

LORO-X

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LORO[®]

LORO-X Roof Drainage Systems

made of steel with LORO-X push-fit socket

**LORO-X fill and ventilation pipes for heating oil tanks
and piping systems for the shipbuilding industry**

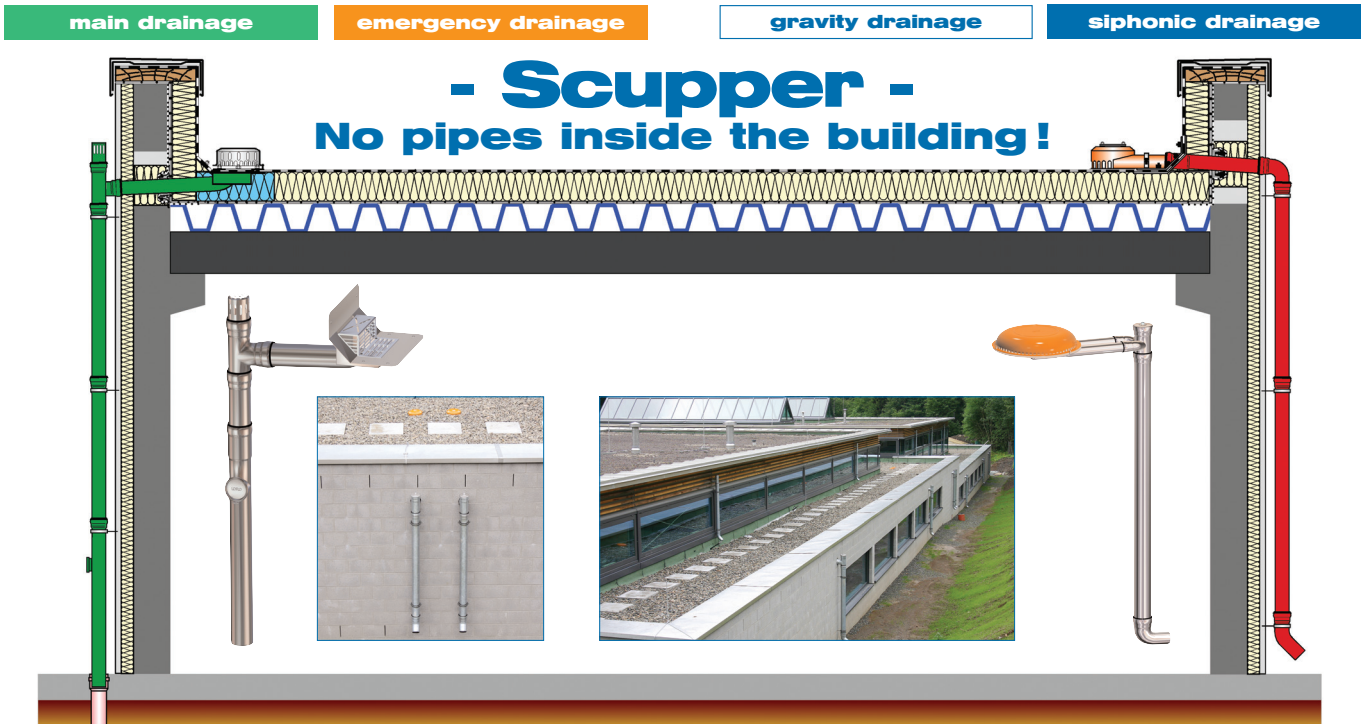
Product Overview



Stand April 2009

LORO-X Scupper Roof drainage systems

made of steel pipes with LORO-X push-fit socket



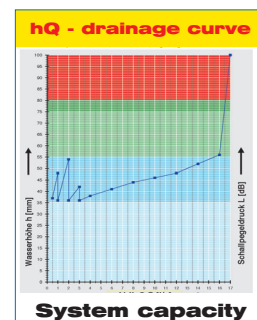
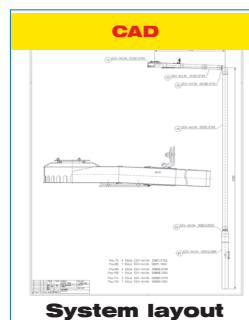
LORO-X scupper roof drainage systems are the right choice if the pipe routings inside the building are not allowed. To protect the facade, the rainwater is transferred to the ground by pressure-resistant and unbreakable LORO-X galvanized steel pipes. LORO offers optimal and complete roof drainage systems for the whole range of the main drainage and the emergency drainage each with gravity drainage and siphonic drainage.

Key aspects for the optimization are:

- Scupper-direct drainage systems with silent/gravity flow with 4,5l/s at 35mm water head, DN100
- Scupper-Rainstar-Roof drainage systems with upturned flanges to ease installation
- Scupper-Distant-Roof drainage systems for variable distances to the parapet
- Attikastar-High capacity-Roof drainage systems with up to 32l/s at 55mm water head, DN100
- Scupper-Roof drainage systems without roof penetration
- Scupper-Main-Emergency-Combination-Roof drainage systems

Advantages of scupper roof drainage systems with no pipes inside the building:

- No fireprotection necessary - because there is no roof penetration
- Full function of the roof drainage system in case of fire
- No noise protection necessary - because no pipes are inside the building
- Full use of the space inside the building
- Full system safety due to standardised LX-Systems with 2D/3D-CAD drawing
- System performance overview available by discharge curves for each individual system
- Planning safety: all system files available on our homepage www.loro.de



LORO-X Roof drainage systems

made of steel pipes with LORO-X push-fit socket

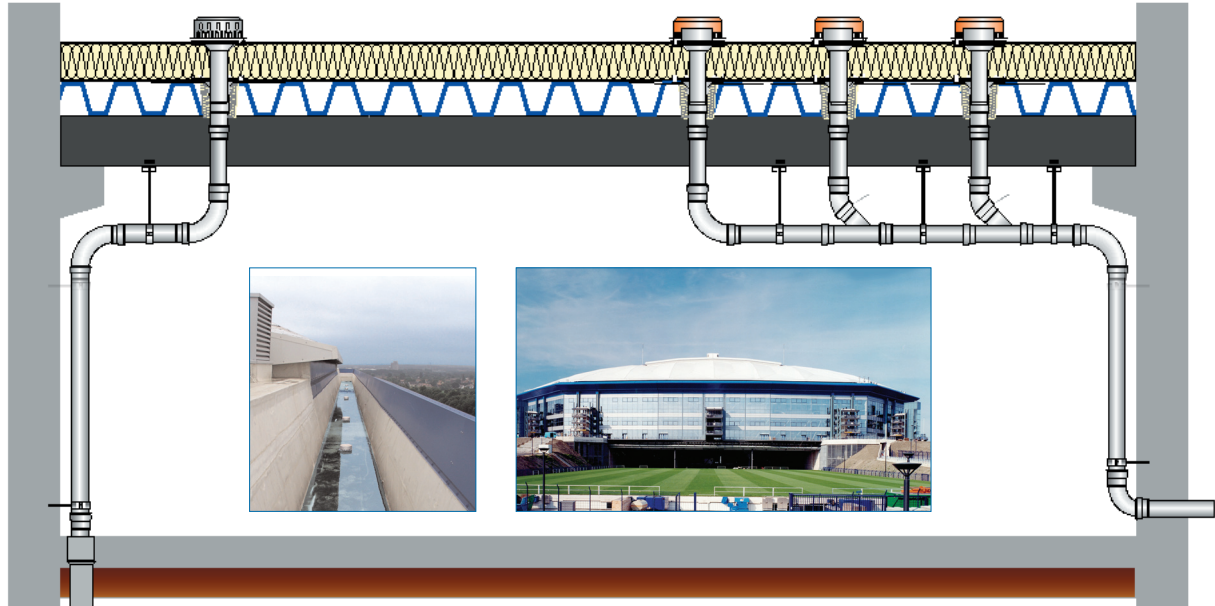
main drainage

emergency drainage

gravity drainage

siphonic drainage

- Roof -



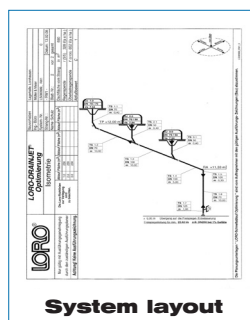
LORO-X Roof drainage systems are the right choice if big roof surfaces even with complex structures shall be drained efficiently. With LORO-X pressure-resistant and unbreakable galvanised steel pipes you can realise individual and special projects with the highest safety and flexibility. With the big range of LORO-X drains, pipes and fittings - easy and fast to install - you can take every challenge in roof drainage.

LORO offers optimal and complete roof drainage systems for the whole range of the main-drainage and the emergency-drainage each with gravity and siphonic drainage.

For the siphonic drainage of big roofs and complex roof surfaces LORO offers individual calculation service as a cost free support for you planning. LORO technicians will calculate hydraulic optimized siphonic roof drainage systems with a minimum amount of roof drains and downpipes.

Advantages of LORO-X roof drainage systems:

- No visible downpipes outside the building
- Certified fire protection solutions with the LORO-X System available
- All drains will stay in function even in the case of fire
- Pressure-resistant and unbreakable galvanised steel pipes for highest safety
- LORO-X Roof drainage systems can be combined with LORO-X compound pipes against condensation water and with additional noise protection
- Free LORO-X calculation service



System capacity

LORO-X Balcony drainage systems

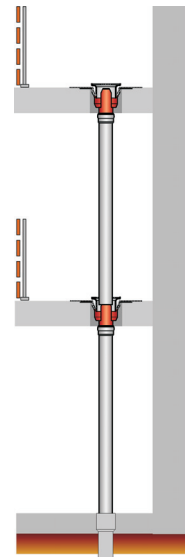
With the widespread range of balcony drainage systems - consisting of drains, pipes, fittings and fixing material - nearly every kind of balconies and terraces in residential houses, hotels or stepped buildings can be drained in the optimal way. Available for balconies with or without waterproofing layers as well as liquid plastic sealings. Alternatively the drains can be cast in to pre-manufactured balcony slabs.

Main Advantages:

- Timesaving planning with LORO-X overviews
- Fast installation with LORO-X push-fit systems
- Direct drains to lead the system directly through many floors
- With connecting sleeve or clamping flange
- With or without thermal insulation
- Dimensions DN 50 - DN 70

LORO Systemübersicht LORO-Balkon- und Terrassenentwässerungen

Grundbauweise	Belag	Einbaueinheit					Durchlauf							
		1	2	3	4	5	1	2	3	4	5			
...

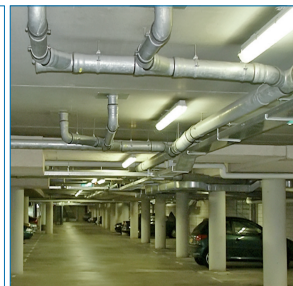


LORO-X steel pipes with push-fit socket

Over 50 years the LORO-X steel pipe system with the LORO-X push-fit socket is the most flexible and most secure system on the market. More than 1500 fittings make sure that you can solve any individual case of application for wastewater or rainwater, indoor or outdoor.

Main Advantages:

- Fast installation with LORO-X push-fit system
- shockproof, stable and backlog secure
- resistant against heat and cold
- Not flammable
- DN 40 - DN 200 with LORO-X push-fit socket
- DN 250 - DN 300 without socket



LORO-X push-fit socket



LORO-X standpipes and rainwater downpipes

Neither mechanical damage from industry and traffic application nor vandalism can harm the LORO-X standpipes and rainwater downpipes! When using an outside drainage system for any kind of roof and building, the LORO-X standpipe offers the highest quality and protection. The steelpipes look good on any facade of flat roofs and pitched roofs and is weatherproof in any situation.

Main Advantages:

- Shockproof, stable and backflow safe
- Resistant against heat and cold
- Standpipes with or without cleanout opening
- Standpipe round or square shaped
- Made of steel, stainless steel or copper
- DN 50 - DN 150



LORO-XCL stainless steel pipes

The advantages of the LORO-X steel pipes can be carried over to stainless steel pipes. Additionally, LORO-XCL stainless steel pipes with special sealing elements can be used under heavy strain like aggressive media in canteen kitchens or laundries.

Main Advantages:

- Stainless steel
- Material number 1.4301 (AISI 304)
- Material number 1.4404 (AISI 316L)
- Sealing elements SBR, NBR, SI, EPDM and Viton (depending on media)
- DN 40 - DN 150

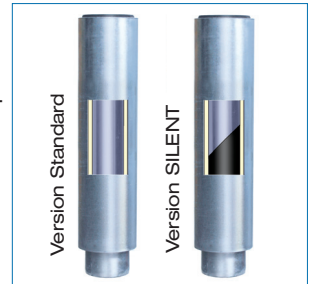


LORO-X compound pipes

By using LORO-X compound pipes made of one inner and one outer pipe as well as a PU-insulation, condensation water can be avoided and the heat transfer can be minimized. Optimal sound insulation is available with the special 'silent' version of LORO-X composite pipes including an additional sound insulation compound layer.

Main Advantages:

- Fast installation with LORO-X push-fit system
- PU-insulation between inner and outer pipe to avoid condensation
- best sound insulation 'silent'
- Optional with heating
- DN 40 - DN 150



LORO-X steel pipes for shipbuilding and Offshore constructions

The LORO-X product line for shipbuilding includes special parts for the requirements of the shipbuilding industry. You can choose between the light weight LORO-XCL stainless-steel system and the galvanised LORO-X system. LORO can provide all the necessary certificates for example from Germanic Lloyd and Lloyd's Register for grey and blackwater systems. For aggressive or chemical media like in kitchens, it is recommended to use LORO-XCL stainless steel pipes.

Main Advantages:

- Fast and cost-saving installation with LORO-X push-fit system
- Certified by German Lloyd, Lloyds Register Shipping
- For use in fire extinguishing lines with pressure clamp
- According to DIN EN 1123, DIN 1986 and DIN EN ISO 15749
- High safety and lightweight



LORO-XP pressure clamp

The LORO-XP pressure clamp allows to use the LORO-X galvanised or stainless steel pipes to be used in high pressure applications.

The LORO-XP pressure clamps PN 16 are tested according to IACS UR P2.11 up to a pressure of 48 bars (696 psi).

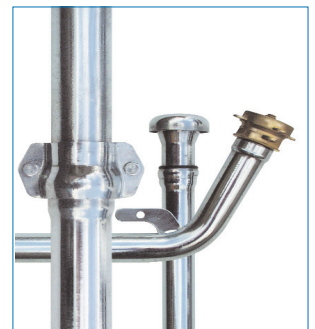
The LORO-XP pressure clamp shall only be used together with LORO-XP precision pipes. Please ask our sales-department.



LORO-X fill and ventilation pipes for heating oil tanks

LORO-X fill and ventilation pipes are used for over 40 years for filling and ventilation of buried tanks, basement welded tanks or plastic tanks. The LORO-X push-fit socket saves installing time and the special connecting pieces allow the filling and ventilation to adapt to nearly every situation.

No welding - just push-fit.



Company values

"Entrepreneurial work is known as to have market success promising ideas and to find people and resources, to master the competition of the market with the everlasting company together."

(Karl-Heinz Vahlbrauk, founder of LOROWERK, 1954)

Traditionally and in the 4th generation, the integrated view of the company, the employees and the products embedded into a challenging market is the key to success of the LOROWERK.

At our plant in Bad Gandersheim (Germany) the research, development, production, distribution and service department work hand in hand together to guarantee the best products and support.



Research and development

Continuous research and development on numerous testing areas are the basis for new technologies and products. The system shape of the whole (roof-) drainage system is essential for the reliable system performance. LORO as a researching and producing company is able to offer complete roof drainage systems with a proof of performance to their customers.

The company

Full company name:

LOROWERK K.H.Vahlbrauk GmbH & Co.KG

Founded:

1954 in 31061 Alfeld/Leine

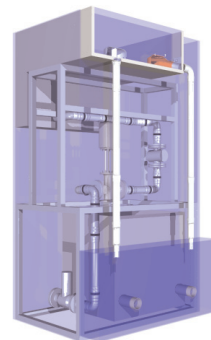
General Managers: Dipl.-Ing. Wolfgang Vahlbrauk
Jörg Marten

Employees:

ca. 250

LORO-X Quality

Many European patents and the participation in many institutes for standardization add to the competence of LORO, like the TÜV-certificated Quality-Management-System. The Quality of LORO products is regularly checked by independent institutes.



Numerous testing areas at the LOROWERK allow the testing of a circle range of LORO-X systems. They are the basis for the LX-data sheets.



LORO-X Online-Service:

Design your complete roof drainage system in three easy steps at www.loro.de

- LORO-X Online-Calculation
- LORO-X Online-Configurator
- LORO-X Online Productdatabase
- LORO-X Online Tender

LORO-X product advantages



LOROWERK K.H. Vahlbrauk GmbH & Co. KG

Kriegerweg 1 • 37581 Bad Gandersheim, Postfach 13 80 • 37577 Bad Gandersheim
Tel. +49(0)53 82.710 • Telefax +49(0)53 82.712 03 • Internet: www.loro.de • e-mail: infocenter@lorowerk.de