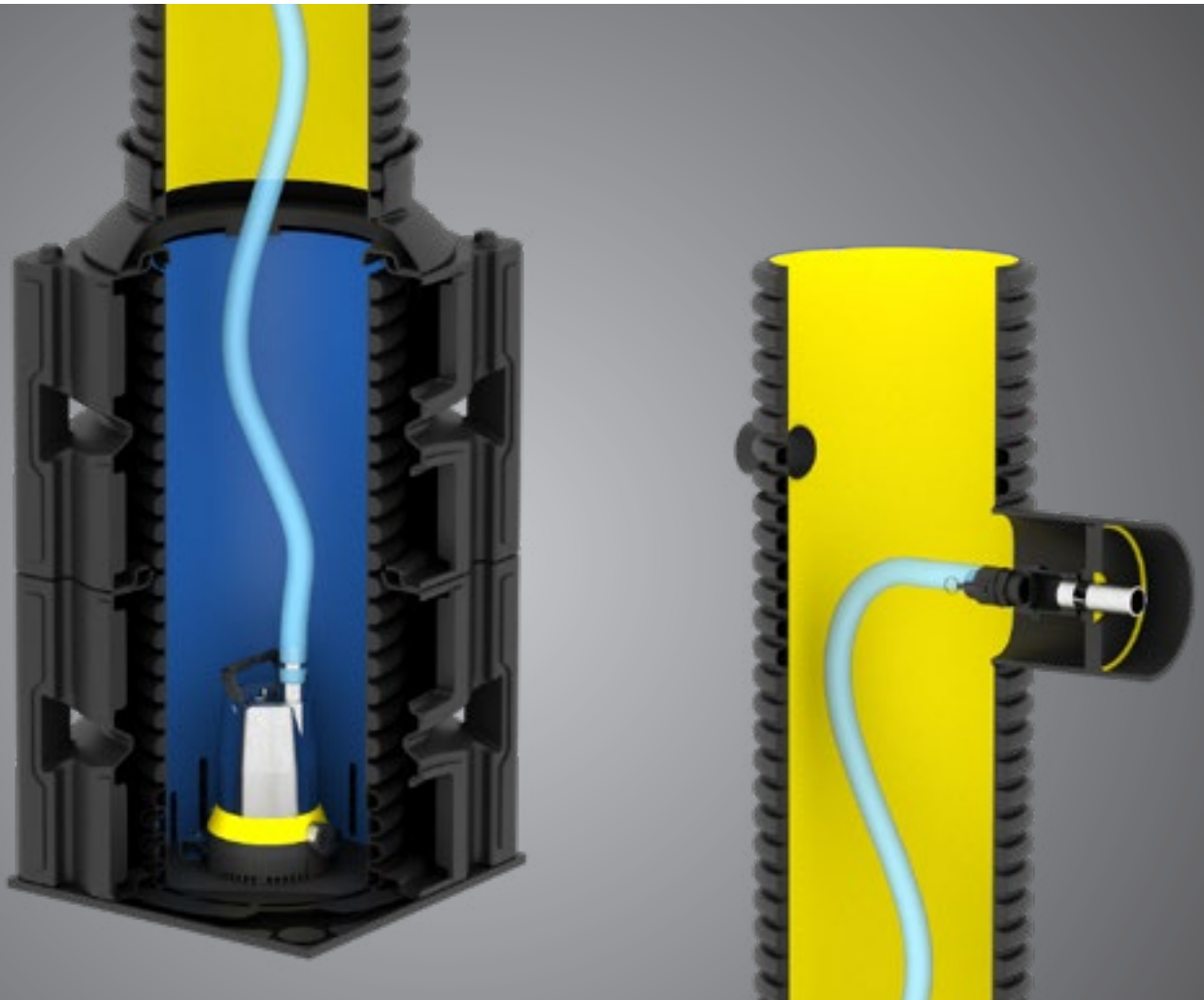


Product brochure

Quadro®Lift – pump shaft



The system shaft with intelligent control for the smart tank



Intelligent stormwater management in extreme weather

Water is a powerful and unpredictable force of nature – the ever-increasing frequency and magnitude of local heavy rainfalls make it obvious. This is why future-proof stormwater management systems with underground storage facilities form the core element of far-sighted action.

The QuadroLift pump shaft turns the tank into an intelligent solution capable of reacting to different conditions in an optimal way. This will help avoid flooding, boost evaporation performance in urban centres, and ensure an ideal stormwater balance.



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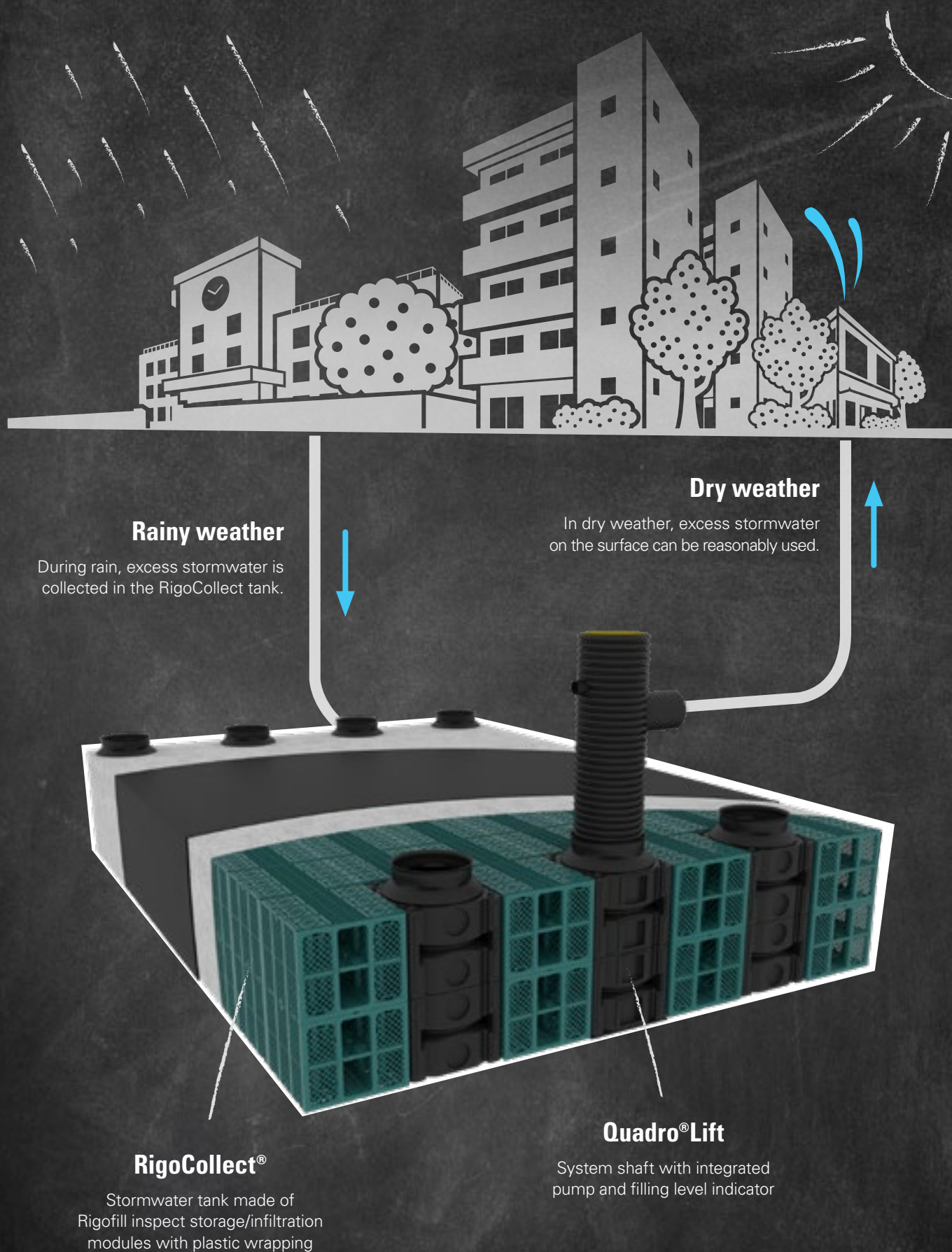
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Information about or assessments of the use and installation of our products and systems is exclusively provided on the basis of the information submitted. We do not assume any liability for damage caused by incomplete information. If the actual situation deviates from the planned situation or if a new situation occurs or if different or new installation techniques are applied, these must be agreed upon with FRÄNKISCHE, since these situations or techniques may lead to different conclusions. Notwithstanding the above, the customer is solely responsible for verifying the suitability of our products and systems for the intended purpose. In addition, we do not assume any liability or responsibility for system characteristics and system functionalities when third-party products or accessories are used in combination with FRÄNKISCHE systems. We only assume liability if original FRÄNKISCHE products are used. For use in other countries than Germany, country-specific standards and regulations must also be observed.

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Reasonable use of excess stormwater



Quadro®Lift – the pump shaft for the smart tank

The system shaft with a pump and a filling level indicator

QuadroLift is a modular pump shaft D_o 600 that is suitable for numerous applications. The system pump shaft can be fully integrated into the Rigofill system.

No access to the shaft is required for maintenance – the pump unit can be easily removed for servicing and reinserted again whenever needed.

The process of installation is very simple too – the pre-fabricated shaft is inserted into the modular block type structure at the intended position before installing the final layer.

The pump unit and the filling level of the tank can be controlled and monitored by means of conventional transmission equipment.

Applications

From simple garden watering to smart-control irrigation of outdoor facilities and building greening – QuadroLift is an important component of sustainable stormwater management in urban areas.

Thanks to the control system that can be integrated, the tank turns smart and ensures a modern, individual and efficient organisation of water extraction.



The right pump for any application

The integrated submersible motor pumps with a vertical connection can be used wherever stormwater, groundwater, infiltration or drainage water accumulates.

Depending on the requirement, QuadroLift can be equipped with a matching pump model. Two product lines of pumps with different performance classes are available for this purpose.

The Multidrain product line has been designed for large water quantities with a low pumping head. As to the Dominator line, it has been specifically developed for small water quantities with a high pumping head.

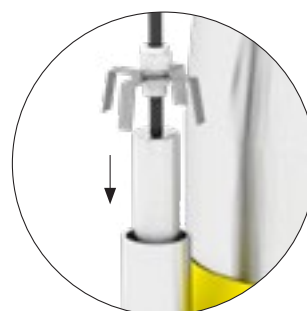
The filling level sensor measures the water level in the system and therefore allows targeted management of the water quantities in the tank.



Multidrain product line



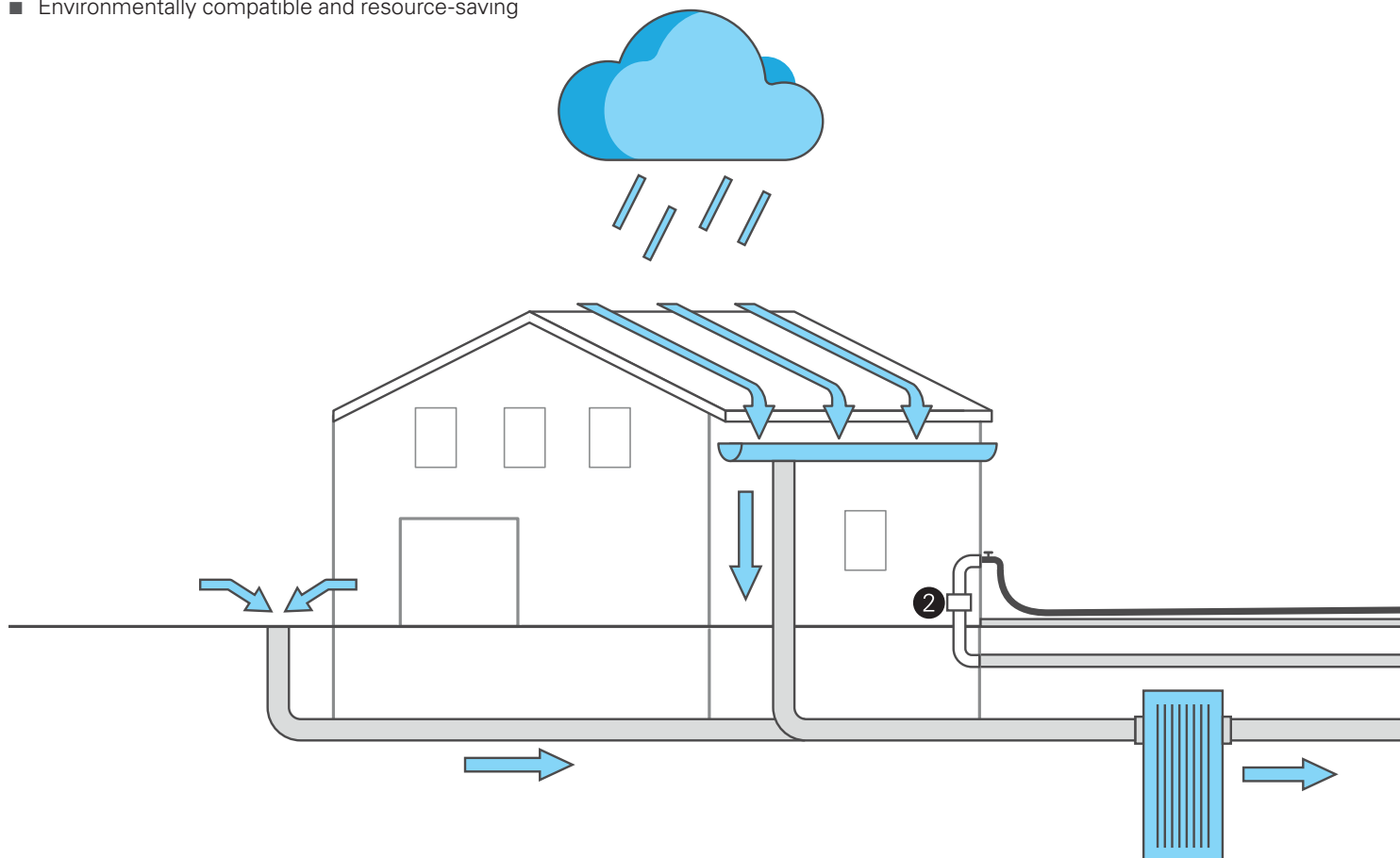
Dominator product line



Filling level sensor and support

Application example – Quadro[®]Lift without control

- For manual irrigation of greens
- On/off operation via pressure switch
- Ideal for garden watering
- Environmentally compatible and resource-saving



1 Pump unit

Dominator product line:
Small water quantities,
high pumping head – ideal
for garden watering.



2 Pressure switch

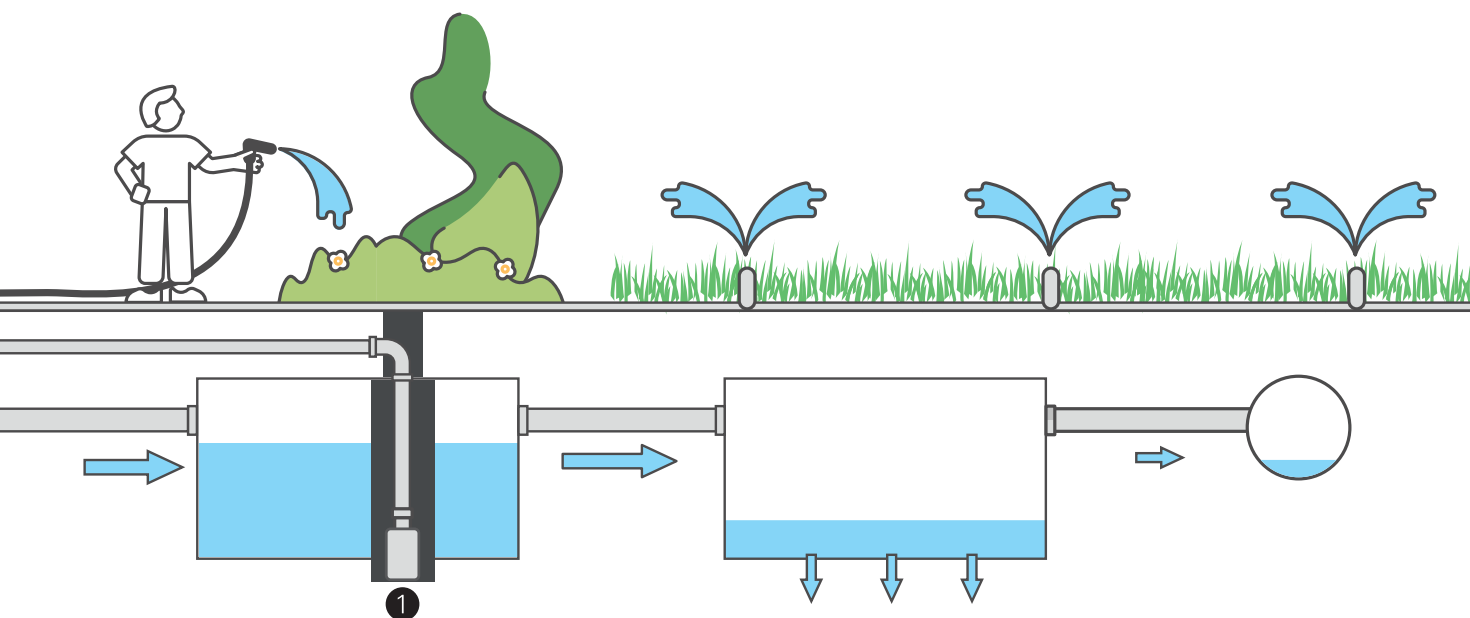
The pressure switch starts and stops the pump (max. 230 V) when the valve/water tap opens and closes.

If there is no intake flow, the electronics will block the pump and thus protect it from dry operation.



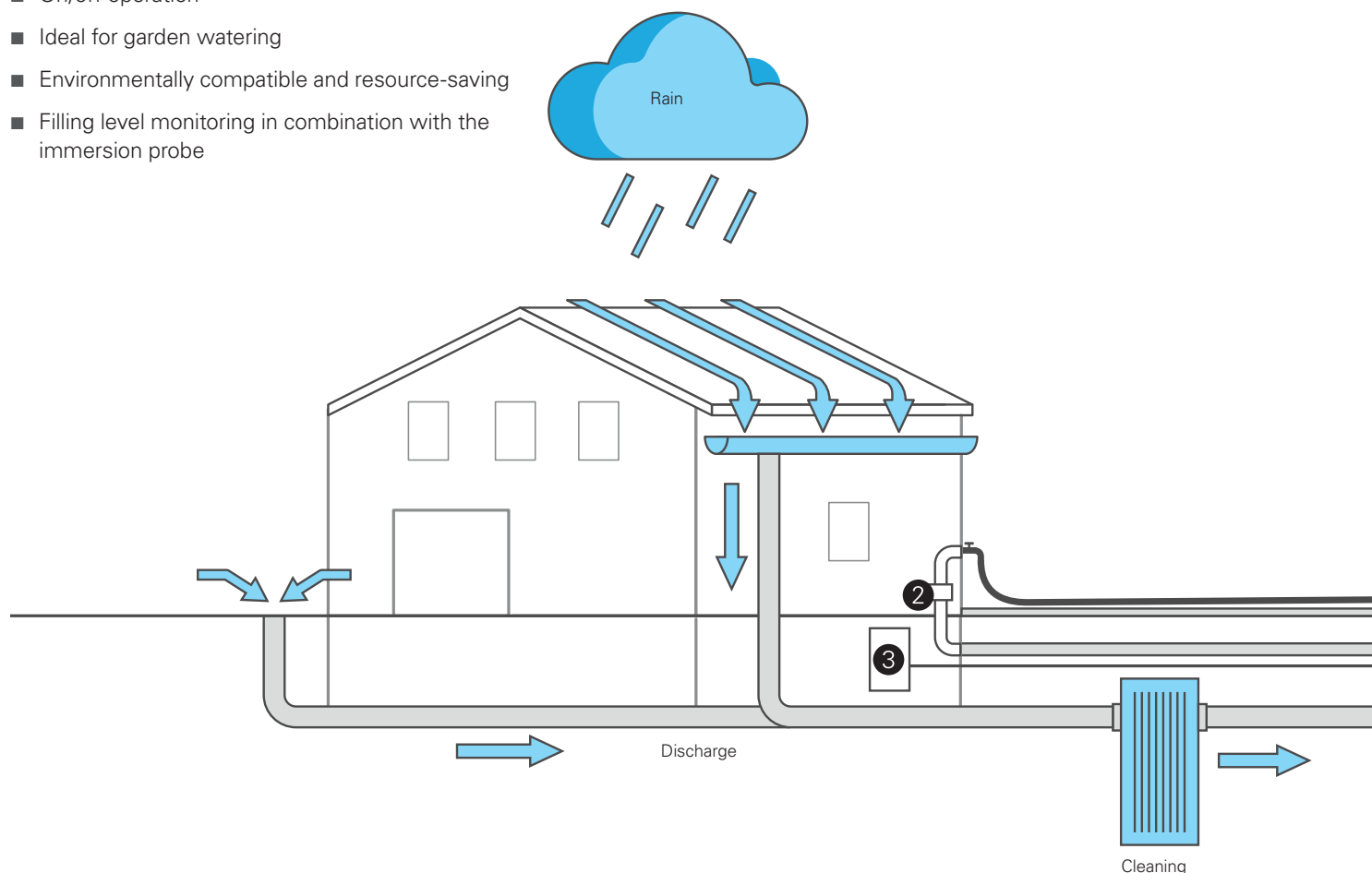


QuadroLift without control is the simplest variant for manual watering. The pressure switch recognises pressure loss that occurs when the water tap opens and subsequently starts the pump. When the water tap closes, it stops the pump again.



Application example – Quadro[®]Lift with basic control

- For manual irrigation of greens
- Simple control with a pressure switch
- On/off operation
- Ideal for garden watering
- Environmentally compatible and resource-saving
- Filling level monitoring in combination with the immersion probe



1 Pump unit with filling level sensor

Dominator product line:
Small water quantities,
high pumping head – ideal
for garden watering.

The immersion probe is inserted
into the pump arrangement
housing and transmits the
information on the water level
to the control system.



2 Pressure switch

The pressure switch starts and stops the pump
(max. 230 V) when the valve/water tap opens and
closes.

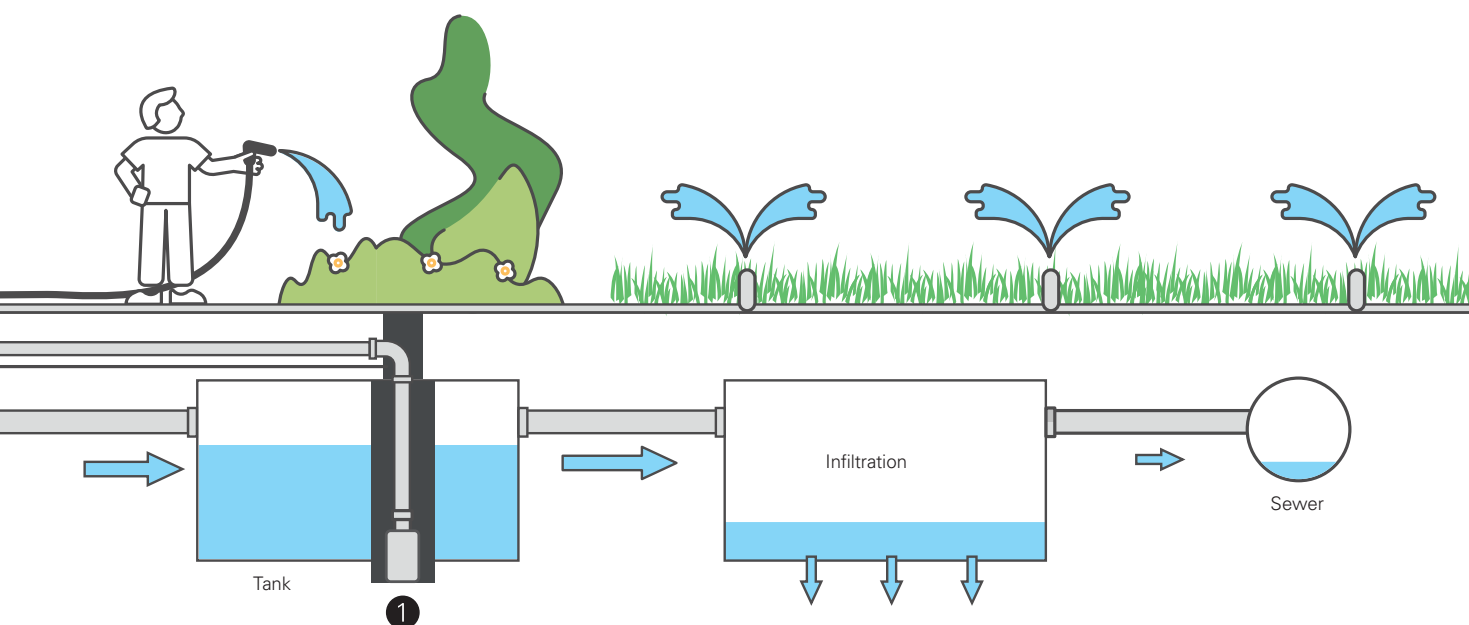
If there is no intake flow, the
electronics will block the pump
and thus protect it from dry
operation.





QuadroLift with basic control is perfectly suited for manual watering, for example, of gardens. The system shaft monitors the water level in the tank via an immersion probe and transmits the information to the control. The pump is easily controlled with a pressure switch depending on the demand.

However, the pump is constantly monitored electrically in order to be protected from damage: If there is no longer enough water in the tank, the pump switches off automatically to prevent dry operation. In case of malfunctions, a red LED warning light located on the control device draws attention to the error status and issues a text notification on the graphical display. Parameters and messages are stored in non-volatile memory.



③ Control cabinet for indoor wall installation

Basic control module for indoor wall installation that can be combined with the pressure switch:

- Warning via the warning light
- Warning via a text message possible with a GSM module retrofitted on site
- Filling level indication if used in combination with the immersion probe
- Warning light for wall installation
- Main switch integrated into the switch box



Application example – Quadro®Lift with smart control

To control decentralised small storage systems (retention, tank, infiltration)

The QuadroLift shaft can be optionally equipped with an integrated control system, which opens up new possibilities. Individual control of separate as well as interlinked elements makes the use of storage spaces even more efficient. It allows intelligent and optimal management of water quantities of an object. This way, infiltration, evaporation and discharge can be perfectly matched in order to restore the water balance of the collection area/object. The control system can even include/consider the current conditions such as weather forecasts and the respective filling levels for the management of the entire system. This helps to prevent system overload and to reduce the risk of potential damage in a controlled manner.

FRÄNKISCHE offers a pre-fabricated pump station for the concept of needs-based and weather-controlled distribution of stormwater that allows the sustainable management of stormwater according to the state of the art thanks to the control by weather-based simulation software. FRÄNKISCHE is working on the simulation task in cooperation with the engineering company Sieker GmbH (predictive control), among others. But the integrated interface grants access to the pump station to other simulation programs as well.

Sustainable stormwater management

- Climate-conscious urban planning
- Cooling by means of evaporation
- Reduction of urban heat islands
- Re-establishment of the natural water cycle
- Optimisation of flood protection
- Producing new groundwater
- Discharge reduction
- Targeted irrigation of green spaces
- Environmentally compatible and resource-saving technology

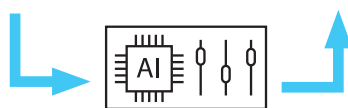
Optimised stormwater balance

Balance before

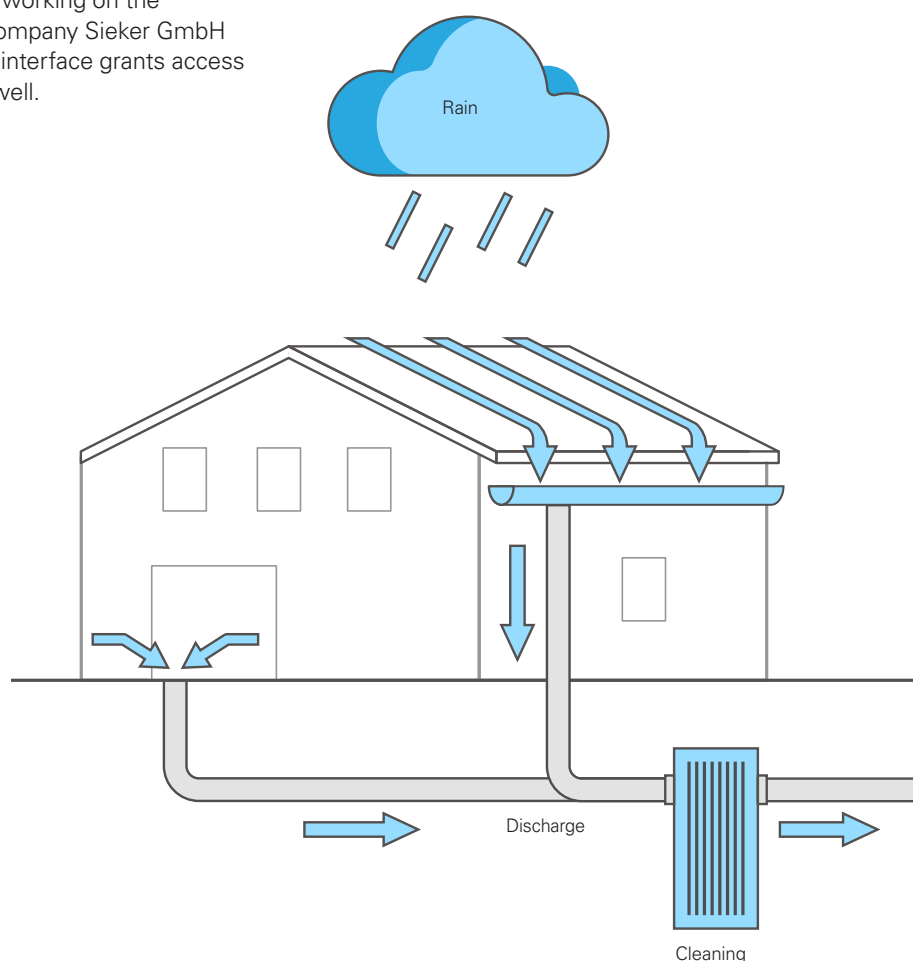
55 % discharge
30 % evaporation
15 % infiltration

Balance after

10 % discharge
60 % evaporation
30 % infiltration



Intelligent control



1 Pump unit with filling level sensor

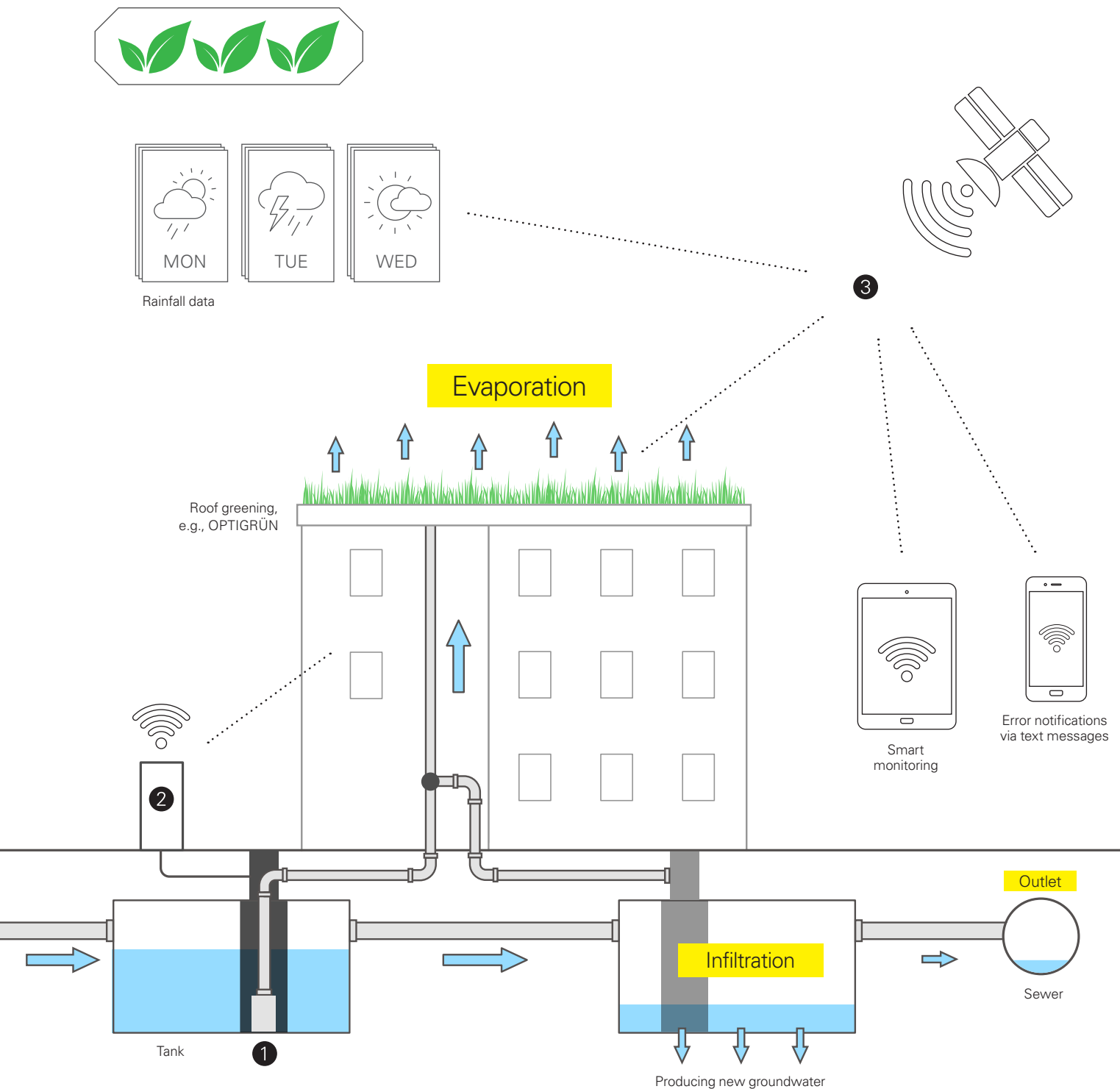
Multidrain product line: Large water quantities, low pumping head – ideal for green roof irrigation or emergency emptying of the tank. The immersion probe is inserted into the pump arrangement housing and transmits the information on the water level to the control system.



2 Control cabinet for outdoor installation

For Multidrain product line:
To accommodate/install the advanced control module incl. main switch and warning light. Perfect interaction of housing and control equipment. Material: glass fibre reinforced polyester acc. to DIN 16913, light grey acc. to RAL 7035.





③ Weather-based simulation software to control and manage stormwater management systems

The integrated control module allows the connection of QuadroLift to a suitable weather-based simulation software with which stormwater management systems can be controlled automatically. Due to this, the collected stormwater can be pro-actively discharged into a downstream infiltration/retention system in case of an accident. It also allows the actively controlled distribution of stormwater for irrigation to different points of consumption, e.g., green roofs to fulfil the task of evaporation in inner-city areas.

Can be optionally combined with smart control

- Pumps of the Dominator product line
- Control cabinet for indoor wall installation
- Pressure switch

Integration into the RigoCollect® tank

RigoCollect® tank construction with Rigofill® inspect storage blocks

RigoCollect allows the easiest construction of underground storage facilities. For this purpose, the Rigofill inspect storage blocks are wrapped in impermeable plastic membrane by means of a special method. The result is an entirely tight underground structure. Compact, lightweight, economical and flexible in use.



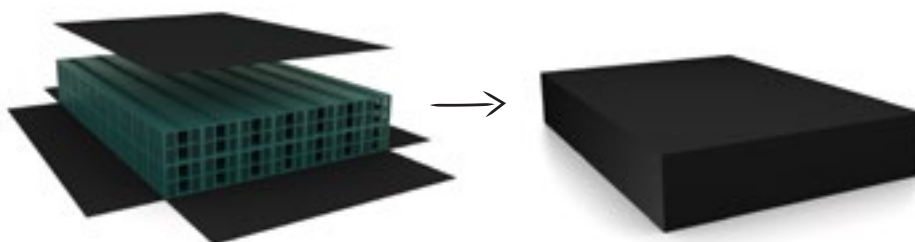
RigoCollect tank

“Tank” design

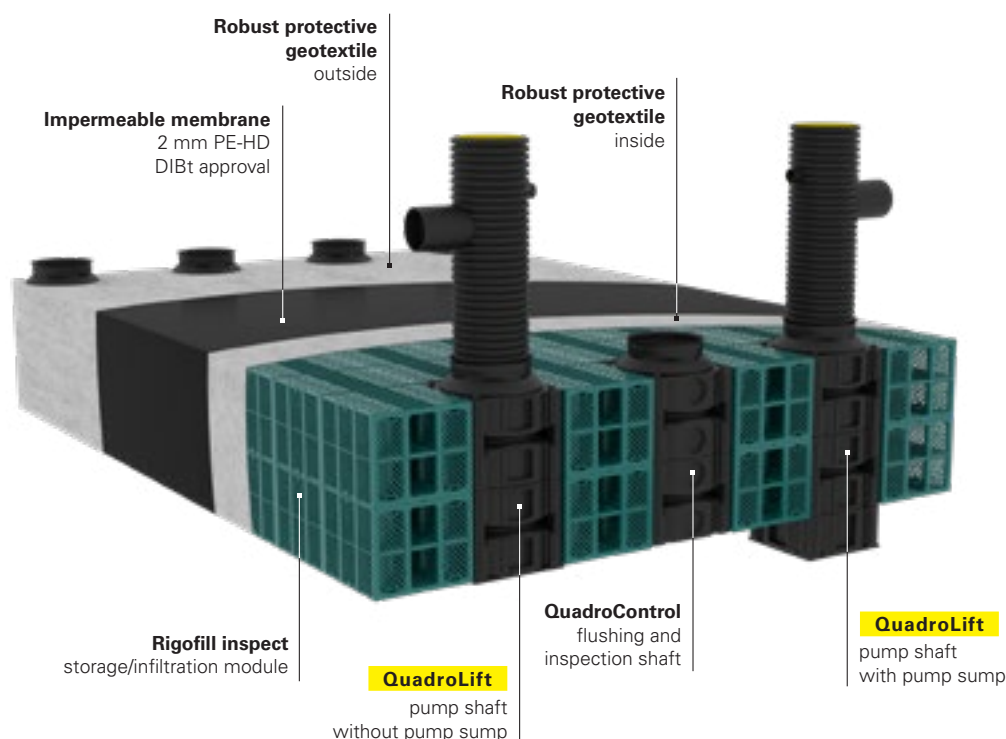
pressure-tight up to
the top edge of terrain

DIBt approval: Z-42.1-473
National technical
approval / General
construction technique
permit for the scope of:

- DWA-A 138 infiltration
- DWA-A 117 retention
- DIN 1989-100 tank
- DIN 14230 fire
water storage



Quadro®Lift – the pump shaft in the Rigofill® block type structure



HGV 60

Advantages of Quadro®Lift

- Everything from a single source
- Pump shaft can be integrated into the Rigofill system; installation depth analogous to the blocks and QuadroControl shafts
- Flexible use of the volume – the retention volume is available for the next rainfall (see pages 8 and 9)
- Minimisation of the required retention volume

Easy installation

- Delivered ready-to-connect, only the total height of the extension pipe is adjusted on site
- Particularly efficient and convenient handling during installation as compared to conventional reinforced concrete shafts
- Can be put into the excavation pit with light-duty construction equipment or manually

Operational requirements fulfilled without access to the shaft

- Pump can be removed and reinserted
- Cleaning of the pump at the surface, no access required
- Easy replacement of the pump possible



Technical characteristics – Multidrain line

- Large water quantities, low pumping head – ideal for green roof irrigation
- Slurp operation up to the water level of 2 cm – no pump sump required
- Continuous surface operation due to motor casing cooling
- Thermal motor protection
- Double mechanical seal
- 2-inch pressure outlets
- Automatic self-venting
- High operational reliability
- 10 mm free flow
- Connection cable length: 15 m or 50 m
- Depending on the pump type, 230 V or 400 V can be selected



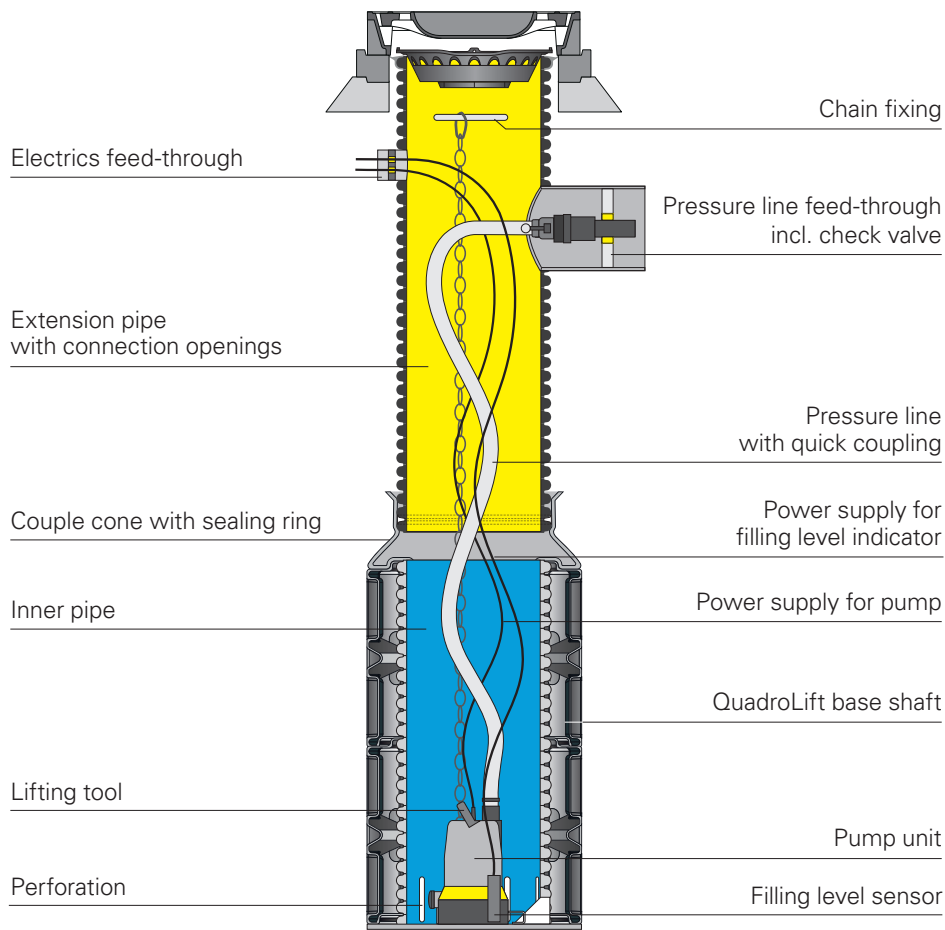
Technical characteristics – Dominator line

- Small water quantities, high pumping head – ideal for garden watering
- Double mechanical seal
- Integrated check valve
- 2 mm free flow
- 2-inch pressure outlets
- Thermal motor protection
- 15 cm minimum suction height – installation in a pump sump recommended
- Connection cable length: 10 m
- 230 V



Quadro®Lift design

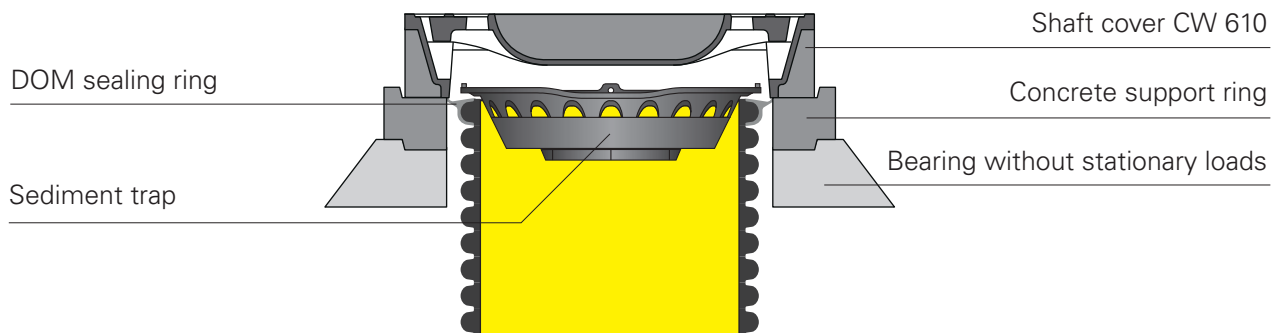
Quadro®Lift design – example of a 2-layer shaft



Shaft cover CW 610 design

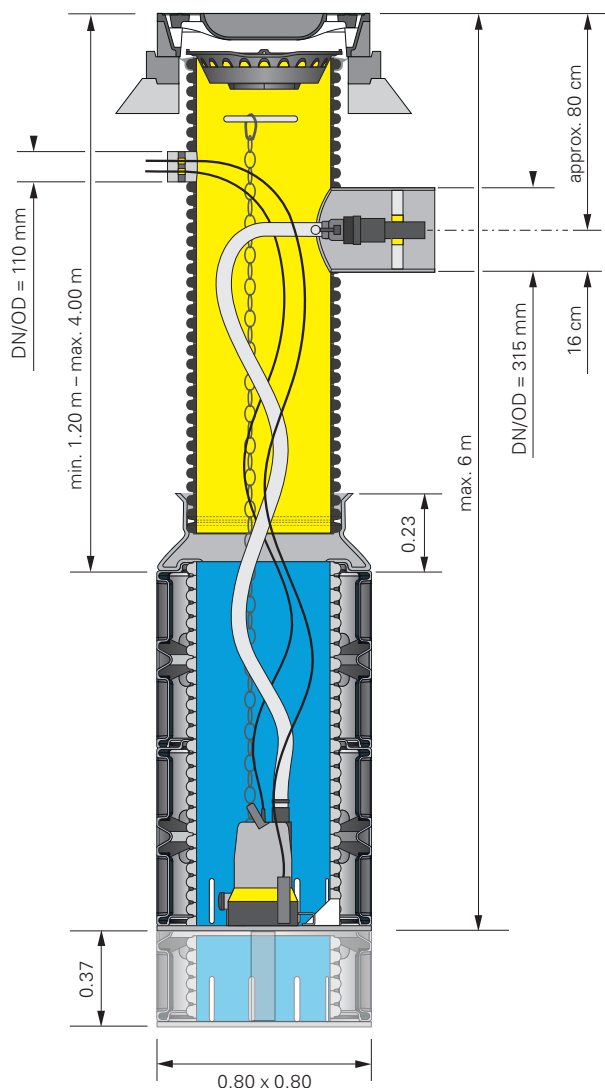
Optional accessories

On site



Technical data – design-relevant dimensions

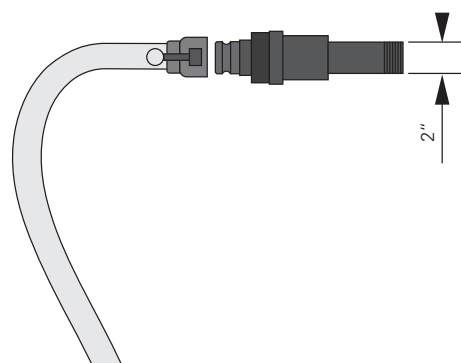
Technical shaft unit – example of a 2-layer shaft



Project-specific shaft unit

- Plastic shaft
- Extension pipe
- Pump unit incl. base
- 2" pressure line
- Filling level sensor
- Power cable
- Watertight cable feed-through
- Chain

Power line connection (thread)



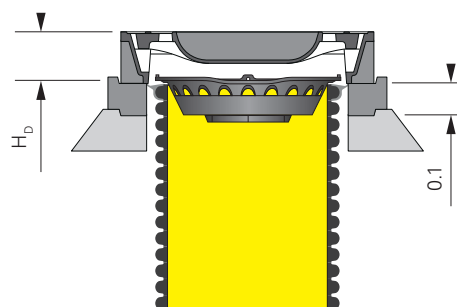
Technical data – shaft cover CW 610 (to be supplied on site)

QuadroLift has been designed for commercially available standard covers CW 610 according to DIN EN 124 (to be supplied on site, not included in the scope of delivery).

A commercially available concrete support ring according to DIN 4034 serves as bearing for the covers. This transfers the possible traffic loads into the ground.

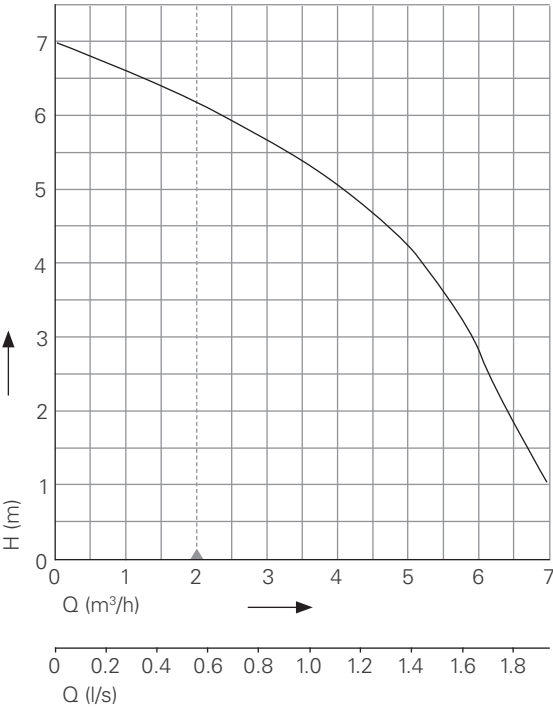
Note

Please observe our installation manual.



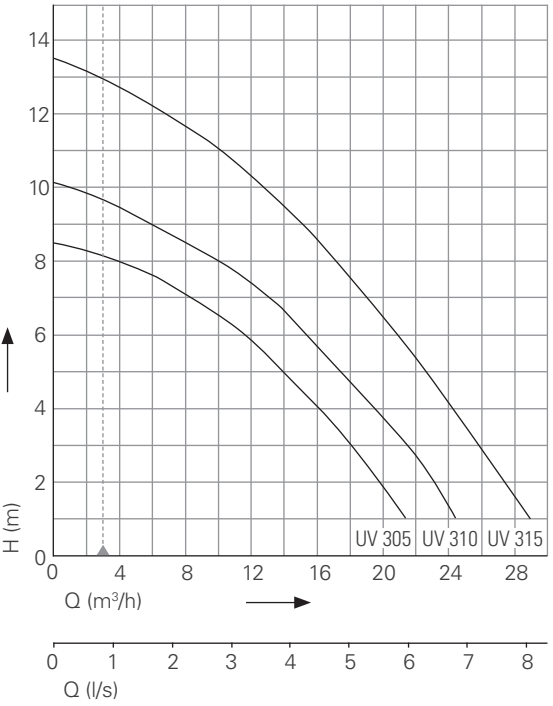
Technical data – pump characteristics

Multidrain type UV 3 – 230 V



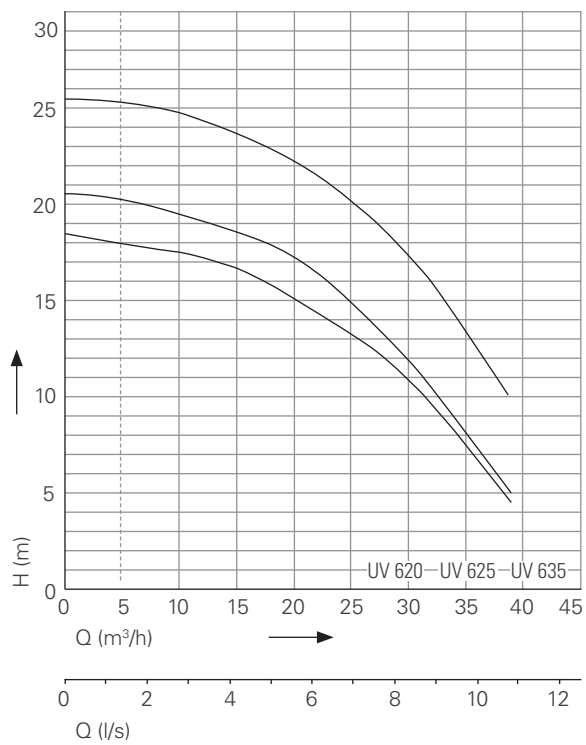
| Type | Pumping head H [m] | 1 | 2 | 3 | 4 | 5 | 6 |
|------|---------------------------|-----|-----|-----|-----|-----|-----|
| UV 3 | Pumping quantity Q [m³/h] | 7.0 | 6.4 | 5.9 | 5.2 | 4.1 | 2.6 |

Multidrain type UV 300 product line – 400 V



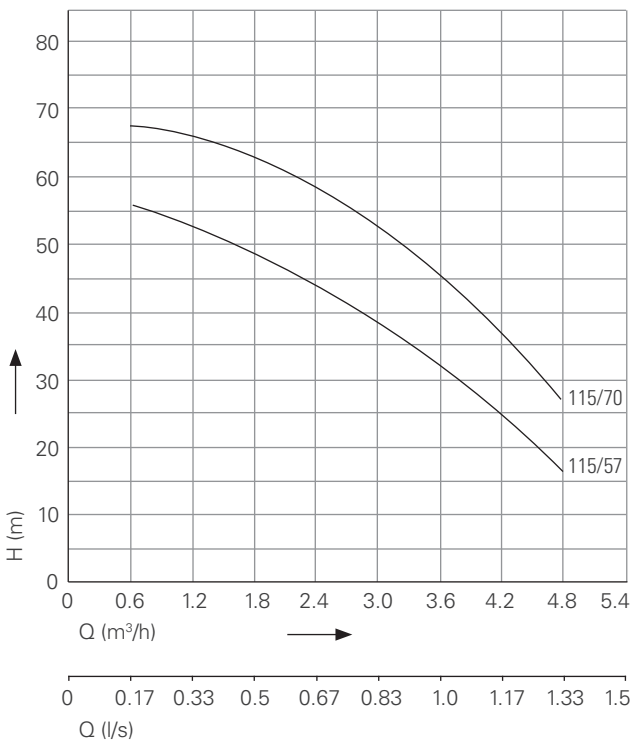
| Type | Pumping head H [m] | 1 | 3 | 5 | 7 | 9 | 11 | 13 |
|----------|---------------------------|------|------|------|------|------|------|-----|
| UV 305-3 | Pumping quantity Q [m³/h] | 22.0 | 18.5 | 14.0 | 8.5 | | | |
| UV 310-3 | Pumping quantity Q [m³/h] | 24.5 | 21.5 | 17.5 | 13.5 | 6.0 | | |
| UV 315-3 | Pumping quantity Q [m³/h] | 29.0 | 25.5 | 23.0 | 19.0 | 15.0 | 10.0 | 3.0 |

Multidrain type UV 600 product line – 400 V



| Type | Pumping head H [m] | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|----------|--|----|----|----|----|----|----|----|----|----|----|
| UV 620-3 | Pumping quantity Q [m^3/h] | 37 | 34 | 32 | 28 | 24 | 18 | 5 | | | |
| UV 625-3 | Pumping quantity Q [m^3/h] | 38 | 36 | 33 | 31 | 27 | 23 | 18 | 5 | | |
| UV 635-3 | Pumping quantity Q [m^3/h] | | | 39 | 37 | 34 | 32 | 28 | 25 | 20 | 14 |

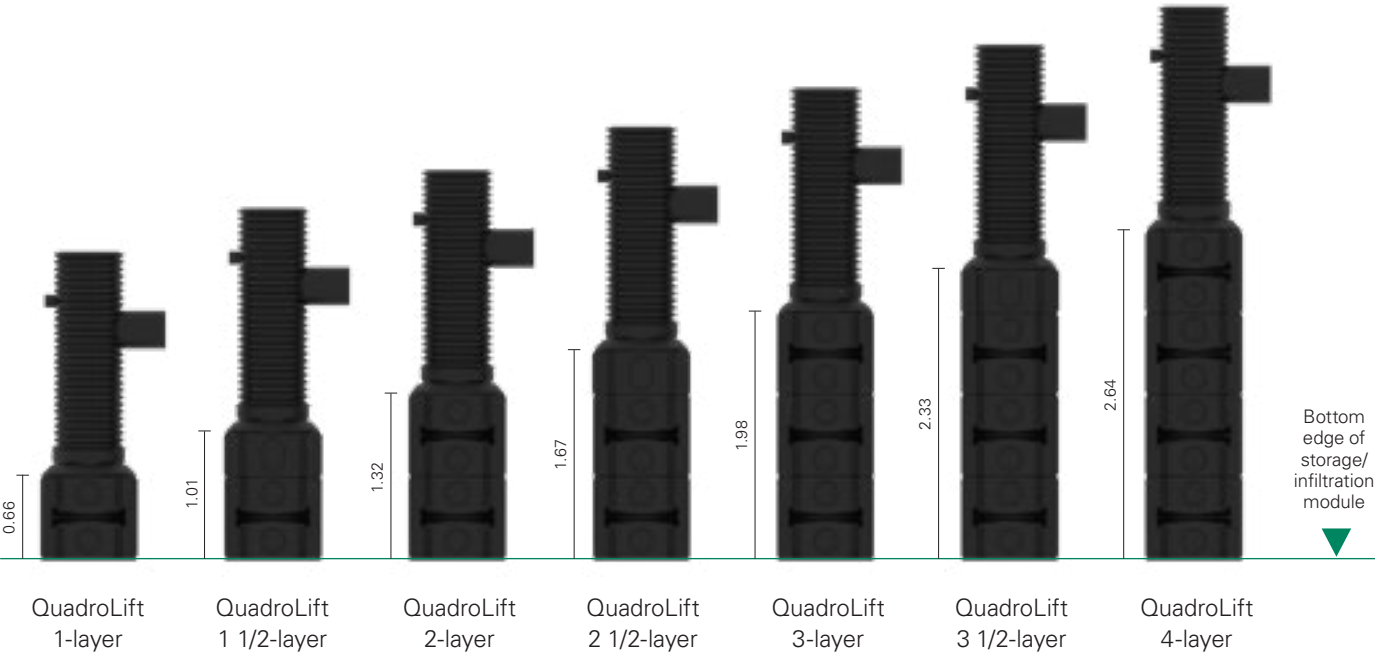
Dominator product line – 230 V



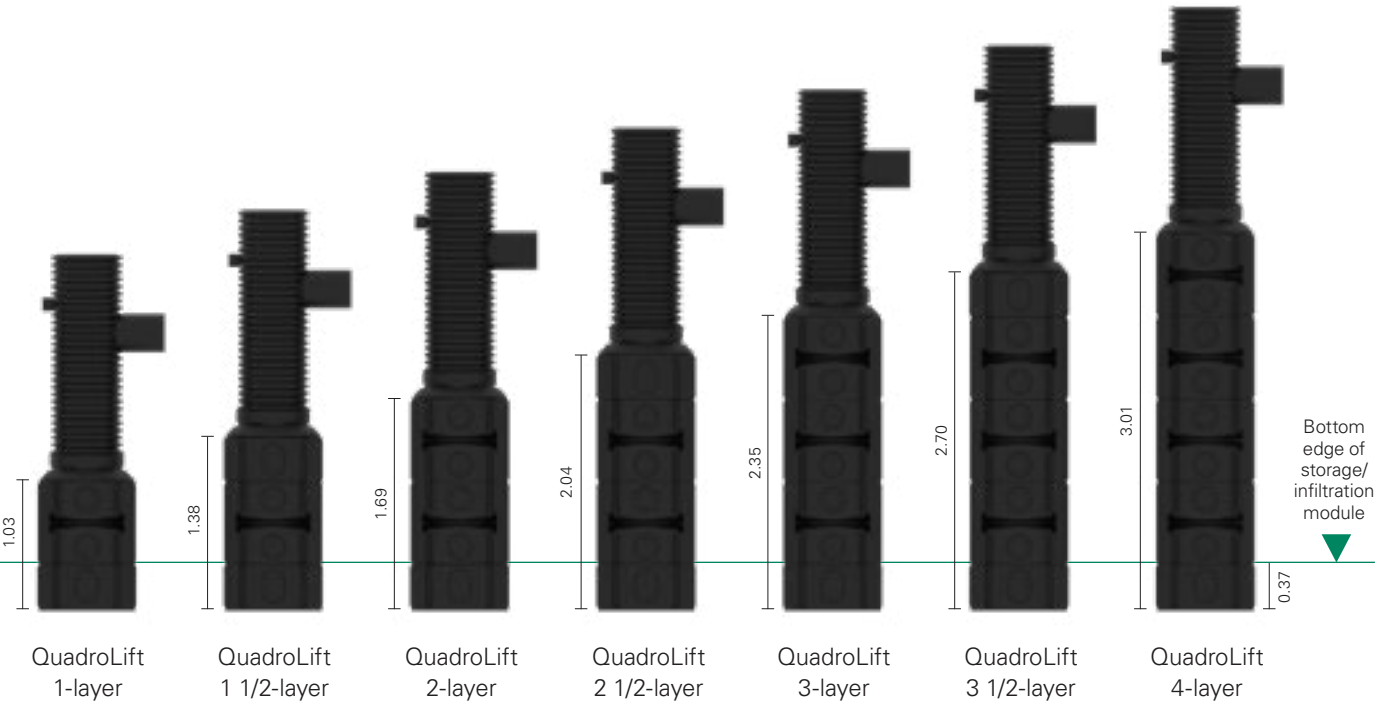
| Type | Pumping quantity Q [m^3/h] | 0 | 1.2 | 2.4 | 3.6 | 4.8 |
|--------|--|------|------|------|------|------|
| 115/57 | Pumping head H [m] | 57.0 | 52.0 | 44.4 | 31.5 | 16.6 |
| 115/70 | Pumping head H [m] | 70.0 | 65.0 | 59.0 | 45.4 | 27.0 |

Variants/sizes

QuadroLift without pump sump



QuadroLift with pump sump





Commissioning and maintenance

The pump system incl. control components is to be put into operation by qualified personnel (trained electrician).

The operating instructions to the control included in the delivery contain the required circuit diagrams for power supply terminals and for connecting the immersion probe cable.

Continuous maintenance of pump systems is recommended.

Advantages

- Prevention of costly repair
- High operational reliability, low down times
- Long service life
- High efficiency of the system

Please do not hesitate to contact us if you need any assistance with commissioning or maintenance agreements.

Accessories/components

Immersion probe



The immersion probe conducts the analogue measurement of the water level in the system and, in doing so, ensures ideal management of this priceless resource.

It is inserted into the pump arrangement housing and transmits the information on the water level to the control modules.

- Cable length: 15 m or 50 m



Pressure switch



The pressure switch starts and stops the pump (Dominator product line, 230 V) when the valve/water tap is opened and closed.

If there is no intake flow, the electronics will block the pump and thus protect it from dry operation. The device will still be automatically supplied with power during a temporary power outage.

Advantages

- Reduction of water hammer effects
- No maintenance required
- Protection in case of water shortage
- Very easy installation
- Maintenance of constant pressure during distribution
- Cost-efficient solution for simple pump control

Control cabinet for indoor wall installation with basic control module



Basic control module for indoor wall installation that can be combined with the pressure switch:

- Control of individual pump stations
- 230 V depending on the pump
- Input via the key panel
- Integrated main switch for Hand-0-Auto
- Graphical, illuminated LCD display
- Error memory with incidents
- Indication of switch-on pulses, hours of operation, service intervals, level indication, etc.
- Filling level indication if used in combination with the immersion probe
- Motor current monitoring
- Collective fault messages floating and non-floating (230 V AC)
- Warning via the warning light; warning via a text message possible with a GSM module retrofitted on site
- Buzzer for alarm messages
- Multilingual menu
- Warning light for wall installation included

+



Control cabinet for indoor wall installation with smart control module



Advanced control module separately in the control cabinet for indoor wall installation or to be integrated into the outdoor control cabinet. The system can be universally operated, parametrised and adjusted via the internet interface.

- Control of individual pump stations with 230 V and 400 V
- Controller with web interface and internet connection via mobile communications to monitor the pump performance
- SIM card included (3 years contract duration)
- Optionally: connection of weather-based control possible
- Warning via a text message and warning light
- Control of 8 valves with 24 V DC
- 230 V connection option (e.g., for heating strips)
- Project-specific programming
- Warning light for wall installation included
- Connection to the building management system possible



Control cabinet for outdoor installation for Multidrain product line



Control cabinet for outdoor installation to accommodate/ install the advanced control module incl. main switch.

Advantages

- Robust design
- Outdoor installation possible
- Warning light
- Perfect interaction of housing and control equipment
- Easy to transport
- Easy installation

The outdoor installation cabinet has the following dimensions:

| Type | L [mm] | W [mm] | H [mm] |
|---------------------|--------|--------|--------|
| Type SL 202 (400 V) | 361 | 277 | 1110 |



Product range overview



Pump shaft in the Rigofill block type structure

Pre-assembled, block-shaped system pump shaft for integration for a 80 x 80 cm modular block type structure; consisting of one shaft base body plus cone;
material: polyethylene (PE); colour: black; with a project-specific, selected pump unit incl. accessories; extension pipe D_o 600

Application

Pump shaft in the layout to be used for stormwater, groundwater, infiltration and drainage water

Note

To place a precise order please use the QuadroLift order form ☎ www.fraenkische.com
Please observe our installation manual.

| Product | Technical data | Cat. no. |
|---|--|-------------------------------|
| QuadroLift, 1-layer without pump sump | Base shaft, pump unit, extension pipe, connection set – project-specific configuration Please use order form – www.fraenkische.com | 51595710 |
| QuadroLift, 1 1/2-layer without pump sump | | 51595711 |
| QuadroLift, 2-layer without pump sump | | 51595712 |
| QuadroLift, 2 1/2-layer without pump sump | | 51595713 |
| QuadroLift, 3-layer without pump sump | | 51595714 |
| QuadroLift, 3 1/2-layer without pump sump | | 51595715 |
| QuadroLift, 4-layer without pump sump | | 51595716 |
| QuadroLift, 1-layer with pump sump | Base shaft, pump unit, extension pipe, connection set – project-specific configuration Please use order form – www.fraenkische.com | 51595717 |
| QuadroLift, 1 1/2-layer with pump sump | | 51595718 |
| QuadroLift, 2-layer with pump sump | | 51595719 |
| QuadroLift, 2 1/2-layer with pump sump | | 51595720 |
| QuadroLift, 3-layer with pump sump | | 51595721 |
| QuadroLift, 3 1/2-layer with pump sump | | 51595722 |
| QuadroLift, 4-layer with pump sump | | 51595723 |
| DOM sealing ring | Seal between concrete support ring and extension pipe | 51719505 |
| Sediment trap D _o 600 | Suitable for installation under covers | 51791095 |
| Shaft covers acc. to DIN EN 124 | Class B or D; CW 610 | To be supplied on site |
| Gully gutter acc. to DIN EN 124 | Class B, C or D; CW 610 | To be supplied on site |
| Support ring acc. to DIN 4034 | 100 mm high; D _i = 625 mm | To be supplied on site |





Contact and service

Kontakt Deutschland



Für Ihre Fragen nutzen Sie unsere Ansprechpartnersuche
www.fraenkische.com/kontakt-drainage

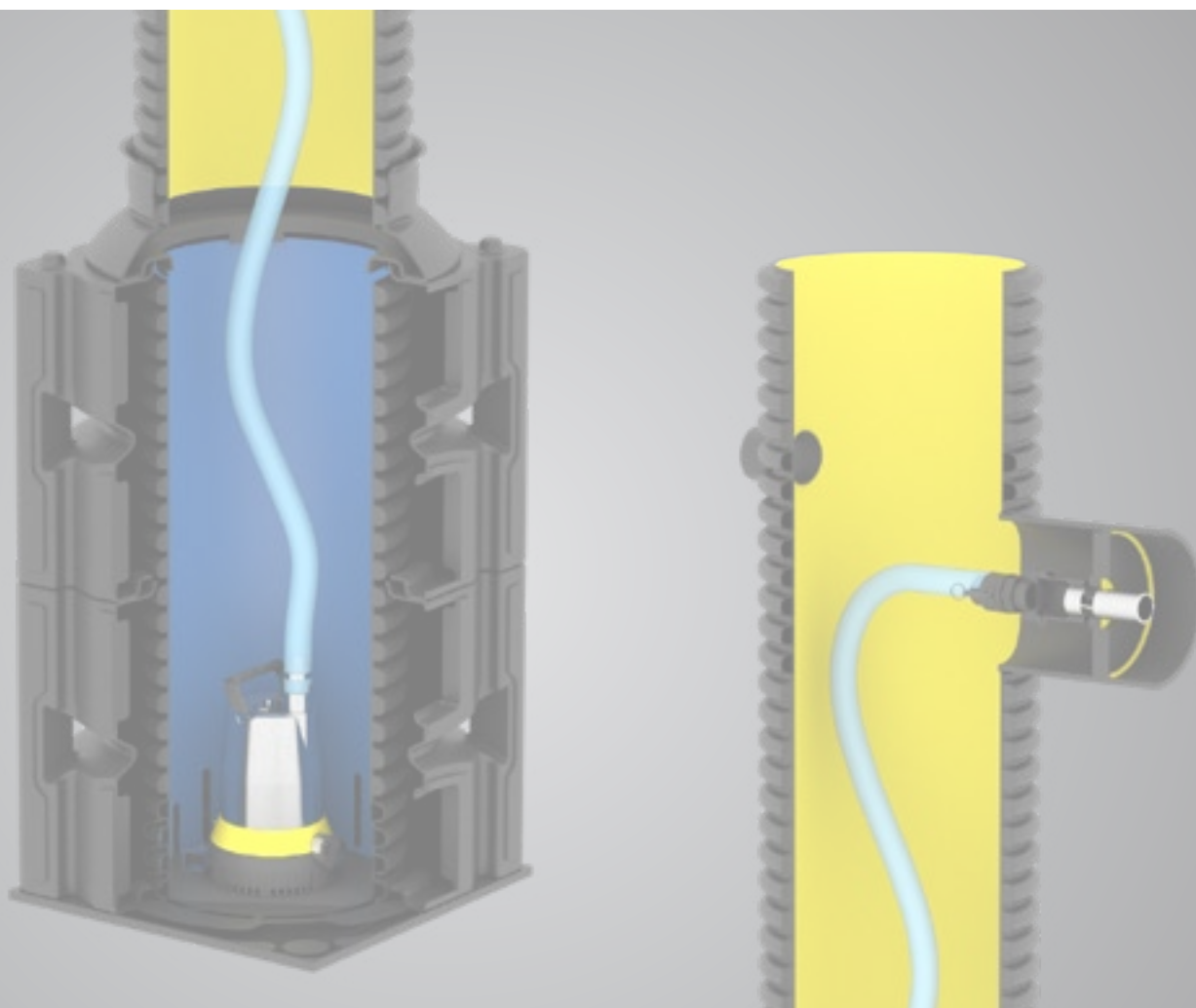


Contact International



For your questions please use our contact search
www.fraenkische.com/contact-drainage





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