

# STRATE System

## Sewage pumping stations with one pump and the advantages of the STRATE system, recognised worldwide.

The STRATE system is used as one of the characteristic features of all AWALIFT sewage pumping stations and stands for maximum operational safety, economic and user friendliness thanks to its combination of patented solids collecting chamber and centrifugal pump.

The solids collecting chamber separates the sewage into "pre-cleaned" sewage and solids. Since the centrifugal pump only pumps "pre-cleaned sewage" it has optimum protection from soiling, blockage and wear. The result is

extremely economic operation with maintenance costs reduced to a minimum. All AWALIFT sewage pumping stations have been certified in accordance with DIN EN 12050-1 and -4 by the LGA.

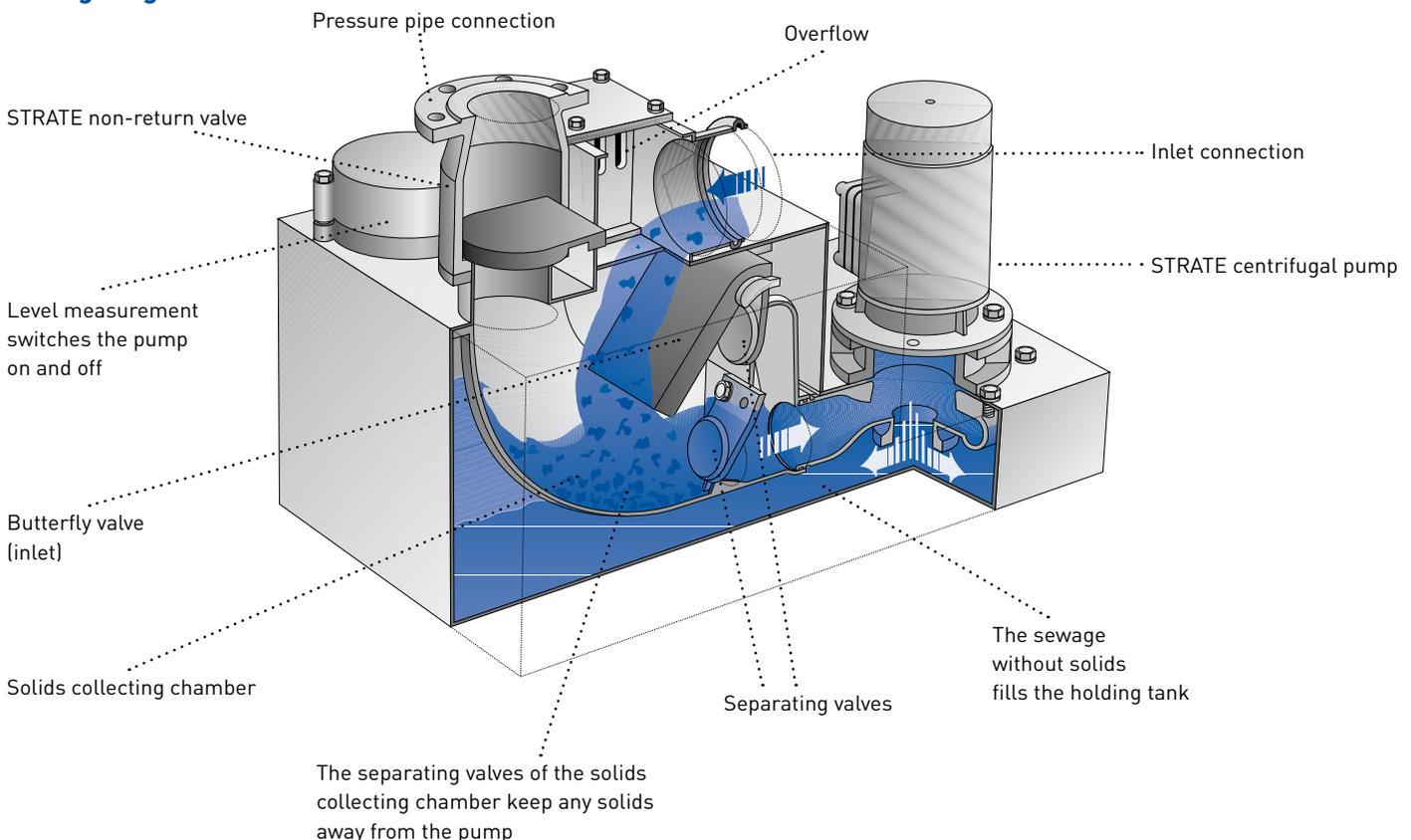
The advantage of closed systems like the STRATE sewage pumping stations is their dry and hygienic set-up. Pilot shafts are not required, but are recommended in mixed or rainwater systems with a high share of sand, stones and larger material, for example.

How the STRATE system works in sewage pumping stations with one pump.

### Filling stage:

When the sewage is discharged into the holding tank of the sewage pumping station, any solids it contains are retained by the separating valves of the solids collecting chamber and remain there until the holding tank is filled with "pre-cleaned sewage".

### Filling stage





## STRATE System

### Pumping stage:

The level measurement system of the sewage pumping station transmits the impulse which switches the centrifugal pump on as soon as the filling level has been reached. The centrifugal pump pumps the "pre-cleaned" sewage back through the solids collecting chamber into the pressure pipe. During the pumping stage, the solids trapped in the solids collecting chamber are picked up

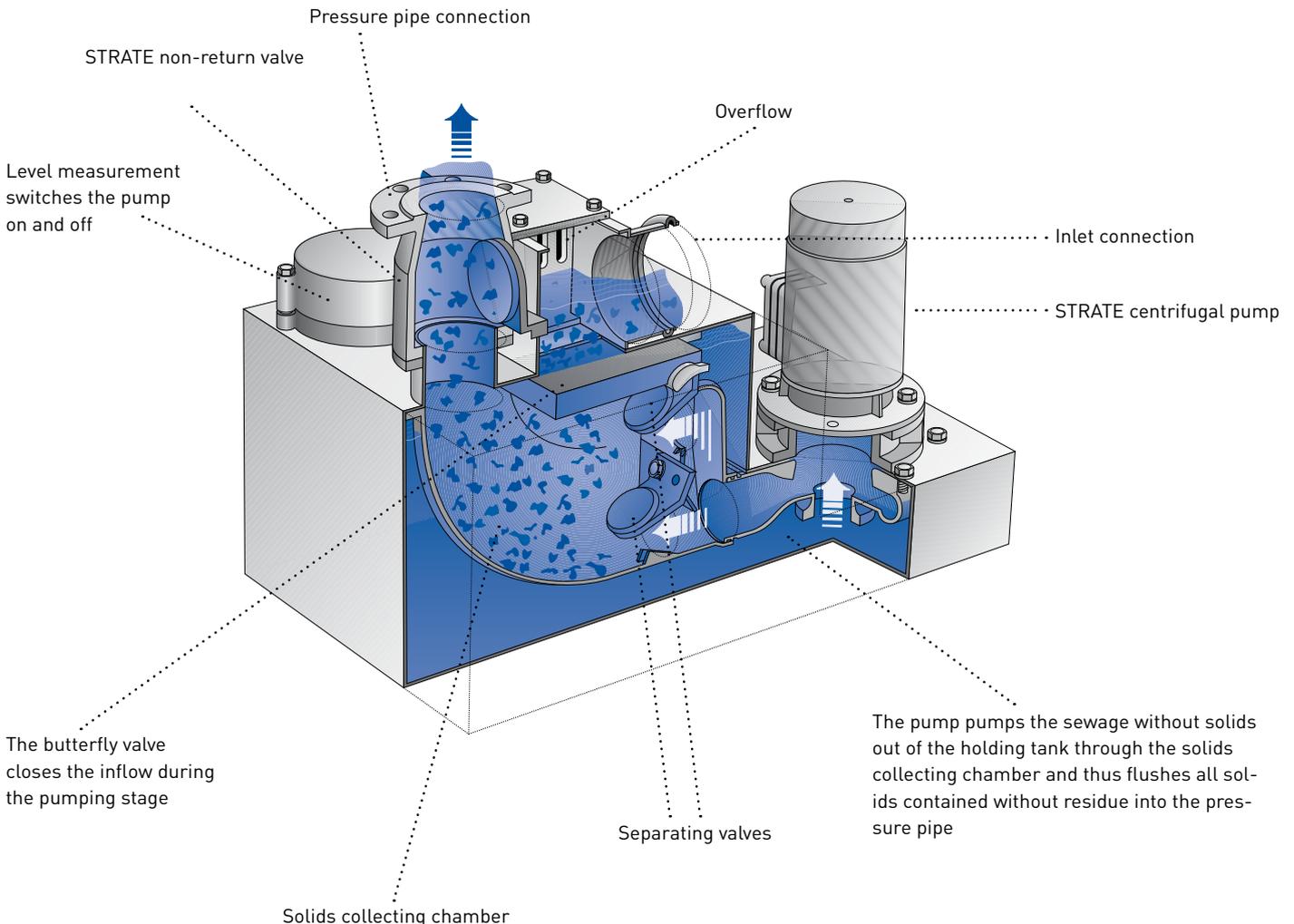
by the flow and discharged into the connected pressure pipe with the pump flow. Thanks to this patented process the solids collecting chamber is cleaned residue-free.

flows through a bypass chamber with integrated solids screen which retains the solids it contains and permits the "pre-cleaned sewage" to enter the holding tank.

### Simultaneous filling and pumping:

In situations with continual inflow the STRATE system permits simultaneous pumping and filling. During the pumping stage, the inflowing sewage

### Pumping stage



# STRATE System

## Sewage pumping stations with two or more pumps and the advantages of the STRATE system, recognised worldwide.

Analogue to the sewage pumping stations with one centrifugal pump, the STRATE system can also be used with sewage pumping stations with two or more centrifugal pumps. Where sewage pumping stations with two or more centrifugal pumps are used, each individual pump is assigned its own solids collecting chamber. The combination of patented solids collecting chamber and centrifugal pump stands for maximum operational safety, economy and user friendliness.

The solids collecting chamber separates the sewage into "pre-cleaned" sewage and solids. Since the centrifugal pumps

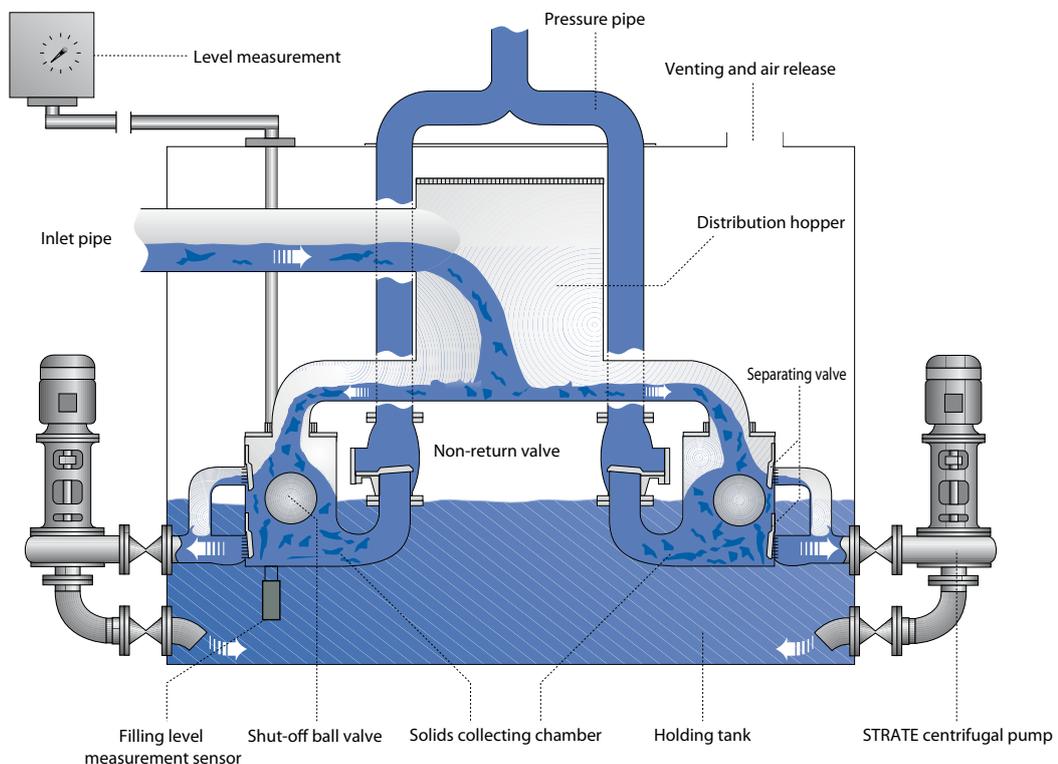
only pump "pre-cleaned sewage" they have optimum protection from soiling, blockage and wear. The result is extremely economic operation with maintenance costs reduced to a minimum. All AWALIFT sewage pumping stations have been certified in accordance with DIN EN 12050-1 and -4.

The advantage of closed systems like the STRATE sewage pumping stations is their dry and hygienic set-up. Pilot shafts are not required, but are recommended in mixed or rainwater systems with a high share of sand, stones and larger material, for example.

How the STRATE system works in sewage pumping stations with two or more pumps.

### Filling stage:

When the sewage is discharged into the holding tank of the sewage pumping station, any solids it contains are retained by the separating valves of the solids collecting chambers and remain there until the holding tank is filled with "pre-cleaned sewage".



"Pre-cleaned sewage" fills the holding tank.

Filling stage

# STRATE System

## Pumping stage:

The level measurement system of the sewage pumping station transmits the impulse which switches the feed pump on as soon as the filling level has been reached. The feed pump pumps the “pre-cleaned” sewage back through the assigned solids collecting chamber into the pressure pipe. During the pumping stage, the solids trapped in the solids collecting chamber is picked up by the flow and discharged into the connected pressure pipe with the pump flow. Thanks to this patented process the solids collecting chamber is cleaned residue-free.

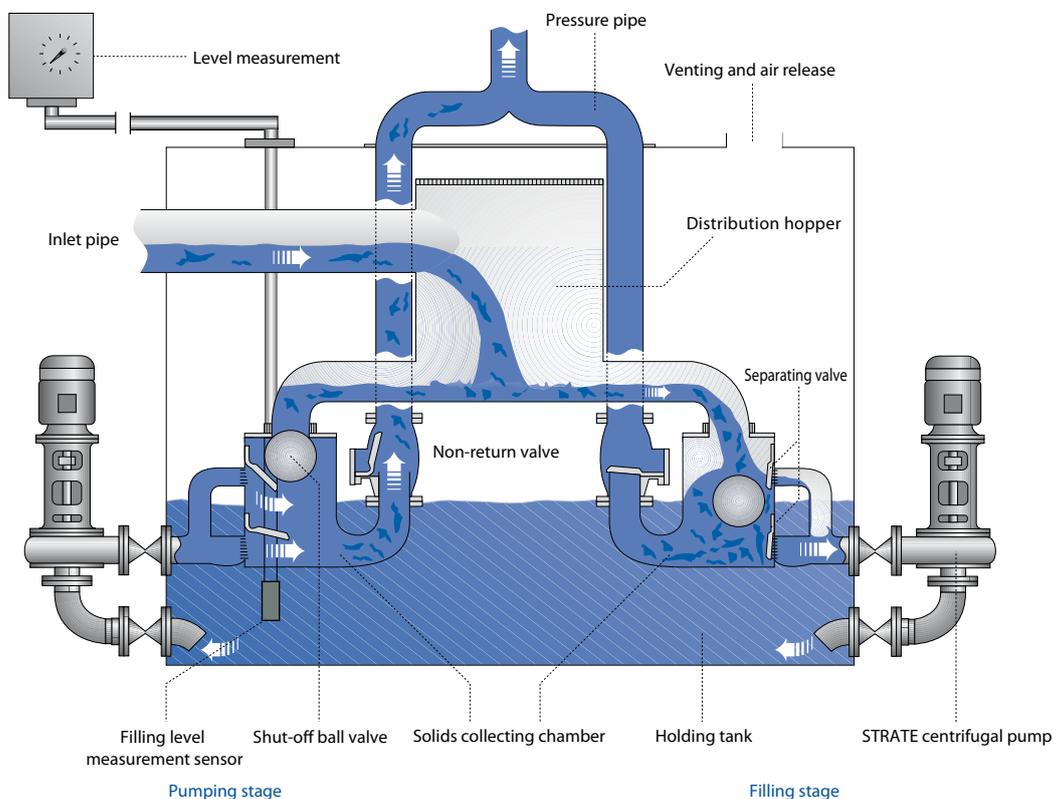
## Simultaneous filling and pumping:

In situations with continual inflow the STRATE system permits simultaneous pumping and filling. While one pump is pumping, the other pumps with their assigned solids collecting chambers can be used for filling the system. Sewage filling stations with more than two pumps can be equipped with intelligent system control to enable two pumps to be switched in parallel in the event of increased inflow.

## Note:

AWALIFT sewage pumping stations are custom-designed according to the

specific requirements of operators. The size of the holding tank and the number of pumps with the respective solids collecting chambers are determined according to the amount of water which occurs. Pump selection and the required motorisation are in accordance with overall pumping head in mWS. The control unit and accessories necessary are selected to optimally match the individual requirement case. The modular design in connection with the STRATE system, the use of high-quality system components and the experience of STRATE project engineers



“Pre-cleaned sewage” fills the holding tank.



## The sewage pumping stations with the STRATE system

The given dimensions are non-binding reference values, please ask about possible deviations. Customised versions are possible.

The STRATE system with the solids collecting chamber has a proved efficiency rate of 70 % and higher, i.e. STRATE systems require less drive power and save up to 50 % of energy costs.

Type	Capacity m <sup>3</sup> /h	PE*	Weight kg	Tank volume	Size mm	Installation depth m	Shaft size mm	Installation opening mm
AWALIFT 80	0.26	12	approx. 42	32 l	870 x 420 x 190	0.20	1000 x 700 or Ø 1200	450 x 450
AWALIFT 100	0.4	20	approx. 78	48 l	800 x 420 x 200	0.20	1000 x 700 or Ø 1200	600 x 900
AWALIFT 74/1	1	50	approx. 110	80 l	860 x 500 x 380	0.40	1200 x 1200 or Ø 1500	800 x 800
AWALIFT 0/1	3	150	approx. 190	112 l	950 x 500 x 525	0.55	1200 x 1200 or Ø 1500	800 x 800
AWALIFT 74/2	4	200	approx. 175	107 l	860 x 660 x 380	0.40	1500 x 1500 or Ø 1800	1000 x 800
AWALIFT 0/2	6	300	approx. 320	205 l	1015 x 820 x 535	0.55	1800 x 1800 or Ø 2000	1000 x 1000
AWALIFT 1/2	15	750	approx. 520	430 l	1400 x 800 x 1000	0.70/0.75	2000 x 2000 or Ø 2000	1500 x 1000
AWALIFT 1/2x2	15	750	approx. 650	0.785 m <sup>3</sup>	Ø 1000 x 1250	1.00	3000 x 2500 or Ø 3500	1400 x 1200
AWALIFT 1/2 penta	20	950	approx. 525	0.65 m <sup>3</sup>	R = 890 H = 1250	1.0	Ø 2000	1500 x 1200
AWALIFT 2/2 penta	25	1200	approx. 800	1.40 m <sup>3</sup>	R = 990 H = 1500	1.2	Ø 2000	1700 x 1200
AWALIFT 2/2 penta	36	1700	approx. 800	1.40 m <sup>3</sup>	R = 990 H = 1500	1.2	Ø 2400	1700 x 1200
AWALIFT 2/2 flat	36	1700	approx. 800	0.95 m <sup>3</sup>	Ø 1250 x 1500	1.20	2500 x 2500 or Ø 2400	1500 x 1100
AWALIFT 2/2 round**	60	2800	approx. 800	1.40 m <sup>3</sup>	Ø 1250 x 1500	1.20	3500 x 2500 or Ø 2900	1500 x 1500
AWALIFT 2/2x2	60	2800	approx. 800	1.40 m <sup>3</sup>	Ø 1250 x 1500	1.20	3800 x 3000 or Ø 3800	1500 x 1500
AWALIFT 3/2**	80	3700	approx. 1000	2.40 m <sup>3</sup>	Ø 1400 x 2000	1.60	3700 x 3000 or Ø 4000	1700 x 1700
AWALIFT 4/2**	120	5600	approx. 1500	4.00 m <sup>3</sup>	Ø 1800 x 2000	1.60	4500 x 3500 or Ø 4500	2000 x 2000
AWALIFT 5/2**	150	7000	approx. 1700	4.80 m <sup>3</sup>	Ø 1800 x 2500	1.90	4500 x 3500 or Ø 4500	2000 x 2000
AWALIFT 6/2**	200	9300	approx. 2000	6.00 m <sup>3</sup>	Ø 2000 x 2500	1.90	4700 x 3700 or Ø 4800	2200 x 2200
AWALIFT 6/3**	250	11600	approx. 2300	6.00 m <sup>3</sup>	Ø 2000 x 2500	1.90	5000 x 3700 or Ø 4800	2200 x 2200
AWALIFT 7/3**	350	16200	approx. 3500	9.00 m <sup>3</sup>	Ø 2500 x 2500	1.90	5500 x 4000 or Ø 5500	2800 x 2800
AWALIFT 8/3**	400	18600	approx. 3800	11.00 m <sup>3</sup>	Ø 2500 x 3000	2.30	5500 x 4000 or Ø 5500	2800 x 2800
AWALIFT 9/4**	600	28000	approx. 4500	14.00 m <sup>3</sup>	Ø 2800 x 3000	2.30	6000 x 4600 or Ø 6000	3200 x 3200
AWALIFT 10/6**	800	37000	approx. 6300	26.00 m <sup>3</sup>	Ø 3800 x 3000	2.30	7500 x 6500 or Ø 7000	4200 x 4200

\* PE in dry weather plus extra water (1000 PE  $\hat{=}$  6 l/s)

\*\* Large pumping heads are achieved by switching 2 pumps in series (e.g.: AWALIFT 1/2x2)



## Project planning aids

### The perfect sewage pumping station for your special needs

- can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE sewage pumping station or other matters.



You will find your project planning sheet in this catalogue under "Project planning aids".



You can also find an online version in our download centre!  
[www.strate.com](http://www.strate.com)

# AWALIFT 80

## The lightest sewage pumping station with the STRATE system

### Area of use:

The STRATE AWALIFT 80 is the system preferred for draining single- and two-family homes where the drainpipe is below the backwater level (acc. to DIN 1986-100) and the houses cannot be drained using natural gradient. DIN EN 12056-4 specifies the backwater level here as being the road surface of the connection point to the public sewage system.

The AWALIFT 80 was specially developed as a small system for building services engineering (max. 12 residents). This means that for the first time, demanding users now have a sewage pumping station available in patented and tried-and-trusted solids collecting chamber technology, which employs polymer components throughout. And the solids

collecting chamber system effectively prevents pump blockage.

**The solution:** components optimally shaped for hydraulic use such as the solids collecting chamber, non-return valve and tank are made of cast polyurethane (PUR). The lightweight PUR material combines extreme stability with excellent wear resistance. Low noise radiation and quiet motors also guarantee smooth running.

- Single-family homes (e.g. toilet, shower, bath, sink, washing machine etc.)
- Basement flats
- Party rooms in the basement
- Two-family homes
- etc.

up to  
**12 PE**





# AWALIFT 80

## Technical data

<b>System capacity:</b>	0.26 m <sup>3</sup> /h – 12 PE
<b>Pumping head:</b>	up to 30 mWS
<b>Free passage:</b>	80 mm
<b>Tank dimensions (LxWxH):</b>	L = 870 mm, W = 420 mm, H = 190 mm
<b>Tank contents:</b>	32 l
<b>Space requirements:</b>	1000 mm x 700 mm, or Ø 1200 mm
<b>Weight:</b>	42 kg (incl. 0.75 kW motor)
<b>Installation opening:</b>	450 mm x 450 mm, or Ø 550 mm
<b>Inlet:</b>	2 x DN 100; connection for insertion sleeve and sealing ring; seal for 2 <sup>nd</sup> connection included.
<b>Inlet height:</b>	200 mm (pipe bottom - tank floor)
<b>Pressure pipe connection:</b>	Flange DN 80 PN 10 or DN 100 PN 10
<b>Venting and air release:</b>	DN 70 for insertion sleeve and sealing ring

## Materials

<b>Tank incl. solids collecting chamber, non-return valve, pump:</b>	Polyurethane (PUR), shade RAL 7021 – Black grey
<b>Motor:</b>	AL MG SI alloy
<b>Coating / corrosion protection for motor:</b>	2K acrylic resin coating, shade RAL 9005 – Jet black matt
<b>Electrical connection:</b>	230/400 V, 50 Hz 230 V, 50 Hz (under preparation)
<b>Motor capacity:</b>	IP 67: 0.75 / 1.50 / 2.20 / 3.00 kW – 400 V IP 67: 1.50 kW – 230 V (under preparation)
<b>Motor features:</b>	Control of direction of rotation, temperature monitoring, flexible power supply cable PVC – JZ 6 G 1.5 with CEE plug (10 A), length 3.5 m

## Scope of supply:

- PUR tank with integrated solids collecting chamber
- PUR centrifugal pump and motor according to type and operating location required
- PUR non-return valve AWASTOP
- DN 80 / 100 with connecting flange DN 80 / DN 100 for the pressure pipe (no adapter required)
- Level measurement
- Pump control AWAmaster 1
- 1.5 m power supply cable, CEE plug

## Accessories:

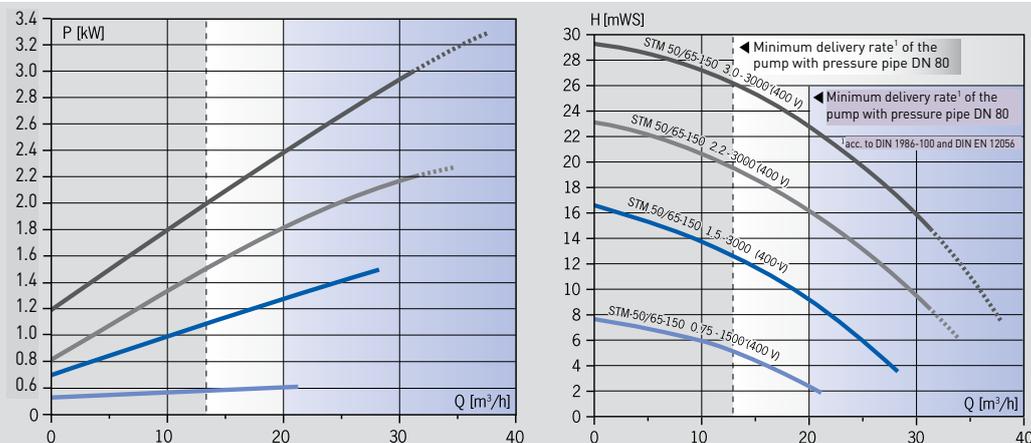
- Inlet: Plastic gate valve DN 100 for pressureless installation with integrated sleeve and sealing ring for direct insertion onto the inlet connecting muff on the station
- Outlet: Gate valve DN 80 / DN 100
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE assembly and maintenance

Special accessories according to your requirements

## Environmental note:

- Polyurethane is CFC-free and can be recycled

## Characteristic curve for pump



Subject to technical modifications and errors.

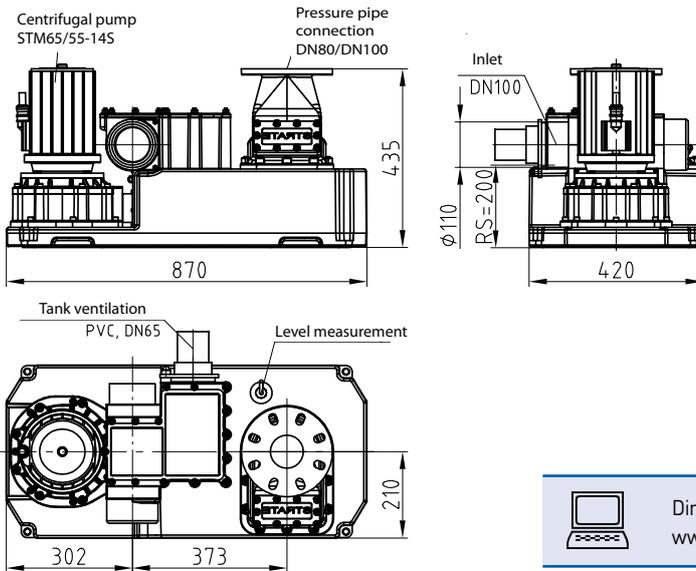


## AWALIFT 80



<b>Copyright according to DIN 34</b>	Installation suggestion: AWALIFT 80 Set-up within a building
<b>Scale:</b>	

Subject to technical modifications and errors.



 Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg / dxf files.

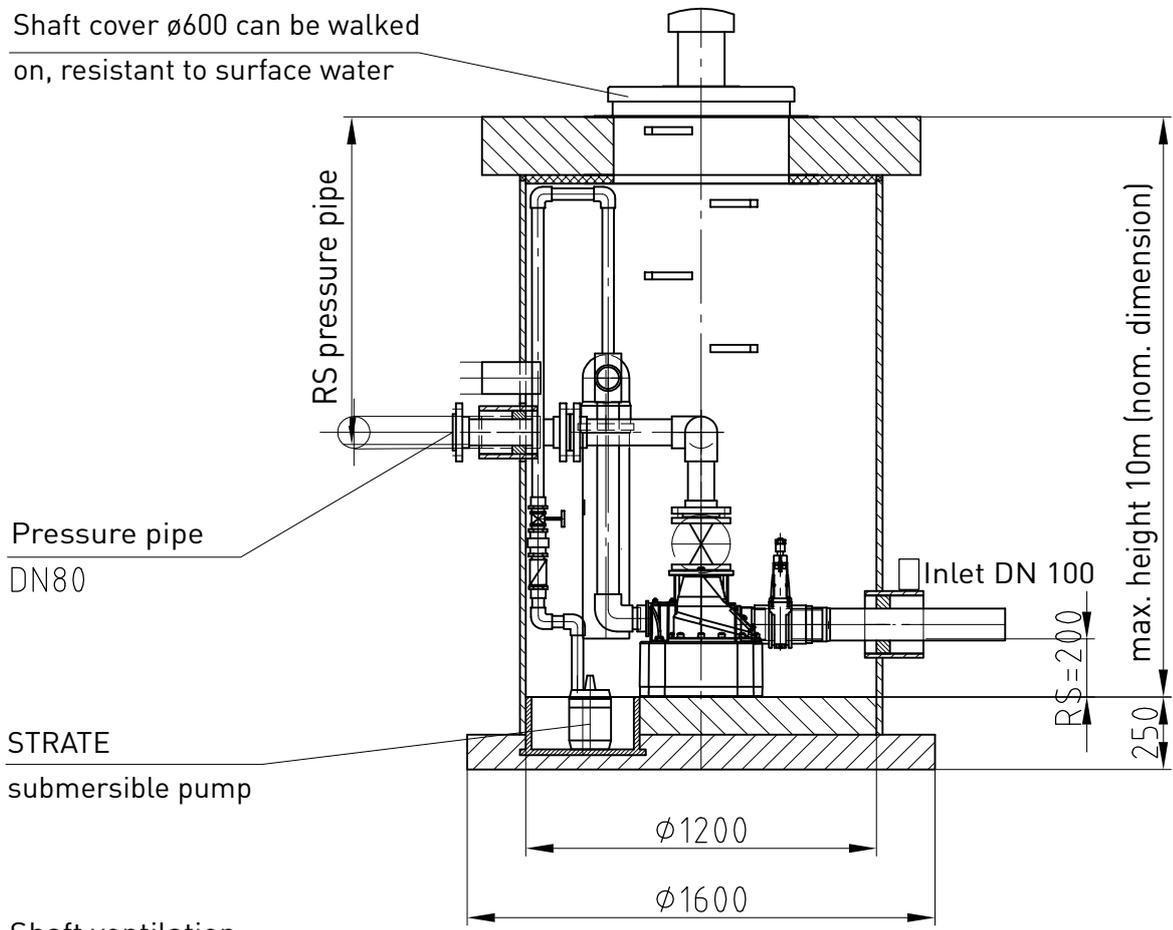
<b>Copyright according to DIN 34</b>	Dimensional drawing: AWALIFT 80
<b>Scale:</b>	

Subject to technical modifications and errors.



## AWALIFT 80

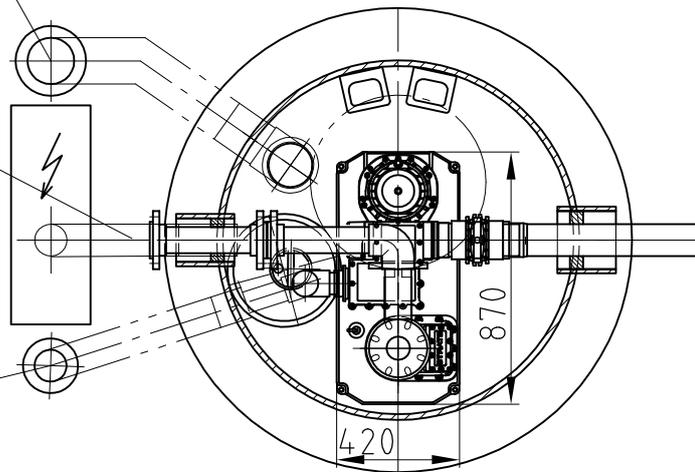
Shaft cover  $\phi 600$  can be walked on, resistant to surface water



Shaft ventilation  
DN150

Cable duct  
DN100

Tank ventilation  
DN65/100



<b>Copyright according to DIN 34</b>	Planning suggestion: Complete pumping station AWALIFT 80 in the AWALIFTSCHACHT 1200, pre-assembled ready for operation
<b>Scale:</b>	

Subject to technical modifications and errors.



## Accessories: **AWALIFT 80** Building services engineering

### Outlet:

Connector piece \_\_\_\_\_  
DN 80 or DN 100

Gate valve \_\_\_\_\_  
DN 80 or DN 100



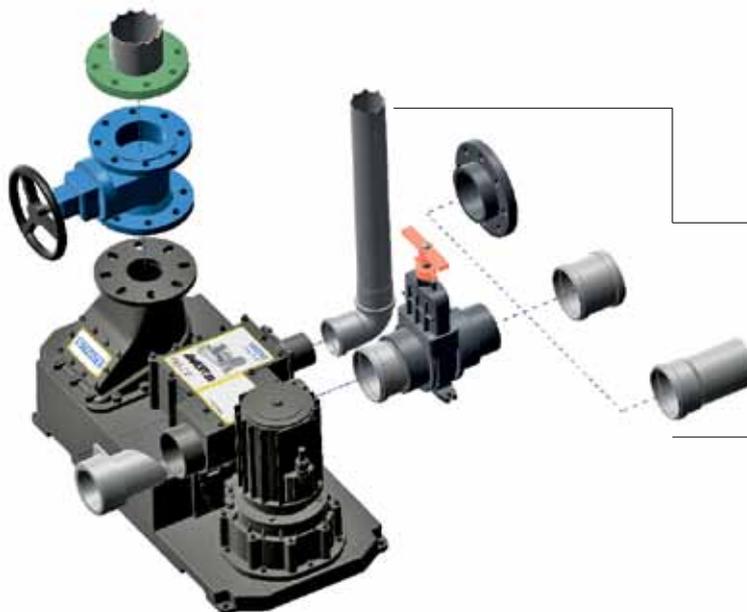
### Inlet:

Plastic valve DN 100 \_\_\_\_\_

for pressureless installation with integrated sleeve and sealing ring for direct insertion onto the inlet connecting muff on the station



### Installation example:



provided by the customer

connection possibilities provided by the customer



## Accessories: **AWALIFT 80** Building services engineering

### SMS relay

in the control housing.



### Alarm and monitoring systems

- see control technology -  
as an example: Alarm AM 14



### Basement draining pump

for installation in the pump sump



- Special accessories on request -



## AWALIFT 100

### The small sewage pumping station with the STRATE system

#### Area of use:

The STRATE AWALIFT 100 is the system preferred for draining storeys, houses and plots of land below the backwater level in accordance with DIN 1986-100, i.e. for properties that cannot be drained using natural gradient. DIN EN 12056-4 specifies the backwater level here as being the road surface of the connection point to the public sewage system.

- Single-family homes (e.g. toilet, shower, bath, sink, washing machine)
- Basement flat
- Party rooms in the basement
- Two-family homes

up to  
**20 PE**





# AWALIFT 100

## Technical data

<b>System capacity:</b>	0.4 m <sup>3</sup> /h - 20 PE
<b>Pumping head:</b>	up to 16 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 800 mm, W = 420 mm, H = 200 mm
<b>Tank contents:</b>	48 l
<b>Space requirements:</b>	1000 mm x 700 mm, or Ø 1200 mm
<b>Weight:</b>	approx. 78 kg
<b>Installation opening:</b>	600 mm x 900 mm
<b>Inlet height:</b>	200 mm (pipe bottom)
<b>Inlet connection:</b>	Sleeve for plastic connection pipe
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	G-Al Si12 (Alu230)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating / corrosion protection:</b>	Acrylic combination paint coating, RAL 6011 green
<b>Electrical connection:</b>	230/400V, 50 Hz
<b>Motor capacity:</b>	IP 67 0,75 kW – 1500 min <sup>1</sup> IP 67 1,50 kW – 3000 min <sup>1</sup> IP 67 2,20 kW – 3000 min <sup>1</sup>
<b>AC version:</b>	230V, 50 Hz, IP 55 1,00 kW – 1500 min <sup>1</sup>

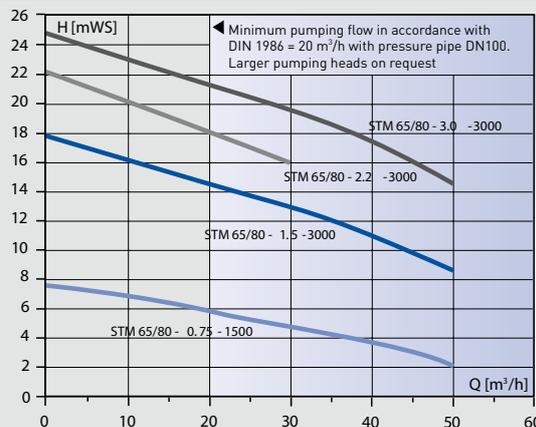
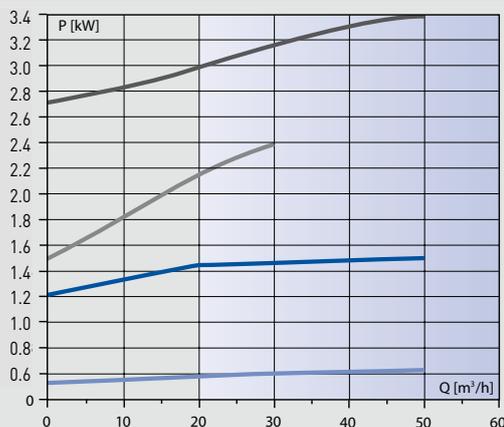
## Scope of supply:

- One tank with solids collecting chamber
- One centrifugal pump and motor according to type and operating location required
- One non-return valve AWASTOP DN 100 K
- Level measurement
- Pump control type AWAmaster 1 1.5 m power supply cable, with CEE plug

## Accessories:

- Inlet connector piece DN 100
- Valve connector piece DN 10
- Inlet gate valve DN 100
- Pressure pipe connector piece DN 100
- Pressure pipe gate valve DN 100
- Manual diaphragm pump 1 1/2"
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

## Characteristic curve for pump



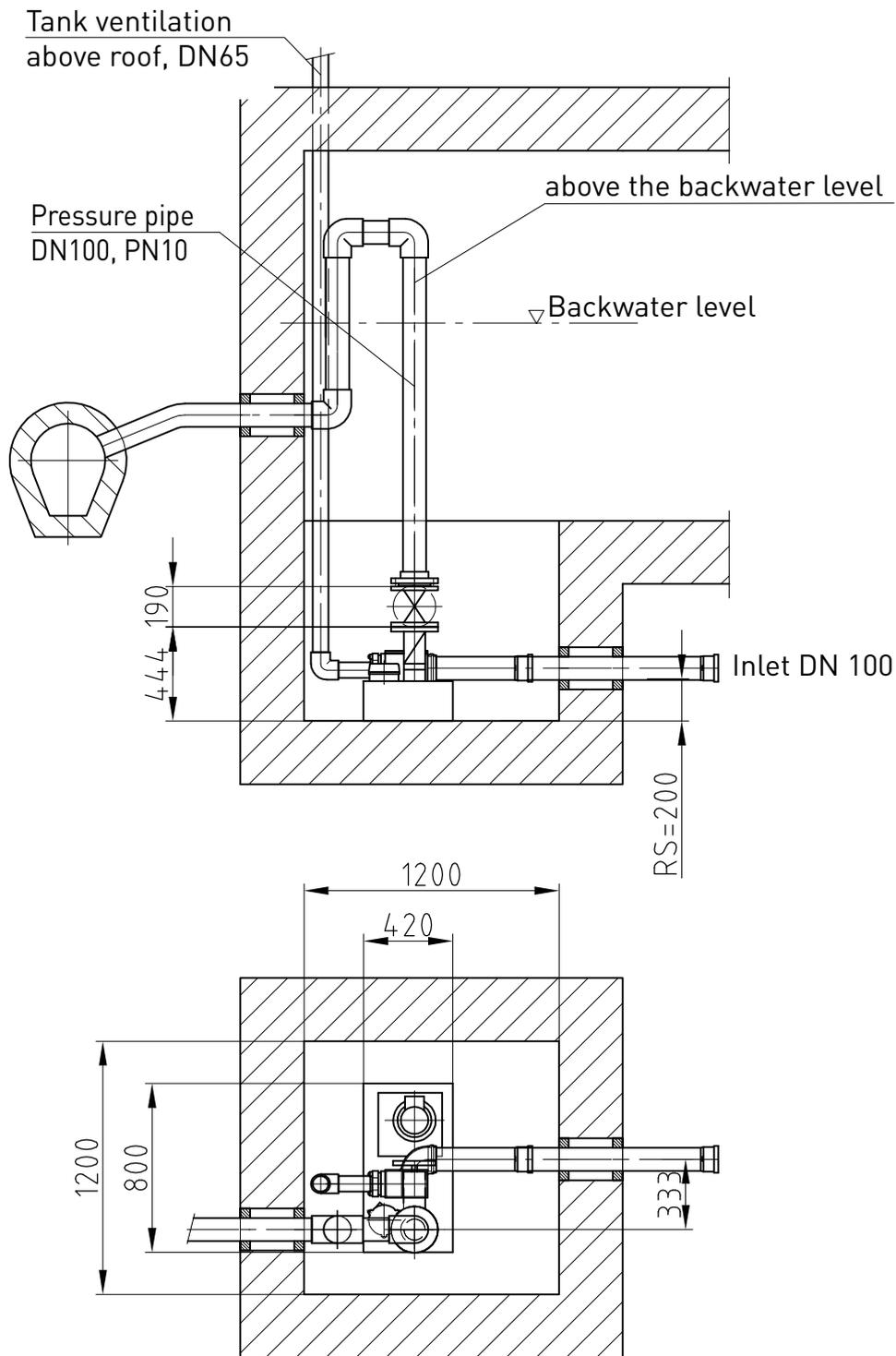
Special accessories according to your requirements

Other operating points on request. Pumps from the series STM 65/80 that can be used. The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



# AWALIFT 100



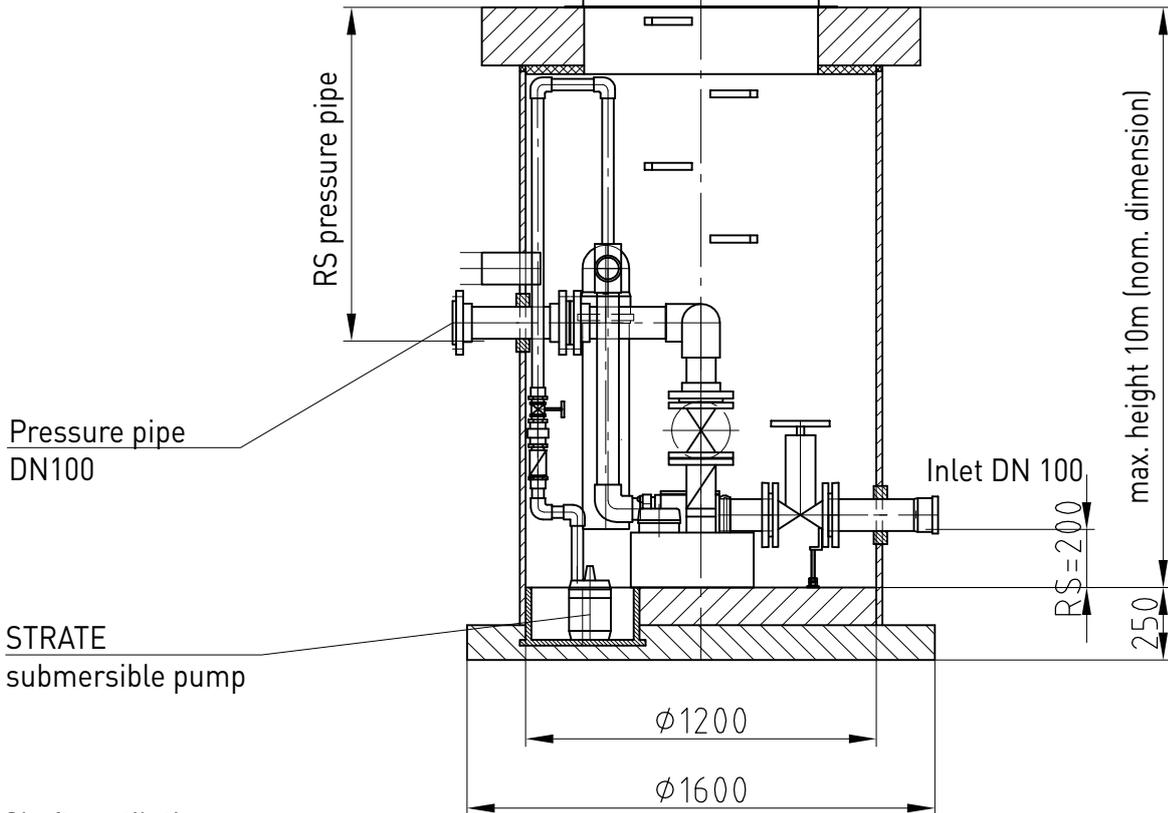
Copyright according to DIN 34	Installation suggestion:	AWALIFT 100
Scale:		Set-up within a building

Subject to technical modifications and errors.



## AWALIFT 100

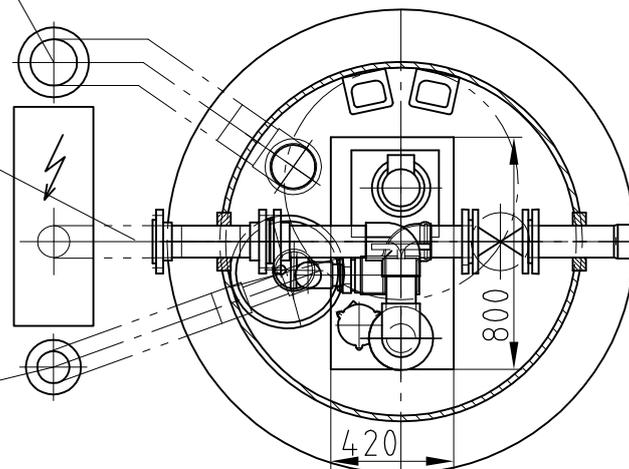
Shaft cover Ø800 can be walked on, resistant to surface water



Shaft ventilation  
DN150

Cable duct  
DN100

Tank ventilation  
DN65/100



Copyright according to DIN 34

Scale:

Planning suggestion: Complete pumping station AWALIFT 100  
in the AWALIFTSCHACHT 1200, pre-assembled ready for operation

Subject to technical modifications and errors.



**STRATE**

# AWALIFT 74/1

## The sewage pumping station with the STRATE system

### Area of use:

- Two-family homes
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage

up to  
**50 PE**



# AWALIFT 74/1

## Technical data

<b>System capacity:</b>	1.0 m <sup>3</sup> /h - 50 EW
<b>Pumping head:</b>	up to 22 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 860 mm, W = 500 mm, H = 380 mm
<b>Tank contents:</b>	80 l
<b>Space requirements:</b>	1200 mm x 1200 mm, or Ø 1500 mm
<b>Weight:</b>	approx. 110 kg
<b>Installation opening:</b>	800 mm x 800 mm
<b>Inlet height:</b>	400 mm (pipe bottom)
<b>Inlet connection:</b>	Flange DN 125 (optionally DN150 PN, DN 200 PN 10)
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	G-Al Si12 (Alu230)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating / corrosion protection:</b>	Acrylic combination paint coating, RAL 6011 green
<b>Electrical connection:</b>	230/400V, 50 Hz
<b>Motor capacity:</b>	IP 67 0,75 kW – 1500 min <sup>1</sup> IP 67 1,50 kW – 3000 min <sup>1</sup> IP 67 2,20 kW – 1500 min <sup>1</sup> IP 67 3,00 kW – 3000 min <sup>1</sup>

## Scope of supply:

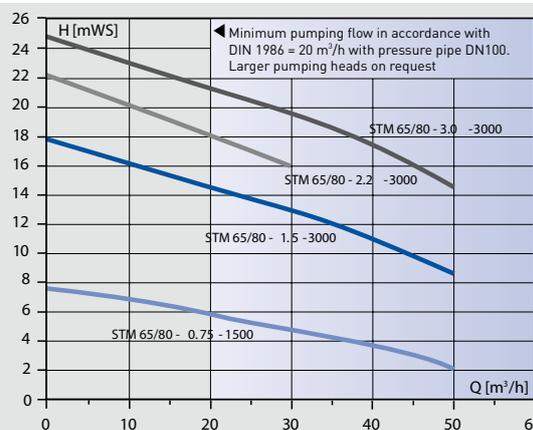
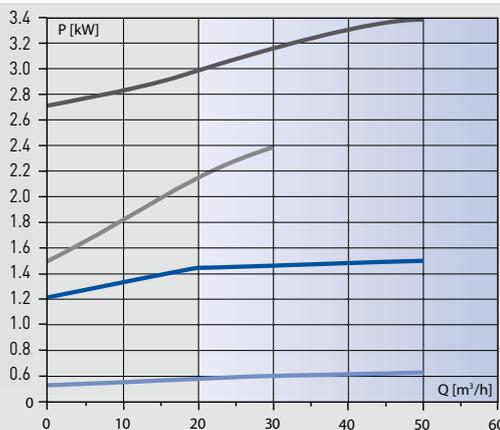
- One tank with solids collecting chamber
- One centrifugal pump and motor according to type and operating location required
- One non-return valve AWASTOP DN 100 K
- Level measurement
- Pump control type AWAmaster 1 1.5 m power supply cable, with CEE plug

## Accessories:

- Inlet connector piece DN 125 (DN 150, DN 200)
- Inlet gate valve DN 125 (DN 150, DN 200)
- Pressure pipe connector piece DN 100
- Pressure pipe gate valve DN 100
- Manual diaphragm pump 1 1/2"
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements

## Characteristic curve for pump



Other operating points on request.

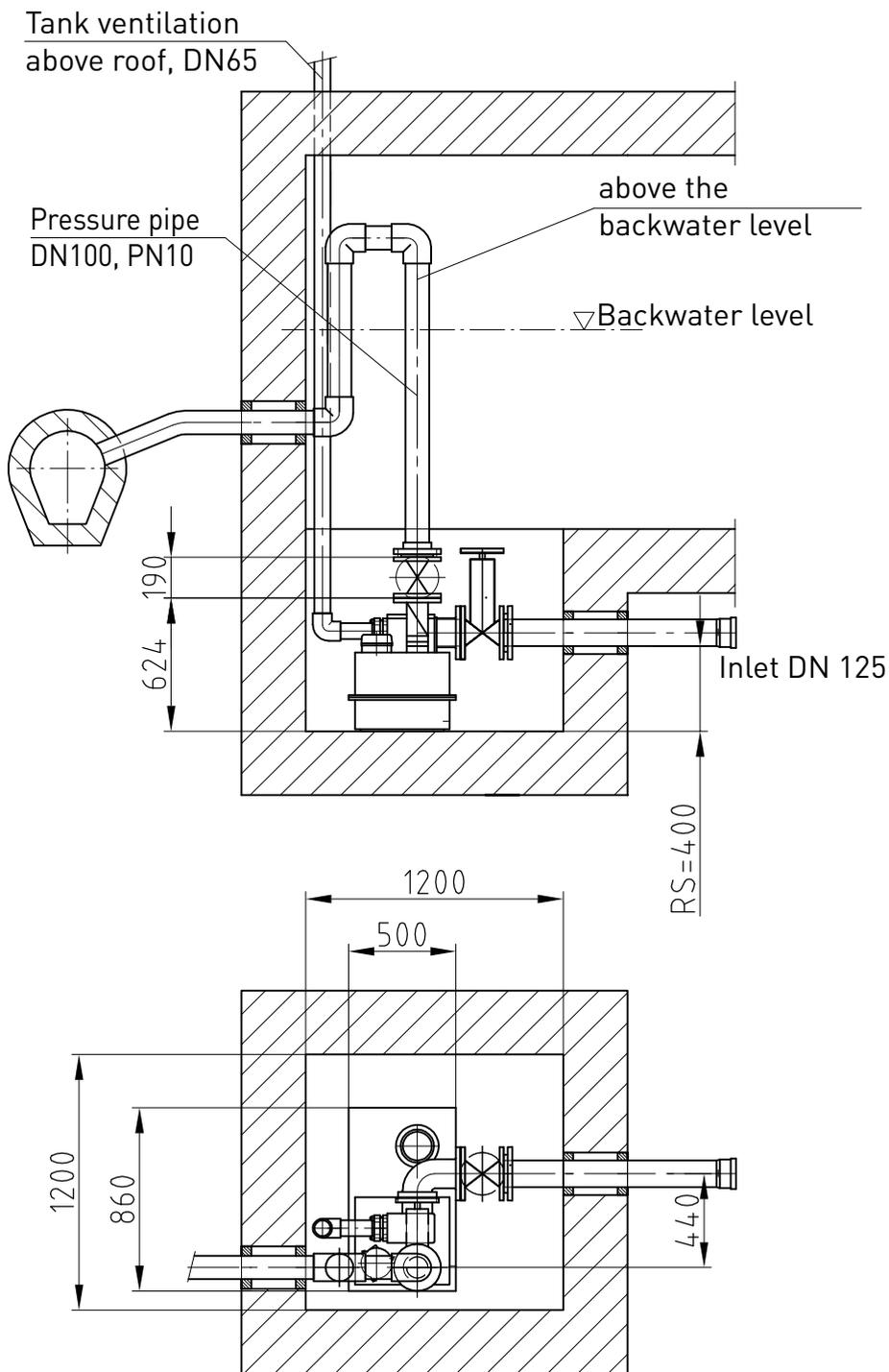
Pumps from the series STM 65/80 that can be used.

The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



# AWALIFT 74/1

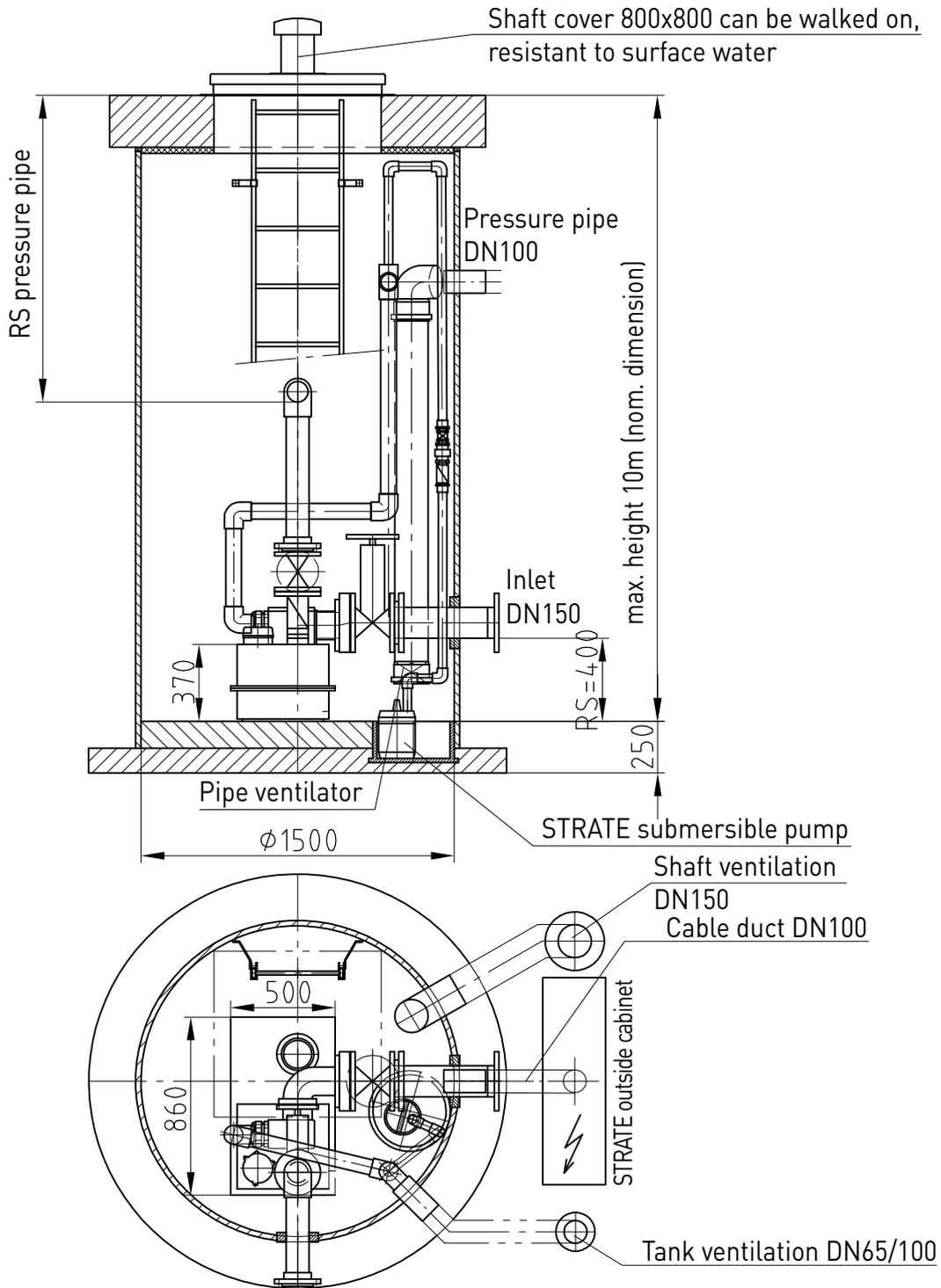


Copyright according to DIN 34	Installation suggestion: AWALIFT 74/1
Scale:	Set-up within a building

Subject to technical modifications and errors.



## AWALIFT 74/1



<b>Copyright according to DIN 34</b>	Planning suggestion: Complete pumping station AWALIFT 74/1
<b>Scale:</b>	in the AWALIFTSCHACHT 1500, pre-assembled ready for operation

Subject to technical modifications and errors.

# AWALIFT 0/1

## The sewage pumping station with the STRATE system

### Area of use:

- Multi-family homes
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage

up to  
**150 PE**





# AWALIFT 0/1

## Technical data

<b>System capacity:</b>	3.0 m <sup>3</sup> /h – 150 EW
<b>Pumping head:</b>	up to 32 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 950 mm, W = 500 mm, H = 525 mm
<b>Tank contents:</b>	112 l
<b>Space requirements:</b>	1200 mm x 1200 mm, oder Ø 1500 mm
<b>Weight:</b>	approx. 190 kg
<b>Installation opening:</b>	800 mm x 800 mm
<b>Inlet height:</b>	550 mm (pipe bottom)
<b>Inlet connection:</b>	Flange DN 125 (optionally DN150 PN, DN 200 PN 10)
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	G-Al Si12 (Alu230)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating / corrosion protection:</b>	Acrylic combination paint coating, RAL 6011 green
<b>Electrical connection:</b>	230/400V, 50 Hz, 400/690V, 50 Hz,
<b>Motor capacity:</b>	IP 67 0,75 kW, 1,50 kW, 2,20 kW – 1500 min <sup>1</sup> IP 67 3,00 kW – 3000 min <sup>1</sup> IP 55 4,00 kW, 5,50 kW – 3000 min <sup>1</sup>

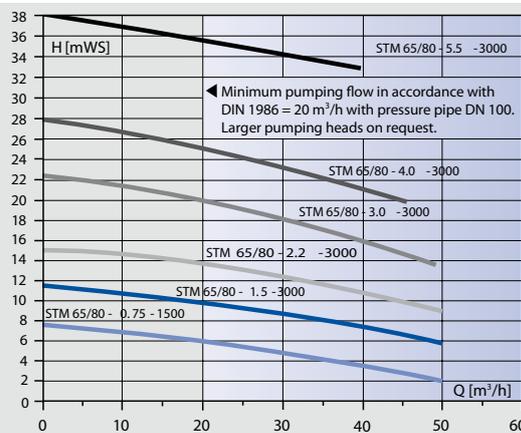
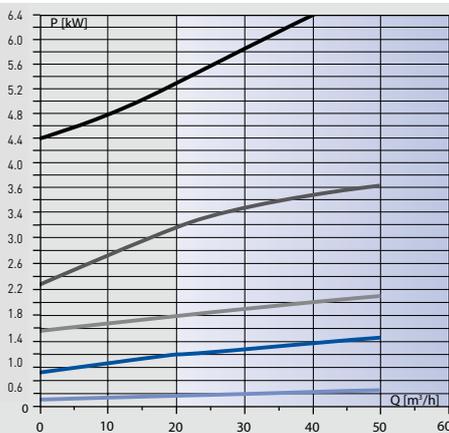
## Scope of supply:

- One tank with solids collecting chamber
- One centrifugal pump and motor according to type and operating location required
- One non-return valve AWASTOP DN 100 K
- Level measurement
- Pump control type AWAmaster 1 1.5 m power supply cable, with CEE plug

## Accessories:

- Inlet connector piece DN 125 (DN 150, DN 200)
- Inlet gate valve DN 125 (DN 150, DN 200)
- Pressure pipe connector piece DN 100
- Pressure pipe gate valve DN 100
- Manual diaphragm pump 1 ½"
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

## Characteristic curve for pump



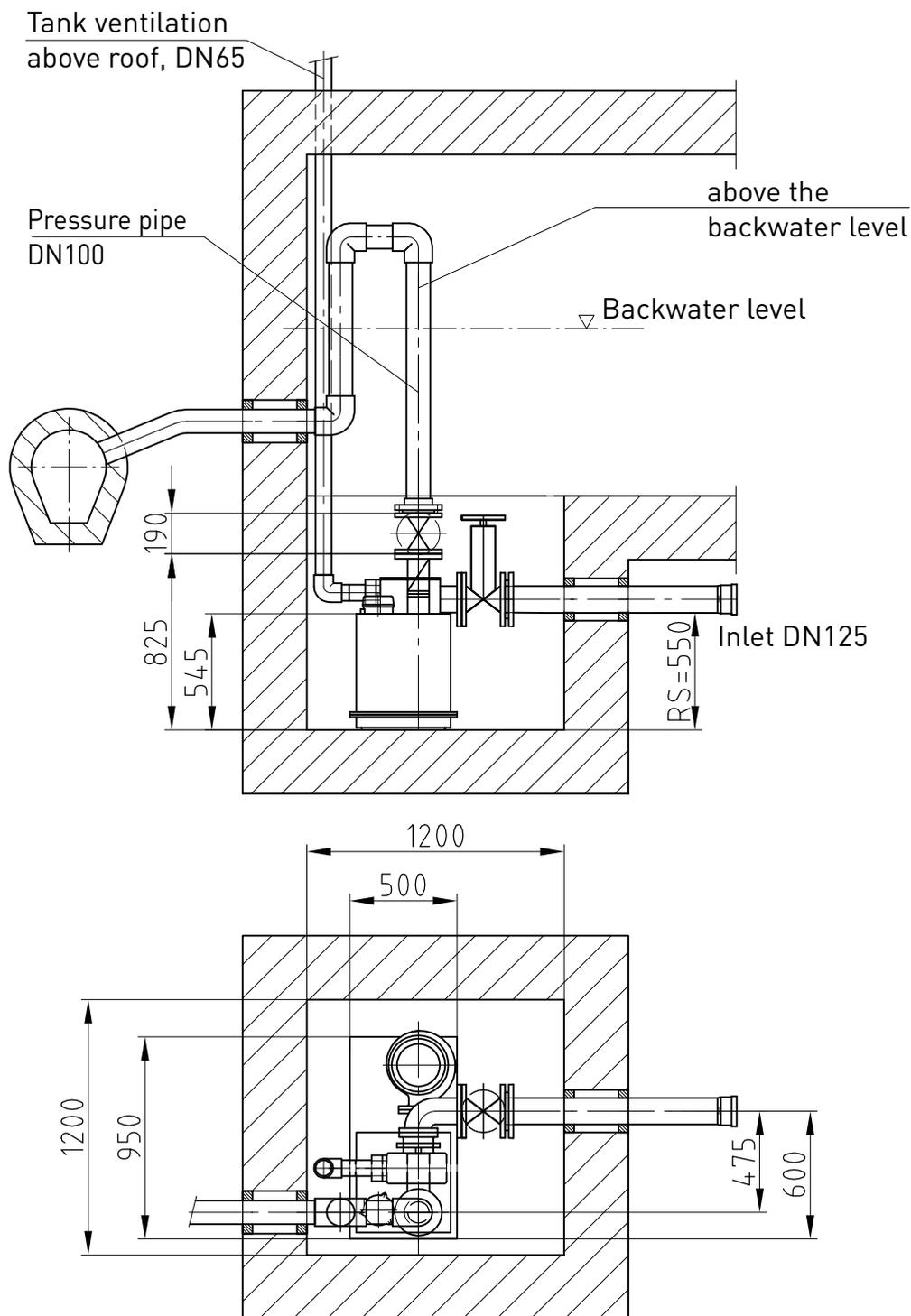
Special accessories according to your requirements

Other operating points on request.  
Pumps from the series STM 65/80 that can be used.  
The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



## AWALIFT 0/1

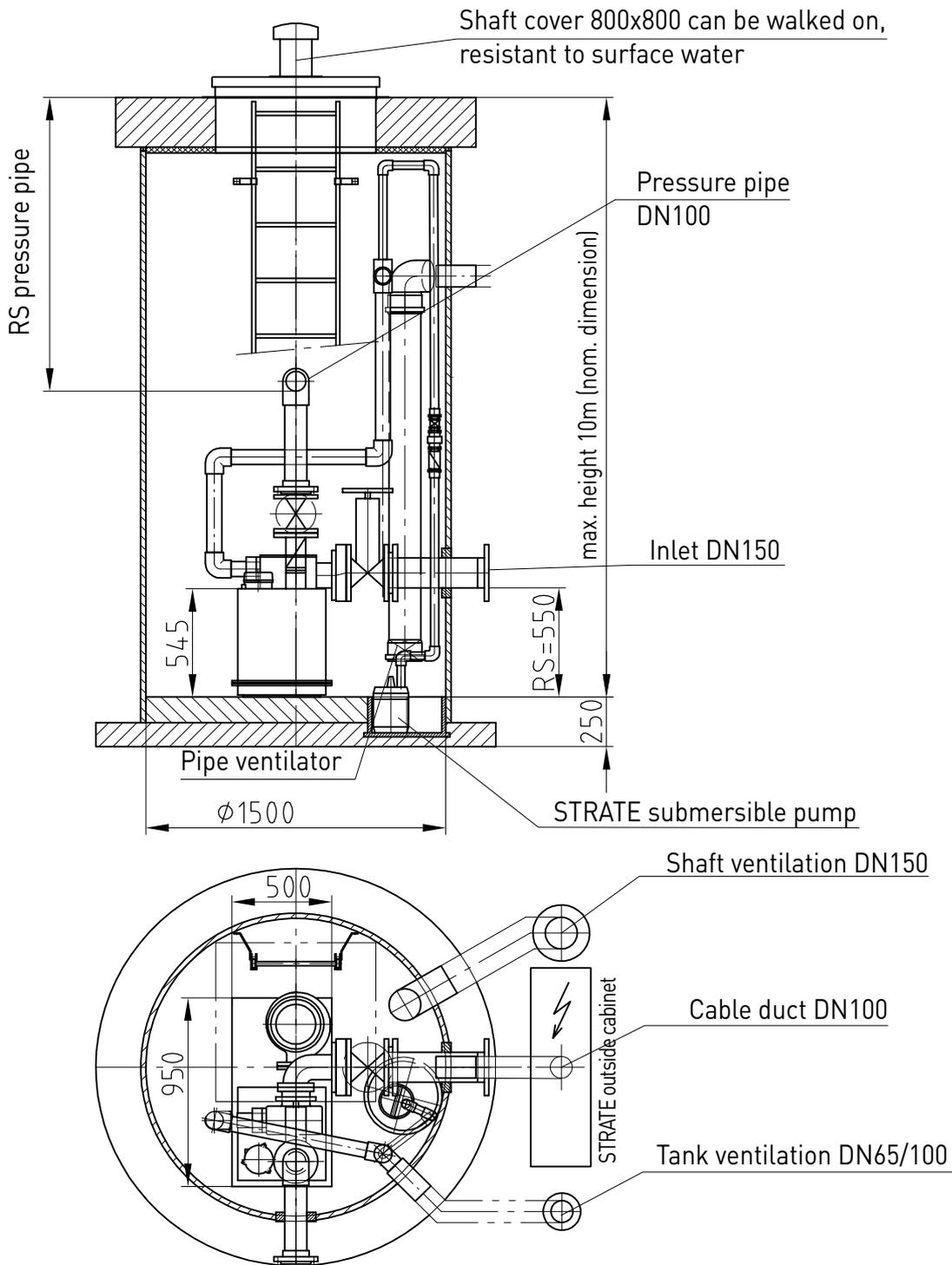


<b>Copyright according to DIN 34</b>	Installation suggestion:	AWALIFT 0/1
<b>Scale:</b>		Set-up within a building

Subject to technical modifications and errors.



## AWALIFT 0/1



Copyright according to DIN 34	Planning suggestion: Complete pumping station AWALIFT 0/1 in the AWALIFTSCHACHT 1500, pre-assembled ready for operation
Scale:	

Subject to technical modifications and errors.



## Accessories: Building services engineering

### Connector piece

Inlet side:

in the nominal sizes: DN 100, DN 125,  
DN 150 and DN 200

Pressure pipe side:

in the nominal sizes: DN 100



### Gate valve

in the nominal sizes: DN 100, DN 125,  
DN 150 and DN 200



### Valve connector piece

DN 100 (only for AWALIFT 100)



### Manual diaphragm pump

R 1 1/2" for mounting on the wall or mounted  
on the suction side on the AWALIFT





## Accessories: Building services engineering

### Basement draining pump

for installation in the pump sump



### Compact control

- see control technology -  
as an example: AWAmaster 1



### Alarm and monitoring systems

- see control technology -  
as an example: Alarm AM 14



- Special accessories on request -



## AWALIFT Building engineering and municipal applications

### AWALIFT sewage pumping stations for building services engineering and municipal applications (twin stations)

The compact STRATE twin stations with the advantages of the STRATE system recognised worldwide are mainly used for:

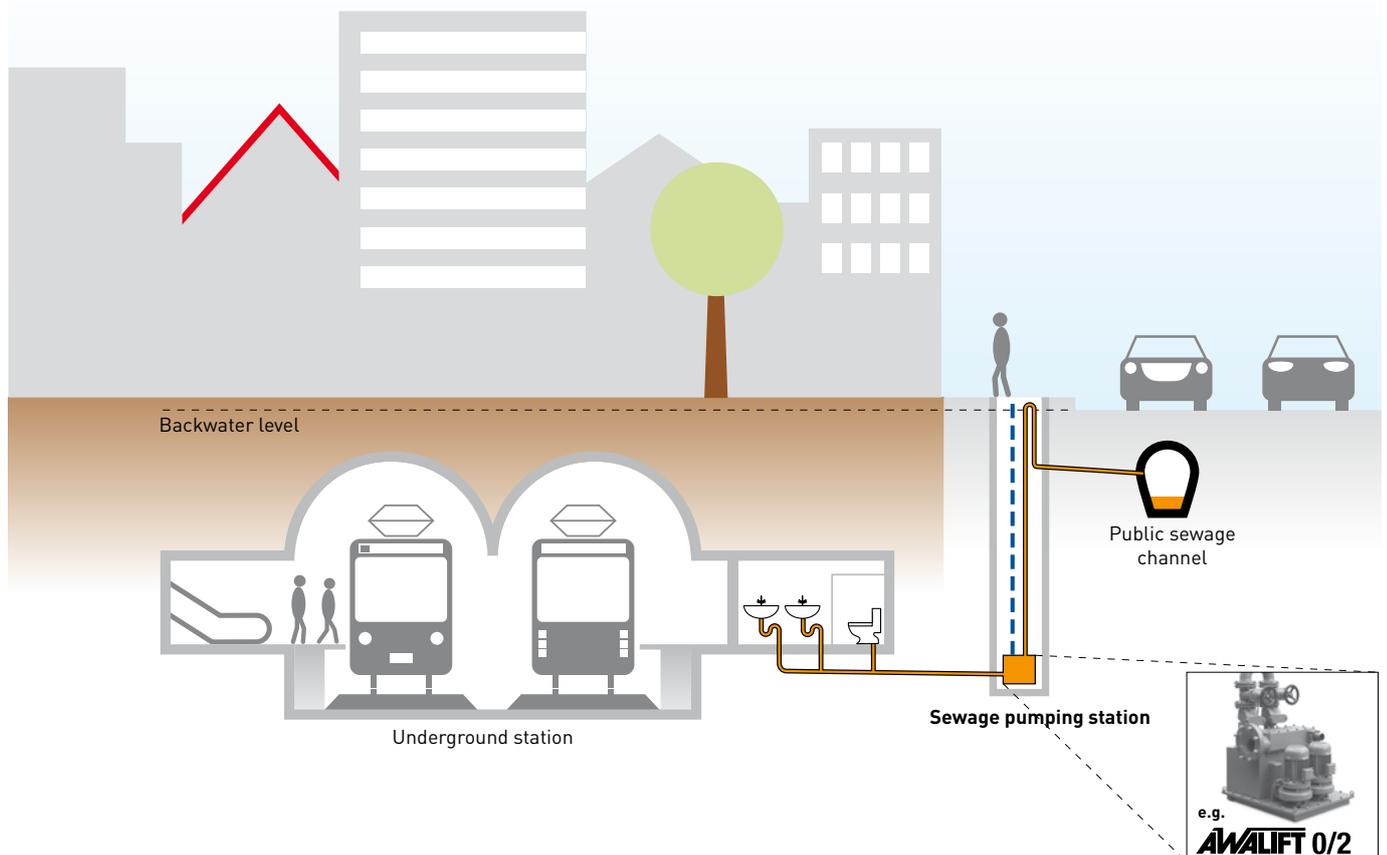
- Draining storeys where sanitary facilities are below the backwater level (definition according to DIN 12056-4).
- Draining facilities which cannot be drained using natural gradient.
- Draining facilities which demand increased operational safety.

The compact AWALIFT twin stations

- are unparalleled in terms of economic efficiency thanks to the use of motors individually adapted to the required pumping capacity, the use of highly efficient pumps and the possibility of intelligent system control. We look forward to advising you on the basis of your specific requirements and pointing out your potential energy savings.
- have made a name for themselves around the world thanks to their long service life, reliable application as

well as user-friendly operation and servicing. Sturdy cast aluminium designs which are protected reliably from corrosion by top-class coating systems and the high-grade system components used also permit almost silent operation.

- protect pumps from blockage and wear thanks to the patented solids collecting chambers. Solid materials contained in the sewage are retained in the solids collecting chambers so that only "pre-cleaned" sewage can enter the tanks during the filling stages. During the subsequent





## AWALIFT Building engineering and municipal applications

pumping stages, the “pre-cleaned” sewage is pumped through the solids collecting chambers by the pumps, flushing the solids collected there into the connected pressure pipes together with the pump flow, leaving no residue. These flushing stages also prevent the check valves becoming blocked.

- have been used for drainage in building engineering and municipal drainage since 1957. Thanks to consistent product observation and the willingness to combine sensible innovations with tried-and-trusted technology, STRATE has secured itself the leading position in the draining technology market. Your special requirements e.g. the pumping of sewage over great distances and pumping heights, are turned into top-class system solutions by our experienced team of STRATE project engineers.
- are closed, gas and odour-proof systems, and thus meet maximum hygiene and safety requirements. If required, STRATE can deliver sewage pumping stations for potentially explosive areas in accordance with ATEX specifications. The stations are set up directly in buildings. In the majority of installation cases, a cesspit is not required. For outdoor installation, STRATE can supply the AWALIFT shaft as an installation solution.

### Description of twin stations:

The fully automatic STRATE AWALIFT twin stations comply with the requirements of DIN 1986-100 and DIN EN 12056-4. In addition, the systems are certified to DIN EN 12050-1 or -4 and are continually tested and monitored by the LGA in line with the structural and testing principles of this standard.

The gas- and odour-proof systems are made of cast aluminium; the surfaces are coated with a high-quality corrosion protection system.

The two blockage-resistant solids collecting chambers with 100 mm free passage are emptied without residue by the patented STRATE system during the respective pumping stage. Patent EP 0744504B1. The AWALIFT twin stations are delivered pre-assembled and ready for operation.

### Area of use:

Draining of storeys, houses and plots of land below the backwater level in accordance with DIN 12056-4, i.e. for facilities that cannot be drained using natural gradient. DIN EN 12056-4 specifies the backwater level as being the road surface of the connection point to the public sewage system.

The AWALIFT twin stations are particularly suitable for draining

facilities where the toilets are below the backwater level and which require increased operational safety (public buildings, public facilities, restaurants etc.). The high operational safety is achieved by the use of two pumps which are operated alternately, each of which is capable of full system capacity, and thus complies with demanding municipal requirements. In addition, there is no need to provide a reserve pump. The use of a sewage pumping station provides safe protection against backwater. DIN EN 12056-4 prescribes the installation of a backwater loop as protection against backwater, i.e. the pressure pipe must be routed over the backwater level via a loop. Deviations from this require approval by the authorities responsible. In addition, the use of sewage pumping stations is also recommended where regulations do not prescribe their use but there is still a risk of backwater damage. This particularly includes situations where there is a large distance to cover with insufficient natural gradient between the drainage point and the connection point.

Type	Capacity m³/h	PE*	Weight kg	Tank volume	Size mm	Installation depth m	Shaft size mm	Installation opening mm
AWALIFT 74/2	4	200	approx. 175	107 l	860 x 660 x 380	0.40	1500 x 1500 or Ø 1800	1000 x 800
AWALIFT 0/2	6	300	approx. 320	205 l	1015 x 820 x 535	0.55	1800 x 1800 or Ø 2000	1000 x 1000
AWALIFT 1/2	15	750	approx. 520	430 l	1400 x 800 x 1000	0.70/0.75	2000 x 2000 or Ø 2000	1500 x 1000

\* PE in dry weather plus extra water (1000 PE ≈ 6 l/s)

\*\* Large pumping heads are achieved by switching 2 pumps in series (e.g.: AWALIFT 1/2x2)



**STRATE**

# AWALIFT 74/2

## The sewage pumping station with the STRATE system

### Area of use:

- Multi-family homes
- Where the reserve pump has to guarantee fail-safe operation e.g. in restaurants and public buildings
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**200 PE**





# AWALIFT 74/2

## Technical data

<b>System capacity:</b>	4 m <sup>3</sup> /h - 200 PE
<b>Pumping head:</b>	up to 22 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 860 mm, W = 660 mm, H = 380 mm
<b>Tank contents:</b>	107 l
<b>Space requirements:</b>	1500 mm x 1500 mm, oder Ø 1800 mm
<b>Weight:</b>	approx. 175 kg
<b>Installation opening:</b>	800 mm x 1000 mm
<b>Inlet height:</b>	400 mm (pipe bottom)
<b>Inlet connection:</b>	Flange DN 125 (optionally DN 150 PN, DN 200 PN 10)
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	G-Al Si12 (Alu230)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating / corrosion protection:</b>	Acrylic combination paint coating, RAL 6011 green
<b>Electrical connection:</b>	230/400V, 50 Hz, IP 67
<b>Motor capacity:</b>	IP 67 0.75 kW – 1500 min <sup>1</sup> IP 67 1.50 kW – 3000 min <sup>1</sup> IP 67 2.20 kW – 3000 min <sup>1</sup> IP 67 3.00 kW – 3000 min <sup>1</sup>

## Scope of supply:

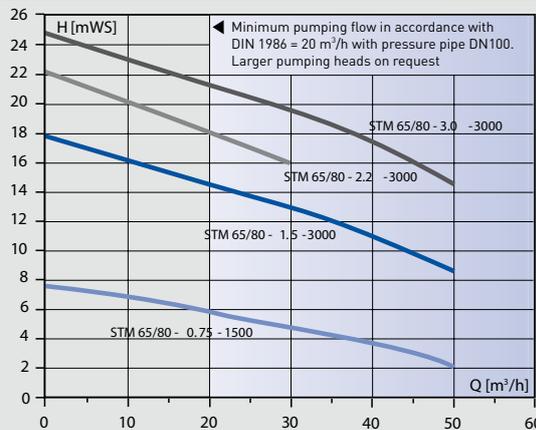
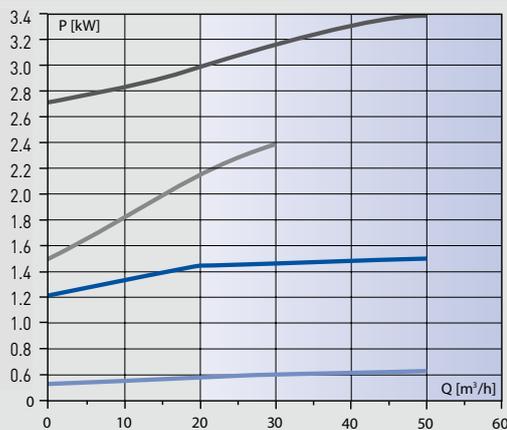
- One tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Two non-return valves AWASTOP DN 100 K
- Two pressure pipe gate valves DN 100
- Level measurement

## Accessories:

- Pump control
- Inlet connector piece DN 125 (DN 150, DN 200)
- Inlet gate valve DN 125 (DN 150, DN 200)
- Pressure pipe connector piece DN 100
- Manual diaphragm pump 1 1/2"
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements

## Characteristic curve for pump

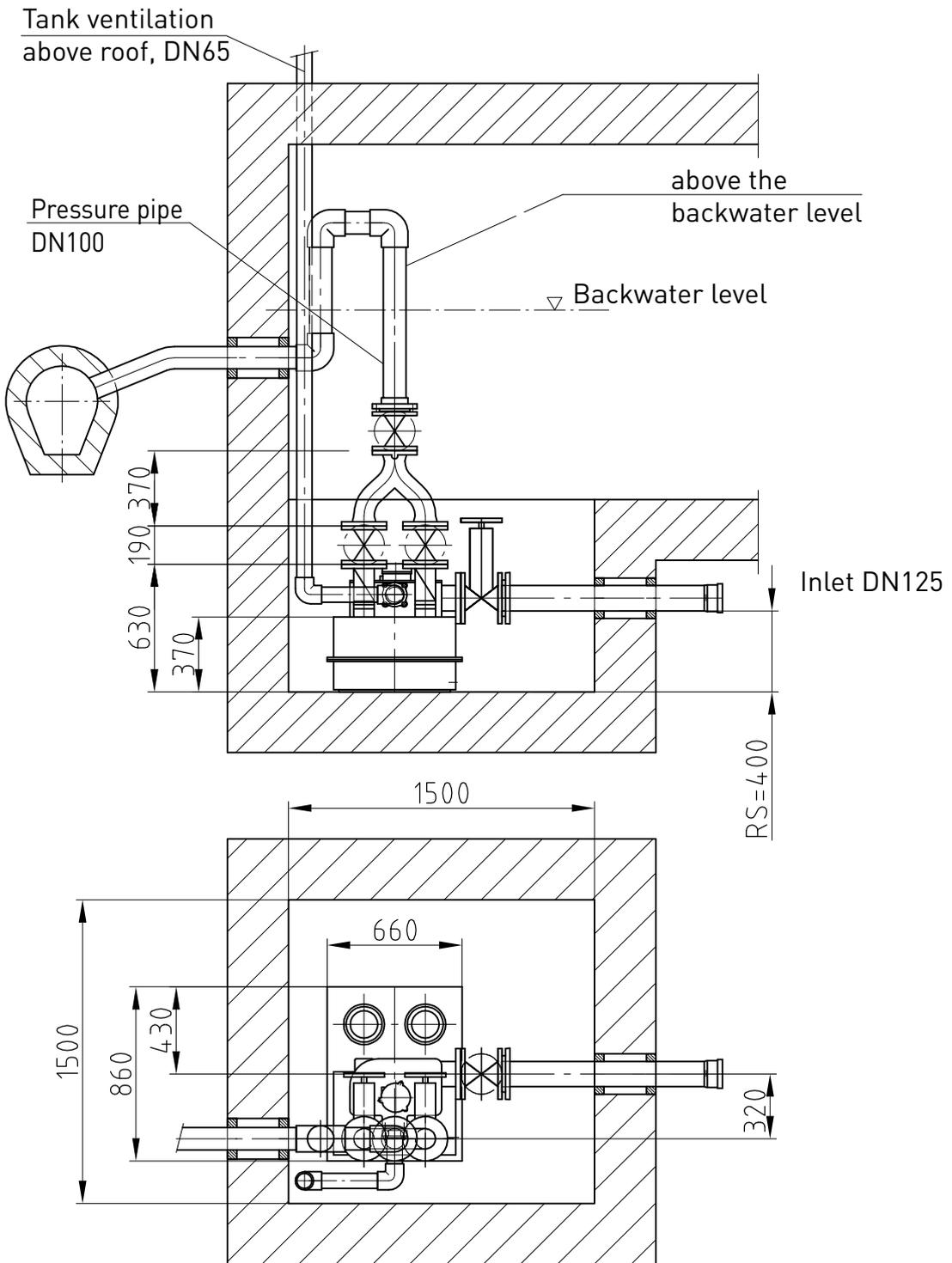


Other operating points on request.  
Pumps from the series STM 65/80 that can be used.  
The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



# AWALIFT 74/2

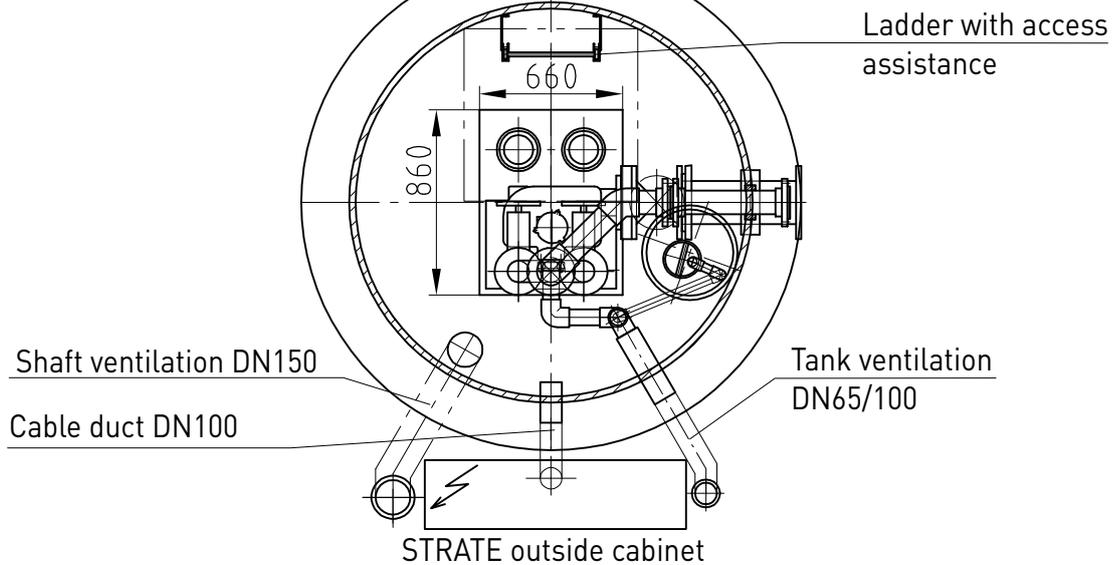
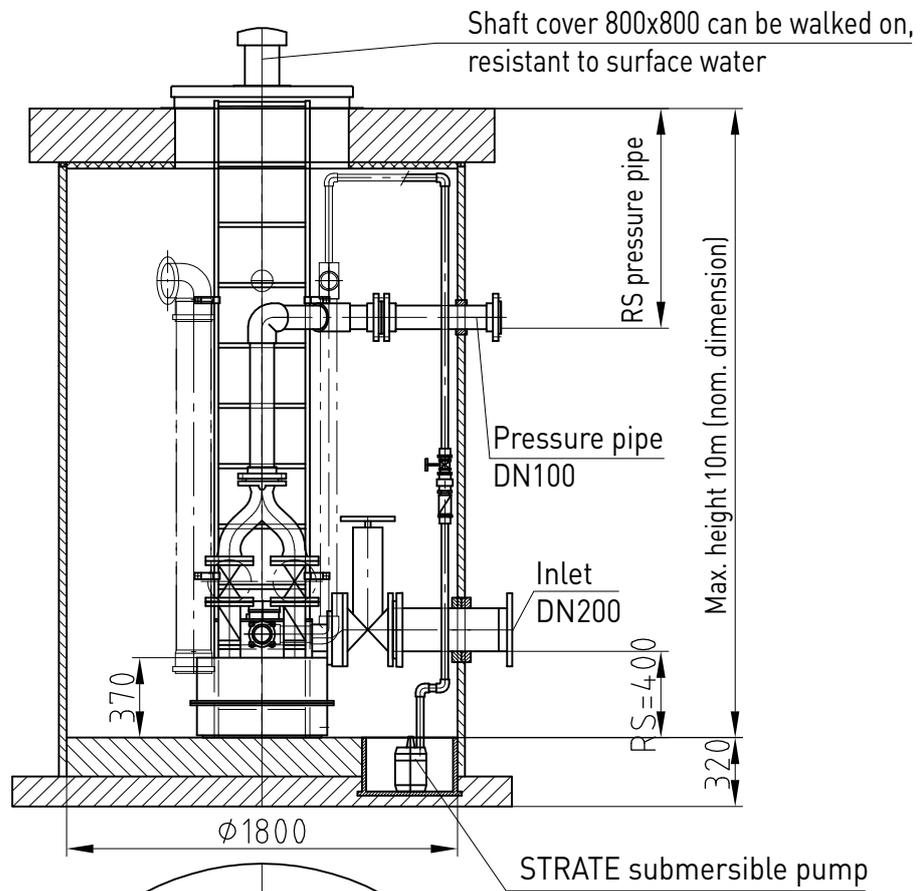


Copyright according to DIN 34	Installation suggestion: AWALIFT 74/2 Set-up within a building
Scale:	

Subject to technical modifications and errors.



## AWALIFT 74/2



Copyright according to DIN 34	Planning suggestion: Complete pumping station AWALIFT 74/2 in the AWALIFTSCHACHT 1800, pre-assembled ready for operation
Scale:	

Subject to technical modifications and errors.



**STRATE**

# AWALIFT 0/2

## The sewage pumping station with the STRATE system

### Area of use:

- Larger buildings, industrial companies, individual streets
- Where the reserve pump has to guarantee fail-safe operation e.g. in restaurants and public buildings
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**300 PE**



**STRATE** Technologie für Abwasser GmbH  
Im Kirchenfelde 9 · D-31157 Sarstedt  
Phone +49 (0)5066 988-0 · Fax -225  
E-mail: strate-info@talis-group.com

## AWALIFT 0/2

### Technical data

<b>System capacity:</b>	6 m <sup>3</sup> /h - 300 EW
<b>Pumping head:</b>	up to 32 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 1015 mm, W = 820 mm, H = 535 mm
<b>Tank contents:</b>	205 l
<b>Space requirements:</b>	1800 mm x 1800 mm, oder Ø 2000 mm
<b>Weight:</b>	approx. 320 kg
<b>Installation opening:</b>	1000 mm x 1000 mm
<b>Inlet height:</b>	550 mm (pipe bottom)
<b>Inlet connection:</b>	Flange DN 125 (optionally DN 150 PN, DN 200 PN 10)
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

### Materials

<b>Tank:</b>	G-Al Si12 (Alu230)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating / corrosion protection:</b>	Acrylic combination paint coating, RAL 6011 green
<b>Electrical connection:</b>	230/400V, 50 Hz, 400/690V, 50 Hz,
<b>Motor capacity:</b>	IP 67 0.75 kW, 1.50 kW, 2.20 kW – 1500 min <sup>-1</sup> IP 67 3.00 kW – 3000 min <sup>-1</sup> IP 55 4.00 kW, 5.50 kW – 3000 min <sup>-1</sup>

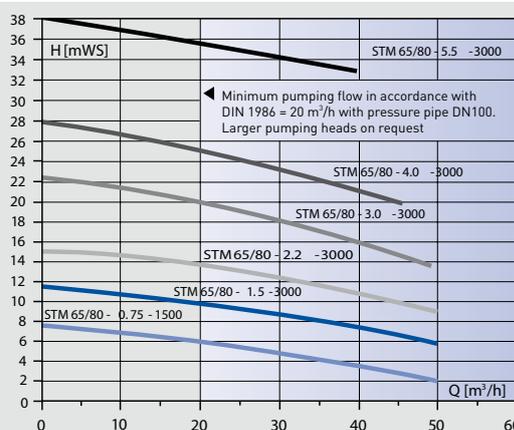
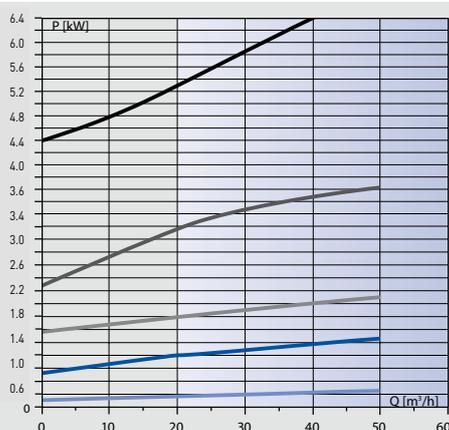
### Scope of supply:

- One tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Two non-return valves AWASTOP DN 100 K
- Two pressure pipe gate valves DN 100
- Level measurement

### Accessories:

- Pump control
- Inlet connector piece DN 125 (DN 150, DN 200)
- Inlet gate valve DN 125 (DN 150, DN 200)
- Pressure pipe connector piece DN 100
- Manual diaphragm pump 1 1/2"
- Basement draining pump
- Alarm and monitoring systems, see control technology
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

### Characteristic curve for pump



Special accessories according to your requirements

Other operating points on request.

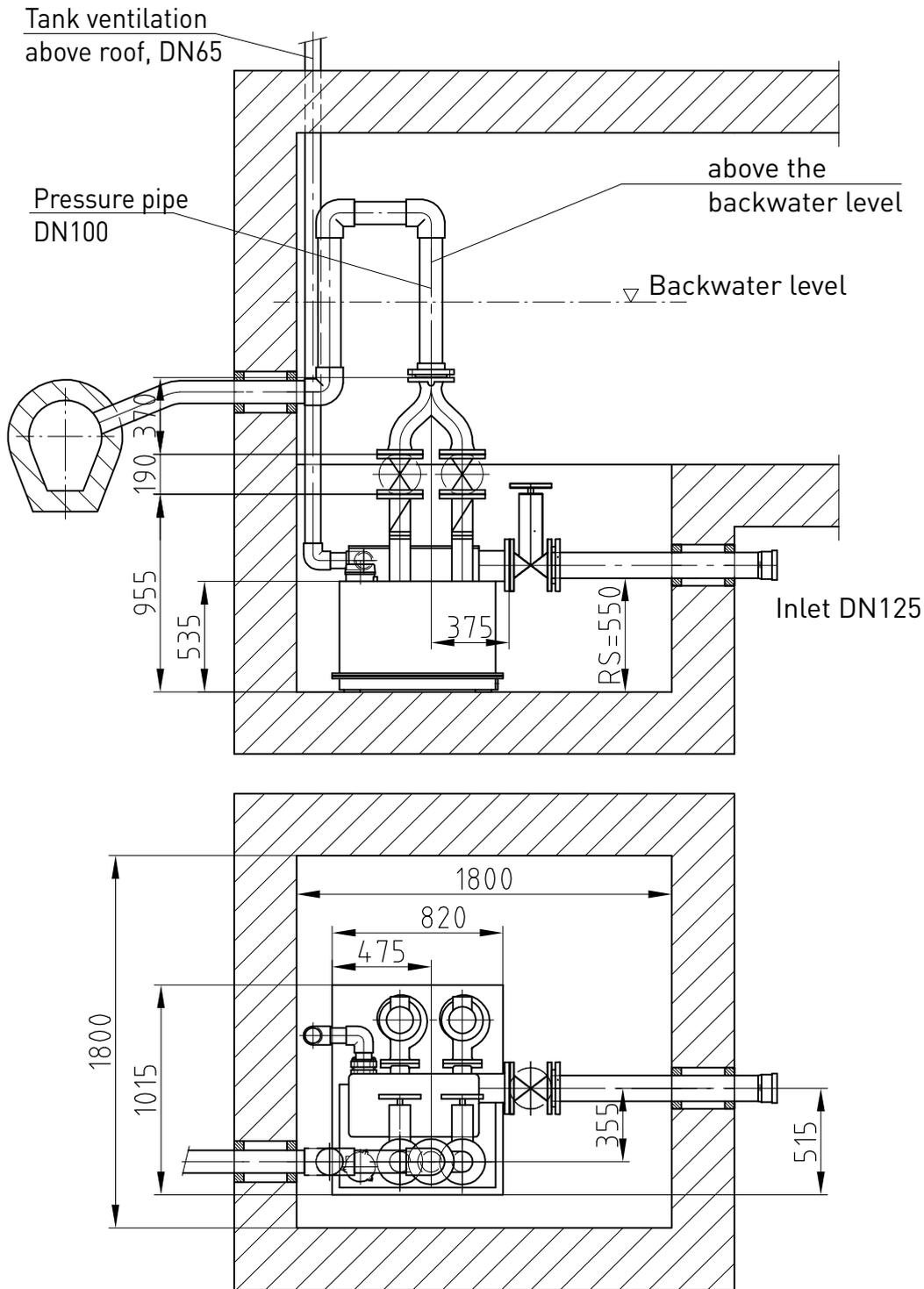
Pumps from the series STM 65/80 that can be used.

The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



# AWALIFT 0/2

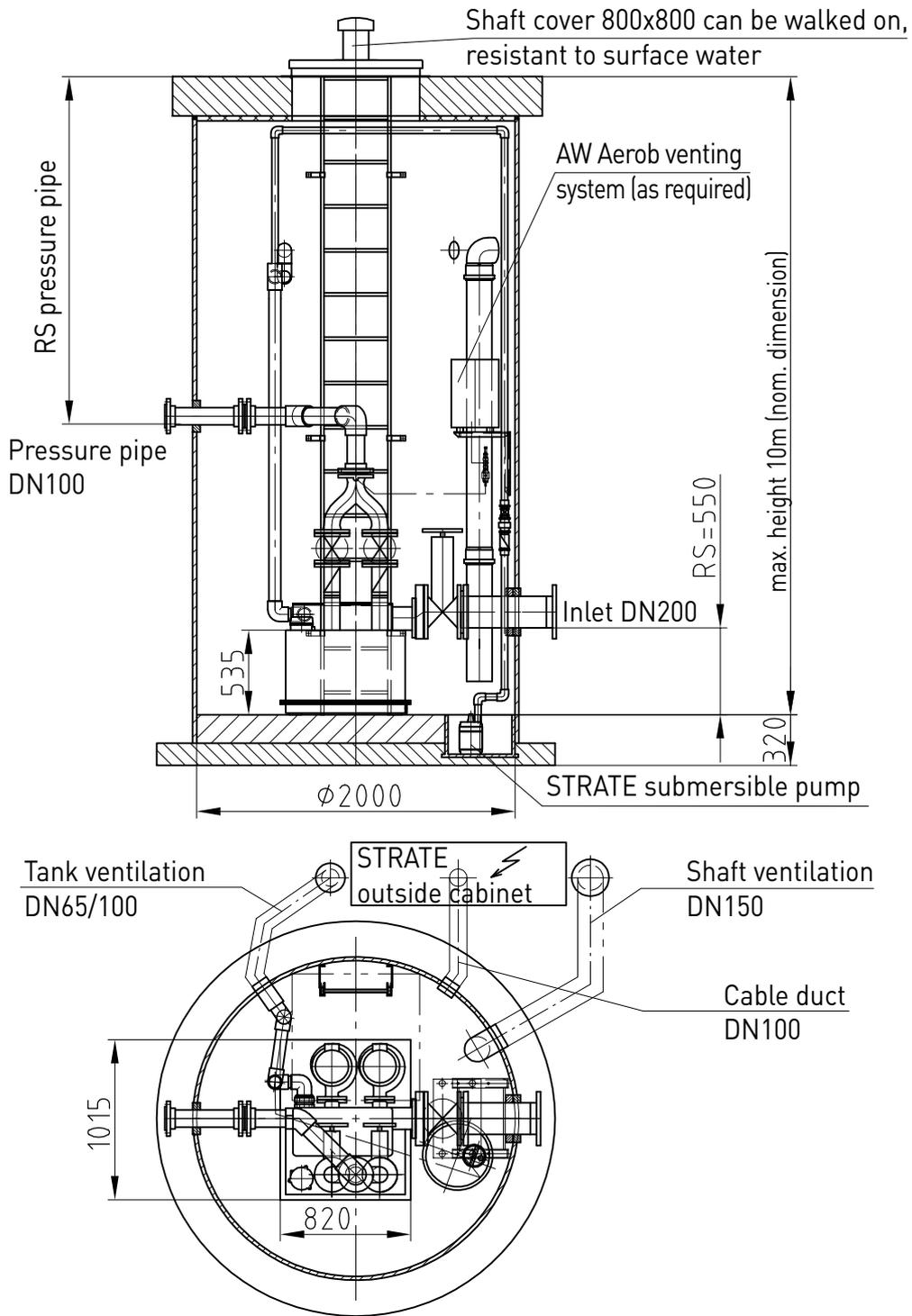


<b>Copyright according to DIN 34</b>	Installation suggestion: AWALIFT 0/2 Set-up within a building
<b>Scale:</b>	

Subject to technical modifications and errors.



## AWALIFT 0/2



Copyright according to DIN 34	Planning suggestion: Complete pumping station AWALIFT 0/2
Scale:	in the AWALIFTSCHACHT 2000, pre-assembled ready for operation

Subject to technical modifications and errors.



## Accessories: Building services engineering and municipal applications

### Connector piece

Inlet side:

in the nominal sizes: DN 100,  
DN 125, DN 150 and DN 200

Pressure pipe side:

in the nominal sizes: DN 100



### Gate valve

in the nominal sizes: DN 100, DN 125,  
DN 150 and DN 200



### Valve connector piece

DN 100 (only for AWALIFT 100)



### Manual diaphragm pump

R 1 1/2" for mounting on the wall  
or mounted on the suction side  
on the AWALIFT





## Accessories: Building services engineering and municipal applications

### Basement draining pump

for installation in the pump sump



### Compact control

- see control technology -  
as an example: AWAmaster 2



### Alarm and monitoring systems

- see control technology -  
as an example: Alarm AM 14



- Special accessories on request -



## AWALIFT sewage pumping stations for the municipal sector

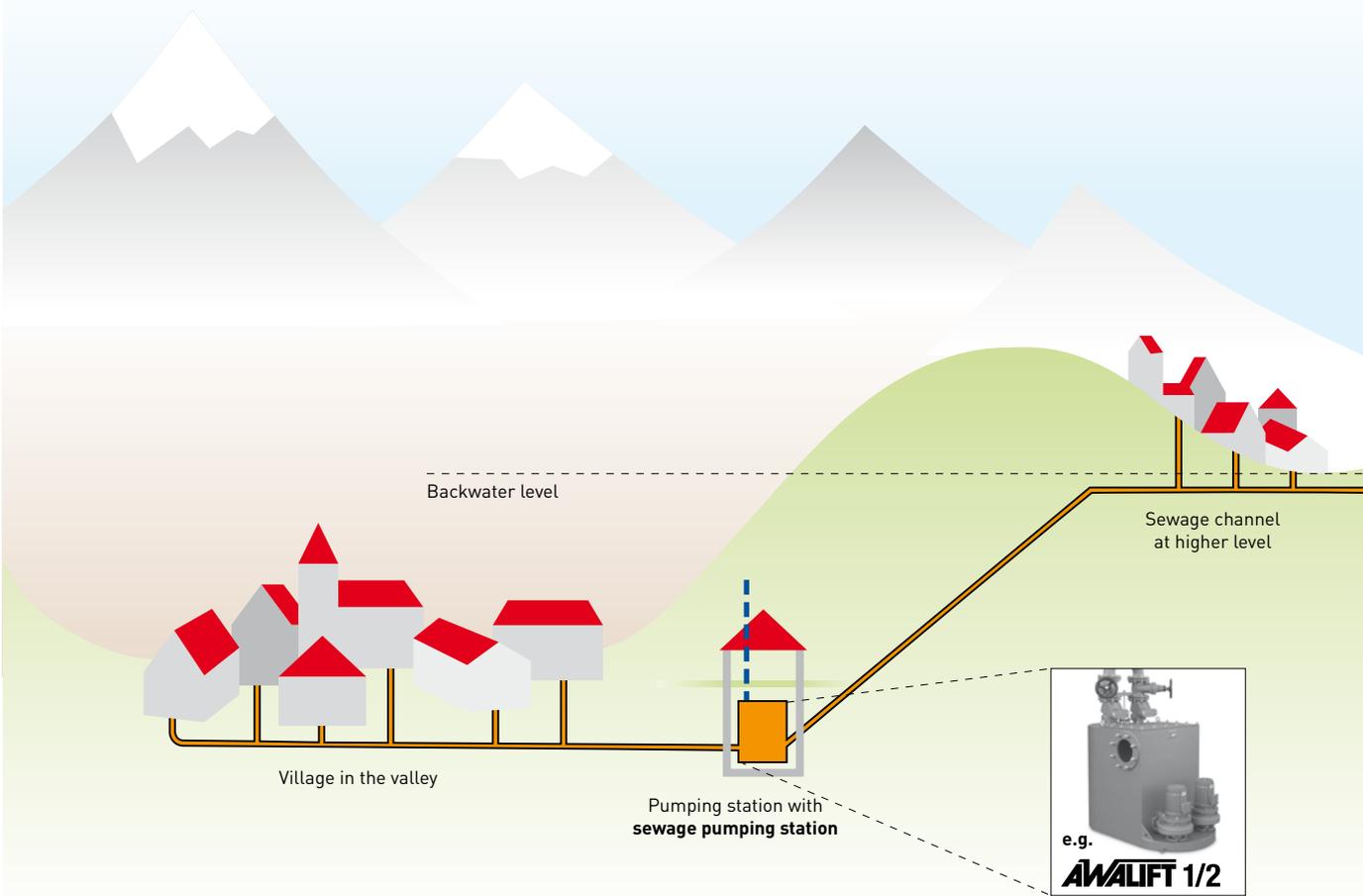
The STRATE sewage pumping stations with the advantages of the STRATE system recognised worldwide are used in the municipal sector mainly for the draining of:

- Large buildings (hotels, hospitals, congress centres etc.)
- Residential and industrial areas
- Towns
- Communities
- Districts with up to 37,000 residents
- Further infrastructure facilities (airports, industrial parks, underground railway stations etc.)

- are unparalleled in terms of economic efficiency thanks to the use of motors adapted to the required pumping capacity for every individual application case, the use of highly efficient pumps and the possibility of intelligent system control. We look forward to advising you on the basis of your specific requirements and pointing out your potential energy savings.
- have made a name for themselves around the world thanks to their long service life, reliable application

as well as user-friendly operation and servicing. Sturdy steel designs which are protected reliably from corrosion by top-class coating systems and the high-grade system components used also permit almost silent operation.

- protect pumps from blockage and wear thanks to the patented solids collecting chambers. Solid materials contained in the sewage are retained in the solids collecting chambers so that only "pre-cleaned" sewage can enter





## AWALIFT

### Municipal application

the tanks during the filling stages. During the subsequent pumping stages, the "pre-cleaned" sewage is pumped through the solids collecting chambers by the pumps, flushing the solids collected there into the connected pressure pipes together with the pump flow, leaving no residue.

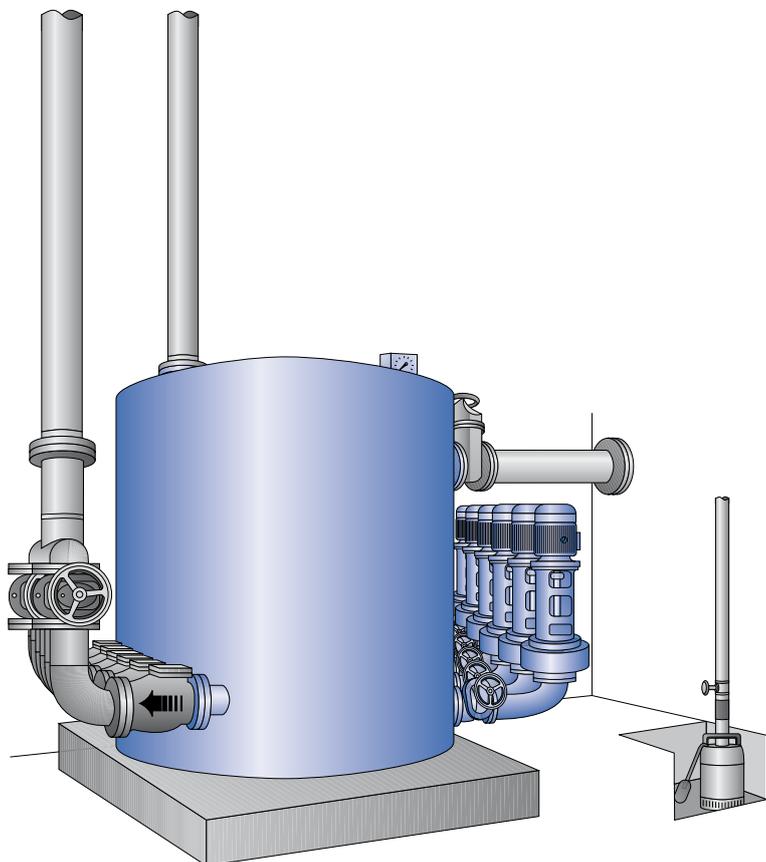
- have been in use for municipal, industrial and private drainage since 1957. Thanks to consistent product observation and the willingness to combine sensible innovations with tried-and-trusted technology, STRATE has secured itself the leading position in the draining technology market. Your special requirements e.g. the pumping of

sewage over great distances and pumping heights, are turned into top-class system solutions by our experienced team of STRATE project engineers. Thus, for example, it is possible to switch two centrifugal pumps in series thanks to the patented solids collecting chamber system. This process allows pumping heads of up to 120 m water column to be achieved. This means that intermediate pumping stations are not necessary in this pumping head range.

- stand out thanks to their module design. The basic structures are planned according to the case requirement through the optimum combination of tank sizes, pump

selection and solids collecting chamber sizes. The advantage of this modular design is the projectable possibility of expanding the systems; particularly also with regard to the functional and very long service life related to the quality. If modification becomes necessary e.g. increased sewage quantities caused by a new residential area being built, the station's capacity can be adapted using suitable measures.

- are closed, gas and odour-proof systems, and thus meet maximum hygiene and safety requirements. If required, STRATE can deliver sewage pumping stations for potentially explosive areas in accordance with ATEX specifications. The stations can be set up directly in buildings, in the majority of installation cases a cesspit is not required. For outdoor installation, STRATE can supply the AWALIFT shaft as an installation solution. The control gears with integrated STRATE control unit are preferably installed in buildings, in outside cabinets or in separate service buildings.



#### Awalift 10/6

Drainage for towns with up to approx. 37,000 residents



## AWALIFT

### Municipal application

#### Description

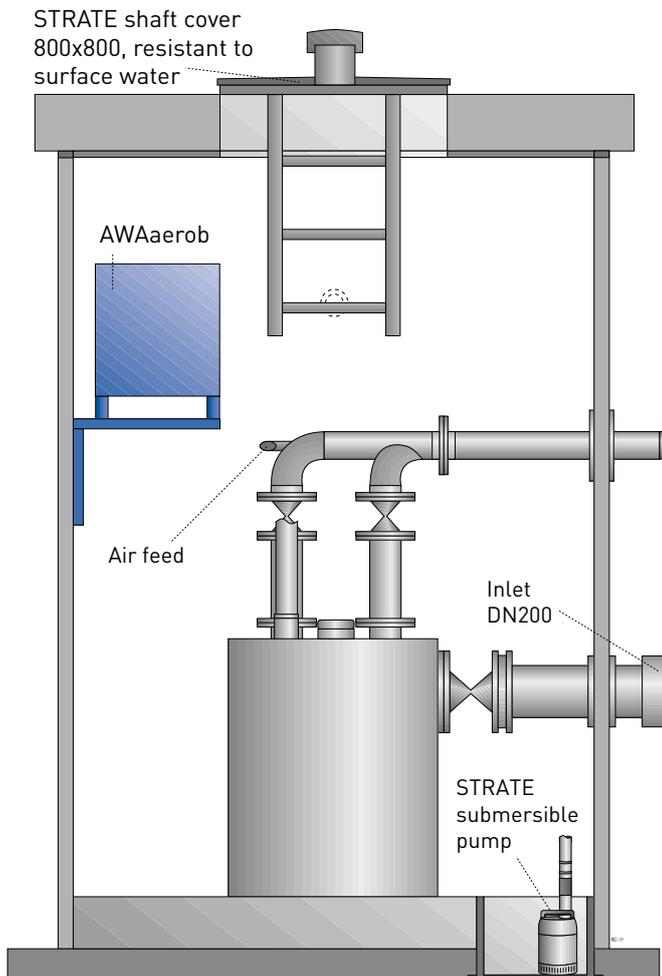
The fully automatic floodable STRATE AWALIFT sewage pumping stations comply with the requirements of DIN 1986-100 and DIN EN 12056-4. In addition, the systems are certified to DIN EN 12050-1 or -4 and are continually tested and monitored by the LGA in line with the structural and testing principles of this standard.

The gas- and odour-proof systems are made of steel; the surfaces are coated with a high-quality corrosion protection system.

The blockage-resistant solids collecting chambers with up to 200 mm free-flow passage are emptied without residue by the patented STRATE system during the respective pumping stage. Patent EP 0744504B1 et al..

Fatty materials and smaller floating matter are suctioned off the surface of the small amount of residual water which remains in the tank and pumped off by the automatically delayed switching off of the pumps.

This prevents a layer of scum forming. The sewage water is always pumped fresh through the 100 % opening non-return valves into the pressure pipe. The coarse materials contained in the sewage reach the sewage works without being macerated and can thus be separated off easily. The pumping station can be freely accessed at any time since the sewage does not come into contact with the structure. Control work can be carried out safely under clean and hygienic conditions.



## Area of use:

Draining of storeys, houses and plots of land below the backwater level in accordance with DIN EN 12056-1 or -4, i.e. for facilities that cannot be drained using natural gradient.

DIN EN 12056-1 and 4 specifies the backwater level as being the road

surface of the connection point to the public sewage system.

STRATE sewage pumping stations for municipal applications are particularly suitable for draining sewage flows from large buildings, industrial companies or towns. High operational

safety is achieved by the use and alternating operation of two or more pumps, thus fulfilling high municipal requirements. In addition, there is no need to provide reserve pumps.

Type	Capacity m <sup>3</sup> /h	PE*	Weight kg	Tank volume	Size mm	Installation depth m	Shaft size mm	Installation opening mm
AWALIFT 1/2	15	750	approx. 520	430 l	1400 x 800 x 1000	0.70/0.75	2000 x 2000 or Ø 2000	1500 x 1000
AWALIFT 1/2x2	15	750	approx. 650	0.785 m <sup>3</sup>	Ø 1000 x 1250	1.00	3000 x 2500 or Ø 3500	1400 x 1200
AWALIFT 1/2 penta	20	950	approx. 525	0.65 m <sup>3</sup>	R = 890 H = 1250	1.0	Ø 2000	1500 x 1200
AWALIFT 2/2 penta	25	1200	approx. 800	1.40 m <sup>3</sup>	R = 990 H = 1500	1.2	Ø 2000	1700 x 1200
AWALIFT 2/2 penta	36	1700	approx. 800	1.40 m <sup>3</sup>	R = 990 H = 1500	1.2	Ø 2400	1700 x 1200
AWALIFT 2/2 flat	36	1700	approx. 800	0.95 m <sup>3</sup>	Ø 1250 x 1500	1.20	2500 x 2500 or Ø 2400	1500 x 1100
AWALIFT 2/2 round**	60	2800	approx. 800	1.40 m <sup>3</sup>	Ø 1250 x 1500	1.20	3500 x 2500 or Ø 2900	1500 x 1500
AWALIFT 2/2x2	60	2800	approx. 800	1.40 m <sup>3</sup>	Ø 1250 x 1500	1.20	3800 x 3000 or Ø 3800	1500 x 1500
AWALIFT 3/2**	80	3700	approx. 1000	2.40 m <sup>3</sup>	Ø 1400 x 2000	1.60	3700 x 3000 or Ø 4000	1700 x 1700
AWALIFT 4/2**	120	5600	approx. 1500	4.00 m <sup>3</sup>	Ø 1800 x 2000	1.60	4500 x 3500 or Ø 4500	2000 x 2000
AWALIFT 5/2**	150	7000	approx. 1700	4.80 m <sup>3</sup>	Ø 1800 x 2500	1.90	4500 x 3500 or Ø 4500	2000 x 2000
AWALIFT 6/2**	200	9300	approx. 2000	6.00 m <sup>3</sup>	Ø 2000 x 2500	1.90	4700 x 3700 or Ø 4800	2200 x 2200
AWALIFT 6/3**	250	11600	approx. 2300	6.00 m <sup>3</sup>	Ø 2000 x 2500	1.90	5000 x 3700 or Ø 4800	2200 x 2200
AWALIFT 7/3**	350	16200	approx. 3500	9.00 m <sup>3</sup>	Ø 2500 x 2500	1.90	5500 x 4000 or Ø 5500	2800 x 2800
AWALIFT 8/3**	400	18600	approx. 3800	11.00 m <sup>3</sup>	Ø 2500 x 3000	2.30	5500 x 4000 or Ø 5500	2800 x 2800
AWALIFT 9/4**	600	28000	approx. 4500	14.00 m <sup>3</sup>	Ø 2800 x 3000	2.30	6000 x 4600 or Ø 6000	3200 x 3200
AWALIFT 10/6**	800	37000	approx. 6300	26.00 m <sup>3</sup>	Ø 3800 x 3000	2.30	7500 x 6500 or Ø 7000	4200 x 4200

\*\* PE in dry weather plus extra water (1000 EW ± 6 l/s)

\*\* Large pumping heads are achieved by switching 2 pumps in series (e.g.: AWALIFT 1/2x2)





**STRATE**

# AWALIFT 1/2

## The sewage pumping station with the STRATE system

### Area of use:

- Larger buildings, industrial companies, individual streets
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

up to  
**750 PE**



**STRATE** Technologie für Abwasser GmbH  
Im Kirchenfelde 9 · D-31157 Sarstedt  
Phone +49 (0)5066 988-0 · Fax -225  
E-mail: strate-info@talis-group.com

# AWALIFT 1/2

## Technical data

<b>System capacity:</b>	15 m <sup>3</sup> /h - 750 EW
<b>Pumping head:</b>	up to 70 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions (LxWxH):</b>	L = 1400 mm, W = 800 mm, H = 1000 mm
<b>Tank contents:</b>	430 l
<b>Space requirements:</b>	2000 mm x 2000 mm, or Ø 2000 mm
<b>Weight:</b>	approx. 520 kg
<b>Installation opening:</b>	1500 mm x 1000 mm
<b>Inlet height:</b>	750 mm (pipe bottom DN 150), 700 mm (pipe bottom DN 200)
<b>Inlet connection:</b>	Flange DN 150 (optionally DN 200 PN 10)
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25), EN-GJL-400-15 (GGG40)
<b>Coating / corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green
<b>Electrical connection:</b>	230/400V, 50 Hz, 400/690V, 50 Hz
<b>Motor capacity:</b>	IP 67 1,50 kW, 2.20 kW, 3.00 kW – 1500 min <sup>-1</sup> IP 67 3.00 kW – 3000 min <sup>-1</sup> IP 55 4.0 kW, 5.5 kW, 7.5 kW, 11.0 kW, 15.0 kW, 18.5 kW – 3000 min <sup>-1</sup>

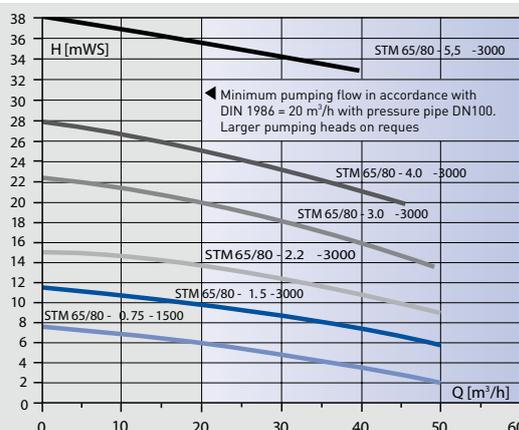
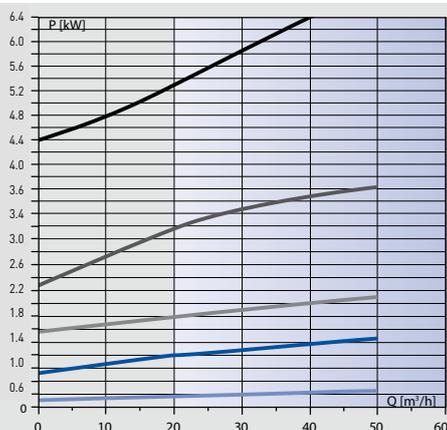
## Scope of supply:

- One tank with two solids collecting chambers
- Two rotary pumps and motors according to type and operating location required
- Two non-return valves AWASTOP DN 100 K
- Y-pipe DN 100
- Two pressure pipe gate valves DN 100
- Level measurement

## Accessories:

- Pump control
  - Pipe incl. reducer and transition flanges within the building
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generators
  - STRATE venting systems for the pressure pipe
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
  - STRATE venting and air release valves
  - Energy supply company service connection
- Special accessories according to your requirements.

## Characteristic curve for pump

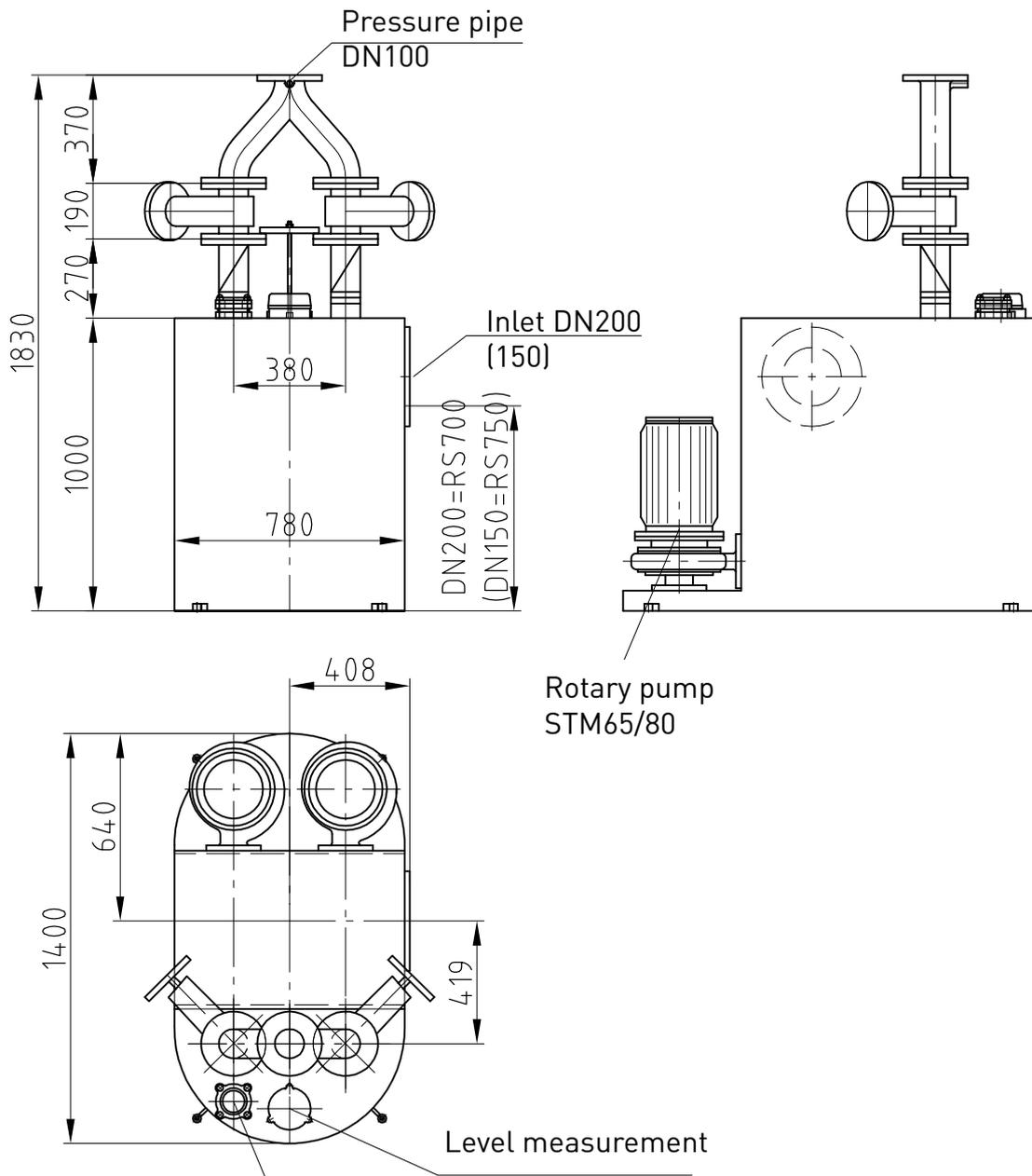


Other operating points on request.  
Pumps from the series ST(M) 65/80 that can be used.  
The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



## AWALIFT 1/2



Tank ventilation  
PVC, DN65



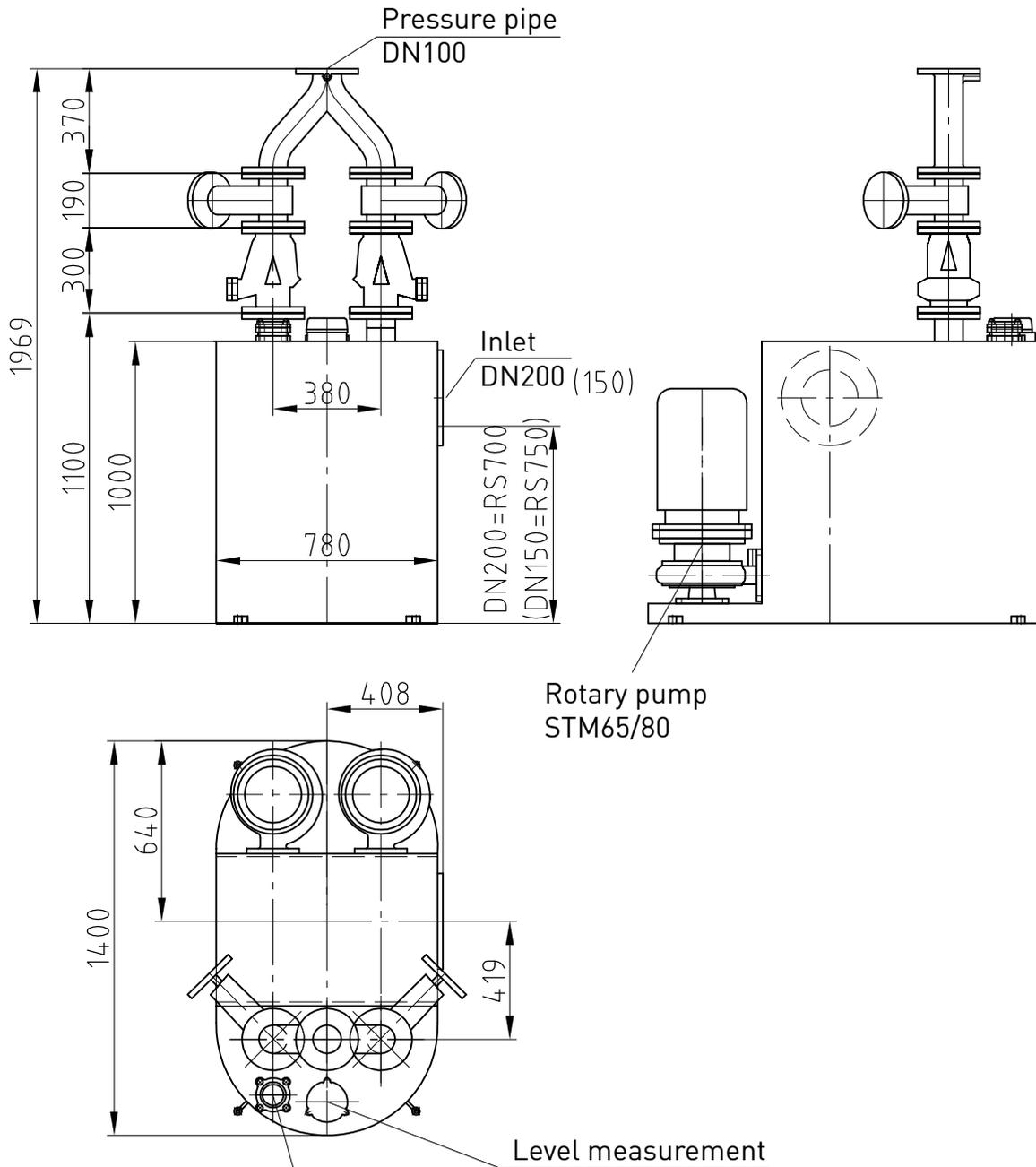
Dimensional drawings are available from  
[www.strate.com](http://www.strate.com) as dwg / dxf files.

<b>Copyright according to DIN 34</b>	Dimensional drawing: AWALIFT 1/2
<b>Scale:</b>	

Subject to technical modifications and errors.



## AWALIFT 1/2



Tank ventilation  
PVC, DN65



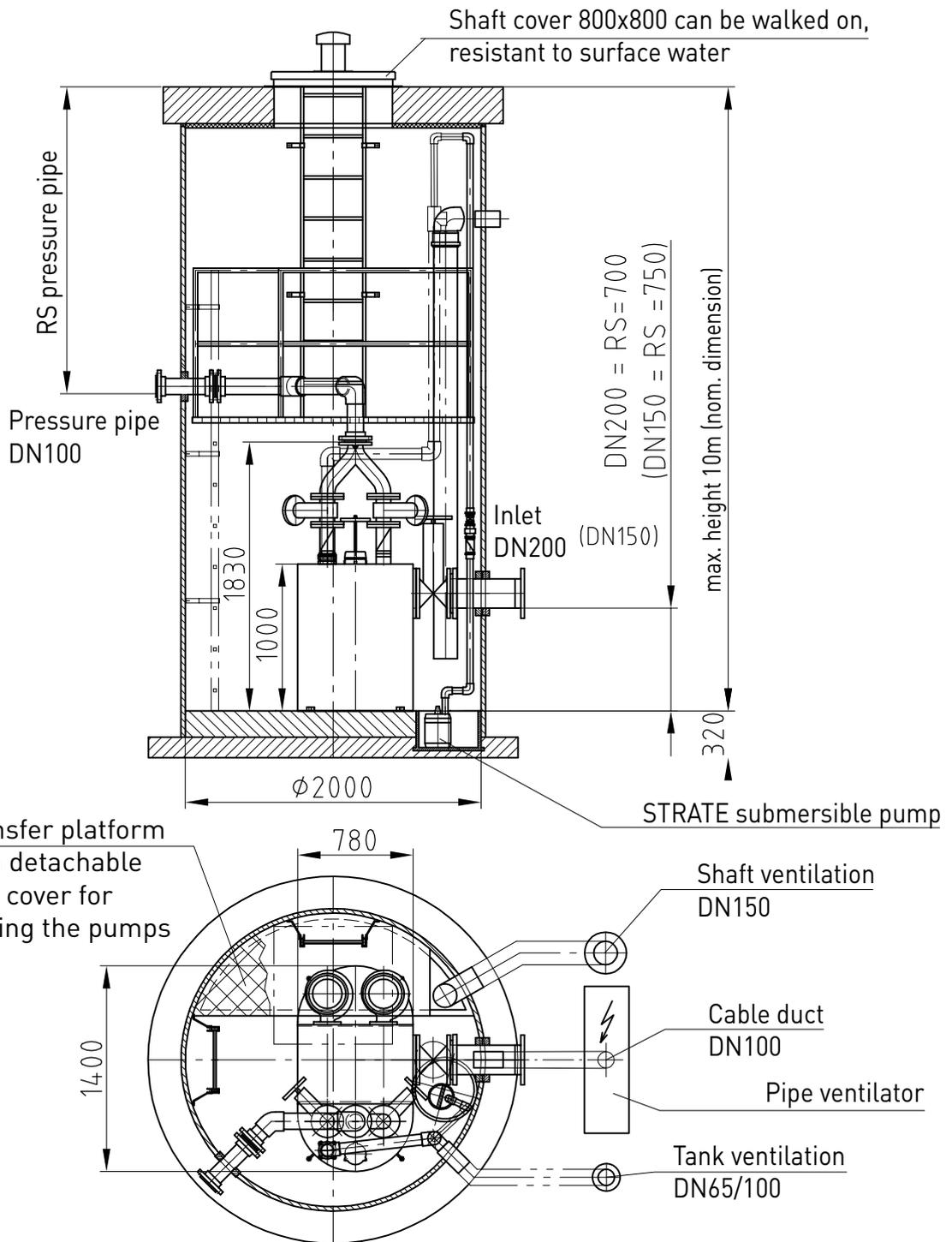
Dimensional drawings are available from  
[www.strate.com](http://www.strate.com) as dwg / dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 1/2 - version HD
Scale:	

Subject to technical modifications and errors.



## AWALIFT 1/2



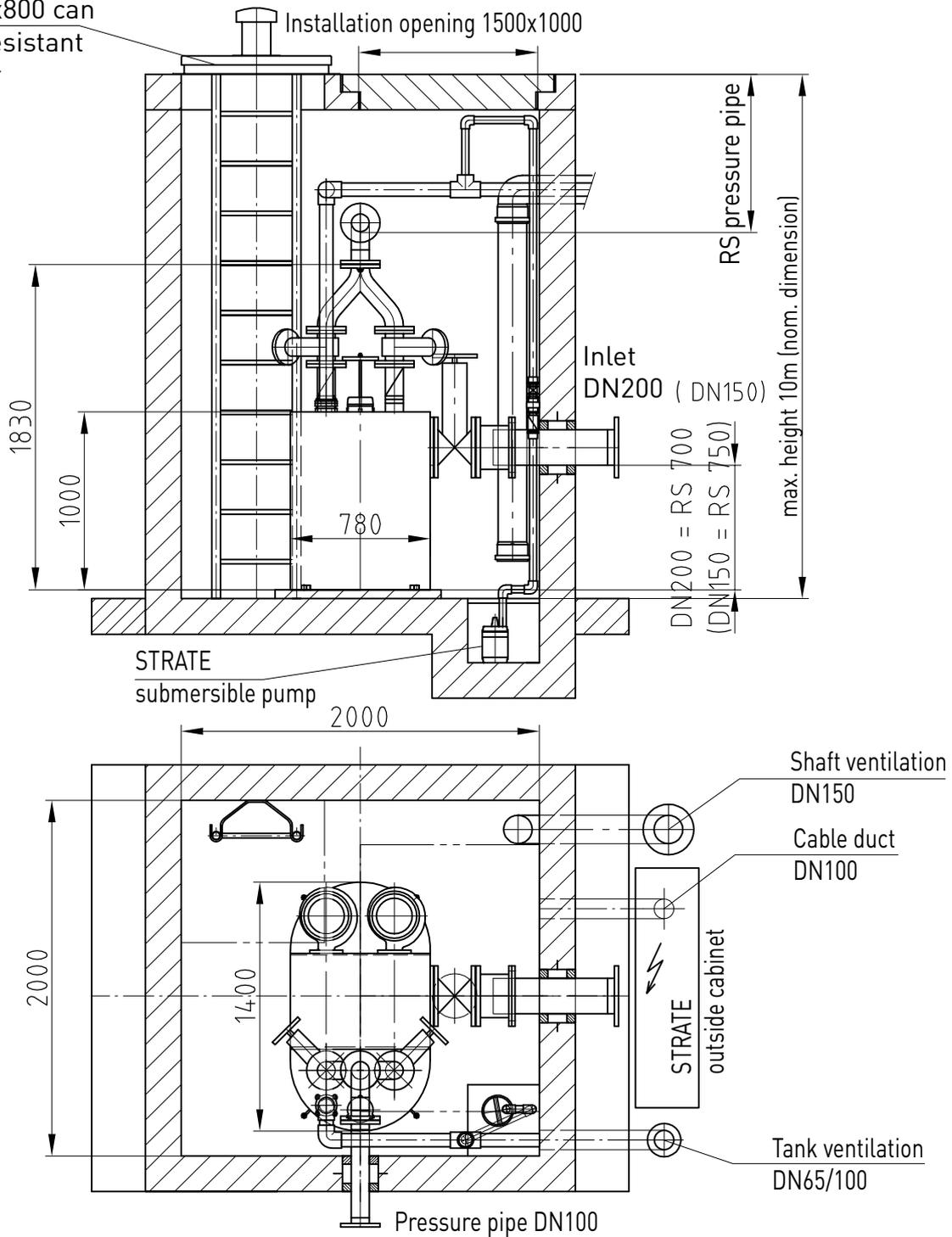
Copyright according to DIN 34	Installation suggestion: AWALIFT 1/2 in the AWALIFTSCHACHT 2000, pre-assembled ready for operation
Scale:	

Subject to technical modifications and errors.



## AWALIFT 1/2

Shaft cover 800x800 can be walked on, resistant to surface water



Copyright according to DIN 34	Installation suggestion: AWALIFT 1/2
Scale:	

Subject to technical modifications and errors.

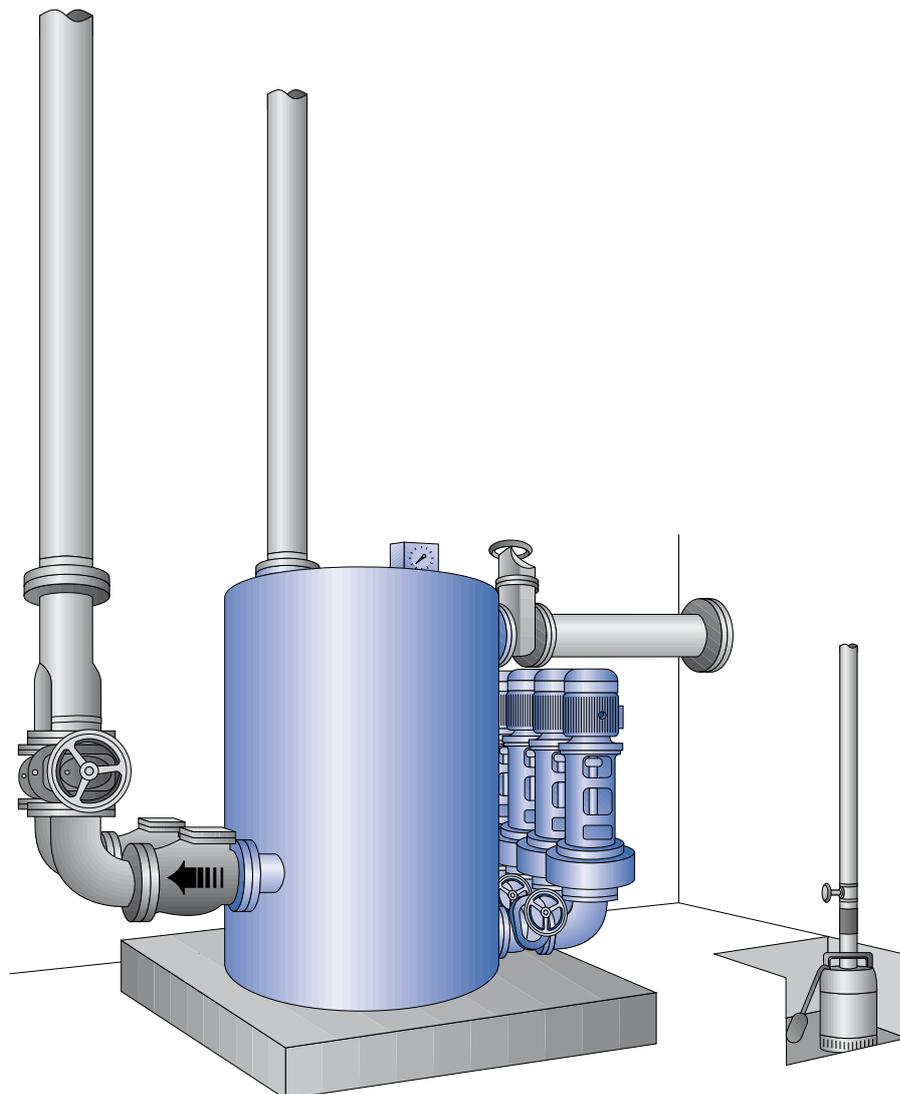
# AWALIFT 1/2x2

## The sewage pumping station with the STRATE system

### Area of use:

- Drainage of small towns with up to about 750 residents which cannot be drained using natural gradient.
- Drainage with larger pumping heads and longer pressure pipes
- As an intermediate pumping station within a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**750 PE**



# AWALIFT 1/2x2

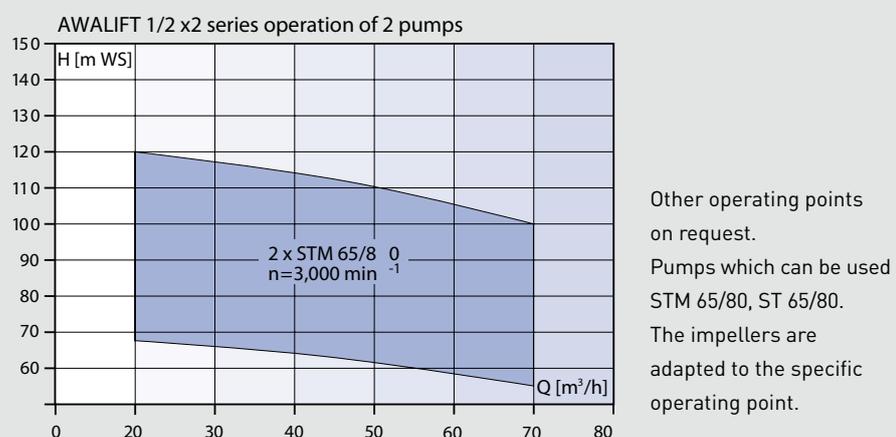
## Technical data

<b>System capacity:</b>	15 m <sup>3</sup> /h raw sewage, 750 PE
<b>Pumping head:</b>	up to 120 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions:</b>	Ø = 1000 mm, H = 1250 mm
<b>Tank contents:</b>	0.785 m <sup>3</sup>
<b>Space requirements:</b>	2500 mm x 3000 mm
<b>Weight:</b>	approx. 650 kg
<b>Installation opening:</b>	1200 mm x 1400 mm
<b>Inlet height:</b>	1000 mm
<b>Inlet connection:</b>	DN 200
<b>Pressure pipe connection:</b>	DN 100
<b>Venting and air release:</b>	DN 65
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25), EN-GJL-400-15 (GGG40)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Subject to technical modifications and errors.

## Scope of supply:

- The tank with two solids collecting chambers
- Four centrifugal pumps ST (M)65/80, motors according to type and operating location required
- Four pump gate valves
- One Y-pipe
- Two STRATE non-return valves
- Two gate valves
- Level measurement

## Accessories:

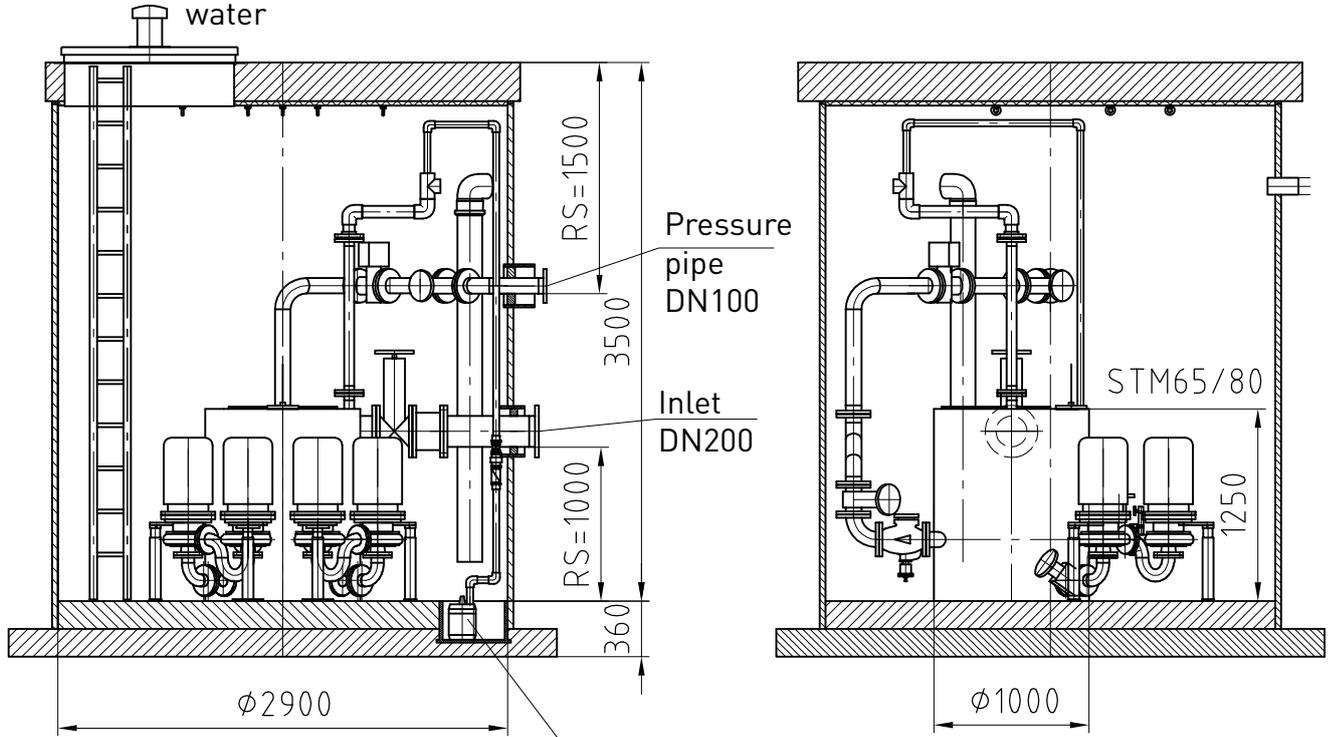
- Pump control
- Pipes incl. reducer and transition flanges within the building
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems for the pressure pipe
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance
- STRATE venting and air release valves
- Energy supply company service connection

Special accessories according to your requirements

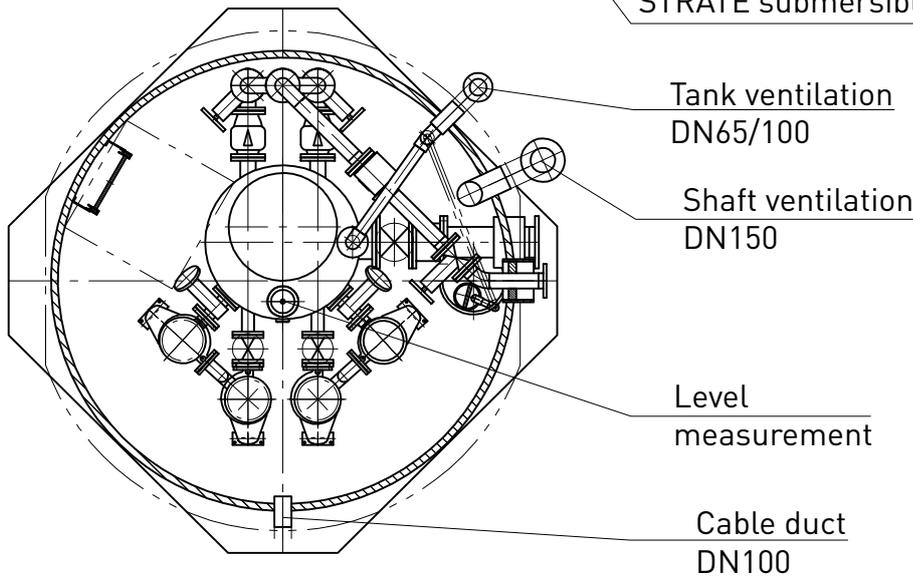


## AWALIFT 1/2x2

Shaft cover 800x800 can be walked on, resistant to surface water



STRATE submersible pump

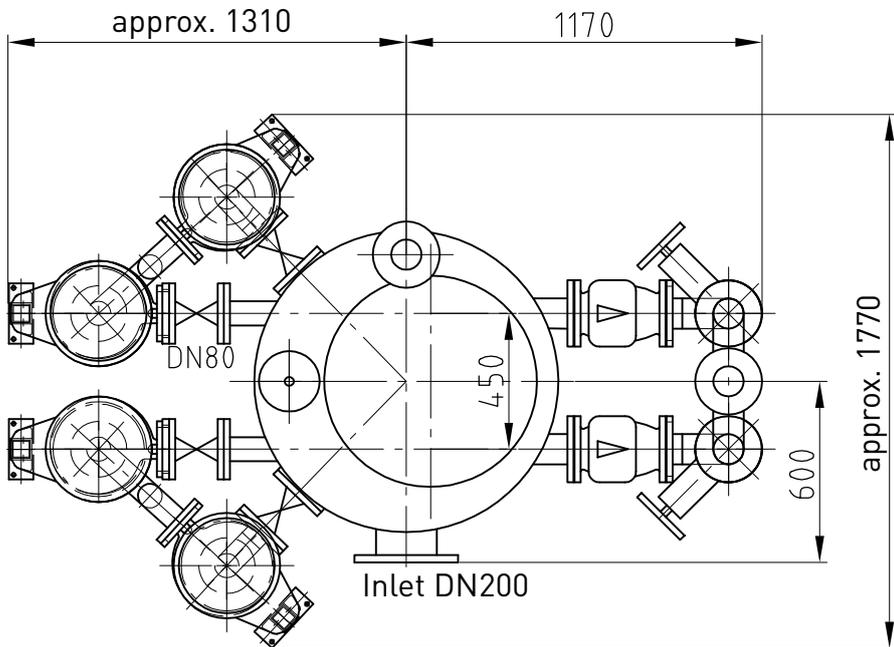
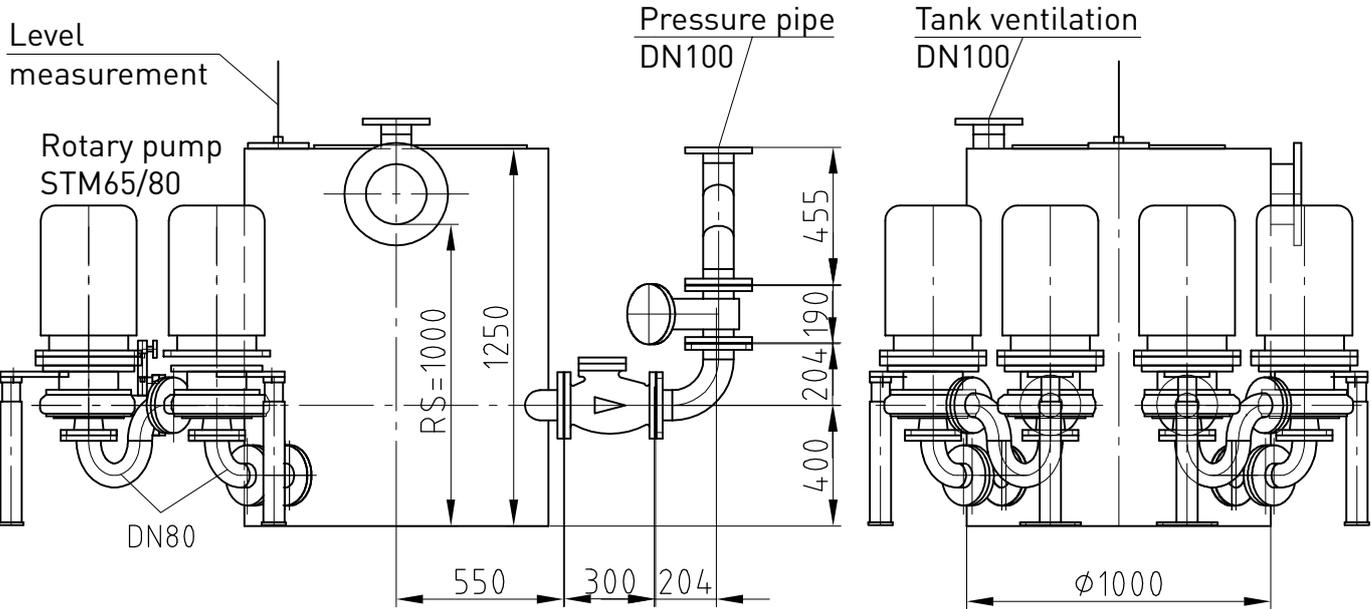


Copyright according to DIN 34	Installation suggestion: AWALIFT 1/2x2 in the AWALIFTSCHACHT 2900
Scale:	

Subject to technical modifications and errors.



## AWALIFT 1/2x2



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Copyright according to DIN 34	Dimensional drawing: AWALIFT 1/2x2
Scale:	

Subject to technical modifications and errors.



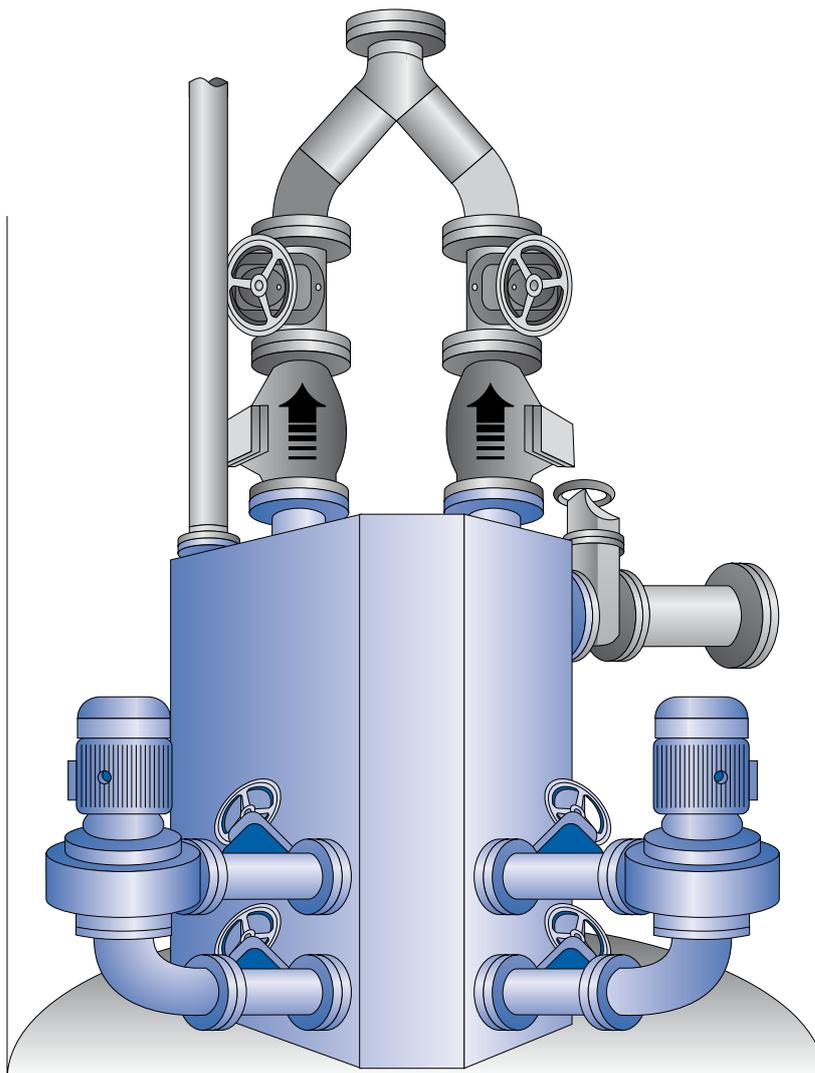
## AWALIFT 1/2 penta

### The sewage pumping station with the STRATE system

#### Area of use:

- Large system capacity despite small space requirements:
  - The system is set up directly at the shaft wall
  - This makes a small shaft diameter possible
- Larger buildings, industrial companies, individual streets
- Facilities that cannot be drained using natural gradient
- As protection from backwater damage
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**1000 PE**



# AWALIFT 1/2 penta

## Technical data

<b>System capacity:</b>	20 m <sup>3</sup> /h - approx. 1000 PE
<b>Pumping head:</b>	up to approx. 70 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions:</b>	R = 890 mm, H = 1250 mm
<b>Tank contents:</b>	0.65 m <sup>3</sup>
<b>Space requirements:</b>	Ø 2000 mm
<b>Weight:</b>	approx. 525 kg
<b>Installation opening:</b>	1500 mm x 1200 mm
<b>Inlet height:</b>	1000 mm
<b>Inlet connection:</b>	Flange DN 200
<b>Pressure pipe connection:</b>	Flange DN 100 PN 10
<b>Venting and air release:</b>	DN 65 or DN 70

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25), EN-GJL-400-15 (GGG40)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green
<b>Electrical connection:</b>	230/400V, 50 Hz, 400/690V, 50 Hz
<b>Motor capacity:</b>	IP 67 1.50 kW, 2.20 kW, 3.00 kW – 1500 min <sup>-1</sup> IP 67 3.00 kW – 3000 min <sup>-1</sup> IP 55 4.0 kW, 5.5 kW, 7.5 kW, 11.0 kW, 15.0 kW, 18.5 kW – 3000 min <sup>-1</sup>

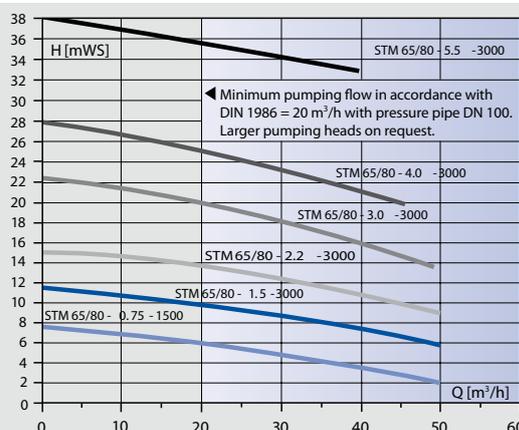
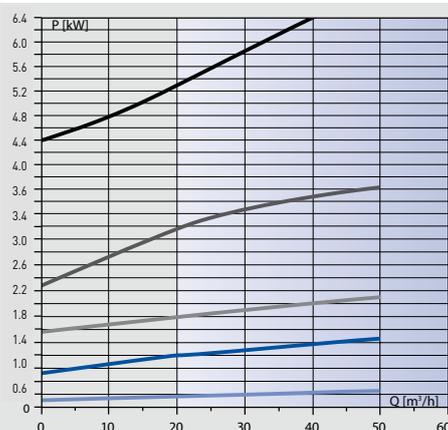
## Scope of supply:

- One tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two non-return valves AWASTOP DN 100 K
- Y-pipe DN 100
- Two pressure pipe gate valves DN 100
- Level measurement

## Accessories:

- Pump control
  - Pipe incl. reducer and transition flanges within the building
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generators
  - STRATE venting systems for the pressure pipe
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
  - STRATE venting and air release valves
  - Energy supply company service connection
- Special accessories according to your requirements.

## Characteristic curve for pump



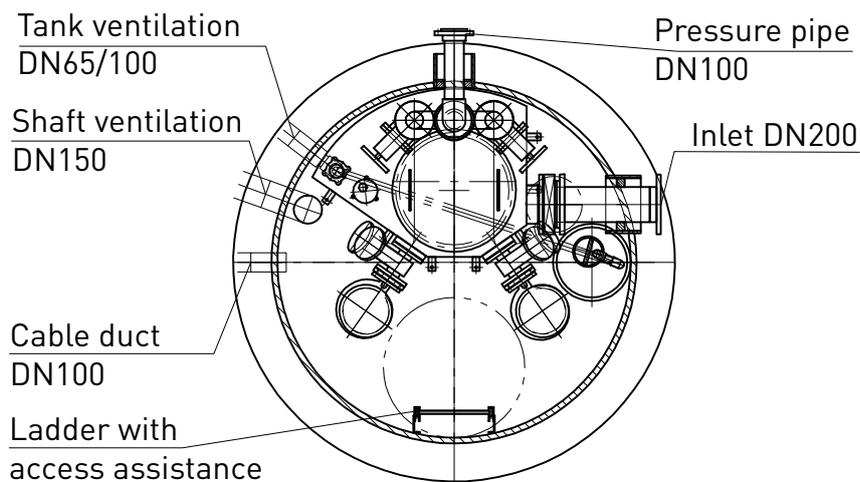
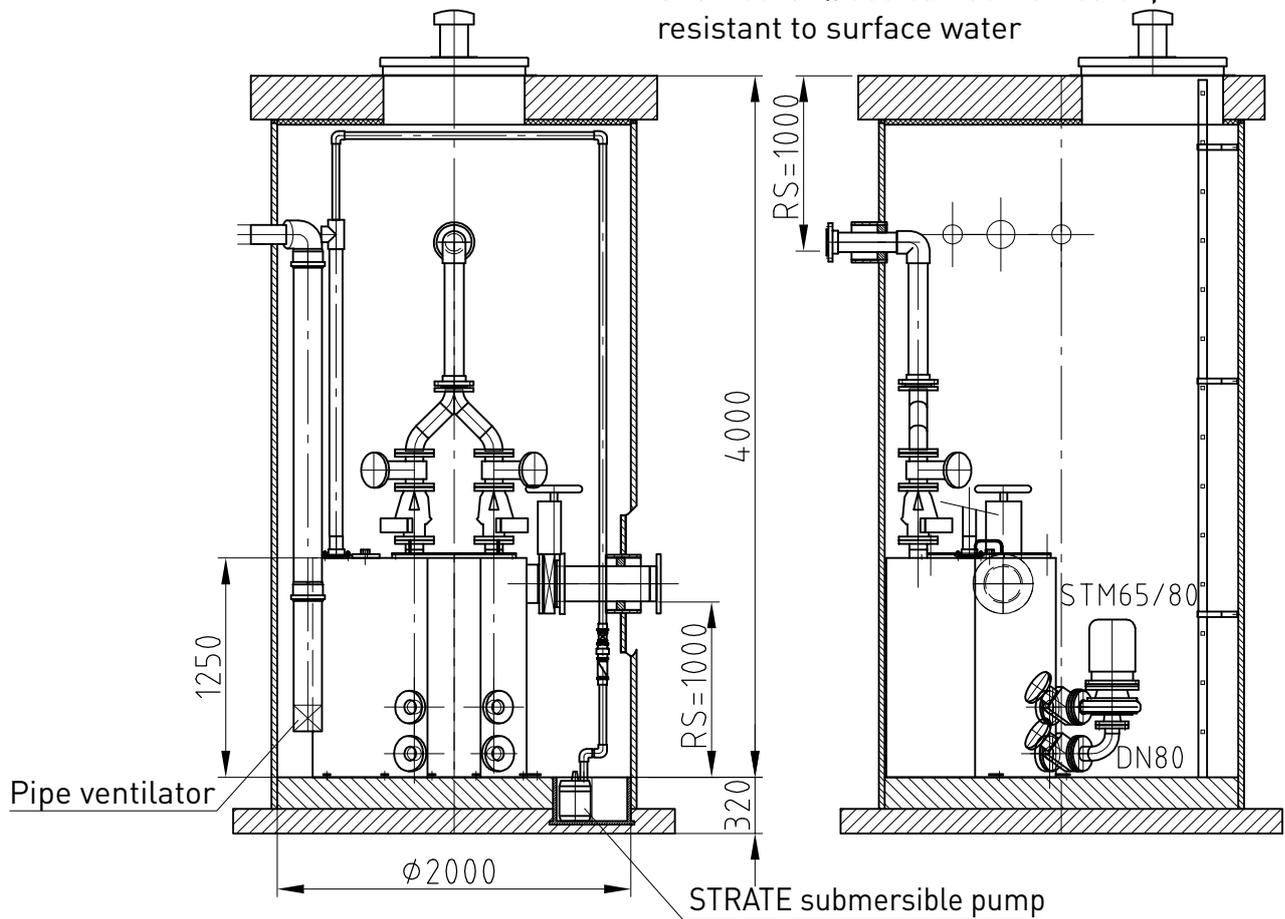
Other operating points on request.  
Pumps from the series STM 65/80 that can be used.  
The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



## AWALIFT 1/2 penta

Shaft cover Ø800 can be walked on, resistant to surface water

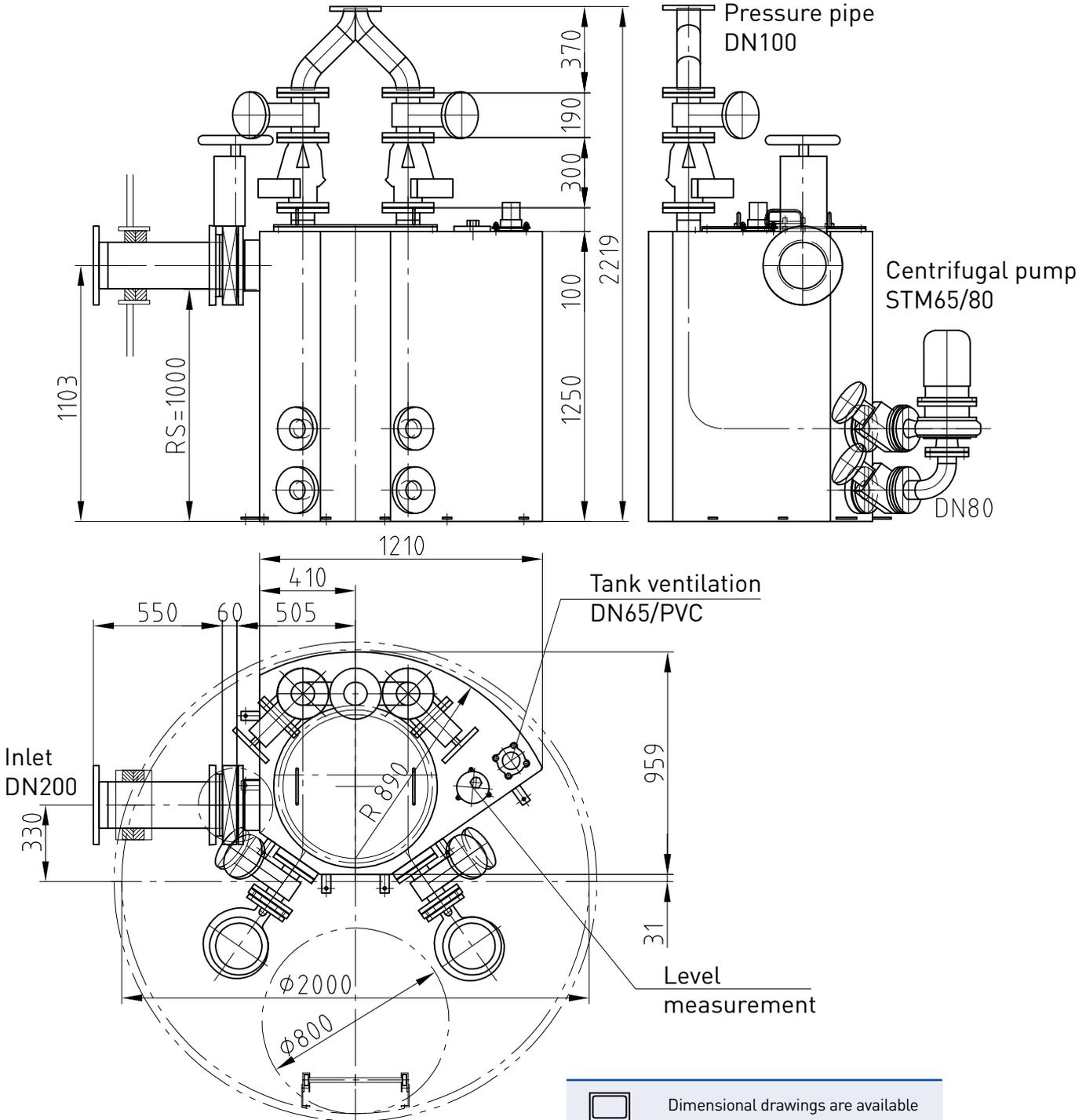


<b>Copyright according to DIN 34</b>	Installation suggestion: AWALIFT 1/2 penta in the AWALIFTSCHACHT 2000, pre-assembled ready for operation
<b>Scale:</b>	

Subject to technical modifications and errors.



## AWALIFT 1/2 penta



Copyright according to DIN 34	Dimensional drawing: AWALIFT 1/2 penta
Scale:	

Subject to technical modifications and errors.



## AWALIFT 2/2 penta

### The sewage pumping station with the STRATE system

#### Area of use for the AWALIFT 2/2 penta 25 m<sup>3</sup>/h:

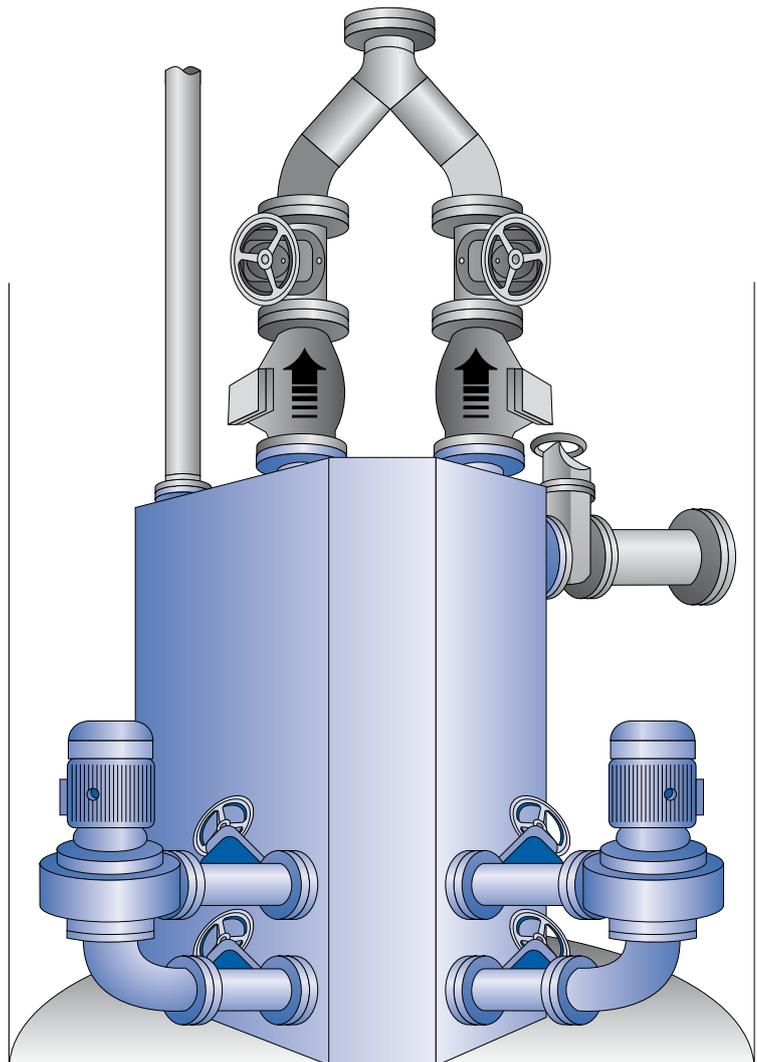
- Draining small towns with up to about 1200 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Large system capacity despite small space requirements (set-up directly at the shaft wall possible, making small shaft diameter necessary)
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**1200 PE**

Up to  
**1700 PE**

#### Area of use for the AWALIFT 2/2 penta 36 m<sup>3</sup>/h:

- Draining small towns with up to about 1700 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Large system capacity despite small space requirements (set-up directly at the shaft wall possible, making small shaft diameter necessary)
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.



# AWALIFT 2/2 penta

## Technical data

<b>System capacity:</b>	25 m <sup>3</sup> /h raw sewage, 1200 PE (penta 252) 36 m <sup>3</sup> /h raw sewage, 1700 PE (penta 362)
<b>Pumping head:</b>	up to approx. 70 mWS (penta 25 m <sup>3</sup> /h) up to approx. 80 mWS (penta 36 m <sup>3</sup> /h)
<b>Free passage:</b>	100 mm
<b>Tank dimensions:</b>	R = 990 mm, H = 1500 mm
<b>Tank contents:</b>	1.4 m <sup>3</sup>
<b>Space requirements:</b>	Ø 2000 mm or Ø 2400 mm
<b>Weight:</b>	approx. 800 kg
<b>Installation opening:</b>	1700 mm x 1200 mm
<b>Inlet height:</b>	1200 mm
<b>Inlet connection:</b>	DN 200 PN 10
<b>Pressure pipe connection:</b>	DN 100 PN 10
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25), EN-GJL-400-15 (GGG40)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

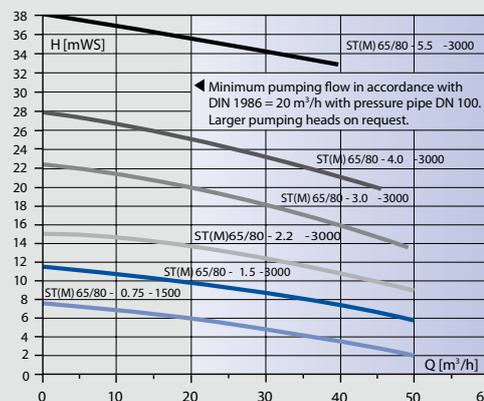
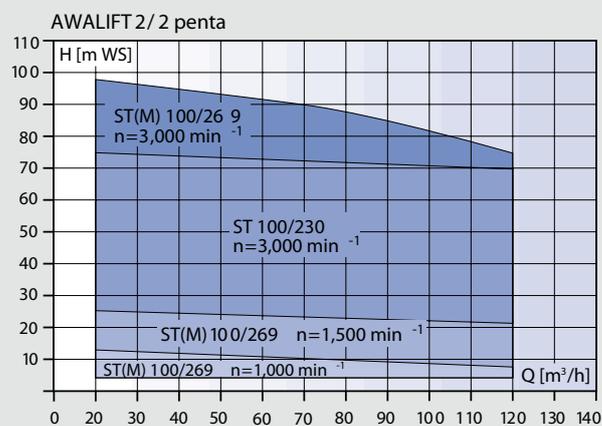
## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 100
- Two pressure pipe gate valves DN 100
- Level measurement

## Accessories:

- Pump control
  - Inlet gate valve DN 200
  - Pipes incl. reducer and transition flanges within the building
  - Pig trap
  - Basement draining pump
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generator
  - STRATE venting systems
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
- Special accessories according to your requirements

## Characteristic curve for pump

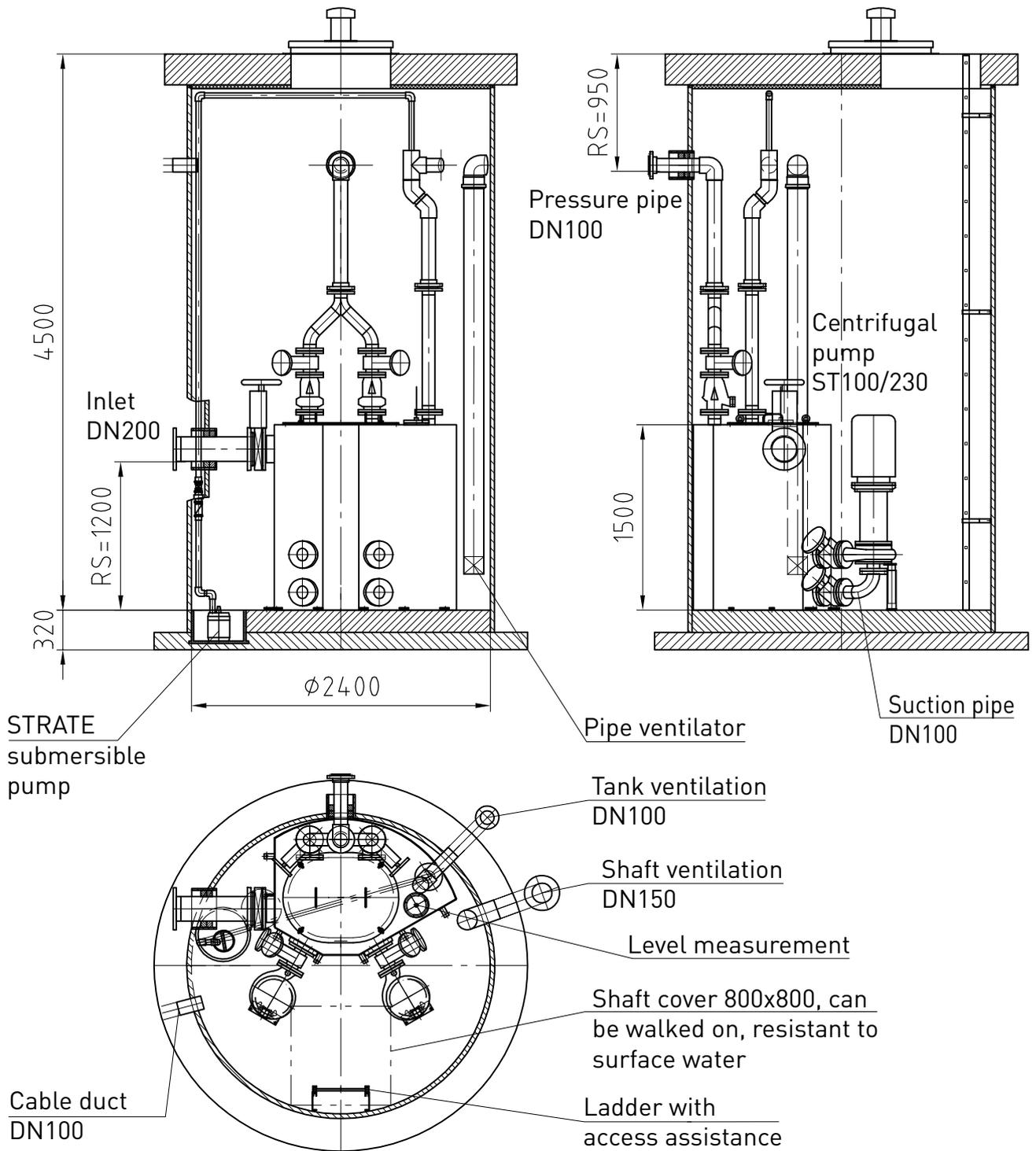


Other operating points on request. Pumps which can be used ST(M) 65/80, ST(M) 100/269, ST 100/230. The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



## AWALIFT 2/2 penta

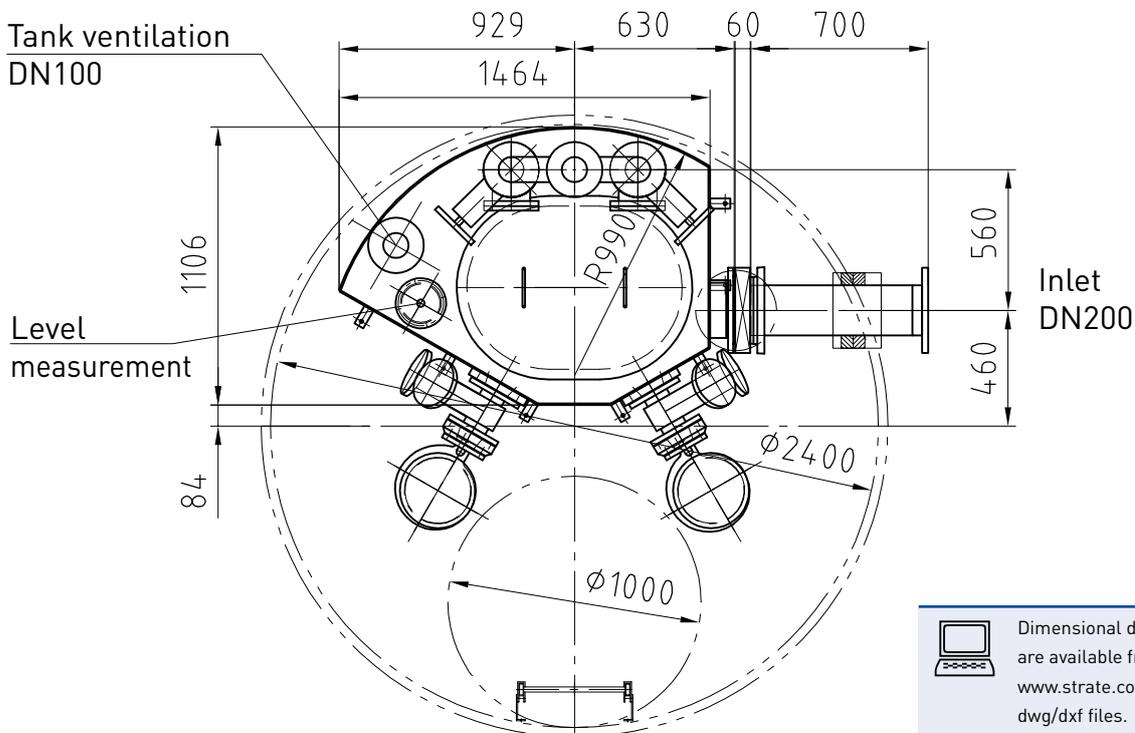
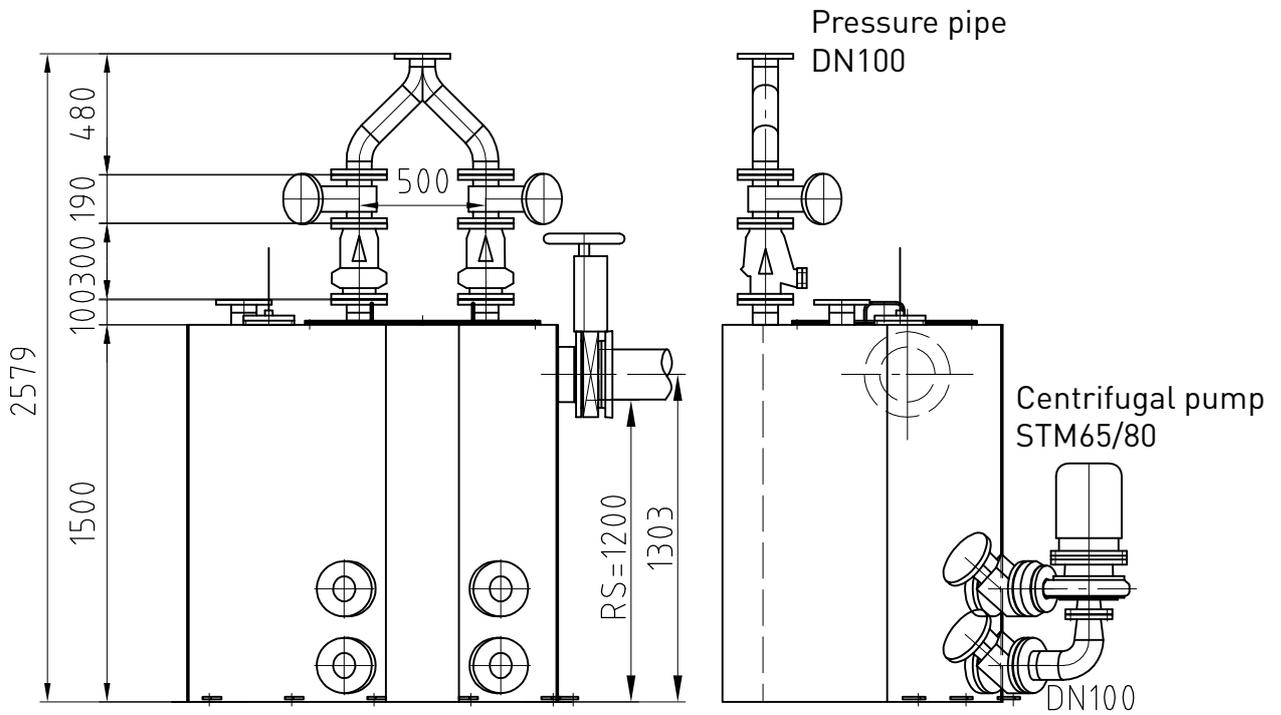


Copyright according to DIN 34	Installation suggestion: AWALIFT 2/2 penta in the AWALIFTSCHACHT
Scale:	

Subject to technical modifications and errors.



## AWALIFT 2/2 penta



Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg/dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 2/2 penta
Scale:	

Subject to technical modifications and errors.

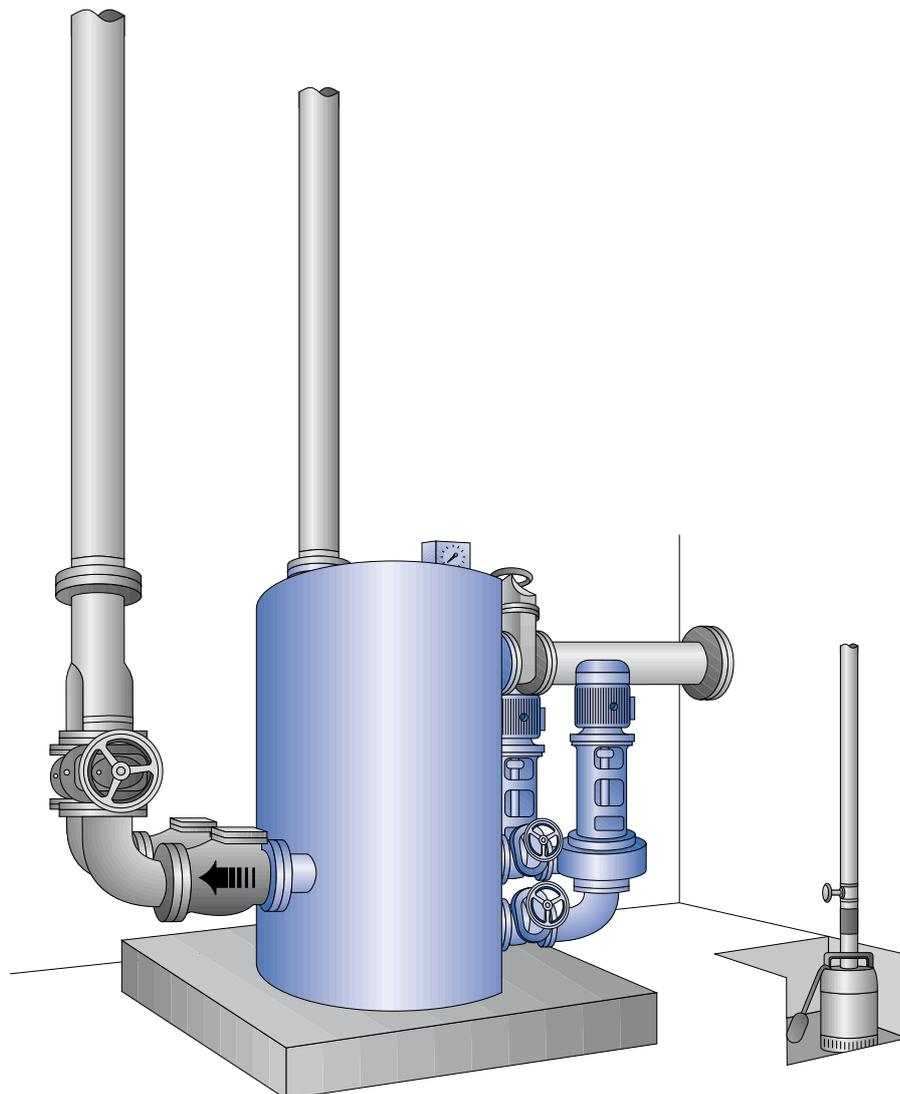
# AWALIFT 2/2 flat

## The sewage pumping station with the STRATE system

### Area of use:

- Draining small towns with up to about 1700 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**1700 PE**



# AWALIFT 2/2 flat

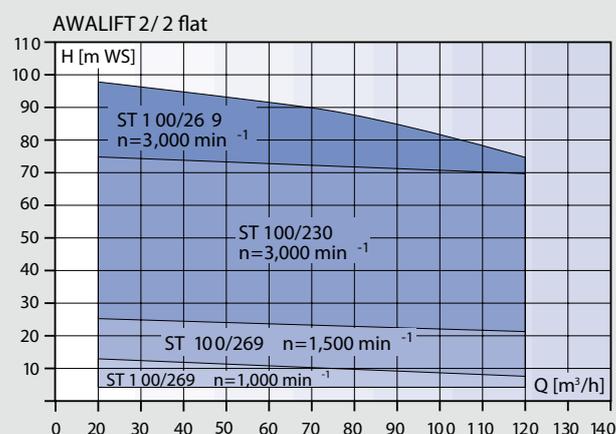
## Technical data

<b>System capacity:</b>	36 m <sup>3</sup> /h raw sewage, 1700 PE
<b>Pumping head:</b>	up to 80 mWS
<b>Free passage:</b>	100 mm
<b>Tank dimensions:</b>	Ø = 1250 mm, flattened off, H = 1500 mm
<b>Tank contents:</b>	0.95 m <sup>3</sup>
<b>Space requirements:</b>	2500 x 2500 mm, Ø 2400 mm
<b>Weight:</b>	approx. 800 kg
<b>Installation opening:</b>	1500 x 1100 mm
<b>Inlet height:</b>	1200 mm
<b>Inlet connection:</b>	DN 200 PN 10
<b>Pressure pipe connection:</b>	DN 100 PN 10
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25), EN-GJL-400-15 (GGG40)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Other operating points on request.  
Pumps which can be used  
STM 65/80,  
ST(M)100/269,  
ST 100/230.  
The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- Two pressure pipe gate valves DN 100
- One Y-pipe DN 100
- Level measurement

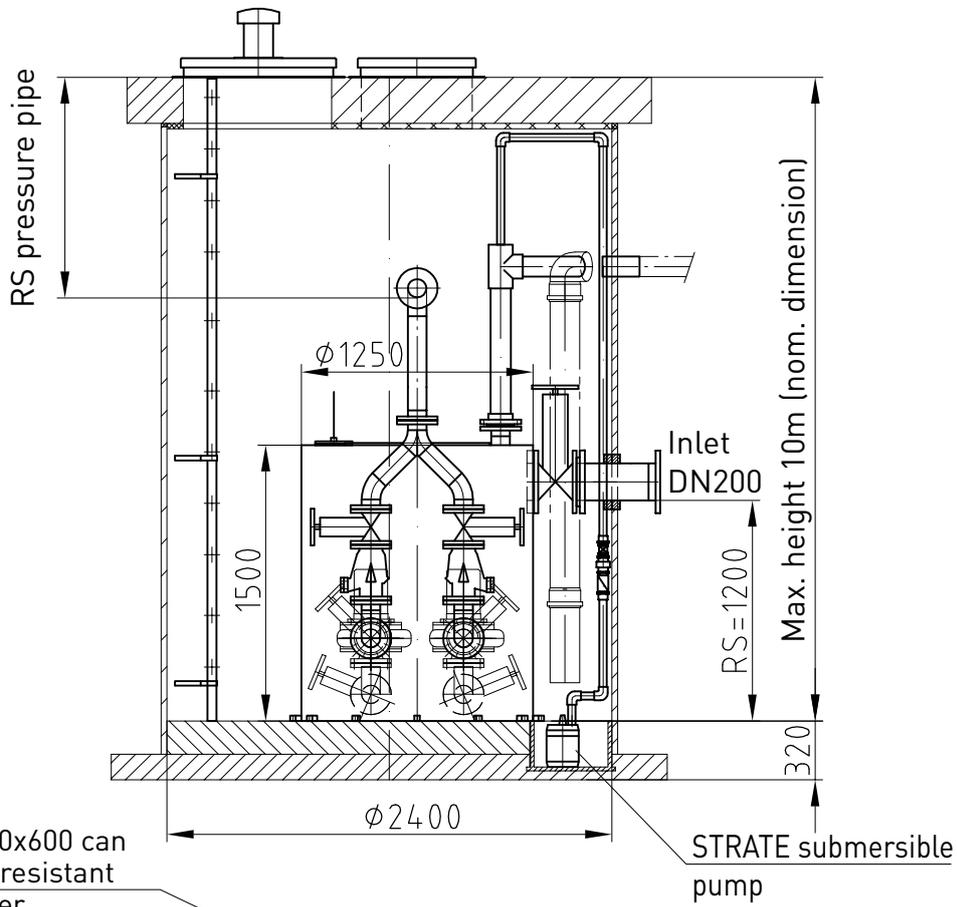
## Accessories:

- Pump control
- Inlet gate valve DN 200
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements

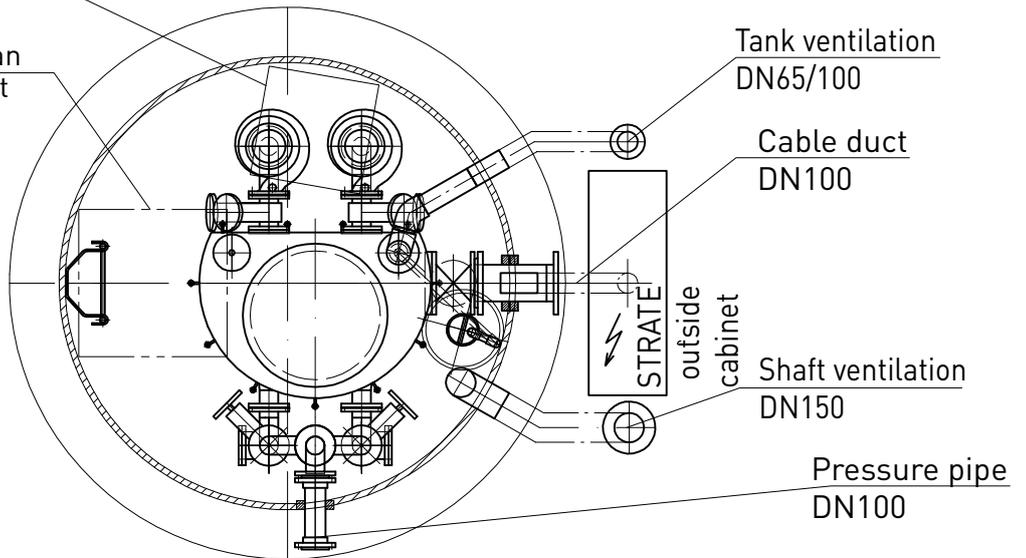


## AWALIFT 2/2 flat



Shaft cover 600x600 can be walked on, resistant to surface water

Shaft cover 800x800 can be walked on, resistant to surface water

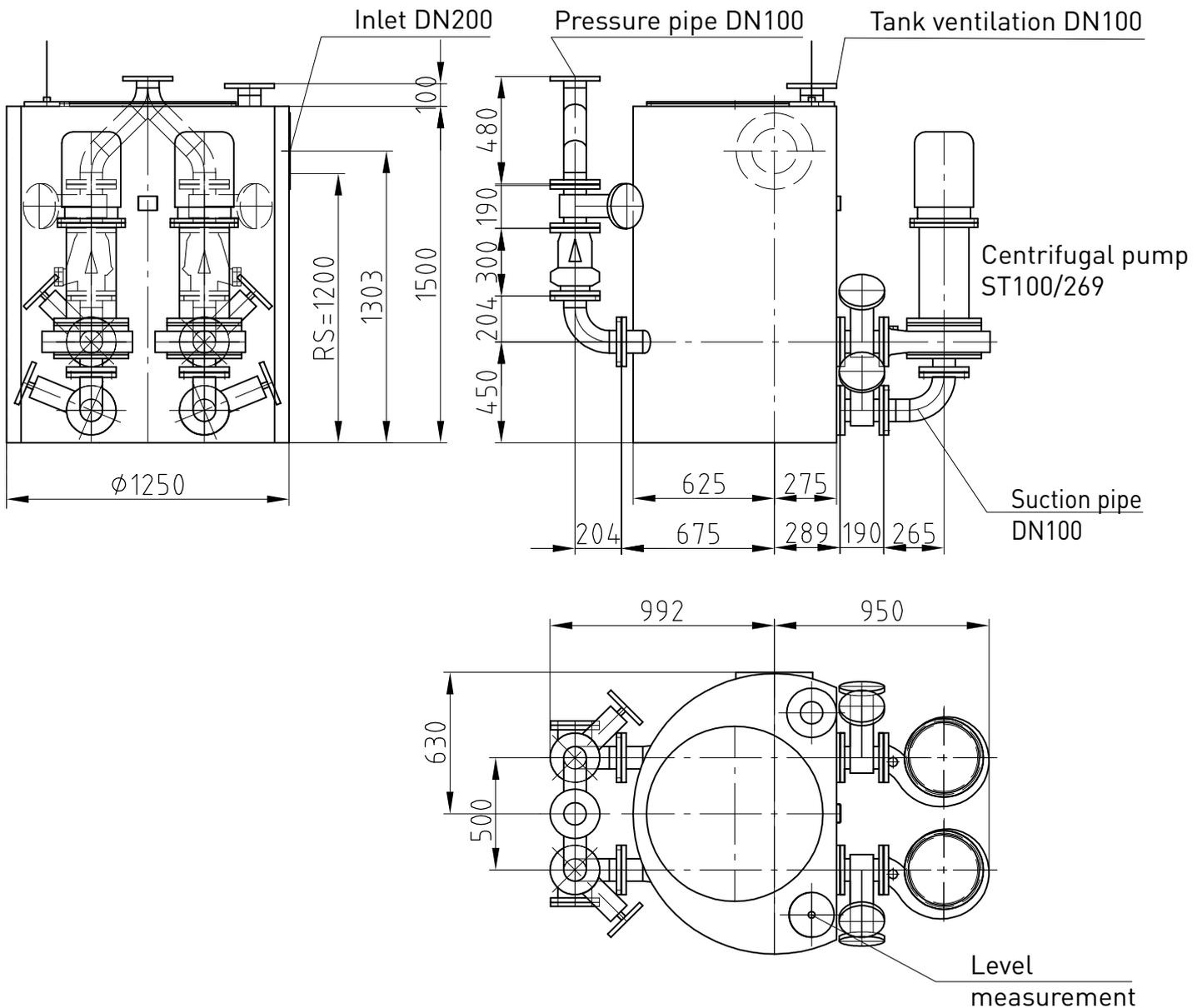


Copyright according to DIN 34	Installation suggestion: AWALIFT 2/2 flat in the AWALIFTSCHACHT 2400
Scale:	

Subject to technical modifications and errors.



## AWALIFT 2/2 flat



Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg/dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 2/2 flat
Scale:	

Subject to technical modifications and errors.

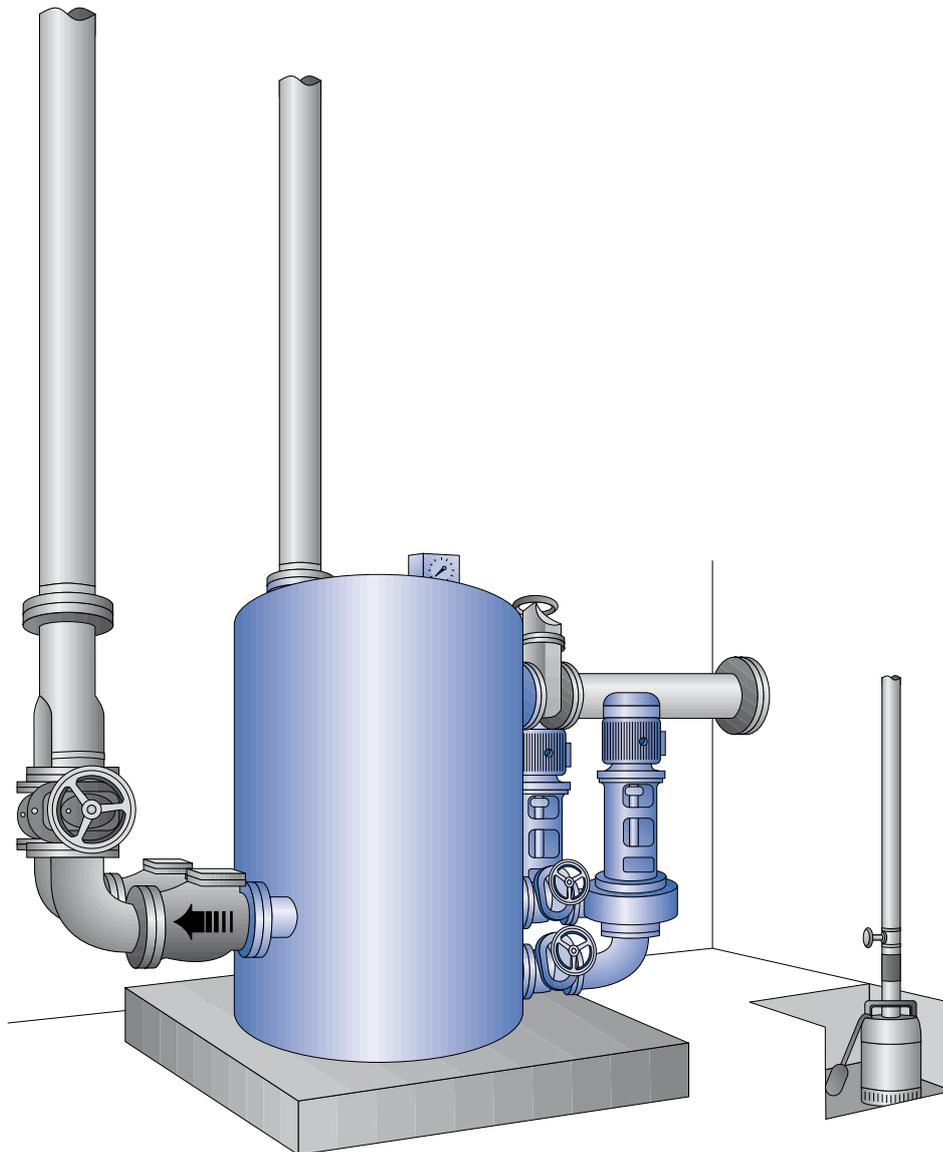
# AWALIFT 2/2 round

## The sewage pumping station with the STRATE system

### Area of use:

- Draining small towns with up to about 2800 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**2800 PE**



# AWALIFT 2/2 round

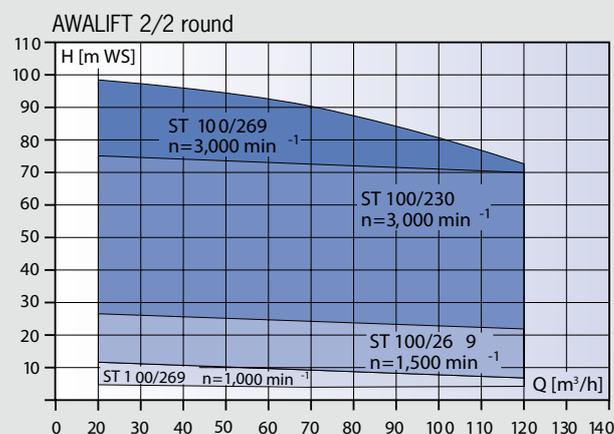
## Technical data

<b>System capacity:</b>	60 m <sup>3</sup> /h raw sewage, 2800 PE
<b>Pumping head:</b>	up to 80 mWS
<b>Free passage:</b>	100 mm or 125 mm
<b>Tank dimensions:</b>	Ø = 1250 mm x 1500 mm
<b>Tank contents:</b>	1.4 m <sup>3</sup>
<b>Space requirements:</b>	3500 mm x 2500 mm
<b>Weight:</b>	approx. 800 kg
<b>Installation opening:</b>	1500 mm x 1500 mm
<b>Inlet height:</b>	1200 mm
<b>Inlet connection:</b>	DN 200 PN 10
<b>Pressure pipe connection:</b>	DN 100 or DN 125 PN 10
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Other operating points on request.  
Pumps which can be used ST(M)100/269, ST 100/230. The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 100
- Two pressure pipe gate valves DN 100
- Level measurement

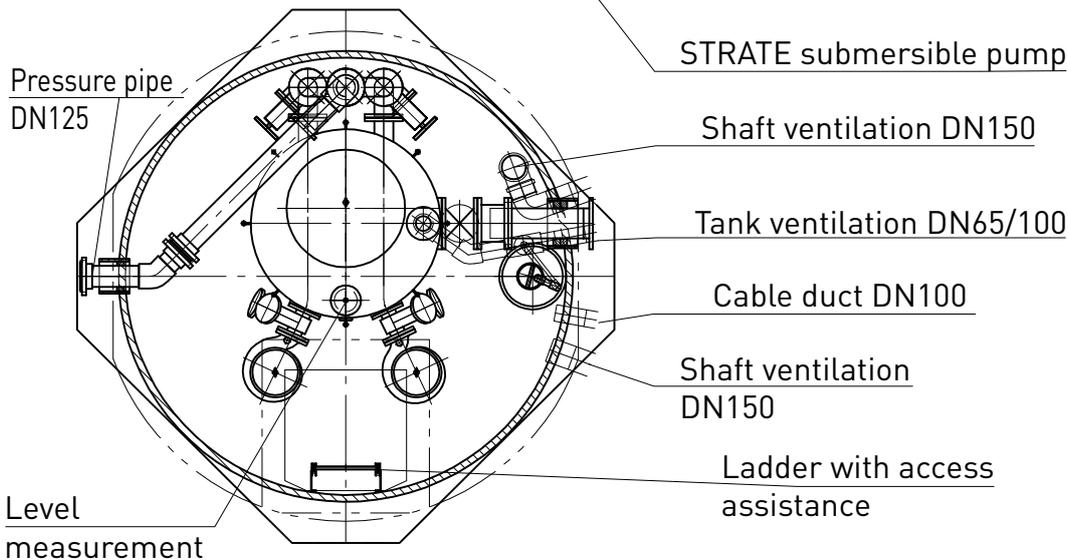
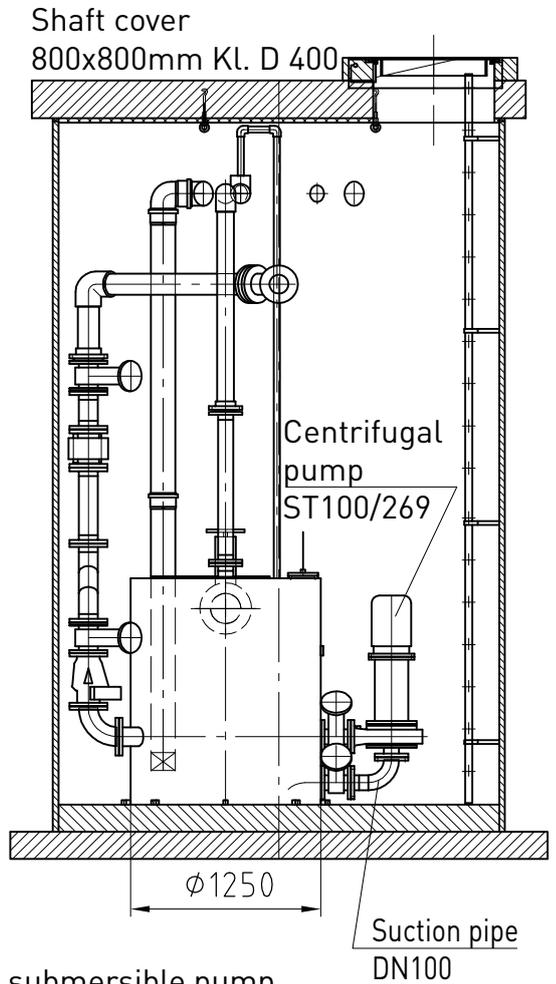
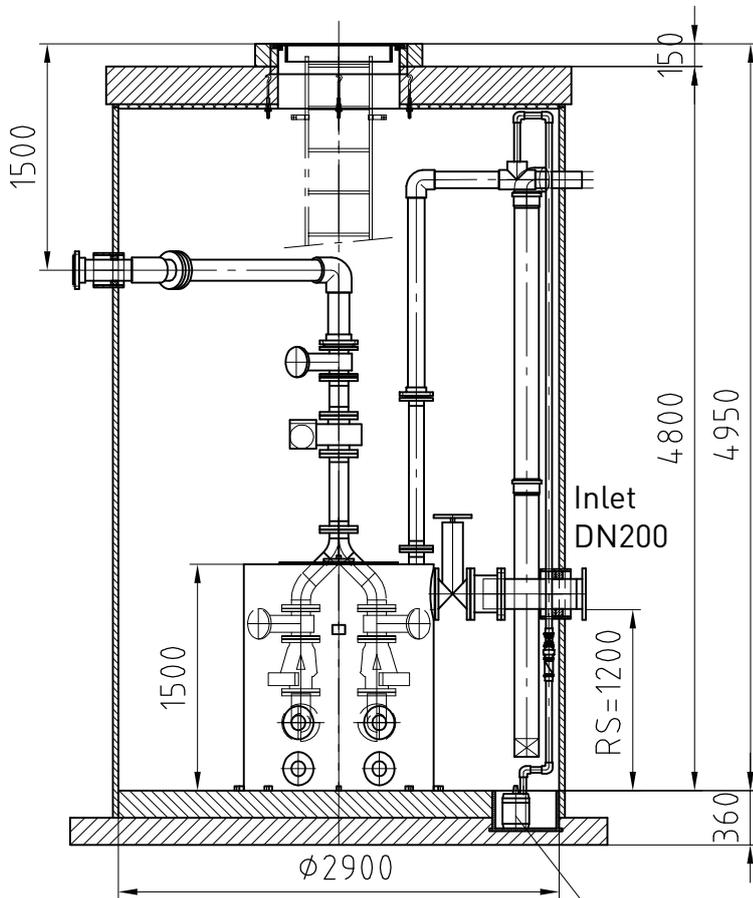
## Accessories:

- Pump control
- Inlet gate valve DN 200
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements



# AWALIFT 2/2 round

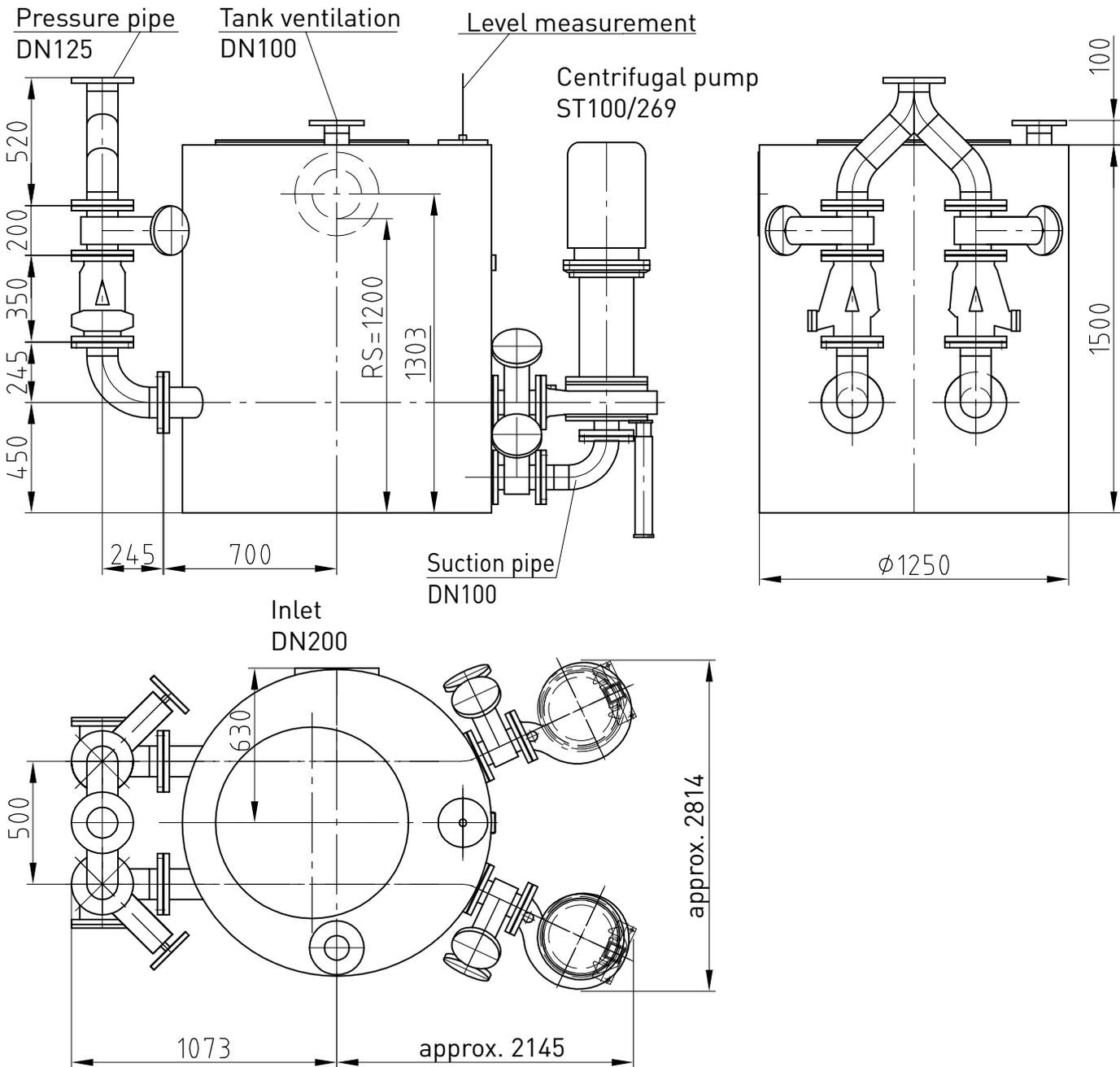


Copyright according to DIN 34	Installation suggestion: AWALIFT 2/2 round in the AWALIFTSCHACHT 2900
Scale:	

Subject to technical modifications and errors.



## AWALIFT 2/2 round



Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg/dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 2/2 round
Scale:	

Subject to technical modifications and errors.

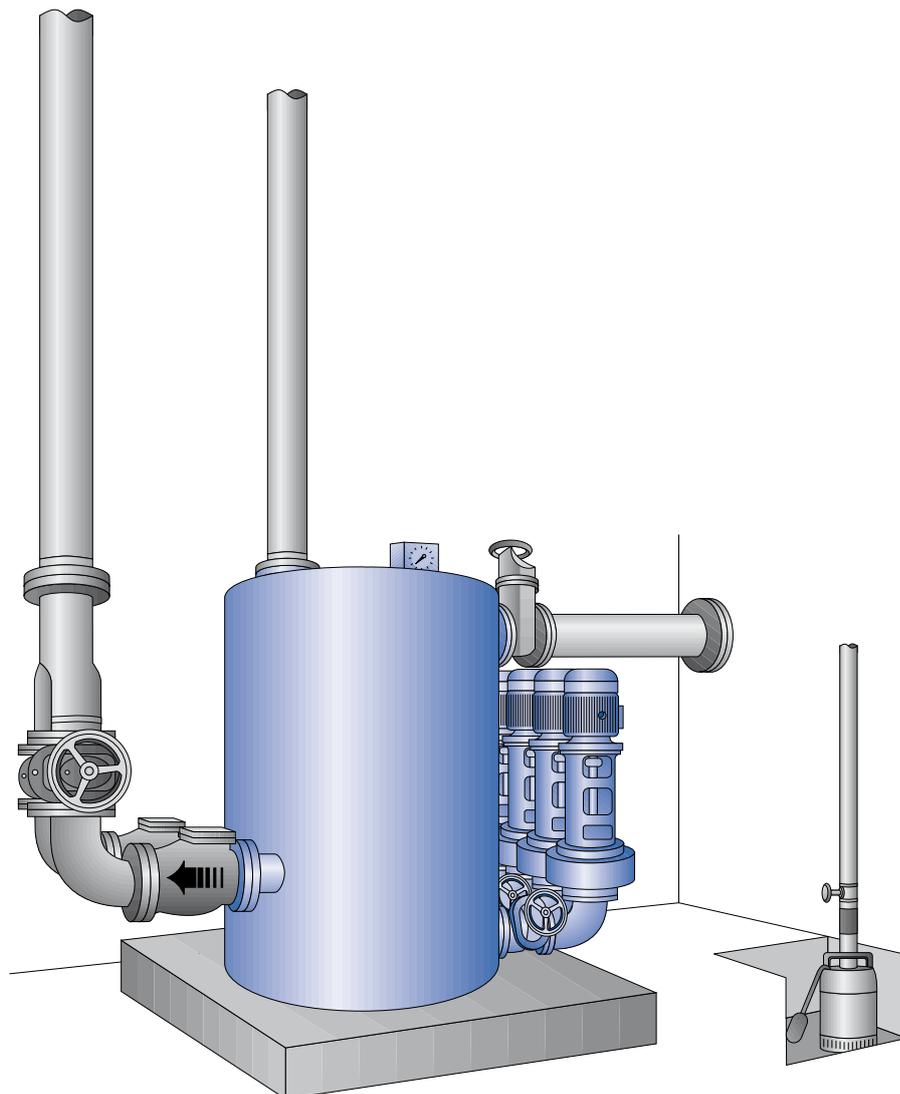
# AWALIFT 2/2x2

## The sewage pumping station with the STRATE system

### Area of use:

- Draining small towns with up to about 2800 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**2800 PE**



# AWALIFT 2/2x2

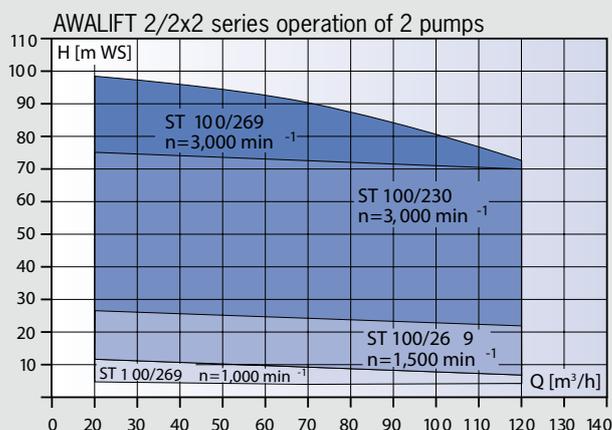
## Technical data

<b>System capacity:</b>	60 m <sup>3</sup> /h raw sewage, 2800 PE
<b>Pumping head:</b>	up to 120 mWS
<b>Free passage:</b>	100 mm or 125 mm
<b>Tank dimensions:</b>	Ø = 1250 mm x 1500 mm
<b>Tank contents:</b>	1.4 m <sup>3</sup>
<b>Space requirements:</b>	3500 mm x 2500 mm
<b>Weight:</b>	approx. 800 kg
<b>Installation opening:</b>	1500 mm x 1500 mm
<b>Inlet height:</b>	1200 mm
<b>Inlet connection:</b>	DN 200 PN 10
<b>Pressure pipe connection:</b>	DN 100 or DN 125 PN 10/16
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Other operating points on request.  
Pumps which can be used ST(M)100/269, ST 100/230.  
Impellers are adapted to the specific operating point.

Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with two solids collecting chambers
- 2 x 2 centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 100
- Two pressure pipe gate valves DN 100
- Level measurement

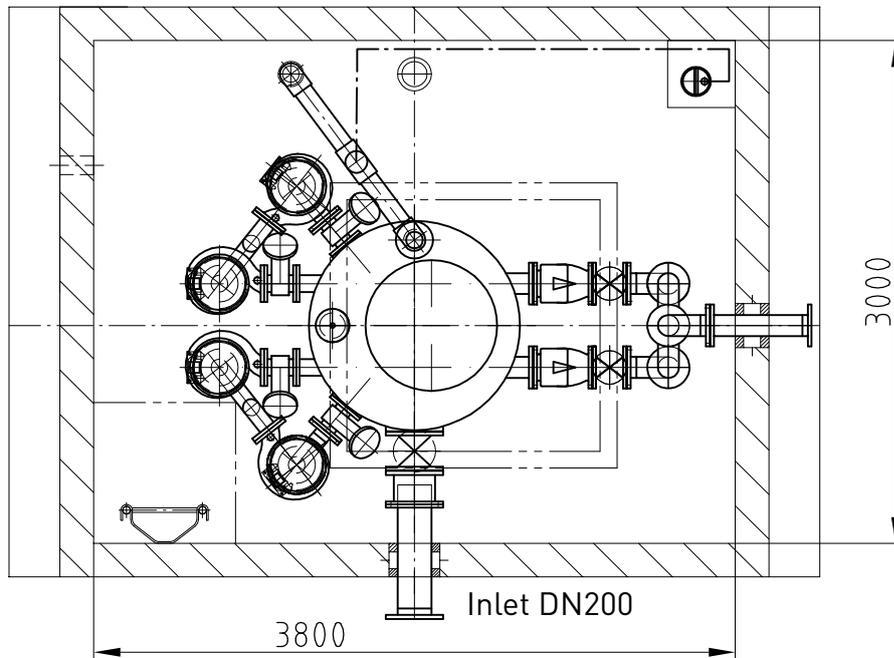
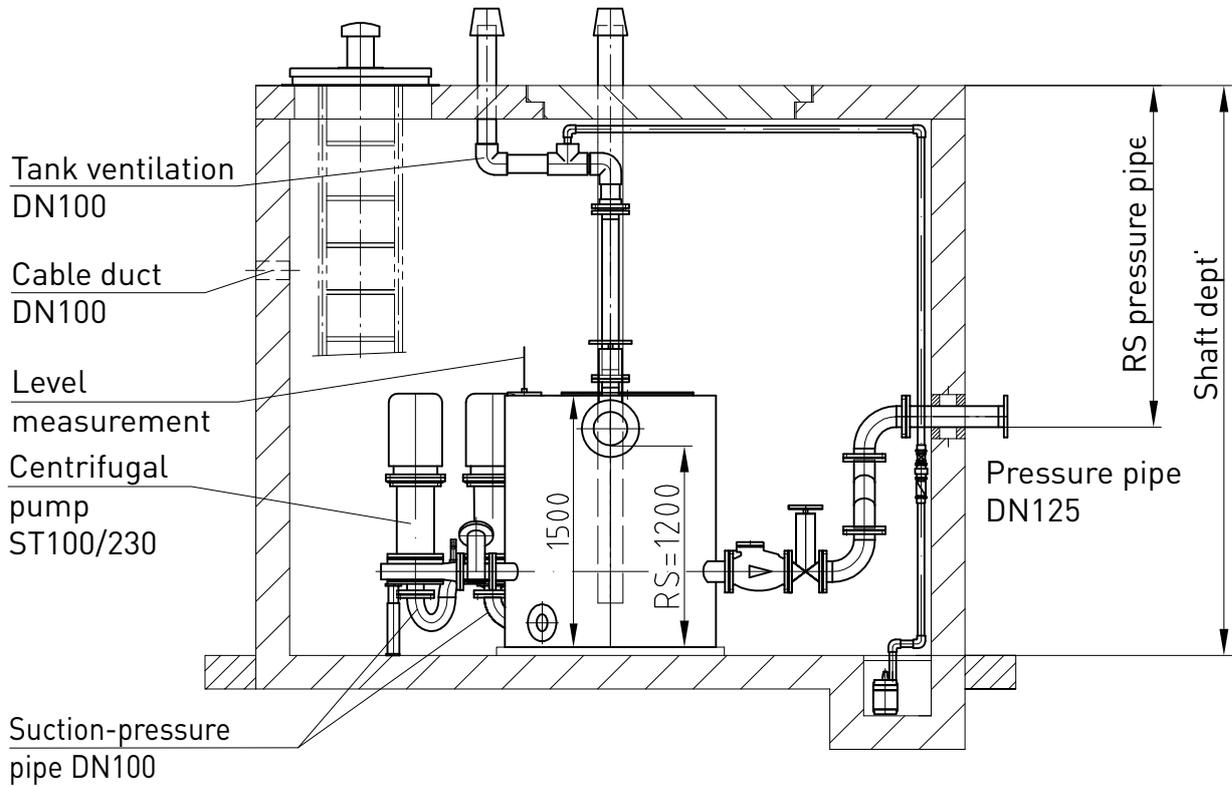
## Accessories:

- Pump control
- Inlet gate valve DN 200
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements



## AWALIFT 2/2x2

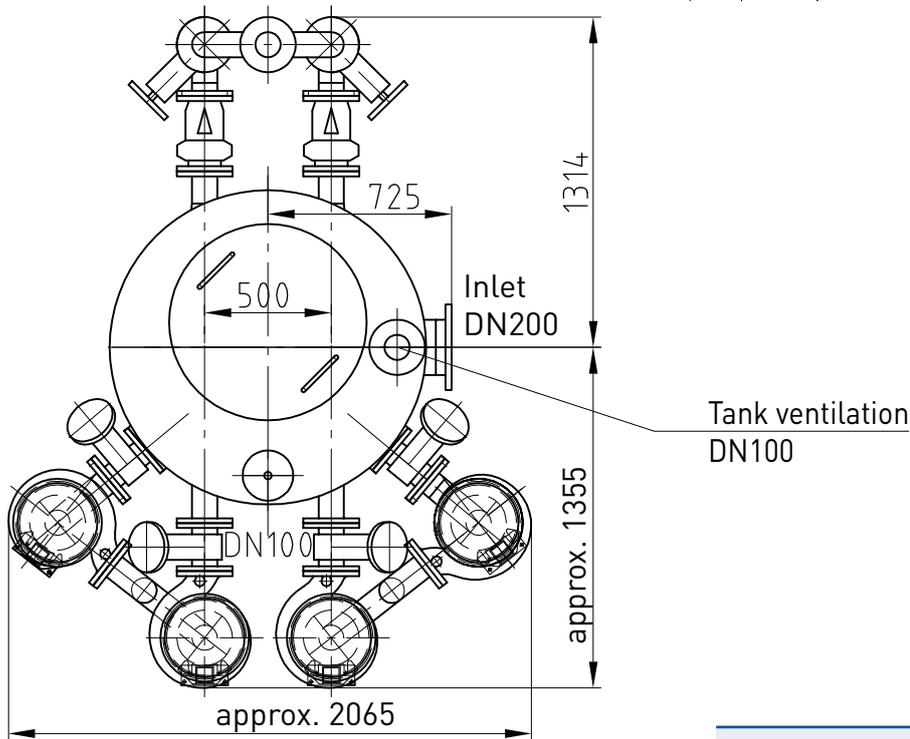
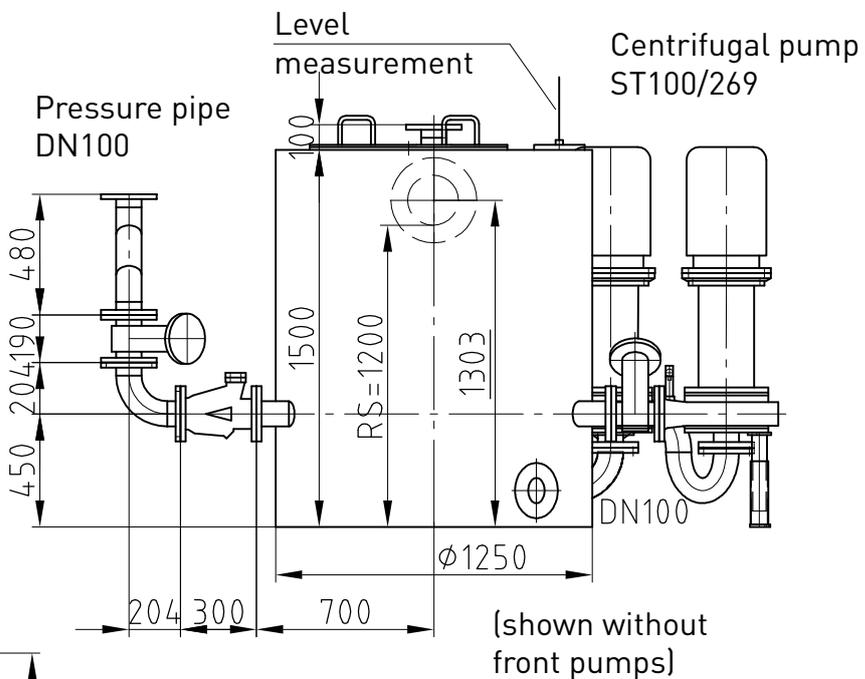
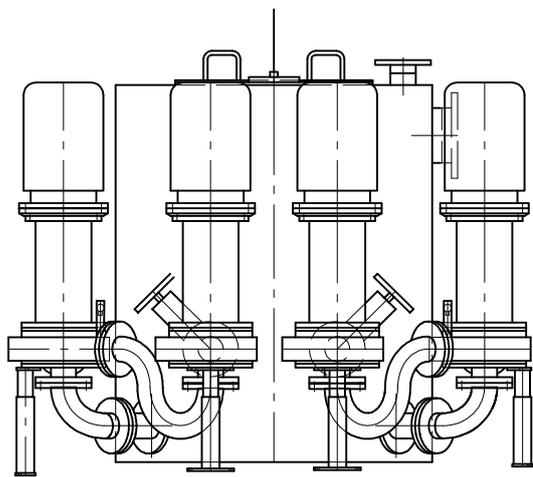


Copyright according to DIN 34	Installation suggestion: AWALIFT 2/2x2
Scale:	

Subject to technical modifications and errors.



## AWALIFT 2/2x2



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Scale:	

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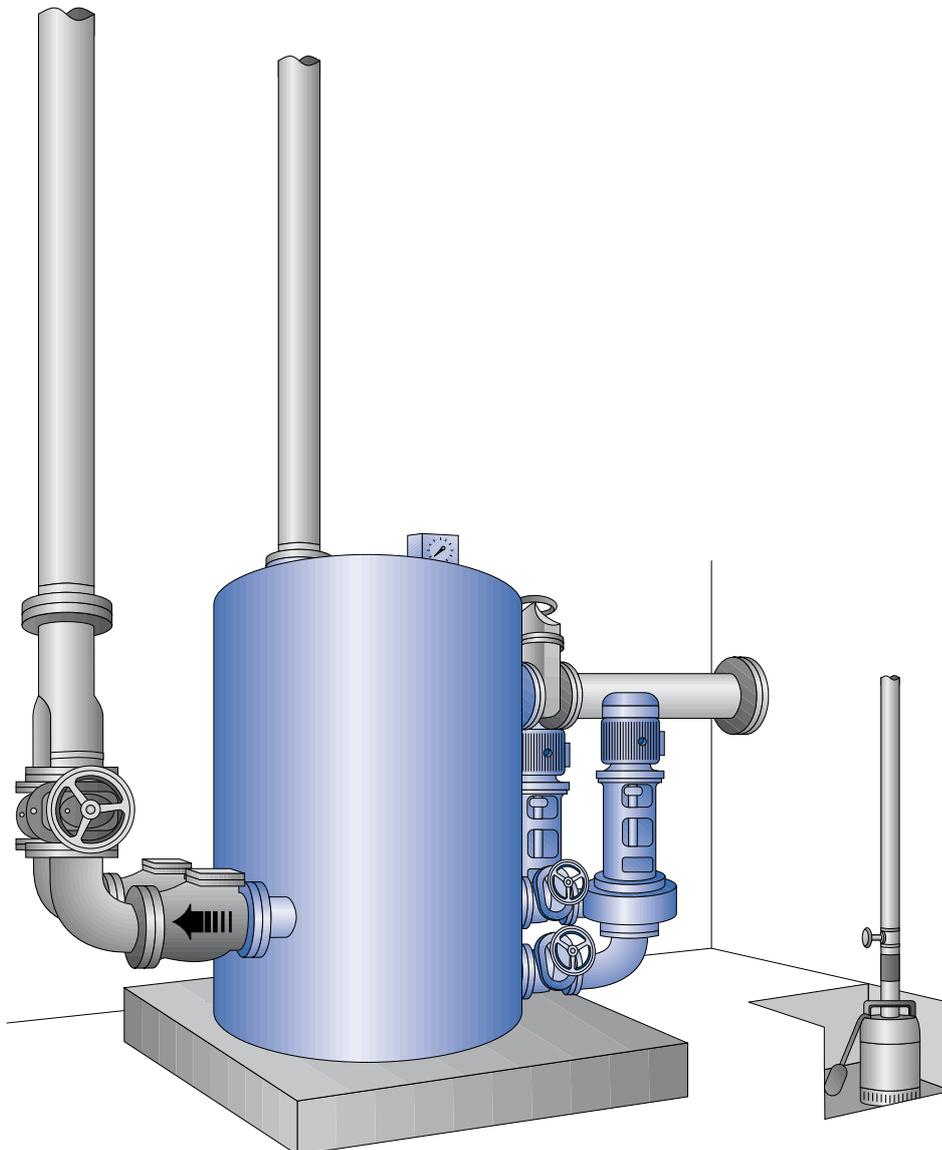
# AWALIFT 3/2

## The sewage pumping station with the STRATE system

### Area of use:

- Draining small towns with up to about 3700 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

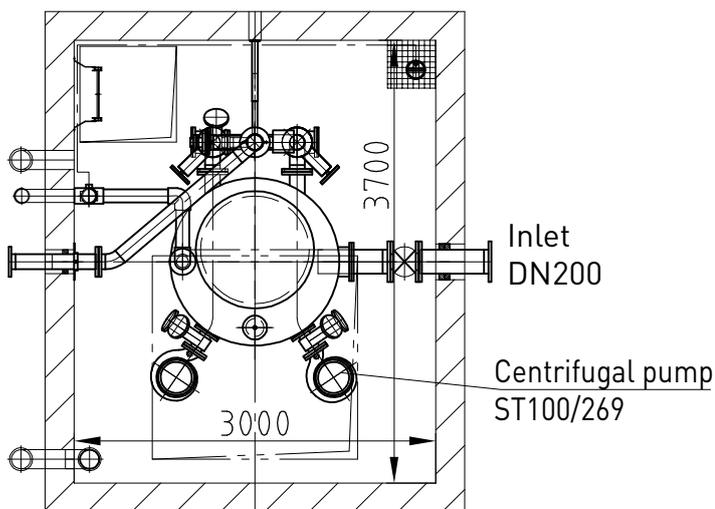
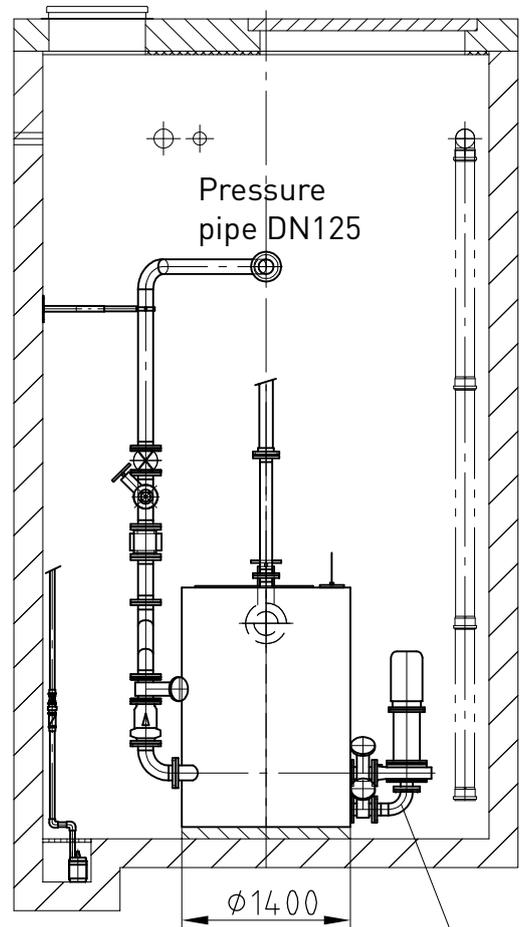
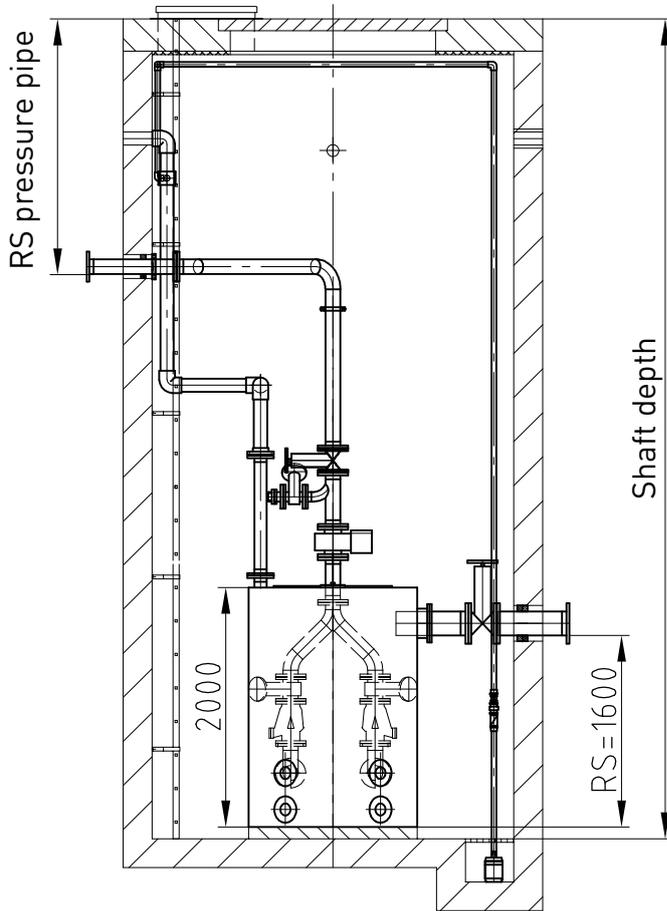
Up to  
**3700 PE**







## AWALIFT 3/2



Copyright according to DIN 34

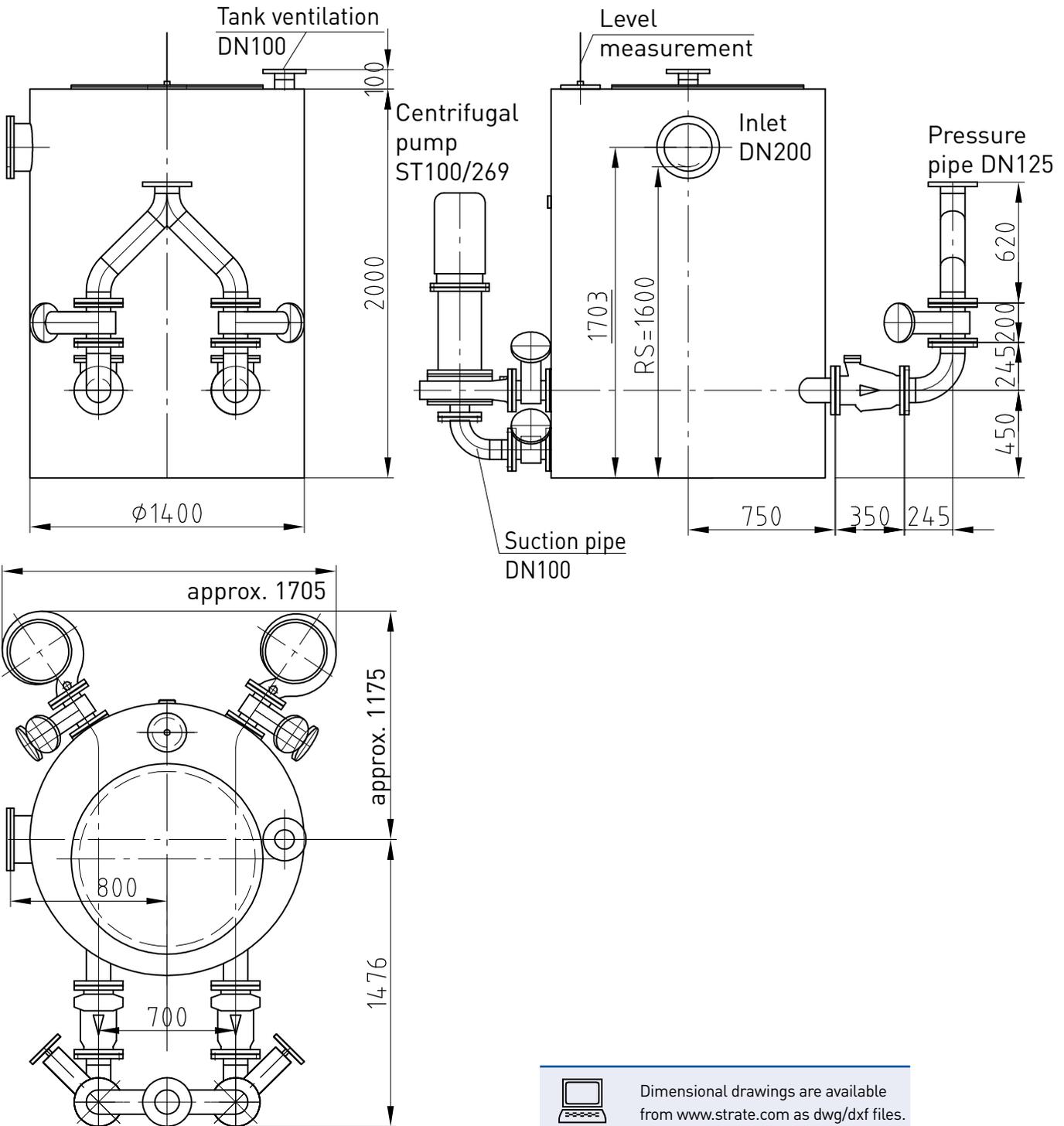
Scale:

Installation suggestion: AWALIFT 3/2  
in the AWALIFTSCHACHT

Subject to technical modifications and errors.



## AWALIFT 3/2



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Scale:	

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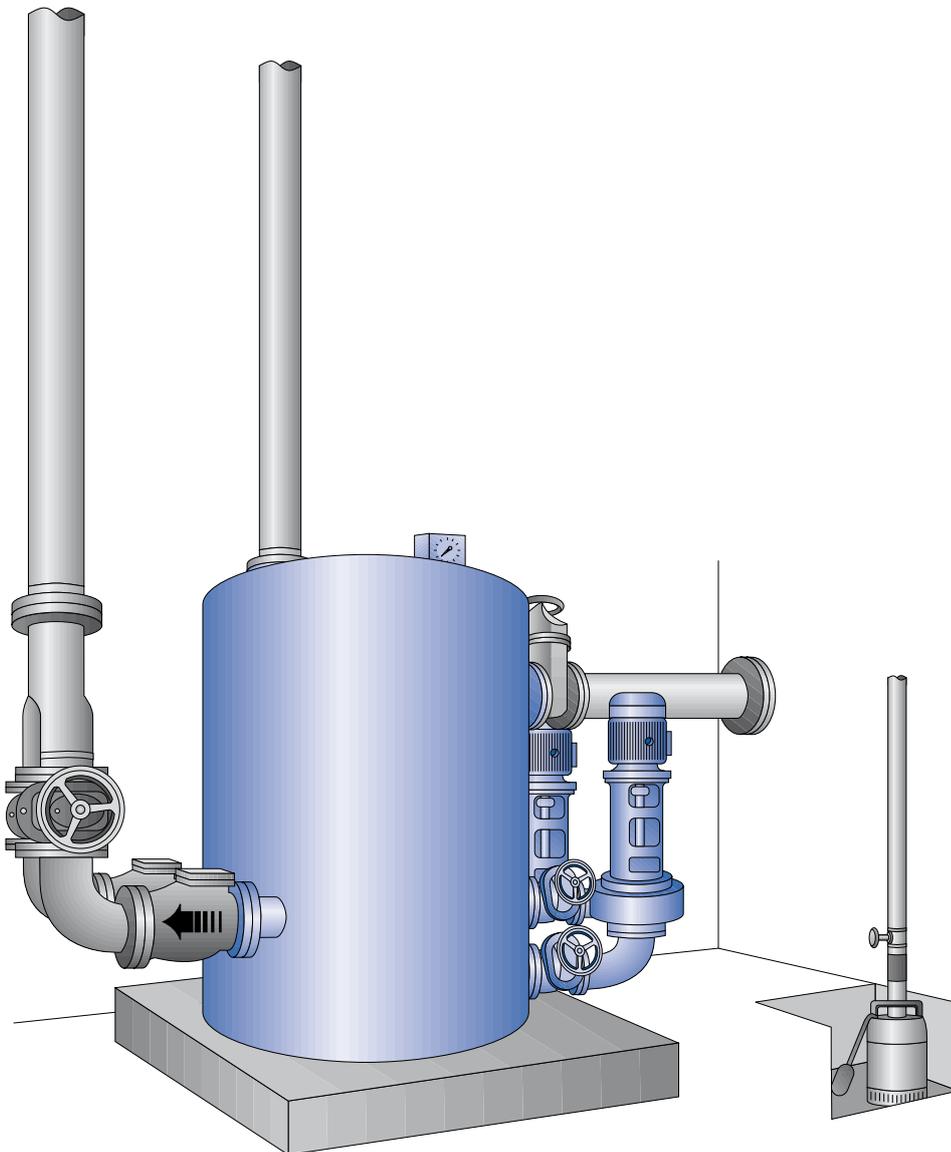
# AWALIFT 4/2

## The sewage pumping station with the STRATE system

### Area of use:

- Draining towns with up to about 5600 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, underground stations etc.

Up to  
**5600 PE**



# AWALIFT 4/2

## Technical data

<b>System capacity:</b>	120 m <sup>3</sup> /h raw sewage, 5600 PE
<b>Pumping head:</b>	up to 55 mWS, AWALIFT 4/2x2 up to 110 mWS
<b>Free passage:</b>	150 mm
<b>Tank dimensions:</b>	Ø = 1800 mm x 2000 mm
<b>Tank contents:</b>	4.0 m <sup>3</sup>
<b>Space requirements:</b>	4500 mm x 3500 mm
<b>Weight:</b>	approx. 1500 kg
<b>Installation opening:</b>	2000 mm x 2000 mm
<b>Inlet height:</b>	1600 mm
<b>Inlet connection:</b>	DN 250 PN 10
<b>Pressure pipe connection:</b>	DN 150 PN 10
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

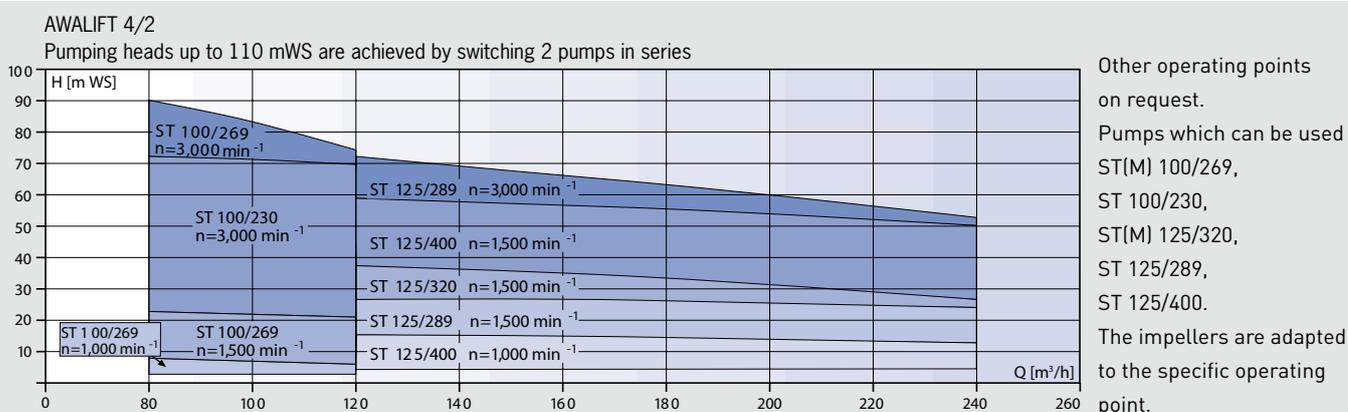
## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 150
- Two pressure pipe gate valves DN 150
- Level measurement

## Accessories:

- Pump control
  - Inlet gate valve DN 250
  - Pipes incl. reducer and transition flanges within the building
  - Pig trap
  - Basement draining pump
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generator
  - STRATE venting systems
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
- Special accessories according to your requirements

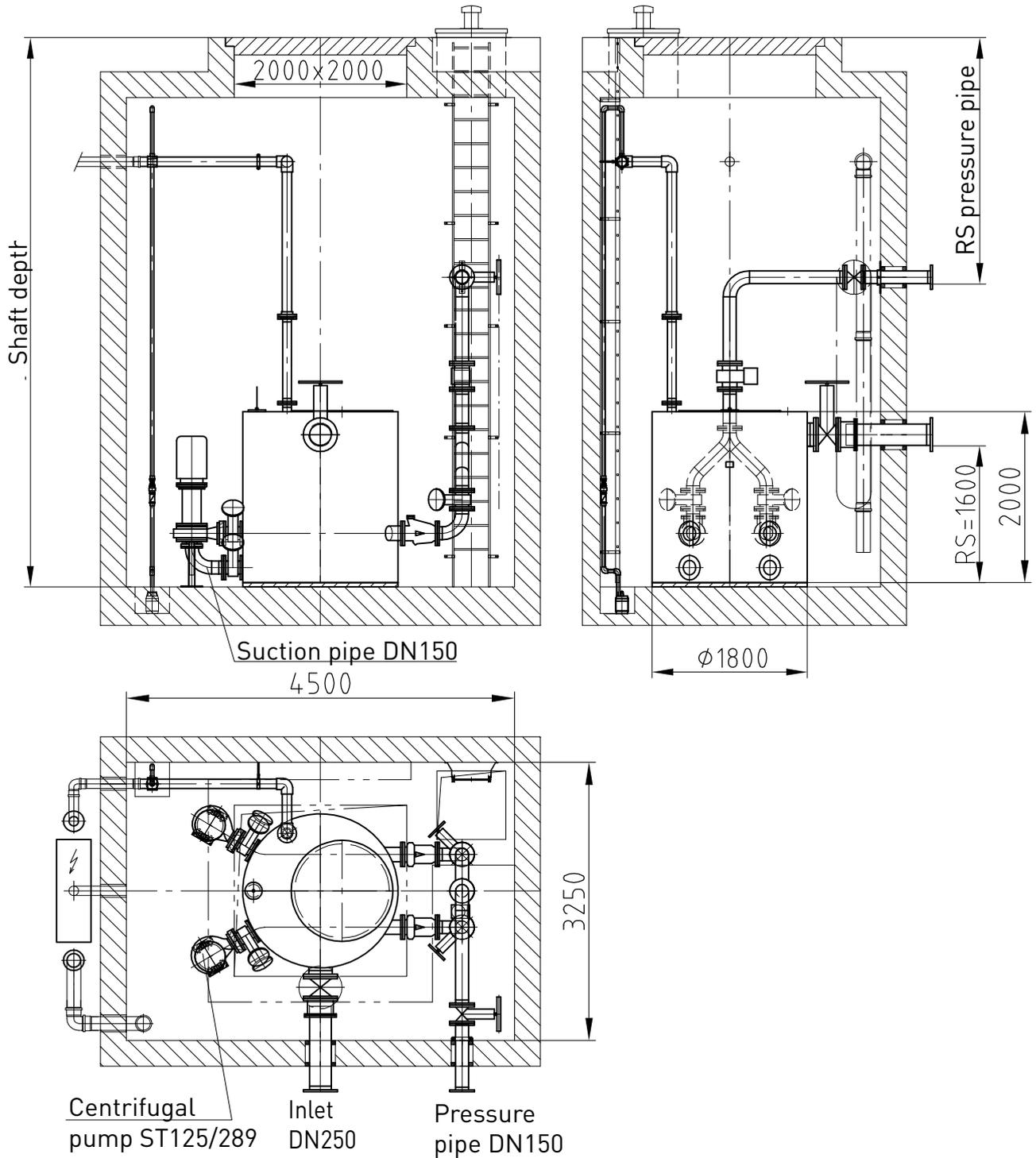
## Characteristic curve for pump



Subject to technical modifications and errors.



# AWALIFT 4/2

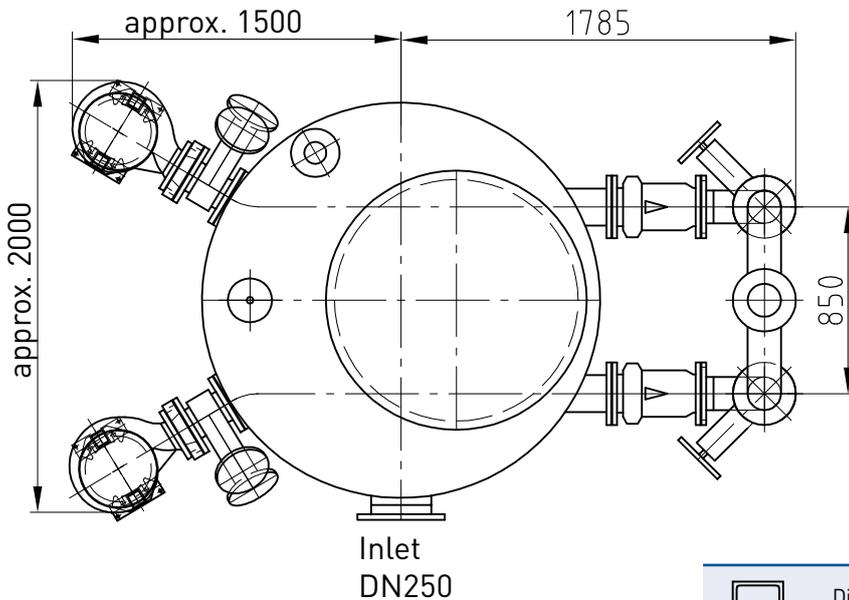
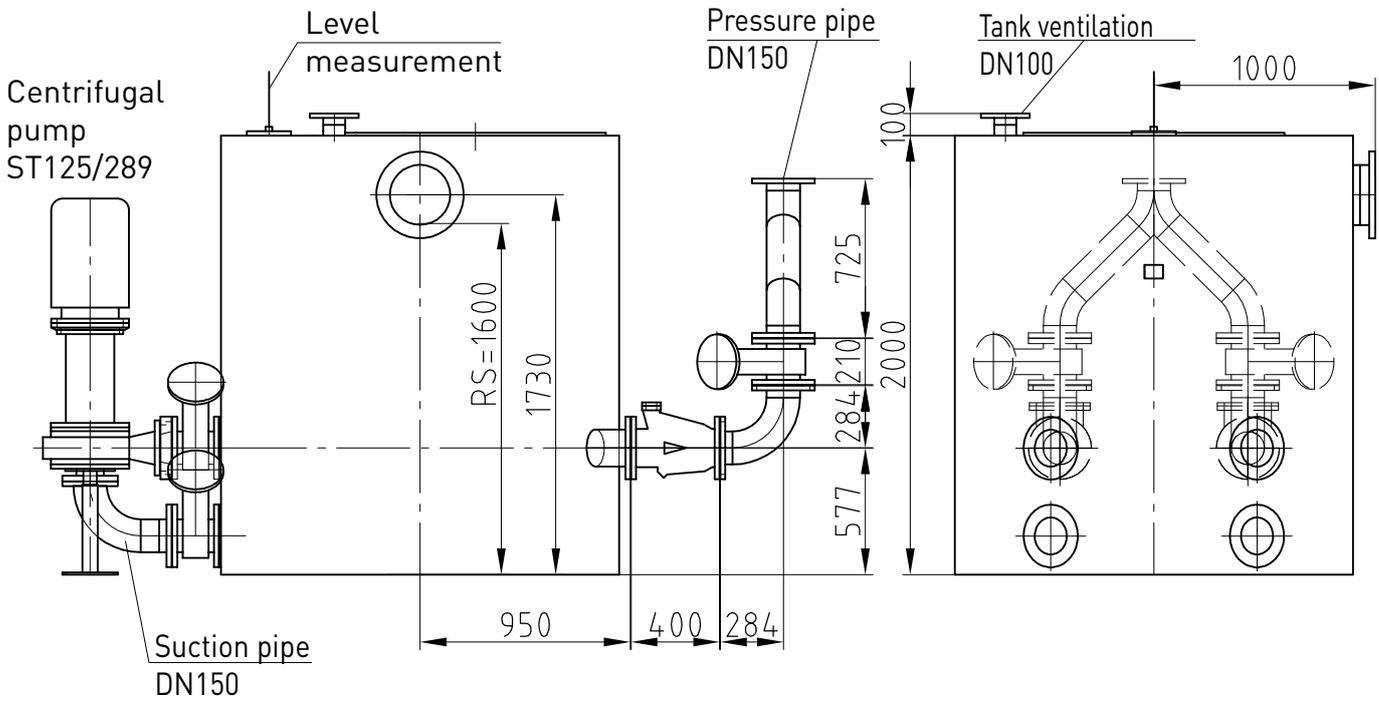


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## AWALIFT 4/2



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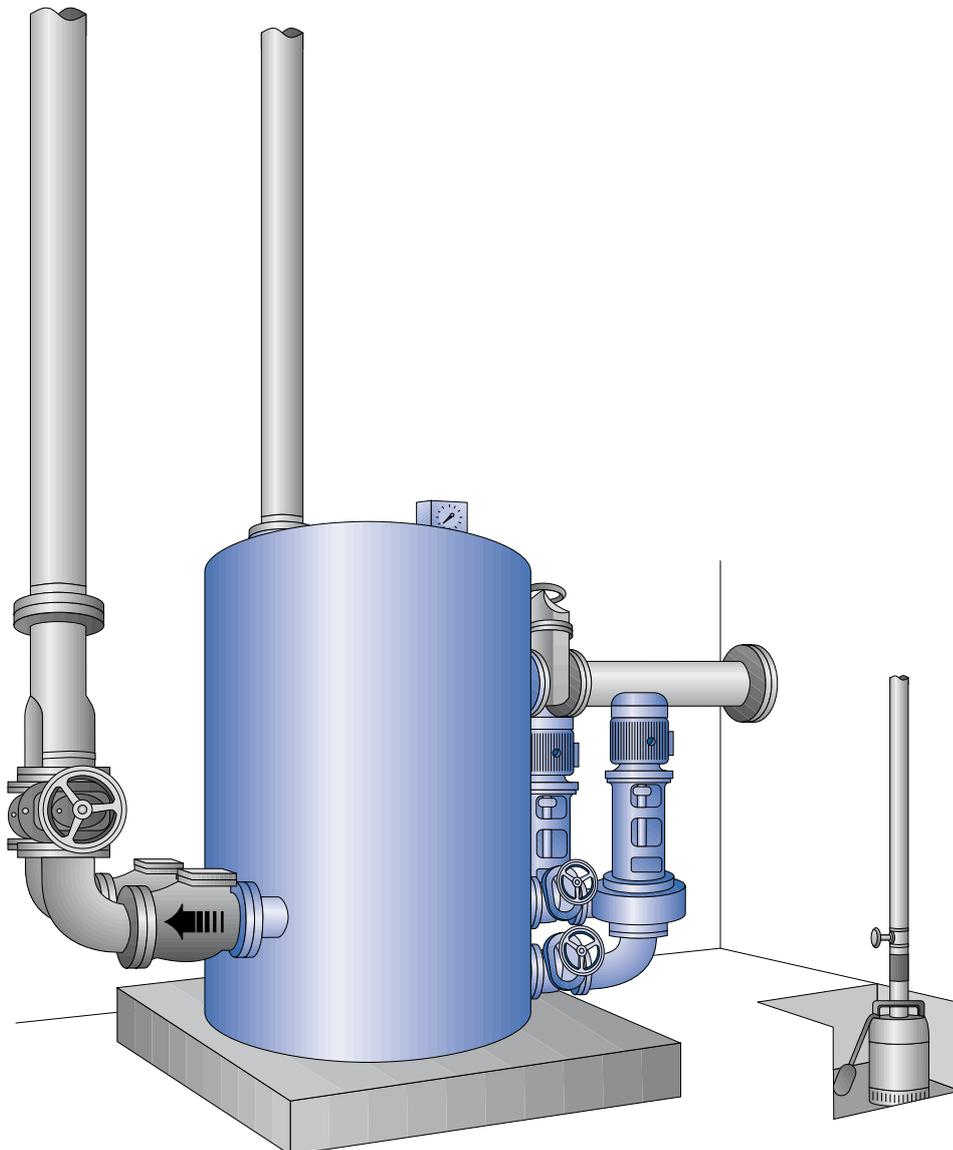
# AWALIFT 5/2

## The sewage pumping station with the STRATE system

### Area of use:

- Draining towns with up to about 7000 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**7000 PE**



# AWALIFT 5/2

## Technical data

<b>System capacity:</b>	150 m <sup>3</sup> /h raw sewage, 7000 PE
<b>Pumping head:</b>	up to 50 mWS, AWALIFT 5/2x2 up to 100 mWS
<b>Free passage:</b>	150 mm
<b>Tank dimensions:</b>	Ø = 1800 mm x 2500 mm
<b>Tank contents:</b>	4.8 m <sup>3</sup>
<b>Space requirements:</b>	4500 mm x 3500 mm
<b>Weight:</b>	approx. 1700 kg
<b>Installation opening:</b>	2000 mm x 2000 mm
<b>Inlet height:</b>	1900 mm
<b>Inlet connection:</b>	DN 250 PN 10
<b>Pressure pipe connection:</b>	DN 150 PN 10
<b>Venting and air release:</b>	DN 100 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating / corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 150
- Two pressure pipe gate valves DN 150
- Level measurement

## Accessories:

- Pump control
  - Inlet gate valve DN 250
  - Pipes incl. reducer and transition flanges within the building
  - Pig trap
  - Basement draining pump
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generator
  - STRATE venting systems
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
- Special accessories according to your requirements

## Characteristic curve for pump



Other operating points on request.

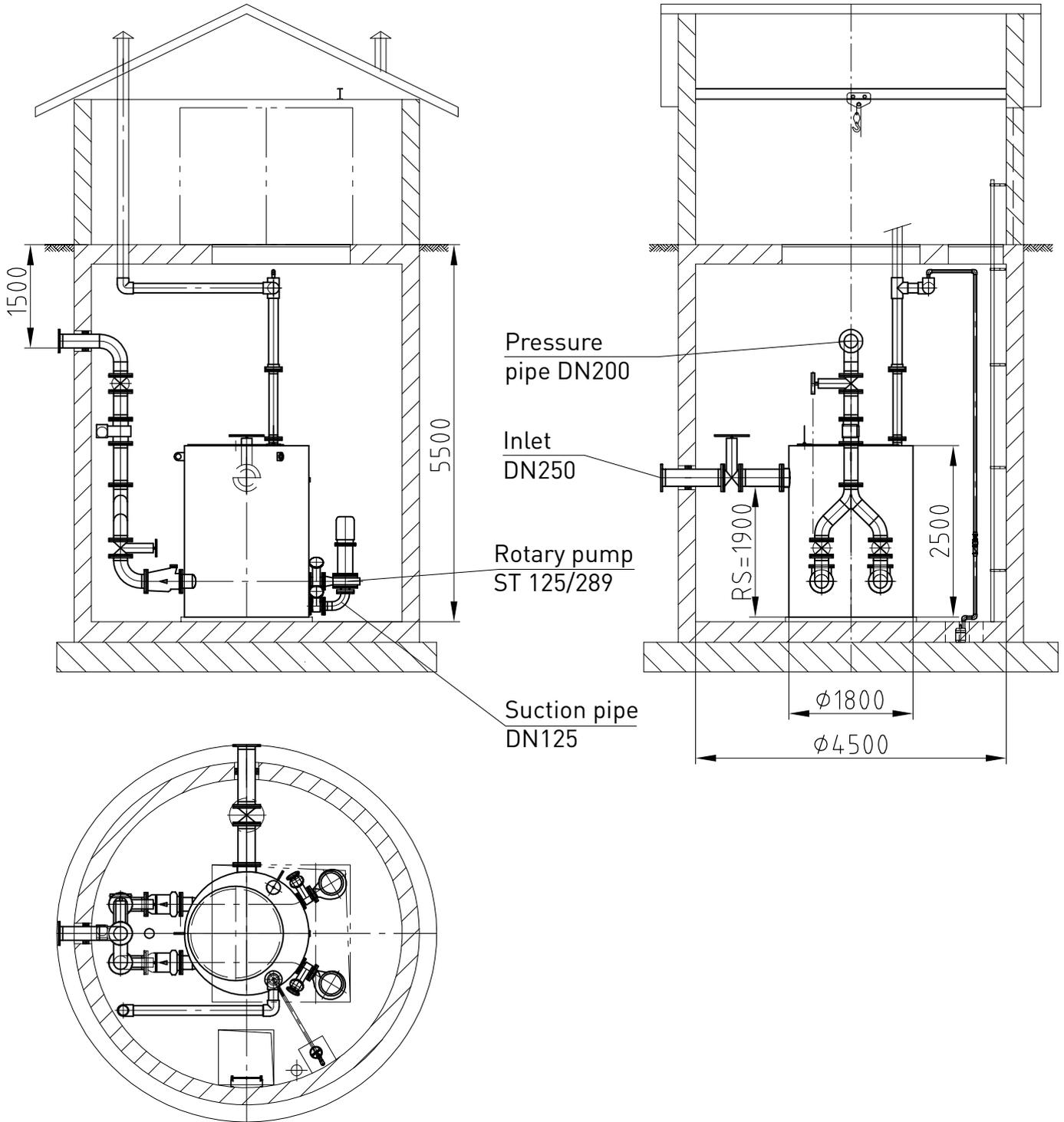
Pumps which can be used  
ST(M) 125/320,  
ST 125/289,  
ST 125/400,  
ST 200/365.

The impellers are adapted to the specific operating point.

Subject to technical modifications and errors.



## AWALIFT 5/2

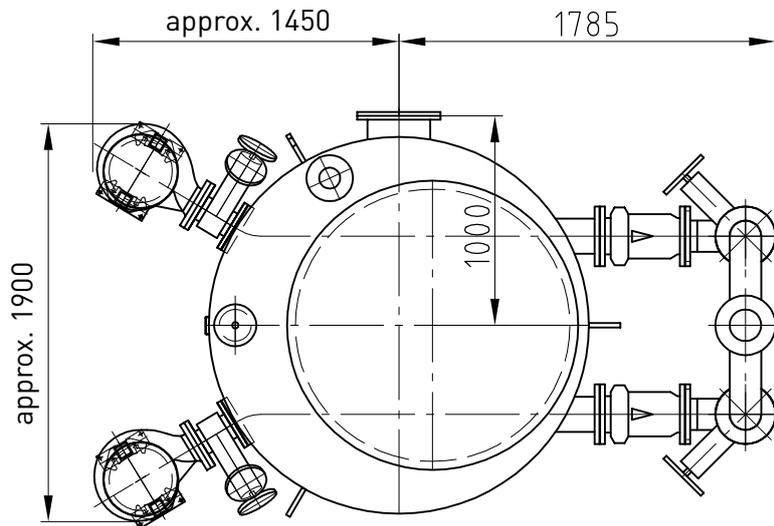
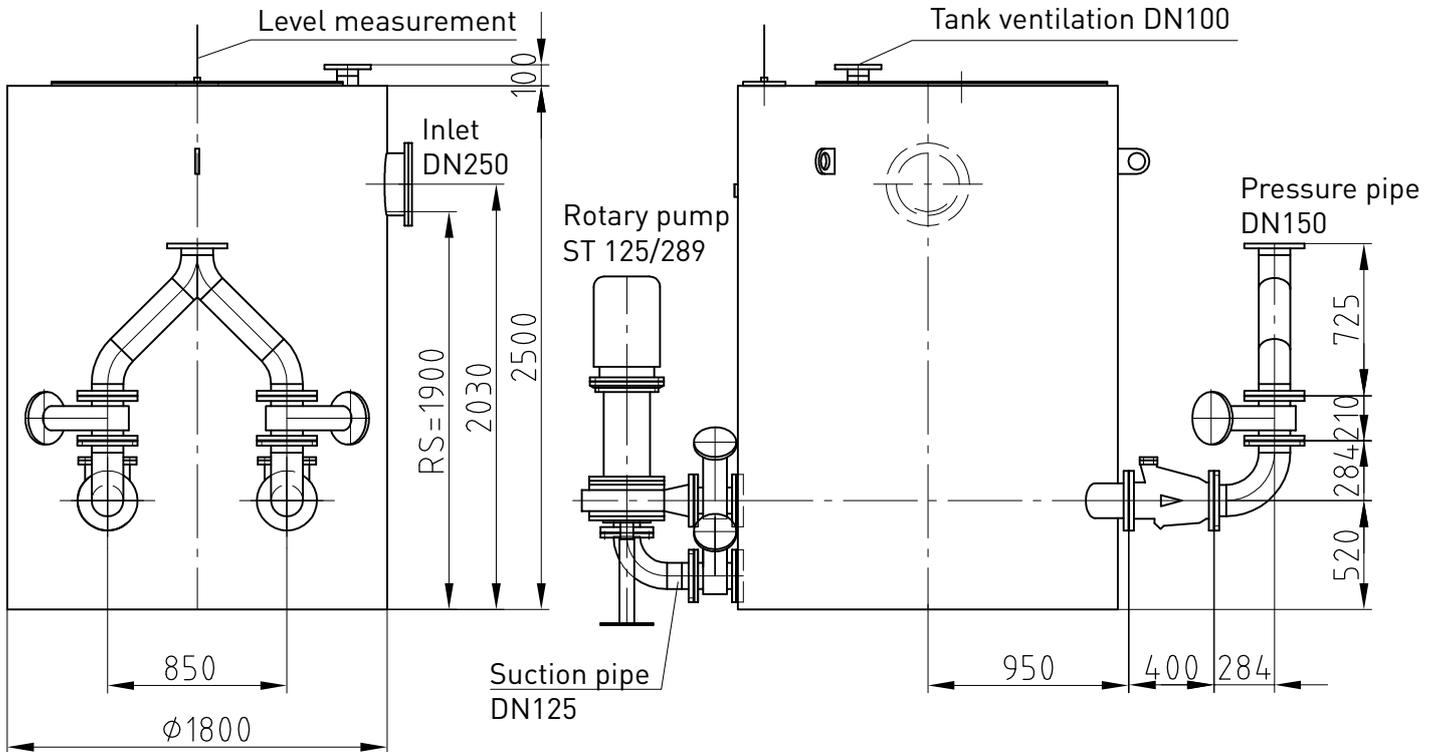


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## AWALIFT 5/2



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<b>Scale:</b>	

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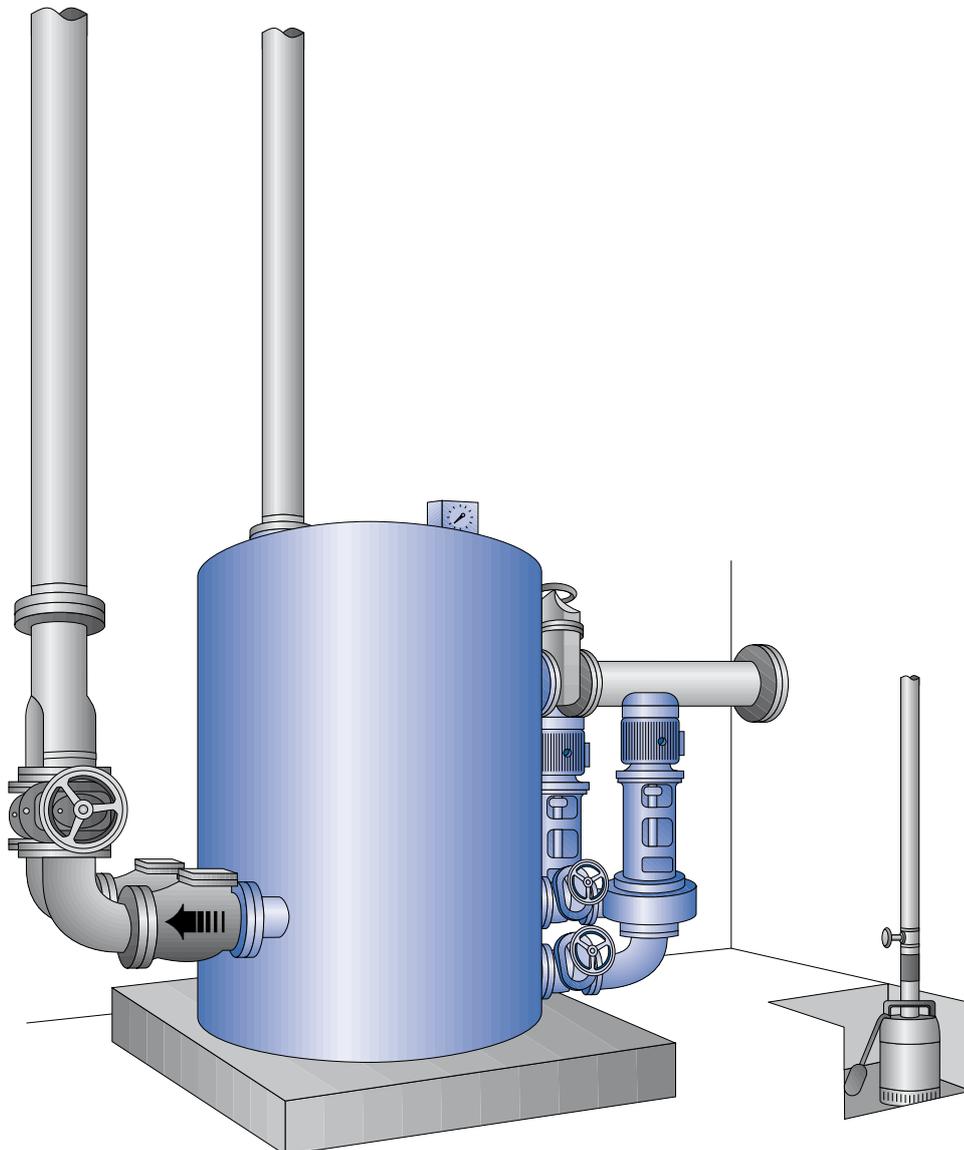
# AWALIFT 6/2

## The sewage pumping station with the STRATE system

### Area of use:

- Draining towns with up to about 9300 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**9300 PE**



# AWALIFT 6/2

## Technical data

<b>System capacity:</b>	200 m <sup>3</sup> /h raw sewage, 9300 EW
<b>Pumping head:</b>	up to 48 mWS, AWALIFT 6/2x2 up to 96 mWS
<b>Free passage:</b>	200 mm
<b>Tank dimensions:</b>	Ø = 2000 mm x 2500 mm
<b>Tank contents:</b>	6.0 m <sup>3</sup>
<b>Space requirements:</b>	4700 mm x 3700 mm
<b>Weight:</b>	approx. 2000 kg
<b>Installation opening:</b>	2200 mm x 2200 mm
<b>Inlet height:</b>	1900 mm
<b>Inlet connection:</b>	DN 300 PN 10
<b>Pressure pipe connection:</b>	DN 200 PN 10
<b>Venting and air release:</b>	DN 150 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating / corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

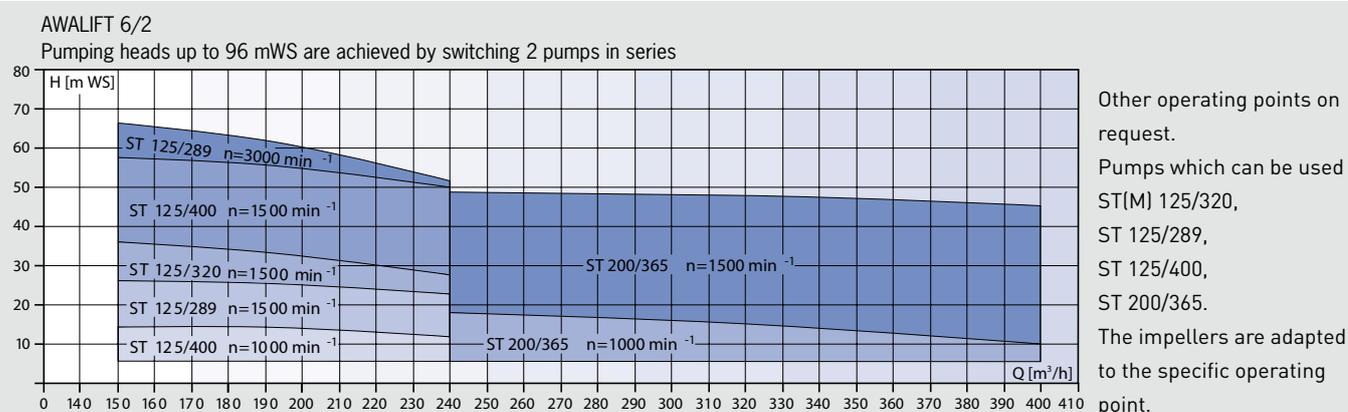
## Scope of supply:

- One holding tank with two solids collecting chambers
- Two centrifugal pumps and motors according to type and operating location required
- Four pump gate valves
- Two STRATE non-return valves
- One Y-pipe DN 200
- Two pressure pipe gate valves DN 200
- Level measurement

## Accessories:

- Pump control
  - Inlet gate valve DN 300
  - Pipes incl. reducer and transition flanges within the building
  - Pig trap
  - Basement draining pump
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generator
  - STRATE venting systems
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
- Special accessories according to your requirements

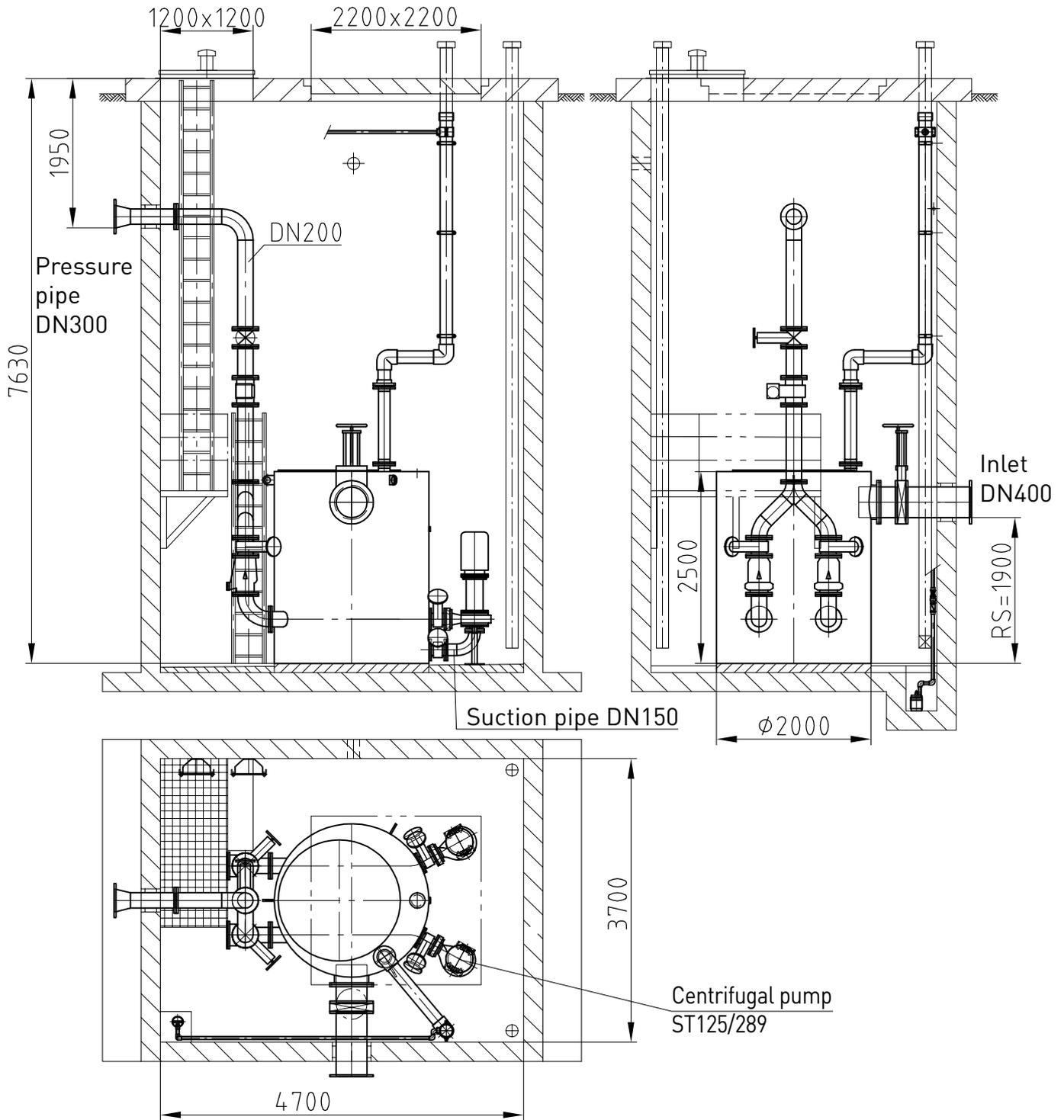
## Characteristic curve for pump



Subject to technical modifications and errors.



## AWALIFT 6/2

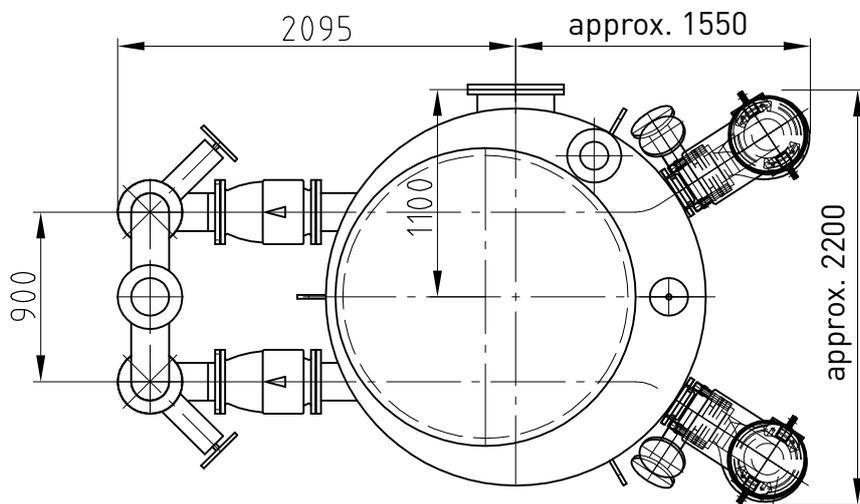
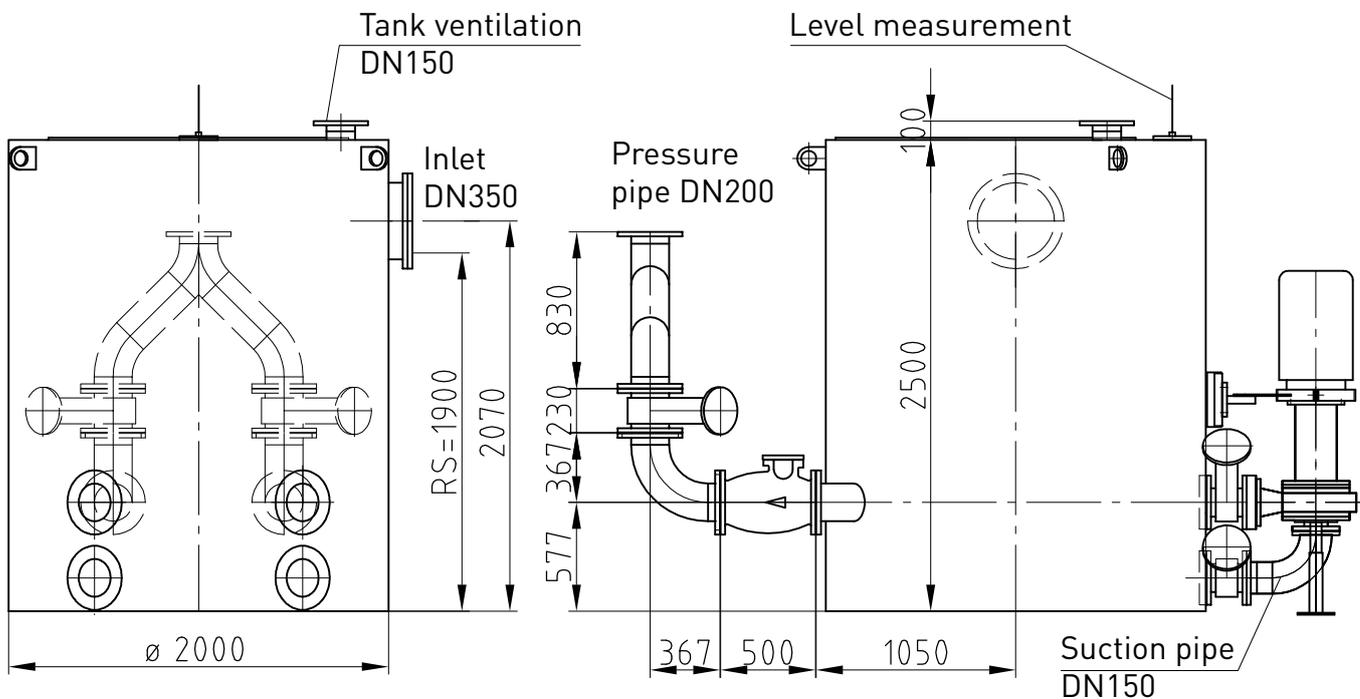


Copyright according to DIN 34	Installation suggestion: AWALIFT 6/2 in the AWALIFTSCHACHT
Scale:	

Subject to technical modifications and errors.



## AWALIFT 6/2



Centrifugal pump ST125/289

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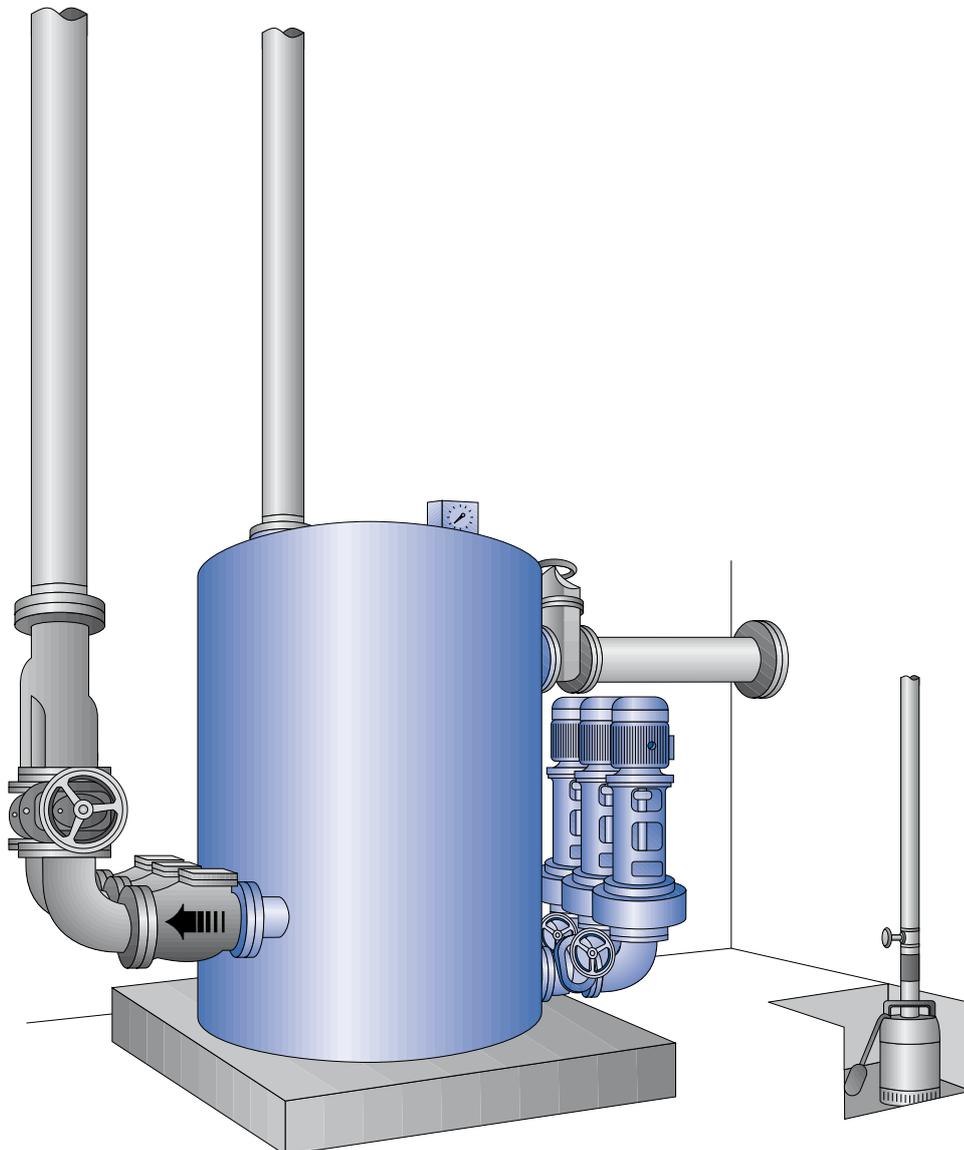
## AWALIFT 6/3

### The sewage pumping station with the STRATE system

#### Area of use:

- Draining towns with up to about 11,600 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**11600 PE**



# AWALIFT 6/3

## Technical data

<b>System capacity:</b>	250 m <sup>3</sup> /h raw sewage, 11600 PE
<b>Pumping head:</b>	up to 48 mWS, AWALIFT 6/3x2 up to 96 mWS
<b>Free passage:</b>	150 mm
<b>Tank dimensions:</b>	Ø = 2000 mm x 2500 mm
<b>Tank contents:</b>	6.0 m <sup>3</sup>
<b>Space requirements:</b>	5000 mm x 3700 mm
<b>Weight:</b>	approx. 2300 kg
<b>Installation opening:</b>	2200 mm x 2200 mm
<b>Inlet height:</b>	1900 mm
<b>Inlet connection:</b>	DN 300 PN 10
<b>Pressure pipe connection:</b>	DN 200 PN 10
<b>Venting and air release:</b>	DN 150 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating / corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

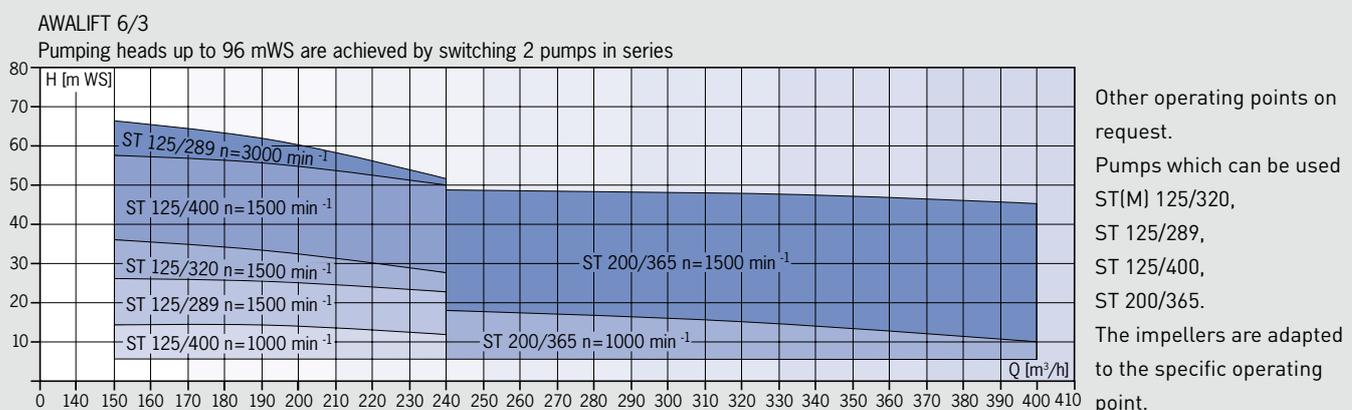
## Scope of supply:

- One holding tank with three solids collecting chambers
- Three centrifugal pumps and motors according to type and operating location required
- Six pump gate valves
- Three STRATE non-return valves
- One Y-pipe DN 200
- Three pressure pipe gate valves DN 200
- Level measurement

## Accessories:

- Pump control
  - Inlet gate valve DN 300
  - Pipes incl. reducer and transition flanges within the building
  - Pig trap
  - Basement draining pump
  - Alarm and monitoring systems, see control technology
  - Inductive quantity measurement
  - Emergency power generator
  - STRATE venting systems
  - STRATE AWALIFT shaft
  - STRATE service building
  - STRATE assembly and maintenance
- Special accessories according to your requirements

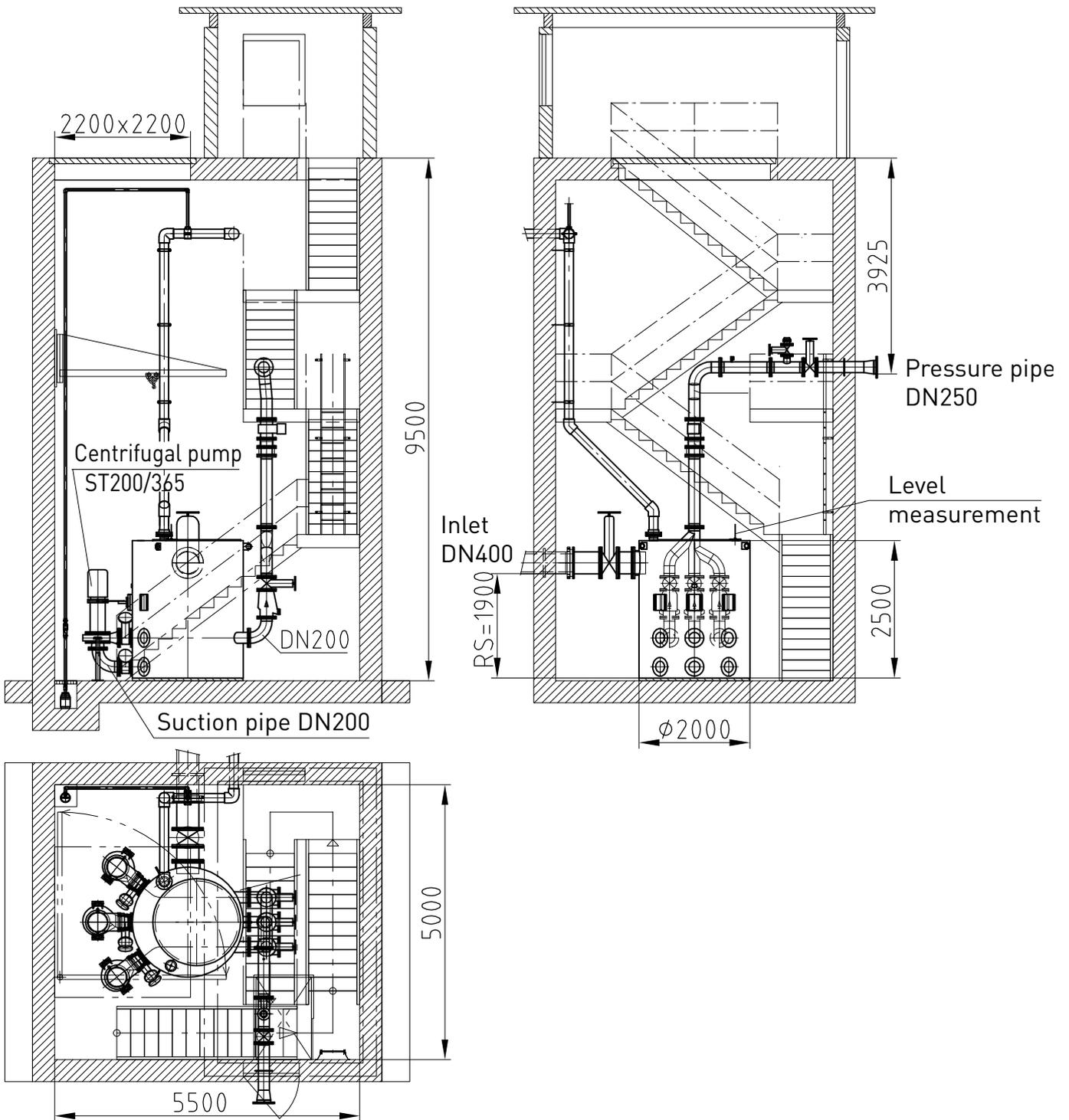
## Characteristic curve for pump



Subject to technical modifications and errors.



# AWALIFT 6/3

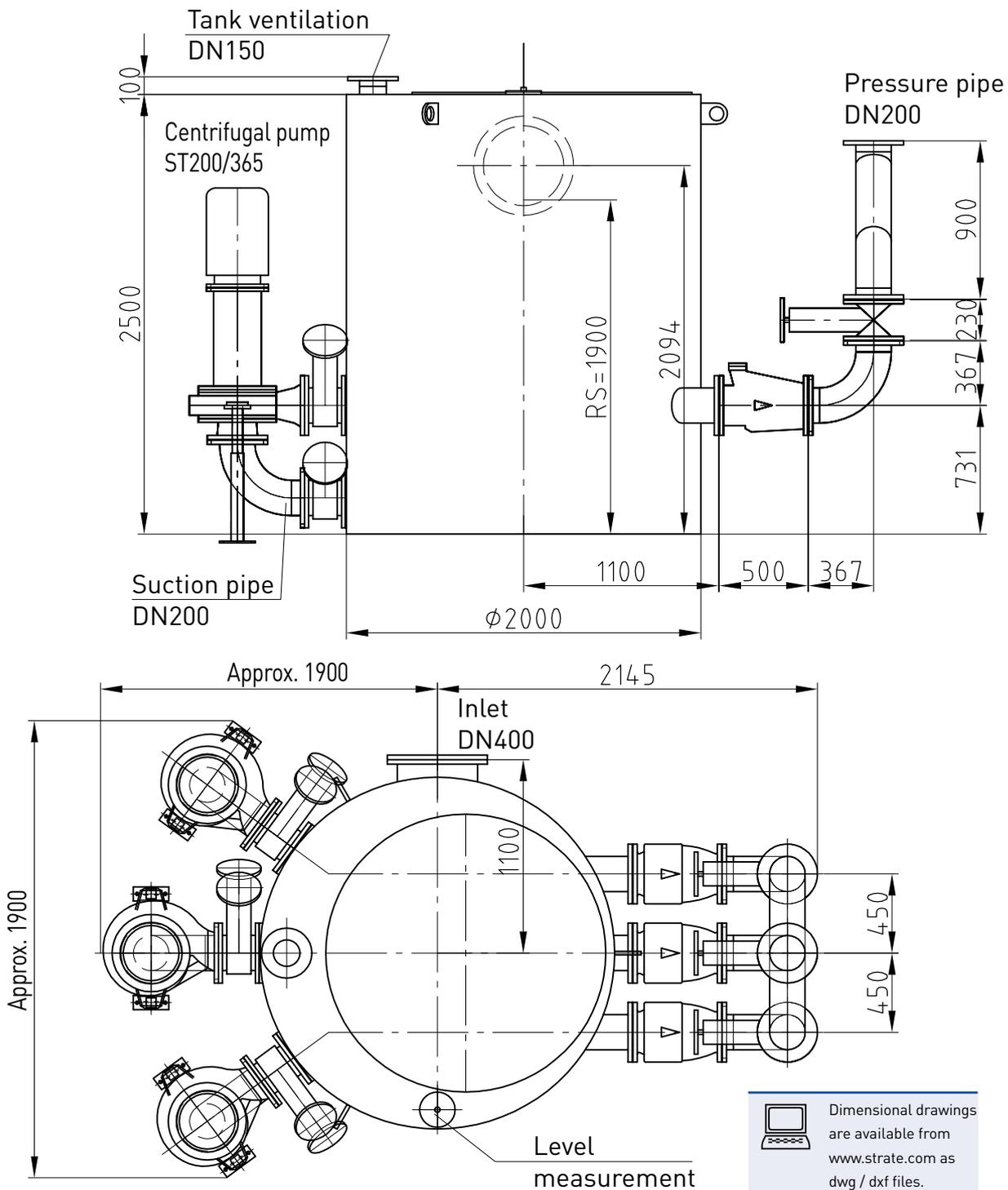


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Scale:	

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## AWALIFT 6/3



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Scale:	

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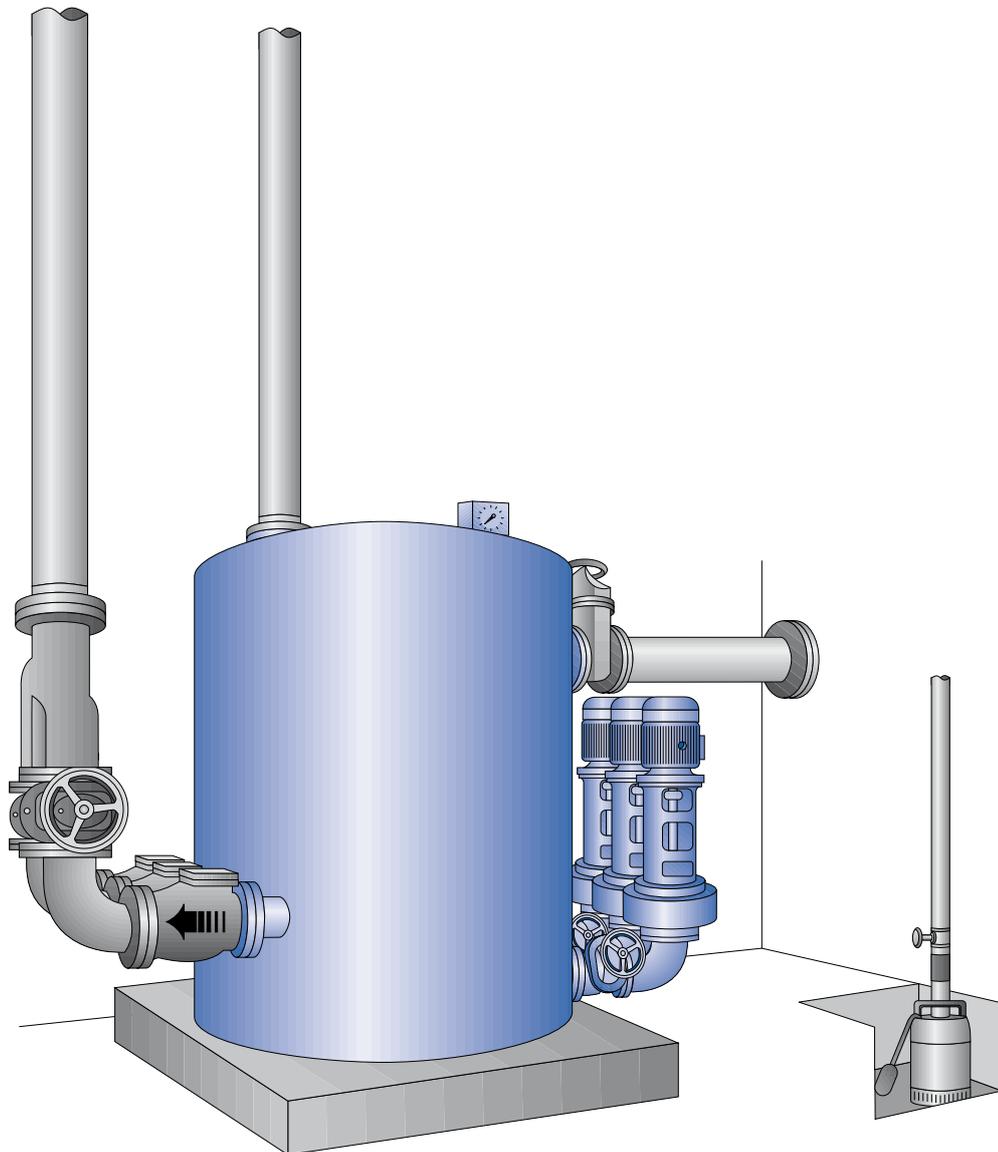
## AWALIFT 7/3

### The sewage pumping station with the STRATE system

#### Area of use:

- Draining towns with up to about 16,300 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**16,300 PE**



# AWALIFT 7/3

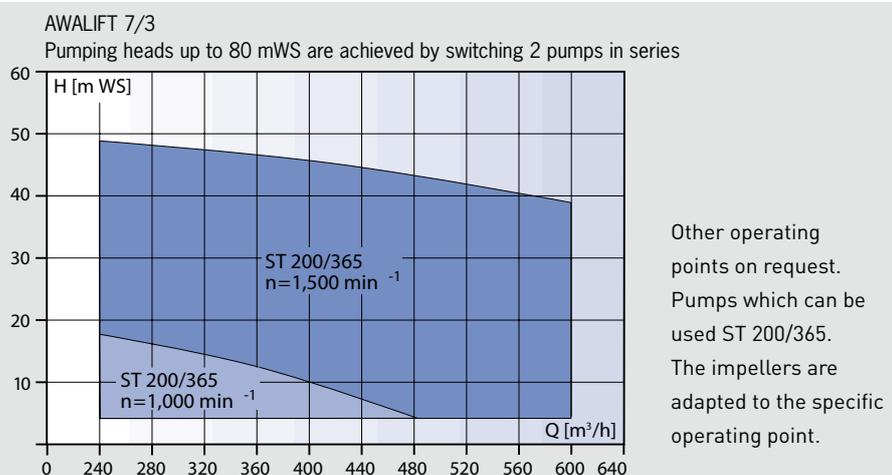
## Technical data

<b>System capacity:</b>	350 m <sup>3</sup> /h raw sewage, 16,300 PE
<b>Pumping head:</b>	up to 40 mWS, AWALIFT 7/3x2 up to 80 mWS
<b>Free passage:</b>	200 mm
<b>Tank dimensions:</b>	Ø = 2500 mm x 2500 mm
<b>Tank contents:</b>	9.0 m <sup>3</sup>
<b>Space requirements:</b>	5500 mm x 4000 mm
<b>Weight:</b>	approx. 3500 kg
<b>Installation opening:</b>	2800 mm x 2800 mm
<b>Inlet height:</b>	1900 mm
<b>Inlet connection:</b>	DN 350 PN 10
<b>Pressure pipe connection:</b>	DN 250 PN 10
<b>Venting and air release:</b>	DN 150 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with three solids collecting chambers
- Three centrifugal pumps and motors according to type and operating location required
- Six pump gate valves
- Three STRATE non-return valves
- One Y-pipe DN 250
- Three pressure pipe gate valves DN 250
- Level measurement

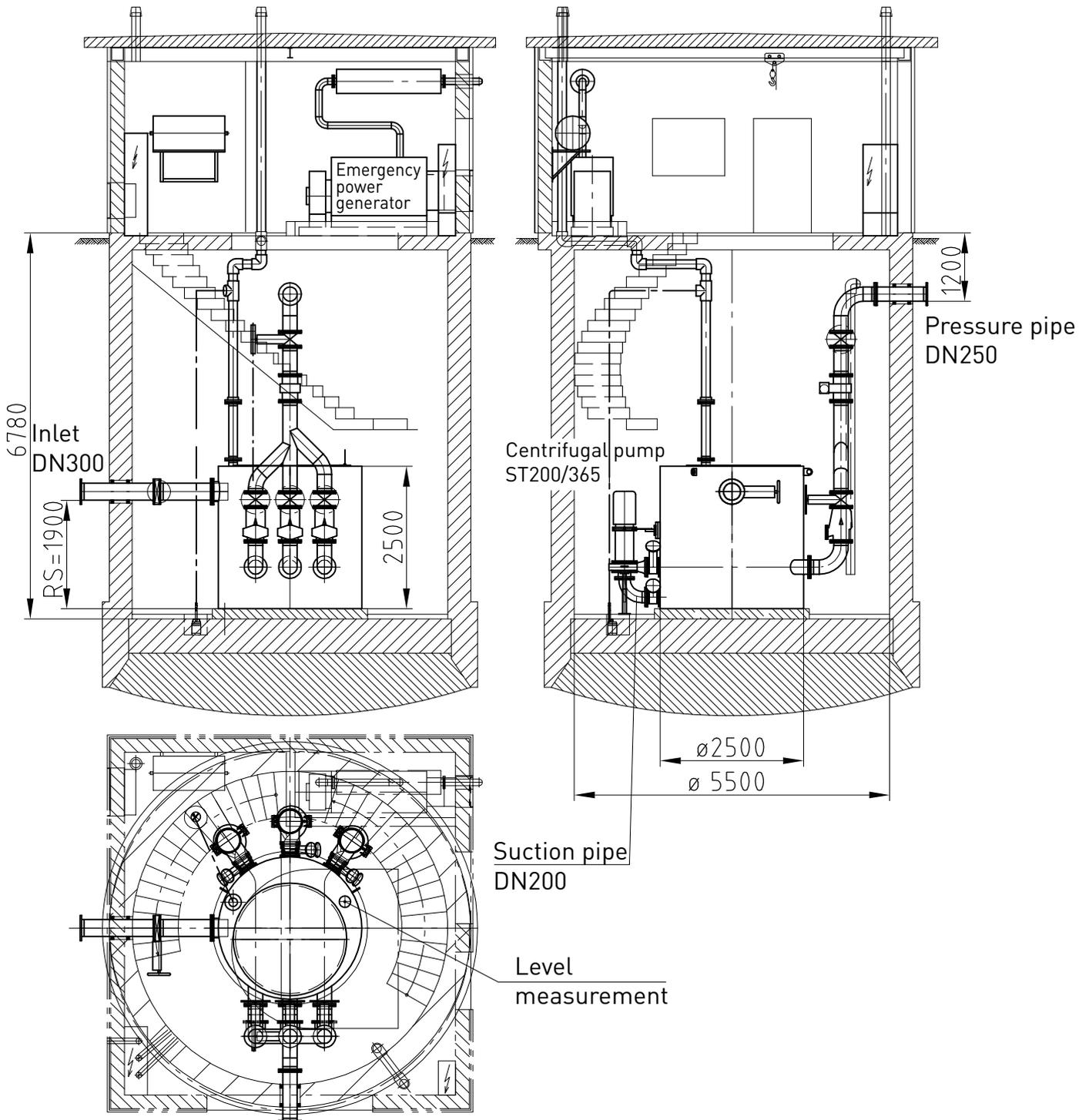
## Accessories:

- Pump control
- Inlet gate valve DN 350
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements



## AWALIFT 7/3

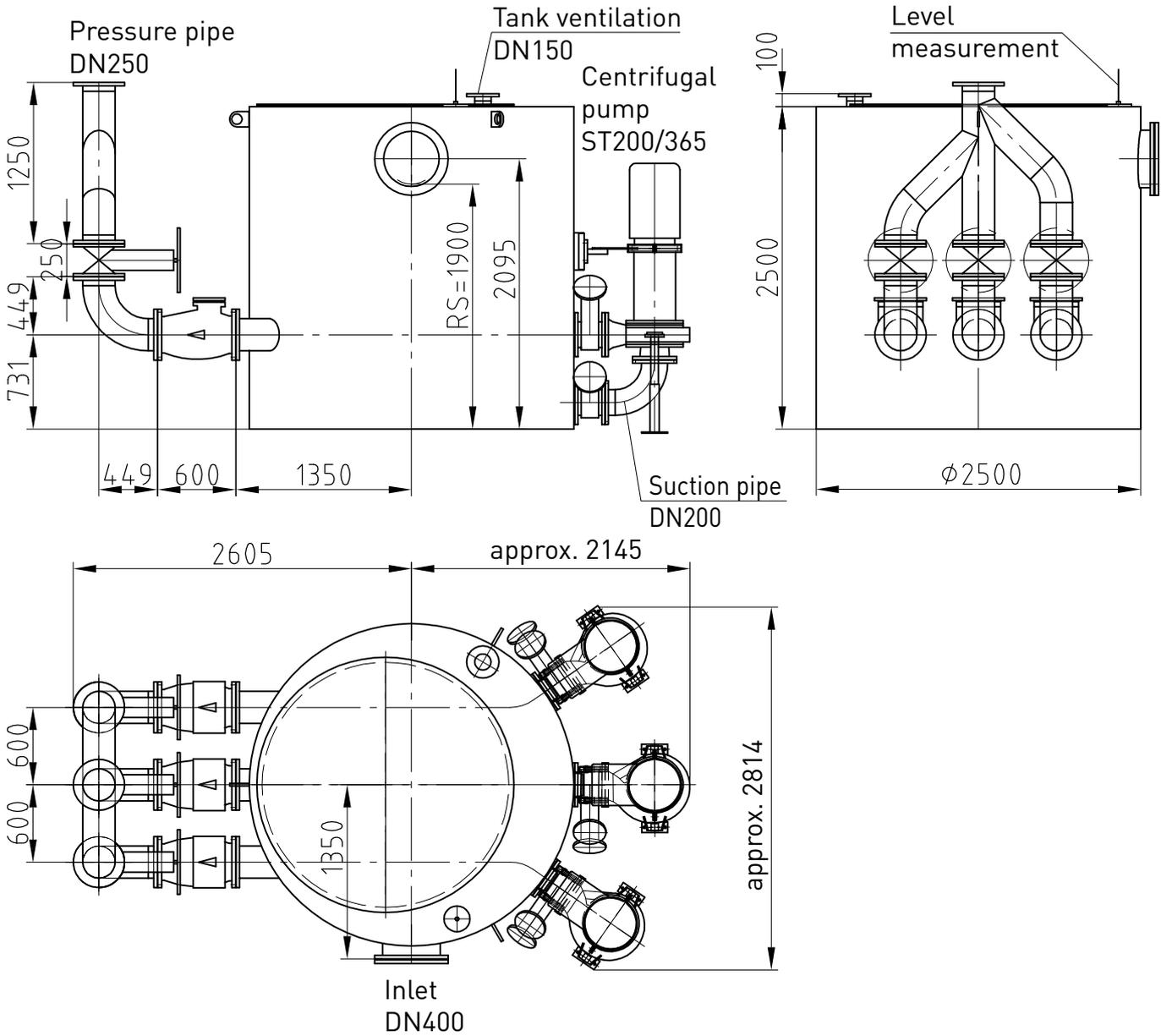


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Scale:	

Subject to technical modifications and errors.



## AWALIFT 7/3



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Scale:	

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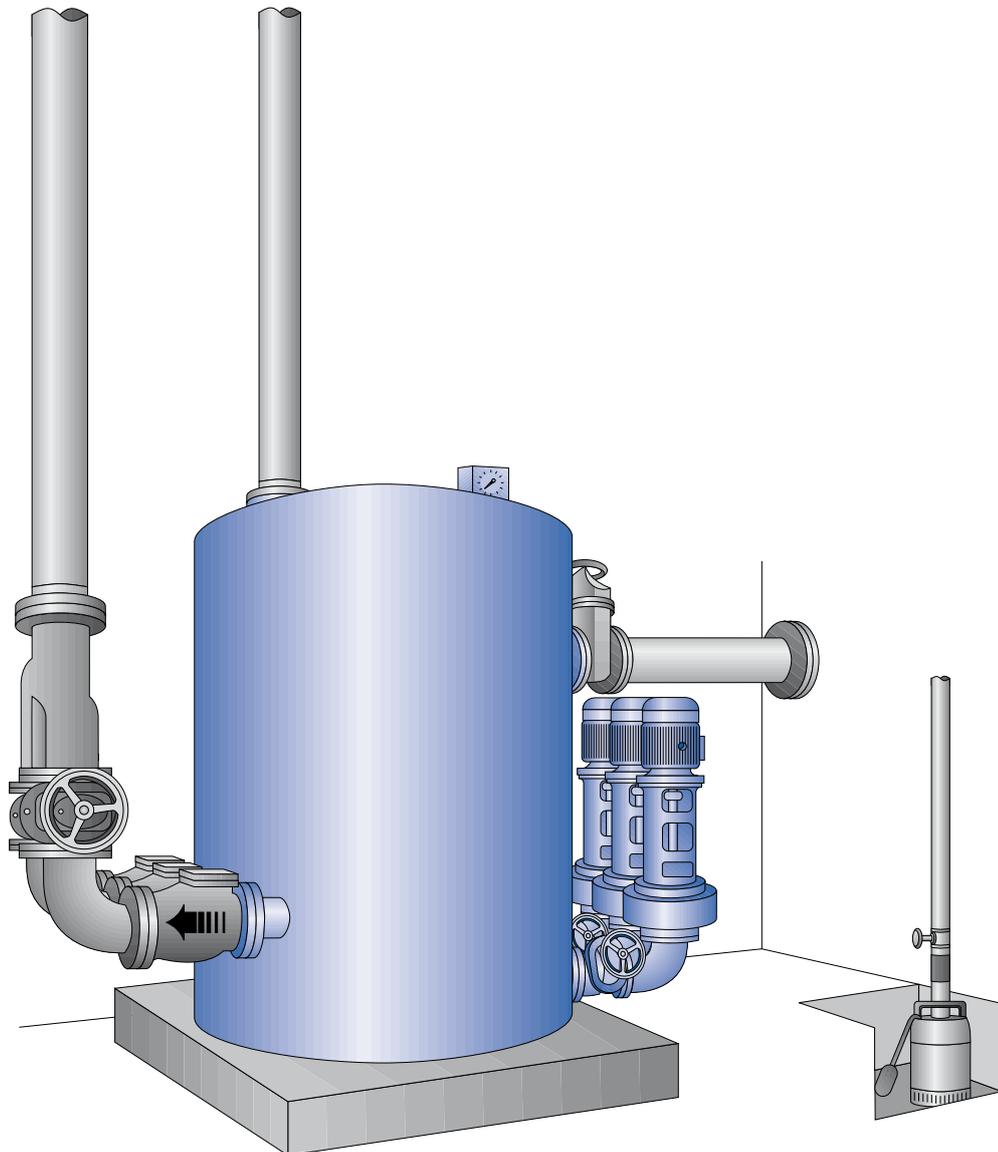
## AWALIFT 8/3

### The sewage pumping station with the STRATE system

#### Area of use:

- Draining towns with up to about 18,600 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**18,600 PE**



# AWALIFT 8/3

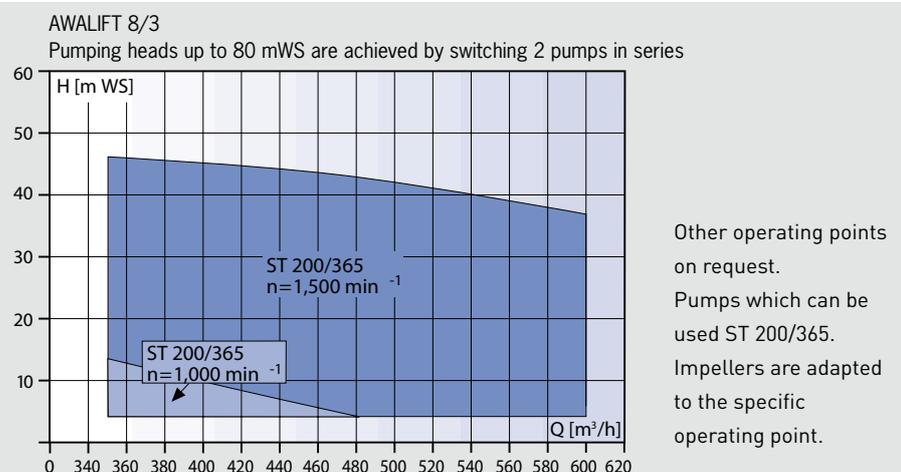
## Technical data

<b>System capacity:</b>	400 m <sup>3</sup> /h raw sewage, 18,600 PE
<b>Pumping head:</b>	up to 40 mWS, AWALIFT 8/3x2 up to 80 mWS
<b>Free passage:</b>	200 mm
<b>Tank dimensions:</b>	Ø = 2500 mm x 3000 mm
<b>Tank contents:</b>	11.0 m <sup>3</sup>
<b>Space requirements:</b>	5500 mm x 4000 mm
<b>Weight:</b>	approx. 3800 kg
<b>Installation opening:</b>	2800 mm x 2800 mm
<b>Inlet height:</b>	2300 mm
<b>Inlet connection:</b>	DN 400 PN 10
<b>Pressure pipe connection:</b>	DN 250 PN 10
<b>Venting and air release:</b>	DN 200 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with three solids collecting chambers
- Three centrifugal pumps and motors according to type and operating location required
- Six pump gate valves
- Three STRATE non-return valves
- One Y-pipe DN 250
- Three pressure pipe gate valves DN 250
- Level measurement

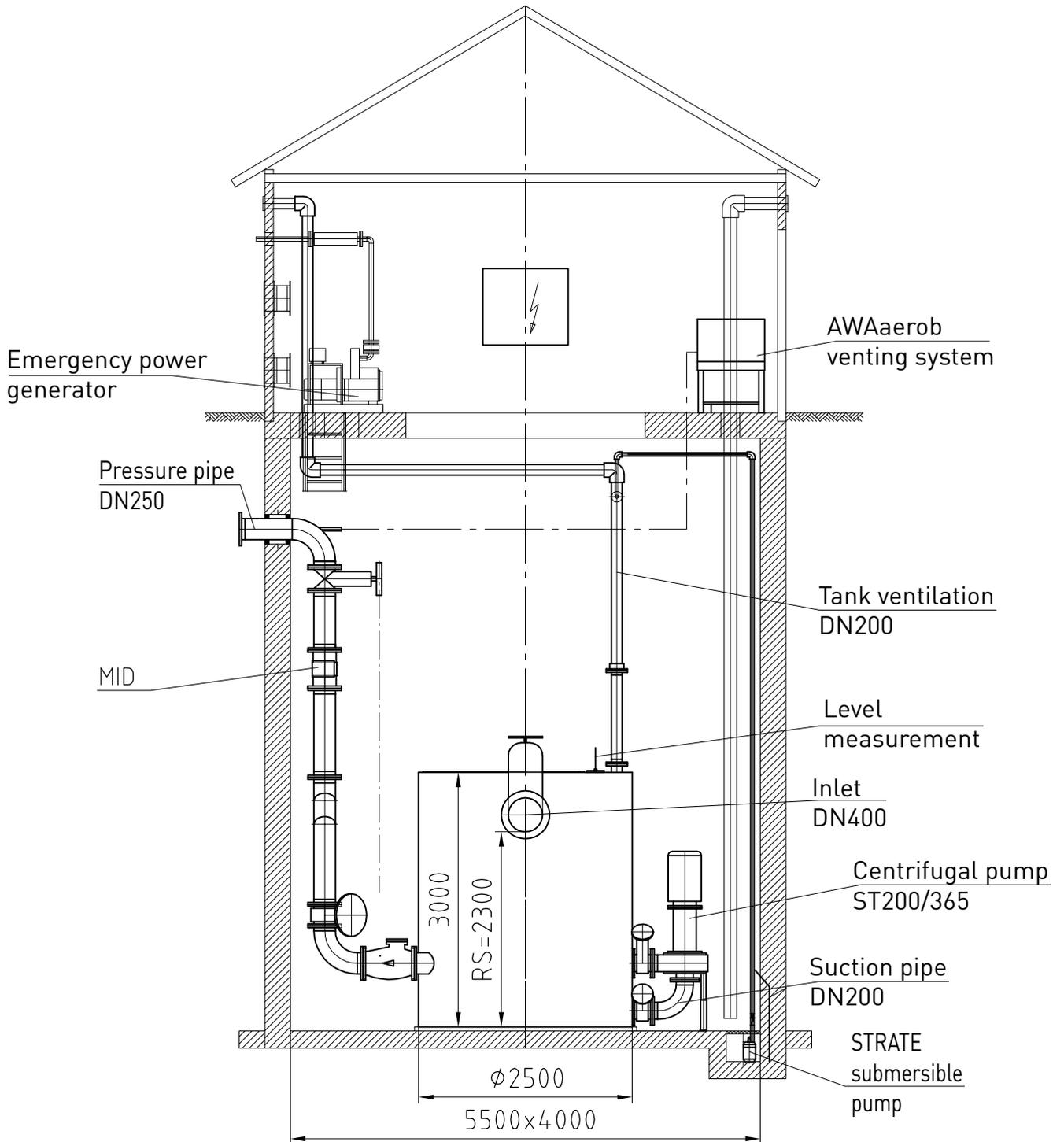
## Accessories:

- Pump control
- Inlet gate valve DN 400
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements



## AWALIFT 8/3

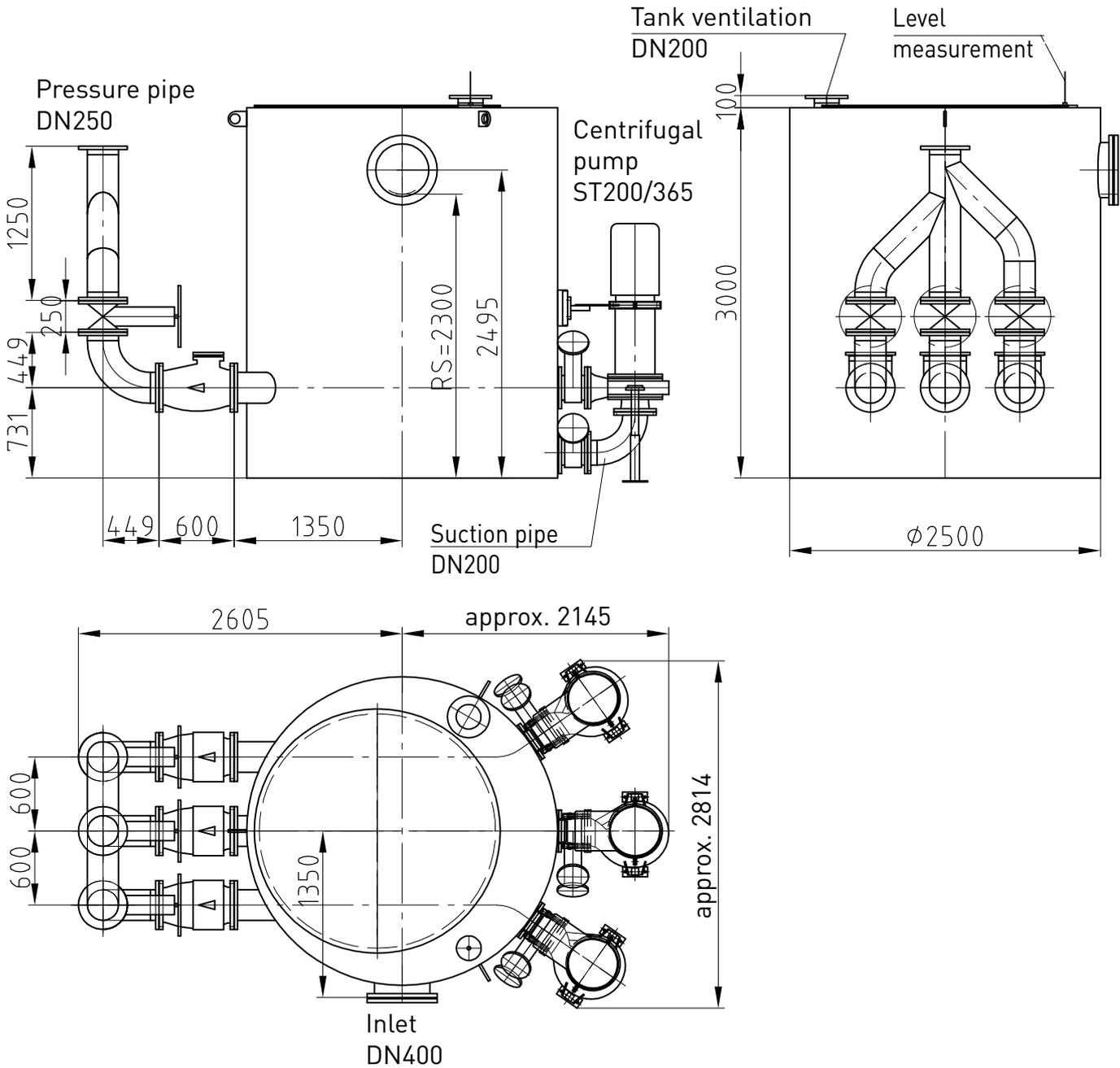


Copyright according to DIN 34	Installation suggestion: AWALIFT 8/3
Scale:	

Subject to technical modifications and errors.



## AWALIFT 8/3



Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg/dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 8/3
Scale:	

Subject to technical modifications and errors.



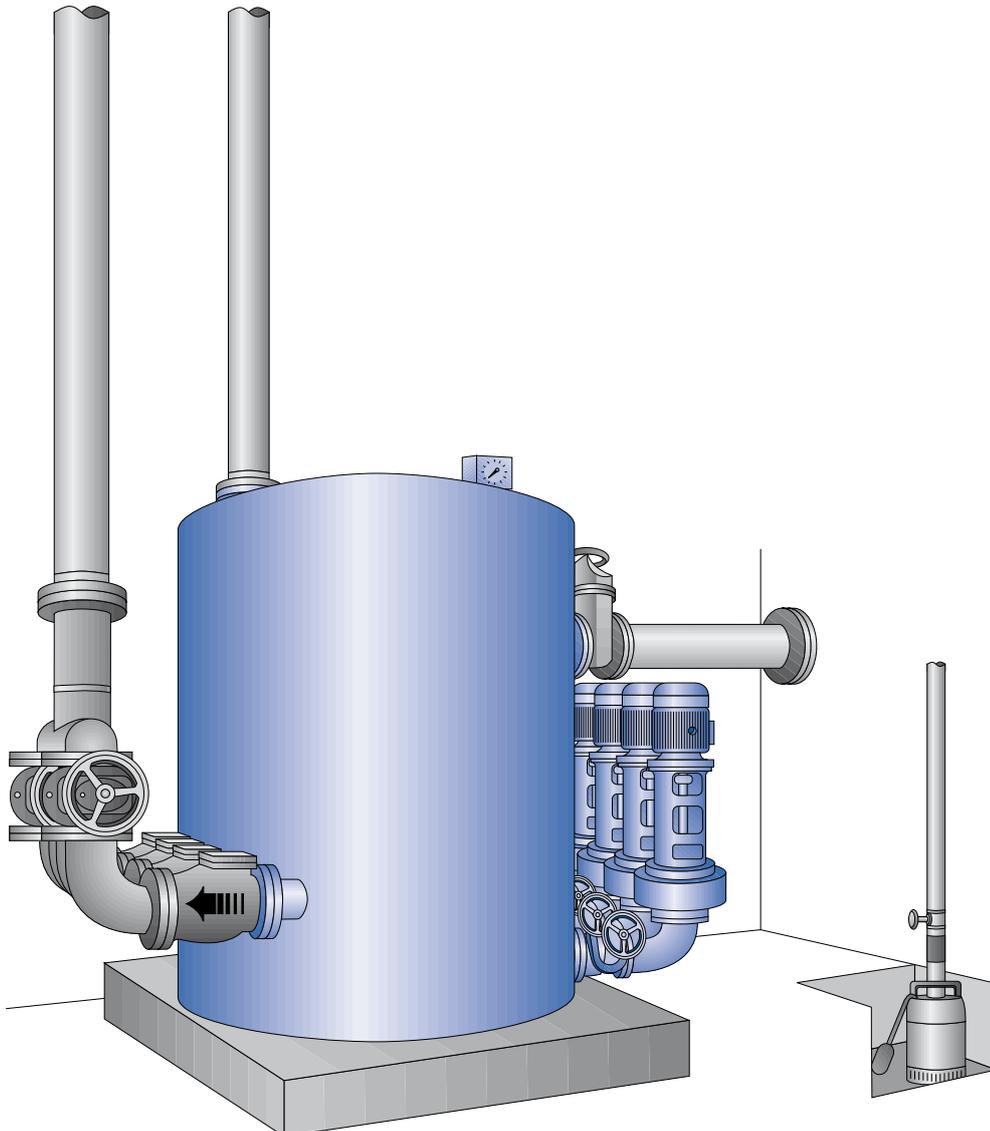
## AWALIFT 9/4

### The sewage pumping station with the STRATE system

#### Area of use:

- Draining towns with up to about 29,000 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**29,000 PE**



# AWALIFT 9/4

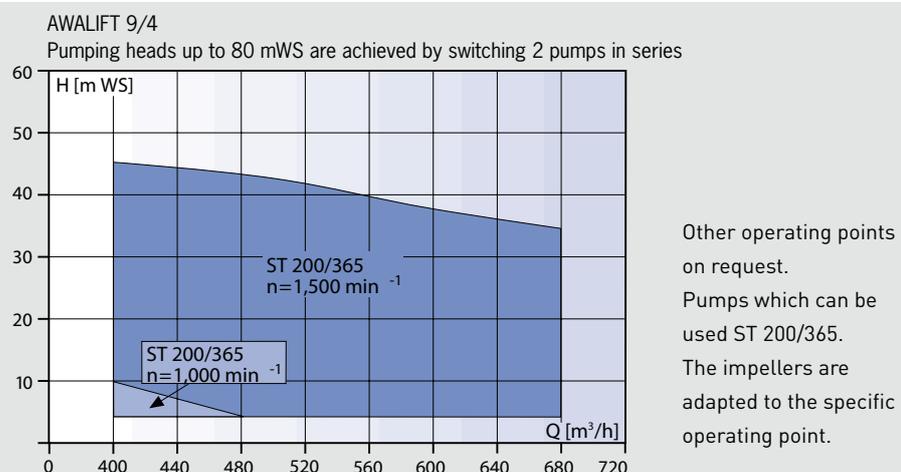
## Technical data

<b>System capacity:</b>	600 m <sup>3</sup> /h raw sewage, 2900 PE
<b>Pumping head:</b>	up to 40 mWS, AWALIFT 9/4x2 up to 80 mWS
<b>Free passage:</b>	200 mm
<b>Tank dimensions:</b>	Ø = 2800 mm x 3000 mm
<b>Tank contents:</b>	14.0 m <sup>3</sup>
<b>Space requirements:</b>	6000 mm x 4600 mm
<b>Weight:</b>	approx. 4500 kg
<b>Installation opening:</b>	3200 mm x 3200 mm
<b>Inlet height:</b>	2300 mm
<b>Inlet connection:</b>	DN 400 PN 10
<b>Pressure pipe connection:</b>	DN 300 PN 10
<b>Venting and air release:</b>	DN 200 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with four solids collecting chambers
- Four centrifugal pumps and motors according to type and operating location required
- Eight pump gate valves
- Four STRATE non-return valves
- One Y-pipe DN 300
- Four pressure pipe gate valves DN 300
- Level measurement

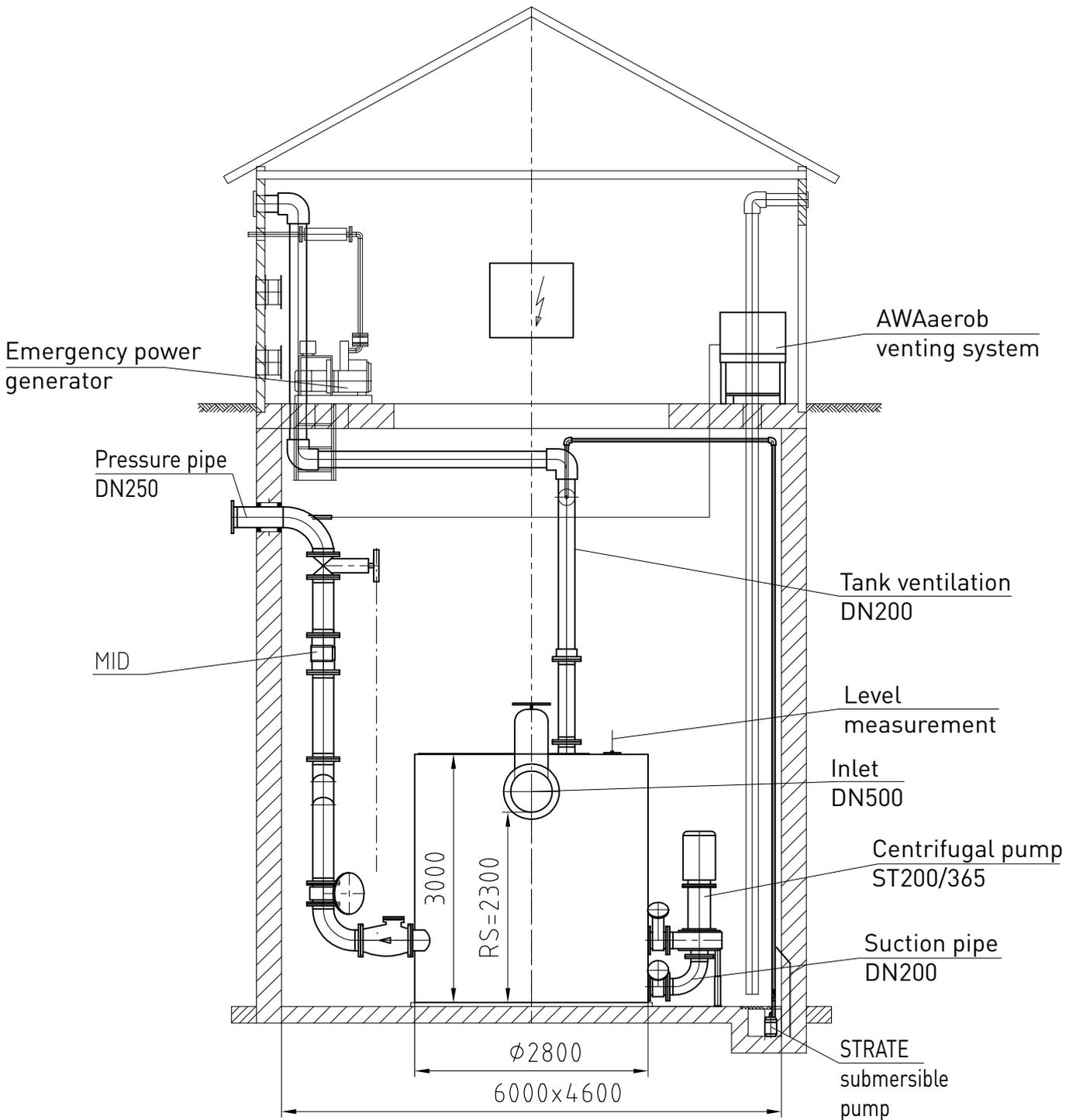
## Accessories:

- Pump control
- Inlet gate valve DN 400
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements



## AWALIFT 9/4

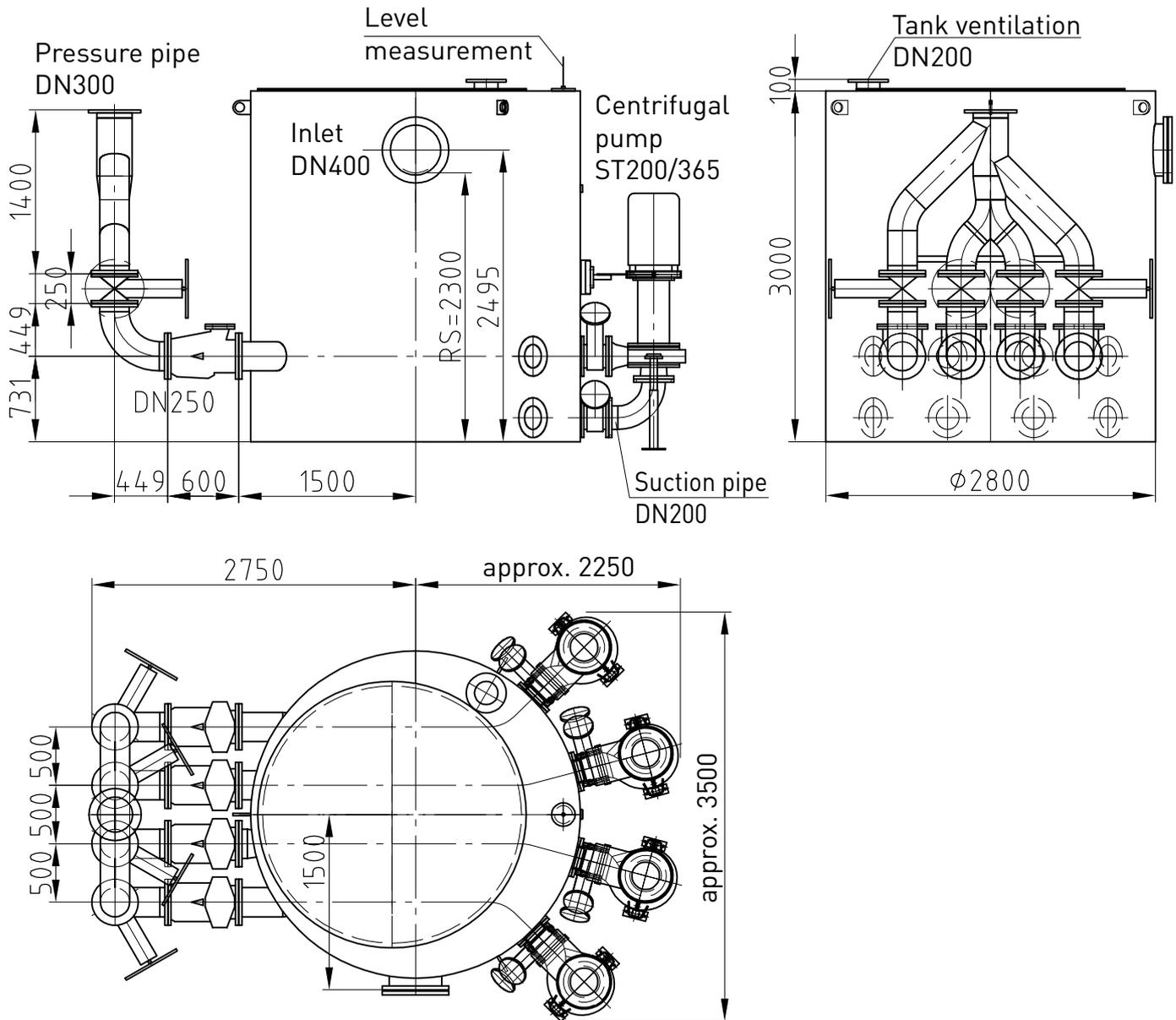


Copyright according to DIN 34	Installation suggestion: AWALIFT 9/4
Scale:	

Subject to technical modifications and errors.



## AWALIFT 9/4



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Copyright according to DIN 34	Dimensional drawing: AWALIFT 9/4
Scale:	

Subject to technical modifications and errors.



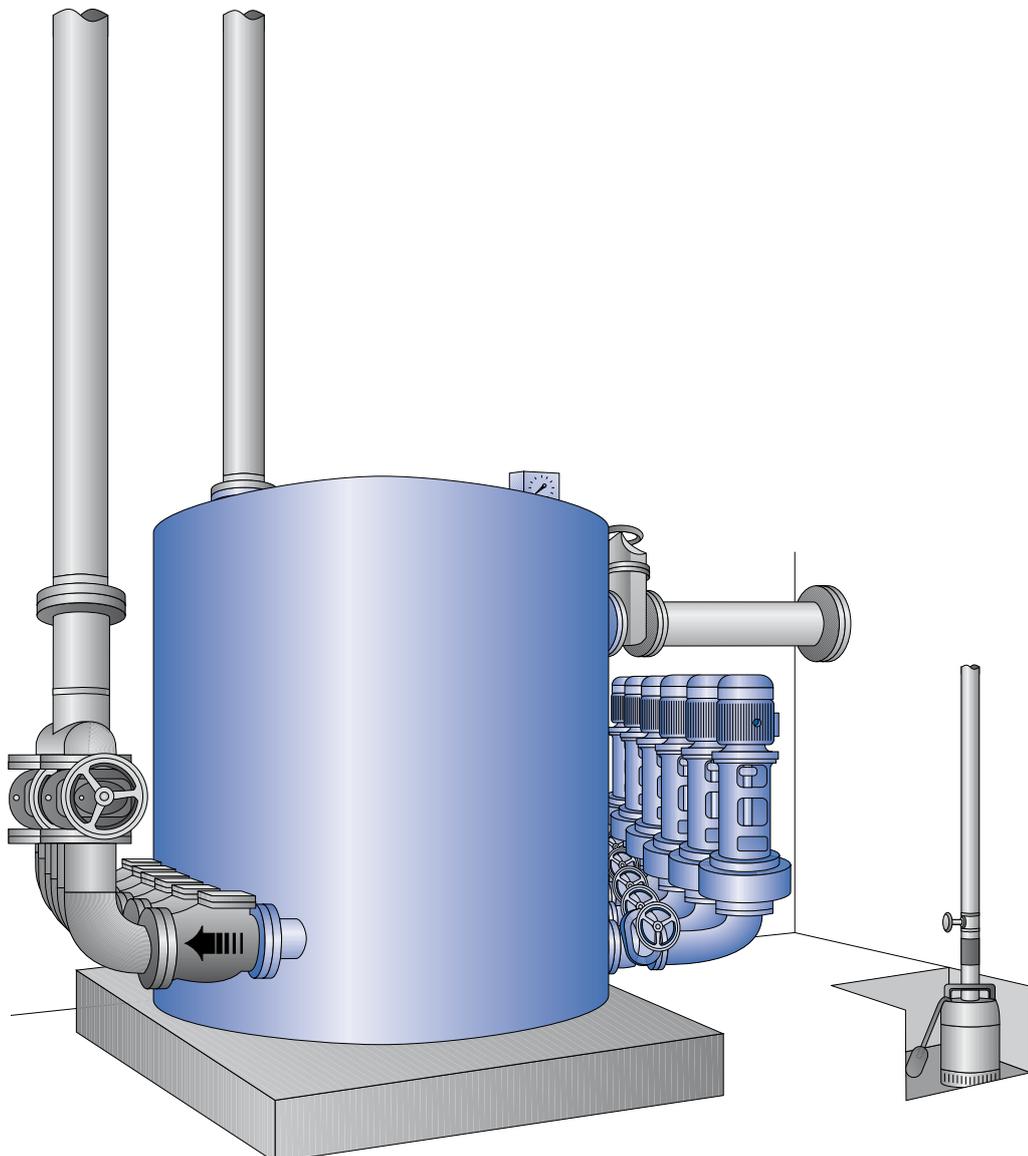
# AWALIFT 10/6

## The sewage pumping station with the STRATE system

### Area of use:

- Draining towns with up to about 37,000 residents which cannot be drained using natural gradient or as an intermediate pumping station within the context of a pressure drainage system
- Residential and industrial areas
- Towns
- Communities
- Infrastructure facilities such as airports, industrial parks, subway systems etc.

Up to  
**37,000 PE**



# AWALIFT 10/6

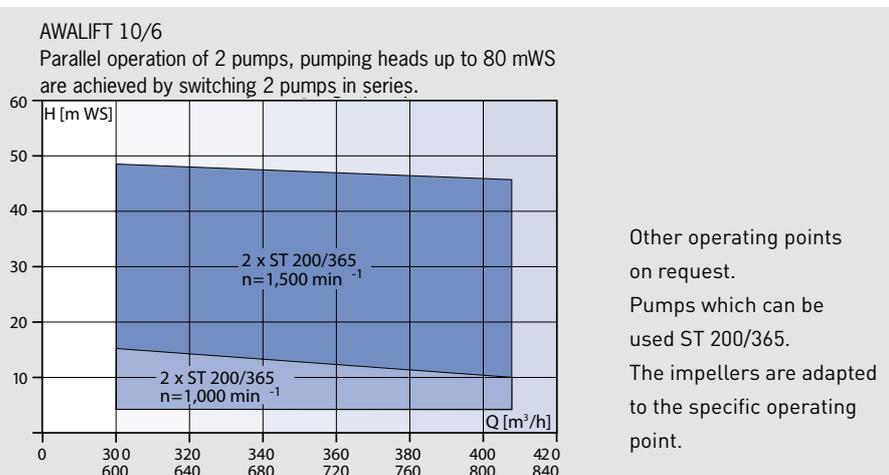
## Technical data

<b>System capacity:</b>	800 m <sup>3</sup> /h raw sewage, 37,000 PE
<b>Pumping head:</b>	up to 40 mWS, AWALIFT 10/6x2 up to 80 mWS
<b>Free passage:</b>	200 mm
<b>Tank dimensions:</b>	Ø = 3800 mm x 3000 mm
<b>Tank contents:</b>	26.0 m <sup>3</sup>
<b>Space requirements:</b>	7500 mm x 6500 mm
<b>Weight:</b>	approx. 6300 kg
<b>Installation opening:</b>	4200 mm x 4200 mm
<b>Inlet height:</b>	2300 mm
<b>Inlet connection:</b>	DN 500 PN 10
<b>Pressure pipe connection:</b>	DN 300 PN 10
<b>Venting and air release:</b>	DN 250 PN 10
<b>Electrical connection:</b>	According to requirement

## Materials

<b>Tank:</b>	S235JR (St37-2)
<b>Pump:</b>	EN-GJL-250 (GG 25)
<b>Coating/corrosion protection:</b>	2-component coating on epoxy resin basis, DB 601 green

## Characteristic curve for pump



Subject to technical modifications and errors.

## Scope of supply:

- One holding tank with six solids collecting chambers
- Six centrifugal pumps and motors according to type and operating location required
- Twelve pump gate valves
- Six STRATE non-return valves
- One Y-pipe DN 300
- Six pressure pipe gate valves DN 300
- Level measurement

## Accessories:

- Pump control
- Inlet gate valve DN 500
- Pipes incl. reducer and transition flanges within the building
- Pig trap
- Basement draining pump
- Alarm and monitoring systems, see control technology
- Inductive quantity measurement
- Emergency power generator
- STRATE venting systems
- STRATE AWALIFT shaft
- STRATE service building
- STRATE assembly and maintenance

Special accessories according to your requirements

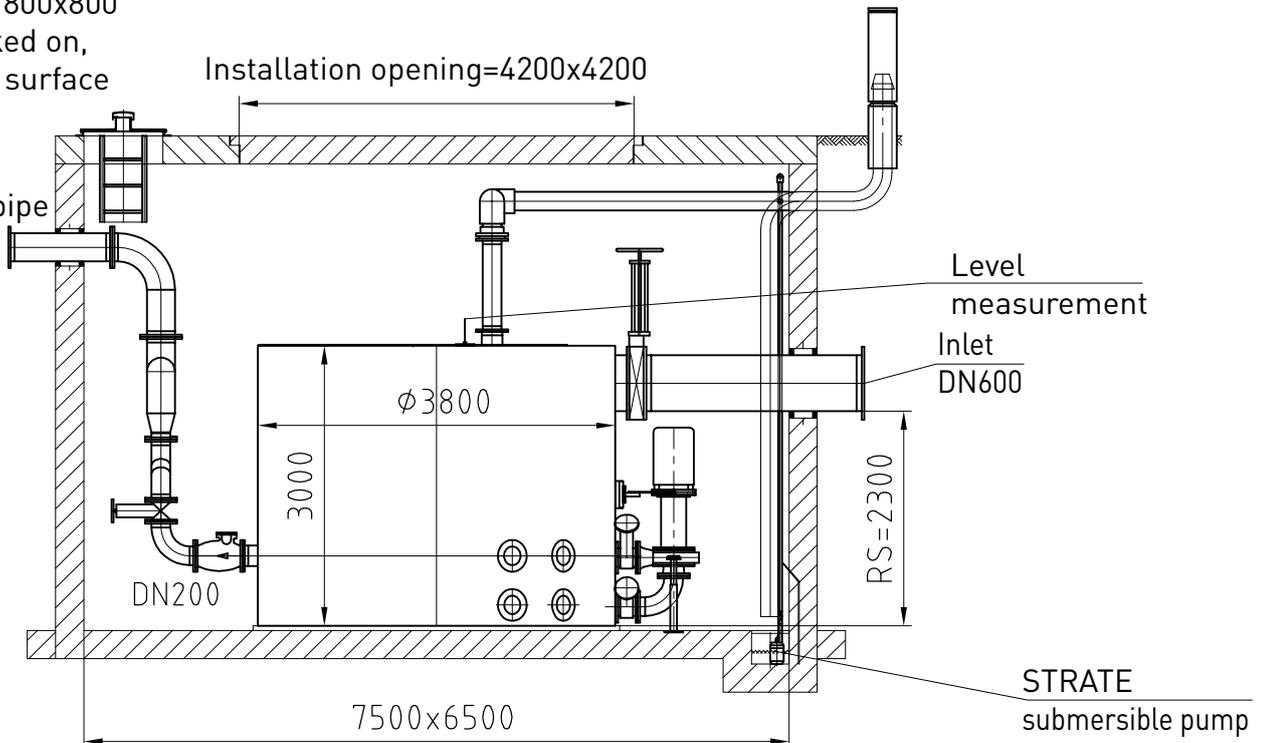


## AWALIFT 10/6

Shaft cover 800x800  
can be walked on,  
resistant to surface  
water

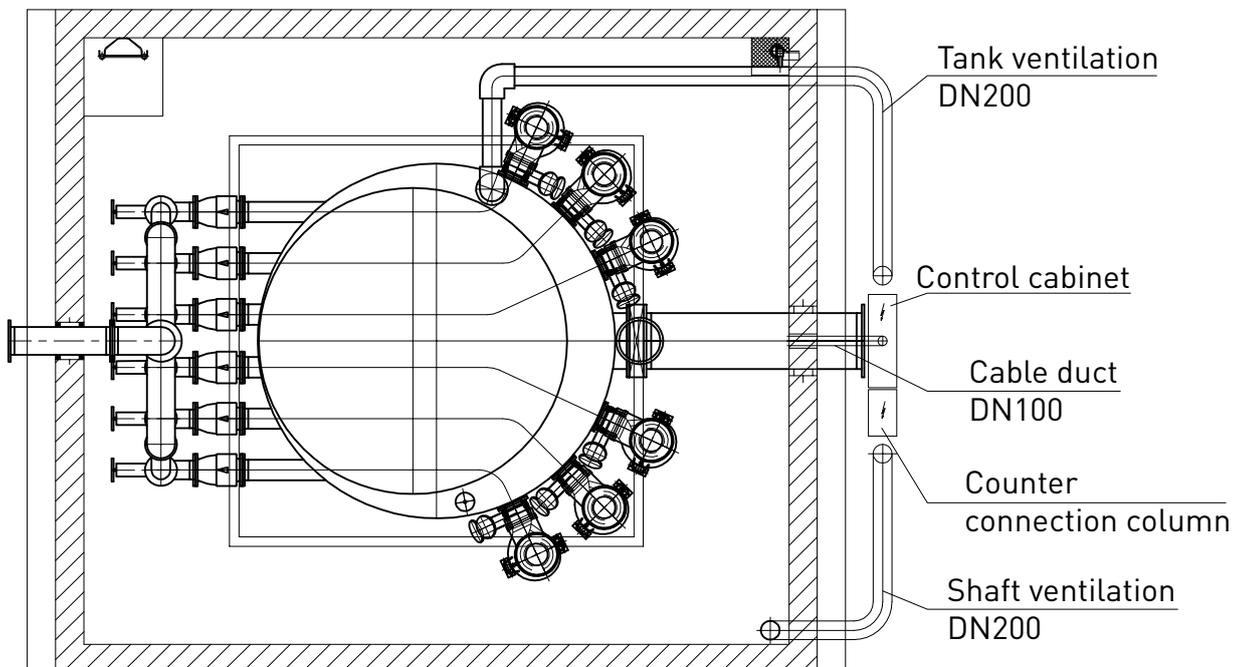
Pressure pipe  
DN300

Installation opening=4200x4200



Level  
measurement  
Inlet  
DN600

STRATE  
submersible pump



Tank ventilation  
DN200

Control cabinet

Cable duct  
DN100

Counter  
connection column

Shaft ventilation  
DN200

Copyright according to DIN 34

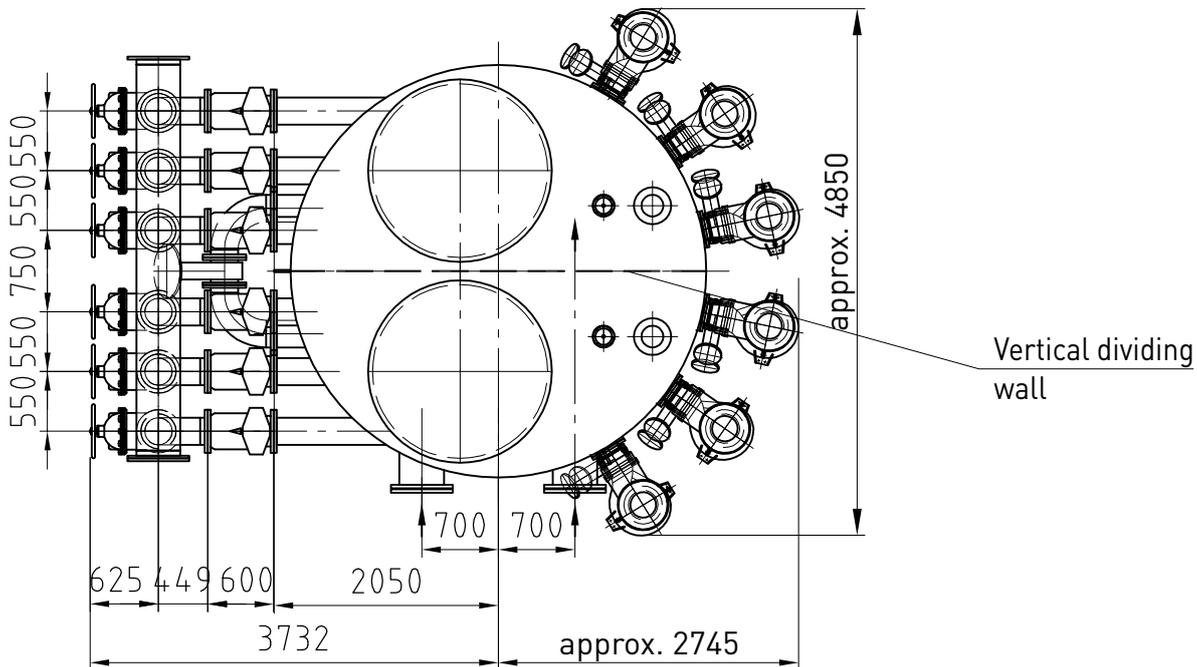
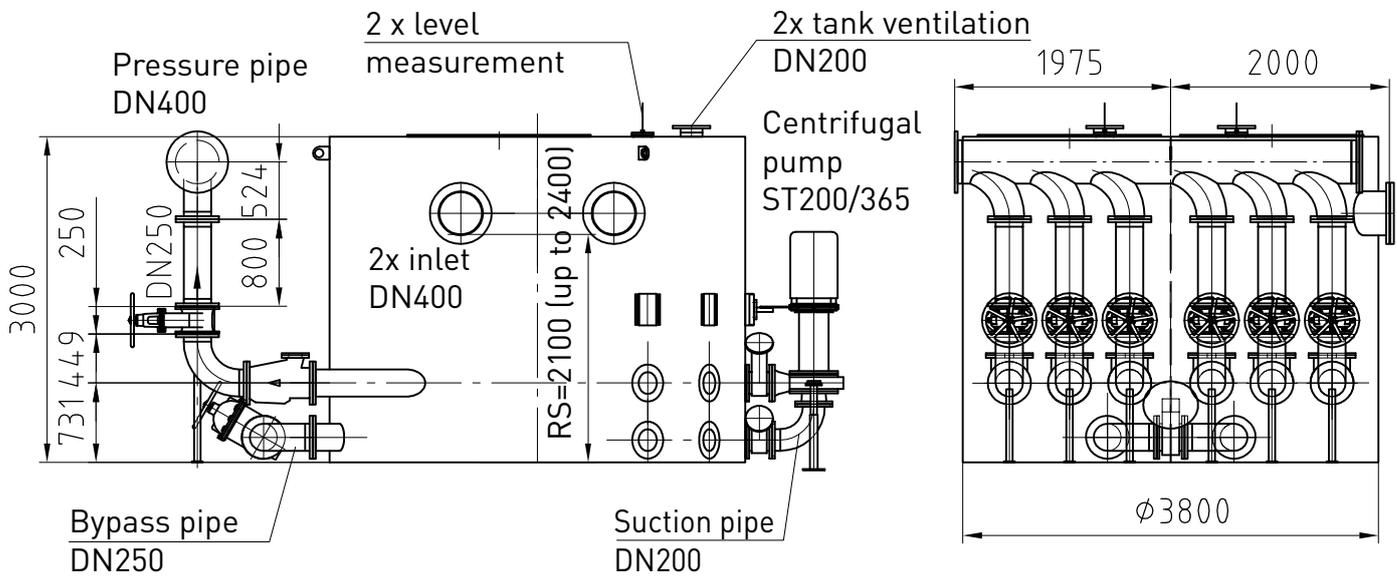
Scale:

Installation suggestion: AWALIFT 10/6

Subject to technical modifications and errors.



# AWALIFT 10/6



Dimensional drawings are available from [www.strate.com](http://www.strate.com) as dwg/dxf files.

Copyright according to DIN 34	Dimensional drawing: AWALIFT 10/6 with dividing wall - Example -
Scale:	

Subject to technical modifications and errors.

# Control technology

## STRATE control technology

### Tried-and-trusted future-proof systems optimise your specific application case

STRATE offers one-stop shopping for complete solutions. The subject of "control technology" can become very extensive when e.g. strong fluctuations in sewage occurrence, safe operation of the pressure pipe or different expansion stages of a pumping station require a clever pump control in order to make economic and user-friendly operation possible whilst retaining maximum availability. We will be happy to help you with the selection of the system components you need. We can of course also advise you on upgrading existing control solutions.

- Benefit from the advantages of a complete solution and the use of components which have been carefully matched.

STRATE control technology:

#### **AWAmaster compact control systems:**

are small, compact control systems which contain all the important functional components, operating elements and displays for the operation of a STRATE sewage pumping station. The pump control micro-processor and all functional modules are united on one PCB. The capacity of a compact control system is limited to 4 kW per pump.

#### **AWAcontrol control technology:**

controls STRATE sewage pumping stations with an installed capacity of up to 75 kW per pump. The use of freely programmable pump control systems and other functional components such as gentle start-up, frequency converter etc. allow "intelligent" and

often customer-specific control and monitoring of the station.

#### **Level measuring systems:**

Measure the filling level in a STRATE sewage pumping station. They transmit switch-on and switch-off impulses and alarm signals (e.g. backwater) to the pump control. Both single systems and twin systems are used for increased operational safety. Single systems use a pressure tube or pressure sensor; twin systems are a combination of pressure tube and pressure sensor.

#### **Accessories:**

- **Accessories**

Magnetic-inductive flow meters allow the precise and inexpensive determination of the pumped sewage quantity. There are different compact devices available; the measuring signal can either be transmitted via a current or impulse output to the data recorder, fault message transmission or e.g. to the pump control.

- **Data recording**

Within the context of state monitoring and diagnosis of the machine technology used, it is vital for operating staff to record operating data such as daily pumping quantity or pump operating hours. In the AWAcontrol cabinet on site, data recording

systems such as paperless or paper recorders are used.

- **Alarm and fault message transmission**

Any fault messages are picked up by the alarm on site, indicated by optical and acoustic signals and transmitted to staff on standby duty as required either by text or voice message to a mobile or landline phone.

- **Telecontrol systems**

Monitor and control groups of pumping stations from one central point.

- **Further accessories**

Further useful components such as the level relay with 2 electrodes for detecting water leaking into a building supplement the range.





## Control technology

### STRATE control technology – areas of application

Area of application	Number of pumps	Motor rating/pump	AWAmaster compact control system		AWAcontrol control technology	
			AWAmaster 1	AWAmaster 2	2DFmaster	DF4
Building services engineering (single systems)	1	0.75 – 4.0 kW	X	-	-	-
		5.5 kW	-	-	X	X
Building engineering and municipal applications (twin systems)	2	0.75 – 4.0 kW	-	X	X	X
		5.5 – 11.0 kW	-	-	X	X
Municipal applications	2	0.75 – 4.0 kW	-	X	X	X
		1.5 – 75.0 kW	-	-	X	X
	2-6	1.5 – 75.0 kW	-	-	-	X

Customer-specific pump control on request

### System components – areas of application

Accessories	Level measuring system			Flow meter	Evaluation unit	Alarm/fault message device	Telecontrol
	Pressure tube SR single system	Sensor single system	Sensor and contact sensor (twin system)				
<b>Sewage pumping stations for building services engineering (single systems)</b>							
AWALIFT 100	S	X	X	X	X	X	X
AWALIFT 74/1	S	X	X	X	X	X	X
AWALIFT 0/1	S	X	X	X	X	X	X
<b>Sewage pumping stations for building services engineering and municipal applications (twin stations)</b>							
AWALIFT 74/2	S	X	X	X	X	X	X
AWALIFT 0/2	S	X	X	X	X	X	X
AWALIFT 1/2	S	X	X	X	X	X	X
<b>Sewage pumping stations for municipal applications</b>							
AWALIFT 1/2x2	X	S	X	X	X	X	X
AWALIFT 1/2 penta	X	S	X	X	X	X	X
AWALIFT 2/2 penta	--	S	X	X	X	X	X
AWALIFT 2/2 flat	--	S	X	X	X	X	X
AWALIFT 2/2 round	--	S	X	X	X	X	X
AWALIFT 2/2x2	--	S	X	X	X	X	X
AWALIFT 3/2	--	S	X	X	X	X	X
AWALIFT 4/2	--	S	X	X	X	X	X
AWALIFT 5/2	--	S	X	X	X	X	X
AWALIFT 6/2	--	S	X	X	X	X	X
AWALIFT 6/3	--	S	X	X	X	X	X
AWALIFT 7/3	--	S	X	X	X	X	X
AWALIFT 8/3	--	S	X	X	X	X	X
AWALIFT 9/4	--	S	X	X	X	X	X
AWALIFT 10/6	--	S	X	X	X	X	X

Legend: X Equipment/accessory possible

S Standard equipment

-- Combination not possible

# Compact control system **AWA**master 1

## STRATE control technology AWAmaster compact control systems

Compact control system with micro-processor technology for controlling STRATE sewage pumping stations with one pump and an installed motor rating of up to 4 kW

- Are particularly suitable for building services engineering (single systems)
- Do not require a separate control cabinet

The compact control system AWAmaster 1 contains the pump control module as well as all the important operating elements and displays required for the process control of STRATE sewage pumping stations. All functional modules are united on one PCB. As a proven and efficient system component, the outstanding features of the AWAmaster 1 are its excellent user-friendliness and functionality.

### Overview of the main functions:

- Parameter setting through digital potentiometer: switching points, times and motor current limitation
- Control dependent on filling level in connection with the level measuring systems pressure tube SR, analogue sensor AS, contact sensor MB, float switch
- Control dependent on filling level in connection with the level measuring system MBAS-BN. The redundant twin measuring system MBAS-BN automatically switches to the second system if one sensor fails and also generates a fault message.
- Selection possibility for operating states: automatic, manual and off
- LED display for operating states and fault messages
- Fault messages are triggered via three relay contacts
- Integrated alarm
- Transmission of fault messages can be integrated in the function chain
- CEE plug, ready for connection





## Compact control system AWA master 1

### Technical data

<b>Capacity range:</b>	up to 4 kW, max. 1 pump
<b>Operating voltage:</b>	400 V / AC / 50 Hz (L1 – L3, N, PE)
<b>Control voltage:</b>	230 V / AC / 50 Hz
<b>Switch-on delay:</b>	0 – 180 sec.
<b>Stopping time:</b>	0 – 180 sec.
<b>Temperature range:</b>	– 20 to + 60 °C
<b>Enclosure rating:</b>	IP 65
<b>Housing:</b>	Polycarbonate
<b>Pressure range:</b>	0 – 1 mWs
<b>Power consumption:</b>	max. 6 VA
<b>Alarm contact 230V:</b>	1A
<b>Alarm contacts potential-free:</b>	3A
<b>Motor current limitation:</b>	0.3 – 10 A
<b>Fuse:</b>	5 20 1AT (alarm output)
<b>Dimensions (W x H x D):</b>	180 x 300 x 105 mm

### Scope of supply:

- Compact control system AWAmaster 1 in plastic housing
- Ready for connection with 1.5 m cable and CEE plug 16 A, 5-pole

### Accessories:

- Alarm unit with acoustic and optical alarm signals
- Fault message systems:
  - Text message (GSM modem)
  - Voice message (automatic telephone dialler)

### Display (LCD)

#### Normal operation:

The top line always shows the filling level. The bottom line shows pump running times in the unit "hours". When the pump is in operation, the motor current is displayed in the unit "amperes".

#### Faults:

Any faults that have occurred are displayed alternately on the bottom line on the display.

#### Operating elements:

The digital potentiometer is used for the easy and safe setting of the operating parameters. The digital potentiometer can also be used to retrieve all the operating parameters, fault messages, operating hours and motor current consumption and have them shown on the display.

### Features:

- LCD plain text display
- Thermal and electrical monitoring of the motor
- Manual – 0 – Automatic function
- Pump switch-off through time or switch-off point
- Acknowledgement button
- Operating hours counter
- Ammeter
- Electronic monitoring of the motor current
- Forced pump switch-on
- Variable graduated start-up (switch-on delay)
- Internal acoustic alarm
- Collective fault message potential-free and potential-bound
- Flood alarm potential-free
- All settings and fault messages retained after power failure (battery back-up not required)
- Reserve inputs for float switch, telecontrol module or other (are only equipped if necessary and integrated in the program)
- Input for locking the pumping station

# Compact control system **AWA**master 2

## STRATE control technology AWAmaster compact control systems

Compact control systems with micro-processor technology for controlling STRATE sewage pumping stations with two pumps each and an installed motor rating of up to 4 kW per pump

- Are particularly suitable for building services engineering and municipal applications (twin systems)
- Do not require a separate control cabinet

The compact control system AWA-master 2 contains the pump control module as well as all the important operating elements and displays

required for the process control of STRATE sewage pumping stations. All functional modules are united on one PCB. As a proven and efficient system component, the outstanding features of the AWAmaster 2 are its user-friendliness and functionality.

### Overview of the main functions:

- Control of the automatic alternate switching of the pumps
- Fault management through automatic switchover to the redundant pump in the event of a fault

- Parallel operation of both pumps to cope with increased sewage volume (e.g. during heavy rain)
- Control dependent on filling level in connection with the level measuring systems pressure tube SR, analogue sensors AS and HWAS, contact sensor MB or float switch

- Control dependent on filling level in connection with a twin measuring system e.g. MBAS-BN or HWAS-BN. The redundant measuring system automatically switches to the second system if one pressure sensor fails and also generates a fault message.

- Selection possibility for operating states: automatic, manual and off

- LED display for operating states and fault messages

- Adaptation of the system settings to operating conditions (switching points, times, motor current limitation) by actuating the digital potentiometer and acknowledge button

- Integrated alarm

- Transmission of fault messages can be integrated in the function chain

- CEE plug, ready for connection





## Compact control system AWA master 2

### Technical data

<b>Capacity range:</b>	up to 4 kW, max. 2 pumps
<b>Operating voltage:</b>	400 V / AC / 50 Hz (L1 – L3, N, PE)
<b>Control voltage:</b>	230 V / AC / 50 Hz
<b>Switch-on delay:ltverzögerung:</b>	0 – 180 sec.
<b>Stopping time:</b>	0 – 180 sec.
<b>Temperature range:</b>	– 10 to + 60 °C
<b>Enclosure rating:</b>	IP 65
<b>Housing:</b>	Polycarbonate
<b>Pressure range:</b>	0 – 2 mWs
<b>Power consumption:</b>	max. 20 VA
<b>Alarm contact 230V:</b>	1A
<b>Alarm contacts potential-free:</b>	3A
<b>Motor current limitation:</b>	0.3 – 12 A
<b>Fuse:</b>	5 20 1AT (alarm output)
<b>Dimensions (W x H x D):</b>	320 x 300 x 135 mm

### Scope of supply:

- Compact control system AWA master 2 in plastic housing
- Ready for connection with 1.5 m cable and CEE plug 16 A, 5-pole

### Display (LCD)

#### Normal operation:

The top line always shows the filling level. The bottom line shows pump running times in the unit "hours". When the pump is in operation, the motor current is displayed in the unit "amperes".

#### Faults:

Any faults that have occurred are displayed alternately on the bottom line on the display.

### Accessories:

- Alarm unit with acoustic and optical alarm signals
- Fault message systems:
  - Text message (GSM modem)
  - Voice message (automatic telephone dialler)

#### Operating elements:

The digital potentiometer is used for the easy and safe setting of the operating parameters. The digital potentiometer can also be used to retrieve all the operating parameters, fault messages, operating hours and motor current consumption and have them shown on the display.

### Features:

- LCD plain text display
- Thermal and electrical monitoring of the motors
- Manual – 0 – Automatic functions
- Pump switch-off through switch-off point with run-on time
- Acknowledgement button
- Electronic monitoring of the motor current
- Forced switch-on, switchover and alternation of pumps
- Variable graduated start-up (switch-on delay)
- Internal acoustic alarm
- Collective fault message potential-free and potential-bound
- Backwater alarm potential-free
- All settings and fault messages retained after power failure
- Operating hours counter and ammeter
- High resistance to interference
- Simple operation
- Level recorded either by internal pressure transducer, external 4 – 20 mA probe or float switch
- Relay outputs for collective fault message, fault pump 1, fault pump 2 and backwater, as well as a reserve input make connection to telecontrol systems possible.
- Input for locking the pumping station



## **AWAcontrol** Control technology

### **STRATE control technology** **AWAcontrol control cabinets**

STRATE AWAcontrol control technology is

- Future-proof in accordance with the latest technical standard and legal requirements
- Always top, tried-and-trusted quality
- Optimally adapted to the properties of STRATE sewage pumping stations
- Suitable for versatile supplementation through hardware extension and programming to meet customer requirements
- Housed in high-quality control cabinets made of plastic, powder-coated steel or stainless steel
- Default hierarchy levels make operation and parameter setting easy and safe e.g. for maintenance staff, sewage plant foremen, STRATE service staff
- Set up through a standard interface for data transmission and for fault message transmission by GSM modem



BS control cabinet



**AWA**control  
Control technology



KS control cabinet



ED control cabinet

# AWAcontrol system 2DFmaster

## STRATE control technology AWAcontrol control cabinets with 2DFmaster pump control

2DFmaster AWAcontrol control system for STRATE sewage pumping stations with two pumps each and an installed overall motor rating of 0.75 kW to 75 kW each

- Is particularly suitable for building services engineering and municipal applications (twin systems)
- Offers outstanding ease of use and functionality of the AWAmaster technology also for pumping capacities over 4 kW

In addition to the pumping control module 2DFmaster, the 2DFmaster control system contains other capacity-dependent functional components and displays in familiar control cabinet design. Many of the important operating elements and displays for the process control of STRATE sewage pumping stations are already combined in the separate control panel for the 2DFmaster and connected with the

2DFmaster pumping control module. With the 2DFmaster control system AWAmaster technology is moving into the class over 4 kW pumping capacity, and offers excellent ease of use and functionality of this technology in interaction with the other system components of this class.

### Overview of the main functions:

- Selection of motor start-up, star delta start-up, gentle start-up or operation via frequency converter
- Control with automatic alternate switching of the pumps
- Fault management through automatic switchover to the redundant pump in the event of a fault
- Parallel operation of both pumps possible to cope with increased sewage volume (e.g. during heavy rain)
- Control dependent on filling level in connection with the level measuring systems pressure tube SR, analogue sensor AS, contact sensor MB or float switch
- Control dependent on filling level in connection with a twin measuring system e.g. MBAS-BN or HWAS-BN. The redundant measuring system automatically switches to the second system if one pressure sensor fails and also generates a fault message.
- Selection possibility for operating states: automatic, manual and off
- LED display for operating states and fault messages
- Adaptation of the system settings to operating conditions (switching points, times, motor current limitation) by actuating the digital potentiometer and acknowledge button
- Integrated alarm
- Transmission of fault messages can be integrated in the function chain





## AWA control system 2DFmaster

### Technical data:

#### Power module:

**Capacity range:** 0.75 – 75 kW / pump; max. 2 pumps

**Mains voltage:** 400 V / 50 Hz

**Type of start-up:** direct, Y-Δ, gentle start-up, frequency converter

#### Control module:

**Control voltage:** 230 V / AC / 50 Hz

**Pressure range:** 0 – 2 mWS (optional 0 – 5 mWS)

**Supply voltage 4–20 mA probe:** 20 VDC

**Voltage signal inputs:** 20 VDC fuse

**Power consumption:** max. 20 VA

**Control voltage:** 5 x 20 V, 63 mA (slow-acting)

**Temperature range:** –10 to +60°C

**Relay contacts (potential-free):** 3 A

**Dimensions (W x H x D):** 290 x 125 x 60 mm

#### Control panel:

**Enclosure rating:** IP 45

**Housing:** ABS / Polycarbonate

**Dimensions (W x H x D):** 144 x 144 x 90 mm

**Switch cabinet recess:** 136.5 x 136.5 mm

**Standards:** EN 61010-1, EN 61000-6-2, EN 61000-6-3, VDE 0100 T430 & 540, VDE 0110 T1/2, VDE 0160, VDE 411.

**EC guidelines:** Low Voltage 72/23/EEC, EMC 89/336/EEC version 92/31/EEC, 93/68/EEC

### Display (LCD)

#### Normal operation:

The top line always shows the filling level. The bottom line shows pump running times in the unit "hours". When the pump is in operation, the motor current is displayed in the unit "amperes".

#### Faults:

Any faults that have occurred are displayed alternately on the bottom line on the display.

#### Operating elements:

The digital potentiometer is used for the easy and safe setting of the operating parameters. The digital potentiometer can also be used to retrieve all the operating parameters, fault messages, operating hours and motor current consumption and have them shown on the display.

### Features:

- LCD plain text display
- Thermal and electrical motor monitoring
- Manual – 0 – Automatic functions
- Pump switch-off through switch-off point with run-on time
- Acknowledgement button
- Electronic monitoring of the motor current
- Forced switch-on, switchover and alternation of pumps
- Internal acoustic alarm
- Collective fault message potential-free and potential-bound
- Backwater alarm potential-free
- All settings and fault messages retained after power failure
- Operating hours counter
- High resistance to interference
- Simple operation
- Level recorded either by internal pressure transducer, external 4 – 20 mA probe or float switch
- Relay outputs for collective fault, fault pump 1, fault pump 2 and backwater
- As well as one input for locking the station

### Scope of supply:

The 2DFmaster control system comprises:

- the power module
- the 2DFmaster control module
- the 2DFmaster control panel (door installation)
- the control cabinet

### Accessories:

- Alarm unit with acoustic and optical alarm signals
- Fault message systems:
  - Text message (GSM modem)
  - Voice message (automatic telephone dialler)

# AWAcontrol system .DF4

## STRATE control technology AWAcontrol control cabinets with .DF4 pump control

.DF4 AWAcontrol system for STRATE sewage pumping stations with two to six pumps each and an installed motor rating of up to 75 kW per pump

- Are particularly suitable for municipal applications
- Multi-functional expansion possible

The integrated pump control .DF4 is the central functional module for the process control and monitoring of STRATE sewage pumping stations. As a proven and efficient system component, the outstanding features of the .DF4 are its good user-friendliness and functionality.

### Overview of the main functions:

- Selection of motor start-up, star delta start-up, gentle start-up or operation via frequency converter are already integrated. No programming effort is necessary for changes
- Control of the operating variants for up to 6 pumps with requirement-specific running and break times for the pumps and adjustable pump stopping time
- Parallel operation of pumps possible to cope with increased sewage volume (e.g. during heavy rain)
- Control dependent on filling level in connection with a twin measuring system e.g. MBAS-BN or HWAS-BN. The redundant measuring system automatically switches to the second system if one pressure sensor fails and also generates a fault message
- Intelligent fault management through switching to the remaining standby pumps in the event of a fault
- Connection to different remote control systems is possible
- The control of external systems such as e.g. STRATE venting systems AWAaerob, AWAflush and AWAexpand or AWAmotion is already integrated and can be activated as necessary
- Due to its open structure, the .DF4 control system can be extended at any time, making it suitable for future tasks as well

### Control panel for the programmable pump control .DF4

- Parameter (switching points etc.) for customer-specific operating conditions are set at the control panel (door installation)
- Data recording: operating states, operating hours, events, alarms and flow volumes, integrated data memory for the last 255 process data messages and max. 255 fault messages





## AWAcontrol system .DF4

### Technical data:

#### Power module:

**Capacity range:** 0.75 – 75 kW / pump; no. of pumps: any

**Mains voltage:** 400 V / 50 Hz

**Type of start-up:** direct, Y-Δ, gentle start-up, frequency converter

#### Control module:

**Rated voltage:** 24 V DC

**Programming interface:** RS 232C

**Program/data memory (internal):** 512 kByte RAM (with battery backup)

**Memory expansion:** 1MByte Flash

**Max. number of inputs (central):** 96

**Max. number of outputs (central):** 94

**Max. inputs/outputs (decentralised):** 8500 addressable via K-strand

**Fault display:** LED

**Potential separation:** yes

**Interfaces:** 1 x connection of the programming unit  
1 x RS 485 for the connection  
> of decentralised input/output units  
> For the networking of intelligent devices via Suconet K or Profibus

**Network can be expanded:** Centrally 5 users  
Decentralised max. 30 users (46)

**Inputs:** Analogue: 2 x 0–10 V  
Digital: 16

**Outputs:** Analogue: 1 x 0–10 VDC / 0–2 mA  
Digital: 14

**Temperature range:** 0 to +55°C

**Dimensions (W x H x D):** 215.5 x 110 x 86 mm

#### Control panel:

**Temperature range:** 0 to + 55°C

**Enclosure rating:** IP 65 on the front

**Rated voltage:** 24 VDC

**Rated current:** 250 mA

**Fuse:** Electronic

**Dimensions (W x H x D):** 149 x 109 x 65 mm

**Background lighting:** LED

**Lines x characters:** 4 x 20

**Standards:** IEC/EN 61 131-2, IEC 61 000 4-2,-6

Already integrated options can be selected for respective peripheral units (see accessories) at any time:

- AWAflow flow monitoring
- Water leaking in the shaft
- Generator fault
- Station locked (e.g. in group with other pumping stations)
- Filling level collecting tank
- Power failure

Special equipment:

- RÜB drain pumping station control
- Fault message transmission as text or voice message
- Gate valve control
- External fault processing
- etc.

### Scope of supply

- AWAcontrol system with .DF4 pump control
- the power module
- the .DF4 control module
- the .DF4 control panel (door installation)
- the control cabinet

### Accessories

- Alarm unit with acoustic and optical alarm signals
- Fault message system
  - SMS relay
  - Voice message (automatic telephone dialler)
- Telecontrol

# Level measuring systems

## STRATE control technology

### Level measuring systems for the reliable determination of filling level

#### STRATE level measuring systems

- Record filling levels reliably and safely
- Are necessary for function-related control of the sewage pumping station
- Make a large range of functions available suitable for every requirement

#### Level measuring system pressure tube = SR

- Measurement using the impact pressure method
- Measuring range 0 – 0.5 mWS
- Connection via polyamide flange with quick-action elbow gland
- Enclosure rating IP 67
- Including 5 metres of rigid PU hose (Ø 8 mm)



#### Level measuring system analogue sensor = AS

- Pressure sensor for analogue filling level measurement
- Supply voltage 24 V DC
- Output of an analogue measuring signal 4 – 20 mA
- Pressure ranges depending on tank height 0 – 50 / 200 or 400 mbar
- Safe at several times over-pressure
- Explosion protection according to ATEX



#### Level measuring system HWAS

- Pressure sensor for analogue filling level measurement
- Especially suitable for STRATE sewage pumping stations for municipal applications
- Supply voltage 24 V DC
- Output of an analogue measuring signal 4 – 20 mA
- Pressure ranges depending on tank height 0 – 200 or 0 – 400 mbar
- Safe at several times over-pressure
- Explosion protection according to ATEX



## Level measuring systems

### Level measuring system MBAS-BN

- Redundant twin measuring system where there is a requirement for increased operational safety for sewage pumping stations (e.g. main pumping station) in building service engineering and for municipal applications.

The twin measuring system MWAS-BN uses two mutually independent measuring systems which work in different ways. The analogue sensor AS for integration in the pump control unit is combined with the pneumatic-mechanical contact sensor system MB. If one of the two measuring systems fails, emergency control is automatically triggered by the other measuring system.



### Level measuring system HWAS-BN

- Redundant twin measuring system where there is a requirement for increased operational safety for sewage pumping stations (e.g. main pumping station) for municipal applications.

The twin measuring system HWAS-BN uses two mutually independent measuring systems which work in different ways. The analogue sensor HWAS for integration in the pump control unit is combined with the pneumatic-mechanical contact sensor system MB. If one of the two measuring systems fails, emergency control is automatically triggered by the other measuring system.



### Level measuring system HWWS (only for spare parts requirements)

- Closed pneumatic-mechanical switching system
- The sewage-resistant pressure bellows and the end membrane are connected via a pneumatic line routed in a protective tube.
- There is a plastic housing on the collecting tank of the sewage pumping station which contains 4 easily accessible micro-switches
- In addition, there is a manometer for continual filling level display located in the housing



# Control technology – Accessories –

## Flow measurement Magnetic-inductive – for reliable and economic recording of pumping capacities

Magnetic-inductive flow measurement allows the precise measurement of electrically conductive liquids such as sewage. Standard measuring values are the current flow and the accumulated pumping capacity (e.g. daily volume). The measuring signals are available either as 4 – 20 mA or impulse signals and can be transmitted to the data recorder for state recording and diagnosis or to the AWAcontrol control technology for pump control.

Magnetic-inductive flow meters are reliable and economic compact units

for installation in the pressure line and are available in two basic versions:

- Sensors for pipe installation with integrated measuring transducer and on-site display as a compact unit and
- Sensors for pipe installation with separate measuring transducer. With this version, the measuring transducer can be located separately on the wall in the service building or as a fitted housing directly in the AWAcontrol control cabinet.

### Note

When fitting the sensor in the pressure pipe it must be remembered that flow-calming sections of 5 x pipe diameter upstream from the sensor and 2 x pipe diameter downstream of the sensor are required for precise measurement. In addition, care must be taken that the measuring section is completely filled.



Compact unit with integrated measuring transducer  
(Source: Endress & Hauser)



Separate measuring transducer  
(Source: Endress & Hauser)



Sensor  
(Source: Endress & Hauser)

Technical data and further makes on request.

## Control technology – Accessories –

### Data recording: For state monitoring and machine diagnosis

The recording of operating data such as flow volumes, pumping pressure, operating hours and power consumption of the pumps etc. is essential for the state monitoring of – usually municipal – pumping stations and pressure line as well as for the diagnosis of machine components.

#### Paperless recorder

Data recording system with LCD display for the electronic acquisition, display, recording, evaluation, remote transmission and archiving of up to 6 analogue and digital input signals

- e.g. for daily, monthly, annual evaluation; meter statuses, operating times and volumes; min., max. and mean value recording
- Multi-colour display, digital, bar chart and graph representation

- Archiving in the internal memory and on compact flash card (no data lost in the event of a power failure!)
  - Remote data transmission via standardised interfaces
  - Suitable for door installation in the AWAcontrol control cabinet
- Other devices available on request



Paperless recorder  
(Source: Endress & Hauser)

### Alarm and fault message transmission for safe alarm and fault messages

Alarm messages can be signalled optically and acoustically at the pumping station or transmitted remotely by mobile phone or phone line.

#### Alarm AM 14

Optical and acoustic alarm in 12 V DC technology for connection to the alarm unit AG 230/12

- Multi-tone series combined with xenon flash
- 32 different tones can be set
- Volume adjustable up to 105 dB
- Optical and acoustic signals can be triggered separately



Alarm AM 14



## Control technology – Accessories –

### Alarm unit AG 230/12

Mains-independent alarm unit for signalling a fault.

- Powered by integrated 1.8 Ah 12 V battery in the event of a power failure
- Optical and acoustic alarm issued via external alarm AM 14
- Additional optical display of alarm message using LED in the alarm unit
- Signalling through potential-free output
- Reset button for acknowledging fault message



Alarm unit AG 230/12

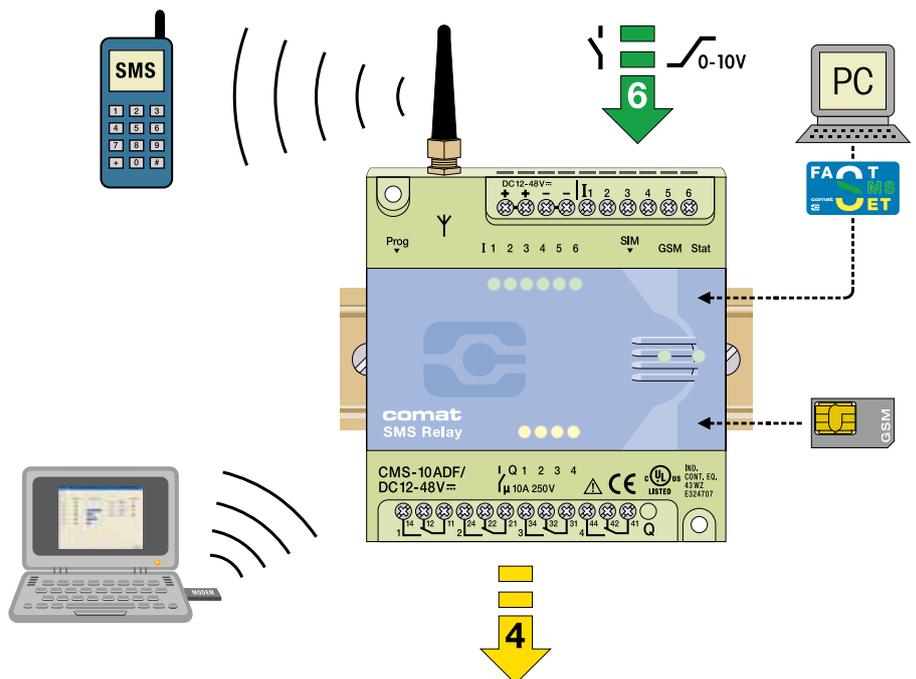
### Fault messages transmitted by text message

A GSM modem is a favourable option for transmitting plain text fault messages as text messages to operating staff's mobile phones for immediate notification of fault messages. The output of the message text can be freely configured. Text messages can be transmitted to several mobile numbers. A sufficiently good mobile phone network is required for the use of the GSM modem; alternatively an automatic telephone dialler can be used where a landline connection is available.

### SMS relay

Transmission of fault messages by text message and the mobile phone network.

- Automatic alarm issued as text message when changes in state occur
- Freely definable message texts
- Cyclic alarm forwarding to up to 5 different numbers
- Analogue and/or digital inputs
- Straightforward configuration with PC and software
- Text message state query for all inputs and outputs
- Remote access with PC/laptop and status display on the screen



Text message relay (source: Comat)

Other devices available on request

## Control technology – Accessories –

### Fault message transmission via voice message

If mobile phone reception is poor and there is a landline connection available, the automatic telephone dialler is a reliable alternative to fault message transmission by text message. Any fault messages are forwarded to different pre-programmed phone numbers.

### Automatic telephone dialler

For forwarding fault messages via the landline.

- Integrated microphone and control loudspeaker
- Voice messages to any number of recipients
- Digital message to one or more alarm receiving systems
- Remote query, remote control depending on device type
- Messages to pager or as text message depending on device type

Other devices available on request

### Telecontrol systems

Monitor and control the machines as a group. Data recording, evaluation, state monitoring, diagnosis and control are carried out via PC by a central office. Our experts will be happy to help you put together the components you need.

### Further accessories

Level relay with 2 electrodes for recording and reporting a water leak alarm.

The system comprises two electrodes which are installed above the floor of the pumping station shaft and which issue an alarm message via the connected level relay when they come into contact with water. A sudden water leak in the shaft is

detected immediately thus effectively preventing damage.

- Level relay with connection terminals for potential-free messages for installation in the AWAcontrol control cabinet
- 2 electrodes for wall mounting in the shaft



Level relay (Source: Jola)



Automatic telephone dialler



2 electrodes (Source: Jola)

# Non-return valves **AWASTOP**

## STRATE AWASTOP non-return valve

- Are recognised all over the world as non-return valves for universal applications in the pumping of fresh water, effluent, sludge and air
- Stand for high operational safety
- Stand out thanks to their excellent value-for-money and low maintenance requirements
- Offer as a mature design:
  - 100 % free passage
  - Low flow resistance
  - Quiet operation thanks to the inclined valve seat which shortens the closing distance
  - Minimum clogging tendency through optimum hydraulic design
  - Fail-safe closing of the valve since the closing element is fixed securely into the valve cover
  - Easy installation due to the screwless valve attachment for simple replacement of the closing element
  - Leakproof even with low counterpressure
  - Flow resistance (water, effluent)

### Areas of application

Due to their special design, 100 % free passage and low flow resistance, STRATE AWASTOP non-return valves are ideal for:

- Sewage technology, media with solids and coarse solids, sludge (up to 5 % TM)
- Fresh and service water technology, including in areas where high pressure losses make powerful pumps necessary
- On request: pumping of fluids deviating from the media listed
- Areas where quiet operation is particularly important

### Special cases

In pipe networks where pressure surges are to be expected due to topographical routing and hydraulic circumstances, further products from the STRATE special fittings range may be required, such as STRATE non-return valves with spring loading, STRATE venting and air release valves etc.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE non-return valve system or other matters.



STRATE AWASTOP non-return valve



## Non-return valves AWASTOP

### Technical data

DN	PN	Face-to-face dimension mm	Weight with and without LD* kg
50	10	200	10
65	10	240	15
80	10	260	18
100	10	300	24
125	10	350	34
150	10	400	46
200	10	500	86
250	10	600	142
300	10	700	206

Face-to-face dimension in accordance with DIN 3202

\*Lifting device

Flange connection dimensions and bore holes in accordance with DIN 2501

Operating temperatures from -35°C to +120°C

Shore hardness of the closing element 55°Sh

### Flow speed and installation position

- Pumping of liquid media with flow speeds up to 1.5 + 0.5 m/s
- Vertical installation position – upward direction of flow
- Horizontal installation position – inspection cover at the top; recommended installation position where there is a high solids share (e.g. sand, gravel, stones)

### Description

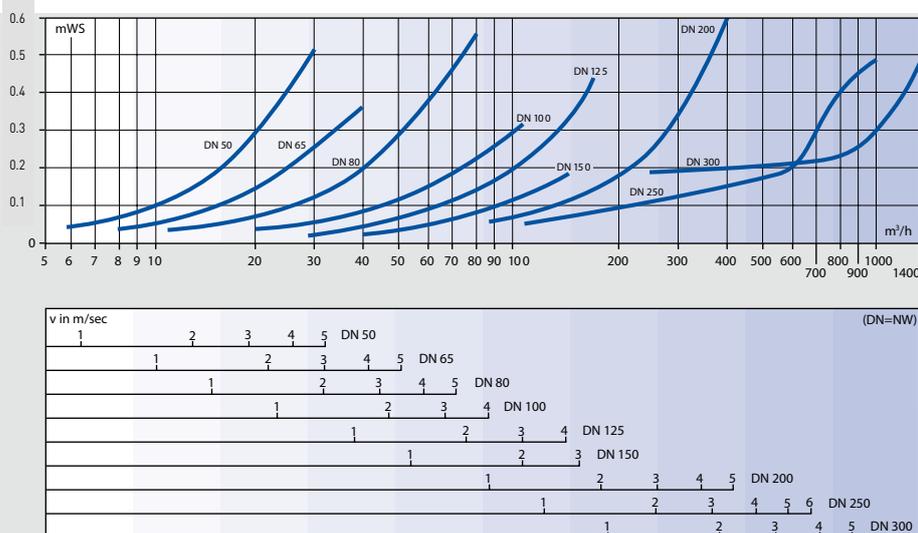
The unsurpassed reliability and service life of the STRATE AWASTOP non-return valves are the result of years of product observation and the development of a holistic design without a large number of components. Screws are only needed to fix the inspection cover in place.

The closing element with its vulcanised closing plate is the moving part in the STRATE AWASTOP. The closing element is mounted between the inspection cover and the housing and is easily accessible for replacement. The even geometry in the pivoting range prevents pendulum movements and guarantees the perfect guiding of the closing element. The inclined valve seat is a special advantage, since it significantly shortens the closing time and reduces closing noise. The pronounced sealing lip profile makes the non-return valve close tightly and reliably even when counterpressure is low. The butyl rubber B 100 used, which has a Shore hardness of 55-60 Shore, is suitable for operating temperatures from -35°C to +120°C. Depending on the individual application case, other elastic materials such as Perbunan, Viton, silicone etc. can be

### Materials

<b>Housing, cover:</b>	EN-GJL-250 (GG 25)
<b>Closing element:</b>	Butyl B100 with vulcanised closing plate
<b>Cover seal:</b>	Butyl B 100
<b>Coating:</b>	Electrostatic plastic coating
<b>Lifting device:</b>	Steel – C 45

### Flow resistance (water, effluent)

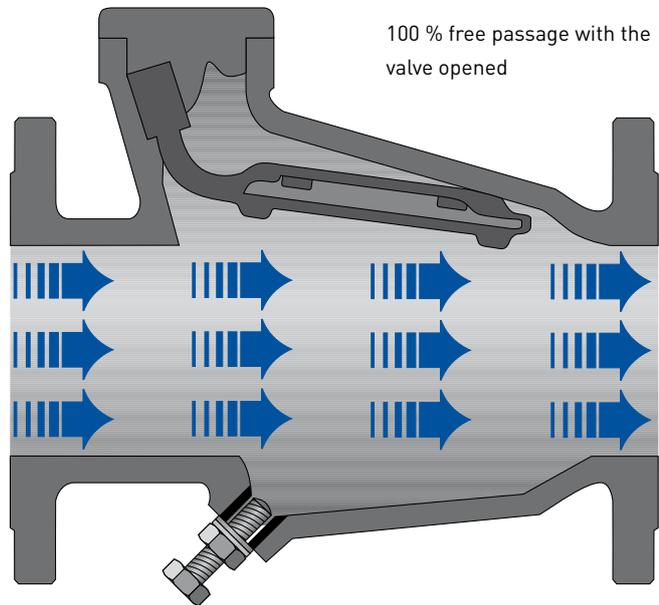




## Non-return valves **AWASTOP**

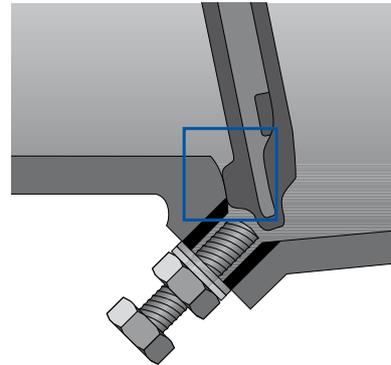
used to make operating temperatures from  $-35^{\circ}\text{C}$  to  $+230^{\circ}\text{C}$  possible.

All non-return valves in the STRATE AWASTOP range provide 100 % free passage thanks to the perfect design of housing and closing element. In practice, this results in low flow resistance, minimum clogging tendency, ease of maintenance and quiet operation.



100 % free passage with the valve opened

The sealing lip ensures optimum sealing



### The perfect non-return valve for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE non-return valves or other matters.



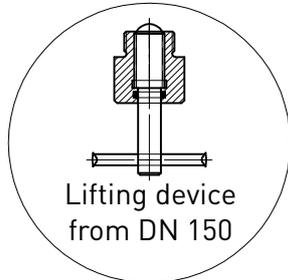
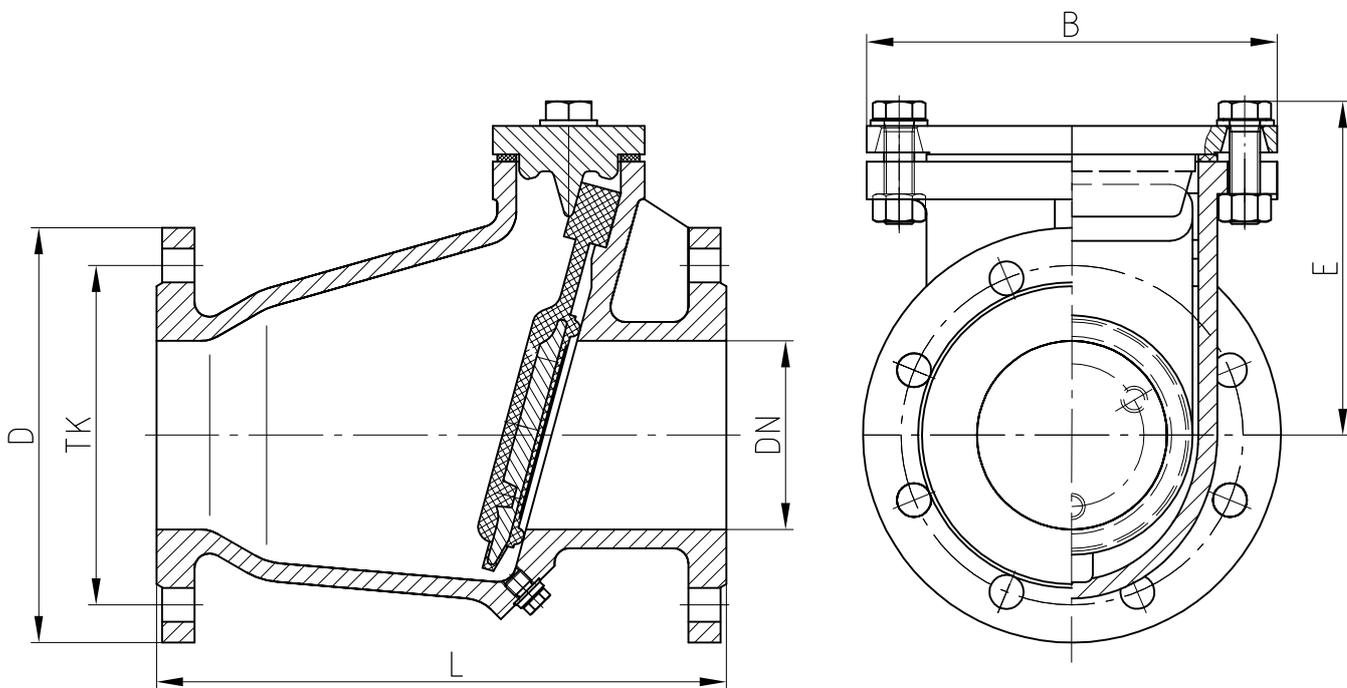
You will find your project planning sheet in this catalogue under "Project planning aids".



You can also find an online version in our download centre!  
[www.strate.com](http://www.strate.com)



Non-return valves  
**AWASTOP**



DN	Dimensions in mm					Weight
	L	B	E	TK	D	kg
50	200	142	132	125	165	10.0
65	240	156	141	145	185	15.0
80	260	175	155	160	200	18.0
100	300	216	177	180	220	24.0
125	350	248	196	210	250	34.0
150	400	276	224	240	285	46.0
200	500	360	257	295	340	86.0
250	600	430	293	350	395	142.0
300	700	486	332	400	445	206.0

<b>Copyright according to DIN 34</b>	Sample drawing: AWASTOP
<b>Scale:</b>	

Subject to technical modifications and errors.

# Non-return valves RSK

## STRATE non-return valves -RSK-

- Are recognised all over the world for demanding applications in the pumping of fresh water, service water, effluent and sludge
- Make maximum operational safety possible
- Stand out thanks to their excellent value-for-money and low maintenance requirements
- Offer as a technically mature design:
  - Low flow resistance
  - Quiet operation
  - Minimum clogging tendency through free flow cross-section
  - Fail-safe closing of the valve disc even under high pressures
  - Particularly suitable for "heavy duty" applications, even where there is a risk of water hammer or pressure surges

### Areas of application

Thanks to their special design, STRATE RSK non-return valves are ideal for:

- Sewage technology, media with solids and coarse solids, sludge (up to 5 % TM)
- Fresh and service water technology, including in areas where high pressure losses make powerful pumps necessary
- Areas where the avoidance of water hammer is very important: In these cases it is necessary to extend the standard valve RSK by the additional component STRATE spring loading (RSK-FT or RSK-FTU).

- Areas where pressure surges are to be expected. In such application cases, it is necessary to extend the standard valve RSK by the additional components STRATE spring loading (RSK-FT or RSK-FTU) and STRATE surge damping valve (RSK-UD or RSK-FTUD)

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE non-return valve system or other matters.



STRATE non-return valve RSK-FTUD





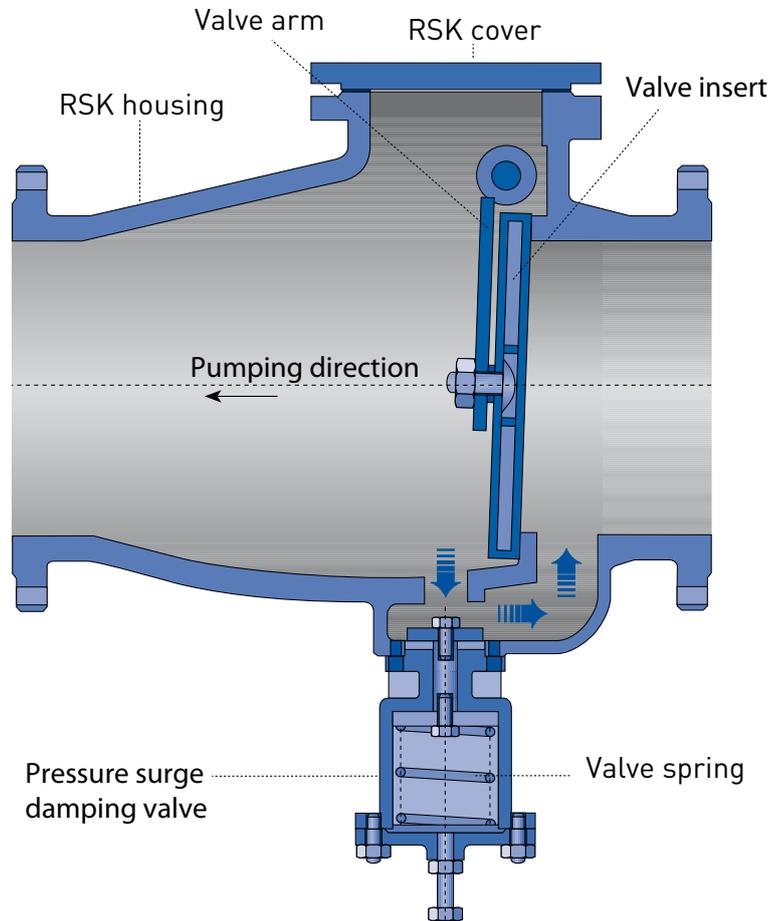
## Non-return valves RSK

### STRATE UD surge damping valve

The STRATE surge damping valve reduces pressure surges near the non-return valve and prevents harm to the pumps and the pressure pipe system.

STRATE spring loading and pressure surge damping valve FTUD. The combination of spring loading and pressure surge damping allows optimum setting of the non-return valve even under the most difficult of conditions.

STRATE Technologie für Abwasser GmbH has published a special brochure dealing with how these valves work and providing more information on the complex subject of "Pressure surges" which can be provided on request (see the Download Centre at [www.strate.com](http://www.strate.com) as well).



### The perfect non-return valve for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE non-return valves or other matters.



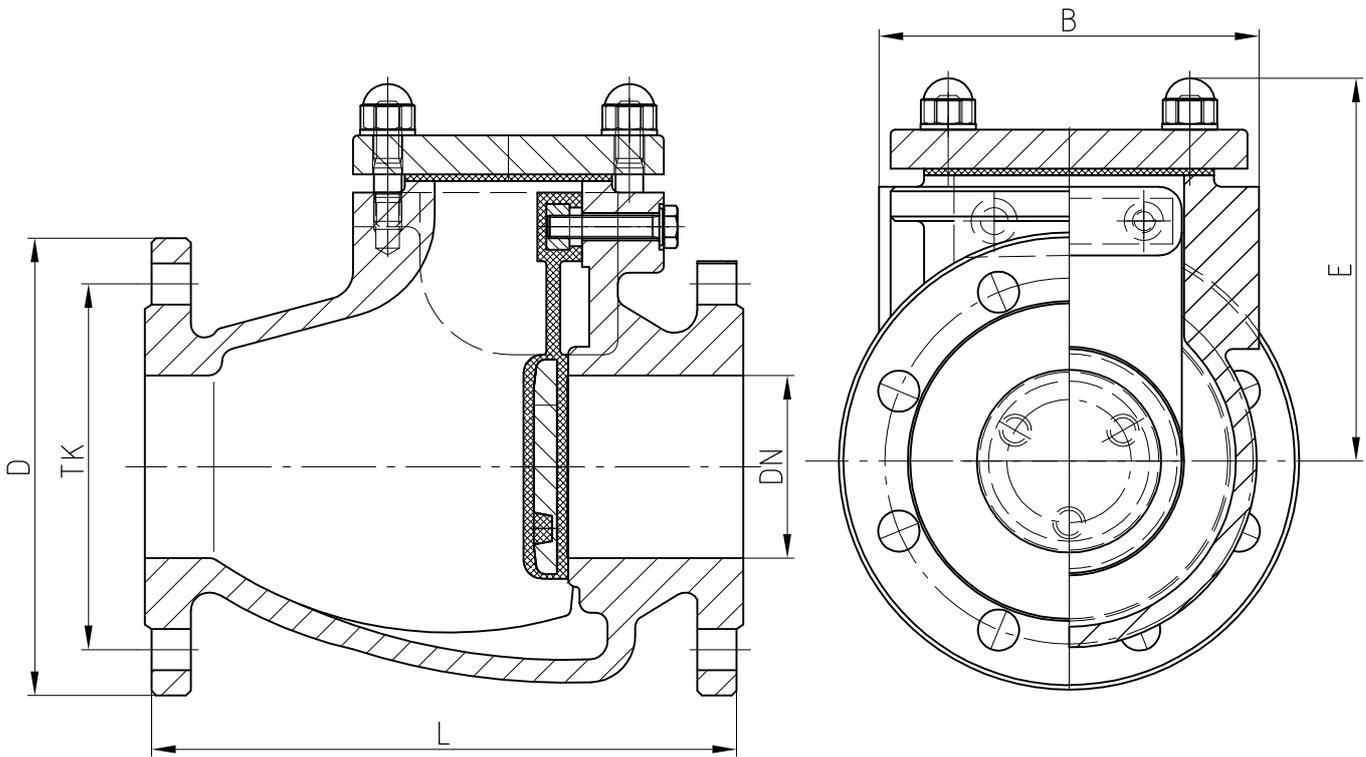
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## Non-return valves RSK



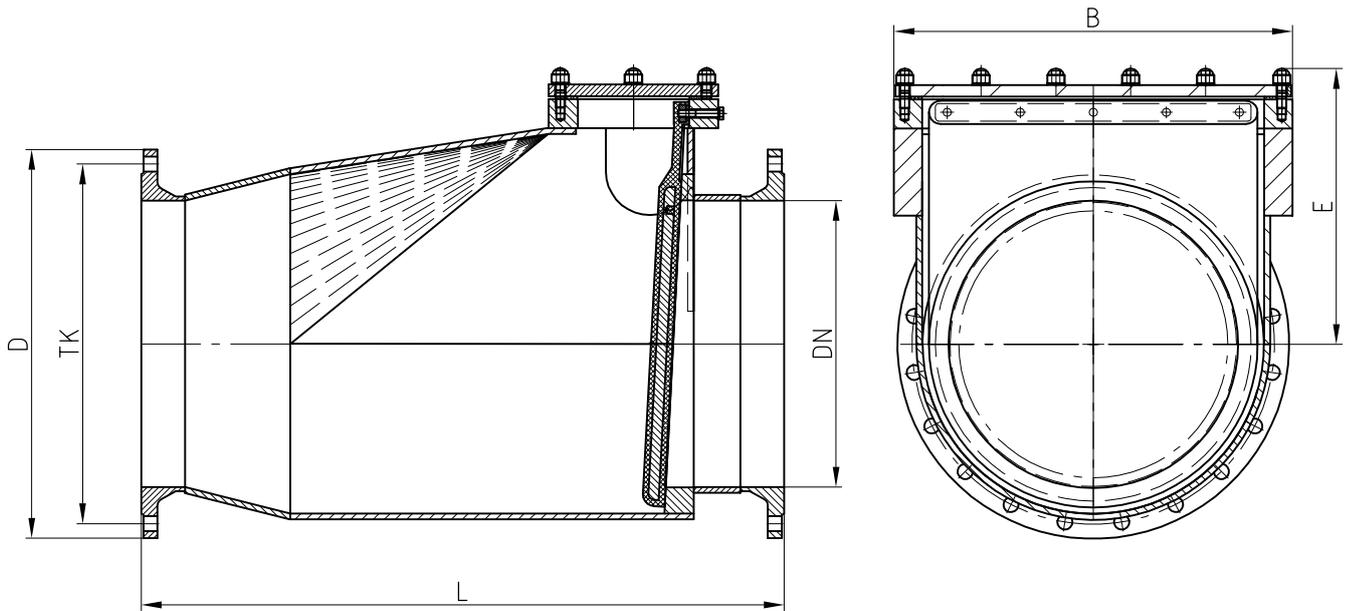
DN	Dimensions in mm				D	Weight kg
	L	B	E	TK		
80	260	165	155	160	200	23.0

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Scale:	

Subject to technical modifications and errors.



Non-return valves  
RSK



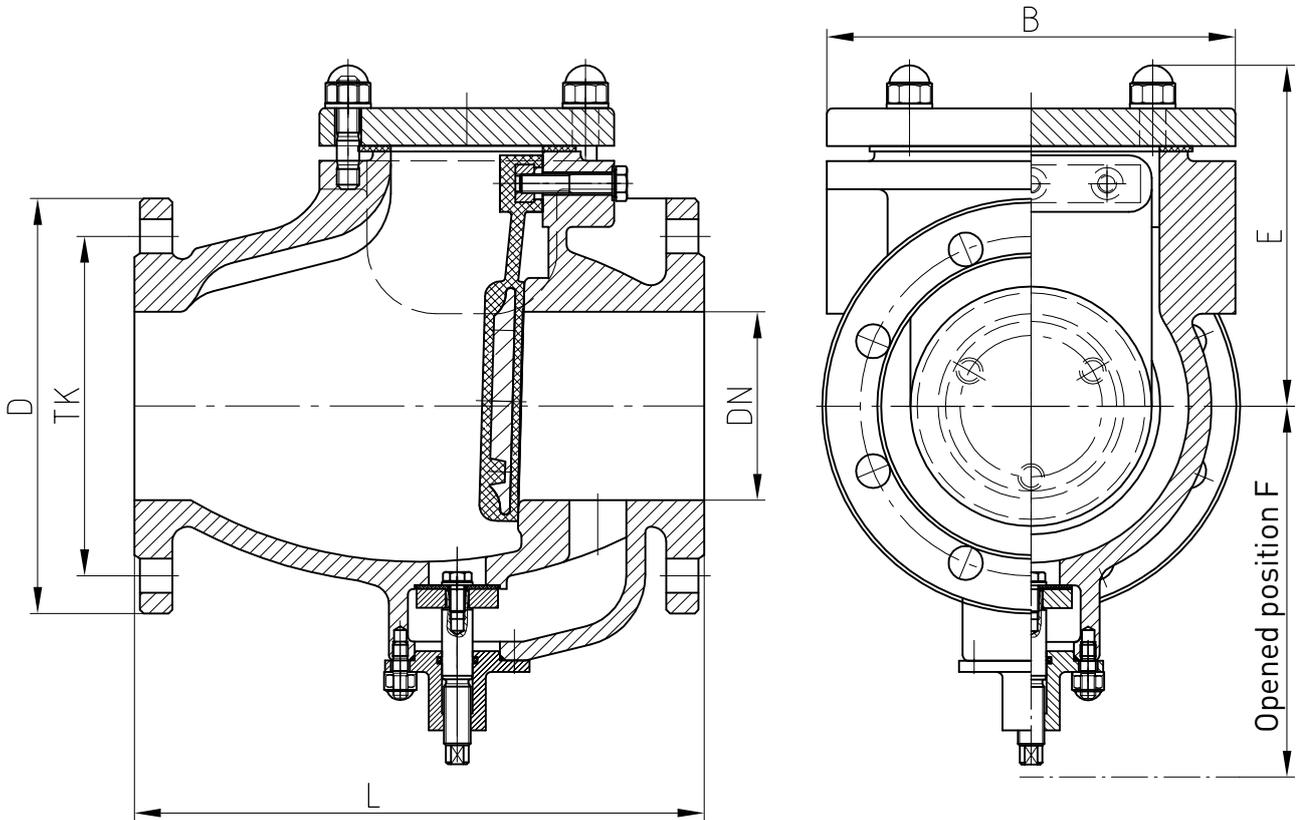
Dimensions in mm						Weight
DN	L	B	E	TK	D	kg
400	900	570	405	515	565	275.0
500	1100	685	475	620	670	380.0
600	1300	775	535	725	780	495.0
700	1500	900	595	840	895	705.0
800	1700	1015	665	950	1015	990.0

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Non-return valves  
RSK



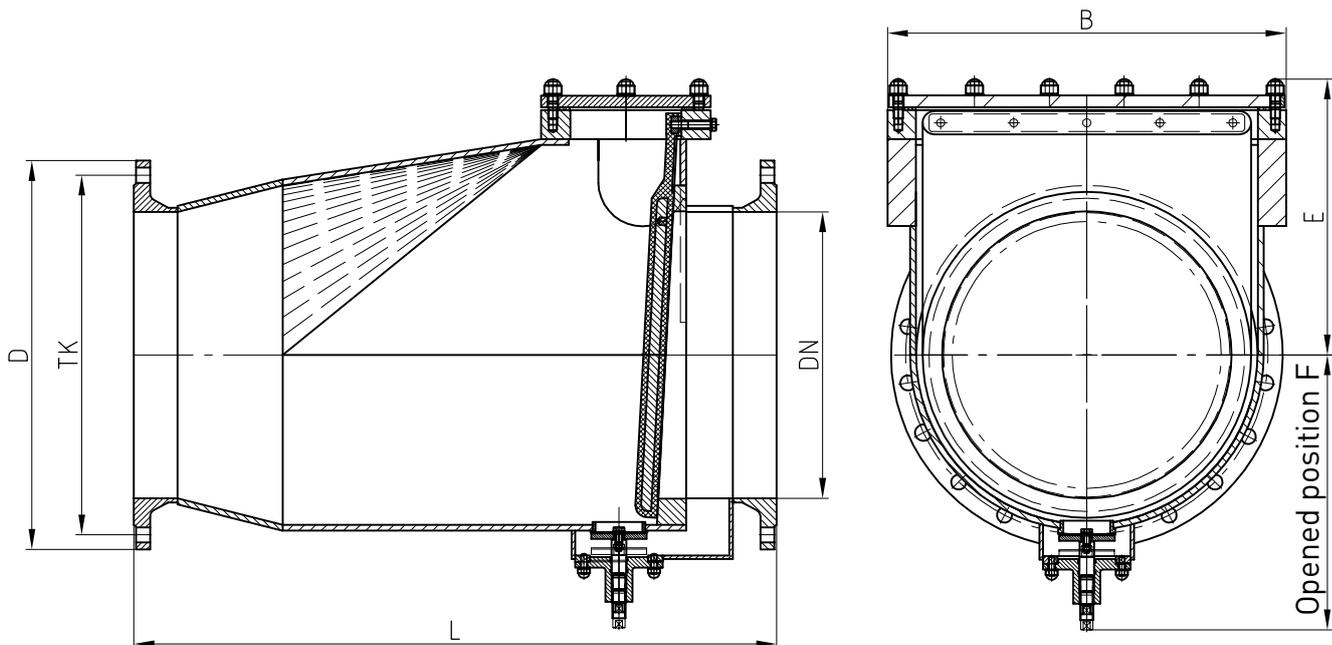
DN	Dimensions in mm					Weight	
	L	B	E	TK	D	F	kg
100	300	225	180	180	220	210	33.0
125	350	240	200	210	250	225	42.0
150	400	275	230	240	285	260	57.0
200	500	350	285	295	340	290	120.0
250	600	415	310	350	395	375	178.0
300	700	465	345	400	445	385	260.0
350	800	520	370	460	505	450	317.0

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Non-return valves  
RSK



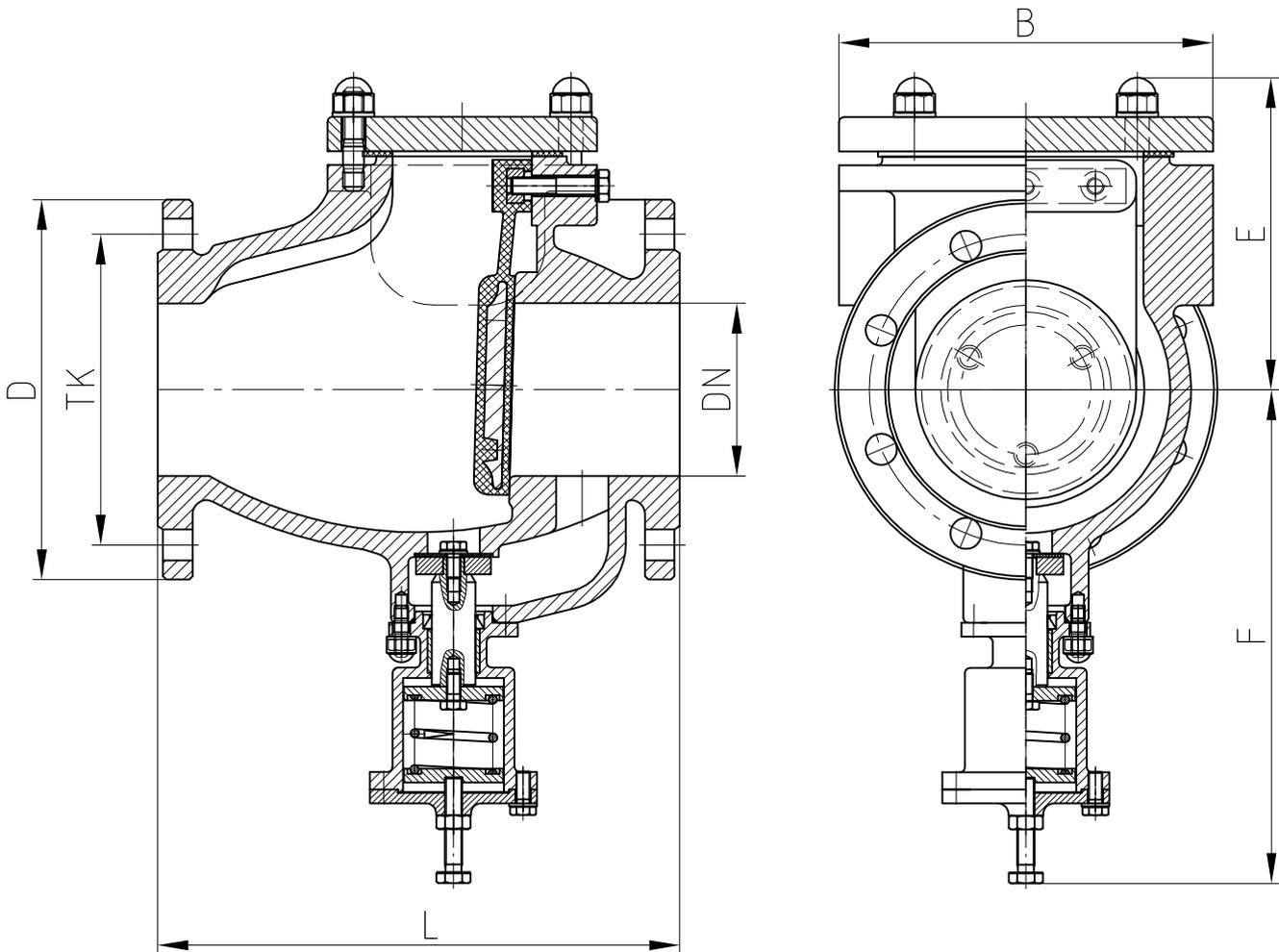
DN	Dimensions in mm					Weight	
	L	B	E	TK	D	F	kg
400	900	570	405	515	565	420	300.0
500	1100	685	475	620	670	475	390.0
600	1300	775	535	725	780	520	505.0
700	1500	900	595	840	895	575	715.0
800	1700	1015	665	950	1015	620	1000.0

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Subject to technical modifications and errors.



Non-return valves  
RSK



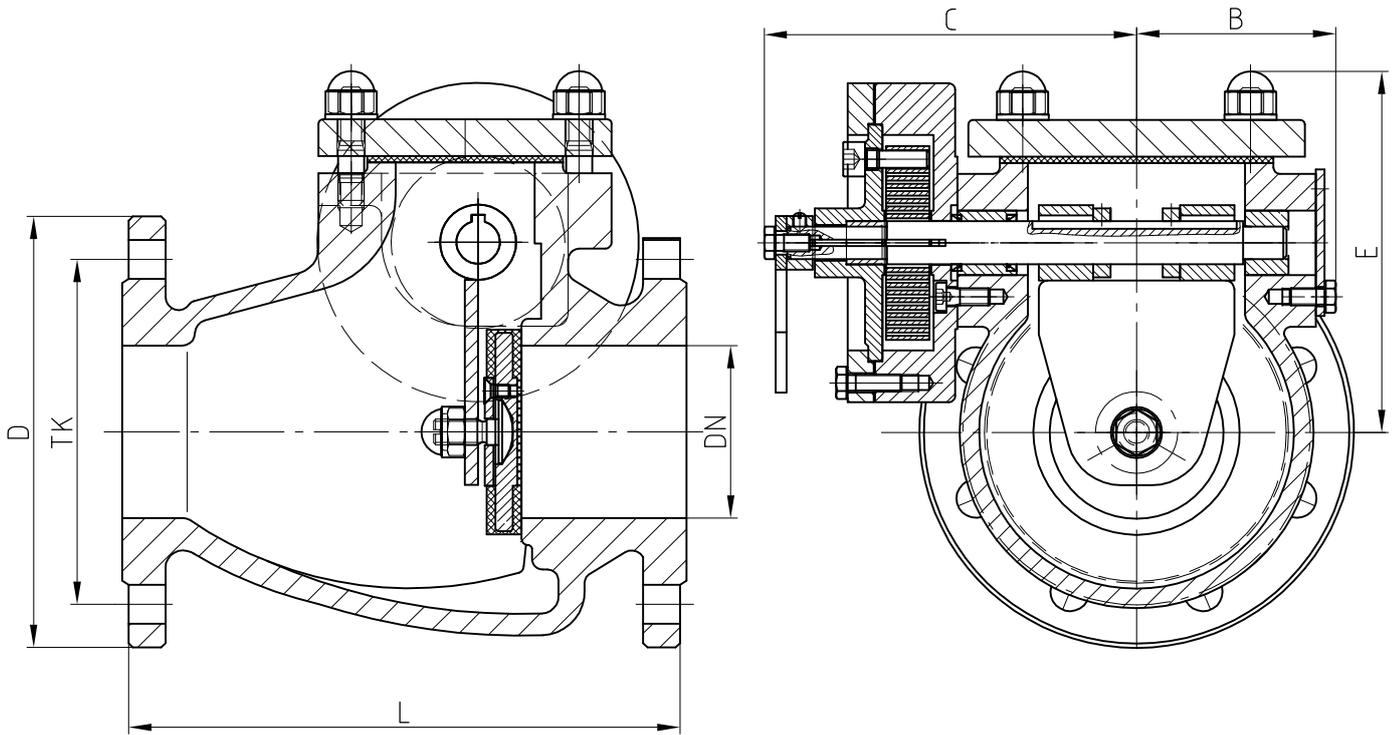
Dimensions in mm							Weight
DN	L	B	E	TK	D	F	g
100	300	225	180	180	220	290	33.0
125	350	240	200	210	250	305	42.0
150	400	275	230	240	285	335	57.0
200	500	350	285	295	340	360	120.0
250	600	415	300	350	395	500	178.0
300	700	465	355	400	445	535	260.0
350	800	520	350	430	505	560	317.0

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<b>Scale:</b>	

Subject to technical modifications and errors.



## Non-return valves RSK



Dimensions in mm							Weight
DN	L	B	C	TK	D	E	kg
80	260	95	170	160	200	155	30.0

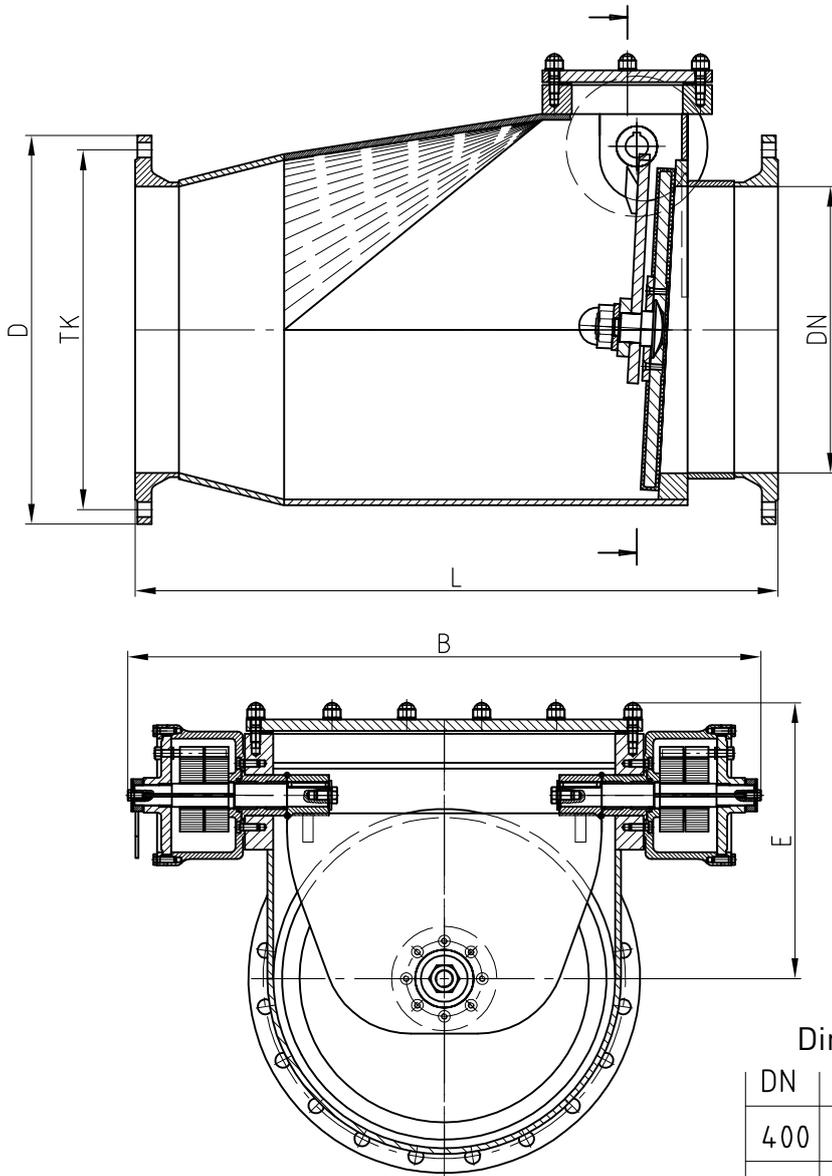
Standard version: Spring housing on the right in direction of flow.  
(Can be on the left on request.)

<b>Copyright according to DIN 34</b>	Sample drawing: RSK-FT
<b>Scale:</b>	

Subject to technical modifications and errors.



Non-return valves  
RSK



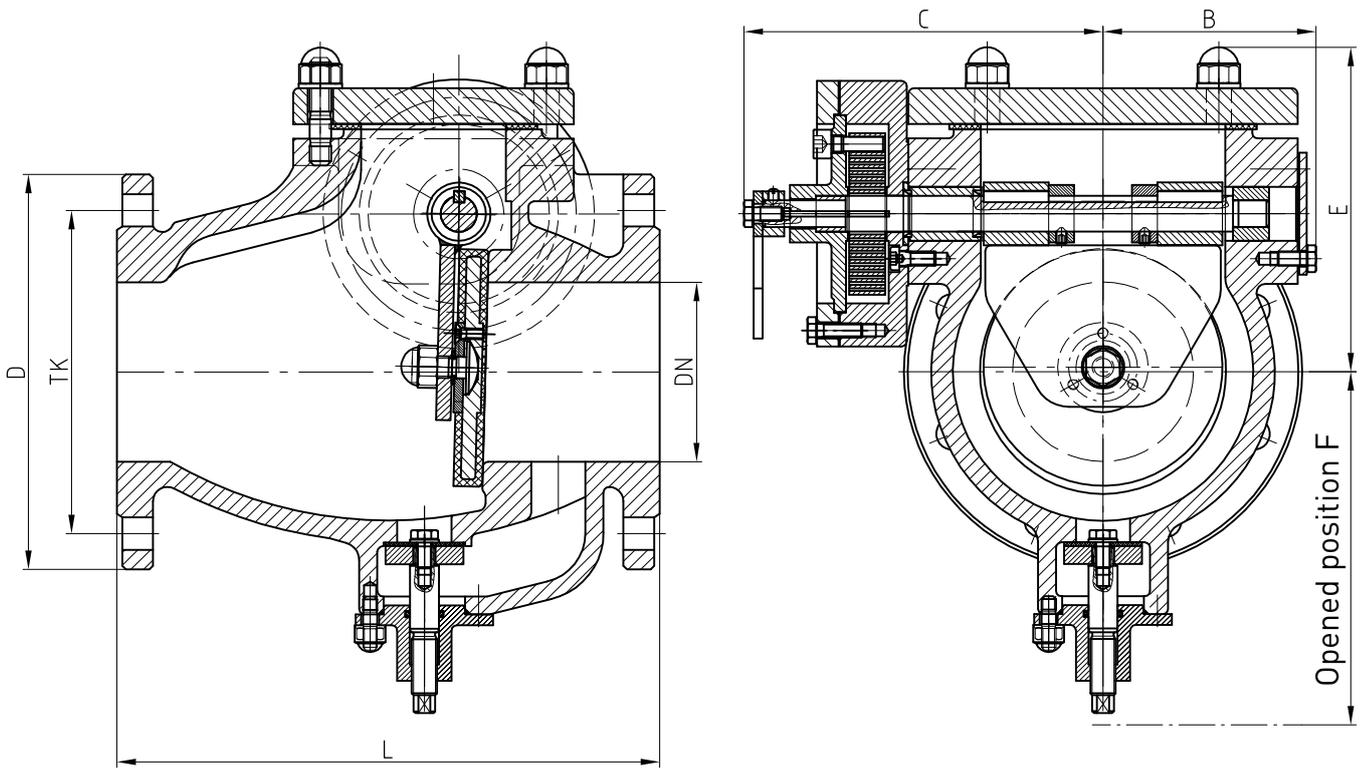
Dimensions in mm						Weight
DN	L	B	E	TK	D	kg
400	900	730	405	515	565	310.0
500	1100	840	475	620	670	420.0
600	1300	930	535	725	780	530.0
700	1500	1100	595	840	895	740.0
800	1700	1310	665	950	1015	1025.0

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<b>Scale:</b>	

Subject to technical modifications and errors.



Non-return valves  
RSK



Dimensions in mm								Weight
DN	L	B	C	TK	D	E	F	kg
100	300	118	200	180	220	180	210	42.6
125	350	125	205	210	250	200	225	55.6
150	400	145	230	240	285	230	260	68.6
200	500	182	280	295	340	285	290	131.0

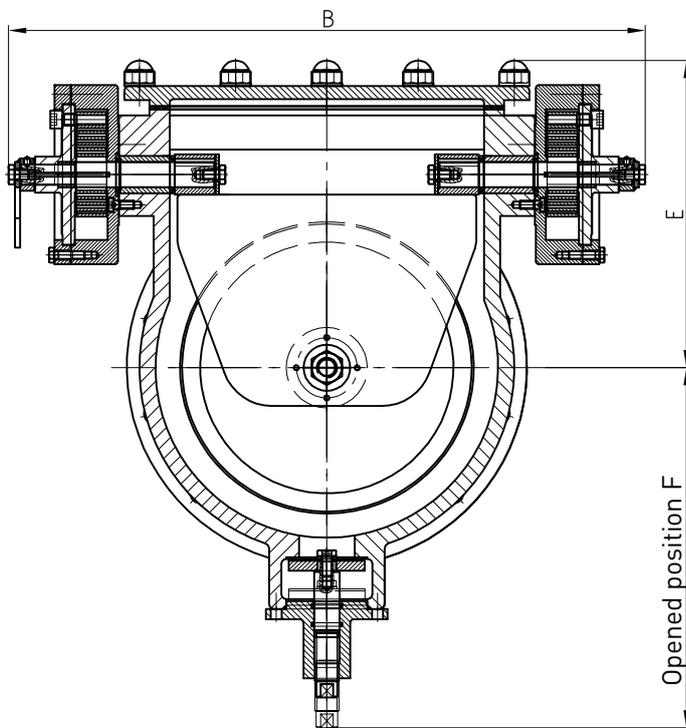
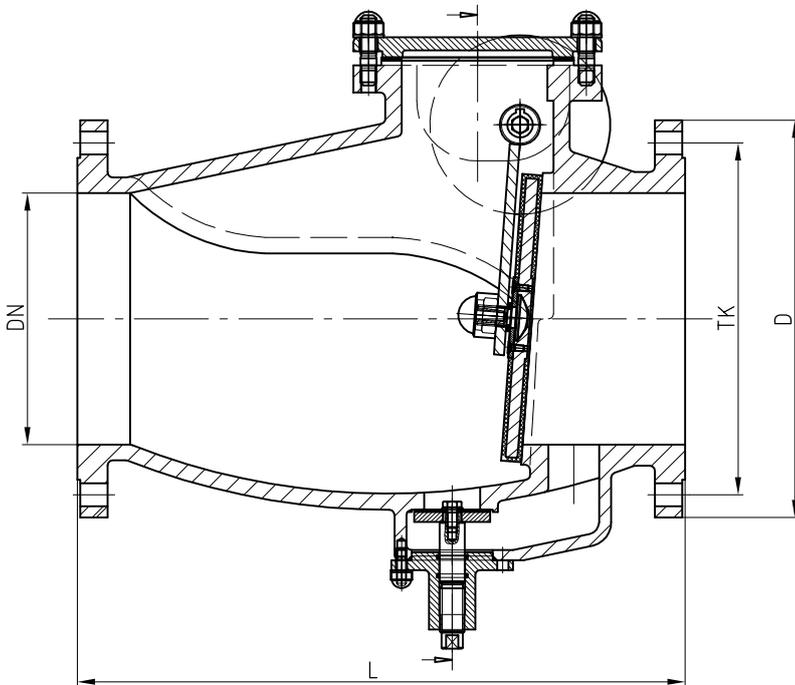
Standard version:  
Spring housing on the right in direction of flow.  
(Can be on the left on request.)

<b>Copyright according to DIN 34</b>	Sample drawing: RSK-FTU
<b>Scale:</b>	

Subject to technical modifications and errors.



Non-return valves  
RSK



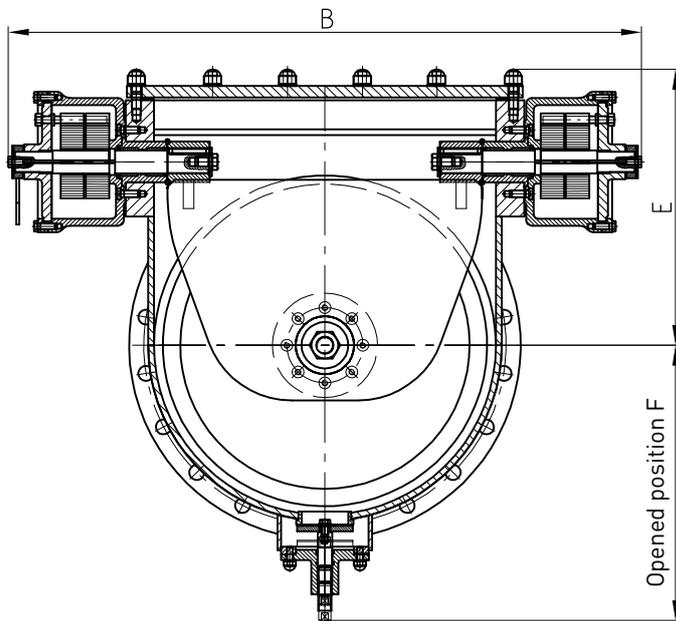
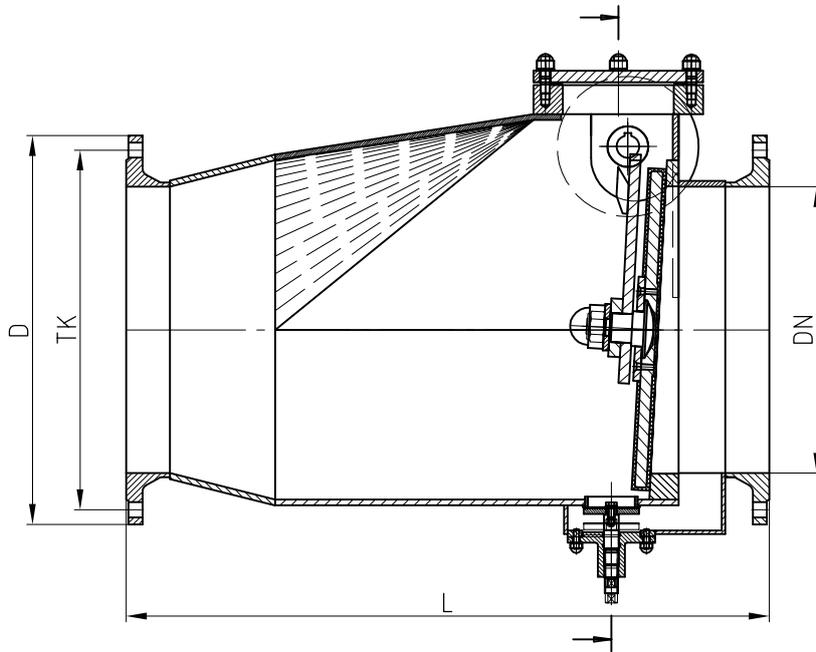
DN	Dimensions in mm						Weight kg
	L	B	TK	D	E	F	
250	600	630	350	395	310	360	185.5
300	700	710	400	445	345	390	280.5
350	800	766	460	505	370	405	352.5

Copyright according to DIN 34	Sample drawing: RSK-FTU
Scale:	

Subject to technical modifications and errors.



Non-return valves  
RSK



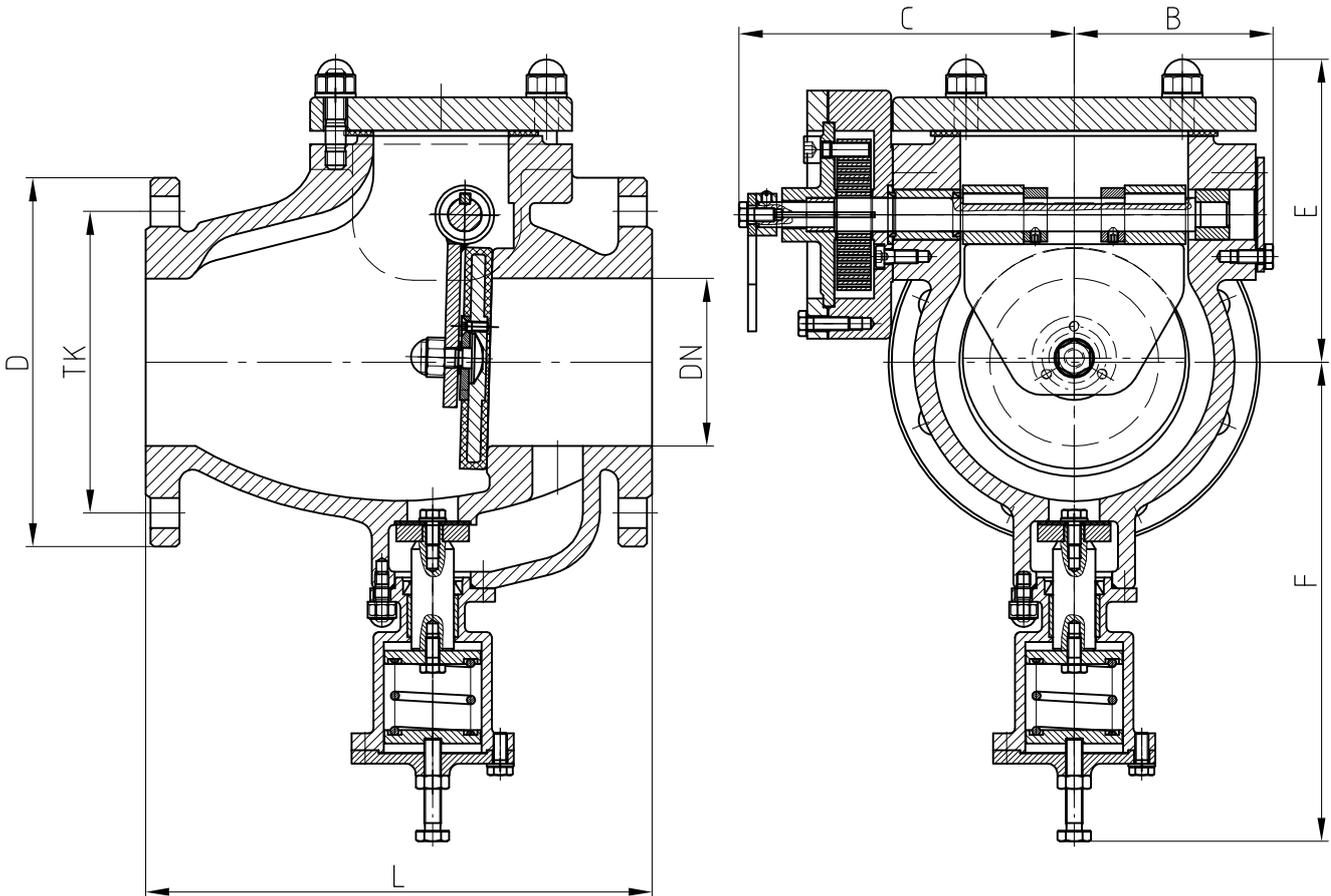
DN	Dimensions in mm						Weight kg
	L	B	E	TK	D	F	
400	900	730	405	515	565	420	313.5
500	1100	840	475	620	670	475	423.5
600	1300	930	535	725	780	520	533.5
700	1500	1100	595	840	895	575	743.5
800	1700	1310	665	950	1015	620	1028.5

Copyright according to DIN 34	Sample drawing: RSK-FTU
Scale:	

Subject to technical modifications and errors.



Non-return valves  
RSK



Dimensions in mm								Weight
DN	L	B	C	TK	D	E	F	kg
100	300	118	200	180	220	180	290	44.5
125	350	125	205	210	250	200	305	57.5
150	400	145	230	240	285	230	335	70.5
200	500	182	280	295	340	285	360	132.5

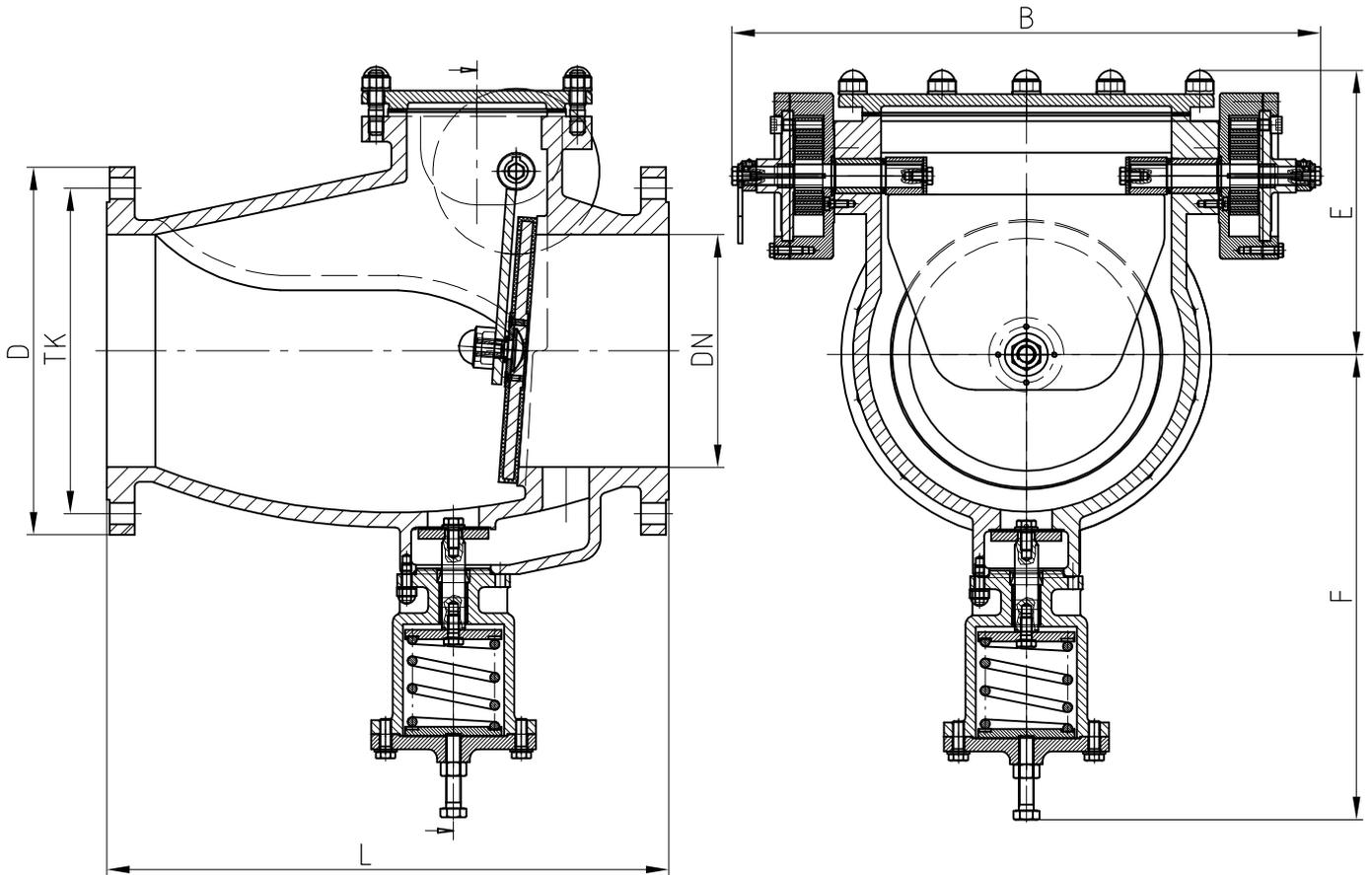
Standard version:  
Spring housing on the right in direction of flow.  
(Can be on the left on request.)

<b>Copyright according to DIN 34</b>	Sample drawing: RSK-FTUD
<b>Scale:</b>	

Subject to technical modifications and errors.



Non-return valves  
RSK



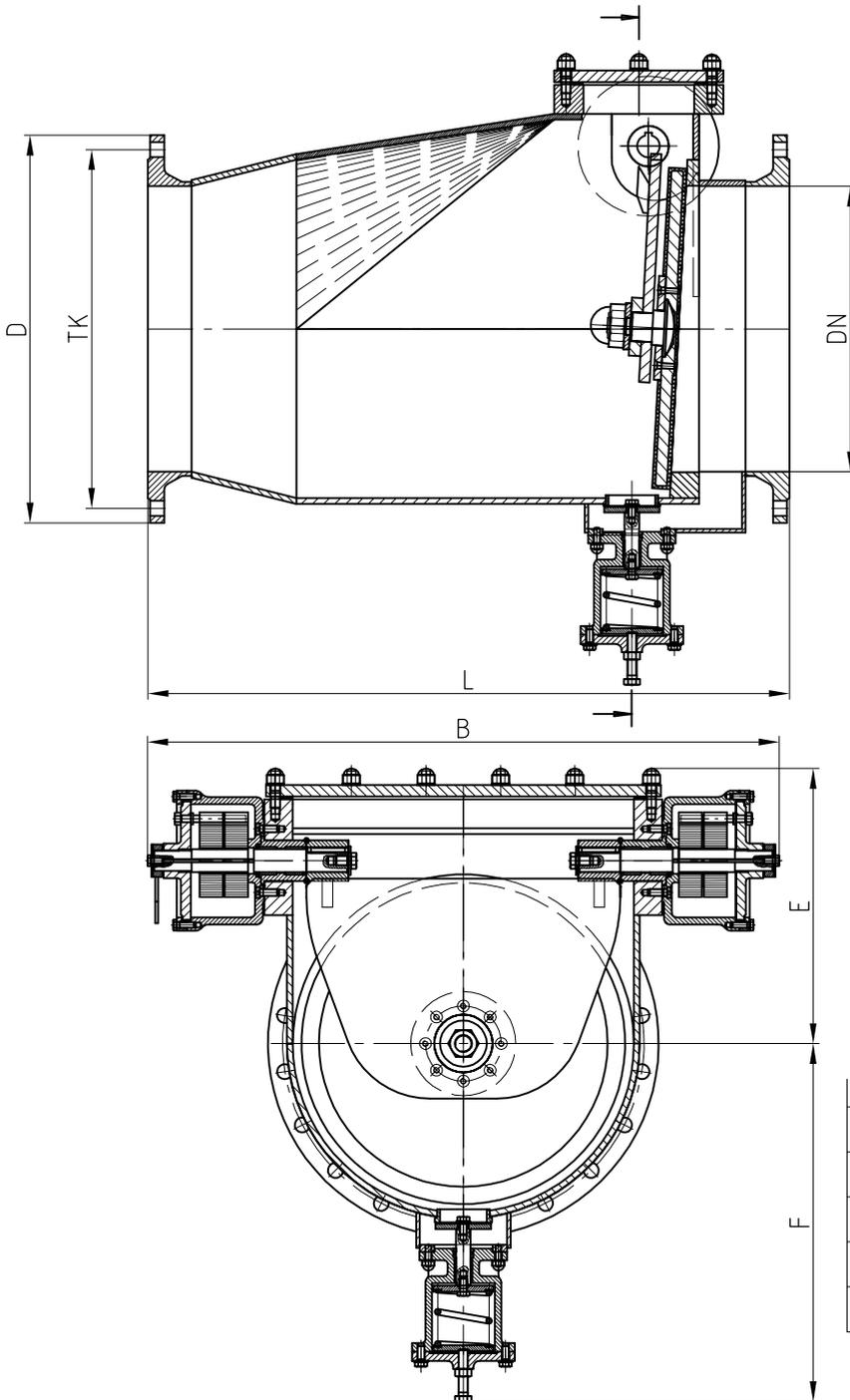
Dimensions in mm							Weight
DN	L	B	TK	D	E	F	kg
250	600	630	295	340	310	500	196.5
300	700	710	400	445	345	535	291.5
350	800	766	460	505	390	560	363.5

<b>Copyright according to DIN 34</b>	Sample drawing: RSK-FTUD
<b>Scale:</b>	

Subject to technical modifications and errors.



Non-return valves  
RSK



DN	Dimensions in mm						Weight kg
	L	B	E	TK	D	F	
400	900	900	405	515	565	565	325.0
500	1100	1090	475	620	670	620	435.0
600	1300	1180	535	725	780	665	545.0
700	1500	1300	595	840	895	720	755.0
800	1700	1420	665	950	1015	765	1040.5

Copyright according to DIN 34	Sample drawing: RSK-FTUD
Scale:	

Subject to technical modifications and errors.



## Ventilation and bleeding valves

### Two-stage valves of the series BEV-GF DBP no. 4341803/EP 0661 483

STRATE vent valves guarantee the optimum venting and air release of pressure pipes. The valves are designed according to the actual working pressure or operating pressure at the installation location. The dimensioning, and thus the choice of valve type, mainly depends on the maximum flow rate in the pressure pipe.

#### Bleeding

The design of the first stage (coarse bleeding) is determined by the maximum pumping capacity in the pressure pipe. The maximum pumping capacity can result e.g. during filling of the pressure pipe or when all pumps are in operation. This means that the first bleeding stage of the valve must be able to remove as much air as the water entering the system in any planned operating state. The coarse bleeding stage allows a rapid filling of the system and a rapid reduction in the air pockets at the start of the pumping process.

The second stage (fine bleeding) has the function of dissipating air and gas which collects in the high points of the system during pumping under working pressure. This requires the float weight and the nozzle cross-section to match the working pressure in the high point.

#### Ventilation and pressure compensation

In pressure pipes with falling or rising sections, a partial vacuum can form within these sections after the end of pumping, which can lead to pipe damage and pressure surges. If partial

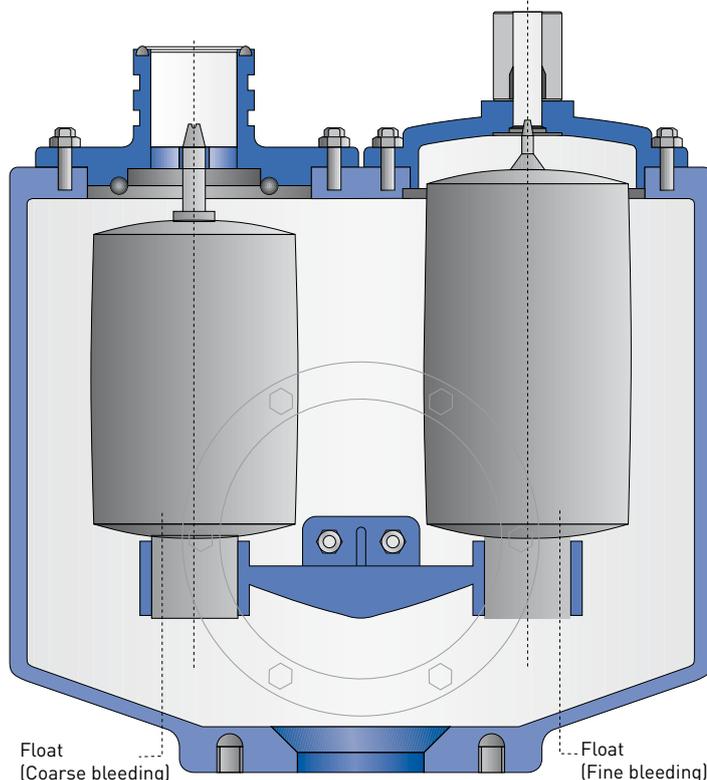
vacuum occurs, the coarse and fine bleeding stages open, the pressure pipe is ventilated and the formation of vacuum effectively avoided.

The valves are set to working pressure at the manufacturer's factory. The STRATE BEV vent valves are classified in the following pressure stages:

- Standard version:  
Working pressure: 2 bar / 4 bar / 6 bar at the installation location  
Pressure rating housing and flange connection: PN 10

- Special version:  
Working pressure: up to 16 bar at the installation location  
Pressure rating housing and flange connection: max. PN 16

At a maximum pumping head of 60 mWS, which corresponds to most application cases, the standard valve with a maximum working pressure of 6 bar can be used at the point of installation. The following applies in long pipe systems: the further the high point to be vented is from the pump, the more the working pressure is reduced at the point of installation. For the valves to be planned exactly, STRATE project engineers require all the data for both the pressure pipe system and the pumping station.





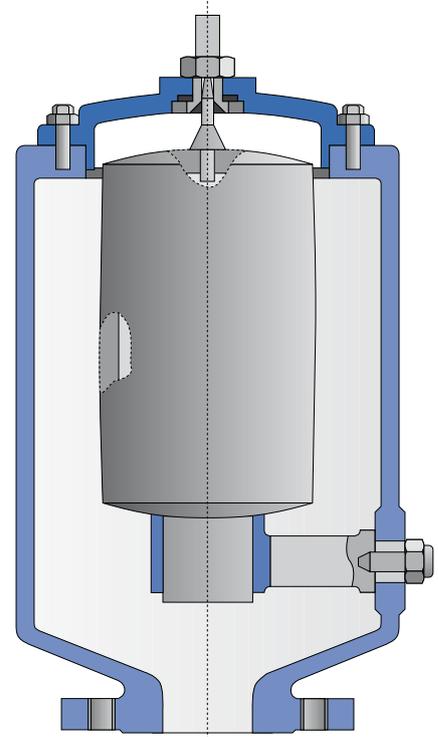
## Ventilation and bleeding valves

### Single-stage valves of the series BEV-F (fine bleeding) DBP no. 4341803

The STRATE BEV-F is a single-stage venting valve whose function only corresponds to the second bleeding stage (fine bleeding) of the two-stage valves of the type BEV-GF described overleaf. The same conditions as described there apply for the design.

Special applications for this valve type:

- Installation at high points which remain under hydrostatic pressure even when the pump is at a standstill due to the routing of the pressure pipe, and which thus do not require coarse bleeding
- Installation at high points in pressure pipe systems with low flow rates

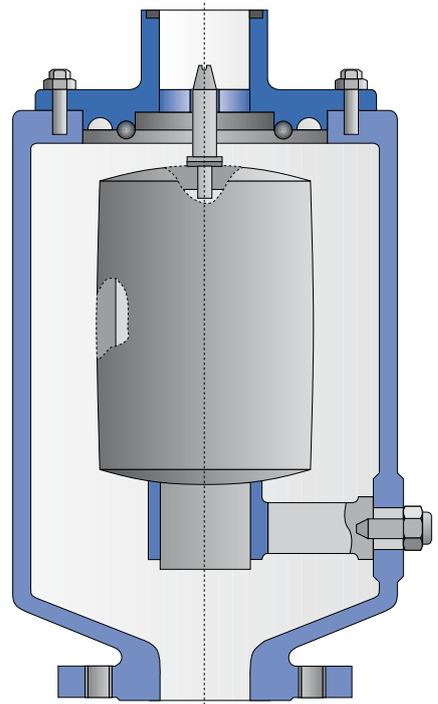


### Single-stage valves of the series BEV-G (coarse bleeding) DBP no. 4341803

The STRATE BEV-G is a single-stage venting valve whose function only corresponds to the first bleeding stage (coarse bleeding) of the two-stage valves of the type BEV-GF described overleaf. The same conditions as described there apply for the design. Adjustment to match the operating pressure is not necessary for the first bleeding stage since coarse bleeding under pressure is always closed.

Special applications for this valve type:

- Ventilation of individual sections in falling or rising pressure pipes, particularly as vacuum protection
- Fast bleeding of high points where fine bleeding is not appropriate (short pump run times)



## Ventilation and bleeding valves

### Capacity table

Valve type	Bleeding flow m <sup>3</sup> /h		Flange DN/PN	Weight kg
	* 1st stage	** 2nd stage		
BEV ...				
20-F-50 <sup>3)</sup>	–	20	50/10	27
40-2F-80 <sup>2)</sup>	–	2x20	80/10	60
450-G-50	450	–	50/10	27
1000-G-100 <sup>1)</sup>	1000	–	100/10	60
2000-G-150 <sup>1)</sup>	2000	–	150/10	70
450/20-GF-80	450	20	80/10	65
1000/20-GF-100	1000	20	100/10	130
2000/40-GF-150 <sup>1)</sup>	2000	40	150/10	130

\* The pump flow rate must not exceed the bleeding rate of the first stage.

\*\* The bleeding rate at 2 bar over operating pressure at the installation point.

Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates.

Special design sizes on request.

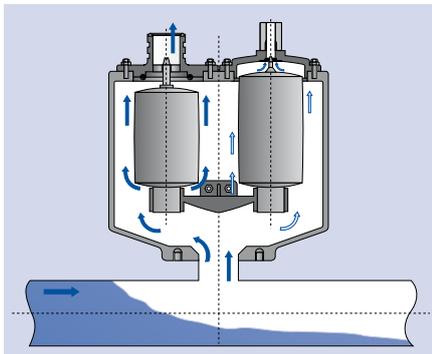
<sup>1)</sup> Housing: St 37 welded

<sup>2)</sup> Corresponds to former BEV 125-2S

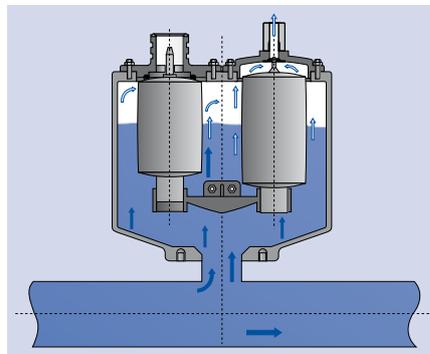
<sup>3)</sup> Corresponds to former BEV 125-S

### How the BEV valve series GF works

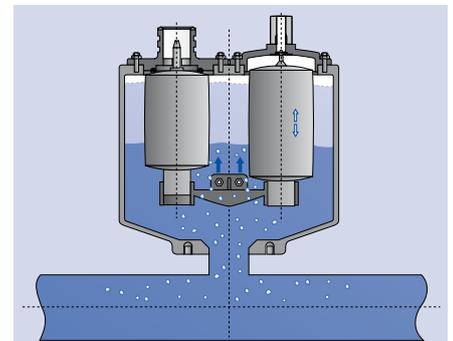
1. When the pumping stage starts, the pumped medium flows into the pressure pipe. The air in the pressure pipe escapes through the opened valve until the following pumped medium forces the coarse bleeding float against the seat and closes the first stage (coarse bleeding) of the valve.



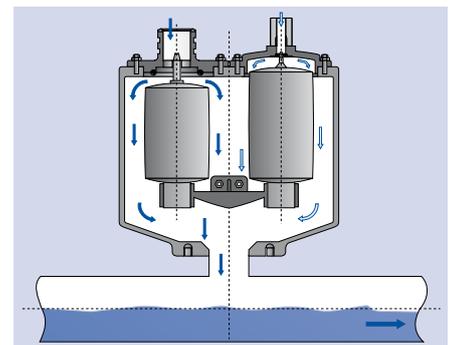
2. The air still present in the valve escapes more slowly through the second stage (fine bleeding) until the fine bleeding float is also forced up by the pumped medium and the 2nd stage closes.



3. The air cushion above the floats prevents contact of the valve seat of the 1st and 2nd stage with the pumped medium. Gases compressed by the pumping process collect in the valve housing, displace the pumped medium and force the 2nd bleeding stage to open; they escape due to overpressure inside the valve. The incoming medium makes the fine bleeding float close the 2nd stage again. This process is repeated as long as air or gas collects in the valve. The 1st bleeding stage (coarse bleeding float) remains closed.

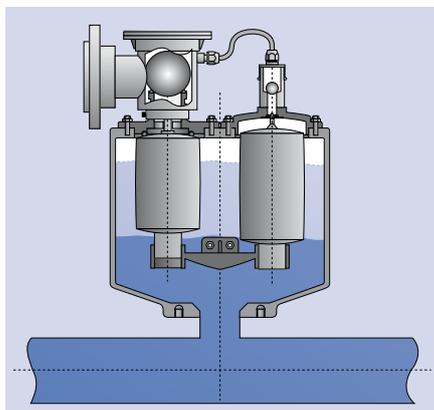


4. After the end of the pumping stage, both bleeding stages open. The pressure pipe is ventilated.

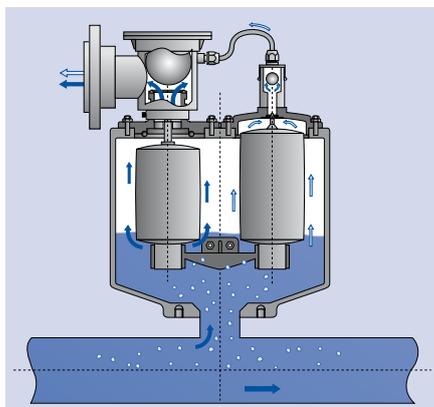


## Ventilation and bleeding valves

5. If the ventilation and bleeding valve is equipped with air ingress protectors, they close the ventilation device and prevent ventilation of the pressure line. A partial vacuum forms in the valve housing and pressure pipe, the pumped medium is retained in the pipe. No air can be drawn into the pipe from the outside which would have to be expelled during the next pumping stage.



6. Any air remaining and gases forming in the pressure pipe rise to the high point and are expelled through the open valve when pumping starts again.



### Maintenance

#### Requirements

The reliable and proven STRATE BEV venting valves have been developed especially for pumping effluent and sludge; however, the sometimes extremely high level of soiling in the effluent requires the valves to be checked regularly. This checking allows soiling to be recognised in good time and any functional problems to be avoided.

#### Maintenance intervals

STRATE BEV venting valves are extremely reliable. This is achieved by the patented design especially for effluent and the use of appropriate materials. A high-grade EGD or

2-component coating on epoxy resin basis ensure smooth soiling-resistant surfaces within the housing. The floats are made of a plastic material (NCPE 8093) which prevents deposits to a major extent. Regular maintenance is still recommended despite these valve properties, however. The maintenance intervals must be stipulated by the operator depending on operating conditions and according to observation. The first maintenance inspection should take place after 4 weeks to determine a first empirical value for the following maintenance work.

#### Maintenance

The maintenance required is described in the special installation and maintenance instructions for the individual BEV types.

### The perfect ventilation and bleeding valve for your special requirements

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE vent valve – BEV – or other matters.



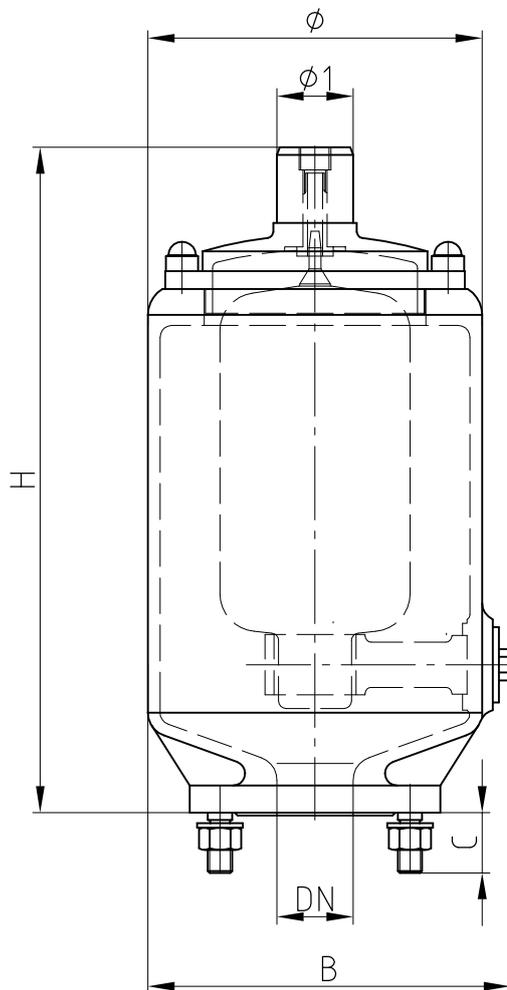
You will find your project planning sheet in this catalogue under "Project planning aids".



You can also find an online version in our download centre!  
[www.strate.com](http://www.strate.com)



Ventilation and bleeding valves



**Materials:**  
 Housing: EN-GJS-400-15  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Protection against corrosion: EGD coating  
 Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	Dimensions in mm					Weight kg
			ø	B	H	ø1	C	
20-F-50	20	50/10	220	240	445	50	40	27.0

The pump flow rate must not exceed the bleeding rate of the first stage. max. bleeding rate at 2 bar working pressure at the installation location.

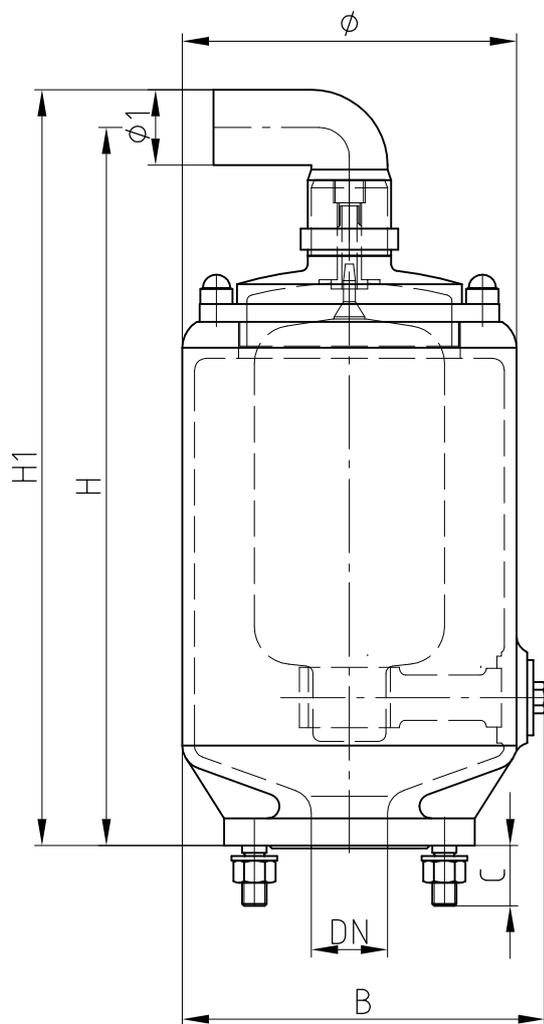
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-F
<b>Scale:</b>	

Subject to technical modifications and errors.



Ventilation and bleeding valves



Materials:  
 Housing: EN-GJS-400-15  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Ventilation connector: PVC  
 Protection against corrosion: EGD coating  
 Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	ø	Dimensions in mm				Weight	
				B	H	H1	ø1	C	kg
20-F-50	20	50/10	220	240	475	500	50	40	27.0

The pump flow rate must not exceed the bleeding rate of the first stage. max. bleeding rate at 2 bar working pressure at the installation location.

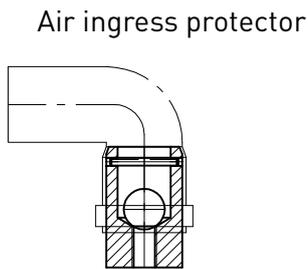
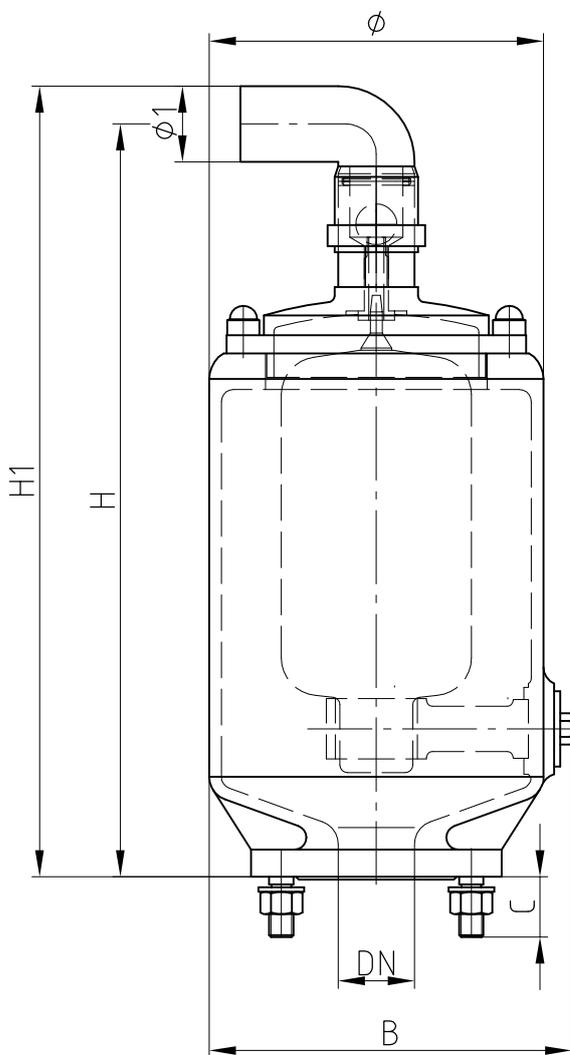
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-F with ventilation connector LA
<b>Scale:</b>	

Subject to technical modifications and errors.



Ventilation and bleeding valves



Materials:

- Housing: EN-GJS-400-15
- Float: Plastic NCPE
- Nozzle and valve face: Stainless steel 1,4301
- Screws: Stainless steel A2/A4
- Ventilation connector: PVC
- Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	ø	Dimensions in mm				Weight	
				B	H	H1	ø1	C	kg
20-F-50	20	50/10	220	240	500	525	50	40	27.2

The pump flow rate must not exceed the bleeding rate of the first stage.  
max. bleeding rate at 2 bar working pressure at the installation location.

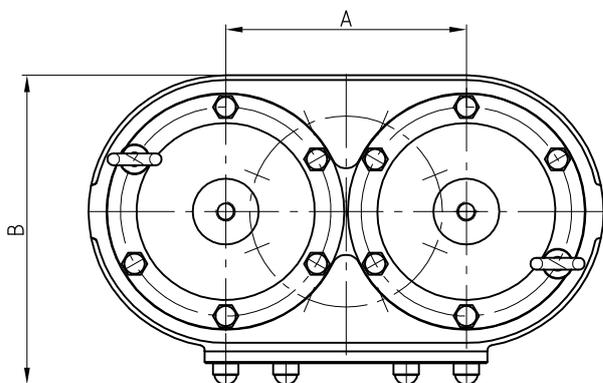
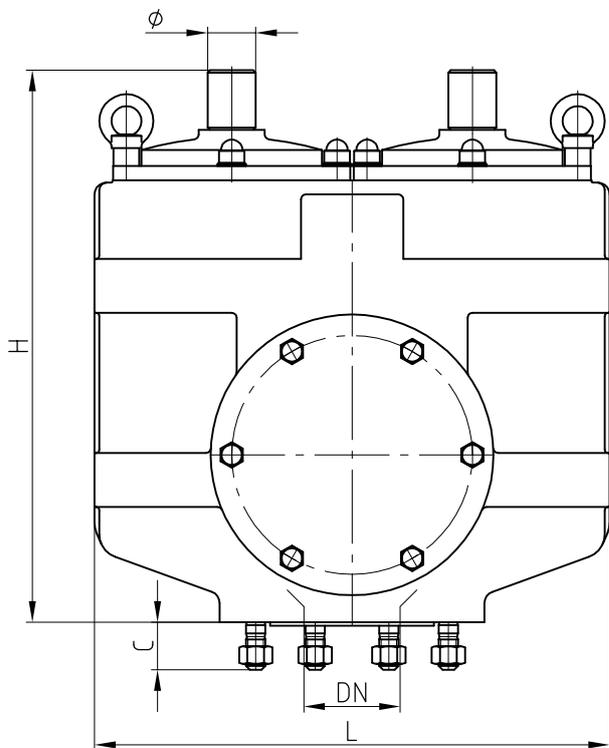
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates.  
Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-F with air ingress protector BSP
<b>Scale:</b>	

Subject to technical modifications and errors.



Ventilation and bleeding valves



**Materials:**  
 Housing: EN-GJS-400-15  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Protection against corrosion: EGD coating  
 Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	Dimensions in mm							Weight kg
			L	B	A	H	Ø	C		
40-2F-80	2x20	80/10	428	260	200	462	50	40	60.0	

The pump flow rate must not exceed the bleeding rate of the first stage.  
 max. bleeding rate at 2 bar working pressure at the installation location.

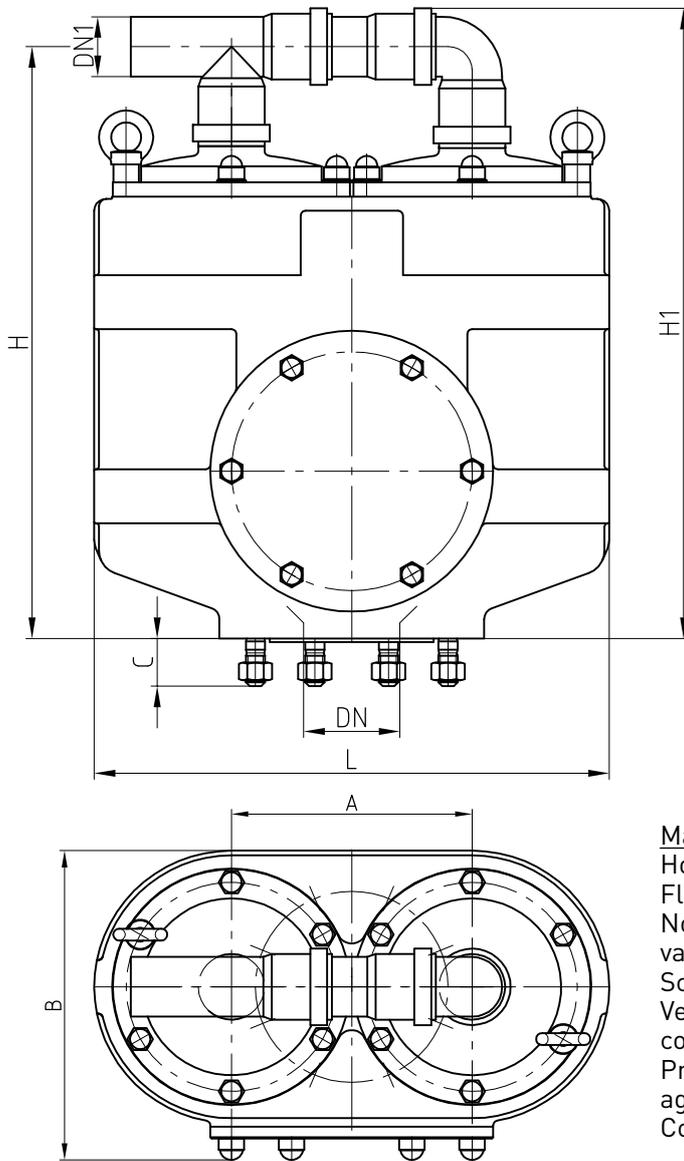
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates.  
 Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-2F
<b>Scale:</b>	

Subject to technical modifications and errors.



## Ventilation and bleeding valves



**Materials:**

- Housing: EN-GJS-400-15
- Float: Plastic NCPE
- Nozzle and valve face: Stainless steel 1,4301
- Screws: Stainless steel A2/A4
- Ventilation connector: PVC
- Protection against corrosion: EGD coating
- Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	DN1	L	Dimensions in mm					Weight kg
					B	A	H	H1	C	
4.0-2F-80	2x20	80/10	50	428	260	200	500	530	40	60.0

The pump flow rate must not exceed the bleeding rate of the first stage. max. bleeding rate at 2 bar working pressure at the installation location.

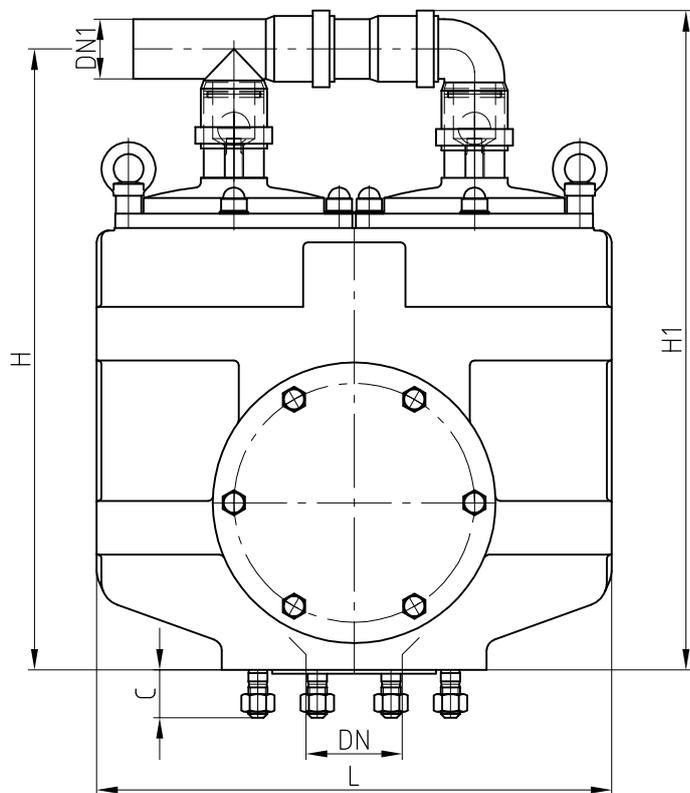
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-2F with ventilation coupler BLV
<b>Scale:</b>	

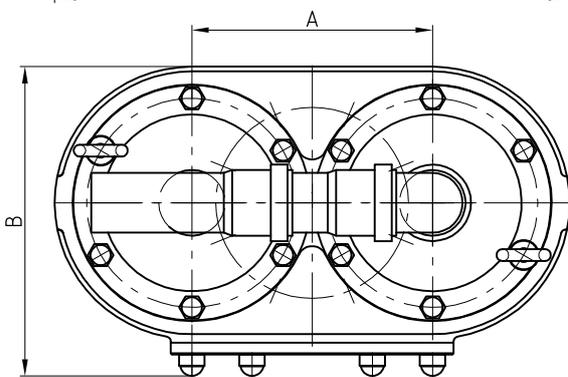
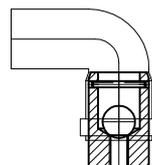
Subject to technical modifications and errors.



## Ventilation and bleeding valves



Air ingress protector



- Materials:**  
 Housing: EN-GJS-400-15  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Ventilation connector: PVC  
 Protection against corrosion: EGD coating  
 Colour: RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange		Dimensions in mm						Weight kg
		DN/PN	DN1	L	B	A	H	H1	C	
40-2F-80	2x20	80/10	50	428	260	200	520	555	40	60.0

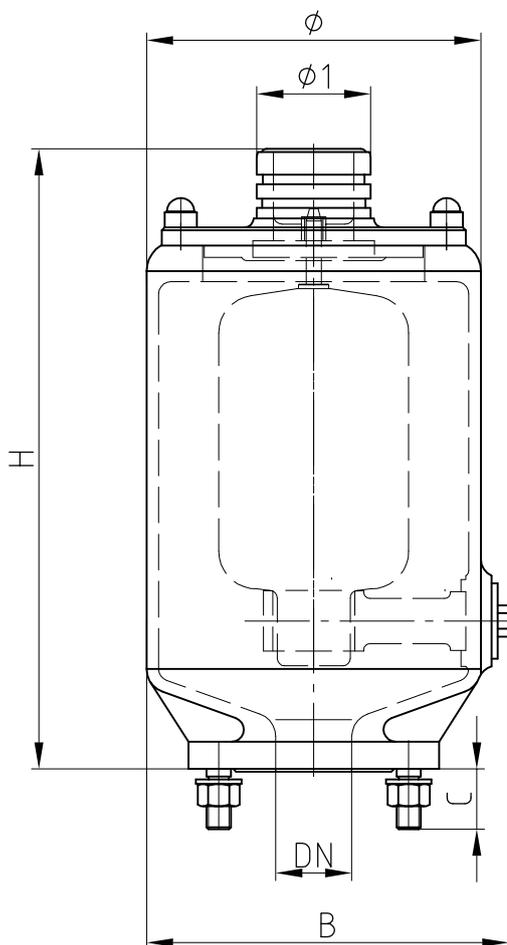
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates.  
 Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-2F with air ingress protector BSP-G
<b>Scale:</b>	

Subject to technical modifications and errors.



Ventilation and bleeding valves



Materials:  
 Housing: EN-GJS-400-15  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Protection against corrosion: EGD coating  
 Colour: Permacor 3326/EG 1) RAL 6011

BEV	Bleeding rate m <sup>3</sup> /h max.	Flange DN/PN	Dimensions in mm				Weight	
			ø	B	H	ø1	C	kg
450-G-50	450	50/10	220	240	410	70	40	27.0
1000-G-100	1) 1000	100/10	273	315	430	110	40	60.0
2000-G-150	1) 2000	150/10	355.6	387	535	160	60	70.0

The pump flow rate must not exceed the bleeding rate of the first stage.

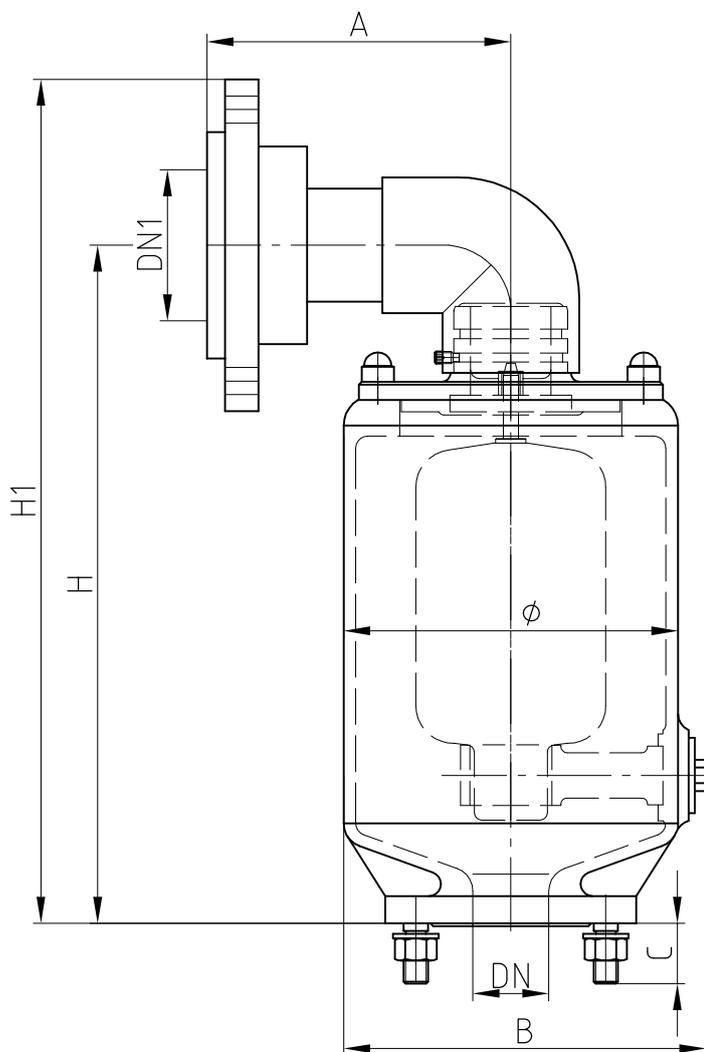
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: BEV-G
<b>Scale:</b>	

Subject to technical modifications and errors.



## Ventilation and bleeding valves



**Materials:**  
 Housing: EN-GJS-400-15 S235JRG2 1)  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Ventilation connector: PVC  
 Protection against corrosion: EGD coating Permacor 3326/EG 1)  
 Colour: RAL 6011

BEV mit LA-F	Bleeding rate m <sup>3</sup> /h max.	Flange			Dimensions in mm					Weight kg
		DN / PN	DN1	ø	A	B	H	H1	C	
450-G-50	450	50/10	100	220	200	240	450	560	40	29.5
1000-G-100 1)	1000	100/10	100	273	190	315	505	615	40	63.5
2000-G-150 1)	2000	150/10	150	355.6	265	387	650	795	60	76.5

The pump flow rate must not exceed the bleeding rate of the first stage.

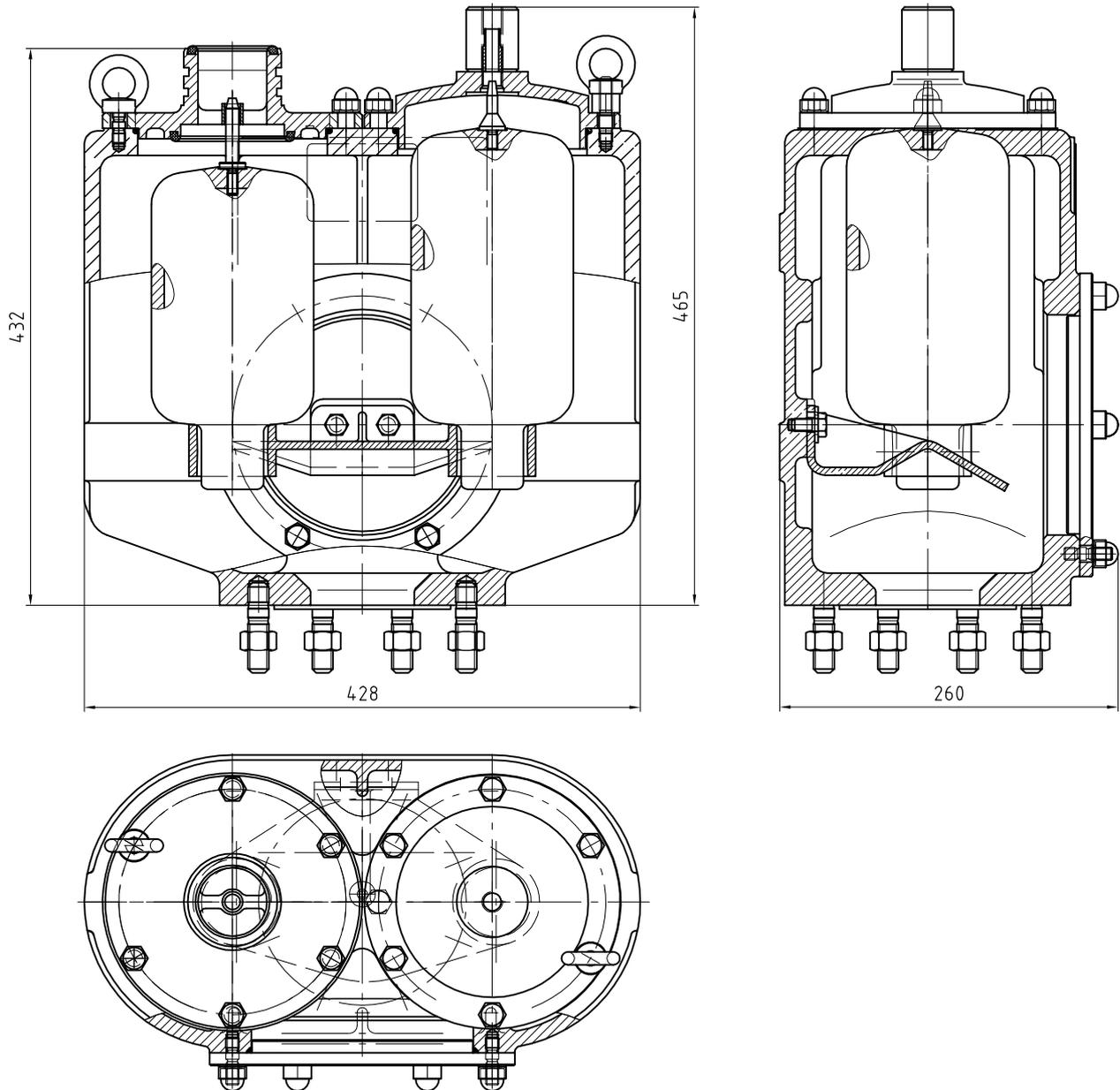
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

Copyright according to DIN 34	Sample drawing: BEV-G with ventilation connector LA-F
Scale:	

Subject to technical modifications and errors.



## Ventilation and bleeding valves

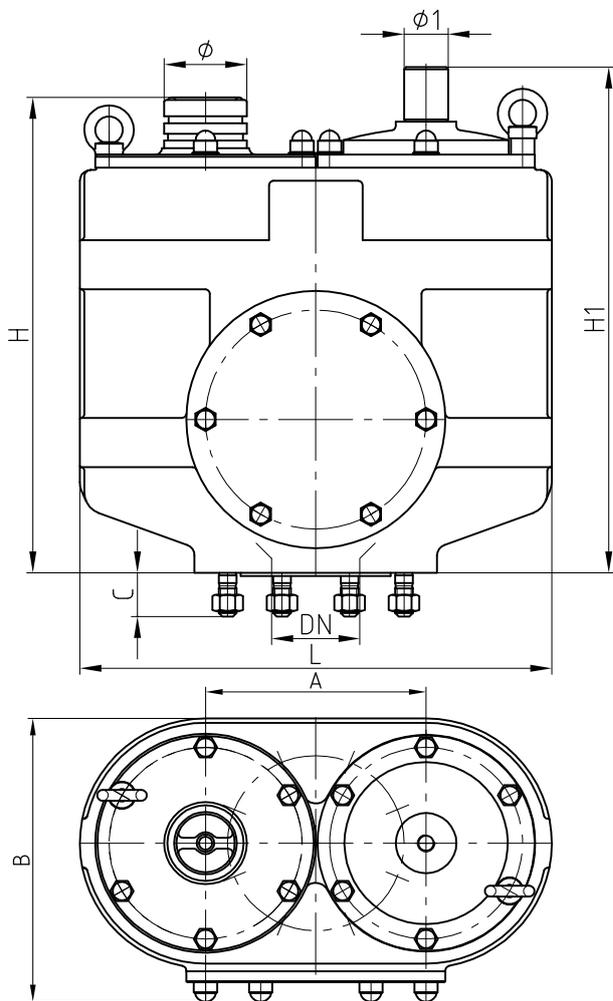


<b>Copyright according to DIN 34</b>	Sample drawing: BEV-GF
<b>Scale:</b>	

Subject to technical modifications and errors.



## Ventilation and bleeding valves



Materials:  
 Housing: EN-GJS-400-15 S235JRG2 1)  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Protection against corrosion: EGD coating  
 Permacor 3326/EG 1)  
 Colour: RAL 6011

BEV	Bleeding rate x m <sup>3</sup> /h xx		Flange DN/PN	Dimensions in mm							Weight kg	
	1. St.	2. St.		L	B	A	H	H1	Ø	Ø1		C
450/20-GF-80	450	20	80/10	428	260	200	432	465	70	50	40	60.0
1000/20-GF-100	1000	20	100/10	615	370	260	535	565	100	50	40	125.0
2000/40-GF-150 1)	2000	40	150/10	720	390	300	535	565	160	50	60	130.0

x The pump flow rate must not exceed the bleeding rate of the first stage.  
 xx max. bleeding rate at 2 bar working pressure at the installation location.

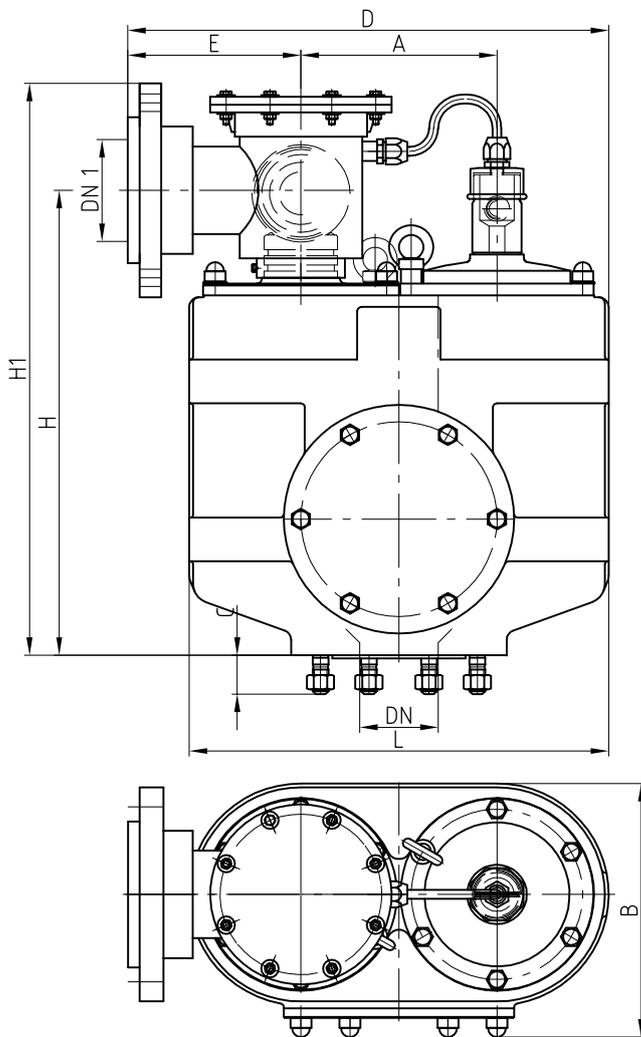
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

Copyright according to DIN 34	Sample drawing: BEV-GF
Scale:	

Subject to technical modifications and errors.



## Ventilation and bleeding valves



**Materials:**  
 Housing: EN-GJS-400-15  
           S235JRG2  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Ventilation coupler: PVC  
 Protection against corrosion: EGD coating  
   Permacor 3326/EG 1)  
 Colour: RAL 6011

BEV mit BSP-G-F	Bleeding rate m <sup>3</sup> /h <sup>xx</sup>		Flange DN / PN	DN1	L	B	Dimensions in mm					Weight kg	
	1. St.	2. St.					A	H	H1	E	D		C
450/20-GF-80	450	20	80/10	100	428	260	200	480	590	175	490	40	63.5
1000/20-GF-100	1000	20	100/10	100	615	370	260	595	705	215	655	40	128.5
2000/40-GF-150 1)	2000	40	150/10	150	720	390	300	615	760	255	765	60	137.5

× The pump flow rate must not exceed the bleeding rate of the first stage.  
 xx max. bleeding rate at 2 bar working pressure at the installation location.

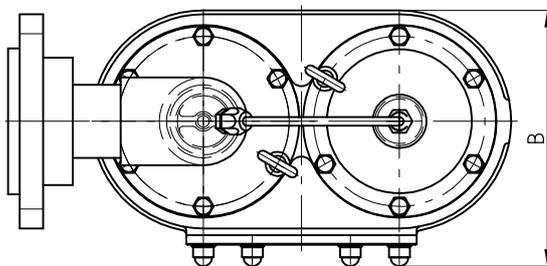
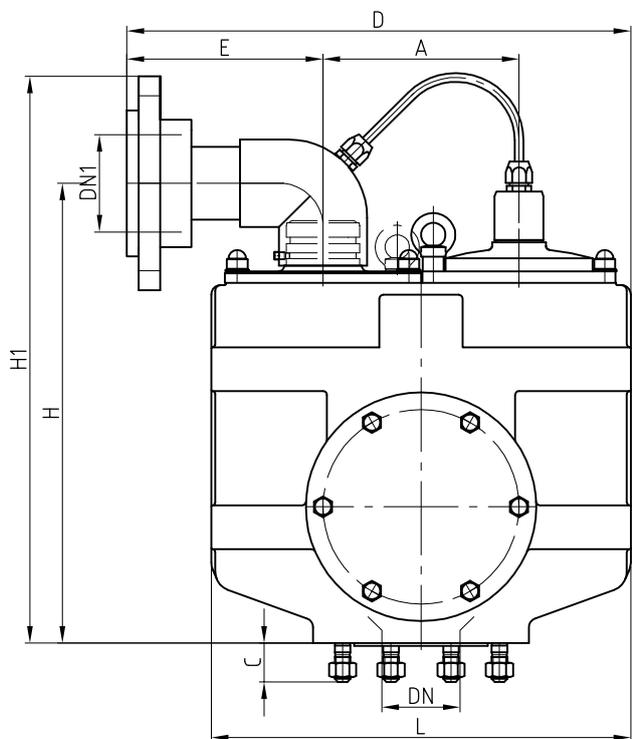
Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: Air ingress protector BSP-G-F
<b>Scale:</b>	

Subject to technical modifications and errors.



## Ventilation and bleeding valves



**Materials:**  
 Housing: EN-GJS-400-15 S235JRG2 1)  
 Float: Plastic NCPE  
 Nozzle and valve face: Stainless steel 1,4301  
 Screws: Stainless steel A2/A4  
 Ventilation connector: PVC  
 Protection against corrosion: EGD coating Permacor 3326/EG 1)  
 Colour: RAL 6011

BEV	Bleeding rate x m <sup>3</sup> /h xx		Flange		Dimensions in mm							Weight	
	1. St.	2. St.	DN / PN	DN1	L	B	A	H	H1	E	D	C	kg
450/20-GF-80	450	20	80/10	100	428	260	200	475	585	200	515	40	63.0
1000/20-GF-100	1000	20	100/10	100	615	370	260	610	720	190	625	40	128.0
2000/40-GF-150 1)	2000	40	150/10	150	720	390	300	650	795	115	775	60	137.0

x The pump flow rate must not exceed the bleeding rate of the first stage.  
 xx max. bleeding rate at 2 bar working pressure at the installation location.

Please ask about higher working pressures (up to 16 bar) as well as for larger bleeding rates. Special design sizes on request.

<b>Copyright according to DIN 34</b>	Sample drawing: Ventilation coupler BLV-F
<b>Scale:</b>	

Subject to technical modifications and errors.

# Pressure pipes Ventilating and flushing

## STRATE systems for venting, flushing and partially emptying sewage pressure pipes

- reliably prevent the formation of toxic, odorous, corrosive gases and acids
- are economic and low-maintenance to operate and significantly extend the service life of the sewage pressure pipes and downstream station sections

STRATE Technologie für Abwasser GmbH offers you complete solutions from a single source. The complex subject of “venting, flushing and partially emptying sewage pressure pipes” needs very careful consideration with regard to application-specific, economic and user-friendly operation coupled with maximum availability. We will be happy to support you with the selection of the STRATE system you need and place our experience at your disposal for detailed consultation on the subject. In this chapter, we would like to give you a brief overview of the biological-chemical change processes which take place in sewage pipes, illustrate solutions and areas of applications as well as present the individual systems and their characteristic properties.

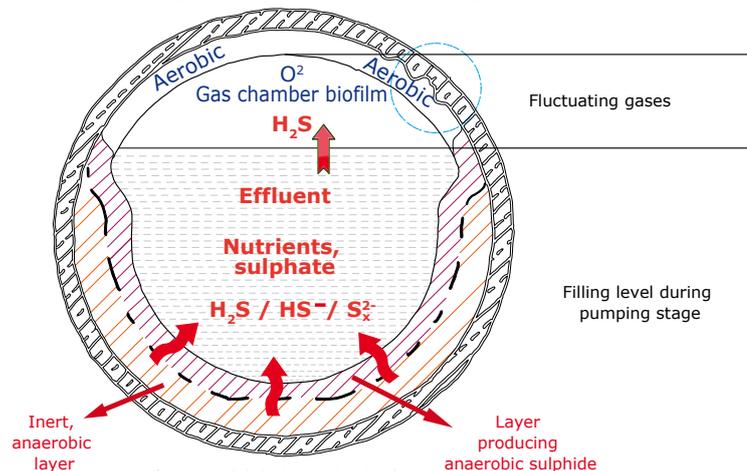
### Causes and effects of biological-chemical processes in effluent pressure pipes

Fresh municipal effluent has a smell of its own which is very similar to compost and is generally not considered unpleasant.

During pumping through the sewage pumping station, the effluent remains for a certain time in the connected pressure pipe before it reaches the sewage plant. This dwelling time directly depends on the pumped sewage quantity, the cross-section of

the pipe and the length of the pressure pipe. Dwelling times of longer than two hours in pressure pipes and/or increased concentrations of organisms in the effluent quickly use up the residual oxygen contained. This leads to anaerobic conditions resulting in intensive odour formation and considerable pollutant burden for the surrounding area e.g. near transition shafts (hydrogen sulphide  $H_2S$ ).

1. Unpleasant odour through formation of  $H_2S$
2. Possible corrosion through  $H_2S + O_2 \rightarrow H_2SO_4$   
(multi-stage biological oxidation of  $S^{2-}$ )



Source: Dipl.-Ing. M. Mäding



### Note on hydrogen sulphide ( $H_2S$ )

Hydrogen sulphide – nasty smell and extremely dangerous

$H_2S$ - gas is produced in sewage pipes due to a lack of dissolved oxygen. It produces a nasty, pungent smell like rotten eggs and is considered unpleasant from a concentration of 5 ppm (unbearable from 20 ppm). Hydrogen sulphide is colourless, combustible, soluble in water and explosive in combination with oxygen as well as extremely toxic.  $H_2S$  gas can no longer be perceived by the human scent of smell from 500 ppm and is fatal within 30 minutes in this concentration.



## Pressure pipes Ventilating and flushing

### Measures for avoiding odour formation during biological-chemical conversion processes

In addition, deposits are formed on the inner pipe wall, the so-called "biofilm", which causes a biological-chemical exchange of substances with negative consequences for the effluent and the whole transport system. The transformation of aerobic to anaerobic micro-organisms makes sewage treatment in the sewage plant more difficult, sulphuric acid corrodes pipelines, shafts, shaft covers and other system components, deposits at low points in the pressure pipe are favoured and may lead to pipeline blockage.

#### **AWAerob:**

The share of oxygen in our ambient air is around 21%. If this air is specifically added to the effluent under the observation of technical conditions in such a way that the oxygen dissolves, the aerobic condition of the effluent can be retained and odour formation prevented to a large extent. The solubility of oxygen in liquids increases as pressure increases. In other words, venting of the effluent is effective in the pressure pipe itself.

#### **AWAexpand and AWAflush:**

Depending on local circumstances and the operating conditions of the sewage pumping system, a feasibility check may show that flushing or partial emptying of the pressure pipe are an alternative to venting.

#### **Pigs:**

For extensive removal of biofilm, regular use of a cleaning pig is the ideal supplement to the STRATE systems for venting, flushing and partially emptying sewage pressure pipes. The pig, a cleaning ball, is introduced to the sewage pumping flow via a pig trap. The pig is conveyed through the complete pressure pipe with the aid of the pump pressure. During this process, additional

cleaning of the inner pipe wall is carried out. The pig is removed at the end of the pressure pipe.

The installation possibilities for STRATE venting, flushing and partially emptying systems are oriented towards existing or planned local buildings. If there is no service building available for the sewage pumping station, housing in a pre-fabricated STRATE AWASTATION service building is a high-quality and economic option. If above-ground installation is not possible, the system can be mounted on a wall bracket directly in the STRATE AWALIFTSCHACHT of the sewage pumping station.



Cleaning pigs of different sizes (source: Dipl.-Ing. M. Mäding)



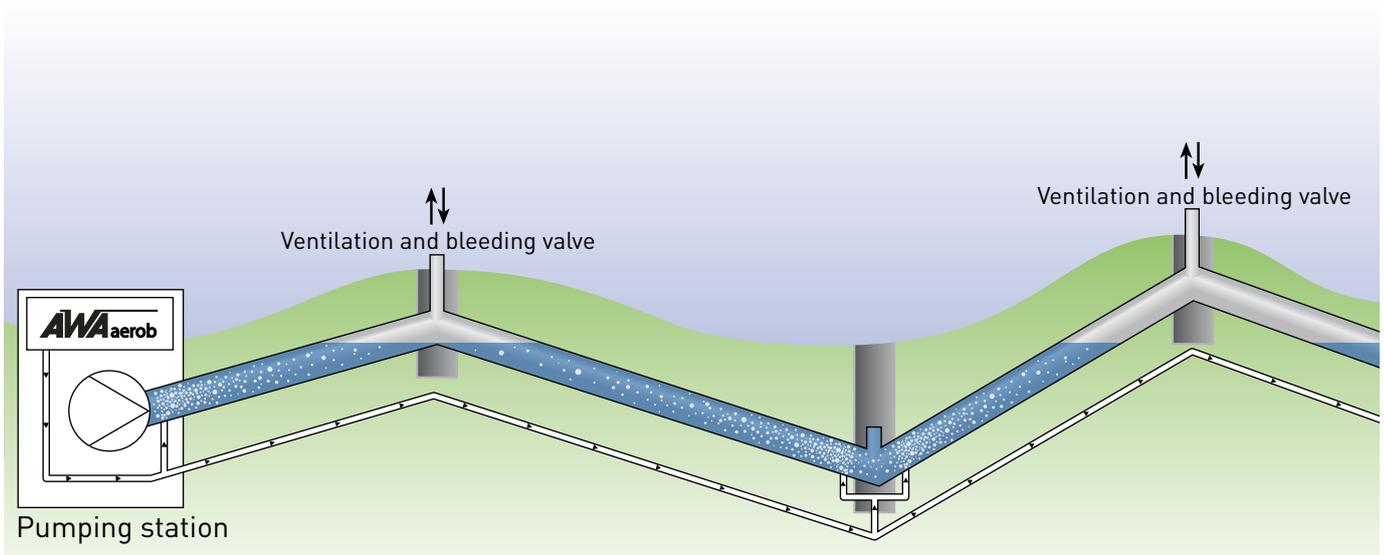
### Note on sewage discharge

Since it is not possible to refresh sewage containing hydrogen sulphide by means of venting, care must be taken that the sewage is discharged into the pumping station in an aerobic condition.

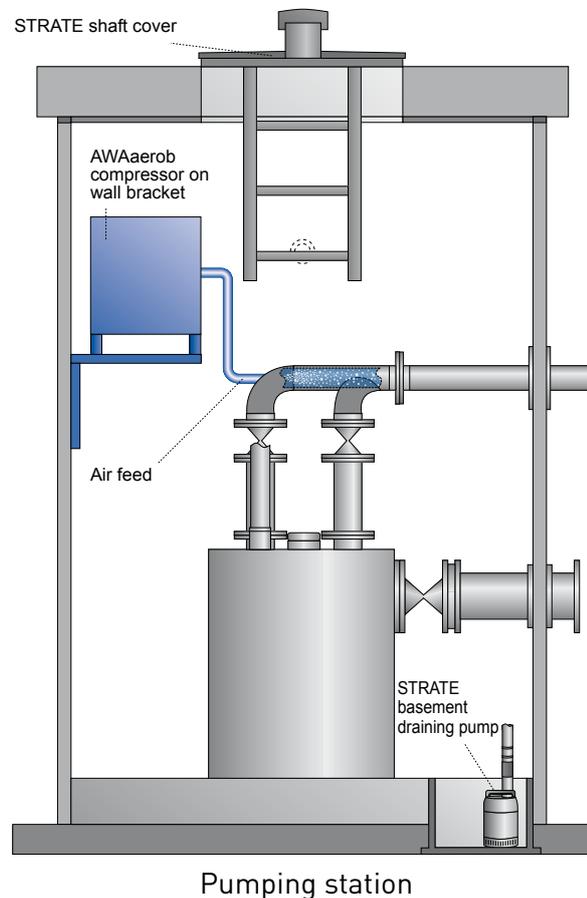
For further pumping, pumping systems with small sewage collecting chambers, low residual water content and without a layer of scum forming are an advantage (corresponds to the STRATE AWALIFT system).



## AWAaerob – injection of fine pearls of oxygen from the air

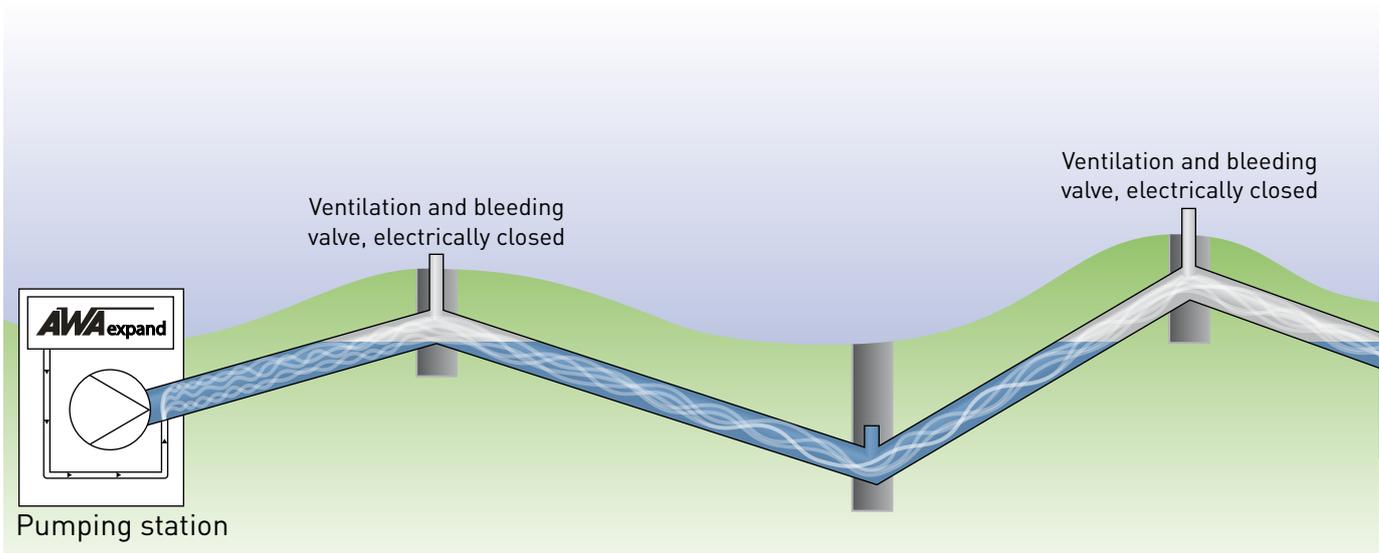


- Ideal for short pressure pipes and high flow speeds in the pressure pipe
- Area of application for pressure pipes  $\leq$  DN 200
- Use with or without accompanying pipe (depending on the high and low points in the pressure pipe)

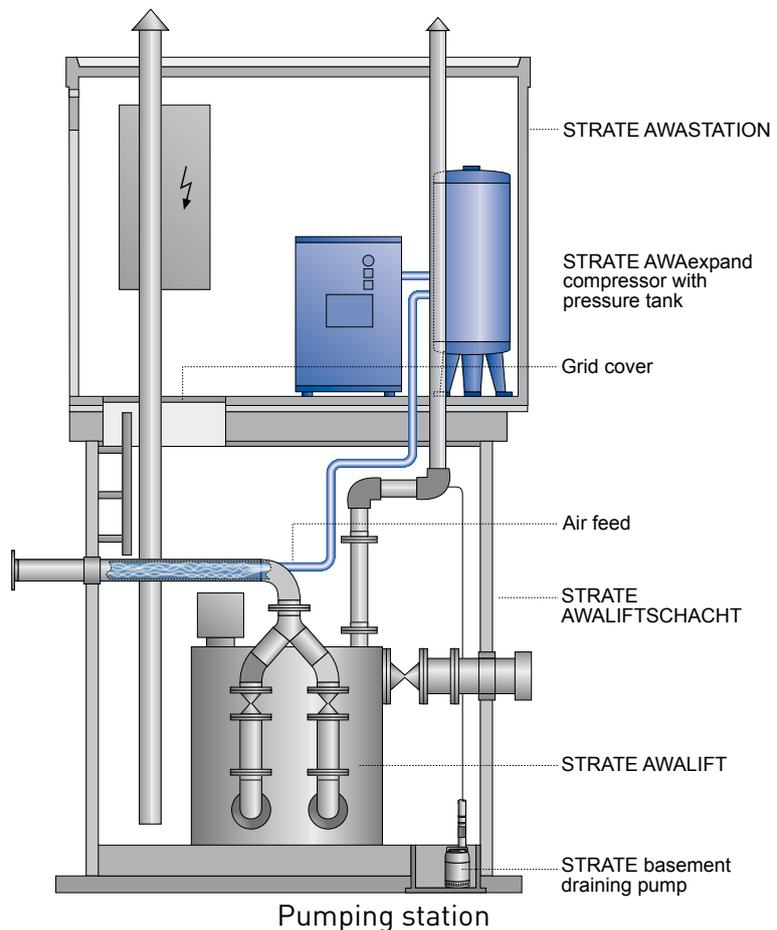




### AWAexpand – compressed air flushing surge after a pumping stage has been completed

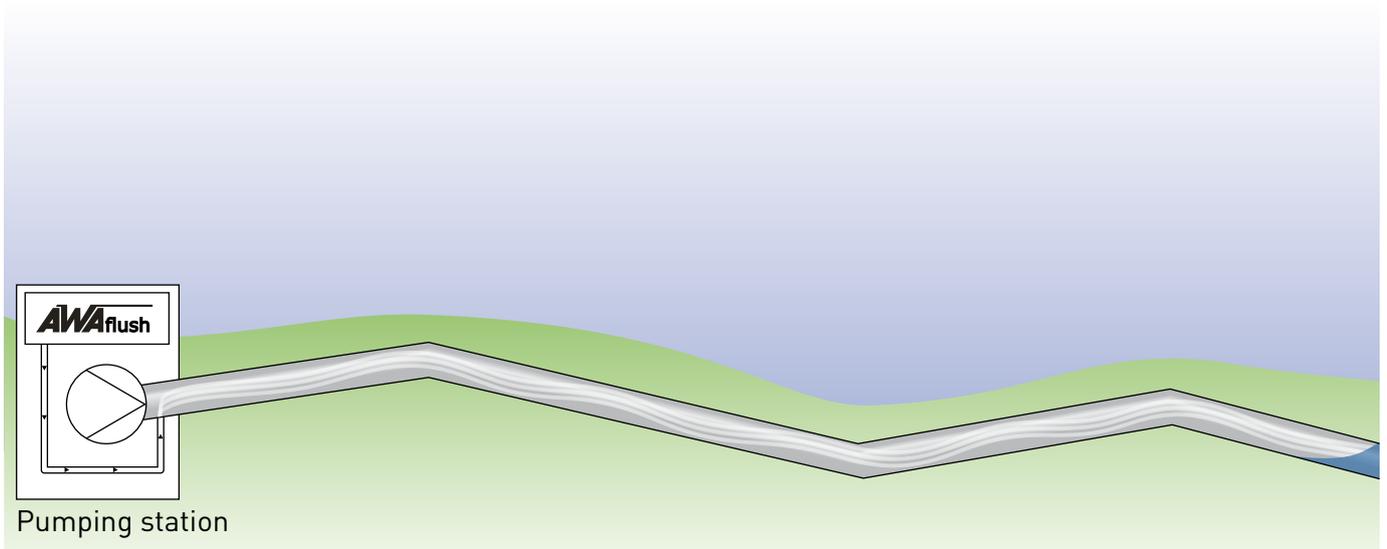


- Ideally suited for longer pressure pipes with several high and low points and longer rising or falling sections
- Mixes oxygen from the air very thoroughly with the sewage
- Prevents formation of biofilm in the pressure pipe (reduces thickness of biofilm, leads to biofilm tearing)
- Area of application for pressure pipes  $\leq$  DN 200
- Ideal for existing pressure pipes, an accompanying pipe is not required

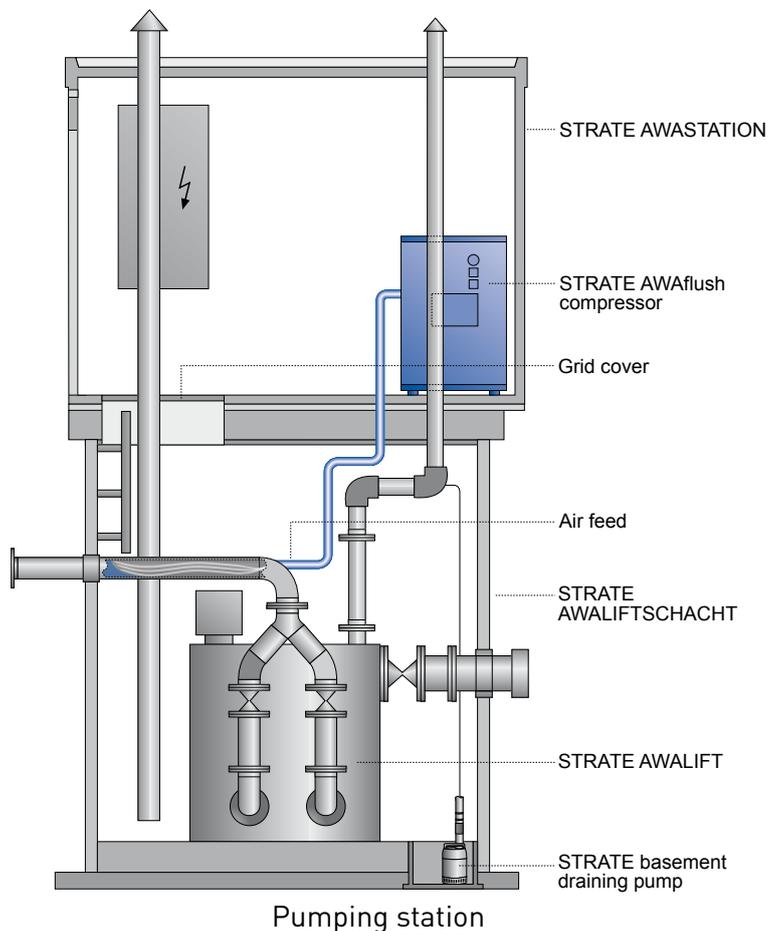




## AWAflush – purging the pipe



- Preferred use in systems which allow the economic emptying or partial emptying of the pressure pipe or in systems into which sewage is not discharged all year round, making emptying of the pressure pipe sensible e.g. on campsites (high/low season)
- For systems where high and low points are not very pronounced
- Can be used when small air pockets can be present in the pressure pipe without affecting the pumping capacity or the pressure pipe itself
- An accompanying pipe is not required





## STRATE System

### The perfect STRATE system for your special requirements

- Can be selected after consultation with us, please return the project planning sheet for STRATE systems for venting, flushing and partially emptying sewage pressure pipes to us by e-mail, fax or post for this purpose.



You will find your project planning sheet in this catalogue under "Project planning aids".



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[www.strate.com](http://www.strate.com)

# AWALIFTSCHACHT as pre-fabricated shaft (GRP)

## STRATE pre-fabricated shafts in one-piece design

- Are the optimum system supplement to STRATE AWALIFT sewage pumping stations. The various design sizes of the pre-fabricated STRATE shafts precisely guarantee the space needed for maintenance work and offer the possibility of including basement draining pumps
- Are made of high-quality, durable and waterproof materials with a high material strength and low material weight, with the design permitting short installation times and excluding complex construction work underneath the bottom of the shaft
- Are economical thanks to their exact fit, high corrosion resistance and favourable purchasing costs as standard items
- Can be ventilated and bled through natural convection. Forced ventilation via pipe ventilator is recommended

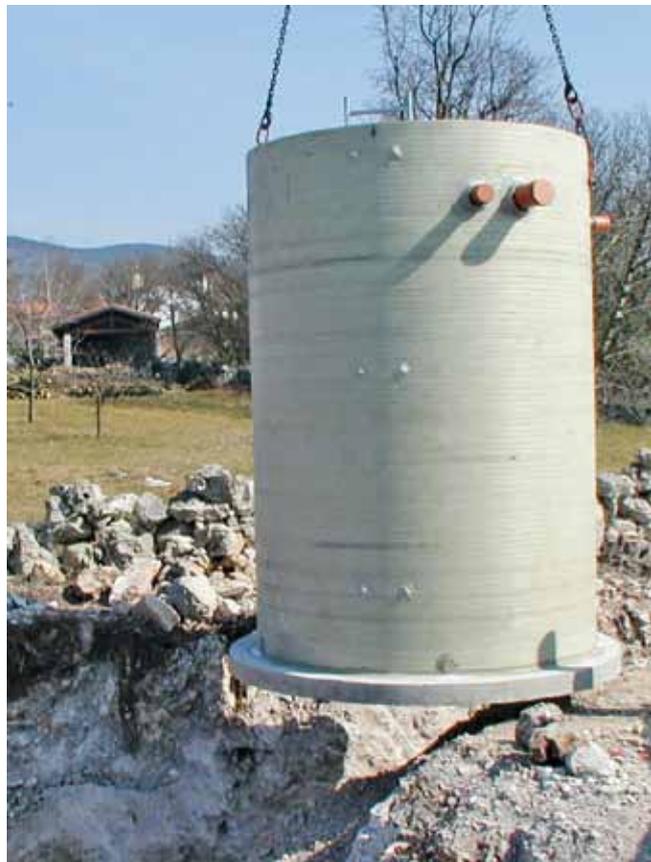
Pipe and cable ducts, which are located exactly according to customer specifications in the manufacturing plant, meet all requirements for an exact fit, safety and ease of maintenance. Ideally, the electrical switchgear is installed in a pre-fabricated STRATE service building set up above the pre-fabricated shaft; other installation possibilities are weather-proof outside cabinets or existing neighbouring service buildings.

### Note

STRATE Technologie für Abwasser GmbH offers you complete solutions from a single source. We will be happy to advise you about the possible combinations of pre-fabricated shafts, sewage pumping stations, pre-fabricated service buildings, control units, electrical installations etc. and place our experience at your disposal for detailed consultation on the subject.

### Areas of application

STRATE AWALIFTSCHACHT pre-fabricated shafts are used in private, industrial and municipal areas where the installation of sewage pumping stations within existing or planned buildings is not possible. The different design sizes of the pre-fabricated STRATE AWALIFT shafts allow the optimum size to be assigned to every individual AWALIFT pumping station. The possible installation of basement draining pumps in pump sumps is taken into consideration in the shaft dimensions.



# AWALIFTSCHACHT as pre-fabricated shaft (GRP)

## Description and scope of supply of the standard version

- One-piece compound structure made of glass fibre reinforced plastic (GRP) from a shaft pipe diameter of 1000 mm to 2900 mm, cover and base plate made of reinforced concrete
- Absolute water-tightness provides for excellent suitability for further purposes e.g. as an inspection, cleaning or valve shaft
- Meets all the requirements of the ATV "Sewage" regulations, which means the pre-fabricated STRATE AWALIFTSCHACHT complies in production and scope of supply

completely with the technical requirements of planning, fitting and operation

- DIN-tested climbing rungs with raised edges for safe entry to the shaft or ladders in different widths and versions
- Cover plate made of reinforced concrete with shaft cover resistant to surface water; shaft cover can either be walked or driven on (depending on requirement class A – D), lockable, galvanised steel or stainless steel

- Permanently flexible and watertight installation of pipe ducts
- Preparation for a pump sump if required
- Floor element system, comprising the reinforced concrete base plate which is sealed to the shaft pipe with a watertight connection, and additional fixture located underneath the base plate as on-site uplift prevention

## Technical data

AWALIFTSCHACHT	1000	1200	1500	1800	2000	2400	2900
<b>Material</b>	GRP	GRP	GRP	GRP	GRP	GRP	GRP
<b>Cover plates Ø mm</b>	1.230	1500	1800	2140	2300	2830	3300
<b>Cover plate thickness in mm</b>	200	200	250	250	250	250	280
<b>Cover plate w/o shaft cover kg</b>	410	655	1343	1953	2421	3520	5635
<b>Load capacity KN depending on shaft cover</b>	max. 600	max. 600	max. 600				
<b>inner Ø mm</b>	1000	1200	1500	1800	2000	2400	approx. 2,880
<b>Wall thicknesses mm</b>	15	20	26	29	33	37	45
<b>Shaft weight kg/m</b>	125	146	235	322	396	560	923
<b>Overall height m</b>	max.10	max. 10	max. 10	max. 10	max. 10	max. 10	max. 10
<b>Uplift prevention Ø mm</b>	1300	1600	2000	2300	2500	3000	3300 x 3000 elliptic
<b>Overall floor thickness mm</b>	250	250	250	320	320	320	360
<b>Floor without pump sump kg</b>	610	971	1517	2599	3132	4510	7400
<b>Floor with pump sump kg</b>	580	914	1460	2520	3053	4431	7320
<b>will accommodate up to AWALIFT</b>	100	100	74/1	74/2	0/2 1/2penta	2/2flach 2/2penta	1/2x2 2/2round



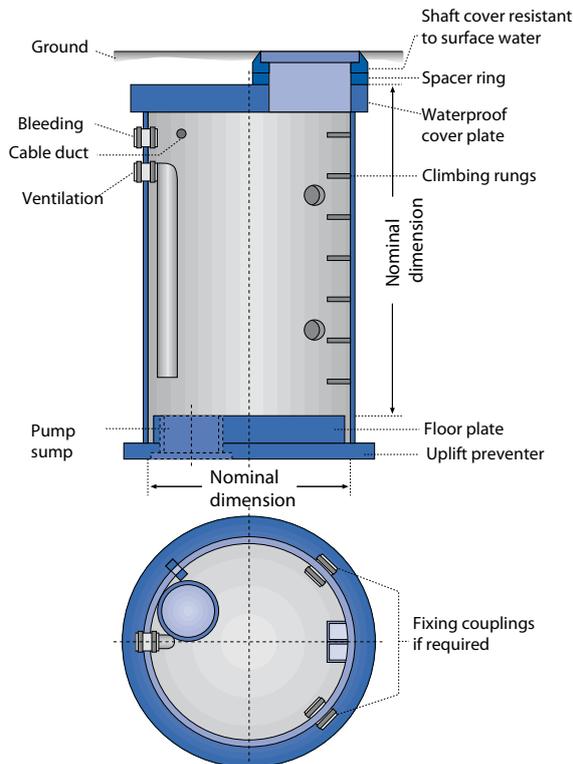
## AWALIFTSCHACHT as pre-fabricated shaft (GRP)

### Application examples

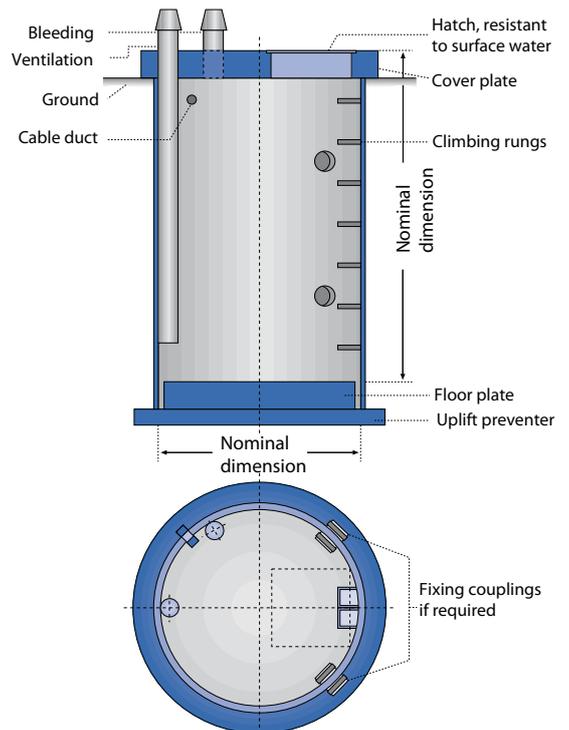


- Shafts are **not** inherently resistant to uplift
- We will be happy to help you calculate the required uplift prevention!

### Underground version



### Above-ground version





## AWALIFTSCHACHT as pre-fabricated shaft (GRP)

### Accessories and special equipment

- Polyester outside cabinet, enclosure rating IP 55, completely equipped
- Reinforced concrete floor plate with pre-formed pump sump
- Concrete spacer rings
- Special coating
- Plant installation in pre-fabricated shaft
- Ladders, safety equipment, access assistance
- Pre-fabricated AWASTATION service building

### On-site work requirements

- Excavation of the trench
- Installation of the shaft by crane or excavator
- Positioning and sealing of the cover plate
- Connection of the pipes routed through the shaft to the pipelines leading away from it
- Installation of the uplift preventer
- Back-filling of the trench

### The perfect AWALIFTSHACHT for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable pre-fabricated STRATE AWALIFTSCHACHT or other matters.



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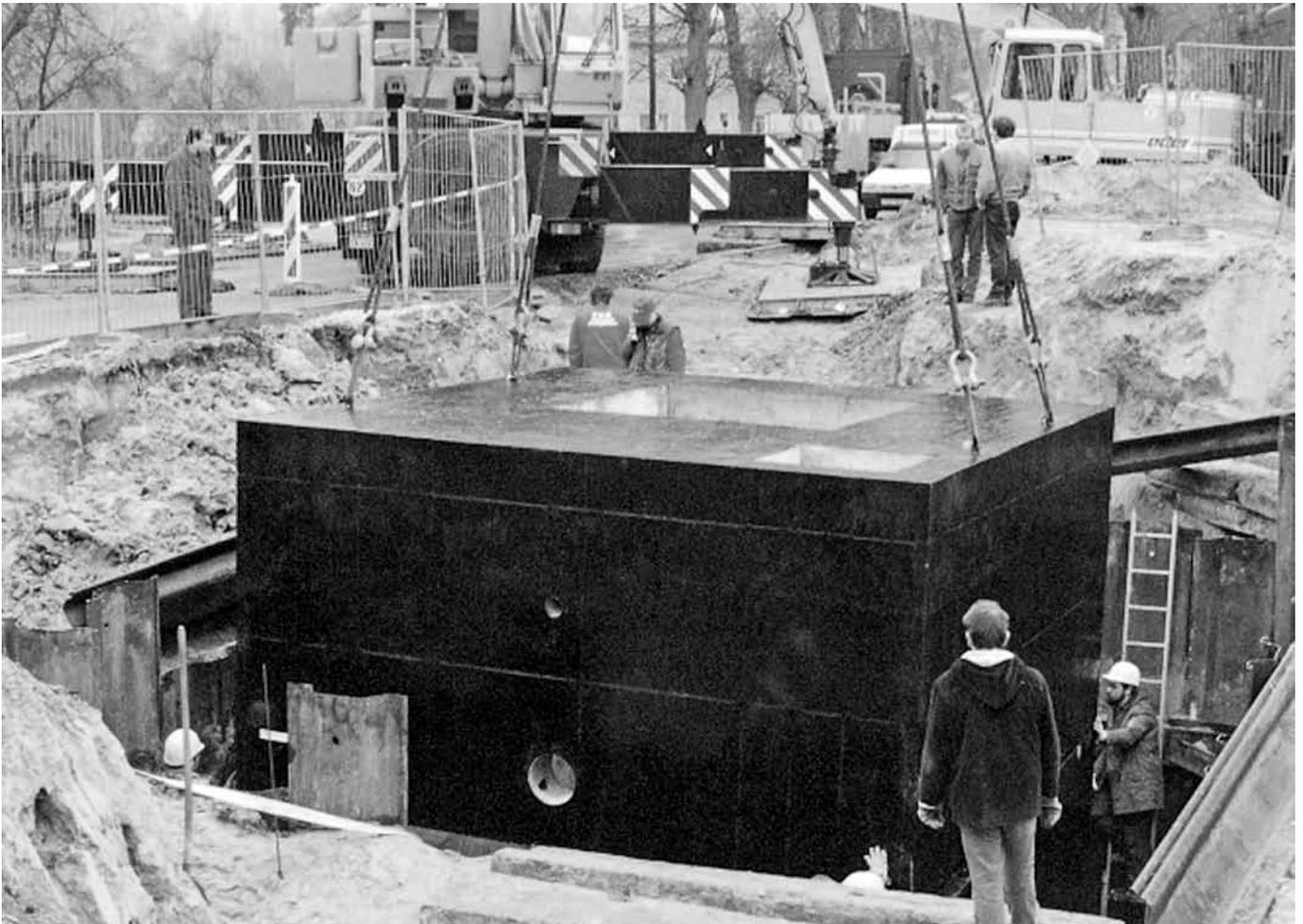
## AWALIFTSCHACHT as pre-fabricated shaft (concrete)

### STRATE System Pre-fabricated shafts

- Are economical thanks to their exact fit, small trench, little expenditure for halting flow, installation and road-rebuilding measures, high corrosion resistance and low purchasing costs as standard items
- Are the optimum system supplement to STRATE AWALIFT sewage pumping stations. The various design sizes of the pre-fabricated STRATE shafts precisely guarantee the space needed for maintenance work and offer the possibility of including basement draining pumps, hand basins etc.
- Are made of watertight reinforced concrete B 45 in accordance with DIN 1045, load-bearing class SLW 12, allow short installation times thanks to their modular design and exclude complex construction work underneath the bottom of the shaft

### Areas of application

STRATE system pre-fabricated AWALIFTSCHACHT shafts reliably fulfil universal tasks in industrial and municipal supply and disposal fields in a user-friendly manner. The pre-fabricated system shafts are manufactured according to requirements and cover all DIN load-bearing classes. The different design sizes and variability of the pre-fabricated system shafts allow





## AWALIFTSCHACHT as pre-fabricated shaft (concrete)

the optimum size to be assigned to every individual STRATE AWALIFT pumping station. The gas- and water-proof variants permit the installation of basement draining pumps, ventilation and bleeding valves, flushing equipment and tempering devices. Pipe and cable ducts, which are located exactly according to customer specifications in the manufacturing plant, meet all requirements for an exact fit, safety and ease of maintenance. Ideally, the electrical switchgear is installed in a pre-fabricated STRATE service building set up above the pre-fabricated shaft; other installation possibilities are weather-proof outside cabinets or existing neighbouring service buildings. The STRATE AWALIFTSCHACHT pre-fabricated system shafts can be exposed to

full traffic load immediately after installation and back-filling of the trench.

### Note

STRATE Technologie für Abwasser GmbH offers you complete solutions from a single source. We will be happy to advise you about the possible combinations of pre-fabricated shafts, sewage pumping stations, basement draining pumps, ventilation and bleeding valves, flushing equipment, pre-fabricated plant buildings, control units, electrical installations etc. and place our experience at your disposal for detailed consultation on the subject.

### Description and scope of supply of the standard version

- Modular element design with joint-free elements made of water-tight reinforced concrete B 45 in accordance with DIN 1045, load-bearing class SLW 12. The wall thickness can range from 200 to 300 mm depending on the DIN load-bearing class and static requirements. Pre-fabricated elements as a bowl-shaped bottom section with one or more frame parts depending on the shaft depth, an insulated top section with integrated installation and access opening and optional positioning of a pre-fabricated STRATE AWASTATION service building.

### Technical data

AWALIFTSCHACHT	2000 x 2000	2500 x 2500	3000 x 3000	3500 x 2500	3700 x 3000
<b>Inner dimensions (mm)</b>	2000 x 2000	2500 x 2500	3000 x 3000	3500 x 2500	3700 x 3000
<b>Overall height (m)</b>	10	10	10	10	10
<b>Installation opening (mm)</b>	removable cover plate	removable cover plate	1700 x 1300	1500 x 1500	1700 x 1700
<b>will accommodate up to AWALIFT</b>	1/2	2/2 with flattened tank	2/2 with flattened tank	2/2	3/2

AWALIFTSCHACHT	4500 x 3500	4700 x 3700	5000 x 3700	5500 x 4000	6000 x 5000
<b>Inner dimensions (mm)</b>	4500 x 3500	4700 x 3700	5000 x 3700	5500 x 4000	6000 x 5000
<b>Overall height (m)</b>	10	10	10	10	10
<b>Installation opening (mm)</b>	2000 x 2000	2200 x 2200	2200 x 2000	2800 x 2800	2800 x 2800
<b>will accommodate up to AWALIFT</b>	4/2 + 5/2	6/2	6/3	7/3 – 8/3	9/4*

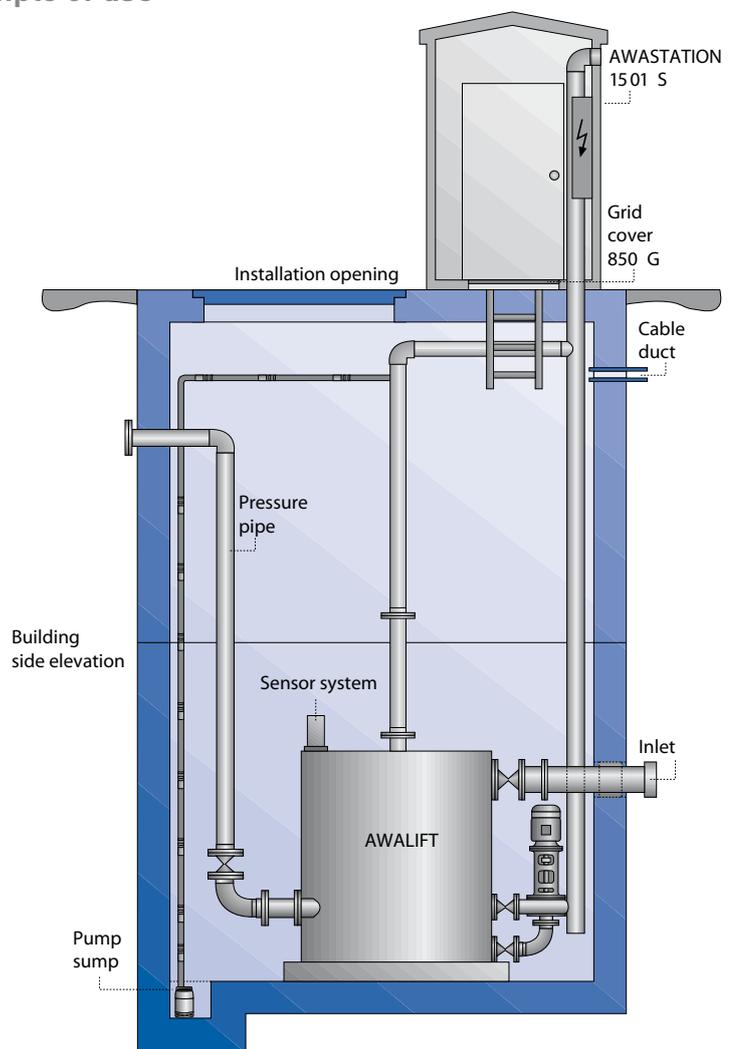
\* with non-return valves – arranged vertically



## AWALIFTSCHACHT as pre-fabricated shaft (concrete)

- The individual shaft components have rebated joints to prevent movement and are sealed watertight by a permanently flexible sealing tape, fixing mortar and two-component seal.
- Permanently flexible gas- and watertight installation of pipe ducts
- Pump sump in the bottom section to house a basement draining pump
- Base for housing the sewage pumping station in the bottom section
- Shaft ventilation and bleeding
- Grounding of the foundation
- Meets all the requirements of the ATV "Sewage" regulations, which means the pre-fabricated STRATE-system AWALIFTSCHACHT complies in production and scope of supply completely with the technical requirements of planning, fitting and operation
- Stairs or ladder including access assistance and the required safety equipment
- Cover plate made of reinforced concrete with shaft cover resistant to surface water; shaft cover can either be walked or driven on (depending on requirement class A – D), lockable, galvanised steel or stainless steel
- Free delivery to site, installation of the pre-fabricated STRATE-system AWALIFTSCHACHT in the prepared trench (plugged) including crane positioning
- Verifiable statics
- Uplift calculation

### Example of use



- Shafts are **not** inherently resistant to uplift
- We will be happy to help you calculate the required uplift prevention!



## AWALIFTSCHACHT as pre-fabricated shaft (concrete)

### Accessories and special equipment

- Pre-fabricated AWASTATION service building AWASTATION type 1500 S
- Polyester outside cabinet, enclosure rating IP 55, completely equipped
- Shaft cover in special versions
- Special access arrangements: string-boarded or spiral staircases
- Plant installation in pre-fabricated shaft
- Electrical installation work (lighting, sockets)
- Special paint, tiles
- Load-bearing classes SLW 30 or SLW 60
- Uplift preventer
- Special outer coating as protection against aggressive groundwater

### On-site work requirements

- Excavation of the trench (plugged)
- Drainage of the assembly for installation
- Making sure the prepared surface can bear the load
- Halting water flow
- Setting up of a free access for HGVs with a turning circle of 25 m and 60 kN wheel load, crane operating area of 15 x 9 m, max. crane jib length 10 m
- Connection of the pipes routed through the shaft to the pipelines leading away from it
- Power supply
- Installation of the uplift preventer
- Back-filling of the trench

### Required project data

The following information is required for the project-oriented planning of a pre-fabricated STRATE-system AWALIFTSCHACHT:

- Clear dimensions (length x width x height)
- Position and size of the openings in the walls or for the cover
- Specification of traffic loads: SLW 12/30/60
- Ground properties as per DIN 18196
- Maximum height of the groundwater level
- Specification of the groundwater properties with regard to the concrete corrosion
- Weights of the shaft buildings and traffic load during installation (STRATE AWASTATION, installation vehicle, installation loads, fixtures)
- Fittings (rungs, ladder, stairs, shaft cover)
- Installation location
- Inner finish (tiles, paint etc.)

### The perfect AWALIFTSCHACHT for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable pre-fabricated STRATE-system AWALIFTSCHACHT or other matters.



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## Valve shafts (GRP)

### STRATE valve shafts

- Are optimum, safe installation locations for valves and system components whose size allows them to be housed in a shaft
- Are excellently suitable as inspection shafts with flushing connection, as feeding points for AWAaerob ventilation systems, for ventilation and bleeding valves, for pig traps etc.
- Are made of high-quality, durable and waterproof materials with a high material strength and low material weight, with the design permitting short installation times and excluding complex construction work underneath the bottom of the shaft
- Are economical thanks to their exact fit, high corrosion resistance and favourable purchasing costs as standard items
- Shaft ventilation and bleeding is generally through natural convection

### Areas of application

STRATE valve shafts are used in industrial and municipal areas. The different design sizes of the STRATE AWALIFT valve shafts allow the optimum size to be assigned to every individual purpose. Pipe and cable ducts, which are located exactly according to customer specifications in the manufacturing plant, meet all requirements for an exact fit, safety and ease of maintenance.

### Note

STRATE Technologie für Abwasser GmbH offers you complete solutions from a single source. We will be happy to advise you about the possible combinations of pre-fabricated shafts,

sewage pumping stations, pre-fabricated plant buildings, control units, electrical installations etc. and place our experience at your disposal for detailed consultation on the subject.





## Valve shafts (GRP)

### Description and scope of supply of the standard version

- One-piece compound structure made of glass fibre reinforced plastic (GRP) from a shaft pipe diameter of 1000 mm to 2900 mm, cover and floor plate made of reinforced concrete
- Absolute water-tightness provides for excellent suitability for further purposes e.g. as an inspection, cleaning or valve shaft
- Meets all the requirements of the ATV "Sewage" regulations, which means the STRATE valve shaft complies in production and scope of

supply completely with the technical requirements of planning, fitting and operation

- DIN-tested rungs with raised edges for safe entry in the shaft
- Cover plate made of reinforced concrete with shaft cover resistant to surface water; shaft cover can either be walked or driven on (depending on requirement class A – D), lockable, galvanised steel or stainless steel
- Permanently flexible and watertight installation of pipe ducts



- Shafts are **not** inherently resistant to uplift
- We will be happy to help you calculate the required uplift prevention!

- Floor element system, comprising the reinforced concrete base plate which is sealed to the shaft pipe with a watertight connection, and additional fixture located underneath the base plate as on-site uplift prevention

### Technical data

Valve shaft	1000	1200	1500	1800	2000	2400
Material	GRP	GRP	GRP	GRP	GRP	GRP
Cover plates Ø mm	1.230	1500	1800	2140	2300	2830
Cover plate thickness in mm	200	200	250	250	250	250
Cover plate w/o shaft cover kg	410	655	1343	1953	2421	3520
Load capacity KN depending on shaft cover	max. 600					
inner Ø mm	1000	1200	1500	1800	2000	2400
Wall thicknesses mm	15	20	26	29	33	37
Shaft weight kg/m	125	146	235	322	396	560
Overall height m	max.10	max. 10				
Uplift prevention Ø mm	1300	1600	2000	2300	2500	3000
Overall floor thickness mm	250	250	250	320	320	320
Floor without pump sump kg	610	971	1517	2599	3132	4510
Floor with pump sump kg	580	914	1460	2520	3053	4431



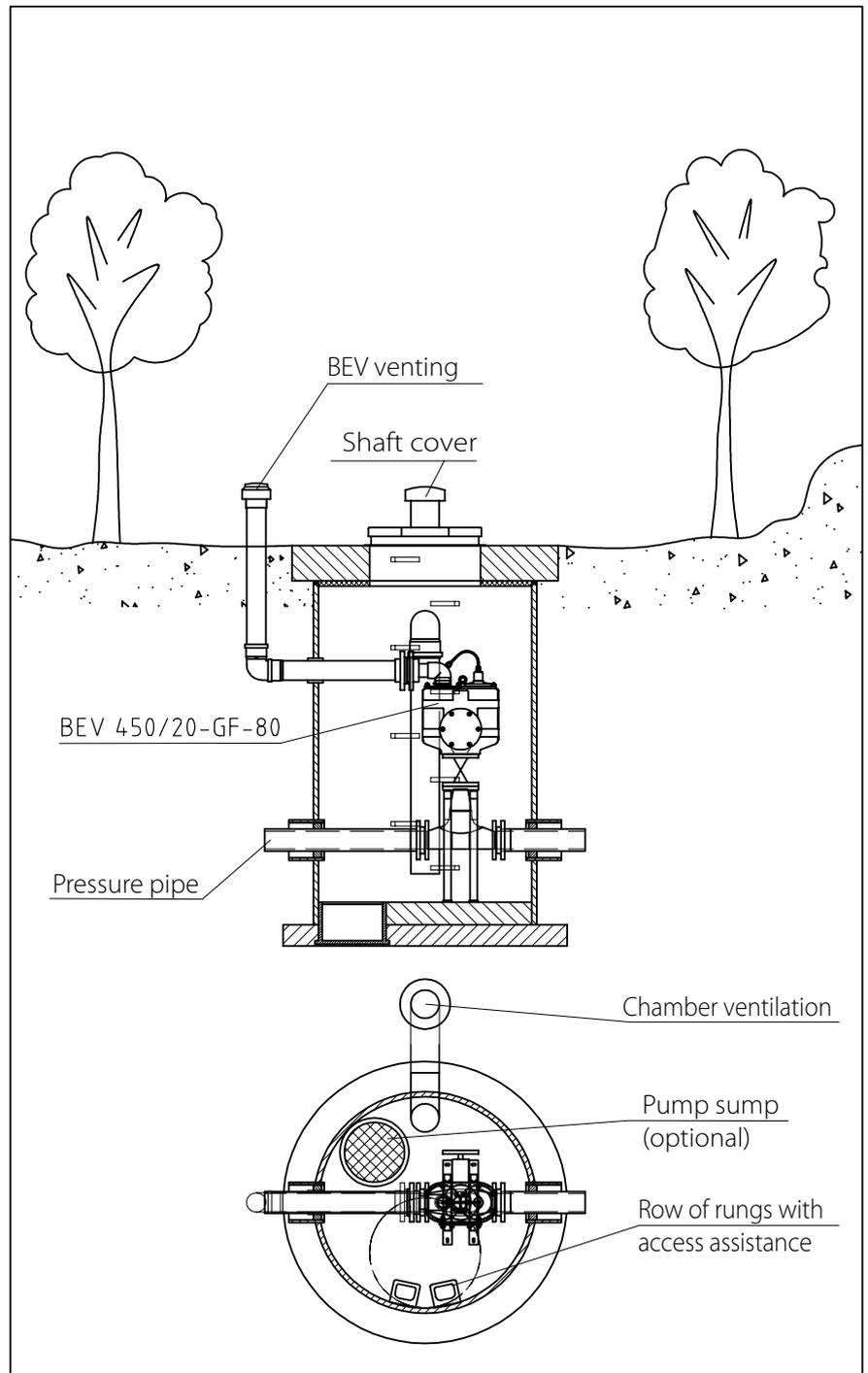
## Valve shafts (GRP)

### Accessories and special equipment

- Concrete spacer rings
- Special coating
- Plant installation in pre-fabricated shaft
- Ladders, safety equipment, entry aids
- Pre-fabricated AWASTATION service building

### On-site work requirements

- Excavation of the trench
- Installation of the shaft by crane or excavator
- Positioning and sealing of the cover plate
- Connection of the pipes routed through the shaft to the pipelines leading away from it
- Installation of the uplift preventer
- Back-filling of the trench





## Valve shafts (GRP)

### The perfect valve shaft for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE valve shaft or other matters.



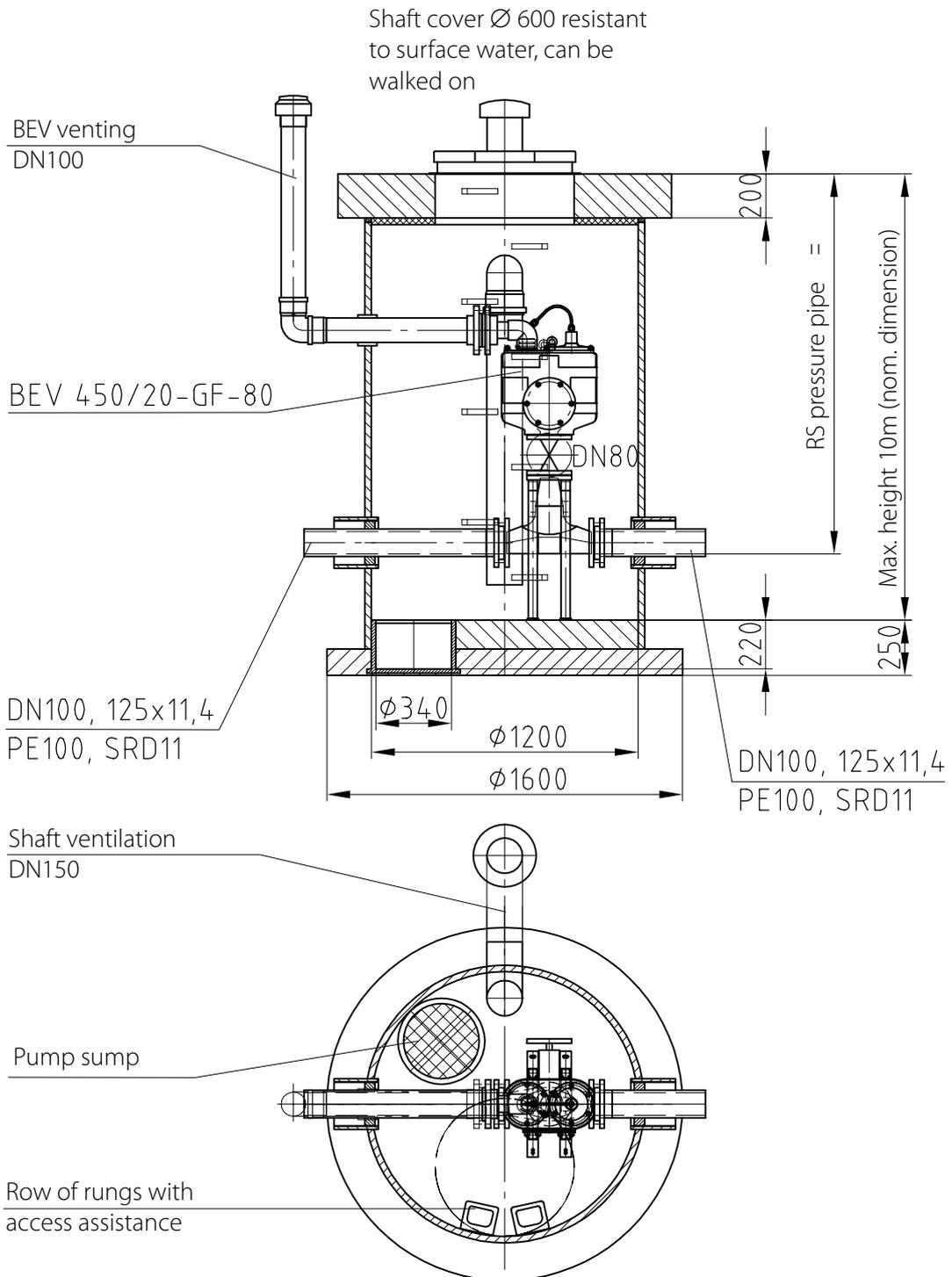
You will find your project planning sheet in this catalogue under "Project planning aids".



You can also find an online version in our download centre!  
[www.strate.com](http://www.strate.com)



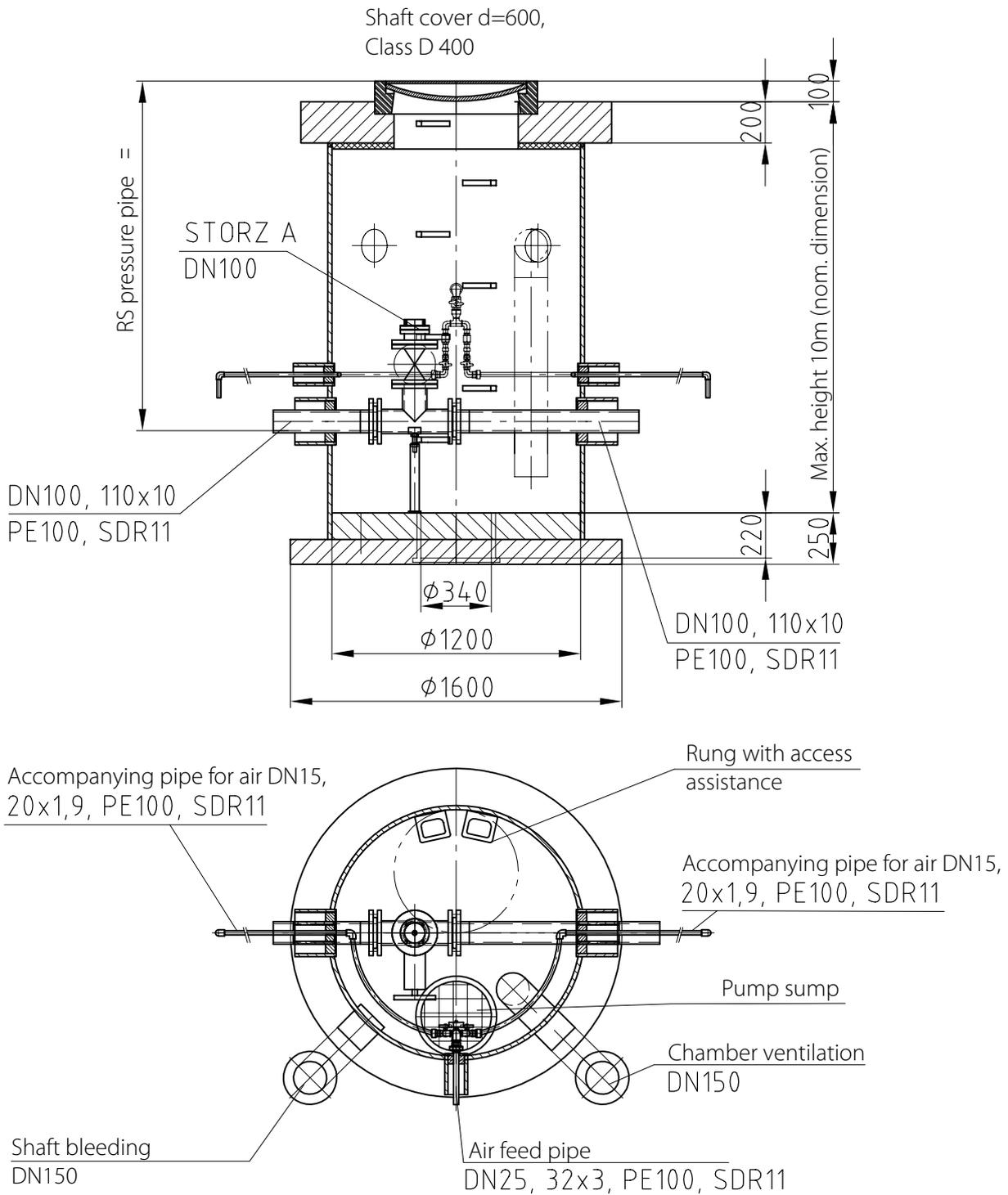
## Valve shafts (GRP)



<b>Copyright according to DIN 34</b>	Installation suggestion: Valve shaft 1200 with BEV 450/20-GF-80
<b>Scale:</b>	



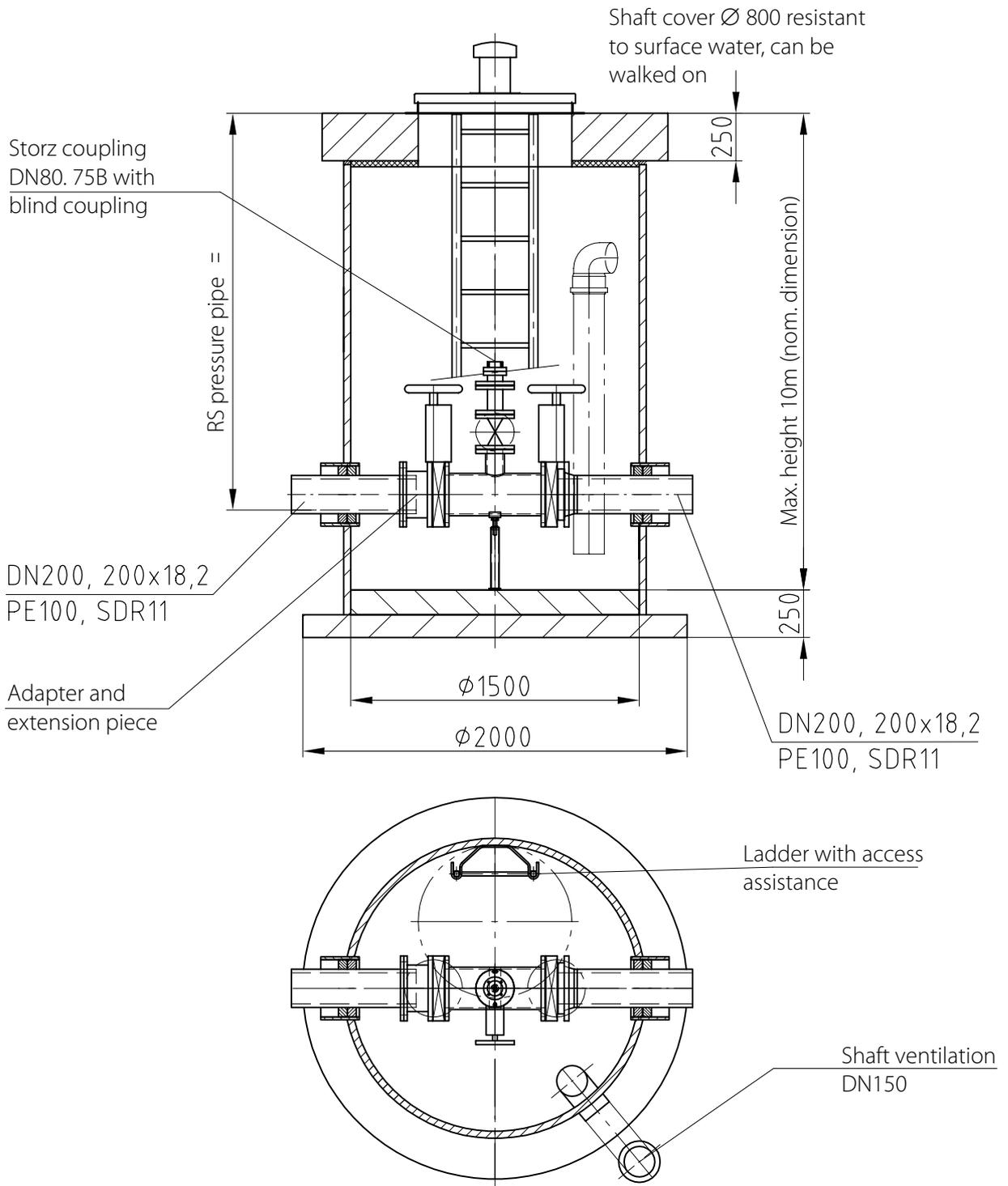
Valve shafts  
(GRP)



Copyright according to DIN 34	Installation suggestion: Valve shaft 1200 with flushing and emptying connections and AWAerob air feed
Scale:	



## Valve shafts (GRP)



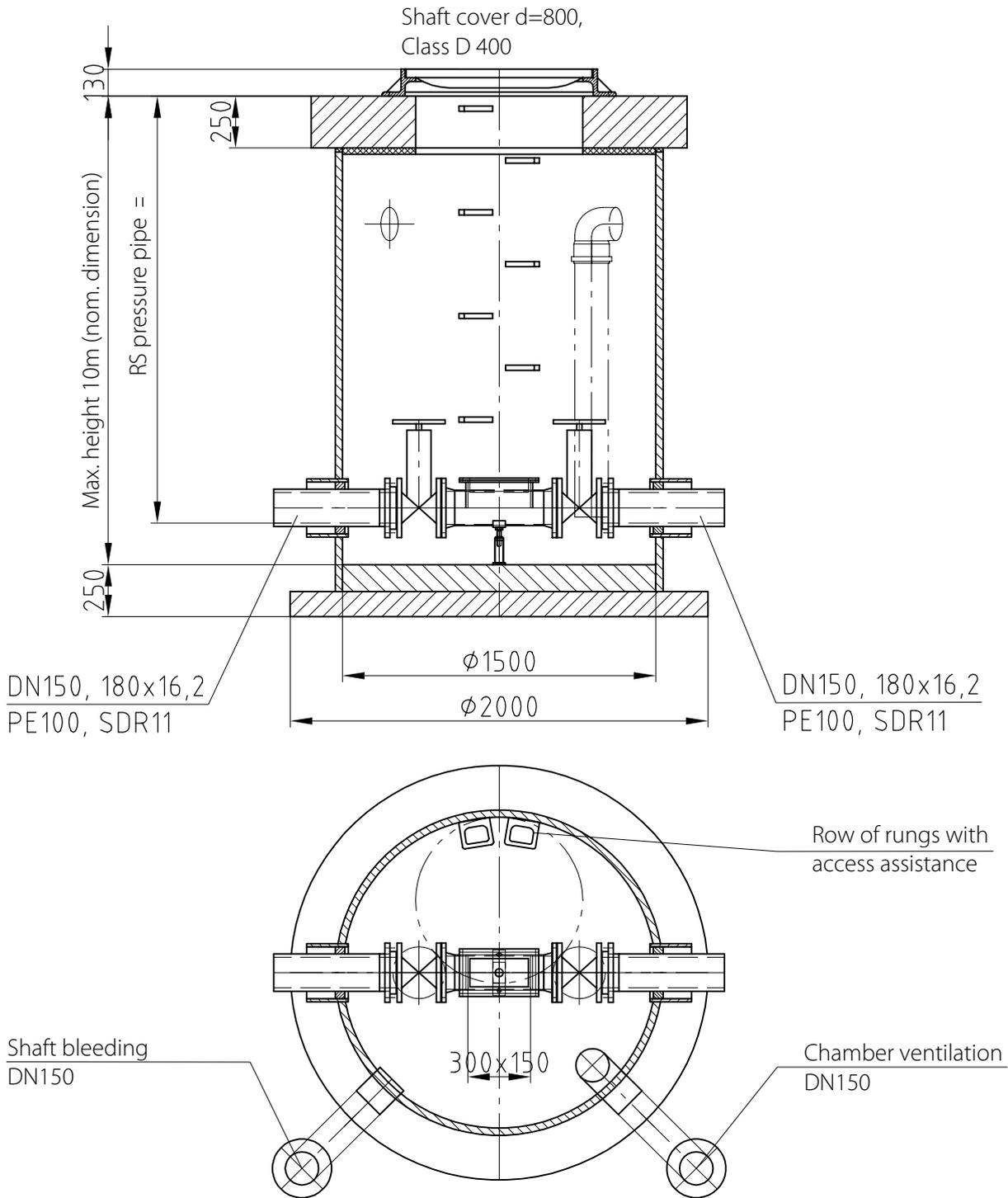
Copyright according to DIN 34

Scale:

Installation suggestion: Valve shaft 1500 with flushing and emptying connection



## Valve shafts (GRP)



Copyright according to DIN 34	Installation suggestion: Valve shaft 1500 with pipe cleaning box
Scale:	

# AWASTATION

## Pre-fabricated STRATE service buildings AWASTATION 1500 S

as compact pre-fabricated solutions offer the possibility

- of housing system components e.g. shaft cabinets, control elements, electric systems and service connection so that they are easily accessible
- of integrating further optional system components e.g. STRATE

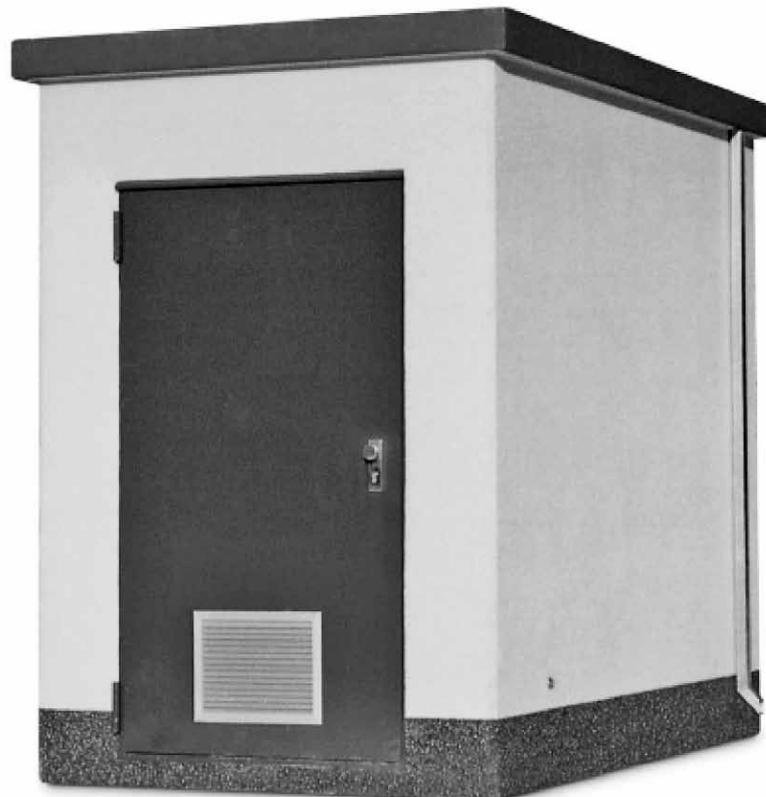
AWAerob ventilation systems, operating data recording and remote transmission etc.

- of protecting access to the system components and the sewage pumping station from the weather, as well as making it easier and safer for operators
- of storing technical documentation in a dry place

- of increased vandalism protection

### Areas of application

Pre-fabricated STRATE AWASTATION service buildings are set up directly on top of shafts (STRATE AWALIFTSCHACHT) or optionally alongside shafts on concrete foundation blocks.



Service building with textured render (standard version)

# AWASTATION

## Description and scope of supply of the standard version

- One-piece pre-fabricated concrete building, suitable for road and crane transport with four threaded attachment and transport sleeves
- Re-siting of the service building is possible
- Inside walls: exposed concrete, painted with washable dispersion paint, colour according to customer wishes
- Outside walls: textured render, painted in colour according to customer wishes
- Floor: smooth concrete floor plate with openings for shaft cover, cable duct etc.
- Roof: Extended concrete-sheet roof made of waterproof concrete  
Roof slope < 12°
- All-round moulded concrete guttering, roof base painted according to customer wishes
- Eaves, two downpipes 60 x 40 mm (AL) with spout above the ground, can be connected to an on-site draining system
- Galvanised steel door (double-skinned, single-leaf, thermally insulated) W x H either approx. 930 x 2090 mm or approx. 700 x 1850 mm clear dimension, with tumbler and half-cylinder lock, round door knob on the exterior, handle on the inside, painted according to customer wishes
- Two plastic grids, 250 x 250 mm in the side wall for covering the shaft and tank ventilators
- Two ventilator elements 150 x 300 mm (AL) on the back of the building with insect screen, protected against penetration
- Delivery free construction site

## Accessories and special equipment

- Electrical systems for the service building (sockets, lighting)
- Door step as concrete plate, L x W x H: 1000 x 1100 x 120 mm, including galvanised foot scraper
- Washbasin
- Roof drainage with gutters made of the material of customers' choice
- Brick facing on the external wall areas, organically bonding surface coating, fire-resistant, brick format 200 x 50 x 3 mm, joints 8 to 10 mm, colour according to customer wishes
- Moulded wood facing 12 mm, impregnated pine with tongue and groove jointing mounted on a wooden sub-structure
- Composite thermal insulation consisting of polystyrene insulating blocks 20 mm thick
- Concrete foundation blocks with the dimensions L x W x H at the wall corners: 600 x 500 x 750 mm and can be delivered by STRATE Technologie für Abwasser GmbH on request

## On-site work requirements

- Earth-moving and masonry work, unloading, placement of the STRATE AWASTATION service building on the STRATE AWASCHACHT or on a concrete foundation blocks, the foundation blocks are to have the following dimensions at the wall corners L x W x H: 600 x 500 x 750 mm and can be delivered by STRATE Technologie für Abwasser GmbH on request

## Technical data

### Outer dimensions

(LxBxH): 2810 x 1640 x 2630 mm

### Inner dimensions

(LxBxH): 2670 x 1500 x 2350 mm

Weight: approx. 6t

### Wall thicknesses:

Roof section: 100 mm

Wall section: 70 mm

Floor plate section: 100 mm

### Type of concrete:

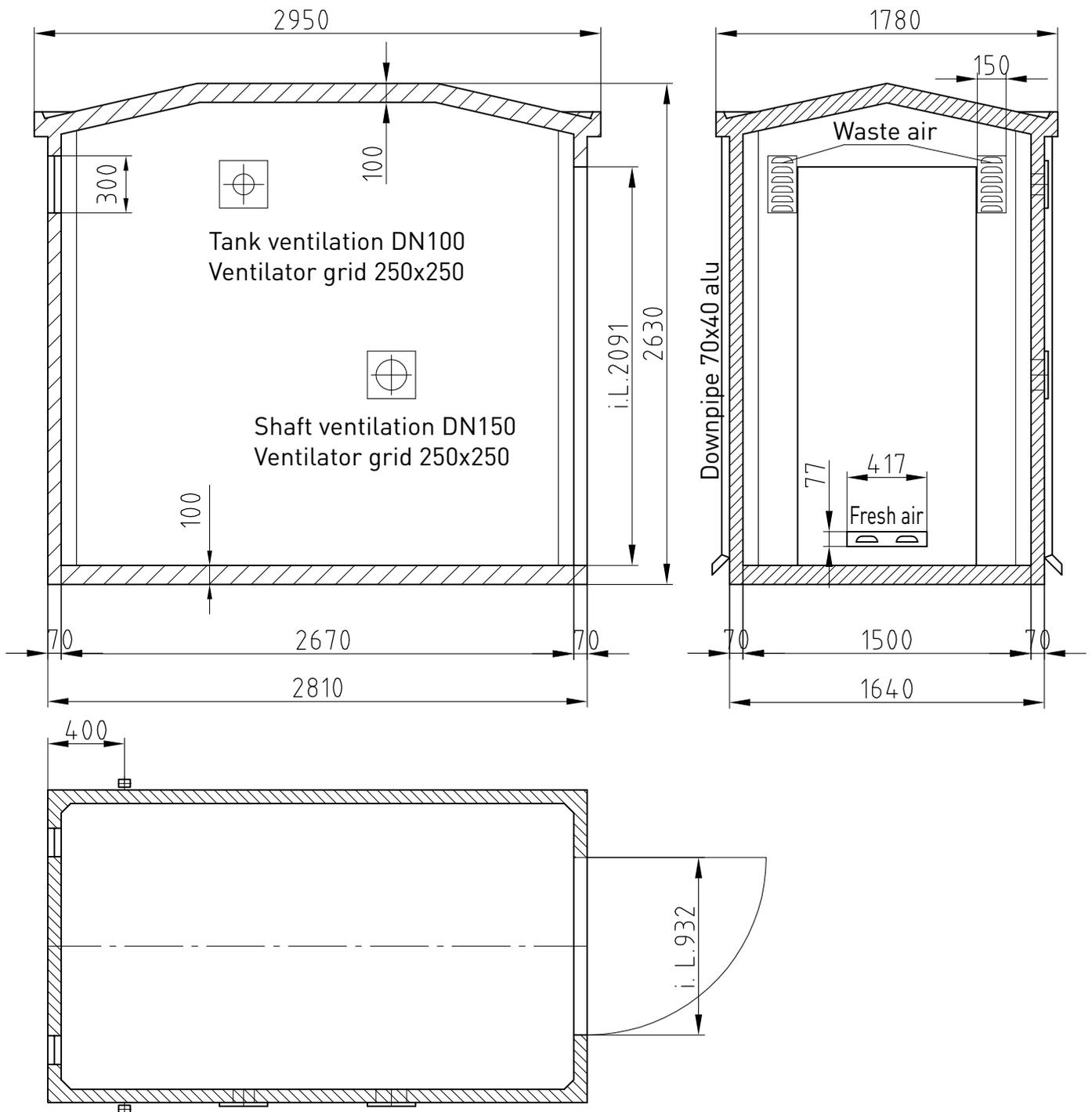
B 45, DIN 1045

Service building with brick facing (optional)





# AWASTATION







## Sandwich non-return valve - SB -

### STRATE sandwich-type non-return valves - SB -

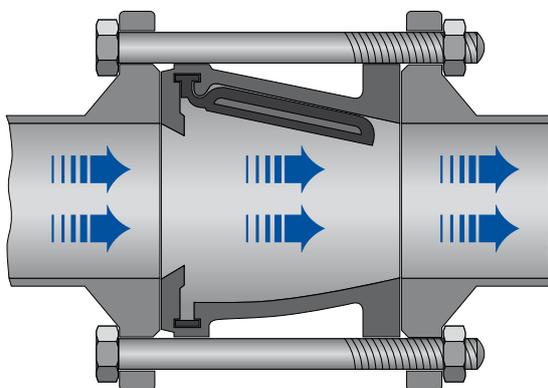
- Are recognised all over the world as non-return valves for universal applications in the pumping of air and gases for fans and screw compressors
- Stand for short installation lengths on account of their sandwich design
- Stand out on account of low flow resistance and high operational safety
- Seal reliably even under low counterpressure
- Provide outstanding economy and durability



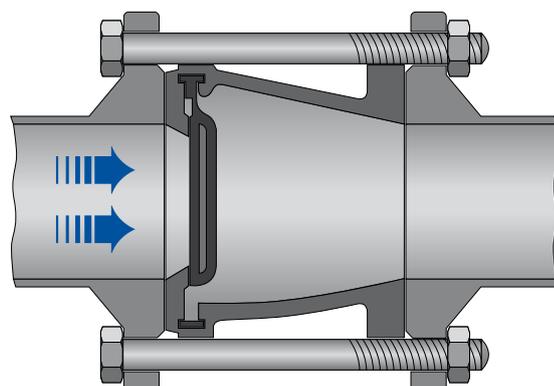
### Areas of application

The special lightweight aluminium design and silicone inserts of STRATE sandwich non-return valves SB makes them ideal for:

- Conveying air and gases up to temperatures of 200 °C
- Working pressures up to 4 bar
- Special applications with other valve insert materials on request



SB valve opened



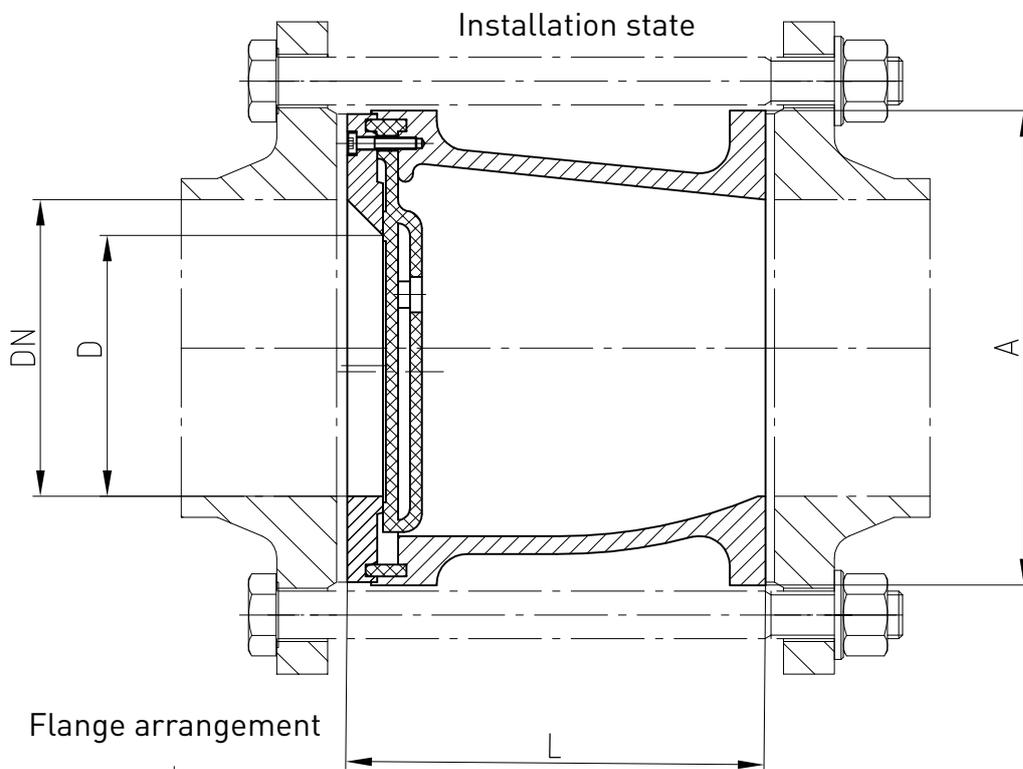
SV valve closed



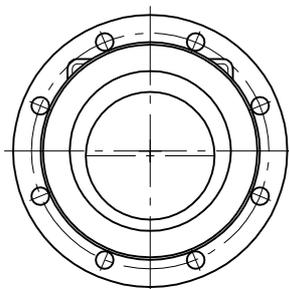
In the event of deviating requirements, please also see the other STRATE non-return valves in the "Non-return valves" section



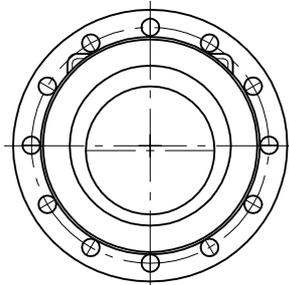
Sandwich non-return valve  
- SB -



Flange arrangement



DN 50-200



DN 250

DN	Dimensions in mm			Free passage in %	Weight kg
	L	A	D		
50	80	105	45	81	0.72
65	100	124	55	72	1.18
80	120	140	70	77	1.70
100	140	160	88	77	1.88
125	180	193	110	77	4.02
150	200	215	130	75	5.02
200	230	272	160	64	8.28
250	280	324	195	61	11.04

<b>Copyright according to DIN 34</b>	STRATE non-return valve in sandwich design (SB)
<b>Scale:</b>	

Subject to technical modifications and errors.



## Relief valve -EVA-

### Media-controlled STRATE relief valves -EVA-

- Ensure the balanced start-up of positive displacement blowers and single-stage screw-type compressors up to unit output levels of 160 m<sup>3</sup>/min.

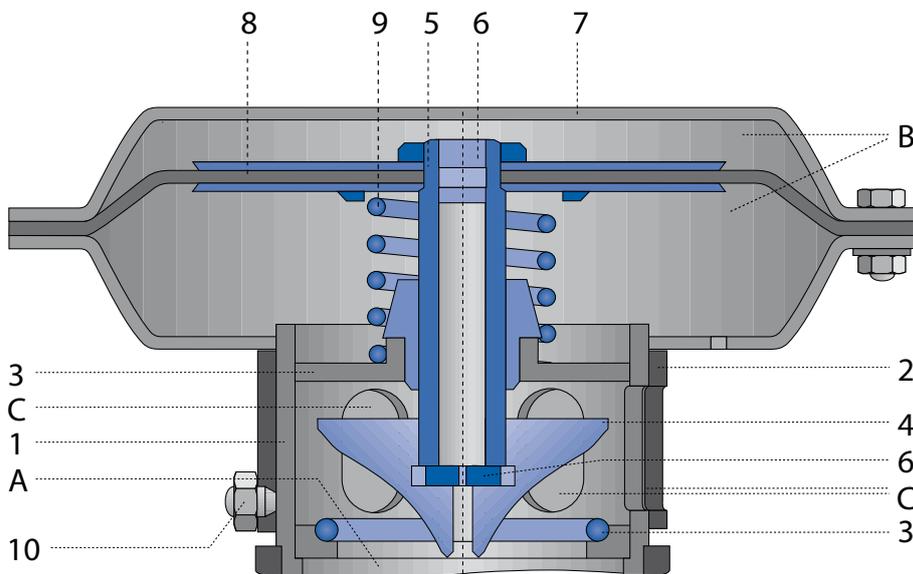
#### Areas of application

Positive displacement blowers and single-stage screw compressors start up directly or following a star delta circuit if no gentle start or no frequency converter control are available. The unit is subjected to heavy mechanical load and requires high start-up current. For this reason, counterpressure must be reduced during the start-up phase; this is achieved by blowing off the increasing volume flow.

The fully automatic medium-controlled STRATE relief valve EVA has been specially designed for this procedure. As well as not requiring any maintenance, the STRATE relief valve EVA is an extremely economical device for reducing load during start-up since there is no longer any need to use complex externally controlled valves or electronic start-up aids.

#### How it works

When the fan unit is switched off, the valve is open. Once the fan unit is switched on, the air is initially conveyed through the blow-off slots (C) of the valve housing (1). The cross-sections of the blow-off slots can be adapted to system specifications by turning the



- A - Valve chamber
- B - Diaphragm chambers
- C - Blow-off slots
- 1 - Valve housing
- 2 - Adjustment ring

- 3 - Spindle guide
- 4 - Valve face
- 5 - Valve spindle
- 6 - Nozzle
- 7 - Diaphragm cover
- 8 - Diaphragm
- 9 - Compression spring
- 10 - Setting screw

# Relief valve -EVA-

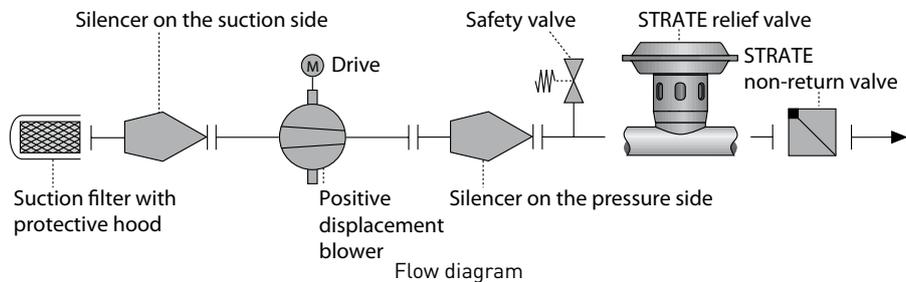
adjustment ring (2). A dynamic pressure develops inside the valve chamber (A). The blow-off opening is adjusted in such a way that the dynamic pressure is equal to around 1/3 of the working pressure. The pressure forming in the upper diaphragm chamber (B) presses the diaphragm (8) down and causes the valve to close (3 and 4). The filling time of the upper diaphragm chamber (B) and, as a result of this, the valve reaction time, is determined by the nozzle (6) cross-section and the dynamic pressure head. After the dynamic pressure has been adjusted, the adjustment ring (2) is locked in place using the setting screw (10); from now on the relief valve works automatically and maintenance-free for all unit settings.

## Accessories, special versions

- with solenoid for different motor speeds
- with excess pressure valve
- for higher pressures and temperatures

## Arrangement

When a compact fan unit is used, the STRATE relief valve EVA is installed between the silencer on the pressure side and the non-return valve (see flow diagram).



## Technical data

<b>Type</b>	10/S	30/S	60/S	150/S
<b>Max. output m<sup>3</sup>/min.</b>	10	30	60	160
<b>Max. dynamic pressure mbar</b>	200	200	200	200
<b>Max. working pressure mbar</b>	1000	1000	1000	1000
<b>Max. working temperature °C</b>	130	130	130	130
<b>Connection</b>	R 2 2/1"	R 4"	DN 150/ PN 10	DN 200/ PN 10
<b>Greatest diameter mm</b>	155	280	280	390
<b>Overall height mm</b>	155	205	210	300

## The perfect relief valve for your special needs

- Can be selected after consultation with us, please return the project planning sheet to us by e-mail, fax or post for this purpose.

STRATE project engineers will be happy to answer any questions you or your planning office may have related to the selection of the suitable STRATE relief valve – EVA – or other matters.

 You will find your project planning sheet in this catalogue  under "Project planning aids".

You can also find an online version in our download centre!  
[www.strate.com](http://www.strate.com)



## Project planning aid



### STRATE sewage pumping station AWALIFT Building services engineering

**STRATE****Technologie für Abwasser GmbH****Your reference data**

Company:

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

Name:

Street:

Postcode / Town

Project:

Date:

**Drainage objects**

	Units		Units
Toilets	<input type="text"/>	Kitchen sink	<input type="text"/>
Washbasin	<input type="text"/>	Dishwasher	<input type="text"/>
Urinal	<input type="text"/>	Washing machine	<input type="text"/>
Bidet	<input type="text"/>	Floor drain	<input type="text"/>
Bathtub	<input type="text"/>	Number of residents (PE)	<input type="text"/>
Shower	<input type="text"/>	Other	<input type="text"/>

**Inlet**

DN      Type of pipe      Inlet height

**Pressure pipe**

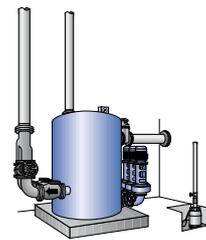
DN      Type of pipe      Length

H<sub>geo</sub>      H<sub>man</sub>**Control system**AWA<sub>master</sub>      2DF<sub>master</sub>      .DF4      Other      **Level measurement**Pressure tube  
(max. hose length 10 m)      Analogue sensor      **Control cabinet set-up**inside      outside      **Installation by STRATE service technician  
or service partner**Initial start-up by STRATE service technician  
or service partner**Set-up location**in existing  
building      in existing  
exterior shaft      in STRATE AWALIFT  
shaft





## Project planning aid



(page 1/4)

### STRATE sewage pumping station AWALIFT Municipal engineering

#### STRATE

#### Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

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E-mail: strate-info@talis-group.com

#### Your reference data

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

#### Drainage system

Separate system:

Combined system:

Sewage volume  $Q_{max}$ : \_\_\_\_\_  $m^3/h$

Dry weather inflow  $Q_{TW}$ : \_\_\_\_\_  $m^3/h$

Wet weather inflow  $Q_{RW}$ : \_\_\_\_\_  $m^3/h$

max. inflow  $Q_{max}$ : \_\_\_\_\_  $m^3/h$

Residents (PE): \_\_\_\_\_ PE

Rainwater basin (RÜB)

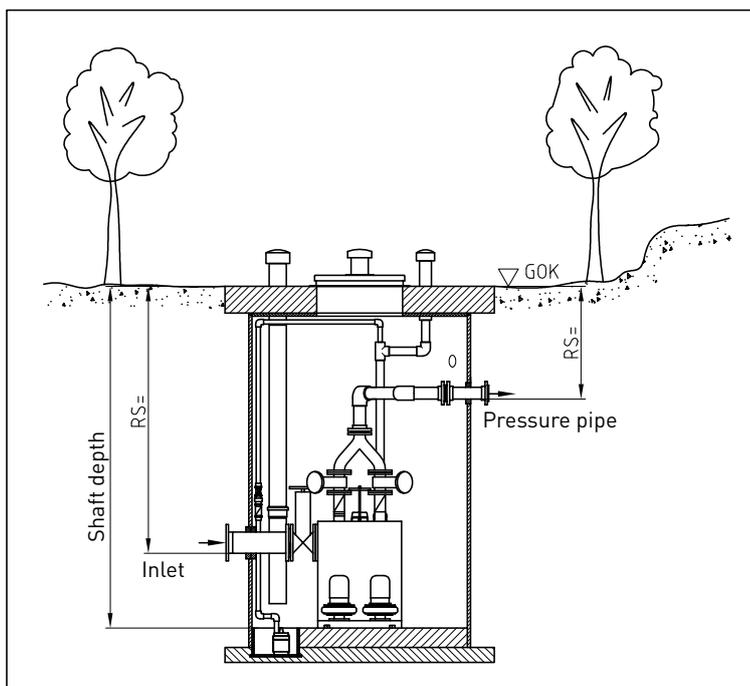
Main pumping station (HPW)

Main pumping station (HPW)

Secondary pumping station (NPW)

Secondary pumping station (NPW)

#### Pipes at the pumping station



#### Inlet:

Type of pipe: \_\_\_\_\_ DN: \_\_\_\_\_

Pipe bottom inlet RS: \_\_\_\_\_ mNN

#### Ground:

Top edge of ground – GOK GOK: \_\_\_\_\_ mNN  
– at the pumping station

#### Pressure pipe:

Type of pipe: \_\_\_\_\_ DN: \_\_\_\_\_

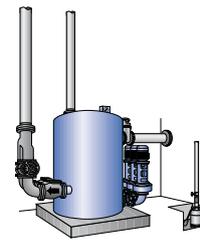
Pipe bottom outlet RS: \_\_\_\_\_ mNN  
pumping station



## Project planning aid

### STRATE sewage pumping station AWALIFT Municipal engineering

(page 2/4)



further pressure pipe

Type of pipe:

DN:

Pipe length : \_\_\_\_\_ m

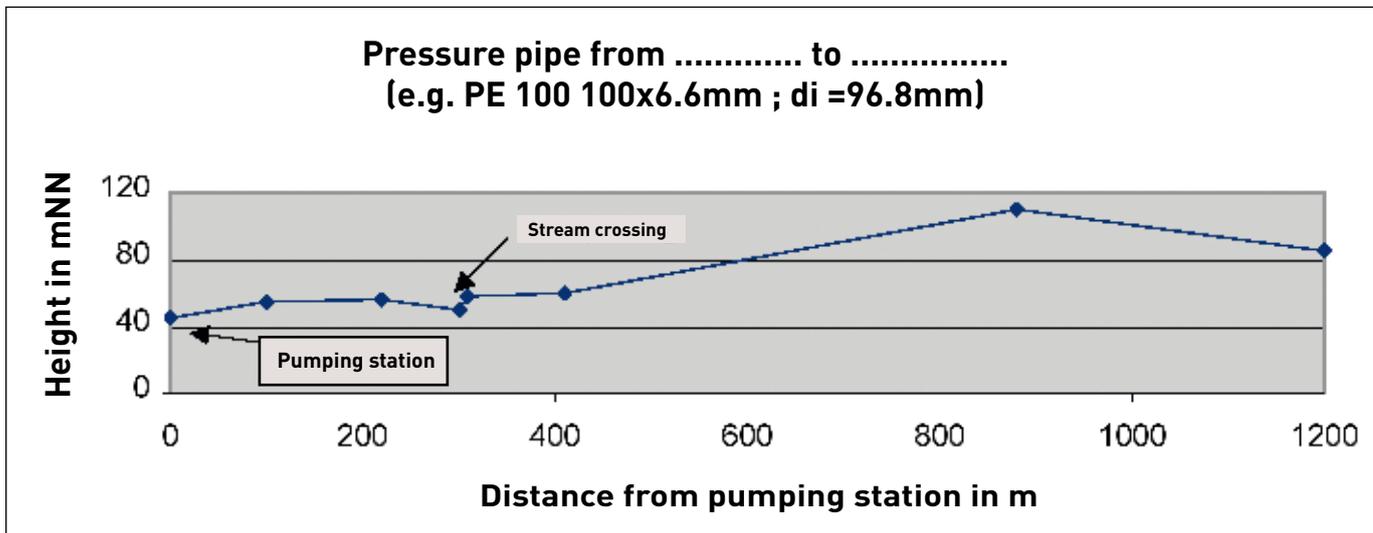
Height difference  $H_{geo}$  : \_\_\_\_\_ m

Outlet (pipe bottom) : \_\_\_\_\_ mNN

Number of high points : \_\_\_\_\_ Units.

Shaft depth pumping station pipe bottom: \_\_\_\_\_ mNN

Pipe bottom outlet pumping station : \_\_\_\_\_ mNN

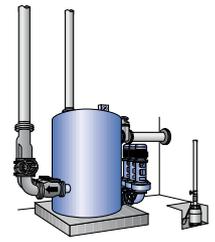


Point no. (high points/low points)	Station in m	Position in mNN
Pumping station	0 + 00.00 m	
1		
2		
3		
4		
5		
6		
7		
8		
...		

Please include longitudinal section of the pressure pipe!



## Project planning aid



(page 3/4)

### STRATE sewage pumping station AWALIFT Municipal engineering

Project:

#### Equipment & accessories

<b>Level measurement</b>	Pressure tube SR (max. hose length 10 m)	<input type="checkbox"/>
	Analogue sensor AS	<input type="checkbox"/>
	Analogue sensor HWAS	<input type="checkbox"/>
	Twin measuring system MBAS-BN	<input type="checkbox"/>
	Twin measuring system HWAS-BN	<input type="checkbox"/>

#### Control unit

	<b>Pump control</b>	<b>Type of start-up</b>			
		Direct	Star delta	Gentle start-up	Frequency converter
	AWAmaster 2 <input type="checkbox"/>				
	2DFmaster <input type="checkbox"/>				
	.DF4 <input type="checkbox"/>				
	Other pump control unit: <input type="checkbox"/> Type: _____				

#### Control cabinet

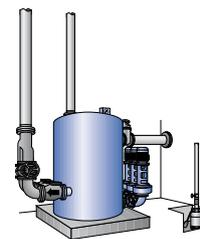
	Plastic	(series KS)	<input type="checkbox"/>
	Stainless steel	(series ED)	<input type="checkbox"/>
	Sheet metal free-standing cabinet, powder-coated	(series BS)	<input type="checkbox"/>
	Sheet metal wall-mounted cabinet, powder-coated	(series BW)	<input type="checkbox"/>
	<b>Set-up location</b>	inside	<input type="checkbox"/>
		outside	<input type="checkbox"/>
		Outside cabinet required	<input type="checkbox"/>



## Project planning aid

### STRATE sewage pumping station AWALIFT Municipal engineering

(page 4/4)



<b>Accessories ELT</b>	<b>Alarm</b>	Mains-independent	<input type="checkbox"/>
		Mains-dependent	<input type="checkbox"/>
		other	<input type="checkbox"/>
	<b>Flow measurement</b>	IDM	<input type="checkbox"/>
	<b>Electrical installation in the outside cabinet</b>	Heating, lighting, sockets	<input type="checkbox"/>
	<b>Electrical installation in the shaft</b>	Lighting, sockets, fan, convector	<input type="checkbox"/>
<b>Fault message transmission / telecontrol</b>	Automatic telephone dialer		<input type="checkbox"/>
	<b>GSM modem</b>		<input type="checkbox"/>
	<b>SMS relay</b>		<input type="checkbox"/>
<b>Installation</b>	Factory installation in the shaft		<input type="checkbox"/>
	STRATE service technician or service partner		<input type="checkbox"/>
<b>Initial start-up</b>	STRATE service technician or service partner		<input type="checkbox"/>
<b>Set-up location for the sewage pumping station</b>	in existing building		<input type="checkbox"/>
	in STRATE AWALIFT shaft		<input type="checkbox"/>
	in existing exterior shaft		<input type="checkbox"/>
<b>Please complete the AWALIFTSCHACHT planning sheet!</b>			



## Project planning aid



### STRATE non-return valves AWASTOP and RSK

**STRATE****Technologie für Abwasser GmbH**

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

**Your reference data**

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

**Properties of the medium to be pumped**

Type of medium \_\_\_\_\_

Temperature range from \_\_\_\_\_

°C

to \_\_\_\_\_

°C

Chem. composition  
(for industrial sewage) \_\_\_\_\_**Technical data of the pipe system**

Number of pumps \_\_\_\_\_

Units

Nominal size of non-return valve(s) \_\_\_\_\_

mm

Flow quantity per non-return valve \_\_\_\_\_

m<sup>3</sup>/h

Flow speed per non-return valve \_\_\_\_\_

m/s

Manometric pumping head  
for operation of n-1 pumps \_\_\_\_\_

mWS

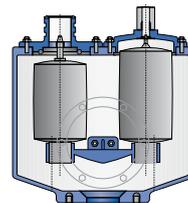
Geodetic pumping head \_\_\_\_\_

mWS





## Project planning aid



### STRATE air valves BEV

#### STRATE

#### Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

#### Your reference data

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

#### Properties of the medium to be pumped

Type of medium \_\_\_\_\_

Temperature range from \_\_\_\_\_ °C to \_\_\_\_\_ °C

Solids share \_\_\_\_\_ %

Chem. composition  
(for industrial sewage) \_\_\_\_\_

#### Technical data of the pump (individual operation)

Pumping capacity \_\_\_\_\_ m<sup>3</sup>/h

Pumping head \_\_\_\_\_ mWS

#### Technical data of the pumps (parallel operation)

Number \_\_\_\_\_ Units

Pumping capacity per pump \_\_\_\_\_ m<sup>3</sup>/h

Max. pumping capacity \_\_\_\_\_ m<sup>3</sup>/h

Max. pumping head \_\_\_\_\_ m<sup>3</sup>/h

#### Technical data of the pressure pipe

Size \_\_\_\_\_ mm

Inner diameter \_\_\_\_\_ mm

Pipe length \_\_\_\_\_ m

Number of high points \_\_\_\_\_ Units

Number of further venting and air release points \_\_\_\_\_ Units

#### Venting/air release point no.

Station in m

Working pressure in mWS

Pumping capacity in m<sup>3</sup>/h

1

2

3

4

5

...please include longitudinal section or sketch!

Longitudinal section of the pressure pipe

Please include as separate enclosure (can be a hand-drawn sketch)!

The working pressure at the set-up location is determined on the basis of the longitudinal section.  
Individual interpretation points are:

Arrangement of the high points, existence of culverts, possibility of emptying partial sections, required venting and air release points, distances and geodetic heights of the venting and air release points, air release required at "beginning of backwater"





## Project planning aid

### STRATE systems for venting, flushing and partially emptying sewage pressure pipes



#### STRATE

#### Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

#### Your reference data

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

#### Properties of the sewage

Temperature range from \_\_\_\_\_ °C to \_\_\_\_\_ °C

Maximum dwelling time of the sewage in the pressure pipe \_\_\_\_\_ Hours

#### Technical data of the sewage pumping station

Maximum pumping capacity \_\_\_\_\_ m<sup>3</sup>/h

Maximum working pressure \_\_\_\_\_ mWS

#### Technical data of the pressure pipe

Size \_\_\_\_\_ mm

Inner diameter \_\_\_\_\_ mm

Pipe length \_\_\_\_\_ m

#### Technical data of the pressure pipe

Size \_\_\_\_\_ mm

\_\_\_\_\_ mm

Pipe length \_\_\_\_\_ m

Number of high points \_\_\_\_\_ Units

Number of further venting and air release points \_\_\_\_\_ Units

#### Longitudinal section of the pressure pipe

Please include as separate enclosure (can be a hand-drawn sketch)!

The pressure pipe is considered on the basis of the longitudinal section.

Individual interpretation points are:

- Does the pressure pipe need venting in the pumping station?
- Does the pressure pipe need venting at the low points (inspection shafts)?
- Sind ggf. weitere Belüftungspunkte im Verlauf der Druckrohrleitung erforderlich?

- Arrangement and number of high points
- Are there venting and air release valves at the high points?
- Are air release blocks necessary
- Are there any culverts?
- Does the pressure pipe run empty in partial sections?
- Does the pressure pipe require venting along the whole pipe length?





## Project planning aid



### STRATE-AWALIFTSCHACHT

#### STRATE

#### Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

#### Your reference data

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town: \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

#### AWALIFTSCHACHT (GRP)

Ø 1200

Ø 1500

Ø 1800

Ø 2000

Ø 2400

Ø 2900

#### AWALIFTSCHACHT (concrete)

Inner dimensions: \_\_\_\_\_ x \_\_\_\_\_ mm

Shaft depth: \_\_\_\_\_ mm

#### Equipment

##### Ladder

stainless steel:

galvanised:

##### Access assistance

stainless steel:

galvanised:

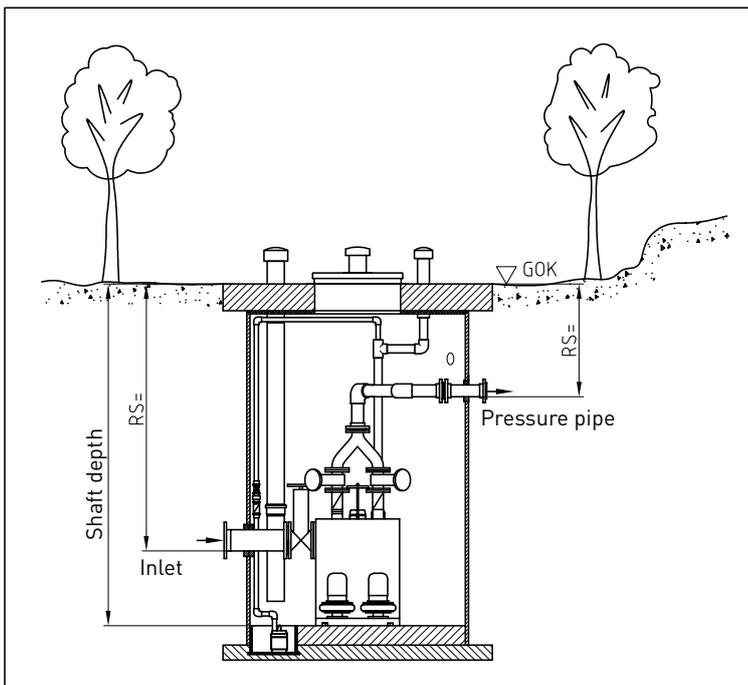
##### Shaft cover

can be walked on:

can be driven over:

#### AWASTATION

1500



#### Pressure pipe

PW pipe bottom : \_\_\_\_\_ mNN

#### Inlet PW

pipe bottom: : \_\_\_\_\_ mNN

#### GOK at PW

: \_\_\_\_\_ mNN

#### Further remarks:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





## Project planning aid



### STRATE valve shaft

#### STRATE

#### Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

#### Your reference data

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode / Town: \_\_\_\_\_

Project: \_\_\_\_\_

Date: \_\_\_\_\_

#### VALVE SHAFT (GRP)

Ø 1200

Ø 1500

Ø 1800

Ø 2400

Ø 1400

Ø 1600

Ø 2000

#### Equipment

##### Ladder

stainless steel:

galvanised:

##### Access assistance

stainless steel:

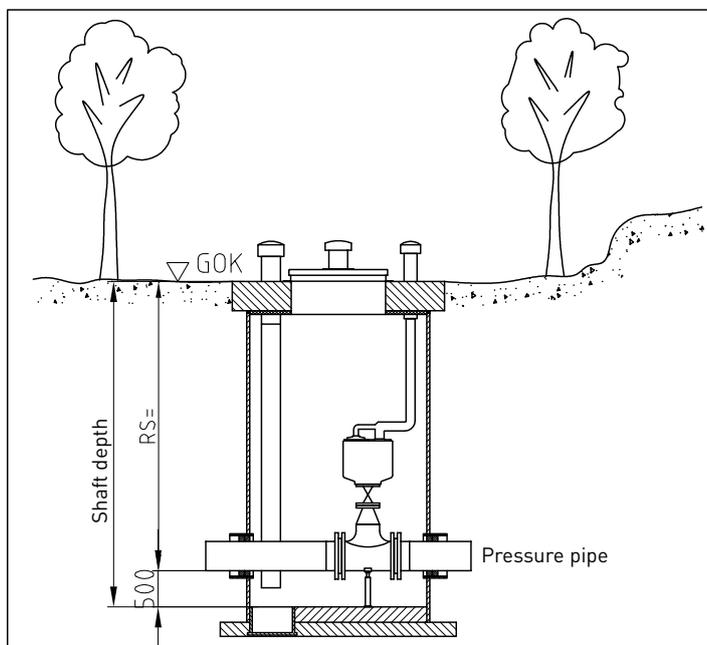
galvanised:

##### Shaft cover

can be walked on:

can be driven over:

##### Pump sump



##### Shaft

on pressure pipe

next to pressure pipe

Pressure pipe DN: \_\_\_\_\_

Connection pipe DN: \_\_\_\_\_

##### Pipe:

\_\_\_\_\_ mNN

\_\_\_\_\_ mNN

##### GOK

at the shaft: \_\_\_\_\_ mNN

##### Vent valve

BEV 20-F-50

BEV 1000-G-100

BEV 40-2F-80

BEV 1000/20.GF-100

BEV 450-G-50

BEV 2000-G-150

BEV 450/20-GF-80

BEV 2000/40-GF-150

##### Additional equipment

Pipe cleaning box

AWAerob feed

Emptying and flushing equipment

##### Gate valve in pressure pipe

1 pcs.

2 pcs.

Dismantling joint in the pressure pipe

##### Connection

Flange

Spigot end





## Project planning aid



### STRATE start-up relief valves EVA for reduced-load starting of positive displacement blowers and single-stage screw compressors

#### STRATE

Technologie für Abwasser GmbH

Im Kirchenfelde 9

D-31157 Sarstedt

Phone: +49 (0) 50 66 / 988 - 0

Fax: +49 (0) 50 66 / 988 - 225

Internet: www.strate.com

E-mail: strate-info@talis-group.com

#### Your reference data

Company:

Name:

Street:

Postcode / Town

Project:

Date:

#### Operating data

Positive displacement blower

Screw compressor

Make

Type

Medium to be pumped

Max. pump flow

m<sup>3</sup>/h

Max. working pressure

mbar

Max. temperature

°C

#### Type of start-up

Direct start-up

Pole-changing motor

Frequency converter

Gentle start-up

