

# LK Shunt Cabinet UFH, LK Shunt Cabinet UFH Prefab

## IMPLEMENTATION

### LK Shunt Cabinet UFH

LK Shunt Cabinet UFH is designed for use where there is a requirement to conceal LK Manifold RF and LK Manifold Shunt VS. LK Shunt Cabinet UFH with associated installation instructions is adapted to fulfill Sweden's "Safe Water Installation industry regulations". The cabinet has a dense base with rubber pipe grommets. The cabinet base is provided with a drainage opening which allows any water leakage to be drained to a location which can be inspected. The cabinet is manufactured from 1 mm powder-coated sheet steel, RAL 9016.

The cabinet is designed for installation built into a wall or externally on a wall. When building in the cabinet, the minimum stud thickness is 120 mm.

The cabinet is designed for right-hand installation, i.e. the primary shunt connection is made from the right-hand side via the cabinet base.

The cabinet must be supplemented with a frame/hatch. There are two types of frame/hatch, depending on whether the cabinet is built into or installed externally on an inner wall.

When installed externally, the cabinet must also be supplemented with a base in order to conceal pipes between the cabinet on the floor.

LK Shunt Cabinet UFH is supplied with pipe grommets, a bellow sleeve for drainage, a 1.5-metre conduit for drainage, drainage elbow with outlet plate, cable grommets for room control, spray guard and installation instructions.

The back of the cabinet is provided with four pre-fitted M8 nuts which can be used for attachment to the LK Cabinet Stand when the cabinet has to be installed before a concrete base is cast. The ends of the cabinet are provided with knockout holes for any side connection of supply and return pipes.

The top of the cabinet has knockout holes for any cable grommets for room control.

### LK Shunt Cabinet UFH Prefab

The design of the LK Shunt Cabinet UFH Prefab is similar to the above, but it has a pre-fitted LK Manifold Shunt VS and LK Manifold RF. The manifold is provided with LK Connection Couplings for PE-X/PAL pipes, dim. 16.



*LK Shunt Cabinet UFH*



*LK Shunt Cabinet UFH Prefab*



This product conforms to the Swedish industry rules on Safe Water Installation. LK Systems guarantees the functionality of the product if the industry rules and the assembly instructions are followed.

## LK Frame/hatch UFH

LK Frame/hatch UFH is designed for use with LK Shunt Cabinet UFH.

The hatch is fitted with a screwdriver latch on delivery, and a key latch is also available as an accessory.

LK Shunt Cabinet UFH must be supplemented with a frame/hatch. There are two types of frame/hatch, depending on whether the cabinet is built into or installed externally on an inner wall.

When the cabinet is built into a wall, 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 15 mm beyond the edges of the cabinet.

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



LK Frame/hatch INB

## LK Base

LK Base is used when Shunt Cabinet UFH is installed on the surface of an existing wall. LK Base conceals the pipe installation between cabinet and floor. The base is adjustable in height from 220 to 280 mm. The base is provided with holes for installation of cabinet drainage. If another position is used for cabinet drainage, the cover plug supplied is used to conceal the hole in the base.



LK Base

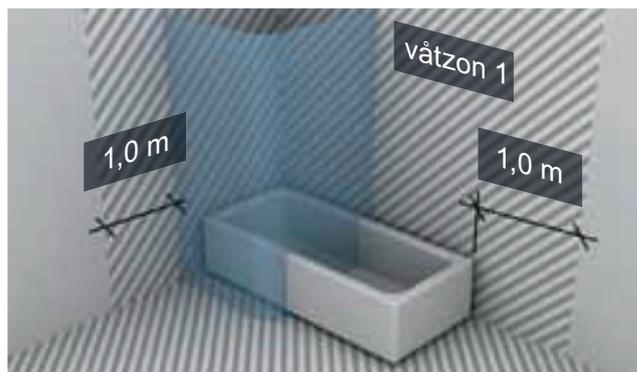
## INSTALLATION CONDITIONS

### Stud wall construction

A minimum wall stud thickness of 120 mm is required for installation on a stud wall.



If the cabinet is installed in a wetroom, the cabinet must not be positioned with the opening in wet zone 1. See the illustration below from Sweden's *Safe Water Installation industry regulations* for a definition of wet zone 1.



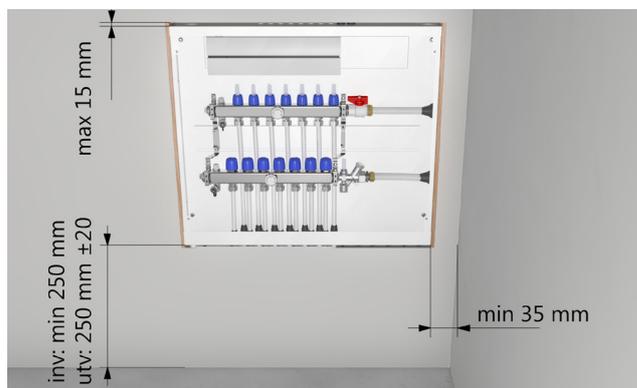
Wet zone 1

### Installation height when installed on a stud wall

To be able to install and create space for the drainage pipe, the cabinet must be installed at a height of at least 250 mm from the underside of the cabinet base to the finished floor. The drainage pipe must be installed sloping downwards.

### Installation height when installed on the surface of a wall

When installed on the surface of an inner wall, the cabinet is placed 250 ( $\pm 20$ ) mm above the finished floor so that there is sufficient space for the base.

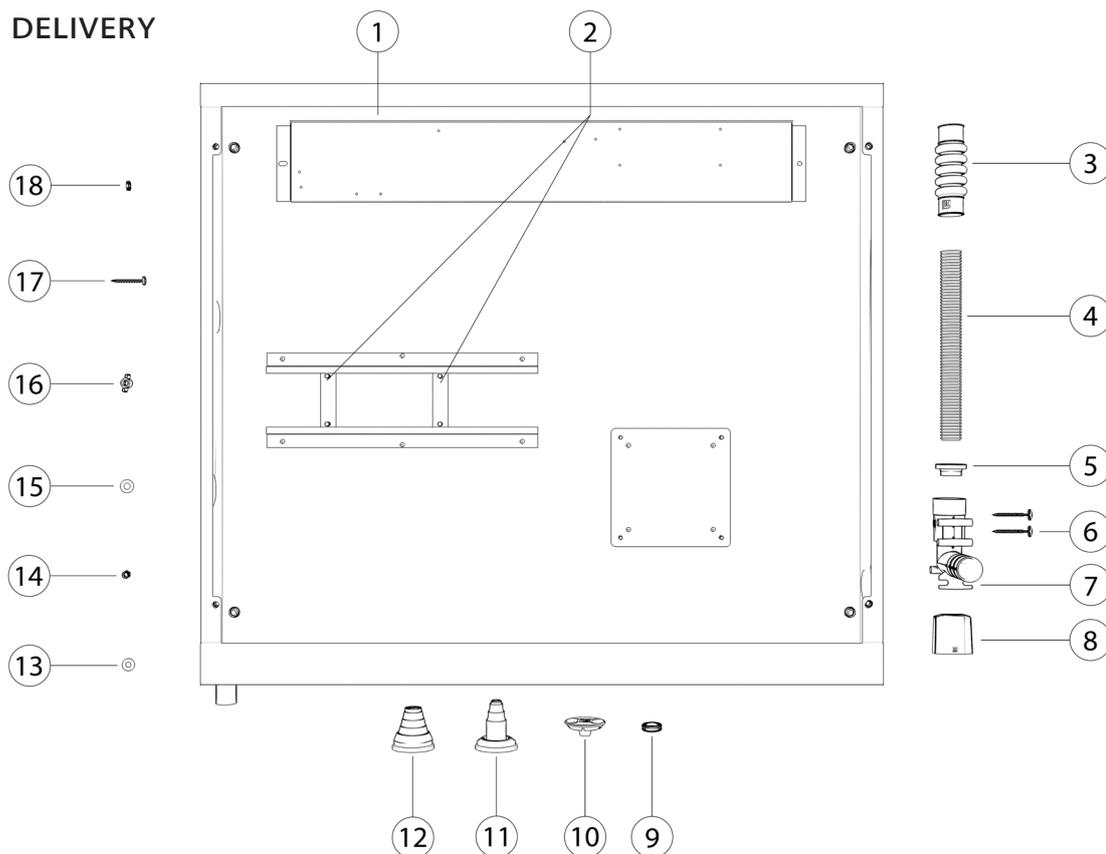


Stud wall installation

### Installation close to wall

When installing the cabinet close to a stud wall, a gap of at least 35 mm must be provided from the outside of the cabinet to the connecting wall so that there is room for LK Frame/hatch INB.

## SCOPE OF DELIVERY



No.	Designation	Quantity	RSK
1	Manifold Cabinet	1	-
2	Bracket, Manifold	2	included in 33953
3	Bellow sleeve 25	1	33402
4	Conduit Ø25	1.5 m	1870665
5	Seal, drainage elbow	1	included in 188 21 43
6	Installation screw, drainage elbow (4.2 x 65 mm)	2	included in 188 21 43
7	Drainage elbow	1	included in 188 21 43
8	Outlet plate, white	1	188 21 44
9	Cable grommet	10	33952
10	Sealing plug, black 40	2 x (800) 2 x (1150)	33932
11	Pipe grommet 8-20	14 x (800) 28 x (1150)	33401
12	Pipe grommet, supply pipe 12-32	2	1874484
13	Washer M5	4	-
14	Nut M5	4	-
15	Washer M6	4	included in 33953
16	Wingnut M6	4	included in 33953
17	Wood screw (5 x 35 mm)	4	included in 33953
18	Seal for wood screw	4	included in 33953
-	Spray guard 705 x 397 mm	2 x (800) 3 x (1150)	33951
-	Spray guard 705 x 197 mm	1 x (800) 0 x (1150)	-

## WORKING PROCEDURE

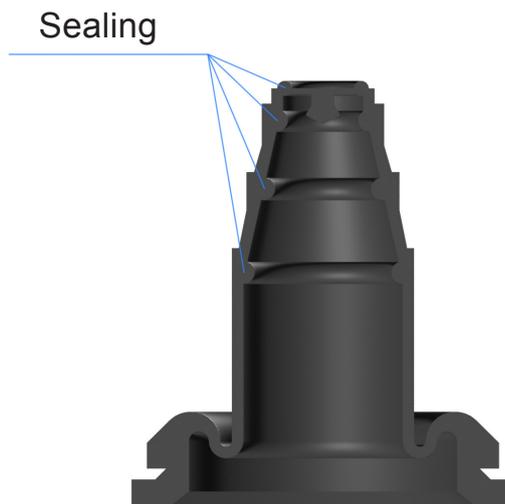
### 1 - Prepare Pipe grommets

Prepare the pipe grommets for feed pipes and underfloor heating pipes by adapting/cutting the grommets to the right size based on the pipe dimensions used.

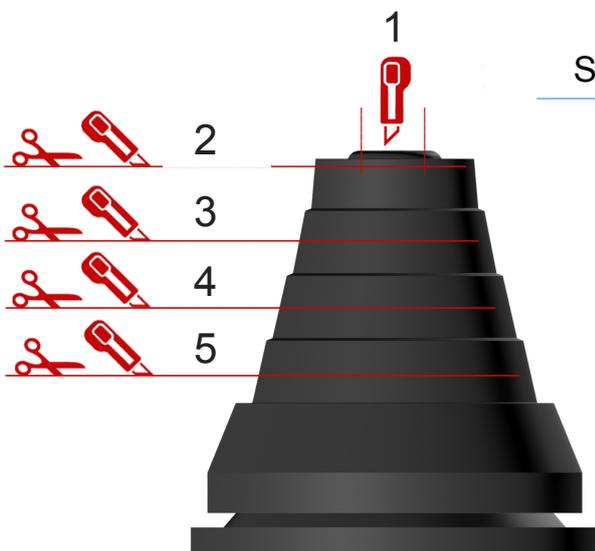
 If the pipe dimension seal is damaged during cutting, this must be replaced with a new one.



*Cutting of pipe grommet.*

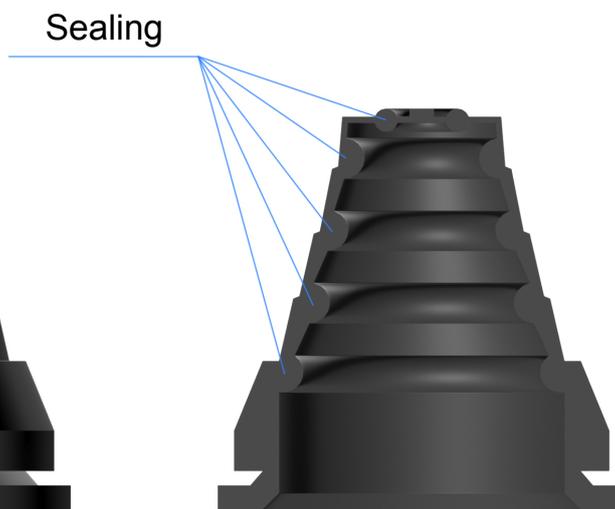


*A pipe grommet in section shows the position of the pipe seal.*



*Cutting of pipe grommet.*

Cutting level	Dim. Pipe	Dim. Conduit (PiP)
1	Ø12	-
2	Ø16	-
3	Ø20	Ø25
4	Ø25	-
5	Ø32	Ø34

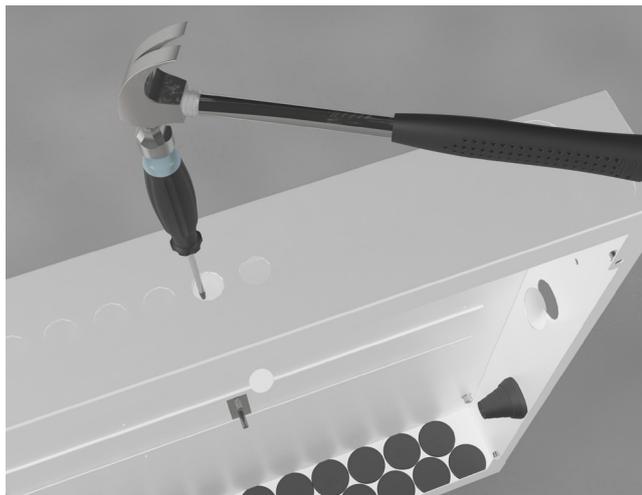


*A pipe grommet in section shows the position of the pipe seal.*

## 2 - Knockout

Knock out the required number of knockout holes for laying cables for room control. Fit cable grommets.

If side connection of the feed pipes is required, the knock holes in the end of the cabinet are knocked out. The pipe grommets for the feed pipes are then installed.



*Knock out knockout holes using a hammer and screwdriver*

## 3 - Install pipe grommets and seals

Install the adapted pipe grommets and LK Sealing Plug before putting the cabinet in place.

Take particular care when installing the pipe grommet and sealing plug to ensure that the cabinet base is tight.

The LK Sealing Plug is installed so that the LK Logo is visible from inside the cabinet.



*Install pipe grommets and sealing plugs*

## 4 - Install cabinet

Install the cabinet in the stud wall or on the surface of an existing wall, taking into account the headers above relating to installation height, wet zone 1 and installation close to the wall.

Use the screws supplied for attachment to the wooden studs. The screws must be provided with the sealing washers supplied. When building the cabinet into a stud wall, the cabinet must be installed edge to edge with the studs.



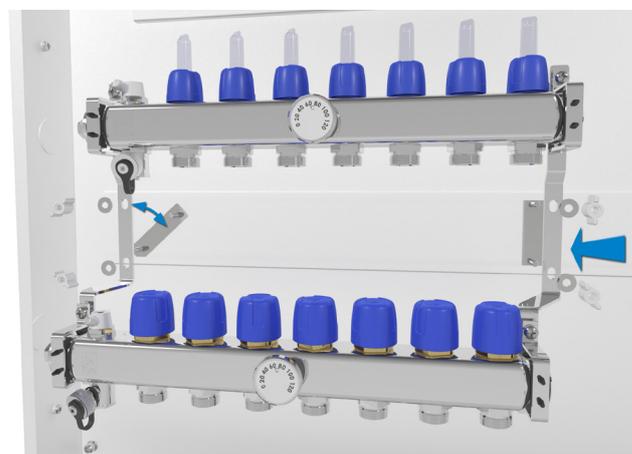
*Attaching a cabinet to a stud wall*

## 5 - Install Manifold and Manifold shunt

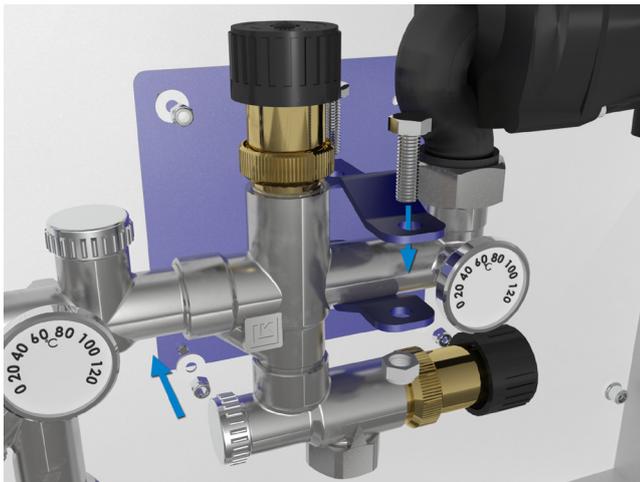
Install the brackets on the cabinet rail.

LK Manifold RF is then installed on the brackets (the manifold is already installed when installing LK Shunt Cabinet UFH Prefab). Then follow the instructions supplied with the manifold to find out how to continue installing it.

Install a shunt bracket in the designated location in the cabinet. Then install the shunt group in the bracket. Push the manifold to the shunt group and pull the joint together.



*Installation of LK Manifold RF*



Installation of LK Shunt group VS

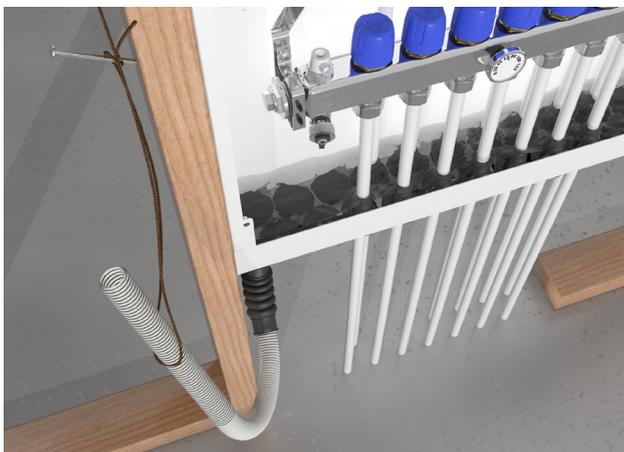
6 - Pipe grommets

Three underfloor heating pipes through the pipe grommets. This operation is facilitated if the pipe is lubricated with soapy water or similar. The pipes are then connected to the manifold in accordance with the instructions for the manifold.

7 - Leak testing the cabinet base

Connect the conduit to the bellow sleeve towards the cabinet's drainage opening. Bind up the conduit so that its opening is slightly above the cabinet base. Pour water in up to the edge of the cabinet base, then wait for about 10 minutes. Then check that the cabinet base is sealed. Look at the underside of the cabinet base and make sure there are no traces of water. Once the cabinet's sealing has been checked, cabinet drainage is installed as described below.

 The cabinet base is always checked for leaks before cladding the wall.



Leak testing the cabinet base

8 - Install cabinet drainage

Remember when selecting a position for the outlet that it must be possible to detect any leaks quickly. There are two possible ways of installing the drainage elbow, see below.

Drainage elbow connected directly to the cabinet's outlet opening

The drainage opens out from the wall surface beneath the cabinet. Make sure that the white rubber seal is installed correctly in the drainage elbow. Connect the drainage elbow directly to the cabinet's outlet opening.

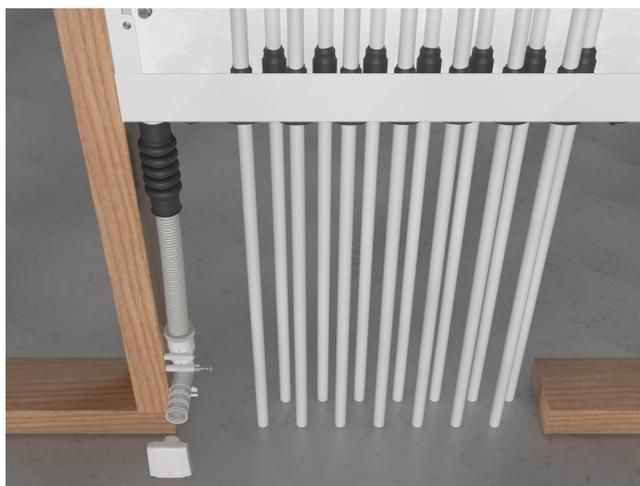
For cabinets installed on the surface of walls, the drainage elbow opens out into the predrilled holes in the base.

Drainage elbow connected by means of a conduit.

Connect the conduit to the bellow sleeve towards the cabinet's drainage opening. Make sure that the white rubber seal is installed correctly in the drainage elbow. Then connect the drainage elbow to the conduit. Remember that the pipe must bottom out in the drainage elbow, approx. 40 mm deep. Then secure the drainage elbow in a suitable position against a wall stud or floor joist. Use the two installation screws supplied in any attachment holes. The maximum conduit length should not exceed 1.5 m. Make sure that the conduit is laid sloping downwards towards the outlet and that the conduit is clamped.



Drainage elbow connected directly to the cabinet's outlet opening



*Drainage elbow connected by means of a conduit.*

#### 9 - Install outlet washer

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. LK Pipe Membrane may be provided by LK Systems (Article no. 481 43 82), but the sealing layer contractor must carry out installation and stand responsible for the adhesion properties of the sealing layer as defined in industry regulations BBV10:1.

When the cladding has been installed, cut down the length of the drainage elbow using LK Pipe Cutter DB, or cut the pipe to an appropriate length using a hacksaw blade or knife, for example. Take care not to damage the surface layer, leave 1-2 mm of the outlet pipe outside the wall surface.

Install LK Outlet Plate in the outlet pipe. If necessary, the inside of the outlet pipe can be lubricated with soapy water or similar.

LK Outlet Plate Chrome (Article no. 188 09 99) can be ordered as an accessory for a more exclusive finish.



*Installation of LK Outlet Plate*

#### 10 - Install spray guards

Install the spray guards supplied. Take care to ensure that the guards protrude at the side so that the entire width of the cabinet is covered by the guards.

#### 11 - Install Frame/hatch

There are two types of frame/hatch depending on whether the cabinet is built into or installed externally on an inner wall. On delivery the hatch is fitted with a screwdriver latch, and an LK key latch is also available as an accessory (LK-no 327 85).

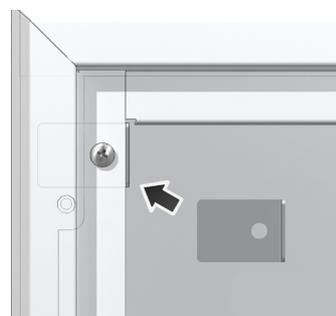
##### 11a - Install Frame/hatch UFH INB

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 screws provided.

##### 11b - 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.



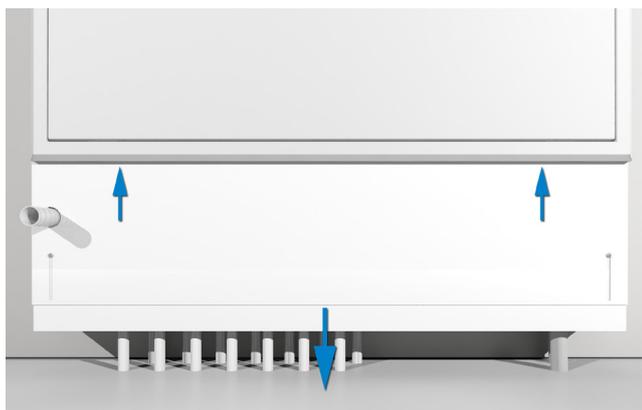
*Plate and screws for the LK Frame/hatch UFH UTV*

Install the frame using the screws and mounting plate provided. See picture above.

#### 12 - Install Base

When installing LK Shunt Cabinet UFH externally, install LK Base by first securing the upper part of the base in the designated grooves. Also make sure that the drainage elbow opens out into the designated hole. The lower part of the base is then pulled out to meet the floor. When the correct height has been reached, the installation is secured using the screws on the front of the base.

Then adapt the length of the drainage elbow to the outside of the base and install the outlet washer.



LK Base, installation



Outlet plate installed on base

### Installation, LK Shunt Cabinet UFH- Prefab

The cabinet is installed in accordance with the above instructions; with the exception of installation of LK Manifold RF and LK Manifold Shunt VS, which are already installed when supplied.

### INSTALLATION AIDS

#### Installation using LK Cabinet Stand

The back of the cabinet is provided with four attachment points (M8 nuts) which can be used if you wish to install the cabinet before the concrete base is cast. LK Cabinet Stand, which is installed as shown below, is available as an aid.



LK Cabinet Stand with brackets.

Insert the four M8 bolts supplied in the back of the cabinet. Screw the pipe clamps on to the protruding bolts. Thread in the round bars and slip on the conduit parts supplied with the stand. The conduit prevents the stand from getting stuck, and as a consequence the stand is reversible. Push the round bars through the insulation and down into the sand until the installation feels steady. Raise the cabinet up to a suitable height and tighten the clamps. Tape the conduits to the stand legs to prevent the conduits from rising during casting.



Installed cabinet stand.



*Close-up of attachment to cabinet.*

### Installation using LK Legs

Legs which facilitate installation of the cabinet on prefabricated concrete floor structures. Made of galvanised sheet steel.

Supplied in pairs inc. 4 x self-tapping sheet metal screws with gasket for attachment to the Shunt Cabinet. The foot of the legs has a 6 mm hole for attachment to the concrete floor structure. A bolt or metal nail plug and washer (not supplied) are used for attachment purposes.

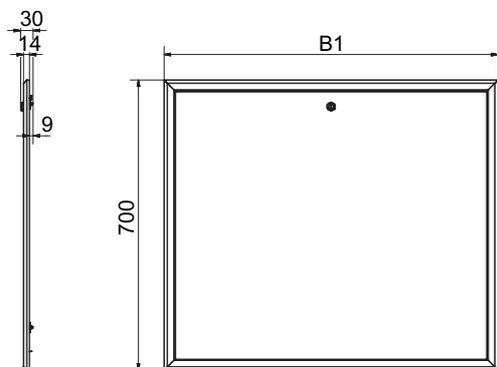
Note: The legs are merely a temporary installation aid. The Shunt Cabinet must be secured to the wall structure when this has been put up.



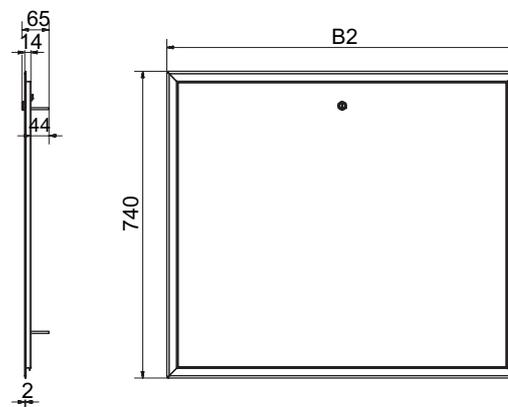
*LK Legs*

## DIMENSIONAL DRAWINGS

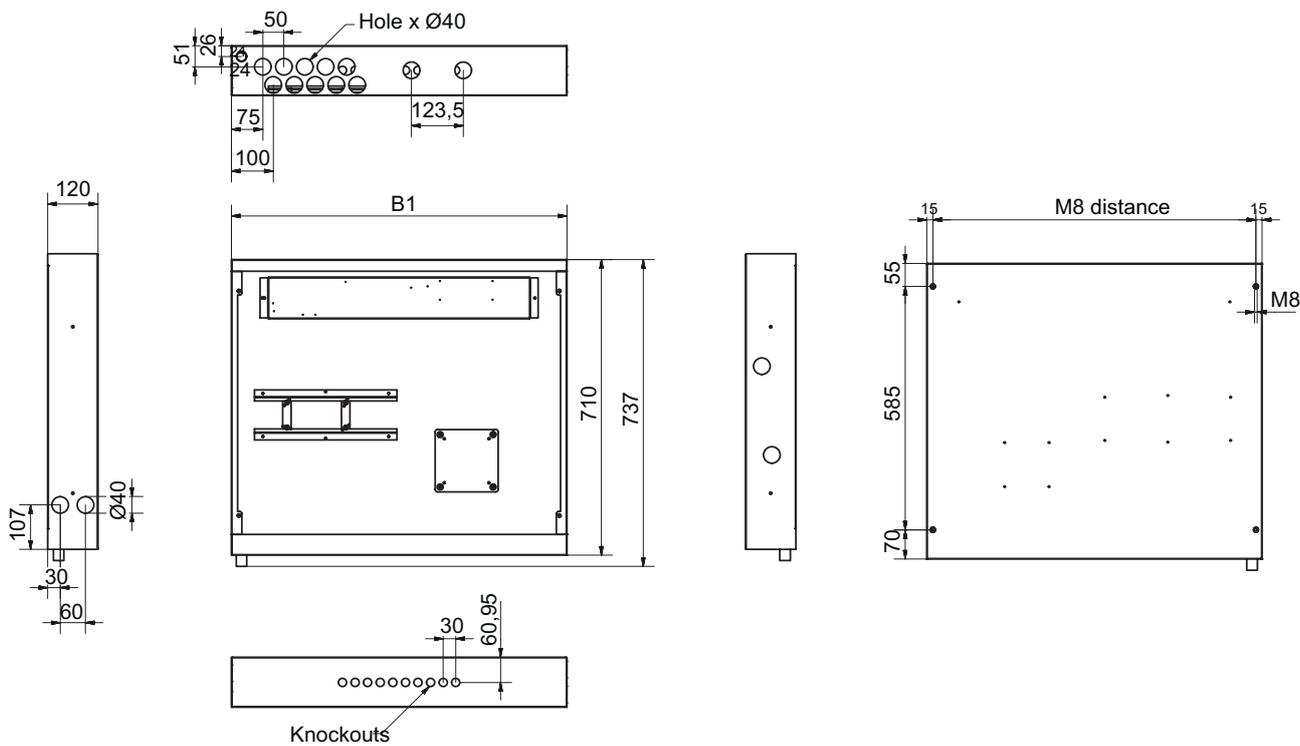
### LK Frame/hatch UFH, UTV



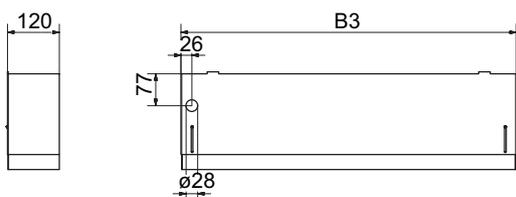
### LK Frame/hatch UFH, INB



### LK Shunt Cabinet UFH



### LK Base



Cabinet type	B1 mm	B2 mm	B3 mm	No. of holes	M8 distance
800	800	840	803	10	770
1150	1150	1190	1153	24	1120

## PIPE DIMENSIONS

The table below shows which dimensions and pipe types can be connected to LK Shunt Cabinet UFH/ LK Shunt Cabinet UFH Prefab.

Pipe grommet	PE pipe	Metal pipe	RiR (pipe in pipe) conduit dimensions
Pipe grommet 8-20	8, 12, 16 and 20 mm		-
Pipe grommet 20-34 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*	32 mm	-	40-44 mm

\* *ordered separately.*

## ARTICLE DATA

Name	Article no.	Comment
LK Shunt Cabinet UFH 800	243 46 90	For LK Manifold Shunt VS and VKF-RF 2-5
LK Shunt Cabinet UFH 1150	243 46 91	For LK Manifold Shunt VS and VKF-RF 6-12
LK Shunt Cabinet UFH 800 Prefab -2	243 47 31	With installed LK Manifold Shunt VS and VKF-RF 2
LK Shunt Cabinet UFH 800 Prefab -3	243 47 32	With installed LK Manifold Shunt VS and VKF-RF 3
LK Shunt Cabinet UFH 800 Prefab -4	243 47 33	With installed LK Manifold Shunt VS and VKF-RF 4
LK Shunt Cabinet UFH 800 Prefab -5	243 47 34	With installed LK Manifold Shunt VS and VKF-RF 5
LK Shunt Cabinet UFH 800 Prefab -6	243 47 35	With installed LK Manifold Shunt VS and VKF-RF 6
LK Shunt Cabinet UFH 800 Prefab -7	243 47 36	With installed LK Manifold Shunt VS and VKF-RF 7
LK Shunt Cabinet UFH 800 Prefab -8	243 47 37	With installed LK Manifold Shunt VS and VKF-RF 8
LK Shunt Cabinet UFH 800 Prefab -9	243 47 38	With installed LK Manifold Shunt VS and VKF-RF 9
LK Shunt Cabinet UFH 1150 Prefab -10	243 47 39	With installed LK Manifold Shunt VS and VKF-RF 10
LK Shunt Cabinet UFH 1150 Prefab -11	243 47 40	With installed LK Manifold Shunt VS and VKF-RF 11
LK Shunt Cabinet UFH 1150 Prefab -12	243 47 41	With installed LK Manifold Shunt VS and VKF-RF 12
LK Frame/hatch UFH 800 INB	243 46 79	Designed for UFH 800 cabinets built into wall
LK Frame/hatch UFH 1150 INB	243 46 76	Designed for UFH 1150 cabinets built into wall
LK Frame/hatch UFH 800 UTV	243 46 78	Designed for UFH 800 cabinets installed externally
LK Frame/hatch UFH 1150 UTV	243 46 77	Designed for UFH 1150 cabinets installed externally
LK Base 800 (depth 120)	243 46 87	Accessories for external installation
LK Base 1150 (depth 120)	243 46 85	Accessories for external installation
LK Key Lock	327 85	Accessories
LK Pipe grommet 8-20	334 01	Spare part
LK Pipe grommet 20-34	187 44 84	Spare part
LK Sealing Plug 40	339 32	Spare part
LK Pipe grommet 32 RiR with 40 mm conduit	241 95 95	Accessories (sold in pairs)
LK Pipe grommet 8 mm, Quattro	241 94 61	Accessories
LK Cabinet Stand	241 88 94	Accessories
LK Plastic clamp conduit 25	188 07 62	Spare part
LK Legs	187 82 02	Accessories