

Sewage Lifting Unit

Compacta UZ, ZF, ZK

Type Series Booklet



UZ 450



UZ 900

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Type Series Booklet Compacta UZ, ZF, ZK

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Building Services: Drainage

Lifting Units

Compacta UZ, ZF, ZK



UZ 450



UZ 900

Main applications

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

Fluids handled

- Waste water with faeces
- Waste water without faeces
- Grey water
- Aggressive fluids upon request

Operating data

Table 1: Operating properties

Characteristic	Value	
Flow rate	Q [m ³ /h]	≤ 220
	Q [l/s]	≤ 61
Head	H [m]	≤ 60
Fluid temperature	T [°C]	≤ 40 (continuous duty)
		≤ 65 (short-time operation ≤ 5 minutes)

Duty types

Table 2: Permissible duty type

Operation	Type
Intermittent periodic duty (UZ)	S3 to VDE
Continuous duty (ZF, ZK)	S1

Design details

Design

- Sewage lifting unit to EN 12050-1
- Ready-to-connect dual-pump station
- Gas-tight and water-tight plastic collecting tank, pump unit, sensors and control unit

Compacta UZ:

- Floodable sewage lifting unit¹⁾
- Two vertically installed submersible waste water pumps

Compacta ZF, ZK:

- Two dry-installed vertical waste water volute casing pumps

Drive

- Surface-cooled
- Electrical voltage 400 V (three-phase asynchronous motor)
- Frequency 50 Hz
- Thermal class F
- DOL starting
- Star-delta starting ≥ 5.5 kW

Compacta UZ:

- Submersible motor made by KSB, IP68 enclosure
- Monitoring by temperature switches in the winding

Compacta ZF, ZK:

- Standardised motor made by KSB, IP55 enclosure
- Monitoring via 3 PTC thermistors

Impeller type

- Various application-oriented impeller types (⇒ Page 9)

Bearings

- Grease-packed, maintenance-free rolling element bearings

Shaft seal

- Two bi-directional mechanical seals in tandem arrangement, with liquid reservoir

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.

Designation

Example: Compacta UZ X 20.450 D

Table 3: Designation key

Code	Description	
Compacta	Type series	
UZ	Design	
	U	Floodable Amarex KRT submersible motor pump, free-flow impeller
	Z	Dual-pump lifting unit
	F	Dry-installed Sewabloc volute casing pump, free-flow impeller
	K	Dry-installed Sewabloc volute casing pump, multi-channel impeller
X	Special design	
20	Hydraulics code	
	10, 11, 12, 13, 14, 15, 20, 21, ... , 63, 64, 65, 66, 67	
450	Total volume of collecting tank [litres]	
	450, 900	
D	Three-phase asynchronous motor	

Configuration and function

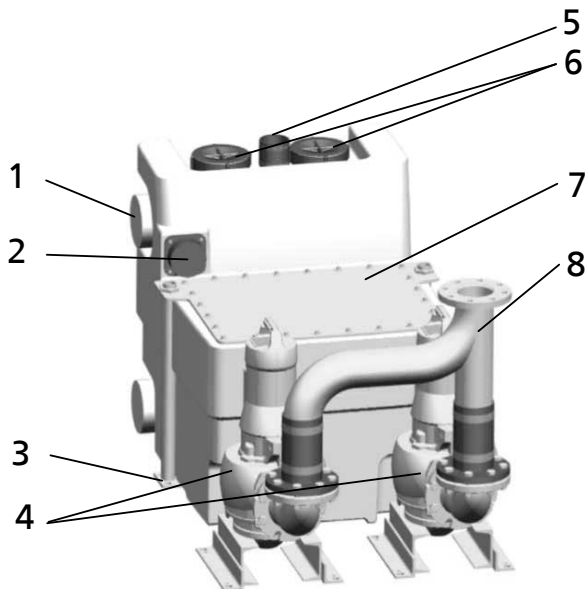


Fig. 1: Compacta illustration

1	Inlet	2	Level sensor
3	Transport lock / float protection fixture	4	Pump set
5	Vent connection	6	Hand hole cover
7	Collecting tank	8	Discharge line

Design

The sewage lifting unit is provided with several horizontal inlet nozzles (1). A collecting tank (7) collects the inflowing fluid to be handled. The pump sets (4) pump the fluid handled into the vertical discharge line (8). Sealing is provided by two bi-directional mechanical seals with oil chamber filled with environmentally friendly oil.

Function

The fluid handled flows into the waste water lifting unit through horizontal inlet nozzles (1) and is collected in a gas-tight, odour-tight and water-tight collecting tank (7). The level sensor (2) measures the fill level. As a function of the fill level the control unit controls one or two pumps (4), making sure the fluid handled is automatically pumped off to a level above the flood level and discharged into a public sewer.

Materials

Table 4: Overview of available materials

Component	Material
Collecting tank	Polyethylene
Pump casing	Gray cast iron
Impeller	Gray cast iron
Motor shaft	Stainless steel (1.4021)
Casing cover	Gray cast iron
Float	Polypropylene
Mechanical seal	SiC / SiC

Product benefits

- Safe and reliable operation ensured by control system (LevelControl Basic 2)
- Variable hydraulic system: the right impeller with optimum efficiency for every fluid. High operating reliability due to wide free passages.
- Easy-to-transport lifting unit with large collecting volume thanks to modular design
- Double mechanical seal in tandem arrangement with fluid reservoir makes for high operating reliability.
- Low maintenance thanks to grease-packed rolling element bearings

Selection information

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

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

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

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

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

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

Flooding: Compacta UZ

The Compact UZ 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 switchgear) in dry rooms protected against flooding.

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

Determining the head

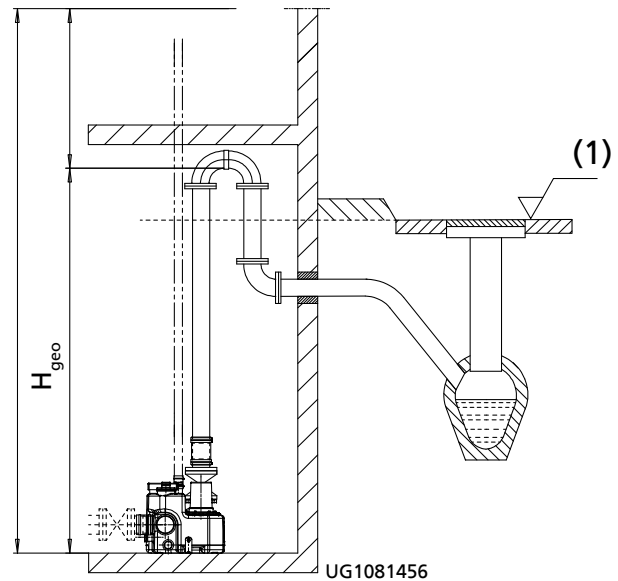


Fig. 2: Geodetic head H_{geo} if installed correctly

(1) Flood level

Calculation of head:

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

Application limits

Application limits for Compacta UZ

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

- For continuous discharge or repeated discharge over a longer period of time observe the maximum permissible frequency of starts.
- Hydraulics codes 20 to 29
- For selection, a $Q_z^{(2)} : Q_p^{(3)}$ ratio of 0.9 must not be exceeded.
- Frequency of starts

Table 5: Frequency of starts

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

Application limits for Compacta ZF, ZK

The sewage lifting units are designed for S1 duty (continuous operation).

- For continuous discharge or repeated discharge over a longer period of time observe the maximum permissible frequency of starts.
- Hydraulics codes 30 to 67
- Frequency of starts

² Maximum possible inflow [m³/h]

³ Duty point of one pump [m³/h]

Table 6: Frequency of starts

Motor rating [kW]	Maximum number of starts per pump [Starts/hour]
≤ 11	25
≤ 37	20

Discharge line

When dimensioning the discharge line take into account the permissible operating temperatures, operating pressures and maximum flow velocities of the valves (also see DIN EN 1074-1).

Operating point of the pump with swing check valves
PN 10 up to 3 m/s:

- With DN 100 the flow rate equals approx. 80 m³/h
- With DN 150 the flow rate equals approx. 190 m³/h

Operating point of the pump with swing check valves
PN 16 up to 4 m/s:

- With DN 100 the flow rate equals approx. 110 m³/h
- With DN 150 the flow rate equals approx. 250 m³/h

A precondition is a laminar flow that can be achieved by means of a straight stabilization distance of at least 5 × DN upstream of the swing check valve. In the case of turbulent flows, for example by direct arrangement downstream of the elbow, reduce the flow velocity to 2 m/s. If the measures mentioned cannot be implemented, increase the nominal diameter or reduce the maintenance intervals (to several times a year) to prevent increased wear.

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.

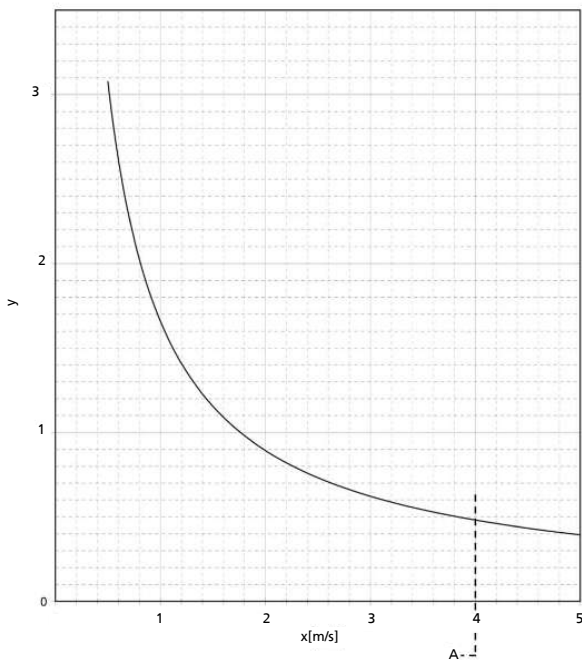


Fig. 3: Loss coefficient


x	Flow velocity [m/s]	y	Loss coefficient ζ
A	Operating limit		

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

Overview of product features

Table 7: Overview of product features of lifting units for fluids containing larger solids

	Compacta UZ, ZF, ZK 450	Compacta UZ, ZF, ZK 900
<ul style="list-style-type: none"> Hydraulics codes 20 to 67 H_{max.} 60 m Q_{max.} 220 m³/h Free passage up to 80 mm Two waste water pumps installed downstream of collecting tank 		
Collecting tank volume	450 l	900 l
Installation examples	Hotels, schools, public buildings, basement storage areas with recreation rooms, department stores, hospitals, theatres, sports halls, shopping centres	Blocks of flats, indoor swimming pools, industrial businesses, intermediate floors of underground railways, public buildings, airport terminals, railway stations, rows of houses, industrial, sports and convention centres
Design	Ready-to-connect, micro-processor controlled dual-pump lifting unit, gas-tight and water-tight plastic collecting tank (UZ900 - two collecting tanks in battery design), with two waste water pumps installed downstream of the collecting tanks for automatic alternate, stand-by and peak-load operation.	

Impellers

	Vortex impeller (impeller type F)	Suitable for the following fluids: fluids containing solids and stringy material as well as fluids with entrapped air or entrapped gas
	Closed multi-channel impeller (impeller type K)	Suitable for the following fluids: contaminated, solids-laden, non-gaseous fluids without stringy material

Special design on request

- Larger flow rates
- Single-pump lifting units
- Special materials
- Materials for aggressive fluids
- Collecting tank made of stainless steel (1.4301, 1.4571)
- Variants with multiple tanks (up to 4x 450 l)
- Lifting units with 3 and more pump sets
- Lifting units for improved fire protection / halogen-free cables
- Different voltages and frequencies

Technical Data
Compacta UZ with Amarex KRT F 80-253

UZ = dual-pump lifting unit with floodable Amarex KRT submersible motor pump, free-flow impeller

D = three-phase asynchronous motor

Table 8: Compacta UZ with Amarex KRT F 80-253, n = 2900 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection	Free passage	Total volume	Effective volume	P _N	I _N		Cable length	[kg]	Control unit
							3~400 V				
		DN	[mm]	[l]	[l]	[kW]	[A]	[m]			
UZ 20.450 D	20	80	76	450	290	11,0	YΔ 20,1	10	411	BS2 400 SVNA 230	
UZ 20.900 D	20	80	76	900	580	11,0	YΔ 20,1	10	486	BS2 400 SVNA 230	
UZ 21.450 D	21	80	76	450	290	11,0	YΔ 20,1	10	411	BS2 400 SVNA 230	
UZ 21.900 D	21	80	76	900	580	11,0	YΔ 20,1	10	486	BS2 400 SVNA 230	
UZ 22.450 D	22	80	76	450	290	15,0	YΔ 27,4	10	425	BS2 400 SVNA 400	
UZ 22.900 D	22	80	76	900	580	15,0	YΔ 27,4	10	500	BS2 400 SVNA 400	
UZ 23.450 D	23	80	76	450	290	18,5	YΔ 33,9	10	469	BS2 400 SVNA 400	
UZ 23.900 D	23	80	76	900	580	18,5	YΔ 33,9	10	544	BS2 400 SVNA 400	
UZ 24.450 D	24	80	76	450	290	22,0	YΔ 38,4	10	499	BS2 400 SVNA 400	
UZ 24.900 D	24	80	76	900	580	22,0	YΔ 38,4	10	574	BS2 400 SVNA 400	
UZ 25.450 D	25	80	76	450	290	26,0	YΔ 45,5	10	527	BS2 400 SVNA 630	
UZ 25.900 D	25	80	76	900	580	26,0	YΔ 45,5	10	602	BS2 400 SVNA 630	
UZ 26.450 D	26	80	76	450	290	26,0	YΔ 45,5	10	527	BS2 400 SVNA 630	
UZ 26.900 D	26	80	76	900	580	26,0	YΔ 45,5	10	602	BS2 400 SVNA 630	

Table 9: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	min.	max.	H × W × D	
	[A]	[A]	[mm]	
BS2 400 SVNA 230	17	23	800 × 600 × 200	19
BS2 400 SVNA 400	25	40	800 × 600 × 200	24
BS2 400 SVNA 630	40	63	800 × 600 × 200	26

Compacta UZ with Amarex KRT F 100-215

UZ = dual-pump lifting unit with floodable Amarex KRT submersible motor pump, free-flow impeller

D = three-phase asynchronous motor

Table 10: Compacta UZ with Amarex KRT F 100-215, n = 2900 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
UZ 27a.450 D	27a	100	80	450	290	15,0	YΔ 27,7	10	427	BS2 400 SVNA 400	
UZ 27a.900 D	27a	100	80	900	580	15,0	YΔ 27,7	10	502	BS2 400 SVNA 400	
UZ 27.450 D	27	100	80	450	290	18,5	YΔ 33,9	10	465	BS2 400 SVNA 400	
UZ 27.900 D	27	100	80	900	580	18,5	YΔ 33,9	10	540	BS2 400 SVNA 400	
UZ 28.450 D	28	100	80	450	290	22,0	YΔ 38,4	10	495	BS2 400 SVNA 400	
UZ 28.900 D	28	100	80	900	580	22,0	YΔ 38,4	10	570	BS2 400 SVNA 400	
UZ 29.450 D	29	100	80	450	290	22,0	YΔ 38,4	10	495	BS2 400 SVNA 400	
UZ 29.900 D	29	100	80	900	580	22,0	YΔ 38,4	10	570	BS2 400 SVNA 400	

Table 11: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	min.	max.	H x W x D	
	[A]	[A]	[mm]	
BS2 400 SVNA 400	25	40	800 x 600 x 200	24

Compacta ZF with Sewabloc F 80-215

ZF = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, free-flow impeller

D = three-phase asynchronous motor

Table 12: Compacta ZF with Sewabloc F 80-215, n = 2900 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
ZF 60.450 D	60	80	76	450	290	3,0	5,9	10	269	BS2 400 DVNQ 063	
ZF 60.900 D	60	80	76	900	580	3,0	5,9	10	344	BS2 400 DVNQ 063	
ZF 61.450 D	61	80	76	450	290	4,0	8,0	10	287	BS2 400 DVNQ 100	
ZF 61.900 D	61	80	76	900	580	4,0	8,0	10	362	BS2 400 DVNQ 100	
ZF 62.450 D	62	80	76	450	290	4,0	8,0	10	287	BS2 400 DVNQ 100	
ZF 62.900 D	62	80	76	900	580	4,0	8,0	10	362	BS2 400 DVNQ 100	
ZF 63.450 D	63	80	76	450	290	5,5	YΔ 10,5	10	331	BS2 400 SVNA 140	
ZF 63.900 D	63	80	76	900	580	5,5	YΔ 10,5	10	406	BS2 400 SVNA 140	
ZF 64.450 D	64	80	76	450	290	7,5	YΔ 14,6	10	337	BS2 400 SVNA 180	
ZF 64.900 D	64	80	76	900	580	7,5	YΔ 14,6	10	412	BS2 400 SVNA 180	
ZF 65.450 D	65	80	76	450	290	7,5	YΔ 14,6	10	337	BS2 400 SVNA 180	
ZF 65.900 D	65	80	76	900	580	7,5	YΔ 14,6	10	412	BS2 400 SVNA 180	
ZF 66.450 D	66	80	76	450	290	11,0	YΔ 22,0	10	361	BS2 400 SVNA 230	
ZF 66.900 D	66	80	76	900	580	11,0	YΔ 22,0	10	436	BS2 400 SVNA 230	
ZF 67.450 D	67	80	76	450	290	11,0	YΔ 22,0	10	361	BS2 400 SVNA 230	
ZF 67.900 D	67	80	76	900	580	11,0	YΔ 22,0	10	436	BS2 400 SVNA 230	

Table 13: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	Min.	Max.	H × W × D	
	[A]	[A]	[mm]	
BS2 400 DVNQ 063	4	6,3	600 × 400 × 200	10
BS2 400 DVNQ 100	6,3	10	600 × 400 × 200	10
BS2 400 SVNA 140	9	14	800 × 600 × 200	19
BS2 400 SVNA 180	13	18	800 × 600 × 200	19
BS2 400 SVNA 230	17	23	800 × 600 × 200	24

Compacta ZF with Sewabloc F 80-216

ZF = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, free-flow impeller

D = three-phase asynchronous motor

Table 14: Compacta ZF with Sewabloc F 80-216, n = 2900 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection	Free passage	Total volume	Effective volume	P _N	I _N	Cable length	[kg]	Control unit
							3~400 V			
		DN	[mm]	[l]	[l]	[kW]	[A]	[m]		
ZF 30.450 D	30	80	76	450	290	5,5	YΔ 10,5	10	327	BS2 400 SVNA 140
ZF 30.900 D	30	80	76	900	580	5,5	YΔ 10,5	10	402	BS2 400 SVNA 140
ZF 31.450 D	31	80	76	450	290	7,5	YΔ 14,6	10	333	BS2 400 SVNA 180
ZF 31.900 D	31	80	76	900	580	7,5	YΔ 14,6	10	408	BS2 400 SVNA 180
ZF 32.450 D	32	80	76	450	290	11,0	YΔ 22,0	10	357	BS2 400 SVNA 230
ZF 32.900 D	32	80	76	900	580	11,0	YΔ 22,0	10	432	BS2 400 SVNA 230
ZF 33.450 D	33	80	76	450	290	11,0	YΔ 22,0	10	357	BS2 400 SVNA 230
ZF 33.900 D	33	80	76	900	580	11,0	YΔ 22,0	10	432	BS2 400 SVNA 230
ZF 34.450 D	34	80	76	450	290	15,0	YΔ 29,4	10	383	BS2 400 SVNA 400
ZF 34.900 D	34	80	76	900	580	15,0	YΔ 29,4	10	458	BS2 400 SVNA 400
ZF 35.450 D	35	80	76	450	290	15,0	YΔ 29,4	10	383	BS2 400 SVNA 400
ZF 35.900 D	35	80	76	900	580	15,0	YΔ 29,4	10	458	BS2 400 SVNA 400
ZF 36.450 D	36	80	76	450	290	18,5	YΔ 35,6	10	423	BS2 400 SVNA 400
ZF 36.900 D	36	80	76	900	580	18,5	YΔ 35,6	10	498	BS2 400 SVNA 400
ZF 37.450 D	37	80	76	450	290	22,0	YΔ 41,2	10	535	BS2 400 SVNA 630
ZF 37.900 D	37	80	76	900	580	22,0	YΔ 41,2	10	610	BS2 400 SVNA 630
ZF 38.450 D	38	80	76	450	290	22,0	YΔ 41,2	10	535	BS2 400 SVNA 630
ZF 38.900 D	38	80	76	900	580	22,0	YΔ 41,2	10	610	BS2 400 SVNA 630

Table 15: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	min.	Max.	H × W × D	
	[A]	[A]	[mm]	
BS2 400 SVNA 140	9	14	800 × 600 × 200	19
BS2 400 SVNA 180	13	18	800 × 600 × 200	19
BS2 400 SVNA 230	17	23	800 × 600 × 200	19
BS2 400 SVNA 400	25	40	800 × 600 × 200	24
BS2 400 SVNA 630	40	63	800 × 600 × 200	26

Compacta ZF with Sewabloc F 100-254

ZF = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, free-flow impeller
D = three-phase asynchronous motor

Table 16: Compacta ZF with Sewabloc F 100-254, n = 1450 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
ZF 40.450 D	40	100	80	450	290	3,0	6,2	10	327	BS2 400 DVNQ 063	
ZF 40.900 D	40	100	80	900	580	3,0	6,2	10	402	BS2 400 DVNQ 063	
ZF 41.450 D	41	100	80	450	290	4,0	8,6	10	345	BS2 400 DVNQ 100	
ZF 41.900 D	41	100	80	900	580	4,0	8,6	10	420	BS2 400 DVNQ 100	
ZF 42.450 D	42	100	80	450	290	5,5	YΔ 11,0	10	389	BS2 400 SVNA 140	
ZF 42.900 D	42	100	80	900	580	5,5	YΔ 11,0	10	464	BS2 400 SVNA 140	
ZF 43.450 D	43	100	80	450	290	7,5	YΔ 15,0	10	395	BS2 400 SVNA 180	
ZF 43.900 D	43	100	80	900	580	7,5	YΔ 15,0	10	470	BS2 400 SVNA 180	
ZF 44.450 D	44	100	80	450	290	7,5	YΔ 15,0	10	395	BS2 400 SVNA 180	
ZF 44.900 D	44	100	80	900	580	7,5	YΔ 15,0	10	470	BS2 400 SVNA 180	

Table 17: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	Min.	Max.	H x W x D	
	[A]	[A]	[mm]	
BS2 400 DVNQ 063	4	6,3	600 x 400 x 200	10
BS2 400 DVNQ 100	6,3	10	600 x 400 x 200	10
BS2 400 SVNA 140	9	14	800 x 600 x 200	19
BS2 400 SVNA 180	13	18	800 x 600 x 200	19

Compacta ZF with Sewabloc F 100-251

ZF = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, free-flow impeller
D = three-phase asynchronous motor

Table 18: Compacta ZF with Sewabloc F 100-251, n = 1450 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
ZF 45.450 D	45	100	80	450	290	11,0	YΔ 22,8	10	449	BS2 400 SVNA 250	
ZF 45.900 D	45	100	80	900	580	11,0	YΔ 22,8	10	524	BS2 400 SVNA 250	
ZF 46.450 D	46	100	80	450	290	15,0	YΔ 30,1	10	509	BS2 400 SVNA 400	
ZF 46.900 D	46	100	80	900	580	15,0	YΔ 30,1	10	584	BS2 400 SVNA 400	

Table 19: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	min.	max.	H x W x D	
	[A]	[A]	[mm]	
BS2 400 SVNA 250	20	25	800 x 600 x 200	19
BS2 400 SVNA 400	25	40	800 x 600 x 200	24

Compacta ZF with Sewabloc F 100-254

ZF = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, free-flow impeller

D = three-phase asynchronous motor

Table 20: Compacta ZF with Sewabloc F 100-254, n = 960 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
ZF 47.450 D	47	100	80	450	290	1,5	3,6	10	319	BS2 400 DVNQ 040	
ZF 47.900 D	47	100	80	900	580	1,5	3,6	10	394	BS2 400 DVNQ 040	
ZF 48.450 D	48	100	80	450	290	3,0	6,6	10	363	BS2 400 DVNQ 100	
ZF 48.900 D	48	100	80	900	580	3,0	6,6	10	438	BS2 400 DVNQ 100	
ZF 49.450 D	49	100	80	450	290	4,0	8,6	10	363	BS2 400 DVNQ 100	
ZF 49.900 D	49	100	80	900	580	4,0	8,6	10	438	BS2 400 DVNQ 100	

Table 21: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	Min.	Max.	H x W x D	
	[A]	[A]	[mm]	
BS2 400 DVNQ 040	2,5	4	600 x 400 x 200	10
BS2 400 DVNQ 100	6,3	10	600 x 400 x 200	10

Compacta ZK with Sewabloc K 80-250

ZK = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, multi-channel impeller

D = three-phase asynchronous motor

Table 22: Compacta ZK with Sewabloc K 80-250, n = 1450 rpm, 50 Hz

Size	Hydraulics code	Discharge-side connection DN	Free passage [mm]	Total volume [l]	Effective volume [l]	P _N [kW]	I _N		Cable length [m]	[kg]	Control unit
							3~400 V	[A]			
ZK 50.450 D	50	80	71	450	290	5,5	YΔ 11,0	10	381	BS2 400 SVNA 140	
ZK 50.900 D	50	80	71	900	580	5,5	YΔ 11,0	10	456	BS2 400 SVNA 140	
ZK 51.450 D	51	80	71	450	290	5,5	YΔ 11,0	10	381	BS2 400 SVNA 140	
ZK 51.900 D	51	80	71	900	580	5,5	YΔ 11,0	10	456	BS2 400 SVNA 140	
ZK 52.450 D	52	80	71	450	290	7,5	YΔ 15,0	10	383	BS2 400 SVNA 180	
ZK 52.900 D	52	80	71	900	580	7,5	YΔ 15,0	10	458	BS2 400 SVNA 180	
ZK 53.450 D	53	80	71	450	290	7,5	YΔ 15,0	10	383	BS2 400 SVNA 180	
ZK 53.900 D	53	80	71	900	580	7,5	YΔ 15,0	10	458	BS2 400 SVNA 180	

Table 23: Description of the LevelControl Basic 2 control unit

Control unit	Nominal current		Dimensions	[kg]
	min.	max.	H x W x D	
	[A]	[A]	[mm]	
BS2 400 SVNA 140	9	14	800 x 600 x 200	19
BS2 400 SVNA 180	13	18	800 x 600 x 200	19

Compacta ZK with Sewabloc K 100-254

ZK = dual-pump lifting unit with dry-installed Sewabloc volute casing pump, multi-channel impeller

D = three-phase asynchronous motor

Table 24: Compacta ZK with Sewabloc K 100-254, n = 1450 rpm, 50 Hz

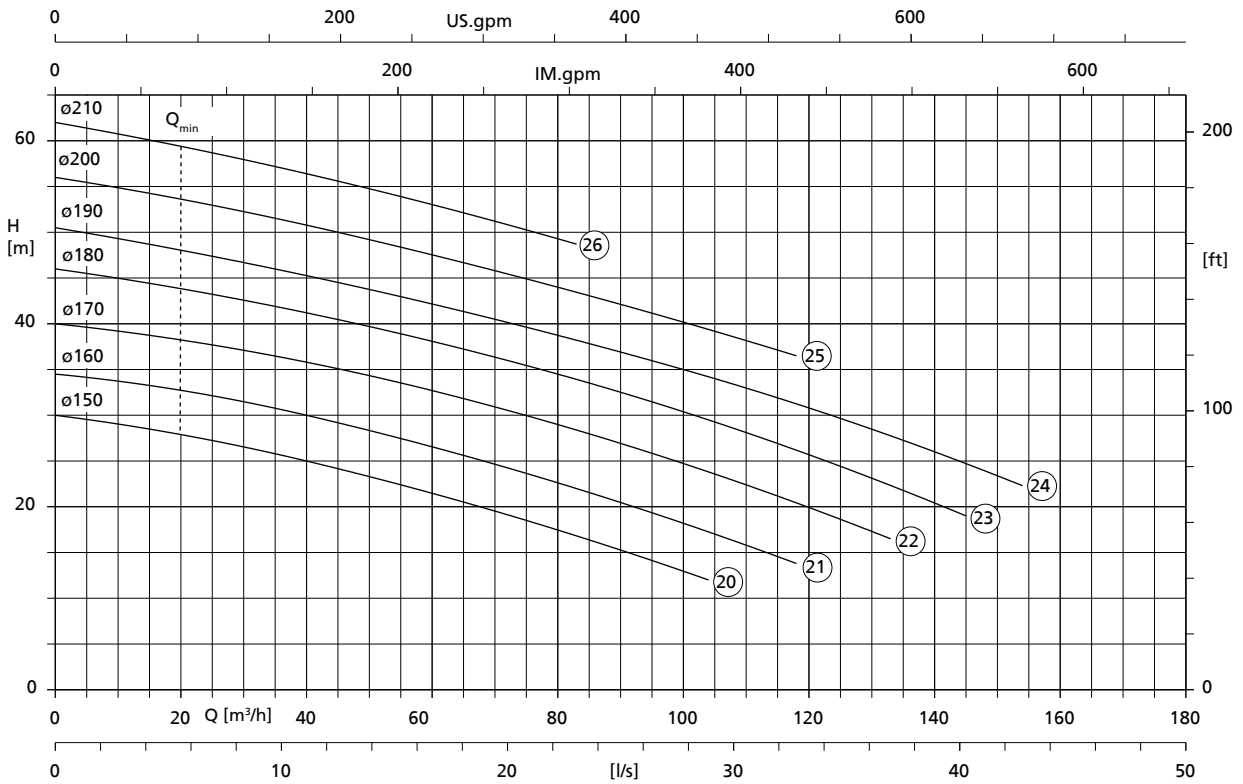
Size	Hydraulics code	Discharge-side connection	Free passage	Total volume	Effective volume	P _N	I _N		Cable length	[kg]	Control unit
							3~400 V				
		DN	[mm]	[l]	[l]	[kW]	[A]	[m]			
ZK 54.450 D	54	100	71	450	290	5,5	YΔ 11,0	10	389	BS2 400 SVNA 140	
ZK 54.900 D	54	100	71	900	580	5,5	YΔ 11,0	10	464	BS2 400 SVNA 140	
ZK 55.450 D	55	100	71	450	290	7,5	YΔ 15,0	10	415	BS2 400 SVNA 180	
ZK 55.900 D	55	100	71	900	580	7,5	YΔ 15,0	10	490	BS2 400 SVNA 180	
ZK 56.450 D	56	100	71	450	290	7,5	YΔ 15,0	10	415	BS2 400 SVNA 180	
ZK 56.900 D	56	100	71	900	580	7,5	YΔ 15,0	10	490	BS2 400 SVNA 180	

Table 25: Description of the LevelControl Basic 2 control unit

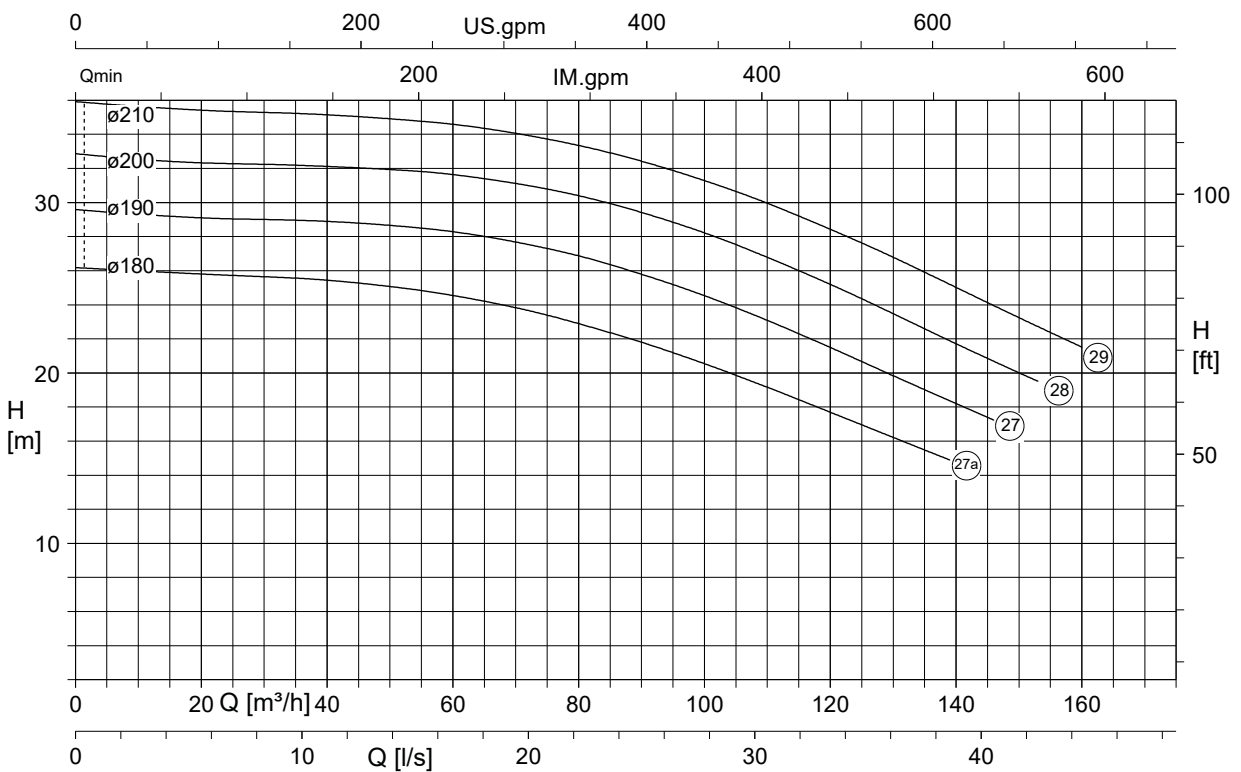
Control unit	Nominal current		Dimensions	[kg]
	min.	max.	H × W × D	
	[A]	[A]	[mm]	
BS2 400 SVNA 140	9	14	800 × 600 × 200	19
BS2 400 SVNA 180	13	18	800 × 600 × 200	19

Characteristic Curves

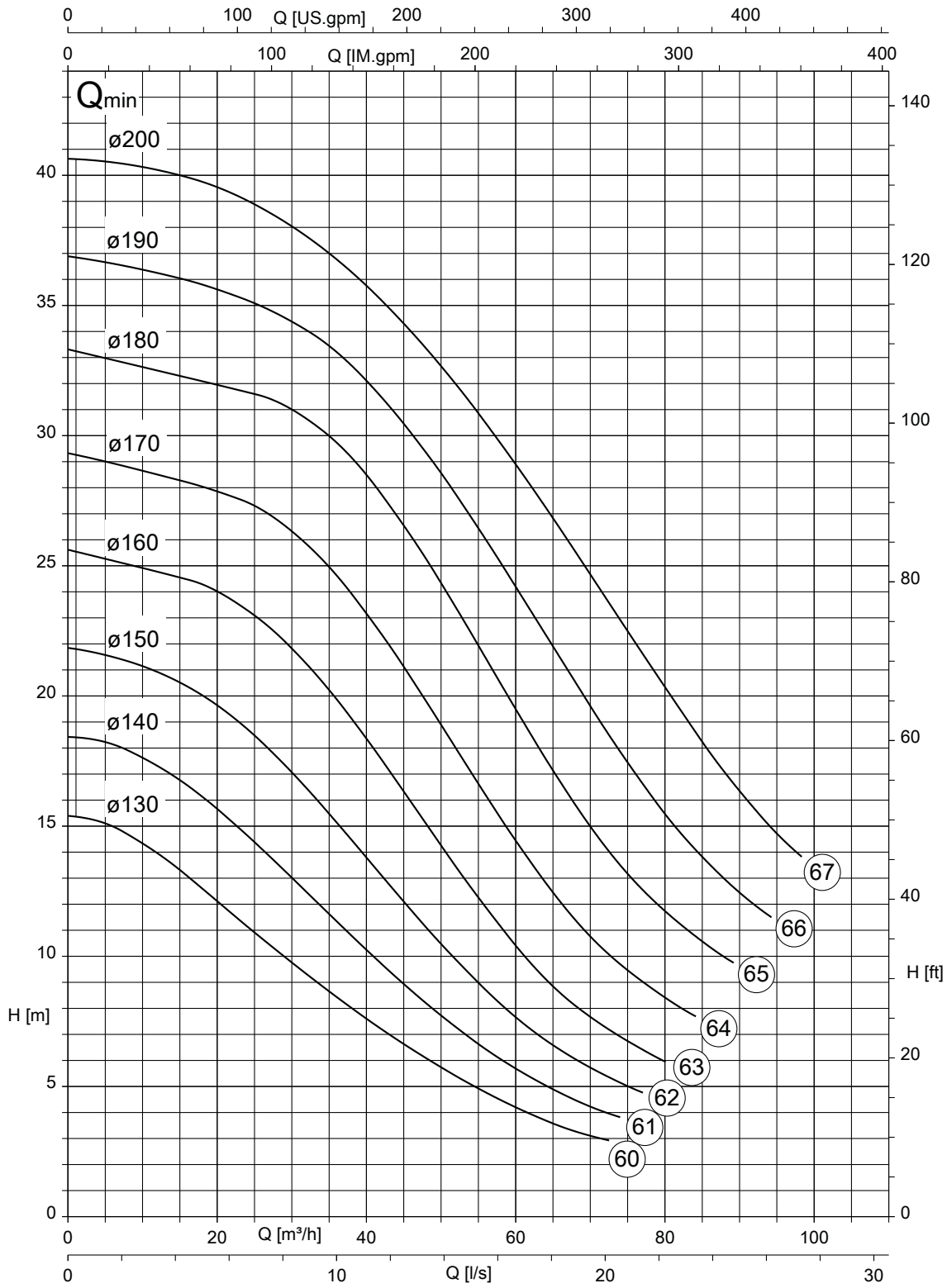
Compacta UZ with Amarex KRT F 80-253, n = 2900 rpm



Compacta UZ with Amarex KRT F 100-215, n = 2900 rpm

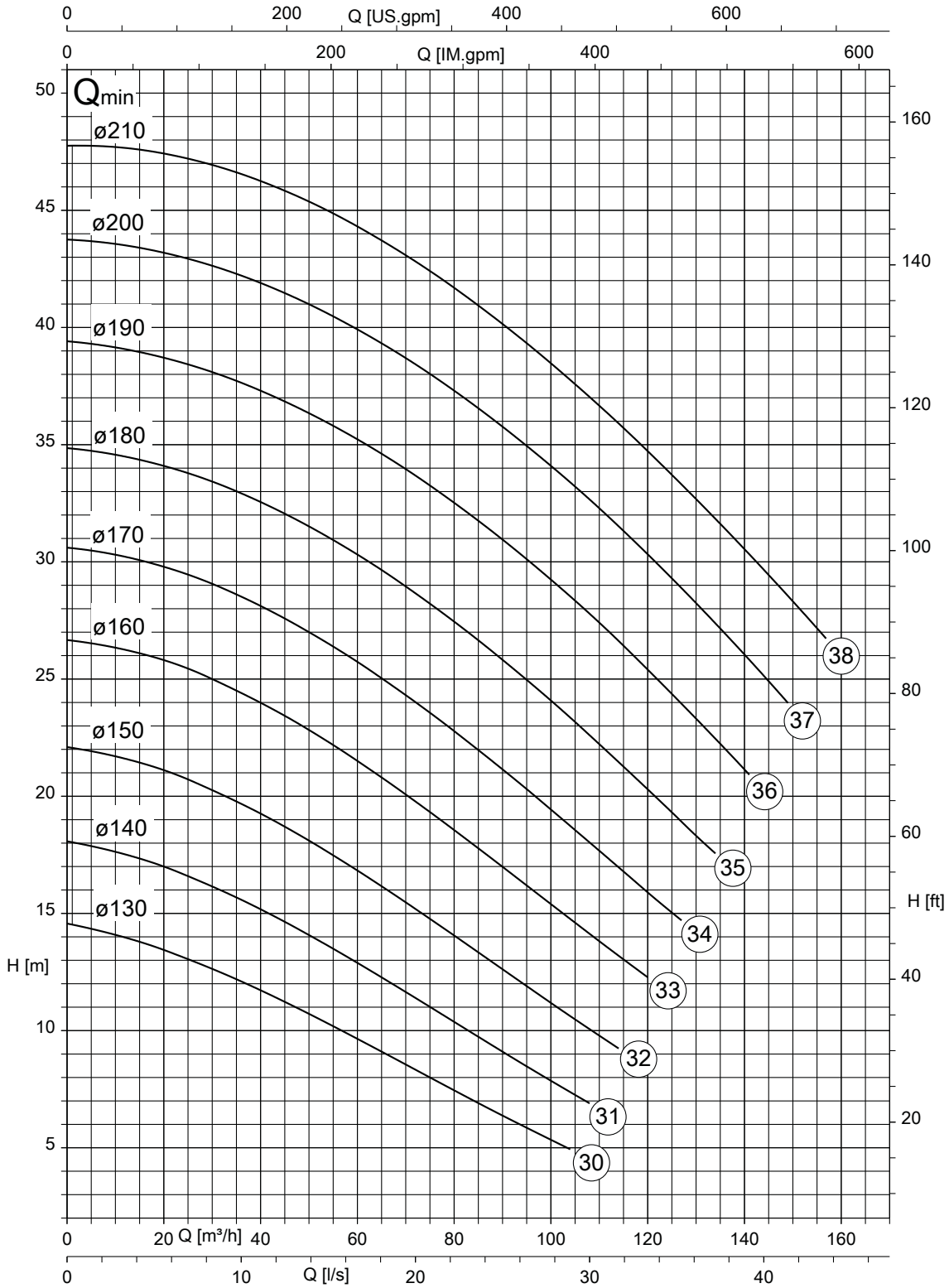


Compacta ZF with Sewabloc F 80-215, n = 2900 rpm



K43537/1

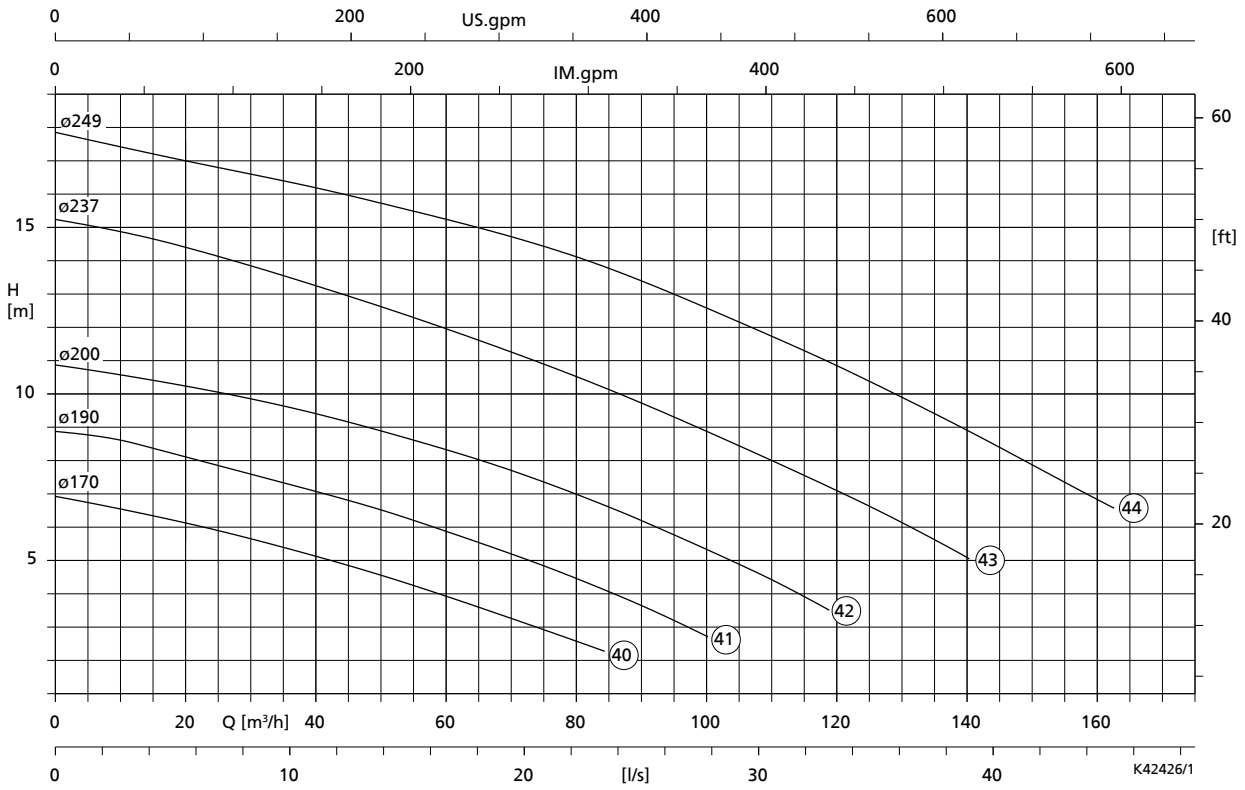
Compacta ZF with Sewabloc F 80-216, n = 2900 rpm



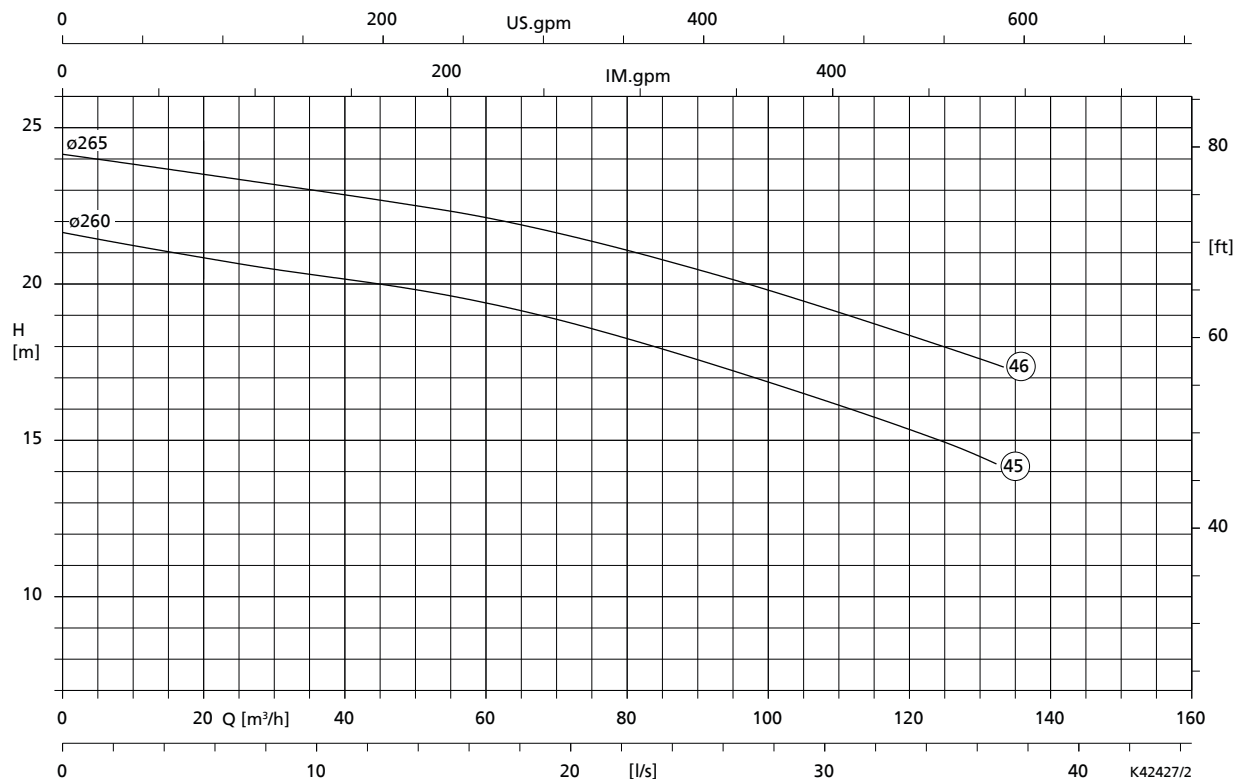
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2317.53/10-EN

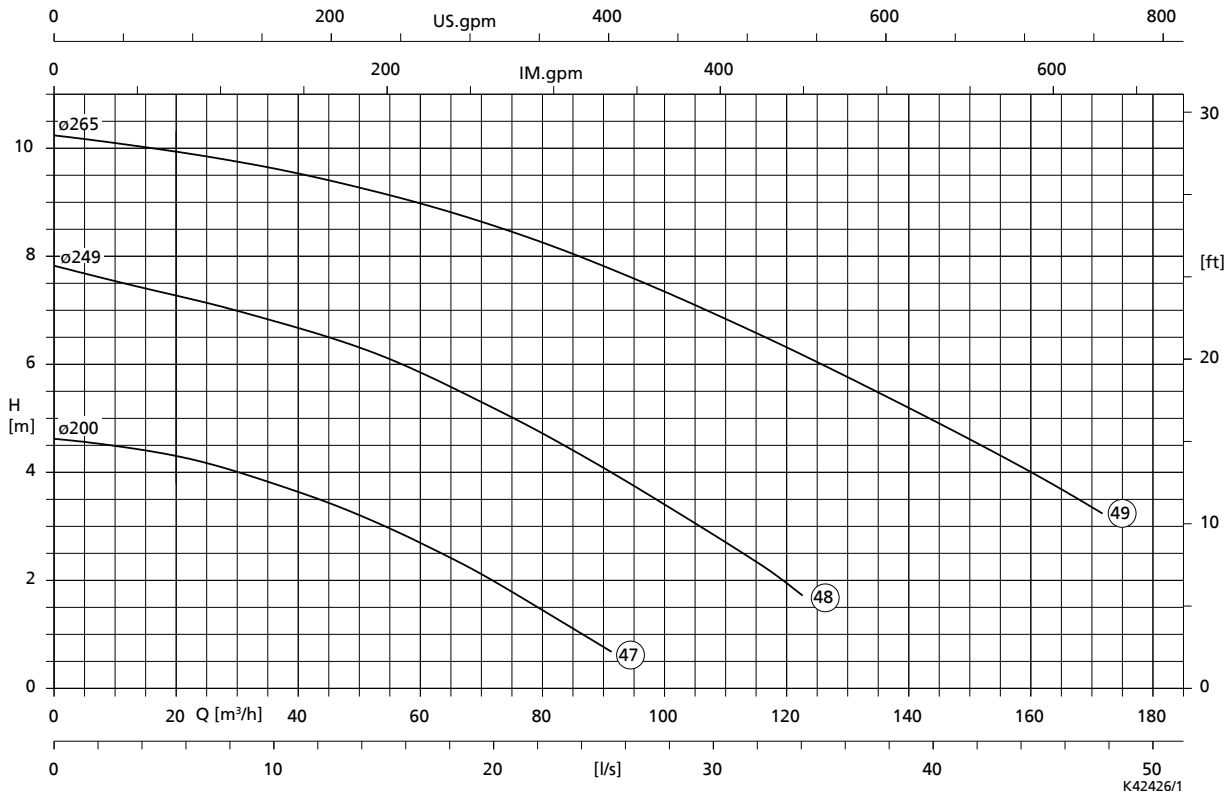
Compacta ZF with Sewabloc F 100-254, n = 1450 rpm



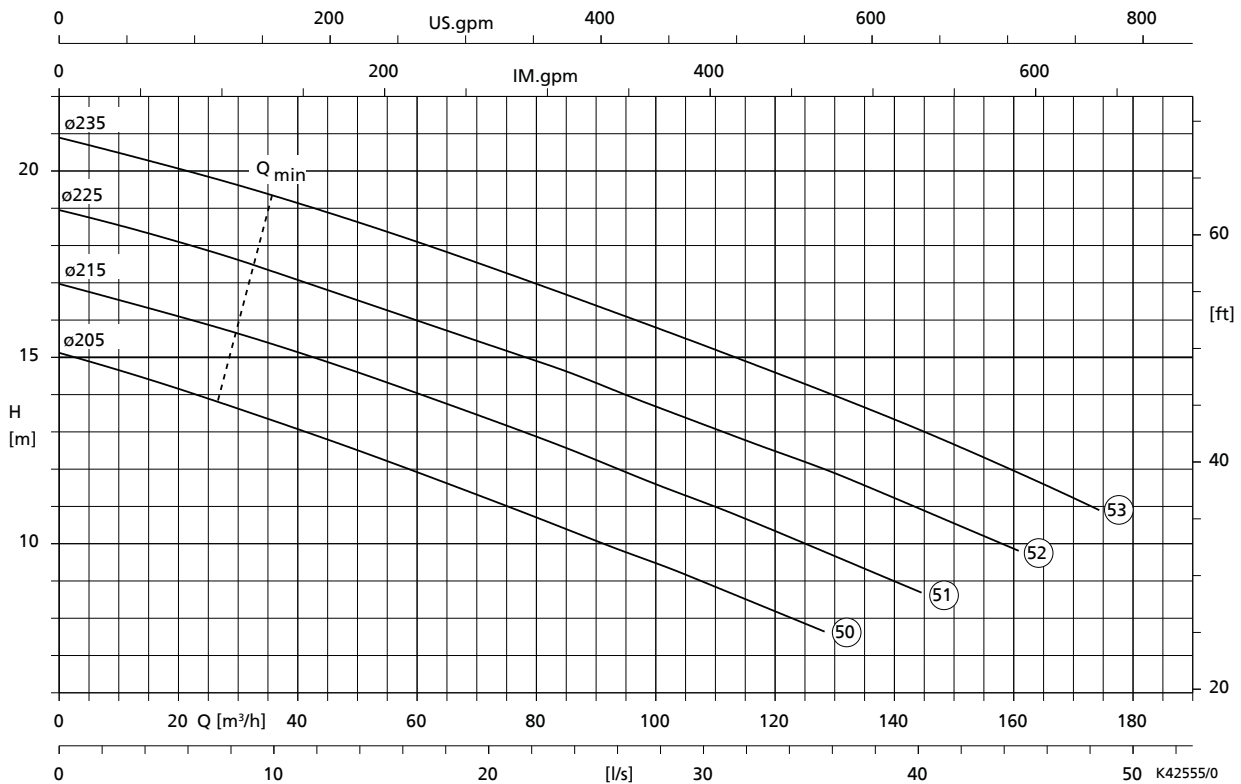
Compacta ZF with Sewabloc F 100-251, n = 1450 rpm



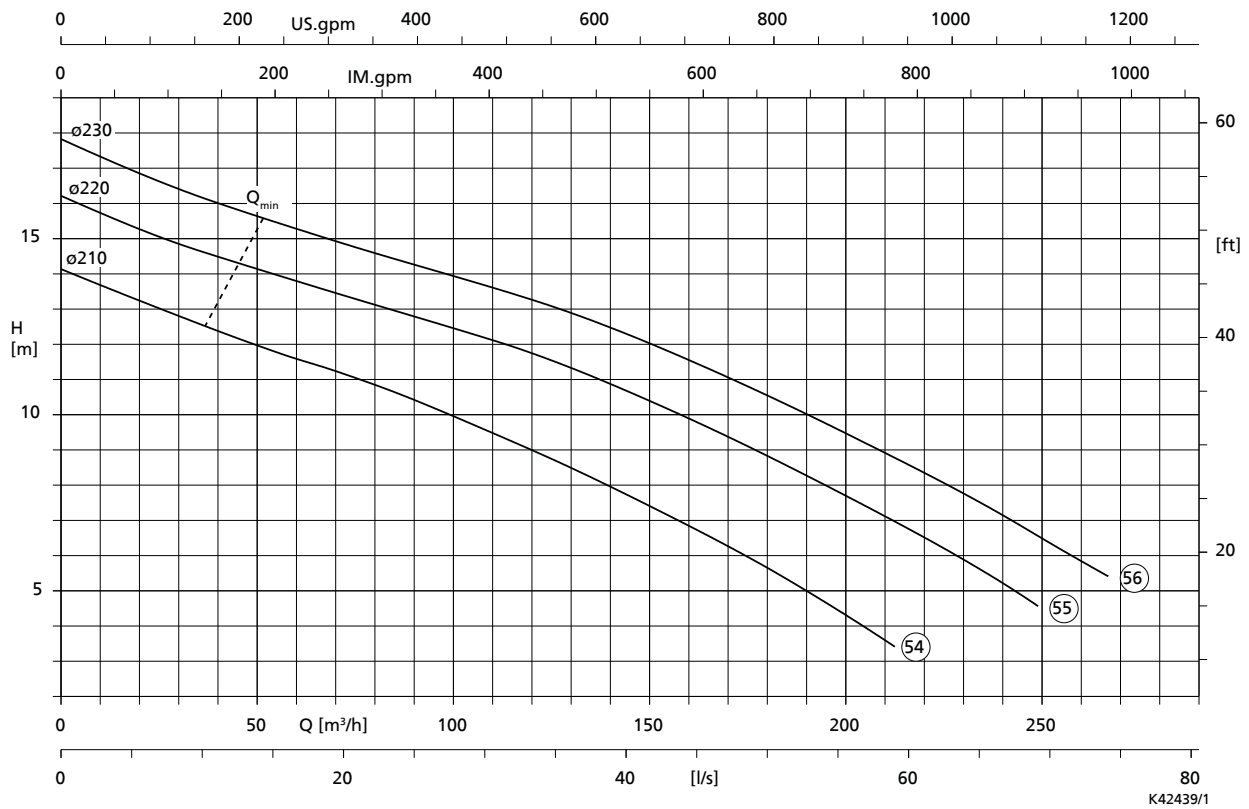
Compacta ZF with Sewabloc F 100-254, n = 960 rpm



Compacta ZK with Sewabloc K 80-250, n = 1450 rpm



Compacta ZK with Sewabloc K 100-254, n = 1450 rpm



Dimensions and connections

Compacta UZ, ZF, ZK20.450 D to 67.450 D

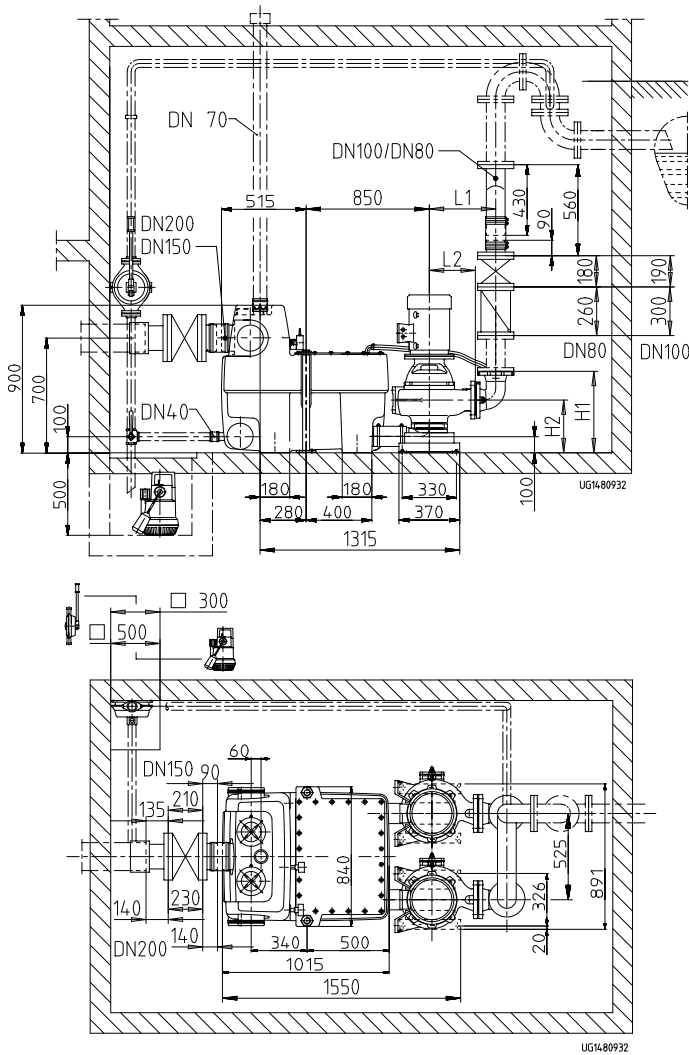


Fig. 4: Installation dimensions of Compacta UZ, ZF, ZK 20.450 D to 67.450 D [mm]

1	Flood level
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Table 26: Dimensions of the pump set

Pump set	Hydraulics code	L1	L2	H1	H2
		[mm]	[mm]	[mm]	[mm]
Amarex KRT F 80-253	20-26	405	270	390	255
Amarex KRT F 100-215	27a-29	385	265	455	280
Sewabloc F 80-215	60-67	405	270	385	250
Sewabloc F 80-216	30-38	405	270	385	250
Sewabloc K 80-250	50-53	390	255	385	250
Sewabloc F 100-251/254	40-49	405	285	455	280
Sewabloc K 100-254	54-56	405	285	455	280

Compacta UZ, ZF, ZK20.900 D to 67.900 D

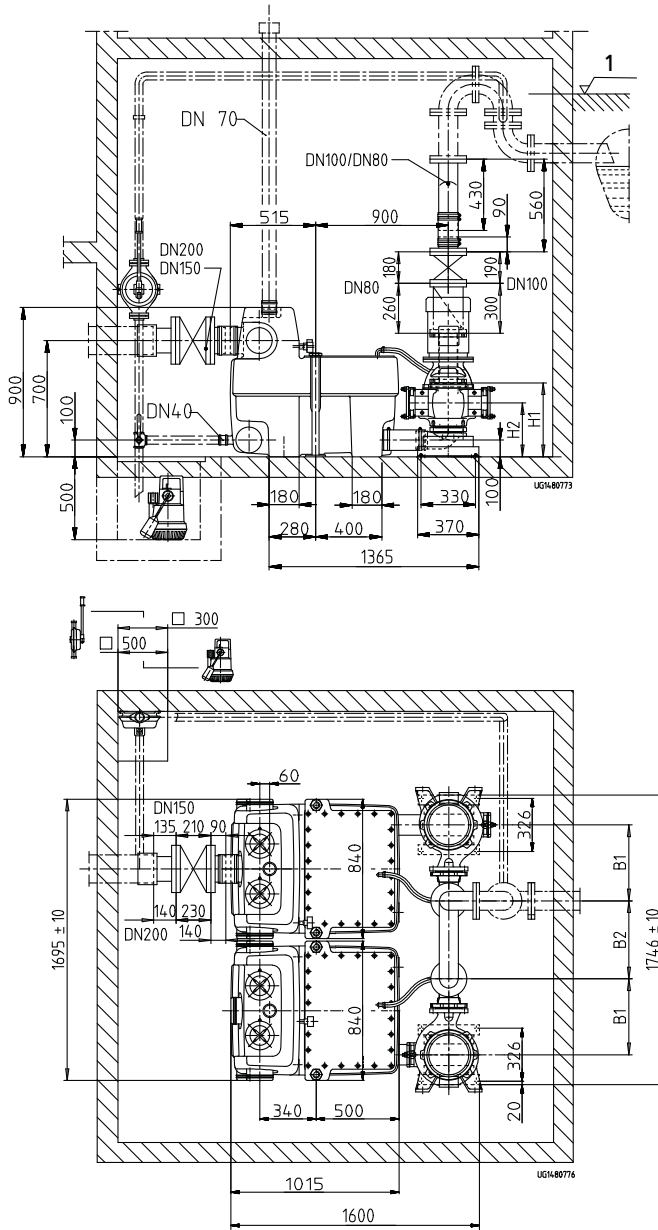


Fig. 5: Installation dimensions Compacta UZ, ZF, ZK20.900 D to 67.900 D [mm]

1	Flood level
---	-------------

Table 27: Dimensions of the pump set

Pump set	Hydraulics code	B1	B2	H1	H2
		[mm]	[mm]	[mm]	[mm]
Amarex KRT F 80-253	20-26	390	605	405	270
Amarex KRT F 100-215	27a-29	455	470	385	265
Sewabloc F 80-215	60-67	385	605	405	270

Pump set	Hydraulics code	B1	B2	H1	H2
		[mm]	[mm]	[mm]	[mm]
Sewabloc F 80-216	30-38	385	605	405	270
Sewabloc K 80-250	50-53	385	605	390	255
Sewabloc F 100-251/254	40-49	455	470	405	285
Sewabloc K 100-254	54-56	455	470	405	285

2317.53/10-EN

Connection nozzles
Table 28: Connection nozzles by model

Compacta	Inlet side	Discharge side	Vent	Connection for hand diaphragm pump
UZ 20 - 26.450 D ZF 30 - 36.450 D ZK 50 - 53.450 D ZF 60 - 67.450 D	Horizontal: 2 × DN 150 1 × DN 200/150, graded, inlet nozzle level 700 mm	DN 80	DN 70	DN 40 (Rp 1 1/2)
UZ 20 - 26.900 D ZF 30 - 36.900 D ZK 50 - 53.900 D ZF 60 - 67.900 D	Horizontal: 2 × DN 150 2 × DN 200/150, graded, inlet nozzle level 700 mm	DN 80	2 × DN 70	DN 40 (Rp 1 1/2)
UZ 27a - 29.450 D ZF 40 - 49.450 D ZK 54 - 56.450 D	Horizontal: 2 × DN 150 1 × DN 200/150, graded, inlet nozzle level 700 mm	DN 100	DN 70	DN 40 (Rp 1 1/2)
UZ 27a - 29.900 D ZF 40 - 49.900 D ZK 54 - 56.900 D	Horizontal: 2 × DN 150 2 × DN 200/150, graded, inlet nozzle level 700 mm	DN 100	2 × DN 70	DN 40 (Rp 1 1/2)

Scope of supply

Compacta UZ, ZF, ZK

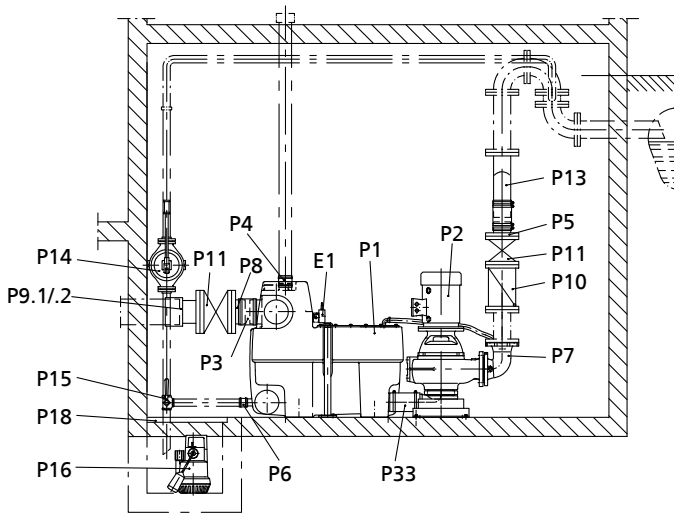


Fig. 6: Compacta UZ, ZF, ZK

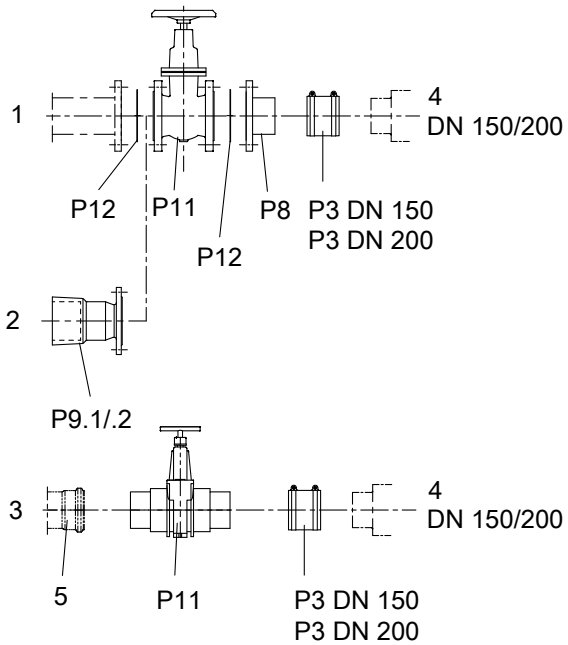


Fig. 7: Inlet line of Compacta UZ, ZF, ZK

1	Flanged connection
2	Connection by flanged socket or flange adapter
3	Waste water pipe connection
4	Connection to the collecting tank
5	Supplied by operator

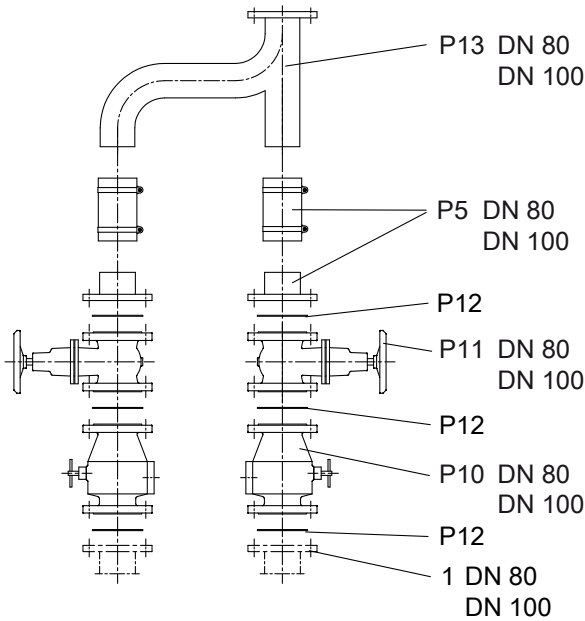


Fig. 8: Discharge line of Compacta UZ, ZF, ZK

1	Flanged bend
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Table 29: Items included in the scope of supply of Compacta UZ, ZF, ZK

Item	Description
P1	Collecting tank
P2	Waste water pump
P3	Flexible hose connection DN 150 (inflow)
P4	Flexible hose connection and hose clips (venting)
P5 ⁴⁾	Flexible hose connection for discharge line, consisting of stub flange, fabric-reinforced rubber hose
P6	Flexible hose connection (hand diaphragm pump)
P7	Flanged bend
P33	Flexible hose connection for collecting tank / pump DN 100, fabric-reinforced rubber hose
E1	Analog level sensor for pumps and alarm buzzer
E3	Electronic control unit with integrated alarm circuit and charging circuit, with high-quality rechargeable battery and alarm buzzer

Table 30: Accessories of Compacta UZ, ZF, ZK

Item	Description
P3	Flexible hose connection and hose clips DN 200 (inlet)
P8	Stub flange
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 ⁴⁾	Check valve
P11 ⁴⁾	Gate valve
P12 ⁴⁾⁵⁾	Set of installation accessories
P13	Y-pipe with installation accessories
P13.1 ⁵⁾	Transition flange DN 80/100 or DN 100/150 to larger discharge line diameter (to be fitted downstream of Y-pipe)
P14	Hand diaphragm pump
P15	Three-way plug valve
P16	Fully automatic drainage pump Ama-Drainer SE/SD
P18	Cover plate

⁴ Two nos./sets are included and required per discharge line.

⁵ Not shown in drawing

Item	Description
E50 ⁵⁾	AS 0 alarm switchgear
E51 ⁵⁾	AS 2 alarm switchgear
E52 ⁵⁾	AS 4 alarm switchgear
E53 ⁵⁾	AS 5 alarm switchgear
E55 ⁵⁾	AS 1 alarm switchgear
E64 ⁵⁾	F1 leakage sensor

Control units

The control units offered feature an integrated acoustic alarm and a volt-free signaling contact. The volt-free signaling contact serves to transmit a fault message (e.g. to a control room). The control units are supplied in enclosure IP54 and must be installed in a well-ventilated, flood-proof room.

LevelControl Basic 2 product description



Description

- Three-phase connection
- Integrated master switch
- 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 data analysis of thermal circuit breaker (UZ) or PTC (ZF, ZK) and motor protection switch
- 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
Table 31: Variant-specific special features of LevelControl Basic 2

Control unit	Description
LevelControl Basic 2 ZD040-P (BS2 400 DVNQ 040)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 1.5 kW ▪ DOL starting
LevelControl Basic 2 ZD063-P (BS2 400 DVNQ 063)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 2.2 kW ▪ DOL starting
LevelControl Basic 2 ZD100-P (BS2 400 DVNQ 100)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 4 kW ▪ DOL starting
LevelControl Basic 2 ZD140 (BS2 400 SVNA 140)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 5.5 kW ▪ Star-delta starting
LevelControl Basic 2 ZD180 (BS2 400 SVNA 180)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 7.5 kW ▪ Star-delta starting
LevelControl Basic 2 ZD230 (BS2 400 SVNA 230)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 11 kW ▪ Star-delta starting
LevelControl Basic 2 ZD250 (BS2 400 SVNA 250)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 15 kW ▪ Star-delta starting
LevelControl Basic 2 ZD400 (BS2 400 SVNA 400)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 22 kW ▪ Star-delta starting
LevelControl Basic 2 ZD630 (BS2 400 SVNA 630)	<ul style="list-style-type: none"> ▪ Dual-pump control unit in sheet steel housing ▪ For controlling two pumps driven by three-phase motors with power ratings of up to 30 kW ▪ Star-delta starting

Accessories
Lifting unit accessories
Table 32: Overview of lifting unit accessories

Item	Description	Connection	Compacta													Mat. No.	[kg]	
			UZ 20 - 26.450	ZF 30 - 38.450	ZF 60 - 67.450	ZK 50 - 53.450	UZ 20 - 26.900	ZF 30 - 38.900	ZF 60 - 67.900	ZK 50 - 53.900	UZ 27a - 29.450	ZF 40 - 49.450	ZK 54 - 56.450	UZ 27a - 29.900	ZF 40 - 49.900			ZK 54 - 56.900
	Flexible hose connection (inlet) For inlet line, with fabric-reinforced hose and two hose clips	DN 150	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	18040338	0,7	
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18040972	0,7
	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	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	-	-	-	-	-	-	19070679	5,2	
		DN 100/100	-	-	-	-	-	-	-	-	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	L ⁶⁾	18041616	5,4
	Expansion joint (discharge side) For creating a flexible connection with DN 150, without length limiter, material chloroprene rubber, face-to-face length 130 mm, flanges drilled to PN 10/16, EN 1092-1	DN 150/150	-	-	-	-	-	-	-	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	01908551	12,9	
	Stub flange Flange drilled to PN 16, EN 1092-1/2 ⁸⁾	DN 80/80	X	X	X	X	X	X	X	X	-	-	-	-	-	11036016	4	
		DN 100/100	-	-	-	-	-	-	-	-	X	X	X	X	X	X	19075270	4,5
		DN 150/150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19075269	9,1
		DN 200/200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19075271	12,3
	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 ⁸⁾ DN 150 for outside pipe diameter of 170 mm DN 200 for outside pipe diameter of 222 mm	DN 150	X	X	X	X	X	X	X	X	X	X	X	X	X	01020844	14,5	
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	00263071	18,5
	Flange adapter Grey cast iron, for connecting pipes made 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	DN 150	X	X	X	X	X	X	X	X	X	X	X	X	X	01070641	7,5	
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	01132654	8,3
	Swing check valve, PN 16 Material: grey cast iron, with full bore, lifting device with wing screw to EN 12 050-4	DN 80	X	X	X	X	X	X	X	X	-	-	-	-	-	48829254	16,5	
		DN 100	-	-	-	-	-	-	-	-	X	X	X	X	X	X	48829255	20,9
		DN 150	-	-	-	-	-	-	-	-	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	X ⁷⁾	48829256	60
	Gate valve, PN 1 Material: PVC, for inlet line with connection nozzle	DN 150	X	X	X	X	X	X	X	X	X	X	X	X	X	01121714	9,2	
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	01506896	13,4
	Gate valve to KSB's choice, PN 10 Material: grey cast iron, flanges drilled to PN 10/16, to EN 1092-1/2 ⁸⁾	DN 80	X	X	X	X	X	X	X	X	-	-	-	-	-	01056708	18,9	
		DN 100	-	-	-	-	-	-	-	-	X	X	X	X	X	X	01056709	22,5
		DN 150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	01056710	42,7
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	01132653	61,5

⁶⁾ Included in the scope of supply

⁷⁾ For discharge lines expanded at the site to DN 150






⁸⁾ DN 200 drilled to PN 10

⁹⁾ Two swing check valves required for the discharge line of UZ dual-pump lifting units

Item	Description	Connection	Compacta													Mat. No.	[kg]	
			UZ 20 - 26.450	ZF 30 - 38.450	ZF 60 - 67.450	ZK 50 - 53.450	UZ 20 - 26.900	ZF 30 - 38.900	ZF 60 - 67.900	ZK 50 - 53.900	UZ 27a - 29.450	ZF 40 - 49.450	ZK 54 - 56.450	UZ 27a - 29.900	ZF 40 - 49.900			ZK 54 - 56.900
	Set of installation accessories For one flange connection made of steel or grey cast iron, with 8 hexagon head bolts with nuts and 1 gasket	DN 80	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18072644	1
		DN 100	-	-	-	-	-	-	-	-	X	X	X	X	X	X	18060163	1,4
		DN 150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18076348	2
		DN 200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18040967	4,2
	Y-pipe Material: steel, A = 525 mm, with 8 hexagon head bolts, nuts and 1 sealing element, flange drilled to PN 16, DIN EN 1092-1/2	DN 80	X	X	X	X	-	-	-	-	-	-	-	-	-	19074517	13	
		Y-pipe Material: steel, A = 605 mm, with 8 hexagon head bolts, nuts and 1 sealing element, flange drilled to PN 16, DIN EN 1092-1/2	DN 80	-	-	-	-	X	X	X	X	-	-	-	-	-	19074518	13,5
		Y-pipe with 8 hexagon head bolts, nuts and 1 sealing element, flange drilled to PN 10/16, EN 1092-1/2	DN 100	-	-	-	-	-	-	-	-	X	X	X	-	-	18040252	15,6
		Y-pipe Material: steel, A = 470 mm, with 8 hexagon head bolts, nuts and 1 sealing element, flange drilled to PN 10/16, EN 1092-1/2	DN 100	-	-	-	-	-	-	-	-	-	-	-	X	X	18040723	8
	Adapter flange 16 stay bolts, discs and nuts, L = 30 mm, flange drilled to PN 16, DIN EN 1092-1/2	DN 80/100	X	X	X	X	X	X	X	X	-	-	-	-	-	01533961	8,88	
		DN 100/150	-	-	-	-	-	-	-	-	X	X	X	X	X	X	01134592	12
	Hand diaphragm pump Material: grey cast iron ¹⁰⁾	Rp 1 1/2	X	X	X	X	X	X	X	X	X	X	X	X	X	00520485	12	
	Three-way plug valve Material: brass, with wrench WAF 22	Rp 1 1/2	X	X	X	X	X	X	X	X	X	X	X	X	X	19053063	1,5	
	¹⁰⁾		X	X	X	X	X	X	X	X	X	X	X	X	X			
	Cover plate Material: steel Tread-proof, split, with profile seals and angle iron mounting frame (type A 560) for 500 x 500 mm pits		X	X	X	X	X	X	X	X	X	X	X	X	X	18075627	13	
	Blind flange Material: Steel, for closing the pump casing when the rotating assembly has been removed		X	-	-	X	X	-	-	X	X	X	X	X	X	18040353	10,4	
			-	X	X	-	-	X	X	-	-	-	-	-	-	-	18041729	11,5







¹⁰⁾ For pump sump drainage refer to KSB's AmaDrainer pump series.

Alarm switchgears for pumps, non-ATEX-compliant
Table 33: AS 0/AS 1/AS 2/AS 4/AS 5

Item	Description	Mat. No.	[kg]
E50	 <p>Alarm switchgear AS 0 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp Plastic housing, IP20, H x W x D = 140 x 80 x 57 [mm]. Use float switch, F1 leakage sensor (item E64), M1 alarm contactor or signal relay of control unit as contactor.</p>	29128401	0,5
E51	 <p>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 x W x D = 140 x 80 x 57 [mm]. Use float switch, F1 leakage sensor (item E64) or signal relay of control unit as contactor.</p>	29128422	0,5
E52	 <p>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 x W x D = 140 x 80 x 57 [mm]. Use float switch (E60), F1 leakage sensor (item E64) or signal relay of control unit as contactor.</p>	29128442	0,5
E53	 <p>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 x W x D = 190 x 165 x 75 [mm]. Use float switch (E60) or signal relay of control unit as contactor.</p>	00530561	1,7
E55	 <p>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-meter 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.</p>	00533740	0,9

Control unit / switchgear accessories

Table 34: Overview of control unit/switchgear accessories

Item	Description	Mat. No.	[kg]
E64	 F1 leakage sensor ¹¹⁾ 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 ¹²⁾ 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 ¹²⁾	01139930	0,1
E72	 Yellow alarm strobe light, 12 V DC, 195 mA, IP65 ¹²⁾	01056355	0,3
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
Optional components			
O203	 Signalling module for LevelControl Basic 2 BS	19075185	1,1

The LevelControl Basic 2 control unit features an internal mains-independent acoustic alarm (buzzer) and a volt-free signaling contact.

The volt-free signaling 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.

¹¹⁾ In combination with alarm switchgears AS 0, AS 2, AS 4 or LevelControl

¹²⁾ In combination with AS 5 or Level Control Basic 2



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