

KAISER installation catalogue

Boxes, housings and systems

2022 / 2023



The basis for professional installation





Energy efficiency.

An essential component of the energy transition is energy efficiency. Considerable energy savings can be achieved in buildings with professional insulation that complies with current standards and regulations. This reduces operating costs over the entire life cycle of the building and, at the same time, protects the environment.

Electrical installations often also run in the insulation level or penetrate it. KAISER has developed innovative installation systems for energy-efficient and standard-compliant electrical installation to prevent the creation of thermal bridges with often fatal consequences for the building fabric. More details can be found in our "Energy Efficiency" information brochure and at www.kaiser-elektro.de.



Flush-mounting

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Cavity wall

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Fire protection.

Structural fire protection measures serve the purpose of preventing the spread of flames and smoke in the event of a fire, so that escape and rescue routes remain usable. The focus is particularly on the electrical installation, because this can impair the fire resistance of a fire protection wall or ceiling.

KAISER fire protection systems, which function automatically and maintain the required fire rating despite the embedded electrical installations, enable electricians to offer tested and certified fire protection from a single source. Specially built encasings as well as filling with fire protection mortar or mineral wool are now things of the past. Further information can be found in our "Fire Protection" brochure or on the Internet at www.kaiser-elektro.de.



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Sound insulation.

Soundproof walls make a significant contribution to well-being in buildings, as they allow for quiet, confidentiality and security. These aspects play a role not only in the private sector, such as in terraced houses and apartment buildings, but also in public and commercial buildings – for example in schools, hospitals, retirement homes, doctors' surgeries, hotels and conference centres. The "Sound Insulation" information brochure and the website www.kaiser-elektro.de provide further information on this topic.



Flush-mounting pg. 20
 Cavity wall pg.125

Radiation protection.

Structural radiation protection measures are used in hospitals, doctors' surgeries and any facility where X-ray and gamma irradiation equipment is used. Electrical installations in radiation-protection walls pose a special challenge, as they must not interfere with the specified radiation-protection values of the wall. You can find out more about this topic in the "Radiation Protection" information brochure or on the Internet at www.kaiser-elektro.de.



Cavity wall pg.135



Construction.

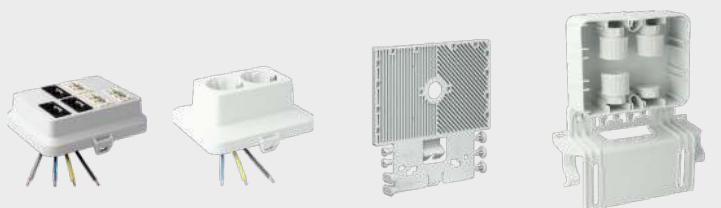
KAISER offers the best basis for efficient, safe electrical installation for all projects – regardless of whether these involve new construction or conversion, extension, renovation or refurbishment. Our installation systems cover the entire range: from flush-mounted boxes for solid walls and a wide variety of cavity wall boxes to installation components for concrete construction in on-site mixed concrete or precast concrete. KAISER offers the optimum solution for every application.



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Pluggable installation.

Simple, fast and secure. Pre-assembled components and systems are in demand as a solution for planning and installation, especially for efficient, on-time construction. Thus, a time-consuming, cost-intensive electrical installation on the construction site can be economically optimized by pre-assembled, pluggable systems. The specialist planner or electrician plans such installations with modular, prefabricated components and cables. At the construction site, these just have to be assembled according to the specified plan for commissioning. This enables time savings of up to 70% at the construction site. And if schedules are tight, selected system partners from the electrical trade can be deployed on site as required. The "Pluggable Installation" information brochure and the website www.kaiser-elektro.de provide further information on this topic.



Pluggable installation	pg. 322
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NEW



Connectivity.

Fibre-optic technology is today's state-of-the-art cabling technology for telephony, Internet and television, not only in the wide-area network and street distribution, but also in the building distribution right down to the residential unit. Fibre-optic cables transmit data optically at the speed of light. At the same time, fibre-optic technology offers a far higher bandwidth compared to conventional copper transmission technology. This enables the transfer of a significantly larger amount of information or data per unit of time. The "Connectivity" information brochure and the website www.kaiser-elektro.de provide further information on this topic.



Connectivity

E3S Connect®
Network level 4

pg. 332
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Cable glands.

AGRO cable glands made from plastic, brass or stainless steel ensure the highest quality and practicality. The innovative complete range offers everything for professional cable entry in any trade or for industrial purposes. This also includes products with increased requirements, such as EMC, Ex, elbow cable glands or universal cable glands up to completely customised products as well as an extensive range of accessories. Further information on the over 3,500 products can be found in our special catalogue "AGRO cable glands" or at www.kaiser-elektro.de.

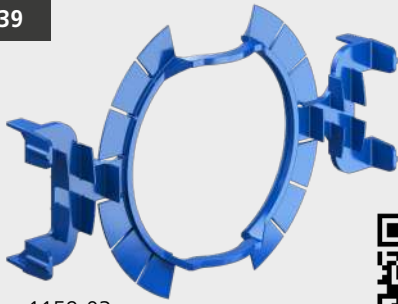


Cable glands

pg. 376



pg. 39



1159-03

Product video



You can forget about plastering! Plaster-free assembly with KLEMMFIX®.

The **KLEMMFIX® system** saves up to 50% installation time compared to the conventional installation of KAISER flush-mounting boxes with plaster. KLEMMFIX® fixes the box securely in the wall before plastering and holds it in position. The blue KLEMMFIX®. Now also for bricks with chambers.



pg. 23



1555-21

Product video



Air-tight flush-mounting boxes with ECON® multi-membrane.

Flush-mounting boxes with ECON® technology and multi-membrane enable guaranteed air-tight installation. They offer a variety of options for air-tight conduit and cable entries and can be either plastered or processed using Klemmfix®. The new **ECON® multi-membrane** allows the insertion of several cables without gusset formation.



pg. 104



9264-12

Product video



PLUG - ALIGN - CLAMP - READY! O-range ECON® Fix.

Mounted without lugs. With the new O-range ECON® Fix one-gang junction box, installation is significantly faster and easier thanks to the lug-free ribs for fastening in various wall material combinations, such as OSB panels, board plywood or solid wood, plasterboards or even in facing masonry.



pg. 109



9280-22

Product video

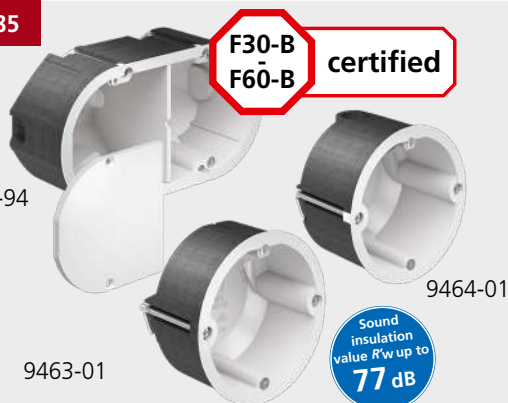


The new standard for data and network installation. Accessory connection box O-range ECON® data.

With the new air-tight O-range ECON® data accessory connection box, KAISER offers unprecedented ease of installation for connecting and installing communication and network connection boxes.



pg. 285



9462-94

9464-01

9463-01

**F30-B
F60-B certified**

Sound insulation value R_w up to **77 dB**

Now also available for timber panel and timber frame construction. HWD 90 fire-protection boxes.

HWD 90 fire-protection boxes are now also approved for timber walls in timber frame or timber panel construction. They maintain the fire protection properties of the wall with a fire-resistance duration of F30-B and F60-B.



Product video



Cavity wall installation



Cavity wall basis installation

- Complete system for all cavity wall applications
- FX⁴ quick-assembly technology for time-saving installation
- Universal installation housing with mineral fibreboard for all common sizes of devices (e.g. displays, LED luminaires and more)
- Halogen-free product range



Air-tight cavity wall installation

- Air-tight installation as per GEG
- ECON[®] technology for air-tight, toolless cable and conduit entries
- Air-tight sleeves for the air-tight feed-through of cables and conduits
- ECON[®] Fix: rib fastening in different wall material combinations without lugs
- ECON[®] data for the connection and installation of data and network cables











Special cavity wall solutions

- HWD fire-protection boxes for fire protection walls and ceilings, as well as shipbuilding walls
- Safe, visible and certified protection without filling and lubrication through the use of KAISER bulkhead systems for cables and conduits
- Sound insulation boxes for insertion into **sound insulation walls**
- Radiation protection one-gang boxes for insertion into leaded and lead-free **radiation-protection walls**
- International products for accessory installation according to national standards



Tools

- Professional system tools for fast, safe installation
- Extensive system accessories

	Basis installation 	GEG – air-tight 	Sound insulation 	Radiation protection 	Shielded Environmentally-friendly construction 	International products 	Fire protection Building  Ship-building 	
For installation accessories							see chapter FIRE PROTECTION	
One-gang boxes	pg. 86	pg. 97	-	-	-	pg.151	pg. 289	pg. 297
One-gang junction boxes	pg. 86	pg. 97	pg. 127	pg. 135	pg. 142	pg.151	pg. 289	pg. 298
One gang boxes for thin boarding	pg. 90	-	-	-	-	-	-	pg. 297
One-gang junction boxes for thin boarding	pg. 90	-	-	-	-	-	-	pg. 298
One-gang junction boxes for solid wood	pg. 112	pg. 104	-	-	-	-	-	-
Two-gang junction boxes	pg. 87	-	-	-	-	-	-	-
Electronics box	pg. 92/113	pg. 92/113/108/109	pg. 129 / 134	-	-	-	pg. 291	-
Perilex one-gang boxes	pg. 88	-	-	-	-	-	-	-
CEE one-gang boxes	pg. 88	pg. 112	-	-	-	-	-	-
Universal installation housing	pg. 149	-	-	-	-	-	-	-
Versions								
available halogen-free	•	•	•	•	-	•	•	•
For cable exits								
Wall light connection boxes	pg. 92	pg. 92/113	-	-	-	-	-	-
Luminaire connection boxes	pg. 93	-	-	-	-	-	pg. 295	-
For cable entries								
Sealing sleeves	-	pg. 117	-	-	-	-	-	-
Sealings	-	-	-	-	-	-	pg. 299	-
For cable connections								
Junction boxes	pg. 88 / 147	-	-	-	-	-	-	-
Junction casings	pg. 145	-	-	-	pg. 38/143	-	-	-
Potential equalisation casings	pg. 147	-	-	-	-	-	-	-
Accessories								
Fixing	pg. 144	pg. 144	pg. 144	-	pg. 144	pg. 144	pg. 144	pg. 144
subsequent sealing (air-tight)	pg. 28/115	-	-	-	-	-	-	-
Sealing of electrical installation conduits (air-tight and smokeproof)	-	pg. 30/116/314	-	-	-	-	pg. 30/116/314	-
Plaster compensation	pg. 94	pg. 94	-	-	-	-	-	-
Support connectors	pg. 94/113	pg. 94/113	pg. 53/127/141	pg. 138	-	-	pg. 94/113/127/289	pg. 94/113/127/289
End cover	pg. 148	pg. 148	pg. 22/127	-	pg. 38/143	-	pg. 295	pg. 295

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



Plus-minus device screw

The new screw allows the installer to fit screws and devices screws with the same screwdriver. In addition, the new screw drive can be used with many other components, e. g. switches, sockets, terminal blocks etc. Optimal shape for +/- or PZ1 screwdrivers, and at the same time a slot screwdriver up to max. 4mm width can be used. A closed long-slot ensures that the blade does not slip out.

Processing instructions



Device screw with extra-flat countersunk head for low installation height.



Combination drive Pozidrive1/4 slot provides the best grip.



Suitable for fitting using cordless screwdriver.



Optimal for fitting with +/- screwdriver.



FX⁴ technology - the fastest means of screw attachment

FX⁴ technology provides the fastest-ever screw fixing for cavity wall boxes and installation housings. The special thread shape enables up to 40% quicker mounting with simultaneous high self-locking effect.

- 40% quicker mounting
- High self-locking effect
- In cavity wall boxes and installation housings

Processing instructions

The screws with the steep thread design and the 3-part thread reduce installation time by up to 40%.



Standard screw.



KAISER standard.



Example of use for universal housing.



Example of use of EnoX®.

Cavity wall installation boxes

The new KAISER cavity wall installation boxes with proven mounting lug technology and improved product features. A practical design and a large selection of cable and conduit entries allow a large number of applications. Additional boxes for installation in thinly boarded walls or solid wood walls complete the wide range. VDE certification documents the high level of quality.

- Screws ensure permanent fixing
- Entries can be broken out for cables and conduits
- Combinable and through-wiring by using support connectors
- Fixing of devices by means of pre-mounted device screws



Processing instructions



New boxes provide a large number of entry options.



Marking of the openings simplifies the assignment of the correct diameter.



Combination entry for cable and conduits up to max. Ø 25 mm.



Specific openings can be made simply by breaking out.



Bending of the conduit up to 90° is easily possible in the case of slim wall constructions or in the installation level.



Cable and conduit retention prevents slipping-out of live parts.



Standardised round support connector for fast installation.



Easy-to-fit device fixing thanks to new +/- screw.

Technical processing instructions / Standards

- in accordance with DIN EN 60670
- Standardised combination distance 71 mm
- fully-insulated through-wiring in combinations of one-gang boxes and one-gang junction boxes for switches and sockets possible
- with holding ring
- break-out openings for sheathed cabling, low-voltage wires and DIN EN conduits
- integrated retention of NYM cables in accordance with DIN 60670/DIN 49073, self-locking of the conduits
- can also be used as junction box in accordance with DIN EN 60670

One-gang boxes, one-gang junction boxes, accessories



for cavity wall installation

O-range® one-gang box

· with holding ring



3D animation

Depth	49 mm	49 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws +/-	2	2
Ø 20 / 25 mm combination entries	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries 3 x 1.5 mm ²	2	2
Cable entries for low voltages	2	2
Support connectors for each package	7	7
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9063-02	9063-78
Inner packaging/shipping	25 / 250	25 / 250



Accessories: Support connector, Page 94/113

O-range® one-gang junction box

· with holding ring



3D animation

Depth	62 mm	62 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws +/-	2	2
Conduit entries Ø 20 mm	1	1
Ø 20 / 25 mm combination entries	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	3	3
Cable entries 5 x 2.5 mm ² or 7 x 1.5 mm ²	1	1
Cable entries 3 x 1.5 mm ²	3	3
Cable entries for low voltages	2	2
Support connectors for each package	7	7
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9064-02	9064-78
Inner packaging/shipping	25 / 250	25 / 250

Accessories: Support connector, Page 94/113

One-gang box

- with holding ring





Depth	35 mm	35 mm
Cut hole Ø	68 mm	68 mm
For panel thickness	7 - 28 mm	7 - 28 mm
Device screws +/-	2	2
Cable entries 3 x 1.5 mm ²	4	4
Halogen-free	-	Yes
Art.-No.	9061-00	9061-77
Inner packaging/shipping	25 / 250	25 / 250

Two-gang junction box

- for 2 electrical inserts or 1 block insert
- with cover (Art. No. 9062-90), for use as a junction box
- use separator wall to separate electrical circuits Art. No. 9062-22
- with holding ring



Depth	47 mm	47 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	2 x 68 mm	2 x 68 mm
Device screws +/-	4	4
Centre distance	71 mm	71 mm
Conduit entries Ø 20 mm	6	6
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries 3 x 1.5 mm ²	4	4
Halogen-free	-	Yes
 / 	Yes / Yes	Yes
Art.-No.	9062-02	9062-77
Inner packaging/shipping	10 / 100	10 / 100

Accessories: Support connector, Page 94/113 ; Connecting clip for stacking boxes 9062-02/-77, Page 92

Replacement cover

- for junction box Art. No. 9062-02



Length x Width	145 x 75 mm
Art.-No.	9062-90
Inner packaging/shipping	10 / -

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

One-gang boxes, one-gang junction boxes, accessories for cavity wall installation

PERILEX®/CEE One-gang box

- with holding ring
- for device inserts 16 A




Depth	50 mm	50 mm	50 mm	50 mm
For panel thickness	12,5 - 40 mm	12,5 - 40 mm	12,5 - 40 mm	12,5 - 40 mm
Cut hole Ø	74 mm	74 mm	74 mm	74 mm
Screw spacing	67 mm	67 mm	67 mm	67 mm
with 2 countersunk device screws 4 mm Ø, 16 mm in length to facilitate use of 16 A PERILEX inserts	Yes	Yes	-	-
Halogen-free	-	Yes	-	Yes
With sealing ring for protection class IP 34 and 2 raised head 4 mm Ø device screws, length 20 mm, for use with 16 A CEE equipment inserts	-	-	Yes	Yes
	Yes / Yes	Yes	Yes	Yes
Art.-No.	9067-01	9067-77	9075-01	9075-77
Inner packaging/shipping	10 / 100	10 / 100	10 / 100	10 / 100

Junction box

- with universal VDE cover Art. No. 1184-90
- with holding ring
- with 2 Ø 4 x 16 mm countersunk head screws



Depth	50 mm	50 mm
For panel thickness	12,5 - 40 mm	12,5 - 40 mm
Cut hole Ø	74 mm	74 mm
Screw spacing	67 mm	67 mm
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9071-01	9071-77
Inner packaging/shipping	10 / 100	10 / 100

O-range® one-gang box for thin boarding

The low 35 mm installation depth makes the one-gang box ideal for installation in cavity walls with a small cavity. In addition, thanks to the zero tension technology, the one-gang box can be fitted securely in wall systems with thin boarding.

- With zero tension technology for thin boarding
- Low 35 mm installation depth
- Cable entries with integrated cable retention
- Device screws with flat countersunk head
- For cables up to Ø 11.5 mm



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

Processing instructions



6 entries with integrated retention for Ø 4 – 11.5 mm cables.



Marking of the openings makes it easy to assign the correct diameter.



Device screws with a flat countersunk head for a low installation height.



Possibility of combinations and fully-insulated through-wiring with a round support connector.



The special zero tension technology ensures a permanently secure fit.



For thin boardings made of wood, plaster or sheet metal.



The clamping range is from 0.2 to 30 mm.

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

Examples of applications



The box is primarily suitable for walls with little space or low wall thickness.



In addition, use in the container construction...



...or shipbuilding sectors is possible.

CABLE GLANDS

TOOLS


SERVICE

One-gang boxes, one-gang junction boxes, accessories for cavity wall installation

O-range® one-gang box for thin boarding

- for walls with small cavity up to 35 mm
- for thin boarding
- combinable with each other




Depth	35 mm	35 mm
For panel thickness	0,2 - 30 mm	0,2 - 30 mm
Cut hole Ø	68 mm	68 mm
Device screws +/-	2	2
Cable entries Ø 4 up to 11.5 mm	6	6
Support connectors for each package	5	5
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9061-01	9061-78
Inner packaging/shipping	25 / 250	25 / 250

One-gang box for thin boardings

- for boardings that do not permit stepped face cutting
- with thin holding ring
- protection class IP 3X





Depth	41 mm	41 mm
For panel thickness	0,2 - 40 mm	0,2 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Conduit entries Ø 20 mm	2	2
Cable entries 3 x 1.5 mm ²	4	4
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9068-04	9068-74
Inner packaging/shipping	25 / 250	25 / 250

One-gang junction box for thin boardings

- for boarding that does not permit edge countersinking (e.g. metal-covered boarding)
- with thin holding ring



Depth	61 mm	61 mm
For panel thickness	0,2 - 40 mm	0,2 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Conduit entries Ø 20 mm	4	4
Cable entries 3 x 1.5 mm ²	4	4
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries for low voltages	2	2
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9068-03	9068-76
Inner packaging/shipping	25 / 250	25 / 250

Electronics box

Cavity wall electronics box for switching units, electronic components, cables and terminals in cavity walls. The box can be subdivided and combined, so it offers a wide range of usage options.

- For different kinds of voltages by using the associated separator wall
- Integrating radio or EIB actuators
- With cover that can be wallpapered and filled
- Can be combined with each other and with one-gang boxes and one-gang junction boxes



Processing instructions



Using turbo cutter MULTI 4000 Ø 68 mm (Art. No. 1083-10), cut two installation openings with a centre distance of 71 mm.



You can cut a precision cable entry for air-tight installation with the KAISER universal opening cutter (Art. No. 1085-80).



The electronics box offers space for all kinds of installations. Can also be used as a network box with sufficient space for reserve cables.



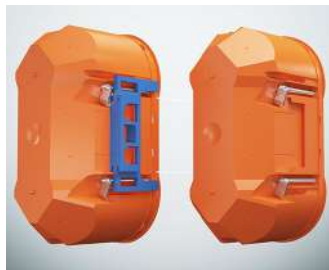
The cover can also be turned by 180° and mounted and filled. This will reduce any possible switching sounds.

Processing instructions

Connecting clips (Art. No. 9062-50) for horizontal combination of electronic boxes.



Push the connection clip onto the first box up to the holding ring. If needed make openings for through-wiring.



Then connect the second box to the clip.



The connecting clip ensures the correct center distance and a secure fixing.



Optionally, the separator wall and the cover can be mounted after the can installation.

Cover ready for papering and filling

The cover can be fitted flush with the wall for papering over or turned 180° for filling.




One-gang boxes, one-gang junction boxes, accessories for cavity wall installation

Electronics box

- air-tight version with additional sealing lip
- Tunnel twin-chamber box with enclosed separator wall and cover that can be wallpapered over.
- for one-gang inserts and electronic components such as EIB actuators, communications equipment (Cat 7), radio control elements, alarm modules, etc.
- with holding ring



Depth	75 mm	75 mm
Centre distance	71 mm	71 mm
Cut hole Ø	2 x 68 mm	2 x 68 mm
Air-tight	Yes	Yes
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9062-94	9062-74
Inner packaging/shipping	10 / 100	10 / 100

Connecting clip for stacking boxes

- for horizontal combination of two-gang junction boxes 9062-02 or electronics boxes 9062-94





Art.-No.	9062-50
Inner packaging/shipping	10 / -

Wall light connection box

- with inner fitting cover
- not to be used as a junction box!
- with holding ring



Depth	40 mm	45 mm	45 mm
Cut hole Ø	2 x 35 mm	35 mm	35 mm
For panel thickness	7 - 30 mm	7 - 40 mm	7 - 40 mm
Conduit entries Ø 20 mm	1	-	-
Cable entries 3 x 1.5 mm ²	2	1	1
Centre distance	30 mm	-	-
If necessary use screw cover 1148-90	Yes	-	-
Air-tight	-	Yes	Yes
Halogen-free	-	-	Yes
 / 	Yes / Yes	-	-
Art.-No.	9148-00	9248-01	9248-77
Inner packaging/shipping	25 / 100	25 / 100	25 / 100

Cover

- for wall light connection boxes Art. No. 1048-00 and Art. No. 9148-00
- With \varnothing 3.2 x 15 mm cover screws




Length x Width	75 x 40 mm
Art.-No.	1148-90
Inner packaging/shipping	25 / 250

Luminaire connection box

- with M5 metal thread for light hooks min. length 55 mm
- maximum load 20 N (2 kg)
- can also be used as ceiling light junction box
- with holding ring
- Important! Always screw in light hook fully.



Depth	47 mm
For panel thickness	7 - 40 mm
Cut hole \varnothing	68 mm
Conduit entries \varnothing 20 mm	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2
Cable entries 3 x 1.5 mm ²	2
	Yes
Art.-No.	9063-50
Inner packaging/shipping	- / 10

Hook screw with M5 thread

- Proof voltage: 2500 V tested
- for screwing into lamp boxes (EN 60670)
- with M5 thread, fully insulated



Length of shank	55 mm	65 mm
Diameter hook	26 mm	26 mm
Overall length	81 mm	91 mm
Thread length	10 mm	10 mm
Art.-No.	1226-55	1226-65
Inner packaging/shipping	- / 150	- / 150

One-gang boxes, one-gang junction boxes, accessories

for cavity wall installation

Plaster compensation rings

- to compensate for deep-seated boxes
- plaster compensation rings with same diameter can be stacked
- with 2 screws for attaching equipment and 2 ring attachment screws



Height	10 mm	20 mm	12 mm	24 mm
Screw spacing	60 mm	60 mm	67 mm	67 mm
for boxes with an outer Ø	68 mm	68 mm	74 mm	74 mm
Art.-No.	9155-61	9155-62	9155-71	9155-72
Inner packaging/shipping	25 / 250	25 / 250	10 / 100	- / 100

Support connector

- For fully insulated through-wiring in combinations
- to make air-tight combinations
- for Art. Nos. 9066-01/12, 9068-01, 9263-..., 9264-..., 9062-02/-77, 9062-94/-74, 9268-94/-74, 9266-22/-77



Halogen-free	-	Yes
Art.-No.	9060-98	9060-78
Inner packaging/shipping	25 / 100	25 / 100

Support connector

- for through-wiring of combinations to IP 30 standard
- for all boxes with a trapezoidal support connector opening



Halogen-free	-	Yes
Art.-No.	9060-97	9060-77
Inner packaging/shipping	50 / 250	50 / -

Compensation ring

- for all Ø 68 mm cavity wall boxes
- for oversize drill holes
- can also be used for combinations where the formed surfaces are located next to each other



Compensation up to max. Ø 71 mm	Yes	-
Compensation from Ø 74 mm to Ø 68 mm	-	Yes
Art.-No.	9060-40	9060-42
Inner packaging/shipping	25 / 250	- / 250

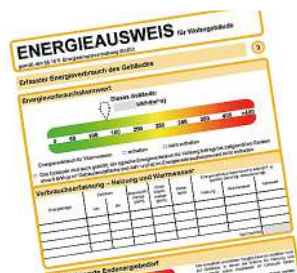
Air-tight cavity wall installation

Air-tight O-range® cavity wall boxes with ECON® technology for energy-efficient electrical installation according to GEG. The elastic ECON® technology sealing membrane allows air-tight electrical installation.

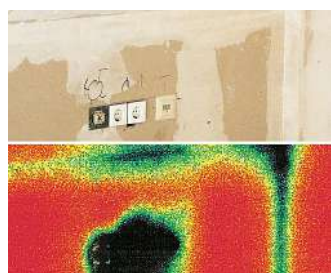
- Elastic sealing membrane for guaranteed air-tightness
- Innovative clamp technology with integrated cable retention
- Tool-free cable and conduit entry
- Air-tight combined with support connector



Technical information



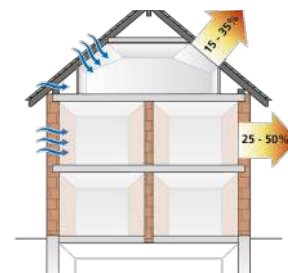
As a key component of the new German Building Energy Saving Ordinance (GEG), the energy performance certificate is a prerequisite for both commercial and residential properties. It creates more transparency for both buyers and tenants regarding the energy efficiency of a property. This factor is set to become more important in the real estate industry, not only for new build projects but also for renovation projects (existing housing).



Thermographic photographs highlight the thermal losses, which occur in conventional electrical installations.



With the help of various test procedures such as thermographic photographs, the blower-door-test and thermo anemometer measurements, we and various neutral institutions have proven the level of air tightness achieved by KAISER installation systems.



Especially in cavity wall construction, an air-tight building shell, guaranteed largely through the moisture barrier foil, plays an important role in complying with permissible energy values. Each conventional installation opening breaks this air-tight shell and results in uncontrolled artificial currents, which often weaken other energy saving measures significantly.

Average heat energy consumption in houses with a living surface area of 100 m²

House type	"Normal house" (housing)	Low-energy house	Passive house	Zero-heating energy house	Energy-autonomous house (special case)
Fuel oil consumption	approx. 2200 l/year	approx. 850 l/year	approx. 180 l/year	approx. 0 l/year	approx. 0 l/year
Use of energy	187 kW h/m ² a	73 kW h/m ² a	15 kW h/m ² a	8.3 kW h/m ² a	0 kW h/m ² a

O-range ECON® 63 one-gang box

- Air-tight design with sealing membranes
- Fully insulated, air-tight through-wiring for combinations using support connectors
- Toolless cable or conduit entries
- Integrated cable retention of NYM cables, self-locking of conduits



3D animation



Depth	49 mm	49 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Tube entries up to M25	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries 3 x 1.5 mm ²	2	2
Support connectors for each package	7	7
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9263-22	9263-78
Inner packaging/shipping	25 / 250	25 / 250

O-range ECON® 64 one-gang junction box

- Air-tight design with sealing membranes
- Fully insulated, air-tight through-wiring for combinations using support connectors
- Toolless cable or conduit entries
- Integrated cable retention of NYM cables, self-locking of conduits



3D animation

Depth	62 mm	62 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Tube entries up to M25	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	3	3
Cable entries 5 x 2.5 mm ² or 7 x 1.5 mm ²	1	1
Cable entries 3 x 1.5 mm ²	3	3
Support connectors for each package	7	7
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9264-22	9264-78
Inner packaging/shipping	25 / 250	25 / 250



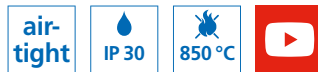
NEW

O-range ECON[®] 2 / 3 / 4 - gang junction boxes

With the new O-range ECON[®] 2 / 3 / 4 - gang junction boxes, KAISER offers the perfect basis and especially easy processing for the fitting of all standard installation accessories in multiple combinations. Thanks to their large installation opening without a central separation, it is easy to wire multiple devices together and even makes possible the use of pre-wired installation accessories. If different electrical circuits – e. g. for supply and communication connections – are used within a combination, the individual accessory installation spaces can be separated easily and in a standardised way.

- Easy installation of pre-wired accessories without spatial separation
- Maximum flexibility when fixing accessories, generous tolerance compensation
- Standardised separation of individual installation openings using a bridge
- Complete mounting and installation with just one screw drive
- Can be combined with all O-range[®] programme applications

O-range ECON[®]



Application examples



The O-range ECON[®] 2 / 3 / 4 - gang junction boxes...



...allow, thanks to their large installation opening without a separator, the use of pre-wired installation accessories.

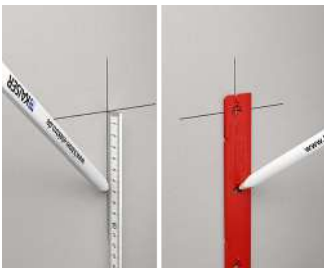


By inserting the separator, different voltage types can be installed in accordance with standards.

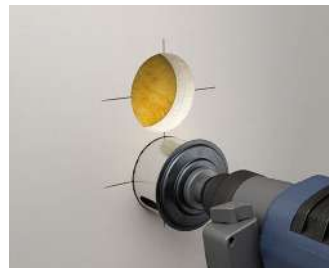


O-range ECON[®] 2 one-gang junction box in a 3-way combination with the O-range ECON[®] Data (Art. No. 9280-22).

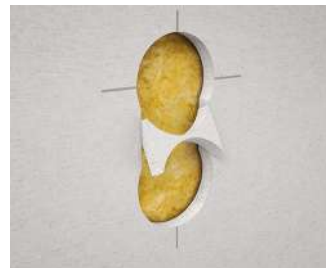
Installation instructions



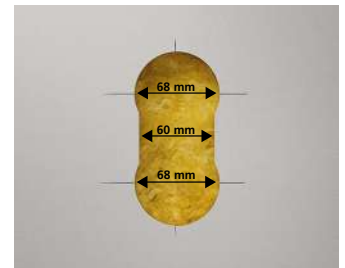
Mark the centre of the upper installation opening in accordance with DIN 18015-3 and the centre of the other installation openings with 71 mm spacing.



Make Ø 68 mm installation openings with countersinking by using a KAISER cutter (e. g. MULTI 4000 Art. No. 1083-10).



The individual installation openings must now be connected for the insertion of the multiple-gang junction boxes and chamfered for the countersinking.



To ensure a perfect seat for the box, always keep to the dimensions shown in the diagram.

O-range ECON® 2 one-gang junction box

NEW



3D animation

- Air-tight design with sealing membranes
- Toolless cable and conduit entries
- Integrated cable retention of the NYM cable, self-locking of the conduit
- Standardised separation of individual installation openings using a bridge
- Can be combined with all O-range® programme applications



Depth	48 mm	48 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	2 x 68 mm	2 x 68 mm
Device screws +/-	4	4
Centre distance	71 mm	71 mm
Conduit entries up to Ø 20 mm	4	4
Conduit entries up to Ø 25 mm	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	1	1
Cable entries 3 x 1.5 mm ²	1	1
Number of installation device openings	2	2
Halogen-free	-	Yes
/ ÖVE	Yes / Yes	Yes / Yes
Art.-No.	9252-22	9252-78
Inner packaging/shipping	10 / 100	10 / 100

O-range ECON® 3 one-gang junction box

NEW



3D animation

- Air-tight design with sealing membranes
- Toolless cable and conduit entries
- Integrated cable retention of the NYM cable, self-locking of the conduit
- Standardised separation of individual installation openings using a bridge
- Can be combined with all O-range® programme applications



Depth	48 mm	48 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	3 x 68 mm	3 x 68 mm
Centre distance	71 mm	71 mm
Number of installation device openings	3	3
Number of bridges	1	1
Device screws +/-	6	6
Conduit entries up to Ø 20 mm	6	6
Conduit entries up to Ø 25 mm	2	2
Cable entries 3 x 1.5 mm ²	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Halogen-free	-	Yes
/ ÖVE	Yes / Yes	Yes / Yes
Art.-No.	9253-22	9253-78
Inner packaging/shipping	5 / 50	5 / 50

Air-tight one-gang boxes, one-gang junction boxes, accessories for cavity wall installation

O-range ECON® 4 one-gang junction box



NEW



3D animation

- Air-tight design with sealing membranes
- Toolless cable and conduit entries
- Integrated cable retention of the NYM cable, self-locking of the conduit
- Standardised separation of individual installation openings using a bridge
- Can be combined with all O-range® programme applications



Depth	48 mm	48 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	4 x 68 mm	4 x 68 mm
Device screws +/-	8	8
Centre distance	71 mm	71 mm
Conduit entries up to Ø 20 mm	8	8
Conduit entries up to Ø 25 mm	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries 3 x 1.5 mm ²	4	4
Number of bridges	2	2
Number of installation device openings	4	4
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9254-22	9254-78
Inner packaging/shipping	5 / 50	5 / 50

O-range® separator

- for O-range ECON® 2 / 3 / 4 - gang junction box



NEW

Art.-No.	5000
Inner packaging/shipping	10 / 100

Conduit one-gang junction box

Air-tight one-gang junction box with ECON® technology especially for installation with electrical installation conduit. The box is VDE-certified and suitable for energy-efficient electrical installation acc. to GEG. 4 entries are optimal for continuous conduit installation e. g. in prefabricated house construction or with data networks. Extremely easy fitting thanks to toolless conduit insertion with opening tab. The sealing membrane guarantees permanent air-tightness and at the same time retention of the conduit.

- Installation in Ø 68 mm cut hole
- Elastic sealing membrane for guaranteed air-tightness
- Toolless conduit entry
- Can be combined with support connectors, air-tight and fully-insulated



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

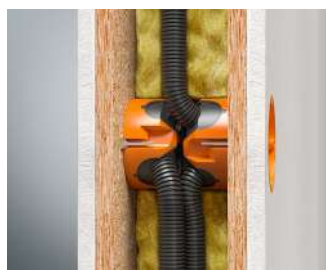
Processing instructions



Easy opening of the conduit entry by means of the opening tab – without any tearing of the membrane.



Air-tight conduit entry up to conduit size M25.



Bending of the conduit up to 90° is easily possible in the case of slim wall constructions or in the installation level.



Air-tight and fully-insulated combination using support connector (Art. No. 9060-98).

HOUSINGS

FIRE PROTECTION

O-range ECON® conduit one-gang junction box

- Air-tight design with sealing membranes
- fully-insulated through-wiring for combinations of one-gang junction boxes with support connectors
- toolless conduit entries



3D animation

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

Depth	62 mm	62 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Tube entries up to M20	2	2
Tube entries up to M25	2	2
Support connectors for each package	7	7
Air-tight	Yes	Yes
Halogen-free	-	Yes
/	Yes / Yes	Yes / Yes
Art.-No.	9266-22	9266-77
Inner packaging/shipping	25 / 250	25 / 250



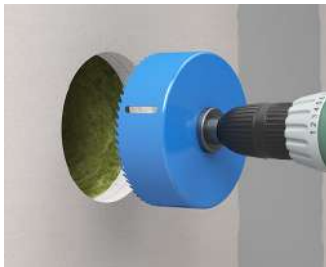
Junction box 120 mm air-tight

Air-tight Ø 120 mm junction box with ECON® technology for an energy-efficient electrical installation in accordance with GEG. Extremely easy fitting thanks to toolless cable and conduit entry. The sealing membranes guarantee permanent air-tightness and at the same time retention of the cable or conduit. The large box volume provides plenty of installation space for various cable connections.

- Installation in Ø 120 mm cut hole
- Elastic sealing membrane for guaranteed air-tightness
- Tool-free cable and conduit entry



Processing instructions



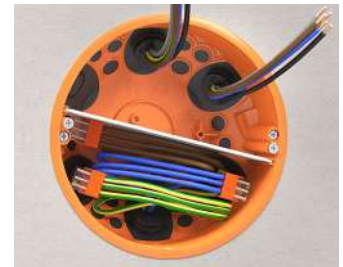
Cut installation opening with bi-metal cutter (Art. No. 1082-20).



Elastic sealing membrane allows toolless cable and conduit entries in air-tight version.



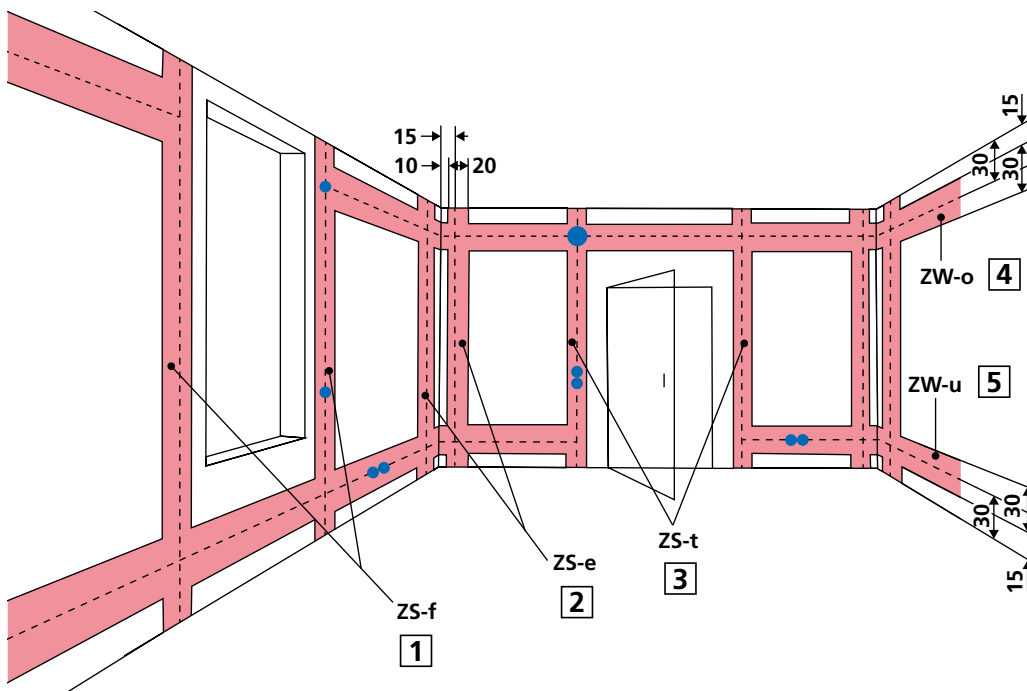
Fitting of fixing adapter for connection terminals on top-hat rail.



For separation of 2 electrical circuits, use separator wall (Art. No. 9073-20).

Installation zones in accordance with DIN 18015-3:2016-09

The following preferred dimensions apply to the laying of cables inside buildings.





1 ZS-f | vertical installation zones at windows: from 10 cm to 30 cm next to the constructional edges | **2** ZS-e | vertical installation zones at wall corners: from 10 cm to 30 cm next to the constructional corners | **3** ZS-t | vertical installation zones at doors: from 10 cm to 30 cm next to the constructional edges | **4** ZW-o | upper horizontal installation zone: from 15 cm to 45 cm below the ceiling covering | **5** ZW-u | lower horizontal installation zone: from 15 cm to 45 cm above the floor

Junction box Ø 120 mm O-range ECON®

- Air-tight design with sealing membranes
- for 2 electrical circuits through separator wall 9073-20
- receptacle for TS 35 standard rail
- with stable holding ring
- Cutting the installation opening with bi-metal cutter 1082-20 or VARIOCUT 1089-00
- including cover and screws



3D animation

Depth	65 mm	65 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	120 mm	120 mm
Tube entries up to M25	6	6
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	6	6
Cable entries 5 x 2.5 mm ² or 7 x 1.5 mm ²	4	4
Cable entries 3 x 1.5 mm ²	6	6
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9273-91	9273-77
Inner packaging/shipping	- / 10	- / 10

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



NEW

O-range ECON® Fix one-gang junction box

With the new O-range ECON® Fix junction box, installation is significantly faster and easier thanks to the latchless clamping ribs for fastening in various wall material combinations such as OSB boards, board plywood or solid wood, gypsum fibre boards or even in exposed masonry. Circumferential sealing lamellas on two levels guarantee that the airtight level is maintained. The centring bars enable convenient mounting of the device junction box in the installation opening without canting. PLUG - ALIGN - CLAMP - READY!

- Clamping rib fastening for different wall constructions, e.g. solid wood
- Circumferential sealing lamellas on 2 levels to maintain the airtight level
- 4 screw domes for maximum flexibility for accessory fitting
- Tool-free cable and conduit entry
- Device screws with plus-minus drive

O-range ECON®



Examples of use



Wall construction OSB board with plasterboard.



Wall construction Board plywood / solid wood.



Wall construction Gypsum fibreboard.*



Exposed brickwork.*

Installation



Create an exact installation opening \varnothing 68 mm with KAISER milling cutter (e.g. MULTI 2000 HM art. no. 1083-70) with edge countersink.



Center markings on the first row of clamping ribs and centering bars for exact positioning and insertion of the box, without canting in the installation opening.

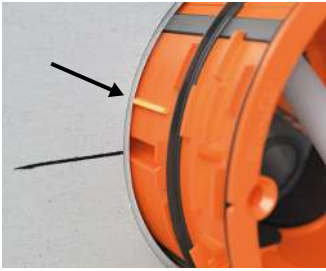


The box is simply pressed into the wall with the new setting tool (Art. No. 1090-12).



Secure hold due to clamping ribs.

Processing instructions



Centering bars for easy insertion into the installation opening Ø 68 mm.



Centre markings for optimum alignment of the box before installation.



Clamping ribs fastening for quick and easy installation.



Circumferential sealing lamellas on 2 levels to maintain the airtight Level.



Suitable for air-tight electrical installations according to DIN 18015-5, cable retention according to DIN EN 60670.



Up to a 90° variable conduit entry angle! Ideal for use in thin wall constructions.



A fully insulated, air-tight through-wiring for two to five box combinations is also possible by means of support connectors.



In the case of retrofitted boarding and an already installed box, the KAISER plaster compensation ring (Art. No. 9155-61/-62) is used.

Note

O-range ECON® Fix junction boxes are suitable for secure fixing in multi-layer wall structures, such as OSB boards in conjunction with gypsum plasterboards (GKB), in walls made of cross laminated timber, glulam, solid wood walls as well as in single-layer wall structures made of gypsum fibre boards (GF) according to DIN EN 15283-2. They can also be used for installations in exposed brickwork.* For installation in wall structures consisting exclusively of plasterboard (GKB) in accordance with DIN 18180 or cement-bonded mineral fibre boards in accordance with DIN EN 12467, the O-range® product range with lug fastening is the appropriate solution.



PLUG - ALIGN - CLAMP - READY!



Subject to modifications

Air-tight one-gang boxes, one-gang junction boxes, accessories for cavity wall installation

O-range ECON® Fix one-gang junction box

NEW



INNOVATION



3D animation

- Clamping ribs fastening in building materials from 10 mm thickness, e.g. wall constructions with OSB boards, gypsum fibre boards, cross-laminated timber / solid wood and exposed masonry
- 4 screw domes
- Air-tight design with sealing membranes
- Toolless cable or conduit entries
- Fully insulated, air-tight through-wiring for combinations using support connectors
- Integrated cable retention of the NYM cable, self-locking of the conduit
- including setting tool (Art. No.1090-12) per packaging unit



Depth	62 mm	62 mm
Cut hole Ø	68 mm	68 mm
Device screws +/-	2	2
Conduit entries up to Ø 25 mm	2	2
Cable entries 3 x 1.5 mm ²	3	3
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	3	3
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9264-12	9264-72
Inner packaging/shipping	25 / 250	25 / 250

Setting tool O-range ECON® Fix

- For quick and safe installation of the O-range ECON® Fix junction box (Art. No. 9264-12 / 9264-72)
- Also suitable for easy alignment of most Kaiser cavity wall boxes with a cut hole diameter of 68 mm, such as Art. No. 9063-XX, 9064-XX, 9263-XX, 9264-XX, etc. (not suitable for e.g. Art. No. 9268-XX, 9280-XX)



Art.-No.	1090-12
Inner packaging/shipping	10 / 100

Electronics box O-range ECON® Flex

Air-tight O-range ECON® Flex electronics box with ECON® technology for energy-efficient electrical installation in accordance with GEG. Fast installation is ideal for modernising or extending existing systems. The flexible tunnel makes it easy to install, and creates space for electronic components, cable reserves and terminals.

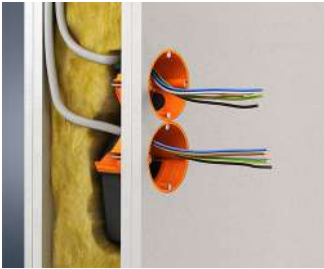
- Additional sideway terminal compartment for communications and network technology
- Elastic sealing membrane for guaranteed air-tightness
- Tool-free cable and conduit entry
- Integrated cable retention
- Can be combined with support connectors, air-tight and fully-insulated



O-range ECON®



Examples of use



Combination with ECON® cavity wall boxes is possible.



Additional space for connection terminals.

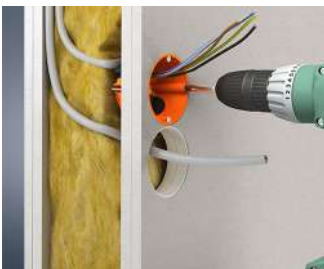


Accepts electronic components e.g. actuators.



Space for cable reserves.

Processing instructions



Existing Ø 68 mm installation openings can be used.



Air-tight and fully-insulated combination using support connector (Art. No. 9060-98).



Standardised cable retention. Elastic sealing membrane permits toolless cable entry...



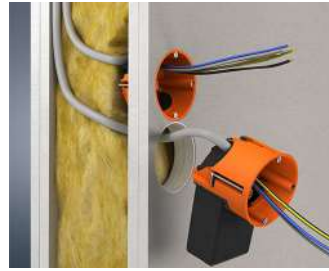
...and conduit entries up to M25 in an air-tight version

Air-tight one-gang boxes, one-gang junction boxes, accessories for cavity wall installation

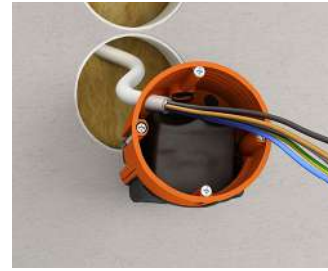
Installation



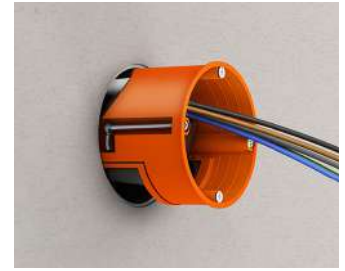
Cut Ø 68 mm installation opening; for refurbishing, centre distance 71 mm, using Profix.



Feed cable or conduit air-tight through the elastic sealing membrane



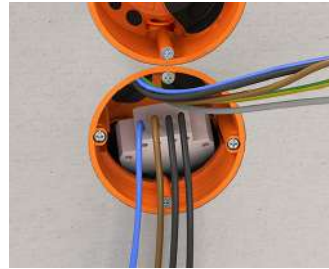
For easy installation, fold in the elastic tunnel.



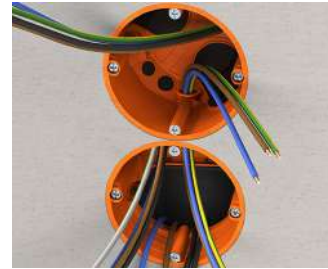
Insert the box into the component opening.



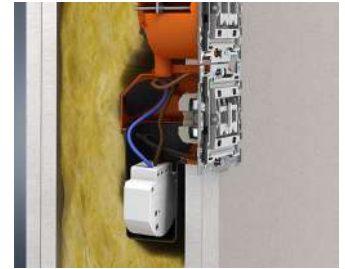
Tighten box lug screws and fold out the tunnel.



Insert electronic component into the tunnel.



Through-wiring takes place by means of support connector (Art. No. 9060-98).





Guaranteed airtight - secure terminal compartment for electronic components.

Electronics box O-range ECON® Flex

- for accessories and electronic components
- Air-tight design with sealing membranes
- Elastic tunnel
- Combinable with ECON® one-gang junction boxes



3D animation

Length x Width x Depth	122 x 71 x 75 mm	122 x 71 x 75 mm
For panel thickness	7 - 30 mm	7 - 30 mm
Cut hole Ø	68 mm	68 mm
Device screws	2	2
Tube entries up to M25	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2
Cable entries 3 x 1.5 mm ²	2	2
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9268-94	9268-74
Inner packaging/shipping	10 / 100	10 / 100

O-range ECON® Data one-gang connection box

With the new O-range ECON® Data one-gang connection box, KAISER offers unprecedented ease of installation for the fitting and connection of communication and network connection boxes. The innovative cable entries for data and network cables are positioned in such a way that it is very easy to maintain the bending radii specified by the cable manufacturer. This prevents kinks in the cable, and ensures optimal data transfer. Whether you are fitting a network connection box or a Keystone module, the new O-range ECON® Data always provides optimal cable routing.

- Innovative cable entries prevent kinks in the cables
- 4 screw domes for maximum flexibility for accessory fitting
- Tool-free cable and conduit entry
- Complete mounting and installation with just one screw drive
- Can be combined with all O-range® programme applications



NEW

O-range ECON®



Application examples



Thanks to optimally-positioned cable entries, Keystone modules can quickly and easily be fitted - no kinks in the cable! – inside the O-range ECON® Data one-gang junction box...



...push the data and network cables into the lightweight wall's cavity.



The O-range ECON® Data one-gang connection box also offers easy cable feeding to the accessory for the fitting of network connection boxes...



...in order to fit the cable reserve in the lightweight wall's cavity.



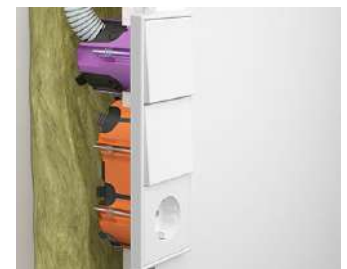
The large number of different cable and conduit entries allows the installation of media converters...



...in which supply is always by means of NYM cables and installation conduits up to Ø 25 mm - so the connection is always the right one.



For conventional electrical installation work, and in addition to combinability with all applications in the O-range® programme, the O-range ECON® Data one-gang connection box...



...also offers plenty of space for convenient fitting of multiple connection terminals.

Air-tight one-gang boxes, one-gang junction boxes, accessories

for cavity wall installation

Installation of Keystone modules



Make \varnothing 68 mm installation opening with countersinking using a KAISER cutter (e. g. MULTI 4000 with Art. No. 1083-10).



Toolless insertion of data and network cables through the elastic sealing membrane.



Insert the O-range ECON® Data one-gang connection box into the installation opening, use the centre marking for alignment, and tighten the lug screws.



Feed the data and network cables back into the lightweight wall's cavity and fix the accessory by means of the device screws.

Installation of network junction boxes



Toolless insertion of data and network cables through the cable entries in the elastic sealing membrane.



For box installation, insert the cables from the outside into the membrane so that the box can be put into the installation opening.



Put the O-range ECON® Data accessory connection box into the installation opening, align it by means of the centre marking, and tighten the lug screws.



Feed the data and network cables back into the cavity of the lightweight wall. Fix the installation accessory in position by means of the device screws.

O-range ECON® Data one-gang connection box

NEW



INNOVATION



3D animation

- for network, coaxial, NYM and communication lines
- 4 screw domes
- Air-tight design with sealing membranes
- Toolless cable or conduit entries
- integrated NYM cable retention, self-locking of the communication cables and conduits
- Can be combined with all O-range® programme applications




Depth	74 mm	74 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole \varnothing	68 mm	68 mm
Conduit entries up to \varnothing 25 mm	2	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	1	1
Cable entries 3 x 1.5 mm ²	2	2
Entries for communication cables	6	6
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9280-22	9280-78
Inner packaging/shipping	10 / 100	10 / 100

One-gang box for thin boardings

- for boardings that do not permit stepped face cutting
- Combinations only possible with boxes with the same Art. No.
- with thin holding ring





Depth	47 mm	47 mm
Cut hole Ø	68 mm	68 mm
For panel thickness	0,2 - 40 mm	0,2 - 40 mm
Device screws	2	2
Cable entries up to max. Ø 10.5 mm can be made using universal opening cutter Art. No. 1085-80	Yes	Yes
Air-tight	Yes	Yes
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9068-01	9068-79
Inner packaging/shipping	10 / 100	10 / 100

Cavity wall one-gang junction box

- incl. 10 connection pieces (for every 25 boxes)
- with holding ring



Depth	65 mm	65 mm
Cut hole Ø	68 mm	68 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cable or conduit entries to max. Ø 25 mm cut using universal opening cutter Art. No. 1085-80	Yes	Yes
Device screws	2	2
Air-tight	Yes	Yes
Halogen-free	-	Yes
 / 	Yes / Yes	Yes
Art.-No.	9066-01	9066-77
Inner packaging/shipping	25 / 250	25 / 250



Accessories: Support connector, Page 94/113

Air-tight one-gang boxes, one-gang junction boxes, accessories for cavity wall installation

One-gang junction box for solid wood

- for clamped attachment in solid wood from 10 mm thickness upwards
- not suitable for use with plasterboard or mineral fibreboard!
- with holding ring



Depth	65 mm
Cut hole Ø	68 mm
Device screws +/-	2
Cable or conduit entries to max. Ø 25 mm cut using universal opening cutter Art. No. 1085-80	4
Air-tight	Yes
 / 	Yes / Yes
Art.-No.	9066-12
Inner packaging/shipping	25 / 250

Accessories: Support connector, Page 94/113

Cavity wall boxes, air-tight version, without sealing membrane

Air-tight making of cable or conduit entries and of box combinations.



Cut all required entry points for cavity wall boxes (except ECON® = without the use of tools) with the opening cutter.



Insert cables or conduit with a slight turn. To insert the box with ease, push folding base together towards the centre.



Tighten both screws of the FX⁴ fast screw attachment.




For combinations: Insert support connectors.

One-gang box CEE

- for use with 16A CEE equipment inserts
- with holding ring




Depth	50 mm	50 mm
Cut hole Ø	74 mm	74 mm
Screw spacing	67 mm	67 mm
For panel thickness	12,5 - 40 mm	12,5 - 40 mm
Cable entries up to max. Ø 10.5 mm can be made using universal opening cutter Art. No. 1085-80	Yes	Yes
Air-tight	Yes	Yes
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9075-12	9075-78
Inner packaging/shipping	10 / 100	10 / 100

Electronics box

- air-tight version with additional sealing lip
- Tunnel twin-chamber box with enclosed separator wall and cover that can be wallpapered over.
- for one-gang inserts and electronic components such as EIB actuators, communications equipment (Cat 7), radio control elements, alarm modules, etc.
- with holding ring



Depth	75 mm	75 mm
Centre distance	71 mm	71 mm
Cut hole Ø	2 x 68 mm	2 x 68 mm
Air-tight	Yes	Yes
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9062-94	9062-74
Inner packaging/shipping	10 / 100	10 / 100

Wall light connection box

- with inner fitting cover
- not to be used as a junction box!
- for 3 terminal blocks



Depth	45 mm	45 mm
Cut hole Ø	35 mm	35 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cable entries 3 x 1.5 mm ²	1	1
Air-tight	Yes	Yes
Halogen-free	-	Yes
Art.-No.	9248-01	9248-77
Inner packaging/shipping	25 / 100	25 / 100

Support connector

- For fully insulated through-wiring in combinations
- to make air-tight combinations
- for Art. Nos. 9066-01/12, 9068-01, 9263-..., 9264-..., 9062-02/-77, 9062-94/-74, 9268-94/-74, 9266-22/-77



Halogen-free	-	Yes
Art.-No.	9060-98	9060-78
Inner packaging/shipping	25 / 100	25 / 100


Air-tight one-gang boxes, one-gang junction boxes, accessories

for cavity wall installation

Universal VDE cover

- for all one-gang, one-gang junction and junction boxes
- with central exit for light hook
- flat cover edge
- surface roughened



Diameter	92 mm	92 mm
Screw spacing	60 / 67 mm	60 / 67 mm
Fireproof	850 °C	850 °C
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	1184-90	1184-77
Inner packaging/shipping	25 / 250	25 / 250

Universal waterproof cover

- central entry with stoppers
- for countersunk screws Ø 4 mm



Diameter	90 mm
Screw spacing	67 mm
Fireproof	850 °C
Halogen-free	Yes
Art.-No.	1174-99
Inner packaging/shipping	10 / -

Internal cover

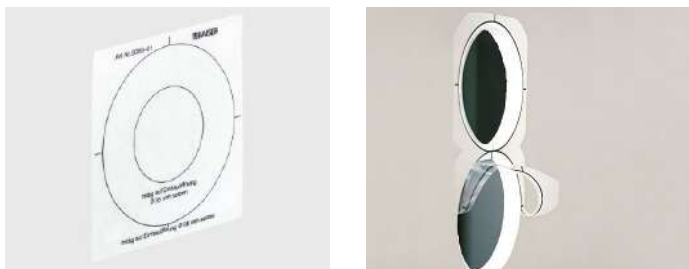
- for flush closure of one-gang boxes and one-gang junction boxes
- suitable for wallpapering
- for all one-gang boxes and one-gang junction boxes



Diameter	64 mm
Halogen-free	Yes
Art.-No.	1158-90
Inner packaging/shipping	25 / 250

Sealing foil

Sealing foil for later sealing of over-sized, non-circular or broken-out openings, as often found with combinations in plasterboard, mineral fibreboard or similar materials, which are guaranteed to be sealed air-tight with the sealing foil.



Sealing foil

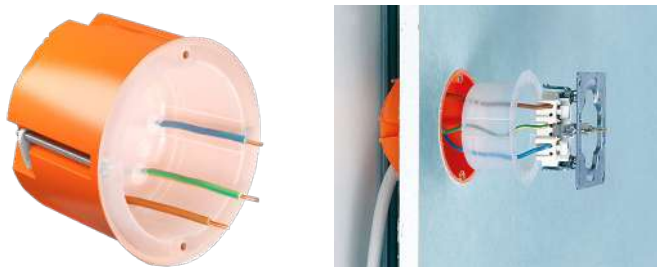
- for sealing between box edge and boarding material with oversized, non-circular or broken-out drill holes (e.g. in combination areas with plasterboard, mineral fibreboard or similar materials)
- for Art. No. 9066-01/77, 9068-01/79, 9248-01, 9263-..., 9264-...



Air-tight	Yes
Art.-No.	9060-41
Inner packaging/shipping	25 / -

Sealing inserts

Sealing insert for retrofit sealing of existing installation boxes in air-tight building shells. The insert encloses the cables and creates a guaranteed air-tight installation space.



Sealing inserts

- for retrofit sealing of all existing one-gang boxes and one-gang junction boxes
- permanently flexible plastic



Depth	36,5 mm
Diameter	60 mm
Air-tight	Yes
Art.-No.	1040-01
Inner packaging/shipping	10 / 100

Air-tight one-gang boxes, one-gang junction boxes, accessories for cavity wall installation

Sealing plugs 16-20

- for sealing electrical installation conduits
- ECON® technology for easy cable entry
- permanently flexible plastic



3D animation

Sealing plug	M16	M20
DIN EN conduit Ø	16 mm	20 mm
Art.-No.	1040-16	1040-20
Inner packaging/shipping	25 / 100	25 / 100

Sealing plugs 25-40

- for sealing electrical installation conduits
- ECON® technology for easy cable entry
- permanently flexible plastic



3D animation

Sealing plug	M25	M32	M40
DIN EN conduit Ø	25 mm	32 mm	40 mm
Art.-No.	1040-25	1040-32	1040-40
Inner packaging/shipping	25 / 100	25 / 50	- / 25

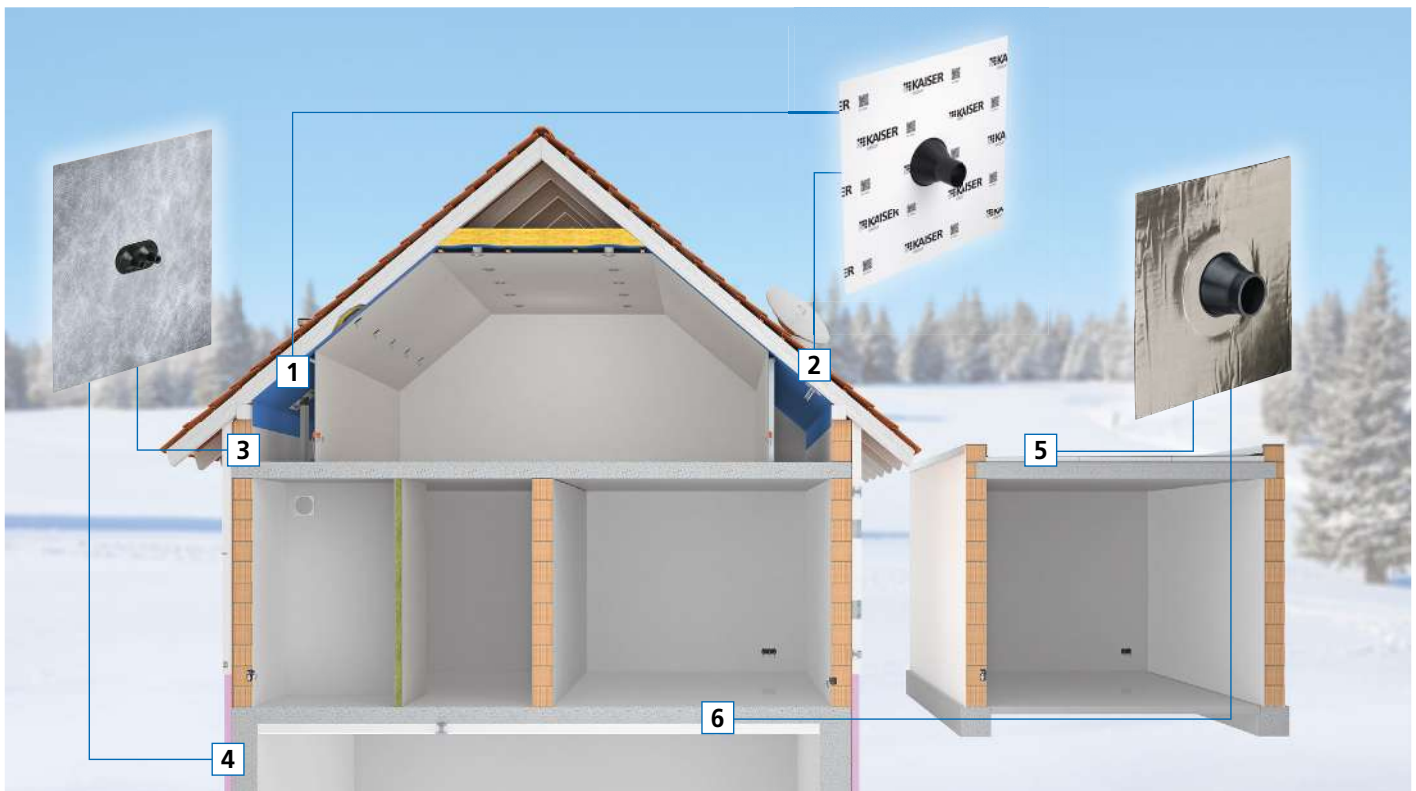
Sealing sleeves

The KAISER range of sealing sleeves offers perfect sealing for all standard cable and conduit sizes, both indoors and outdoors. The range consists of single and double sleeves for one or two cables or conduits respectively, and of two multiple air-tight sleeves for up to six cables or conduits. The self-adhesive KAISER sealing sleeves can be fitted without the need for any tools. Talcum is applied to the sleeves before they leave the factory. They ensure easy cable or conduit feed-through, and fast processing on the building site. In contrast to the conventional improvised method, KAISER sealing sleeves guarantee the permanent air-tight sealing of installation penetrations.

- For cables \varnothing 4 - 12 mm and conduits \varnothing 15 - 110 mm
- Large contact area to cables and conduits
- Anti-kink sleeve also permanently seals very kinked cables
- Completely toolless wall installation
- Extremely good adhesion



Applications for sealing sleeves



1 Sealing of a ventilation conduit through the vapour or moisture barrier | **2** Sealing of more than one cable through the vapour or moisture barrier | **3** Sealings in plastered walls | **4** Sealings in the cellar area | **5** Sealings in flat roof areas | **6** Sealing of the cellar ceiling or the foundation baseplate

Sealing sleeves

Reliable sealing of installation feed-throughs



Air-tight sleeve

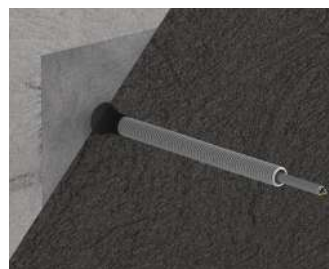


Fleece-butyl sealing sleeve



Aluminium butyl sealing sleeve

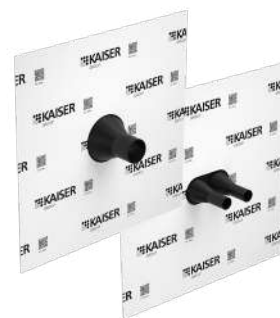
			Applications	Indoors	Indoors & outdoors	Indoors & outdoors
L x B	H	Ø mm	Art. No.	Art. No.	Art. No.	Art. No.
Cables (coaxial, NYM, underground, solar, etc.)						
Single		4 - 8 mm	9059-44	9089-44	9079-44	
		8 - 12 mm	9059-46	9089-46	9079-46	
Double		4 - 8 mm	9059-45	9089-45	9079-45	
		8 - 12 mm	9059-47	9089-47	9079-47	
6 combinations		4 - 11 mm	9059-61	-	-	
Conduits (electrical installation, waste water, ventilation, heating, etc.)						
Single		15 - 22 mm	9059-48	9089-48	9079-48	
		25 - 32 mm	9059-49	9089-49	9079-49	
Double		15 - 22 mm	9059-55	9089-55	9079-55	
Single		42 - 55 mm	9059-51	9089-51	9079-51	
		50 - 75 mm	9059-52	9089-52	9079-52	
		75 - 90 mm	9059-53	9089-53	9079-53	
		100 - 110 mm	9059-54	9089-54	9079-54	
6 combinations		16 - 25 mm	9059-62	-	-	



Air-tight sleeve

Air-tight sleeve for sealing conduit and cable entries in the interior of air-tight building shells.

- extremely strong adhesion
- For guaranteed air-tight feed-throughs, especially in the attic
- 10 types for different conduit and cable diameters
- Suitable for moisture barrier foils, sarking membranes, OSB boards *



Examples of use



Measuring the air-tightness



Processing instructions

Air-tight conduit entries can be made cleanly and easily by using the self-adhesive KAISER air-tight sleeves. The sleeves create faster, more stable and, above all, more air-tight transitions than improvised methods. Please ensure that the base is dry and free from dust and grease. Processing should be carried out at a temperature higher than -5°C, and full adhesive strength is achieved after 24 hours. The sleeves have an unlimited shelf life when stored cool and dry at room temperature. * For fibreboard, we recommend a pre-coat using primer

Installation



Push the sleeve over the cable or conduit.



Remove the foil from the sleeve.



Stick on the sleeve and press firmly on to the base, working outwards from the centre.

Sealing sleeves

Reliable sealing of installation feed-throughs

Air-tight sleeves for cables and conduits

- Continuous sealing by means of air-tight layers for penetration of cables
- extremely strong adhesion
- Temperature resistance -30°C to +80°C, in the feed-through area up to +120°C
- UV-resistant, halogen-free



Length x Width x Height	Number of cables/conduits	Diameter of cable / pipe	Air-tight	Art.-No.	Inner packaging/ shipping
150 x 150 x 30 mm	1 item	4 - 8 mm	Yes	9059-44	10 / 30
150 x 150 x 30 mm	2 item	4 - 8 mm	Yes	9059-45	10 / 30
150 x 150 x 30 mm	1 item	8 - 12 mm	Yes	9059-46	10 / 30
150 x 150 x 30 mm	2 item	8 - 12 mm	Yes	9059-47	10 / 30
150 x 150 x 30 mm	1 item	15 - 22 mm	Yes	9059-48	10 / 30
150 x 150 x 30 mm	2 item	15 - 22 mm	Yes	9059-55	10 / 30
150 x 150 x 30 mm	1 item	25 - 32 mm	Yes	9059-49	10 / 30
230 x 230 x 50 mm	1 item	42 - 55 mm	Yes	9059-51	- / 8
230 x 230 x 50 mm	1 item	50 - 75 mm	Yes	9059-52	- / 4
230 x 230 x 50 mm	1 item	75 - 90 mm	Yes	9059-53	- / 4
320 x 320 x 50 mm	1 item	100 - 110 mm	Yes	9059-54	- / 4

Multiple air-tight sleeves ECON®

Cable and conduit sleeve ECON® for reliable sealing of up to 6 cable or conduit entries through the air-tight building shell - ideal for digital satellite units.

- Flexible sealing of 1 to 6 cables or conduits
- Low space requirement, powerful adhesion
- Completely toolless wall installation
- Sealing even when cables are extremely kinked
- Unused entries are reserved for later installations



Examples of use



Connection of a digital satellite receiver unit.



4 coaxial cables are connected here for reception.



The mast which supports the parabolic mirror must also be incorporated in the equipotential bonding.



The cables are fed through the building's air-tight seal. This entry must be permanently sealed air-tight.

Installation



ECON® technology's toolless cable or conduit entry offers maximum ease of installation and permits fast processing.



Before the sleeve can be glued in position, make sure that the surface is free of dust. Then remove the protective foil,...



...glue the sleeve in position and thoroughly smooth it onto the surface, working from the inside to the outside.



The sleeves guarantee permanent sealing of entries, even when cables are extremely kinked. Retrofitting is easy.

Product advantages



Cable-sleeve ECON®

- 1-piece
- extremely strong adhesion
- Temperature resistance from -25°C to +80°C
- UV-resistant, halogen-free



3D animation

Length x Width x Height	230 x 230 x 25 mm
Number of cable entries	1 - 6
Cable diameter	4 - 11 mm
Art.-No.	9059-61
Inner packaging/shipping	- / 5

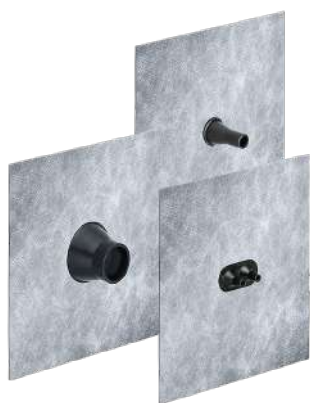
Conduit-sleeve ECON®

- 1-piece
- extremely strong adhesion
- Temperature resistance from -25°C to +80°C
- UV-resistant, halogen-free



3D animation

Length x Width x Height	320 x 320 x 30 mm
Number of conduit entries	1 - 6
Conduit diameter	16 - 25 mm
Art.-No.	9059-62
Inner packaging/shipping	- / 5



Fleece-butyl sealing sleeves

For permanent, secure sealing of installation penetrations in masonry, concrete or wood materials, etc. The highly-elastic sleeves are fitted with fleece-butyl flanges as plaster bases and provide maximum adhesion. Some surfaces must be pre-treated with KAISER primer.

- Permanently moisture-proof - for use indoors and outdoors
- The fleece sleeve can be plastered over, and is for use in plastered walls and behind composite thermal insulation systems
- Waterproofing effect with non-pressing water, e.g. against soil moisture



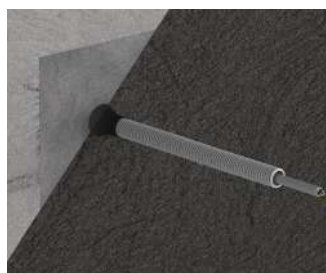
Installation



If necessary, pre-treat the base, pull the sleeve over the cable/conduit...



...remove the protective foil and press the sleeve into position.



The adhesive flange can be plastered over and ensures permanent sealing of the masonry penetration.

Note

To ensure secure adhesion of all KAISER air-tight sleeves, the bases must be free of dust and grease, and also dry and load-bearing. In particular, mineral and organic bases such as stone, concrete, plasterboard or fibreboard must be pre-treated with KAISER primer.

Fleece-butyl sealing sleeves

- For cables Ø 4 - 12 mm and conduits Ø 15 - 110 mm
- Fleece-butyl sealing sleeve can be plastered over
- adhesive
- 1-piece



Length x Width x Height	Number of cables/conduits	Diameter of cable / pipe	Air-tight	Art.-No.	Inner packaging/ shipping
150 x 150 x 30 mm	1 item	4 - 8 mm	Yes	9089-44	10 / 30
150 x 150 x 30 mm	2 item	4 - 8 mm	Yes	9089-45	10 / 30
150 x 150 x 30 mm	1 item	8 - 12 mm	Yes	9089-46	10 / 30
150 x 150 x 30 mm	2 item	8 - 12 mm	Yes	9089-47	10 / 30
150 x 150 x 30 mm	1 item	15 - 22 mm	Yes	9089-48	10 / 30
150 x 150 x 30 mm	2 item	15 - 22 mm	Yes	9089-55	10 / 30
150 x 150 x 30 mm	1 item	25 - 32 mm	Yes	9089-49	10 / 30
230 x 230 x 50 mm	1 item	42 - 55 mm	Yes	9089-51	- / 4
230 x 230 x 50 mm	1 item	50 - 75 mm	Yes	9089-52	- / 4
230 x 230 x 50 mm	1 item	75 - 90 mm	Yes	9089-53	- / 4
320 x 320 x 50 mm	1 item	100 - 110 mm	Yes	9089-54	- / 4

Aluminium-butyl sealing sleeves

For permanent, secure sealing of installation penetrations through masonry, concrete or wooden materials. The highly-elastic sleeves are fitted with non-tear aluminium butyl adhesive flanges and provide maximum adhesion. Some surfaces must be pre-treated with KAISER primer.

- Permanently moisture-proof - for use indoors and outdoors
- Water-sealing effect with non-pressing water up to 0.02 bar
- Especially suitable for sealing in the cellar socle
- Large contact area to cables and conduits
- Anti-kink sleeve also permanently seals very kinked cables
- Completely toolless wall installation
- Extremely good adhesion



Installation



Pre-treat mineral bases and fibreboards with primer.



Pull the sleeve over the cable/conduit and remove the protective foil.



Press the adhesive flange of the sleeve firmly into position.

Aluminium-butyl sealing sleeves

- For cables Ø 4 - 12 mm and conduits Ø 15 - 110 mm
- pressing water up to 0.02 bar
- adhesive
- 1-piece



Length x Width x Height	Number of cables/ conduits	Diameter of cable / pipe	Air-tight	Art.-No.	Inner packaging/ shipping
150 x 150 x 30 mm	1 item	4 - 8 mm	Yes	9079-44	10 / 30
150 x 150 x 30 mm	2 item	4 - 8 mm	Yes	9079-45	10 / 30
150 x 150 x 30 mm	1 item	8 - 12 mm	Yes	9079-46	10 / 30
150 x 150 x 30 mm	2 item	8 - 12 mm	Yes	9079-47	10 / 30
150 x 150 x 30 mm	1 item	15 - 22 mm	Yes	9079-48	10 / 30
150 x 150 x 30 mm	2 item	15 - 22 mm	Yes	9079-55	10 / 30
150 x 150 x 30 mm	1 item	25 - 32 mm	Yes	9079-49	10 / 30
230 x 230 x 50 mm	1 item	42 - 55 mm	Yes	9079-51	- / 4
230 x 230 x 50 mm	1 item	50 - 75 mm	Yes	9079-52	- / 4
230 x 230 x 50 mm	1 item	75 - 90 mm	Yes	9079-53	- / 4
320 x 320 x 50 mm	1 item	100 - 110 mm	Yes	9079-54	- / 4

Sealing sleeves

Reliable sealing of installation feed-throughs



KAISER primer

KAISER primer is a high-quality, solvent-free coating which optimises adhesion for all KAISER sealing sleeves on absorbent, mineral surfaces, for example masonry, concrete, plasterboard or wood materials. The self-adhesive primer is water and heat resistant. It can also be used on Styrofoam, EPS or XPS etc.

Installation



The base must be dry and free of grease, oil and dust. Stir the primer thoroughly before working. Apply smoothly (apply twice to porous surfaces).



Before pressing the adhesive flange on, allow the primer to air until transparent. Thickened primer can be thinned with water.

KAISER primer

- The self-adhesive primer is water and heat resistant. It can also be used on Styrofoam, EPS, XPS etc.



Contents	250 ml
Art.-No.	9000-02
Inner packaging/shipping	- / 1

Sound-insulation box

Sound insulation box for use in walls with increased demands on sound protection. The solid box body with additional sound insulation sheathing absorbs and reflects sound, which prevents disturbances in adjacent rooms. Sound insulation is the same as if no installation boxes were installed.

- Maintains the wall's sound insulation protection
- Also for retrofitting
- Installation up to 5-unit combinations
- Also for opposing installation
- Can be used with sound protection cover as a junction box



Sound insulation value R'_{w} up to **77 dB**

Examples of use



Example of installation of a switch/socket combination.



Use of an opposing sound insulation box.



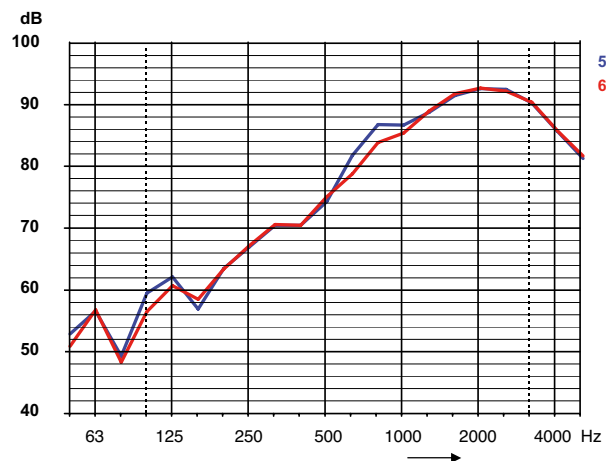
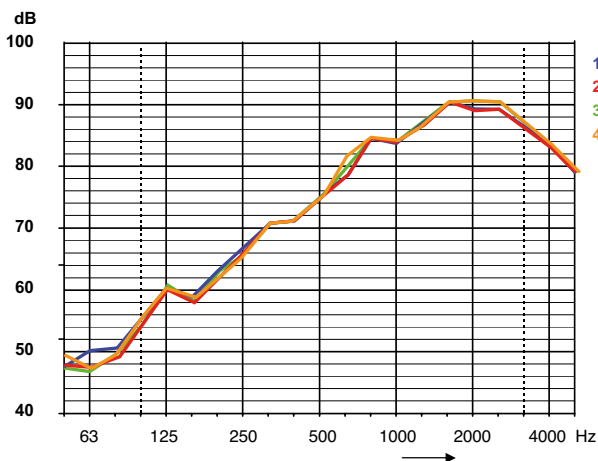
Use of a sound insulation box on one side of a double combination.



The sound insulation box can be used in up to five opposing combinations without weakening the sound insulation characteristics of the wall.

Comparison of sound insulation

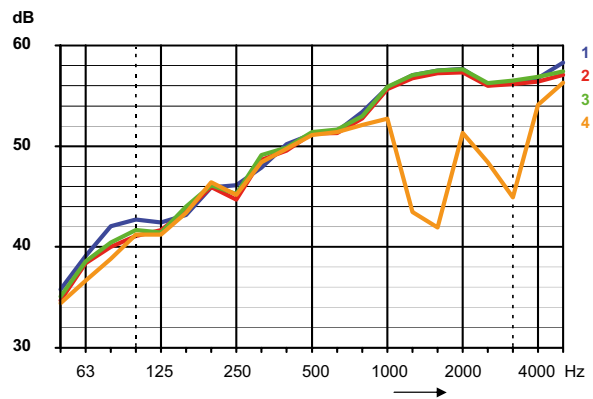
Lightweight wall (2-shell, each triple-boarded) with sound insulation one-gang junction boxes.



1 Wall, without installations, 77 dB | **2** Sound insulation box 9069-01, single, with accessory, 77 dB | **3** Sound insulation box 9069-01, single, with cover, 77 dB | **4** Sound insulation box 9069-01, 5-way, with accessory, 77 dB | **5** Wall, without installations, 78 dB | **6** with sound insulation electronics box, 9069-94/ 9069-74, 78 dB

Comparison of sound insulation

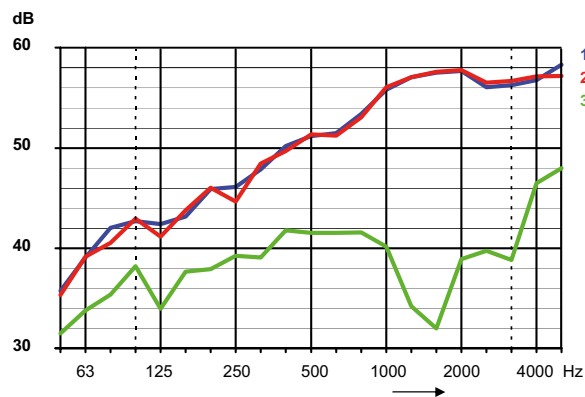
Lightweight wall (two-shell, double-boarded in each case) with sound insulation one-gang junction boxes.



1 Wall, with no installations, 54 dB | **2** Sound insulation box 9069-01, single, with accessory, 54 dB | **3** Sound insulation box 9069-01, single, with cover, 54 dB | **4** One-gang junction box 9064-02, single, with accessory, 48 dB

Comparison of sound insulation

Lightweight wall (two-shell, double-boarded in each case) with sound insulation one-gang junction boxes.



1 Wall, with no installations, 54 dB | **2** Sound insulation box 9069-01, fivefold, with accessory, 54 dB | **3** One-gang junction box 9064-02, fivefold, with accessory, 38 dB

Installation



Use a cutter (e.g. MULTI 4000: Art. No. 1084-10) to make a Ø 74 mm opening.



For combinations, cut off the marked edge strip.



Installation then proceeds as with a conventional cavity wall box.



Secure and fast installation thanks to KAISER FX⁴ technology.



Accurate entries ensured by using the universal opening cutter (Art. No. 1085-80).



Combinations at a standard spacing of 71 mm.



Tight and fully-insulated through-wiring is ensured by the support connector.




With the sound-insulation cover, the box can also be used as a junction box.

Sound-insulation box

- One-gang junction box for sound insulation walls in buildings
- Combination distance of 71 mm through single separation of the pre-embossed edge



3D animation

Depth	54,5 mm	54,5 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	74 mm	74 mm
Screw spacing	60 mm	60 mm
Cable entries of up to Ø 11.5 mm	4	4
Support connectors for each package	5	5
for sound insulation walls up to	77 dB	77 dB
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9069-01	9069-77
Inner packaging/shipping	10 / 100	10 / 100

Sound insulation cover

- for sound insulation box
- Sound insulation function in conjunction with sound insulation box



Diameter	92 mm
Halogen-free	Yes
	Yes
Art.-No.	1184-69
Inner packaging/shipping	10 / 100

Verbindungsstutzen

- For fully insulated through-wiring in combinations
- for Art. No. 1555-21, 9069-01, 9069-77



Halogen-free	-	Yes
Art.-No.	9060-88	9060-78
Inner packaging/shipping	25 / 100	25 / 100

Allocation table for universal opening cutters



Cavity wall installation for sound insulation boxes		Ø setting
NYM cable	3 x 1,5 mm ²	8,5
	5 x 1,5 mm ²	9,5
	3 x 2,5 mm ²	9,5
Support connector	9060-88	Connector
	9060-78	Connector, halogen-free

You can create cable entries with the prescribed strain relief easily and to the exact required size with the universal opening cutter (Art No. 1085-80).



Sound insulation electronics box

Sound insulation electronics box for use in walls with increased demands on sound insulation. The sound insulation electronics box maintains the wall's sound insulation function and creates space for electronic switching devices, data boxes, cables and terminals. The electronics box makes possible population with cables and installation conduits up to M25.

- Maintains the wall's sound insulation protection
- Retrofitting is possible
- Also for use as a double box
- Extra-large terminal area for communications and network technology
- Additional space for electronic components (KNX actuators, relays, radio module, communications technology)



Examples of use



The electronics box provides space for all possible installations e.g. KNX actuators, Venetian blinds relays, alarm modules and many more.



Also ideal for network connections. The generous box volume offers sufficient space for cable reserves.



The electronics box can also be used as a double box, e.g. for switch and socket combinations.



The electronics box can easily be combined with the sound insulation device junction box.

Processing instructions



The electronics box provides 6 ways for conduit entry up to M25 and cable entry up to Ø 11.5 mm.



Create the appropriate line and pipe entries with the universal opening cutter (Art. No.: 1085-80).



By removing the cover...



...and the bridge can also be used as a double box.

Installation



Cut two installation openings using turbo cutter MULTI 4000 Ø 74 mm (Art. No. 1084-10) with a centre distance of 71 mm.



Removal of the bridge.



Using the KAISER universal opening cutter, cut an exact conduit or cable opening for air-tight installation.



Fitting the box using tried-and-tested FX⁴ technology.



The additional terminal space makes possible the fitting of various electronic components...



...and creates sufficient space for the cable reserve when communications and network boxes are installed.



By using support connectors, the box can be combined with itself or with the sound insulation box (Art. No. 9069-01).




The cover can also be fitted turned 180° and filled.

Sound insulation electronics box

- Electronics box for sound insulation walls in buildings
- Also for use as a double box
- For equipment inserts and electronic components
- Can be combined with each other and also with a sound insulation one-gang junction box



3D animation

Depth	70 mm	70 mm
For panel thickness	7 - 40 mm	7 - 40 mm
Cut hole Ø	2 x 74 mm	2 x 74 mm
Screw spacing	60 mm	60 mm
Centre distance	71 mm	71 mm
Conduit entries for DIN EN conduits up to Ø 25 mm	4	4
Cable entries of up to Ø 11.5 mm	4	4
for sound insulation walls up to	78 dB	78 dB
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9069-94	9069-74
Inner packaging/shipping	5 / 50	5 / 50



Sound insulation value R_w up to **69 dB**

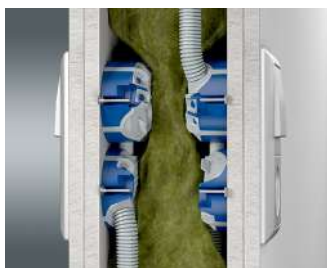
Sound-insulation box 68

Thanks to their solid box body in combination with the sound-absorbing surface on the base of the box, sound insulation 68 one-gang and one-gang junction boxes guarantee the wall's sound insulation. This function is completely maintained even with directly opposing installation. The easy opening process and the 68 mm installation opening ensure fast mounting and also easy retrofitting in existing electrical installations.

- Maintains the wall's sound insulation protection
- Also for retrofitting
- For \varnothing 68 mm installation openings
- For directly opposing installation
- Easy entry for cables up to \varnothing 11.5 mm and conduits up to \varnothing M25



Examples of use



For sound insulation walls with a sound insulation value of up to 69 dB.



Also for directly opposing installation up to a 5-way combination.



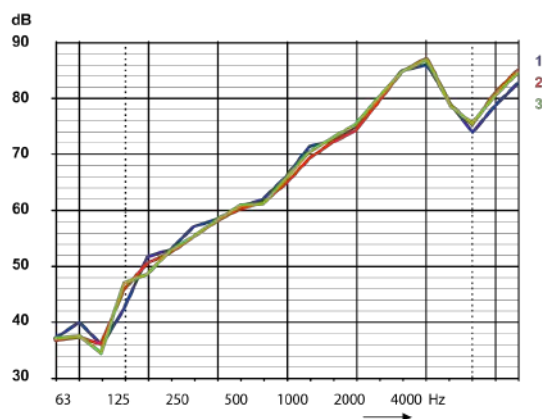
Can be combined with one-gang and one-gang junction boxes.



With a sound insulation cover (Art. No. 1184-69), it can also be used as a junction box.

Comparison of sound insulation

Lightweight wall (2-layer, each triple-boarded)



1 Wall, without installations, 69 dB. | **2** Sound insulation box 9069-03 / 9069-75, single, with accessory, 69 dB. | **3** Sound insulation box 9069-04 / 9069-76, single, with accessory, 69 dB. | **4** The solid box body and the sound-absorbing surface on the base of the box guarantee sound insulation up to 69 dB. | **5** Sound-absorbing strips on the box edge to reduce structure-borne sound. | **6** Easy opening of the conduit entry by means of pre-defined opening tab.

Processing instructions



Up to 6 Ø 4 - 11.5 mm cable entries and 2 conduit entries up to M25.



Easy cable and conduit entry with cable retention acc. to DIN EN 60670.



Easy opening of the conduit entry by means of pre-defined opening tab.



Fully-insulated through-wiring of one-gang and one-gang junction boxes using the support connector (Art. No. 9060-88).

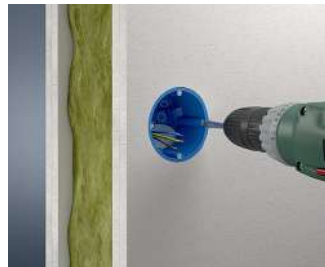
Installation



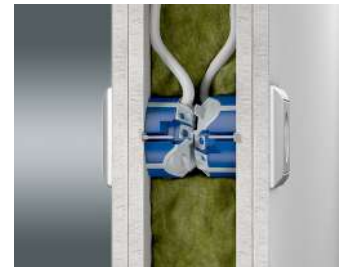
Cut Ø 68 mm installation opening using MULTI 4000 turbo cutter (Art. No. 1083-10). Cut combinations with a centre distance of 71 mm.



Easy opening for the installation of data and power cables or electrical installation conduits.



Fix the box using tried-and-tested KAISER FX⁴ technology.



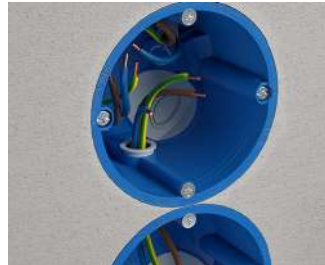
Opposing installation - possible for one-gang boxes with a minimum wall thickness of 100 mm and one-gang junction boxes for a minimum of 125 mm.



For combinations, create installation openings Ø 68 mm in centre distance 71 mm.



Conduit entry ensures tighter fit of the conduits to the boarding.



Ensure fully-insulated through-wiring by using support connector (Art. No. 9060-88).





One-gang boxes and one-gang junction boxes can be combined.

One-gang box sound insulation 68

- for sound insulation walls
- also for directly opposing installation
- minimum wall thickness 100 mm
- can be combined with each other and with the one-gang junction box



3D animation



Depth	49 mm	49 mm
Cut hole Ø	68 mm	68 mm
Screw spacing	60 mm	60 mm
Tube entries up to M25	2	2
Cable entries of up to Ø 11.5 mm	4	4
Support connectors for each package	5	5
For panel thicknesses up to	40 mm	40 mm
for sound insulation walls up to	69 dB	69 dB
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9069-03	9069-75
Inner packaging/shipping	10 / 100	10 / 100

One-gang junction box sound insulation 68

- for sound insulation walls
- also for directly opposing installation
- minimum wall thickness 125 mm
- combinable with each other and with the one-gang box



3D animation

Depth	61 mm	61 mm
Cut hole Ø	68 mm	68 mm
Screw spacing	60 mm	60 mm
Tube entries up to M25	2	2
Cable entries of up to Ø 11.5 mm	6	6
Support connectors for each package	5	5
For panel thicknesses up to	40 mm	40 mm
for sound insulation walls up to	69 dB	69 dB
Halogen-free	-	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9069-04	9069-76
Inner packaging/shipping	10 / 100	10 / 100

Sound-insulation box 68 Flex

Thanks to its solid box body, in connection with the sound absorbing surface on the box base the Sound insulation 68 Flex electronics box guarantees the wall's sound insulation function. Additional insulating strips minimise body sound transfer via the component opening. Fast installation is ideal for modernising or extending existing systems. The flexible tunnel makes it easy to install, and creates space for electronic components, cable reserves and terminals.

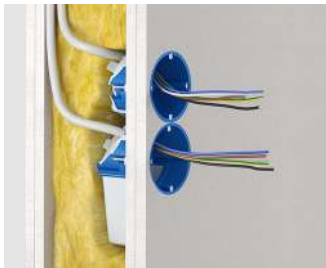
- Maintains the wall's sound insulation protection
- For Ø 68 mm installation openings
- Additional sideway terminal compartment for communications and network technology
- Tool-free cable and conduit entry
- Can be combined with support connectors, air-tight and fully-insulated



Sound insulation value $R'w$ up to 68 dB

NEW

Examples of use



The combination with Sound insulation 68 one-gang and one-gang junction boxes is possible.



Additional space for connection terminals.



Accepts electronic components e.g. actuators.



Space for cable reserves.

Installation



Cut Ø 68 mm installation opening; for refurbishing, using Profix.



Feed cable or conduit air-tight through the elastic sealing membrane



For easy installation, press the flexible tunnel into the box.



Insert the box into the component opening.



Tighten the box's lug screws and press the tunnel out.



Insert electronic components or cable reserves into the tunnel.



Through-wiring takes place by means of support connector (Art. No. 9060-98).

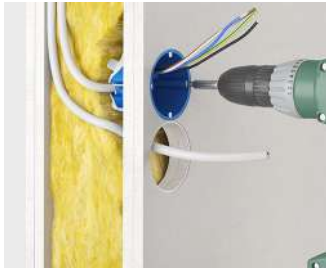


Guaranteed airtight - secure terminal compartment for electronic components.

Sound insulation technology

for cavity wall installation

Processing instructions



Existing Ø 68 mm installation openings can be used.



Air-tight and fully-insulated combination using support connector (Art. No. 9060-88).



Standardised cable retention. Elastic sealing membrane permits toolless cable entry...



...and conduit entries up to M25 in an air-tight version

Sound-insulation box 68 Flex

NEW



INNOVATION



3D animation

- for sound insulation walls
- for accessories and electronic components
- Air-tight design with sealing membranes
- Elastic tunnel
- can be combined with sound insulation boxes 68



Length x Width x Depth	122 x 71 x 75 mm
For panel thickness	7 - 30 mm
Cut hole Ø	68 mm
Screw spacing	60 mm
Device screws +/-	2
Tube entries up to M25	2
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2
Cable entries 3 x 1.5 mm ²	2
Air-tight	Yes
for sound insulation walls up to	68 dB
Halogen-free	Yes
 / 	Yes / Yes
Art.-No.	9068-94
Inner packaging/shipping	10 / 100

Safety for X-ray rooms. One-gang junction box for radiation protection walls.

KAISER's innovative radiation protection box protects against radiation used for medical purposes, e.g. in X-ray facilities. The high density of the radiation protection compound absorbs soft and hard X-rays. The box is especially suitable for lead-free radiation protection walls (e.g. Knauf Safeboard) and - because of its dose-reducing effect in the tube voltage range between 40 - 150 kV - guarantees a lead-equivalent value for the wall of up to 3 mm Pb even with opposing installation. In addition, the box can easily be used in lead-lined walls. In this case, the radiation protection box achieves a lead-equivalent value of 1.5 mm Pb with walls which are leadlined on one side.

- Protection against X-rays
- Suitable for lead-free radiation protection walls
- Lead-free - no health risks
- Retrofitting is possible
- Fast installation without additional screening measures
- Opposing installation is possible
- Maintains the wall's sound insulation protection



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

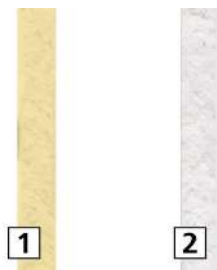
CONNECTIVITY

CABLE GLANDS

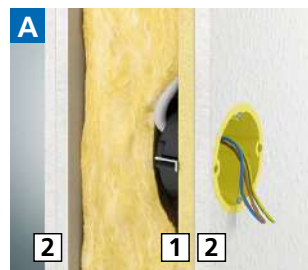
TOOLS

SERVICE

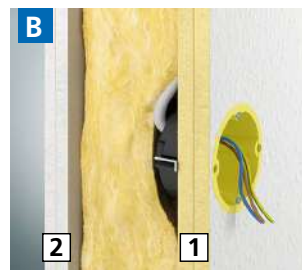
Use in lead-free radiation protection walls



1 lead-free radiation protection panel (e.g. Knauf Safeboard) 2 plasterboard panel



Lead equivalent: up to 0.6 mm Pb wall construction: 2 layers of boarding on both sides



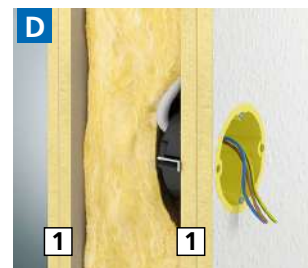
Lead equivalent: up to 1.1 mm Pb Wall construction: 2 layers of boarding on both sides



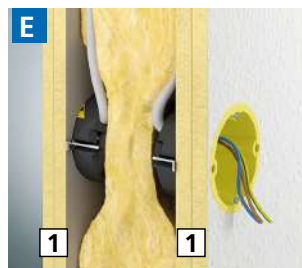
Lead equivalent: up to 1.75 mm Pb Wall construction: 2 layers of boarding on both sides

0,3 - 0,6	A
1,0 - 1,1	B
≤ 1,75	C
≤ 2,75	D
≤ 3,0	E

Lead equivalent in mm Pb / illustration



Lead equivalent: up to 2.75 mm Pb Wall construction: 2 layers of boarding on both sides



Two opposing radiation protection boxes achieve a lead equivalent of 3 mm Pb

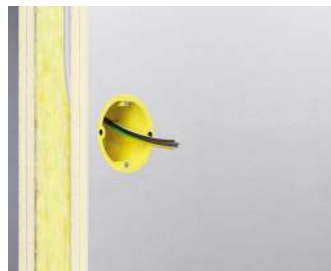
Radiation protection

for cavity wall installation

Examples of use



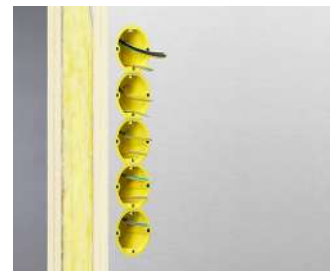
Example of installation of a switch/socket combination.



Installation of the radiation protection box in the wall.



Opposing use of the radiation protection box.



Use of the radiation protection box in a triple combination.

Proof of radiation protection

TÜV-Nord Ensys has demonstrated that in the tube voltage range between 40 and 150 kV, KAISER's lead-free radiation protection box achieves a lead equivalent value of 1.5 mm Pb. This is confirmed by comprehensive series of tests which preceded certification and demonstrated clearly that the wall's radiation protection is completely maintained in this area of application. The certificate can be downloaded as a pdf file from our website.



Installation



Use a cutter (e.g. MULTI 4000: Art. No. 1084-10) to make a \varnothing 74 mm opening.



Installation then proceeds as with a conventional cavity wall box.



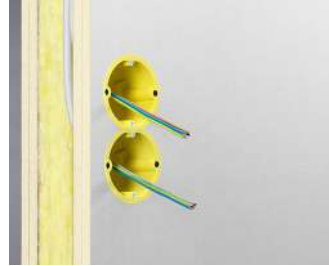
Secure and fast installation thanks to KAISER FX⁴ technology.



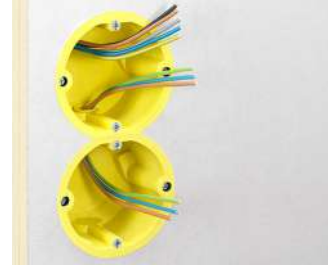
Accurate entries ensured by using the universal opening cutter (Art. No. 1085-80).



For combinations, cut off the marked edge strip.



Combinations at a standard spacing of 71 mm.



The fully-insulated through-wiring is carried out with the support connector.




Depending on the wall construction, the radiation protection box protects the wall up to a lead equivalent of 3 mm Pb.

Radiation protection one-gang junction box

- One-gang junction box for radiation protection boxes in buildings
- Combination distance of 71 mm through single separation of the pre-embossed edge



3D animation

Depth	58,5 mm
For panel thickness	7 - 40 mm
Cut hole \varnothing	74 mm
Screw spacing	60 mm
Cable entries of up to \varnothing 11.5 mm	2
Support connectors for each package	3
Lead-free	Yes
Lead equivalent value [mm Pb]	bis 3*
Halogen-free	Yes
	Yes
Art.-No.	9074-01
Inner packaging/shipping	5 / 10

Note

*Depending on the wall construction (see p. 135), lead equivalents up to 3 mm Pb can be achieved.

Support connector

- For fully insulated through-wiring in combinations
- for Art. No. 9074-01



Art.-No.	9060-74
Inner packaging/shipping	25 / 100

Allocation table for universal opening cutters



Cavity wall installation for radiation protection boxes		Ø setting
NYM cable	3 x 1.5 mm ²	9.5
	5 x 1.5 mm ²	10.5
	3 x 2.5 mm ²	9.5
Support connector	9060-74	Cut up to the marking of the connector entry

You can create cable entries with the specified strain relief easily and to the exact required size with the universal opening cutter (Art. No. 1085-80).

Radiation protection one-gang junction box for lead-lined radiation protection walls.

The KAISER radiation protection box for use in lead-lined walls protects against radiation used for medical purposes, e.g. in X-ray equipment. The radiation protection material with an integrated lead function component absorbs the dangerous X-ray radiation with a lead equivalent value of 2,5 mm Pb as effectively as 2,5 mm thick lead.

- Protection against X-rays
- For lead-lined radiation protection walls
- No health risks - no skin contact with lead function component
- Retrofitting is possible
- Fast installation without additional screening measures
- Maintains the wall's sound insulation protection



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

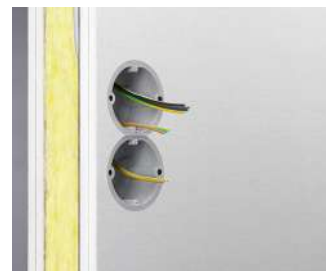
Examples of use



Example of installation of a switch/socket combination.



Using the radiation protection box in the wall.



Single-side use of the radiation protection box in a double combination.



Fitting a triple combination is also easy.

Proof of radiation protection

The German TÜV-Nord Ensys demonstrated that within a range of tube voltages between 90 and 150 kV, KAISER's radiation protection box with lead-function component achieves a lead equivalent of 2.5 mm Pb. This was confirmed by a series of comprehensive tests which preceded certification and it was clearly demonstrated that the wall's radiation protection in this range of applications is completely maintained.

Radiation protection

for cavity wall installation

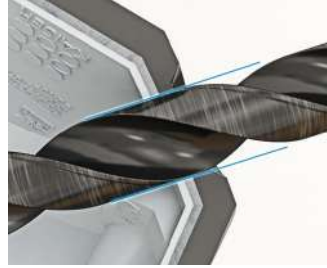
Installation



Use a cutter (e.g. MULTI 4000: Art. No. 1084-10) to make a Ø 74 mm opening.



By using the HSS drill, it is easy for you to...



...to create an exact-fitting cable entry with the specified cable retention.



Use the universal opening cutter (Art. No. 1085-80) to cut the matching conical opening.



Details of suitable drill settings for the universal opening cutter in respect of cable sizes are shown in the table.



Insert the cables, then fit the box into the installation opening.



The one-gang junction box is now ready for use.

Use in lead-lined radiation protection walls



2 lead-lined plasterboard panels; 3 plasterboard panels




Up to 2.5 mm Pb on both sides, 2-layer boarding, lead-lining on one side.

Radiation protection one-gang junction box

- One-gang junction box for lead-lined radiation protection walls in buildings
- Combination distance of 71 mm through single separation of the pre-embossed edge



3D animation

Depth	58,5 mm
For panel thickness	7 - 40 mm
Cut hole Ø	74 mm
Screw spacing	60 mm
Cable entries of up to Ø 11.5 mm	2
Support connectors for each package	3
Lead equivalent value [mm Pb]	2,5
Halogen-free	Yes
	Yes
Art.-No.	9074-03
Inner packaging/shipping	5 / 10

Support connector

- For fully insulated through-wiring in combinations
- For Art. Nos. 1159-90, 1555-51, 9069-03, 9069-04 and 9074-03



Art.-No.	9060-88
Inner packaging/shipping	25 / 100



Cavity wall installation for radiation protection boxes	Ø setting	HSS drill Ø
NYM cable	3 x 1,5 mm ²	9,5
	5 x 1,5 mm ²	9,5
	3 x 2,5 mm ²	9,5
	5 x 2,5 mm ²	Connector
Support connector	9060-88	Cut up to the marking of the connector entry.

Making an exact-fitting cable entry with the specified cable retention is easy - just use an HSS drill together with the universal opening cutter (Art. No. 1085-80).
The matching drills and universal opening cutter settings are shown in the tables.

Screened one-gang junction box



Screened one-gang junction box for cavity wall installation. The conductive coating suppresses interference with a high alternating field component, whether radiated or received.

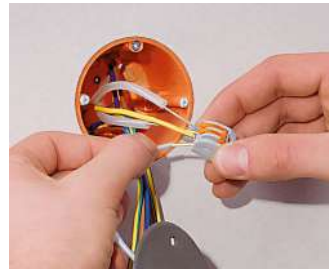
- For environmentally-safe electrical installation, biological construction
- With screening and potential conductivity
- The functional earth of the box must only be connected to the potential equalisation and not to the equipment grounding conductor (PE conductor)



Installation



Remove cable sheath and screen with AMZ 2 (Art. No. 1190-02). Fit bare tracer wire with transparent insulating hose.



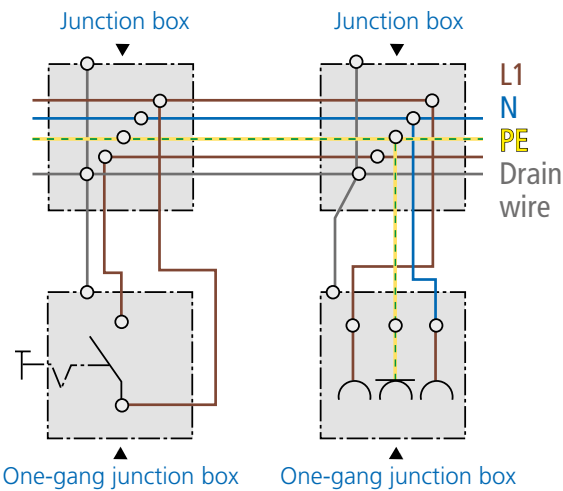
Connect functional earth of the box to tracer wires of screened cable.



As a junction box, connect the box cover's functional earth to the tracer wires of the cables.



Attach cover to box with device screws.



Technical processing instructions/standards

- dimensions in accordance with German DIN 49073
- for rooms used for medical purposes, environmentally-friendly construction, etc.
- the conductive coating suppresses interference with a high alternating field component, whether radiated or received
- The functional earth of the box must only be connected to the potential equalisation and not to the equipment grounding conductor (PE conductor)
- Not suitable for use in X-ray or radiation rooms!

Screened one-gang box / one-gang junction box

- with screening and potential downlead



Depth	47 mm	61 mm	68 mm
For panel thickness	7 - 40 mm	0,2 - 40 mm	7 - 40 mm
Cut hole Ø	68 mm	68 mm	68 mm
Screw spacing	60 mm	60 mm	60 mm
Device screws	2	2	2
Break-out openings Ø 20 mm	2	4	4
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	2	2	2
Cable entries 3 x 1.5 mm ²	2	4	4
Cable entries for low voltages	2	2	2
Art.-No.	9063-88	9068-88	9064-88
Inner packaging/shipping	10 / 100	10 / 100	10 / 100

Screened cover

- for making screened one-gang junction boxes
- for one-gang junction boxes Art. No. 9064-88 and Art. No. 1555-88



Diameter	80 mm
Screw spacing	60 mm
Art.-No.	1164-88
Inner packaging/shipping	10 / 100

Screened junction casing

- for cavity wall and flush-mounting installation
- with screened cover
- With Ø 3.2 x 15 mm cover screws
- protection class IP 3X



Length x Width x Depth	107 x 107 x 53 mm
Cut hole Ø	4 x 35 mm
Break-out openings Ø 20 mm	8
Cable entries for NYM and low-voltage cabling	Yes
For terminals up to	4 mm ²
Art.-No.	9195-88
Inner packaging/shipping	1 / 10

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

Junction box, Accessories

for cavity wall installation

Note

Other installation boxes/housings with screening available on request. Please use our radiation protection box in X-ray areas or areas with ionising radiation.

Screws

- for one-gang boxes and one-gang boxes for cavity walls
- for the following articles: 9062-..., 9063-..., 9064-..., 9066-..., 9067-01, 9068-..., 9071-..., 9073-..., 9075-..., 9192-..., 9195-..., 9196-..., 9197-..., 9248-..., 9300-..., 9098-77, 9263-..., 9264-..



Length	44,5 mm
Screws Ø	3 mm
Art.-No.	2445-25
Inner packaging/shipping	100 / 2000

Metal lugs for screws

- for one-gang boxes and one-gang boxes for cavity walls
- for the following articles: 9061-..., 9062-..., 9063-..., 9064-..., 9066-..., 9067-01, 9068-..., 9071-..., 9073-..., 9075-..., 9148-00, 9195-..., 9248-..., 9300-..., 9098-77, 9263-..., 9264-..



Length x Width	7 x 13 mm
Art.-No.	2445-50
Inner packaging/shipping	100 / 2000

Device screws +/-

- self-tapping Ø 3.2 mm
- Countersunk head with PZ1/S combination drive
- surface double-treated
- corrosion-resistant in accordance with German DIN VDE standard



Length	15 mm	20 mm	25 mm	40 mm
Art.-No.	2472-15	2472-20	2472-25	2472-40
Inner packaging/shipping	100 / 10000	100 / 10000	100 / 10000	100 / 10000

Sealing screws

- in pure brass
- self-tapping Ø 3.2 mm
- with cross-hole in the screw head through which sealing wire can be pulled



Length	15 mm	40 mm
Art.-No.	2444-15	2444-40
Inner packaging/shipping	100 / 1000	100 / 1000

Junction casings and boxes

Junction casings in all sizes and for almost any kind of installations. This product range features practical housing sizes as well as a robust housing design which is perfect for building sites.

- As central junction casings for star-shaped cable laying
- Easy to rewire when changing the way rooms are used
- With separator walls for safe separation of electrical circuits
- Create precise wall openings using the drilling template supplied
- End cover with screw fastening for VDE-compliant installation



Installation



Stick drilling template (supplied) to wall. Open four corners with cutter. Cut out edges with cutter or fretsaw.



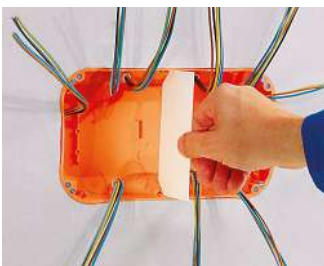
Cut out intermediate parts with cutter or fretsaw.



Break out pre-cut holes, feed in cables, insert casing and attach with the FX⁴-screws.



Fasten inserted box or casing with FX⁴ fast screw attachment.



For separation of several electrical circuits, up to three separator walls can be installed, depending on the size of the box.



Junction casings provide a lot of installation space and, with the corresponding covers, ensure VDE-compliant installation.


Junction casings

for cavity wall installation

Junction casing

- for installation: DIN terminal strips, TS 35 standard rails for terminal strips, etc., terminal blocks up to 16 mm²
- with drilling template (supplied)
- including cover





Length x Width x Depth	105 x 105 x 53 mm	105 x 105 x 53 mm	165 x 165 x 72 mm	165 x 165 x 72 mm
Cut hole Ø	4 x 35 mm	4 x 35 mm	4 x 68 mm	4 x 68 mm
with 4 screw domes	Yes	Yes	-	-
Break-out openings Ø 20 mm	8	8	8	8
Cable entries for NYM and low-voltage cabling	Yes	Yes	Yes	Yes
For terminals up to	4 mm ²	4 mm ²	16 mm ²	16 mm ²
use separator wall for maximum of 2 electrical circuits	Yes	Yes	Yes	Yes
Halogen-free	-	Yes	-	Yes
Break-out openings Ø 25 mm	-	-	2	2
Break-out openings Ø 32 mm	-	-	2	2
 / 	Yes / Yes	Yes / Yes	Yes / Yes	Yes
Art.-No.	9195-91	9195-77	9196-91	9196-77
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Junction casing

- for installation: DIN terminal strips, TS 35 standard rails for terminal strips, etc., terminal blocks up to 16 mm²
- with drilling template (supplied)
- including cover




Length x Width x Depth	240 x 140 x 72 mm	240 x 140 x 72 mm	235 x 205 x 72 mm	235 x 205 x 72 mm
Cut hole Ø	4 x 68 mm	4 x 68 mm	4 x 68 mm	4 x 68 mm
Break-out openings Ø 20 mm	8	8	8	8
Break-out openings Ø 25 mm	2	2	2	2
Break-out openings Ø 32 mm	2	2	2	2
Cable entries for NYM and low-voltage cabling	Yes	Yes	Yes	Yes
For terminals up to	16 mm ²	16 mm ²	16 mm ²	16 mm ²
Maximum of 3 electrical circuits with separator walls	Yes	Yes	Yes	Yes
Halogen-free	-	Yes	-	Yes
 / 	Yes / Yes	Yes	Yes / Yes	Yes / Yes
Art.-No.	9192-91	9192-77	9197-91	9197-77
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Junction box Ø 120 mm

- receptacle for TS 35 standard rail
- Make cut hole with Variocut 1089-00 in fully extended position or bi-metallic cutter 1082-20
- including cover



Depth	65 mm	65 mm
Cut hole Ø	120 mm	120 mm
Break-out openings Ø 20 mm	4	4
Break-out openings Ø 25 mm	2	2
Cable entries for NYM and low-voltage cabling	Yes	Yes
For terminals up to	4 mm ²	4 mm ²
For max. 2 electrical circuits through separator wall Art. No. 9073-20	Yes	Yes
Halogen-free	-	Yes
	Yes	Yes
Art.-No.	9073-01	9073-78
Inner packaging/shipping	- / 10	- / 10

Potential equalisation casing 10²

- for bathrooms or similar
- with potential equalisation rail, protected against corrosion
- with 4 screw domes
- With Ø 3.2 x 15 mm cover screws
- including cover



Length x Width x Depth	105 x 105 x 53 mm
Cut hole Ø	4 x 35 mm
Connections for 6–16 ² circular conductors (also uncut)	1
Connections for 1.5–10 ² cables	6
Art.-No.	9195-73
Inner packaging/shipping	1 / 10

Note

Other earthing products can be found at our website.

Replacement cover

- flat cover edge
- surface roughened
- countersunk for screw heads



For casing size - cavity wall boxes	105 x 105 mm	165 x 165 mm	238 x 142 mm	235 x 205 mm
For casing size - concrete construction boxes	128 x 128 mm	180 x 180 mm	-	250 x 220 mm
For casing size - flush-mounting boxes	107 x 107 mm	159 x 159 mm	240 x 142 mm	238 x 208 mm
Fireproof	850 °C	850 °C	850 °C	850 °C
Art.-No.	1095-93	1096-93	1092-93	1097-93
Inner packaging/shipping	10 / 500	10 / 200	5 / -	5 / 100

Junction casings

for cavity wall installation

Replacement cover for junction boxes Ø 120 mm

- flat cover edge
- surface roughened
- countersunk for screw heads



For Art. No.	9073-01/-91	9073-78/-77
Halogen-free	-	Yes
Art.-No.	9073-93	9073-79
Inner packaging/shipping	10 / -	10 / -

Separator walls

- to separate electrical circuits



for casing size	105 x 105 mm	165 x 165 mm	240 x 140 mm	235 x 205 mm
Art.-No.	9195-20	9196-20	9192-20	9197-20
Inner packaging/shipping	10 / -	10 / -	10 / -	10 / -

Separator wall

- to separate electrical circuits
- for junction boxes Ø 120 mm



Art.-No.	9073-20
Inner packaging/shipping	10 / -

Universal installation housings

Universal installation housings for a wide range of device installations always ensure optimum space for all kinds of devices. The intelligent housing design ensures stability and a secure fit in the wall.

- For displays, LED lights and much more
- For installing almost all shapes and sizes
- Mineral fibreboard allows individual installation opening
- With FX⁴ quick assembly technology



Installation



Mark installation opening and cut with a fretsaw.



Insert cables or conduits, feed housing into wall and install with FX⁴-quick-assembly technology.



Lightly smooth edges with filler (use plastic-based filler).



Cover with wallpaper etc. and install the required device.

Mounting instructions



Use only screws that go into but not through the mineral fibreboard when attaching the device (e.g. SPAX countersunk head screw 3.5 x 15 mm)!

Note

Observe the maximum stroke length of the saw blade when sawing the installation opening.

Universal installation housings

for cavity wall installation

Universal installation housing with mineral fibreboard

- with mineral fibreboard for cutting out individual installation holes
- with drilling template (supplied)
- all-round groove indicates the maximum opening size



Length x Width x Depth	105 x 105 x 53 mm	105 x 105 x 53 mm	165 x 165 x 72 mm	165 x 165 x 72 mm
Cut hole Ø	4 x 35 mm	4 x 35 mm	4 x 68 mm	4 x 68 mm
maximum opening size	70 x 70 mm	70 x 70 mm	110 x 110 mm	110 x 110 mm
For devices with an installation depth of max.	40 mm	40 mm	50 mm	50 mm
Break-out openings Ø 20 mm	8	8	8	8
Cable entries for NYM and low-voltage cabling	Yes	Yes	Yes	Yes
Halogen-free	-	Yes	-	Yes
Break-out openings Ø 25 mm	-	-	2	2
Break-out openings Ø 32 mm	-	-	2	2
Art.-No.	9195-22	9195-27	9196-22	9196-27
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Universal installation housing with mineral fibreboard

- with mineral fibreboard for cutting out individual installation holes
- with drilling template (supplied)
- all-round groove indicates the maximum opening size



Length x Width x Depth	240 x 140 x 72 mm	240 x 140 x 72 mm	235 x 205 x 72 mm	235 x 205 x 72 mm
Cut hole Ø	4 x 68 mm	4 x 68 mm	4 x 68 mm	4 x 68 mm
maximum opening size	170 x 105 mm	170 x 105 mm	190 x 150 mm	190 x 150 mm
For devices with an installation depth of max.	55 mm	55 mm	50 mm	50 mm
Break-out openings Ø 20 mm	8	8	8	8
Break-out openings Ø 25 mm	2	2	2	2
Break-out openings Ø 32 mm	2	2	2	2
Cable entries for NYM and low-voltage cabling	Yes	Yes	Yes	Yes
Halogen-free	-	Yes	-	Yes
Art.-No.	9192-22	9192-27	9197-22	9197-27
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Sound insulation technology

For international projects, we offer a large range of products which meet the relevant national standards and regulations.

- Dimensions and approvals based on national standards
- Suitable installation tools
- Many combination options



FLUSH-MOUNTING

CAVITY WALL

Quickbox®



- for plate thickness 7 - 35 mm
- indispensable in lightweight and column construction
- retrofitting is possible
- extremely robust construction
- for device connection screws Ø 3 mm
- max. tightening torque 0.5 Nm



CONCRETE

HOUSINGS

Length x Width x Depth	83 x 83 x 65 mm	145 x 83 x 65 mm	205 x 83 x 65 mm
Cut hole Ø	83 mm	83 mm	83 mm
Conduit entries M20	4	6	8
Conduit entries M25	4	6	8
Combination	1x1	2x1	3x1
850 °C /	Yes / Yes	Yes / Yes	Yes / Yes
	Yes	Yes	Yes
Art.-No.	9098-77	9098-77.02	9098-77.03
Inner packaging/shipping	20 / 100	- / 50	- / 10

FIRE PROTECTION

PLUGGABLE

Quickbox® ECON



- indispensable in minergie construction
- for plate thickness 7 - 35 mm
- toolless airtight conduit entries
- retrofitting is possible
- extremely robust construction
- for device connection screws Ø 3 mm
- max. tightening torque 0.5 Nm



Length x Width x Depth	83 x 83 x 65 mm	145 x 83 x 65 mm	205 x 83 x 65 mm
Cut hole Ø	83 mm	83 mm	83 mm
Conduit entries M20	4	6	8
Combination	1x1	2x1	3x1
850 °C /	Yes / Yes	Yes / Yes	Yes / Yes
	Yes	Yes	Yes
Art.-No.	9298-21	9298-21.02	9298-21.03
Inner packaging/shipping	20 / 100	- / 50	- / 10

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

Bi-metallic cutter

- for Swiss cavity wall boxes
- hexagonal shank spanner size 9.5 mm
- including holder and HSS centering drill



Cut hole Ø	83 mm
Depth of cutting hole	38 mm
For Quickbox Ø 83 mm	Yes
Art.-No.	1082-84
Inner packaging/shipping	1 / 10

Sound insulation box for Swiss accessory combinations

- One-gang boxes for sound insulation walls in buildings
- Maintains the wall's sound insulation protection
- also for opposing installation
- for plate thickness 7 - 40 mm
- For device connection screws Ø 3 mm
- Max. tightening torque 0.5 Nm



Length x Width x Depth	83 x 83 x 50 mm	145 x 83 x 50 mm	205 x 83 x 50 mm
Combination	1x1	2x1	3x1
Drill Ø	83 mm	83 mm	83 mm
850 °C /	Yes / Yes	Yes / Yes	Yes / Yes
CE	Yes	Yes	Yes
Art.-No.	9798-77	9798-77.02	9798-77.03
Inner packaging/shipping	10 / 100	- / 5	- / 5

Sound insulation box for Swiss accessory combinations

- One-gang boxes for sound insulation walls in buildings
- Maintains the wall's sound insulation protection
- also for opposing installation
- for plate thickness 7 - 40 mm
- For device connection screws Ø 3 mm
- Max. tightening torque 0.5 Nm
- Pipes must be sealed with sealing plugs on both sides of the pipes!



Length x Width x Depth	83 x 83 x 73.5 mm	145 x 83 x 73.5 mm	205 x 83 x 73.5 mm
Combination	1x1	2x1	3x1
Cut hole Ø	83 mm	83 mm	83 mm
Tube entries up to M25	2	2	2
Art.-No.	9799-77	9799-77.02	9799-77.03
Inner packaging/shipping	10 / 100	- / 5	- / 5

Halogen-free cavity wall boxes/fire resistance

All KAISER boxes and casings for cavity wall mounting as well as several accessory parts are available as halogen-free products.

- Fire-resistant up to 850°C.
- Heat-resistant up to 105°C.
- Electrically well-insulated, shock and pressure-resistant.
- There are no chemical reactions which cause the oxygen to be bound.
- No corrosive substances such as hydrochloric acid gas or hydrogen bromide are released.



The identifying feature of these products is that they are available in white.

Cavity wall boxes and casings with the VDE symbol have been tested for fire resistance in a glow wire test at 850°C in accordance with VDE 0471/DIN EN 60695-2-11. This test must demonstrate that a fire cannot start in the cavity wall boxes if a fault occurs in the electrical installation. In addition, always ensure compliance with the current fire prevention measures for wall constructions.

Installation



Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



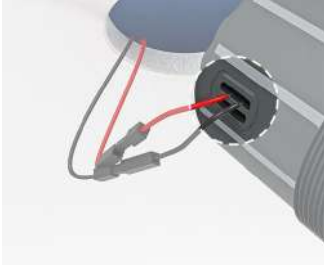
To expand existing installation openings from Ø 68 mm to Ø 74 mm using centering insert (Art. No. 1083-99).



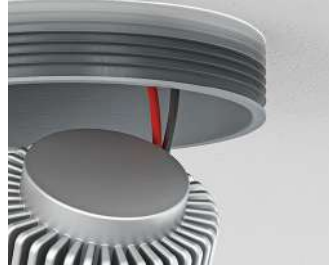
Installation of the operating device (driver).



Feed connector from below through the entry of the LED installation housing.



Connection of the plug-in contacts. Feed the sealing element round the cable and insert into the opening.



Installation of the ThermoX® LED housing in the installation opening.



Inserting the spotlight into the housing.



Rear surface structure minimises pressure on the vapour barrier and ensures optimal heat dissipation.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

System ThermoX® LED for insulated hollow ceilings

for built-in LED luminaires

Processing instructions



Guaranteed air tightness even when the fixing springs are expanded.



Expanding pockets ensure secure fit for the built-in luminaire.

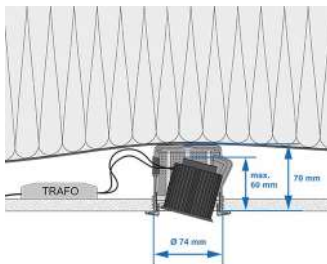


Swivel pocket permits targeted alignment of the built-in luminaire

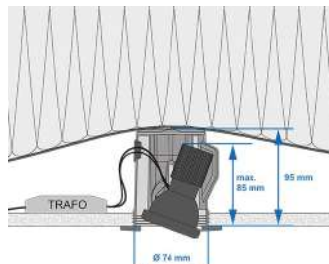


For ceiling-flush installation of ThermoX® LED (DA 86), use bi-metal cutter Ø 86 mm (Art. No. 1087-86).

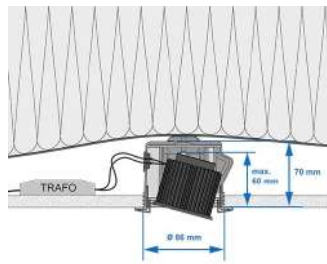
Installation notes



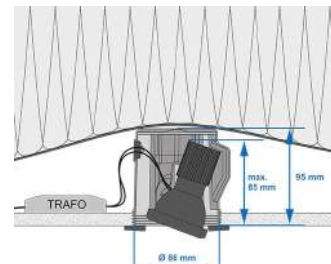
Art. No. 9320-10 ThermoX® LED, Ø 74 x 75 mm



Art. No. 9320-11 ThermoX® LED, Ø 74 x 95 mm



Art. No. 9320-20 ThermoX® LED, Ø 86 x 75 mm



Art. No. 9320-10 ThermoX® LED, Ø 86 x 95 mm

Technical processing instructions/standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials

ThermoX® LED housing

- for rigid and pivoting LED luminaires
- circumferential airtight sealing lip
- Swivel trough for alignment of the luminaire



3D animation



Depth	75 mm	95 mm	75 mm	95 mm
installation from front, cut hole Ø	74 mm	74 mm	86 mm	86 mm
Cable entries	1	3	3	3
max. installation depth for the LED luminaires	60 mm	85 mm	60 mm	85 mm
max. lamp output	6,6 Watt	9 Watt	8 Watt	10 Watt
max. ceiling exit (DA) Ø	70 mm	70 mm	81 mm	81 mm
Art.-No.	9320-10	9320-11	9320-20	9320-21
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Air-tightness certificate

Guaranteed airtight housing for the energy-efficient electrical installation of luminaires. The appropriate certificate can be obtained from us or downloaded from our website.



EnoX® installation housing

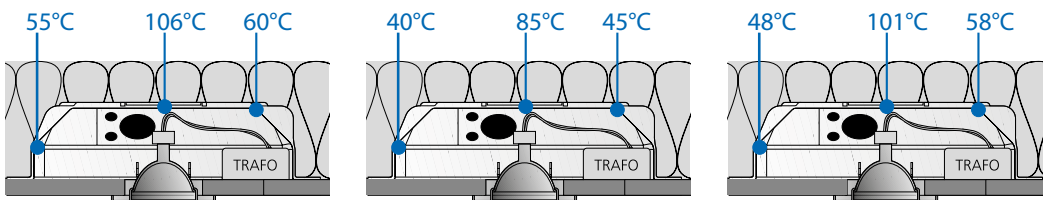
EnoX® housing for luminaires and other devices in ceilings and walls which are produced in a lightweight design with an air-tight building shell. Variable installation space when there is insufficient room to install electrics in the insulation level.

- Air-tight installation in line with GEG energy-saving ordinance.
- No additional installation level is necessary
- For ceilings and walls in renovated and new buildings
- Tool-free cable and conduit entry
- Thermally-protected installation space 300 x 200 x 55 mm
- ECON® technology for air-tight and toolless insertion
- FX technology for fast cavity wall installation



Installation technology for low-voltage luminaires

Temperature profile for room temperature 23°C



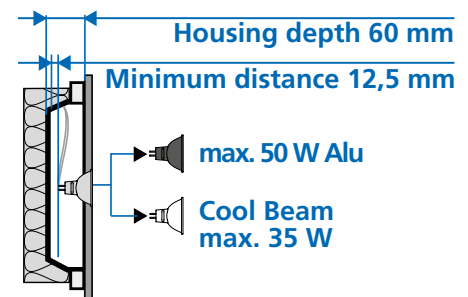
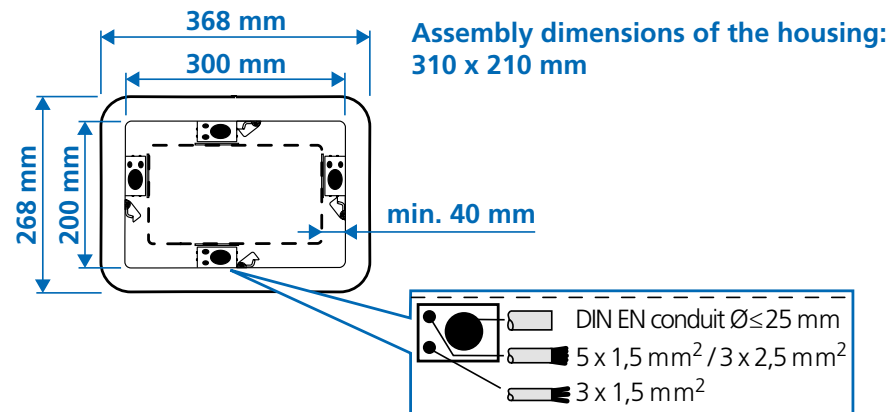
Low-voltage 35 W cool beam

Low-voltage 35 W Alu

Low-voltage 50 W Alu



Example of installation



Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- use of electrical safety transformers up to 105 VA
- max. 35 W Cool-Beam, 50 W aluminium reflector, 6.6 W LED luminaires

System EnoX® for insulated hollow ceilings and cavity walls

Mounting instructions

The EnoX® housing is installed within or on the rafters using the timber or metal joist. In accordance with the cavity wall box principle, the housing is fixed to the joist or to an OSB panel using the FX strap fastening system. The cut-off moisture barrier is made air-tight again using sealing adhesive foil or the KAISER sealing foam frame. Before attaching the boarding, completely remove the moisture barrier foil from the housing interior. Together with the moisture barrier, the EnoX® housing now forms one unit to ensure air-tight installation in accordance with the GEG energy-saving ordinance.



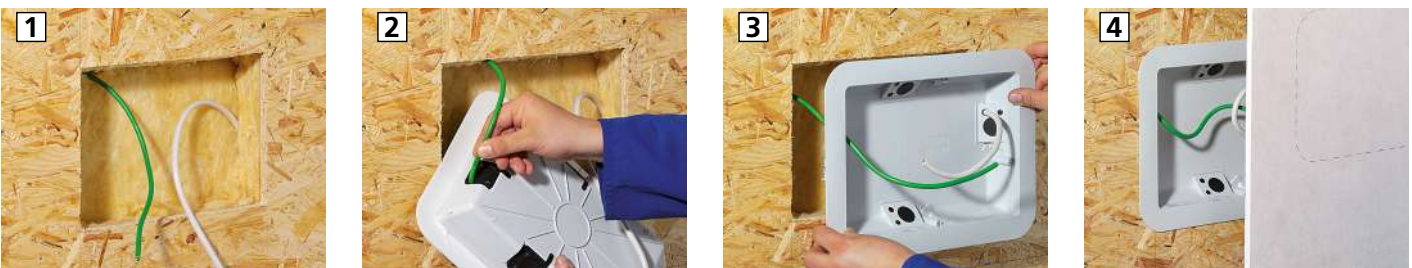
Timber joist on the rafter



Timber joist inside the rafter



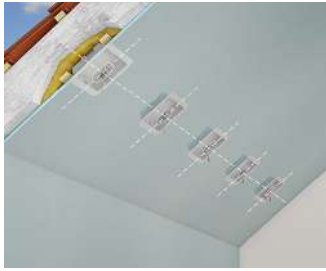
Installation using OSB panel.



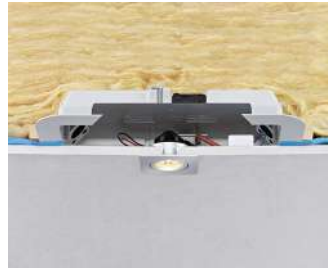
Making the installation opening for luminaires



Installation technology



In sloping roofs, for example, EnoX® acts as an air seal and creates a flexible space for the electrical installation in the insulation base.



Application example: LED luminaires

EnoX® - luminaire and loudspeaker housing

- for installing luminaires, loudspeakers, displays and much more
- Minimum distance inside: min. 40 mm all round
- integrated stress relief (retention force) in accordance with DIN VDE 0606 / DIN EN 60670-1
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- for installation devices up to LxW 120 x 220 mm or Ø 120 mm
- Heat distortion resistant to 220°C
- with 4 screws (FX)



Length x Width x Depth	368 x 268 x 60 mm
Length on the inside	300 mm
Width on the inside	200 mm
Depth on the inside	57 mm
Conduit entries for DIN EN conduits up to Ø 25 mm	4
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	4
Cable entries 3 x 1.5 mm ²	4
Art.-No.	9350-21
Inner packaging/shipping	- / 10

EnoX® sealing foam frame

- for fixing onto the EnoX® housing
- for sealing the moisture barrier to the housing



Art.-No.	9350-99
Inner packaging/shipping	- / 10



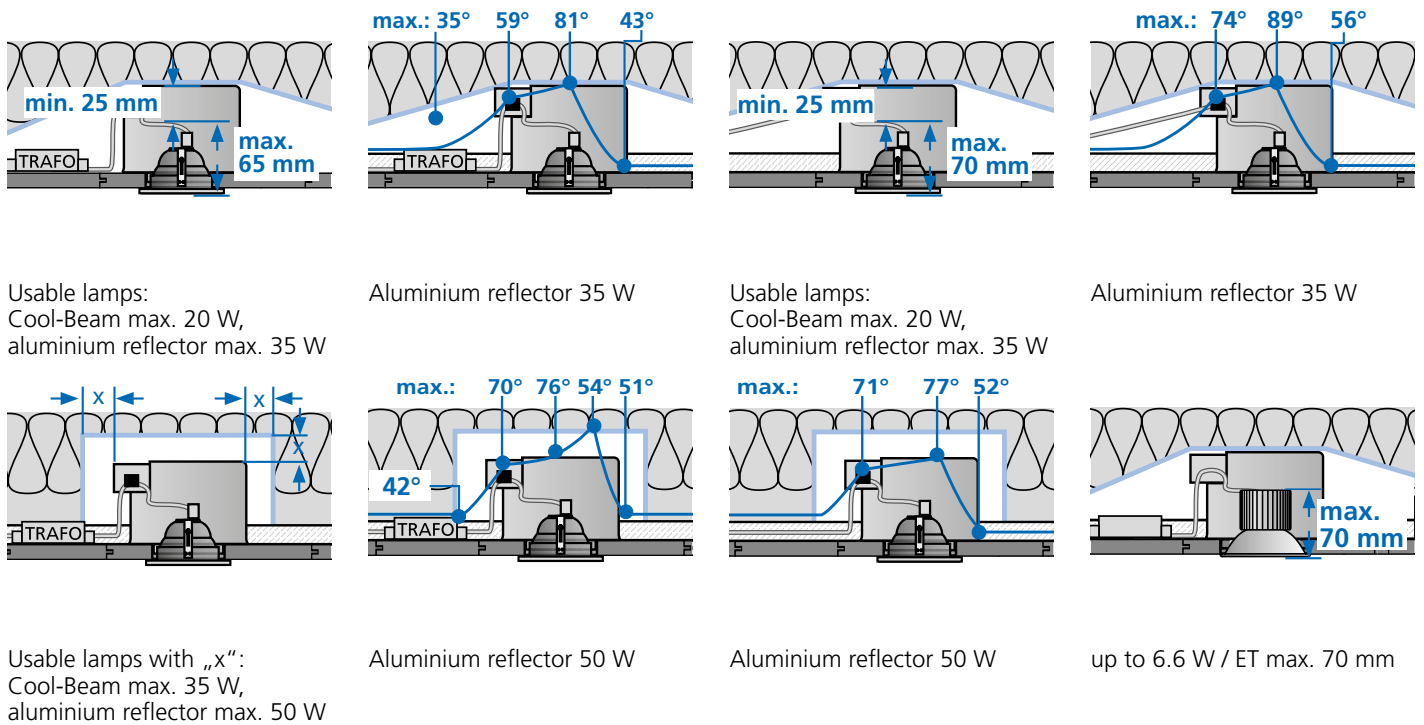
ThermoX® installation housing

ThermoX® installation housing for installing halogen and pivoting recessed LED luminaires in various ceiling structures. The housing protects the surrounding material (moisture barrier foil, insulation etc.) from the lamp's extreme operating temperatures and creates an air-tight closure.

- Installation housing for halogen luminaires (low voltage and high voltage)
- Fire-preventive and air-tight
- For insulated hollow ceilings
- Two different front part types
- Integrated transformer closing cap
- Ceiling exits (CE) up to Ø 86 mm
- Installation from either above or below



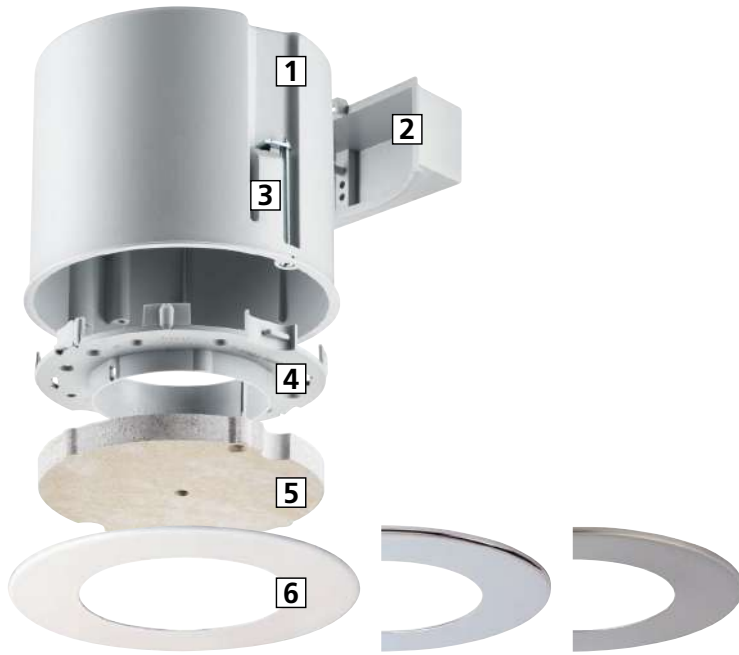
Installation technology for low-voltage and high-voltage luminaires



Technical processing instructions / standards

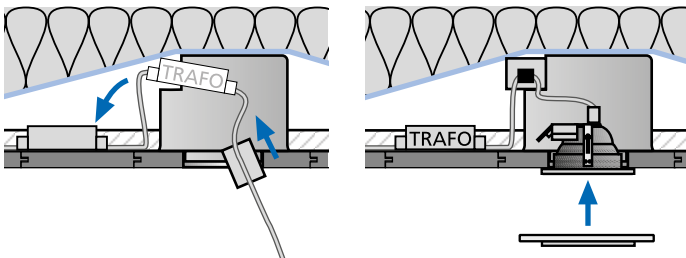
- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- use heat-resistant cable for the SEC side
- electronic safety transformers up to 105 VA can be used. Dimensions max. 123 x 37 x 26 mm. A rounded shape is advantageous for installation and removal (e.g. PC mouse shape)
- Use heat-resistant terminals (e.g. T100)
- Distance of holder and cable to the housing min. 10 mm

System components



1 Housing | **2** Closing cap of the operating device opening | **3** Quick fastening FX for cavity wall installation | **4** Front part with bayonet fitting (both sides can be used) | **5** Mineral fibre front part (for variable installation openings up to Ø 86) | **6** Decorative covering Ø 125 (white, similar to RAL 9016, chrome-plated, matt nickel or gold-plated)

Transformer and luminaire installation



Push the transformer through...
insert the closing cap...

...install luminaires and fit
decorative covering if used.
Finished.

Air-tight installation and fire-preventive protection

ThermoX® protects the surrounding material against the extreme temperatures that can occur with halogen luminaires or LED lamps (over 200 °C). DO NOT install the housing if it is wrapped in insulating material! The distance from the holder and cable to the housing must be at least 25 mm. This protective measure can be taken both in new buildings and later in existing ones for refurbishing work. ThermoX® makes possible air-tight installation as it does not destroy the moisture barrier foil that contributes to the air-tight building shell. Thanks to its air tightness, the ThermoX® housing is also suitable for all suspended ceiling systems where an uncontrolled exchange of air is to be avoided (e.g. air-conditioning or cooling ceilings) and dust-tight installation must be achieved (e.g. prevention of dirt particles caused by material removal).

ThermoX® system for insulated hollow ceilings

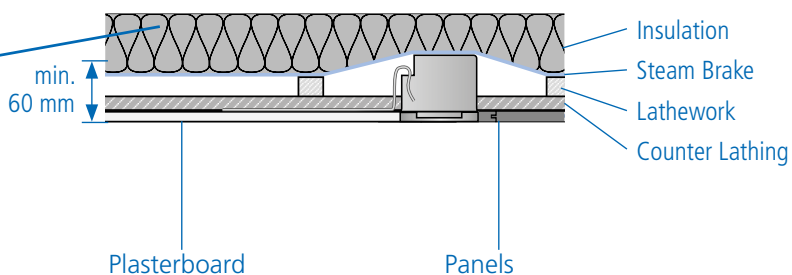
for halogen and LED built-in luminaires

Mounting option



ThermoX® - installation instruction

ThermoX® installation housings can be fitted in slab or tiled ceilings, as well as in seamless sub-ceiling structures made of plasterboard, mineral fibreboard, MDF and plywood with cross-battening and a layer of insulation above. Installation can be carried out from above or below (e.g. retro-fitting).



Processing instructions



Use the universal opening cutter to make the precise and air-tight opening for the cable entry in the transformer flap.



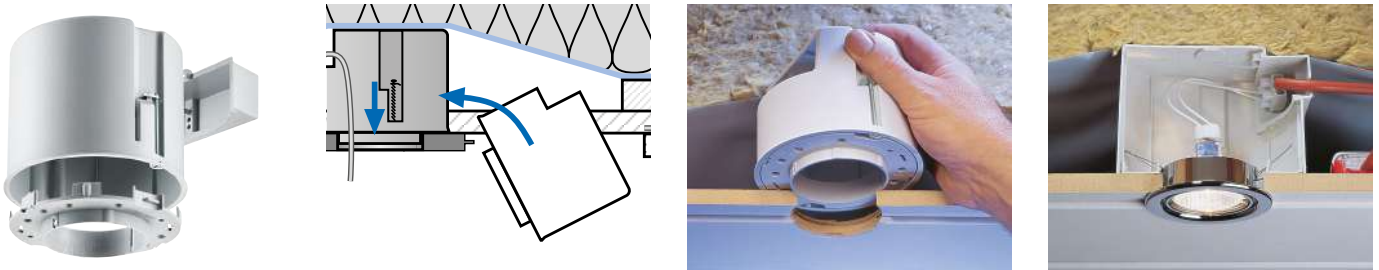
The terminal is fitted firmly in the transformer closing flap so it is protected against the heat from the lamp.



For transformer maintenance, the transformer cap can be removed with a screwdriver or long-nosed pliers even after installation.

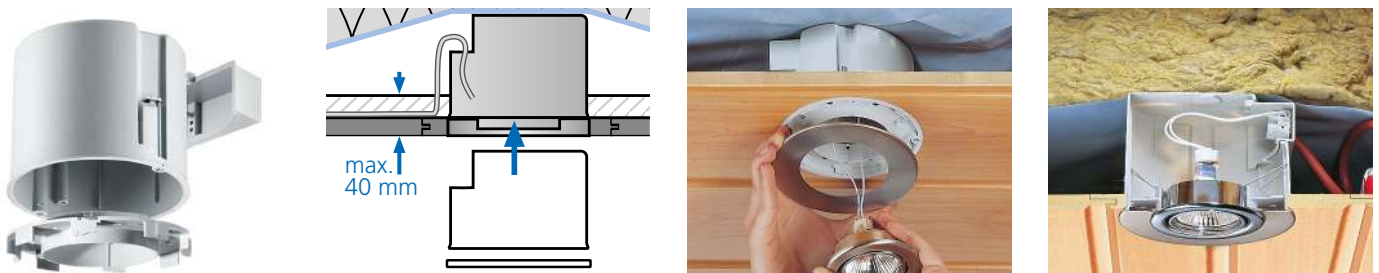
Slab ceiling / Installation from above: during ceiling installation

Cut the installation opening and insert the housing from above. The shape of the front part ensures a secure and precise fit in the boarding. After the luminaire has been installed, the opening is completely concealed.



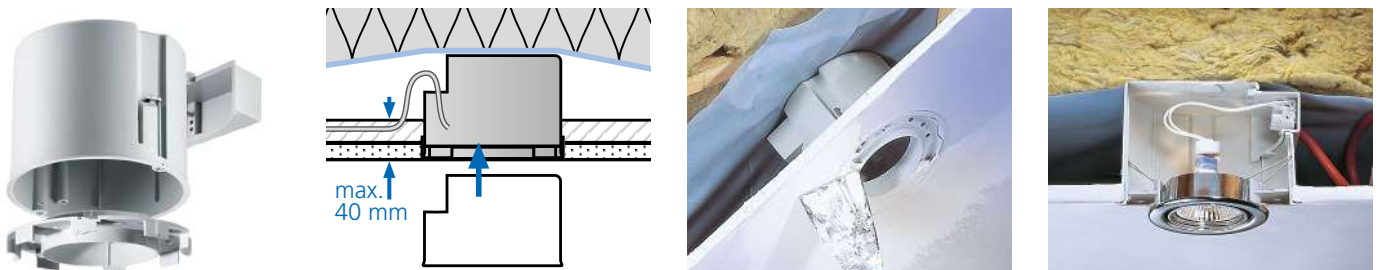
Slab ceilings / Installation from below: retrofitting

Cut an installation opening, insert the housing from below and fix in place with a fast screw attachment. The housing is attractively concealed by the KAISER decorative covering and the luminaire.



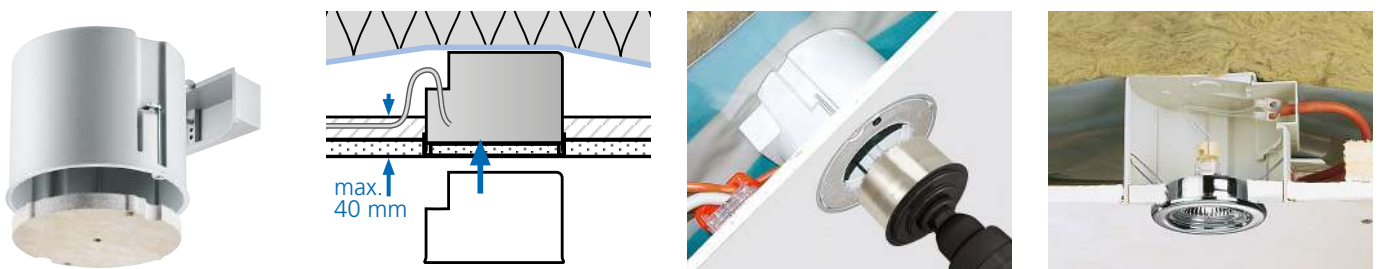
Plasterboard / Installation from below: retrofitting / smoothing

Before installation, check the required installation depth! Cut the installation opening, chamfer the bottom edge of the installation opening. Insert the housing from below and fix in place with a fast screw attachment.



Plasterboard / Installation from below: retrofitting with mineral fibreboard

Cut and chamfer the installation opening. Insert the housing from below and fix in place with a fast screw attachment. Mark opening for luminaires and cut. Smooth the joint or simply wallpaper the surface.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

ThermoX® system for insulated hollow ceilings

for halogen and LED built-in luminaires

ThermoX® housing for low and high-voltage luminaires

- for halogen luminaires and pivoting LED luminaires
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- Heat distortion resistant to 220°C
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp wattage for HV luminaires max. 35 W with AL reflector (socket GU 10)
- max. LED lamp output 6.6 W
- Front can be used on both sides



Depth	90 mm	90 mm	90 mm
For panel thickness	7 - 40 mm	7 - 40 mm	7 - 40 mm
Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
installation from front, cut hole Ø	120 mm	120 mm	120 mm
installation from rear, cut hole Ø	74 mm	79 mm	86 mm
Art.-No.	9300-01	9300-02	9300-03
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal housing with mineral fibreboard

- saves time - no plastering; close joint gap if necessary
- ceiling exit (CE) up to Ø 86 mm possible
- Heat distortion resistant to 220°C
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp power for HV luminaires max. 35 W with AL reflector (base GU 10) / 20 W Cool-Beam
- max. LED lamp output 6.6 W



Depth	90 mm
For panel thickness	7 - 40 mm
Ceiling exit (CE) Ø	0-86 mm
installation from front, cut hole Ø	120 mm
Art.-No.	9300-22
Inner packaging/shipping	- / 10

ThermoX® individual front rings

- for retrofitting or as spare part



Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
Art.-No.	9300-41	9300-42	9300-43
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal front ring

- for retrofitting or as spare part
- Universal front ring



Ceiling exit (CE) Ø	0-86 mm
Art.-No.	9300-93
Inner packaging/shipping	- / 10

ThermoX® Decorative coverings

- metal with galvanised or powder coating
- only for interiors
- minimum diameter of the luminaire 79 mm with ceiling exit Ø 68 and 75 mm
- Minimum diameter of luminaire covering 86 mm with ceiling exit Ø 82 mm



Outer diameter	Ceiling exit (CE) Ø	Colour	Art.-No.	Inner packaging/shipping
125 mm	68 + 75 mm	pure white - RAL 9010	9301-01	1 / 10
125 mm	68 + 75 mm	chrome	9301-02	1 / 10
125 mm	68 + 75 mm	matt nickel	9301-03	1 / 10
125 mm	82 mm	pure white - RAL 9010	9301-11	1 / 10
125 mm	82 mm	chrome	9301-12	1 / 10
125 mm	82 mm	matt nickel	9301-13	1 / 10



Spacer

for luminaires in insulated ceilings



NEW

Spacer

The spacer for the installation of swivelling built-in halogen and LED luminaires in various ceiling constructions. The housing ensures the necessary distance between the luminaire and the surrounding material. In this way, materials such as the moisture barrier and insulation are efficiently protected against the luminaire's high operating temperatures. This protective measure can be provided for both new buildings and retrofitting work. The housing is suitable for installation diameters between 68 and 80 mm, and can be adapted for use with different installation heights from 40 to 100 mm. After installation, the spacer stands securely on the boarding. This means that the installation diameter is fully retained and guarantees a secure fit.

- Installation in \varnothing 68 – 80 mm openings
- Maximum flexibility: Installation height from 100 – 40 mm
- Independent of boarding material and thickness
- Secure fit by means of installation on the ceiling
- Use with all standard LV / HV / LED lamps



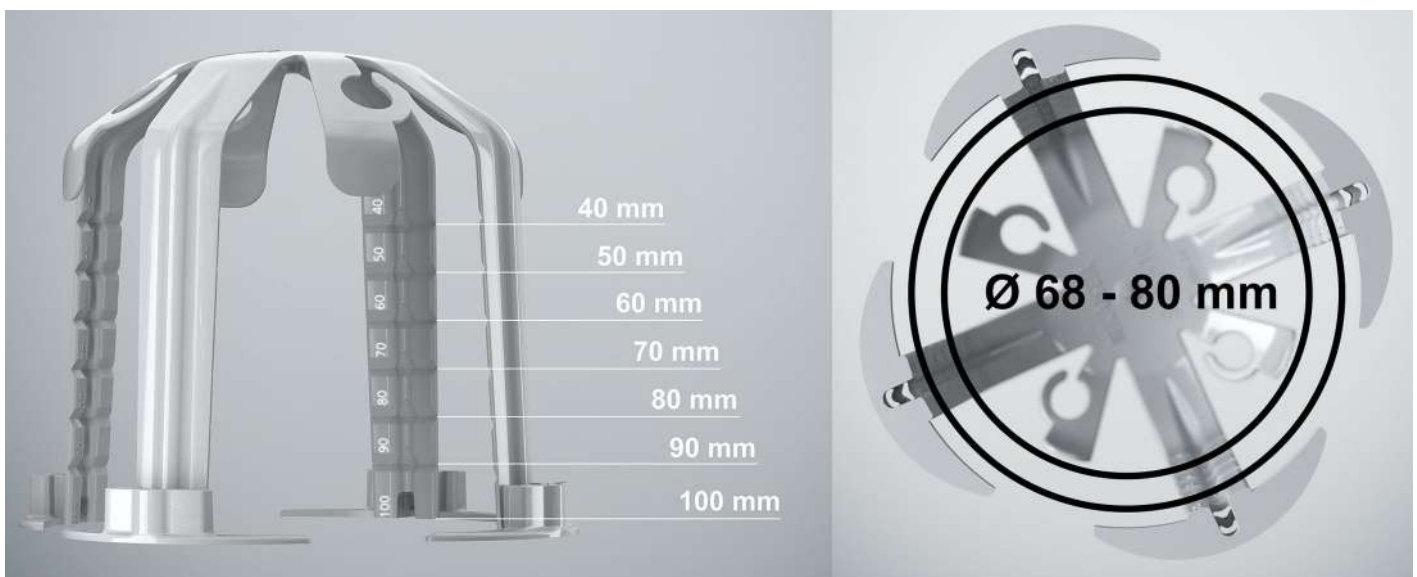
**ONE
FOR ALL**

Examples of use

The spacer for installing luminaires in insulated hollow ceilings can be used in panelled and coffered ceilings as well as in jointless false ceiling constructions made of plasterboard, mineral fibre boards, MDF and chipboard.



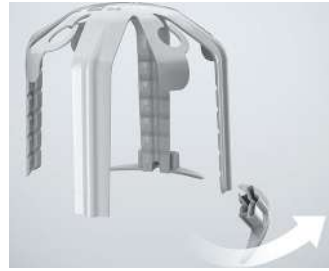
Spacer installation height from 100 to 40 mm and installation diameter from 68 to 80 mm



Mounting



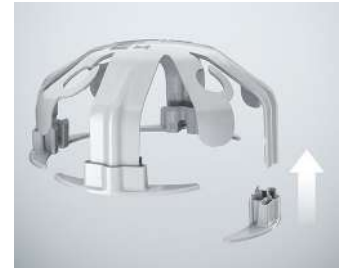
Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



Toolless breaking-off of the feet.



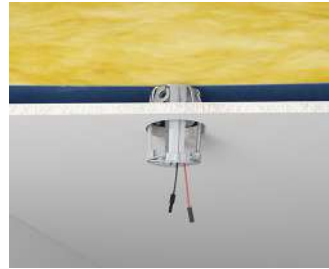
Setting the required height of 100 – 40 mm by breaking off the feet.



Pushing-on of the legs.



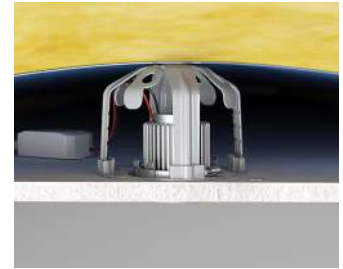
Four loops for secure cable routing.



Installation in \varnothing 68 – 80 mm openings.



Installation of the luminaire.



Housing stands securely on the ceiling boarding and creates the necessary spacing to the insulation.

Spacer

- for installation in insulated hollow ceilings
- retrofitting from below
- toolless mounting
- For \varnothing 68 – 80 mm installation openings
- height adjustable from 100 – 40 mm



NEW

INNOVATION



3D animation

Depth	100 - 40 mm
installation from front, cut hole \varnothing	68 - 80 mm
max. installation depth for the LED luminaires	95 mm
max. ceiling exit (DA) \varnothing	80 mm
Cable entries max.	4
Art.-No.	9310-10
Inner packaging/shipping	- / 10

Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- When using the spacer and adjusting the installation height, the installation/application instructions of the luminaire used must be observed.



Fire-protection boxes

- Safe, visibly certified fire protection
- HWD fire-protection boxes for fire-protection walls and ceilings as well as shipbuilding walls
- Smokeproof and halogen-free
- Also suitable for retrofitting



Sealings

- Safe, visible and certified protection through the use of KAISER sealing systems for cables and conduits, as well as cable and conduit bundles
- Automatic sealing of the joints and gaps between cables – no filling and smoothing
- Europe-wide approval for fire barriers



Fire-protection housings

- Safe, certified fire-protection housings for built-in luminaires and loudspeakers in fire protection ceilings
- Integrated fire-retardant coating ensures that the housing has the same fire-resistance class as the ceiling F30 (EI30).
- They prevent fire and flue gases from spreading, thus securing escape routes in buildings
- Suitable for fire resistance from above and from below

	Fire-protection boxes 	Shipbuilding boxes 	Sealings 	Fire-protection housings 
For installation accessories				
One-gang boxes	pg. 289/293	pg. 297	-	-
One-gang junction boxes	pg. 284/289/293	pg. 298	-	-
One gang boxes for thin boarding	-	pg. 297	-	-
One-gang junction boxes for thin boarding	-	pg. 298	-	-
Electronics box	pg. 291	-	-	-
For cable exits				
Luminaire connection boxes	pg. 295	-	-	-
For luminaires and loudspeakers				
Fire-protection housings	-	-	-	pg. 315
Housing for preventive fire protection in insulated ceilings	-	-	-	pg. 264
Feed-through				
Cable feed-through	-	-	pg. 302	-
Conduit feed-through	-	-	pg. 303	-
Feed-through of cable and conduit bundles	-	-	pg. 304	-
Field of application				
Wall	•	•	•	-
Ceiling	•	-	•	•
Accessories				
Fixing	pg. 144	pg. 144	-	-
Sealing of electrical installation conduits (air-tight and smokeproof)	pg. 30/116/314	pg. 30/116/314	pg. 30/116/314	pg. 30/116/314
Support connectors	pg. 94/113/127/289	pg. 94/113/127/289	-	-
End cover	pg. 295	pg. 295	-	-

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



AFS – Active Fire Stop

Guarantees preventive fire protection. Whether fire load from above, below, from the front or the back: the quick-active fire-retardant coating in boxes, housings and bulkheads reacts immediately in case of fire and foams out the installation opening safely. The fire resistance class F30-F120, EI30/EI60 or EI30-EI120 of the wall or the ceiling of F30-F90 or EI30-EI90 remains unchanged. The transmission of fire and smoke is thus safely prevented. In case of fire, the KAISER AFS technology maintains the fire protection class in walls and ceilings even when installed opposite each other without encasing. The ready-to-install systems with AFS technology guarantee certified safety and smooth installation.

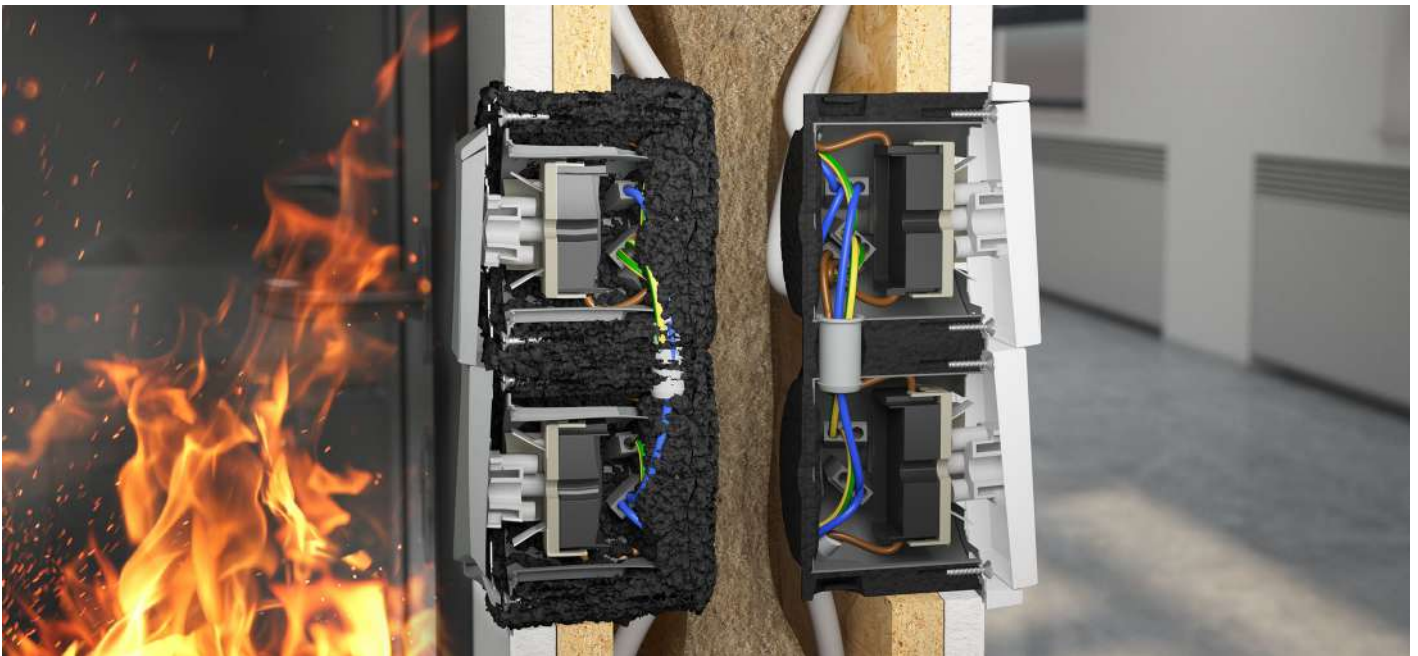
- Fire protection – without encasing
- Smokeproof and halogen-free
- For walls and ceilings
- For buildings and shipbuilding
- Maintains the wall's sound insulation protection

DIBt approval
General type
approval



Fire-protection walls





According to EN 13501-2, fire-protection walls are single- or double-skinned, non load-bearing, internal separator walls in drywall or solid construction with wall thicknesses from 100 mm. The insulation material used is defined according to EN 13501 Part 1. Often 2 x 12.5 mm gypsum plaster fire protection board plasterboards are used as boarding. According to DIN 4102, the installation of opposing standard cavity wall boxes is not permitted, and the installation of single installation boxes is only permitted depending on the melting point, the gross density and the thickness of the insulating material. This means that an on-site sheathing is required, e.g. with plaster, fibre silicate or similar. In addition, with solid constructions, ensure that there is a remaining wall thickness of 60 mm behind flush-mounting boxes installed on one side or between flush-mounting boxes with opposing installation.



Certified. Safety built into the wall.

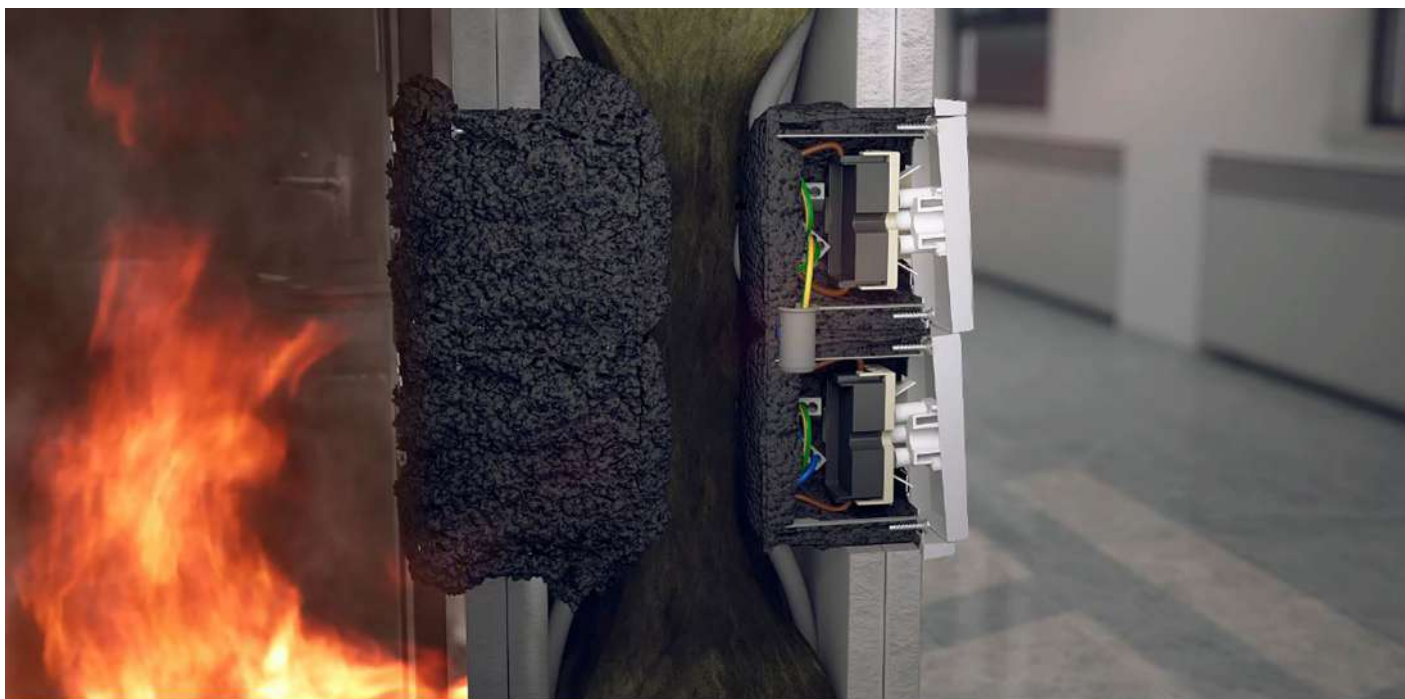
HWD 90 fire protection boxes and the HWD 90 electronics box are particularly versatile - true multi-geniuses. HWD 68 fire protection boxes form the basis of good fire protection. The table shows the permitted areas of application.



Wall type / wall construction	Minimum requirement of the wall	Installation level	HWD 90 one-gang box / appliance connection box				HWD 90 electronics box				HWD 68 one-gang box / appliance connection box				
			EI30	EI60			EI30	EI60			EI30	EI60			
Wood frame and wood panel construction  <p>NEW</p> <p>EI30 EI60</p>	<ul style="list-style-type: none"> Minimum wall thickness 109 mm (EI30) 135 mm (EI60) Wooden stand 40 x 60 mm (EI30) 60 x 80 mm (EI60) Boarding on both sides 1 x 15 mm wooden panels (e.g. OSB) EI30 with 1 x 9.5 mm GKB EI60 with 1 x 12.5 mm GFK Wood fibre insulation 50 kg/m³ Glass wool 14 kg/m³ Rock wool 40 kg/m³ 	30 cm from the ceiling	✓	✓			✓	✓ not for glass wool							
		115 cm from the finished floor	✓	✓			✓	✓ not for glass wool							
		105 cm from the finished floor	✓	✓			✓	✓ not for glass wool							
		30 cm from the finished floor	✓	✓			✓	✓ not for glass wool							
			EI30	EI60	EI90	EI120	EI30	EI60	EI90	EI120	EI30	EI60	EI90	EI120	
DIN - Wall  <p>EI30 EI120</p>	<ul style="list-style-type: none"> Minimum wall thickness 100 mm Metal or wooden stand Boarding on both sides 2 x 12.5 mm GFK sheets Mineral insulation > 1.000°C 	30 cm from the ceiling	✓	✓	✓	✓ Metal stand	✓	✓	✓	✓ Metal stand	✓	✓	✓		
		115 cm from the finished floor	✓	✓	✓	✓ Metal stand	✓	✓	✓	✓ Metal stand	✓	✓	✓		
		105 cm from the finished floor	✓	✓	✓	✓ Metal stand	✓	✓	✓	✓ Metal stand	✓	✓	✓		
		30 cm from the finished floor	✓	✓	✓	✓ Metal stand	✓	✓	✓	✓ Metal stand	✓	✓	✓		
Approved wall (abP, abZ or aBG) 	<ul style="list-style-type: none"> Minimum wall thickness 100 mm Metal or wooden stand Boarding on both sides 2 x 12.5 mm cement or Gypsum bonded building panels With or without insulation <p>abZ: general technical approval abP: general building authority test certificate aBG: general type approval</p>	30 cm from the ceiling	✓	✓	✓		✓	✓	✓		✓	✓	✓	> 1.000°C	
		115 cm from the finished floor	✓	✓	✓		✓	✓	✓		✓	✓	✓		> 1.000°C
		105 cm from the finished floor	✓	✓	✓		✓	✓	✓		✓	✓	✓		> 1.000°C
		30 cm from the finished floor	✓	✓	✓		✓	✓	✓		✓	✓	✓		> 1.000°C
Shaft wall  <p>EI30 EI90</p>	<ul style="list-style-type: none"> Metal stand Single-sided boarding For one-gang boxes 2 x 20 mm For junction boxes 2 x 25 mm Cement or gypsum-based building panels F30 no insulation F60 30 kg/m³, > 1.000°C F90 Termarock 100, 100 kg/m³ 	30 cm from the ceiling	✓	✓	✓										
		115 cm from the finished floor	✓	✓	✓										
		105 cm from the finished floor	✓	✓	✓										
		30 cm from the finished floor	✓	✓	✓										

Note: the use of the HWD 90 in shaft walls is approved in Germany by the general type approval. If the device is to be used in other countries, the applicable certificates, standards, guidelines or regulations must be observed.

Fire-protection boxes with sound insulation protection



Flush-mounting fire-protection box

In solid construction F30-F120 or EI30 - EI120 fire-protection walls, the fire-protection box receives the fire-protection period classification instead of fitted electrical installations. Even if the minimum wall thickness of 60 mm is not achieved in single-sided installation, or even in directly opposing installation, the fire-protection box ensures secure and smokeproof room separation. In the event of a fire, the integrated fire-retardant coating quickly and reliably seals the installation opening, so preventing smoke and flue gas from spreading. At the same time, the risk of the fire spreading because the remaining wall is not thick enough is prevented.

- For F30-F120 or EI30-EI120 fire-protection walls
- For minimum remaining wall thicknesses ≤ 60 mm
- Also for directly opposing installation
- Variable combination connection piece for conduits up to M25
- With fire-protection cover, can be used as a junction box
- Maintains the wall's sound insulation protection



Sound insulation value R'_{w} up to 56 dB



Examples of use



For F30-F120 or EI30-EI120 fire-protection walls.



For one-sided (minimum remaining wall thicknesses ≤ 60 mm) and for directly opposing installation.



Installation also possible in combinations.



With fire-protection cover (Art. No. 1184-94) can also be used as a junction box.

Processing instructions



The flush-mounting fire-protection box provides 6 entry options for conduits up to M25 and cables up to $\varnothing 11.5$ mm.



The combination connection piece ensures a stable connection for combinations and makes possible the entry of conduits up to M25.



Fire protection is guaranteed with directly opposing installation and with less than the minimum remaining wall thickness.



The flush-mounting fire-protection box can be fitted in all fire-protection walls e.g. made of cellular concrete, sand-lime or vertically perforated chamber stones.

Installation



Cut a Ø 82 mm installation opening using a grinding head (e.g. Art. No. 1088-02).



Make exact cable and conduit entries with the universal opening cutter (Art. No. 1085-80).



For combinations, the one-gang junction boxes are securely joined to each other by means of the connector.



Fixing simply with plaster or mortar. Special fire-protection mortar is not necessary.



Sturdy support connectors make possible standardised combination distance of 71 mm.



Smokeproof and fully-insulated through-wiring takes place by means of the support connector



Example of installation of a combination.




With the fire-protection cover (Art. No. 1184-94), the box can also be used as a junction box.

Flush-mounting fire-protection box

- for F30-F120 or EI30 - EI120 fire-protection walls
- also for minimum remaining wall thickness ≤ 60 mm
- also for directly opposing installation
- with 4 screw domes and 2 expanding claw fields



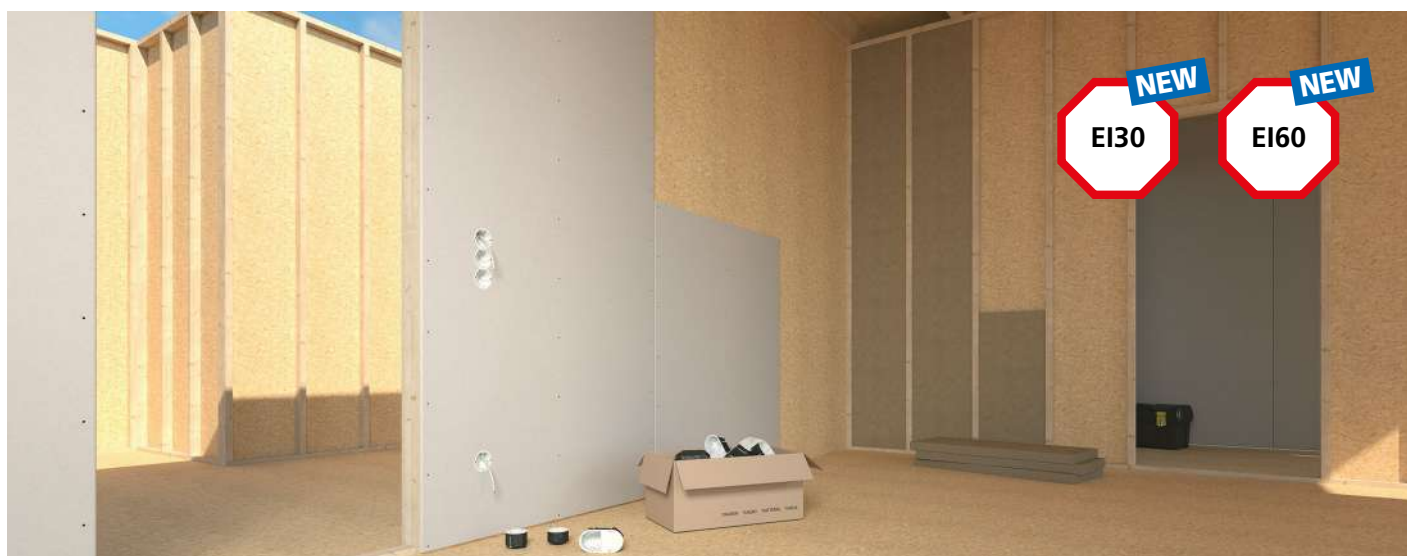
3D animation

Depth	60 mm
Fixing screw spacing	60 mm
Tube entries up to M25	6
Cable entries of up to Ø 11.5 mm	6
for sound insulation walls up to	56 dB
DIBt approval	Z-19.21-2413
ETA approval	ETA-18/0091
Halogen-free	Yes
	Yes / Yes
CE	Yes
Art.-No.	1564-01
Inner packaging/shipping	10 / 100

HWD 90 cavity wall boxes

HWD 90 cavity wall boxes for fire-protection walls F30-F120 or EI30-EI120 ensure certified electrical installation in accordance with fire protection regulations and are now also approved for timber walls in timber frame or timber panel construction EI30 and EI60. No additional measures, such as encasing, are necessary. The intelligent AFS technology reacts immediately to fire and heat and automatically closes the installation opening. This guarantees the fire resistance class of the fire-protection wall and secures emergency routes. Use in all fire-protection walls and the fire-resistance duration of up to 120 minutes ensures maximum flexibility, even when the planning is changed. At the same time, it also maintains the wall's sound insulation requirements.

- For fire-protection walls F30-F120 or EI30 - EI120
- Maintains the wall's sound insulation protection
- Retrofitting also possible
- With fire-protection cover, can be used as a junction box
- Also for directly opposing installation



For drywall in timber construction

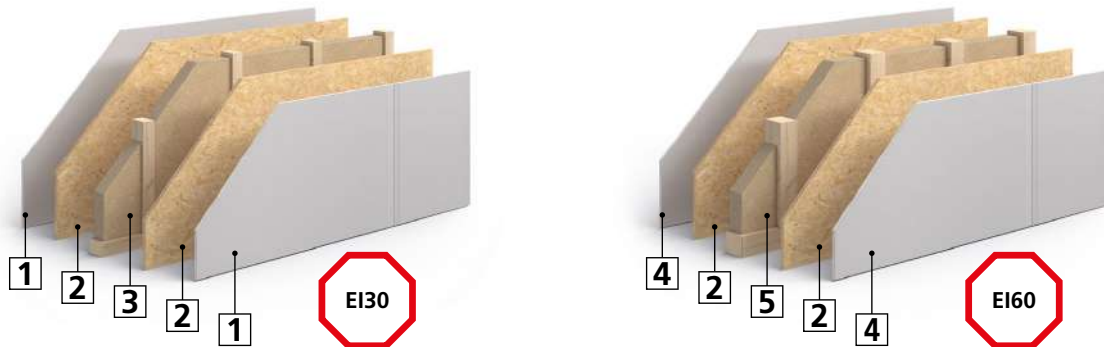
Since the introduction of the first fire-protection box for fire-protection walls in 2006, the range of applications has been continually expanded. HWD 90 fire-protection boxes are now also approved for timber walls in timber frame or timber panel construction. They maintain the fire protection properties of the wall with a fire-resistance duration of EI30 and EI60. No additional measures, such as encasing, are necessary. Even if installed on the opposing side, the fire protection of the wall is guaranteed for 30 minutes. It should be noted that for EI60 only single boxes are permitted, in accordance with the timber construction guideline.



Fire-protection boxes with sound insulation protection

Drywall in timber construction

The proven installation has not changed. Installations directly opposing each other are possible even in timber construction up to fire resistance class EI30 (max. 5-fold combination) or EI60 (single boxes). All boxes of type HWD 90 maintain the sound insulation function completely up to a sound insulation level of 77 dB.



1 9.5 mm plasterboard | 2 15 mm OSB/MDF, plywood or chipboard | 3 40 mm wood fibre insulation, glass or rock wool 60x40 wooden beams | 4 2x18 mm plasterboard fire protection board | 5 80 mm mineral insulation > 1,000°C - 40x80 wooden beams

Wall constructions for EI30 and EI60.



For wooden panel construction or wooden frame construction walls EI30, rock wool or wood fiber insulation. EI60 with mineral insulation >1.000 °C.



Approved minimum wall construction EI30 with 9.5 mm gypsum plasterboard.

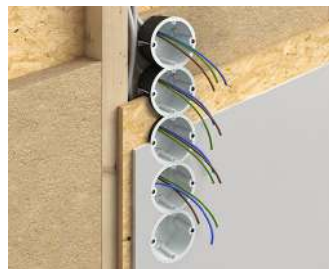


Approved minimum wall construction EI60 with 2x18 mm plasterboard fire protection board.

Processing instructions



Approved for directly opposing installation (EI30) or staggered opposite (EI60).



With an EI30 wall, combinations up to 5 each are possible...



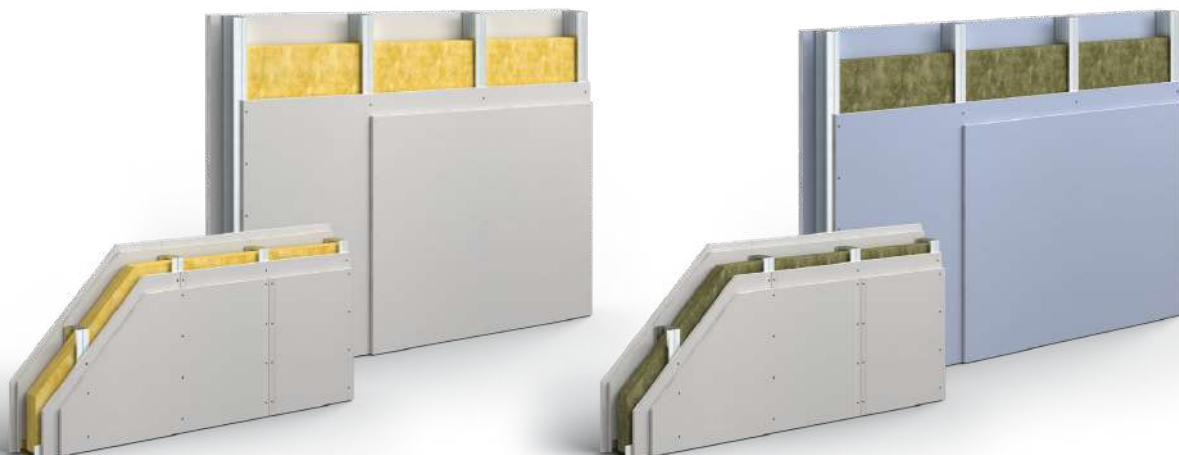
...in an EI60 wall, single boxes are possible.



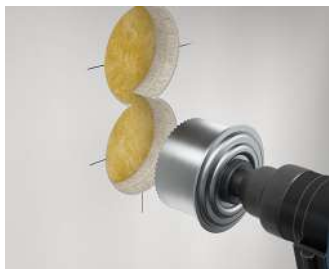
The HWD 90 electronics box is also approved for the above mentioned wall constructions.

Plasterboard drywall

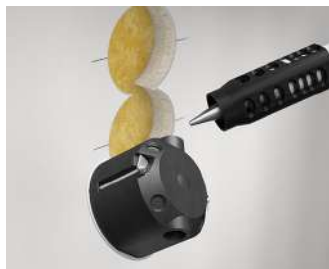
Minimum wall thickness: 100 mm | boarding on both sides with | min. 12.5 mm mineral non-combustible building panels (e.g. plasterboard, cement-bonded fibre boards) | min. 40 mm thick non-combustible mineral wool (e.g. glass wool, rock wool, etc) | gross density min. 14 kg/m³



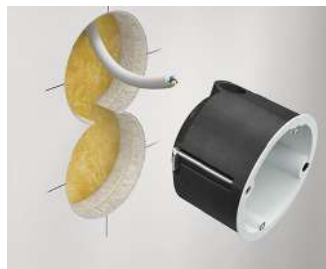
Installation



Cut Ø 74 mm installation opening using MULTI 4000 turbo cutter (Art. No. 1084-10).



The exact opening for the cable is created smokeproof with the KAISER universal opening cutter (Art. No. 1085-80). Set the opening cutter for 3 x 1.5² to Ø 8.5, for 5 x 1.5² to Ø 9.5 and for 3 x 2.5² to Ø 9.5.



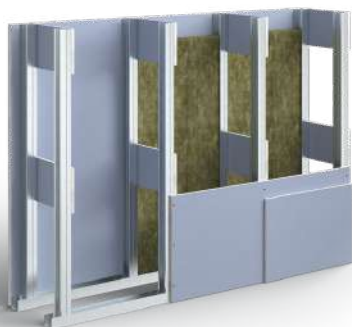
Fixing of the boxes with tried-and-tested cavity wall technology using KAISER FX⁴ technology.



The fully-insulated through-wiring of one-gang junction boxes with each other is created using the support connector (Art. No. 9060-78).

Installation shafts and ducts

The use of the HWD 90 in shaft walls is only approved in Germany by the general type approval. If the device is to be used in other countries, the applicable certificates, standards, guidelines or regulations must be observed. Steel stand | double boarding on both sides with non-combustible mineral plaster or cement-bound building panels | 20 mm (when using the one-gang box) | 25 mm (when using the one-gang junction box) | I30 - no insulation | I60 - 40 mm / 100 kg/m³, 60 mm / 50 kg/m³, 80 mm / 30 kg/m³ | I90 - 40 mm / 100 kg/m³ Termarock 100



Retrofitting in installation shafts

The HWD 90 cavity wall boxes can also be retrofitted in installation shafts (shaft walls). Since retrofitting partly requires adding mineral wool to the opening, a cut-out of at least 300 x 300 mm is needed to make space for perfect installation. Use the following cut-out dimensions for the relevant combinations:

- 1-time: 300 x 300 mm
- 2 to 3-times: 300 x 400 mm
- 4 to 5 times: 300 x 600 mm



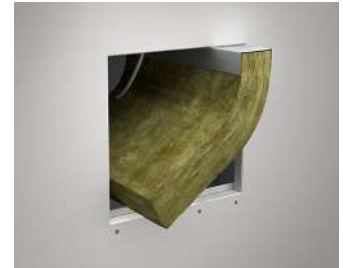
Make a 300x300 to 300x600 mm cut-out (see above). The insert dimension of the additional mineral wool section must be at least 25 mm larger on all sides.



Chamfer the edges on all sides for subsequent plastering.



Insert the CW profile and attach by screwing quick-fastening screws through the boarding.



Feed the additional mineral wool section insert into the shaft with the upper CW profile.



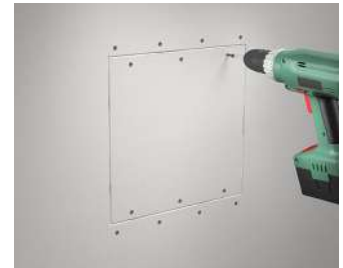
Additional mineral wool section in CW profiles (rear view).



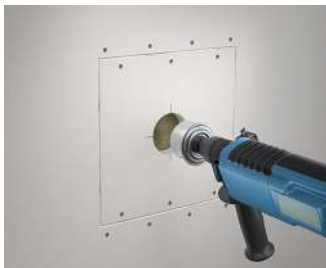
Add boarding section (Fig. 1) and fix to CW profile.



Fill the joints with KAISER fire-protection putty (Art. No. 9400-05) and smooth them with a spatula.



Insert and fix the second boarding flush with the wall.



Create an installation opening of Ø 74 mm.



Insert HWD 90 cavity wall box and fix it with the usual FX⁴ technique.




Then plaster in the chamfer of the second boarding layer.

FlamoX® fire-protection putty

- fire-retardant material
- for filling joints and gluing board materials
- type 9400
- max. working time 30 mins.
- can be warehoused for up to 12 months



DIBt approval	Z-19.11-1583
Contents	300 ml
	Yes
Art.-No.	9400-05
Inner packaging/shipping	- / 20

Note



In addition to the general type approval from the DIBt, we can also provide you on request with the classification report on its recognition in Austria from the IBS Test Institute for Fire Protection Technology and Safety Research in Linz. Please note: the use of the HWD 90 in shaft walls is only permitted in Germany by the general type approval. If the device is likely to be used in other countries, the applicable certificates, standards, guidelines or regulations must be observed.

HWD 90 one-gang box

- For fire-protection walls F30-F120 or EI30 - EI120
- Also for installation shafts / installation ducts I30 - I90
- also for timber frame or timber panel walls EI30-EI60



3D animation



Depth	44 mm
For panel thickness	7 - 40 mm
Cut hole Ø	74 mm
Screw spacing	60 mm
Cable entries of up to Ø 11.5 mm	2
DIBt approval	Z-19.21-1788
ETA approval	ETA-18/0091
for sound insulation walls up to	77 dB
Halogen-free	Yes
 	Yes / Yes
Art.-No.	9463-01
Inner packaging/shipping	10 / 100

HWD 90 one-gang junction box

- For fire-protection walls F30-F120 or EI30 - EI120
- Also for installation shafts / installation ducts I30 - I90
- also for timber frame or timber panel walls EI30-EI60



3D animation

Depth	54,5 mm
For panel thickness	7 - 40 mm
Cut hole Ø	74 mm
Screw spacing	60 mm
Cable entries of up to Ø 11.5 mm	4
Support connectors for each package	5
DIBt approval	Z-19.21-1788
ETA approval	ETA-18/0091
Combination distance through single separation of the pre-embossed edge	71 mm
alternatively cable entry for three-phase alternating current of up to 5 x 2.5 mm possible	Yes
for sound insulation walls up to	77 dB
Halogen-free	Yes
 	Yes / Yes
Art.-No.	9464-01
Inner packaging/shipping	10 / 100

Support connector

- For fully insulated through-wiring in combinations
- Smokeproof
- For Art. No. 9464-01, 9464-15, 9464-50



Halogen-free	Yes
Art.-No.	9060-78
Inner packaging/shipping	25 / 100



Electronics box HWD 90

The HWD 90 electronics box maintains the wall's fire resistance class up to F120 or EI120 and creates installation space for electronic switch devices, data boxes, cables and terminals. The electronics box allows population with cables and also with installation conduits up to M25.

- For fire-protection walls F30-F120 or EI30-EI20
- Retrofitting is possible
- Also for use as a double box
- Extra-large terminal area for communications and network technology
- Additional space for electronic components (KNX actuators, relays, radio module, communications technology)
- Maintains the wall's sound insulation protection



Examples of use



The electronics box provides space for all possible installations e.g. KNX actuators, Venetian blinds relays, alarm modules and many more.



Also ideal for network connections. The generous box volume offers sufficient space for cable reserves.



The electronics box can also be used as a double box, e.g. for switch and socket combinations.



Electronic box HWD 90 can now also be used in IE30 and IE60 walls in timber frame or timber panel construction.

Processing instructions



The electronics box provides 6 ways for conduit entry up to M25 and cable entry up to Ø 11.5 mm.



By removing the cover...

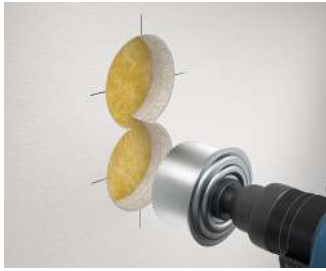


...and the bridge can also be used as a double box.



The electronics box can easily be combined with the one-gang junction box HWD 90.

Installation



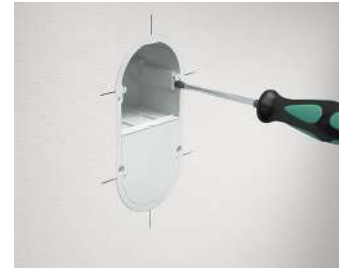
Cut two installation openings using turbo cutter MULTI 4000 Ø 74 mm (Art. No. 1084-10) with a centre distance of 71 mm.



Removal of the bridge.



Using the KAISER universal opening cutter or a step drill or reamer, cut an exact conduit or cable opening for smoke-tight installation.



Fitting the box using tried-and-tested FX⁴ technology.



The additional terminal space makes possible the fitting of various electronic components...



...and sufficient space for the cable reserve when communications and network boxes are installed.





The cover can also be turned by 180° and mounted and filled. This will reduce any possible switching sounds.

Electronics box HWD 90

- For cables and conduits up to M25
- Also for use as a double box
- For fire-protection walls F30-F120 or EI30-EI20
- minimum wall thickness 100 mm
- For equipment inserts and electronic components
- Tunnel twin-chamber box with enclosed separator wall and cover that can be wallpapered over.
- Can be combined with each other and also with HWD 90 one-gang junction boxes



3D animation

Depth	70 mm
For panel thickness	7 - 40 mm
Cut hole Ø	2 x 74 mm
Screw spacing	60 mm
Centre distance	71 mm
Conduit entries for DIN EN conduits up to Ø 25 mm	4
Cable entries up to Ø 13.5 mm	4
for sound insulation walls up to	77 dB
DIBt approval	Z-19.21-2064
ETA approval	ETA-18/0091
Halogen-free	Yes
 	Yes / Yes
Art.-No.	9462-94
Inner packaging/shipping	5 / 50



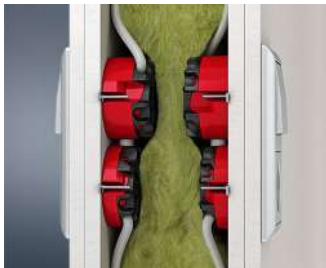
Fire-protection cavity wall box

Fire-protection boxes HWD 68 are given the same period of fire resistance in fire-protection walls F30-F90 or EI30-EI90 in spite of fitted electrical installations and ensure secure, smokeproof room separation. In the event of a fire, an integrated fire retardant quickly and reliably closes the installation opening and prevents flames and flue gases from escaping. This ensures that lives are saved and material goods are efficiently protected.

- For fire-protection walls F30-F90 or EI30-EI90
- Maintains the wall's sound insulation protection
- Retrofitting is possible
- For Ø 68 mm component openings
- For directly opposing installation
- Break-out cable entry
- With fire-protection cover, can be used as a junction box



Examples of use



For F30-F90 or EI30-EI90 fire-protection walls with insulation made of mineral wool $\geq 1,000^{\circ}\text{C}$.



Also for directly opposing installation



Combinations possible up to 5-way combinations of one-gang boxes and one-gang junction boxes.



With a fire-protection cover, it can also be used as a junction box

Processing instructions



Can be used in Ø 68 mm installation openings



Simple break-out cable entry with cable retention acc. to DIN EN 60670

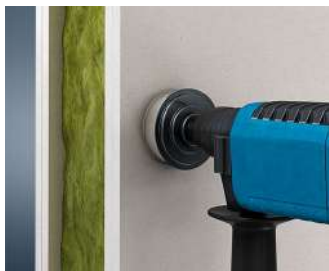


Up to 6 opportunities for cable entries for sheathed cables with external diameters of 4 - 11.5 mm



Fully-insulated through-wiring of one-gang boxes and one-gang junction boxes with the support connector (Art. No. 9060-68).

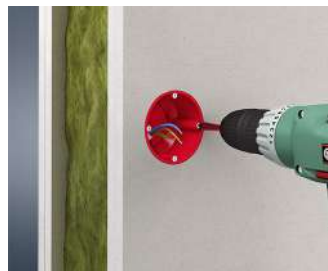
Installation



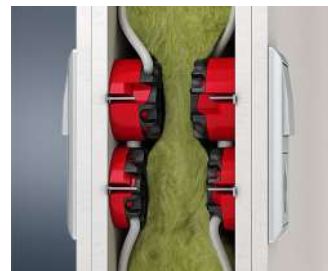
Cut Ø 68 mm installation opening with turbo cutter Multi 4000 (Art. No. 1083-10).



Break out closing of the cable entry for sheathed cables up to 5x2.5² or communication cables



Fitting the box using tried-and-tested KAISER FX⁴ technology.



Opposing installation of one-gang boxes in a wall thickness of 100 mm and higher and of one-gang junction boxes in a wall thickness of 125 mm and higher is possible.



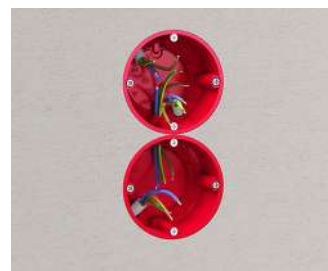
For combinations, create installation openings Ø 68 mm in centre distance 71 mm.



Insert cables.



Fixing the boxes in the installation opening.



Using support connector (Art. No. 9060-68), make fully-insulated through-wiring.

One-gang box HWD 68

- for F30-F90 or EI30-EI90 fire-protection walls
- also for directly opposing installation
- minimum wall thickness 100 mm
- can be combined with each other and with the one-gang junction box






One-gang junction box HWD 68

- for F30-F90 or EI30-EI90 fire-protection walls
- also for directly opposing installation
- minimum wall thickness 125 mm
- combinable with each other and with the one-gang box



3D animation

Depth	49 mm	62 mm
Cut hole Ø	68 mm	68 mm
Screw spacing	60 mm	60 mm
Support connectors for each package	5	5
DIBt approval	Z-19.21-2321	Z-19.21-2321
ETA approval	ETA-18/0418	ETA-18/0418
Cable entries of up to Ø 11.5 mm	6	6
for sound insulation walls up to	69 dB	69 dB
For panel thicknesses up to	40 mm	40 mm
Halogen-free	Yes	Yes
 / 	Yes / Yes	Yes / Yes
	Yes	Yes
Art.-No.	9463-02	9464-02
Inner packaging/shipping	10 / 100	10 / 100

Support connector

- For fully insulated through-wiring in combinations
- Smokeproof
- for Art. Nos. 9463-02, 9464-02



Art.-No.	9060-68
Inner packaging/shipping	25 / 100

Subject to modifications



Ceiling box HWD 30

HWD 30 ceiling box guarantees F30 (EI30) to F90 (EI90) fire protection. If a fire starts, the integrated fire-retardant coating immediately generates foam and seals the opening in the ceiling. Even when retrofitted, the HWD30 ceiling box provides protection.

- For F30-F90 or EI30-EI90 fire protection ceilings
- Encasing is not necessary
- For installation of smoke detectors, motion detectors, etc.
- With a fire-protection cover, can be used as a ceiling junction box
- Retrofitting also possible

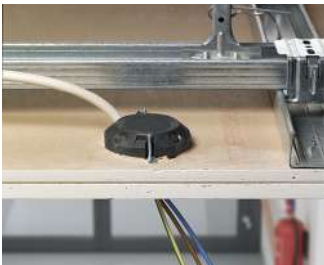


Examples of use

The HWD 30 ceiling box also lets you install for example presence and smoke detectors or LED emergency route lighting in fire-protection ceilings without endangering the fire resistance class.



Processing instructions



Without mineral wool, the installation corresponds to fire resistance class F30 (EI30).



If mineral wool in accordance with EN 13501 part 1 is used, the installation will withstand a fire up to fire resistance class F60 (EI60), and with Rockwool/ Termarock 100 up to fire resistance class F90 (EI90).

Allocation table for universal opening cutters



Cavity wall installation for HWD 90 fire protection boxes		Ø setting
NYM cable	3 x 1.5 mm ²	8.5
	5 x 1.5 mm ²	9.5
	3 x 2.5 mm ²	9.5
Support connector	9060-78	Connector

You can create smoke-tight cable entries with the prescribed strain relief easily and to the exact required size with the universal opening cutter (art no. 1085-80).

Installation



Cut installation opening Ø 74 mm using the turbo cutter MULTI 4000 (Art. No. 1084-10).



Cut the exact opening for the cable with the KAISER universal opening cutter.



Fixing of the boxes with tried-and-tested cavity wall technology using KAISER FX⁴ technology.



The fire-protection cover for F30 ceilings has fire resistance class F30, for F90 ceilings it has fire resistance class F90.

Ceiling box HWD 30



- for fire protection ceilings F30-F90 or EI30-EI90
- For F30 (EI30) non-insulated fire-protection ceilings
- For F60 (EI60) fire-protection ceilings backed with mineral insulation materials in compliance with EN 13501 part 1
- for F90 (EI90) fire-protection ceilings with Rockwool/Termarock 100



Ceiling junction box HWD 30

- for fire protection ceilings F30-F90 or EI30-EI90
- For F30 (EI30) non-insulated fire-protection ceilings
- For F60 (EI60) fire-protection ceilings backed with mineral insulation materials in compliance with EN 13501 part 1
- for F90 (EI90) fire-protection ceilings with Rockwool/Termarock 100



Depth	44 mm	54,5 mm
Cut hole Ø	74 mm	74 mm
Screw spacing	60 mm	60 mm
Cable entries of up to Ø 11.5 mm	2	4
DIBt approval	Z-19.21-1788	Z-19.21-1788
ETA approval	ETA-18/0091	ETA-18/0091
Halogen-free	Yes	Yes
 / 	Yes / Yes	Yes / Yes
Art.-No.	9463-50	9464-50
Inner packaging/shipping	10 / 100	10 / 100

Fire-protection cover HWD 30-120

- For one-gang boxes/one-gang junction boxes and ceiling boxes HWD 90, HWD B15, HWD 30 and HWD 68
- Fire resistance class in accordance with ceiling or wall protection (F30-F120 and EI30-EI120)
- F30-F120 and EI30-EI120 function in conjunction with the one-gang box/one-gang junction box HWD 90
- F30 and EI30 function in conjunction with ceiling junction box HWD 30
- F30-F60 and EI30-EI60 function in connection with one-gang/one gang junction box HWD 68



DIBt approval	Z-19.21-1788
	Yes
Art.-No.	1184-94
Inner packaging/shipping	10 / 100



NEW

DNV·GL

HWD B15 cavity wall box for shipbuilding walls

HWD B15 cavity wall box for category B15 partitions reacts to a fire very quickly. The integrated fire-retardant coating intumesces and reliably seals the installation opening. The HWD B15 cavity wall boxes protect against fire and smoke in the fire-protection zone and preserve the B15 function of the fire-protection wall for at least 30 minutes of flames.

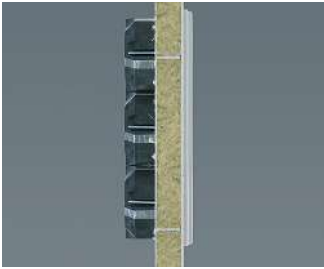
- For category B15 partitions
- Encasing is not necessary
- With fire-protection cover, can be used as a junction box
- Retrofitting also possible

halogen-free

IP 30

Certified and designed for fast installation

Expensive and time-consuming encasing, i.e. metal, is avoided with the HWD B15 cavity wall box. The user is guaranteed a certified and fast installation.



Installation in mineral-based walls



In walls with mineral-based materials, working with the cutter (Art. No. 1083-74) is quick and simple. It cuts the required \varnothing 74 mm wall hole and creates the basis for an exact box installation that is flush to the wall.



Occupancy can be for a max. of four entries of up to \varnothing 13 mm as well as for flame-retardant cables in accordance with UL-VO. Use the KAISER universal opening cutter to cut the openings for the cable entry.



Fit the HWD B15 cavity wall box in the wall using FX⁴ screws.



For board thicknesses from 0.2 to 40 mm.

Installation in metal-covered walls



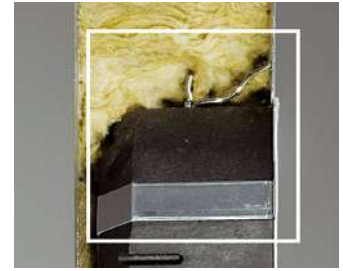
Cut the installation opening in metal plates with the cutter (Art. No. 1083-74).



Open the cable entry with the KAISER universal opening cutter.



Fit the HWD B15 cavity wall box in the wall using FX⁴ screws.



For thin boarding, one-gang boxes and one-gang junction boxes attached by straps are available for a clamping range of 0.2 mm and higher.

Combinations



It is very easy to combine one-gang junction boxes. After cutting the cutting holes (Ø 74 mm) at a standard distance (71 mm), remove the marked area of the holding ring.





The fully-insulated through-wiring of one-gang junction boxes with each other is created using the support connector (Art. No. 9060-78).



One-gang box HWD B15

· for shipbuilding walls in the category B 15 interface



Depth	44 mm	44 mm	40 mm
For panel thickness	7 - 40 mm	0,2 - 40 mm	0,2 - 40 mm
Cut hole Ø	74 mm	74 mm	74 mm
Fixing screw spacing	60 mm	60 mm	60 mm
Conduit entries up to Ø 13 mm	4	4	4
Combination distance through single separation of the pre-embossed edge	71 mm	71 mm	71 mm
Halogen-free	Yes	Yes	Yes
	Yes / Yes	Yes / Yes	Yes / Yes
	Yes	Yes	Yes
Art.-No.	9463-15	9463-14	9461-14
Inner packaging/shipping	10 / 100	10 / 100	10 / 100



Fire-protection boxes

for shipbuilding walls

One-gang junction box HWD B15

· for shipbuilding walls in the category B 15 interface



Depth	54,5 mm	54,5 mm
For panel thickness	7 - 40 mm	0,2 - 40 mm
Cut hole Ø	74 mm	74 mm
Fixing screw spacing	60 mm	60 mm
Conduit entries up to Ø 13 mm	4	4
Support connectors for each package	5	5
Combination distance through single separation of the pre-embossed edge	71 mm	71 mm
Halogen-free	Yes	Yes
CE 	Yes / Yes	Yes / Yes
	Yes	Yes
Art.-No.	9464-15	9464-14
Inner packaging/shipping	10 / 100	10 / 100



Sealing systems in fire-protection walls

Sealings in fire-protection walls are needed when cables or conduits must be fed through walls with a specific fire resistance class. To retain the relevant rating, expert sealing of the opening is needed. KAISER sealings maintain the wall's fire resistance classes (EI90). In addition, the cable sealing system can also be used as a wall outlet that enables the connection of electrical attachments.

halogen-free

DIBt approval
General type approval

Europe-wide
ETA Certificate



The German Institute for Construction Technology (DIBt) has officially confirmed it: KAISER fire sealings are ideal for professional electrical installations in fire-protection walls. KAISER has received Europe-wide European Technical Assessment for the cable sealing system „System LS 90“, the conduit sealing system „System RS 90“ and box sealing system „System DS 90“. The fire sealings are certified for installation in drywalls, solid masonry and concrete construction walls. Non-destructive retrofitting is easy. Each of the tested products maintains the wall's fire resistance class and does not release any hazardous materials. This means that KAISER fire sealings allow fast, professional and - in every respect – safe sealing in fire-protection walls.

- Entries and feed-throughs in drywalls in accordance with DIN EN 1364-1
- Feed-throughs in solid masonry walls in accordance with DIN 1053
- Feed-throughs in concrete walls in accordance with DIN 1045





Sound insulation value R'_{w} up to **76 dB**

Cable sealing system LS 90, conduit sealing system RS 90

Pipe and fire-retardant systems for safe closure of passages and entrances in fire-protection walls. The certified retardants are quick and easy to install and can even be superimposed on cables and pipes retrospectively (EI90).

- Secure, visible, certified fire sealings
- For wall feed-throughs and entries
- Without filling and smoothing
- Automatic sealing of the joints
- For cables from \varnothing 5 - 15 mm
- For conduits M16 - M25

halogen-free

DIBt approval
General type approval

Europe-wide
ETA Certificate



Populating the sealing system



The cable sealing system LS 90 is suitable for all cable cross-sections from 5 – 15 mm (up to 5×2.5^2).



The conduit sealing system RS 90 can accommodate the following conduit sizes: M16, M20 and M25.



The conduit sealing system RS 90 can also be used as a reserve seal. For this purpose, the conduits must be sealed with KAISER sealing plugs.



Conduit sealing system RS 90 with M16, M20 and M25 conduits.

Technical information

Cable and conduit sealing systems provide tested safety for cavity wall, masonry or concrete constructions.



The installation openings can be made in solid walls using conventional drills (20 mm or 32 mm) or in plasterboard walls using a drill or cutter (Art. No. 1082-10) (35 mm).



The cable and conduit sealing systems are manufactured from a permanently durable and flexible material.



By opening the cable and conduit sealing, it can easily be placed around the cable or conduit.



KAISER seals ensure room separation without the need for additional filler.

Examples of applications for cable sealing system LS 90



Wall feed-through in plaster-board fire-protection wall.



Suitable for wall entry and wall outlet in dry construction fire protection wall.



Wall feed-through in a sand-lime brick fire-protection wall.



Wall feed-through in concrete fire-protection wall.



Secure wall outlet up to EI90 for connecting electrical attachments...



...like motion detectors.



Secure wall outlet up to EI90 for connecting electrical attachments...



...like wall lights.

Installation of cable sealing system LS 90 in cavity walls



Cut an installation opening \varnothing 20 mm using a cutter (e.g. KAISER hardened metal cutter Art. No. 1088-06) or drill.



To install, open the sealing sideways and slide it over the cable.



Press both sides of the sealing into each opening.



The cable sealings can be arranged vertically or horizontally to form a group with a centre distance of 50 mm.

Mounting cable sealing system LS 90 in solid walls



Make an installation opening using a Ø 20 mm drill.



Open the side of the cable sealing system LS 90, slide it over the cable and press into the opening.



Attach the identification tag.



Officially required identification of the cable sealing.

Cable sealing system LS 90

- for EI90 fire-protection walls
- for wall entry, wall outlet and penetration
- without use of fire-protection foam or putty
- made of intumescent material
- automatic room separation of the installation opening
- unlimited building material shelf life



3D animation

Min. wall thickness	100 mm
Installation opening (cavity wall)	20 mm
Installation opening (masonry)	20 mm
for cables	5 - 15 mm
ETA approval	ETA-17-0449
for sound insulation walls up to	76 dB
CE	Yes
Art.-No.	9459-01
Inner packaging/shipping	10 / 100

Examples of applications for conduit sealing system RS 90



Wall feed-through in plaster-board fire-protection wall.



M16 - M25 wall entry, in plasterboard fire-protection wall with M25 conduit.



Wall feed-through in sand-lime brick fire-protection wall.



Wall feed-through in concrete fire-protection wall.

Installation of conduit sealing system RS 90 in cavity walls.



Cut a 35 mm installation opening using e.g. the KAISER MULTI 4000 cutter (Art. No. 1082-10).



To install, open the sealing sideways and slide over the conduit.



Press both sides of the sealing into each opening.



The conduit sealings can be arranged vertically or horizontally to form a group with a centre distance of 50 mm.

Installation of conduit sealing system RS 90 in solid walls



Make an installation opening using a Ø 32 mm drill.



Remove the strap for mounting in masonry (only when installing a conduit sealing in a masonry wall).



After installing the sealing, apply the identification tag.



The sealings can be used in masonry and concrete walls.

Conduit sealing system RS 90

- for EI90 fire-protection walls
- for wall entries and feed-throughs
- without use of fire-protection foam or putty
- made of intumescent material
- automatic room separation of the installation opening
- unlimited building material shelf life



3D animation

Min. wall thickness	100 mm
Installation opening (cavity wall)	35 mm
Installation opening (masonry)	32 mm
for conduits	M16 - M25
ETA approval	ETA-17-0449
for sound insulation walls up to	76 dB
CE	Yes
Art.-No.	9459-02
Inner packaging/shipping	10 / 100

Subject to modifications



Sound insulation value R'w up to **77 dB**

Box sealing system DS 90 / 74 mm

The box sealing system DS 90 / 74 mm for cables, cable bundles and conduits. The fire-proof and smoke-proof box sealing is quick and easy to install and can also be retrofitted on cables and conduits. The easy-to-fit product offers certified safety and ensures the fire resistance class of the wall (EI90).

- Secure, visible, certified fire sealings
- For wall feed-throughs and entries
- Automatic sealing of the joints and gaps between cables - no filling and smoothing
- Non-destructive retrofitting
- For cable bundles or individual installation conduits

halogen-free

DIBt approval
General type approval

Europe-wide
ETA Certificate



Populating the sealing system



The box sealing system DS 90 / 74 mm provides space for single cables and bundles up to full population.



By choosing individual configurations, power and communication cables can be separated into groups.



The box sealing system DS 90 / 74 mm can be used with all standard sheathed cables currently found in Europe.



Spare sealing, conduits up to M40 and combination of NYM cables.

Examples of use



Use the two-part box sealing system DS 90 / 74 mm to create wall entries and feed-throughs.



Horizontal and vertical arrangement with a centre distance of 91 mm is permissible.



The box sealing system DS 90 / 74 can also be used as a spare seal (empty).



The sealing can accommodate conduits of up to M40.

Note

Cable population of the box sealing system DS 90 / 74 mm with all sheathed cable types recognised in Europe e.g. installation cables, data cables, telecommunication cables or fibre optic cables, as wiring bundles or as individual cables. Cable bundles can be populated up to $\varnothing \leq 40$ mm, with a maximum diameter of ≤ 15 mm for a single cable. Single cables can be used up to $\varnothing \leq 21$ mm.

Technical information



For use as a spare sealing (empty) for future installations.



Self-explanatory installation based on the tried-and-tested cavity wall box principle.



Easy insertion of the sealing cylinder into the installation opening.



Automatic room separation - no gaps or filling of joints.

Non-destructive retrofitting of individual cables



Loosen the sealing element by turning it a quarter of a turn and open it.



Open the sealing element and remove it.



Insert the new cables.



Place the sealing element around the cable, close it and secure it with a 1/4-turn clockwise.

Installation

The box sealing system DS 90 / 74 mm consists of two parts which easily fit together.



Cut an installation opening using a Ø 74 mm cutter (e.g. MULTI 4000: Art. No. 1084-10).



Place the two-part sealing cylinder around the cables and press together.



Press the sealing cylinder into the installation opening.



Fasten by tightening the screws (same procedure as for cavity wall boxes).



Place the sealing element around the cables and close it.



Place the sealing element on the seal cylinder and secure it with a 1/4-turn (bayonet fitting).



After installing the sealing, apply the identification tag.



This ensures sealing and the necessary room separation.

Sealing systems in fire-protection walls

Installation of box sealing system DS 90 / 74 mm in masonry



Cut an installation opening depending on wall thickness with an 82 mm diamond grinding head or with a core drill.



Press the sealing cylinder into the installation opening with plaster, mortar or quick cement and feed the cable through.



Place the sealing element on the seal cylinder and secure it with a 1/4-turn (bayonet fitting).



Horizontal and vertical arrangement with a centre distance of 91 mm is permissible.

Installation of box sealing system DS 90 / 74 mm in concrete walls



Box sealing system DS 90 / 74 mm

- for EI90 fire-protection walls
- for wall entries and feed-throughs
- attachment using tried-and-tested FX⁴ metal plate screws
- with integrated sealing inserts
- ensures smoke-tight room separation (seals against cold smoke)
- unlimited building material shelf life



3D animation

Cut hole Ø	74 mm
Min. wall thickness	100 mm
Cable entries	Maximum population (internal diameter 40 mm)
DIBt approval	Z-19.53-2189
for sound insulation walls up to	77 dB
CE	Yes
Art.-No.	9459-03
Inner packaging/shipping	10 / 100

Box sealing system DS 90 / 120 mm

The new box sealing system DS 90 / 120 mm covers an additional range of applications in building fire protection. The increased diameter makes it possible to use a larger number of cables and electrical installation conduits and also greater diameters. With this system, it is also possible to mix the installation of conduits and cables. In addition, full population, as with the DS 90 / 74 mm, allows use of the system in all fields of building technology. Because no additional materials are used, non-destructive retrofitting is also possible. The tried-and-tested screw fixing permits clean, safe and secure installation.

- Secure, visible, certified fire sealings
- Seals wall feed-throughs
- Automatic sealing of the joints and gaps between cables - no filling and smoothing
- Non-destructive retrofitting
- Also for mixed population of bundles of cables and conduits



Sound insulation value R_w up to **72 dB**



Examples of use



Can also be used as a reserve sealing.



Full population with sheathed cables up to \varnothing 29 mm.



Mixing of cables and conduits.



Horizontal alignment is possible with a distance of 50 mm.

Technical information DS 90 / 120 mm



Lamellae arranged on the inside of the sealing cylinder ensure fast closing if a fire breaks out.



The sealing element with integrated cooling ribs guarantees clean cable and conduit routing.



Easy insertion of the sealing cylinder into the installation opening.



Automatic room separation - no gaps or filling of joints.

Sealing systems in fire-protection walls

Population of box sealing system DS 90 / 120 mm



Mixed population of sheathed cables and conduits.



Can also be used as a reserve sealing.



Full population with sheathed cables up to \varnothing 29 mm and conduits up to M63.



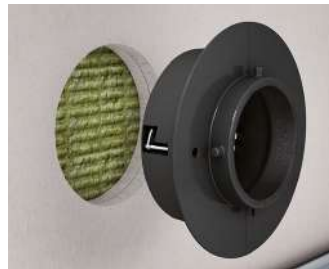
Installation conduits can be fitted as reserve conduits.

Installation

The box sealing system DS 90 / 120 consists of two parts which easily fit together.



Cut installation opening with a cutter \varnothing 120 mm (e.g. bi-metal-cutter Art. No. 1082-20).



Press the sealing cylinder into the installation opening.



Fix sealing cylinder by tightening the screws (same procedure as with cavity wall boxes).



Feed sheathed cables and conduits through the sealing cylinder.



Close conduit ends smoke-tight (e.g. with KAISER sealing plugs).



Fit the two-part sealing element round the bundle, close it and connect it to the sealing cylinder by means of the bayonet fitting.



The sealing and the necessary room separation can also be used as a reserve sealing.



Horizontal alignment of the sealings is possible with a clearance of 50 mm.

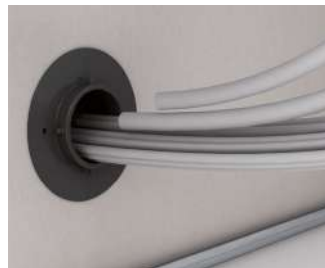
Non-destructive retrofitting of single cables and conduits



Loosen the sealing element by turning it a quarter of a turn and open it.



Open the sealing element and remove it.



Insert the new cables and conduits.



Fit the sealing element and secure with a 1/4 turn to the right.

Installation of box sealing system DS 90 / 120 mm in masonry



Cut installation opening - depending on wall thickness - with a core drill 150 mm.



Using plaster, mortar or fast cement, press the sealing cylinder into the installation opening and feed the cables or conduits through.



The sealing collar ensures tight room separation, even when openings are not clean, and prevents plaster, mortar or fast cement from being pressed out.



Place the sealing element on the sealing cylinder and secure it with a 1/4-turn (bayonet fitting).

Installation of box sealing system DS 90 / 120 mm in concrete walls



Table of max. external diameter of sheathed cables (NYM cables)

The table shows examples of cables which can be used on the basis of the maximum permitted diameter. The main factor is the minimum stated standard diameter acc. to DIN VDE 0250-204.

5 x 6 ²	3 x 10 ²	5 x 10 ²	4 x 16 ²	5 x 25 ²	4 x 35 ²	7 x 2,5 ²
Ø 14,5 - 17,5 mm	Ø 14,7 - 17,7 mm	Ø 17,7 - 21,3 mm	Ø 19,0 - 23,0 mm	Ø 25,7 - 31,1 mm	Ø 25,7 - 31,1 mm	Ø 12,6 - 15,2 mm

Two box sealing systems DS 90 / 120 are required feed-throughs in a fire-protection wall.

Box sealing system DS 90 / 120 mm

- for EI90 fire-protection walls
- attachment using tried-and-tested FX⁴ metal plate screws
- with integrated sealing inserts
- ensures smoke-tight room separation (seals against cold smoke)
- unlimited building material shelf life



3D animation

Cut hole Ø	120 mm
Min. wall thickness	100 mm
Cable entries	Maximum population (Inner diameter 74 mm)
DIBt approval for sound insulation walls up to	Z-19.53-2188 72 dB
CE	Yes
Art.-No.	9459-04
Inner packaging/shipping	- / 4

Subject to modifications



Ceiling penetration sealing systems DS 90 / 120 mm and DS 90 / 74 mm

KAISER ceiling penetration sealing systems DS 90 / 120 mm and DS 90 / 74 mm ensure that the ceiling maintains fire-resistance class EI30 - EI90. To efficiently prevent the spread of fire and flue gases through cable penetrations and electrical installation conduits through concrete or cellular concrete ceilings, their fire sealing must have the same fire-resistance class as the ceiling. The ceiling penetration sealing system DS 90 accomplishes this easily, quickly and reliably.

- Secure, visible, certified fire sealings
- Sealing especially for ceiling penetrations
- Automatic sealing without filling or smearing
- Non-destructive retrofitting
- Also for mixed population of bundles of cables and conduits
- Easy and quick installation from above

halogen-free

DIBt approval
General type approval

Europe-wide
ETA Certificate



Examples of use



Use in EI30–EI90 concrete ceilings.



Use in EI30–EI90 cellular concrete ceilings.



Mixed population of cables and conduits up to maximum population. They can also be arranged as groups with a distance of 205 mm (DS 90 / 120 mm) or 125 mm (DS 90 / 74 mm).



Mixed population of cables and conduits up to maximum population.

Population of ceiling penetration sealing system DS 90 / 120 mm and DS 90 / 74 mm



Mixed population of sheathed cables and conduits.



Can also be used as a reserve sealing.



Maximum population with sheathed cables \varnothing 29 mm and conduits up to M63.



Maximum population with sheathed cables \varnothing 15 mm and conduits up to M40.

Technical information on ceiling sealing system DS 90 / 120 mm and DS 90 / 74 mm



Divisible installation sleeve with edge protection made of intumescent material.



Retaining springs for quick and secure installation from above.



Cut-outs for receiving the metal plates and for fastening the box sealing system



Divisible installation sleeve for retrofitting of existing cables and conduits.



Making for the location of the screws.



Sealing flange ensures a clean and smoke-tight room separation of the component opening.



For core drill holes \varnothing 150 mm (DS 90 / 120 mm) and \varnothing 100 mm (DS 90 / 74 mm).



Two ceiling penetration sealing systems for different applications.

Installation

Installation is identical for ceiling penetration sealing systems DS 90 / 120 and DS 90 / 74 mm, except for the differences in the dimensions.



Making a core drill hole 150 mm or 100 mm.



Insert the installation sleeve from the upper side of the ceiling



Feed sheathed cables and/or conduits through the installation sleeve.



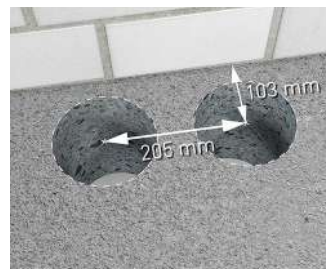
Place sealing cylinder around the cables or conduits and insert into the installation sleeve.



Align plate screws of the sealing cylinder with the markings and tighten.



Place sealing cylinder around the cables or conduits and then snap into place with the sealing cylinder.



The ceiling penetration sealing systems can also be arranged as a group with a distance of 205 mm or 125 mm.

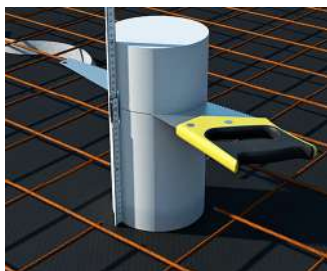


Ceiling penetration sealing systems in concrete or cellular concrete ceilings of 150 – 300 mm ceiling thickness have been approved for use.

Sealing systems in fire-protection walls

Formwork body

For preparation of installation in concrete ceilings, KAISER provides a formwork unit for matching cut-outs.



Adapt formwork unit to the ceiling thickness by cutting it to length.



Fix formwork unit with tie wire to the reinforcement.



After formwork removal, remove the formwork unit from the component opening without leaving any residues.

Non-destructive retrofitting of single cables and conduits



Loosen the sealing element by turning it a quarter of a turn and open it.



Open the sealing element and remove it.



Insert the new cables and conduits.



Turn sealing element around, lock and fix by applying a quarter turn to the right.

Table of max. external diameter of sheathed cables (NYM cables)

The table shows examples of cables which can be used on the basis of the maximum permitted diameter. The main factor is the minimum stated standard diameter acc. to DIN VDE 0250-204.

5 x 6 ²	3 x 10 ²	5 x 10 ²	4 x 16 ²	5 x 25 ²	4 x 35 ²	7 x 2,5 ²
Ø 14,5 - 17,5 mm	Ø 14,7 - 17,7 mm	Ø 17,7 - 21,3 mm	Ø 19,0 - 23,0 mm	Ø 25,7 - 31,1 mm	Ø 25,7 - 31,1 mm	Ø 12,6 - 15,2 mm



Ceiling penetration sealing system DS 90 / 74 mm

- for fire protection ceilings EI30 - EI90
- Easy installation without filling
- Installation on the upper side of the ceiling
- creates a smoke-tight room separation



3D animation

Installation opening Ø	100 mm
Ceiling thickness	150 - 300 mm
Cable entries	Maximum population (internal diameter 40 mm)
DIBt approval	Z-19.53-2189
PVC conduits up to	M40
CE	Yes
Art.-No.	9459-05
Inner packaging/shipping	1 / 12

Ceiling penetration sealing system DS 90 / 120 mm

- for fire protection ceilings EI30 - EI90
- Easy installation without filling
- Installation on the upper side of the ceiling
- creates a smoke-tight room separation



3D animation

Installation opening Ø	150 mm
Ceiling thickness	150 - 300 mm
Cable entries	Maximum population (Inner diameter 74 mm)
DIBt approval	Z-19.53-2188
PVC conduits up to	M50
CE	Yes
Art.-No.	9459-06
Inner packaging/shipping	- / 1

Formwork body

- creates matching component openings
- suitable for ceiling penetration sealing systems DS 90 / 74 mm
- for ceiling thicknesses 150 - 300 mm



Formwork body

- creates matching component openings
- suitable for ceiling penetration sealing systems DS 90 / 120 mm
- for ceiling thicknesses 150 - 300 mm



Diameter	100 mm	150 mm
Ceiling thickness	150 - 300 mm	150 - 300 mm
Art.-No.	9473-95	9473-96
Inner packaging/shipping	- / 8	- / 6

Sealing identification tag

- universal seal identification tag
- for all KAISER sealings
- can be filled out
- in plastic, with 2 x 4.5 mm drill holes



German	Yes	Yes
English	Yes	Yes
French	Yes	Yes
Italian	Yes	-
Dutch	-	Yes
Art.-No.	9473-91	9473-92
Inner packaging/shipping	10 / 10	10 / -

Sealing plugs 16-20

- for sealing electrical installation conduits
- ECON® technology for easy cable entry
- permanently flexible plastic



3D animation

Sealing plug	M16	M20
DIN EN conduit Ø	16 mm	20 mm
Art.-No.	1040-16	1040-20
Inner packaging/shipping	25 / 100	25 / 100

Sealing plugs 25-40

- for sealing electrical installation conduits
- ECON® technology for easy cable entry
- permanently flexible plastic



3D animation

Sealing plug	M25	M32	M40
DIN EN conduit Ø	25 mm	32 mm	40 mm
Art.-No.	1040-25	1040-32	1040-40
Inner packaging/shipping	25 / 100	25 / 50	- / 25

Fire-stop box FlamoX®

FlamoX® installation housings for luminaires and loudspeakers protect lives and material goods if a fire breaks out. In luminaire and loudspeaker installations in fire-protection ceilings, the integrated fire-retardant coating gives the housings the fire-protection class F30 (EI30) of the ceiling. They prevent fire and flue gases from spreading, so they secure escape routes in buildings. FlamoX® fire-protection housings provide certified security.

- Safe, certified fire-protection housings for built-in luminaires and loudspeakers
- Fast, easy fitting from the underside of the ceiling
- Suitable for fire resistance from above and below
- Installation without additional suspension
- No use of additional fire protection materials or sealing compounds



Functioning of the fire-retardant coating in the event of fire (fire load from below)



Functioning of the fire-retardant coating if a fire breaks out (fire load from above)



Examples of use



Fire-stop housing for recessed luminaires...



...and for loudspeakers.



Mounting in suspended fire-protection ceilings F30.



Available in two sizes for a range of uses.

FlamoX® system for hollow ceilings - fire protection class F30 Housings

for LV/HV and energy-saving luminaires and loudspeakers

Note

FlamoX® housings are tested fire-protection housings for the fire-protection sealing of built-in luminaires and loudspeakers in independent, two-layer suspended F30 fire-protection ceilings made of plasterboard fire-protection panels with or without insulation. The ETA-certified (European Technical Assessment) housings are approved for fireloads from above and below. The FlamoX® housings were tested according to DIN EN 1363-1 and DIN EN 1366-3, so they can be installed in ceiling systems which were built according to DIN 4102-4 or DIN EN 1364-2 or have certification in the form of a general building approval certificate.

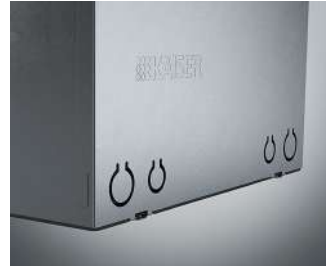
Technical information



Fixing lugs with hole structure for fast, easy screw fitting to the fire-protection ceiling.



Interior consisting of a fire-retardant-forming fire-protection material and, in the event of a fire, automatically closing plate.



Two cable entries for sheathed cables up to Ø 13.5 mm external diameter and two conduit entries for conduits up to M25.



Bendable retention lugs for optional suspension in ceiling profiles.

Installation



After determining the position of the luminaire, use the template to mark the screw positions and the cut-out...



...then create the cut-out for the housing and retain for future use.



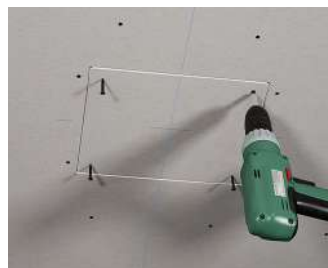
Open cable and conduit entries and use the universal opening cutter (Art. No. 1085-80) to cut matching entries.



Insert the housing into the component opening and align it.



Fix housing to the fire-protection ceiling using quick-fastening screws...



...then chamfer the cut-out made previously and fix with dry-wall screws.



Create the component opening for luminaire or loudspeaker.



Plastering of the Joints.

FlamoX® fire-protection housing

- for luminaires and loudspeakers
- Smokeproof and halogen-free
- for fire loads from above and below
- made of galvanised sheet metal with lining made of fire-resistant coating



INNOVATION



3D animation

Length x Width x Height	240 x 190 x 100 mm	320 x 270 x 150 mm
For panel thickness	2 x 12,5 mm	2 x 12,5 mm
Installation height	150 mm	200 mm
Exit opening Ø	100 mm	180 mm
Max. luminaire or loudspeaker installation height	100 mm	150 mm
Tube entries up to M25	2	2
Cable entries up to Ø 13.5 mm	2	2
LED luminaires	14 Watt	34 Watt
Halogen luminaires	50 Watt	75 Watt
DIBt approval	Z-19.53-2603	Z-19.53-2603
ETA approval	ETA-20/0238	ETA-20/0238
Halogen-free	Yes	Yes
CE	Yes	Yes
Art.-No.	9435-04	9435-03
Inner packaging/shipping	- / 1	- / 1

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



International products

Fire-protection boxes are given the same period of fire resistance in fire-protection walls in spite of fitted electrical installations and ensure secure, smokeproof room separation. In the event of a fire, an integrated fire retardant quickly and reliably closes the installation opening and prevents flames and flue gases from escaping. This ensures that lives are saved and material goods are efficiently protected.

- For fire protection walls
- Retrofitting is possible
- For directly opposing installation
- Can be used with fire-protection cover as a junction box




O-range® Protect



- for F30-F90 or EI30-EI90 fire-protection walls
- also for directly opposing installation
- minimum wall thickness 100 mm
- can be combined with each other and with the one-gang junction box




Depth	49 mm
Cut hole Ø	68 mm
For panel thickness	7 - 40 mm
Cable entries of up to Ø 11.5 mm	6
Support connectors for each package	5
ETA approval	ETA-18/0418
Halogen-free	Yes
for sound insulation walls up to	69 dB
	Yes
Art.-No.	5421
Inner packaging/shipping	10 / 100

O-range® Protect



- for F30-F90 or EI30-EI90 fire-protection walls
- also for directly opposing installation
- minimum wall thickness 125 mm
- combinable with each other and with the one-gang box



Depth	62 mm
Cut hole Ø	68 mm
For panel thickness	7 - 40 mm
Cable entries of up to Ø 11.5 mm	6
Support connectors for each package	5
ETA approval	ETA-18/0418
Halogen-free	Yes
for sound insulation walls up to	69 dB
	Yes
Art.-No.	5429
Inner packaging/shipping	10 / 100

Quickbox Maxi HWD 90

- VKF Approval 26831
- for EI 30 - EI 90 fire walls



Length x Width x Depth	83 x 83 x 73.5 mm	145 x 83 x 73.5 mm
Cut hole Ø	83 mm	83 mm
Tube entries up to M25	2	2
Combination	1x1	2x1
850 °C /	Yes / Yes	Yes / Yes
	Yes	Yes
Art.-No.	9499-77	9499-77.02
Inner packaging/shipping	10 / 100	- / 5

Quickbox Maxi HWD 90

- VKF Approval 26831
- for EI 30 - EI 90 fire walls



Length x Width x Depth	205 x 83 x 73.5 mm	145 x 145 x 73.5 mm	205 x 145 x 73.5 mm
Cut hole Ø	83 mm	83 mm	83 mm
Tube entries up to M25	2	4	4
Combination	3x1	2x2	3x2
850 °C /	Yes / Yes	Yes / Yes	Yes / Yes
	Yes	Yes	Yes
Art.-No.	9499-77.03	9499-77.04	9499-77.06
Inner packaging/shipping	- / 5	- / 5	- / 5

Quickbox HWD 90

- VKF approval 21042
- for EI 30 - EI 90 fire walls

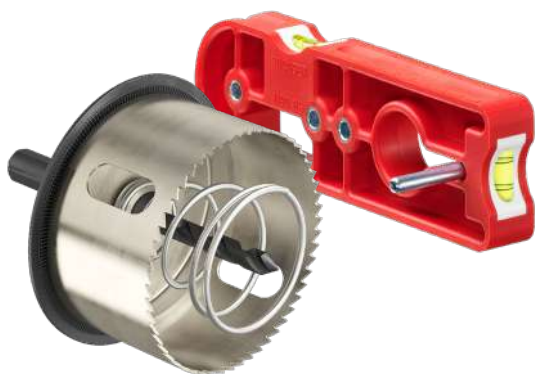


Length x Width x Depth	83 x 83 x 50 mm	145 x 83 x 50 mm	205 x 83 x 50 mm
Cut hole Ø	83 mm	83 mm	83 mm
Combination	1x1	2x1	3x1
850 °C /	Yes / Yes	Yes / Yes	Yes / Yes
	Yes	Yes	Yes
Art.-No.	9498-77	9498-77.02	9498-77.03
Inner packaging/shipping	10 / 100	- / 5	- / 5



Flush-mounting

- Grinding heads for flush-mounting installation
- Considerable time savings and durability
- Professional system tools for fast, safe installation



Cavity wall

- Cavity wall cutter
- Professional system tools for fast, safe installation
- Proven quality and technology



Concrete construction

- Professional system tools for fast, safe installation
- Perfectly matched to the processing and installation of KAISER electrical installation systems

	recommended revolutions min ⁻¹												
Material	pg. 396	pg. 397	pg. 402	pg. 405	pg. 407	pg. 407	pg. 407	pg. 400	pg. 401	pg. 406	pg. 407	pg. 409	pg. 409
	Diamond grinding head for dust extractor												
	Diamond grinding head												
	MULTI 4000 turbo cutter												
	MULTI 2000 HM												
	Hardened metal cutter												
	Hardened metal cutter												
	Hardened metal cutter for sheet metal boarding												
	Hardened metal cutter for WDVS 20 mm diameter												
	Standard cutter												
	Bi-metal cutter for WDVS 180												
	VARIOCUT universal-hole cutter 120 mm diameter												
	VARIOCUT universal-hole cutter 24-68												
	VARIOCUT universal-hole cutter 65-120												
Plasterboard	-	-	1,000		-	-	1,000	500	1,000	500	800-1,400	700-1,400	
Plywood (up to V20), uncoated	-	-	600	600	-	-	800	450	-	450	800-1,400	800-1,400	
Chipboard, coated	-	-	-	450	-	-	700	400	-	450	800-1,400	800-1,400	
OSB panels	-	-	-	650 ¹	-	-	600	400	-	-	300-400 ¹	200-400 ¹	
Wood, soft	-	-	850	850	-	-	1,000	500	850	550	800-1,400	800-1,400	
Wood, hard	-	-	-	650	-	-	600	400	-	450	800-1,400	800-1,400	
Laminated press fabric (Pertinax or similar)	-	-	-	450	-	-	500	350	-	450	-	-	
Mineral fibre board	-	-	-	600	-	-	800	500	-	500	800-1,400	800-1,400	
MdF panels	-	-	-	-	700	-	-	-	-	450	800-1,400	800-1,400	
Sheet steel	-	-	-	-	-	150 ²	-	-	-	200 ²	300-600 ³ diameter 20-64 mm	200-600 ³ diameter 65-120 mm	
Aluminium sheet	-	-	-	-	-	350	-	-	200	-	300-600 ³ diameter 20-64 mm	200-600 ³ diameter 65-120 mm	
Multiplex boards	-	-	-	-	700	-	-	-	-	-	-	-	
Panels	-	-	-	-	-	-	-	-	-	-	800-1,400 ⁴	700-1,400 ⁴	
Ceiling modules	-	-	-	-	-	-	-	-	-	-	800-1,400	800-1,400	
Wall tiles	-	-	-	-	-	-	-	-	-	-	400 ⁴	250 ⁴	
Hard rubber	-	-	-	-	-	-	-	-	-	-	1,200 ⁵	1,200 ⁵	
medium-hard masonry bricks (sand-lime bricks, Poroton, Ytong, etc.)	1,600-2,000	1,600-2,000	-	-	-	-	-	-	-	-	-	-	
insulated and plastered facade	-	-	-	-	-	-	1,000	500	-	-	-	-	
Technical requirement													
Required drill power	1,300 W	1,300 W	600 W	600 W	600 W	1,000 W	600 W	600 W	600 W	600/1,000 W	max. 700 W	max. 700 W	
Cut hole diameter													
20 mm	-	-	-	-	-	-	•	-	-	-	-	-	
35 mm	-	-	•	-	-	-	-	-	-	-	-	-	
68 mm	•	•	•	•	•	•	-	•	•	-	-	-	
74 mm	-	-	•	•	-	•	-	-	-	-	-	-	
82 mm	•	•	-	-	-	-	-	-	-	-	-	-	
120 mm	-	-	-	-	-	-	-	-	-	•	-	-	
variable 24-68 mm	-	-	-	-	-	-	-	-	-	-	•	-	
variable 65-120 mm	-	-	-	-	-	-	-	-	-	-	-	•	
Technical properties													
with dust extraction	-	-	-	-	-	-	-	-	-	-	•	•	
with direct attachment	•	•	-	-	-	-	-	-	-	-	-	-	
with drill chuck attachment	•	•	•	•	•	•	•	•	•	•	•	•	
with drilling depth limitation	-	-	-	-	-	-	-	•	-	-	-	-	

Accessories (optional)	Page	pg. 396	pg. 397	pg. 402	pg. 405	pg. 407	pg. 407	pg. 400	pg. 401	pg. 406	pg. 407	pg. 409	pg. 409
Dust extraction	397	•	-	-	-	-	-	-	-	-	-	-	-
ProfiX distance cutter	404	-	-	•	•	•	•	-	-	•	-	-	-
ProfiX distance cutter with dust extraction	404	-	-	•	•	•	•	-	-	•	-	-	-
Centering aid	401	-	-	-	-	-	-	-	•	-	-	-	-
Centering tool 68/74	403	-	-	•	-	-	-	-	-	-	-	-	-

¹ air more often ² use cutting oil ³ up to 1 mm ⁴ with restrictions ⁵ up to 10 mm



Diamond grinding head and drilling template

Diamond grinding head for precise and quick installation openings for one-gang boxes and one-gang junction boxes in all types of walls. Clean and low-dust handling due to dust extraction.

- Quick creation of installation openings in all types of walls
- For electric drills with direct attachment or 13 mm chuck
- With optional dust extraction
- Drilling template for exact marking of the centering hole

Installation



Pre-drilling. Create centering hole at a combination distance for multiple boxes using drilling template.



Fit diamond grinding head and diamond cut \varnothing 68 mm or \varnothing 82 mm holes.

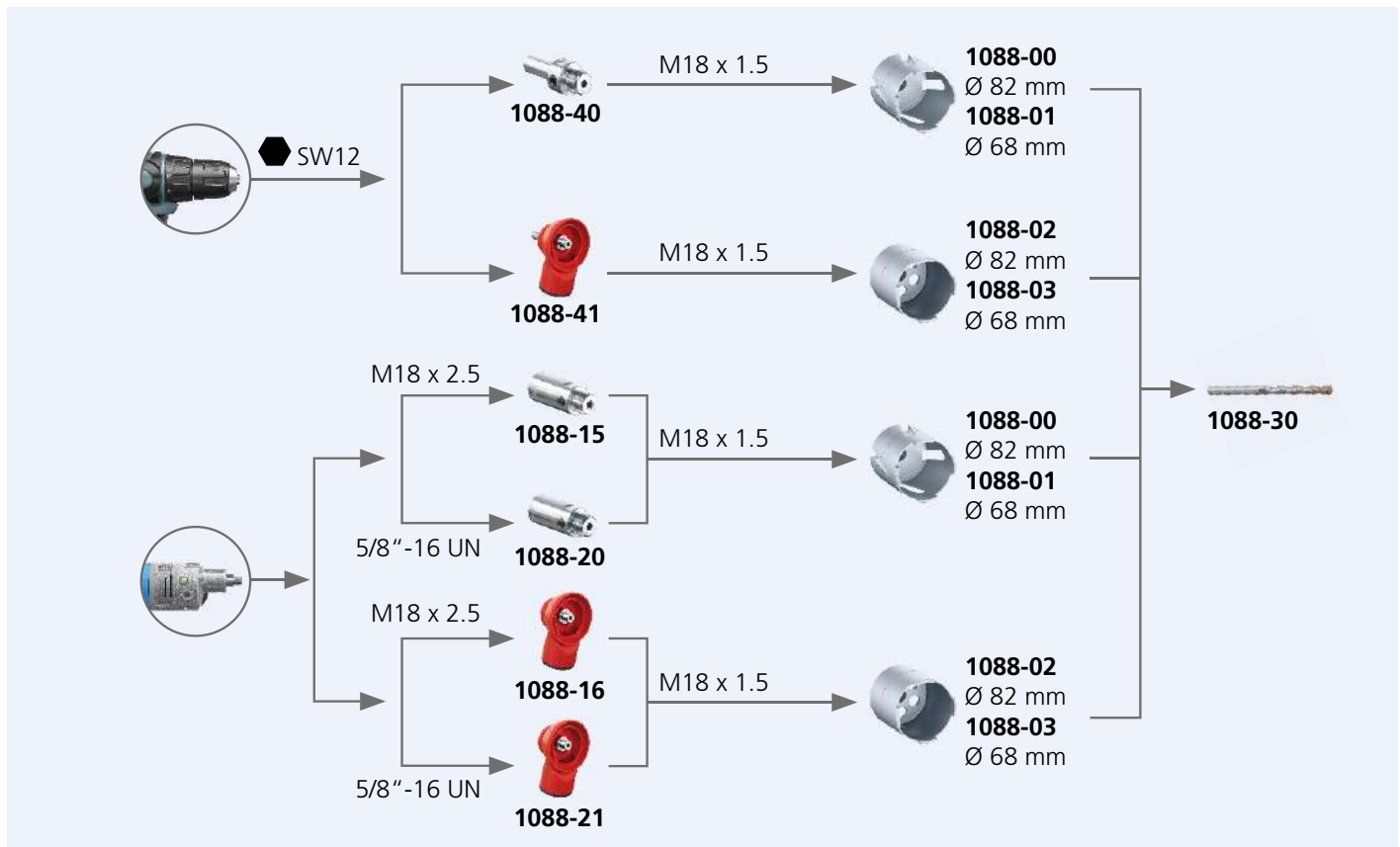


Chisel out drilled core.



Clean and even installation openings for quick further processing with plaster or KLEMMFIX®.

System overview - with and without dust extraction



Diamond grinding head with dust extractor

- Thread connection M18 x 1.5
- for use with dust extraction



3D animation

Drill Ø	82 mm	68 mm
Cutting depth	max. 70 mm	max. 70 mm
Art.-No.	1088-02	1088-03
Inner packaging/shipping	- / -	- / 10

Dust extraction with direct attachment / Chuck attachment

- for diamond grinding head Ø 82 or Ø 68 mm with connecting thread M18x1.5
- Fits vacuum cleaner hoses from Ø 31 - 36 mm



UN-Thread for Bosch and Flex	5/8"-16 UN	-	-
ISO thread	-	M18 x 2,5	-
Chuck attachment with hexagonal	-	-	12 mm
Art.-No.	1088-21	1088-16	1088-41
Inner packaging/shipping	- / -	- / -	- / -



Flush-mounting and masonry tools

for masonry installation

Diamond grinding head without dust extractor

- Thread connection M18 x 1.5
- for use with dust extraction



3D animation

Drill Ø	82 mm	68 mm
Cutting depth	max. 70 mm	max. 70 mm
Art.-No.	1088-00	1088-01
Inner packaging/shipping	- / -	- / 10

Direct attachment / Chuck attachment

- for screwing onto the drilling machines-spindle (Art. No. 1088-15, 1088-20)
- for clamping in the drill chuck (Art. No. 1088-40)



Connection drilling machine: internal thread	5/8"-16 UN	M18x2,5	-
Connection grinding head: External thread	M18x1,5	M18x1,5	M18x1,5
Connection drilling machine: hexagon wrench size	-	-	12 mm
Art.-No.	1088-20	1088-15	1088-40
Inner packaging/shipping	- / -	- / -	- / -

Centering drill

- for all direct and chuck attachments
- with hardened metal cutter
- Drill length: 125 mm



Diameter	6 mm
Art.-No.	1088-30
Inner packaging/shipping	- / -

Drilling template

- for exact pre-drilling of vertical or horizontal combination distances
- 71 mm for standard combinations
- 91 mm for separate covers on low-voltage devices
- with hardened drilling bushes
- with fold-out guide pin for first drill hole



3D animation

Art.-No.	1190-65
Inner packaging/shipping	- / -

Spirit level cover

Spirit level cover for quick and exact positioning of one-gang boxes and one-gang junction boxes in the masonry.

- For all KAISER one-gang boxes and one-gang junction boxes
- Guaranteed horizontal or vertical fit of the screw domes
- Quick assembly in a single action



Installation



Prepare the wall opening with plaster as usual.



Insert the spirit level cover into the upper box.



Push the box combination into the wall opening and align.



The spirit level immediately indicates the perfect fit.

Spirit level cover

- Box spirit level
- To straighten one-gang boxes and one-gang junction boxes for horizontal and vertical assembly with plaster



Art.-No.	1190-60
Inner packaging/shipping	5 / 100

Marking chalk

- for marking of switch symbols and wiring instructions
- colour: blue, waterproof



Art.-No.	1190-55
Inner packaging/shipping	- / 12

Flush-mounting and masonry tools

for masonry installation

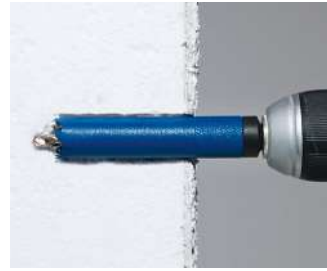
Hardened metal cutter Ø 20 mm for KAISER mini equipment carrier



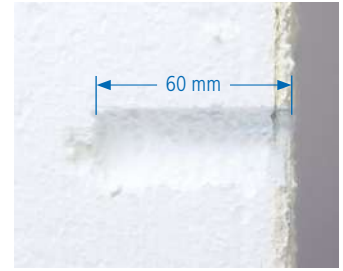
The hardened metal cutter Ø 20 mm with hardened metal cutters for exact installation openings. (Art. No. 1088-06).



By simply unscrewing the cutter head, the drilled core can be removed quickly using a centering drill.



The drilling depth stop ensures that only the amount of insulation material is removed which is necessary to secure the mini equipment carrier.



The insulating capacity remains intact despite the installation opening.

Hardened metal cutter 180 for one-gang junction boxes ECON® Styro55 and ECON® Iso +



If a cable is present, you can drill 68 mm installation openings using the hardened metal cutter 180.



The centering aid Ø 68 mm and depth stop on the cutter ensure a precise opening without damaging the existing cable.



The depth stop ensures minimal interference with the insulation, which prevents the creation of heat bridges.



KAISER carbide metal cutter 180 with depth stop, (Art. No. 1088-07).

Processing instructions

Make sure that the cable has been vertically fed through the insulation material panel. The hardened metal cutter 180 must not be used with cables which are directly under the plaster layer of the external insulation.

Hardened metal cutter Ø 20 mm

- Making installation openings in existing composite thermal insulation systems or lightweight walls
- Ø 20 mm, for the KAISER mini equipment carrier and for KAISER cable seals
- with bit stop to prevent heat bridges
- with hard metal centering drill for precise positioning
- fits all battery-powered drills and electric drills with 10 mm chuck
- removable cutter head for easy removal of the drilled core



3D animation

Length	80 mm
Drill Ø	20 mm
Cutting depth	max. 60 mm
Art.-No.	1088-06
Inner packaging/shipping	- / 48



3D animation

Hardened metal cutter 180

- Creating installation openings in existing thermal insulation composite systems for an existing cable
- for ECON® Styro55 one-gang junction boxes
- fits all electric drills with 10 mm chuck
- with bit stop to prevent heat bridges
- inclusive 2 centering aids Ø 68 mm (Art. No. 1090-68) for exact cutter guiding

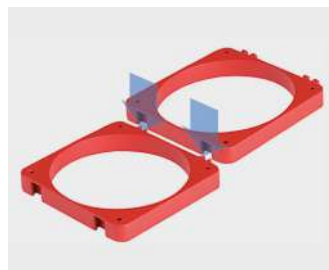


Length	180 mm
Drill Ø	68 mm
Cutting depth	max. 70 mm
Art.-No.	1088-07
Inner packaging/shipping	- / -

Technical information on centering aid Ø 68 mm



KAISER centering aid Ø 68 mm for nailing on (Art. No. 1090-68).



For combinations position the centering aid at a distance of 71 mm.



The ECON® Iso + or Styro55 with the swivel cutters are mounted quickly and easily with the setting tool.



KAISER setting tool ECON® Iso + and Styro55 (Art. No. 1090-22).

Centering aid Ø 68 mm

- for exact installation openings in existing composite thermal insulation system
- Exact guiding of the hardened metal cutter 180 (Art. No. 1088-07)
- can be combined for standard combinations of 71 mm
- for exact positioning and easy fastening by nailing to the insulation board



Diameter	68 mm
Art.-No.	1090-68
Inner packaging/shipping	10 / 100

Setting tool ECON® Iso + / ECON® Styro55

- for fast and secure attaching of the ECON® Iso + (Art. No. 1159-55) and ECON® Styro55 (Art. No. 1555-51) one-gang junction box



Art.-No.	1090-22
Inner packaging/shipping	10 / 100



Turbo cutter MULTI 4000

The turbo cutter MULTI 4000 is the ideal tool for creating installation openings in drywalls. The level of dimensional accuracy and range of accessories enable professional, high-precision installations.

- 40% faster due to new cutting geometry
- 20% higher endurance than conventional cutters
- With countersink hole cutter and plate ejector
- Cutting diameter 35 mm/68 mm/74 mm
- Specially for plasterboard, softwood/plywood boards

Technical information on MULTI 4000 turbo cutter



Turbo cutter MULTI 4000

- high cutting power
- precise cut for circular drilled holes
- high radial runout accuracy
- Removable countersink hole cutters
- fits all electric drills with 13 mm chuck



3D animation

Cut hole Ø	35 mm	68 mm	74 mm
Depth of cutting hole	36 mm	36 mm	36 mm
with countersink hole saw	Yes	Yes	Yes
with plate ejector	-	Yes	Yes
Art.-No.	1082-10	1083-10	1084-10
Inner packaging/shipping	- / 10	- / 10	- / 10

Cutter head MULTI 4000

- high cutting power
- precise cut for circular drilled holes
- high radial runout accuracy



Cut hole Ø	35 mm	68 mm	74 mm
Depth of cutting hole	36 mm	36 mm	36 mm
with plate ejector	-	Yes	Yes
Art.-No.	1082-09	1083-09	1084-09
Inner packaging/shipping	- / 5	- / 5	- / 5

Countersink hole cutter MULTI 4000

- for flush-mounting box and casing installation
- inductively hardened



for MULTI cutter Ø	35 mm	68 mm	74 mm
Art.-No.	1082-05	1083-05	1084-05
Inner packaging/shipping	- / -	- / -	- / -

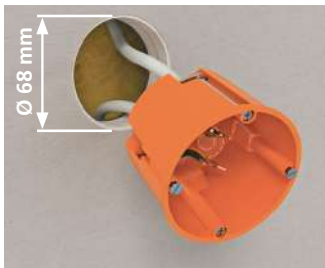
MULTI 4000 cutter set

- stable plastic case
- Contents: 3 Multi 4000 cutters with countersink hole cutter, Ø 35, 68, 74 mm (1082/83/84-10), 1 set of insulation stripping pliers for NYM cables
- Accessories: folding rule, drilling template, pencil



Art.-No.	1083-20
Inner packaging/shipping	- / -

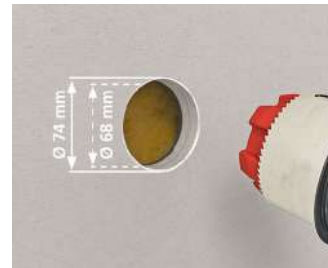
Centering insert 68/74 mm – operation



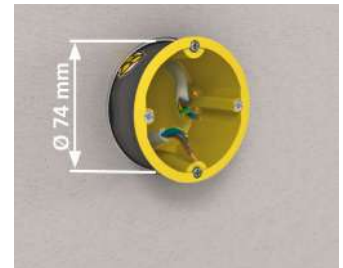
The traditional box is removed from the Ø 68 mm installation opening



Centering insert 68/74 (Art. No. 1083-99) is inserted into the existing opening together with the Ø 74 mm cutter (e.g. MULTI 4000, Art. No. 1084-10).



The existing opening can easily be expanded to Ø 74 mm



Now the traditional installation box can be replaced by a sound insulation, fire protection or radiation protection box.

Centering insert 68/74

- for expanding existing installation openings from Ø 68 mm to Ø 74 mm
- Exact guide for cavity wall cutter MULTI 4000
- for single and multi-layer boarded lightweight walls and ceilings



Diameter	68 mm
Art.-No.	1083-99
Inner packaging/shipping	10 / 100

Distance cutter, Profix



Profix, the bit for electric drills for quick and precise cutting of Ø 68 mm installation openings at the standard distance. Can be used in cut openings or existing cavity wall boxes. Available with and without dust extractor.

- With three spirit levels for exact insertion of horizontal and vertical combinations
- Standard distance of 71 mm or 91 mm without time-consuming measuring and marking
- For expansion of existing cavity wall box combinations
- For electric drills with Ø 43 mm clamping collar
- centering plate can also be used in existing cavity wall boxes for the expansion of existing equipment

Distance cutter Profix – operation



Distance 71 mm: Cut first opening as usual. Insert centering plate into first opening and cut second opening.



Adjust from 71 to 91 mm: Pull back clip nose with spring and turn centering plate by 180°.



Move centering plate to new position and lock centering plate.



Distance 91 mm: Insert centering plate into existing hole or box, align and cut additional opening.

Distance cutter, Profix

- for the cutting of cavity wall installation openings with dimensionally accurate combination distances of 71 mm, optionally adaptable to a distance of 91 mm, for horizontal and vertical combinations



3D animation

Up to 13 mm chuck	Yes	-	Yes	-
for SDS-plus quick-change chuck	-	Yes	-	Yes
with dust extractor	-	-	Yes	Yes
Art.-No.	1083-25	1083-28	1083-27	1083-29
Inner packaging/shipping	- / 10	- / -	- / -	- / -

Cavity wall box template

- for marking cutting-out distances for combinations
- standard combination distance 71 mm to German DIN 49 075 as well as 91 mm distance for separate covers for low-voltage equipment



Art.-No.	1085-99
Inner packaging/shipping	- / 100

MULTI 2000 HM

- Carbide tipped cutter head and countersink hole cutter
- extremely powerful
- very long operating life
- Removable countersink hole cutters
- fits all electric drills with 13 mm chuck



Cut hole Ø	68 mm	74 mm
Depth of cutting hole	36 mm	36 mm
with countersink hole cutter and plate ejector	Yes	Yes
Art.-No.	1083-70	1084-70
Inner packaging/shipping	- / 10	- / 10

MULTI 2000 HM cutting head

- hardened metal tipped
- extremely powerful
- very long operating life



Cut hole Ø	68 mm	74 mm
with plate ejector	Yes	Yes
Art.-No.	1083-69	1084-69
Inner packaging/shipping	- / 10	- / 10

MULTI 2000 HM countersink hole cutter

- hardened metal tipped
- for flush-mounting box and casing installation



for MULTI cutter Ø	68 mm	74 mm
Art.-No.	1083-65	1084-65
Inner packaging/shipping	- / -	- / -

Collets

- for cutters Art. Nos. 1082-10, 1083-10, 1084-10, 1083-70, 1082-20, 1084-00, 1084-70



for 10 mm chuck with twist drill	Yes	-	-
for 13 mm chuck with twist drill	-	Yes	-
for SDS-plus quick-change chuck without twist drill	-	-	Yes
Art.-No.	1083-31	1083-32	1083-35
Inner packaging/shipping	- / -	- / -	- / -

Cavity wall tools

for cavity wall installation

Twist drill

- Cylindrical shank with clamping surface
- for collets Art. Nos. 1083-31, 1083-32, 1083-35



Plate ejector

- Mounting instructions: fit cutter, pull out old ejector using tool. Use tool to press new ejector over collar on base of cutter
- for Art. Nos. 1083-10, 1083-70, 1084-00, 1084-10, 1084-70



Diameter	6 mm	-
Art.-No.	1083-30	1083-37
Inner packaging/shipping	- / 5	- / 5

Standard cutter

- without countersink
- with saw blade Art. No. 1086-09
- with twist drill with hexagonal shank



Cut hole Ø	68 mm
Depth of cutting hole	18 mm
Art.-No.	1086-00
Inner packaging/shipping	- / 10

Saw blades

- closed version
- hardened cutting teeth
- for Art. No. 1086-00



Cut hole Ø	35 mm	68 mm	74 mm
Depth of cutting hole	18 mm	18 mm	18 mm
Art.-No.	1085-09	1086-09	1087-09
Inner packaging/shipping	- / 5	- / 5	- / 5

Saw blades

- closed version
- hardened cutting teeth
- for Art. No. 1086-00



Cut hole Ø	68 mm	74 mm
Depth of cutting hole	40 mm	40 mm
Art.-No.	1086-08	1087-08
Inner packaging/shipping	- / 4	- / 4

Twist drill

- with hexagonal shank
- with clamping faces for 18 and 40 mm cutting depths
- for Art. No. 1086-00



Diameter	8 mm
Art.-No.	1086-30
Inner packaging/shipping	- / 5

Hardened metal cutter

- specially for sheet planking made of unalloyed/alloyed steels, non-ferrous metals
- Tapered centering drill for exact drilling



Cut hole Ø	68 mm	74 mm
Depth of cutting hole	15 mm	60 mm
Art.-No.	1083-95	1083-74
Inner packaging/shipping	- / 10	- / 10

Hardened metal cutter

- special for medium-density fiberboard MDF
- also suitable: wood based materials, gypsum-plaster-, gypsum fiber- or plastic boards
- sharpened carbide teeth for fast cutting
- no clogging due to large chip space
- very long service life
- Replacement drill (not shown) Art. No. 1083-53
- Removable countersink hole cutters
- fits all electric drills with 13 mm chuck



Cut hole Ø	68 mm
Depth of cutting hole	55 mm
with countersink hole saw	Yes
Art.-No.	1083-51
Inner packaging/shipping	- / 10

Bi-metallic cutter Ø 120 mm

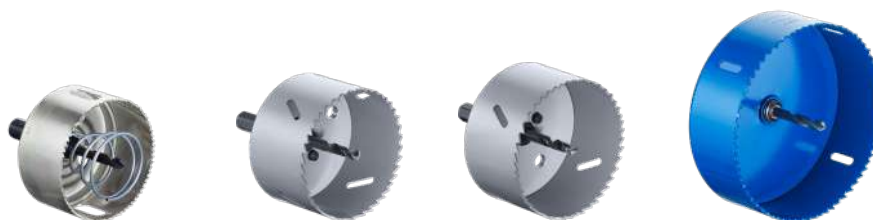
- fits all electric drills with 13 mm chuck
- for cavity wall junction boxes Art. Nos. 9073-01/-77 and 9273-91/-77



Cut hole Ø	120 mm
for frontal fitting of ThermoX® Art. No. 9300-01/-02/-03/-22	Yes
Depth of cutting hole	40 mm
Art.-No.	1082-20
Inner packaging/shipping	- / -

Bi-metal cutter for ThermoX® housings

- fits all electric drills with 13 mm chuck



Cut hole Ø	74 mm	79 mm	86 mm	120 mm
for rear fitting of ThermoX® (ceiling exit 68 mm)	Yes	-	-	-
for rear fitting of ThermoX® (ceiling exit 75 mm)	-	Yes	-	-
for rear fitting of ThermoX® (ceiling exit 82 mm)	-	-	Yes	-
for frontal fitting of ThermoX® Art. No. 9300-01/-02/-03/-22	-	-	-	Yes
Depth of cutting hole	-	-	-	40 mm
Art.-No.	1084-00	1082-79	1082-86	1082-20
Inner packaging/shipping	- / 10	- / -	- / -	- / -

Bi-metallic cutter Ø 86 mm

- Removable countersink hole cutters
- with twist drill with hexagonal shank
- fits all electric drills with 10 mm chuck
- for flush-ceiling installation of ThermoX® LED housing (DA 86), Art. No. 9320-20, 9320-21



Cut hole Ø	86 mm
Depth of cutting hole	38 mm
with countersink hole saw	Yes
Art.-No.	1087-86
Inner packaging/shipping	- / -

VARIOCUT

VARIOCUT universal hole cutter for clean circular cut-outs in cavity wall materials. The hardened metal cutter inserts can cut variable openings with a cutting depth of 45 mm.

- Making clean circular cut-outs using protective cover with dust extractor
- For light installation openings and circular cut-outs 24-120 mm in diameter
- Continuously adjustable cutter inserts
- centering cutter aid making it easy to guide the centering drill



Operation



Set and lock required diameter and prescribed cutting depth.



Mark the centre point for drilling (use centering cutter if necessary). Set appropriate speed on electric drill. Pre-drill plates to Ø 6 mm before cutting.



Use VARIOCUT centering drill. Start drilling, push the protective cover down flat on the surface and cut opening applying light pressure.



As soon as a hole has been drilled, turn off the electric drill immediately. Wait until the machine has fully stopped before removing the VARIOCUT and removing the cut-out material.

VARIOCUT universal hole cutter for cavity wall building materials

- with hardened metal cutter inserts for cavity wall materials



3D animation

Cut hole Ø	24 - 68 mm	65 - 120 mm
Depth of cutting hole	45 mm	45 mm
for frontal fitting of ThermoX® Art. No. 9300-01/-02/-03/-22	-	Yes
for cavity wall junction box Art. No. 9073-01/-77/-78/-91	-	Yes
Art.-No.	1089-10	1089-00
Inner packaging/shipping	- / 5	- / 5

VARIOCUT box

- robust metal case
- Contents: 1 VARIOCUT 1089-00 (Ø 65-120 mm), 1 cutter unit 1089-01 (Ø 24-68 mm), 1 cutter centering aid 1089-31 (incl. 10 adhesive foils)



Art.-No.	1089-25
Inner packaging/shipping	- / -

Cavity wall tools

for cavity wall installation

Cutter unit for cavity wall building materials

- for VARIOCUT universal hole saw
- for light installation openings and circular cut-outs of any kind



Cut hole Ø	24 - 68 mm	65 - 120 mm
Art.-No.	1089-01	1089-02
Inner packaging/shipping	- / -	- / -

Cutter unit for metal

- for VARIOCUT universal hole saw
- for sheet thicknesses up to 1 mm
- for light installation openings and circular cut-outs of any kind



Cut hole Ø	20 - 64 mm	61 - 116 mm
Art.-No.	1089-91	1089-92
Inner packaging/shipping	- / -	- / -

Hardened metal cutter inserts

- For VARIOCUT cutting unit



For cavity wall building materials	Yes	-
For metal sheets	-	Yes
Art.-No.	1089-33	1089-34
Inner packaging/shipping	- / -	- / -

Twist drill for VARIOCUT

- for VARIOCUT universal hole saw
- with clamping shank



Diameter	6 mm
Art.-No.	1089-30
Inner packaging/shipping	- / 5

Cutter centering aid

- centering aid for VARIOCUT
- for hard-to-work materials
- for Ø 6 mm drills
- with 10 pieces of adhesive foil



Adhesive foil

- for locating centering aid Art. No. 1089-31
- Double-sided adhesion
- for multiple use



Art.-No.	1089-31	1219-10
Inner packaging/shipping	- / -	- / 20

Universal opening cutter

Universal opening cutter for creating exact openings for cable and conduit entries in plastics. Creating exact openings for boxes and housings always results in exact air-tight, smoke-tight and concrete-tight entries.

- For conduit and cable entries
- For air-tight and smoke-tight openings
- For strain-relieved openings
- For all types of plastic



Operation



Depending on the use, find the required diameter in the corresponding table and locate on tool.



Press snap-in button. Turn the handle and push to required position until the arrow point is visible in the opening. Turn handle back and click into place.



Push the point into the housing and cut out required opening by turning to the right.



TIP: To cut several openings or work with hard plastic, you can fit the opening cutter on the 1/4" bit of a battery-powered drill.

Assignment table for universal cavity wall opening cutter

Air-tight cavity wall installation		Ø setting
NYM cable	3 x 1.5 mm ²	7.5
	4 x 1.5 mm ²	8.5
	5 x 1.5 mm ² ; 3 x 2.5 mm ²	9.5
	7 x 1.5 mm ² ; 5 x 2.5 mm ²	10.5
Low-voltage cables	Integrated heavy current and MSR-Bus cable (N)Y(Y(St)Y)M-J 3 x 1.5 mm ²	10.5
	EDP cable, S/STP 4 x 2 AWG23/1	7.5
	EDP cable, 100 Mb, S/STP 4 x 2 x AWG23/1	6.0
	Coaxial cable, double screening	6.0
	Coaxial cable, single screening	5.0
	BUS cable YCYM 2 x 2 x 0.8	5.0
	Screened EDP cable, plus external screening	5.0
	Cable for telephone and signal transmission with screening	4.0
	Telephone cable without screening	4.0
Support connector	9060-98	Connector
Flexible conduits (crimped) in acc. with DIN EN 60423	DIN EN 16 - Ø 16 mm	14.0
	DIN EN 20 - Ø 20 mm	17.0
	DIN EN 25 - Ø 25 mm	21.0

Cavity wall installation for fire-protection boxes HWD 30, HWD 90 and HWD B15		Ø setting
NYM cable	3 x 1.5 mm ²	8.5
	5 x 1.5 mm ²	9.5
	3 x 2.5 mm ²	9.5

Assignment table for universal concrete construction opening cutter

Concrete construction		Ø setting*
NYY cable	3 x 1.5 mm ²	10.5
	4 x 1.5 mm ²	10.5
	5 x 1.5 mm ² ; 3 x 2.5 mm ²	10.5
	7 x 1.5 mm ² ; 5 x 2.5 mm ²	14.5
Conduits flexible (corrugated) in acc. with DIN EN 60423	DIN EN 20 — Ø 20 mm	19.5
	DIN EN 25 — Ø 25 mm	22.5
Conduits flexible (corrugated with smooth sheath) in acc. with DIN EN 60423	DIN EN 20 — Ø 20 mm	19.0
	DIN EN 25 — Ø 25 mm	22.5

Universal opening cutter for plastics

- for manufacture of exact entry size
- for low-voltage wiring of Ø 4 - 7.5 mm
- for sheathed cabling up to 5 x 2.5 or 7 x 1.5
- for cable NYY up to 5 x 2.5
- for DIN EN conduits (flexible) with outer Ø of up to 20/25 mm
- with 1/4" chuck size for battery-powered drills



3D animation

For exact openings	4 - 22,5 mm
Art.-No.	1085-80
Inner packaging/shipping	- / 10

AMZ 2 stripping pliers

- for longer cables: integrated knife for longitudinal cutting
- ergonomic design - easy-to-use
- hardened and polished cutting knife



For stripping NYM cables	3 x 1,5, 5 x 2,5 mm
Art.-No.	1190-02
Inner packaging/shipping	- / 10

Hole punch and expanding dowel fitting tool

- for concrete construction installation
- for fixing to steel formwork with expanding dowel 1217-02
- for all boxes, casings, bushes, etc.



Length	150 mm	340 mm
Art.-No.	1284-62	1284-63
Inner packaging/shipping	- / -	- / -

Nail inserter

- for concrete construction installation
- for fixing to wooden formwork with steel nails max. head Ø 4 mm
- for all boxes, casings, bushes, etc.



3D animation

Length	150 mm	340 mm
Art.-No.	1284-69	1284-68
Inner packaging/shipping	- / -	- / -

Punch pliers

- for concrete construction installation
- for exact entries for installation conduits
- with plate ejector
- punch bits exchangeable



DIN EN conduit Ø	20 mm	25 mm
Art.-No.	1286-33	1286-34
Inner packaging/shipping	- / -	- / -

Punch bit inserts for punch pliers

- consists of cutter plate and cutting punch, hardened and polished



DIN EN conduit Ø	20 mm	25 mm
Art.-No.	1285-33	1285-34
Inner packaging/shipping	- / -	- / -

Reamer

- for concrete construction installation
- for enlarging pre-cut holes



DIN EN conduit Ø	25 mm	32 mm	40 mm
Art.-No.	1284-34	1284-35	1284-36
Inner packaging/shipping	- / -	- / -	- / -

Step drill

- for concrete construction installation
- for manufacturing conduit entry openings
- can be adapted for battery-powered drills



DIN EN conduit Ø	10 - 40 mm
Art.-No.	1284-32
Inner packaging/shipping	- / 10



KAISER legend	415
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Energy efficiency. Electrical installation for energy-saving buildings.

- Air-tight installation as per GEG
- Installation on or in insulated facades.



Fire protection. Box, housing and sealing systems for fire-protection walls and ceilings

- Fire protection – without encasing
- Smokeproof and halogen-free
- For buildings and shipbuilding



Sound insulation technology – sound insulation boxes for use in walls with increased sound insulation requirements.

- Maintains the wall's sound insulation protection
- Also for retrofitting



Radiation protection technology – radiation-protection boxes for use in lead-free and leaded radiation-protection walls.

- Protection against X-rays
- Retrofitting possible
- Fast installation without additional screening measures



The fastest cavity wall assembly ever. FX4 Technique.

- 40% faster assembly
- High self-locking



Lead-free

Use of lead-free materials.



Multimedia content on the internet

Available in just one click at www.youtube.com/kaiserelektro and www.kaiser-elektro.de.



Multimedia content for your smartphone.

Scan and view immediately!

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



Conduits and cables

DIN 60423 contains the dimensions for electrical conduits. DIN EN 61386 regulates the designations and properties. This results in clear statements about dimensions, designations and qualities of the conduits. Seven different outer diameters are available – uniform for all installation types from flush-mounting to concrete construction:

Outside diameters 16, 20, 25, 32, 40, 50 and 63 mm.

The following conduit types and cables may be used for the individual construction methods:

Flush-mounting (masonry) construction

Sheathed cables (e.g. NYM, cables e.g. NYY) and multi-lead wiring (e.g. NYIF) are permissible in the so-called in-plaster technique for dry rooms.

In conduits for light construction – classification 2 (min. compressive strength 320N/5 cm) or higher – core HO7V cables... (insulated single wires) and sheathed cables (e.g. NYM) can be guided.



Manufacturer's designation for the conduits, e.g.

Fränkische Rohrwerke:	FBY-EL (flexible) FBY-EL-F (smooth, flexible)
Hegler:	Heglerflex EYL (flexible) Heglerplast EL (rigid)
PIPELIFE:	FB-E-L (flexible) IPM-E-LF (rigid)

Cavity wall construction

Cables without protective conduits whose sheaths are made of flame-retardant plastic, e.g. PVC for sheathed NYM cable are permissible. Multi-lead wiring is not permissible.

In conduits for light construction – classification 2 (min. compressive strength 320 N/5 cm) or higher – as well as additional flame resistance, core HO7V cables... (insulated single wires) and sheathed cables, e.g. NYM, can be guided



Manufacturer's designation for the conduits, e.g.

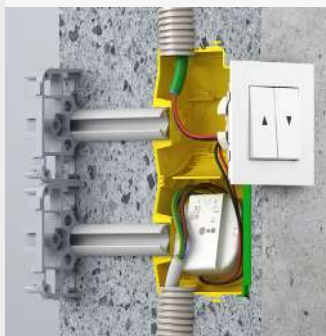
Fränkische Rohrwerke:	FBY-EL-F (flexible) FFKu-EL-F-HO (flexible)
Hegler:	Heglerflex EYLF (flexible) Heglerflex-EL (flexible) Heglerplast-EL (rigid)
PIPELIFE:	FB-E-LF (flexible) KuMS-E-MF (flexible)

Concrete construction

Cables without a protective tube are permissible, e.g. NYY or NYZXY.

Feed-throughs or connections at joints (e.g. wall-ceiling) can only be carried out in the case of stripped core cables or cables in concrete installation boxes or casings only according to DIN EN 60670.

In conduits for medium construction – classification 3 (min. compressive strength 750 N/5 cm) or higher –, core HO7V cables... (insulated single wires) or sheathed cable, e.g. NYM, can be guided.



Manufacturer's designation for the conduits, e.g.

Fränkische Rohrwerke:	FFKuS-EM-F (flexible) FFKuS-EM-F105 (flexible)
Hegler:	Heglerflex-ESPM (flexible) Heglerflex-ESPM105 (flexible) Heglerplast-EPKM (rigid)
PIPELIFE:	Ku-P-AS-E-MF-105 (flexible) RP-E-SF-UV (flexible) KuMS-E-MF (flexible) PSM-v-E-SF (rigid)

As there are currently no specifications in the standard regarding the minimum compressive strength in relation to the type of installation, the conduit manufacturer's specifications must be followed, especially in the concrete construction sector.

Notice: The maximum temperature during the casting process for our concrete construction installation boxes with VDE certification is -5 to 90°.

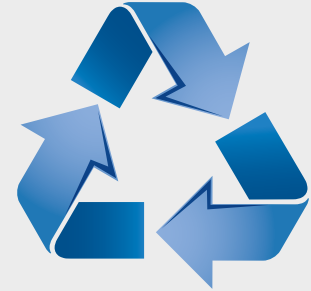
Intelligent building system technology (KNX, LON, etc.)

For the installation of flush-mounting and cavity walls, special one-gang boxes (electronics boxes) are included in the corresponding programme parts.



Disposal

KAISER products are not subject to the electrical/electronic scrap ordinance and are therefore currently not subject to compulsory labelling. For disposal of the packaging, KAISER's trade partners in Germany (electrical wholesalers) offer the installer or end user the option of taking it back (and thus returning it to the cycle).



Fire resistance according to DIN EN 60670

The test is carried out according to DIN EN 60695 S. 2-11. It is carried out as a glow wire test with subsequent test temperatures.

650°C	U	Flush-mounting	
650°C	B	Concrete construction	
650°C	I	In-plaster	
650°C	A	Surface-mounting	
650 °C / 850 °C		Covers / Lids	/
850°C	H	Cavity wall	
850°C	i	Terminals	





Functional maintenance of cables/cable systems

Functional integrity is given if no short circuit and no interruption of the current flow in the cable/cable systems occurs in the electrical system during a fire test. The functional integrity is divided into classes from E30-E120 according to DIN 4102 P.12. This means that the installations must withstand a fire for 30-120 minutes. The materials used for such measures must consist of non-combustible building materials (building material class A).



One-gang junction boxes

One-gang junction boxes have, in addition to the accessory volume, space for at least 3 connection terminals. All KAISER one-gang junction boxes may be used as junction boxes when using screwed lids with a fire resistance of 650°/850° C according to DIN EN 60670.




Halogen-free materials (preventive fire protection)

To prevent personal injury or damage to property, the use of halogen-free materials may be mandatory. All KAISER flush-mounting and concrete building boxes, casings, luminaire and loudspeaker housings are halogen-free. Boxes and casings for cavity wall mounting as well as some accessories are included in the range as halogen-free items.



Cavity wall boxes

According to DIN EN 60670, cavity wall boxes are subjected to special safety tests and must be marked with the symbol .



Combinations

Combinations for multiple cover frames of the units are made by stringing together one-gang boxes and/or one-gang junction boxes. The combination distance for this is 71 mm according to DIN 49075.

Combinations of high voltage and low voltage equipment, e.g. antenna sockets, can be shared if only touch-proof sockets are used.

When using sockets that are not safe to touch (still available), a separate cover must be provided for. Usually, the distance between the installation boxes is then 91 mm (more if necessary) and is created by means of spacer sleeves or the use of appropriate tools.

Light hook

Suspension devices for luminaires, e.g. light hooks, must be able to bear at least 50 N according to DIN EN 60670 P. 21 / DIN VDE 0100 P. 559 or the specified luminaire weight with 5-fold safety.



Equipotential bonding

There must be a main equipotential bonding in every building. A so-called additional equipotential bonding must also be carried out according to DIN VDE 0100 P.701 in rooms with bathtubs or showers, as well as for covered swimming facilities. Due to the easier accessibility for disconnecting and measuring at a later stage, it is expedient to carry out this additional potential equalisation in a corresponding housing with an equipotential bonding busbar. In rooms used for medical purposes, special equipotential bonding must be carried out in accordance with DIN VDE 0100 P.710.



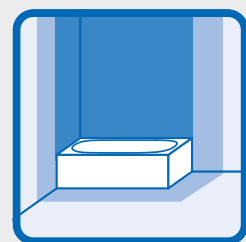
Plaster protection

According to DIN 18382, protection of the executed service as well as the objects handed over for completing an installation is usually part of the installer's ancillary services. The installation boxes are normally sealed with so-called plaster or signal covers.



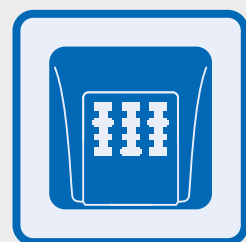
Protected areas

For the installation of installation boxes in bathrooms and similar rooms, the requirements according to DIN VDE 0100 P.701 must be observed.



Telephone sockets

According to standard sheet FTZ 731 TR1 issued by Deutschen Bundespost, Fernmeldetechnisches Zentralamt in Darmstadt, only one-gang boxes according to DIN 49073 are approved for the installation of telecommunication inserts.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



Environmental compatibility – RoHS

Restriction of the placing on the market and use of certain hazardous substances according to EU Directive 2011/65/EU and EU Directive 76/769/EEC: The materials we use comply with the valid guidelines of the Ordinance on Hazardous Substances and fulfil the legal regulations for placing substances on the market. Emissions during normal use are not known. For more information on RoHS, please visit our website.



Flush-mounting programme:

impact-resistant polystyrene, polyethylene



Cavity wall programme:

Polypropylene



Concrete construction programme:

Polyethylene



Luminaires and loudspeaker housing programme:

Polyethylene/polyamide



Fire protection programme:

galvanised steel sheet, fire-retardant coating



Cable glands:

Polyamide, nickel-plated brass



Wall light connection boxes

According to DIN VDE 0100 P.559, wall light connection boxes must be used wherever feed lines for wall luminaires end. KAISER wall-mounted light connection boxes have space for at least 3 connection terminals and cable reserves, as well as a screw fastening for luminaire mounting.

For more technical information on our solutions and products, please visit our website.

The installer of the installation system remains responsible for the selecting suitable types of flush-mounting boxes or enclosures and for their proper installation in terms of safety, in compliance with the installation regulations (for an overview of test marks, see table on p. 328). The technical advice we provide is given to the best of our knowledge and is deemed to be non-binding, also with regard to any third-party property rights.

Max. number of terminals per one-gang box, one-gang junction box, junction box and junction casing, according to DIN EN 60670

For safety reasons (avoidance of excessive heating in junction boxes), according to DIN EN 60670, the number of terminals and conductors in a junction box is limited.

A certain volume (terminal space unit) is required for each terminal point. This volume includes the space for the connection terminals, the conductors and the movement of the conductors in the junction box.

Max. number of terminals. Values in () are with mounted units.

Item no.	Conductor cross-section (in mm ²)					
	1.5	2.5	4	6	10	16
10...						
1050-00	6	5				
1051-00	6	5				
1055-..	6	5				
1056-..	6	5				
1068-02	9 (7)	7 (6)	6 (4)			
1068-21	9 (7)	7 (5)	6 (4)			
1069-02	8(7)	6 (5)				
1081-..	6	6				
1092-..	18	15	12	8	6	5
1094-..	9	7	5			
1095-..	11	9	7	5		
1096-..	18	15	12	8	6	5
1097-..	18	15	12	8	6	5

11...						
1159-90	6	5				
1172-..	6	5				

12...						
1211-01	7 (7)	6 (6)	5 (4)			
1211-02	7	6	5			
1227-50	11	9				
1227-55	10	8				
1245-62	7	5				
1245-63	7	5	4			
1248-..	6	5				
1249-11	5	4				
1249-12	5	3				
1248-55	4	3				
1255-01	6 (5)	5				
1255-43	6	5				
1255-45	6	5				
1260-01	10(8)	8(6)	6(5)			
1260-11	10(8)	8(6)	6(5)			
1262-..	7 (4)	6(5)	5 (4)			
1263-..	8 (7)	6(5)	5 (4)			
1264-60/61	8 (7)	6 (5)	5 (4)			
1265-01	10(8)	8(6)	6(5)			
1265-11	10(8)	8(6)	6(5)			
1265-12	10	8	6			
1265-13	10	8	6			
1268-01	11 (9)	9 (7)	8 (6)			
1269-01	11 (9)	9 (7)	8 (6)			
1276-70	8	6	5			
1295-02	18	15	12	8		
1296-02	18	15	12	8	6	5
1297-02	18	15	12	8	6	5
9907	17	14	11	7	5	4
9908.21	18	15	12	8	6	5
9916	18	15	12	8	6	5
9917	18	15	12	8	6	5
9914.01	18	15	12	8	6	5
9917.21	18	15	12	8	6	5
9916.21	18	15	12	8	6	5
9909.01	12	10	8	5	4	3
9908.01	17	10	11	7	5	4
9911.01	18	15	12	8	6	5
9912.01	18	15	12	8	6	5



Item no.	Conductor cross-section (in mm ²)					
	1.5	2.5	4	6	10	16
15...						
1550-..	6 (5)	5 (4)				
1551-..	6 (5)	5 (4)				
1555-..	6 (5)	5 (4)				
1555-21	7 (5)	5 (4)				
1556-21	7 (5)	5 (4)				
1556-..	6 (5)	5 (4)				
1572-02	8	6	5			
1569-01	6 (3)	4				

16...						
1656-02	9 (6)	7 (5)				
1656-21	9 (7)	7 (5)	6 (4)			

17...						
1756-02						

90...						
9061-..	5	4				
9062-..	10 (7)	8 (5)	6			
9062-74/94	10 (12)	8 (10)	6 (8)	5 (6)	4 (5)	
9062-21	10	8	6			
9062-94	12 (10)	10 (8)	8 (6)	6 (5)	5 (4)	
9063-..	6	5				
9063-50	6	5				
9064-..	7 (5)	5 (4)				
9064-..	6 (4)	4 (3)				
9068-01/79	6 (3)	5				
9068-04/74	6	5				
9068-03/76	7 (5)	5 (4)				
9068-94	7(7)	6(6)	5(4)			
9069-01	6 (3)	4				
9069-94	6 (5)	5 (4)				
9071-..	7	5				
9073-..	11	9	7			
9074-01	6 (3)	4				
9074-03	6 (3)	4				

91...						
9192-..	18	15	12	8	6	5
9195-..	10	8	6	5		
9196-..	18	15	12	8	6	5
9197-..	18	15	12	8	6	6

92...						
9263-..	6	5				
9264-..	7 (5)	5 (4)				
9462-94	6 (5)	5 (4)				
9463-01	4	3				
9464-01	6 (3)	4				
9464-15	6 (3)	4				
9273-91/77	12	10	8			
9266-22/77	7 (5)	5 (4)				
9268-94/74	7 (7)	6 (6)	5 (4)			
9252-22	9(7)	7(5)	5(4)	4(3)		
9252-78	9(7)	7(5)	5(4)	4(3)		
9253-22	11(9)	9(7)	7(6)	5(4)	4(3)	
9253-78	11(9)	9(7)	7(6)	5(4)	4(3)	
9254-22	14(12)	11(10)	9(8)	6(5)	4(4)	3(3)
9254-78	14(12)	11(10)	9(8)	6(5)	4(4)	3(3)
9280-22	8(6)	6(5)				
9280-78	8(6)	6(5)				

Glass fibres insensitive to bending

are fibre optic cables with a smaller bending radius.

While the permissible bending radii of an optical fibre are normally at least 30 mm, the bend-insensitive optical fibre cables according to the ITU-T G.657 specification are 10 mm and 7.5 mm respectively.

ITU-T G.657.A1

(Single mode fibre optic cable) bending radius 10 mm

ITU-T G.657.A2

(Single mode fibre optic cable) bending radius 7.5 mm

FTTX cabling (EN 50173-1)					
Class	Link length	Fibre class	Channel attenuation (dB)		Application
OF-5000	5,000 m	OS2	1310 nm 4.0 dB	1550 nm 4.0 dB	10GBase SR

Factors influencing the transmission rate

The attenuation on the fibre optic cabling route is decisive for the best possible transmission rate of a subscriber's internet connection.

The following factors are decisive:

- possible losses due to scattering or absorption
- natural line losses (length) or signal propagation delay
- losses due to splice connection

Calculation of channel attenuation (single mode fibre 150 m with 3× connectors)					
Description	Attenuation standard	Length Quantity	Calculation	Loss (dB)	
Fibre attenuation loss	1.00 dB/km	150 m	0.001 x 150	0.15 dB	
Insertion loss per connector	0.25 dB	4	4 x 0.25	1.00 dB	
Insertion loss per splice	0.05 dB	3	3 x 0.05	0.15 dB	
Total channel attenuation				1.30 dB	

The maximum permissible channel attenuation (PoP to FO-SC) of 4.0 dB is not exceeded, therefore, interference-free data transmission can be guaranteed. The calculated channel attenuation must be confirmed and recorded with a certifier (measuring device) after installation of the cabling.

Fibre optic connectors

Fibre optic connectors are mounted on both sides of a fibre optic cable to create a fibre optic patch cable. In addition, the plugs are linked with a connector. The coupling is specially designed for the connectors and positions the end faces (connector end faces) against each other so that the light signal can be transmitted optimally. The connectors are polished after the manufacturing process and protected against dirt and dust with a dust cap. Before using the connectors, the front surface must be cleaned with a cleaning agent (dust-free cloth, alcohol, cleaning pen, etc.), as

the slightest contamination has a great effect on the attenuation. In the FTTX environment, only connectors with 8° APC (Angular Physical Contact) are used. The front surface is bevelled and polished. The reflections on the fibre optic cable are not transmitted through the connector, thus improving the channel attenuation.

Plug	Max. insertion loss	Typical insertion loss	Ferrules diameter	Number of fibres	Standard	Locking
SC	0.25 dB	0.15 dB	2.50 mm	1	IEC 61754-4	Draw/Plug
LC	0.25 dB	0.15 dB	1.25 mm	1	IEC 61754-20	Clamp
E2000®	0.25 dB	0.12 dB	2.50 mm	1	IEC 61754-15	Draw/Plug
E3S Connect®	0.25 dB	0.15 dB	1.25 mm	1	IEC 61754-20*	Clamp

(Test method IEC 61300-3-34; guarantees a maximum insertion loss of 0.25 dB when using Grade B connectors)

*E3S Connect® connector becomes standard LC/APC connector after assembly with housing and locking housing













Fibre Recognition

The fibre optic categories and connectors are differentiated by colour. This means that the colour code can be used to draw immediate conclusions about the installed system.

Category	Connectors	Patch cables
OS2 Single Mode	Blue	Yellow
OS2 Single Mode APC	Green	Yellow

Splice detection

The individual fibre optic lines in a fibre optic cable are defined by standard to simplify processing during splicing. In Germany, DIN IEC 60304 and DIN VDE 0888 applies; outside Germany, IEC 60794-2 and TIA 598-B are also applicable.

Colour code (VDE-0888)					
1		Red	7		Brown
2		Green	8		Purple
3		Blue	9		Aqua
4		Yellow	10		Black
5		White	11		Orange
6		Grey	12		Pink

Depending on the network operator and project (subsidised project), an up to 4x fibre optic cable per subscriber is laid for FTTH cabling. In an apartment building or larger residential complex, 2x fibre optic cables must also be provided for the building. Usually the fibre colour code 1-4 (red, green, blue and yellow) is used per subscriber, as the connection/customer cables have the same colour coding, so a clean and structured splice work is ensured.

KAISER GROUP- General Glossary

Network level 1	Wide area network
Network level 2	Regional distribution network
Network level 3	Access network
Network level 4	Building network
Network level 5	Unit network
Broadband	In communications engineering, the term broadband communication describes a transmission channel whose magnitude frequency response is not constant and in which signal distortions occur as a result. Broadband channels, unlike narrowband channels, require channel equalization with adaptive filters to compensate for signal distortion.
DSL	The end customer is connected to the telecommunications network exclusively on a copper basis. In this case, the telecommunications cable runs from the main distribution frame (HVT) to the cable distribution frame (KVZ) and from there to the house connection.
Vectoring	Vectoring technology is an extension of VDSL2; with the help of vectoring the crosstalk (NEXT) between the individual wires in the copper telecommunication cable can be minimized, and the transmission speed as well as the number of connected subscribers around a KVZ can be increased.
FTTX	Fibre to the "X", in the case of fibre optic networks, a distinction is made between the types of connection depending on how the end customer is connected, between FTTC (Fibre to the Curb), FTTB (Fibre to the Building) and FTTH (Fibre to the Home).
HFC	Hybrid Fibre Coax is used by cable network operators to connect cable television networks (CATV) via fibre optic cable from the cable head-end (exchange) to the end branch (fibre node). The data signals are transmitted from the end splitter via coaxial cable to the antenna socket in the house.
FTTC	Fibre to the Curb; the fibre optic line is only laid to the cable distribution frame (KVZ)/multifunctional housing (MFG), (integrated DSLAM (Digital Subscriber Line Access Multiplexer) at the roadside. From there, the existing copper telecommunication cables (Cu-DA) of the distribution network lead to the end customer.
FTTB	Fibre to the Building; in contrast to FTTC/VDSL, FTTB/FTTH networks consist entirely of a fibre optic infrastructure. The fibre optic line extends from the exchange (PoP) via the network distributor (OP-NVt) to the building transfer point (BTP).
FTTH	Fibre to the Home; with FTTH, the entire cabling in the building up to the FO-SC also consists of fibre optic lines.
PoP	Point of Presence, different designation for the switching station
Gf-ND	The fibre optic network distributor is a passive distributor for cable distribution of fibre optic communication lines within a local network.
Supply sleeve	The sleeve is a passive distribution box for cable distribution of fibre optic communication lines within a local area network.
FTU	Fibre Termination Unit
FO-TP / BTP	The fibre optic termination point of the network operator, other designation Building Transfer Point, other designation BEP (Building Entry Point)
FO-BD	Fibre optic building distributor, different designation PD (primary distributor)
FO-FD	THE fibre optic floor distributor, different designation FO-CP (fibre optic collection point)
FO-SC	The fibre optic subscriber connection, different designation fibre optic subscriber outlet

KAISER GROUP- Product Glossary

FMP	Splice distributor housing (fibre management plate)
FMB	Splice distributor housing with cover (fibre management box)
MFD	Hood sleeve (midi fibre dome)
CFD	Repair sleeve (compact fibre dome)
DP	"Distribution Point" is a distribution point between PoP and BTP, e.g. supply sleeve (underground) or FO-NVt (above ground)




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














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Service

Test mark

KAISER products are manufactured according to DIN, VDE, EN and IEC regulations. For the products shown in the catalogue, we have, as far as regulations exist, approval certificates from the VDE test centre as well as a number of other European test centres.

	Germany	VDE ASSOCIATION OF ELECTRICAL ENGINEERING ELECTRONICS INFORMATION TECHNOLOGY	
	Austria	AUSTRIAN ASSOCIATION FOR ELECTRICAL ENGINEERING	
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	Czech republic	ELEKTROTECHNICKY' Republic ZKUSEBNI ÚSTAV	
	Hungary	MAGYAR ELÉKTROTECHNIKAI ELLENŐRZŐ INTÉZET	
	Slovenia	SLOVENSKI INSTITUT ZA KAKOVOST IN MEROSLOVJE	
	Switzerland	ASSOCIATION FOR ELECTRICAL, ENERGY AND INFORMATION TECHNOLOGY	
	Great Britain	BRITISH STANDARD	

Item no.								
10...								
1048-00	•							
1050/51	•				•			
1055-04	•				•			
1055-21	•				•			
1055-62	•				•			
1056-04	•				•			
1056-21	•				•			
1056-62	•				•			
1068-02	•				•			
1069-02	•				•			
1075-04	•							
1076-04					•			
1081-04	•							
1081-05	•							
1081-06	•							
1092-90	•				•			
1094-01					•			
1094-91	•				•			
1095-01					•			
1095-91	•				•			
1096-01					•			
1096-91	•				•			
1097-75					•			
1097-92	•							
11...								
1155-61								
1155-62								
1155-71								
1155-72								
1159-03								
1159-12								
1159-24					•			
1159-34					•			
1159-50								
1159-90	•							
1172-02					•			
1172-04					•			
1172-05					•			
1172-06					•			
1172-08					•			
1172-09	•							
1172-62	•				•			
1172-92	•				•			
12...								
1204-24					•			
1204-29								
1204-34					•			
1211-01	•							
1211-02	•							
1223								•
1224								•
1227-16	•							
1227-50	•				•			

Item no.								
1227-54	•							
1227-55	•							
1245-	•							
1248-01	•	•	•					
1248-44						•		
1248-55	•					•		
1249-11 /12	•	•						
1249-44						•		
1255-43						•		
1255-45						•		
1260-01	•	•	•					
1262-06	•	•						
1262-60	•	•						
1262-61	•	•						
1263-06	•	•						
1263-60	•	•						
1263-61	•	•						
1264-06	•	•						
1264-60	•	•						
1264-61	•	•						
1265-11	•	•						
1268-	•	•	•					
1269-	•	•	•					
1275-40						•		
1276-40						•		
1276-70						•		
1295-02	•							
1295-73						•		
1296-02	•							
1297-02	•							
1297-75								
1297-98								
15...								
1550-00	•					•		
1551-00	•					•		
1555-04	•					•		
1555-21	•					•		
1555-51	•							
1555-62	•					•		
1556-04	•					•		
1556-21	•							
1556-62	•					•		
1564-01	•							
1569-01	•							
1572-02	•					•		
16...								
1655-02	•							
1656-02	•					•		
1656-21	•							
25...								
2521								
90...								
9061-00						•		
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AK2-SU Base IP40	322	B ¹ Electronics box	170
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AK2-W5 Cover light grey	326	B ¹ ceiling junction box 60 mm diameter	181
AK2-W5 Lid red	326	B ¹ two-gang junction box	170
AK2-W5 Cover red, 2x4p Wieland	325	B ¹ one-gang junction box	165
AK2-W5 Cover, 2x5p Wieland	326	B ¹ one-gang box	164
AK2-W5 Cover, 4x5p Wieland	326	B ¹ Italian standard one-gang box with 3 modules	205
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AK2-W8 Cover light grey	326	B ¹ large conduit ceiling junction box 60 mm diameter	181
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Profix distance cutters with dust extraction	404	B ² one-gang junction box without plaster skin, depth 48.5 mm	220
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O-range ECON® 4 one-gang junction box	100	One-gang box acc. to EN 60670 and ÖVE	81
O-range ECON® 64 one-gang junction box	97	One-gang box without connector	32
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HaloX® 180 with tunnel 190 for on-site mixed concrete	247	Compact building distributor, FO-BD, 20 fibres, CSS, 5 LC/APC QD, IP55	375
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MULTI 2000 HM 68mm diameter	405	Plaster cover	198
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Set of 12 Prefix® wing brackets for AGRO inlet box 9902.xx	200/208	Conduit sealing cap	195
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Prefix® 2.0 concrete building box 2x1 NUP	208	Conduit connector 60°	221
Prefix® 2.0 concrete building box 3x1 NUP	208	Conduit connector for DIN EN conduit 20 mm diameter	221
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The "General Terms and Conditions of Delivery of the ZVEI for Products and Services of the Electrical Industry – Green Terms and Conditions of Delivery" in the 2018 version issued by the ZVEI (hereinafter referred to as the "Green Terms and Conditions of Delivery" – available on our website www.kaiser-elektro.de), as well as the following supplementary terms and conditions of KAISER GmbH & Co.KG, shall apply to all our business relationships with our customers ("Customers"). In the event of unintended contradictions, our supplementary terms and conditions shall prevail.

Deviating, conflicting or supplementary general terms and conditions of the customer shall only become part of the contract if and insofar as we have expressly agreed to their validity. This requirement of consent shall apply in any case, for example even if we carry out the delivery to the customer without reservation in the knowledge of the customer's GTC.

1. Orders, scope of deliveries or services

The order of the goods by the buyer is considered a binding offer of contract. Unless otherwise stated in the order, we are entitled to accept this contractual offer within 4 weeks of its receipt by us. Acceptance can be declared either in writing (e.g. by order confirmation) or by delivery of the goods to the customer.

The scope of the deliveries or services shall be determined by the written declarations of both parties (Article I No. 1 of the "Green Terms of Delivery"). In addition to the "Green Terms of Delivery", the following shall apply: If a contract has been concluded without such mutual declarations being available, either the written order confirmation of the supplier or service provider (hereinafter referred to as "Supplier"), or, if no such confirmation has been issued, the written order of the Customer shall be decisive. Individual agreements made with the Customer in individual cases (including ancillary agreements, supplements and amendments) shall take precedence in all cases. Subject to proof to the contrary, a written contract or our written confirmation shall be authoritative for the content of such agreements.

2. Prices and payment terms

Supplementary to Article II of the "Green Terms of Delivery" the following shall apply:

The catalogue prices are recommended retail prices and do not include statutory VAT in euros. The prices of brass products are subject to certain fluctuations, which are based on the respective DEL quotation. These prices are based on a DEL quotation of 150 euros for Ms58. In the event of a change in this rate by more than 15 euros upwards or downwards, a five percent premium or discount will be applied for every 15 points. For the calculation of the surcharges or discounts, the DEL note of the date on which the order was received by us shall be taken as the basis in each case. You can find our current range prices, without taking into account a possible surcharge or discount, at: www.kaiser-elektro.org/preise
If no other terms of payment have been agreed, 10 days shall apply ./ 3% discount, 30 days net, in each case from the date of invoice.

3. Value added tax

1. The Customer assures the correctness of the details of their address and VAT number. If a delivery is treated as taxable due to deficiencies in the address or VAT number details, the Customer will reimburse the tax payable by us.
2. In the event of a VAT-exempt intra-Community delivery pursuant to Sections 4(1)(b) in conjunction with Section 6 a of the Turnover Tax Act (UStG), the Customer is obliged to submit a confirmation of receipt upon request, which complies with the principles of Section 17a Turnover Tax Implementing Regulation (UStDV). If the Customer does not fulfil their obligation within 30 days of our request, the value added tax can be charged subsequently. Ownership of the object of purchase shall remain reserved until receipt of the confirmation of receipt or until payment of the subsequently invoiced turnover tax. The retention of title according to Article III of the included "Green Terms of Delivery" issued by the ZVEI as well as Clause 4 of these supplementary conditions shall not be affected by this.

4. Retention of title

Supplementary to Article III of the "Green Terms of Delivery" the following shall apply:

If external storage capacities are to be used for goods delivered under retention of title, this must be notified to the Supplier. The Customer shall ensure by individual agreement with the warehouse keeper that any liens on the goods owned by the Supplier do not come into existence. Upon delivery, the warehouse keeper shall be informed in writing that the goods in question are the property of the Supplier and shall only be stored with the Supplier on condition that a warehouse keeper's lien is avoided.

5. Shipping

The prices apply to delivery conditions ex works with acceptance of closed shipping cartons free of packaging costs. Opened packaging units cause a surcharge of 5.00,- Euro per packaging unit, regardless of the order amount. Orders for closed delivery within the Federal Republic of Germany with a net value of 800 euros or more shall be delivered free of charge. For small orders under 100.00,- Euro net order value we charge a processing surcharge of 25.00,- Euro net. At the request and expense of the Customer, the consignment shall be insured by the Supplier against breakage, transport and fire damage.

6. Returns

Goods can only be returned in exceptional cases and only after our approval. The Customer's statutory right of withdrawal remains unaffected by this. In the event of non-notification, returns will also not be accepted by our delivery warehouses and will be returned at the sender's expense. You can find our return conditions at www.kaiser-elektro.org/retouren.

7. Liability for defects

Articles VIII to XII of the "Green Terms of Delivery" issued by the ZVEI apply to our liability for material defects and defects of title.

8. Place of performance, choice of law and place of jurisdiction

1. The place of performance for our deliveries and any subsequent performance is Schalksmühle.
2. These Supplementary Terms and Conditions and the contractual relationship between us and the Customer shall be governed by the laws of the Federal Republic of Germany to the exclusion of international uniform law, in particular the UN Convention on Contracts for the International Sale of Goods.
3. If the Customer is a merchant within the meaning of the German Commercial Code, a legal entity under public law or a special fund under public law, the exclusive – also international - place of jurisdiction for all disputes arising directly or indirectly from the contractual relationship is our registered office in Schalksmühle. The same shall apply if the Customer is an entrepreneur within the meaning of Section 14 of the German Civil Code. However, we are also entitled in all cases to bring an action at the place of performance of the delivery obligation in accordance with these GT&Cs or a prior individual agreement or at the Customer's general place of jurisdiction. Overriding statutory provisions, in particular on exclusive competences, shall remain unaffected.

General notes

1. With the publication of this catalogue, all previous editions become invalid.
2. This edition contains only KAISER standard programmes. Special programmes and developments on request.
3. Further foreign language KAISER catalogues are available on request.
4. Technical advice provided by us is given to the best of our knowledge and is deemed to be non-binding. Installers of electrical installation systems remain responsible for selecting suitable installation boxes, their materials and for proper installation in terms of safety.

Last updated 02/2018

Errors and technical modifications excepted.

The current terms of delivery and payment terms can be found on our website at: www.kaiser-elektro.de

To ensure that you can rely on both our guaranteed product quality and our delivery promise, both us and our subsidiaries are members of many relevant associations and cooperations. With an international network of partnerships, we always know what the market demands.



The initiative "**Elektromarken. Starke Partner**" (**Electric brands. Strong partners**) of the 17 leading brand manufacturers brings together the reliable competence and proven quality of the German electrical industry. At the very least, this means an incomparable range of high-quality products and services for the electrical trade.
www.elektromarken.de



The initiative **ELEKTRO+** provides objective information for the planning and execution of electrical installations to principals and experts for new installations as well as modernisations.
www.elektro-plus.com



The **Export Initiative Energy Efficiency** was established by the Federal German Government. It supports German providers with exporting products and services in the field of energy efficiency.
www.efficiency-from-germany.info



The **ETIM** association develops and distributes a classification model for the electrical industry in collaboration with renowned enterprises.
www.etim.de



The **Gemeinsame Ausschuss Elektronik im Bauwesen** (Joint Committee for Electronics in Construction) supports the use of data processing in construction with respect to the common language of everyone involved in the construction process.
www.gaeb.de



VDE - these three letters stand for one of the major European associations for branches and professions in electrical engineering and information technology. An international expert platform for science, standardisation and product testing.
www.vde.com



The **VEG** is the professional association of electrical wholesalers in Germany. The purpose of the association according to its statutes is the protection, perception and promotion of the general idealistic and economic interests of its members.
www.veg.de



The **ZVEH** represents the economic and political interests of approximately 76,000 electrical and information technology companies at the national and international level.
www.zveh.de



ZVEI is one of the most important industrial associations in Germany. It represents the interests of a high-tech industry with a very wide and extremely dynamic product portfolio.
www.zvei.org

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We guarantee quality

Endorsements

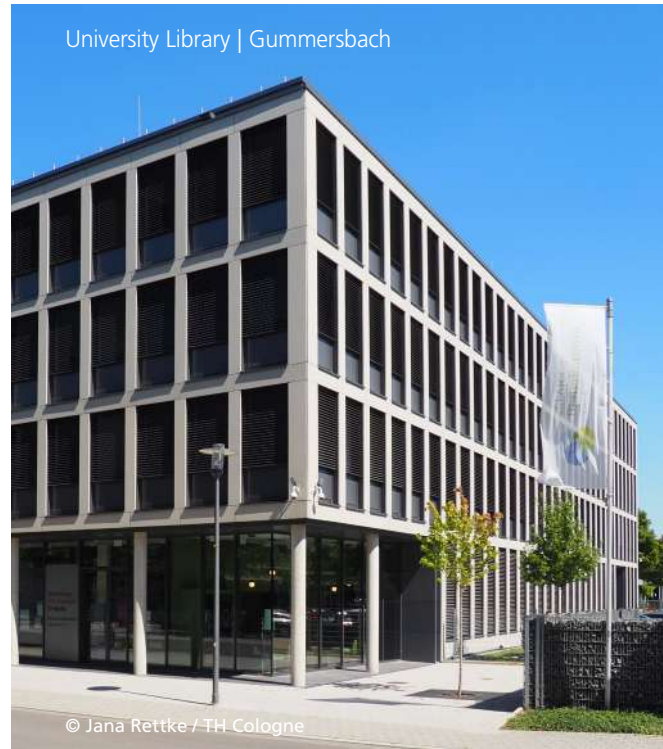
Confidence from experience.

KAISER installation systems provide you with a high degree of flexibility for planning creative, technical installations of any kind. KAISER product and system solutions are at home in all types of buildings; architects and planners rely on our product know-how, which is just as innovative, forward-looking and durable as the items in which they perform their function. These decades of experience, as well as the knowledge gained from discussions with users and fabricators, give you the flexibility you need every day for your planning and installation. We give you the security of working with quality products that are further developed in a future-oriented manner parallel to the increasing requirements of the markets and installation habits.

Tech Gate | Vienna, Austria



University Library | Gummersbach



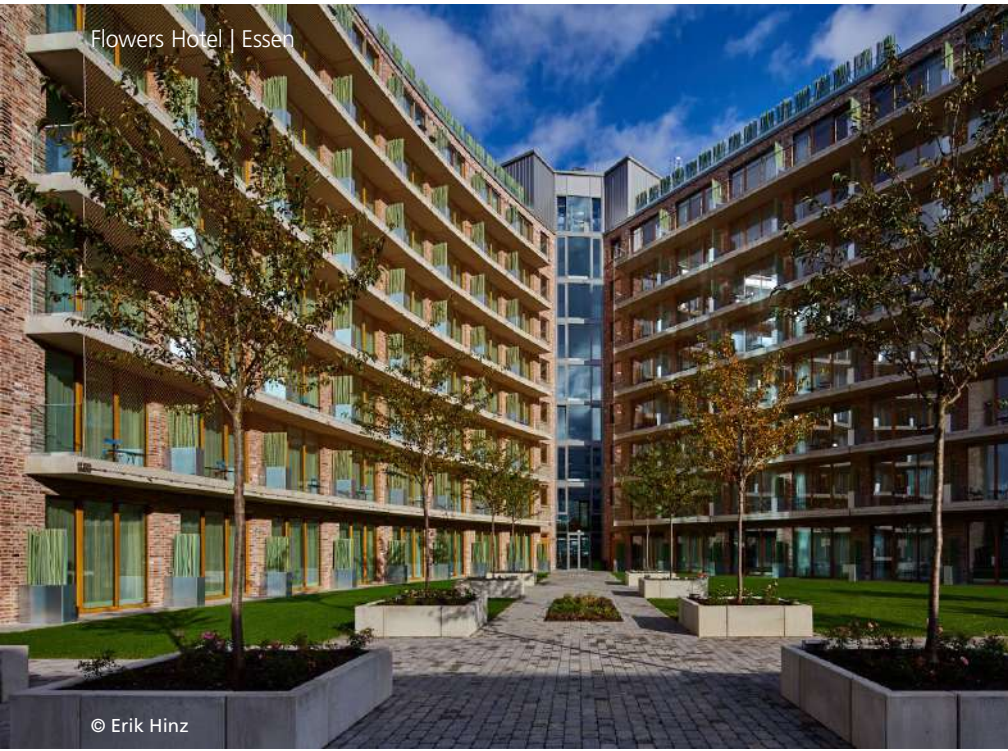
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KAISER is behind it!

KAISER has been developing and manufacturing high-quality electrical installation products for flush-mounting, cavity wall and concrete installations in Germany since 1904. Accordingly, many innovative ideas and reliable solutions from KAISER can also be found in important buildings. For example, in the "Tech Gate" office building in Vienna, in the Hardeck furniture store in Bochum, in the Constantin Quartier in Hanover, and in the modern and minimalist design hotel and apartment building Flowers Hotel in Essen. KAISER products can also be found in the new, modernly designed university library at the Gummersbach campus for Cologne University of Applied Sciences, as well as in the former administration building, which has been converted into an apartment hotel with student accommodation, and the Venloer 4711 housing complex in Cologne. Australians also appreciate KAISER quality, and are using the HWD B15 fire protection box, which is certified for shipbuilding, in the new yacht "Silver Loft".

Venlo 4711 | Cologne





More about our business areas:

- Energy efficiency
- Fire protection
- Concrete construction
- Sound insulation
- Radiation protection
- Construction
- Cable glands
- Pluggable installation
- Connectivity

at www.kaiser-elektro.de



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As an innovative manufacturer of products and system solutions for professional electrical installation, the KAISER GROUP is now one of the market leaders in Europe. With an international sales network and the subsidiaries AGRO in Switzerland, HELIA in Belgium and Attema in the Netherlands, we are always there for our customers. The close collaboration of the four companies generates considerable synergies from which our partners in the trade, commerce and industry benefit.

Shaping the future **together.**

The KAISER, AGRO, ATTEMA and HELIA brands consistently offer you installation solutions that meet the needs of the market, efficiently supporting you in your daily work. Through their continuous future-oriented product innovations, these four strong brands can always keep you supplied with state-of-the-art products – today and tomorrow.



KAISER headquarters
Schalksmühle, Germany

With a large network of distribution partners and representatives as well as our clearly structured warehouse logistics, we always guarantee the fastest availability of our products. With our personal advisory service, we always get quickly on site with you – no matter where your project is being built.



Across Europe. Close to you.

AGRO
Hunzenschwil, Switzerland



ATTEMA
Gorinchem, The Netherlands

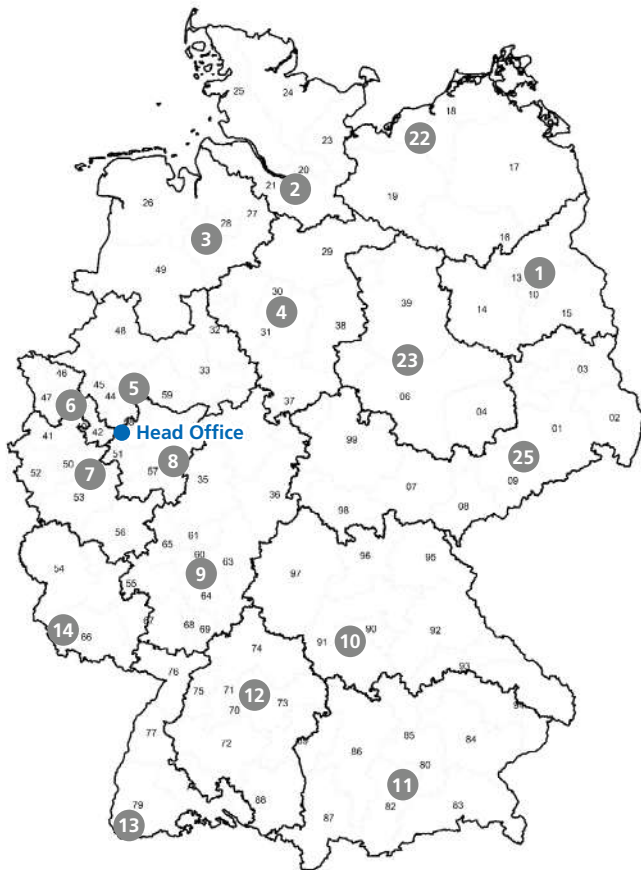


HELIA
Erembodegem, Belgium



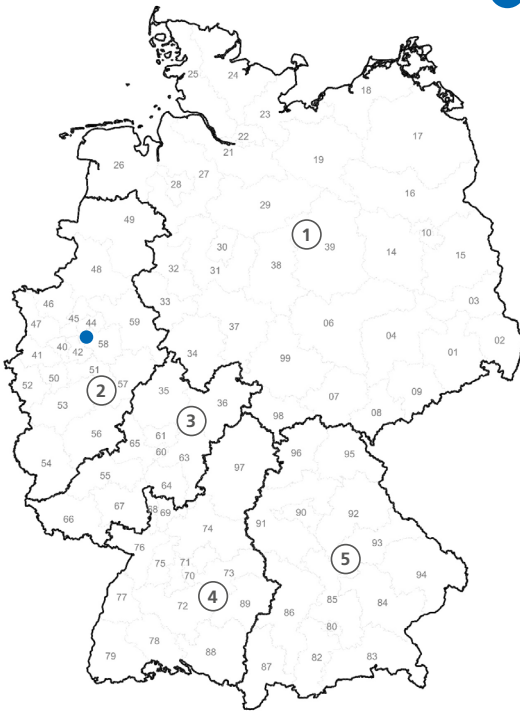
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Electrical installation agencies



- Headquarters**
KAISER GmbH & Co. KG
Ramsloh 4
58579 Schalksmühle
Phone: +49(0)2355/8090
Fax +49(0)2355/80921
www.kaiser-elektro.de
info@kaiser-elektro.de
- 1 Berlin, Brandenburg**
Reiner Brajeska GmbH
An den Dünen 3
16515 Oranienburg
Phone: +49 (0)3301 67170
Fax: +49 (0)3301 700325
info@brajeska.de
www.brajeska.de
- 2 Hamburg, Schleswig-Holstein**
Hans J. Möller
Inh. Andreas Möller
Wendenstrasse 195A
20537 Hamburg
Phone: +49 (0)40 / 2514061
Fax: +49 (0)40 / 2514614
info@hjmoeller.de
www.hjmoeller.de
- 3 Bremen, East Frisia, Osnabrück**
Steinbeck GmbH
Elektro-Industriervertretung
Carl-Benz-Straße 5
28816 Stuhr
Phone: +49 (0)421 / 874057
Fax: +49 (0)421 / 875737
info@steinbeck-online.de
www.steinbeck-online.de
- 4 Lower Saxony**
Detlef Sikora GmbH
Lägenfeldstraße 7
30952 Ronnenberg-Empelde
Phone: +49 (0)511 / 438 040
Fax: +49 (0)511 / 438 0449
hannover@sikora.de
www.sikora.de
- 5 Westfalia**
dolle & schardt GmbH
Elektro-System-Technik
Bunsenstrasse 10
42551 Velbert
Phone: +49 (0)2051 / 28060
Fax +49 (0)2051 / 280629
www.dolle-schardt.de
info@dolle-schardt.de
- 6 Essen, Lower Rhine region**
dolle & schardt GmbH
Elektro-System-Technik
Bunsenstrasse 10
42551 Velbert
Phone: +49 (0)2051 / 28060
Fax: +49 (0)2051 / 280629
www.dolle-schardt.de
info@dolle-schardt.de
- 7 North Rhine**
Brüning und Kahlen Industrievertretung GmbH
Methweg 12
50823 Cologne, Germany
Phone: +49 (0) 221 / 222 8810
Fax: +49 (0) 221 / 222 88150
info@bkiv.de
www.bkiv.de
- 8 Olpe / Südwestfalen**
Ochsenfeld Handelsagentur
Hagener Straße 6a
57399 Kirchhundem - W. E.
Phone: +49 (0)2764 / 215 690
Fax: +49 (0)2764 / 215 699
zentrale@ochsenfeld-ha.de
www.ochsenfeld-ha.de
- 9 Hessia, Palatinate, Nordbaden**
PLP Siegfried Twers
Vertriebs GmbH
Theodor-Heuss-Straße 32
61118 Bad Vilbel
Phone: +49 (0)6101 / 55960
Fax: +49 (0)6101 / 559655
info@plpteam.de
www.plpteam.de
- 10 North Bavaria**
Jacob Haag Nachf. oHG
Am Farrnbach 5
D-90556 Cadolzburg
Phone: +49 (0)9103 / 713 700
Fax: +49 (0)9103 / 916
info@haag-elektro.de
www.haag-elektro.de
- 11 South Bavaria**
Alfons Brummer & Co. GmbH
Felix-Wankel-Strasse 4
82152 Krailling
Phone: +49 (0)89 / 899 9680
Fax: +49 (0)89 / 899 96823
info@brummer.de
www.brummer.de
- 12 Württemberg**
Frank Bossert GmbH & Co. KG
Industriervertretungen e.Kfm
Hofener Weg 17
71686 Remseck/Stuttgart
Phone: +49 (0)7146 / 889 78260
Fax: +49 (0)7146 / 889 78266
info@bossert-weissinger.de
www.bossert-weissinger.de
- 13 Südbaden**
FRED ABEL GMBH
Vertretungen der Elektro-Industrie
Im Ebnet 1
79238 Ehrenkirchen
Phone: +49 (0)7633 / 95010
Fax: +49 (0)7633 / 950130
info@fredabel.de
www.fredabel.de
- 14 Saarland, Trier district, Kaiserslautern**
Albrecht WERNER GmbH
Elektrotechnik + Service
Am Felsbrunnen 5
66119 Saarbrücken
Phone: +49 (0)681 / 883 550
Fax: +49 (0)681 / 883 5555
info@werner-industriervertretung.de
www.werner-industriervertretung.de
- 15 North Rhine-Westphalia**
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- 24 North Rhine-Westphalia**
- 25 Saxony-Anhalt, North Thuringia**
Detlef Sikora GmbH
Gewerbegebiet Süd Nr. 2
39443 Staßfurt
Phone: +49 (0)39266 / 9310
Fax: +49 (0)39266 / 93115
stassfurt@sikora.de
www.sikora.de
- 26 North Rhine-Westphalia**
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- 98 North Rhine-Westphalia**
- 99 North Rhine-Westphalia**

Industry representatives



1 Main office
KAISER GmbH & Co. KG
Ramsloh 4
58579 Schalksmühle
Phone: +49(0)23 55 8090
Fax +49(0)23 55 80921
www.kaiser-elektro.de
kabelverschraubung@kaiser-elektro.de

4 Steute & Philippin
Ind.-Vertr. GmbH & Co. KG
Richard-Wagner-Str. 12
71277 Rutesheim
Phone: +49(0)71 52 354 1580
www.steute-philippin.de
info.philippin@steute.de

2 ASR Electronic
Wischemann & Müller GmbH
Hohkeppeler Str. 31
51491 Overath
Phone: +49(0)22 06 95 200
www.asrelectronic.de
asr@asrelectronic.de

5 Wolfgang Burgschmidt KG
Albrecht-Dürer-Str. 3A
90522 Oberasbach
Phone: +49(0)911 761 313
www.burgschmidt.de
info@burgschmidt.de

3 ZweiZETT-Technik
Schießgartenstr.16
63303 Dreieich
Phone: +49(0)61 03 807 290
www.zweizett-technik.de
info@zweizett-technik.de

KAISER service numbers

Technical advice
electrical installation
Phone: +49(0)23 55 809-61
technik@kaiser-elektro.de

Technical advice
cable glands
Phone: +49(0)23 55 809-119
kabelverschraubung@kaiser-elektro.de

Technical advice
connectivity
Phone: +49(0)23 55 809-567
hotline@kaiser-connectivity.de

Sales Germany electrical installations

1 22 23 25 Phone: +49(0)23 55 809 191
Fax: +49(0)23 55 80921

8 9 14 Phone: +49(0)23 55 809 121
Fax: +49(0)23 55 80921

2 3 4 Phone: +49(0)23 55 80977
Fax: +49(0)23 55 80942

5 6 7 Phone: +49(0)23 55 809 446
Fax: +49(0)23 55 80921

10 12 13 Phone: +49(0)23 55 809 118
Fax: +49(0)23 55 80921

11 Phone: +49(0)23 55 80980
Fax: +49(0)23 55 80921

Sales International

Phone: +49(0)23 55 809-88 / -115 / -105
Fax: +49(0)23 55 809-40

Sales industry

Phone: +49(0)23 55 809-254 / -320
Fax: +49(0)23 55 809-21

Sales connectivity

Phone: +49(0)23 55 809 497
Fax: +49(0)23 55 809-21



GERMANY

KAISER GmbH & Co. KG
Ramsloh 4
58579 Schalksmühle
GERMANY
Phone: +49 (0) 23 55 8090
Fax: +49 (0) 23 55 80921
www.kaiser-elektro.de
info@kaiser-elektro.de

SWITZERLAND

AGRO AG
Member of KAISER GROUP
Korbacherweg 7
5502 Hunzenschwil
SWITZERLAND
Phone: +41 (0) 62 889 4747
Fax: +41 (0) 62 889 4750
www.agro.ch
info@agro.ch

THE NETHERLANDS

ATTEMA B.V.
Member of KAISER GROUP
Schelluinsestraat 1
4203 NJ Gorinchem
THE NETHERLANDS
Phone: +31 (0) 183 650 650
Fax: +31 (0) 183 650 750
www.attema.com
info@attema.nl

BELGIUM

HELIA – PLASTIC COLOUR NV
Member of KAISER GROUP
Industrielaan 10
9320 Ereembodegem
BELGIUM
Phone: +32(0) 53 85 0520
Fax: +32(0) 53 85 0530
www.helia-electro.be
info@helia-electro.be

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All further information on products, system solutions and communication media can be found on our website at www.kaiser-elektro.de

For any additional questions or information, please do not hesitate to contact our technical support team who will be happy to assist you: **+49(0)23580961** · technik@kaiser-elektro.de

KAISER GmbH & Co. KG

Ramsloh 4 · 58579 Schalksmuehle
GERMANY

Phone: +49(0)23 55/809-0 · Fax: +49(0)23 55/809-21
www.kaiser-elektro.de · info@kaiser-elektro.de





Installation housing ThermoX® LED

ThermoX® LED installation housing for the airtight installation of rigid and pivoting LED built-in luminaires in different ceiling constructions. The housing protects the surrounding material (vapour barrier foil, insulation etc.) against the high operating temperatures and the LED luminaire themselves from contamination, and creates an airtight separation. In combination with the thermal separation between luminaire and operating device, in this way a maximum operating lifetime is obtained.

- For installation in insulated hollow ceilings
- Retrofitting from underneath
- Toolless installation of the housing
- Guarantees airtight installation
- Rear surface structure ensures optimal heat management
- Permanent and secure retention of the luminaire in the housing

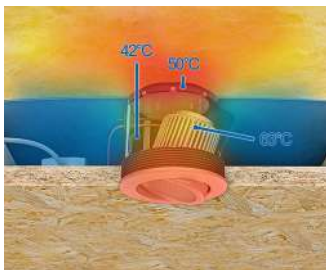


Examples of use

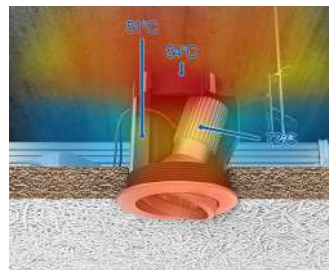
ThermoX® LED installation housings can be installed in slab and tiled ceilings and in seamless sub-ceiling constructions made of plasterboard, mineral fibreboard, Mdf board and plywood with wooden frame and exposed insulation.



Temperature profiles ThermoX® LED (room temperature 25°C)



ThermoX® LED 9320-10
LED 6.6 W



ThermoX® LED 9320-11
LED 9 W



ThermoX® LED 9320-20
LED 8 W



ThermoX® LED 9320-21
LED 10 W

Air-tight installation and fire-preventive protection

The ThermoX® LED housing protects the surrounding material against the extremely high temperatures that may occur during the operation of LED lamps. The housing must be installed without any surrounding insulating material coating. This protective measure can be taken both for new constructions and for retrofitting. The LED housing allows for air-tight installation because it does not destroy the vapour barrier foil that contributes to the air-tight building shell. Because of their air tightness, LED housings are also suitable for use in all suspended ceiling systems where uncontrolled air exchange is to be avoided (e.g. climate or cooling ceilings) and dustproof installation needs to be achieved (e.g. prevention of dust particles due to material removal).

Installation



Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



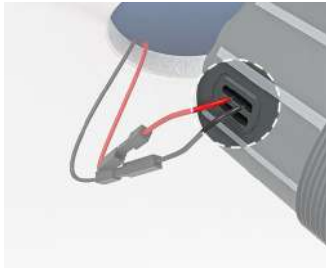
To expand existing installation openings from Ø 68 mm to Ø 74 mm using centering insert (Art. No. 1083-99).



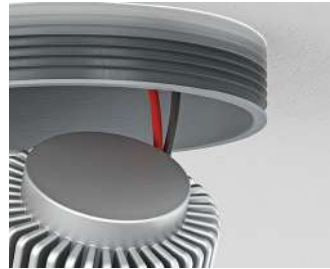
Installation of the operating device (driver).



Feed connector from below through the entry of the LED installation housing.



Connection of the plug-in contacts. Feed the sealing element round the cable and insert into the opening.



Installation of the ThermoX® LED housing in the installation opening.



Inserting the spotlight into the housing.



Rear surface structure minimises pressure on the vapour barrier and ensures optimal heat dissipation.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

System ThermoX® LED for insulated hollow ceilings

for built-in LED luminaires

Processing instructions



Guaranteed air tightness even when the fixing springs are expanded.



Expanding pockets ensure secure fit for the built-in luminaire.

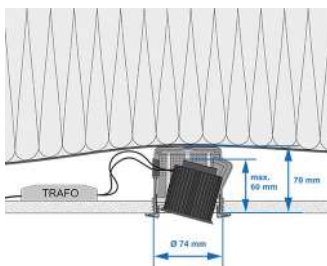


Swivel pocket permits targeted alignment of the built-in luminaire

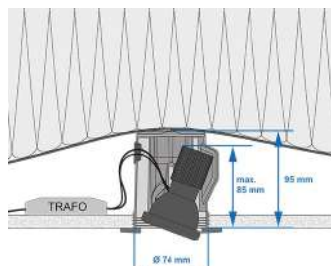


For ceiling-flush installation of ThermoX® LED (DA 86), use bi-metal cutter Ø 86 mm (Art. No. 1087-86).

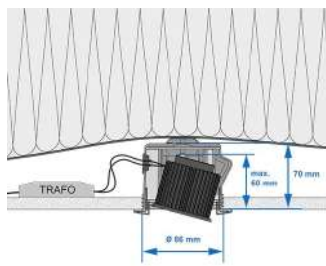
Installation notes



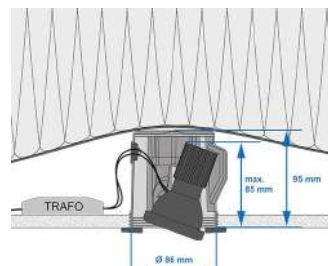
Art. No. 9320-10 ThermoX® LED, Ø 74 x 75 mm



Art. No. 9320-11 ThermoX® LED, Ø 74 x 95 mm



Art. No. 9320-20 ThermoX® LED, Ø 86 x 75 mm



Art. No. 9320-10 ThermoX® LED, Ø 86 x 95 mm

Technical processing instructions/standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials

ThermoX® LED housing

- for rigid and pivoting LED luminaires
- circumferential airtight sealing lip
- Swivel trough for alignment of the luminaire



3D animation



Depth	75 mm	95 mm	75 mm	95 mm
installation from front, cut hole Ø	74 mm	74 mm	86 mm	86 mm
Cable entries	1	3	3	3
max. installation depth for the LED luminaires	60 mm	85 mm	60 mm	85 mm
max. lamp output	6,6 Watt	9 Watt	8 Watt	10 Watt
max. ceiling exit (DA) Ø	70 mm	70 mm	81 mm	81 mm
Art.-No.	9320-10	9320-11	9320-20	9320-21
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Air-tightness certificate

Guaranteed airtight housing for the energy-efficient electrical installation of luminaires. The appropriate certificate can be obtained from us or downloaded from our website.



EnoX® installation housing

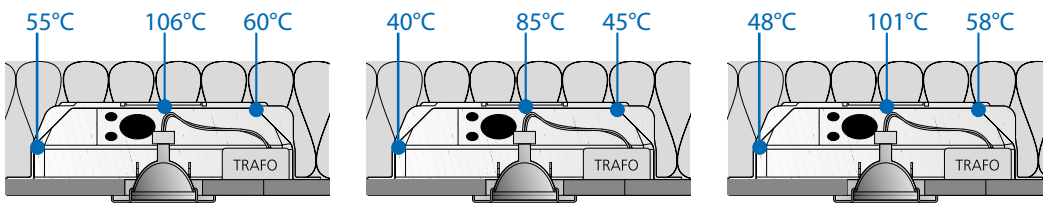
EnoX® housing for luminaires and other devices in ceilings and walls which are produced in a lightweight design with an air-tight building shell. Variable installation space when there is insufficient room to install electrics in the insulation level.

- Air-tight installation in line with GEG energy-saving ordinance.
- No additional installation level is necessary
- For ceilings and walls in renovated and new buildings
- Tool-free cable and conduit entry
- Thermally-protected installation space 300 x 200 x 55 mm
- ECON® technology for air-tight and toolless insertion
- FX technology for fast cavity wall installation



Installation technology for low-voltage luminaires

Temperature profile for room temperature 23°C



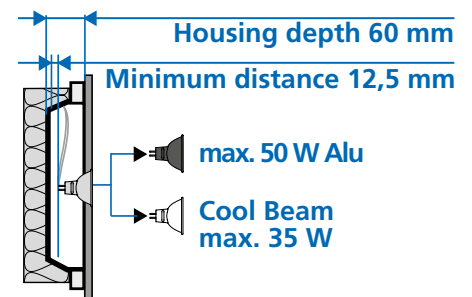
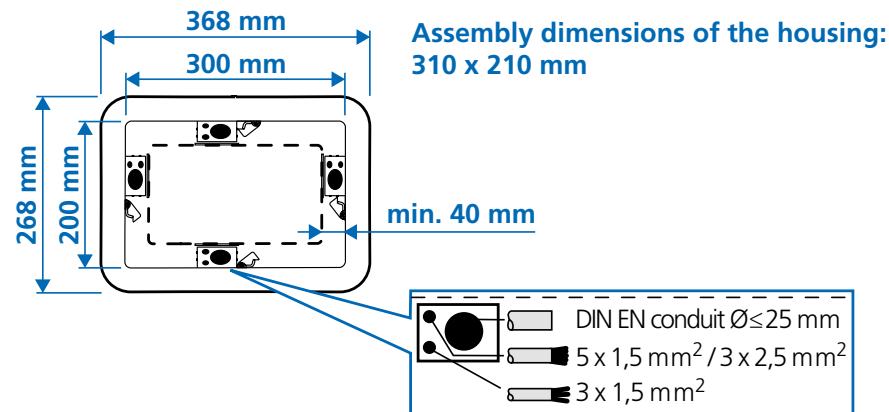
Low-voltage 35 W cool beam

Low-voltage 35 W Alu

Low-voltage 50 W Alu



Example of installation



Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- use of electrical safety transformers up to 105 VA
- max. 35 W Cool-Beam, 50 W aluminium reflector, 6.6 W LED luminaires

Mounting instructions

The EnoX® housing is installed within or on the rafters using the timber or metal joist. In accordance with the cavity wall box principle, the housing is fixed to the joist or to an OSB panel using the FX strap fastening system. The cut-off moisture barrier is made air-tight again using sealing adhesive foil or the KAISER sealing foam frame. Before attaching the boarding, completely remove the moisture barrier foil from the housing interior. Together with the moisture barrier, the EnoX® housing now forms one unit to ensure air-tight installation in accordance with the GEG energy-saving ordinance.



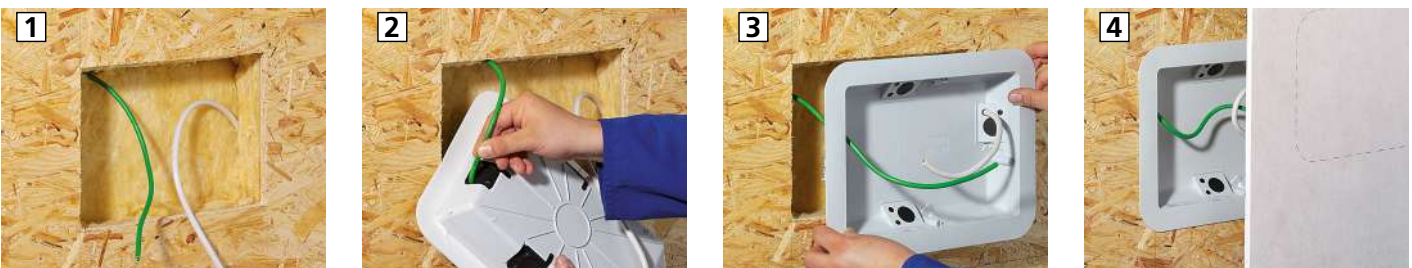
Timber joist on the rafter



Timber joist inside the rafter



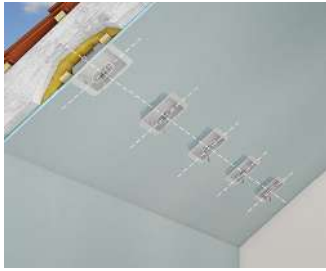
Installation using OSB panel.



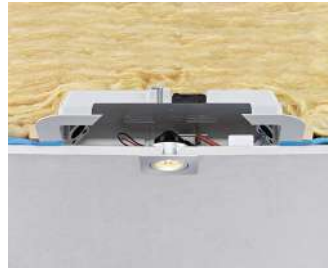
Making the installation opening for luminaires



Installation technology



In sloping roofs, for example, EnoX® acts as an air seal and creates a flexible space for the electrical installation in the insulation base.



Application example: LED luminaires

EnoX® - luminaire and loudspeaker housing

- for installing luminaires, loudspeakers, displays and much more
- Minimum distance inside: min. 40 mm all round
- integrated stress relief (retention force) in accordance with DIN VDE 0606 / DIN EN 60670-1
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- for installation devices up to LxW 120 x 220 mm or Ø 120 mm
- Heat distortion resistant to 220°C
- with 4 screws (FX)



Length x Width x Depth	368 x 268 x 60 mm
Length on the inside	300 mm
Width on the inside	200 mm
Depth on the inside	57 mm
Conduit entries for DIN EN conduits up to Ø 25 mm	4
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	4
Cable entries 3 x 1.5 mm ²	4
Art.-No.	9350-21
Inner packaging/shipping	- / 10

EnoX® sealing foam frame

- for fixing onto the EnoX® housing
- for sealing the moisture barrier to the housing



Art.-No.	9350-99
Inner packaging/shipping	- / 10



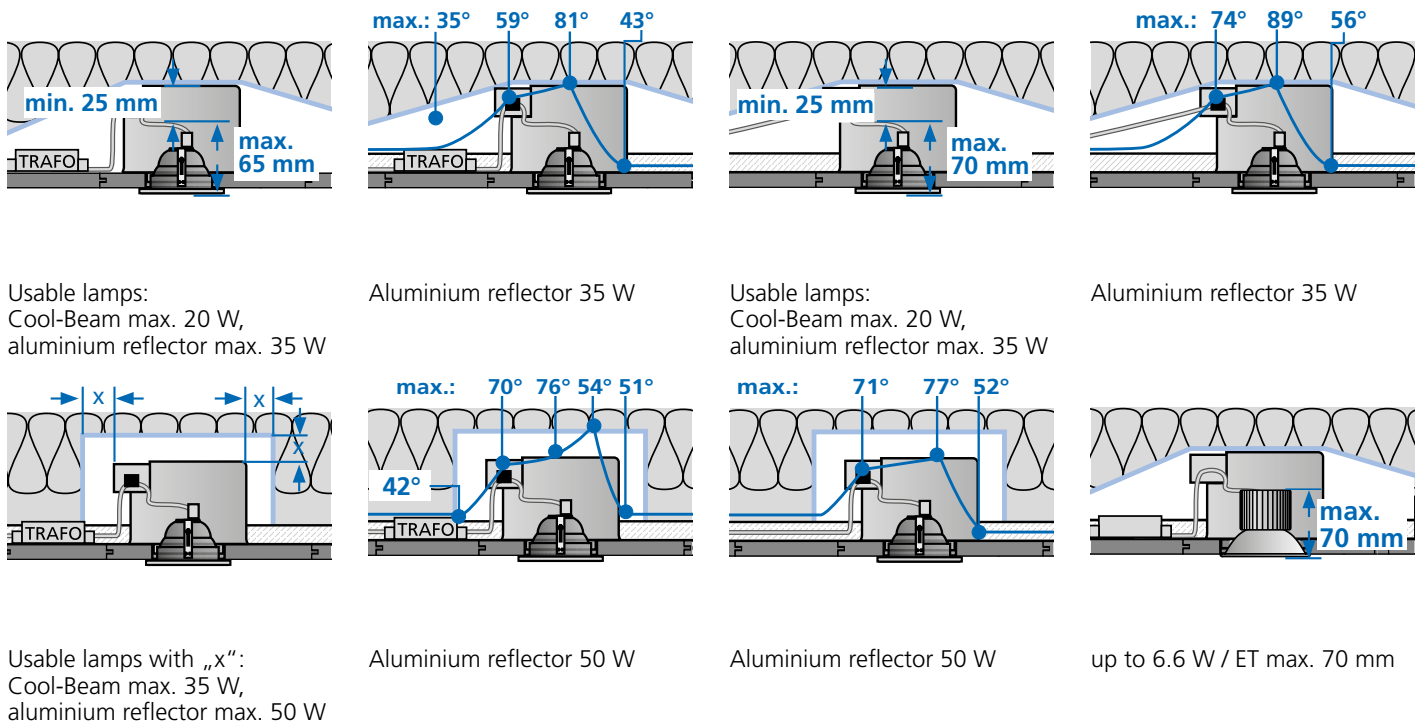
ThermoX® installation housing

ThermoX® installation housing for installing halogen and pivoting recessed LED luminaires in various ceiling structures. The housing protects the surrounding material (moisture barrier foil, insulation etc.) from the lamp's extreme operating temperatures and creates an air-tight closure.

- Installation housing for halogen luminaires (low voltage and high voltage)
- Fire-preventive and air-tight
- For insulated hollow ceilings
- Two different front part types
- Integrated transformer closing cap
- Ceiling exits (CE) up to Ø 86 mm
- Installation from either above or below



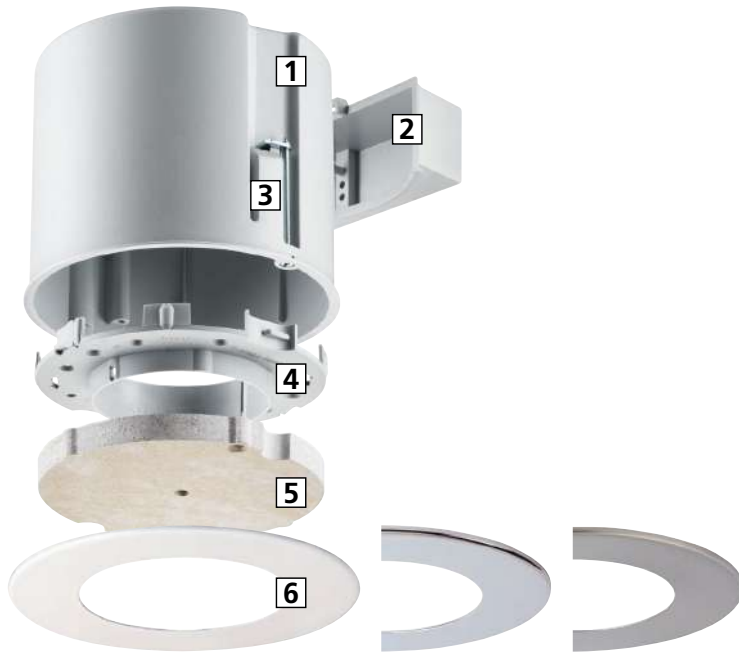
Installation technology for low-voltage and high-voltage luminaires



Technical processing instructions / standards

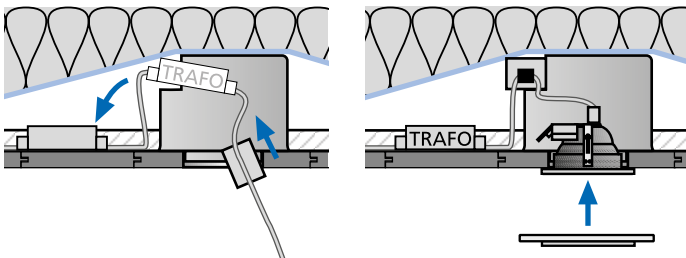
- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- use heat-resistant cable for the SEC side
- electronic safety transformers up to 105 VA can be used. Dimensions max. 123 x 37 x 26 mm. A rounded shape is advantageous for installation and removal (e.g. PC mouse shape)
- Use heat-resistant terminals (e.g. T100)
- Distance of holder and cable to the housing min. 10 mm

System components



1 Housing | **2** Closing cap of the operating device opening | **3** Quick fastening FX for cavity wall installation | **4** Front part with bayonet fitting (both sides can be used) | **5** Mineral fibre front part (for variable installation openings up to Ø 86) | **6** Decorative covering Ø 125 (white, similar to RAL 9016, chrome-plated, matt nickel or gold-plated)

Transformer and luminaire installation



Push the transformer through...
insert the closing cap...

...install luminaires and fit
decorative covering if used.
Finished.

Air-tight installation and fire-preventive protection

ThermoX® protects the surrounding material against the extreme temperatures that can occur with halogen luminaires or LED lamps (over 200 °C). DO NOT install the housing if it is wrapped in insulating material! The distance from the holder and cable to the housing must be at least 25 mm. This protective measure can be taken both in new buildings and later in existing ones for refurbishing work. ThermoX® makes possible air-tight installation as it does not destroy the moisture barrier foil that contributes to the air-tight building shell. Thanks to its air tightness, the ThermoX® housing is also suitable for all suspended ceiling systems where an uncontrolled exchange of air is to be avoided (e.g. air-conditioning or cooling ceilings) and dust-tight installation must be achieved (e.g. prevention of dirt particles caused by material removal).

ThermoX® system for insulated hollow ceilings

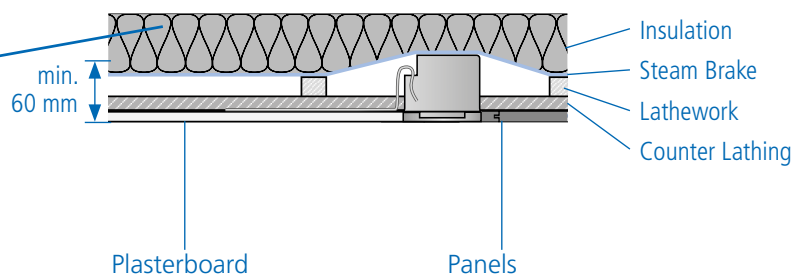
for halogen and LED built-in luminaires

Mounting option



ThermoX® - installation instruction

ThermoX® installation housings can be fitted in slab or tiled ceilings, as well as in seamless sub-ceiling structures made of plasterboard, mineral fibreboard, MDF and plywood with cross-battening and a layer of insulation above. Installation can be carried out from above or below (e.g. retro-fitting).



Processing instructions



Use the universal opening cutter to make the precise and air-tight opening for the cable entry in the transformer flap.



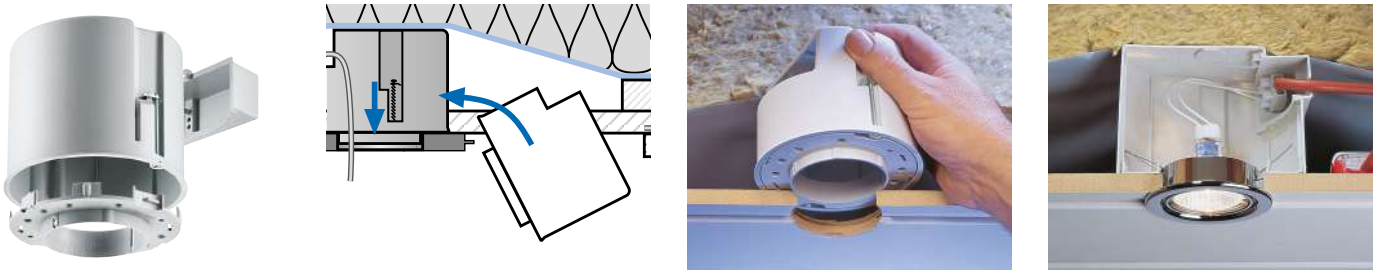
The terminal is fitted firmly in the transformer closing flap so it is protected against the heat from the lamp.



For transformer maintenance, the transformer cap can be removed with a screwdriver or long-nosed pliers even after installation.

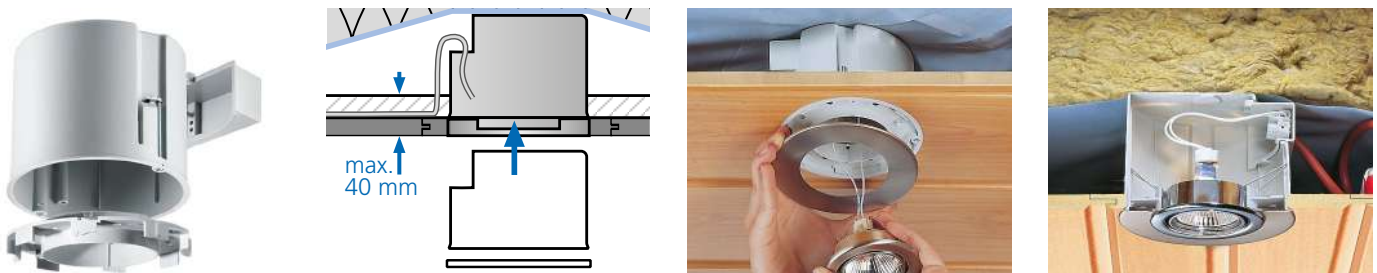
Slab ceiling / Installation from above: during ceiling installation

Cut the installation opening and insert the housing from above. The shape of the front part ensures a secure and precise fit in the boarding. After the luminaire has been installed, the opening is completely concealed.



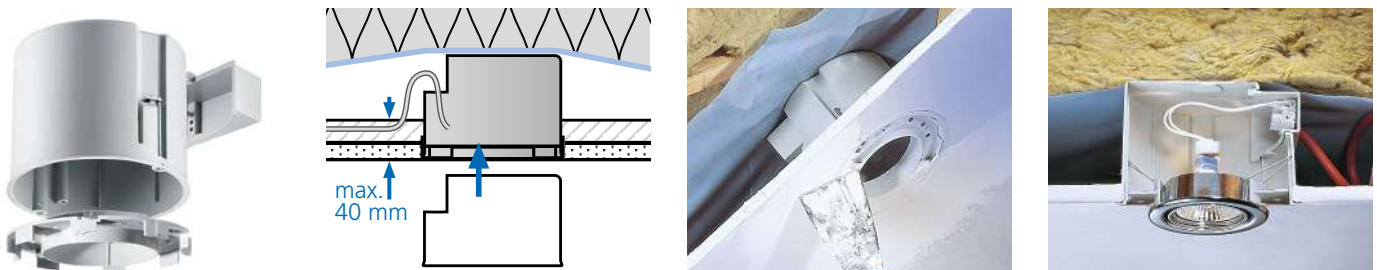
Slab ceilings / Installation from below: retrofitting

Cut an installation opening, insert the housing from below and fix in place with a fast screw attachment. The housing is attractively concealed by the KAISER decorative covering and the luminaire.



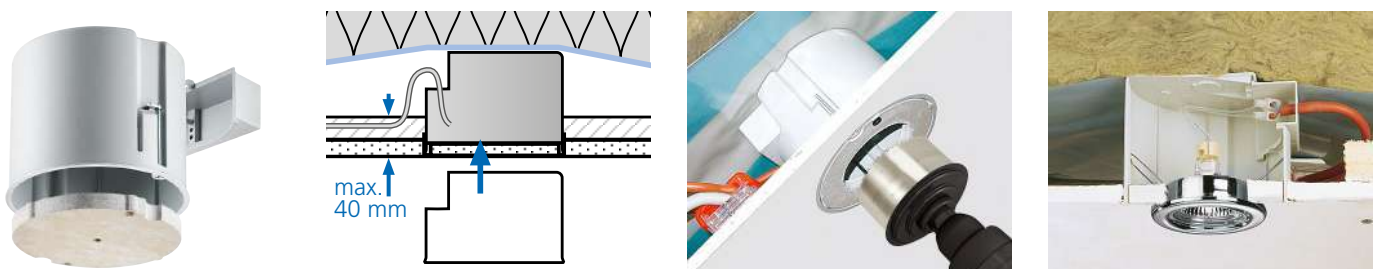
Plasterboard / Installation from below: retrofitting / smoothing

Before installation, check the required installation depth! Cut the installation opening, chamfer the bottom edge of the installation opening. Insert the housing from below and fix in place with a fast screw attachment.



Plasterboard / Installation from below: retrofitting with mineral fibreboard

Cut and chamfer the installation opening. Insert the housing from below and fix in place with a fast screw attachment. Mark opening for luminaires and cut. Smooth the joint or simply wallpaper the surface.



FLUSH-MOUNTING

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ThermoX® system for insulated hollow ceilings

for halogen and LED built-in luminaires

ThermoX® housing for low and high-voltage luminaires

- for halogen luminaires and pivoting LED luminaires
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- Heat distortion resistant to 220°C
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp wattage for HV luminaires max. 35 W with AL reflector (socket GU 10)
- max. LED lamp output 6.6 W
- Front can be used on both sides



Depth	90 mm	90 mm	90 mm
For panel thickness	7 - 40 mm	7 - 40 mm	7 - 40 mm
Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
installation from front, cut hole Ø	120 mm	120 mm	120 mm
installation from rear, cut hole Ø	74 mm	79 mm	86 mm
Art.-No.	9300-01	9300-02	9300-03
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal housing with mineral fibreboard

- saves time - no plastering; close joint gap if necessary
- ceiling exit (CE) up to Ø 86 mm possible
- Heat distortion resistant to 220°C
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp power for HV luminaires max. 35 W with AL reflector (base GU 10) / 20 W Cool-Beam
- max. LED lamp output 6.6 W



Depth	90 mm
For panel thickness	7 - 40 mm
Ceiling exit (CE) Ø	0-86 mm
installation from front, cut hole Ø	120 mm
Art.-No.	9300-22
Inner packaging/shipping	- / 10

ThermoX® individual front rings

- for retrofitting or as spare part



Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
Art.-No.	9300-41	9300-42	9300-43
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal front ring

- for retrofitting or as spare part
- Universal front ring



Ceiling exit (CE) Ø	0-86 mm
Art.-No.	9300-93
Inner packaging/shipping	- / 10

ThermoX® Decorative coverings

- metal with galvanised or powder coating
- only for interiors
- minimum diameter of the luminaire 79 mm with ceiling exit Ø 68 and 75 mm
- Minimum diameter of luminaire covering 86 mm with ceiling exit Ø 82 mm



Outer diameter	Ceiling exit (CE) Ø	Colour	Art.-No.	Inner packaging/shipping
125 mm	68 + 75 mm	pure white - RAL 9010	9301-01	1 / 10
125 mm	68 + 75 mm	chrome	9301-02	1 / 10
125 mm	68 + 75 mm	matt nickel	9301-03	1 / 10
125 mm	82 mm	pure white - RAL 9010	9301-11	1 / 10
125 mm	82 mm	chrome	9301-12	1 / 10
125 mm	82 mm	matt nickel	9301-13	1 / 10



Spacer

for luminaires in insulated ceilings



NEW

Spacer

The spacer for the installation of swivelling built-in halogen and LED luminaires in various ceiling constructions. The housing ensures the necessary distance between the luminaire and the surrounding material. In this way, materials such as the moisture barrier and insulation are efficiently protected against the luminaire's high operating temperatures. This protective measure can be provided for both new buildings and retrofitting work. The housing is suitable for installation diameters between 68 and 80 mm, and can be adapted for use with different installation heights from 40 to 100 mm. After installation, the spacer stands securely on the boarding. This means that the installation diameter is fully retained and guarantees a secure fit.

- Installation in \varnothing 68 – 80 mm openings
- Maximum flexibility: Installation height from 100 – 40 mm
- Independent of boarding material and thickness
- Secure fit by means of installation on the ceiling
- Use with all standard LV / HV / LED lamps



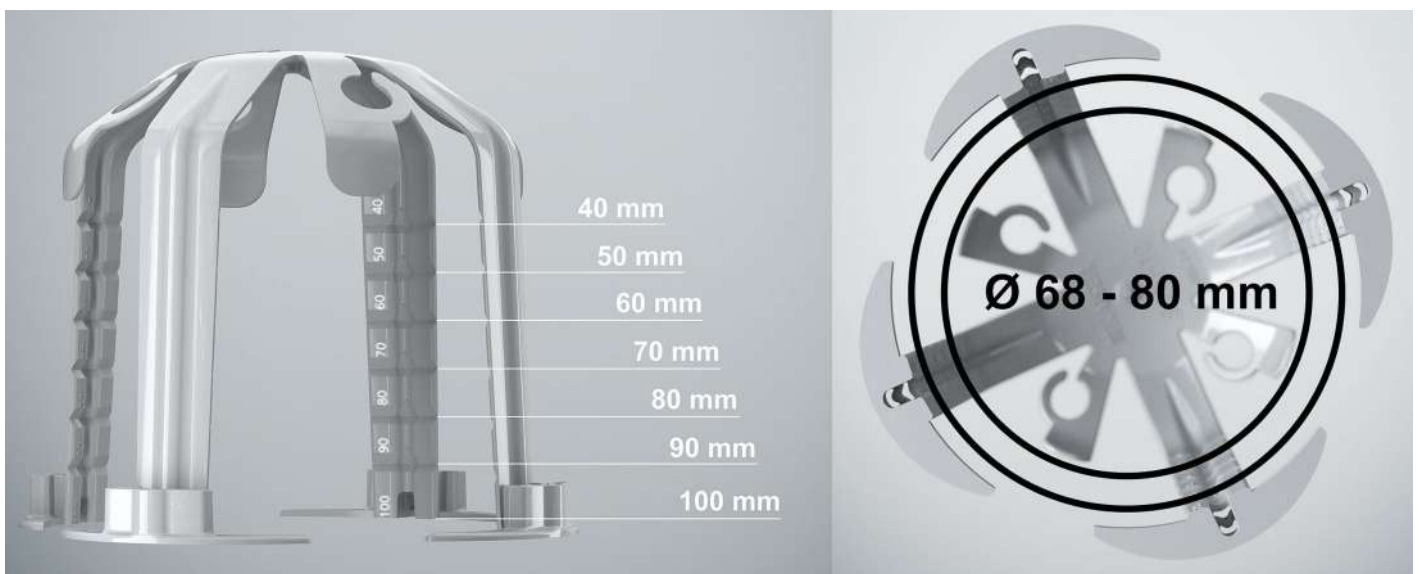
**ONE
FOR ALL**

Examples of use

The spacer for installing luminaires in insulated hollow ceilings can be used in panelled and coffered ceilings as well as in jointless false ceiling constructions made of plasterboard, mineral fibre boards, Mdf and chipboard.



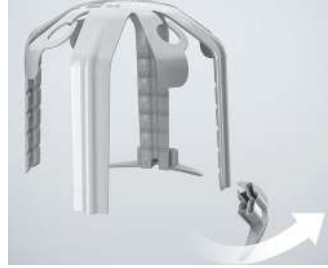
Spacer installation height from 100 to 40 mm and installation diameter from 68 to 80 mm



Mounting



Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



Toolless breaking-off of the feet.



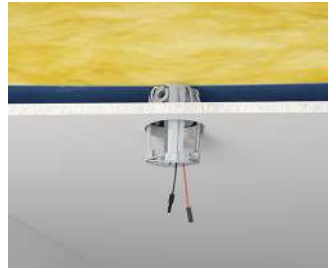
Setting the required height of 100 – 40 mm by breaking off the feet.



Pushing-on of the legs.



Four loops for secure cable routing.



Installation in \varnothing 68 – 80 mm openings.



Installation of the luminaire.



Housing stands securely on the ceiling boarding and creates the necessary spacing to the insulation.

Spacer

- for installation in insulated hollow ceilings
- retrofitting from below
- toolless mounting
- For \varnothing 68 – 80 mm installation openings
- height adjustable from 100 – 40 mm



NEW

INNOVATION



3D animation

Depth	100 - 40 mm
installation from front, cut hole \varnothing	68 - 80 mm
max. installation depth for the LED luminaires	95 mm
max. ceiling exit (DA) \varnothing	80 mm
Cable entries max.	4
Art.-No.	9310-10
Inner packaging/shipping	- / 10

Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- When using the spacer and adjusting the installation height, the installation/application instructions of the luminaire used must be observed.



Installation housing for concrete construction

- Free space for luminaires and loudspeakers in concrete ceilings and walls
- Modular and flexible for all installation diameters and installation depths
- For on-site mixed concrete and precast concrete
- Optional for facing concrete
- Toolless combination entry for M20/M25 conduits – can be reclosed
- Maximum contact surface to the concrete ensures optimal thermal management
- Shape-retaining, loadable – and easily fitted
- All housings available with or without tunnel
- Housings and front parts are force-latching, firmly latched together and can later be aligned as required
- Signal cover of 68 mm, 75 mm and 80 mm diameter to protect the installation openings from plaster materials.














Installation housings for walls and ceilings

- Free space for luminaires and loudspeakers
- Prevents latent fire hazard
- Ensures long term retention of air tightness as per DIN 18015-5 or DIN 4102-7
- Systems for new construction and renovation



Fire-protection housings

- Safe, certified fire-protection housings for built-in luminaires and loudspeakers in fire protection ceilings
- Integrated fire-retardant coating ensures that the housing has the same fire-resistance class as the ceiling (F30 (EI30)).
- They prevent fire and flue gases from spreading, thus securing escape routes in buildings
- Suitable for fire resistance from above and from below

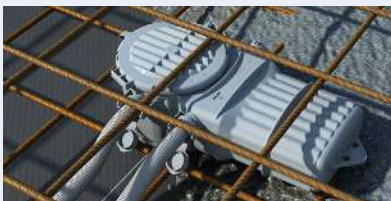
Concrete construction					
	HaloX® 100  pg. 238	HaloX® 100 Multi-conduit entry  pg. 238	HaloX® 180  pg. 238	HaloX® 250  pg. 238	
Installation dimensions for luminaires and loudspeakers					
max. luminaire/loudspeaker installation diameter	100 mm	100 mm	180 mm	250 mm	
max. luminaire/loudspeaker installation depth	110 mm	110 mm	110 mm	110 mm	
Insertion in facing concrete	•	•	•	•	
For universal installation dimensions	•	•	•	•	
Conduit entry up to M40	-	•	-	-	
Installation variant					
Ceiling installation	•	•	•	•	
Wall installation	•	•	•	•	
Concreting method					
On-site mixed concrete	pg. 240	pg. 240	pg. 240	pg. 240	
Precast concrete	-	-	pg. 258	pg. 258	
Walls and ceilings					
	ThermoX® LED for rigid and swivelling built-in LED luminaires  pg. 264	ThermoX® for halogen spotlights and LED luminaires  pg. 270	Spacers for luminaires, loudspeakers, presence detectors, etc.  pg. 276	EnoX® for halogen spotlights, LED luminaires and displays  pg. 267	ThermoX® Iso + installation housings for LED luminaires up to 8 Watt  pg. 64
Product details					
Installation below air-tight level	•	•	•	•	-
Installation inside air-tight level	•	•	-	•	-
Installation in the insulated level	-	-	-	-	•
Housing height	70/95 mm	90 mm	40-100 mm	60 mm	100-160 mm
Luminaire/loudspeaker installation diameters	70/81 mm	max. 86 mm	68-80 mm	max. 120 mm	max. 86 mm
max. luminaire/loudspeaker installation depth	60/85 mm	65/70 mm	95 mm	57 mm	70-130 mm
Installation variants					
retrofitting	•	•	•	-	-
Wall installation	-	-	-	•	-
Ceiling installation	•	•	•	•	•
Fire protection					
	FlamoX® – for luminaires and loudspeakers  pg. 315		 pg. 315		
Installation dimensions for luminaires and loudspeakers					
max. luminaire/loudspeaker installation diameter	100 mm		180 mm		
For universal installation dimensions	•		•		
max. luminaire/loudspeaker installation depth	100 mm		150 mm		
Installation variants					
retrofitting	•		•		
in independent EI30/F30 sub-ceilings	•		•		
Installation without additional suspension	•		•		
Installation without additional fire protection materials or sealing compounds	•		•		



HaloX®

Free space for planning, installation and ambience

One system for all eventualities



HaloX® for on-site mixed concrete

The modular housing system for ceilings and walls is available in 3 different housing sizes with fixed or variable installation diameters of up to 250 mm, also available for facing concrete requirements.

pg. 240



HaloX® for precast concrete

The housing system for ceilings and walls is available in 2 different housing sizes with fixed or variable installation diameters up to 250 mm (up to 210 mm with tolerance compensation).

pg. 258



HaloX® for retrofitting

HaloX® for the retrofitting of installation housings in slab ceilings and solid ceilings. After creating a drilling hole, the housings can be extended according to the ceiling thickness.

pg. 255

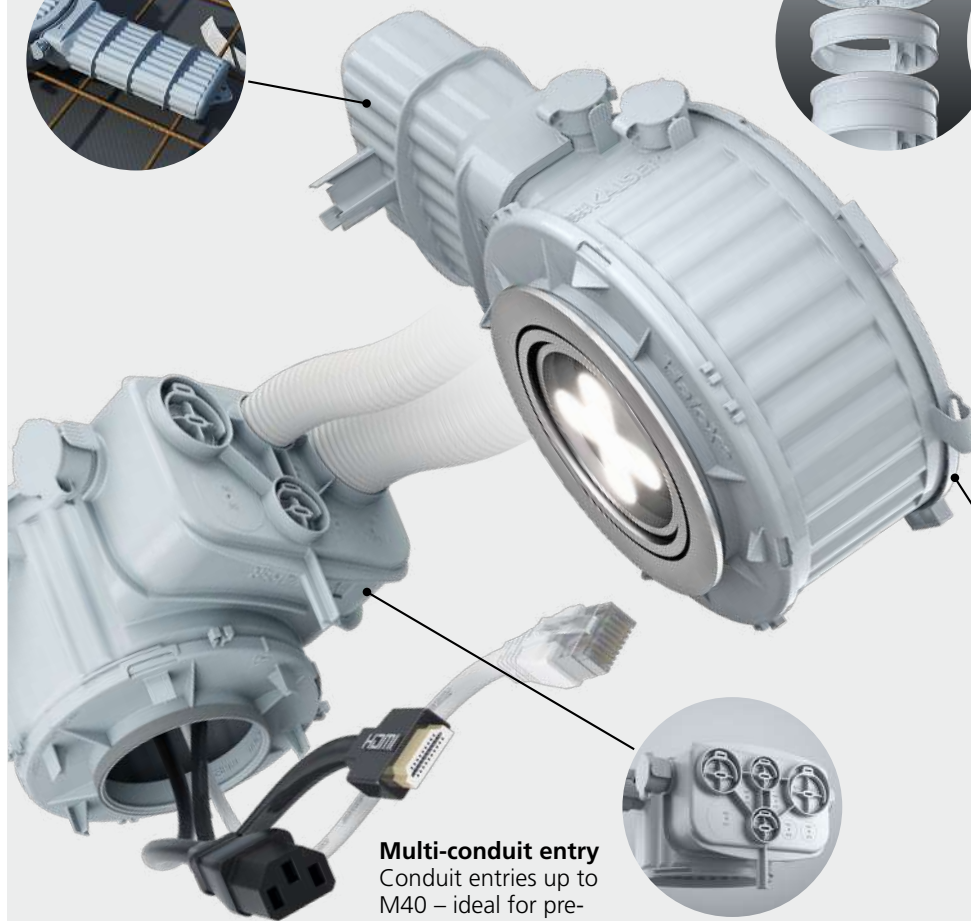
A system for all eventualities – for processing on-site mixed concrete, the front parts can be fixed to the working formwork with nails. Prefix® mounting sets are available for fixing to the opposing formwork. In precast concrete, the housings can be installed with adhesive or magnetic attachment.



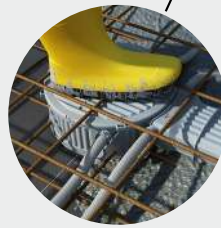
Combination entry for conduits M20/M25 – toolless opening technology with safe conduit retention and depth stop, without the need to shorten the conduits on the inside. Reusable in case of installation changes or incorrect assignments.



Pressure-resistant tunnel to accommodate operating devices. Minimal effect on the statics – no cuts to the reinforcement required in the tunnel area.

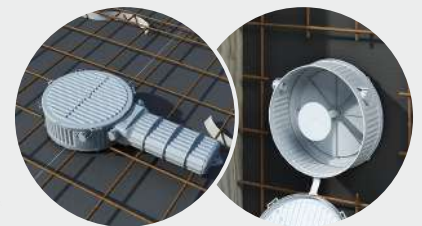


Multi-conduit entry
Conduit entries up to M40 – ideal for pre-assembled cables.

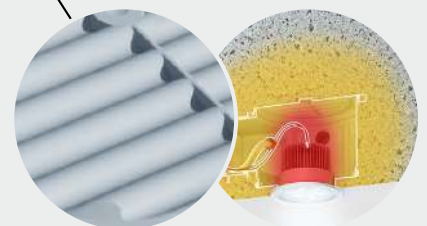


Shape-retaining and resilient. Compact housing with stabilizing wave profile provides the necessary stability during the concreting process – even under extreme loads.

Continuous housing system – modular, flexible for luminaires and loudspeakers at all heights and with mounting diameters up to 250 mm, also for facing concrete requirements.



For walls and ceilings



Wave-shaped surface profile ensures maximum housing surface for optimum heat dissipation via the concrete.

FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE



Installation housing ThermoX® LED

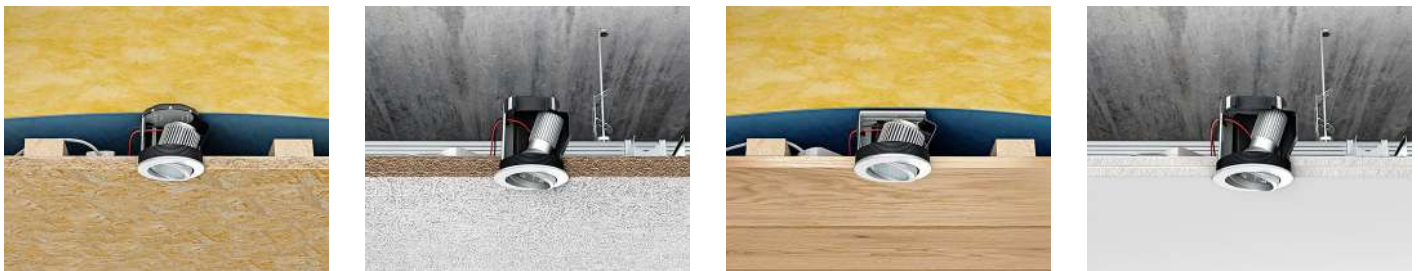
ThermoX® LED installation housing for the airtight installation of rigid and pivoting LED built-in luminaires in different ceiling constructions. The housing protects the surrounding material (vapour barrier foil, insulation etc.) against the high operating temperatures and the LED luminaires themselves from contamination, and creates an airtight separation. In combination with the thermal separation between luminaire and operating device, in this way a maximum operating lifetime is obtained.

- For installation in insulated hollow ceilings
- Retrofitting from underneath
- Toolless installation of the housing
- Guarantees airtight installation
- Rear surface structure ensures optimal heat management
- Permanent and secure retention of the luminaire in the housing

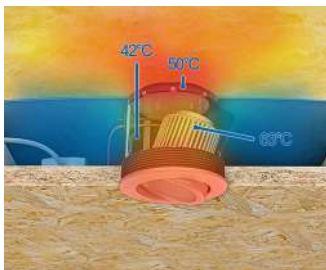


Examples of use

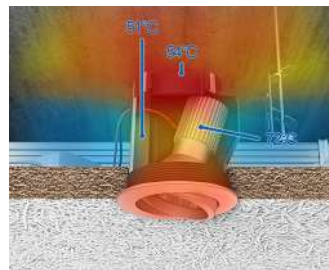
ThermoX® LED installation housings can be installed in slab and tiled ceilings and in seamless sub-ceiling constructions made of plasterboard, mineral fibreboard, MfF board and plywood with wooden frame and exposed insulation.



Temperature profiles ThermoX® LED (room temperature 25°C)



ThermoX® LED 9320-10
LED 6.6 W



ThermoX® LED 9320-11
LED 9 W



ThermoX® LED 9320-20
LED 8 W



ThermoX® LED 9320-21
LED 10 W

Air-tight installation and fire-preventive protection

The ThermoX® LED housing protects the surrounding material against the extremely high temperatures that may occur during the operation of LED lamps. The housing must be installed without any surrounding insulating material coating. This protective measure can be taken both for new constructions and for retrofitting. The LED housing allows for air-tight installation because it does not destroy the vapour barrier foil that contributes to the air-tight building shell. Because of their air tightness, LED housings are also suitable for use in all suspended ceiling systems where uncontrolled air exchange is to be avoided (e.g. climate or cooling ceilings) and dustproof installation needs to be achieved (e.g. prevention of dust particles due to material removal).

Installation



Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



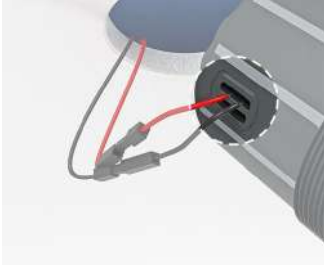
To expand existing installation openings from Ø 68 mm to Ø 74 mm using centering insert (Art. No. 1083-99).



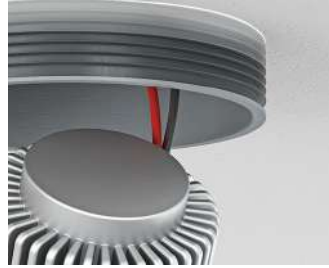
Installation of the operating device (driver).



Feed connector from below through the entry of the LED installation housing.



Connection of the plug-in contacts. Feed the sealing element round the cable and insert into the opening.



Installation of the ThermoX® LED housing in the installation opening.



Inserting the spotlight into the housing.



Rear surface structure minimises pressure on the vapour barrier and ensures optimal heat dissipation.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

System ThermoX® LED for insulated hollow ceilings

for built-in LED luminaires

Processing instructions



Guaranteed air tightness even when the fixing springs are expanded.



Expanding pockets ensure secure fit for the built-in luminaire.

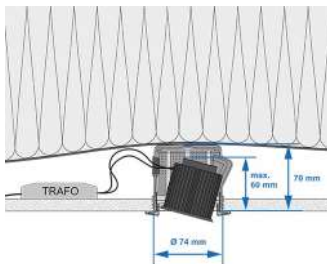


Swivel pocket permits targeted alignment of the built-in luminaire

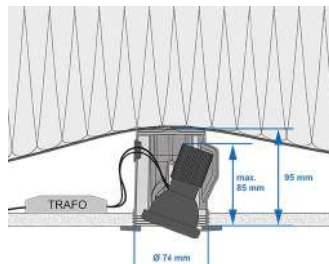


For ceiling-flush installation of ThermoX® LED (DA 86), use bi-metal cutter Ø 86 mm (Art. No. 1087-86).

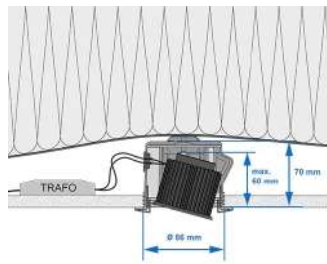
Installation notes



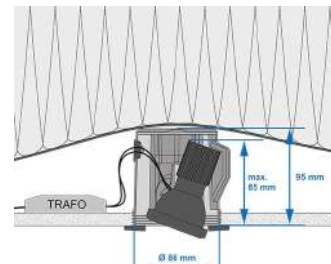
Art. No. 9320-10 ThermoX® LED, Ø 74 x 75 mm



Art. No. 9320-11 ThermoX® LED, Ø 74 x 95 mm



Art. No. 9320-20 ThermoX® LED, Ø 86 x 75 mm



Art. No. 9320-10 ThermoX® LED, Ø 86 x 95 mm

Technical processing instructions/standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials

ThermoX® LED housing

- for rigid and pivoting LED luminaires
- circumferential airtight sealing lip
- Swivel trough for alignment of the luminaire



3D animation



Depth	75 mm	95 mm	75 mm	95 mm
installation from front, cut hole Ø	74 mm	74 mm	86 mm	86 mm
Cable entries	1	3	3	3
max. installation depth for the LED luminaires	60 mm	85 mm	60 mm	85 mm
max. lamp output	6,6 Watt	9 Watt	8 Watt	10 Watt
max. ceiling exit (DA) Ø	70 mm	70 mm	81 mm	81 mm
Art.-No.	9320-10	9320-11	9320-20	9320-21
Inner packaging/shipping	- / 10	- / 10	- / 10	- / 10

Air-tightness certificate

Guaranteed airtight housing for the energy-efficient electrical installation of luminaires. The appropriate certificate can be obtained from us or downloaded from our website.



EnoX® installation housing

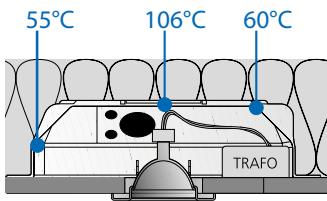
EnoX® housing for luminaires and other devices in ceilings and walls which are produced in a lightweight design with an air-tight building shell. Variable installation space when there is insufficient room to install electrics in the insulation level.

- Air-tight installation in line with GEG energy-saving ordinance.
- No additional installation level is necessary
- For ceilings and walls in renovated and new buildings
- Tool-free cable and conduit entry
- Thermally-protected installation space 300 x 200 x 55 mm
- ECON® technology for air-tight and toolless insertion
- FX technology for fast cavity wall installation

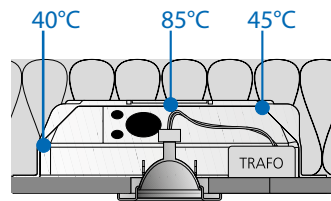


Installation technology for low-voltage luminaires

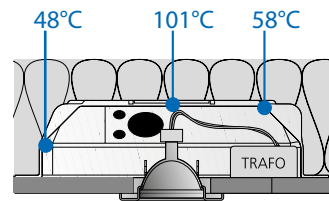
Temperature profile for room temperature 23°C



Low-voltage 35 W cool beam



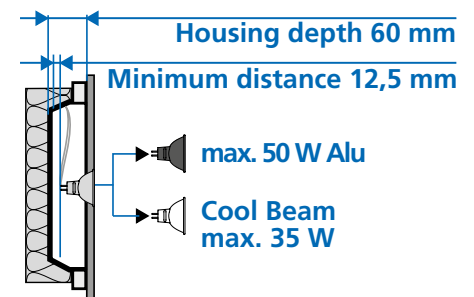
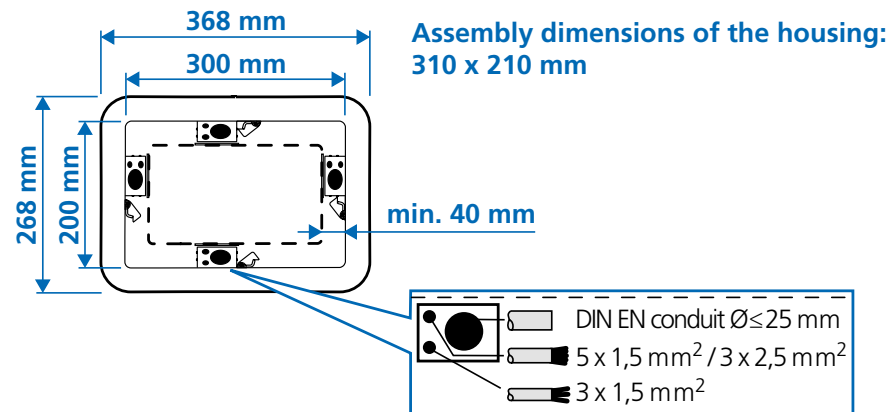
Low-voltage 35 W Alu



Low-voltage 50 W Alu



Example of installation



Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- use of electrical safety transformers up to 105 VA
- max. 35 W Cool-Beam, 50 W aluminium reflector, 6.6 W LED luminaires

System EnoX® for insulated hollow ceilings and cavity walls

Mounting instructions

The EnoX® housing is installed within or on the rafters using the timber or metal joist. In accordance with the cavity wall box principle, the housing is fixed to the joist or to an OSB panel using the FX strap fastening system. The cut-off moisture barrier is made air-tight again using sealing adhesive foil or the KAISER sealing foam frame. Before attaching the boarding, completely remove the moisture barrier foil from the housing interior. Together with the moisture barrier, the EnoX® housing now forms one unit to ensure air-tight installation in accordance with the GEG energy-saving ordinance.



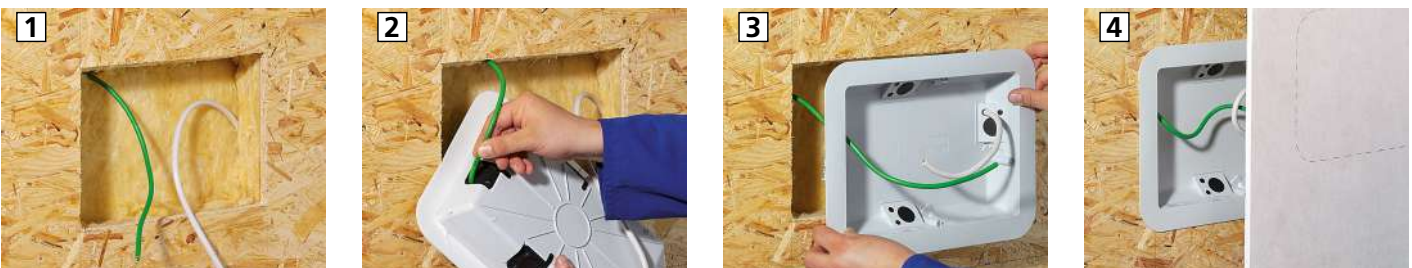
Timber joist on the rafter



Timber joist inside the rafter



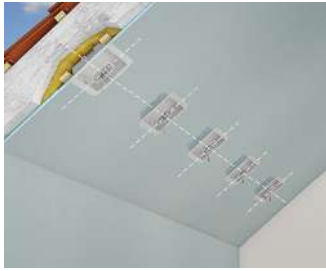
Installation using OSB panel.



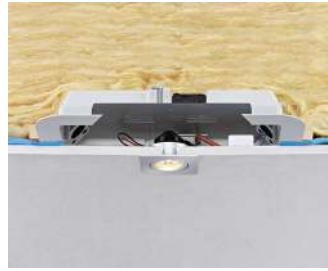
Making the installation opening for luminaires



Installation technology



In sloping roofs, for example, EnoX® acts as an air seal and creates a flexible space for the electrical installation in the insulation base.



Application example: LED luminaires

EnoX® - luminaire and loudspeaker housing

- for installing luminaires, loudspeakers, displays and much more
- Minimum distance inside: min. 40 mm all round
- integrated stress relief (retention force) in accordance with DIN VDE 0606 / DIN EN 60670-1
- only for insulation material with heat resistance > 250 °C
- use only tested heat-resistant cables (N2 GMH 2G) and temperature-resistant terminals (e.g. T100)
- for installation devices up to LxW 120 x 220 mm or Ø 120 mm
- Heat distortion resistant to 220°C
- with 4 screws (FX)



Length x Width x Depth	368 x 268 x 60 mm
Length on the inside	300 mm
Width on the inside	200 mm
Depth on the inside	57 mm
Conduit entries for DIN EN conduits up to Ø 25 mm	4
Cable entries 3 x 2.5 mm ² or 5 x 1.5 mm ²	4
Cable entries 3 x 1.5 mm ²	4
Art.-No.	9350-21
Inner packaging/shipping	- / 10

EnoX® sealing foam frame

- for fixing onto the EnoX® housing
- for sealing the moisture barrier to the housing



Art.-No.	9350-99
Inner packaging/shipping	- / 10



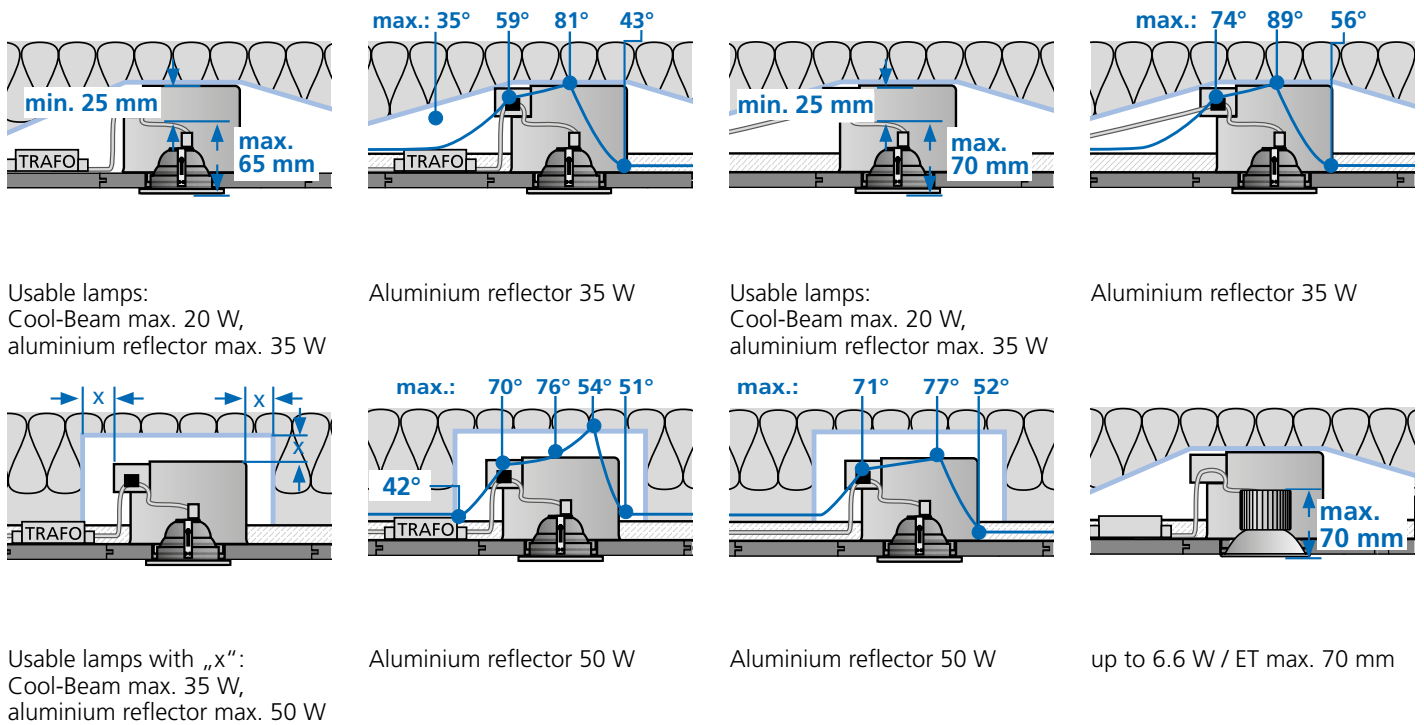
ThermoX® installation housing

ThermoX® installation housing for installing halogen and pivoting recessed LED luminaires in various ceiling structures. The housing protects the surrounding material (moisture barrier foil, insulation etc.) from the lamp's extreme operating temperatures and creates an air-tight closure.

- Installation housing for halogen luminaires (low voltage and high voltage)
- Fire-preventive and air-tight
- For insulated hollow ceilings
- Two different front part types
- Integrated transformer closing cap
- Ceiling exits (CE) up to Ø 86 mm
- Installation from either above or below



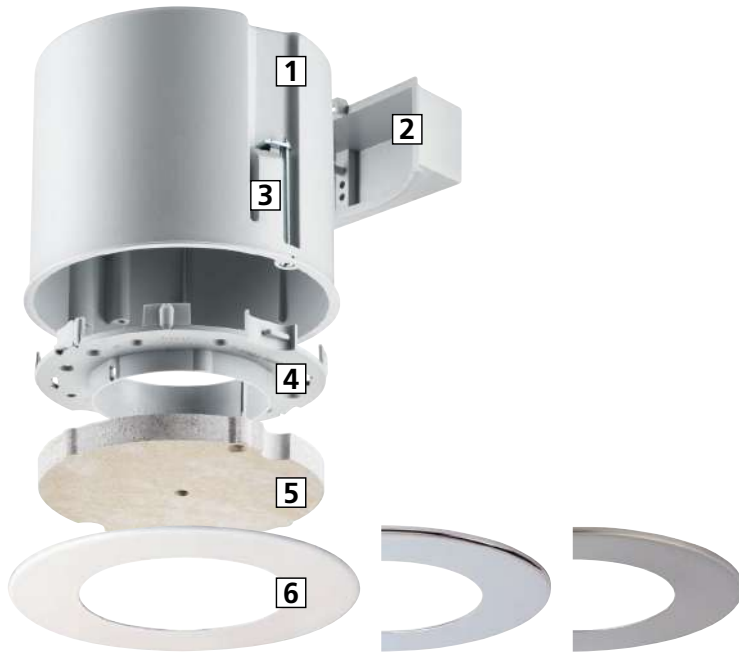
Installation technology for low-voltage and high-voltage luminaires



Technical processing instructions / standards

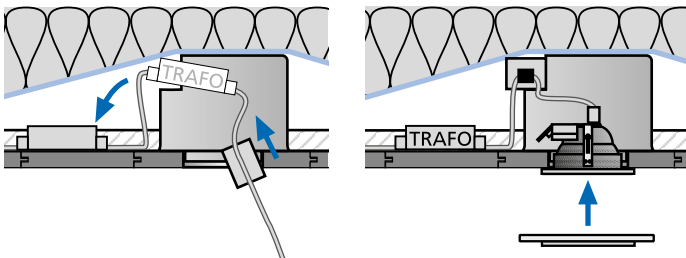
- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- use heat-resistant cable for the SEC side
- electronic safety transformers up to 105 VA can be used. Dimensions max. 123 x 37 x 26 mm. A rounded shape is advantageous for installation and removal (e.g. PC mouse shape)
- Use heat-resistant terminals (e.g. T100)
- Distance of holder and cable to the housing min. 10 mm

System components



1 Housing | **2** Closing cap of the operating device opening | **3** Quick fastening FX for cavity wall installation | **4** Front part with bayonet fitting (both sides can be used) | **5** Mineral fibre front part (for variable installation openings up to Ø 86) | **6** Decorative covering Ø 125 (white, similar to RAL 9016, chrome-plated, matt nickel or gold-plated)

Transformer and luminaire installation



Push the transformer through...
insert the closing cap...

...install luminaires and fit
decorative covering if used.
Finished.

Air-tight installation and fire-preventive protection

ThermoX[®] protects the surrounding material against the extreme temperatures that can occur with halogen luminaires or LED lamps (over 200 °C). DO NOT install the housing if it is wrapped in insulating material! The distance from the holder and cable to the housing must be at least 25 mm. This protective measure can be taken both in new buildings and later in existing ones for refurbishing work. ThermoX[®] makes possible air-tight installation as it does not destroy the moisture barrier foil that contributes to the air-tight building shell. Thanks to its air tightness, the ThermoX[®] housing is also suitable for all suspended ceiling systems where an uncontrolled exchange of air is to be avoided (e.g. air-conditioning or cooling ceilings) and dust-tight installation must be achieved (e.g. prevention of dirt particles caused by material removal).

ThermoX® system for insulated hollow ceilings

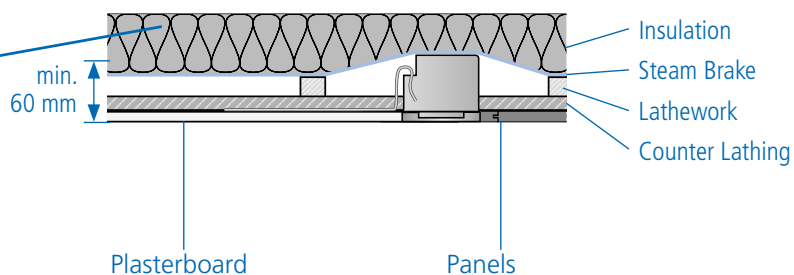
for halogen and LED built-in luminaires

Mounting option



ThermoX® - installation instruction

ThermoX® installation housings can be fitted in slab or tiled ceilings, as well as in seamless sub-ceiling structures made of plasterboard, mineral fibreboard, MDF and plywood with cross-battening and a layer of insulation above. Installation can be carried out from above or below (e.g. retro-fitting).



Processing instructions



Use the universal opening cutter to make the precise and air-tight opening for the cable entry in the transformer flap.



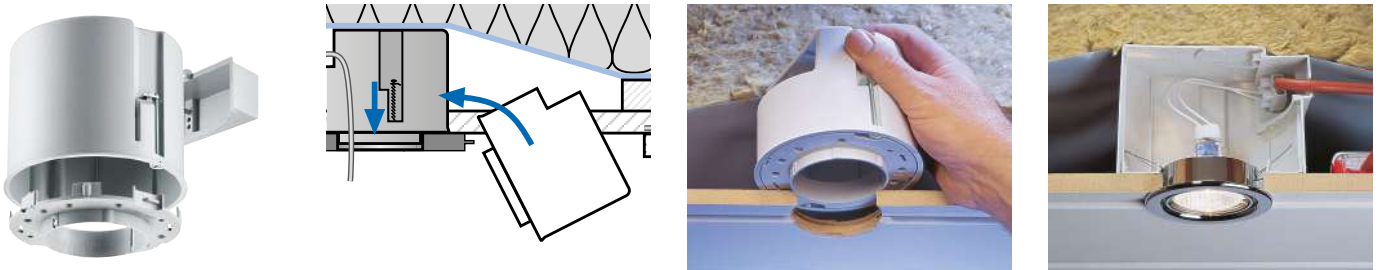
The terminal is fitted firmly in the transformer closing flap so it is protected against the heat from the lamp.



For transformer maintenance, the transformer cap can be removed with a screwdriver or long-nosed pliers even after installation.

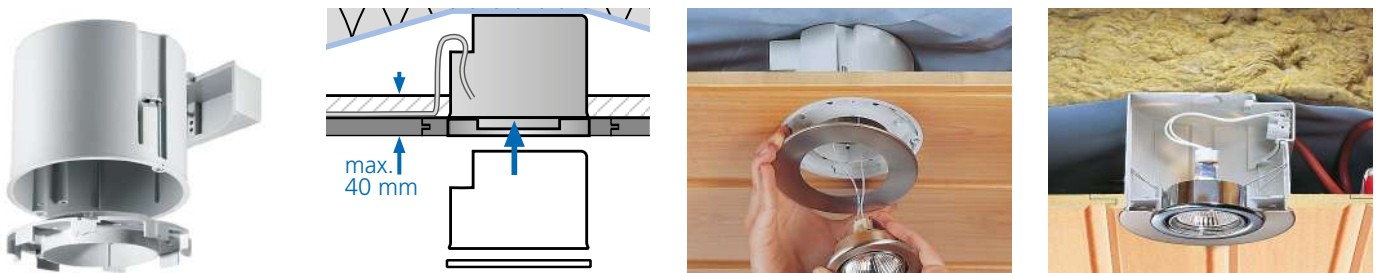
Slab ceiling / Installation from above: during ceiling installation

Cut the installation opening and insert the housing from above. The shape of the front part ensures a secure and precise fit in the boarding. After the luminaire has been installed, the opening is completely concealed.



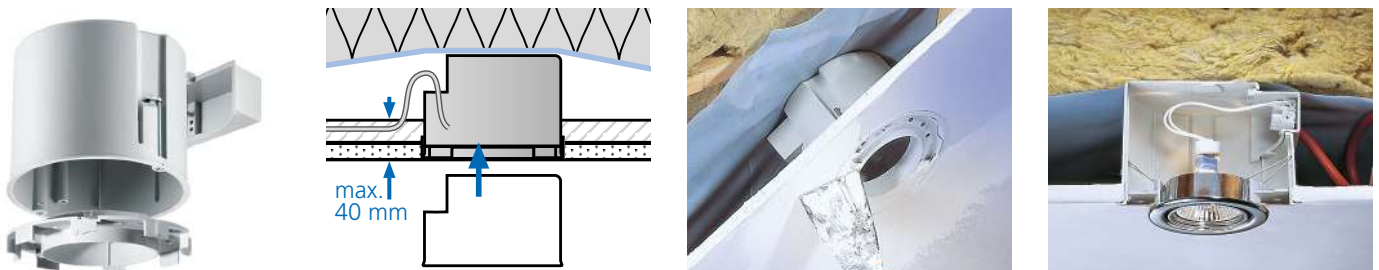
Slab ceilings / Installation from below: retrofitting

Cut an installation opening, insert the housing from below and fix in place with a fast screw attachment. The housing is attractively concealed by the KAISER decorative covering and the luminaire.



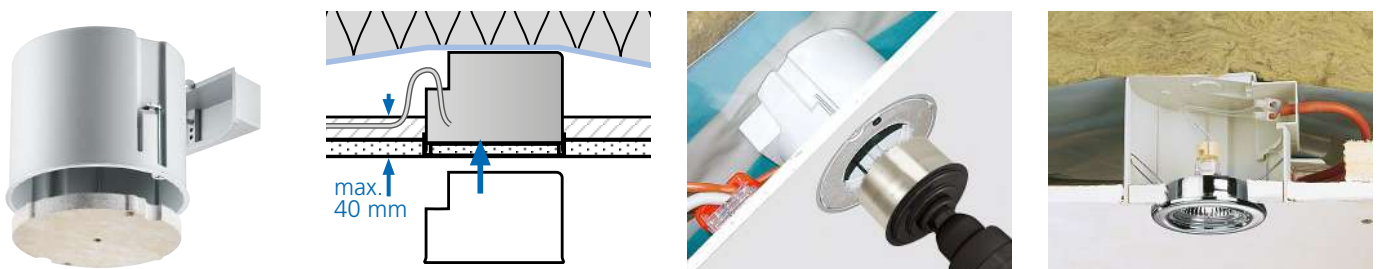
Plasterboard / Installation from below: retrofitting / smoothing

Before installation, check the required installation depth! Cut the installation opening, chamfer the bottom edge of the installation opening. Insert the housing from below and fix in place with a fast screw attachment.



Plasterboard / Installation from below: retrofitting with mineral fibreboard

Cut and chamfer the installation opening. Insert the housing from below and fix in place with a fast screw attachment. Mark opening for luminaires and cut. Smooth the joint or simply wallpaper the surface.



FLUSH-MOUNTING

CAVITY WALL

CONCRETE

HOUSINGS

FIRE PROTECTION

PLUGGABLE

CONNECTIVITY

CABLE GLANDS

TOOLS

SERVICE

ThermoX® system for insulated hollow ceilings

for halogen and LED built-in luminaires

ThermoX® housing for low and high-voltage luminaires

- for halogen luminaires and pivoting LED luminaires
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- Heat distortion resistant to 220°C
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp wattage for HV luminaires max. 35 W with AL reflector (socket GU 10)
- max. LED lamp output 6.6 W
- Front can be used on both sides



Depth	90 mm	90 mm	90 mm
For panel thickness	7 - 40 mm	7 - 40 mm	7 - 40 mm
Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
installation from front, cut hole Ø	120 mm	120 mm	120 mm
installation from rear, cut hole Ø	74 mm	79 mm	86 mm
Art.-No.	9300-01	9300-02	9300-03
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal housing with mineral fibreboard

- saves time - no plastering; close joint gap if necessary
- ceiling exit (CE) up to Ø 86 mm possible
- Heat distortion resistant to 220°C
- max. installation height for low-voltage luminaire 65 mm, HV luminaire 70 mm
- lamp wattage LV: max. 35 W with AL reflector / 20 W Cool-Beam
- lamp power for HV luminaires max. 35 W with AL reflector (base GU 10) / 20 W Cool-Beam
- max. LED lamp output 6.6 W



Depth	90 mm
For panel thickness	7 - 40 mm
Ceiling exit (CE) Ø	0-86 mm
installation from front, cut hole Ø	120 mm
Art.-No.	9300-22
Inner packaging/shipping	- / 10

ThermoX® individual front rings

- for retrofitting or as spare part



Ceiling exit (CE) Ø	68 mm	75 mm	82 mm
Art.-No.	9300-41	9300-42	9300-43
Inner packaging/shipping	- / 10	- / 10	- / 10

ThermoX® universal front ring

- for retrofitting or as spare part
- Universal front ring



Ceiling exit (CE) Ø	0-86 mm
Art.-No.	9300-93
Inner packaging/shipping	- / 10

ThermoX® Decorative coverings

- metal with galvanised or powder coating
- only for interiors
- minimum diameter of the luminaire 79 mm with ceiling exit Ø 68 and 75 mm
- Minimum diameter of luminaire covering 86 mm with ceiling exit Ø 82 mm



Outer diameter	Ceiling exit (CE) Ø	Colour	Art.-No.	Inner packaging/shipping
125 mm	68 + 75 mm	pure white - RAL 9010	9301-01	1 / 10
125 mm	68 + 75 mm	chrome	9301-02	1 / 10
125 mm	68 + 75 mm	matt nickel	9301-03	1 / 10
125 mm	82 mm	pure white - RAL 9010	9301-11	1 / 10
125 mm	82 mm	chrome	9301-12	1 / 10
125 mm	82 mm	matt nickel	9301-13	1 / 10



Spacer

for luminaires in insulated ceilings



NEW

Spacer

The spacer for the installation of swivelling built-in halogen and LED luminaires in various ceiling constructions. The housing ensures the necessary distance between the luminaire and the surrounding material. In this way, materials such as the moisture barrier and insulation are efficiently protected against the luminaire's high operating temperatures. This protective measure can be provided for both new buildings and retrofitting work. The housing is suitable for installation diameters between 68 and 80 mm, and can be adapted for use with different installation heights from 40 to 100 mm. After installation, the spacer stands securely on the boarding. This means that the installation diameter is fully retained and guarantees a secure fit.

- Installation in \varnothing 68 – 80 mm openings
- Maximum flexibility: Installation height from 100 – 40 mm
- Independent of boarding material and thickness
- Secure fit by means of installation on the ceiling
- Use with all standard LV / HV / LED lamps



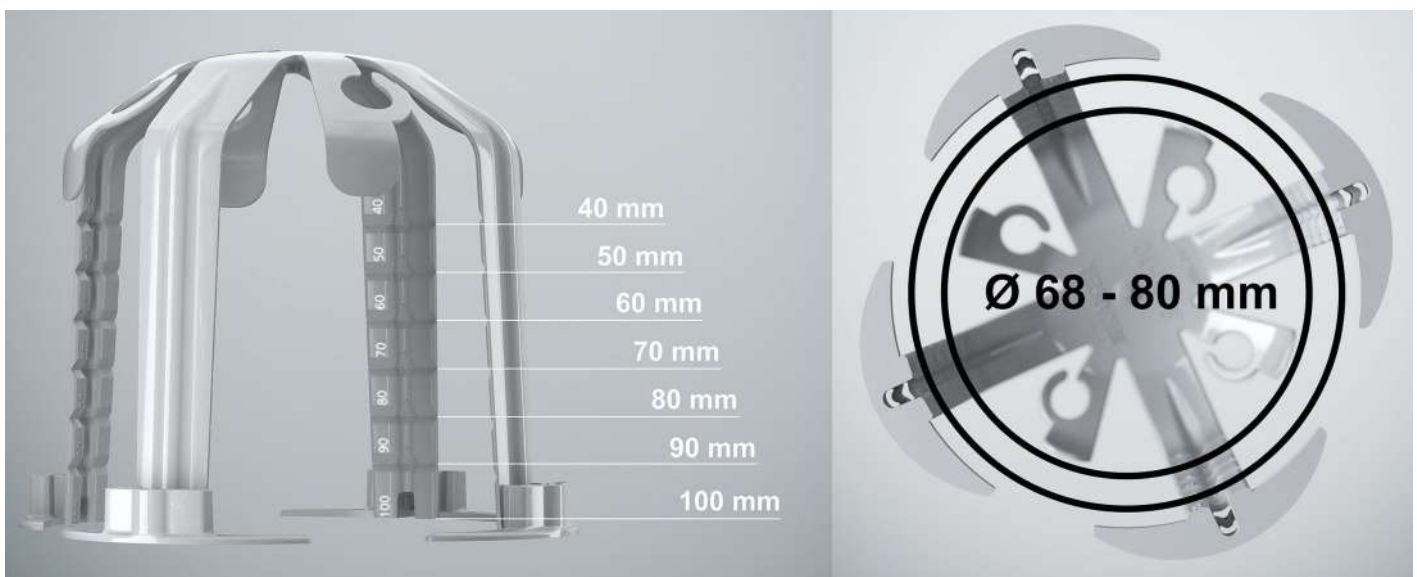
**ONE
FOR ALL**

Examples of use

The spacer for installing luminaires in insulated hollow ceilings can be used in panelled and coffered ceilings as well as in jointless false ceiling constructions made of plasterboard, mineral fibre boards, Mdf and chipboard.



Spacer installation height from 100 to 40 mm and installation diameter from 68 to 80 mm



Mounting



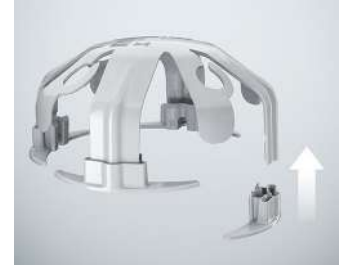
Make cut opening (e.g. with turbo cutter MULTI 4000 – Art. No. 1084-10).



Toolless breaking-off of the feet.



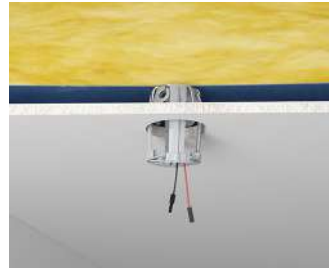
Setting the required height of 100 – 40 mm by breaking off the feet.



Pushing-on of the legs.



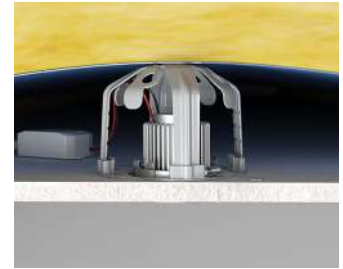
Four loops for secure cable routing.



Installation in \varnothing 68 – 80 mm openings.



Installation of the luminaire.



Housing stands securely on the ceiling boarding and creates the necessary spacing to the insulation.

Spacer

- for installation in insulated hollow ceilings
- retrofitting from below
- toolless mounting
- For \varnothing 68 – 80 mm installation openings
- height adjustable from 100 – 40 mm



NEW

INNOVATION



3D animation

Depth	100 - 40 mm
installation from front, cut hole \varnothing	68 - 80 mm
max. installation depth for the LED luminaires	95 mm
max. ceiling exit (DA) \varnothing	80 mm
Cable entries max.	4
Art.-No.	9310-10
Inner packaging/shipping	- / 10

Technical processing instructions / standards

- use only certified (EN 60598) luminaires which are suitable for direct installation on normally flammable materials
- When using the spacer and adjusting the installation height, the installation/application instructions of the luminaire used must be observed.