Floodable Sewage Lifting Unit

MiniCompacta

50 Hz

Type Series Booklet

KSB

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Type Series Booklet MiniCompacta

Contents

Building Services: Drainage

Lifting Units

MiniCompacta

Main applications

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

Single-pump unit US (40 litres)/ U (60 litres)/ U (100 litres):

- Unit for single-family house

Dual-pump unit UZ (150 litres):

- Unit for uninterrupted waste water drainage

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]	≤ 36
	Q [l/s]	≤ 10
Head	H [m]	≤ 25
Fluid temperature	T [°C]	≤ +40 (continuous duty)
		≤ +65 (short-time duty ≤ 5 minutes)

Duty types

Table 2: Permissible duty type

Operation	Type
Intermittent periodic duty	S3 50 % to VDE

Design details

Design

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

Drive

- Surface-cooled
- AC motor / three-phase asynchronous motor
- 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) / 230 V (AC motor)
- Frequency 50 Hz
- DOL starting

Impeller type

- Vortex impeller
- Cutter

Bearings

- Grease-packed, maintenance-free rolling element bearings

Shaft seal

MiniCompacta US (40 litres) / U (60 litres) / U (100 litres) / UZ (150 litres):

- Impeller end, 1 shaft seal ring
- Drive end, 1 shaft seal ring
- A grease fill is provided between the impeller-end and drive-end shaft seals.

MiniCompacta US (100 litres) / UZS (150 litres) / variant C:

- Impeller end, 1 mechanical seal
- Drive end, 1 shaft seal ring
- An oil reservoir, which is supplied filled with ecologically acceptable white oil, is fitted between the impeller-end and drive-end shaft seals.

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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: MiniCompacta UZ 1.150 D/C

Table 3: Designation key

Code	Description	
MiniCompacta	Type series	
UZ	Design	
	U	Single-pump lifting unit with vortex impeller
	US	Single-pump lifting unit with cutter
	UZ	Dual-pump lifting unit with vortex impeller
	UZS	Dual-pump lifting unit with cutter
X	Special design	
1	Hydraulics code	
	1, 2	
150	Total volume of collecting tank [litres]	
	40, 60, 100, 150	
D	Motor	
	D	Three-phase asynchronous motor
	E	Single-phase AC 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	6	Hand hole cover
2	Level sensor	7	Vent connection
3	Pump set	8	Discharge-side connection
4	Drain connection	9	Integrated swing check valve
5	Transport lock / float protection fixture	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.

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2 Blank

Materials

Table 4: Overview of available materials

Part No.	Description	Material variant A						Material variant C		
		U		UZ	US		UZS	U		UZ
		60	100	150	40	100	150	60	100	150
591	Collecting tank	Polyethylene								
591/102	Pump casing	Polyethylene			Grey cast iron			Polyethylene		
230	Impeller	PBT-GF				Grey cast iron		PBT-GF		
500	Cutter	-			Norihard			-		
210	Motor shaft	Stainless steel (1.4021)						Stainless steel (1.4462)		
161	Casing cover	Grey cast iron						Stainless steel (1.4408)		
742	Swing check valve	Grey cast iron			PVC		-	Stainless steel (1.4408)		
81-45	Float switch (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)
- 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
- Ready-to-connect, easy installation and commissioning
- Vibration-damping design and installation for low-noise operation

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 TÜVRheinland ZERTIFIZIERT www.tuv.com ID 1111220217	Europe

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.

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).

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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

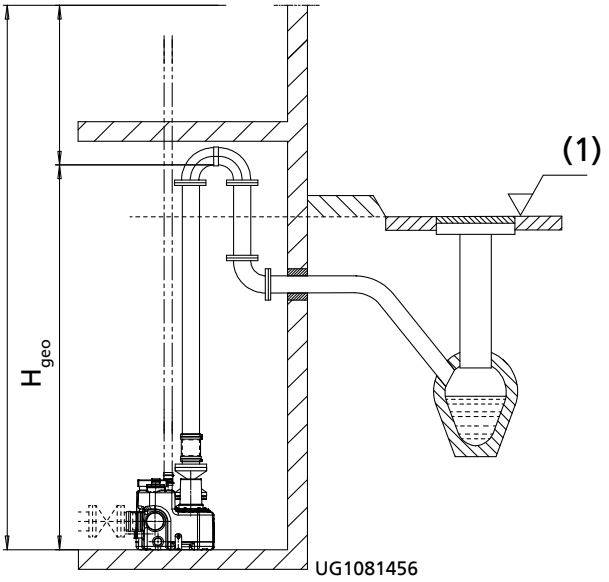

Fig. 2: Geodetic head H_{geo} if installed correctly

(1)	Flood level

Calculation of head:

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

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.

- 50 % to VDE
- Max. number of starts: 60/hour
- For continuous discharge or repeated discharge over a longer period of time observe the maximum permissible frequency of starts.

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)). 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 6: Overview of product features of single-pump units

	Single-pump unit
	MiniCompacta U60
▪ Hydraulics code 1 ▪ $H_{max.}$ 11.9 m ▪ $Q_{max.}$ 26.5 m³/h ▪ Free passage of 40 mm	
Collecting tank volume	60 l
Installation examples	Single-family houses, toilets, wash-basins and showers, toilets and party rooms in the basement, toilets subsequently installed in refurbished buildings
Design	Small plug-in lifting unit in compact design, fully floodable, with gas-tight and water-tight plastic collecting tank with integrated check valve, centrifugal pump with vortex impeller for automatic operation via electronic control unit.

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

	Single-pump unit MiniCompacta U100	Dual-pump unit MiniCompacta UZ150
▪ Hydraulics codes 1 and 2 ▪ $H_{max.}$ 16 m ▪ $Q_{max.}$ 36 m³/h ▪ Free passage of 40 mm		
Collecting tank volume	100 l	150 l
Installation examples	Single-family and two-family houses, building extensions, converted cellars, bathroom and sauna facilities for private use	Basement flats, single-family houses and two-family houses, sanitary facilities in cinemas, theatres, restaurants and bars as well as public swimming pools and sauna facilities
Design	Plug-in single-pump unit, fully floodable, with gas-tight and water-tight plastic collecting tank with integrated check valve, centrifugal pump with vortex impeller for automatic operation via electronic control unit.	Plug-in, micro-processor controlled dual-pump lifting unit, fully floodable, with gas-tight and water-tight plastic collecting tank with two integrated swing check valves and Y-pipe, two centrifugal pumps with vortex impeller, for automatic alternating operation, stand-by operation and peak load operation

Table 8: Overview of product features of single-pump units with cutter

	Single-pump unit with cutter MiniCompacta US40
▪ Hydraulics code S1 ▪ $H_{max.}$ 18 m ▪ $Q_{max.}$ 14.2 m³/h	
Collecting tank volume	40 l
Installation examples	Single-family houses, toilets, wash-basins and showers, toilets and party rooms in the basement, refurbished buildings, weekend houses, houseboats, mobile sanitary facilities
Design	Small plug-in lifting unit in compact design, fully floodable, with gas-tight and water-tight plastic collecting tank, centrifugal pump with cutter, for automatic operation via electronic control unit

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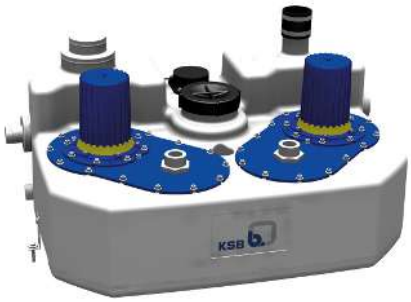
Table 9: Overview of product features of single-pump / dual-pump units with cutter

	Single-pump unit with cutter MiniCompacta US100	Dual-pump unit with cutter MiniCompacta UZS150
▪ Hydraulics codes S1 and S2 ▪ $H_{max.}$ 25 m ▪ $Q_{max.}$ 14.5 m³/h		
Collecting tank volume	100 l	150 l
Installation examples	Refurbished buildings, weekend houses, houseboats, mobile sanitary facilities, for connecting sanitary appliances to a distant sewer	Single-family houses / two-family houses, outlying houses, sewage disposal from sanitary installations with long discharge lines or in topographically difficult locations
Design	Plug-in, micro-processor controlled single-pump unit, fully floodable, gas-tight and water-tight plastic collecting tank, centrifugal pump with cutter, for automatic operation	Plug-in, micro-processor controlled dual-pump lifting unit, fully floodable, gas-tight and water-tight plastic collecting tank, two centrifugal pumps with cutter, for automatic alternating operation, stand-by operation and peak load operation

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Technical data

MiniCompacta: single-pump unit, variant A (standard variant) with vortex impeller

D = three-phase motor

E = single-phase AC motor

U = single-pump lifting unit with vortex impeller

Table 10: MiniCompacta single-pump unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume[3]			P_1	P_N	I_N		Motor power cable	Power cable	Mat. No.	[kg]
				H = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[mm]	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
U 1.60 D[4]	80/100	40	60	20	-	30	1,02	0,75	-	2,1	4	1	29131500	45
U 1.60 E[4]	80/100	40	60	20	-	30	1,07	0,75	5,1	-	4	1	29131501	45
U 1,100 D[4]	80/100	40	100	30	44	62	1,02	0,75	-	2,1	4	1	29131504	54
U 1.100 E[4]	80/100	40	100	30	44	62	1,07	0,75	5,1	-	4	1	29131505	54
U 2.100 D[4]	80/100	40	100	30	44	62	1,87	1,50	-	3,5	4	1	29131506	54
U 2.100 E[4]	80/100	40	100	30	44	62	2,00	1,50	9,0	-	4	1	29131507	54

MiniCompacta: dual-pump unit, variant A (standard variant) with vortex impeller

D = three-phase motor

E = single-phase AC motor

UZ = dual-pump lifting unit with vortex impeller

Table 11: MiniCompacta dual-pump unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Free passage	Total volume	Effective volume[5]			P_1	P_N	I_N		Motor power cable	Power cable	Mat. No.	[kg]
				H = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[mm]	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
UZ 1.150 D[6]	80/100	40	150	57	83	91	1,02	0,75	-	2,1	4	1	29131630	110
UZ 1.150 E[6]	80/100	40	150	57	83	91	1,07	0,75	5,1	-	4	1	29131631	110
UZ 2.150 D[6]	80/100	40	150	57	83	91	1,87	1,50	-	3,5	4	1	29131632	110
UZ 2.150 E[6]	80/100	40	150	57	83	91	2,00	1,50	9,0	-	4	1	29131633	110

MiniCompacta: single-pump unit, variant A (standard variant) with cutter

D = three-phase motor

E = single-phase AC motor

US = single-pump lifting unit with cutter

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3 Effective volume depending on inlet nozzle level H [mm]
4 Version with integrated check valve
5 Effective volume depending on inlet nozzle level H [mm]
6 Version with integrated check valve, with Y-pipe

Table 12: MiniCompacta single-pump unit, n = 2800 rpm, 50 Hz

Size	Discharge-side connection	Total volume	Effective volume[7]			P_1	P_N	I_N		Motor power cable	Power cable	Mat. No.	[kg]
			H = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
US 1.40 D[8]	32	40	10	-	17	1,87	1,50	-	3,5	4	1	29134802	31
US 1.40 E[9]	32	40	10	-	17	2,30	1,65	10,0	-	4	1	29134801	33
US 1.100 D	32/50	100	33	46	64	1,87	1,50	-	3,5	4	1	29131508	49
US 1.100 E	32/50	100	33	46	64	2,00	1,50	9,0	-	4	1	29131724	80
US 2.100 D	32/50	100	33	46	64	1,87	1,50	-	3,5	4	1	29131510	49
US 2.100 E	32/50	100	33	46	64	2,00	1,50	9,0	-	4	1	29131725	80

MiniCompacta: dual-pump unit, variant A (standard variant) with cutter

D = three-phase motor

E = single-phase AC motor

UZS = dual-pump lifting unit with cutter

Table 13: MiniCompacta dual-pump unit, n = 2900 rpm, 50 Hz

Size	Discharge-side connection	Total volume	Effective volume[10]			P_1	P_N	I_N		Motor power cable	Power cable	Mat. No.	[kg]
			H = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
UZS 1.150 D	2 × 32/50	150	-	85	95	1,87	1,50	-	3,5	4	1	29131634	121,6
UZS 1.150 E	2 × 32/50	150	-	85	95	2,00	1,50	9,0	-	4	-	29131726	121,6
UZS 2.150 D	2 × 32/50	150	-	85	95	1,87	1,50	-	3,5	4	1	29131636	121,6
UZS 2.150 E	2 × 32/50	150	-	85	95	2,00	1,50	9,0	-	4	-	29131727	121,6

MiniCompacta: single-pump unit, variant C (for aggressive fluids)

C = variant for aggressive fluids

D = three-phase motor

E = single-phase AC motor

U = single-pump lifting unit with vortex impeller

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

Size	Discharge-side connection	Free passage	Total volume	Effective volume[11]			P_1	P_N	I_N		Motor power cable	Power cable	Mat. No.	[kg]
				H = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[mm]	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
U 1.60 D/C[12]	80/100	40	60	20	-	30	1,02	0,75	-	2,1	4	1	29131512	45
U 1.60 E/C[12]	80/100	40	60	20	-	30	1,07	0,75	5,1	-	4	1	29131513	45
U 1.100 D/C[12]	80/100	40	100	30	44	62	1,02	0,75	-	2,1	4	1	29131516	54
U 1.100 E/C[12]	80/100	40	100	30	44	62	1,07	0,75	5,1	-	4	1	29131517	54
U 2.100 D/C[12]	80/100	40	100	30	44	62	1,87	1,50	-	3,5	4	1	29131518	54
U 2.100 E/C[12]	80/100	40	100	30	44	62	2,00	1,50	9,0	-	4	1	29131519	54

7 Effective volume depending on inlet nozzle level H [mm]
8 n = 2850 rpm
9 n = 2800 rpm
10 Effective volume depending on inlet nozzle level H [mm]
11 Effective volume depending on inlet nozzle level H [mm]
12 Version with integrated check valve

MiniCompacta: dual-pump unit, variant C (for aggressive fluids)

C = variant for aggressive fluids

D = three-phase motor

E = single-phase AC motor

UZ = dual-pump lifting unit with vortex impeller

Table 15: MiniCompacta dual-pump 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 = 180 mm	H = 250 mm	Vertical inlet			1~230 V	3~400 V				
	DN	[mm]	[l]	[l]	[l]	[l]	[kW]	[kW]	[A]	[A]	[m]	[m]		
UZ 1.150 D/C[14]	80/100	40	150	57	83	91	1,02	0,75	-	2,1	4	1	29131638	110
UZ 1.150 E/C[14]	80/100	40	150	57	83	91	1,07	0,75	5,1	-	4	1	29131639	110
UZ 2.150 D/C[14]	80/100	40	150	57	83	91	1,87	1,50	-	3,5	4	1	29131640	110
UZ 2.150 E/C[14]	80/100	40	150	57	83	91	2,00	1,50	9,0	-	4	1	29131641	110

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

14 Version with integrated check valve

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	Variant A	Variant C
Domestic waste water and faeces from bathtubs, showers, wash-basins, 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 heat recovery applications (DIN 1986-3)	-	✗
Waste water from kitchens For discharge of greasy waste water, a grease separator must be fitted. (DIN 4040-1)	✗	✗
Waste water from laboratories (Permission under water and waterways legislation or discharge permit required, DIN 1986-3)	-	[15]
Flushing water containing salt (seawater <15 °C)	-	✗
Swimming pool water containing chlorine (DIN 19643)	-	✗
Aggressive waste water in low concentrations, pH 5 to 12, cleaning agents, disinfectants, dishwashing agents and laundry agents (DIN 1986-3)	-	✗
Waste water from garages, containing road salt	-	✗
Fully desalinated water (ultra-pure water) with a conductivity < 30 µS	-	✗

Special design on request

- Systems for improved fire protection / halogen-free cables

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

Characteristic curves

MiniCompacta U1/UZ1, U2/UZ2; n = 2900 rpm

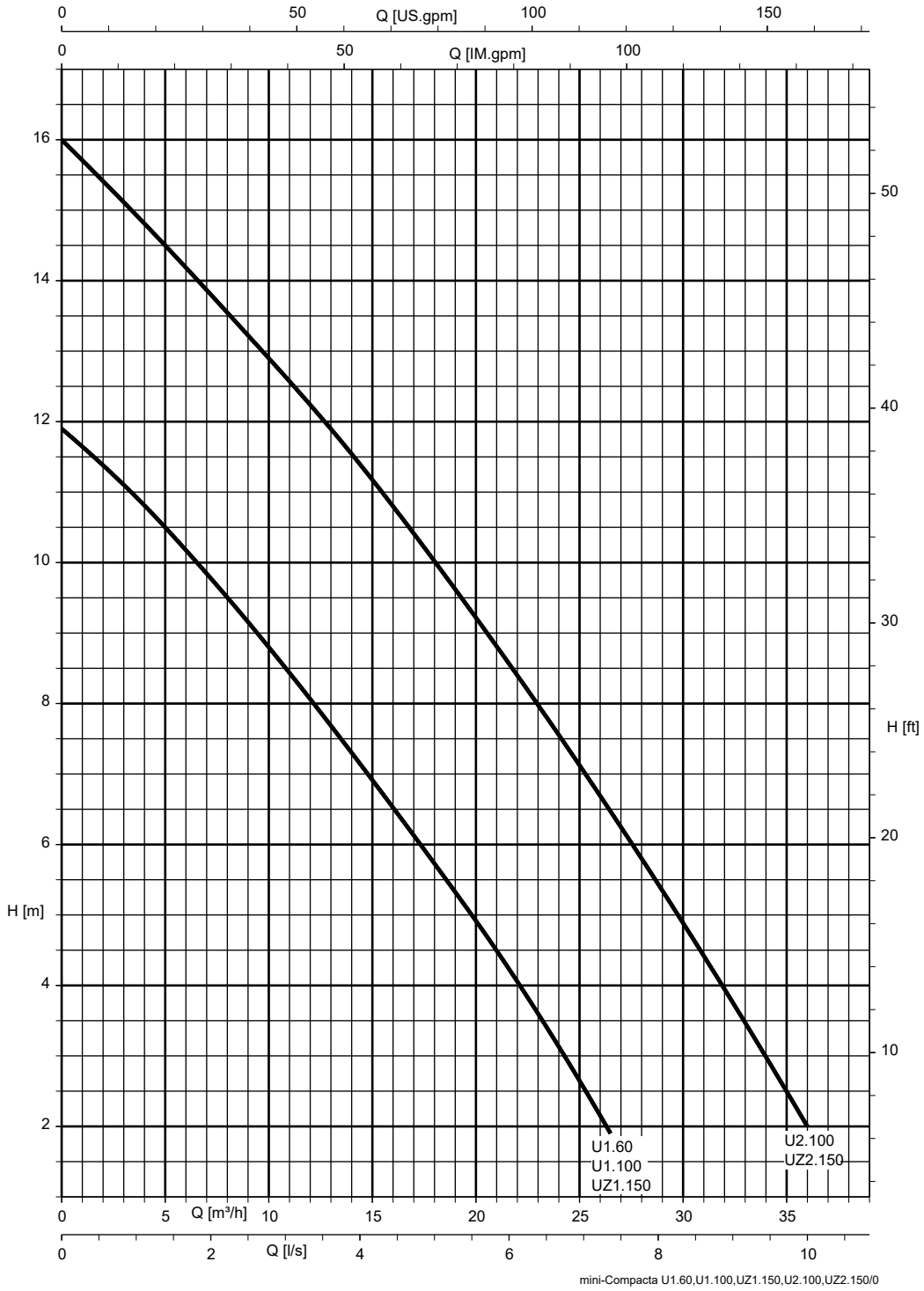

Fig. 3: A lifting unit can be selected on the basis of the selection charts for sewage quantities led to the lifting unit from the usual sanitary installations of a building. For lifting units with higher ratings please refer to type series booklet Compacta (reference No. 2317.55).

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MiniCompacta US1/UZS1, US2/UZS2; n = 2900 rpm

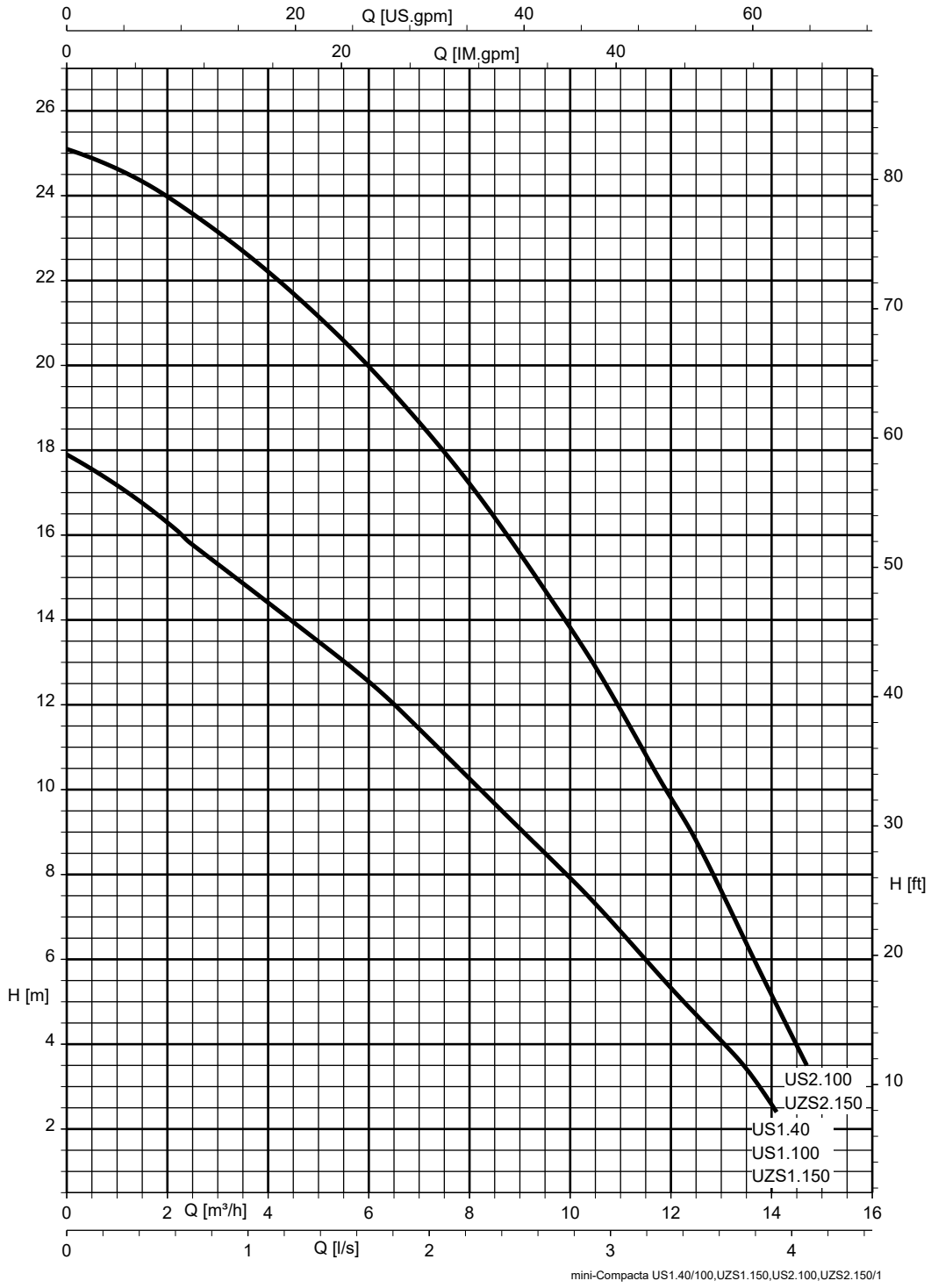

Fig. 4: A lifting unit can be selected on the basis of the selection charts for sewage quantities led to the lifting unit from the usual sanitary installations of a building. For lifting units with higher ratings please refer to type series booklet Compacta (reference No. 2317.55).

Dimensions and connections

MiniCompacta US (40 litres)

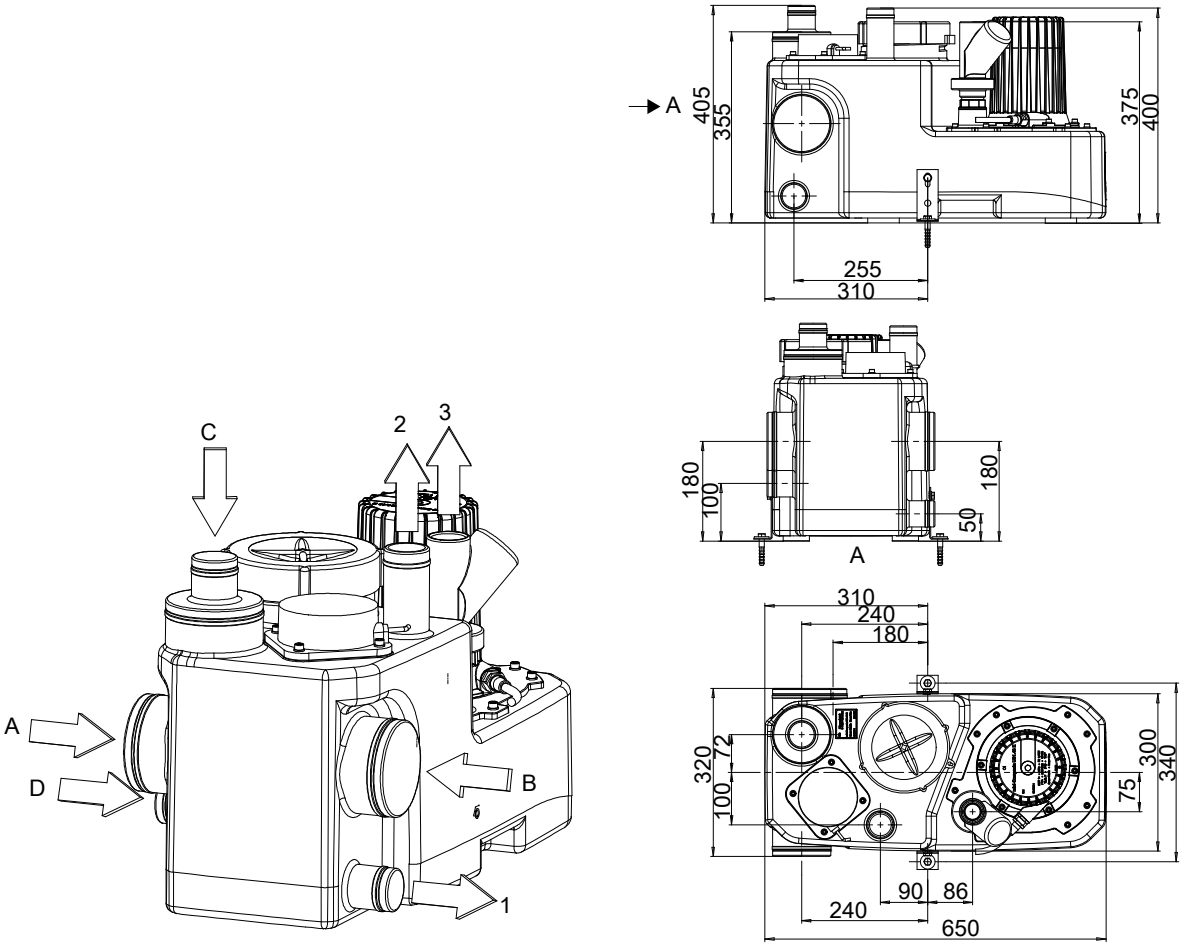

Fig. 5: MiniCompacta US (40 litres) connections and dimensions

A	Inlet DN 100
B	Inlet DN 100
C	Inlet DN 100/50
D	Inlet DN 50[16)]
1	Drain DN 40
2	Vent DN 50
3	Discharge line G 1 1/4

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16 To prevent backflow, all sanitary appliances must be connected to the lifting unit with their pipe invert at least 180 mm above the tank floor. This connection is not suitable for discharge from shower basins.

MiniCompacta U (60 litres)

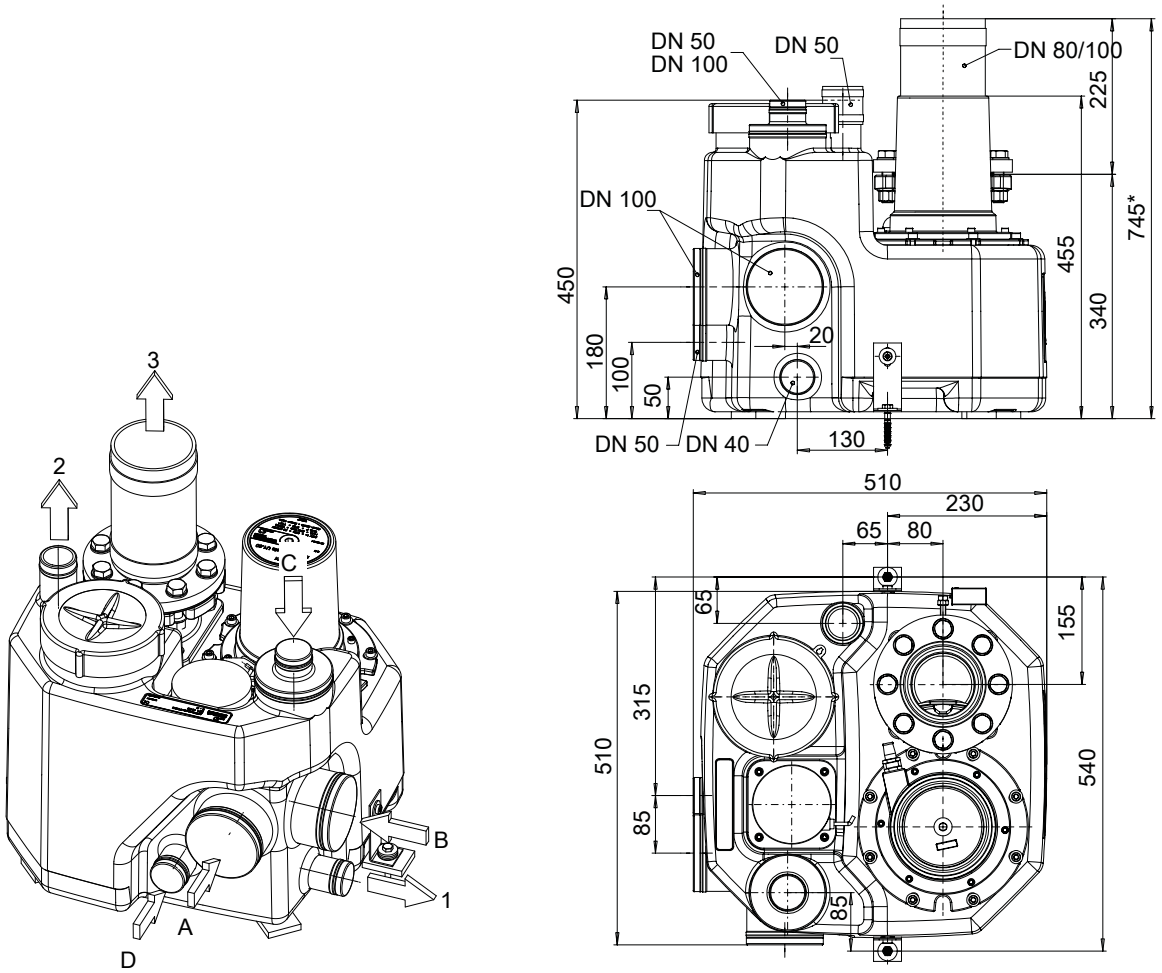

Fig. 6: MiniCompacta U (60 litres) connections and dimensions

A	Inlet DN 100
B	Inlet DN 100
C	Inlet DN 100/50
D	Inlet DN 50[17)]
1	Drain DN 40
2	Vent DN 50
3	Discharge line DN 80/100
*	Length including gate valve

17 To prevent backflow, all sanitary appliances must be connected to the lifting unit with their pipe invert at least 180 mm above the tank floor. This connection is not suitable for discharge from shower basins.

MiniCompacta U (100 litres)

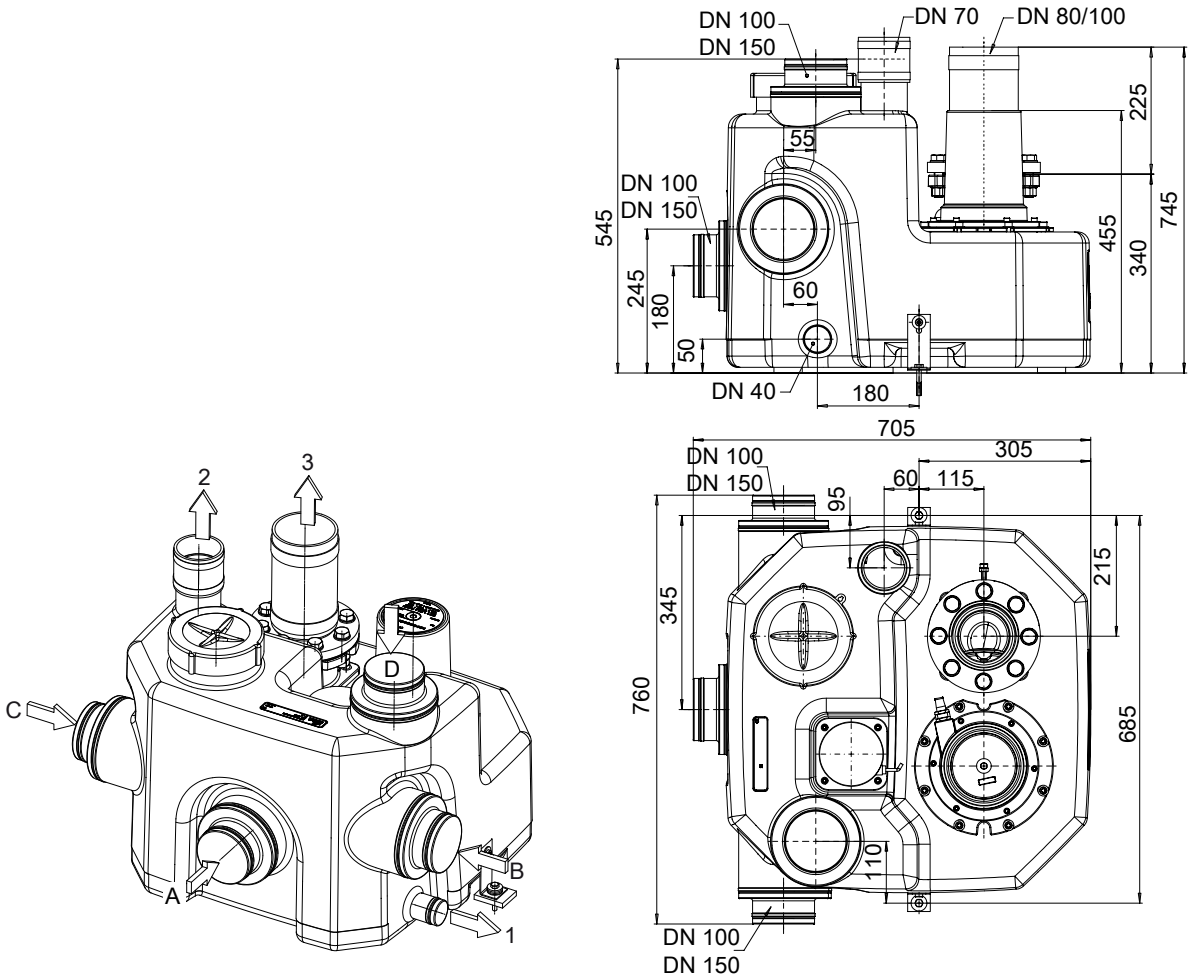

Fig. 7: MiniCompacta U (100 litres) connections and dimensions

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

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MiniCompacta US (100 litres)

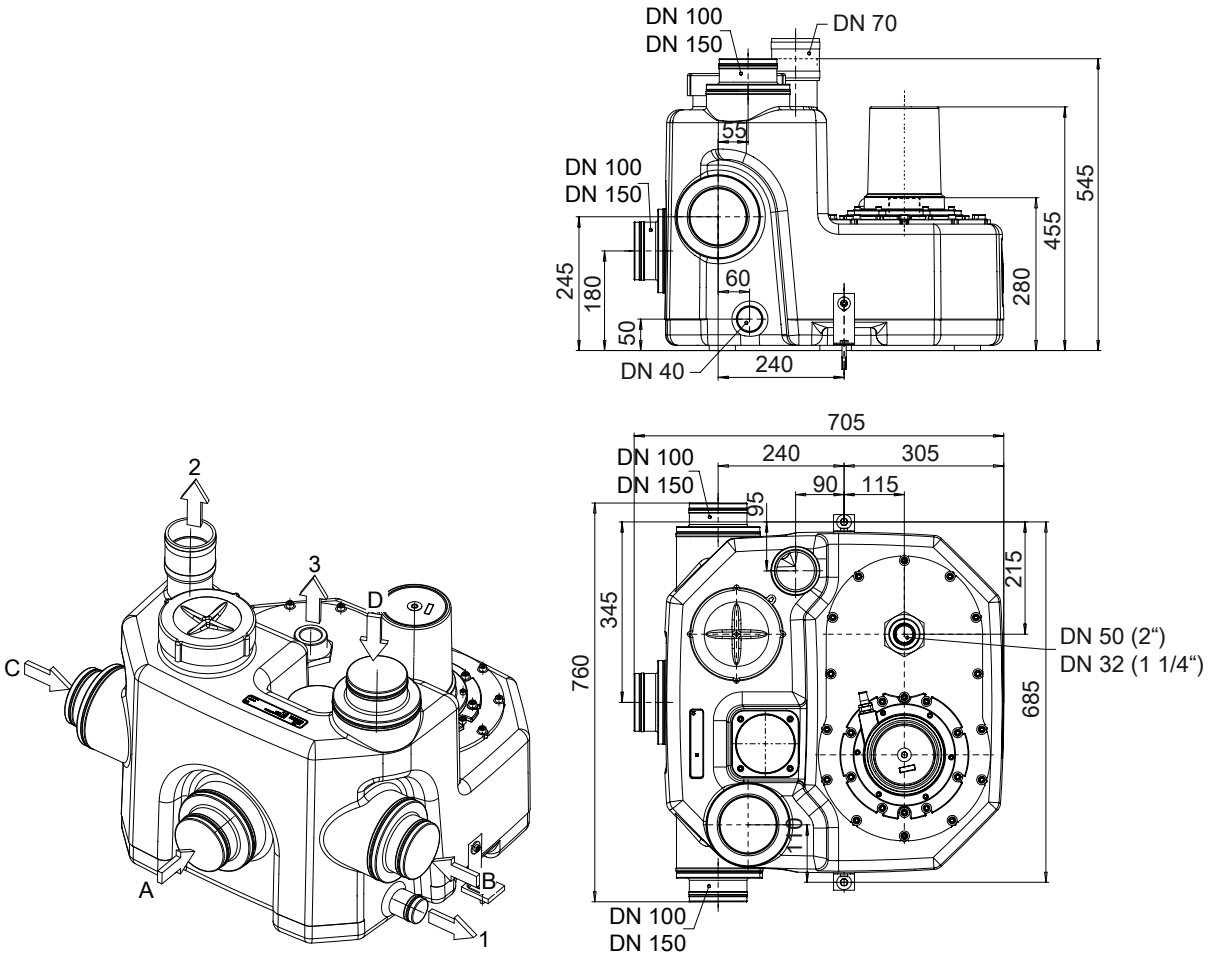

Fig. 8: MiniCompacta US (100 litres) connections and dimensions

A	Inlet DN 150/100
B	Inlet DN 150/100
C	Inlet DN 150/100
D	Inlet DN 150/100
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 50 (DN 32)

MiniCompacta UZ (150 litres)

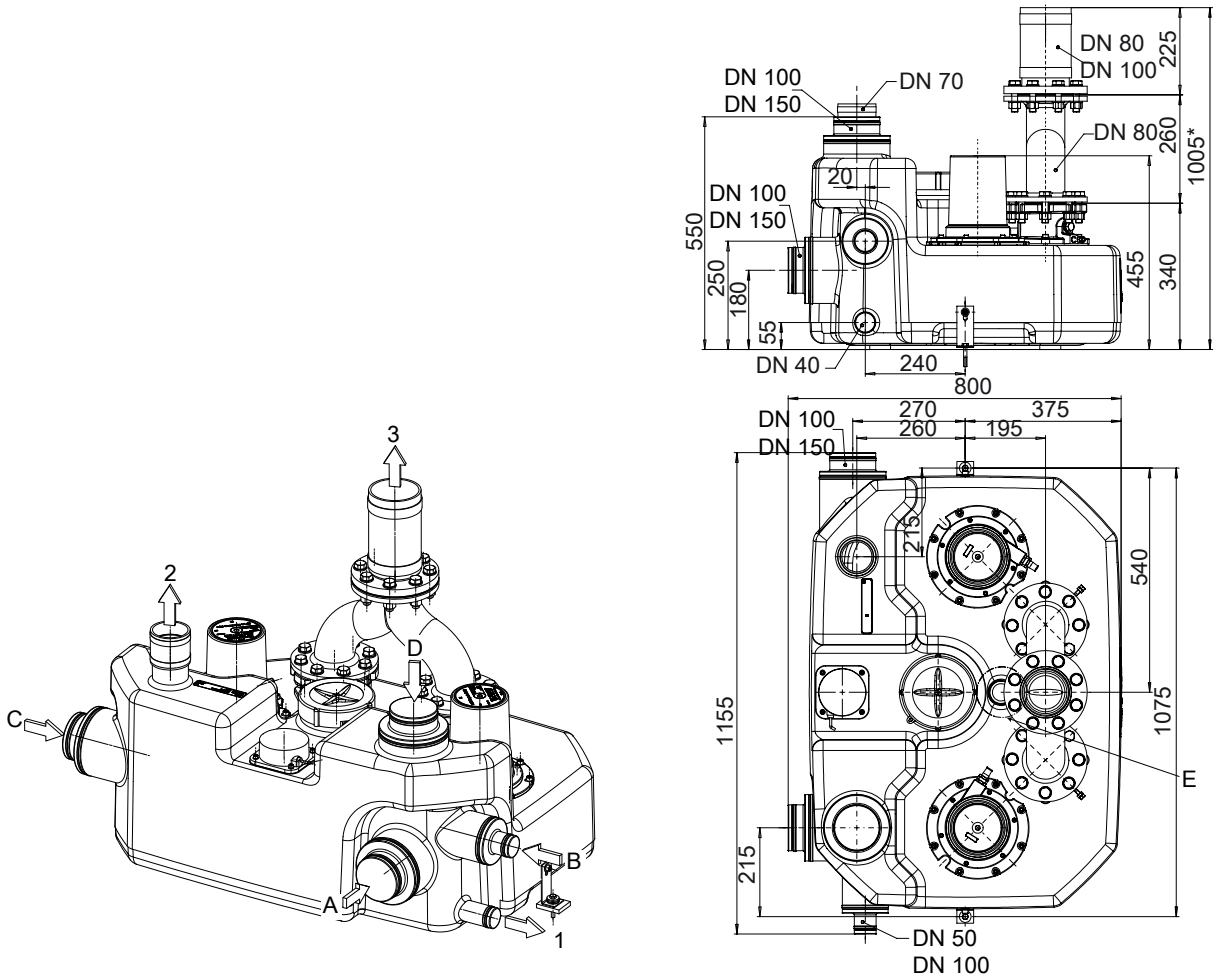

Fig. 9: MiniCompacta UZ (150 litres) connections and dimensions

A	Inlet DN 150/100
B	Inlet DN 100/50
C	Inlet DN 150/100
D	Inlet DN 150/100
E	Dome for stabilising the tank, no connection
1	Drain DN 40
2	Vent DN 70
3	Discharge line DN 80/100
*	Length including gate valve

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MiniCompacta UZS (150 litres)

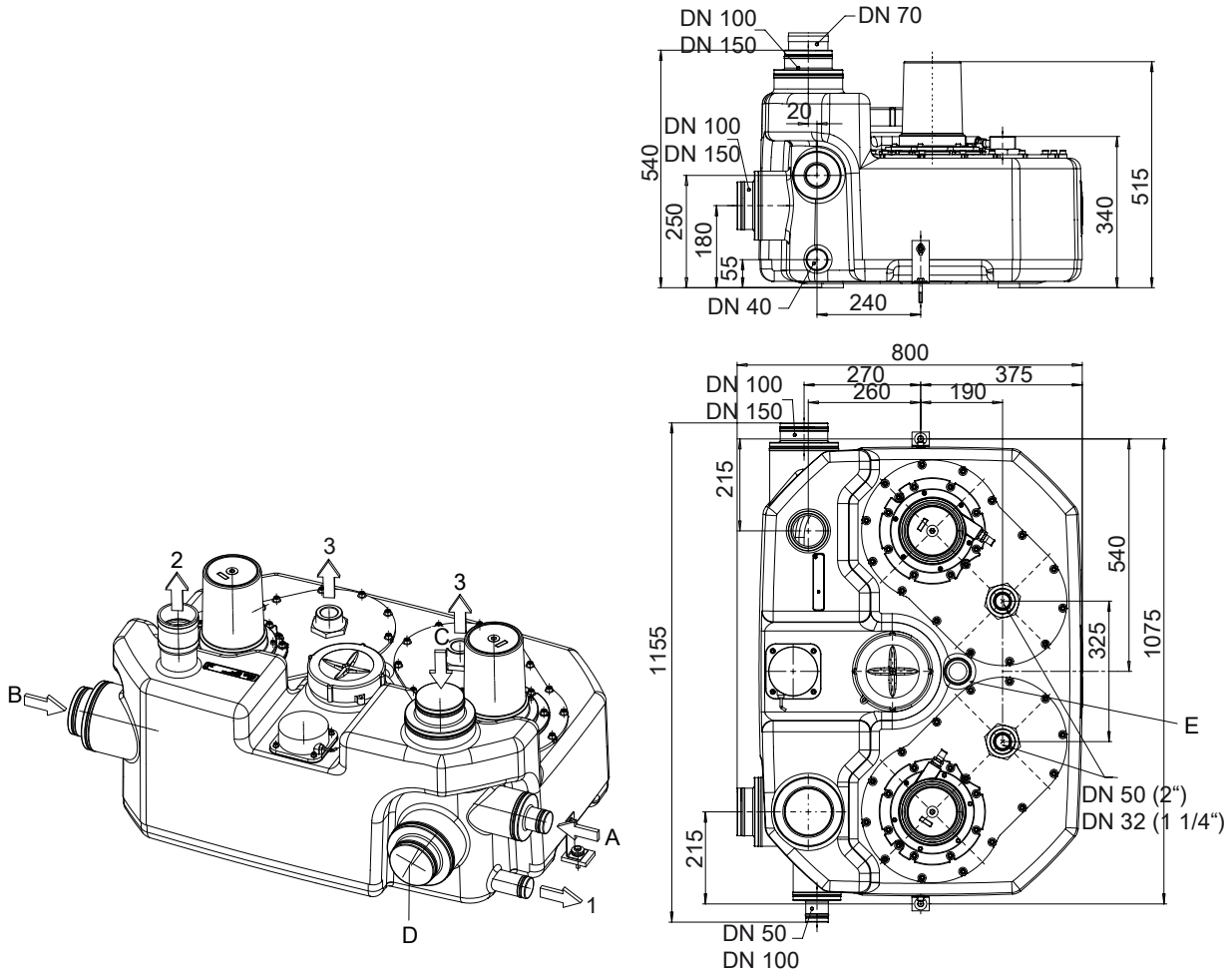

Fig. 10: MiniCompacta UZS (150 litres) connections and dimensions

A	Inlet DN 100/50
B	Inlet DN 150/100
C	Inlet DN 150/100
D	Inlet cannot be used
E	Dome for stabilising the tank, no connection
1	Drain DN 40
2	Vent DN 70
3	Discharge line 2 × DN 50 (DN 32)

Installation examples

Installation example for MiniCompacta (40 litres) and U (60 litres)

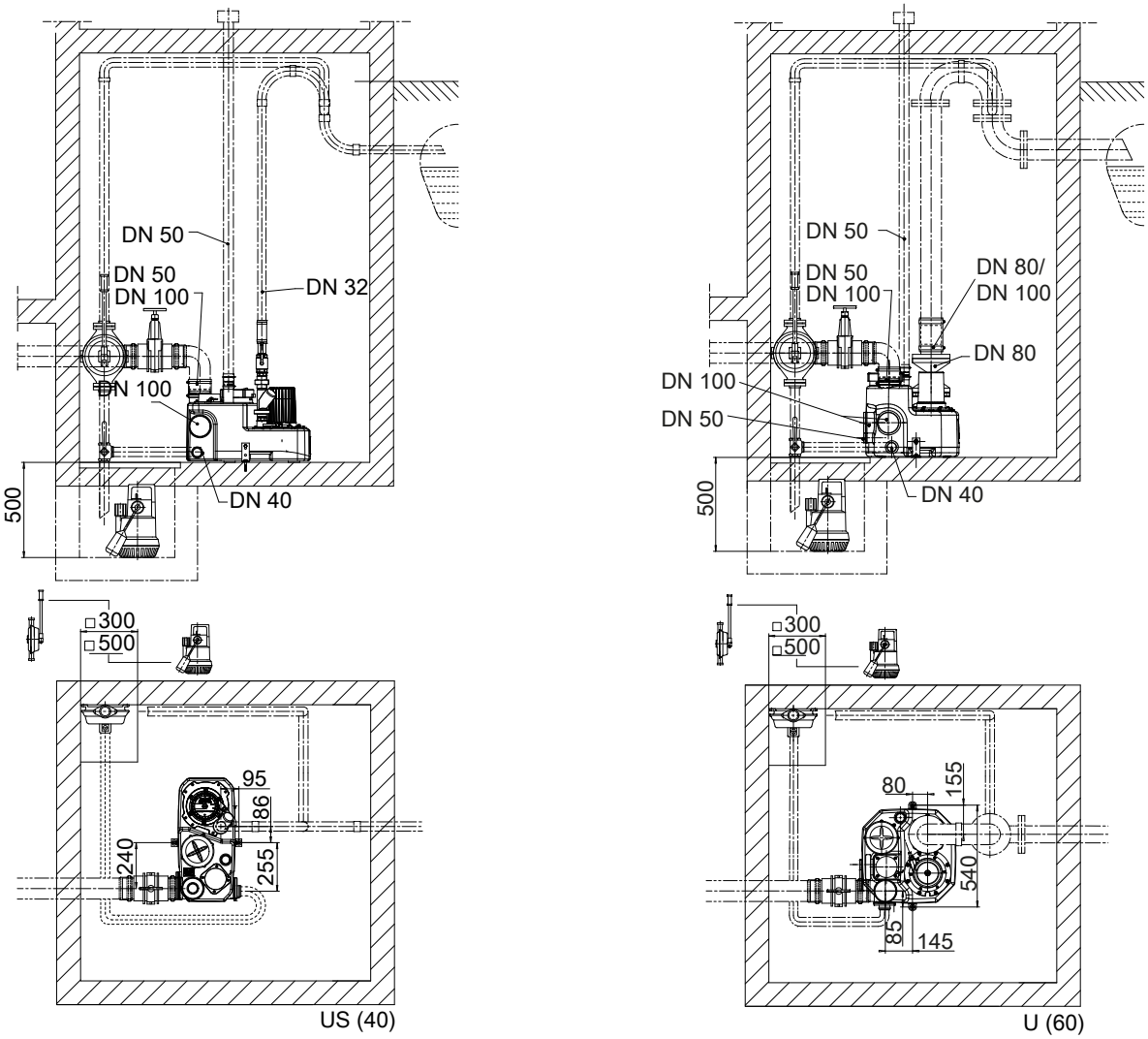

Fig. 11: Installation example for MiniCompacta US (40 litres) and U (60 litres)

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.

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Installation example for MiniCompacta U/US (100 litres) and UZ/UZS (150 litres)

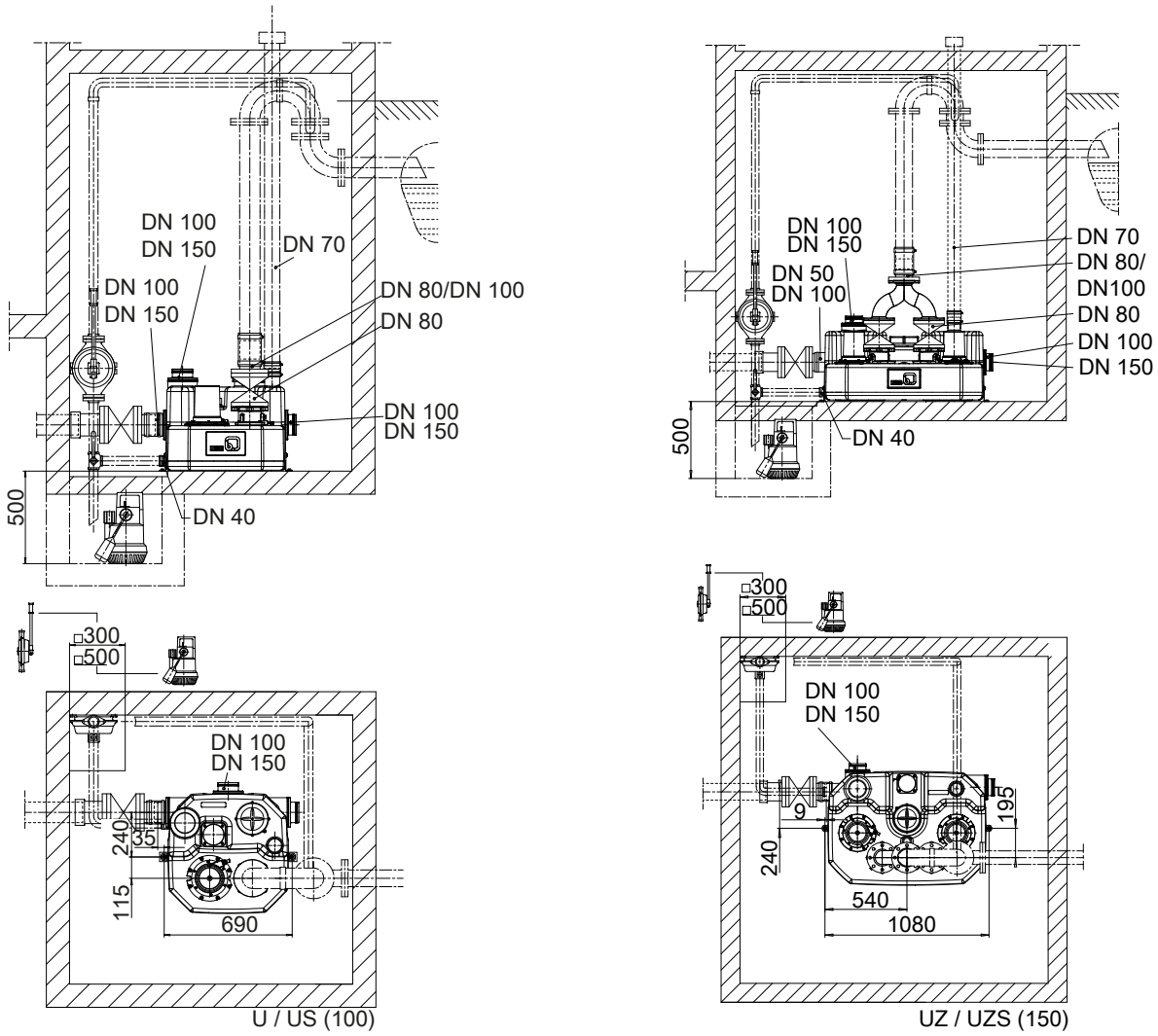

Fig. 12: Installation example for MiniCompacta U/US (100 litres) and UZ/UZS (150 litres)

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.

Installation example of direct connection to a wall-mounted toilet bowl

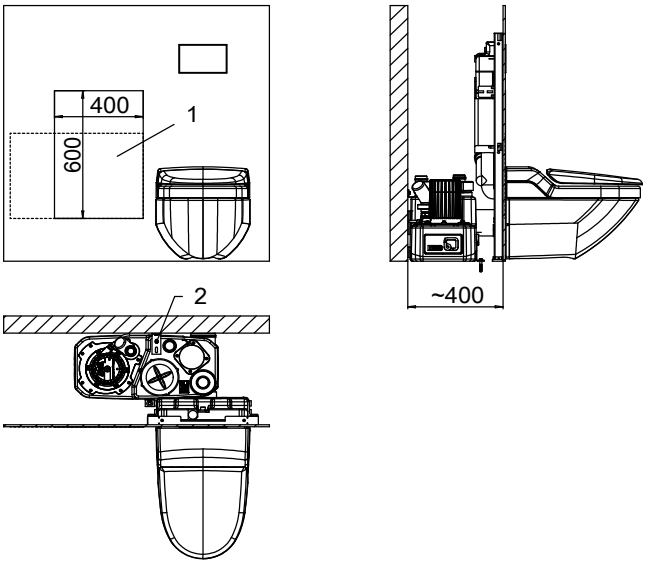

Fig. 13: Installation information for direct connection of a MiniCompacta US40 (concealed in a pre-wall system) to a wall-mounted toilet bowl

1	To enable maintenance work, provide an access opening of at least 400 x 600 mm in the pre-wall.
2	Attach the lug to the wall to prevent uplift.

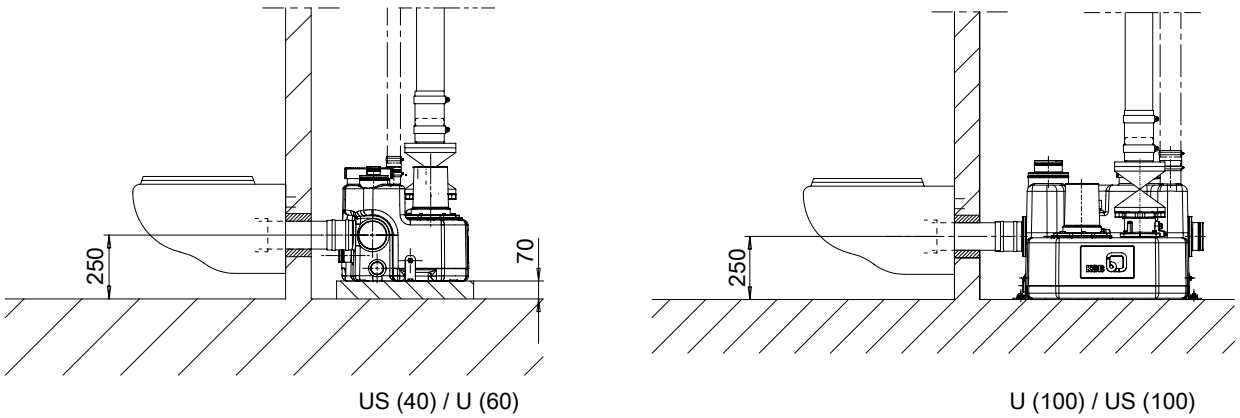

Fig. 14: Installation information for direct connection of a MiniCompacta US40 / U60 / U100 / US100 to a wall-mounted toilet bowl

Installation example of direct connection to a floor-mounted toilet bowl

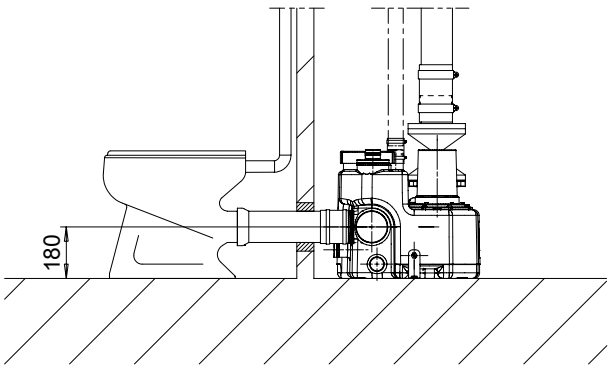

Fig. 15: Installation example for direct connection of a MiniCompacta US40 / U60 / U100 / US100 to a floor-mounted toilet bowl

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Installation example of pit installation

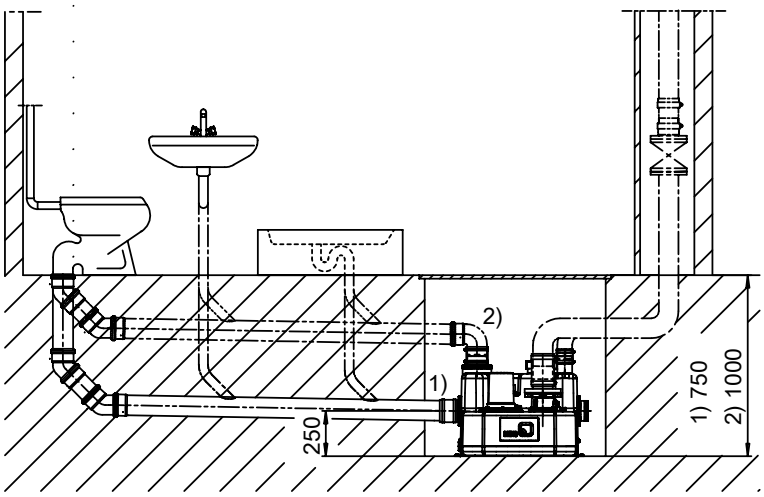

Fig. 16: Installation example for installing a MiniCompacta US40 / U60 / U100 / US100 in a pit

1	Minimum installation depth when using the horizontal inlet at a height of 250 mm
2	Minimum installation depth when using the vertical inlet

Connection nozzles

Table 17: Connection nozzles by model

Size	Inlet side	Discharge side	Vent	Connection Hand diaphragm pump
U60	Horizontal: 2 × DN 100, arranged at an angle of 90° Inlet nozzle level 180 mm 1 × DN 50 Vertical: 1 × DN 100/50, graded	DN 80/100 DN 80/80 (optional)	DN 50	DN 40 (Rp 1 $^1/_2$)
U100	Horizontal: 1 × DN 150/100, graded Inlet nozzle level 180 mm 2 × DN 150/100, 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 $^1/_2$)
UZ150	Horizontal: 1 × DN 150/100, graded Inlet nozzle level 180 mm 1 × DN 100/50, graded Inlet nozzle level 250 mm 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 $^1/_2$)
US40	Horizontal: 2 x DN 100, arranged on the sides opposite to each other Inlet nozzle level 180 mm Vertical: 1 × DN 100/50, graded	DN 32	DN 50	DN 40 (Rp 1 $^1/_2$)
US100	Horizontal: 1 × DN 150/100, graded Inlet nozzle level 180 mm 2 × DN 150/100, graded Inlet nozzle level 250 mm Vertical: 1 × DN 150/100, graded	DN 50 (DN 32 possible)	DN 70	DN 40 (Rp 1 $^1/_2$)
UZS150	Horizontal: 1 × DN 150/50, graded 1 × DN 150/100, graded Inlet nozzle level 250 mm Vertical: 1 × DN 150/100, graded	2 × DN 50 (DN 32 possible)	DN 70	DN 40 (Rp 1 $^1/_2$)

Scope of supply

MiniCompacta US (40 litres)

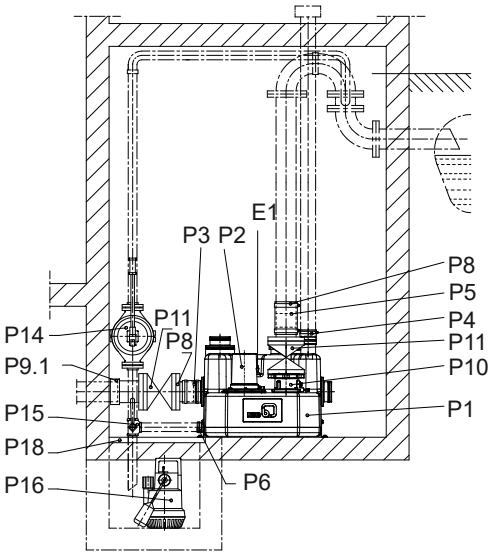

Fig. 17: Schematic of a MiniCompacta US (40 litres)

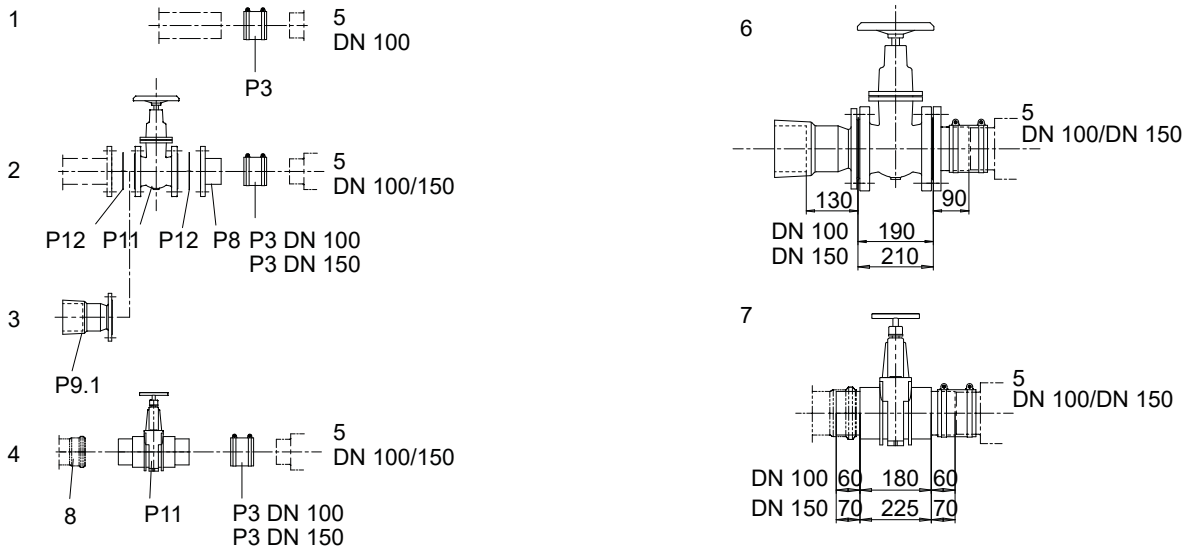

Fig. 18: Inlet line of a MiniCompacta US (40 litres)

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

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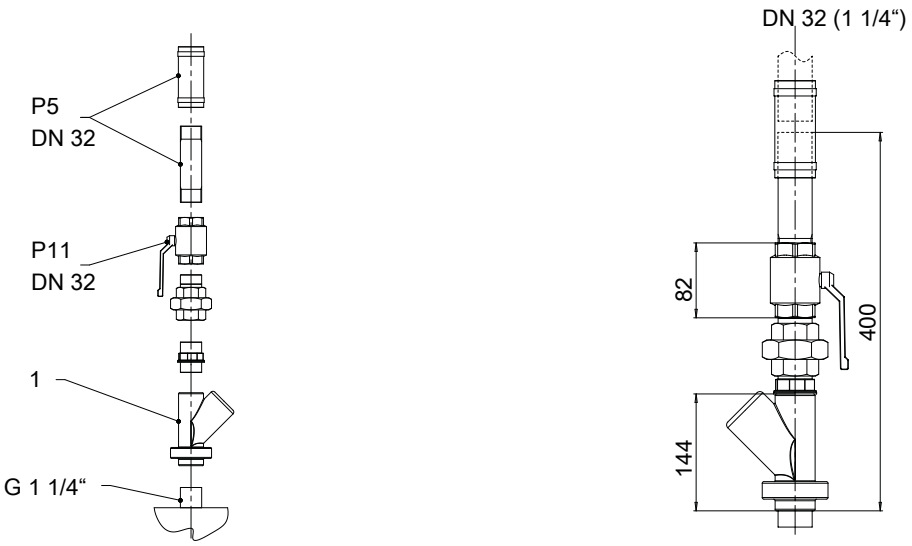

Fig. 19: Discharge line of a MiniCompacta US (40 litres)

1	Part of the unit

Table 18: Items included in the scope of supply of MiniCompacta US (40 litres)

Item		Description
-	P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P2	Fully floodable submersible motor pump
	P3	Flexible hose connection and hose clips DN 100 (inlet)
-	P4	Flexible hose connection and hose clips (venting)
-	P6	Flexible hose connection and hose clips (hand diaphragm pump)
-	P10	Check valve with full bore and lifting screw
-	E1	Analog level sensor for pump and alarm buzzer
-	E3[18)]	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 19: Accessories for MiniCompacta US (40 litres)

Item		Description
	P3	Flexible hose connection and hose clips DN 50
-	P5	Flexible hose connection and hose clips for discharge line, consisting of rubber hose, hexagon nipple and hose clips
-	P8	Stub flange
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm
-	P11	Gate valve
	P12	Set of installation accessories
	P14	Hand diaphragm pump ISO 7/l-Rp 1 1/2
	P15	Three-way plug valve ISO 7/l-Rp 1 1/2
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E50[18)]	AS 0 alarm switchgear
-	E51[18)]	AS 2 alarm switchgear

18 Not shown in drawing

Item		Description
-	E52[18)]	AS 4 alarm switchgear
-	E53[18)]	AS 5 alarm switchgear
-	E64[18)]	F1 leakage sensor

MiniCompacta U (60 litres)

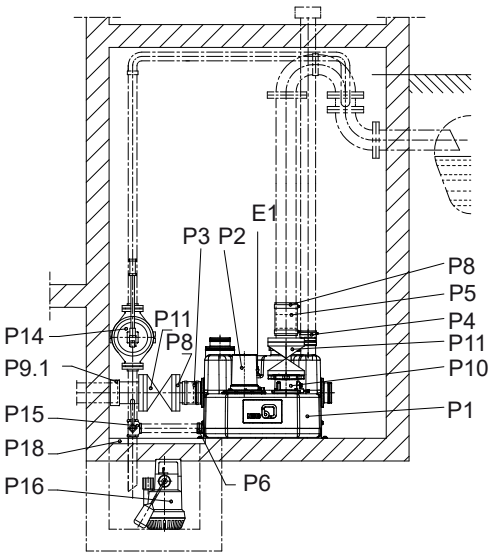

Fig. 20: MiniCompacta U (60 litres)

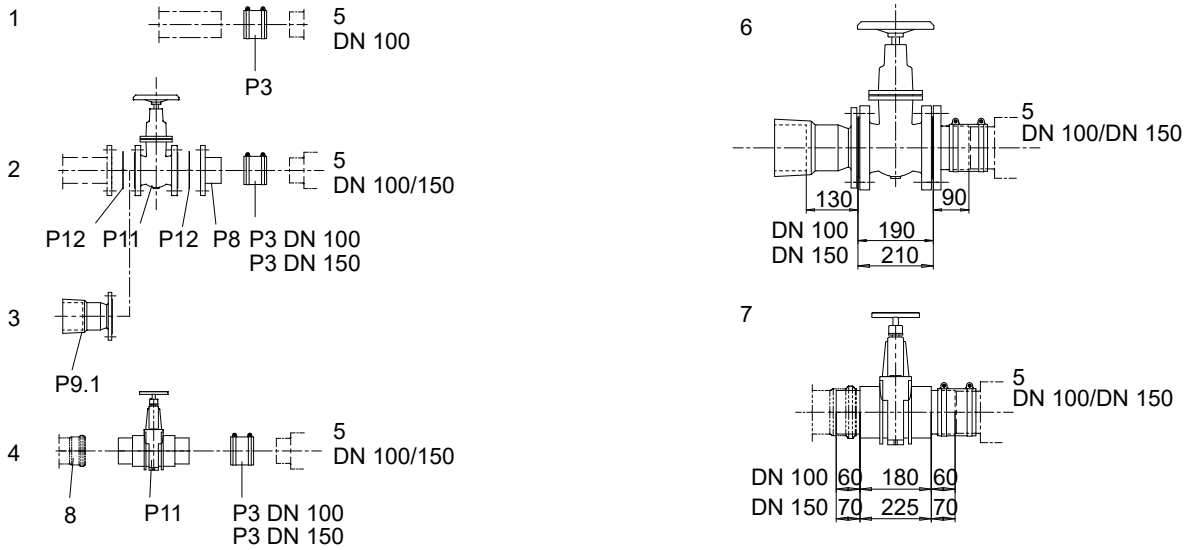

Fig. 21: Inlet line of MiniCompacta U (60 litres)

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

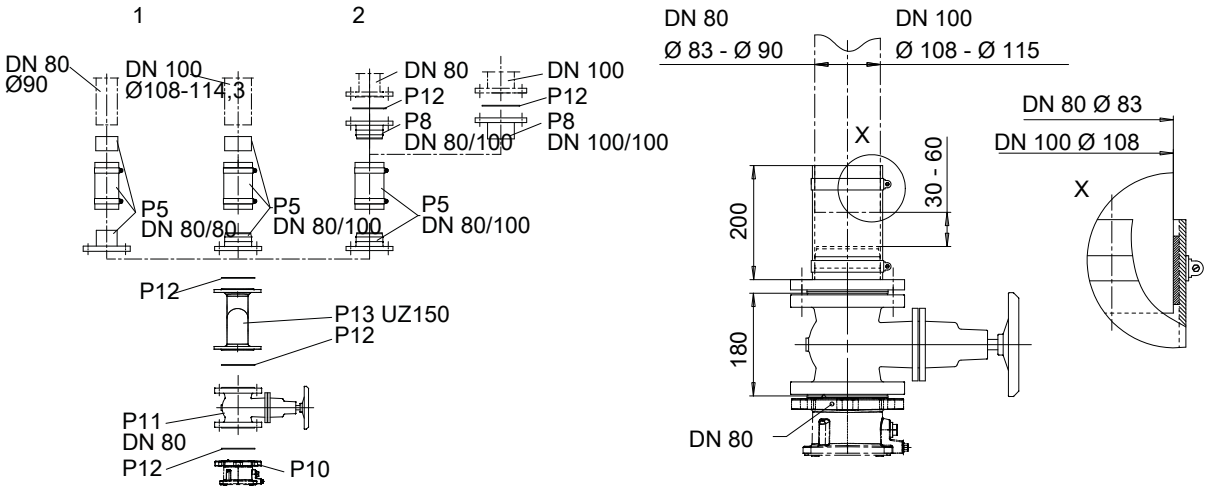

Fig. 22: Discharge line of MiniCompacta U (60 litres)

1	Pipe connection
2	Flanged connection

Table 20: Items included in the scope of supply of MiniCompacta U (60 litres)

Item		Description
-	P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P2	Fully floodable submersible motor pump
	P3	Flexible hose connection and hose clips DN 100 (inlet)
-	P4	Flexible hose connection and hose clips (venting)
-	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
-	P6	Flexible hose connection and hose clips (hand diaphragm pump)
-	P10	Check valve with full bore and lifting screw
-	E1	Analog level sensor for pump and alarm buzzer
-	E3	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 21: Accessories for MiniCompacta U (60 litres)

Item		Description
-	P3	Flexible hose connection and hose clips DN 50
-	P5	Flexible hose connection and hose clips for discharge pipe, 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
-	P8	Stub flange
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm
-	P11	Gate valve
	P12	Set of installation accessories
	P14	Hand diaphragm pump ISO 7/I-Rp 1 1/2
	P15	Three-way plug valve ISO 7/I-Rp 1 1/2
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E50	AS 0 alarm switchgear
-	E51	AS 2 alarm switchgear

Item		Description
-	E52	AS 4 alarm switchgear
-	E53	AS 5 alarm switchgear
-	E64	F1 leakage sensor

MiniCompacta U (100 litres)

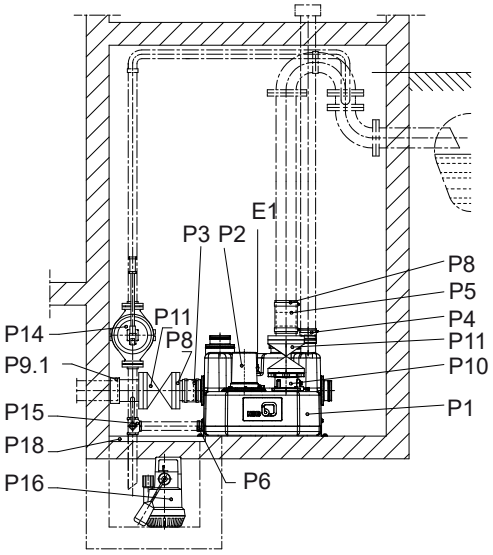

Fig. 23: MiniCompacta U (100 litres)

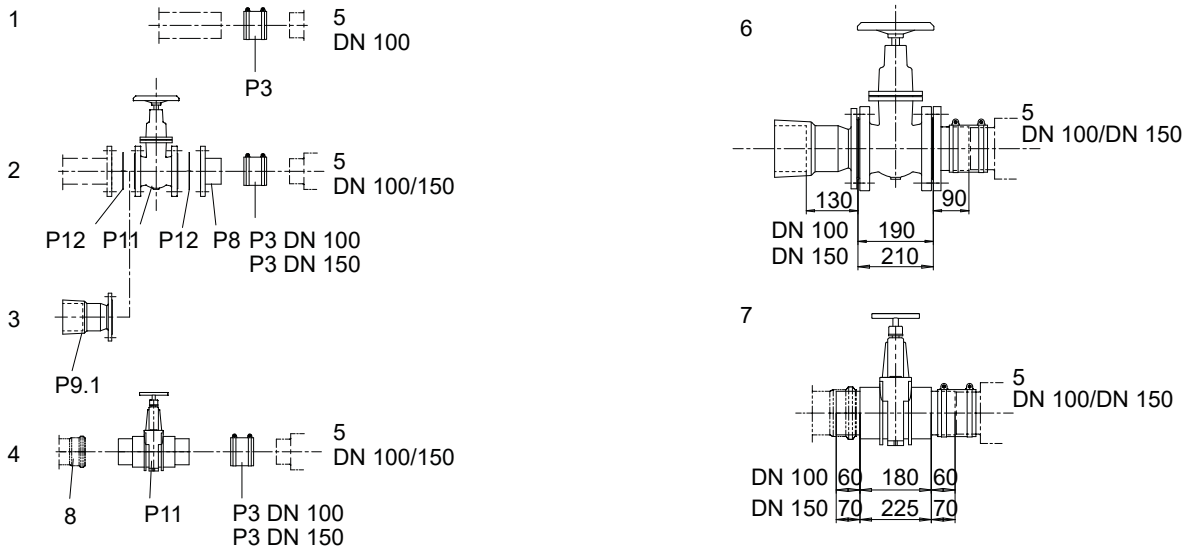

Fig. 24: Inlet line of MiniCompacta U (100 litres)

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

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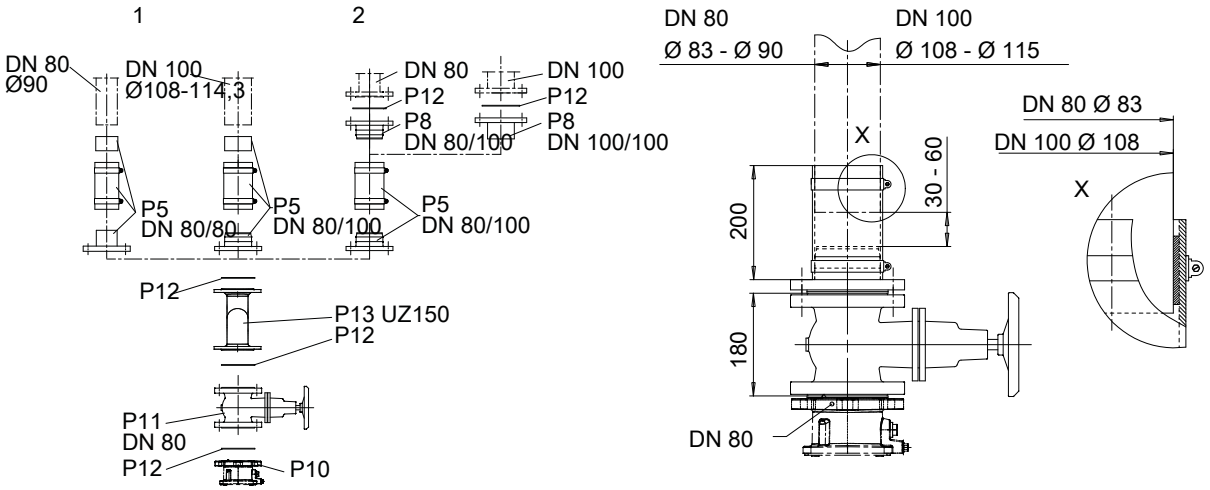

Fig. 25: Discharge line of MiniCompacta U (100 litres)

1	Pipe connection
2	Flanged connection

Table 22: Items included in the scope of supply of MiniCompacta U (100 litres)

Item		Description
-	P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P2	Fully floodable submersible motor pump
	P3	Flexible hose connection and hose clips DN 100 (inlet)
-	P4	Flexible hose connection and hose clips (venting)
-	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
-	P6	Flexible hose connection and hose clips (hand diaphragm pump)
-	P10	Check valve with full bore and lifting screw
-	E1	Analog level sensor for pump and alarm buzzer
-	E3[19)]	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 23: Accessories for MiniCompacta U (100 litres)

Item		Description
-	P3	Flexible hose connection and hose clips DN 50 Flexible hose connection and hose clips DN 150
-	P5	Flexible hose connection and hose clips for discharge pipe, 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
-	P8	Stub flange
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm
-	P11	Gate valve
	P12	Set of installation accessories
	P14	Hand diaphragm pump ISO 7/l-Rp 1 1/2
	P15	Three-way plug valve ISO 7/l-Rp 1 1/2
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E50[19)]	AS 0 alarm switchgear

19 Not shown in drawing

Item		Description
-	E51[19)]	AS 2 alarm switchgear
-	E52[19)]	AS 4 alarm switchgear
-	E53[19)]	AS 5 alarm switchgear
-	E64[19)]	F1 leakage sensor

MiniCompacta US (100 litres)

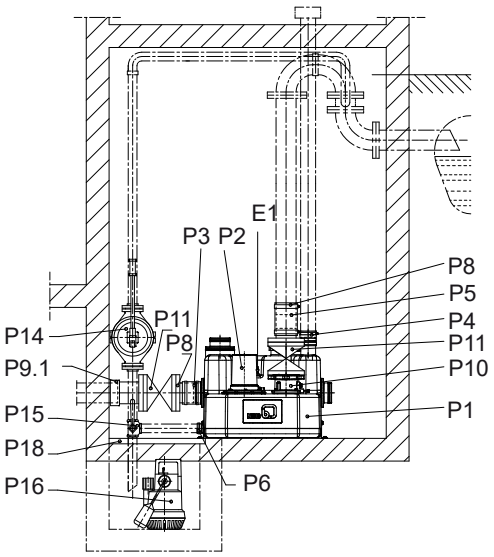

Fig. 26: Schematic of a MiniCompacta US (100 litres)

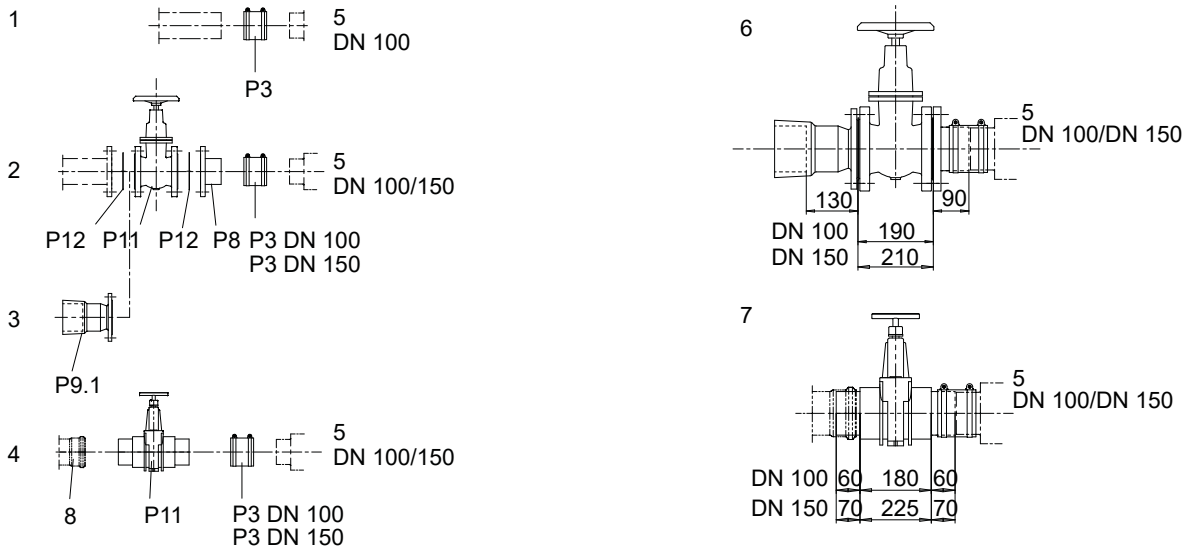

Fig. 27: Inlet line of MiniCompacta US (100 litres)

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

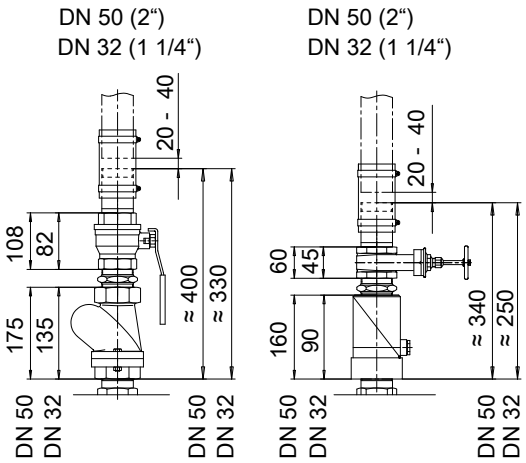

Fig. 28: Discharge line of MiniCompacta US (100 litres)

1	Pipe connection
2	Flanged connection

Table 24: Items included in the scope of supply of MiniCompacta US (100 litres)

Item		Description
-	P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P2	Fully floodable submersible motor pump
	P3	Flexible hose connection and hose clips DN 100 (inlet)
-	P4	Flexible hose connection and hose clips (venting)
-	P6	Flexible hose connection and hose clips (hand diaphragm pump)
-	E1	Analog level sensor for pump and alarm buzzer
-	E3[20)]	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 25: Accessories for MiniCompacta US (100 litres)

Item		Description
-	P3	Flexible hose connection and hose clips DN 50 Flexible hose connection and hose clips DN 150
-	P5	Flexible hose connection and hose clips for discharge line, consisting of rubber hose, hexagon nipple and hose clips
-	P8	Stub flange
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm
-	P10	Check valve
-	P11	Gate valve
	P12	Set of installation accessories
	P14	Hand diaphragm pump ISO 7/l-Rp 1 1/2
	P15	Three-way plug valve ISO 7/l-Rp 1 1/2
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E50[20)]	AS 0 alarm switchgear
-	E51[20)]	AS 2 alarm switchgear

20 Not shown in drawing

Item		Description
-	E52[20)]	AS 4 alarm switchgear
-	E53[20)]	AS 5 alarm switchgear
-	E64[20)]	F1 leakage sensor

MiniCompacta UZ (150 litres)

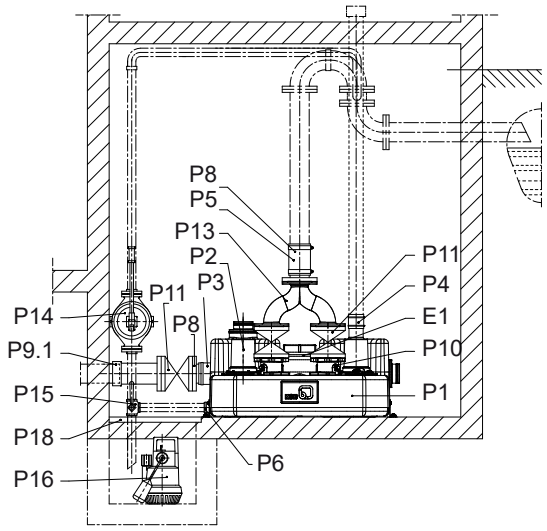

Fig. 29: MiniCompacta UZ (150 litres)

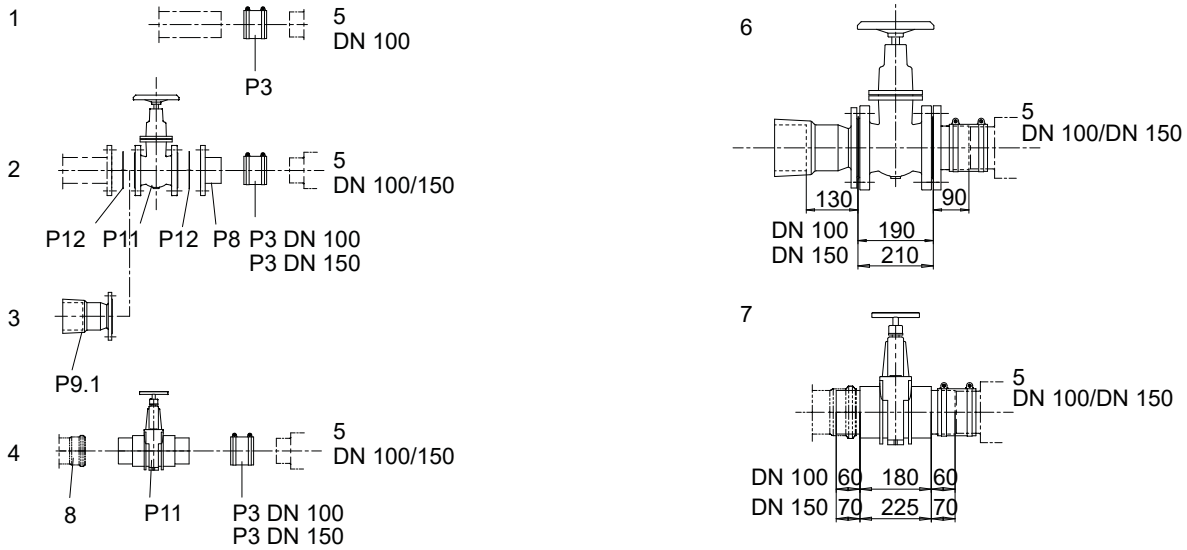

Fig. 30: Inlet line of MiniCompacta UZ (150 litres)

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

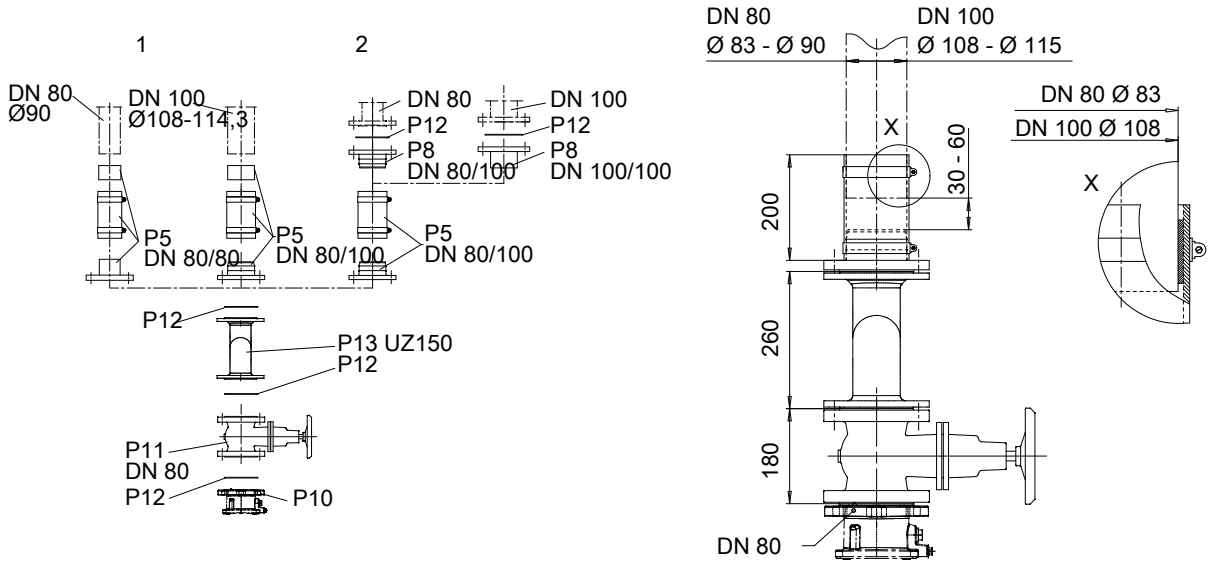

Fig. 31: Discharge line of MiniCompacta UZ (150 litres)

1	Pipe connection
2	Flanged connection

Table 26: Items included in the scope of supply of MiniCompacta UZ (150 litres)

Item		Description
-	P1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P2	Fully floodable submersible motor pump
	P3	Flexible hose connection and hose clips DN 100 (inlet)
-	P4	Flexible hose connection and hose clips (venting)
-	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
-	P6	Flexible hose connection and hose clips (hand diaphragm pump)
-	P10	Check valve with full bore and lifting screw
-	P13[21)]	Y-pipe DN 80 with 2 sets of installation accessories
-	E1	Analog level sensor for pump and alarm buzzer
-	E3[22)]	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 27: Accessories for MiniCompacta UZ (150 litres)

Item		Description
	P3	Flexible hose connection and hose clips DN 50 Flexible hose connection and hose clips DN 150
-	P5	Flexible hose connection and hose clips for discharge pipe, 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
-	P8	Stub flange
	P9.1	Flanged socket (for connecting pipes made of ductile cast iron) DN 100 for outside pipe diameter of 118 mm
-	P11	Gate valve
	P12	Set of installation accessories
-	P13	Y-pipe DN 80, for variant C, with 2 sets of installation accessories
	P14	Hand diaphragm pump ISO 7/l-Rp 1 1/2
	P15	Three-way plug valve ISO 7/l-Rp 1 1/2

21 Not for variant C
22 Not shown in drawing

Item		Description
	P16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E50[22)]	AS 0 alarm switchgear
-	E51[22)]	AS 2 alarm switchgear
-	E52[22)]	AS 4 alarm switchgear
-	E53[22)]	AS 5 alarm switchgear
-	E64[22)]	F1 leakage sensor

MiniCompacta UZS (150 litres)

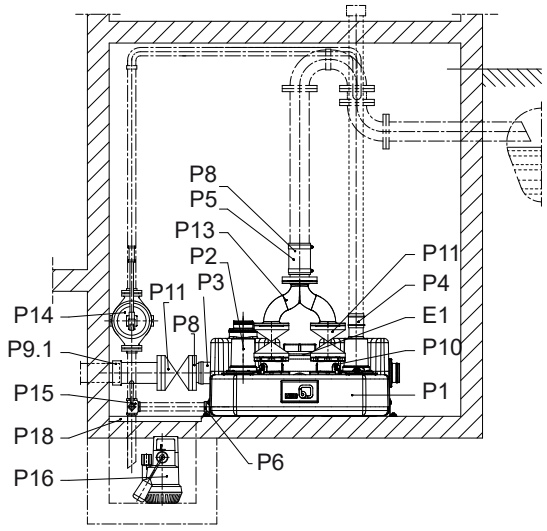

Fig. 32: Schematic of a MiniCompacta UZS (150 litres)

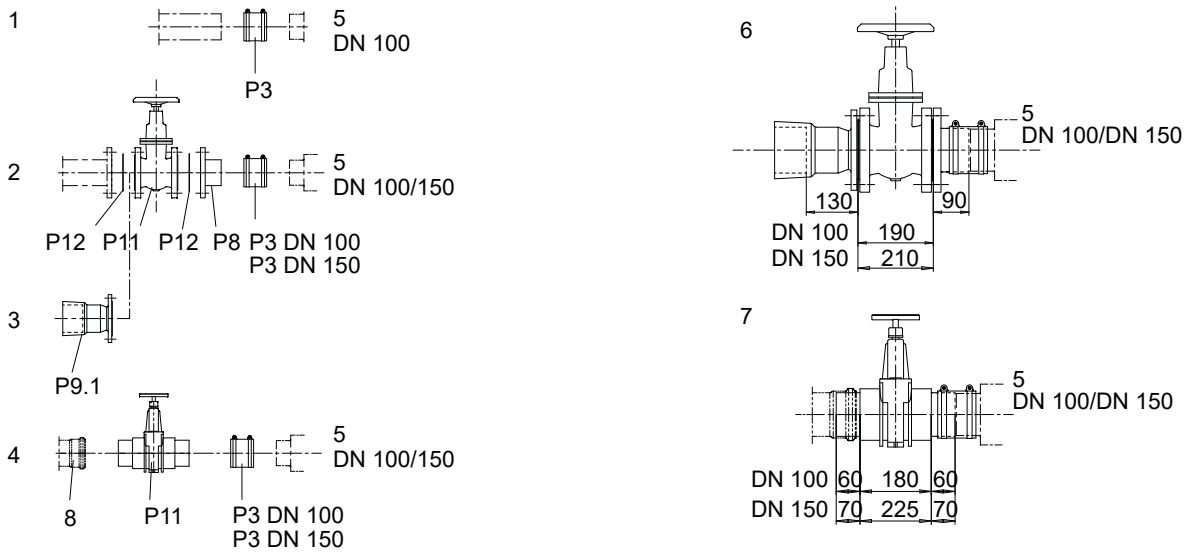

Fig. 33: Inlet line of a MiniCompacta UZS (150 litres)

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

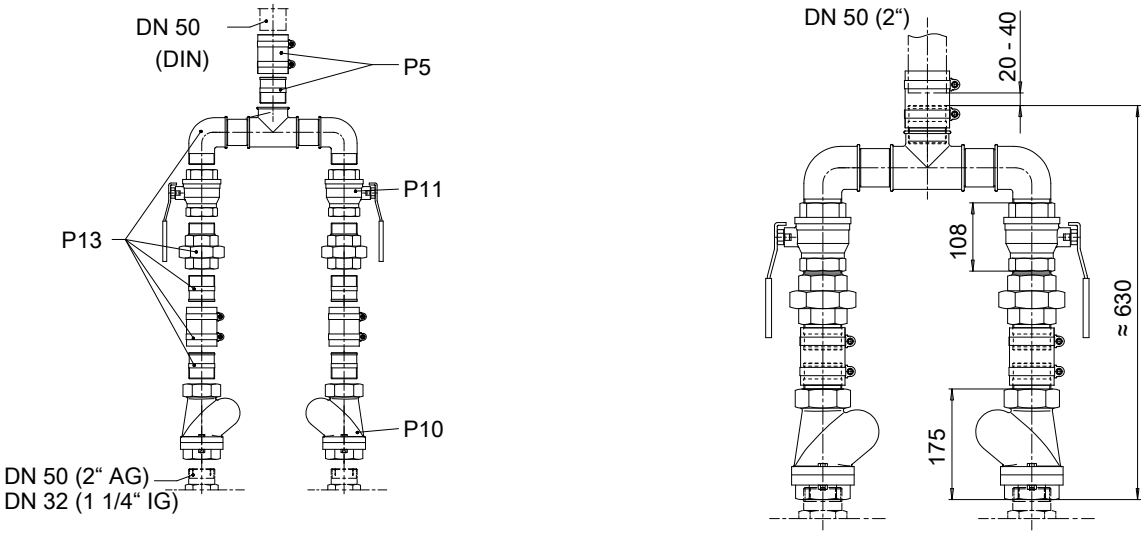

Fig. 34: Discharge line of a MiniCompacta UZS (150 litres)

Table 28: Items included in the scope of supply of MiniCompacta UZS (150 litres)

Item		Description
-	P 1	Gas-tight, odour-tight, water-tight collecting tank made of impact-resistant plastic
-	P 2	Fully floodable submersible motor pump
	P 3	Flexible hose connection and hose clips DN 100 (inlet)
-	P 4	Flexible hose connection and hose clips (venting)
-	P 6	Flexible hose connection and hose clips (hand diaphragm pump)
-	E 1	Analog level sensor for pump 1, pump 2 and alarm buzzer; stand-by pump automatically starts up during peak loads
-	E 3	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 29: Accessories for MiniCompacta UZS (150 litres)

Item		Description
	P 3	Flexible hose connection and hose clips DN 50 Flexible hose connection and hose clips DN 150
	P 5	Flexible hose connection and hose clips for discharge line, consisting of rubber hose, hexagon nipple and hose clips
-	P 8	Stub flange
	P 9.1	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
-	P 10	Check valve
-	P 11	Gate valve
	P 12	Set of installation accessories
-	P 13	Y-pipe DN 50
	P 14	Hand diaphragm pump ISO 7/l-Rp 1 1/2
	P 15	Three-way plug valve ISO 7/l-Rp 1 1/2
	P 16	Fully automatic Ama-Drainer (SE/SD) drainage pump with swing check valve
-	P 18	Cover plate, 560 × 560 mm, for 500 × 500 mm pits, for Ama-Drainer
-	E 50	AS 0 alarm switchgear
-	E 51	AS 2 alarm switchgear

Item		Description
-	E 52	AS 4 alarm switchgear
-	E 53	AS 5 alarm switchgear
-	E 64	F1 leakage sensor

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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)
- 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)
- Pump protection by thermal circuit breaker
- Input for external fault message
- General fault message or volt-free “in operation” message
- Integrated alarm buzzer
- Battery-backed mains-independent alarm
- 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 (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-0-automatic selector switch
- Indicator lamps
- Indicator lamp for high water
- Pump protection by thermal circuit breaker
- Integrated alarm buzzer
- Battery-backed mains-independent alarm
- Two inputs for external fault message and remote acknowledgement
- General fault message or volt-free “in operation” message
- Even distribution of pump operating hours due to automatic pump changeover
- Parameterisable service intervals
- Diagnostic function and signalling/message function
- Straightforward system configuration using parameterisation assistant (Wizard)
- Numerous additional functions (monitoring of supply voltage, measuring effective power, determining the power factor, intelligent system monitoring, and many more)

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Combinations of lifting and control units

Table 30: LevelControl Basic 1 / LevelControl Basic 2 per model

Size	Control unit	Dimensions H × W × D [mm]
Single-pump units		
US 1.40 E	LevelControl Basic 1 E70	135 × 170 × 110
US 1.40 D	LevelControl Basic 1 D	135 × 170 × 110
U 1.60 D	LevelControl Basic 1 D	135 × 170 × 110
U 1.100 D, U 2.100 D, US 1.100 D, US 2.100 D	LevelControl Basic 1 D	135 × 170 × 110
U 1.60 E	LevelControl Basic 1 E25	135 × 170 × 110
U 1.100 E	LevelControl Basic 1 E25	135 × 170 × 110
U 2.100 E	LevelControl Basic 1 E40	135 × 170 × 110
US 1.100 E, US 2.100 E	LevelControl Basic 2 ES	400 × 281 × 135
Dual-pump units		
UZ 1.150 D, UZ 2.150 D, UZS 1.150 D, UZS 2.150 D	LevelControl Basic 2 ZD	400 × 281 × 135
UZ 1.150 E	LevelControl Basic 2 ZE25	400 × 281 × 135
UZ 2.150 E	LevelControl Basic 2 ZE40	400 × 281 × 135
UZS 1.150 E, UZS 2.150 E	LevelControl Basic 2 ZES	600 × 400 × 200

Table 31: Variant-specific special features of LevelControl Basic 1

Control unit	Description
LevelControl Basic 1 D (CU 1 10 V T45 1 0 0 A D) (CU 1 10 V T45 1 0 0 M D)	▪ Standard single-pump control unit for three-phase motor ▪ Three-phase connection
LevelControl Basic 1 E25 (CU 1 10 V SC2 1 0 0 A 1)	▪ Integrated run capacitor (C = 25 µF) for operating an AC motor with a power rating of 0.75 kW ▪ Single-phase mains connection
LevelControl Basic 1 E40 (CU 1 10 V SC4 1 0 0 A 1)	▪ Integrated run capacitor (C = 40 µF) for operating an AC motor with a power rating of 1.5 kW ▪ Single-phase mains connection
LevelControl Basic 1 E70 (CU 1 10 V SC7 1 0 0 M 1)	▪ Integrated run capacitor (C = 70 µF) for operating an AC motor with a power rating of 1.65 kW ▪ Single-phase mains connection

Table 32: Variant-specific special features of LevelControl Basic 2

Control unit	Description
LevelControl Basic 2 ZD (BC2 400 DVNA 100 B0)	▪ Standard dual-pump control unit ▪ Three-phase connection
LevelControl Basic 2 ZE25 (BC2 230 XVNA 040 A0)	▪ Dual-pump control unit with integrated run capacitors (C = 25 µF) for operating two AC motors with a power rating of 0.75 kW each ▪ Single-phase mains connection
LevelControl Basic 2 ZE40 (BC2 230 YVNA 063 A0)	▪ Dual-pump control unit with integrated run capacitors (C = 40 µF) for operating two AC motors with a power rating of 1.5 kW each ▪ Single-phase mains connection
LevelControl Basic 2 ES (BC1 230 ZVNA 100 A0)	▪ Single-pump control unit with integrated run capacitors (C = 40 µF) for operating an AC motor with a power rating of 1.5 kW ▪ Additional load-dependent cut-in / cut-out of a start capacitor (C = 66 µF) ▪ Volt-free individual messages Pump Fault and High Water as standard ▪ Single-phase connection
LevelControl Basic 2 ZES (BS2 230 ZVNA 100 A0)	▪ Dual-pump control unit with integrated run capacitors (C = 40 µF) for operating two AC motors with a power rating of 1.5 kW each ▪ Additional load-dependent cut-in / cut-out of a start capacitor (C = 66 µF) per pump ▪ Volt-free individual messages Pump 1 Fault, Pump 2 Fault and High Water as standard ▪ Single-phase connection directly at the master switch

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Accessories

Lifting unit accessories

Table 33: Overview of lifting unit accessories

Item	Description	Connection	MiniCompacta						Mat. No.	[kg]
			U60	U100	UZ150	US40	US100	UZS150		
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	✗	-	✗	✗	-	✗	18040370	0,2
		DN 100	-	-	-	-	-	-	18040203	0,4
		DN 150	-	✗	✗	-	✗	✗	18040338	0,7
P5 	Flexible hose connection (discharge side) For discharge line, with fabric-reinforced hose, hose clips and hexagon nipple	DN 32	-	-	-	✗	✗	✗	18040329	0,6
		DN 50	-	-	-	-	✗	✗	18040330	0,6
P5 	Flexible hose connection (discharge side) For discharge line, comprises fabric-reinforced hose, reducing nipple, connecting pipe, threaded flange DN 80 and hose clips	DN 80/65	✗	✗	✗	-	-	-	19074057[23)]	4,8
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	✗	✗	✗	-	-	-	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)	DN 65/65	✗	✗	✗	-	-	-	19074058[23)]	3,8
P8 		DN 80/100	✗	✗	✗	-	-	-	18040303	0,4
P8 		DN 100/100	✗	✗	✗	✗	✗	✗	19075270	4,5
		DN 150/150	-	✗	✗	-	✗	✗	19075269	9,1
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 DN 100 for outside pipe diameter of 118 mm DN 150 for outside pipe diameter of 170 mm	DN 100	✗	✗	✗	✗	✗	✗	00262135	9,5
		DN 150	-	✗	✗	-	✗	✗	01020844	14,5
P10 	RK swing check valve, PN 4 Material: Plastic, EN 12050-4, with internal thread ISO 7/1, with full bore and drain plug	Rp 1 1/4	-	-	-	-	✗	✗	01009771	0,1
		Rp 2	-	-	-	-	✗	✗	01009773	0,5
P10 	Ball check valve, PN 10 Material: grey cast iron, EN 12 050-4, with full bore	G 1 1/4	-	-	-	-	✗	✗	01120610	0,9
		G 2	-	-	-	-	✗	✗	01036090	2,835
P11 	Socket gate valve Material: CuZn, PN 16, with internal thread, with full bore	Rp 1 1/4	-	-	-	✗	✗	✗	01014219	0,627
		Rp 2	-	-	-	-	✗	✗	00411503	1,287

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Item	Description	Connection	MiniCompacta						Mat. No.	[kg]
			U60	U100	UZ150	US40	US100	UZS150		
P11 	Ball valve Material: CuZn PN 16	Rp 1 1/4	-	-	-	✗	✗	✗	01120607	0,572
		Rp 2	-	-	-	-	✗	✗	01050382	1,238
P11[24)] 	Flanged ball valve Material: stainless steel 1.4408	DN 80	✗	✗	✗	-	-	-	01723156	18,8
		DN 100	✗	✗	✗	-	-	-	01723239	35
P11 	Gate valve, PN 1 Material: PVC, for inlet line, with connection branches	DN 100	✗	✗	✗	✗	✗	✗	01121715	3,5
		DN 150	-	✗	✗	-	✗	✗	01121714	9,2
P11 	Gate valve to KSB's choice, PN 10 Material: grey cast iron, flanges drilled to PN 10/16, to EN 1092-1/2	DN 80	✗	✗	✗	-	-	-	01056708	18,9
		DN 100	✗	✗	✗	✗	✗	✗	01056709	22,5
		DN 150	-	✗	✗	-	✗	✗	01056710	42,7
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	✗	✗	✗	-	-	-	18072644	1
		DN 100	✗	✗	✗	✗	✗	✗	18060163	1,4
		DN 150	-	✗	✗	-	✗	✗	18076348	2
P13 	Y-pipe Material: galvanised steel, with union nuts	DN 50	-	-	-	-	-	✗	01121711	8,5
P13 	Y-pipe Material: Grey cast iron with high-quality coating (Rilsan®)	DN 80	-	-	✗[24)]	-	-	-	18041115	8
P14 	Hand diaphragm pump	Rp 1 1/2	✗	✗	✗	✗	✗	✗	00520485	12
P15 	Three-way plug valve Material: brass, with wrench WAF 22	Rp 1 1/2	✗	✗	✗	✗	✗	✗	19053063	1,5
P16 / P18 -	For pump sump drainage refer to the Ama-Drainer pump series.		✗	✗	✗	✗	✗	✗	-	-
P20 	Blind flange Material: steel, for closing the tank when the pump assembly has been removed		✗	✗	✗	-	-	-	18040964	3,8
	Blind flange Material: plastic, for closing the tank when the rotating assembly has been removed		-	-	-	✗	-	-	18041731	3,8
	Blind flange Material: steel, for closing the pump casing when the rotating assembly has been removed		-	-	-	-	✗	✗	18040965	3,8
- -	Package offer for any spare parts required during 10 years' operation of MiniCompacta U40, U60, U100 and US100 For standard variant only US1.40 D/E, U1.60 D/E, U1.100 D/E, US1.100 D/E, U2.100 D/E, US2.100 D/E		✗	✗	-	✗	✗	-	18040943	-

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24 Only for variant C

Alarm switchgears for pumps, non-ATEX-compliant

Table 34: 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 35: Overview of control unit/switchgear accessories

Item	Description	Mat. No.	[kg]
E64 	F1 leakage sensor[25)] 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, IP54[26)] 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, IP65[26)]	01139930	0,1
E72 	Yellow alarm strobe light, 12 V DC, 195 mA, IP65[26)]	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 fault signalling contact.
The volt-free fault 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.

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

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