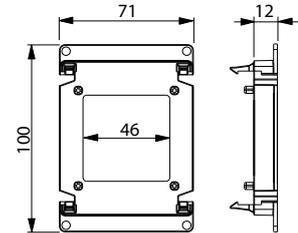
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AS26.24

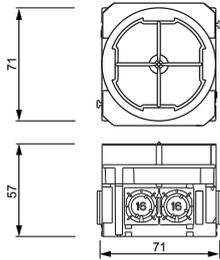


AS27

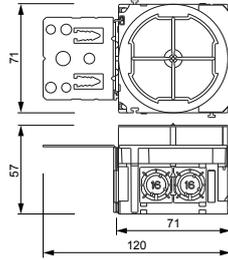


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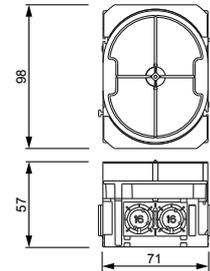
## Smart boxes



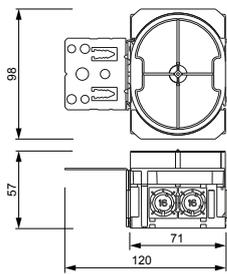
AU80



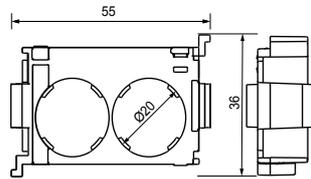
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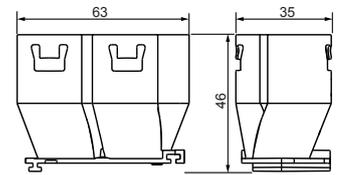
AU81



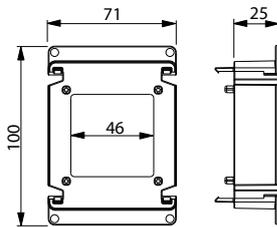
AU81.2



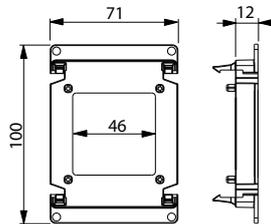
AS8.3



AN8.4

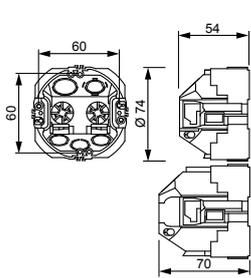


AS27

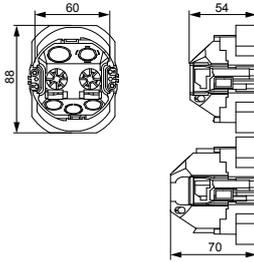


AS27.12

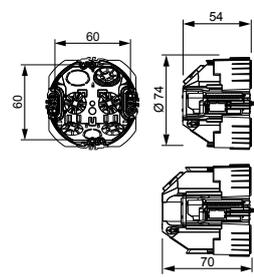
## Renovation boxes



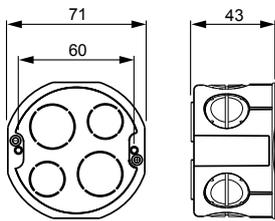
AUS74



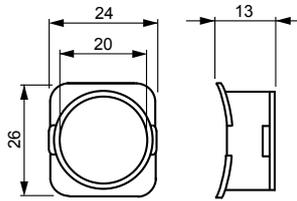
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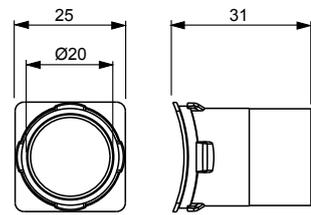
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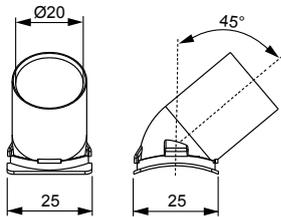
AUS15.2



AS15

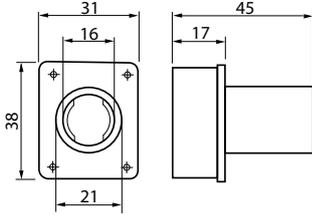


AN9.20

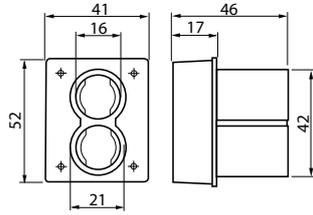


ANK14.20

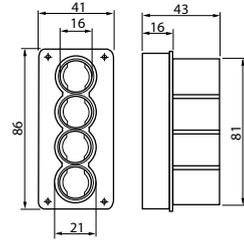
# Piping materials



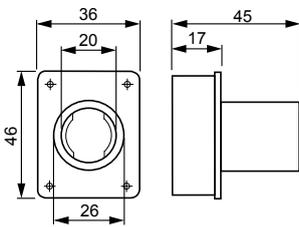
AJI6



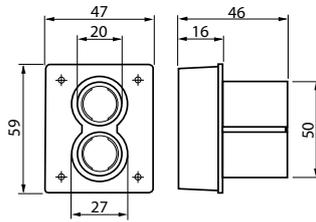
AJI7



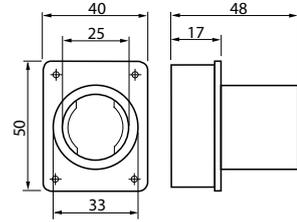
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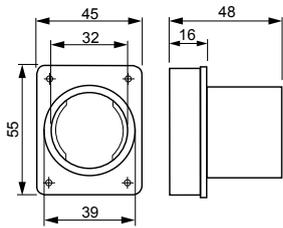
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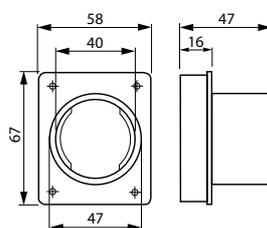
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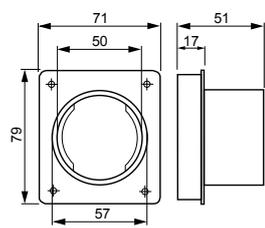
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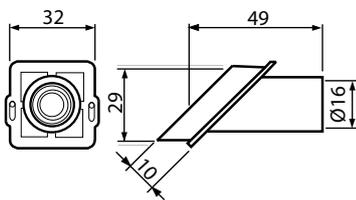
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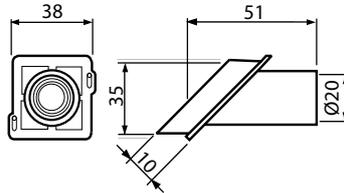
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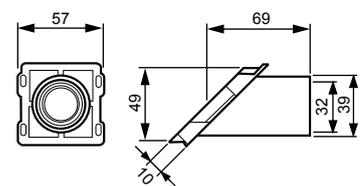
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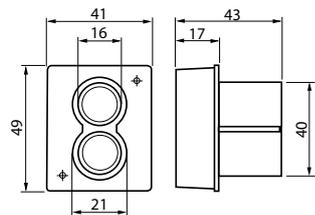
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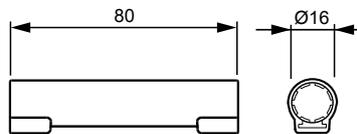
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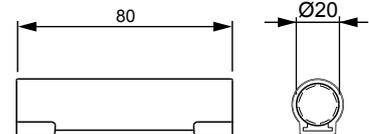
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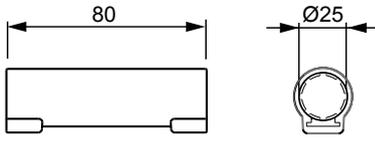
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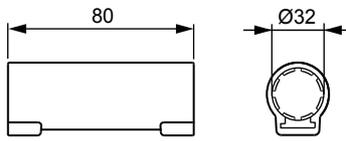
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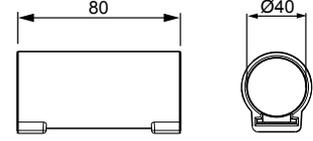
AJI20



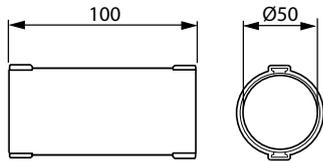
AJ25



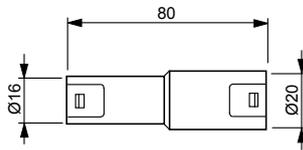
AJ32



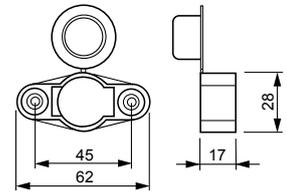
AJ40



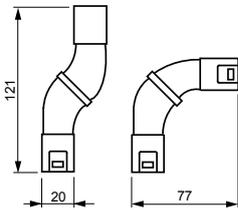
AJ50



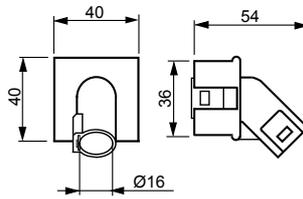
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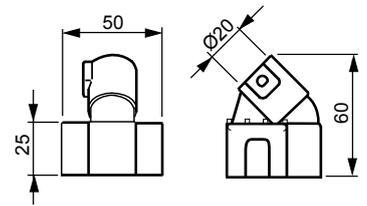
AS20



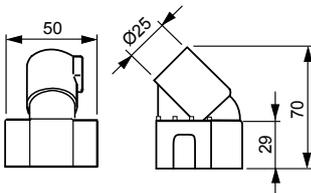
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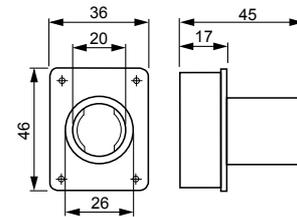
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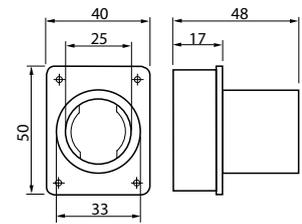
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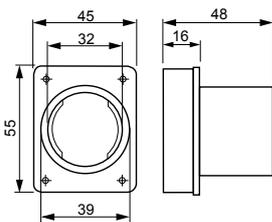
AJ10.25



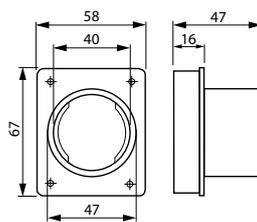
AJ110



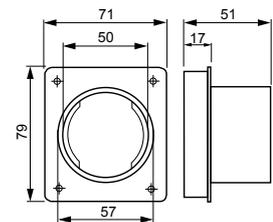
AJ112



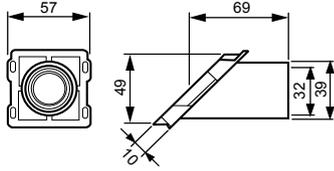
AJ113



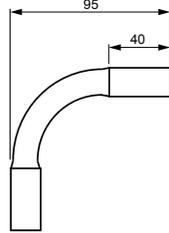
AJ114



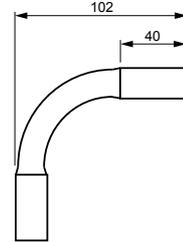
AJ115



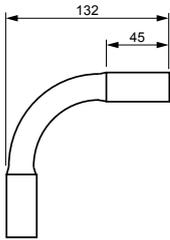
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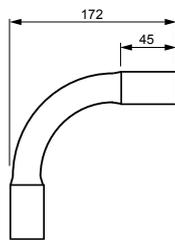
JMKL16



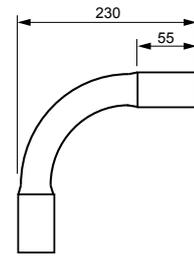
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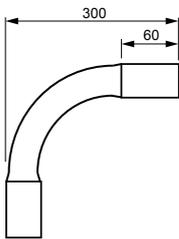
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JMKL32



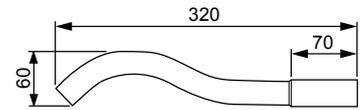
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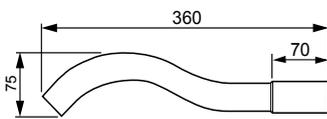
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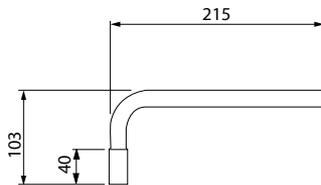
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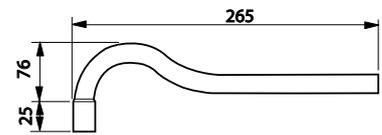
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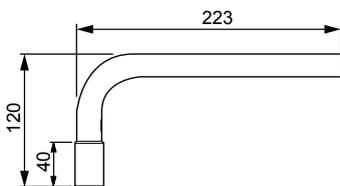
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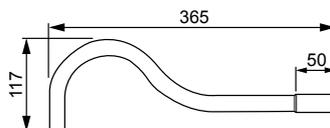
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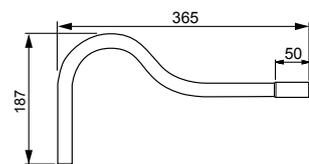
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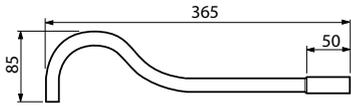
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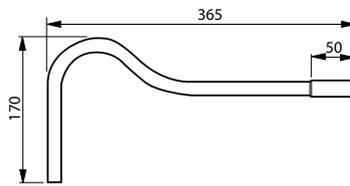
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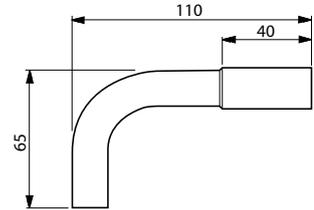
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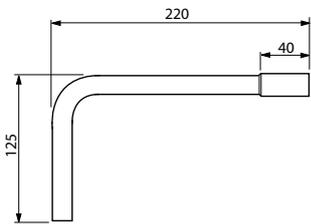
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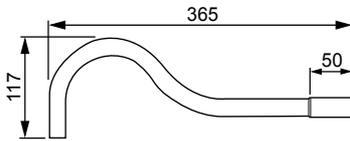
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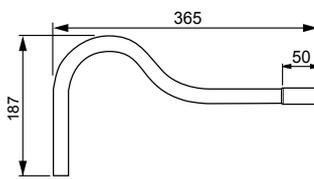
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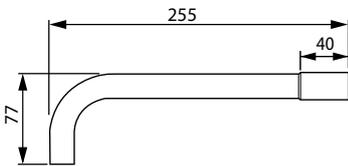
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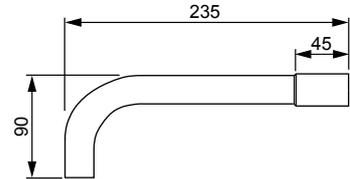
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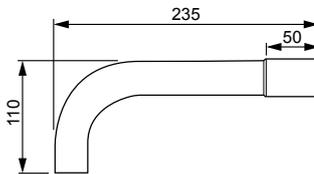
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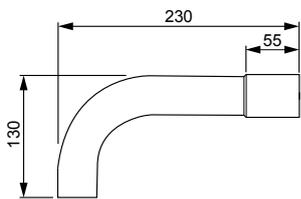
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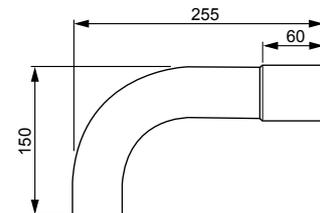
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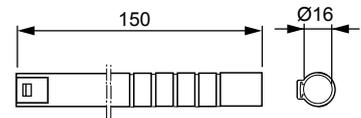
JMKL32.2



JMKL40.1



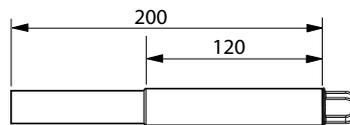
JMKL50.1



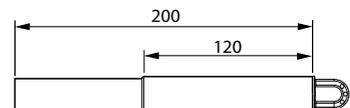
AJ5.16



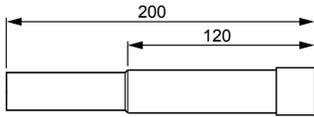
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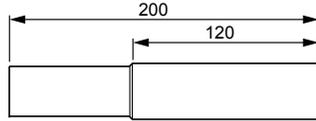
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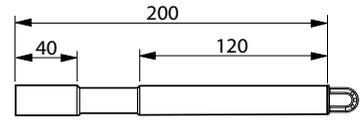
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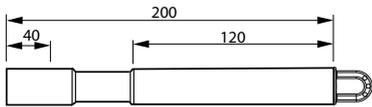
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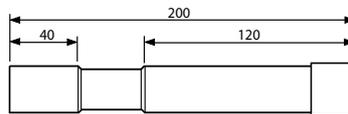
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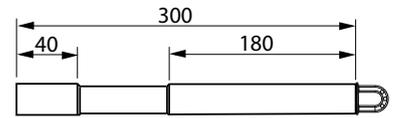
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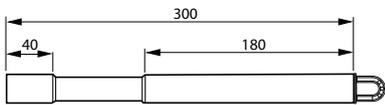
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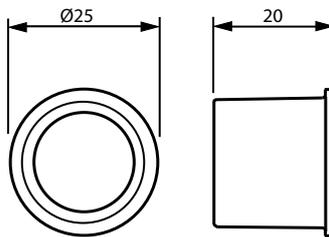
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JMKL16.13

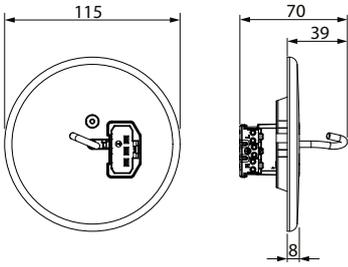


JMKL20.13

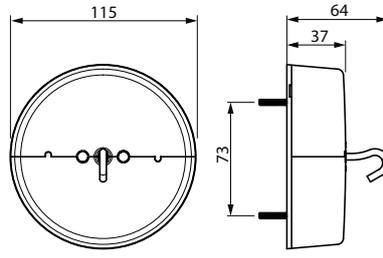


PMR38

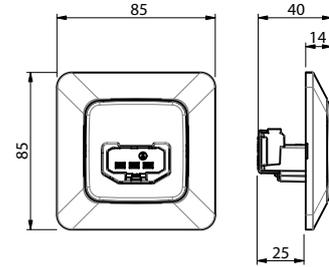
**Covers**



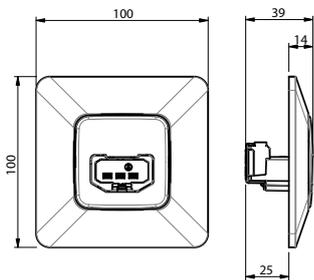
AKK14



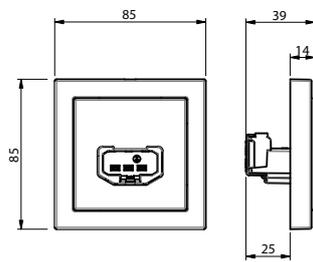
AKK15



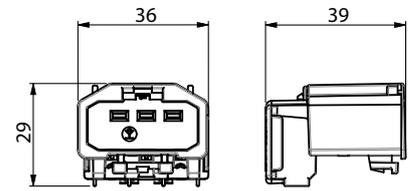
AKK6-214



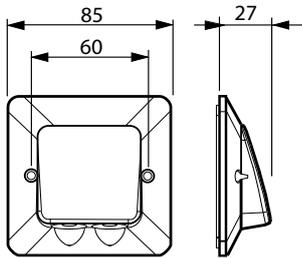
AKK7-214



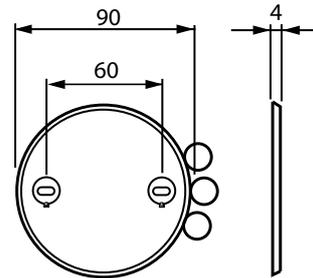
AKK6-8x



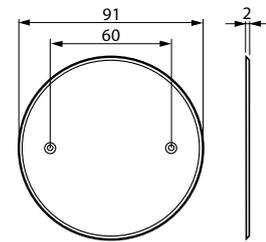
AKL6



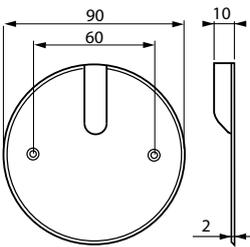
AK4



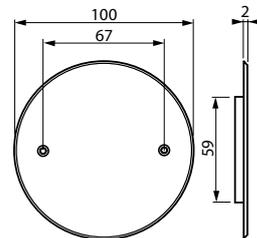
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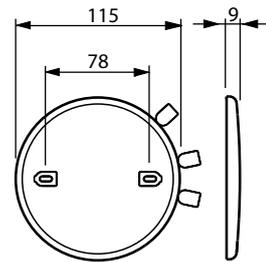
AKI7



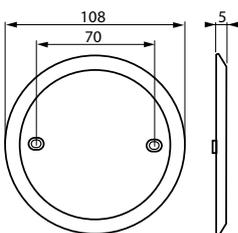
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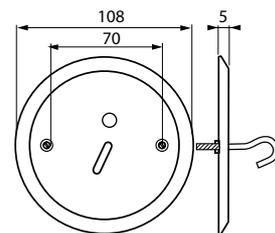
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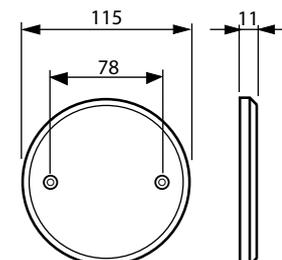
AK1.1



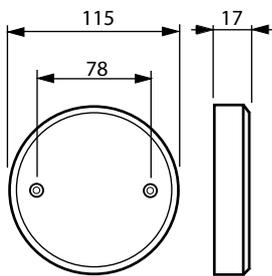
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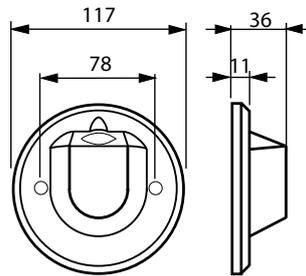
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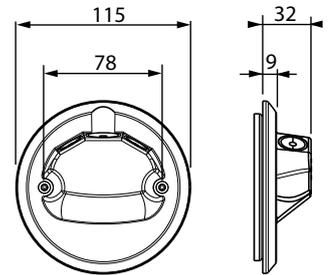
AK11



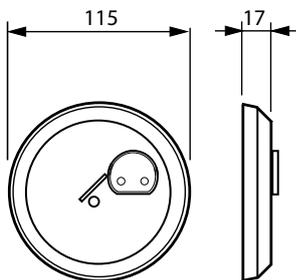
AK13



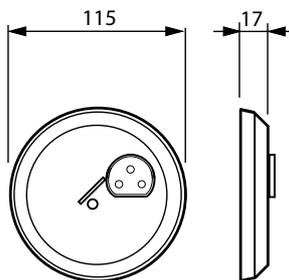
AK12.1



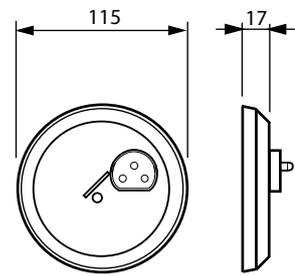
AK12.2



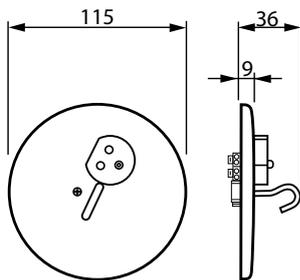
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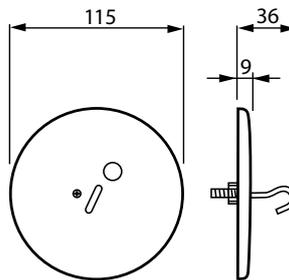
AKK3



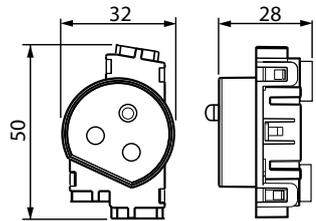
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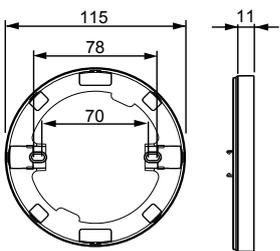
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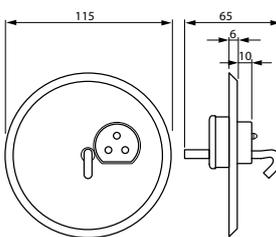
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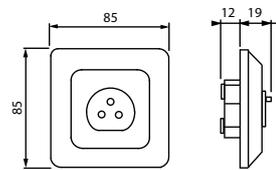
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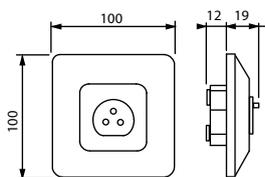
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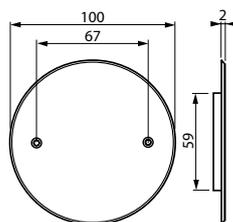
AKI38



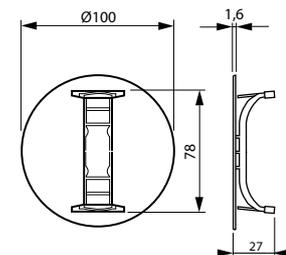
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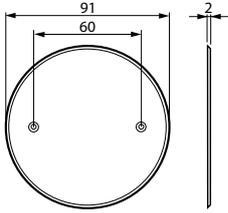
AKK5



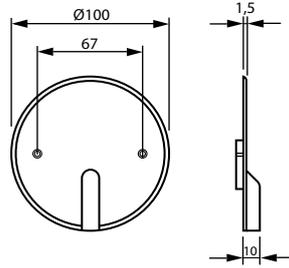
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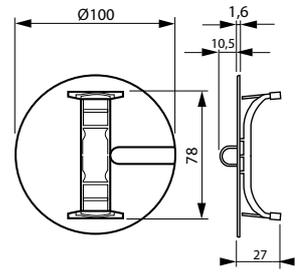
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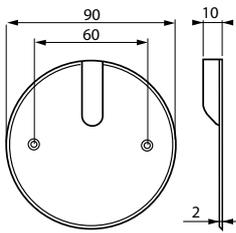
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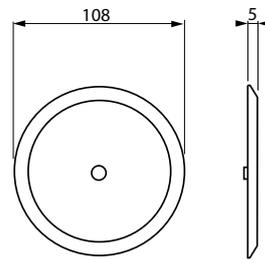
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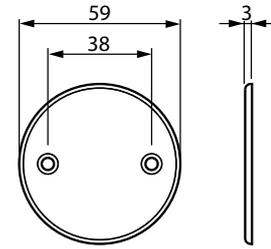
AKI4



AKI8

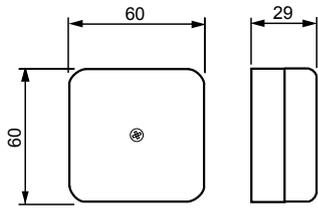


AKI35

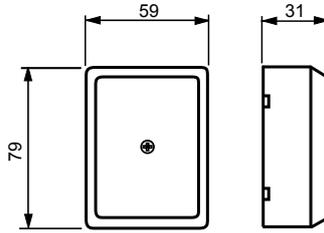


AKI37

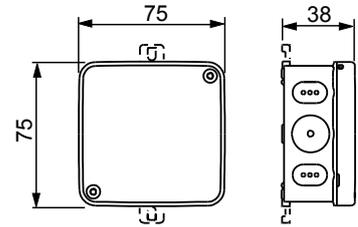
## Surface-mounted junction boxes



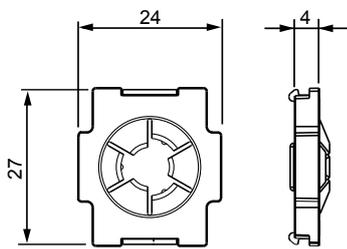
AP6



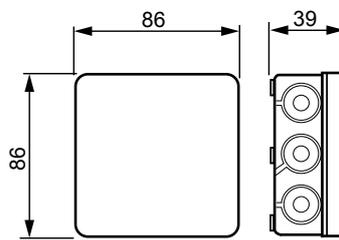
AP12



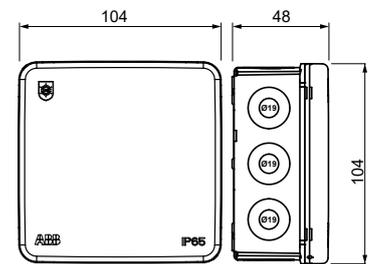
AP75



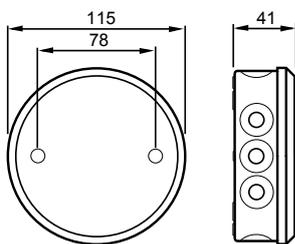
AS12.3



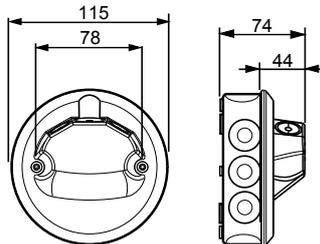
AP9



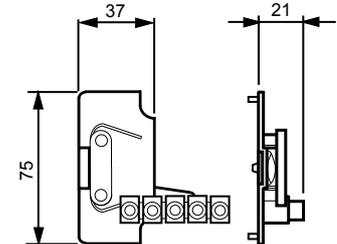
AP10



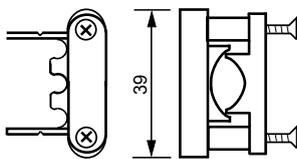
AP7



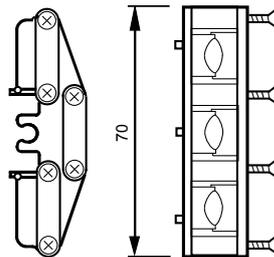
AP7.1



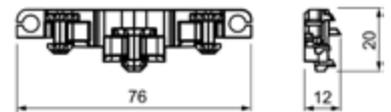
AS9



AS9.1

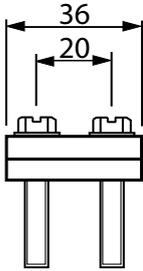


AS9.3

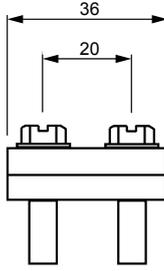


AS9.10

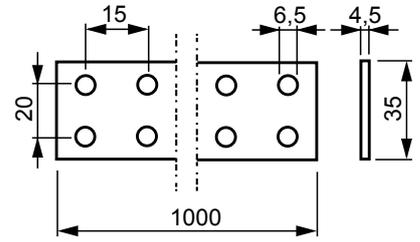
## Earthing materials



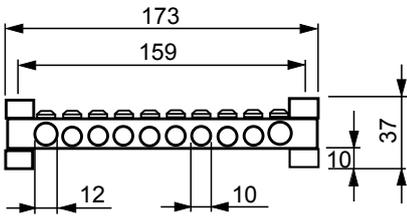
AM2



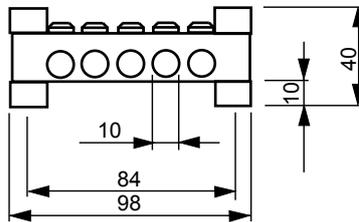
AM3



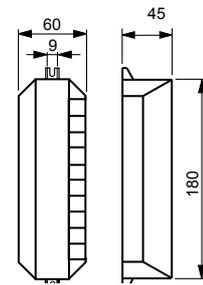
PP36



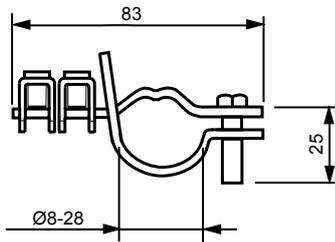
AM4



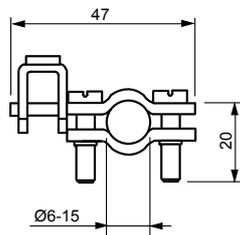
AM5



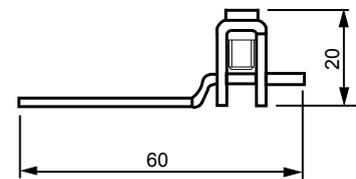
PMR576



AM8



AM9



AM11



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**ABB Oy**

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