

Floodable Sewage Lifting Unit

Compacta

Type Series Booklet



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Type Series Booklet Compacta

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Drainage

Lifting Units

Compacta



Main applications

- Disposal of waste water occurring below the flood level
- Waste water management

Fluids handled

Material variant A (standard variant)

- Waste water with faeces
- Waste water without faeces
- Grey water

Material variant C (for aggressive fluids)

- Aggressive fluids

Operating data

Table 1: Operating properties

Characteristic		Value
Flow rate	Q [m³/h]	≤ 145
	Q [l/s]	≤ 40
Head	H [m]	≤ 24,5
Fluid temperature	T [°C]	≤ +40 (continuous)
		≤ +65 (for short periods ≤ 5 minutes)

Duty types

Table 2: Permissible duty type

Operation	Type
Intermittent periodic duty	S3 50 % to VDE

Design details

Design

- Floodable sewage lifting unit¹⁾ to EN 12050-1
- Gas-tight and water-tight plastic collecting tank, pump unit, sensors and control unit

Compacta, ready to plug in:

- Hydraulics codes 3 to 5, collecting tanks 100, 150, 300, 450

Compacta, ready to connect:

- Hydraulics codes 3 to 5, collecting tank 900
- Hydraulics codes 10 to 15, collecting tanks 450, 900

Drive

- Surface-cooled
- Thermal overload protection
- To VDE 0530, Part 1/IEC 34-1
- Enclosure IP68 (permanently submerged) to EN 60529/ IEC 529
- Thermal class F
- Electrical voltage 400 V (three-phase asynchronous motor)
- Frequency 50 Hz
- DOL starting
- Star-delta starting (from 5.5 kW, hydraulics codes 12 to 15)

Impeller type

- Vortex impeller

Bearings

- Grease-packed, maintenance-free rolling element bearings

Shaft seal

- Lubricant chamber for cooling and lubrication fitted in-between the pump-end and the drive-end shaft seals (supplied filled with ecologically acceptable white oil)
- Pump end: 1 mechanical seal
- Drive end, 1 shaft seal ring

¹ Maximum flooding height: 2 metres, maximum flooding period: 7 days (does not apply to control unit). The lifting unit must be cleaned and serviced after it has been flooded.

Designation

Example: Compacta UZ X 5.300 D/C

Table 3: Designation key

Code	Description	
Compacta	Type series	
UZ	Design	
	U	Single-pump lifting unit with vortex impeller
	UZ	Dual-pump lifting unit with vortex impeller
X	Special design	
5	Hydraulics code	
	3, 4, 5, 10, 11, 12, 13, 14, 15	
300	Total volume of collecting tank [litres]	
	100, 150, 300, 450, 900	
D	Three-phase asynchronous motor	
C	Material variant	
	C	Variant for aggressive fluids
	_2)	Standard design

Configuration and function



Fig. 1: Illustration of the waste water lifting unit

1	Inlet	2	Level sensor
3	Pump set	4	Drain connection
5	Transport lock / float protection fixture	6	Hand hole cover
7	Vent connection	8	Discharge-side connection
9	Integrated swing check valve	10	Collecting tank

Design

The waste water lifting unit is designed with a variety of horizontal and vertical inlets (1) and a vertical discharge-side connection (8).

Function

The fluid to be handled flows into the waste water lifting unit through the selected horizontal or vertical inlet nozzle (1) and is collected in a gas-tight, odour-tight and water-tight collecting tank (10). The lifting unit is controlled by a level sensor (2) in combination with a control unit. As soon as the defined fill level is reached, one or two pump sets (3) are started up automatically. The fluid handled is pumped off to a level above the flood level and discharged into the public sewer.

² Blank

Materials

Table 4: Overview of available materials

Part No.	Description	Hydraulics code		
		3 to 5		10 to 15
		Material variant A	Material variant C ³⁾	
591	Tank	Polyethylene		
102	Pump casing	Grey cast iron	Grey cast iron with coating	Grey cast iron
230	Impeller	Grey cast iron	Polyurethane	Grey cast iron
210	Motor shaft	Stainless steel (1.4021)	Stainless steel (1.4462)	Stainless steel (1.4021)
161	Casing cover	Grey cast iron	Grey cast iron with coating	Grey cast iron
742	Swing check valve	Grey cast iron	Stainless steel (1.4408)	Grey cast iron (accessory)
81-42	Float	Polypropylene		
-	Screws, bolts and nuts	Stainless steel (A4)		

Product benefits

- Safe and reliable operation ensured by control system (LevelControl Basic 1 / LevelControl Basic 2)
- Y-pipe simplifies planning and reduces installation time (included in the scope of supply of dual-pump units up to UZ300).
- Various positioning options and diameters make it easy to adapt the unit to the most complicated of site conditions.
- Collecting tank with optimum volume/footprint ratio for effective space utilisation
- Integrated, ergonomically designed grips for safe handling during transport and installation

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see <https://www.ksb.com/en-global/company/corporate-responsibility/reach>.

Certifications

Table 5: Overview

Label	Effective in:
 Bauart geprüft und überwacht www.tuv.com ID 1111220217	Europe

³ High-quality Rilsan® powder coating (coating thickness 400 µm) is applied to all wetted components made of grey cast iron and steel in a fluidised bed.

Selection information

Requirements on installation at site (to EN 12056-4 or EN 12050-1, ...)

- Domestic waste water which occurs below the flood level must be discharged into the public sewer by means of a sewage lifting unit.
- Discharge any surface water which occurs below the flood level outside the building into the public sewer separately from the domestic waste water by means of a sewage lifting unit which is positioned outside the building.

i If the responsible authorities have not specified a flood level, the flood level is taken to be at least the street level (including footways) at the connection point.

- The flow velocity in the discharge line must equal between 0.7 m/s and 2.3 m/s.
- Sewage lifting units must not be installed in outdoor pits.
- Install all electrical connections (e.g. sockets, CEE plugs) and alarm switchgears in dry rooms protected against flooding.
- The effective volume of the sewage lifting unit must be greater than the volumetric content of the discharge line up to the backflow loop.
- Installation room:
 - Sufficiently lit
 - Well ventilated
 - The rooms must be dimensioned so as to ensure that there is a working area of at least 60 cm width and height around and above all parts to be operated and serviced.

Installation in suitable installation rooms only; unprotected outdoor installation is impermissible.

- Collecting tank:
 - Not integrated into the structure of the building
 - Separately installed within the building
- Pipe connections and piping layout:
 - Flexible, with sound-proof insulation
 - If changes of direction are unavoidable, lay the pipe with a gradient of at least 1:50.
 - Minimum nominal diameter of the vent pipe connection DN 70 (DN 50 permissible up to an effective volume of 20 litres).
 - Install a gate valve on the inlet side as well as on the discharge side downstream of the check valve (see accessories).
 - Lay the discharge line with a backflow loop whose invert level is above the flood level.
 - Lead the vent line out of the roof.
- Additional requirements on sewage lifting units:
 - If sewage disposal must not be interrupted, install a dual-pump sewage lifting unit.
 - For drainage of rooms provide a pump sump.
 - If a failure of any functions of the sewage lifting unit could lead to flooding damage, effective measures must be taken (pump for drainage of rooms, leakage sensor next to the unit close to the floor, etc).

Flooding

The sewage lifting unit is protected against flooding. After any flooding, clean and service the sewage lifting unit. Install all electrical equipment (e.g. sockets, CEE plugs and control units / alarm switchgears) in dry rooms protected against flooding.

- Max. submersion depth: 2 mWC
- Max. flooding period: 7 days

Determining the head

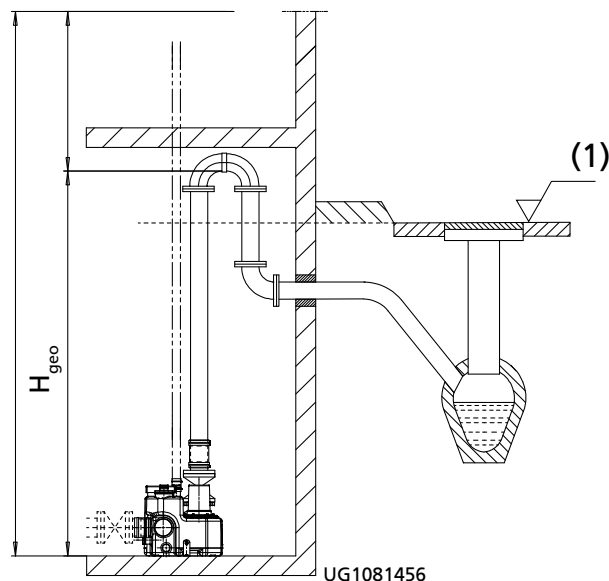


Fig. 2: Geodetic head H_{geo} if installed correctly

(1)	Flood level
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Calculation of head:

$$HH_{\text{Sewage lifting unit}} = H_{geo} + H_{\text{Losses (discharge line)}}$$

Application limits

The sewage lifting units are designed for S3 duty (intermittent operation). The max. permissible inflow must always be smaller than the capacity of one pump.

- For continuous discharge or repeated discharge over a longer period of time observe the maximum permissible frequency of starts.

Application limits for hydraulics codes 3 to 5

- Intermittent duty S3
- 50 % to VDE
- Max. number of starts: 60/hour

Application limits for hydraulics codes 10 to 15

- Intermittent duty S3
- For selection, a $Q_z^{(4)} : Q_p^{(5)}$ ratio of 0.9 must not be exceeded.
- Frequency of starts

Table 6: Frequency of starts

Motor rating	Maximum number of starts per pump
[kW]	[Starts/hour]
2,3 - 7,5	20
> 7,5	15

Lightning protection

- Electrical installations must be protected against overvoltage (binding since 14 December 2018) (see DIN VDE 0100-443 (IEC 60364-4-44:2007/A1:2015, modified) and DIN VDE 0100-534 (IEC 60364-5-53:2001/A2:2015, modified)).

⁴ Maximum possible inflow [m³/h]

⁵ Duty point of one pump [m³/h]

Whenever modifications are made to existing installations, retrofitting a surge protective device (SPD) in accordance with VDE is mandatory.

- A maximum cable length of 10 metres should not be exceeded between the surge protective device (usually type 1, internal lightning protection) installed at the service entrance and the equipment to be protected. For longer cables, additional surge protective devices (type 2) must be provided in the sub-distribution board upstream of the equipment to be protected or directly in the equipment itself.
- The associated lightning protection concept must be provided by the operator or by a suitable provider commissioned by the operator. Surge protective devices can be offered for the control units on request.

Overview of product features

Table 7: Overview of product features of single-pump units

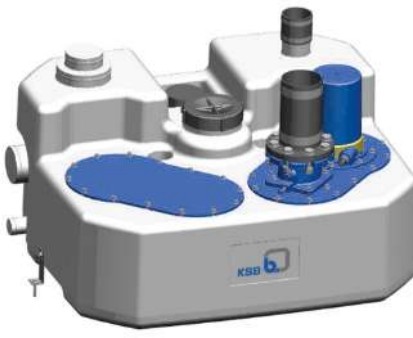
	Compacta U100	Compacta U300
- Hydraulics code 3 to 5 $H_{max.}$ 23 m $Q_{max.}$ = 71.5 m³/h - Free passage 65 mm		
Tank volume	100 l	300 l
Installation examples	Single-family and two-family houses, toilets, showers, bathroom and sauna facilities for private use	Converted cellars, washing facilities with toilets, shower facilities with toilets, drainage installations with exceptionally long discharge lines
Design	Plug-in single-pump unit, fully floodable, with gas and water-proof plastic collecting tank with integrated swing check valve, centrifugal pump with free-flow impeller for automatic operation via electronic control unit	

Table 8: Overview of product features of dual-pump units

	Compacta UZ150	Compacta UZ300
- Hydraulics code 3 to 5 $H_{max.}$ 23 m $Q_{max.}$ 71.5 m³/h - Free passage 65 mm		
Tank volume	150 l	300 l
Installation examples	Basement flats, single-family/two-family houses, hillside houses, surface water from house entrances (DIN 1986-100), public baths and sauna facilities.	Restaurants, pubs, clubs, larger toilet facilities, several residential units, surface water from garage driveways and light wells (DIN 1986-100)
Design	Plug-in, micro-processor controlled dual-pump lifting unit, fully floodable, gas- and water-proof plastic collecting tank with two integrated swing check valves and Y-pipe, two centrifugal pumps with free-flow impeller for automatic alternate, stand-by and peak-load operation	

Table 9: Overview of product features of dual-pump units

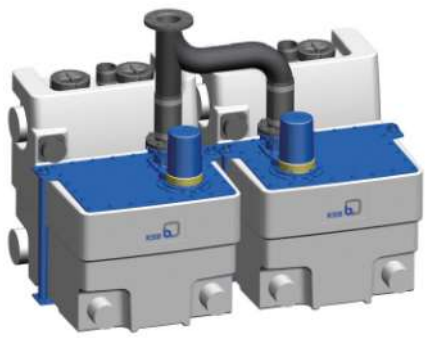
	Compacta UZ450	Compacta UZ900
- Hydraulics code 3 to 5 $H_{max.}$ 23 m $Q_{max.}$ 71.5 m³/h - Free passage 65 mm		
Tank volume	450 l	900 l
Installation examples	Hotels, schools, public buildings, basement storage areas with recreation rooms	Blocks of flats, indoor swimming pools, industrial businesses
Design	Plug-in (UZ450), micro-processor controlled dual-pump lifting unit, fully floodable, gas- and water-proof plastic collecting tank (UZ 900 - two tanks in battery design), with two integrated swing check valves, two centrifugal pumps with free-flow impeller, for automatic alternate, stand-by and peak-load operation	

Table 10: Overview of product features of lifting units for fluids containing larger solids

	Compacta UZ450	Compacta UZ900
- Hydraulics code 10 to 15 $H_{max.}$ 24.3 m $Q_{max.}$ 140 m³/h - Free passage 80 mm - Two waste water pumps installed downstream of collecting tank		
Tank volume	450 l	900 l
Installation examples	Department stores, hospitals, theatres, sports halls, shopping centres	Intermediate floors of underground railways, public buildings, airports, railway stations, rows of houses, industrial, sports and exhibition buildings
Design	Ready-to-connect, micro-processor controlled dual-pump lifting unit, fully floodable, gas- and water-proof plastic collecting tank (UZ 900 - two tanks in battery design), with two submersible waste water pumps installed downstream of the collecting tank with free-flow impeller for automatic alternate, stand-by and peak-load operation	

Technical data

Compacta: single-pump lifting unit – standard design for domestic sewage and faeces

D = three-phase asynchronous motor

U = single-pump lifting unit with vortex impeller

Table 11: Compacta single-pump lifting unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume ⁶⁾				P ₁	P _N	I _N 3~400 V	Motor power cable	Power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in-let							
	DN	[mm]	[l]	[l]	[l]	[l]	[l]							
U 3.100 D ⁷⁾	80/100	65	100	38	-	-	58	2,74	2,20	4,7	4	1	29131550	80
U 3.300 D ⁷⁾	80/100	65	300	113	113	-	133	2,74	2,20	4,7	4	1	29131551	109
U 4.100 D ⁷⁾	80/100	65	100	38	-	-	58	3,72	3,00	6,0	4	1	29131552	82
U 4.300 D ⁷⁾	80/100	65	300	113	113	-	133	3,72	3,00	6,0	4	1	29131553	111
U 5.100 D ⁷⁾	80/100	65	100	38	-	-	58	5,20	4,20	8,4	4	1	29131554	84
U 5.300 D ⁷⁾	80/100	65	300	113	113	-	133	5,20	4,20	8,4	4	1	29131555	113

Compacta: dual-pump lifting unit – standard design for domestic sewage and faeces

D = three-phase asynchronous motor

UZ = dual-pump lifting unit with vortex impeller

Table 12: Compacta dual-pump lifting unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume ⁸⁾				P ₁	P _N	I _N 3~400 V	Motor power cable	Power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in-let							
	DN	[mm]	[l]	[l]	[l]	[l]	[l]							
UZ 3.150 D ⁹⁾	80/100	65	150	65	-	-	75	2,74	2,20	4,7	4	1	29131642	151
UZ 3.300 D ⁹⁾	80/100	65	300	113	113	-	133	2,74	2,20	4,7	4	1	29131643	160
UZ 4.150 D ⁹⁾	80/100	65	150	65	-	-	75	3,72	3,00	6,0	4	1	29131646	155
UZ 4.300 D ⁹⁾	80/100	65	300	113	113	-	133	3,72	3,00	6,0	4	1	29131647	164
UZ 5.150 D ⁹⁾	80/100	65	150	65	-	-	75	5,20	4,20	8,4	4	1	29131650	159
UZ 5.300 D ⁹⁾	80/100	65	300	113	113	-	133	5,20	4,20	8,4	4	1	29131651	168
UZ 3.450 D ¹⁰⁾	80/100	65	450	-	-	290	-	2,74	2,20	4,7	4	1	29131644	197
UZ 3.900 D ¹⁰⁾	80/100	65	900	-	-	580	-	2,74	2,20	4,7	4	1	29131645	277
UZ 4.450 D ¹⁰⁾	80/100	65	450	-	-	290	-	3,72	3,00	6,0	4	1	29131648	201

⁶⁾ Effective volume depending on inlet nozzle level H [mm]

⁷⁾ Version with integrated swing check valve

⁸⁾ Effective volume depending on inlet nozzle level H [mm]

⁹⁾ Version with integrated swing check valve

¹⁰⁾ Version with integrated swing check valve and collecting tank with very large effective volume, without Y-pipe

Size	Discharge-side connection	Free passage	Total volume	Effective volume ⁸⁾				P ₁	P _N	I _N	Motor power cable	Power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in- let							
	DN	[mm]	[l]	[l]	[l]	[l]	[l]	[kW]	[kW]	3~400 V [A]	[m]	[m]		
UZ 4.900 D ¹⁰⁾	80/10 0	65	900	-	-	580	-	3,72	3,00	6,0	4	1	29131649	281
UZ 5.450 D ¹⁰⁾	80/10 0	65	450	-	-	290	-	5,20	4,20	8,4	4	1	29131652	205
UZ 5.900 D ¹⁰⁾	80/10 0	65	900	-	-	580	-	5,20	4,20	8,4	4	1	29131653	285

Compacta: dual-pump lifting unit – standard design for fluids containing coarse particles

D = three-phase asynchronous motor

UZ = dual-pump lifting unit with vortex impeller

Table 13: Compacta dual-pump lifting unit, n = 1450 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume ¹¹⁾				P ₁	P _N	I _N	Motor power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in-let						
	DN	[mm]	[l]	[l]	[l]	[l]	[l]	[kW]	[kW]	3~400 V [A]	[m]		
UZ 10.450 D ¹²⁾	100	80	450	-	-	290	-	2,98	2,30	5,15	10	29135091	323
UZ 10.900 D ¹²⁾	100	80	900	-	-	580	-	2,98	2,30	5,15	10	29135092	398
UZ 11.450 D ¹²⁾	100	80	450	-	-	290	-	4,41	3,55	7,56	10	29135093	367
UZ 11.900 D ¹²⁾	100	80	900	-	-	580	-	4,41	3,55	7,56	10	29135094	442
UZ 12.450 D ¹²⁾	100	80	450	-	-	290	-	6,27	5,50	YΔ 10,7	10	29131658	400
UZ 12.900 D ¹²⁾	100	80	900	-	-	580	-	6,27	5,50	YΔ 10,7	10	29131659	485
UZ 13.450 D ¹²⁾	100	80	450	-	-	290	-	8,83	7,50	YΔ 15,0	10	29131660	420
UZ 13.900 D ¹²⁾	100	80	900	-	-	580	-	8,83	7,50	YΔ 15,0	10	29131661	505
UZ 14.450 D ¹²⁾	100	80	450	-	-	290	-	12,94	11,00	YΔ 22,2	10	29131662	470
UZ 14.900 D ¹²⁾	100	80	900	-	-	580	-	12,94	11,00	YΔ 22,2	10	29131663	555
UZ 15.450 D ¹²⁾	100	80	450	-	-	290	-	12,94	11,00	YΔ 22,2	10	29131664	470
UZ 15.900 D ¹²⁾	100	80	900	-	-	580	-	12,94	11,00	YΔ 22,2	10	29131665	555

Compacta: single-pump lifting unit – variant C for aggressive fluids

C = variant for aggressive fluids

D = three-phase asynchronous motor

U = single-pump lifting unit with vortex impeller

Table 14: Compacta single-pump lifting unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume ¹³⁾				P ₁	P _N	I _N	Motor power cable	Power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in-let							
	DN	[mm]	[l]	[l]	[l]	[l]	[l]	[kW]	[kW]	3~400 V [A]	[m]	[m]		
U 3.100 D/C ¹⁴⁾	80/100	65	100	38	-	-	58	2,74	2,20	4,7	4	1	29131744	80
U 3.300 D/C ¹⁴⁾	80/100	65	300	113	113	-	133	2,74	2,20	4,7	4	1	29131747	109
U 4.100 D/C ¹⁴⁾	80/100	65	100	38	-	-	58	3,72	3,00	6,0	4	1	29131745	82
U 4.300 D/C ¹⁴⁾	80/100	65	300	113	113	-	133	3,72	3,00	6,0	4	1	29131748	111
U 5.100 D/C ¹⁴⁾	80/100	65	100	38	-	-	58	5,20	4,20	8,4	4	1	29131746	84
U 5.300 D/C ¹⁴⁾	80/100	65	300	113	113	-	133	5,20	4,20	8,4	4	1	29131749	113

¹¹⁾ Effective volume depending on inlet nozzle level H [mm]

¹²⁾ The Y-pipe is not included in the scope of supply.

¹³⁾ Effective volume depending on inlet nozzle level H [mm]

¹⁴⁾ Version with integrated swing check valve

Compacta: dual-pump lifting unit – variant C for aggressive fluids

C = variant for aggressive fluids

D = three-phase asynchronous motor

UZ = dual-pump lifting unit with vortex impeller

Table 15: Compacta dual-pump lifting unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume ¹⁵⁾				P ₁	P _N	I _N	Motor power cable	Power cable	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	H = 700 mm	Vertical in-let							
	DN	[mm]	[l]	[l]	[l]	[l]	[l]	[kW]	[kW]	3~400 V [A]	[m]	[m]		
UZ 3.150 D/C ¹⁶⁾	80/100	65	150	65	-	-	75	2,74	2,20	4,7	4	1	29131772	151
UZ 3.300 D/C ¹⁶⁾	80/100	65	300	113	113	-	133	2,74	2,20	4,7	4	1	29131775	160
UZ 4.150 D/C ¹⁶⁾	80/100	65	150	65	-	-	75	3,72	3,00	6,0	4	1	29131773	155
UZ 4.300 D/C ¹⁶⁾	80/100	65	300	113	113	-	133	3,72	3,00	6,0	4	1	29131776	164
UZ 5.150 D/C ¹⁶⁾	80/100	65	150	65	-	-	75	5,20	4,20	8,4	4	1	29131774	159
UZ 5.300 D/C ¹⁶⁾	80/100	65	300	113	113	-	133	5,20	4,20	8,4	4	1	29131777	168
UZ 3.450 D/C ¹⁷⁾	80/100	65	450	-	-	290	-	2,74	2,20	4,7	4	1	29131778	197
UZ 3.900 D/C ¹⁷⁾	80/100	65	900	-	-	580	-	2,74	2,20	4,7	4	1	29131781	277
UZ 4.450 D/C ¹⁷⁾	80/100	65	450	-	-	290	-	3,72	3,00	6,0	4	1	29131779	201
UZ 4.900 D/C ¹⁷⁾	80/100	65	900	-	-	580	-	3,72	3,00	6,0	4	1	29131782	281
UZ 5.450 D/C ¹⁷⁾	80/100	65	450	-	-	290	-	5,20	4,20	8,4	4	1	29131780	205
UZ 5.900 D/C ¹⁷⁾	80/100	65	900	-	-	580	-	5,20	4,20	8,4	4	1	29131783	285

¹⁵⁾ Effective volume depending on inlet nozzle level H [mm]

¹⁶⁾ Version with integrated swing check valve, Y-pipe not included in the scope of supply.

¹⁷⁾ Version with integrated swing check valve and collecting tank with very large effective volume, Y-pipe not included in the scope of supply.

Selection aid for drainage applications

The table below for your guidance is based on KSB's long-standing experience. The data are reference values and are not to be considered binding recommendations. They shall not be the basis for warranty claims. Further consultation is available through the KSB sales houses or KSB specialist departments.

Table 16: Selection aid for drainage applications

Fluid handled	Compacta Hydraulics codes 3 to 5	
	Standard	Variant C
Domestic waste water and faeces from bathtubs, showers, washbasins, bidets, toilets, urinals, sinks, floor drains, dishwashers and washing machines	X	-
Waste water from commercial premises produced in kitchens, shower and toilet facilities, hospitals, hotels, sports facilities and swimming pools	X	X
Condensate from heat recovery applications (DIN 1986-3)	-	X
Waste water from kitchens For discharge of greasy waste water, a grease separator must be fitted. (DIN 4040-1)	X	X
Waste water from laboratories (Permission under water and waterways legislation or discharge permit required, DIN 1986-3)	-	¹⁸⁾
Flushing water containing salt (seawater <15 °C)	-	X
Swimming pool water containing chlorine (DIN 19643)	-	X
Aggressive waste water in low concentrations, pH 5 to 12, cleaning agents, disinfectants, dishwashing agents and laundry agents (DIN 1986-3)	-	X
Waste water containing road salt e.g. from garages	-	X
Fully desalinated water (ultra-pure water) with a conductivity < 30 µS	-	X

Special design on request

- Larger flow rates
- Further single-pump units
- Special materials
- Materials for aggressive fluids
- Tank made of stainless steel (1.4301, 1.4571)
- Variants with multiple tanks (up to 4 x 450 litres)
- Lifting units with three and more pumps
- Systems for improved fire protection / halogen-free cables
- Compacta ZF, ZK with dry-installed volute casing pumps, S1 duty
- Different voltages and frequencies
- Continuous duty

 For lifting units with higher ratings and for other special units please refer to type series booklet Compacta UZ, ZF, ZK, reference number 2317.53.

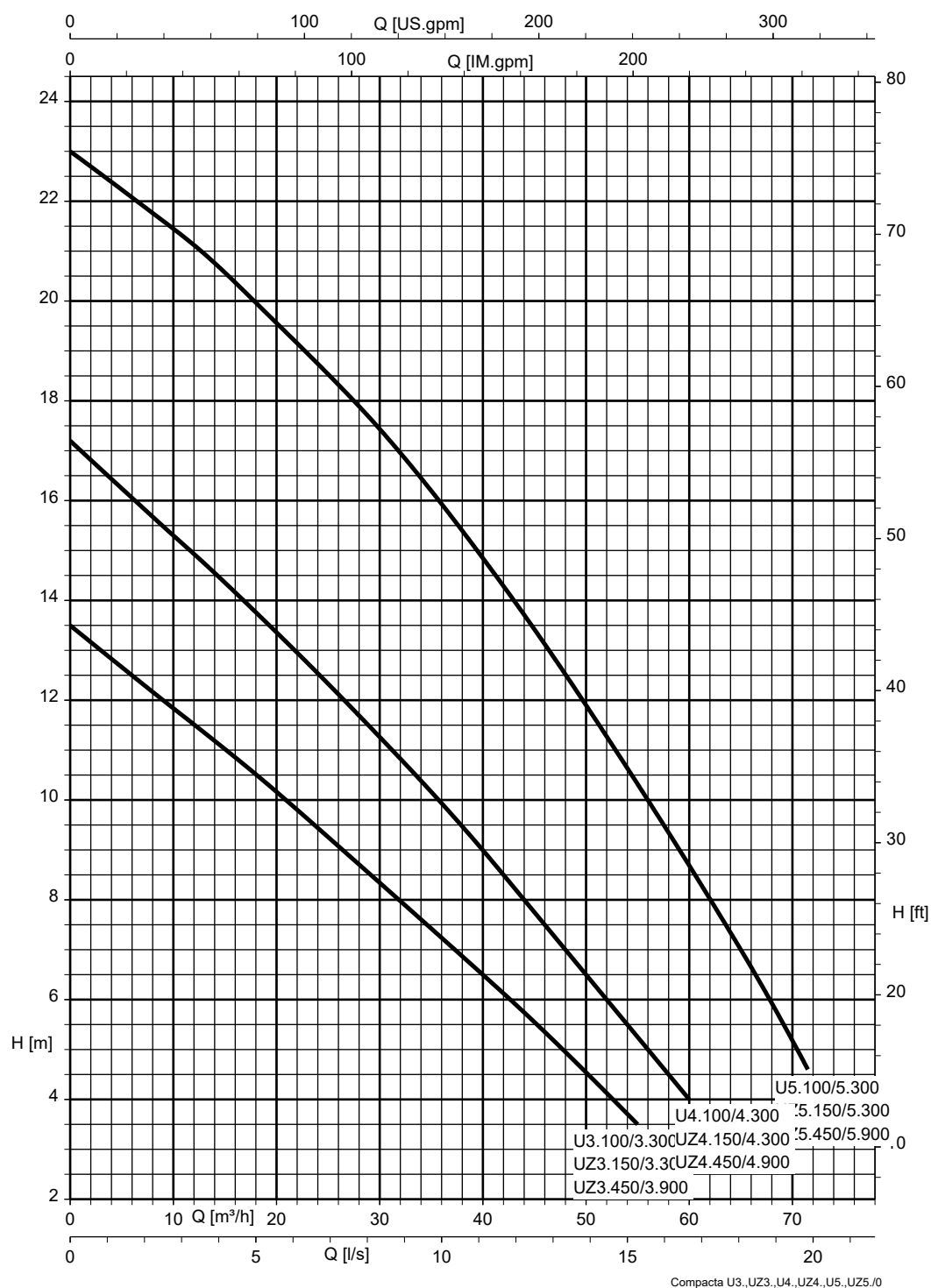
¹⁸ Contact KSB with the relevant analysis, temperature and duty cycle.

Characteristic curves

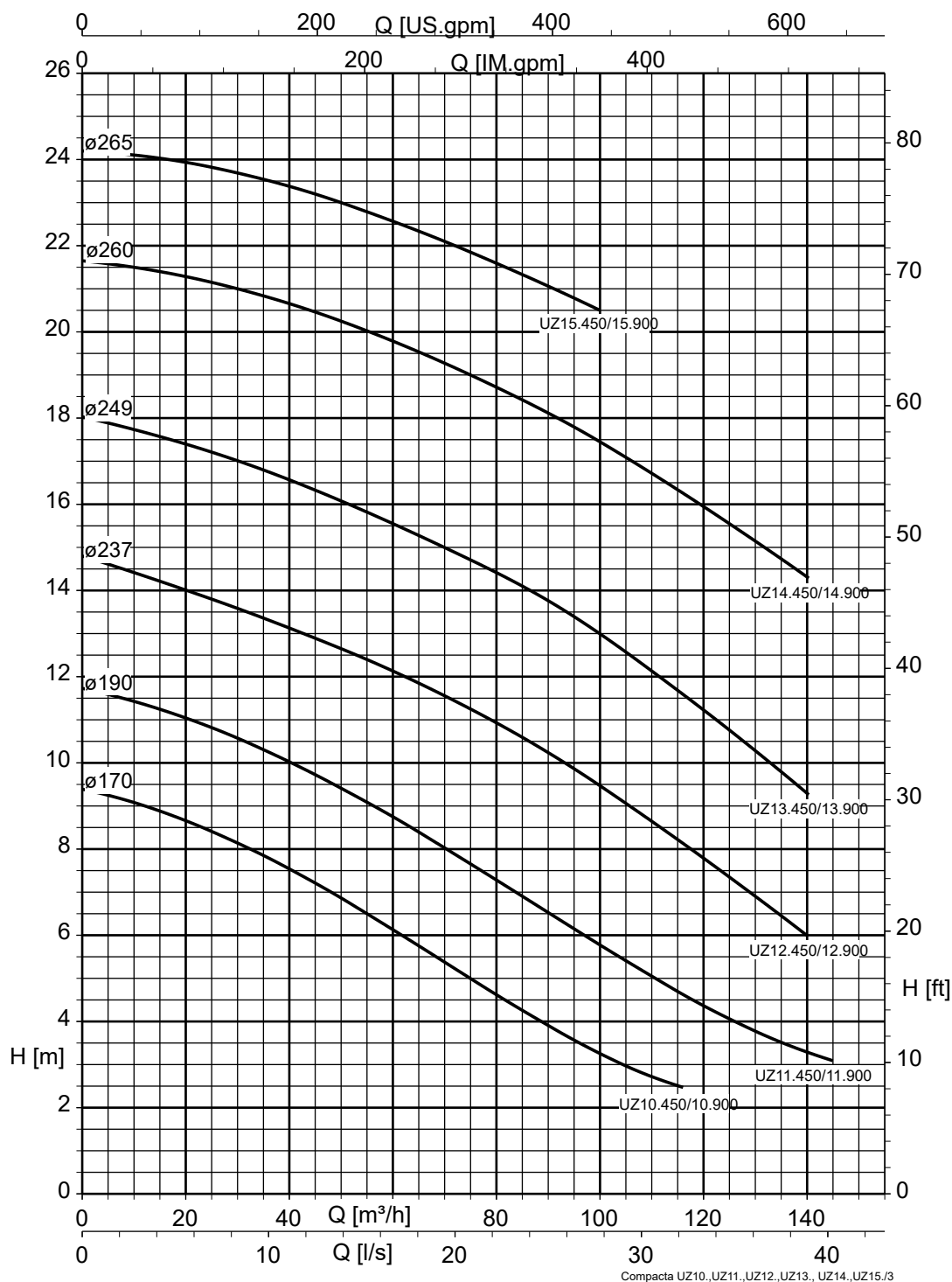
Note

i Characteristic curves valid for common domestic waste water quantities. For smaller capacities please refer to the MiniCompacta type series booklet (reference number 2317.54).

Compacta U3/UZ3, U4/UZ4, U5/UZ5, n = 2800 rpm



Compacta UZ10, UZ11, UZ12, UZ13, UZ14, UZ15, n = 1450 rpm



Dimensions and connections

Compacta U (100 litres)

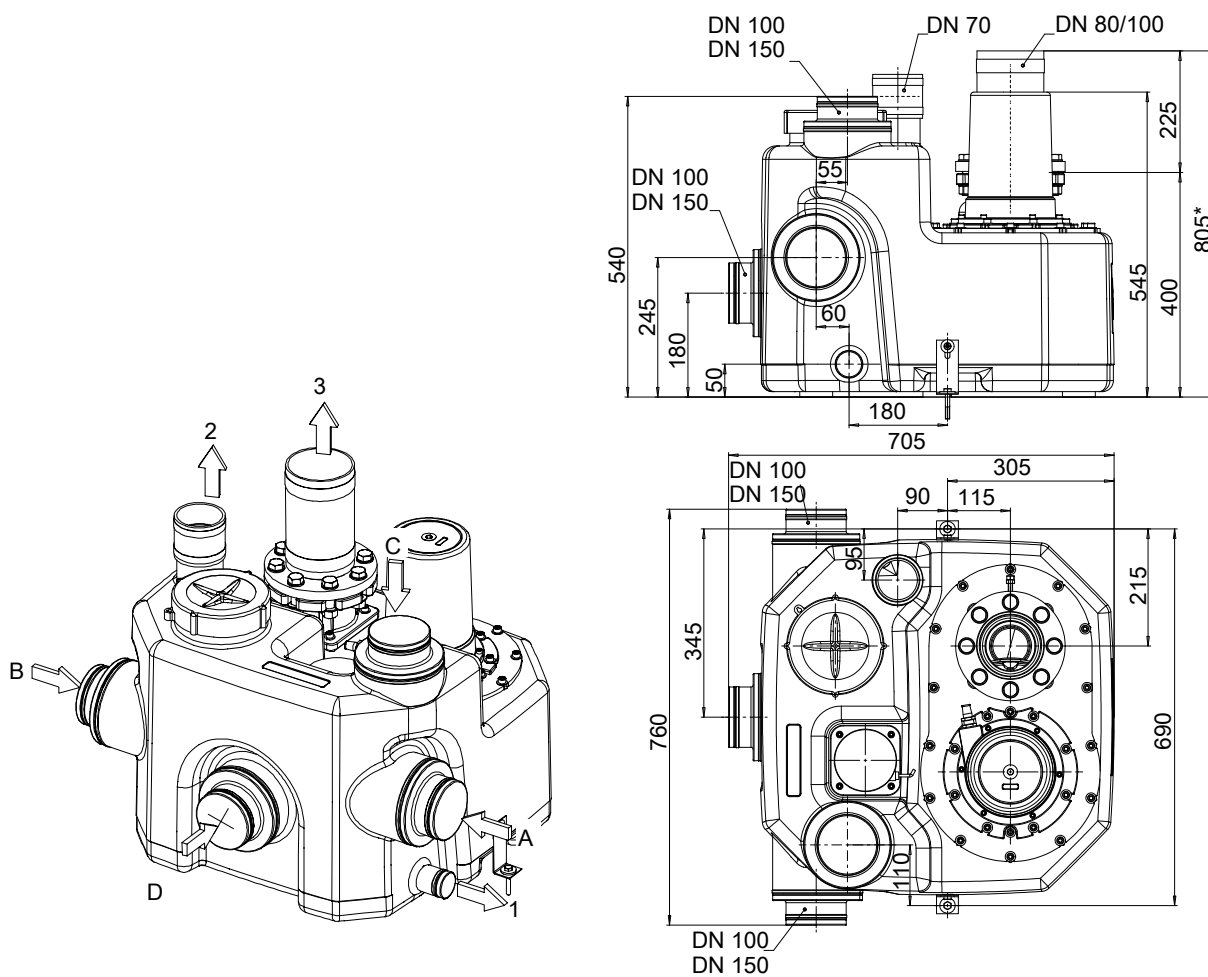
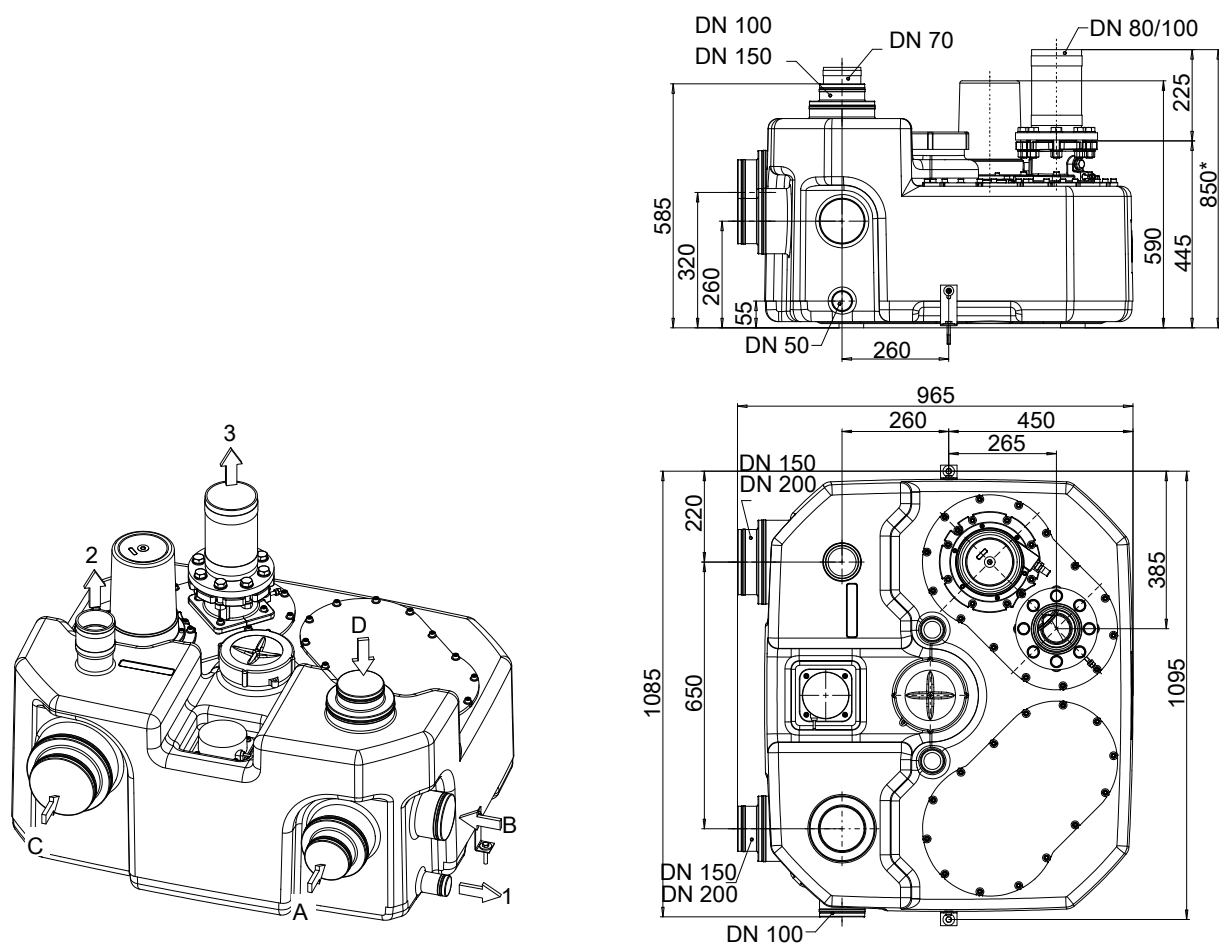
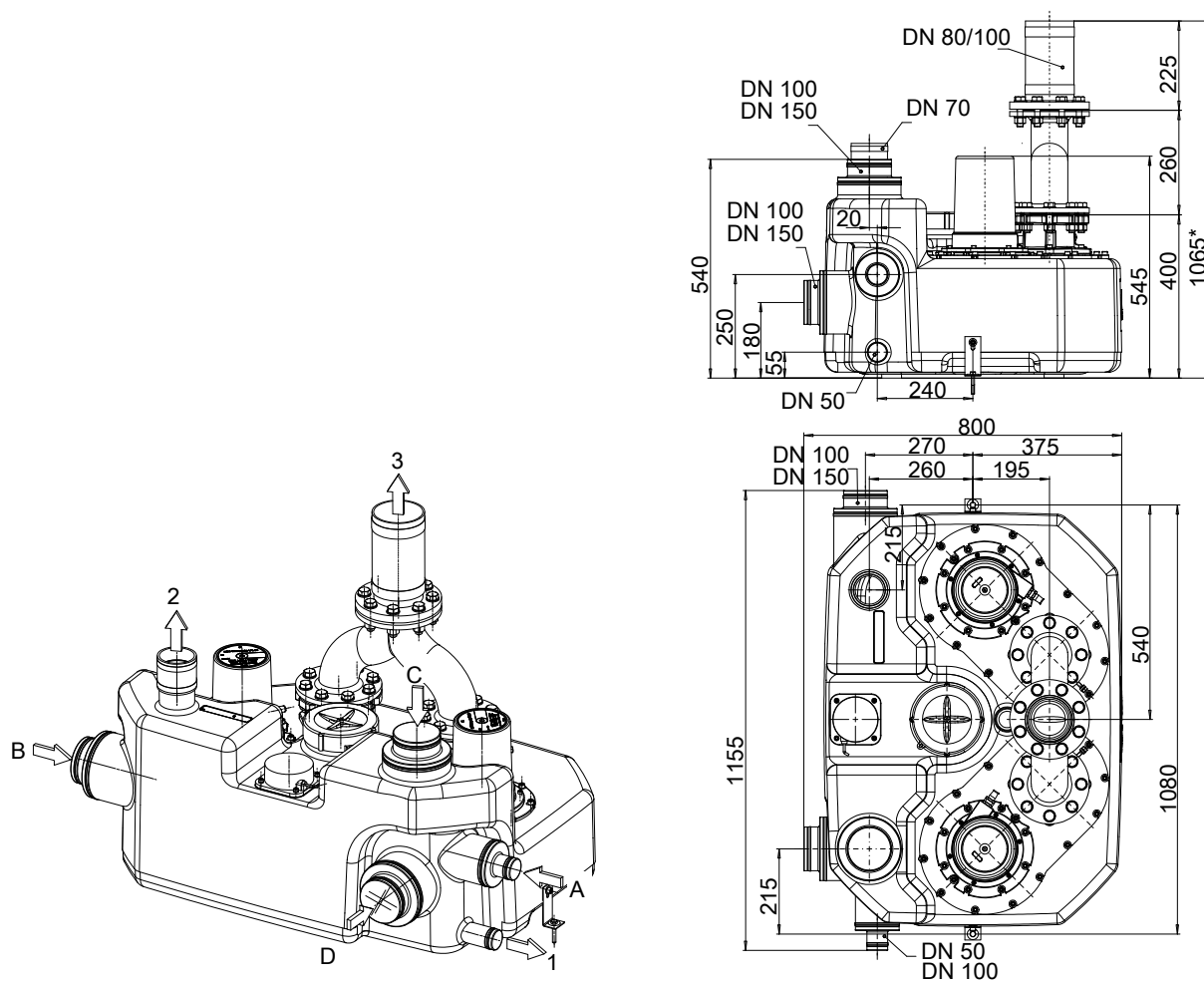


Fig. 3: Connections and dimensions for Compacta U (100 litres)

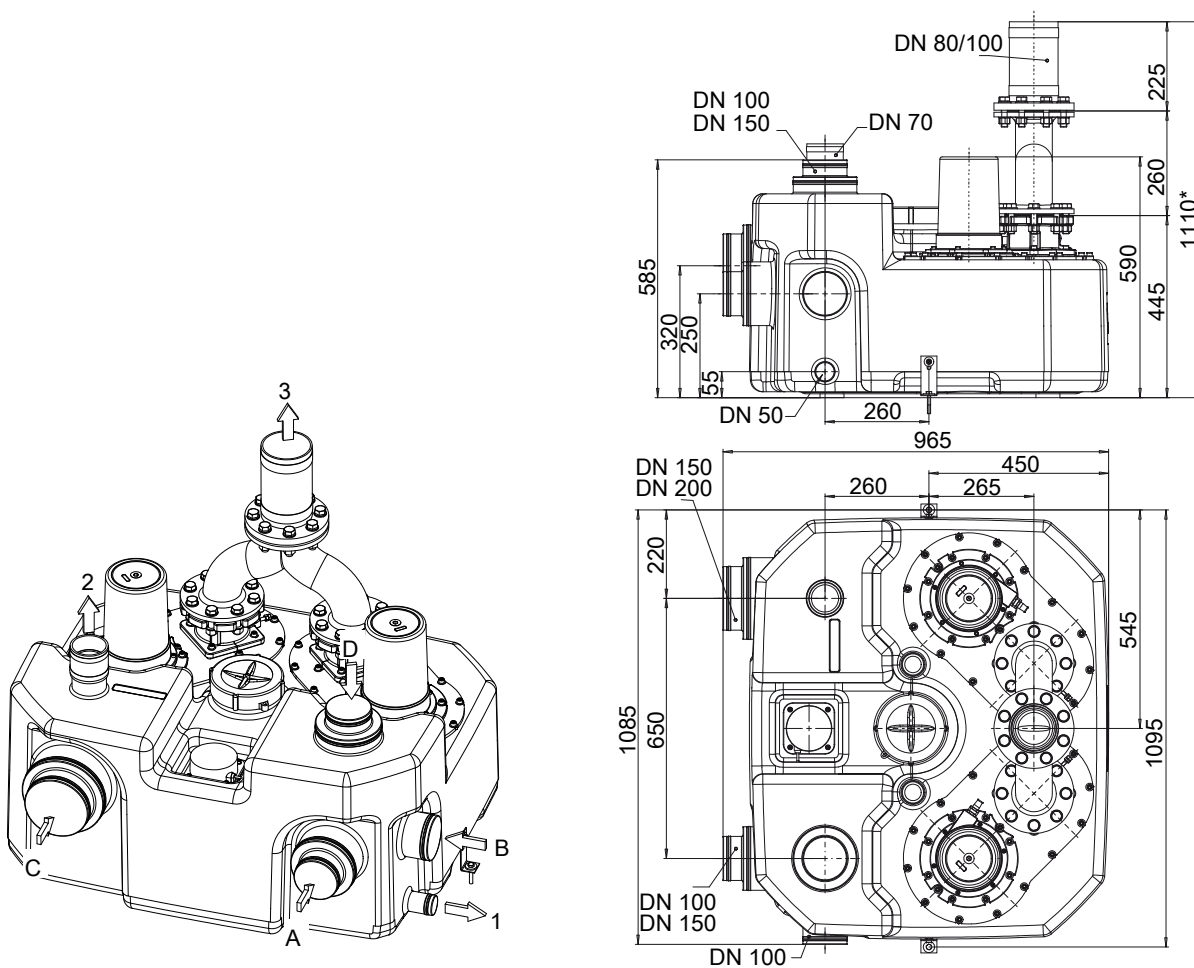
A	Inlet DN 150/100
B	Inlet DN 150/100
C	Inlet DN 150/100
D	Inlet cannot be used
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 80/100
*	Length including gate valve

Compacta U (300 litres)

Fig. 4: Connections and dimensions for Compacta U (300 litres)

A	Inlet DN 150/100
B	Inlet DN 100
C	Inlet DN 200/150
D	Inlet DN 150/100
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 80/100
*	Length including gate valve

Compacta UZ (150 litres)

Fig. 5: Connections and dimensions for Compacta UZ (150 litres)

A	Inlet DN 100/50
B	Inlet DN 150/100
C	Inlet DN 150/100
D	Inlet cannot be used
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 80/100
*	Length including gate valve

Compacta UZ (300 litres)

Fig. 6: Connections and dimensions for Compacta UZ (300 litres)

A	Inlet DN 150/100
B	Inlet DN 100
C	Inlet DN 200/150
D	Inlet DN 150/100
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 80/100
*	Length including gate valve

Installation information

Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

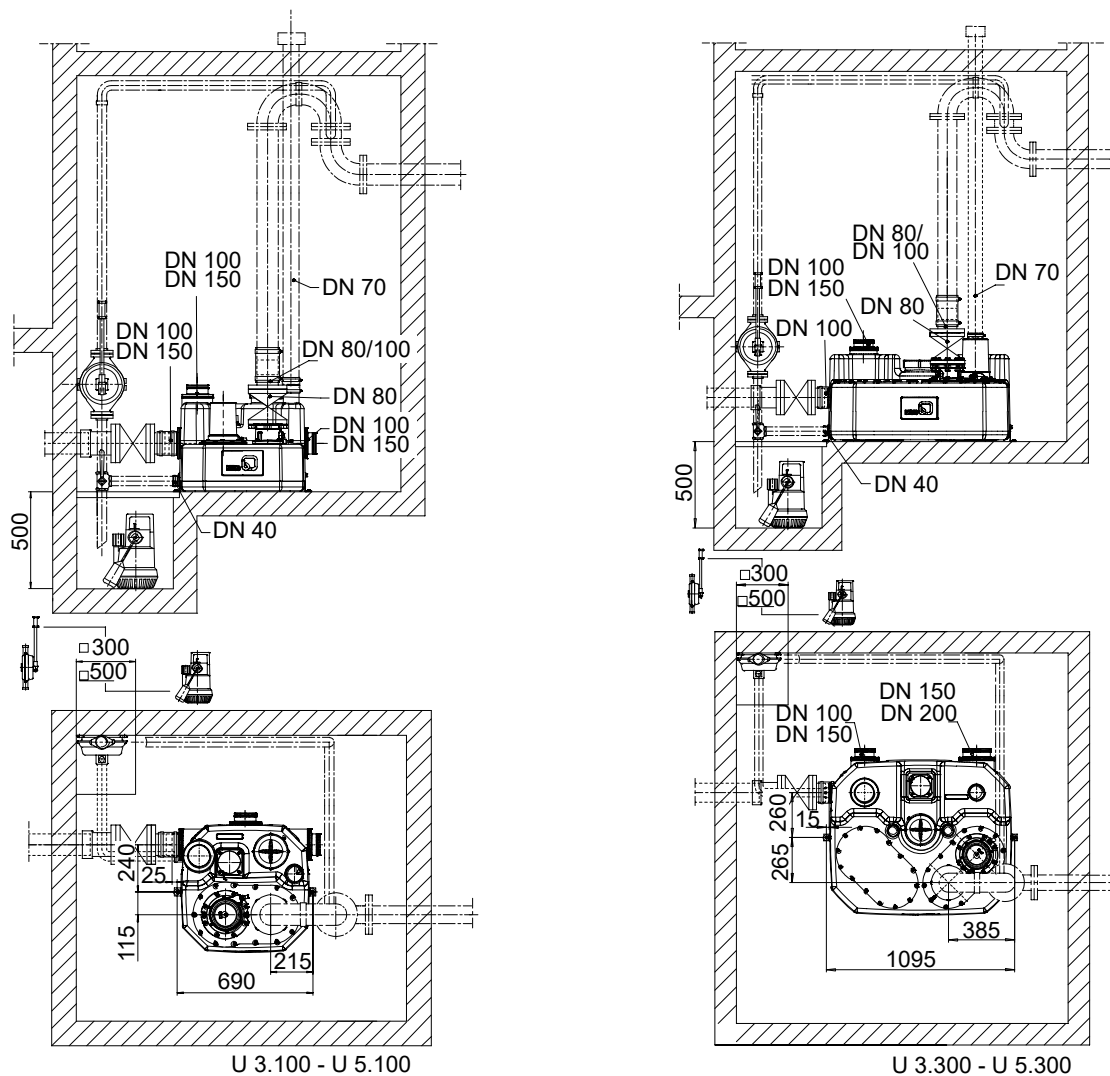


Fig. 7: Installation information for Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

i For lifting units a working area of at least 600 mm width and height must be provided around and above all parts to be operated and serviced.

Compacta UZ 3.150 to UZ 5.150 and UZ 3.300 to UZ 5.300

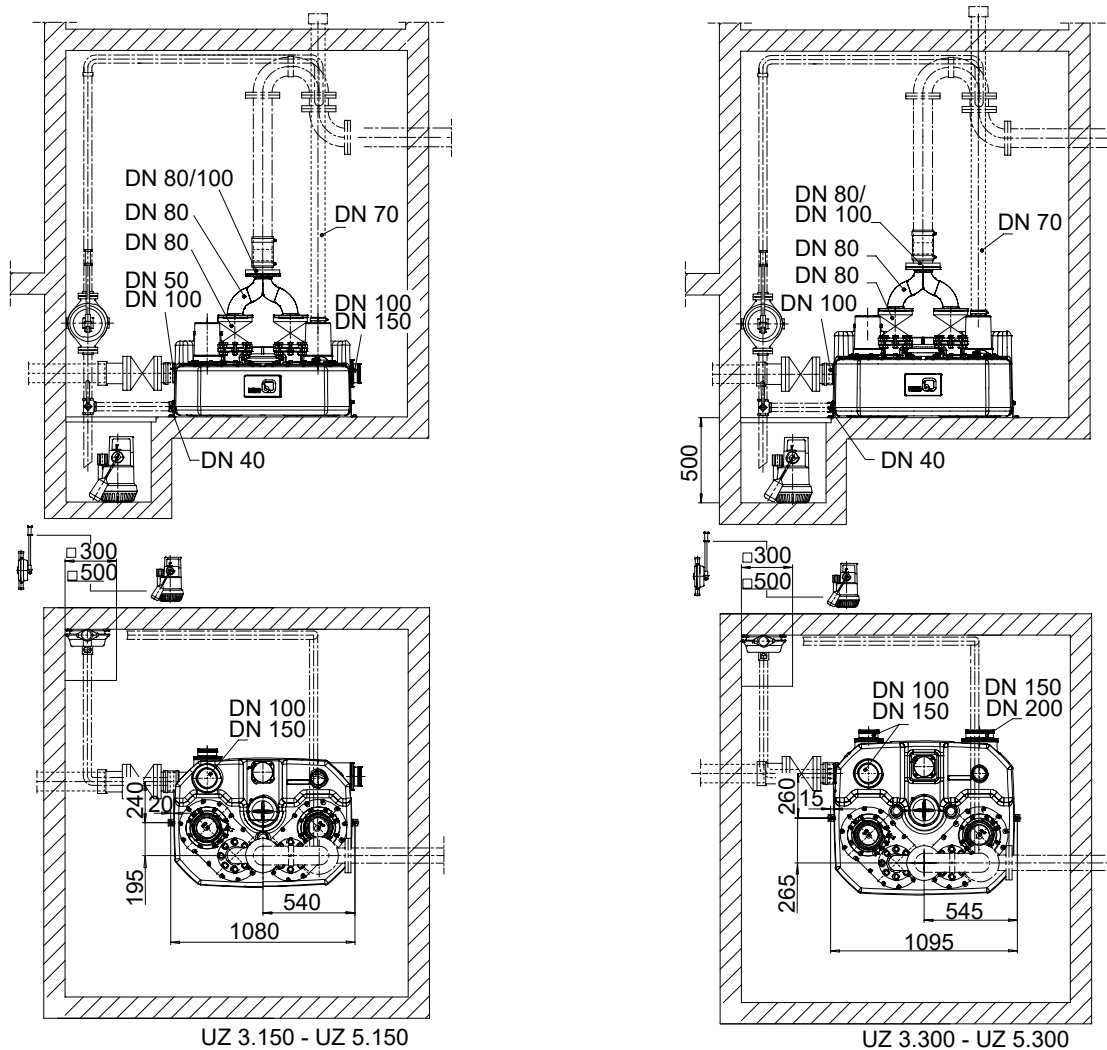


Fig. 8: Installation information for Compacta UZ 3.150 to UZ 5.150 and UZ 3.300 to UZ 5.300

i For lifting units a working area of at least 600 mm width and height must be provided around and above all parts to be operated and serviced.

Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

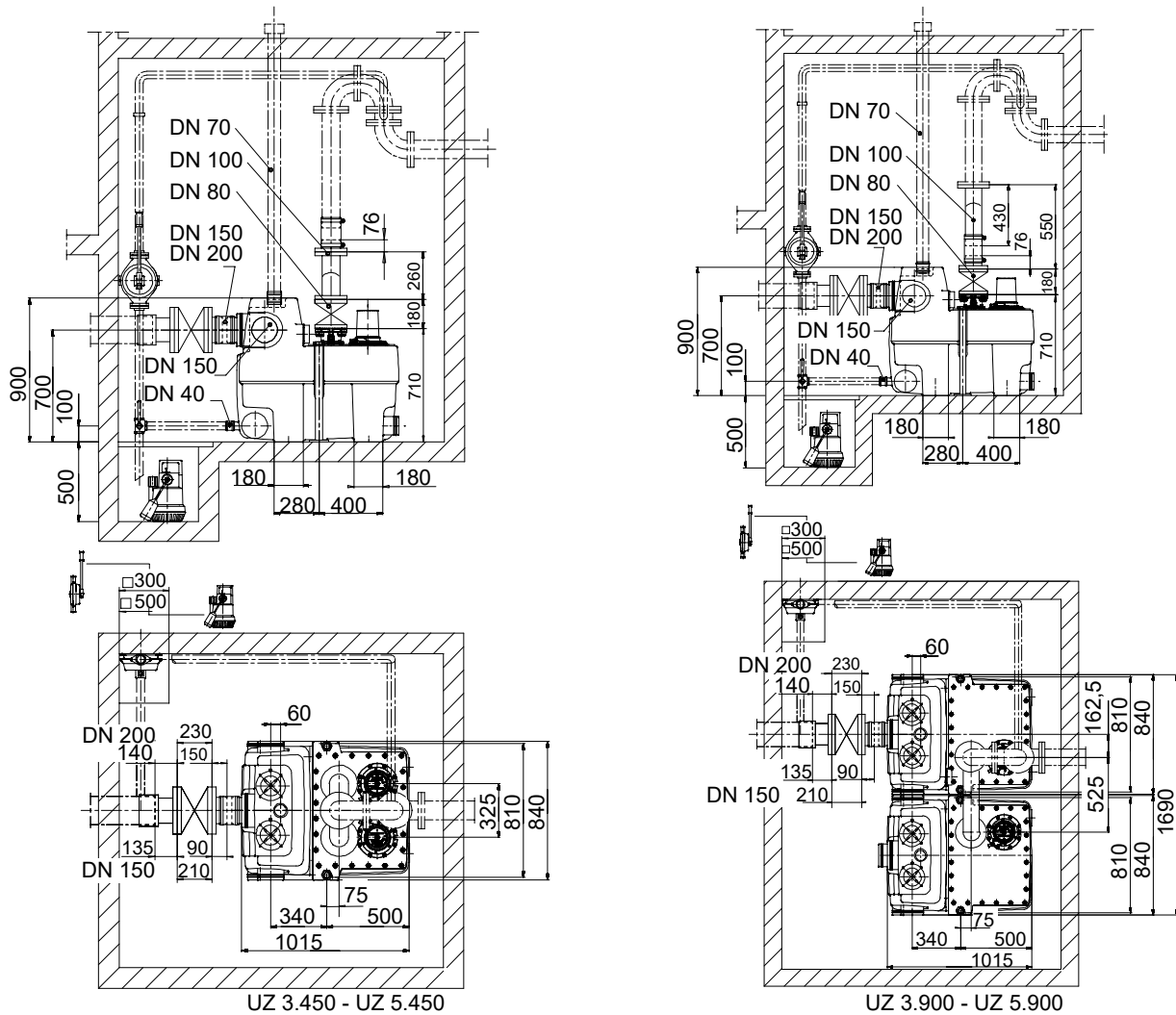


Fig. 9: Installation information for Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

i For lifting units a working area of at least 600 mm width and height must be provided around and above all parts to be operated and serviced.

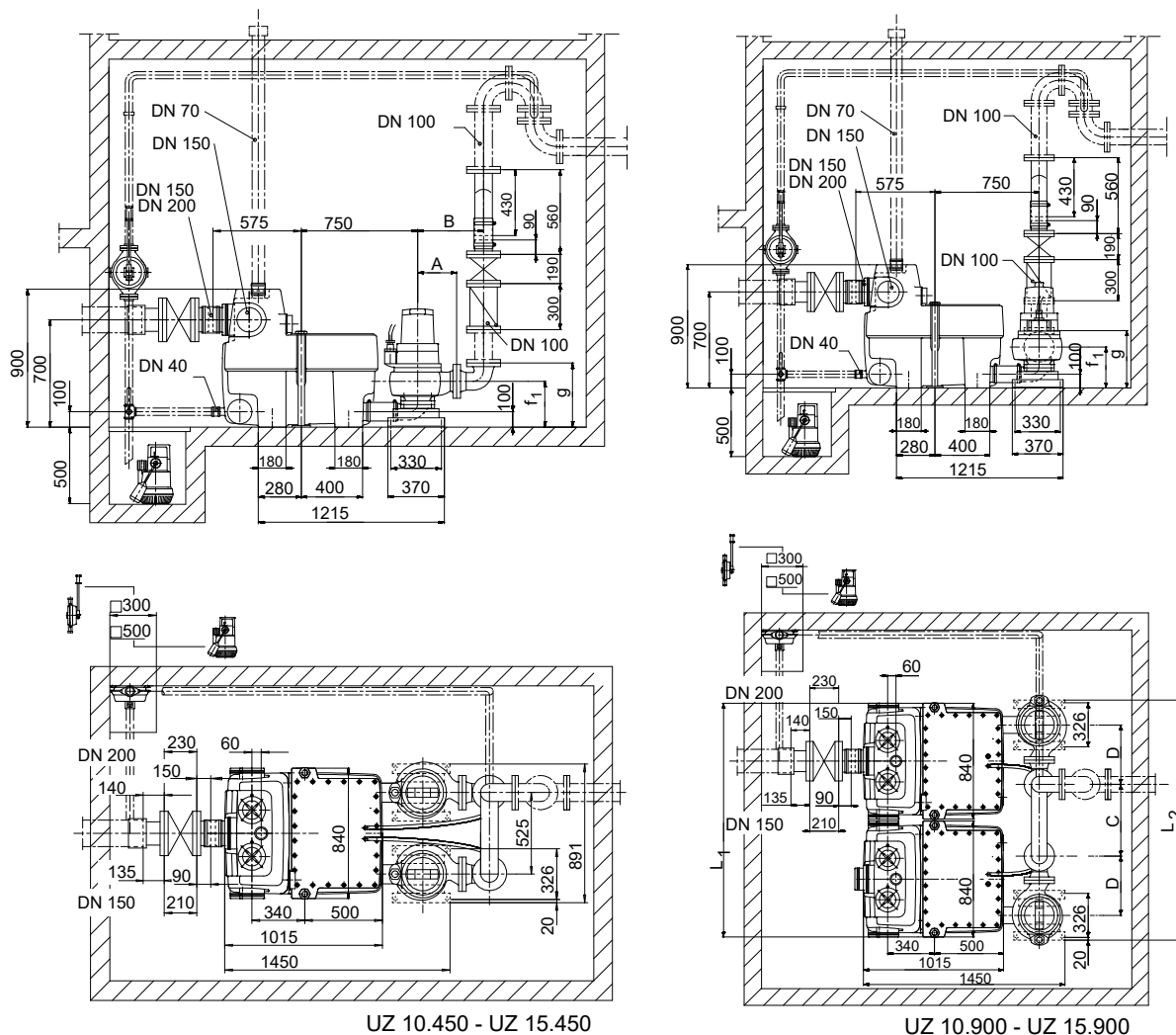
Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Fig. 10: Installation information for Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Table 17: Dimensions

Size	A	B	C	D	f ₁	g	L ₁	L ₂
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
UZ 10.450 - UZ 11.450	270	445	-	-	275	395	-	-
UZ 12.450 - UZ 15.450	255	430	-	-	300	420	-	-
UZ 10.900 - UZ 11.900	-	-	490	445	275	395	1695	1746
UZ 12.900 - UZ 15.900	-	-	525	430	300	420	1700	1751

i For lifting units a working area of at least 600 mm width and height must be provided around and above all parts to be operated and serviced.

Connection nozzles

Table 18: Connection nozzles by model

Compacta	Inlet side	Discharge side	Vent	Connection Hand diaphragm pump
U3 to U 5 (100 litres)	Horizontal: 2 × DN 100, graded Inlet nozzle level 250 mm Vertical: 1 × DN 150/100, graded	DN 80/100 DN 80/80 (optional)	DN 70	DN 40 (Rp 1 1/2)
U3 to U5 (300 litres)	Horizontal: 1 × DN 100 1 × DN 150/100, graded Inlet nozzle level 250 mm 1 × DN 200/150, graded Inlet nozzle level 320 mm Vertical: 1 × DN 150/100, graded	DN 80/100 DN 80/80 (optional)	DN 70	DN 40 (Rp 1 1/2)
UZ3 to UZ5 (150 litres)	Horizontal: 1 × DN 100/50, graded 1 × DN 150/100, graded Inlet nozzle level 250 mm Vertical: 1 × DN 150/100, graded	DN 80/100 (discharge line down- stream of Y-pipe DN 100) DN 80/80 (optional)	DN 70	DN 40 (Rp 1 1/2)
UZ3 to UZ5 (300 litres)	Horizontal: 1 × DN 100 1 × DN 150/100, graded Inlet nozzle level 250 mm 1 × DN 200/150, graded Inlet nozzle level 320 mm Vertical: 1 × DN 150/100, graded	DN 80/100 (discharge line down- stream of Y-pipe DN 100) DN 80/80 (optional)	DN 70	DN 40 (Rp 1 1/2)
UZ3 to UZ5 (450 litres)	Horizontal: 2 × DN 150 1 × DN 200/150, graded Inlet nozzle level 700 mm	DN 80/100 (discharge line down- stream of Y-pipe DN 100) DN 80/80 (optional)	DN 70	DN 40 (Rp 1 1/2)
UZ3 to UZ5 (900 litres)	Horizontal: 2 × DN 150 2 × DN 200/150, graded Inlet nozzle level 700 mm	DN 80/100 (discharge line down- stream of Y-pipe DN 100) DN 100 (optional)	DN 70	DN 40 (Rp 1 1/2)
UZ10 to UZ15 (450 litres)	Horizontal: 2 × DN 150 1 × DN 200/150, graded Inlet nozzle level 700 mm	DN 100	DN 70	DN 40 (Rp 1 1/2)
UZ10 to UZ15 (900 litres)	Horizontal: 2 × DN 150 2 × DN 200/150, graded Inlet nozzle level 700 mm	DN 100	DN 70	DN 40 (Rp 1 1/2)

Scope of supply

Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

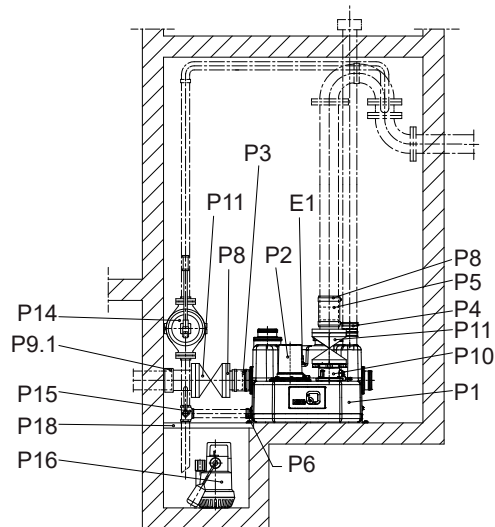


Fig. 11: Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

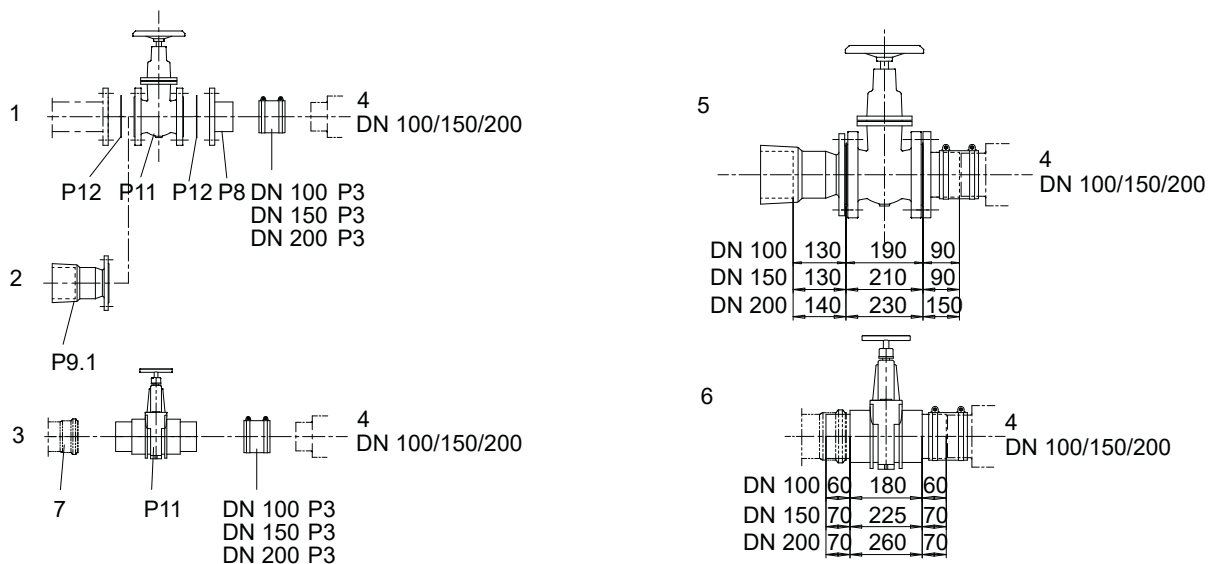


Fig. 12: Inlet line of Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

1	Flanged connection
2	Connection by flanged socket
3	Connection to the waste water pipe
4	Tank connection
5	Gate valve made of grey cast iron
6	Gate valve made of PVC
7	Supplied by operator

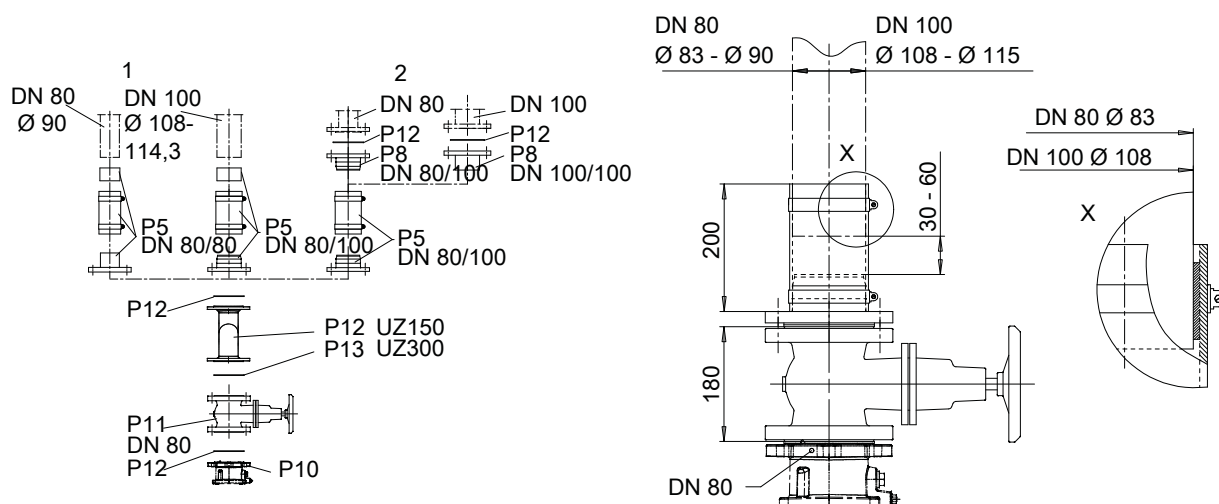


Fig. 13: Discharge line of Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

1	Pipe connection
2	Flanged connection

Table 19: Scope of supply of Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

Item	Description	Compacta	
		U 3. - U 5.	
		100	300
- P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic	X	X
- P2	Fully floodable submersible motor pump	X	X
P3	Flexible hose connection and hose clips DN 100	X	-
P3	Flexible hose connection and hose clips DN 150 (inlet)	-	X
- P4	Flexible hose connection and hose clips (venting)	X	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 100 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 108-114.3 mm	X	X
- P6	Flexible hose connection and hose clips (hand diaphragm pump)	X	X
- P10	Swing check valve with full bore and lifting screw	X	X
- E1	Analog level sensor for pump and alarm buzzer	X	X
- E3 ¹⁹⁾	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer	X	X

Table 20: Accessories of Compacta U 3.100 to U 5.100 and U 3.300 to U 5.300

Item	Description	Compacta	
		U 3. - U 5.	
		100	300
P3	Flexible hose connection and hose clips DN 100	-	X
P3	Flexible hose connection and hose clips DN 150	X	-
P3	Flexible hose connection and hose clips DN 200	-	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 80 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 83-90 mm	X	X
P8	Stub flange	X	X

¹⁹⁾ Not shown in drawing

Item		Description	Compacta	
			U 3. - U 5.	
			100	300
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	X	X
-	P11	Gate valve	X	X
	P12	Set of installation accessories	X	X
	P14	Hand diaphragm pump ISO 7/I-Rp 1 1/2	X	X
	P15	Three-way plug valve ISO 7/I-Rp 1 1/2	X	X
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve	X	X
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer	X	X
-	E50 ¹⁹⁾	AS 0 alarm switchgear	X	X
-	E51 ¹⁹⁾	AS 2 alarm switchgear	X	X
-	E52 ¹⁹⁾	AS 4 alarm switchgear	X	X
-	E53 ¹⁹⁾	AS 5 alarm switchgear	X	X
-	E64 ¹⁹⁾	F1 leakage sensor	X	X

Technical drawing of a gas furnace assembly. The drawing shows a cross-section of the furnace body with various components labeled with 'P' followed by a number. The labels include: P1 (main furnace body), P2 (gas valve), P3 (gas control valve), P4 (gas inlet pipe), P5 (gas outlet pipe), P6 (gas burner assembly), P7 (gas control valve), P8 (gas control valve), P9.1 (gas control valve), P10 (gas control valve), P11 (gas control valve), P12 (gas control valve), P13 (gas control valve), P14 (gas control valve), P15 (gas control valve), P16 (gas control valve), P17 (gas control valve), P18 (gas control valve), P19 (gas control valve), P20 (gas control valve), P21 (gas control valve), P22 (gas control valve), P23 (gas control valve), P24 (gas control valve), P25 (gas control valve), P26 (gas control valve), P27 (gas control valve), P28 (gas control valve), P29 (gas control valve), P30 (gas control valve), P31 (gas control valve), P32 (gas control valve), P33 (gas control valve), P34 (gas control valve), P35 (gas control valve), P36 (gas control valve), P37 (gas control valve), P38 (gas control valve), P39 (gas control valve), P40 (gas control valve), P41 (gas control valve), P42 (gas control valve), P43 (gas control valve), P44 (gas control valve), P45 (gas control valve), P46 (gas control valve), P47 (gas control valve), P48 (gas control valve), P49 (gas control valve), P50 (gas control valve), P51 (gas control valve), P52 (gas control valve), P53 (gas control valve), P54 (gas control valve), P55 (gas control valve), P56 (gas control valve), P57 (gas control valve), P58 (gas control valve), P59 (gas control valve), P60 (gas control valve), P61 (gas control valve), P62 (gas control valve), P63 (gas control valve), P64 (gas control valve), P65 (gas control valve), P66 (gas control valve), P67 (gas control valve), P68 (gas control valve), P69 (gas control valve), P70 (gas control valve), P71 (gas control valve), P72 (gas control valve), P73 (gas control valve), P74 (gas control valve), P75 (gas control valve), P76 (gas control valve), P77 (gas control valve), P78 (gas control valve), P79 (gas control valve), P80 (gas control valve), P81 (gas control valve), P82 (gas control valve), P83 (gas control valve), P84 (gas control valve), P85 (gas control valve), P86 (gas control valve), P87 (gas control valve), P88 (gas control valve), P89 (gas control valve), P90 (gas control valve), P91 (gas control valve), P92 (gas control valve), P93 (gas control valve), P94 (gas control valve), P95 (gas control valve), P96 (gas control valve), P97 (gas control valve), P98 (gas control valve), P99 (gas control valve), P100 (gas control valve).

1 2 3 4 7 8

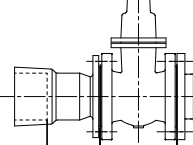
P12 P11 P8 DN 100 P3
DN 150 P3
DN 200 P3

P9.1

3 4 7 8

P11 DN 100 P3
DN 150 P3
DN 200 P3

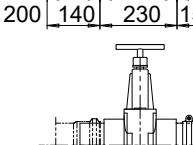
5



4
DN 100/150/200

	130	190	90
DN 100	130	190	90
DN 150	130	210	90
DN 200	140	230	150

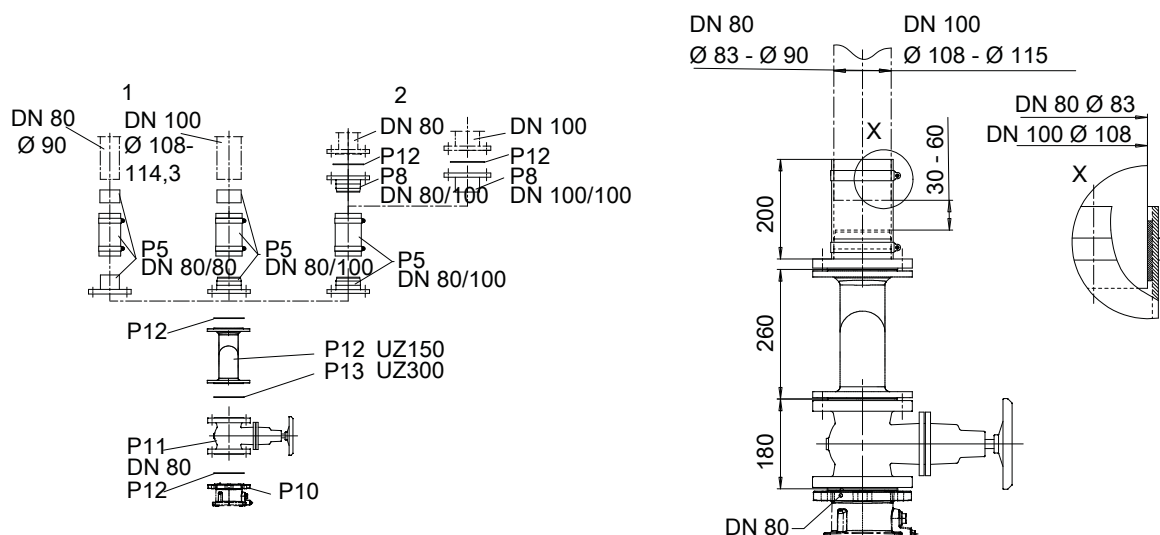
6



4
DN 100/150/200

	60	180	60
DN 100	60	180	60
DN 150	70	225	70
DN 200	70	260	70

1	Flanged connection
2	Connection by flanged socket
3	Connection to the waste water pipe
4	Tank connection
5	Gate valve made of grey cast iron
6	Gate valve made of PVC
7	Supplied by operator


Fig. 16: Discharge line of Compacta UZ 3.150 to UZ 5.150 and UZ 3.300 to UZ 5.300

1	Pipe connection
2	Flanged connection

Table 21: Scope of supply of Compacta UZ 3.150 to UZ 5.150 and UZ 3.300 to UZ 5.300

Item	Description	Compacta	
		UZ 3. - UZ 5.	
		150	300
- P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic	X	X
- P2	Fully floodable submersible motor pump	X	X
P3	Flexible hose connection and hose clips DN 100	X	-
P3	Flexible hose connection and hose clips DN 150 (inlet)	-	X
- P4	Flexible hose connection and hose clips (venting)	X	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 100 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 108-114.3 mm	X	X
- P6	Flexible hose connection and hose clips (hand diaphragm pump)	X	X
- P10	Swing check valve with full bore and lifting screw	X ²⁰⁾	X ²⁰⁾
- P13	Y-pipe DN 80 with 2 sets of installation accessories	X ²¹⁾	X ²¹⁾
- E1	Analog level sensor for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads	X	X
- E3 ²²⁾	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer	X	X

Table 22: Accessories of Compacta UZ 3.150 to UZ 5.150 and UZ 3.300 to UZ 5.300

Item	Description	Compacta	
		UZ 3. - UZ 5.	
		150	300
P3	Flexible hose connection and hose clips DN 100	-	X
P3	Flexible hose connection and hose clips DN 150	X	-
P3	Flexible hose connection and hose clips DN 200	-	X

²⁰ Two such pcs./sets are required for the discharge line

²¹ Not for variant C

²² Not shown in drawing

Item	Description	Compacta	
		UZ 3. - UZ 5.	
		150	300
 P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 80 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 83-90 mm	X	X
 P8	Stub flange	X	X
 P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	X	X
- P11	Gate valve	X ²⁰⁾	X ²⁰⁾
 P12	Set of installation accessories	X ²⁰⁾	X ²⁰⁾
 P13	Y-pipe DN 80, material variant C, with 2 sets of installation accessories	X	X
 P14	Hand diaphragm pump ISO 7/I-Rp 1 1/2	X	X
 P15	Three-way plug valve ISO 7/I-Rp 1 1/2	X	X
 P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve	X	X
- P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer	X	X
- E50 ²²⁾	AS 0 alarm switchgear	X	X
- E51 ²²⁾	AS 2 alarm switchgear	X	X
- E52 ²²⁾	AS 4 alarm switchgear	X	X
- E53 ²²⁾	AS 5 alarm switchgear	X	X
- E64 ²²⁾	F1 leakage sensor	X	X

Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

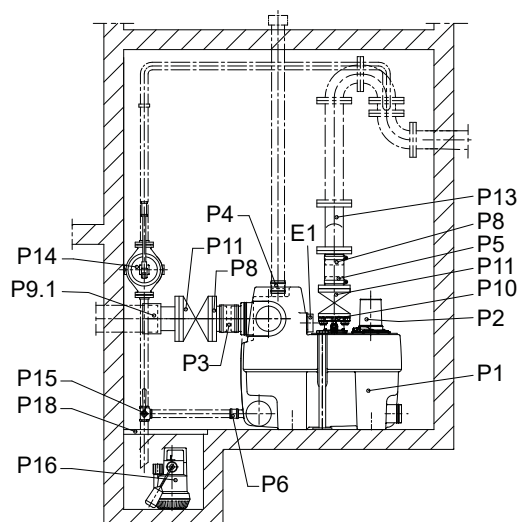


Fig. 17: Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

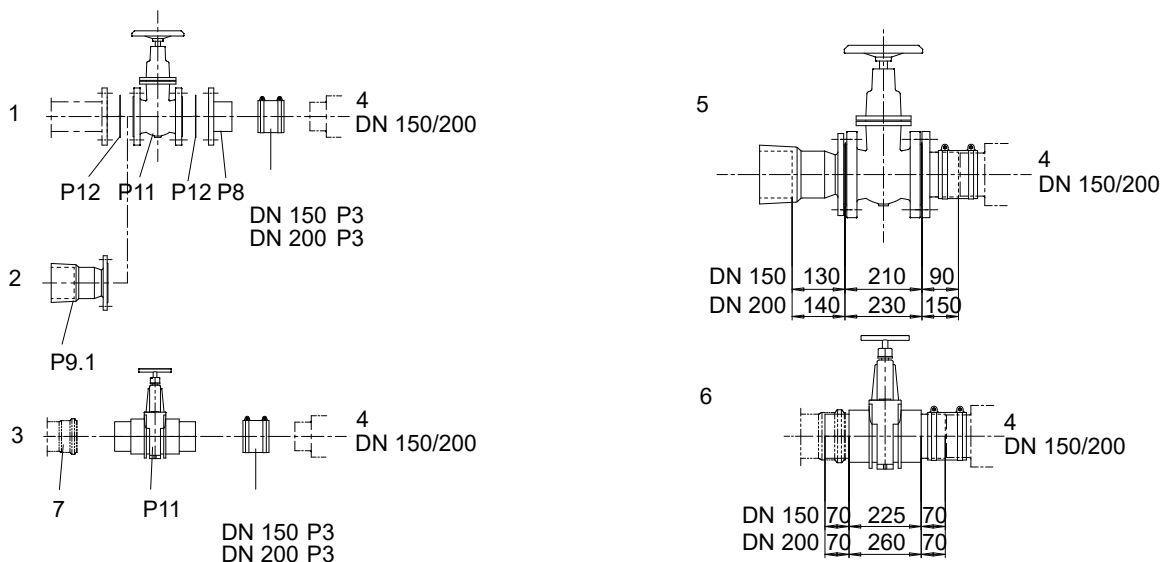


Fig. 18: Inlet line of Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

1	Flanged connection
2	Connection by flanged socket
3	Connection to the waste water pipe
4	Tank connection
5	Gate valve made of grey cast iron
6	Gate valve made of PVC
7	Supplied by operator

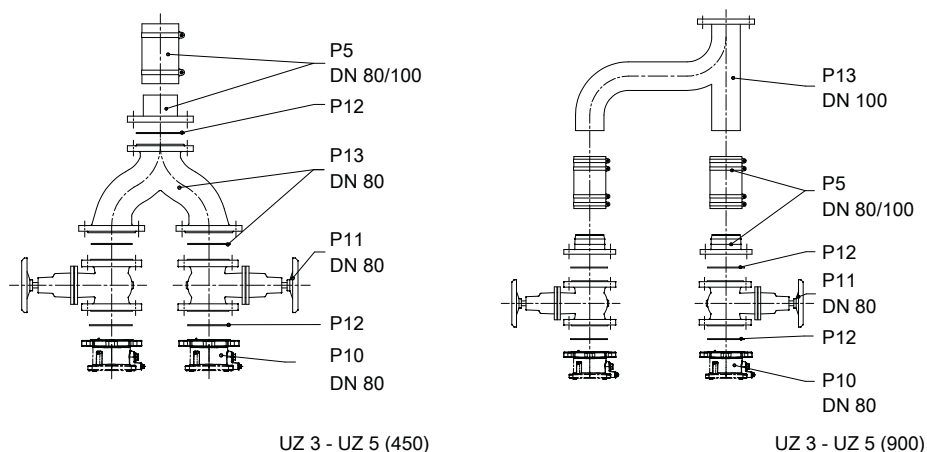

Fig. 19: Discharge line of Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

Table 23: Scope of supply of Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

Item	Description	Compacta	
		UZ 3. - UZ 5.	
		450	900
- P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic	X	X
- P2	Fully floodable submersible motor pump	X	X
P3	Flexible hose connection and hose clips DN 150 (inlet)	X	X
- P4	Flexible hose connection and hose clips (venting)	X	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 100 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 108-114.3 mm	X	X ²³⁾
- P6	Flexible hose connection and hose clips (hand diaphragm pump)	X	X
- P10	Swing check valve with full bore and lifting screw	X ²³⁾	X ²³⁾
- E1	Analog level sensor for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads	X	X
- E3 ²⁴⁾	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer	X	X

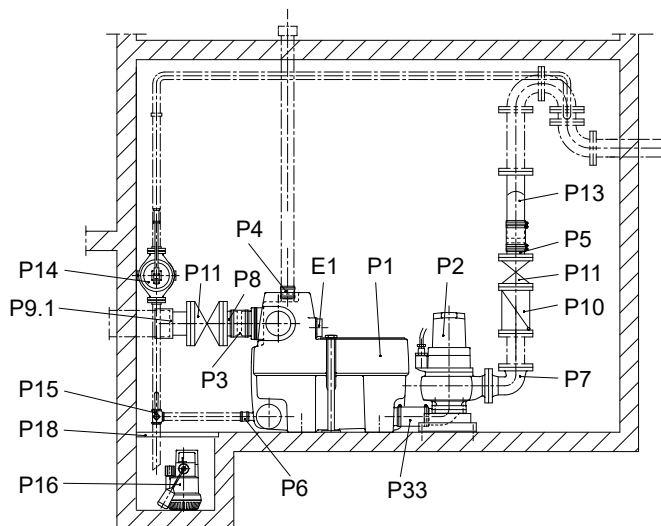
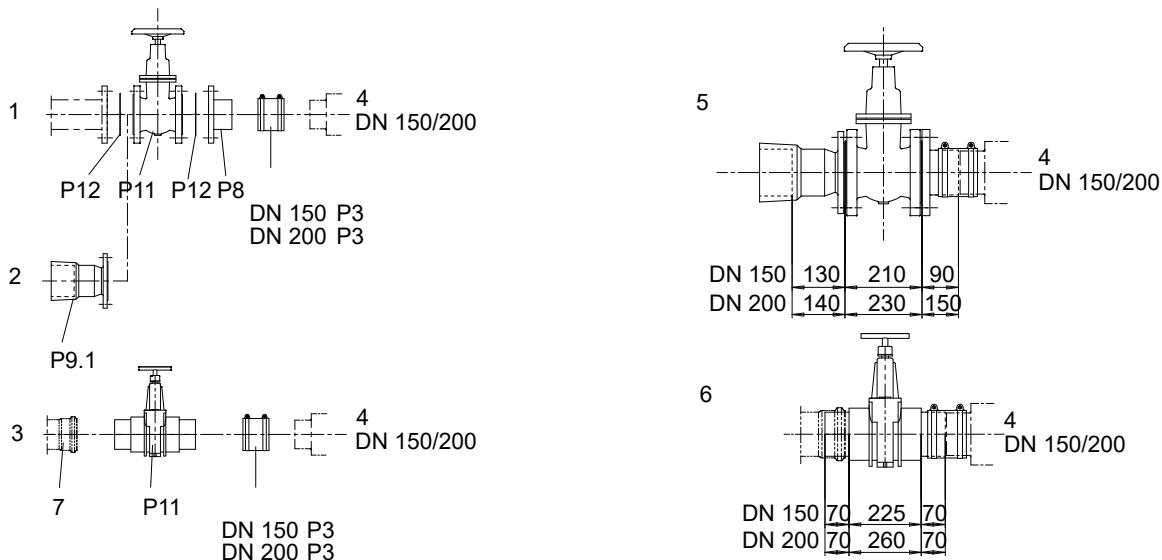
Table 24: Accessories of Compacta UZ 3.450 to UZ 5.450 and UZ 3.900 to UZ 5.900

Item	Description	Compacta	
		UZ 3 - UZ 5	
		450	900
P3	Flexible hose connection and hose clips DN 200	X	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 80 stub flange with DN 80 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 83-90 mm	X	-
P8	Stub flange	X	X ²³⁾
P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	X	X
- P11	Gate valve	X ²³⁾	X ²³⁾
P12	Set of installation accessories	X ²³⁾	X ²³⁾
P13	Y-pipe with installation accessories	X	X
P14	Hand diaphragm pump	X	X

²³⁾ Two pcs./sets are included and required for the discharge line.

²⁴⁾ Not shown in drawing

Item		Description	Compacta	
			UZ 3 - UZ 5	
			450	900
	P15	Three-way plug valve	X	X
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump	X	X
-	P18	Cover plate	X	X
-	E50 ²⁴⁾	AS 0 alarm switchgear	X	X
-	E51 ²⁴⁾	AS 2 alarm switchgear	X	X
-	E52 ²⁴⁾	AS 4 alarm switchgear	X	X
-	E53 ²⁴⁾	AS 5 alarm switchgear	X	X
-	E55 ²⁴⁾	AS 1 alarm switchgear	X	X
-	E64 ²⁴⁾	F1 leakage sensor	X	X

Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Fig. 20: Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Fig. 21: Inlet line of Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

1	Flanged connection
2	Connection by flanged socket
3	Connection to the waste water pipe
4	Tank connection
5	Gate valve made of grey cast iron
6	Gate valve made of PVC
7	Supplied by operator

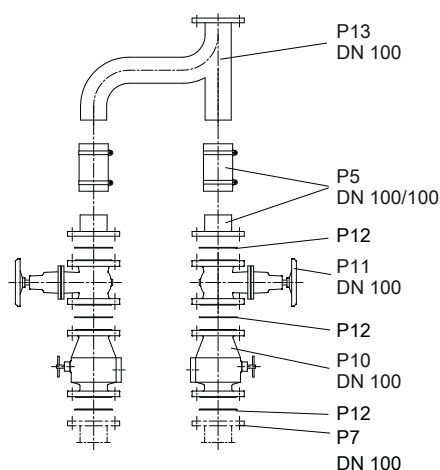

Fig. 22: Discharge line of Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Table 25: Scope of supply of Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Item	Description	Compacta	
		UZ 10. - UZ 15.	
		450	900
- P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic	X	X
- P2	Fully floodable submersible motor pump	X	X
P3	Flexible hose connection and hose clips DN 150 (inlet)	X	X
- P4	Flexible hose connection and hose clips (venting)	X	X
P5	Flexible hose connection and hose clips for discharge line, consisting of DN 100 stub flange with DN 100 hosetail, fabric-reinforced rubber hose	X ²⁵⁾	X ²⁵⁾
- P6	Flexible hose connection and hose clips (hand diaphragm pump)	X	X
- P7	Flanged bend DN 100	X	X
- P33	Flexible hose connection for tank/pump DN 100, fabric-reinforced rubber hose	X	X
- E1	Automatic level sensor for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads	X	X
- E3 ²⁶⁾	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer	X	X

Table 26: Accessories of Compacta UZ 10.450 to UZ 15.450 and UZ 10.900 to UZ 15.900

Item	Description	Compacta	
		UZ 10. - UZ 15.	
		450	900
P3	Flexible hose connection and hose clips DN 200	X	X
P8	Stub flange	X	X
P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	X	X
P10	Swing check valve	X ²⁵⁾	X ²⁵⁾
- P11	Gate valve	X ²⁵⁾	X ²⁵⁾
P12	Set of installation accessories	X ²⁵⁾	X ²⁵⁾
P13	Y-pipe with installation accessories	X	X

²⁵⁾ Two pcs./sets are included and required for the discharge line.

²⁶⁾ Not shown in drawing

Item		Description	Compacta	
			UZ 10. - UZ 15.	
			450	900
	P13.1 ² 6)	Adapter flange DN 100/150 to larger discharge line diameter (to be fitted downstream of Y-pipe)	X	X
	P14	Hand diaphragm pump	X	X
	P15	Three-way plug valve	X	X
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump	X	X
-	P18	Cover plate	X	X
-	E51 ²⁶⁾	AS 2 alarm switchgear	X	X
-	E52 ²⁶⁾	AS 4 alarm switchgear	X	X
-	E53 ²⁶⁾	AS 5 alarm switchgear	X	X
-	E55 ²⁶⁾	AS 1 alarm switchgear	X	X
-	E64 ²⁶⁾	F1 leakage sensor	X	X

Control units and switchgear

All switchgears and control units required for operation of the unit are included in the scope of supply. They feature an integrated acoustic alarm and volt-free fault signalling contact for transmitting fault messages to an alarm switchgear or directly to a control room. All switchgears and control units are supplied in enclosure IP54 and must be installed in a well-ventilated, flood-proof room.

LevelControl Basic 1 product description



Description

- Ready to be plugged in, with 1-metre power cable (not applicable with master switch)
- Three-phase connection
- 4-metre motor power cable
- Analog level detection with sensor monitoring
- Manual-O-automatic selector switch
- Acknowledgement button
- Indicator lamp for pump status
- Indicator lamp for high water
- Indicator lamp for rotary field (three-phase current only; otherwise "operational availability" is indicated)
- Pump protection by thermal circuit breaker
- Input for external fault message
- General fault message (NC, NO)
- Integrated alarm buzzer
- Battery-backed mains-independent alarm
- Very straightforward parameterisation of inlet nozzle levels via DIL switch during commissioning

LevelControl Basic 2 product description



BS

BC

Description

- Ready to be plugged in, with 1-metre power cable (up to UZ5.450) (not applicable with master switch)
- Three-phase connection
- Integrated master switch (LevelControl Basic 2 BS only)
- Numerical display with status indication (traffic light) and navigation keys
- Fill level indication
- Indication of operating data
- Analog level detection with sensor monitoring
- Manual-O-automatic selector switch
- Indicator lamps
- Indicator lamp for high water
- Pump protection by thermal circuit breaker and motor protection switch (UZ10-15)
- Integrated alarm buzzer
- Battery-backed mains-independent alarm
- Two inputs for external fault message and remote acknowledgement
- General fault message
- Even distribution of pump operating hours due to automatic pump changeover
- Parameterisable service intervals
- Diagnostic and signalling/message functions
- Very straightforward system configuration thanks to factory parameterisation and parameterisation assistant
- Numerous additional functions (monitoring of supply voltage, intelligent system monitoring, and many more)

Control units per model

Table 27: LevelControl Basic 1 / LevelControl Basic 2 per model

Size	Control unit	Dimensions
		H × W × D
		[mm]
Single-pump lifting units		
U3.100 D, U4.100 D, U5.100 D, U3.300 D, U4.300 D, U5.300 D	LevelControl Basic 1 D	135 × 170 × 110
Dual-pump lifting units		
UZ3.150 D, UZ4.150 D, UZ5.150 D, UZ3.300 D, UZ4.300 D, UZ5.300 D, UZ3.450 D, UZ4.450 D, UZ5.450 D, UZ3.900 D, UZ4.900 D, UZ5.900 D	LevelControl Basic 2 ZD	400 × 281 × 135
UZ10.450 D, UZ10.900 D	LevelControl Basic 2 ZD63	400 × 281 × 135
UZ11.450 D, UZ11.900 D	LevelControl Basic 2 ZD100	400 × 281 × 135
UZ12.450 D, UZ12.900 D	LevelControl Basic 2 ZD140	800 × 600 × 200
UZ13.450 D, UZ13.900 D	LevelControl Basic 2 ZD180	800 × 600 × 200
UZ14.450 D, UZ15.450 D UZ14.900 D, UZ15.900 D	LevelControl Basic 2 ZD250	800 × 600 × 200

Table 28: Variant-specific special features of LevelControl Basic 1 / LevelControl Basic 2

Control unit	Description
LevelControl Basic 1 D (CU 110 V T45 10 0 B D)	- Standard single-pump control unit for three-phase motor - For controlling a single pump driven by a three-phase motor with a power rating of up to 4 kW
LevelControl Basic 2 ZD (BC2 400 DVNA 100 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 4 kW each
LevelControl Basic 2 ZD63 (BC2 400 DVNA 063 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 3 kW each - Motor protection switch
LevelControl Basic 2 ZD100 (BC2 400 DVNA 100 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 4 kW each - Motor protection switch
LevelControl Basic 2 ZD140 (BS2 400 SVNA 140 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 5.5 kW each - Star-delta starting of motors - Motor protection switch
LevelControl Basic 2 ZD180 (BS2 400 SVNA 180 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 7.5 kW each - Star-delta starting of motors - Motor protection switch
LevelControl Basic 2 ZD250 (BS2 400 SVNA 250 B0)	- Standard dual-pump control unit - For controlling two pumps driven by three-phase motors with power ratings of up to 12 kW each - Star-delta starting of motors - Motor protection switch

Accessories

Lifting unit accessories

Table 29: Overview of lifting unit accessories

Item	Description	Connection	Compacta										Mat. No.	[kg]
			U100	U300	UZ150	UZ300	UZ3. - 5.450	UZ3. - 5.900	UZ10. - 11.450	UZ10. + 11.900	UZ12. - 15.450	UZ12. - 15.900		
 P3 Flexible hose connection (inlet) For inlet line, with fabric-reinforced hose and two hose clips (DN 100 included in the scope of supply)	DN 50	-	-	X	-	-	-	-	-	-	-	-	18040370	0.2
	DN 100	-	X	-	X	-	-	-	-	-	-	-	18040203	0.4
	DN 150	X	-	X	-	-	-	-	-	-	-	-	18040338	0.7
	DN 200	-	X	-	X	X	X	X	X	X	X	X	18040972	0.7
 P5 Flexible hose connection (discharge side) For discharge line, with fabric-reinforced hose, adapter hose, stub flange made of steel, and hose clips	DN 80/80	X	X	X	X	X	-	-	-	-	-	-	19070679	5.2
 P8 Stub flange Flange drilled to PN 10/16, to EN 1092-1/2, plastic with spacer discs (DN 80/100), steel (DN 65/65, DN 100/100, DN 150/150), for DIN EN 1092-1/2 ²⁷⁾	DN 80/100	X	X	X	X	X	-	-	-	-	-	-	18040303	0.4
	DN 100/100	X	X	X	X	X	-	-	-	-	-	-	19075270	4.5
	DN 150/150	X	X	X	X	X	X	X	X	X	X	X	19075269	9.1
	DN 200/200	-	X	-	X	X	X	X	X	X	X	X	19075271	12.3
 P9.1 Flanged socket DIN 28 622, grey cast iron, flange drilled to PN 10/16, to EN 1092-1/2 for connecting pipes made of ductile cast iron ²⁷⁾ DN 100 for outside pipe diameter of 118 mm DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	DN 100	X	X	X	X	-	-	-	-	-	-	-	00262135	9.5
	DN 150	X	X	X	X	X	X	X	X	X	X	X	01020844	14.5
	DN 200	-	X	-	X	X	X	X	X	X	X	X	00263071	18.5
 P10 ²⁸⁾ Swing check valve, PN 16 Material: Grey cast iron, with full bore, lifting device with wing screw to EN 12 050-4	DN 100	-	-	-	-	-	-	X	X	X	X	X	48829255	20.9
 P11 ²⁹⁾ Flanged ball valve Material: stainless steel 1.4408	DN 80	X	X	X	X	X	X	-	-	-	-	-	01723156	18.8
	DN 100	X	X	X	X	-	-	X	X	X	X	X	01723239	35
 P11 PVC gate valve PN 1 Material: PVC, for inlet line, with connection branches	DN 100	X	X	X	X	-	-	-	-	-	-	-	01121715	3.5
	DN 150	X	X	X	X	X	X	X	X	X	X	X	01121714	9.2
	DN 200	-	X	-	X	X	X	X	X	X	X	X	01506896	13.4
 P11 ²⁸⁾ Gate valve to KSB's choice, PN 10 Material: grey cast iron, flanges drilled to PN 10/16, to EN 1092-1/2 ³⁰⁾	DN 80	X	X	X	X	X	X	-	-	-	-	-	01056708	18.9
	DN 100	X	X	X	X	-	-	X	X	X	X	X	01056709	22.5
	DN 150	X	X	X	X	X	X	X	X	X	X	X	01056710	42.7
	DN 200	-	X	-	X	X	X	X	X	X	X	X	01132653	61.5
 P12 Set of installation accessories For one flange connection made of steel or grey cast iron, with 8 hexagon head bolts with nuts and 1 gasket	DN 80	X	X	X	X	X	X	-	-	-	-	-	18072644	1
	DN 100	X	X	X	X	-	-	X	X	X	X	X	18060163	1.4
	DN 150	X	X	X	X	X	X	X	X	X	X	X	18076348	2
	DN 200	-	X	-	X	X	X	X	X	X	X	X	18040967	4.2

Y-pipe for standard design

²⁷⁾ DN 200 drilled to PN 10

²⁸⁾ Two swing check valves required for discharge line of UZ dual-pump lifting units

²⁹⁾ Only for variant C

³⁰⁾ DN 200 in compliance with PN 6, flange drilled to PN 10

Item	Description	Connection	Compacta										Mat. No.	[kg]
			U100	U300	UZ150	UZ300	UZ3. - 5.450	UZ3. - 5.900	UZ10. - 11.450	UZ10. + 11.900	UZ12. - 15.450	UZ12. - 15.900		
P13	 Y-pipe Material: grey cast iron, A = 325 mm, with 16 hexagon head bolts, nuts and 2 sealing elements Flanges drilled to PN 16, DIN EN 1092-1/2	DN 80	-	-	-	-	X	-	-	-	-	-	18040966	8
P13	 Y-pipe Material: Steel, A = 525 mm, with 8 hexagon head bolts, nuts and 1 sealing element Flange drilled to PN 10/16, EN 1092-1/2	DN 100	-	-	-	-	-	X	X	-	X	X	18040252	15.6
	Y-pipe Steel, A = 490 mm, with 8 hexagon head bolts, nuts and 1 sealing element Flanges drilled to PN 16, DIN EN 1092-1/2	DN 100	-	-	-	-	-	-	-	X	-	-	18041958	15.5
Y-pipe for variant C														
P13	 Y-pipe Material: Grey cast iron with high-quality coating (Rilsan®) Flanges drilled to PN 10/16, to EN 1092-1/2	DN 80	-	-	X	X	X	-	-	-	-	-	18041115	8
P13	 Y-pipe Material: stainless steel (1.4571), A = 525 mm, with 8 hexagon head bolts, nuts and 1 sealing element Flanges drilled to PN 10/16, to EN 1092-1/2	DN 100	-	-	-	-	-	X	-	-	-	-	18041287	15.6
P13.1	 Adapter flange 16 stay bolts, discs and nuts, L = 30 mm Flange drilled to PN 10/16, EN 1092-1/2	DN 100/150	-	-	-	-	-	-	X	X	X	X	01134592	12
P14	 Hand diaphragm pump Material: grey cast iron ³¹⁾	Rp 1 1/2	X	X	X	X	X	X	X	X	X	X	00520485	12
P15	 Three-way plug valve Material: brass, with wrench WAF 22	Rp 1 1/2	X	X	X	X	X	X	X	X	X	X	19053063	1.5
P20	 Blind flange Material: steel, for closing the pump casing when the rotating assembly has been removed		X	X	X	X	X	X	-	-	-	-	18040965	3.8
			-	-	-	-	-	-	-	-	X	X	18040353	10.4
	Blind flange Material: steel, for closing the tank when the pump assembly has been removed		X	X	X	X	-	-	-	-	-	-	18041087	1.2

³¹⁾ For pump sump drainage refer to the Ama-Drainer pump series.

Alarm switchgears for pumps, non-ATEX-compliant

Table 30: AS 0/AS 1/AS 2/AS 4/AS 5

Item	Description	Mat. No.	[kg]
E50	 Alarm switchgear AS 0 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch, F1 leakage sensor (item E64), M1 alarm contactor or signal relay of control unit as contactor.	29128401	0.5
E51	 Alarm switchgear AS 2 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch, F1 leakage sensor (item E64) or signal relay of control unit as contactor.	29128422	0.5
E52	 Alarm switchgear AS 4 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station, self-charging power supply unit for 5 hours of operation in the event of a power failure Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch (E60), F1 leakage sensor (item E64) or signal relay of control unit as contactor.	29128442	0.5
E53	 Alarm switchgear AS 5 Mains-independent, with self-charging power supply unit for 10 hours of operation in the event of a power failure, mains pilot LED, fault indicator light, acknowledgement button, volt-free contact for hook-up to a control station, ready for connection with 1.8 m power cable and plug. ISO housing, IP41, H × W × D = 190 × 165 × 75 [mm]. Use float switch (E60) or signal relay of control unit as contactor.	00530561	1.7
E55	 Alarm switchgear AS 1 In IP30 ISO plug housing, mains-independent, with self-charging power supply unit for 5 hours of operation in the event of a power failure, acoustic signalling device 70 dB(A) with circuit breaker and integrated signal transmitter with 3-metre power cable, max. 60 °C, not suitable for steam and condensate. 1. High water alert by suspending the sensor in a (pump) sump above the pump start-up point. 2. Water alert signal at a water level of only 1 mm by placing the sensor on the floor in areas with a flooding or leakage risk, e.g. the cellar or next to the washing machine in the kitchen or bathroom.	00533740	0.9

Control unit/switchgear accessories

Table 31: Overview of control unit/switchgear accessories

Item	Description	Mat. No.	[kg]
E64	 F1 leakage sensor³²⁾ contactor for alarm switchgears AS 0, AS 2, AS 4 or as alarm transmitter for LevelControl Basic 2 Alarm transmission options: High water alert by suspending the sensor in a (pump) sump above the pump start-up point. Warning at a water level of 1 mm in areas with a flooding or leakage risk (e.g. in the cellar or next to the washing machine in the kitchen or bathroom) Dimensions [mm]: 52 × 21 × 20 (H × W × D)	19072366	0.2
E70	 Horn, 12 V DC, 105 dB, 150 mA, IP54³³⁾ Suitable for indoor installation and outdoor installation. Protect against moisture.	01086547	0.1
E71	 Alarm combination (yellow lamp and piezo buzzer 92 dB), 12 V DC, 120 mA, IP65³³⁾	01139930	0.1
E72	 Yellow alarm strobe light, 12 V DC, 195 mA, IP65³³⁾	01056355	0.3
O45	 Plastic housing, IP65, for easier installation of alarm strobe light, for wall mounting	01061067	0.2
E73	 KSB ServiceTool CD-ROM with instructions, dongle for authorisation, RS232 parameterisation cable and USB/RS232 adapter (for laptops without serial interface) to prevent parameterisation of the equipment by untrained personnel. The service software can also be used without a dongle. However, some parameters will be locked in this case. The dongle can only be used after it has been enabled by KSB in accordance with the instructions included.	47121210	0.2
E300	 Master switch, 32 A, external Plastic housing, IP65, H × W × D = 90 × 90 × 145 [mm] for LevelControl	01118354	0.4
E301	 Master switch, 16 A, external Plastic housing, IP65, H × W × D = 90 × 90 × 145 [mm] for LevelControl	01212348	0.4
Optional components			
O200	 Signalling module for LevelControl Basic 2 BC	19075182	0.2
O203	 Signalling module for LevelControl Basic 2 BS	19075185	1.1

The LevelControl Basic 1 and LevelControl Basic 2 control units are fitted with an internal mains-independent acoustic alarm (buzzer) and a volt-free signalling contact.

The volt-free signalling contact serves to transmit a fault message (e.g. to a control room). An alarm switchgear is not necessary but can be used for setting off an acoustic alarm in building parts at a distance from the lifting unit in the event of a fault.

Example:

The waste water lifting unit is installed in the basement of a building; the additional alarm switchgear is installed in the hallway.

³²⁾ In combination with alarm switchgears AS 0, AS 2, AS 4 or LevelControl

³³⁾ In combination with AS 5 or LevelControl Basic 2

