

## Installation instructions

### LORO-VERSAL<sup>®</sup> balcony drains

with clamping flange, K series

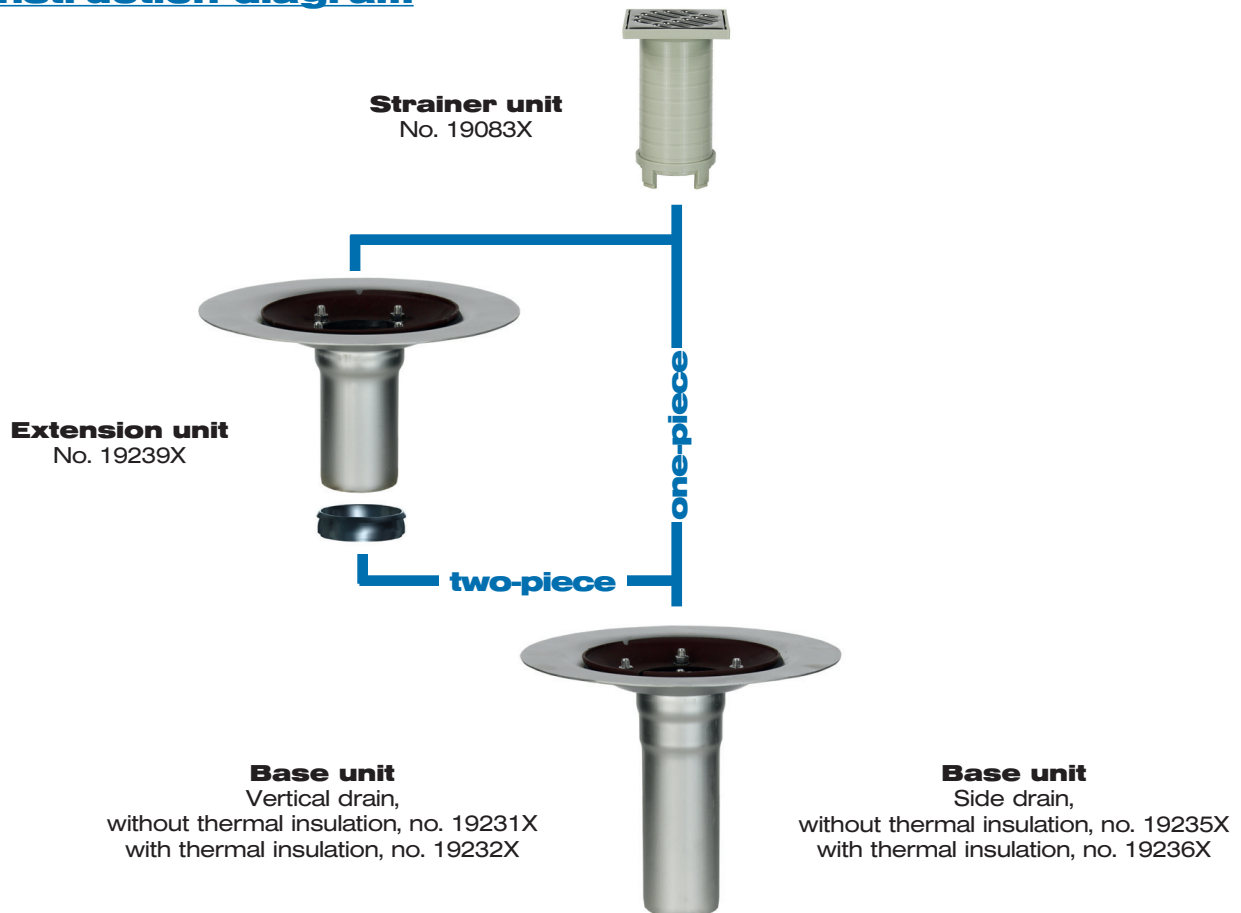
Stainless steel, DN 50 and DN 70

#### System overview

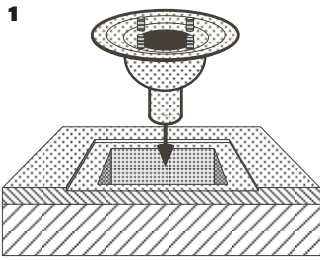
	one-piece				two-piece			
	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70
<b>Vers. a</b>	19200.050X	19200.070X	19205.050X	19205.070X	19250.050X	19250.070X	19255.050X	19255.070X
<b>Vers. b</b>	19210.050X	19210.070X	19215.050X	19215.070X	19260.050X	19260.070X	19265.050X	19265.070X

Vers. a = no thermal insulation, Vers. b = with thermal insulation

#### Construction diagram

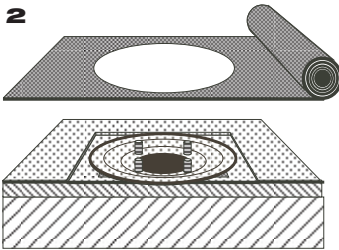


#### 1.) Connection of LORO-VERSAL® balcony drains to sealing sheets (single layer / two-layer)



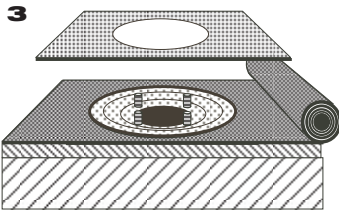
##### One-piece balcony drain:

- 1 Insert the drain pot in the slab cut-out and cast-in firmly in concrete. The flange should be mounted into the substrate flush with the surface and as neatly as possible. Unscrew loose flange. Seal slab cut-out. Cut-out measurements, see page 4.



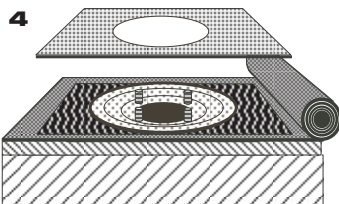
- 2 Unroll the sealing sheet over the drain. Cut a circle out of the sealing sheet for the drain. Hole diameter: 300 mm.

**Note: the flange must remain clear!**

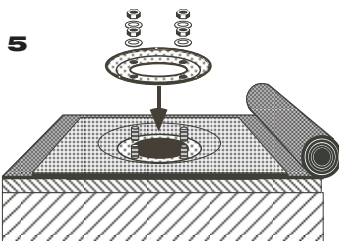


- 3 Cut the connecting sheet for the drain pot out of original sealing sheet to approx. 600 x 600 mm in situ and pre-drill. Hole diameter: 120 mm. Adjust the connecting sheet to the shape of the flange if necessary.

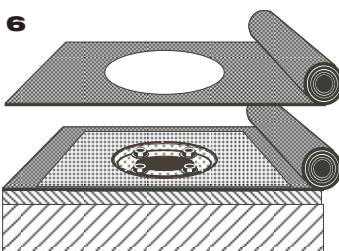
**Thoroughly clean all the contact surfaces (must be free from grease and dust).**



- 4 Glue/weld the connecting sheet and sealing sheet according to the laying instructions from the manufacturer of the sealing sheet.



- 5 Clamp connecting sheet directly via the loose flange and the flange sealing ring (can be omitted with bitumen sealing sheets). Tighten the enclosed screws using an open-ended or ring spanner (7.5 N/m), **working criss-cross.**



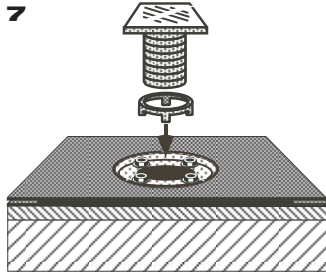
- 6 In the case of double-layer gluing, roll upper sealing sheet out over the drain. Cut a circle out of the sealing sheet for the drain - Hole diameter: 190 mm.

**Note: the connecting sheet must not be damaged!**

Roll back the sealing sheet.

Glue/weld the connecting sheet and sealing sheet according to the laying instructions from the manufacturer of the sealing sheet.

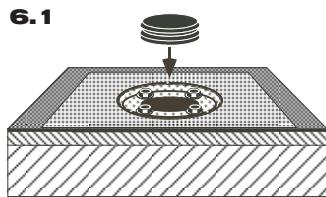
**This stage can be omitted with sealing sheets made of elastomer according to DIN 7864 T 1, plastic according to DIN 16729 and/or DIN 16731 or PVC according to DIN 16730, which are generally used in a single layer.**



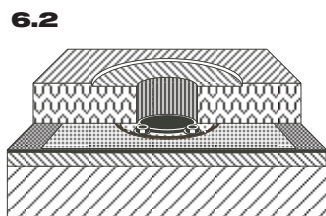
- 7** Clamp the drainage ring into the drain pot and then insert stainless steel strainer with the strainer receptacle and drainage ring.

#### Two-piece balcony drain:

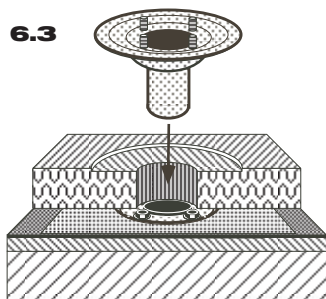
**Insert balcony drain and connect with single layer vapour barrier/sealing sheet according to steps 1 - 5 (one-piece balcony drain)**



- 6.1** Insert sealing element for fitting the extension cartridge into the sealing chamber of the drain pot.



- 6.2** Cut out the thermal insulation according to the dimensions of the extension cartridge. In so doing, the flange should be mounted into the substrate as flush as possible with the surface.



- 6.3** Coat the whole of the inside of inserted sealing element (6.1) and the outside of the insert pipe of the extension cartridge with LORO lubricant. Then insert the extension cartridge into the drain pot in a backflow-safe manner. For installation heights/thermal insulation thickness see section **2.)** Extension cartridge.

**Continue for connecting extension cartridge to single or double-layer sealing sheet as for steps 2 - 7 (one-piece balcony drain).**

### 2.) Extension cartridge

In the case of the two-piece version (use for balcony construction with thermal insulation) seal extension cartridge in the drain pot in a backflow-safe manner.

Inst. heights	Adjustm. range 40 - 120 mm	Adjustm. range below 40 mm	Adjustm. range 120 - 230 mm
Instr. for laying	Possible without cutting to length	Possible by cutting to length	Use extension pipe* no. 15587X

\*with sealing element no. 911X

### 3.) Strainer receptacle

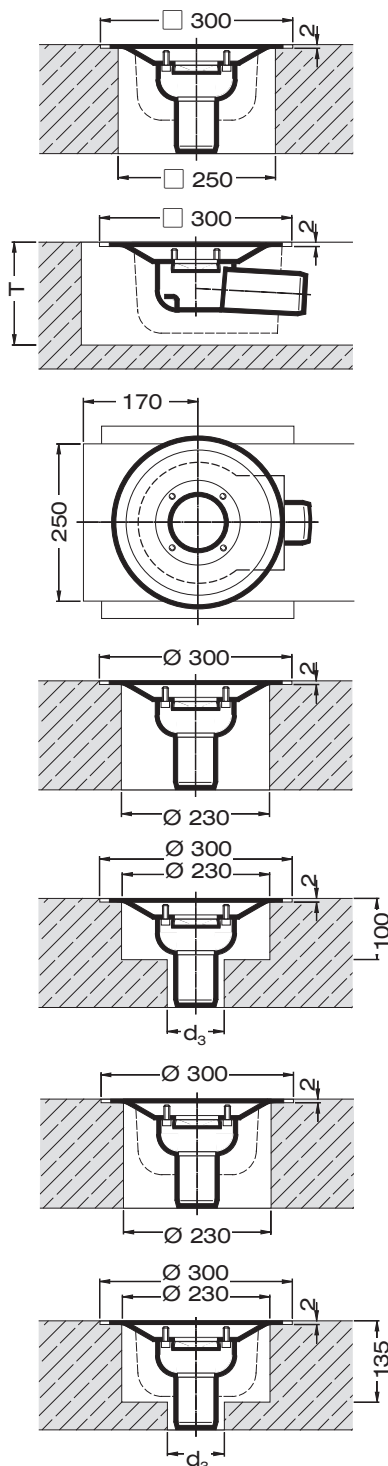
Cut the strainer receptacle on site to the required height (for installation height 10 - 130 mm).

### 4.) Drainage ring

The drainage ring is designed to drain off percolating and rainwater when draining in two levels.

#### 5.) Cut-out dimensions

The cut-out measurements shall be carried out according to the table below. The cut-outs shall be designed so that concrete infilling can also be carried out below the flange if necessary (e.g. by bevelling one of the sides of the cut-out).



#### Slab piercings Single drain, vertical outlet

#### Slab cut-outs Single drainage, side outlet

DN	Cut-out depth T	
	a	b
50	110	140
70	120	160

a = without thermal insulation  
b = with thermal insulation

#### Core hole, single stage for drains without thermal insulation

#### Core hole, two-stage for drains without thermal insulation

DN	d <sub>3</sub>
50	72
70	92

#### Core hole, single stage for drains with thermal insulation

#### Core holes, two-stage for drains with thermal insulation

DN	d <sub>3</sub>
50	72
70	92

#### 6.) Cast-in

If the balcony drains are to be cast-in, they must first be fastened in such a way that their position will not change.

#### 7.) Maintenance and repair

The whole drainage system must be inspected and maintained in accordance with DIN 1986/30.

#### 8.) Trace heating

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

#### LOROWERK K.H.Vahlbrauk GmbH & Co.KG

Kriegerweg 1, 37581 Bad Gandersheim, Tel.: +49(0)53 82.710, Fax: +49(0)53 82.712 03

Web: www.loro.de, e-mail: infocenter@lorowerk.de