

Installation instructions

LORO balcony drains,

with connecting collar, series E and F

according to EN 1253,

made of hot-dip galvanized steel with additional coating,

DN 50 and DN 70

System overview

Series E

drainage in one level, underneath the slab covering

	one-piece				two-piece			
	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70
Vers. a	15271.050X	15271.070X	15471.050X	15471.070X	15281.050X	15281.070X	15481.050X	15481.070X
Vers. b	15371.050X	15371.070X	15571.050X	15571.070X	15381.050X	15381.070X	15581.050X	15581.070X

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

Series F

Drainage in one level, above the slab covering, with additional percolating water drainage or drainage in two levels above and below the slab covering

	one-piece				two-piece			
	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70	DN 50	DN 70
Vers. a	15272.050X	15272.070X	15472.050X	15472.070X	15282.050X	15282.070X	15482.050X	15482.070X
Vers. b	15372.050X	15372.070X	15572.050X	15572.070X	15382.050X	15382.070X	15582.050X	15582.070X

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

Trace heating

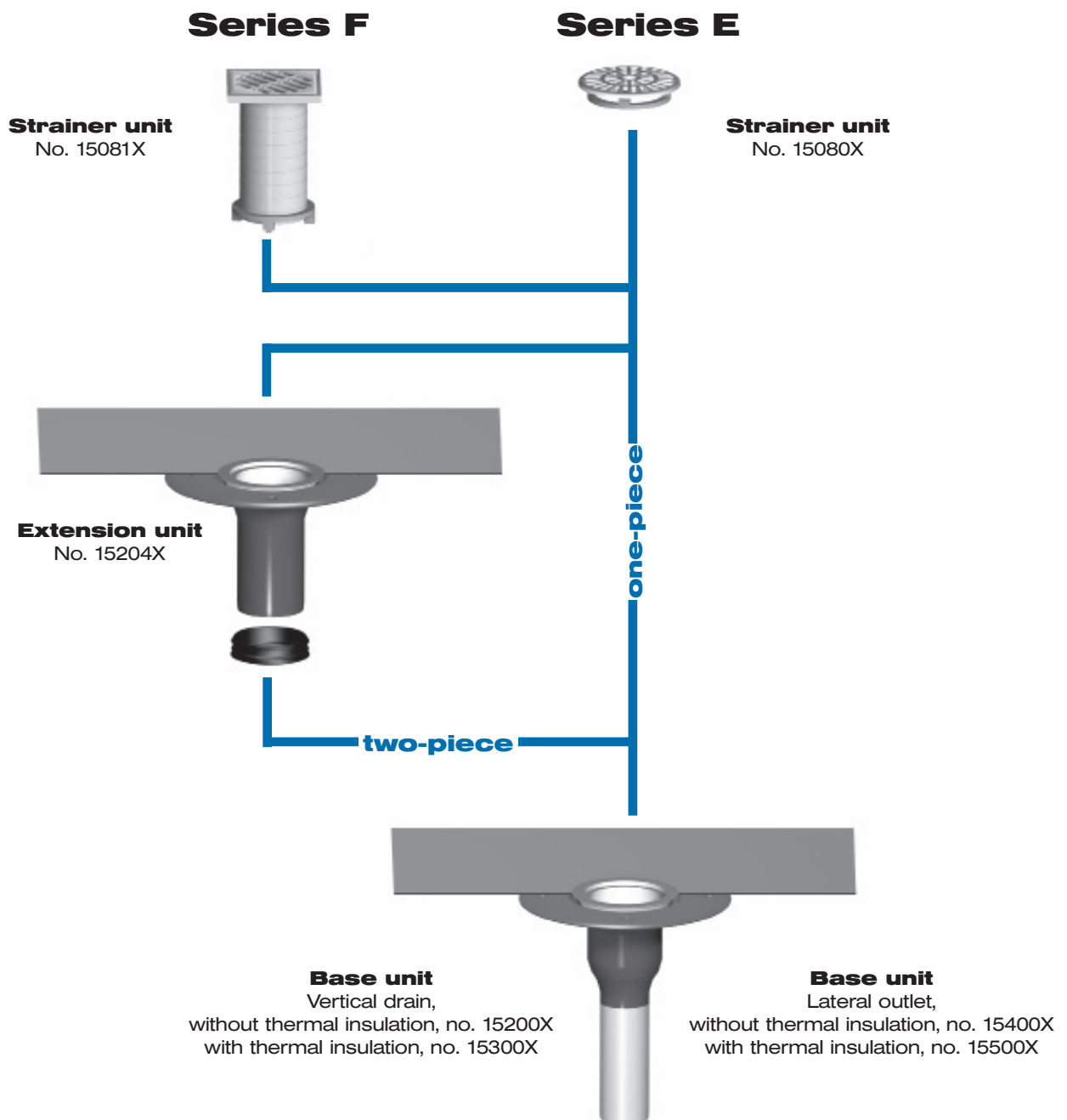
After checking the roof drains and pipes in areas endangered by frost, we recommend that customers install trace heating if necessary (see EN 12056, Part 1, or DIN 1986, Part 100).

Connecting collars for flat roof drainage systems available in:

No. 15593X	Resitrix Bitumen/EPDM compound - Standard	No. 15008X	Novotan	EPDM
No. 15596X	Rhenofol PVC	No. 15009X	Hertalan	EPDM
No. 15517X	Extrubit ECB	No. 15011X	Trocals S	PVC
No. 15005X	Evalon EVA	No. 15012X	Alkorplan	PVC
No. 15006X	Wolfen IB PVC-BV			

Unless otherwise specified by the ordering party, a connecting collar of bitumen/EPDM compound will be supplied. If sealing sheet already present on-site (without woven or non-woven fabric inlay) is to be clamped, please discuss the application options beforehand with LOROWERK.

Construction diagram



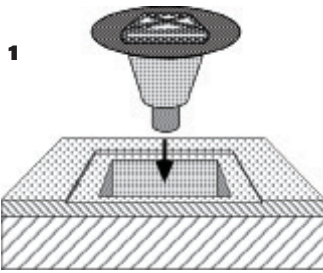
1.) Connection of LORO connecting collar with balcony sealing sheets

The connecting collar of LORO balcony drainages, series E and F, consists of bitumen/EPDM compound, PVC or ECB. **Please ask at the LOROWERK factory if you require connecting collars for sealing sheets other than those described below.**

a) Combination connecting collar made of polymer-bitumen/EPDM compound for joining to two-layer bituminous sealing sheets.

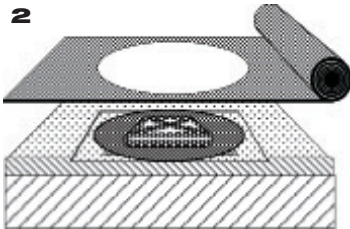
The combination connecting collar \square 500 x 3.0 mm is a sealing sheet based on EPDM (synthetic rubber). It also contains glass fibre fabric. Manufacturer: Phoenix, type Resitrix.

The combination connecting collar is joined to the sealing sheet using hot bitumen (in the hot bitumen gluing or the hot bitumen welding process).



One-piece version:

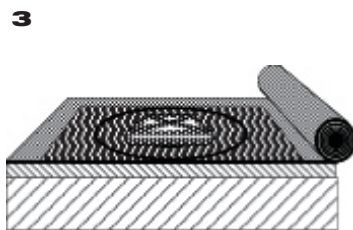
- 1** Insert the drain pot in the slab cut-out and cast-in firmly in concrete. The flange should be mounted into the substrate flush with the surface and as neatly as possible. Seal slab cut-out. Cut-out measurements, see page 6.
In order to protect the connecting collar during the building phase prior to the execution of sealing work, it is folded up in the factory and protected by a film. In order to process the connecting collar without problems after having carried out the cast in work, the collar must be unfolded. If the sealing work is delayed, precautions must be taken to protect the connecting collar against damage.



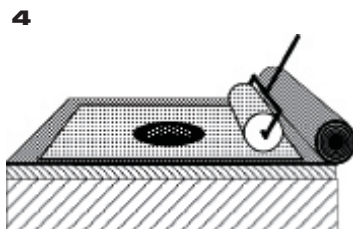
- 2** Make holes in the **lower** sealing sheet and roll it out over the drain. Hole measurements: approx. 230 mm.

Note: the flange must remain clear!

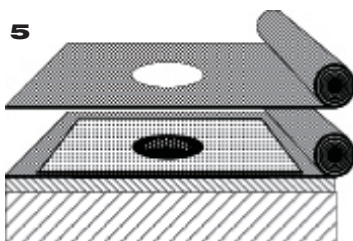
Thoroughly clean all the contact surfaces (they must be free from grease and dust), and if there is a protective foil on the LORO connecting collar, remove it.



- 3** Apply bituminous adhesive (hot bitumen) to the sealing sheet in the area of the contact surface, or liquefy the bituminous material on the lower sealing sheet by heating it. Make sure when using hot-bitumen gluing, that extreme heating (e.g. use a torch to dry the substrate) is not applied to the lower side of the connecting collar.

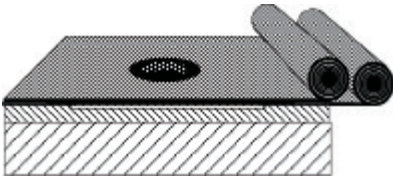


- 4** Spread the connecting collar in the liquid hot bitumen (in the hot bitumen gluing process) or in the liquid bituminous material of the bitumen welding sheet (welding process), and then evenly push or roll the connecting collar down.

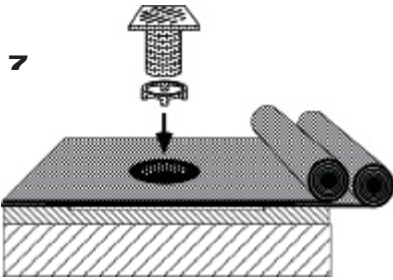


- 5** Unroll the **top** sealing sheet over the drain. Cut a circular hole in the sealing sheet in the region of the drain - hole diameter approx. 150 mm.
Note: the connecting collar must not be damaged!
Roll back the sealing sheet.

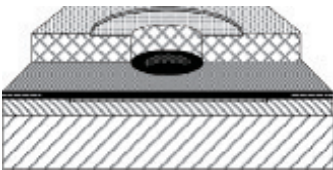
- 6** Apply hot bitumen to the top side of the connecting collar (hot bitumen gluing process), or liquefy the bituminous material of the connecting collar by heating it (welding process). Unroll the sealing sheet again over the drain in the hot liquid bitumen, and then press or roll it down evenly.



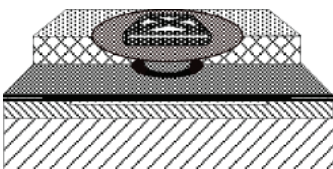
- 7** Clamp the drainage ring into the clamping ring of the drain pot and then insert the stainless steel strainer with the strainer holding fixture.



- 8** Cut out the thermal insulation according to the dimensions of the extension cartridge.
Important: cut out a space for the flange as well, as it should be flush-mounted into the substrate as far as possible.



- 9** Coat the whole of the inside of the previously inserted sealing element 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 **2**.



- 10** Connection of the connecting collar to the sealing sheet and installation of the strainer and the strainer holding fixture are as described under 1 - 7.

Clamping of the combination connecting collar by the customer

Normally the combination connecting collar is clamped in place at the factory. If on-site clamping is necessary, proceed as follows:

- 1.) Only use a combination connecting collar that has been pre-shaped at the factory.
- 2.) Place the combination connecting collar centrally over the fitted drain. The bituminous layer faces upwards.
- 3.) Heat the bituminous layer of the combination connecting collar in the area of the holes (clamping area) with an open flame or hot-air device. The surface must be shiny (but there must be no flame).
- 4.) Place the clamping ring centrally over the holes, and push it evenly, firmly and deeply into the pre-shaped, heated holes of the combination connecting collar. It may be necessary to push the clamping ring with a vertical wooden board in order to make sure that the pressing force is even.
- 5.) Allow the combination connecting collar to cool down somewhat before further processing.
- 6.) Connect the combination connecting collar to the sealing sheet (see above for the procedure).

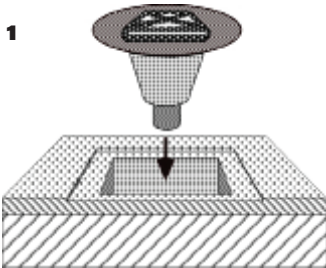
b) PVC connecting collar for connecting to PVC sealing sheets made from plasticized polyvinyl chloride in accordance with DIN 16730 - e.g.: PVC-P-NB

The PVC connecting collar □ 500 x 1.5 mm is a sealing sheet in accordance with DIN 16730 based on polyvinyl chloride (PVC-P-NB), manufacturer Braas, type Rhenofol C.

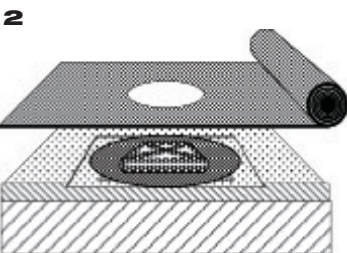
The PVC connecting collar is connected to the existing PVC sealing sheet by means of solvent welding or hot gas welding. Hot-gas welding is preferable at low ambient temperatures - associated with high air humidity.

Observe the manufacturer's instructions for jointing to sealing sheets.

One-piece version:



- 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. Seal slab cut-out. Cut-out measurements, see page 6.
In order to protect the connecting collar during the building phase prior to the execution of sealing work, it is folded up in the factory and protected by a film. In order to process the connecting collar without problems after having carried out the cast in work, the collar must be unfolded. If the sealing work is delayed, precautions must be taken to protect the connecting collar against damage.



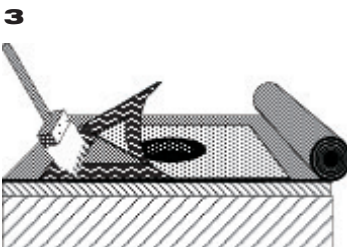
- 2 Unroll the sealing sheet over the drain. Cut a circular hole in the sealing sheet in the region of the drain - hole diameter approx. 150 mm.
Hole measurements: approx. 230 mm.

Note: the connecting collar must not be damaged.

Thoroughly clean all the contact surfaces

(they must be free from grease, free from dust and dry).

First remove the protective foil from the LORO connecting collar. If the temperature is less than +5 °C, pre-heat the area of the seam using the hot gas hand-welding unit.



- 3 Apply solvent welding agent every 50 mm to both sides of the seam region, and press down by hand. Then load the seams (e.g. with a sandbag). When using hot gas welding, close the seam with the hot gas hand-welding unit and pressure roller or with a welding machine.

- 4 Check the seams and rework them if necessary.

Two-piece version: see 8 - 10

2.) Extension cartridge

Connect extension cartridge, no. 15599X, in case of two-piece version (use with balcony slab with thermal insulation), with sealing element, no. 911X, DN 70, to drain pot

Adjustment ranges:

	Adjustment ranges	Instructions for laying
Vertical drain pot	40 - 80 mm	cut to length
	80 - 120 mm	continuously adjustable
	120 - 230 mm	with extension pipe, no. 15587X, can be trimmed to length
Side drain pot	40 - 120 mm	cut to length
	120 - 230 mm	with extension pipe, no. 15587X, can be trimmed to length

3.) Drainage ring

The drainage ring no. 15098X, is designed to drain off percolating and rainwater when draining over two storeys. It is clamped in the clamping ring and has two functions:

- a. With cams facing upwards = direct holder for flat strainer, no. 15093X.
- b. With cams facing downwards = holder for the strainer holding fixture, no. 15094X.

4.) Strainer holding fixture

Cut the strainer holding fixture, no. 15094X, on site to the required height. If extension is required, use extension pipe no.15587X, with sealing element no. 911X, DN 70.

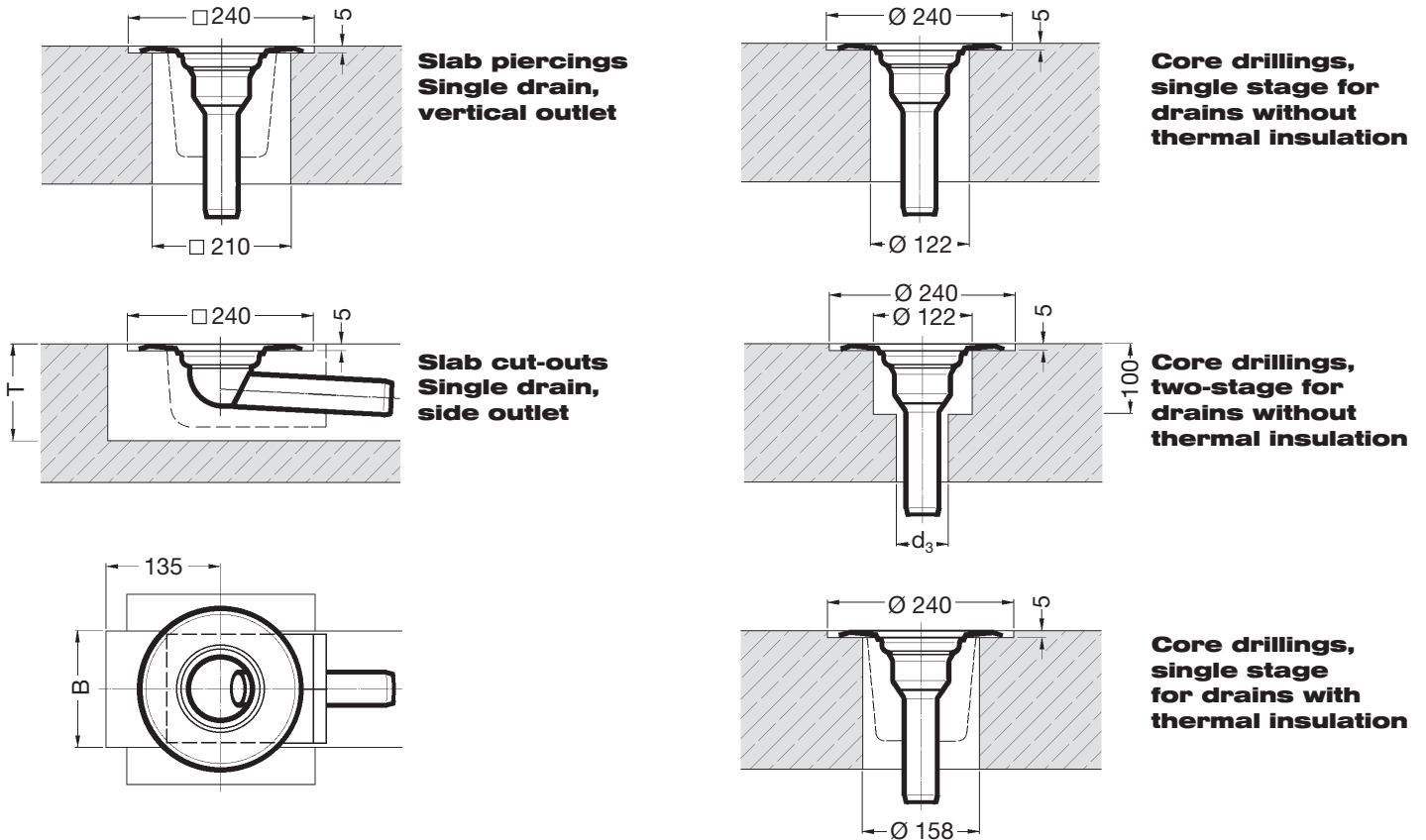
Adjustment ranges:

Adjustment ranges	Instructions for laying
35 - 140 mm	cut to length
140 - 250 mm	with extension pipe, no. 15587X, can be trimmed to length

5.) Protective cover

The drain pots of the LORO roof drains are supplied with a protective cover. This prevents dirt from getting into the drain pot or the down pipe during assembly. The protective cover is removed when assembly has proceeded far enough.

6.) Cut-out dimensions



DN	Cut-out depth T		Cut-out width B		d ₃
	a	b	a	b	
50	110	130	130	160	72
70	130	150	130	160	92

a = without thermal insulation
b = with thermal insulation



Representative dealers:

- 1 Rudolf Strauß GmbH industrial representation**
 Tel.: +49(0)40.851 29 30 • Fax: +49(0)40.851 29 50
 industrievertretungen@r-strauss.de
Internal service: Sascha Oeltze • Tel.: +49(0)5382 71-128
 s.oeltze@lorowerk.de
- 2 Ralf Kaminski technical consultant**
 Tel.: +49(0)4748.75 65 • Mobile: +49(0)175.524 64 94
 Fax: +49(0)4748.75 66 • ralf.kaminski@lorowerk.de
Internal service: André Pralle • Tel.: +49(0)5382 71-300
 a.pralle@lorowerk.de
- 3 LORO-X warehouse west**
Harald Peglow Mewer Ring 7 • 58454 Witten
 Tel.: +49(0)2302.913 160 • Fax: +49(0)2302.880 35
 witten@lorowerk.de
Stefan Kruska industrial representation
 Fax: +49(0)2205.908 789 • Mobile: +49(0)172.209 27 77
 kruska@kruska-industrievertretung.de
Internal service: Monika Oeltze • Tel.: +49(0)5382 71-302
 m.oeltze@lorowerk.de
- 4 Ullrich Stichnoth technical consultant**
 Tel.: +49(0)6102.308 549 • Mobile: +49(0)171. 210 39 30
 Fax: +49(0)6102.308 583 • ullrich.stichnoth@lorowerk.de
Internal service: Natalia Henze • Tel.: +49(0)5382 71-223
 n.henze@lorowerk.de
- 5 Bernd Albert Skiba technical consultant**
 Tel.: +49(0)5382.932 91 32 • Mobile: +49(0)160.97 90 04 35
 Fax: +49(0)5382.932 91 34 • bernd.skiba@lorowerk.de
Internal service: Thorsten Börstling • Tel.: +49(0)5382 71-252
 t.boerstling@lorowerk.de
- 6 Udo Keidel technical consultant**
 Tel.: +49(0)9372.13 44 19 • Mobile: +49(0)160.9015 31 46
 Fax: +49(0)9372.1344 35 • udo.keidel@lorowerk.de
Internal service: Natalia Henze • Tel.: +49(0)5382 71-223
 n.henze@lorowerk.de
- 7 Udo Keidel technical consultant**
 Tel.: +49(0)9372.13 44 19 • Mobile: +49(0)160.9015 31 46
 Fax: +49(0)9372.1344 35 • udo.keidel@lorowerk.de
Wholesale support:
Laufer Industrievertretungen GmbH
 Tel.: +49(0)8024.30 30 692 • Mobile: +49(0)172.855 80 04
 Fax: +49(0)8024.30 30 693 • rudolf.laufer@laufer-iv.de
Internal service: Hendrik Henze • Tel.: +49(0)5382 71-250
 h.henze@lorowerk.de
- 8 Andreas Schneider technical consultant**
 Tel.: +49(0)6222.663 97 45 • Mobile: +49(0)160.989 750 44
 Fax: +49(0)6222.663 97 48 • andreas.schneider@lorowerk.de
Internal service: Annette Jürries-Hoppmann • Tel.: +49(0)5382 71-296
 ajuerries-hoppmann@lorowerk.de
- 9 LORO-X warehouse Baden-Württemberg**
Pierre Purgoll Turmstraße 49 1/2 • 89231 Neu-Ulm
 Tel.: +49(0)731.83300 • Fax: +49(0)731.87116
 neu-ulm@lorowerk.de
Oliver Koch technical consultant
 Tel.: +49(0)7161.290 07 15 • Mobile: +49(0)175.574 02 25
 Fax: +49(0)7161.290 07 33 • oliver.koch@lorowerk.de
Internal service: Annette Jürries-Hoppmann • Tel.: +49(0)5382 71-296
 ajuerries-hoppmann@lorowerk.de
- 10 Peter Wollitz technical consultant**
 Tel.: +49(0)8861.713 72 01 • Mobile: +49(0)170.921 16 62
 Fax: +49(0)8861.910 98 69 • peter.wollitz@lorowerk.de
Wholesale support:
Laufer Industrievertretungen GmbH
 Tel.: +49(0)8024.30 30 692 • Mobile: +49(0)172.855 80 04
 Fax: +49(0)8024.30 30 693 • rudolf.laufer@laufer-iv.de
Internal service: Hendrik Henze • Tel.: +49(0)5382 71-250
 h.henze@lorowerk.de
- 11 Michael Heyne technical consultant**
 Tel.: +49(0)342 05.42 69 0 • Mobile: +49(0)160.97216053
 Fax: +49(0)342 05.42 69 20 • michael.heyne@lorowerk.de
Wholesale support:
Laufer Industrievertretungen GmbH
 Tel.: +49(0)8024.30 30 692 • Mobile: +49(0)172.855 80 04
 Fax: +49(0)8024.30 30 693 • rudolf.laufer@laufer-iv.de
Internal service: Hendrik Henze • Tel.: +49(0)5382 71-250
 h.henze@lorowerk.de
- 12 LORO Leipzig**
Iris Pohl, Susanne Kietz
 Tel.: +49(0)342 05.42 69 0 • Fax: +49(0)342 05.42 69 20
 E-mail: wb.leipzig@lorowerk.de
Uwe Binngießner technical consultant
 Mobile: +49(0)160.97216092 • uwe.binngiesser@lorowerk.de
Michael Heyne technical consultant
 Mobile: +49(0)160.97216053 • michael.heyne@lorowerk.de
Hans-Christoph Müller technical consultant
 Mobile: +49(0)170.3154542 • hans-christoph.mueller@lorowerk.de
Internal service: André Hoppmann • Tel.: +49(0)5382 71-301
 a.hoppmann@lorowerk.de

13 LORO Berlin

Wholesale support:

Ulrich Spigaht technical consultant

Tel.: +49(0)30.981006 16 • Mobile: +49(0)160.90515047

Fax: +49(0)30.981006 29 • ulrich.spigaht@lorowerk.de

Internal service: André Hoppmann • Tel.: +49(0)5382 71-301

a.hoppmann@lorowerk.de

Steffen Spigaht technical consultant

Tel.: +49(0)30.981006 0 • Mobile: +49(0)171.975 91 68

Fax: +49(0)30.981006 29 • steffen.spigaht@lorowerk.de

Stefan Günther Sales Manager

Tel.: +49(0)2654.96 49 15 • Mobile: +49(0)175.291 78 64

stefan.guenther@lorowerk.de

Heike Weiberg Internal Sales Manager

Tel. +49(0)5382 71-257 • Fax +49(0)5382 71-203

heike.weiberg@lorowerk.de

Austria

Thomas Flügel technical consultant

Baumergasse 14/6 • 1210 Vienna, Austria

Tel.: +43 1 290 14 47 • Mobile: +43 664 413 320 0

thomas.fluegel@lorowerk.de

Internal service: Christine Meier • Tel.: +49(0)5382 71-115

c.meier@lorowerk.de

Switzerland

Wisán Technik AG

Gubelstr. 19 • CH-6300 Zug

Tel.: +41 41 711 5035 • Fax: +41 41 710 4010

info@wisan.ch

Internal service: Thorsten Börstling • Tel.: +49(0)5382 71-252

t.boerstling@lorowerk.de



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

Internet: www.loro.de, E-mail: infocenter@lorowerk.de

Technical status: January 2016.

Subject to technical changes.