

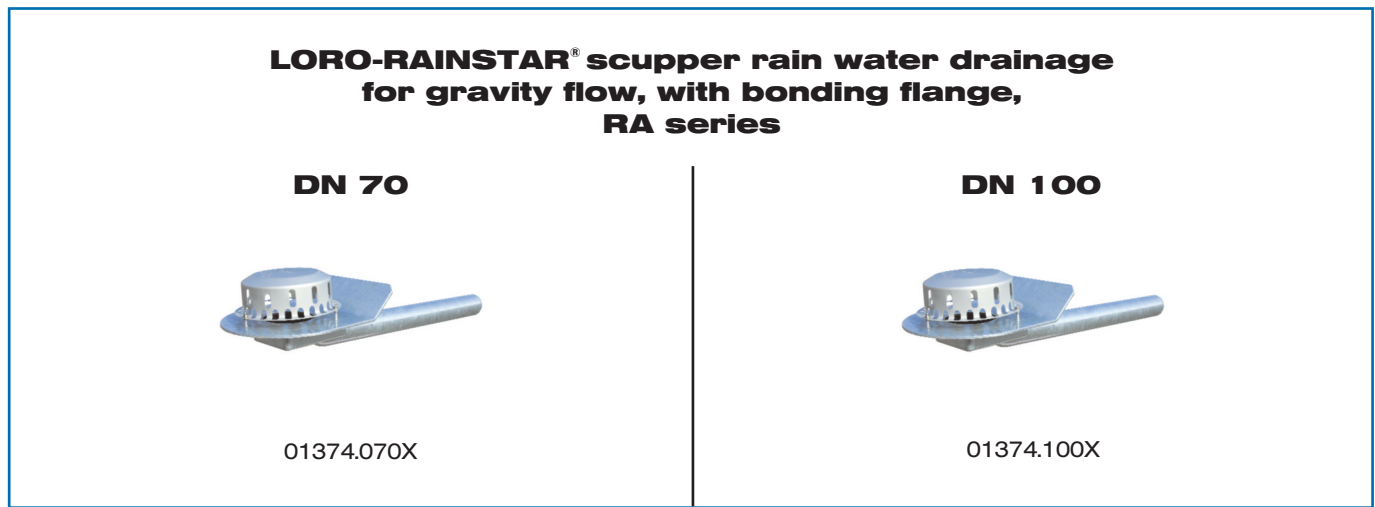
## Installation instructions

### LORO-RAINSTAR® scupper drains with bonding flange, RA series

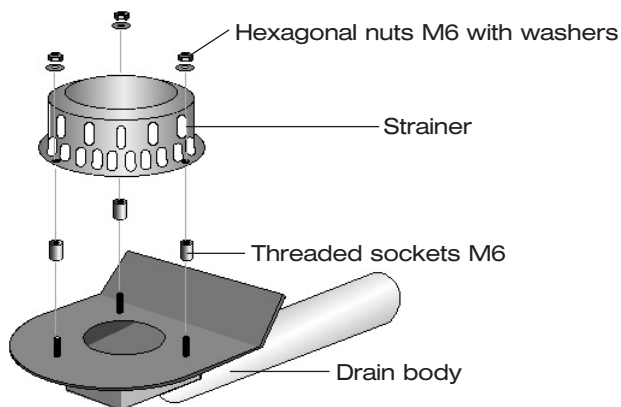
for bituminous roof sealing sheets, according to EN 1253, steel, hot-dip galvanised

LORO-RAINSTAR® scupper drains consist of the drain body and the stainless steel strainer.

#### System overview



#### Construction diagram

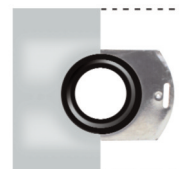


**LORO sliding flange** for bonding the **bituminous** vapour barrier



13235.070X\*  
13235.100X

for bonding the **plastic** vapour barrier



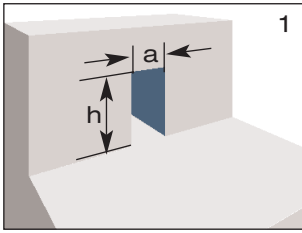
13236.070X\*  
13236.100X

\* DN 70, incl. sealing element

#### Trace heating

After checking the roof drains and pipes in areas endangered by frost, we recommend that customers install trace heating if necessary.

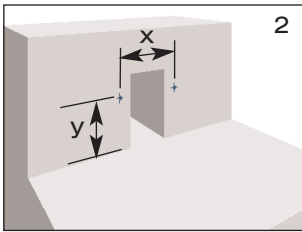
**LORO-RAINSTAR® scupper drains are to be serviced at 1/2 yearly intervals in accordance with DIN 1986, Part 30. Please also give these laying instructions to the plumber!**

**a.) Specifying the parapet opening, specifying the fitting height, bonding the LORO sliding flange in the vapour barrier**


1 Make the parapet opening according to Table 1 (Figure 1). Make the hole as far as the bare slab so that the roof space can be drained during the construction phase.

Table 1	DN 70	DN 100
<b>a</b>	130	160
<b>h</b>	w*	w*

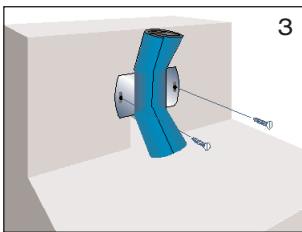
\*w = thickness of the thermal insulation in mm



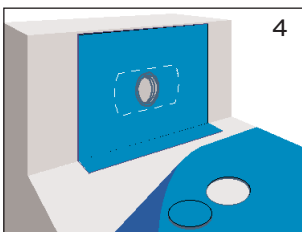
2 Make 10 mm diameter holes for the sliding flange with the factory-fitted connecting sleeve for connecting the vapour barrier according to the details specified in Table 2 (Fig. 2).

Table 2		DN 70	DN 100
<b>x</b>		196	238
<b>y</b>	Bitumen	w*-75	w*-75
	Plastic	w*-70	w*-70

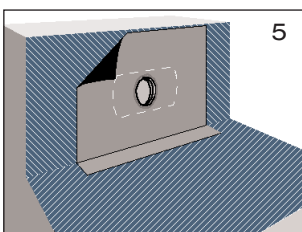
Thermal insulation of 100 mm on the roof side on the parapet is assumed  
\*w = thickness of the thermal insulation in mm



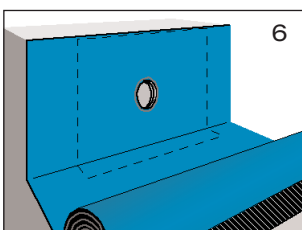
3 Fasten the sliding flange (with the connecting sleeve rolled up) using a screwdriver for slotted screws (Fig. 3).  
Note: The dimensions given under y in Table 2 must be maintained.



4 Spread out the factory-fitted **bituminous/EPDM compound** or **plastic** connecting sleeve, and attach to the substrate. Do not allow creases to form.  
**Note: The connecting sleeve must not be damaged.**  
Unroll the **bituminous** or **plastic** vapour barrier sheet. Make a circular cut (Fig. 4) in the vapour barrier sheet in the region of the sliding flange - hole diameter 150 mm.

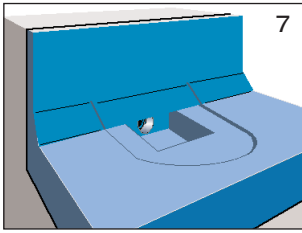


5 A bitumen primer must be applied to the slab and wall when bituminous vapour barrier sheets are used (Fig. 5).  
Plastic vapour barrier sheets must be attached to the substrate in accordance with the foil manufacturer's laying specifications.

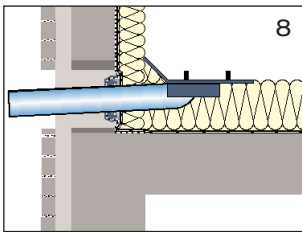


6 **Bituminous vapour barrier sheet:**  
Liquefy the upper side of the connecting sleeve by heating it (welding procedure). Unroll the vapour barrier sheet accurately over the sliding flange with connecting sleeve in the hot liquid bitumen, then evenly press or roll in (Fig. 6).  
**Plastic vapour barrier sheet:**  
Clean the contact surfaces and make the connection between the connecting sleeve and the vapour barrier sheet in accordance with the laying instructions from the manufacturer of the roof sealing sheet.

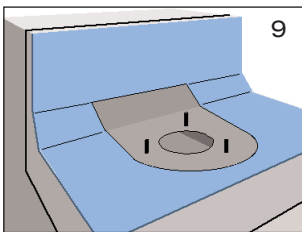
#### b.) Fitting the scupper drain with bonding flange



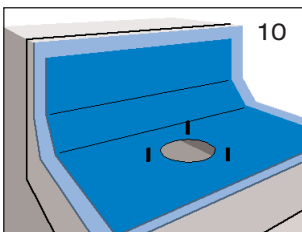
Lay the thermal insulation panels, and cut out sufficient space in the region of the drain to allow the drain to be fitted (Fig. 7). The fixed flange of the roof drain should, according to the flat roof regulations, be flush-mounted into the substrate.



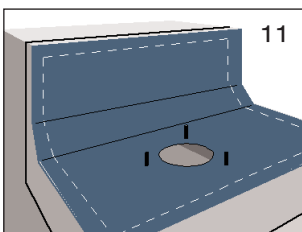
Adjust the length of the discharge pipe from the drain on site. Apply LORO-X lubricant to the gasket of the sliding flange and the discharge pipe of the drain. Push the discharge pipe, with the thermal insulation panels trimmed on-site, into the gasket of the sliding flange (Fig. 8). Fasten the drain. Close up any holes that have been made in the thermal insulation using suitable materials. Apply adequate quantities of thermal insulation to the discharge pipe in the area of the wall.



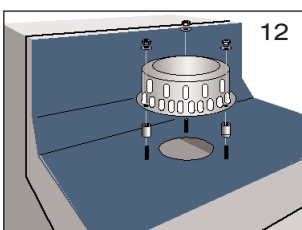
Position the first layer of the bituminous roof sealing sheet on the bonding flange (Fig. 9).



Apply bitumen primer to a width of 100 mm around the flange (observe the drying time). Cut the **connecting sheet** of the existing bituminous roof sealing sheet, with a size of 700 mm x 1000 mm, to size (Fig. 10), and join to the drain bonding flange in accordance with the laying instructions from the manufacturer of the roof sealing sheet.



Unroll the second layer of roof sealing sheet over the drain, then make a hole corresponding to the inlet diameter (Fig. 11), and join in accordance with the laying instructions given by the manufacturer of the roof sealing sheet.



Screw the three M6 threaded sockets included as spacers for the strainer onto the threaded bolts. Screw the strainer using the enclosed fastening nuts and washers to the drain body using an SW 10 open-ended or ring spanner (Fig. 12). Make sure here that the space between the strainer and the roof sealing sheet is 15 mm (adjust using the threaded sockets).



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Technical status: March 2011.  
Subject to technical changes.

VL LFL RS ATT KLEBE P 4