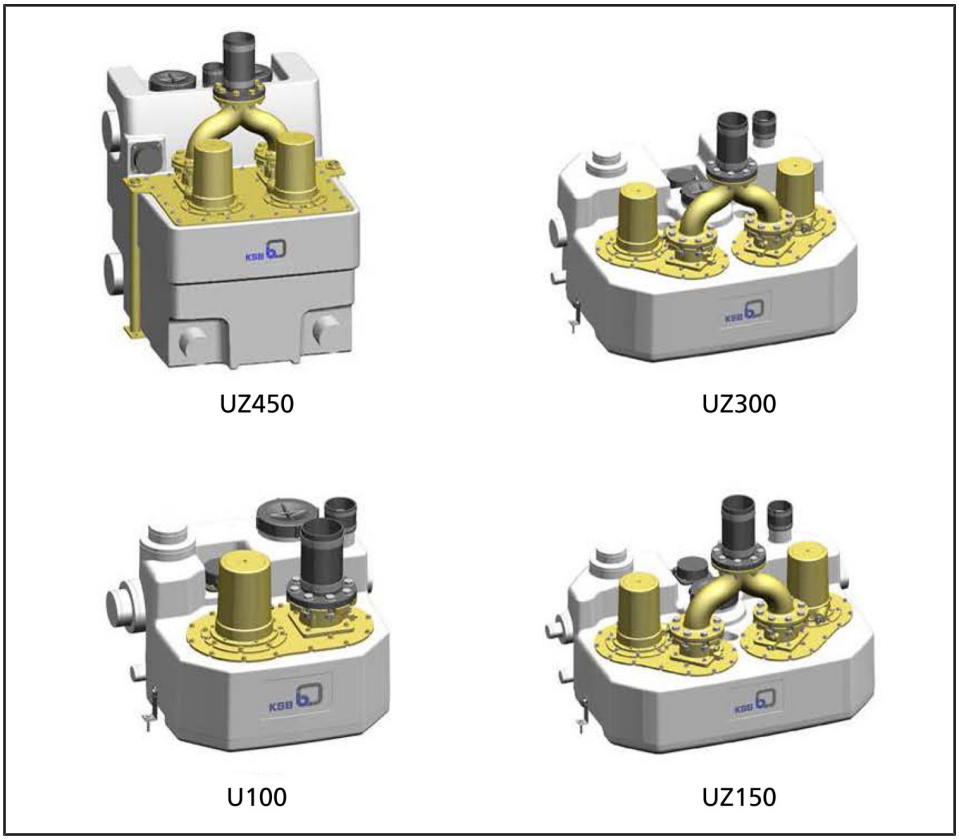
Floodable Sewage Lifting Unit

Compacta

Type Series Booklet



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Type Series Booklet Compacta

Contents

Building Services: Drainage

Lifting Units

Compacta

UZ450

UZ300

U100

UZ150

Main applications

- Disposal of waste water occurring below the flood level in buildings or parts of buildings
- Waste water management

Fluids handled

- Waste water with faeces
- Faecal-free waste water
- Grey water
- Aggressive fluids (variant C)

Operating data

Operating properties

Characteristic		Value
Flow rate	Q [m³/h]	≤ 140
	Q [l/s]	≤ 39
Head	H [m]	≤ 24,5
Fluid temperature	T [°C]	≤ 40 (up to 65 °C for max. 5 minutes)

Duty cycles

Operation	Duty cycle
Intermittent duty	S3 50 % to VDE

Designation

Example: Compacta UZ X 5.300 D/C

Designation key

Code	Description	
Compacta	Type series	
UZ	Type of lifting unit	
	U	= single-pump lifting unit
	UZ	= dual-pump lifting unit
X	Special design	
5	Hydraulics code	
300	Total volume of collecting tank [litres]	
	100	
	150	
	300	
	450	
	900	
D	Three-phase motor	
C	Variant for aggressive fluids	

Design details

Design

- Floodable sewage lifting unit [1] to EN 12050-1
- Compacta ready to plug in:
  - Hydraulics code 3-5, collecting tank 100, 150, 300, 450

  Compacta ready to connect:
  - Hydraulics code 3-5, collecting tank 900
  - Hydraulics code 10-15, collecting tank 450, 900
- Gas and water-proof plastic collecting tank, pump unit, sensors and control unit

Drive

- Surface-cooled
- Three-phase motor
- Thermal overload protection
- To VDE 0530, Part 1/IEC 34-1
- Enclosure: IP68 (permanently submerged) to EN 60529 / IEC 529
- Thermal class F
- Voltage 400 V(D)
- Frequency 50 Hz
- DOL starting (from 5.5 kW or hydraulics code 12-15: star-delta starting)

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:

- Mechanical seal

Drive end:

- Shaft seal ring

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

Impeller type

- Free-flow impeller

Bearings

- Grease-packed, maintenance-free rolling element bearings

Configuration and function

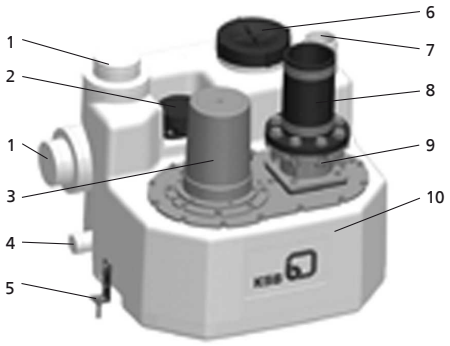


Fig. 1: Compacta illustration

1	Inlet	2	Level sensor
3	Pump unit	4	Drain connection
5	Transport and float protection	6	Hand hole cover
7	Vent connection	8	Discharge outlet
9	Integrated swing check valve	10	Tank

Design

The lifting unit is provided with a variety of horizontal/vertical inlet nozzles (1). The hydraulic system (3) pumps the fluid handled into the vertical discharge line (8).

Function

The fluid to be handled flows into the lifting unit through horizontal/vertical inlet nozzles (1) and is collected in a gas, odour and water-tight plastic tank (10). Controlled by a level sensor (2) and control unit, either one or two pumps (3) are started up automatically as soon as the defined fill level is reached. The fluid is pumped off to a level above the flood level, towards the public sewer.

Materials

Overview of available materials

Component	Hydraulics code		
	3 to 5	3 to 5 Variant C[2)]	10 to 15
Tank	Polyethylene		
Pump casing	Grey cast iron	Grey cast iron with coating	Grey cast iron
Impeller	Grey cast iron	Polyurethane	Grey cast iron
Motor shaft	Stainless steel (1.4021)	Stainless steel (1.4462)	Stainless steel (1.4021)
Casing cover	Grey cast iron	Grey cast iron with coating	Grey cast iron
Swing check valve	Grey cast iron	Stainless steel (1.4408)	Grey cast iron (accessory)
Float	Polypropylene		
Screws, bolts and nuts	Stainless steel (A4)		

Product benefits

- The control system (LevelControl) ensures safe and reliable operation.
- Y-pipe simplifies planning and reduces installation time (included in the scope of supply of dual-pump units up to UZ300).
- Check valve ensures low-noise pump operation and normal, uninterrupted operation during maintenance work.
- 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

Certification

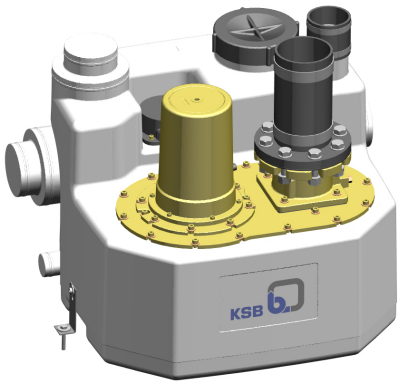
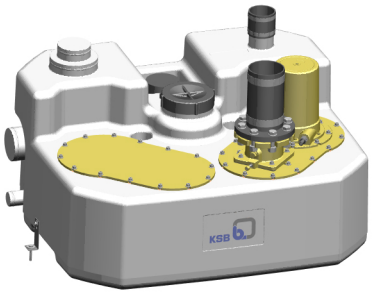
Overview

Label	Effective in:	Note
LGA Type-tested and monitored guaranteed with tested quality	Europe	All pump sizes

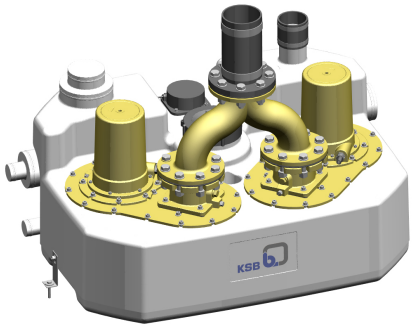
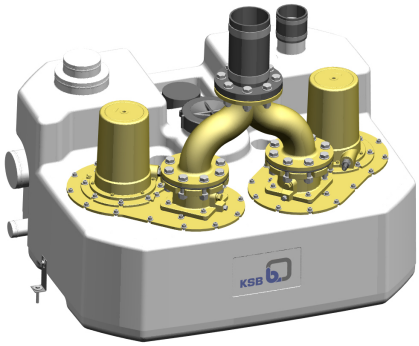
2) High-quality Rilsan® powder coating is applied to all wetted components made of grey cast iron and steel in a fluidised bed. Film thickness: 400 µm

Overview of product features

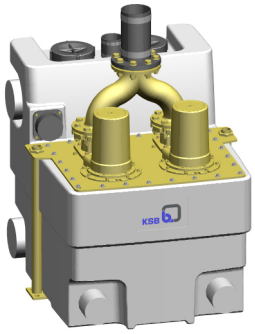
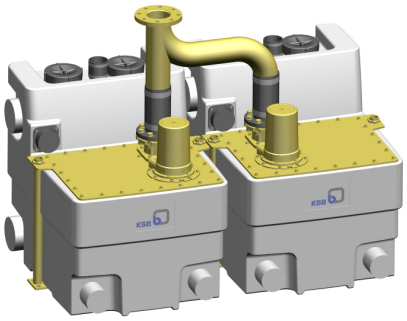
Overview of product features of single-pump units

	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 pipes
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	

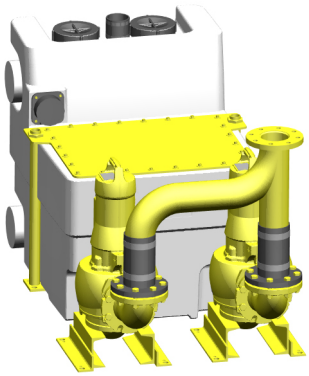
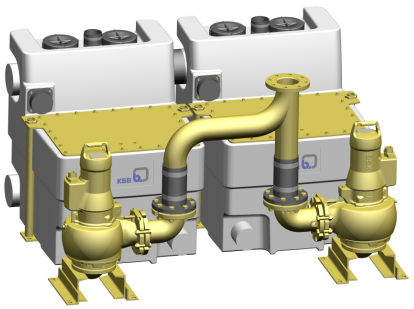
Overview of product features of dual-pump units

	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	

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	

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	

Selection information

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

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

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 pipe must equal between 0.7 m/s and 2.3 m/s.
- 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 lifting unit must be greater than the volumetric content of the discharge pipe 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, the pipe should be laid 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 pipe with a backflow loop whose invert level is above the flood level.
  - Lead the vent pipe out of the roof.
- Additional requirements on sewage lifting units:
  - If sewage disposal must not be interrupted, install a dual-pump lifting unit.
  - For room drainage, a pump sump must be provided.
  - If a failure of any system functions could lead to flooding damage, additional measures must be taken to prevent any such damage (pump for drainage of rooms, moisture sensor next to the system close to the floor, etc).

Flooding

The lifting unit is protected against flooding.

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

After any flooding, clean and service the lifting unit.

All electrical equipment such as sockets, CEE plugs, control units and alarm switchgears must be installed in dry, flood-proof rooms.

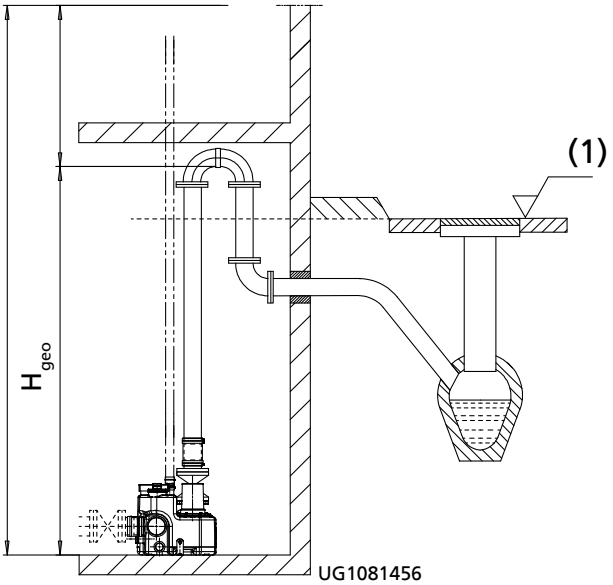


Fig. 2: Static head H_{geo} if installed correctly

(1)	Flood level

Calculation of head:

$$H_{Lifting\ unit} = H_{Static} + H_{Losses\ (discharge\ pipe)}$$

Application limits for S3 duty

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

- For continuous discharge or repeated discharge over longer periods of time the maximum permissible frequency of starts must be observed!

Hydraulics code 3 to 5

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

Hydraulics code 10 to 15

- Intermittent duty S3
- The units are designed for the ratio of Q_z [3] : Q_p [4] = 0.9 not to be exceeded.

Frequency of starts

Motor rating [kW]	Maximum No. of starts per pump [Starts/hour]
3,7 - 7,5	20
> 7,5	15

3) Maximum possible inflow [m³/h]
4) Duty point of one pump [m³/h]

Technical data

Variant with integrated swing check valve and Y-pipe (dual-pump system), with a free passage of 65 mm

Hydraulics code	Dual-pump unit[5]	Single-pump unit	Total volume	Effective volume[6]			P_1	P_2	Speed	50 Hz 3~400 V	Cable length	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	Vertical inlet							
No.			[l]	[l]	[l]	[l]	[kW]	[kW]	[rpm]	[A]	[m]		
③	-	U3.100 D	100	38	-	58	2,74	2,2	2800	4,7	4 + 1	29131550	80
	-	U3.300 D	300	113	113	133	2,74	2,2	2800	4,7	4 + 1	29131551	109
	UZ3.150 D	-	150	65	-	75	2,74	2,2	2800	4,7	4 + 1	29131642	151
	UZ3.300 D	-	300	113	113	133	2,74	2,2	2800	4,7	4 + 1	29131643	160
④	-	U4.100D	100	38	-	58	3,72	3,0	2800	6,0	4 + 1	29131552	82
	-	U4.300 D	300	113	113	133	3,72	3,0	2800	6,0	4 + 1	29131553	111
	UZ4.150 D	-	150	65	-	75	3,72	3,0	2800	6,0	4 + 1	29131646	155
	UZ4.300 D	-	300	113	113	133	3,72	3,0	2800	6,0	4 + 1	29131647	164
⑤	-	U5.100 D	100	38	-	58	5,2	4,2	2800	8,4	4 + 1	29131554	84
	-	U5.300 D	300	113	113	133	5,2	4,2	2800	8,4	4 + 1	29131555	113
	UZ5.150 D	-	150	65	-	75	5,2	4,2	2800	8,4	4 + 1	29131650	159
	UZ5.300 D	-	300	113	113	133	5,2	4,2	2800	8,4	4 + 1	29131651	168

Variant with integrated swing check valve and collecting tank with high effective volume, with a free passage of 65 mm

Hydraulics code	Dual-pump unit	Single-pump unit	Total volume	Effective volume	P_1	P_2	Speed	50 Hz 3~400 V	Cable length	Mat. No.	[kg]
				H = 700 mm							
No.			[l]	[l]	[kW]	[kW]	[rpm]	[A]	[m]		
③	UZ3.450 D	-	450	290	2,74	2,2	2800	4,7	4 + 1	29131644	197
	UZ3.900 D	-	900	580	2,74	2,2	2800	4,7	4 + 1	29131645	277
④	UZ4.450 D	-	450	290	3,72	3,0	2800	6,0	4 + 1	29131648	201
	UZ4.900 D	-	900	580	3,72	3,0	2800	6,0	4 + 1	29131649	281
⑤	UZ5.450 D	-	450	290	5,2	4,2	2800	8,4	4 + 1	29131652	205
	UZ5.900 D	-	900	580	5,2	4,2	2800	8,4	4 + 1	29131653	285

Variant for fluids containing larger solids, free passage of 80 mm

Hydraulics code	Dual-pump unit	Single-pump unit	Total volume	Effective volume	P_1	P_2	Speed	50 Hz 3~400 V	Cable length	Mat. No.	[kg]
				H = 700 mm							
No.			[l]	[l]	[kW]	[kW]	[rpm]	[A]	[m]		
⑩	UZ10.450 D	-[7]	450	290	5,13	3,7	1450	8,4	10	29131654	305
	UZ10.900 D	-	900	580	5,13	3,7	1450	8,4	10	29131655	380
⑪	UZ11.450 D	-[7]	450	290	5,13	3,7	1450	8,4	10	29131656	315
	UZ11.900 D	-	900	580	5,13	3,7	1450	8,4	10	29131657	390
⑫	UZ12.450 D	-	450	290	6,27	5,5	1450	10,7	10	29131658	400
	UZ12.900 D	-	900	580	6,27	5,5	1450	10,7	10	29131659	485
⑬	UZ13.450 D	-	450	290	8,83	7,5	1450	15,0	10	29131660	420
	UZ13.900 D	-	900	580	8,83	7,5	1450	15,0	10	29131661	505
⑭	UZ14.450 D	-	450	290	12,94	11,0	1450	22,2	10	29131662	470
	UZ14.900 D	-	900	580	12,94	11,0	1450	22,2	10	29131663	555
⑮	UZ15.450 D	-	450	290	12,94	11,0	1450	22,2	10	29131664	470
	UZ15.900 D	-	900	580	12,94	11,0	1450	22,2	10	29131665	555

5) Dual-pump units with Y-pipe
6) Effective volume as a function of inlet nozzle level H [mm]
7) Single-pump unit on request
8) Dual-pump units, variant C, without Y-pipe
9) Effective volume as a function of inlet nozzle level H [mm]

Variant C for aggressive fluids, with integrated swing check valve, free passage of 65 mm

Hydraulics code	Dual-pump unit[8)]	Single-pump unit	Total volume	Effective volume[9)]			P_1	P_2	Speed	50 Hz 3~400 V	Cable length	Mat. No.	[kg]
				H = 250 mm	H = 320 mm	Vertical inlet							
No.			[l]	[l]	[l]	[l]	[kW]	[kW]	[rpm]	[A]	[m]		
③	-	U3.100 D/C	100	38	-	58	2,74	2,2	2800	4,7	4 + 1	29131744	80
	-	U3.300 D/C	300	113	113	133	2,74	2,2	2800	4,7	4 + 1	29131747	109
	UZ3.150 D/C	-	150	65	-	75	2,74	2,2	2800	4,7	4 + 1	29131772	151
	UZ3.300 D/C	-	300	113	113	133	2,74	2,2	2800	4,7	4 + 1	29131775	160
④	-	U4.100 D/C	100	38	-	58	3,72	3,0	2800	6,0	4 + 1	29131745	82
	-	U4.300 D/C	300	113	113	133	3,72	3,0	2800	6,0	4 + 1	29131748	111
	UZ4.150 D/C	-	150	65	-	75	3,72	3,0	2800	6,0	4 + 1	29131773	155
	UZ4.300 D/C	-	300	113	113	133	3,72	3,0	2800	6,0	4 + 1	29131776	164
⑤	-	U5.100 D/C	100	38	-	58	5,2	4,2	2800	8,4	4 + 1	29131746	84
	-	U5.300 D/C	300	113	113	133	5,2	4,2	2800	8,4	4 + 1	29131749	113
	UZ5.150 D/C	-	150	65	-	75	5,2	4,2	2800	8,4	4 + 1	29131774	159
	UZ5.300 D/C	-	300	113	113	133	5,2	4,2	2800	8,4	4 + 1	29131777	168

Variant C for aggressive fluids, with integrated swing check valve and collecting tank with high effective volume, free passage of 65 mm

Hydraulics code	Dual-pump unit	Single-pump unit	Total volume	Effective volume	P_1	P_2	Speed	50 Hz 3~400 V	Cable length	Mat. No.	[kg]
				H = 700 mm							
No.			[l]	[l]	[kW]	[kW]	[rpm]	[A]	[m]		
③	UZ3.450 D/C	-	450	290	2,74	2,2	2800	4,7	4 + 1	29131778	197
	UZ3.900 D/C	-	900	580	2,74	2,2	2800	4,7	4 + 1	29131781	277
④	UZ4.450 D/C	-	450	290	3,72	3,0	2800	6,0	4 + 1	29131779	201
	UZ4.900 D/C	-	900	580	3,72	3,0	2800	6,0	4 + 1	29131782	281
⑤	UZ5.450 D/C	-	450	290	5,2	4,2	2800	8,4	4 + 1	29131780	205
	UZ5.900 D/C	-	900	580	5,2	4,2	2800	8,4	4 + 1	29131783	285

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 operation

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.

Selection aid for drainage applications

The table below for your guidance is based on KSB's long-standing experience. The data are standard values and are not to be considered as generally binding recommendations. They shall not be the basis for warranty claims. Please contact your nearest KSB sales branch and/or our technical departments for in-depth advice.

Selection aid for drainage applications

Fluid handled	Compacta Hydraulics code 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	✗	
Waste water from commercial premises produced in kitchens, shower and toilet facilities, hospitals, hotels, sports facilities and swimming pools	✗	✗
Condensate from condensing boiler equipment (DIN 1986-3)		✗
Waste water from kitchens For drainage of greasy water, **a grease separator must be fitted**. (DIN 4040-1)	✗	✗

Fluid handled	Compacta Hydraulics code 3 to 5	
	Standard	Variant C
Waste water from laboratories (Permission under water and waterways legislation or discharge permit required, DIN 1986-3)		10)
Flushing water containing salt (seawater)		✗
Swimming pool water containing chlorine (DIN 19643)		✗
Aggressive waste water in low concentrations, pH 5 to 12, cleaning, disinfecting, washing-up and washing agents (DIN 1986-3)		✗
Waste water from garages, containing road salt		✗

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

Characteristic curves

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

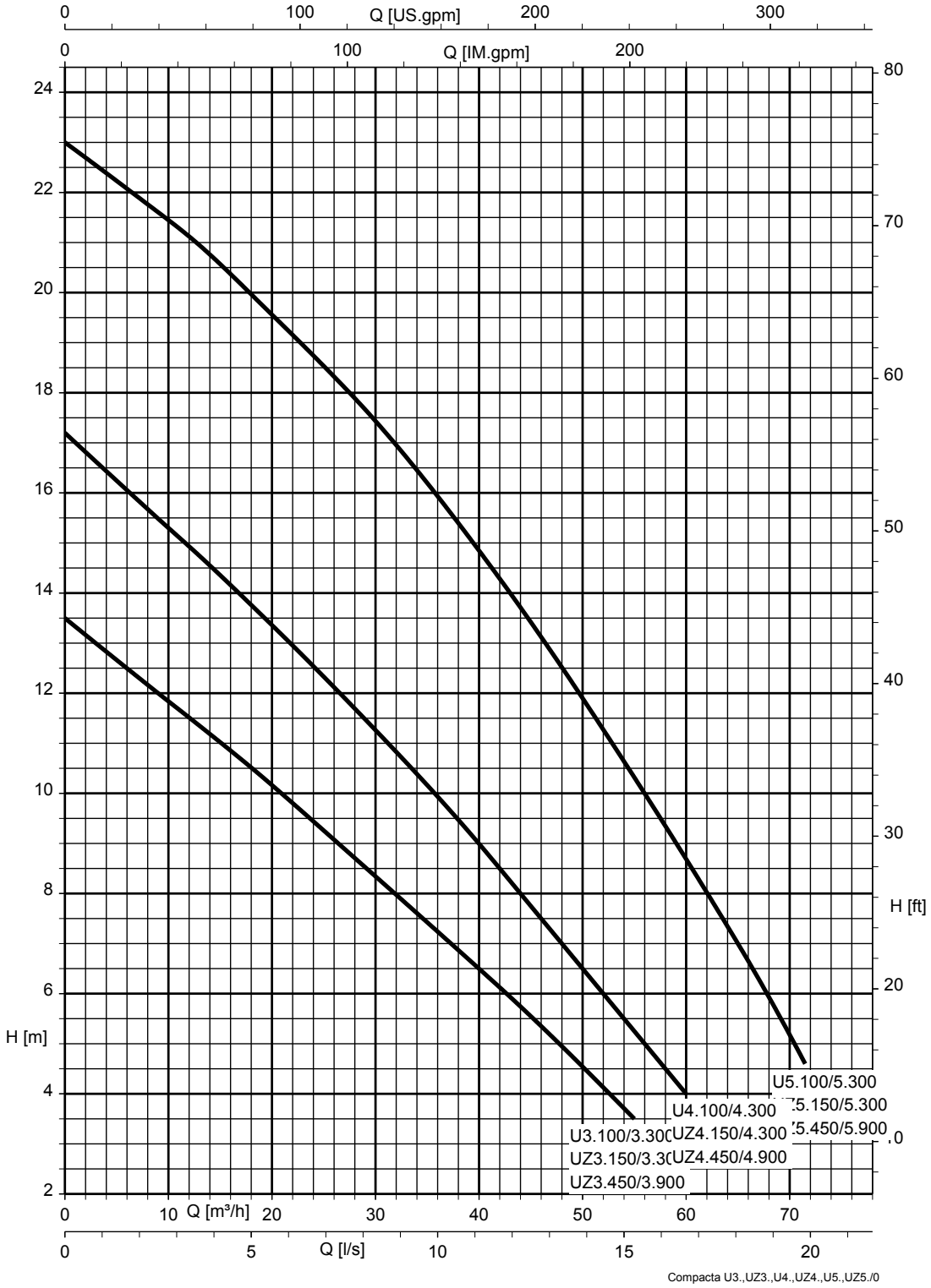


Fig. 3: A lifting unit can be selected on the basis of the selection charts for sewage quantities led to the lifting unit from the usual sanitary installations of a building. For lifting units with smaller capacities please refer to mini-Compacta type series booklet (reference No. 2317.54).

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

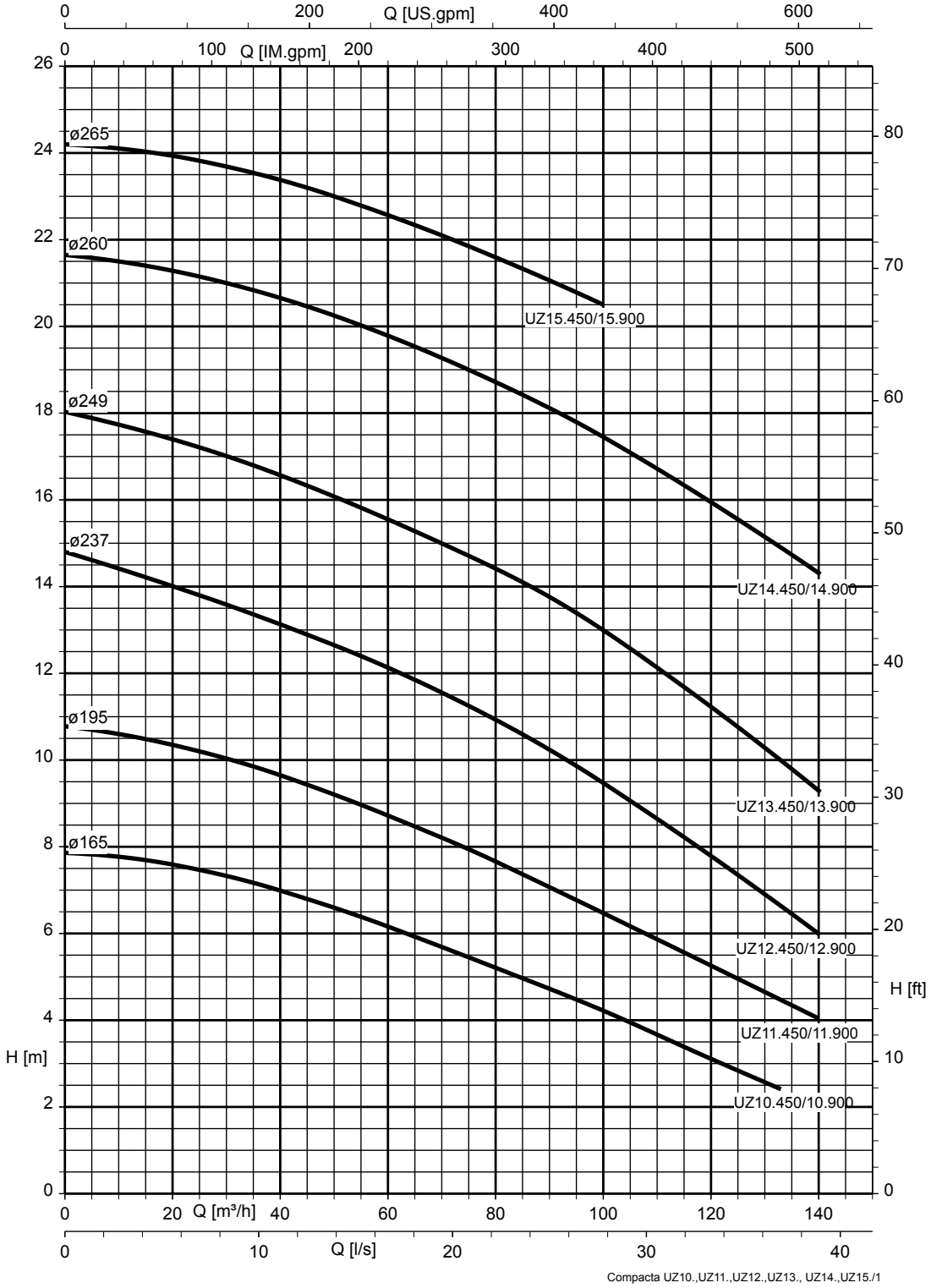


Fig. 4: A lifting unit can be selected on the basis of the selection charts for sewage quantities led to the lifting unit from the usual sanitary installations of a building. For lifting units with smaller capacities please refer to mini-Compacta type series booklet (reference No. 2317.54).

Dimensions and connections

Compacta U100

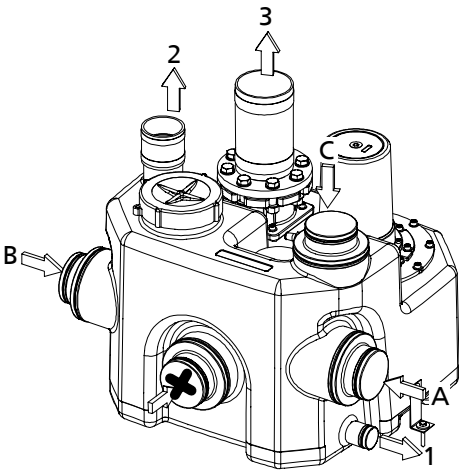
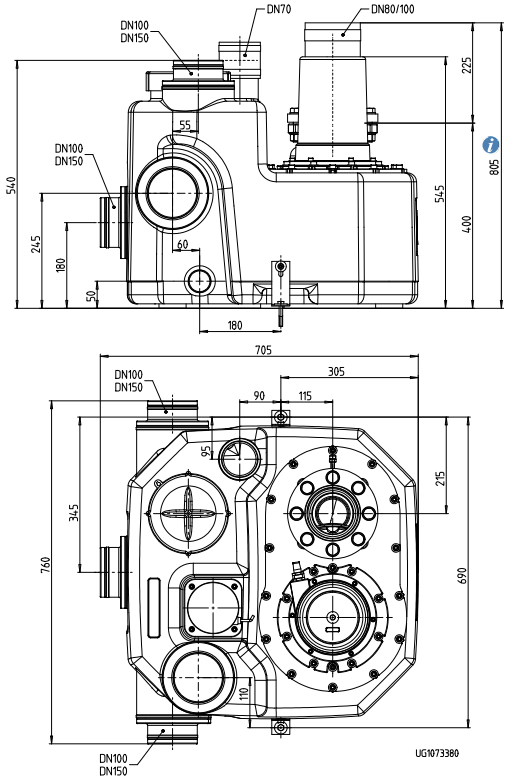


Fig. 5: Connections of Compacta U100

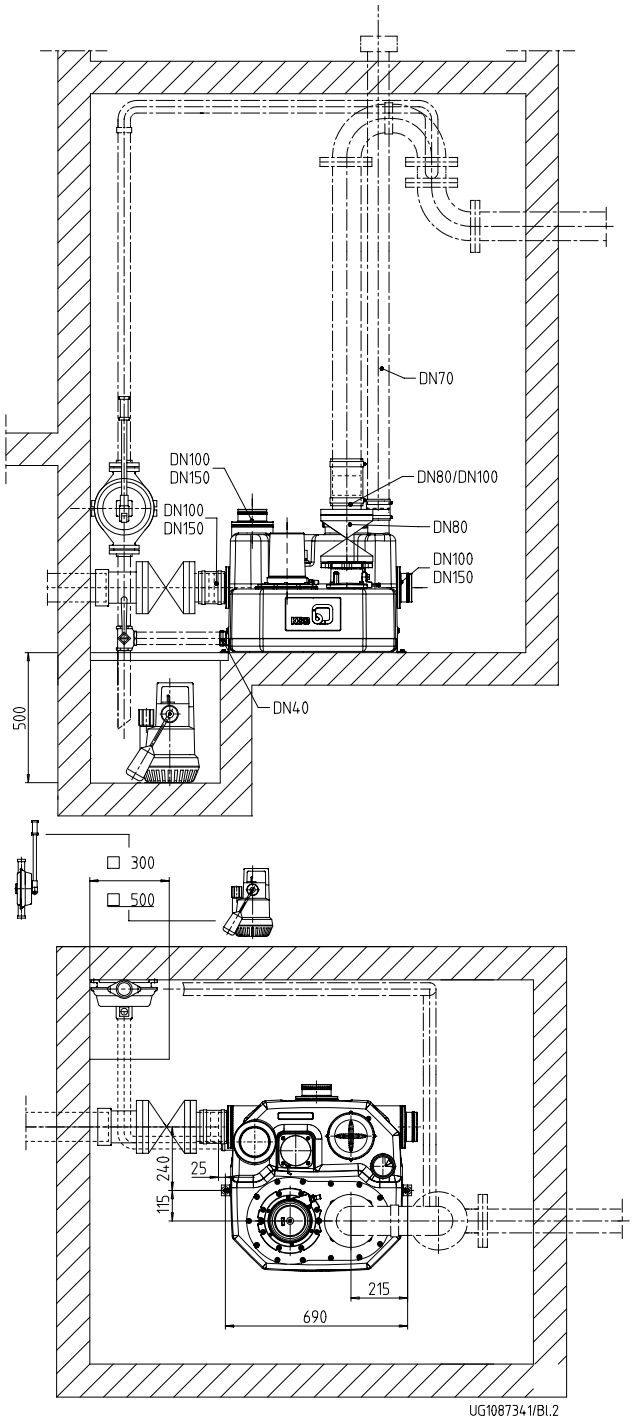
A	Inlet DN 150/100
B	Inlet DN 150/100
C	Inlet DN 150/100
✖	Inlet cannot be used
1	Drain DN 40
2	Vent DN 70
3	Discharge pipe DN 80/100

Dimensions of Compacta U100



805 = length including gate valve [mm]

Connection example Compacta U100



Rooms for lifting units 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.

Compacta U300

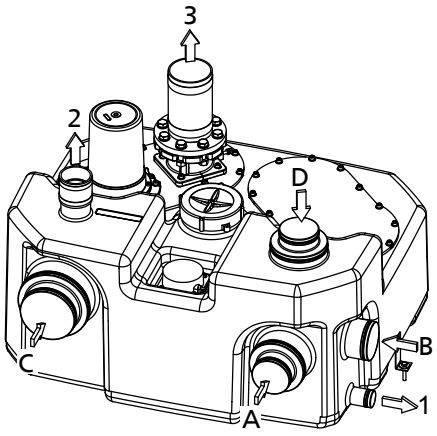
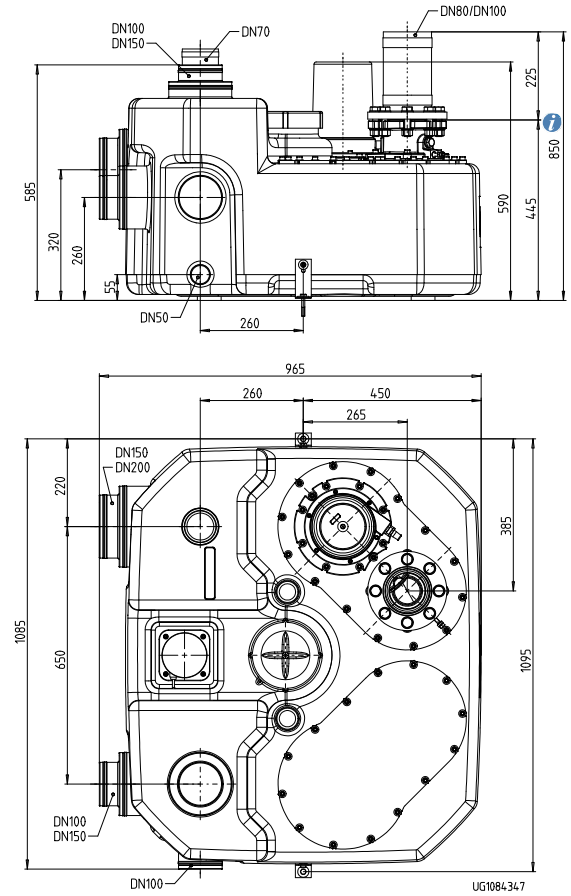


Fig. 6: Connections of Compacta U300

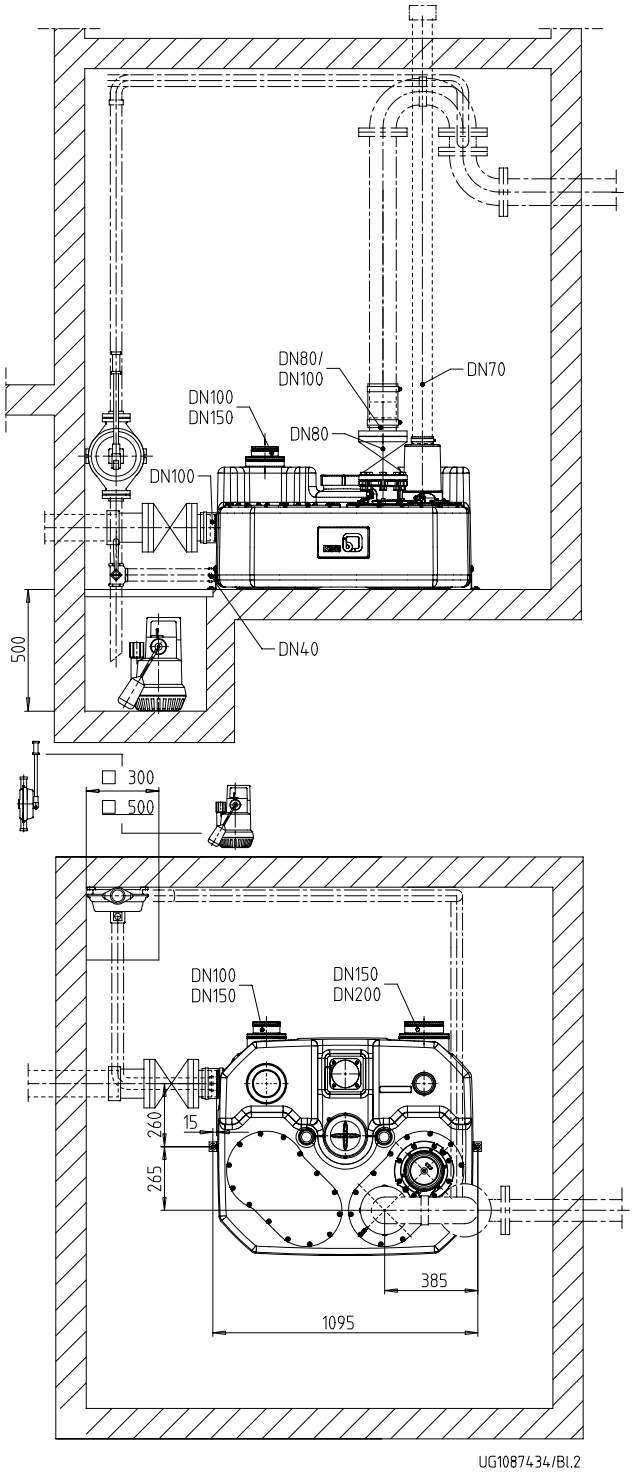
A	Inlet DN 150/100
B	Inlet DN 100
C	Inlet DN 200/150
D	Inlet DN 150/100
1	Drain DN 40
2	Vent DN 70
3	Discharge pipe DN 80/100

Dimensions of Compacta U300



850 = length including gate valve [mm]

Connection example Compacta U300



Rooms for lifting units 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.

Compacta UZ150

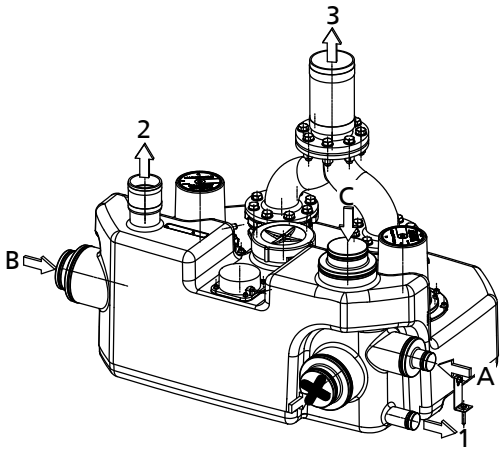
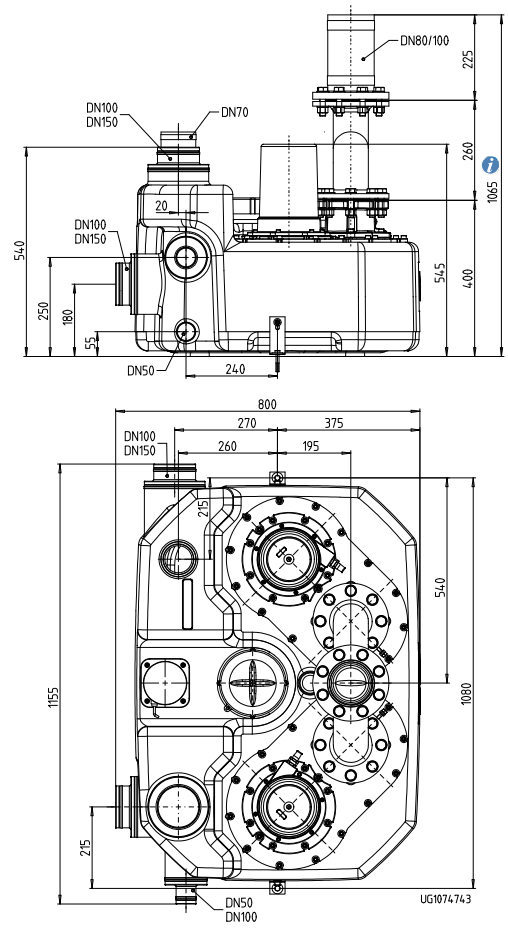


Fig. 7: Connections of Compacta UZ150

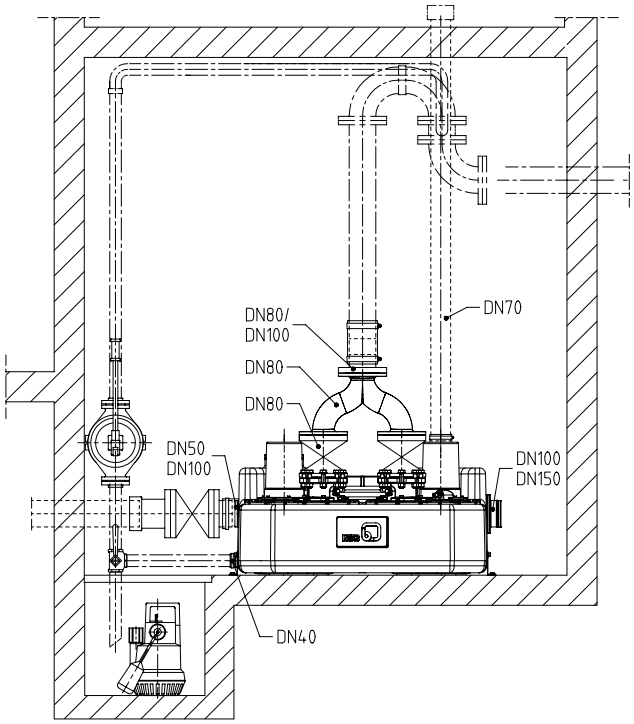
A	Inlet DN 100/50
B	Inlet DN 150/100
C	Inlet DN 150/100
✖	Inlet cannot be used
1	Drain DN 40
2	Vent DN 70
3	Discharge pipe DN 80/100

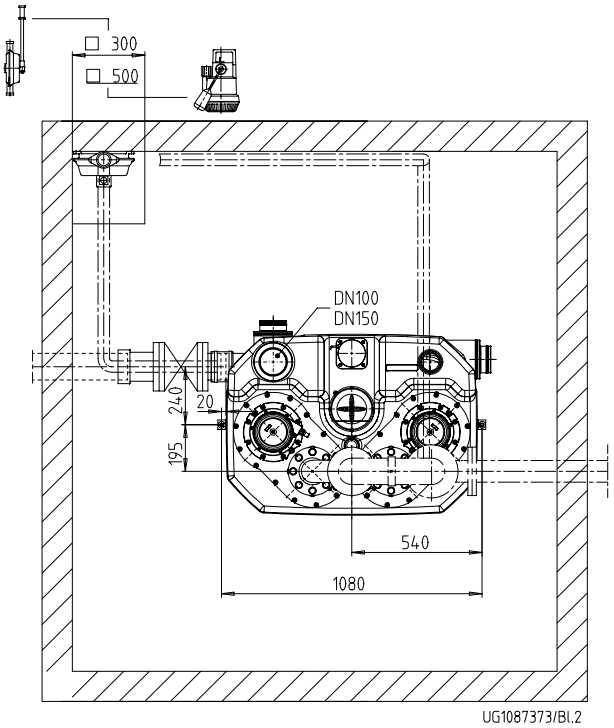
Dimensions of Compacta UZ150



1065 = length including gate valve [mm]

Connection example Compacta UZ150





Rooms for lifting units 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.

Compacta UZ300

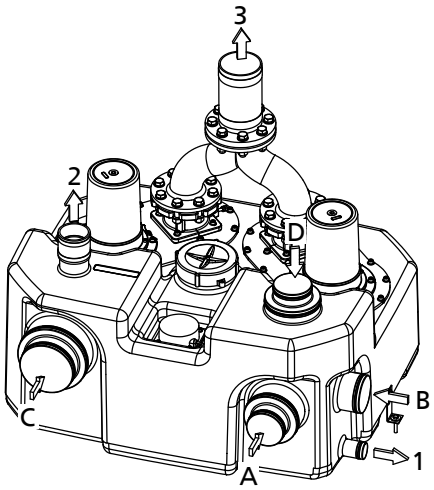
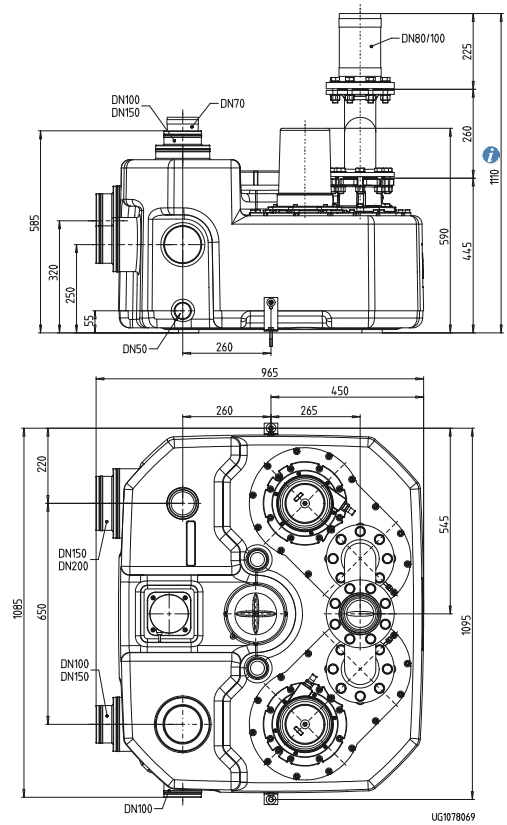


Fig. 8: Connections of Compacta UZ300

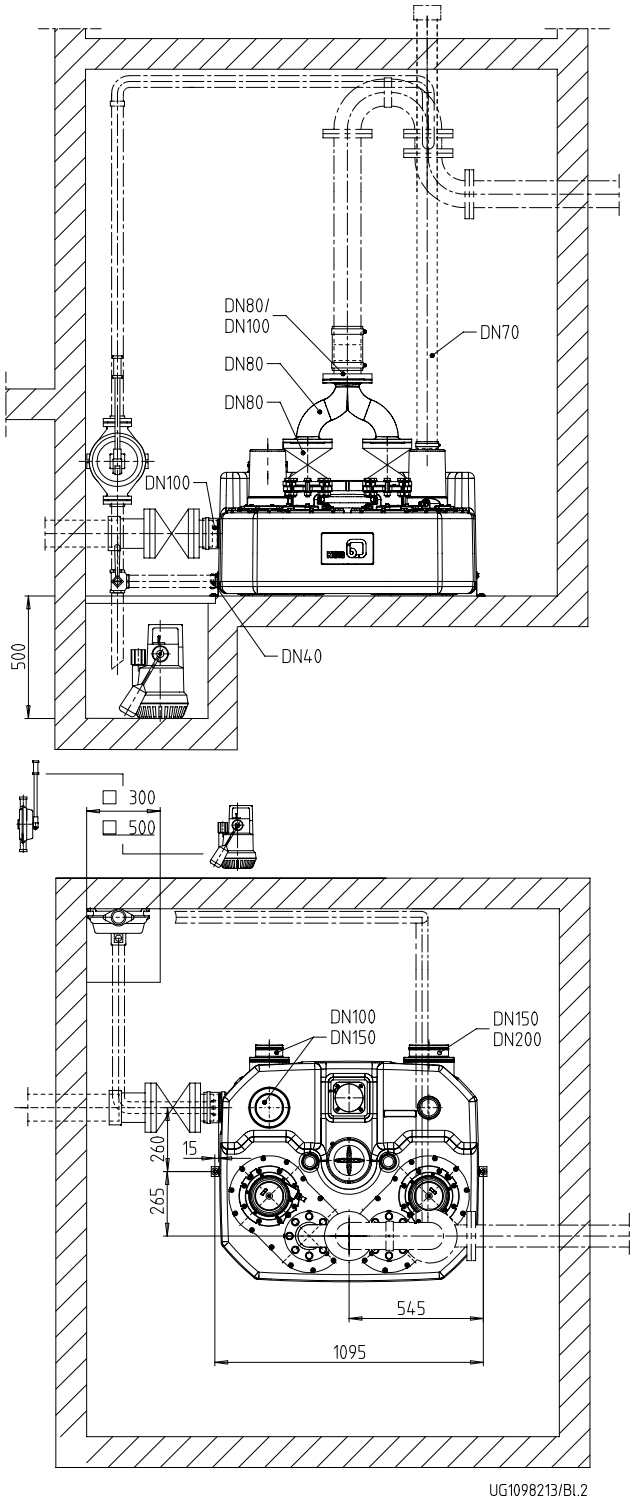
A	Inlet DN 150/100
B	Inlet DN 100
C	Inlet DN 200/150
D	Inlet DN 150/100
1	Drain DN 40
2	Vent DN 70
3	Discharge pipe DN 80/100

Dimensions of Compacta UZ300



1110 = length including gate valve [mm]

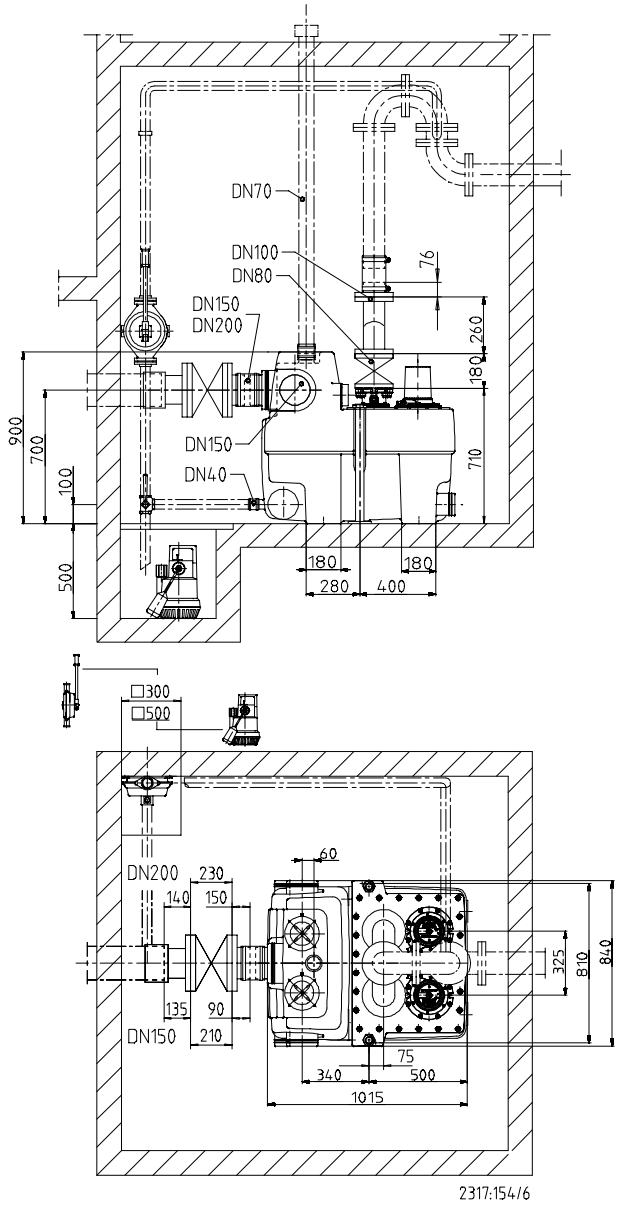
Connection example Compacta UZ300



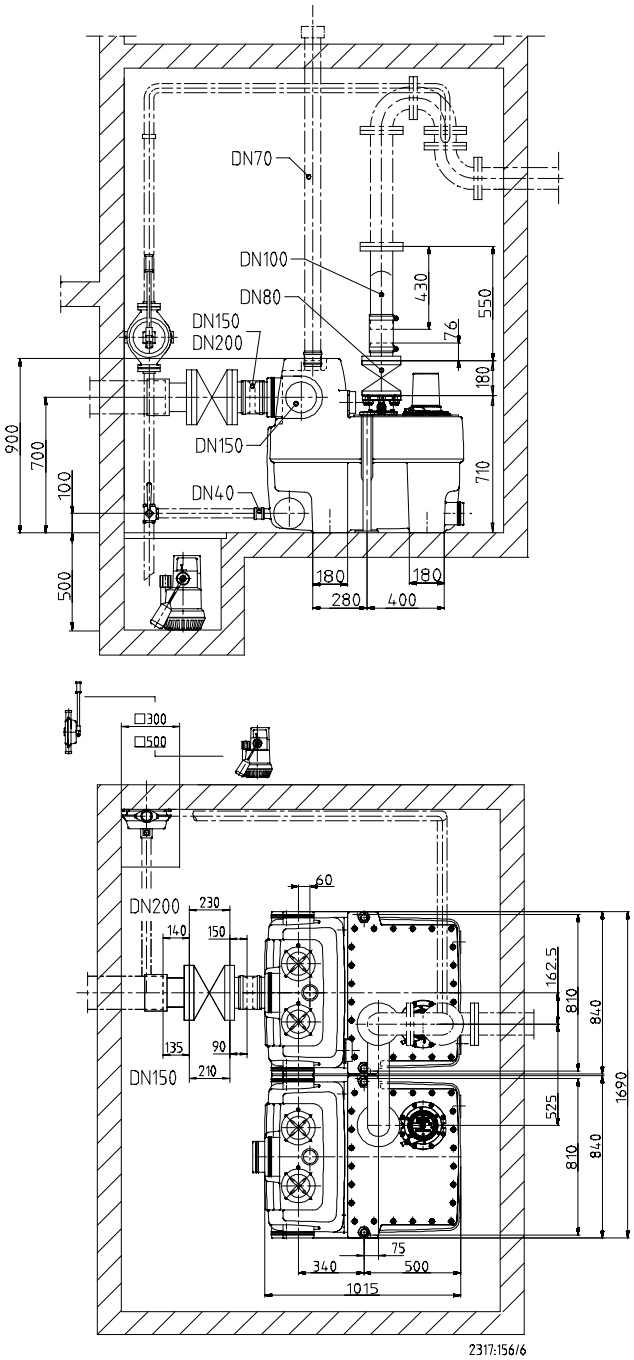
Rooms for lifting units must be dimensioned so as to ensure that there is a working area of at least 60 cm width and height around and above all parts to be operated and serviced.

Compacta UZ3. to 5.450, UZ3. to 5.900

Connection example Compacta UZ3. to 5.450



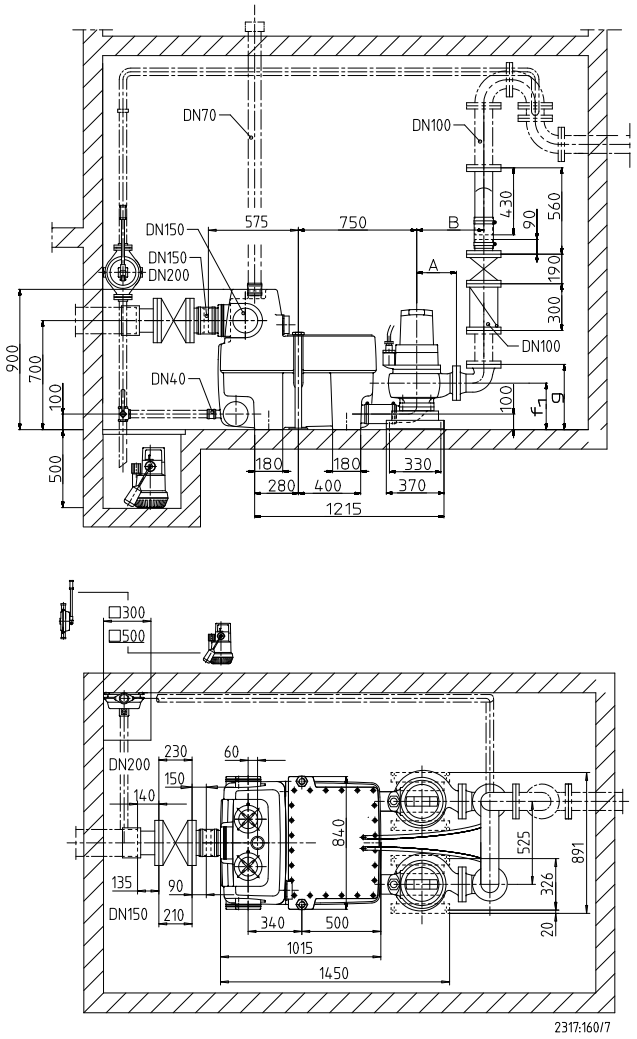
Connection example Compacta UZ3. to 5.900



Rooms for lifting units 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.

Compacta UZ10. to 15.450, UZ10. to 15.900

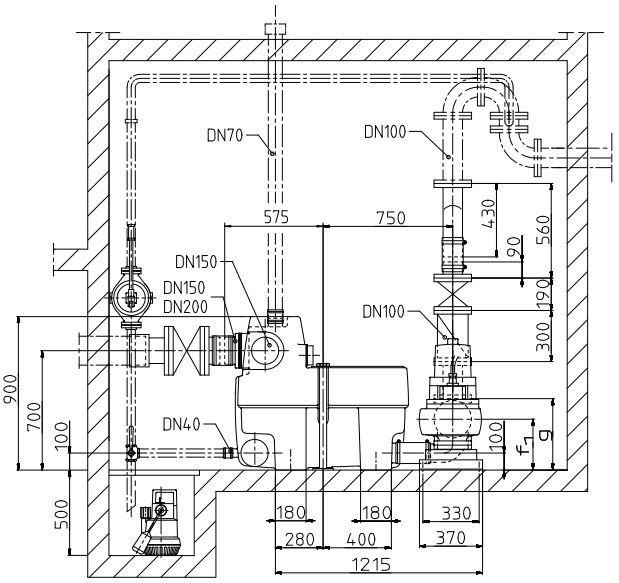
Connection example Compacta UZ 10. to 15.450

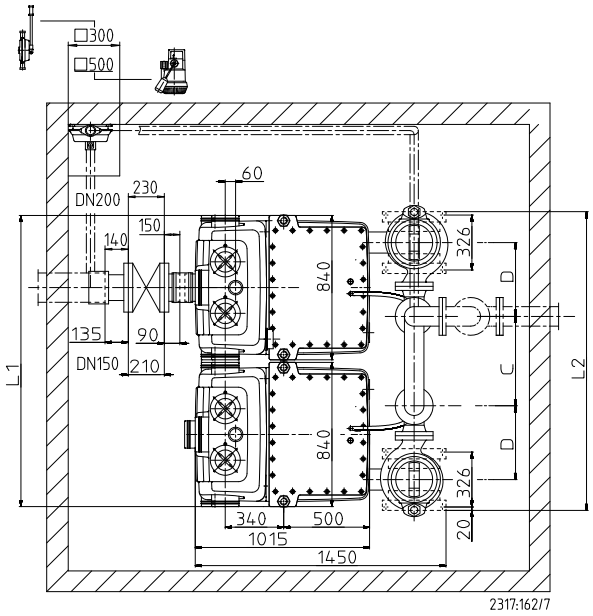


Dimensions table [mm]

Compacta UZ 10. to 15.450	A	B	f_1	g
UZ10. and 11.450	230	405	280	400
UZ12. to 15.450	255	430	300	420

Connection example Compacta UZ 10. to 15.900





Dimensions table [mm]

Compacta UZ10. to 15.900	C	D	f_1	g	L_1	L_2
UZ10. and 11.900	570	405	280	400	1695	1746
UZ12. to 15.900	525	430	300	420	1700	1751

Rooms for lifting units 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.

Scope of supply of single-pump/dual-pump lifting units

Compacta U100, U300, UZ150, UZ300

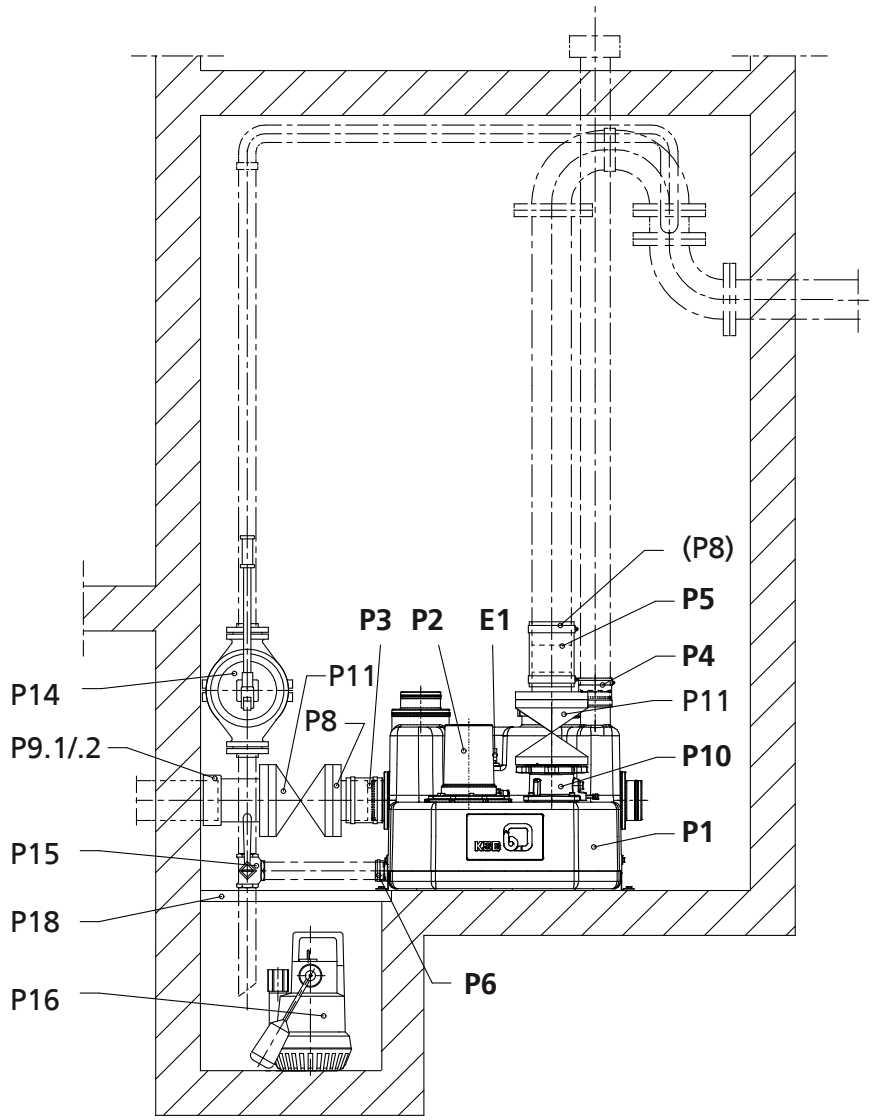


Fig. 9: Scope of supply of Compacta U100, U300[11)]

11) Item No. in bold print = item included in scope of supply

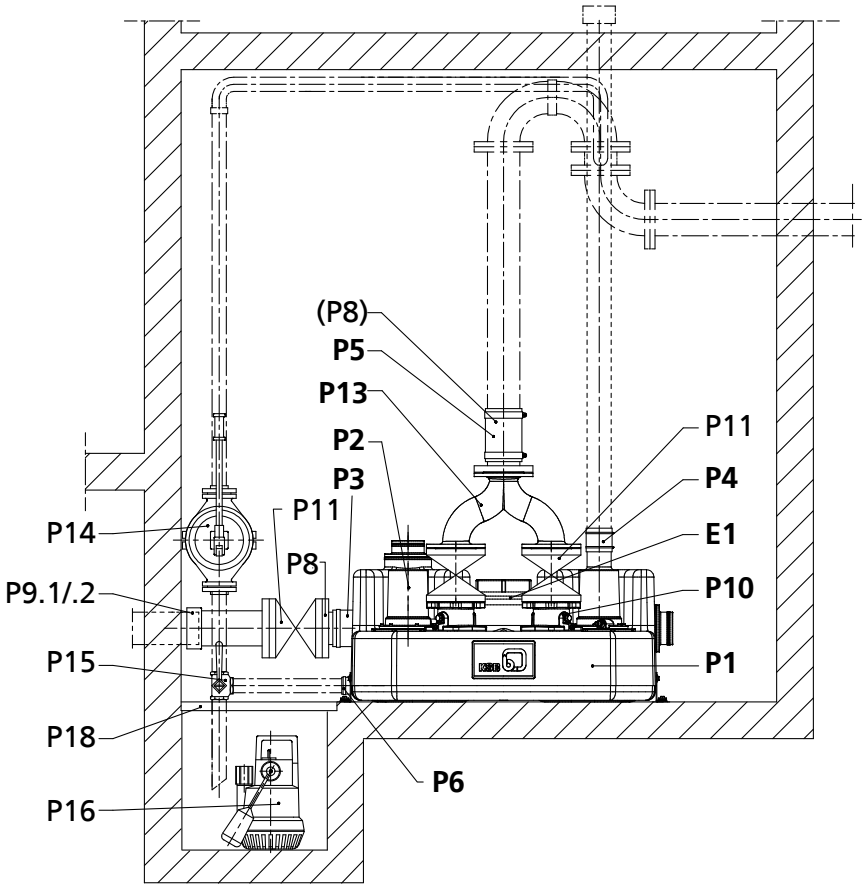


Fig. 10: Scope of supply of Compacta UZ150, UZ300[11)]

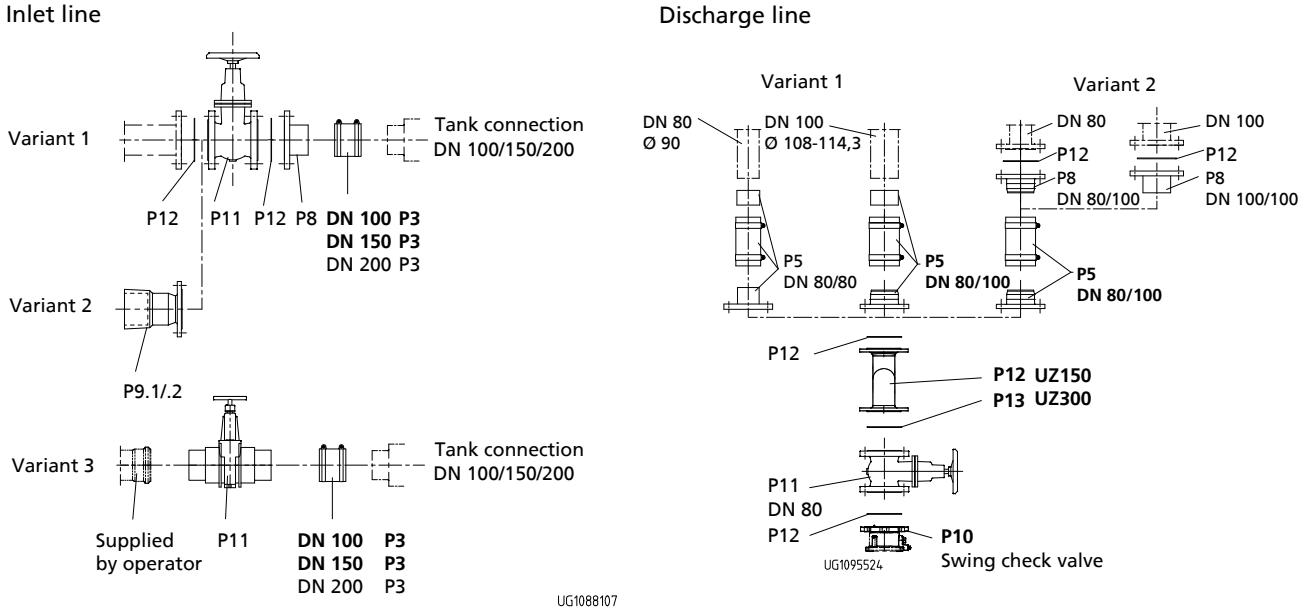
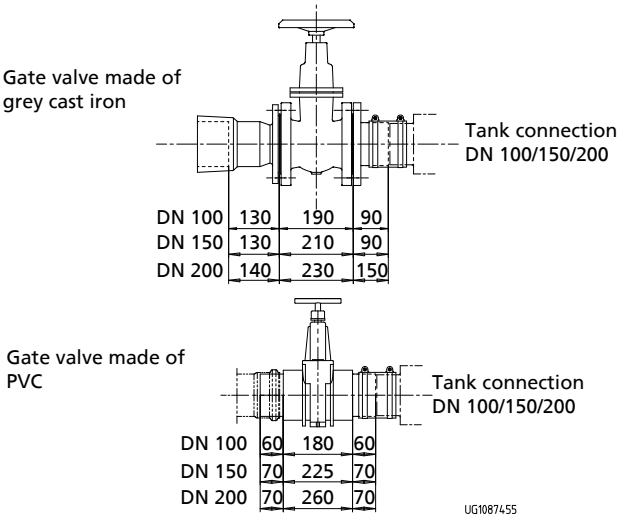


Fig. 11: Connections of sizes U100, U300, UZ150, UZ300[11)]

Inlet line



Discharge line

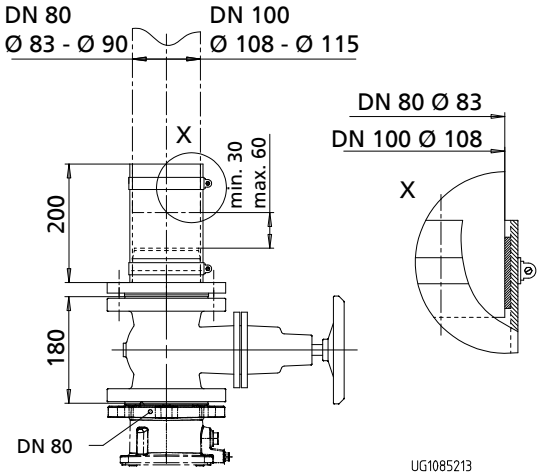
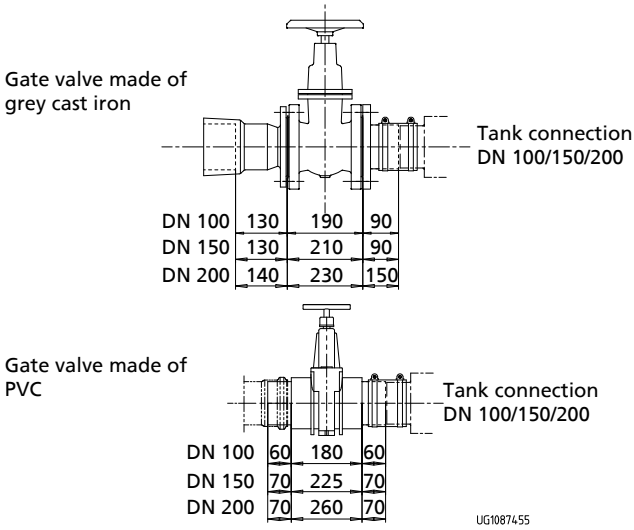


Fig. 12: Gate valves for sizes U100, U300

Inlet line



Discharge line

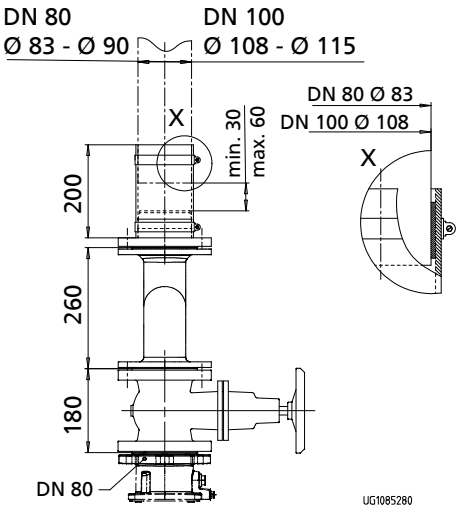


Fig. 13: Gate valves for sizes UZ150, UZ300

Scope of supply of units

Size				Included in the scope of supply
U100	U300	UZ150	UZ300	
P1	**P1**	**P1**	**P1**	Gas, odour and water-proof collecting tank of impact-resistant plastic
P2	**P2**	**P2**	**P2**	Fully floodable submersible motor pump
P3	-	**P3**	-	Flexible hose connection and hose clips DN 100
-	**P3**	-	**P3**	Flexible hose connection and hose clips DN 150
P4	**P4**	**P4**	**P4**	Flexible hose connection and hose clips (venting)
P5	**P5**	**P5**	**P5**	Flexible hose connection and hose clips for discharge pipe, consisting of DN 80 flanged coupling with DN 100 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 108 - 114.3 mm
P6	**P6**	**P6**	**P6**	Flexible hose connection and hose clips (hand diaphragm pump)
P10	**P10**	**P10**[12)]	**P10**[12)]	Swing check valve with full port and lifting screw
-	-	**P13**[13)]	**P13**[13)]	Y-pipe DN 80 with 2 sets of installation accessories
E1	**E1**	-	-	Analog level sensor for pump and alarm buzzer
-	-	**E1**	**E1**	Analog level sensor for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads
E3[14)]	**E3**[14)]	**E3**[14)]	**E3**[14)]	Electronic control unit with integrated alarm and charging circuit, with high-quality rechargeable battery and alarm buzzer

12) Two such sets are required for the discharge pipe.
13) Not for variant C
14) Not shown in drawing

Accessories

Size				Available as an accessory
U100	U300	UZ150	UZ300	
-	P3	-	P3	Flexible hose connection and hose clips DN 100
P3	-	P3	-	Flexible hose connection and hose clips DN 150
-	P3	-	P3	Flexible hose connection and hose clips DN 200
P5	P5	P5	P5	Flexible hose connection and hose clips for discharge pipe, consisting of DN 80 flanged coupling with DN 80 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 83 - 90 mm
P8	P8	P8	P8	Flanged coupling with hosetail
P9.1	P9.1	P9.1	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
P9.2	P9.2	P9.2	P9.2	Flange adapter (for connecting pipes of different materials) DN 100 for outside pipe diameter of 107.2 - 127.8 mm, L 105 mm DN 150 for outside pipe diameter of 158.2 - 181.6 mm, L 105 mm DN 200 for outside pipe diameter of 189.0 - 212.0 mm, L 145 mm
P11	P11	P11[12)]	P11[12)]	Gate valve
P12	P12	P12[12)]	P12[12)]	Set of installation accessories
-	-	P13	P13	Y-pipe DN 80, material variant C, with 2 sets of installation accessories
P14	P14	P14	P14	Hand diaphragm pump ISO 7/I-Rp $1^{1}/_{2}$
P15	P15	P15	P15	Three-way plug valve ISO 7/I-Rp $1^{1}/_{2}$
P16	P16	P16	P16	Fully automatic drainage pump Ama-Drainer... SE/SD with swing check valve
P18	P18	P18	P18	Cover plate A, 560 x 560 mm for 500 x 500 mm pits (for Ama-Drainer)
E50[14)]	E50[14)]	E50[14)]	E50[14)]	AS 0 alarm switchgear
E51[14)]	E51[14)]	E51[14)]	E51[14)]	AS 2 alarm switchgear
E52[14)]	E52[14)]	E52[14)]	E52[14)]	AS 4 alarm switchgear
E53[14)]	E53[14)]	E53[14)]	E53[14)]	AS 5 alarm switchgear
E64[14)]	E64[14)]	E64[14)]	E64[14)]	Moisture sensor F 1

Compacta UZ3. - 5.450, UZ3. - 5.900

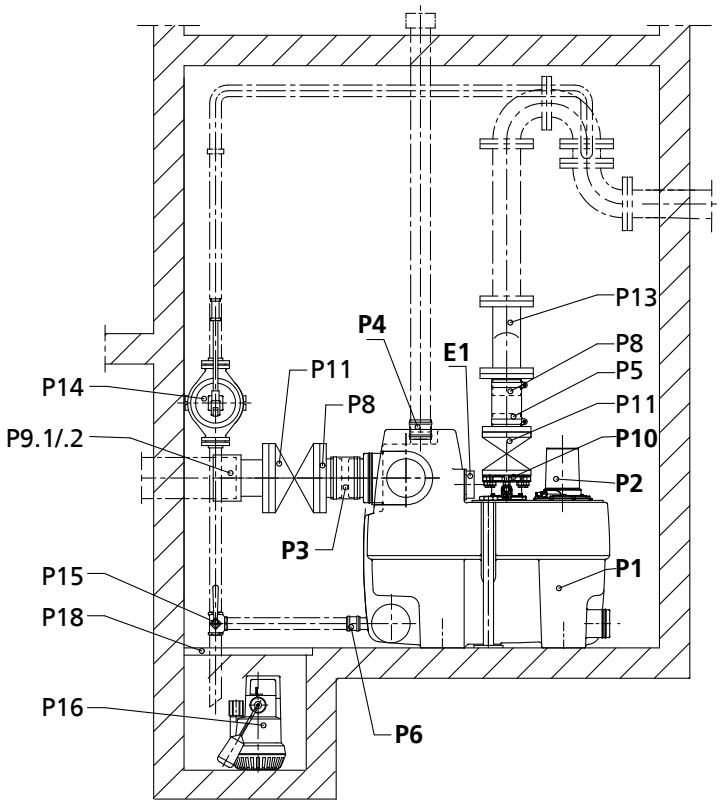
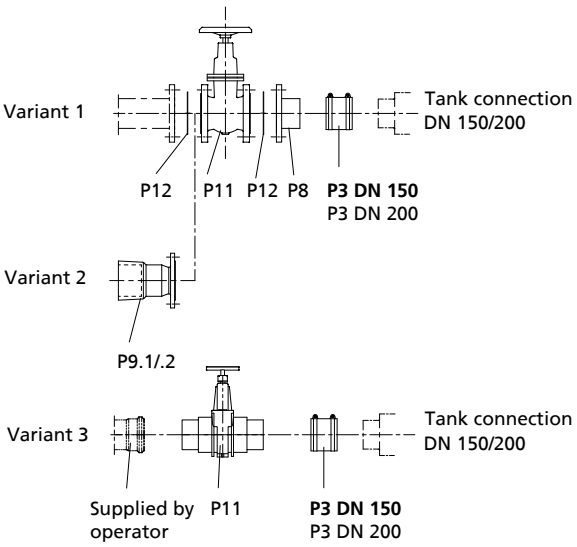


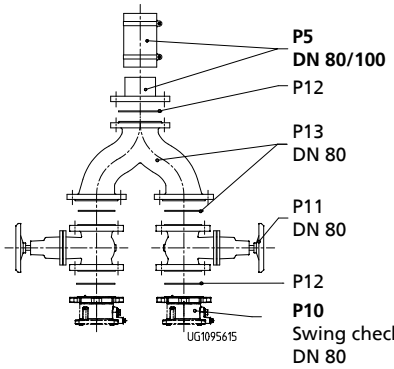
Fig. 14: Scope of supply of Compacta UZ3. - 5.450, UZ3. - 5.900[15)]

Inlet line



Discharge line

Compacta UZ3. to 5.450



Compacta UZ3. to 5.900

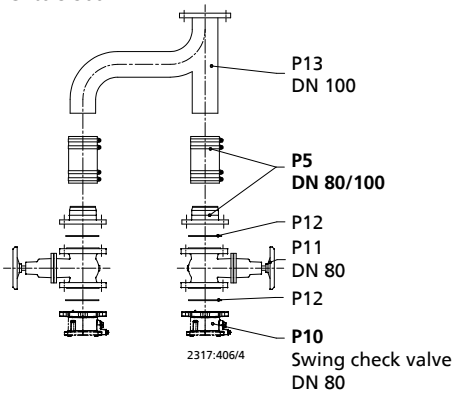


Fig. 15: Connections for sizes UZ3.-5.450, UZ3.-5.900[15)]

15) Item No. in bold print = item included in scope of supply

Scope of supply of lifting units

Size		Included in the scope of supply
UZ3. - 5.450	UZ3. - 5.900	
P1	**P1**	Collecting tank
P2	**P2**	Fully floodable submersible motor pump
P3	**P3**	Flexible hose connection and hose clips DN 150 (inlet)
P4	**P4**	Flexible hose connection and hose clips (venting)
P5	**P5**[16)]	Flexible hose connection and hose clips for discharge pipe, consisting of DN 80 flanged coupling with DN 100 hosetail, fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 108 - 114.3 mm
P6	**P6**	Flexible hose connection and hose clips (hand diaphragm pump)
P10[16)]	**P10**[16)]	Swing check valve
E1	**E1**	Automatic level transmitter for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads
E3	**E3**	Electronic control unit with integrated alarm and charging circuit, with high-quality rechargeable battery and alarm buzzer

Accessories

Size		Available as an accessory
UZ3. - 5.450	UZ3. - 5.900	
P3	P3	Flexible hose connection and hose clips DN 200
P5	-	Flexible hose connection and hose clips for discharge pipe, consisting of flanged coupling with DN 80 hosetail , fabric-reinforced rubber hose and adapter hose for outside pipe diameter of 83 - 90 mm
P8	P8[16)]	Flanged coupling with hosetail
P9.1	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
P9.2	P9.2	Flange adapter (for connecting pipes of different materials) DN 150 for outside pipe diameter of 158.2 - 181.6 mm, L 105 mm DN 200 for outside pipe diameter of 189.0 - 212.0 mm, L 145 mm
P11[16)]	P11[16)]	Gate valve
P12[16)17)]	P12[16)17)]	Set of installation accessories
P13	P13	Y-pipe with installation accessories
P14	P14	Hand diaphragm pump
P15	P15	Three-way plug valve
P16	P16	Fully automatic drainage pump AmaDrainer ..... SE/SD
P18	P18	Cover plate
E50[17)]	E50[17)]	AS 0 alarm switchgear
E51[17)]	E51[17)]	AS 2 alarm switchgear
E52[17)]	E52[17)]	AS 4 alarm switchgear
E53[17)]	E53[17)]	AS 5 alarm switchgear
E55[17)]	E55[17)]	AS 1 alarm switchgear
E64[17)]	E64[17)]	Moisture sensor F 1

16) Two nos./sets are required/included for the discharge pipe
17) Not shown in drawing

Compacta UZ10. - 15.450, UZ10. - 15.900

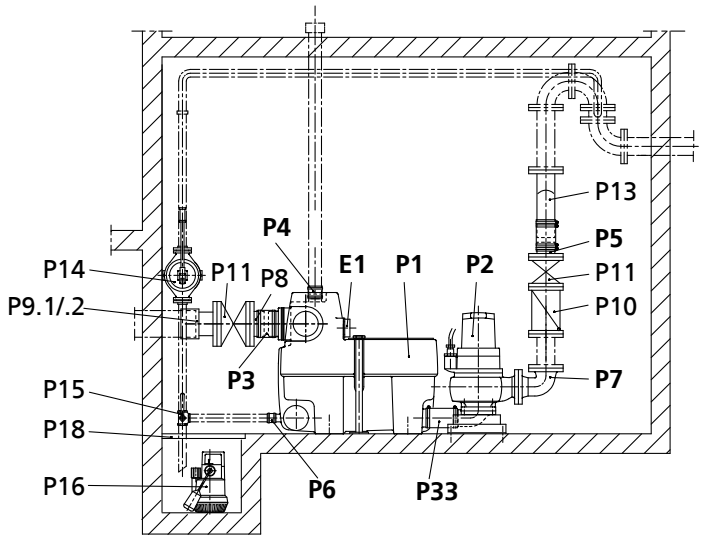
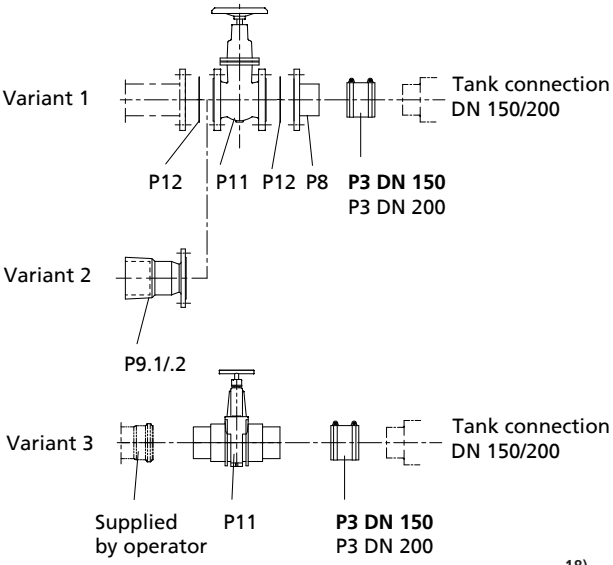


Fig. 16: Scope of supply of Compacta UZ10.-15.450, UZ10.-15.900[18)]

Inlet line



Discharge line

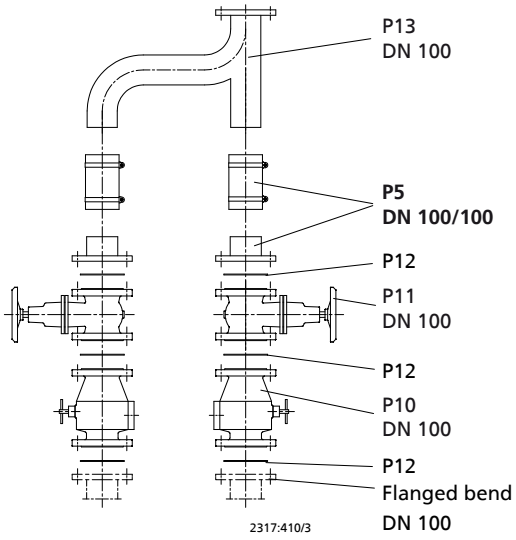


Fig. 17: Connections for sizes UZ10.-15.450, UZ10.-15.900[18)]

Scope of supply of lifting units

Size UZ10. - 15.450 UZ10. - 15.900	Included in the scope of supply
P1	Collecting tank
P2	Fully floodable submersible motor pump
P3	Flexible hose connection and hose clips DN 150 (inlet)
P4	Flexible hose connection and hose clips (venting)
P5[19)]	Flexible hose connection and hose clips for discharge pipe, consisting of DN 100 flanged coupling with DN 100 hosetail, fabric-reinforced rubber hose
P6	Flexible hose connection and hose clips (hand diaphragm pump)
P7[19)]	Flanged bend DN 100

18) Item No. in bold print = item included in scope of supply
19) Two nos./sets are included/required for the discharge pipe

Size UZ10. - 15.450 UZ10. - 15.900	Included in the scope of supply
P33	Flexible hose connection for tank/pump DN 100, fabric-reinforced rubber hose
E1	Automatic level transmitter for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads
E3	Electronic control unit with integrated alarm and charging circuit, with high-quality rechargeable battery and alarm buzzer

Accessories

Size UZ10. - 15.450 UZ10. - 15.900	Available as an accessory
P3	Flexible hose connection and hose clips DN 200
P8[19)]	Flanged coupling with hosetail
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
P9.2	Flange adapter (for connecting pipes of different materials) DN 150 for outside pipe diameter of 158.2 - 181.6 mm, L 105 mm DN 200 for outside pipe diameter of 189.0 - 212.0 mm, L 145 mm
P10[19)]	Swing check valve
P11[19)]	Gate valve
P12[19)20)]	Set of installation accessories
P13	Y-pipe with installation accessories
P13.1[20)]	Transition flange DN 100/150 to larger discharge pipe diameter (to be fitted downstream of Y-pipe)
P14	Hand diaphragm pump
P15	Three-way plug valve
P16	Fully automatic drainage pump AmaDrainer ..... SE/SD
P18	Cover plate
E51[20)]	AS 2 alarm switchgear
E52[20)]	AS 4 alarm switchgear
E53[20)]	AS 5 alarm switchgear
E55[20)]	AS 1 alarm switchgear
E64[20)]	Moisture sensor F 1

Compacta UZ 450, UZ 900
Inlet line

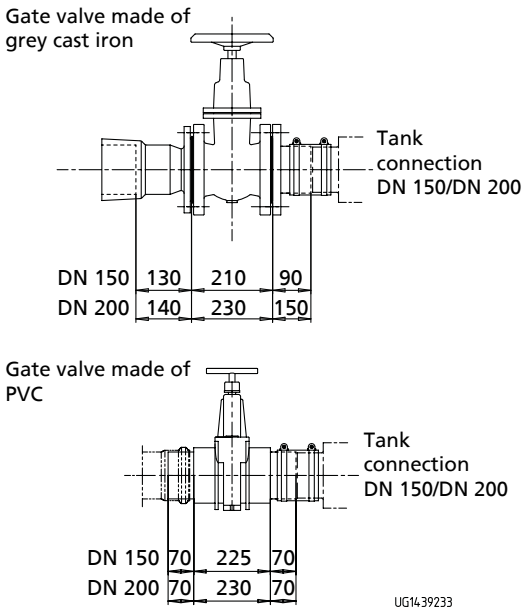


Fig. 18: Connections for sizes UZ 450, UZ 900

20) Not shown in drawing

Connection nozzles

Connection nozzles by model

Compacta	Inlet side	Discharge side	Vent	Connection for hand diaphragm pump
U3. up to 5.100	**Horizontal:** 2 x DN 100, graded, inlet nozzle level 250 mm, **Vertical:** 1 x DN 150/100, graded	DN 80/100 optionally DN 80/80	DN 70	DN 40 (Rp 1 $^1/_2$)
U3. up to 5.300	**Horizontal:** 1 x DN 100 1 x DN 150/100, graded, inlet nozzle level 250 mm, 1 x DN 200/150, graded, inlet nozzle level 320 mm **Vertical:** 1 x DN 150/100, graded	DN 80/100 optionally DN 80/80	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ3. up to 5.150	**Horizontal:** 1 x DN 100/50, graded, 1 x DN 150/100, graded, inlet nozzle level 250 mm **Vertical:** 1 x DN 150/100, graded	DN 80/100 (discharge pipe to Y-pipe DN 100) optionally DN 80/80	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ3. up to 5.300	**Horizontal:** 1 x DN 100 1 x DN 150/100, graded, inlet nozzle level 250 mm, 1 x DN 200/150, graded, inlet nozzle level 320 mm **Vertical:** 1 x DN 150/100, graded	DN 80/100 (discharge pipe to Y-pipe DN 100) optionally DN 80/80	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ3. up to 5.450	**Horizontal:** 2 x DN 150 1 x DN 200/150, graded, inlet nozzle level 700 mm	DN 80/100 (discharge pipe to Y-pipe DN 100) optionally DN 80/80	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ3. up to 5.900	**Horizontal:** 2 x DN 150 2 x DN 200/150, graded, inlet nozzle level 700 mm	DN 80/100 (discharge pipe to Y-pipe DN 100) optionally DN 100	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ10. up to 15.450	**Horizontal:** 2 x DN 150 1 x DN 200/150, graded, inlet nozzle level 700 mm	DN 100	DN 70	DN 40 (Rp 1 $^1/_2$)
UZ10. up to 15.900	**Horizontal:** 2 x DN 150 2 x DN 200/150, graded, inlet nozzle level 700 mm	DN 100	DN 70	DN 40 (Rp 1 $^1/_2$)

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 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
- Three-phase connection
- 4-metre motor power cable
- Analog level detection with sensor monitoring
- Manual-0-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, 1-metre power cable (up to UZ5.450)
- 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-0-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 (e.g. monitoring of supply voltage, intelligent system monitoring, and many more)

Control units per model

LevelControl units per model

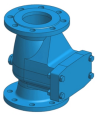
Pump unit	Control unit	Dimensions (HxWxD) [mm]
Single-pump units		
U3.100 D, U4.100 D, U5.100 D U3.300 D, U4.300 D, U5.300 D	LevelControl Basic 1 D	135x170x110
Dual-pump units		
UZ3.150 D, UZ4.150 D, UZ5.150 D UZ3.300 D, UZ4.300 D, UZ5.300 D UZ3.450 D, UZ4.450 D, UZ5.450 D UZ3.900 D, UZ4.900 D, UZ5.900 D	LevelControl Basic 2 ZD	400x281x135
UZ10.450 D, UZ11.450 D UZ10.900 D, UZ11.900 D	LevelControl Basic 2 ZD100	400x281x135
UZ12.450 D, UZ12.900 D	LevelControl Basic 2 ZD140	760x600x210
UZ13.450 D, UZ13.900 D	LevelControl Basic 2 ZD180	760x600x210
UZ14.450 D, UZ15.450 D UZ14.900 D, UZ15.900 D	LevelControl Basic 2 ZD250	760x600x210

Variant-specific special features of LevelControl Basic 2

LevelControl control unit	Description
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
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
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
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
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

	Item	Description		Compacta								Mat. No.	[kg]
				U100	U300	UZ150	UZ300	UZ3. - 5.450	UZ3. - 5.900	UZ10. - 15.450	UZ10. +11.900	UZ12. -15.900	
	P3	Flexible hose connection (inlet) For inlet line, comprises fabric-reinforced hose and two hose clips	DN 50	-	-	✗	-	-	-	-	-	-	18040370	0,2
			DN 100	-	✗	-	✗	-	-	-	-	-	18040203	0,4
			DN 150	✗	-	✗	-	-	-	-	-	-	18040338	0,7
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	18040972	0,7
	P5	Flexible hose connection (discharge side) For discharge line, comprises fabric-reinforced hose, adapter hose, stub flange made of steel, and hose clips	DN 80/80	✗	✗	✗	✗	✗	-	-	-	-	19070679	5,2
	P8	Stub flange Flanges 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[21)]	DN 80/100	✗	✗	✗	✗	✗	-	-	-	-	18040303	0,4
			DN 100/100	✗	✗	✗	✗	✗	-	-	-	-	19075270	4,5
			DN 150/150	✗	✗	✗	✗	✗	✗	✗	✗	✗	19075269	9,1
			DN 200/200	-	✗	-	✗	✗	✗	✗	✗	✗	19075271	2
	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, for DIN EN 1092-1/2[21)] 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	✗	✗	✗	✗	-	-	-	-	-	00262135	9,5
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	01020844	14,5
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	00263071	18,5
	P9.2	Flange adapter Grey cast iron, for connecting pipes made of different materials DN 100 for outside pipe diameter 107.2 - 127.8 mm, L = 105 mm DN 150 for outside pipe diameter 158.2 - 181.6 mm, L = 105 mm DN 200 for outside pipe diameter 189.0 - 212.0 mm, L = 145 mm	DN 100	✗	✗	✗	✗	-	-	-	-	-	01070642	4,45
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	01070641	7,5
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	01132654	8,3
	P10[22)]	Swing check valve, PN 16 Grey cast iron, with full port, lifting device with wing screw To EN 12 050-4	DN 100	-	-	-	-	-	-	✗	✗	✗	48829255	29
	P11 [23)]	Flanged ball valve, stainless steel 1.4408	DN 80	✗	✗	✗	✗	✗	✗	-	-	-	01723156	18,8
			DN 100	✗	✗	✗	✗	-	-	✗	✗	✗	01723239	35
	P11	PVC gate valve PN 1 For inlet line with connection nozzle	DN 100	✗	✗	✗	✗	-	-	-	-	-	01121715	3,5
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	01121714	9,2
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	01506896	13,4

21) DN 200 drilled to PN 10
22) Quantity of 2 required for discharge line of UZ dual-pump units
23) Only for material variant C

	Item	Description		Compacta								Mat. No.	[kg]
				U100	U300	UZ150	UZ300	UZ3. - 5.450	UZ3. - 5.900	UZ10. - 15.450	UZ10. +11.900	UZ12. -15.900	
	P11[22]	COBRA T1 gate valve, GG 25 Grey cast iron, PN 10, flanges drilled to PN 10/16, to EN 1092-1/2[21]	DN 80	✗	✗	✗	✗	✗	✗	-	-	-	48829250	17
			DN 100	✗	✗	✗	✗	-	-	✗	✗	✗	48829251	23
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	48829252	40
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	48816278	64
		Gate valve to KSB's choice, PN 10 Grey cast iron, flanges drilled to PN 10/16, to EN 1092-1/2[24]	DN 80	✗	✗	✗	✗	✗	✗	-	-	-	01056708	18,9
			DN 100	✗	✗	✗	✗	-	-	✗	✗	✗	01056709	22,5
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	01056710	42,7
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	01132653	61,5
	P12	Set of installation accessories For one flange made of steel or grey cast iron; includes: 8 hexagon head bolts with nuts and 1 gasket	DN 80	✗	✗	✗	✗	✗	✗	-	-	-	18072644	1
			DN 100	✗	✗	✗	✗	-	-	✗	✗	✗	18060163	1,4
			DN 150	✗	✗	✗	✗	✗	✗	✗	✗	✗	18076348	2
			DN 200	-	✗	-	✗	✗	✗	✗	✗	✗	18040967	4,2
	P13	Y-pipe, A = 325 mm Grey cast iron (GG) with 16 hexagon head bolts, nuts and 2 sealing elements	DN 80	-	-	-	-	✗	-	-	-	-	18040966	8
		Y-pipe, steel, A = 525 mm	DN 100	-	-	-	-	-	✗	✗	-	✗	18040252	15,6
		Y-pipe, steel, A = 570 mm with 8 hexagon head bolts, nuts and 1 sealing element, flanges drilled to PN 10/16, to EN 1092-1/2	DN 100	-	-	-	-	-	-	-	✗	-	18040911	15,5
		Y-pipe, material variant C for aggressive fluids												
		Y-pipe with high-quality coating (Rilsan) grey cast iron (GG) with high-quality coating (Rilsan®), with 16 hexagon head bolts, nuts and 2 sealing elements Flanges drilled to PN 10/16, to EN 1092-1/2	DN 80	-	-	✗	✗	✗	-	-	-	-	18041115	8
		Y-pipe, A = 525 mm Stainless steel (1.4571) with 8 hexagon head bolts, nuts and 1 sealing element Flanges drilled to PN 10/16, to EN 1092-1/2	DN 100	-	-	-	-	-	✗	-	-	-	18041287	15,6
	P13.1	Adapter flange GG with 16 stay bolts, discs and nuts, L 30 mm Flanges drilled to PN 10/16, to EN 1092-1/2	DN 100/150	-	-	-	-	-	-	✗	✗	✗	01134592	12
	P14	LA hand diaphragm pump, grey cast iron[25]	Rp 1 1/2	✗	✗	✗	✗	✗	✗	✗	✗	✗	00520485	12
	P15	Three-way plug valve Brass, with wrench WAF 22	Rp 1 1/2	✗	✗	✗	✗	✗	✗	✗	✗	✗	19053063	1,5
	P20	Blind flange Steel, for closing the pump casing when the rotating assembly has been removed		✗	✗	✗	✗	✗	✗	-	-	-	18040965	3,8
				-	-	-	-	-	-	-	-	✗	18040353	10,4
		Blind flange Steel, for closing the tank when the pump assembly has been removed		✗	✗	✗	✗	-	-	-	-	-	18041087	1,2

24) DN 200 in compliance with PN 6, flange drilled to PN 10
25) For pump sump drainage please also refer to KSB's Ama-Drainer pump series.

Alarm switchgears for pumps without ATEX

AS 0/AS 1/AS 2/AS 4/AS 5

	Item	Description	Mat. No.	[kg]
	E50	Alarm switchgearAS 0 With circuit breaker, acoustic signal transmitter with 85 dB(A), green equipment-on lamp Plastic housing IP20, 140 x 80 x 57 mm. Use float switch, F1 moisture sensor (item E64), M1 alarm contactor or signal relay of control unit as contactor.	29128401	0,5
	E51	Alarm switchgearAS 2 With circuit breaker, acoustic signal transmitter with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station Plastic housing IP 20, 140 x 80 x 57 mm. Use float switch, F1 moisture sensor (item E64) or signal relay of control unit as contactor.	29128422	0,5
	E52	Alarm switchgearAS 4 With circuit breaker, acoustic signal transmitter 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, 140 x 80 x 57 mm. Use float switch (E60), F1 moisture sensor (item E64) or signal relay of control unit as contactor.	29128442	0,5
	E53	Alarm switchgearAS 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, horn-off pushbutton, volt-free contact for hook-up to a control station, ready for connection with 1.8 m connection cable and plug. ISO housing IP41, 190 x 165 x 75 mm. Use float switch (E60) or signal relay of control unit as contactor.	00530561	1,7
	E55	Alarm switchgearAS 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 signal transmitter 70 dB(A) with circuit breaker and integrated signal transmitter with 3-metre connection cable, max. 60 °C, not suitable for steam and condensate. 1. High water alert by suspending the moisture sensor in a (pump) sump above the pump start-up point. 2. Water alarm signal at a water level of only 1 mm (!), by placing the contactor on the floor of rooms at risk of flooding, e.g. the cellar or next to the washing machine in the kitchen or bathroom.	00533740	0,9

26) In combination with alarm switchgears AS 0, AS 2, AS 4 or LevelControl
27) In combination with AS 5 or Level Control Basic 2

Control unit/switchgear accessories

	Item	Description	Mat. No.	[kg]
	E64	F1 moisture sensor[26)] As contactor for alarm switchgears AS 0, AS 2, AS 4 or as alarm transmitter for LevelControl, with 3-metre connection cable, max. 40 °C, not suitable for steam and condensate Possible applications for alarm transmission: 1. High water alert by suspending the moisture sensor in a (pump) sump above the pump start-up point. 2. Water alarm signal at a water level of only 1 mm (!) in areas at risk of flooding in the cellar or next to the washing machine in the kitchen or bathroom. Dimensions: (H mm x W mm x D mm) 52 x 21 x 20	19072366	0,2
	E70	Horn, 12 V DC, 105 dB, 150 mA, IP54, with 0.45 m connection cable[27)] For indoor and outdoor installation, to be mounted in a position where it is protected from direct rain	01086547	0,1
	E71	Alarm combination (yellow alarm strobe light and piezo buzzer 92 dB), 12 V DC, 120 mA, IP65[27)]	01139930	0,1
	E72	Yellow alarm strobe light, 12 V DC, 195 mA, IP65[27)]	01056355	0,3
	O45	Plastic housing, (W) 82 × (H) 55 × (D) 106.5 [mm], IP65, for easier installation of alarm strobe light, for wall mounting	01061067	0,2
PACTware	E73	PC service tool CD-ROM with instructions, dongle for authorisation, RS 232 parameterisation cable and USB/RS 232 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. To this effect, follow the instructions included.	47121210	0,2
	E300	Master switch, 32 A, external Plastic housing IP65, 90 x 90 x 145 mm for LevelControl	01118354	0,4
	E301	Master switch, 16 A, external Plastic housing IP65, 90 x 90 x 145 mm for LevelControl	01212348	0,4
	O200	Signalling module for LevelControl Basic 2, type BC	19075182	0,2
	O203	Signalling module for LevelControl Basic 2, type BS	19075185	1,1

The control units LevelControl Basic 1 and LevelControl Basic 2 are fitted with a mains-independent acoustic alarm (buzzer) and a volt-free signalling contact for transmitting alarm signals in the case of a fault (e.g. to the control room). For this reason, alarm switchgear is not absolutely necessary, however, it can be used for setting off an acoustic alarm in building parts at a distance from the lifting unit in the case of a fault (e.g. lifting unit in the cellar, additional alarm switchgear in the hallway).

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