

LK Shunt Cabinet M60n & LK Shunt Cabinet M60n XL

SCOPE

These assembly instructions are intended for use with the LK shunt cabinet M60n and the LK shunt cabinet M60n XL. Installation must be carried out in accordance with Industry Regulations for Safe Water Installation.

LK Shunt cabinet M60n

The LK Shunt cabinet M60n is then used to conceal the LK Minishunt M60n. The cabinet must be supplemented with a frame/hatch.



LK Shunt Cabinet M60n.

LK Shunt cabinet M60n XL

The LK Shunt cabinet M60n XL is then used to conceal the LK Minishunt M60n fitted with an electronic control unit. The cabinet must be supplemented with a frame/hatch.



LK Shunt Cabinet M60n XL.

LK Frame/hatch GV INB

Used with the LK shunt cabinet M60n and the LK shunt cabinet M60n XL when they are fitted into a wall. Frame/hatch has a flared frame to cover the holes around the cabinet.

LK Frame/hatch GV UTV

Used with the LK shunt cabinet M60n and the LK shunt cabinet M60n XL when they are to be installed on a wall. Frame/hatch ends flush with the outsides of the cabinet.

LK Base GV

Complement to the LK Frame/hatch GV UTV which conceals the pipe installation between the cabinet and the floor. Note that The height of the LK Base can be adjusted between 231 and 291 mm.

LK Wet zone hatch PRESEAL

In rooms with sealing layers on walls, the LK shunt cabinet M60n must be supplemented with a LK Wet zone hatch PRESEAL which is connected to the wall's sealing layer. A service opening (wet zone hatch) must not be used where there is a bath or a shower.

For more information, see separate product range and assembly instruction sheets for LK Wet zone hatch PRESEAL.



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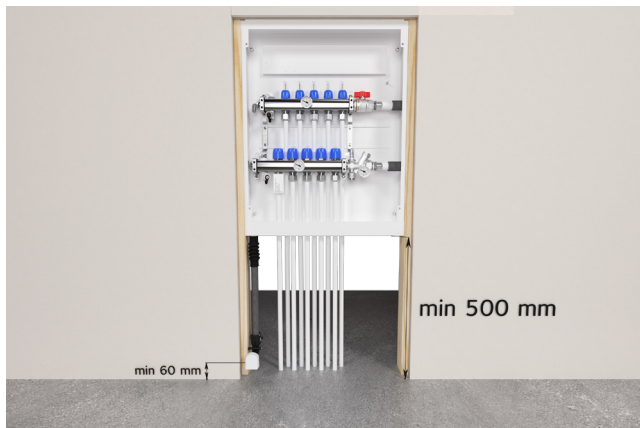
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Installation height

If the design of the structure does not allow the pipes to be fitted at right angles for lower installations, the base of the cabinet must be placed at least 500 mm above the top of the upper edge of the floor joist.



INSTALLATION REQUIREMENTS

Installation in stud walls

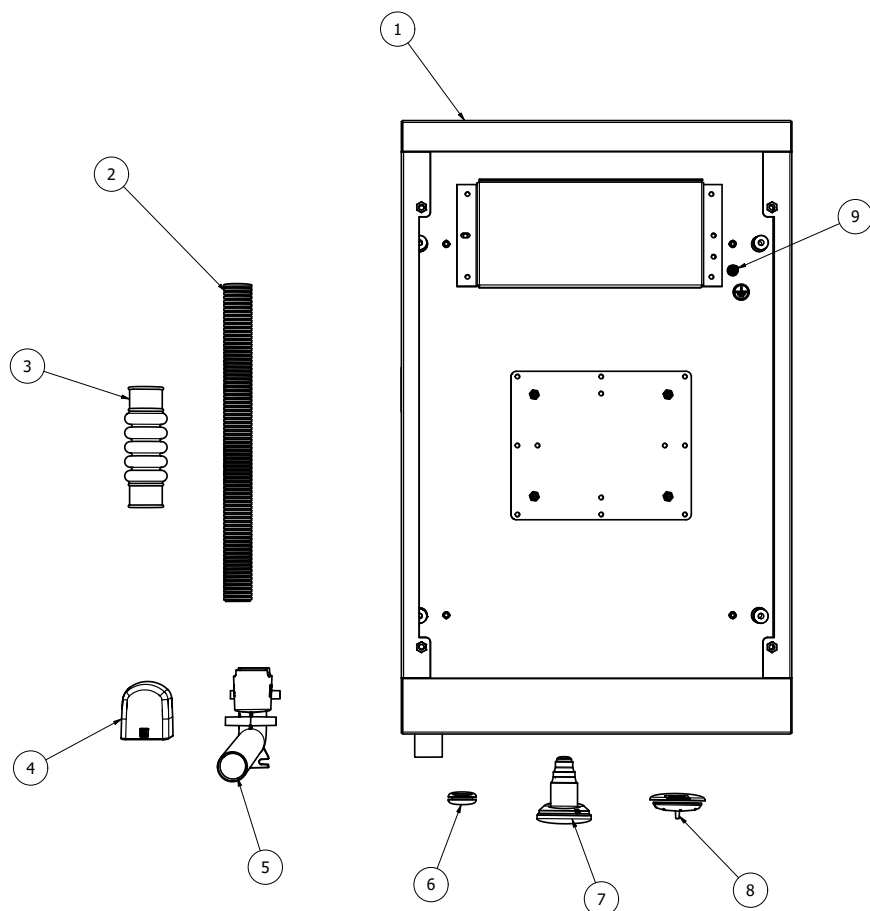
A stud-frame thickness of at least 95 mm is required for in-wall installations. Note that when installing in rooms with wall sealing layers, the LK Wet zone hatch PRESEAL requires an installation depth of at least 75 mm measured from the wet room sheet to the front edge of the LK Manifold cabinet.

Note the depth of the cabinet in relation to insulated feed pipes. Refer to the example given in installation step 4.

NOTE!
 A service opening must not be used where there is a bath or shower.



SUPPLIED WITH PRODUCT



No.	Name	Quantity	Article no.
1	Shunt Cabinet M60n /M60n-XL	1 pcs	-
2	Conduit Ø25	1,0 m	187 06 65
3	Bellows Sleeve 25 LP	1 pcs	188 27 42
4	LK Outlet Plate V2, White	1 pcs	188 26 13 (incl. in package 188 26 11)
5	LK Drainage Elbow V2	1 pcs	187 26 12 (incl. in package 188 26 11)
6	Cable Grommet	4 pcs (Shunt Cabinet M60n) 6 pcs (Shunt Cabinet M60n XL)	33952 (also incl. in package 33950)
7	Pipe Grommet 8-20 LP	2 pcs (Shunt Cabinet M60n) 8 pcs (Shunt Cabinet M60n XL)	298 61 50
8	Sealing Plug Black 40 LP	2 pcs	188 27 21 (10-package)
9	Internal tooth Lock Washer M5	1 pcs	- preinstalled in cabinet
9	Lock Nut M5	1 pcs	- preinstalled in cabinet
-	Nut M5	4 pcs (M60n-XL)	
-	Washer M5	4 pcs (M60n-XL)	-
-	Wood screws (5 x 35 mm)	4 pcs	-
-	Seal for wood screws	4 pcs	-
-	Spray Guard (705 x 400 mm)	1 pcs	188 24 07
-	Spray Guard (705 x 200 mm)	1 pcs	188 24 08

WORKING PROCEDURE

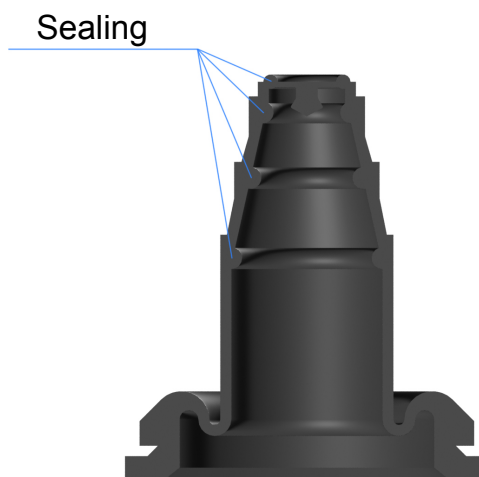
1 - Prepare pipe grommets

Prepare pipe grommets for feed pipes and under-floor heating pipes by adapting/cutting grommets to the correct dimension based on the pipe dimension used.

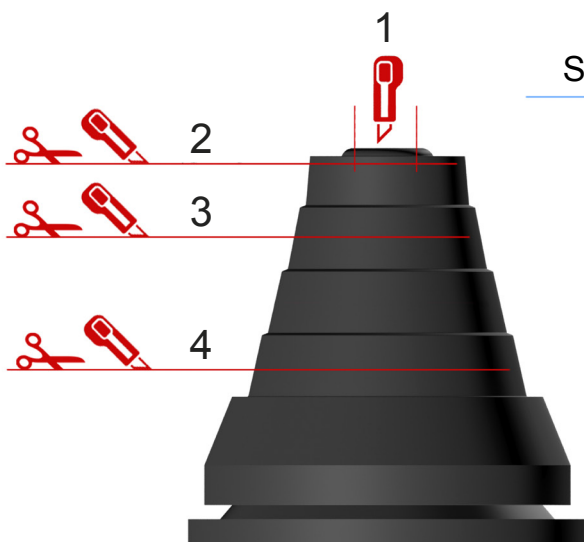
NOTE!
 If the seal for the pipe dimension is damaged when cutting, then it must be replaced with a new seal.



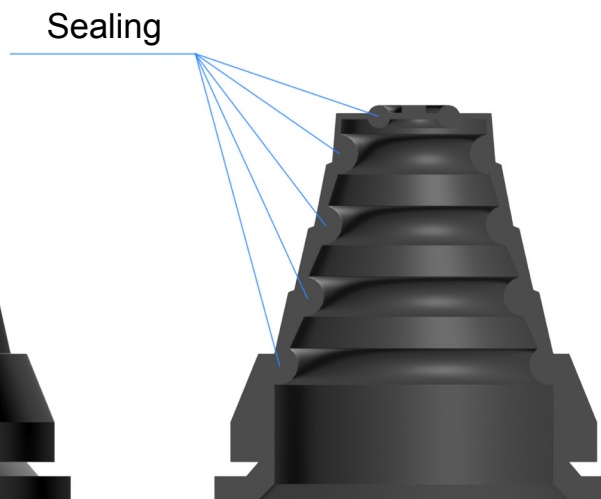
Cutting pipe grommet.



A cross-section of the pipe grommet shows the placement of the pipe seal.



Cutting pipe grommet.



A cross-section of the pipe grommet shows the placement of the pipe seal.

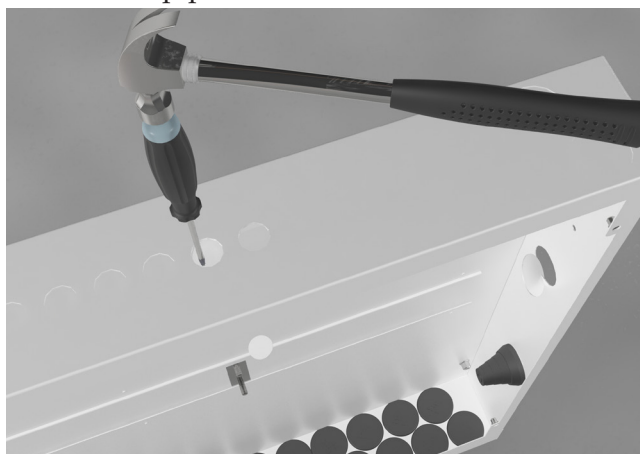
Cutting level	Dim. Pipe	Dim. Conduit (PiP)
1	Ø12	–
2	Ø16-20	–
3	Ø25	Ø25
4	Ø32	Ø34



2 - Knock-out

Remove the knock-out holes for the minishunt's capillary tube connected room sensor or the knock-out hole with cables to the electronic room control. Install the cable grommets provided.

If the feed pipes are to be connected from the side, the knock-out holes are removed from the side of the cabinet. The pipe grommets are then installed for the feed pipes.



Principle diagram: Remove the knock-out holes using a hammer and screwdriver.

3 - Assemble the pipe grommets and sealing plugs

Fit the adapted pipe grommets and the LK Sealing Plug before the cabinet is installed in its final location. Pay particular attention during the assembly of pipe grommets and sealing plugs so the cabinet base is sealed.

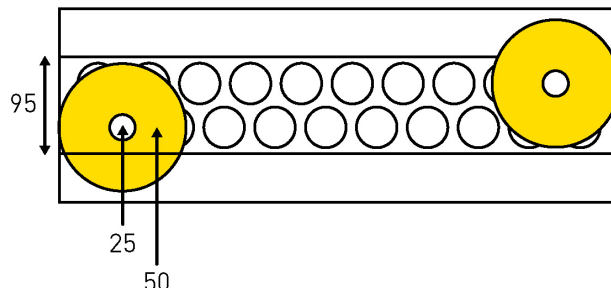
LK Sealing Plugs are fitted so the LK Logo can be seen inside the cabinet.



Principle diagram: Assemble the pipe grommets and sealing plugs.

4 - Install Cabinet

Install the cabinet in the stud wall or on an existing wall taking into account the Installation requirements section above.



Example, installation with insulation on feed pipe. The illustration shows a cabinet with a depth of 95 mm.

NOTE!
 The cabinet should never be installed further out than edge to edge with the stud-frame, so the Frame/hatch GV INB can be installed.

If the cabinet is placed on an outer wall, it should be installed on the warm side of the construction, inside the airtight foil.

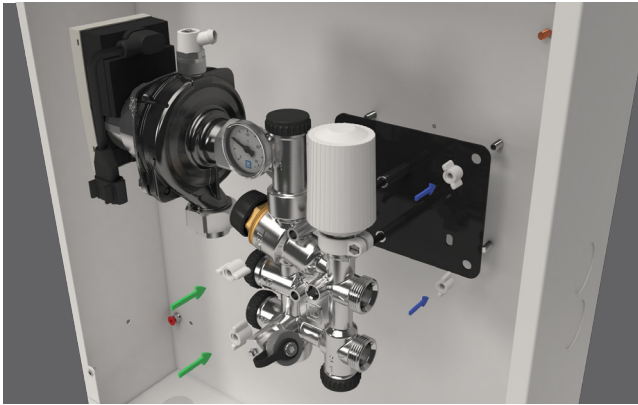


Securing the cabinet in a stud-frame.

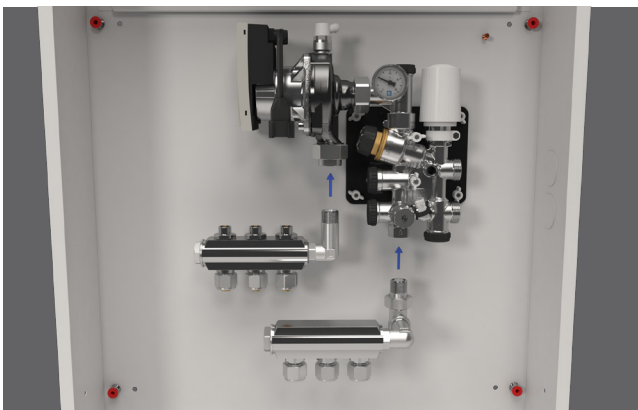
5 - Installing the LK Minishunt M60n

Install the minishunt bracket at the assigned place in the cabinet. Next install the minishunt together with an assembled LK Mini Manifold or LK Heater, if used.





Installation of bracket and minishunt.



Installation of LK Mini Bracket in the LK Shunt Cabinet M60n XL.

6 - Pipe grommets

Pull the underfloor heating pipes and any power feed cables through the pipe grommets. This is easier if the pipes have been lubricated with soapy water or similar. The pipes are then connected to the shunt group and mini manifold, if used.

NOTE! Check to ensure the pipe lead-through is correctly fitted once all pipes have been installed according to section 6 above.

7 - Installing cabinet drainage

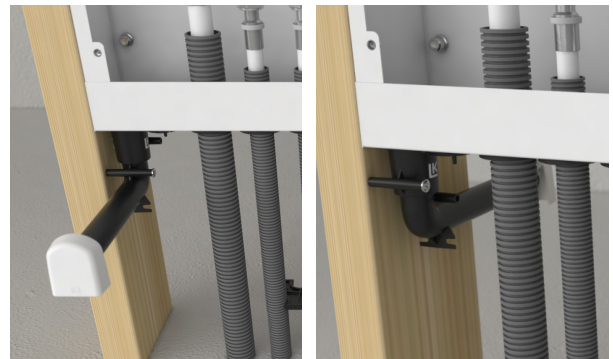
Drainage outlets from a cabinet with tap water installation must always drain onto an area with a floor drain or waterproof flooring. Exception: Cabinets that are placed in stairwells may have leakage indication that open into the stairwell on a watertight or waterproof floor. The exception does not apply to a single residence building. Drainage outlets from cabinets with heating system installation may drain from the wall surface beneath the cabinet.

7a – Drainage elbow connected directly to the cabinet’s outlet pipe

Drainage from the wall surface under the cabinet. Connect the drainage elbow directly to the cabinet’s outlet pipe after all pipe inlets and sealing plugs have been installed.

Fix the drainage elbow to a wall stud in a suitable position. Insert the two installation screws supplied in any of the fixing holes.

For cabinets mounted externally on the wall, the drainage elbow opens out into the pre-drilled hole in the base.

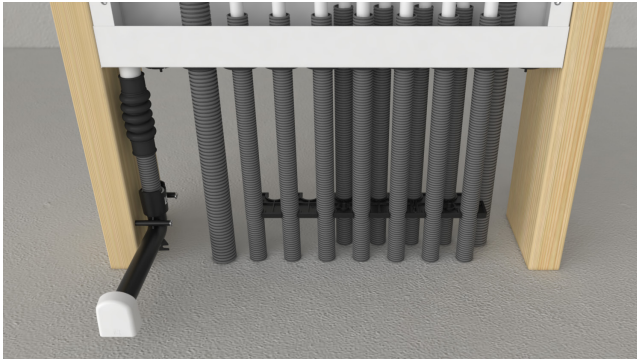


A drainage elbow directly connected to the cabinet’s outlet pipe will drain into the same room as the cabinet’s service hatch or, alternatively, the room behind.

7b - Drainage elbow connected via a conduit.

Connect the conduit to the cabinet’s drainage pipe using the bellow sleeve. The bellow sleeve must not be deformed in a manner that prevents the flow of any water leaks. Connect the drainage elbow to the conduit. Note that the pipe should rest in the drainage elbow at a depth of approximately 20 mm. Fix the drainage elbow to a wall stud in a suitable position. Insert the two installation screws supplied in any of the fixing holes. Ensure that the conduit is installed sloping downwards towards the outlet and that the conduit is secured.

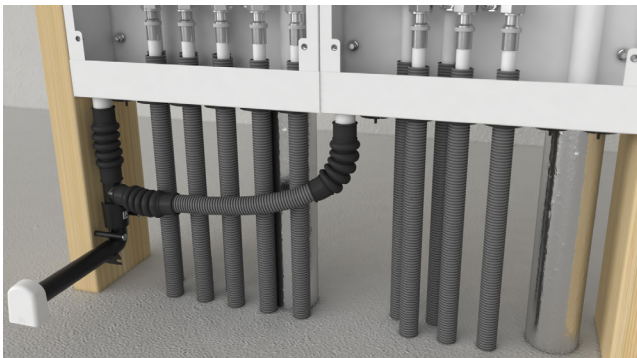




Drainage elbow connected via a conduit.

7c – Connection of drainage pipes

It is possible to connect drainage pipes from two cabinets. The illustration below shows side-by-side installation but drainage pipes can also be connected when the cabinets are mounted further apart. Use LK Drainage Kit 25 Duo. Fix the drainage elbow to a wall stud in a suitable position. Insert the two installation screws supplied in any of the fixing holes. Ensure that the conduit is installed sloping downwards towards the outlet and that the conduit is secured.



Connection of drainage pipes.

8 – Installation of outlet plate

Install a wall panel with a hole for the drainage elbow's outlet pipe. Hole diameter approx. 26 mm. Connect any sealing layer as per the instructions of the supplier of the sealing layer. Although LK Systems can supply the LK Pipe Membrane, the sealing contractor should carry out the installation and be responsible for the waterproofing characteristics of the sealing layer in accordance with industry regulations issued by the Swedish Ceramic Tile Council (BBV), Swedish Flooring Trade Association Wet Room Control (GVK) or the Swedish Painting Industry Wet Room Control (MVK).

Once the wall panelling is installed, the drainage elbow should be cut to size using the LK Drainage elbow cutter V2. Alternatively, the drainage elbow can be cut to a suitable length using a tool such as a hacksaw blade. Be careful not to damage the surface layer, leave 2-3 mm of the outlet pipe protruding from the wall.

Install the LK Outlet Plate V2 in the outlet pipe. For a more luxurious finish, the LK Outlet Plate V2 Chrome is available as an accessory.

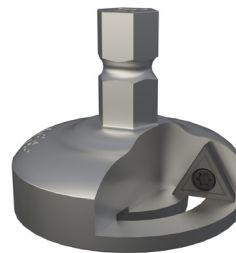


Installation of the LK Outlet Plate V2.

ACCESSORIES



LK Outlet Plate V2 Chrome, article no. 188 26 14.



LK Drainage elbow cutter V2, article no. 188 26 15.

9 - Install Spray Guard

Assemble the spray guard supplied. Be careful that the guard is pushed out to the side so the entire cabinet width is covered by the guard.

10 - Install Frame/hatch

There are three types of frames/hatches depending on whether the cabinets are built into or installed externally on an inner wall.

In rooms with sealing layers on walls, the LK manifold cabinet must be supplemented with a LK Wet zone hatch PRESEAL which is connected to the wall's sealing layer. A service opening (wet zone hatch) must not be used where there is a bath or a shower. For more information, see separate product range and assembly instruction sheets for LK Wet zone hatch PRESEAL.

10a - Install Frame/hatch UFH INB

When the cabinet is built into a wall, the LK Frame/hatch UFH INB is used which has a precipitating frame in order to cover the hole around the cabinet. The frame covers an area of 15 mm beyond the edge of the cabinet.

Install the LK Frame/hatch using the M5 screws provided. If the cabinet is installed so far into the construction that the screws are too short, then these should be replaced with longer screws (not included).

10b - Install Frame/hatch UFH UTV

When the cabinet is installed externally on a wall, the LK Frame/hatch UFH UTV is used, which fits edge to edge with the outsides of the cabinet.

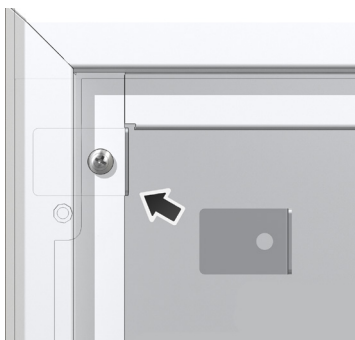


Plate and screws for the LK Frame/hatch UFH UTV.

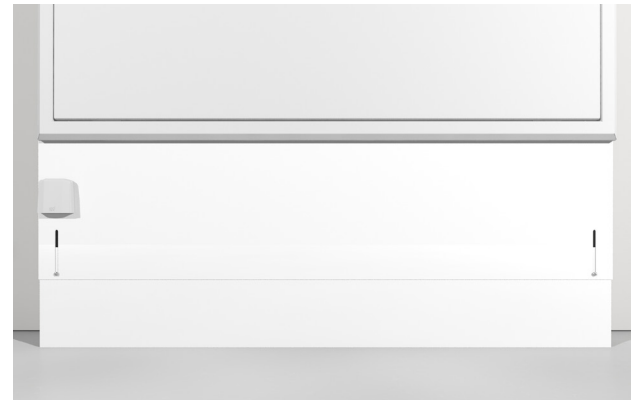
Install the frame using the screws and mounting plate provided, see picture above. Install the four white cover plugs on the end of the cabinet.

11 - Install Base

With an external installation of the cabinet, install the LK Base by first pushing the upper part of the base into the intended grooves in the cabinet frame. Also ensure that the drainage elbow runs through the intended hole. The lower part of the base is then pulled out to the floor. When the correct height is reached, then the installation is fixed using screws on the front of the base. Adapt the length of the drainage elbow to the outside of the base and install the outlet plate.



LK Base, installation.



Outlet plate fitted on base.

ASSEMBLY AIDS

Assembly using LK Cabinet Stand L2

The back of the cabinet is fitted with four anchor points (M8 nuts) which can be used to assemble the cabinet before the concrete base is cast. The LK Cabinet Stand L2 can be used as an aid and is assembled as below.



LK Cabinet Stand L2 with anchor clips.



Mount the four M8 nuts provided in the back of the cabinet. Attach pipe fixings to the extended bolts. Slip on the round bar and attach the conduit pieces provided with the stand. The conduits stop the stand from becoming set in the concrete, making it reusable.

Knock down the round bars through the insulation and into the sand until the installation feels stable. Lift up the cabinet to a suitable height and tighten the fixings. Tape the conduits to the legs of the stand to stop the conduits from moving when pouring the concrete.



Mounted cabinet stand L2.



Close-up of fastening to cabinet.

Assembly using LK Legs

The LK Leg Stand simplifies cabinet assembly on prefabricated concrete joists. Manufactured from galvanised steel plate.

Supplied in pairs inc. 4 x self-tapping sheet metal screws with gasket for attachment to the manifold cabinet. The foot of the legs has a 6 mm hole for attachment to the concrete joists. The legs are secured using a bolt or metal nail plug (not supplied).

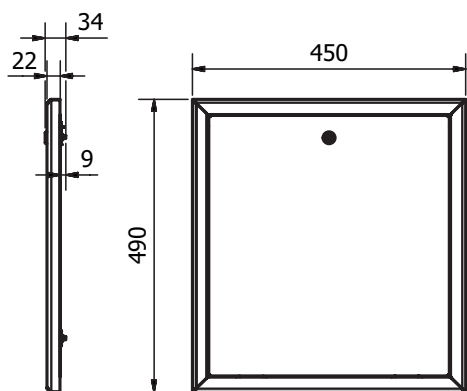
In cases where the manifold cabinet is not adequately secured by the leg stand, then the cabinet should also be secured to the wall



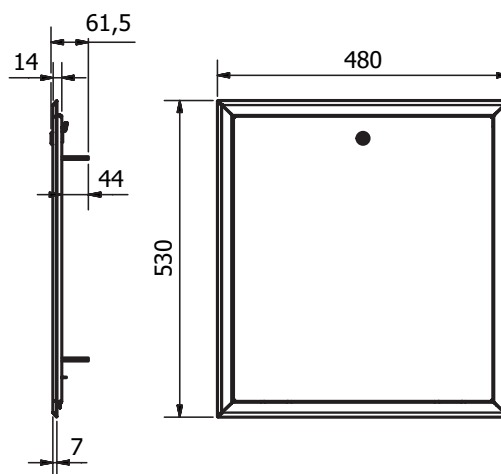
LK Leg Stand.

DIMENSION DRAWINGS

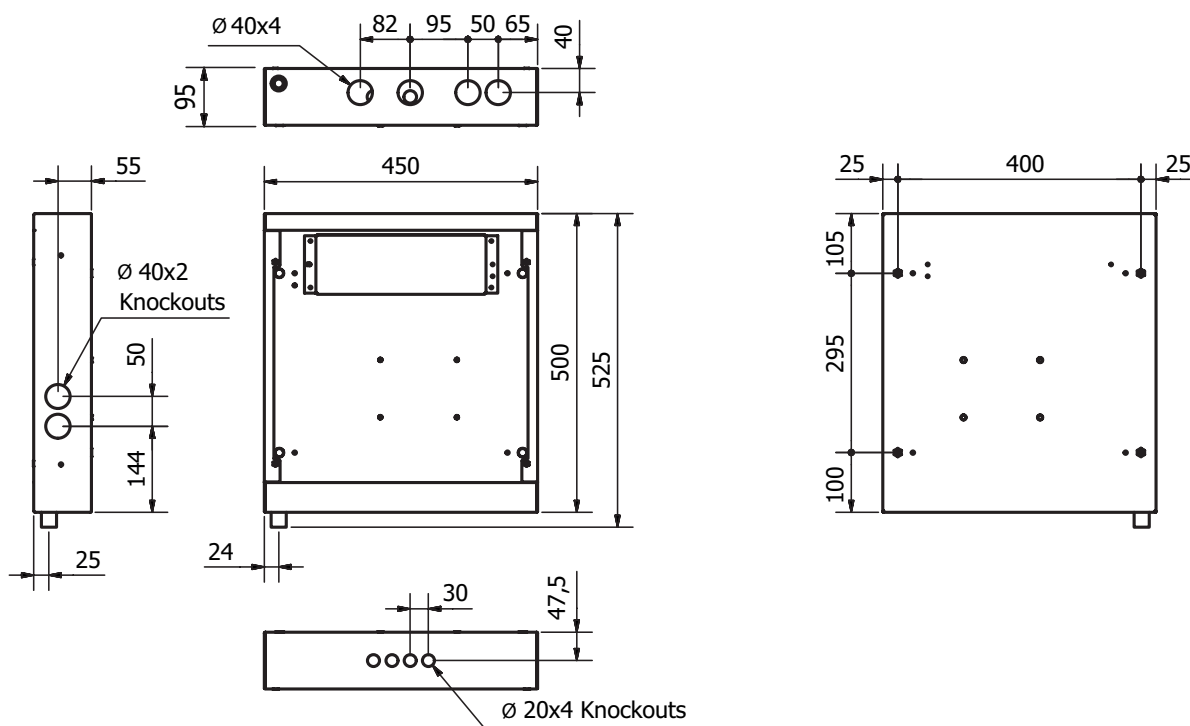
LK Frame/hatch M60n, UTV



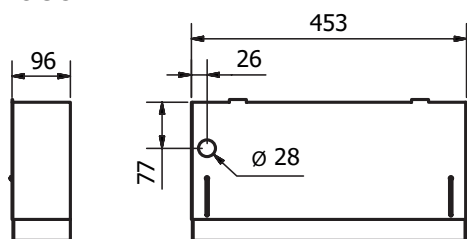
LK Frame/hatch M60n, INB



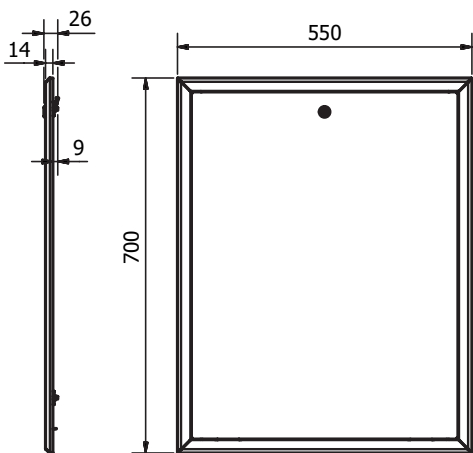
LK Shunt Cabinet M60n



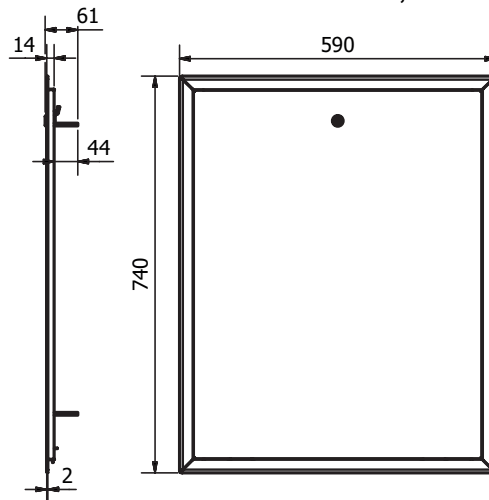
LK Base



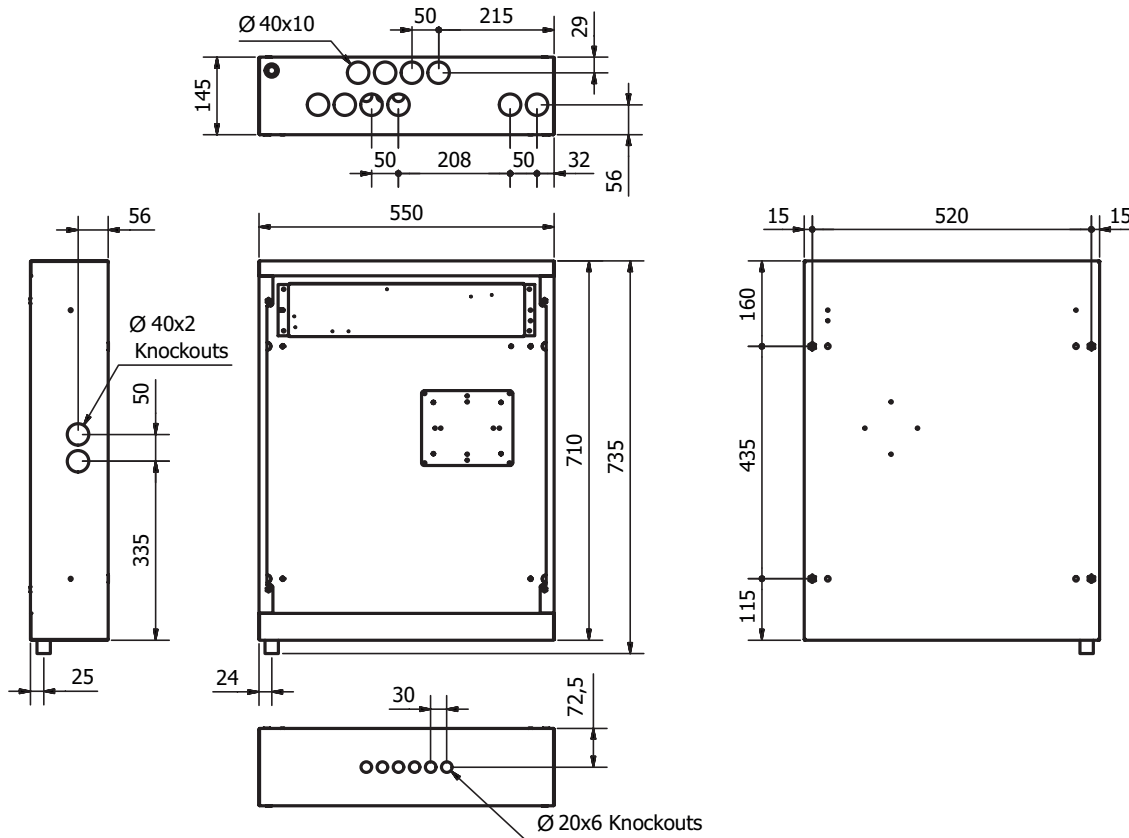
LK Frame/hatch UFH 550, UTV



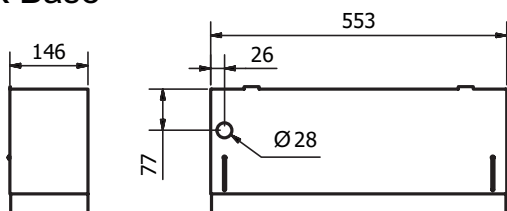
LK Frame/hatch UFH 550, INB



LK Shunt Cabinet M60n XL



LK Base



PIPE DIMENSIONS

The table below shows which dimensions and pipe types can be connected to LK Shunt Cabinet M60n/ LK Shunt Cabinet M60n XL. For more information on LK Floor Heating systems, see www.lksystems.se/en (products/lk underfloor heating/products/pipes)

Pipe grommet	PE pipe	Metal pipe	RiR (pipe in pipe) conduit dimensions
Pipe grommet 8-20 LP	8, 12, 16 and 20 mm	-	-
Pipe grommet 20-34 LP for PE supply pipe	20, 25 and 32 mm	22 and 28 mm	34 mm
LK Pipe grommet 8, Quattro*	8 mm	-	-
LK Pipe grommet 32 RiR LP*	32 mm	-	40-44 mm

* ordered separately.

OVERVIEW OF ARTICLES

Name	Article no.	Intended for
LK Shunt Cabinet M60n	243 53 70	LK Minishunt M60n
LK Shunt Cabinet M60n XL	243 53 69	LK Minishunt M60n with assembled LK Mini Manifold, or LK Heater 350
LK Frame/hatch M60n INB	243 53 67	Built-in LK Shunt Cabinet M60n
LK Frame/hatch GV INB	243 46 80	Built-in LK Shunt Cabinet M60n XL
LK Frame/hatch M60n UTV	243 53 68	Wall mounted LK Shunt Cabinet M60n
LK Frame/hatch GV UTV	243 46 81	Wall mounted LK Shunt Cabinet M60n XL
LK Base	188 13 02	Wall mounted LK Shunt Cabinet M60n
LK Base	243 53 72	Wall mounted LK Shunt Cabinet M60n XL

