



made in Germany

- Sanitary Installations
- Water
- Sewage
- Industry



move water.

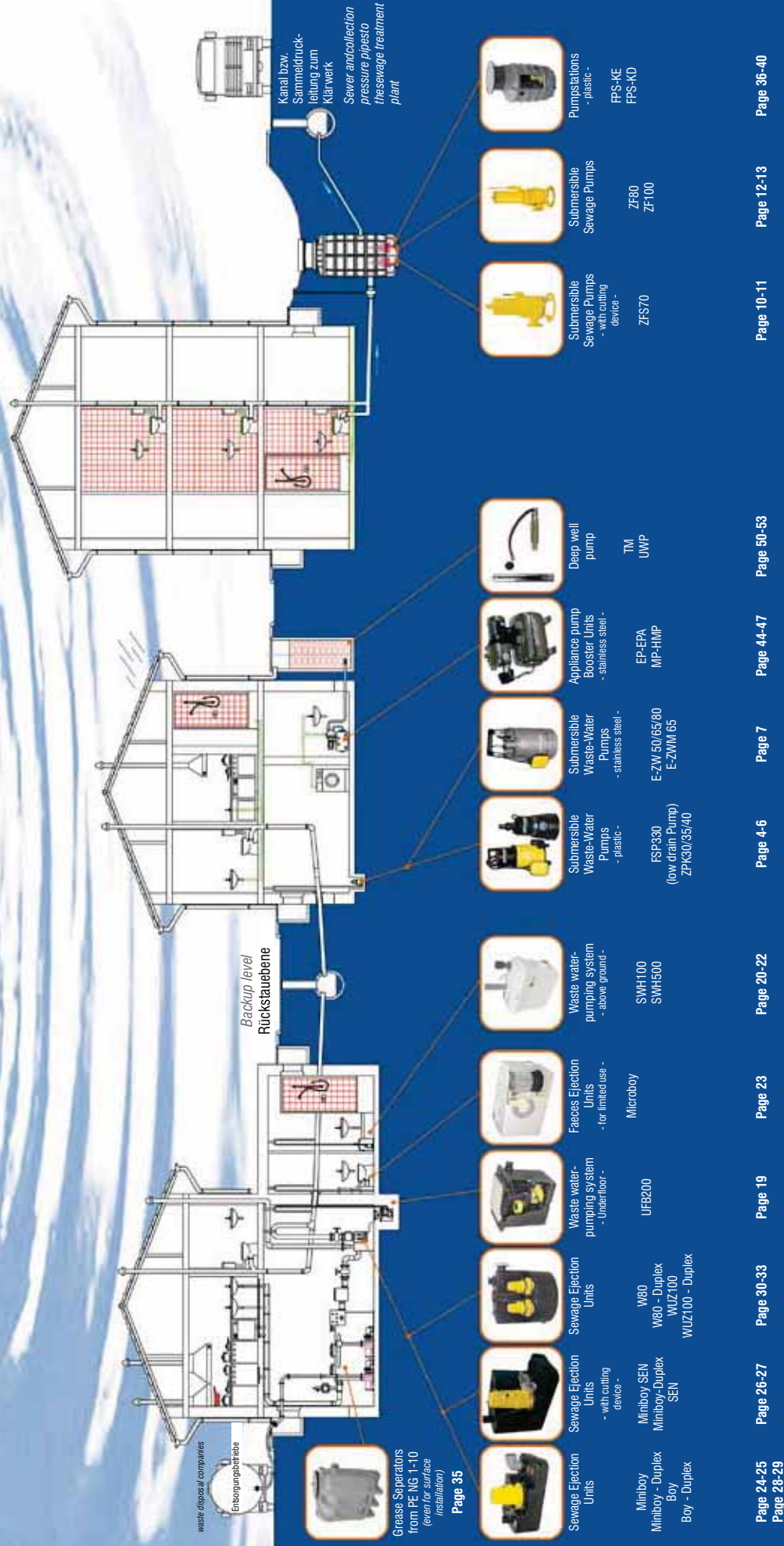
move water.



Zehnder
PUMPEN

Content overview at a glance

Competent pump technology in industry and in the home



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Series ZPK without cutting device / **SWP** with cutting device



ZPK 30 A

SWP 40 A

FEATURES:

- submersible waste water pump in mono block system, made of corrosion- and shock resistant plastic and high-grade stainless steel
- protection grade IP 68 – fully submersible
- motor winding protected with a thermal overload
- sealed with a mechanical-seal and additional shaft seal
- integrated cutting device made of a special alloy
- 10 m power cable with 3 pin plug
- version A mounted with a float-switch
- SWP 40 with integrated cutting device made of special alloy for the crushing of leaves, small branches and other material
- not suitable for removal of waste water containing faeces

APPLICATIONS:

- removal of clear and dirty water out of pits and trenches, draining of cellars etc.
- portable pump for emergency dewatering
- draining of domestic waste water without faeces from showers, washing machines, washbasins etc.
- S-ZPK is a pump suitable for use with aggressive mediums

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]	price group
ZPK 30	26300	300	130	230	1,3	2800	7,0	7,5	10	4,7	A
ZPK 30 A	26301	300	130	230	1,3	2800	7,0	7,5	10	4,7	A
S-ZPK 30	26355	300	130	230	1,3	2800	7,0	7,5	10	4,7	B
S-ZPK 30 A	26354	300	130	230	1,3	2800	7,0	7,5	10	4,7	B
ZPK 35	26350	850	430	230	3,7	2800	11,0	11,0	10	6,3	A
ZPK 35 A	26351	850	430	230	3,7	2800	11,0	11,0	10	6,3	A
S-ZPK 35	26356	850	430	230	3,7	2800	11,0	11,0	10	6,3	B
S-ZPK 35 A	26359	850	430	230	3,7	2800	11,0	11,0	10	6,3	B
ZPK 40	26400	850	430	230	3,7	2800	10,0	10,0	30	6,5	A
ZPK 40 A	26401	850	430	230	3,7	2800	10,0	10,0	30	6,5	A
SWP 40 A	15041	850	430	230	3,7	2800	12,0	10,0	Cutter	6,8	A

operation temperature: 40°C (short-term 90°C)

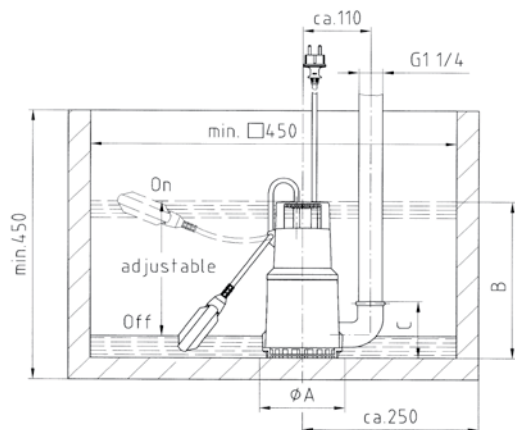
TÜV approved

DIMENSIONS:

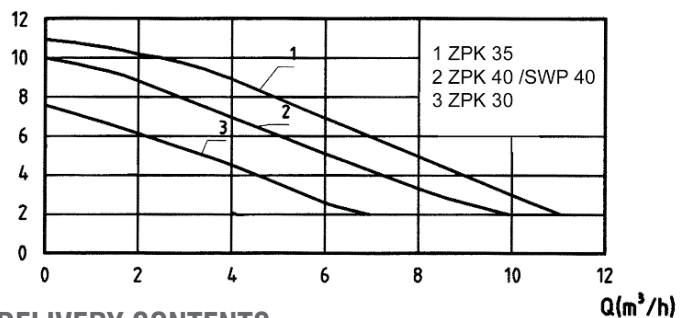
Type	Diameter A [mm]	Total height B [mm]
ZPK 30	150	270
ZPK 35	150	300
ZPK 40	150	345
SWP 40	160	345

ACCESSORIES:

Description	Item-No.	price group
non-return valve 1 1/4"	50003	B
gate valve 1 1/4"	115032	B



H(m) CHARACTERISTICS:



DELIVERY CONTENTS:

- ZPK/SWP, including 90° bend (ZPK 30: DN 25, ZPK 35/40 and SWP: DN 32)
- 10 m power cable with 3 pin plug

Low drain pump FSP 330



FEATURES:

- submersible waste water pump in mono block system made of corrosion- and shock-resistant plastic and stainless steel
- protection grade IP 68 – fully submersible
- motor winding protected with a thermal overload
- sealed with a mechanical seal and additional shaft seal
- removes up to 10 mm and removes down to 1 mm
- electronic level control for low drain pump, available as an accessory

APPLICATIONS:

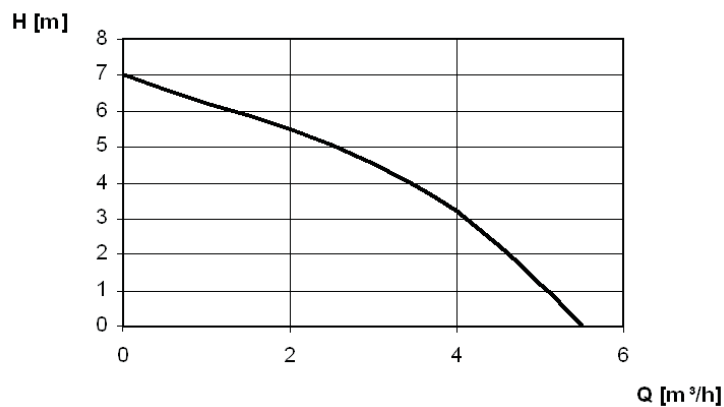
- removal of clear and dirty water out of pits and trenches, draining of cellars etc.
- portable pump for emergency dewatering
- everywhere there where water must be „complete“ remove

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]
FSP 330	27031	300	160	230	1,3	2800	5,5	7,0	1	4,7
ENS 1.1 for FSP	129130	electronic level control for flat vacuum cup FSP 330 for automatic operation								
ENS 1.1 Universal	129131	electronic level control for additional mount with 300 mm electrode length for universal application (function "Exhaustion" or "Filling" ajustable), I _{max} = 6 A								

operation temperature: 40°C (short-term 90°C)

CHARACTERISTICS:



DIMENSIONS:

Type	Diameter A [mm]	Total height B [mm]
FSP 330	150	250

DELIVERY CONTENTS:

- FSP 330, including connection DN 20, 10 m power cable with 3 pin plug, integrated non-return valve

FSP 330 with electronic level control



including float-switch for pumps



Item-No.: 550.040
price group B

electronic level control ENS 1.1



Series ZM / TDP



ZM 280 A



ZM 650 A



TDP 800 A

FEATURES ZM / TDP:

- Submersible waste water pump in block construction from corrosion-resistant, impact-resistant plastic and high quality stainless steel
- Protection level IP 68 - fully waterproof motor winding with integrated thermal winding shield
- Sealed by sliding ring seal and additional shaft sealing ring
- Motor shaft and housing from stainless steel
- Sheath flow cooling
- vertical pressure outlet 1"
- TDP 800 multi-stage submersible pressure pump with large head
- Model A with float switch

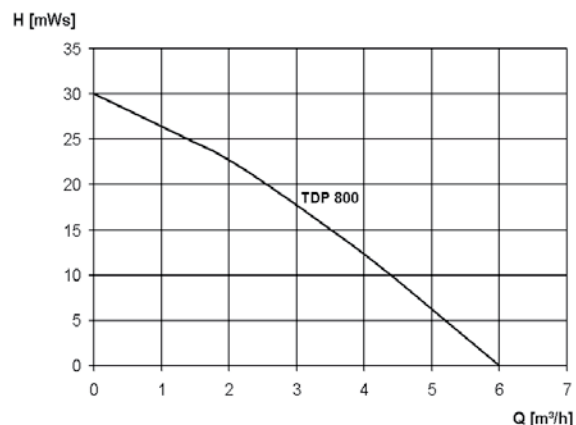
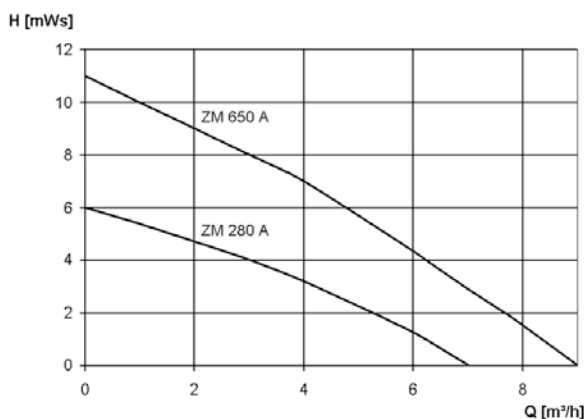
APPLICATIONS:

- **ZM 280** and **ZM 650** for the conveyance of clear and waste water
- **TDP 800** for the conveyance of lightly contaminated waste water and for watering gardens for large conveyance heads

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]
ZM 280	27027	300	160	230	1,3	2800	7,0	6,0	10	4,1
ZM 280 A	27028	300	160	230	1,3	2800	7,0	6,0	10	4,1
ZM 650	80.164	600	350	230	2,9	2800	9,0	11,0	10	6,3
ZM 650 A	80.165	600	350	230	2,9	2800	9,0	11,0	10	6,3
TDP 800 A	27500	760	410	230	2,9	2800	6,0	30,0	3	6,5

CHARACTERISTICS:



DIMENSIONS:

Type	Diameter A [mm]	Total height H [mm]
ZM 280, ZM 280 A	150	270
ZM 650 A	170	300
TDP 800	150	350

DELIVERY CONTENTS:

- plug ready installed
- pump with 10 m connection cable and power plug

Series E-ZW 50 - 80



FEATURES:

- submersible waste water pump in mono block system made of stainless steel
- protection grade IP 68 – fully submersible
- motor winding protected with a thermal overload
- E-ZW sealed with a mechanical seal and additional shaft seal
- pump housing, motor housing, shaft and suction strainer are made of stainless steel, impeller made of polyamide
- jacket cooled single phase motor
- solids size 10 - 30 mm
- vertical pressurized discharge 1 ¼" IG
- controlled by a mounted float-switch

APPLICATIONS:

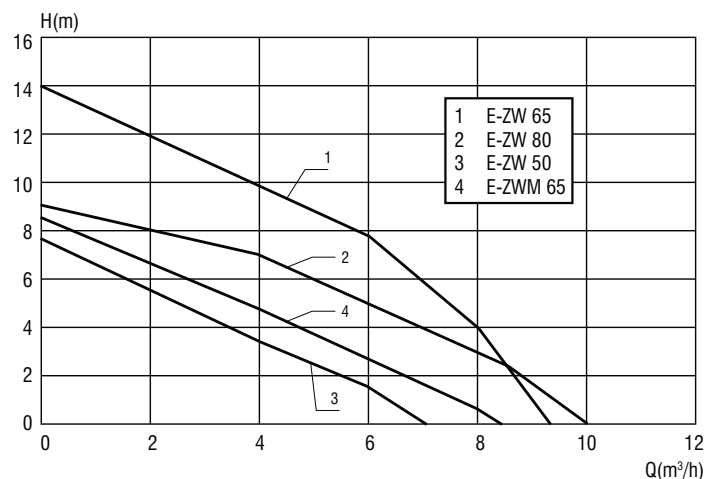
- removal of dirty water with suspended material (no stones)
- portable pump for emergency dewatering and emptying of canals
- not suitable for removal of waste water containing faeces

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]
E-ZW 50 A-2	22016.0	380	210	230	1,8	2800	7,5	7,5	10	6,5
E-ZW 65 A	80.565	850	430	230	3,7	2800	9,5	14,0	10	8,0
E-ZW 80 A	80.580	850	430	230	3,7	2800	10,0	9,0	30	9,0
E-ZWM 65 A	80.570	600	350	230	2,9	2800	8,5	8,5	10	8,5

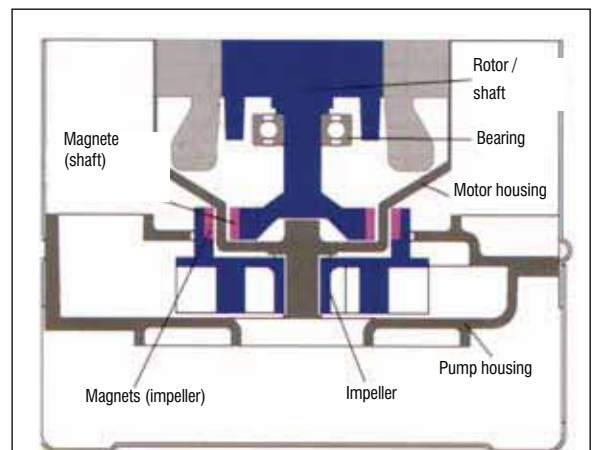
operation temperature: 40°C (short-term 90°C)

CHARACTERISTICS:



DIMENSIONS:

Type	Diameter A [mm]	Total height H [mm]
E-ZW 50 A-2	175	340
E-ZW 65 A, E-ZWM 65 A	175	358
E-ZW 80 A	175	372



submersible pump without mechanical seal, the coupling between motor and impeller is magnetic.

Type: E-ZWM 65 A MAGNET

suitable for continuous operation:

- circulating pump
- cascade pump
- draining pump

DELIVERY CONTENTS:

- pump with 10 m power cable with 3 pin plug

Series ZPG 50 / ZPG 70 (also as Ex-model)



FEATURES:

- submersible waste water pump in mono block system made of cast iron
- for portable or fixed applications
- motor winding protected with a thermal overload (except ZPG 50 D)
- sealed with tandem mechanical seals (ZPG 70) or mechanical seal and additional shaft seal (ZPG 50)
- pump housing, motor housing and impeller made of cast iron, shaft made of stainless steel
- driven by a three-phase or single phase motor
- ZPG 50 - impeller with **45 mm clearance**
- ZPG 70 - impeller with **20 mm clearance**
- pressurized discharge DN 50
- ZPG 50 W (version A) mounted with a float-switch
- ZPG 50.X D and ZPG 70.X with optional float-switch (accessory)

APPLICATIONS:

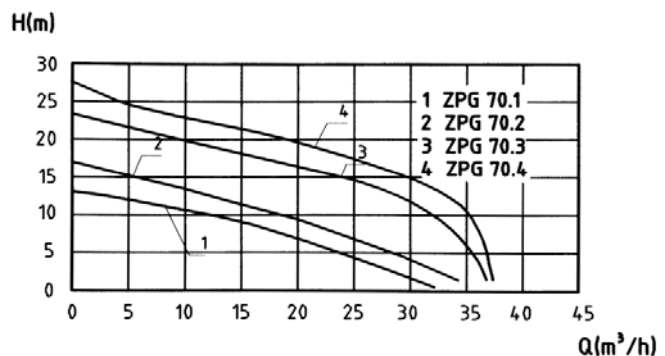
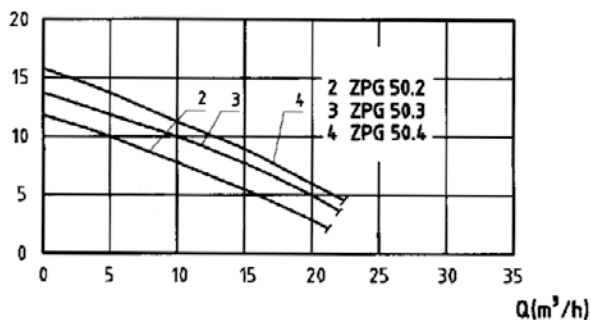
- removal of dirty water without faeces but with solid impurities
- removal of rain- and surface water
- as portable pump for emergency dewatering and emptying of canals

TECHNICAL DATA:

Type	Item-No.	P ₁ [W]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
ZPG 50.2 W	26522	1,1	0,8	230	5,2	2800	23	12,0	23
ZPG 50.2 W A	26522A	1,1	0,8	230	5,2	2800	23	12,0	23
ZPG 50.3 W	26532	1,4	1,0	230	6,2	2800	26	14,0	23
ZPG 50.3 W A	26532A	1,4	1,0	230	6,2	2800	26	14,0	23
ZPG 50.4 W	26542	1,6	1,2	230	7,4	2800	29	16,0	23
ZPG 50.4 W A	26542A	1,6	1,2	230	7,4	2800	29	16,0	23
ZPG 50.2 D	26523	1,1	0,9	400	2,3	2800	23	12,0	23
ZPG 50.3 D	26533	1,4	1,1	400	2,6	2800	26	14,0	23
ZPG 50.4 D	26543	1,6	1,3	400	2,8	2800	29	16,0	23
ZPG 70.1 W	26710	2,2	1,6	230	10,5	2800	32	14	38
ZPG 70.1 D	26711	2,1	1,7	400	3,7	2800	32	14	38
ZPG 70.2 D	26721	2,1	1,7	400	3,7	2800	34	18	40
ZPG 70.3 D	26731	3,9	3,2	400	6,5	2800	36	23	44
ZPG 70.4 D	26741	3,9	3,2	400	6,5	2800	36	28	46
ZPG 70.1 W Ex	26712	2,2	1,6	230	10,5	2800	32	14	38
ZPG 70.1 D Ex	26713	2,1	1,7	400	3,7	2800	32	14	38
ZPG 70.2 D Ex	26723	2,1	1,7	400	3,7	2800	34	18	40
ZPG 70.3 D Ex	26732	3,9	3,2	400	6,5	2800	36	23	44
ZPG 70.4 D Ex	26742	3,9	3,2	400	6,5	2800	36	28	46

operation temperature: 40°C

H(m) CHARACTERISTICS:

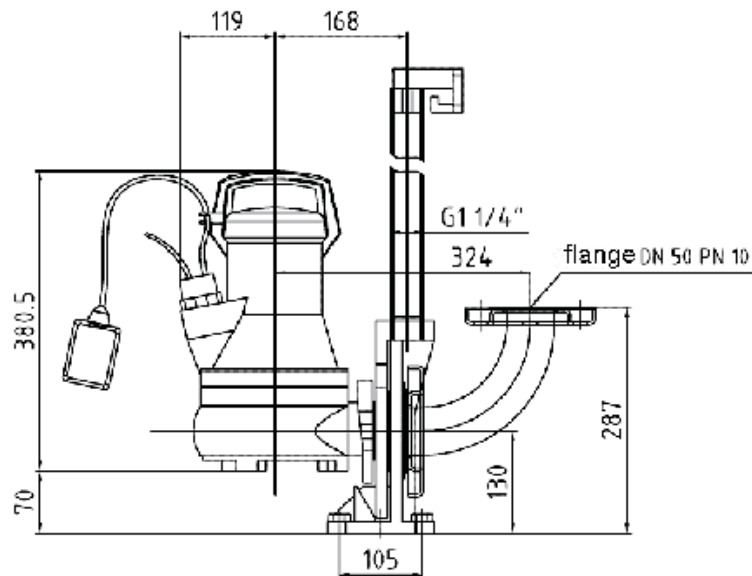


Series ZPG 50 / ZPG 70

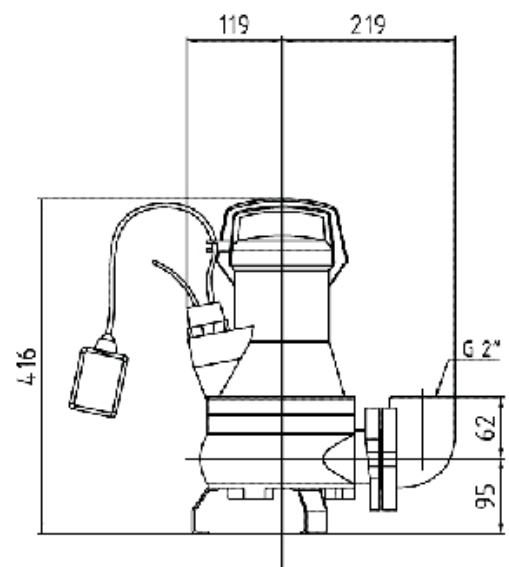
DIMENSIONS:

ZPG 50

fixed application

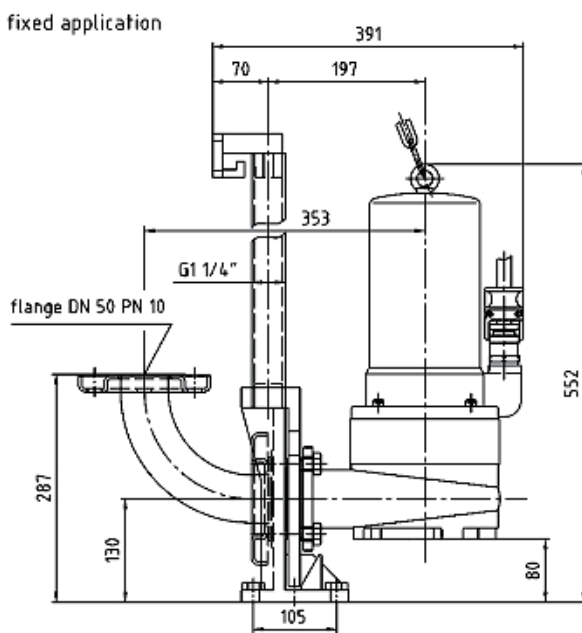


portable application

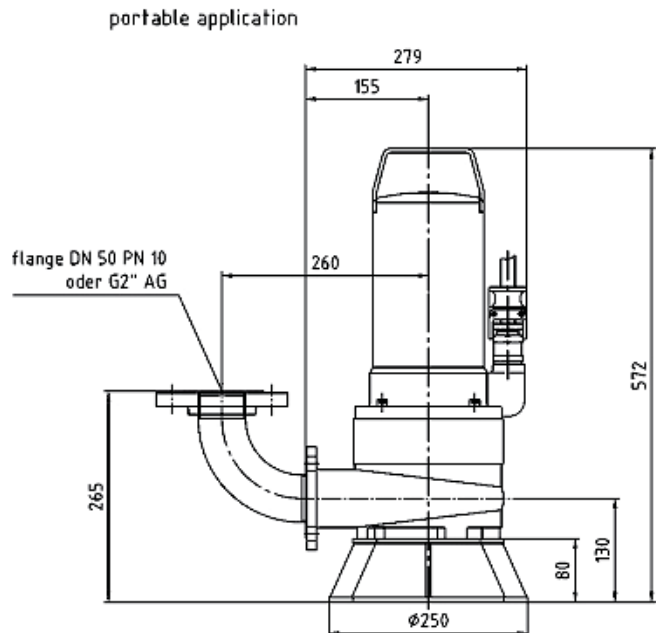


ZPG 70

fixed application



portable application



Accessories: see page 14

DELIVERY CONTENTS:

- ZPG 50 version W (single phase 230 V): pump with 10 m cable and 3 pin plug, (version A) mounted with a float switch
- ZPG 70 version W (single phase 230 V): pump with 10 m cable, switching device with motor protection, capacitor and 3 pin plug
- version D (three-phase 400 V): pump with 10 m power cable without switching device
- pumps only, **supports and 90° outlet bends are not included (accessories see page 14)**

Series ZFS 70



ZFS 70.6

FEATURES:

- submersible sewage pump made of cast iron for portable and fixed applications
- protection grade IP 68 – fully submersible
- motor-, pump housing and impeller made of cast iron
- cutting device made of a special hardened and corrosion resistant alloy
- sealed with tandem mechanical seals with an intermediate oil chamber
- horizontal pressurized discharge DN 50 or 2" IG
- lateral cable entry with strain relief and break protection

APPLICATIONS:

- removal of sewage from collecting canals
- dewatering
- for installation in plastic or concrete sumps
- as cutting device pumps on ejector units

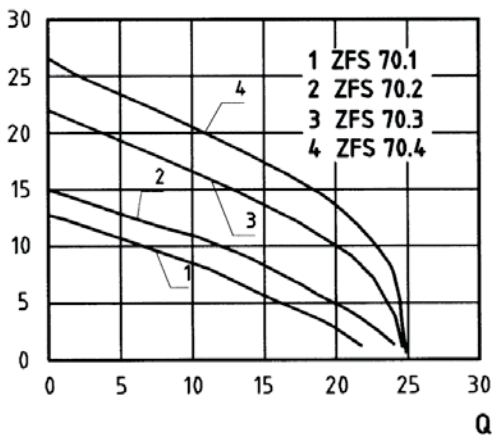
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
ZFS 70.1 W	14010	2,2	1,6	230	10,5	2800	22	13	38
ZFS 70.1 D	14011	2,1	1,7	400	3,7	2800	22	13	38
ZFS 70.2 D	14021	2,1	1,7	400	3,7	2800	24	15	40
ZFS 70.3 D	14031	3,9	3,2	400	6,5	2800	26	22	44
ZFS 70.4 D	14041	3,9	3,2	400	6,5	2800	26	27	46
ZFS 70.1 W Ex	14012	2,2	1,6	230	10,5	2800	22	13	38
ZFS 70.1 D Ex	14013	2,1	1,7	400	3,7	2800	22	13	38
ZFS 70.2 D Ex	14023	2,1	1,7	400	3,7	2800	24	15	40
ZFS 70.3 D Ex	14032	3,9	3,2	400	6,5	2800	26	22	44
ZFS 70.4 D Ex	14042	3,9	3,2	400	6,5	2800	26	27	46
ZFS 70.5 D Ex	14052	2,1	1,7	400	3,7	2800	22	22	42
ZFS 70.6 D Ex	14062	3,9	3,2	400	6,5	2800	14	44	68

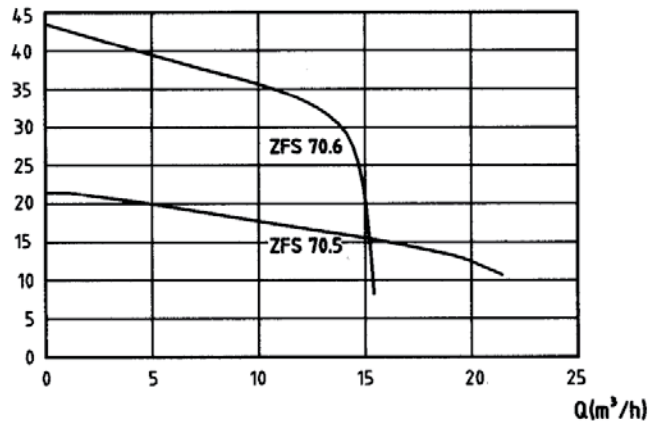
operation temperature: 40°C

CHARACTERISTICS:

H(m)



H(m)



DELIVERY CONTENTS:

- version D (three-phase 400 V) with 10 m cable
- version W Ex (single phase 230 V, explosion protected) with 10 m cable without control box
- version W (single phase 230 V) with 10 m cable, control box with motor protection, capacitor and 3 pin plug
- pumps only, **supports and 90° outlet bends are not included (accessories see page 14)**

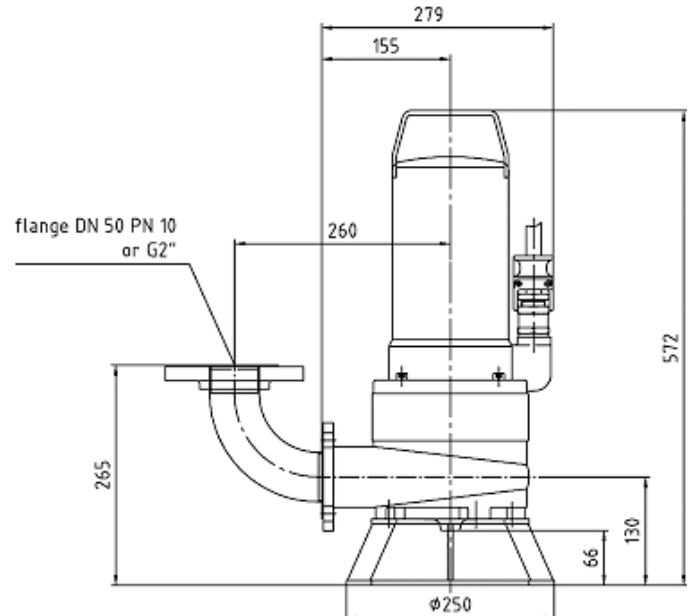
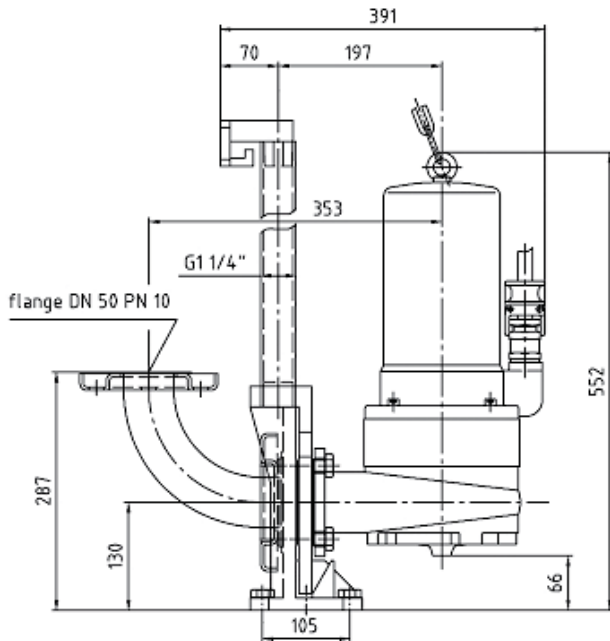
Series ZFS 70

DIMENSIONS:

ZFS 70.1 - ZFS 70.5

fixed application

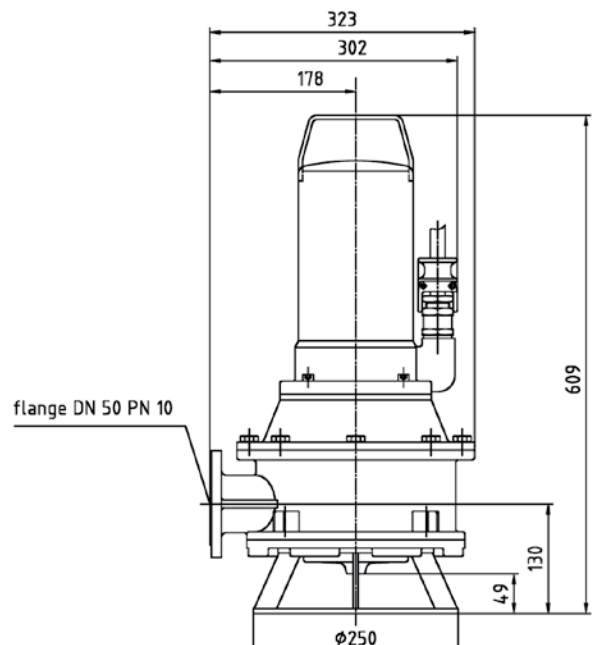
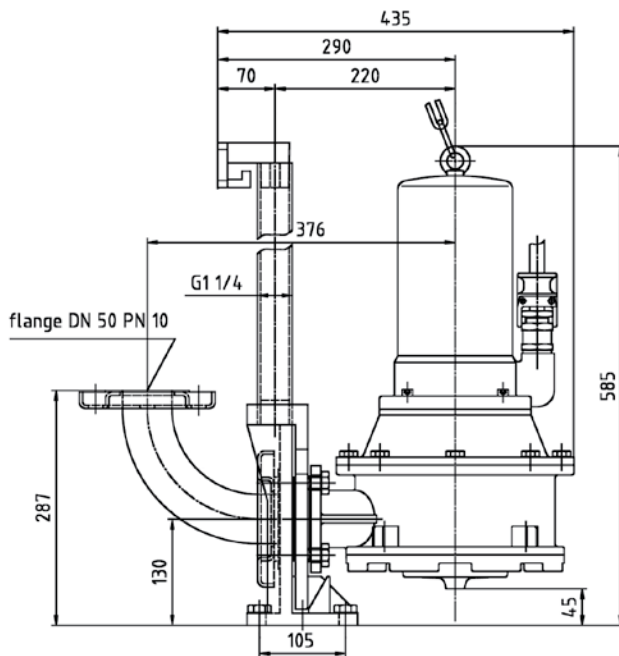
portable application



ZFS 70.6

fixed application

portable application



Accessories: see page 14

Series ZF 80 Ex



FEATURES:

- submersible sewage pumps made of cast iron as mono block pump
- protection grade IP 68 – fully submersible
- motor- and pump housings are made of cast iron
- single vane impeller made of cast iron with fibre cutting tip
- **80 mm clearance** for clog free operation
- sealed with tandem mechanical seals with an intermediate oil chamber
- pressurized discharge DN 100
- **all motors are explosion proof (Ex.)**
- lateral cable entry with strain relief and break protection

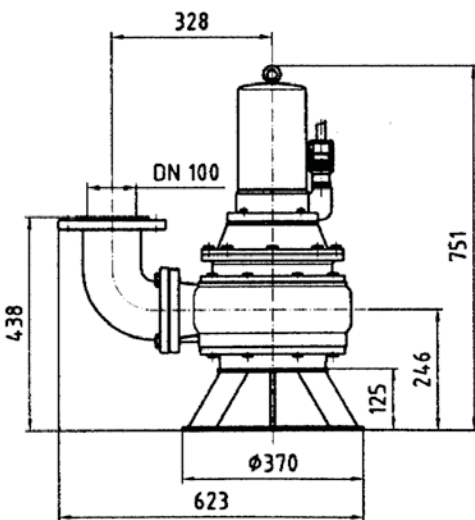
APPLICATIONS:

- removal of waste water containing faeces with coarse- and long-fibre components
- for installation in concret pump stations in the private and public sector
- suitable for vertical or dry installations when not in constant operation (observe intermittent mode S3)

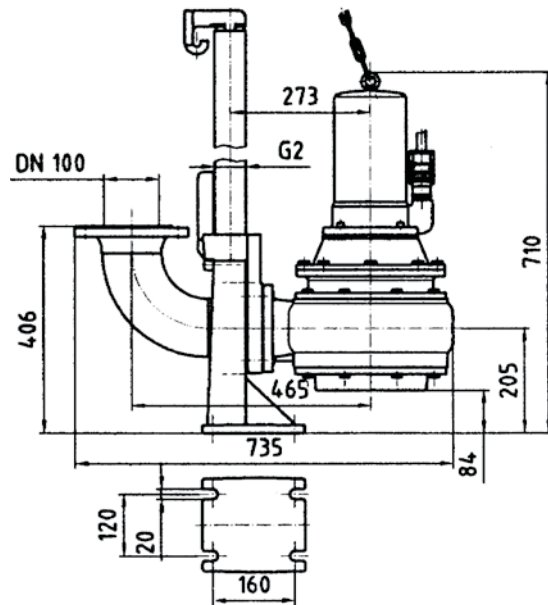
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
ZF 80.1 Ex	12026	3,2	2,5	400	5,7	1450	80,0	8,0	84
ZF 80.2 Ex	12022	3,2	2,5	400	5,7	1450	105,0	11,0	86
ZF 80.3 Ex	12027	4,4	3,3	400	9,5	1450	115,0	14,0	88
ZF 80.4 Ex	12025	4,4	3,3	400	9,5	1450	130,0	17,0	90

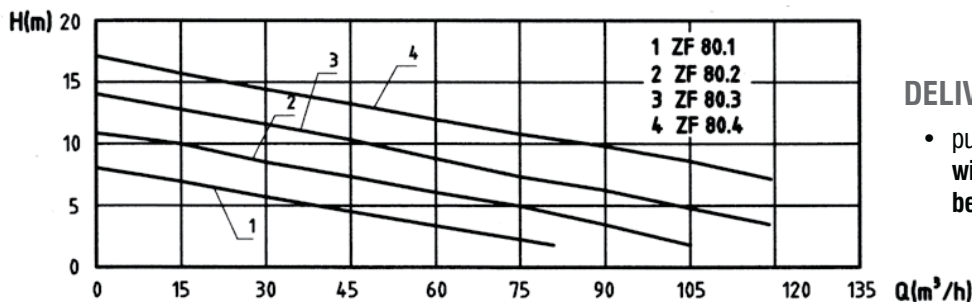
DIMENSIONS INCLUDING BASE SUPPORT:



DIMENSIONS WITH FLANGE COUPLING SYSTEM:



CHARACTERISTICS:



DELIVERY CONTENTS:

- pump with 10 m power cable, **without supports or 90° outlet bend (accessories see page 15)**

Series ZF 100 Ex



FEATURES:

- submersible sewage pump made of cast iron as mono block pump
- protection grade IP 68 – fully submersible
- motor- and pump housing are made of cast iron
- single vane impeller made of cast iron with fibre cutting tip
- **100 mm clearance** for clog free operation
- sealed with tandem mechanical seals with an intermediate oil chamber
- pressurized discharge DN 100
- **all motors are explosion proof (Ex.)**
- lateral cable entry with strain relief and break protection

APPLICATIONS:

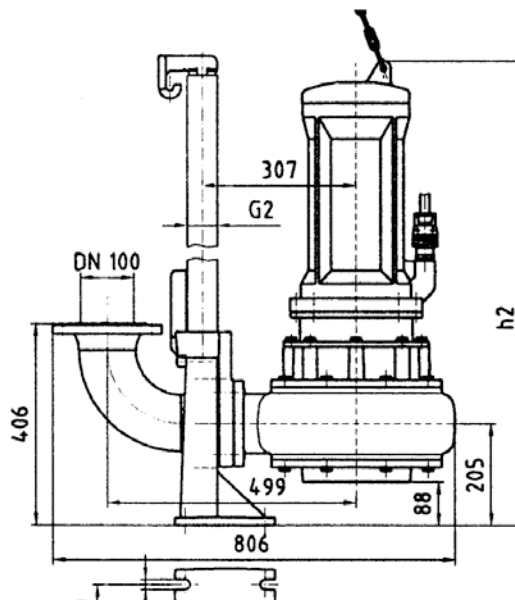
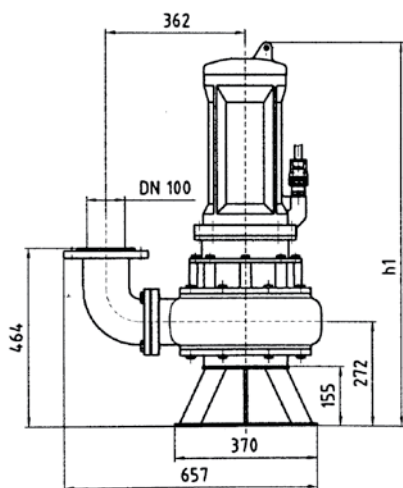
- removal of waste water containing faeces with coarse- and long-fibre components
- installation in concrete pump stations in private and public sector
- suitable for vertical or dry installations when not in constant operation

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
ZF 100 Ex	12031	4,4	3,3	400	9,5	1450	120	10,0	112
ZF 104 Ex	12041	4,4	3,3	400	9,5	1450	140	13,0	142
ZF 105 Ex	12051	6,3	5,5	400	12,1	1450	160	18,0	146
ZF 110 Ex	12061	8,7	7,5	400	16,6	1450	165	22,0	155

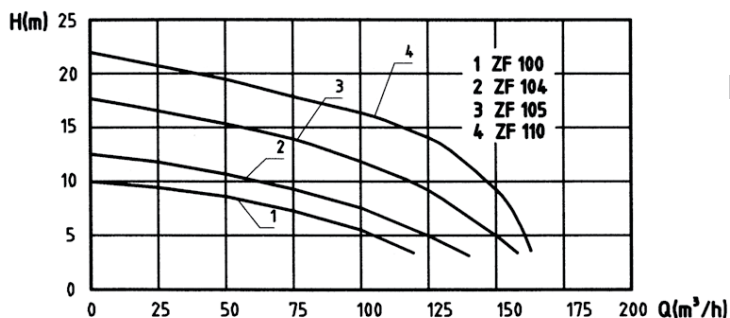
DIMENSIONS INCLUDING BASE SUPPORT:

DIMENSIONS INCLUDING FLANGE COUPLING SYSTEM:



ZF	h 1	h 2
100	815	750
104	815	750
105	1003	936
110	1003	936

CHARACTERISTICS:



DELIVERY CONTENTS:

- pump with 10 m power cable, **without support or 90° outlet bend (accessories see page 15)**

ACCESSORIES FOR SUBMERSIBLE PUMPS

price group B

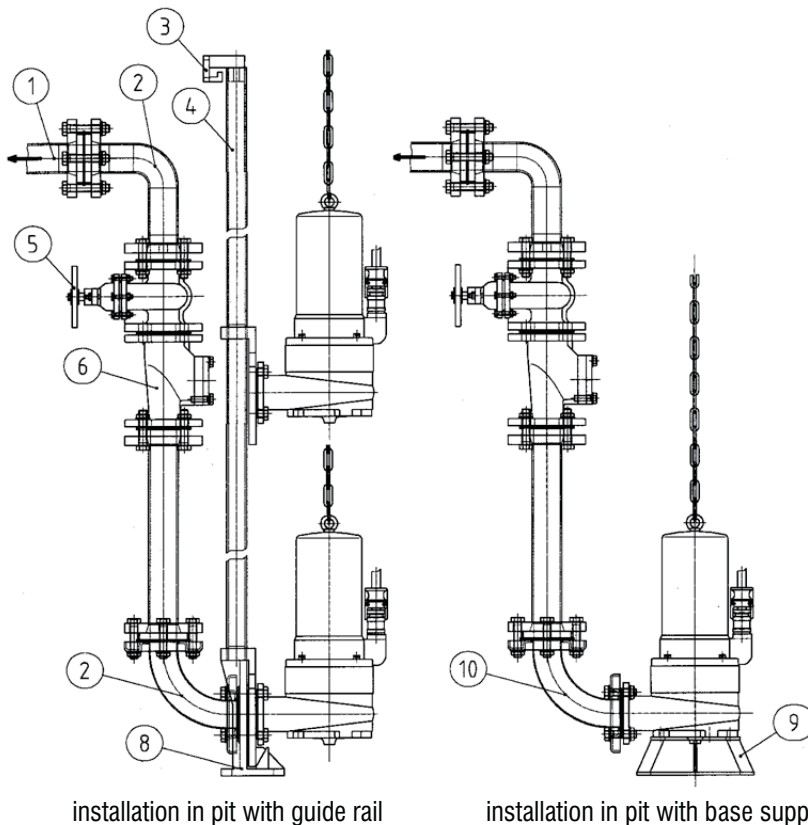
Description		Item-No.
Base support	ZFS/ZPG 70	161170
Support kit for portable application	ZPG 50	161160
Coupling foot with rail bracket and coupling flange	ZPG 50	161407
Coupling foot with rail bracket and coupling flange	ZFS/ZPG 70	161400
90° bend (PE), flanged Q-pipe	DN 50 - 90°	153350
	DN 65 - 90°	153365
	DN 80 - 90°	153380
Flanged 90° bend (stainless steel)	DN 50 - 90°	200.136
Guide rail (galvanized) 1 ¼"	per m	100161
Guide rail (stainless steel) 1 ¼"	per m	240.011
Ball valve (cast iron), flanged	DN 50	50004
	DN 65	50005
Gate valve, flanged	DN 50	116050
	DN 65	116065
Lowering chain, galvanized	per m	102380
Lowering chain, stainless steel	per m	102380.1
Shackle, galvanized (2 pcs. per pump necessary)	for ZFS	120148
Shackle, stainless steel (2 pcs. per pump necessary)	for ZFS	ZE1433
Discharge pipe with one flange (PE)	DN 50 - 1 m	166950
Discharge pipe with two flanges (PE)	DN 50 - 1 m	167050
	DN 65 - 1 m	167065
Discharge pipe (extension) (PE)	DN 50	167950
per m	DN 65	167965
Y-pipe (PE) for duplex unit	DN 50/50/50	161005
	DN 65/50/50	161006
	DN 65/65/65	161007
	DN 80/65/65	161008
	DN 80/50/50	161009
	DN 100/50/50	161011
	DN 80/80/80	161012
Reducing pipe (PE), flanged	DN 50/65	110018
	DN 65/80	110019
	DN 50/80	110023
	DN 50/100	110024
	DN 80/100	110022
Flange	DN 50	160050
	DN 65	116965
Compression Flange adapter	DN 50 - d 63	118003
Discharge pipe, galvanized, 2 x G 2" AG,	per m	129086
Threaded flange, galvanized	DN 50 - G 2" IG	190020
Pipe, long, galvanized	G 2" AG/IG - 90°	190024
Pipe, long, galvanized	G 2" AG/AG - 90°	200.000
Pipe, long, stainless steel	G 2" AG/AG - 90°	200.002
Bend (galvanized)	G 2" AG/AG - 90°	190047
Ball valve made of cast iron	G 2" IG/IG	190023
Vacuum interrupt	G 1" IG/IG	100.098
Non-return valves - plastic	G 1 1/4" IG	50003
	G 1 1/2" IG	50002
	G 2" IG	50001
Gate valve	G 1 1/4"	115032
	G 1 1/2"	115040
	G 2"	115050
Threaded nipple	G 2" AG - 100 mm	129062
Coupling	G 2" on d 63	118001
Bend with clamping screwing for PE	G 2" IG - 90°, d 63	118002
Synthetic hose with attached	2" - 10 m	129082
C-couplings	2" - 20 m	129083

Accessories on Page 15 and 34

ACCESSORIES FOR SUBMERSIBLE PUMPS

price group B

Description		Item-No.
Synthetic hose with attached B-couplings	3" - 10 m	129084
Adapter „B“ - „C“	3" - 20 m	129085
Storz-coupling	„C“ - G 2" IG	129065
	„B“ - G 2 1/2" IG	129022
	„B“ - G 3" IG	129023
	„C“ - G 2" AG	129024
Coupling foot with coupling flange and rail bracket for ZF 80 and ZF 100		129025
Coupling foot with coupling flange and rail bracket for ZF 80 and ZF 100		161500
Pump connection bend with DIN-flange (for installation with base support)	DN 100 - 90°	161100
Pump connection bend with DIN-flanges on both sides (for installation with coupling foot)	DN 100 - 90°	161103
Guide rail (galvanized) 2"	per m	100162
Guide rail (stainless steel) 2"	per m	240.014
Non-return valve (PE), flanged	DN 100	50104
Gate valve, flanged	DN 100	116100
Lowering chain, galvanized,	per m	102380
Lowering chain, stainless steel,	per m	102380.1
Shackle, galvanized (2 pcs. per pump necessary)	for ZF	120149
Shackle, stainless steel (2 pcs. per pump necessary)	for ZF	ZE1494
Base support	ZF 80	161180
	ZF 100	161190
Discharge pipe with 2 flanges	DN 100 - 1 m	167001
	DN 100 - 2 m	167002
	DN 100 - 3 m	167003
Y-pipe (PE) for duplex unit	DN 100/100/100	161010
	DN 125/100/100	161025
	DN 150/100/100	161015
Power cable for ZPG / ZFS	per m	201998
Power cable for ZF	per m	201999



Pos.	Description
1	Discharge pipe
2	Pipe bend 90°
3	Rail bracket
4	Guide rail
5	Gate valve
6	Non-return valve
7	Lowering chain
8	Coupling foot with guide rail
9	Base support
10	Pump connection bend

THREE-PHASE SWITCHING UNITS:



- for the manual operation of a single pump, max. 4,0 kW
- automatic operation is possible with float switch
- incl. motor protection, control of rotation direction, manual-0-automatic switch and 16 A CEE-power plug
- operation and malfunction indication

Nominal current [A]	Item-No.
1,2 - 1,8	114015
1,8 - 2,6	114022
2,6 - 3,7	114060
3,7 - 5,5	114050
5,5 - 8,0	114030
8,0 - 11,5	114040

CONTROL UNITS



ZPS1 LCD with floats

- control unit for wall mounting made of plastic with transparent cover
- and manual-0-automatic switch
- display of operational status via display and LED
- automatic operation of 1 or 2 pumps either three-phase or single phase AC
- automatic change over function by duplex units, automatic control of second
- pump during peak load or malfunction
- programmable start up delay and shut down time (optional)
- optical and acoustical failure indication with potential free output terminal
- automatic level control through dynamic pressure technique with 10 m tube or through a float-switch with 10 m power cable
- display of the operating time and current consumption when using PS-control boxes

Float control units

	Item-No.
Simplex unit, single phase, LCD-display • ZPS1-W	up to 16 A current rating 202001
Duplex unit, single phase, LCD-display • ZPS2-W	up to 14 A current rating 202002
Simplex unit, three-phase, direct connection, LCD-display • ZPS1	up to 16 A current rating 255301
Simplex unit, star-delta connection, LCD-display • ZPS1-SD	up to 16,7 A current rating 215410
Duplex unit, three-phase, direct connection, LCD-display • ZPS2	up to 14 A current rating 255401
Duplex unit, star-delta connection, LCD-display • PS2-LCD-SD	up to 16,7 A current rating 215411
Additional equipment for the use of floats in Ex-sector	
Ex. i. version for simplex units with floats (230V, 400 V)	120100
Ex. i. version for duplex units with floats (230V, 400 V)	130100

DELIVERY CONTENTS:

- incl. float switches with 10 m cable and float control box for wall mounting

Pneumatic control units		Item-No.
Simplex unit, single phase, LCD-display ZPS1-W	up to 16 A current rating	200102
Duplex unit, single phase, LCD-display ZPS2-W	up to 14 A current rating	201993
Simplex unit, three-phase, direct connection, LCD-display ZPS1	up to 16 A current rating	255302
Simplex unit, star-delta connection, LCD-display ZPS1-SD	up to 16,7 A current rating	215402
Duplex unit, three-phase, direct connection, LCD-display ZPS2	up to 12 A current rating	255402
Duplex unit, star-delta connection, LCD-display PS2-LCD-SD	up to 16,7 A current rating	215403
compressorset for airimplant		71035
pneumatic line, 8/6 mm	per m	60222

DELIVERY CONTENTS:

- incl. pitot tube with console and 10 m pneumatic line

ACCESSORIES FOR CONTROL UNITS:

Description	Item-No.
Mechanical seal control device	180201
Cabinet extension for installation of additional equipment (e.g. Voltmeter, mechanical seal control device)	180210
Lockable outdoors cabinet with plastic pedestal for the installing of Control units	
Type 1 sufficient for ZPS 1	180291
Type 3 sufficient for ZPS 2	180293.1
Type 4	180294
Cabinet heating with thermostat	180215
Strobelight for outdoors cabinet (230 V)	180209
Signal lamp for external cabinet (230 V)	180207
Siren (230 V)	180200
Mains independent alarm system for PS controls incl. 12V battery	255500
Strobelight for outdoors cabinet (12 V)	180209.12
Siren (12 V)	180208
Float-switch for alarm circuit with 10 m power cable	550.006
Float-switch for inter-coupling with 3 pin plug and socket, 10 m power cable	129111
Alarm system with washing machine stop	255999
Electronic level control ENS-1.1 as additional component with 300 mm long electrodes for universal application, I_{max} 6 A	129131



ZPS2 with pitot tube



ENS 1.1

E-BW/D



FEATURES:

- robust submersible ground water pump in mono block system
- protection grade IP 68 – fully submersible
- sealed with tandem mechanical seals with an intermediate oil chamber
- housing made of stainless steel, impeller is made of a special steel
- solids size 10 mm
- single phase or three-phase AC motor
- pressurized discharge stortz-coupling C for E-BW/D 150
- pressurized discharge stortz-coupling B for E-BW/D 300
- float switch available as an accessory

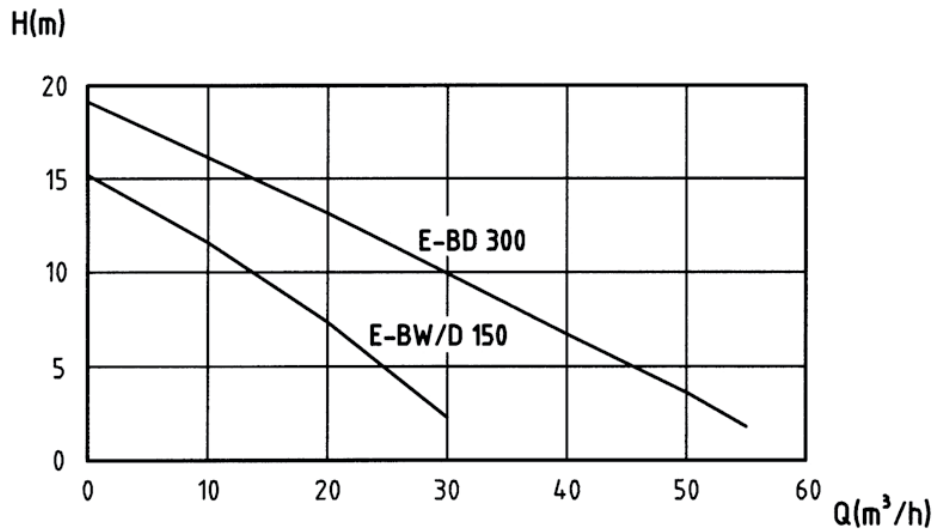
APPLICATIONS:

- groundwater dewatering on construction sites
- not suitable for removal of waste water containing faeces

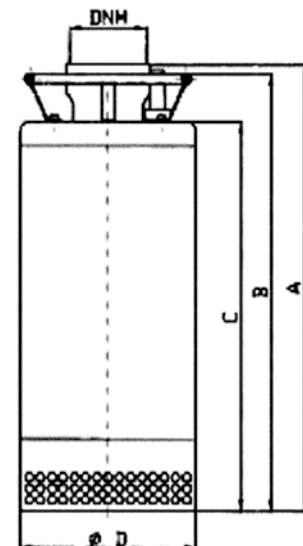
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
E-BW 150	22151	2,2	1,1	230	10	2800	30	16	33
E-BD 150	22152	2,0	1,1	400	4,0	2800	30	16	33
E-BD 300	22302	3,4	2,25	400	6,0	2800	54	19	38

CHARACTERISTICS:



DIMENSIONS:



DELIVERY CONTENTS:

- single phase version (E-BW) with 10 m power cable, control box with motor protection, capacitor and 3 pin plug
- three-phase version (E-BD) with 10 m power cable, three-phase switching device with motor protection and CEE-plug

Type	DNM	A	B	C	D
150	2"	394	402	362	203
300	3"	519	507	452	203

ACCESSORIES: SEE PAGE 14

- e.g. float switch, hose with integrated stortz-couplings

Series UFB 200 (Underground box)



FEATURES:

- polyethylene container with 20 l effective capacity
- with siphon and sand-trap
- plastic grate that can be walked upon; alternatively a lid is also available (see accessories)
- extensions are available (see accessories)
- fitted with a submersible waste water pump with float switch
- operation temperature 40°C (short-term up to 90°C)
- pressurized discharge 1 1/4" with integrated non-return valve
- the cable gland DN 50 PP also functions as an air vent
- an additional DN 50 coupling is supplied and can be installed by drilling a hole in the container

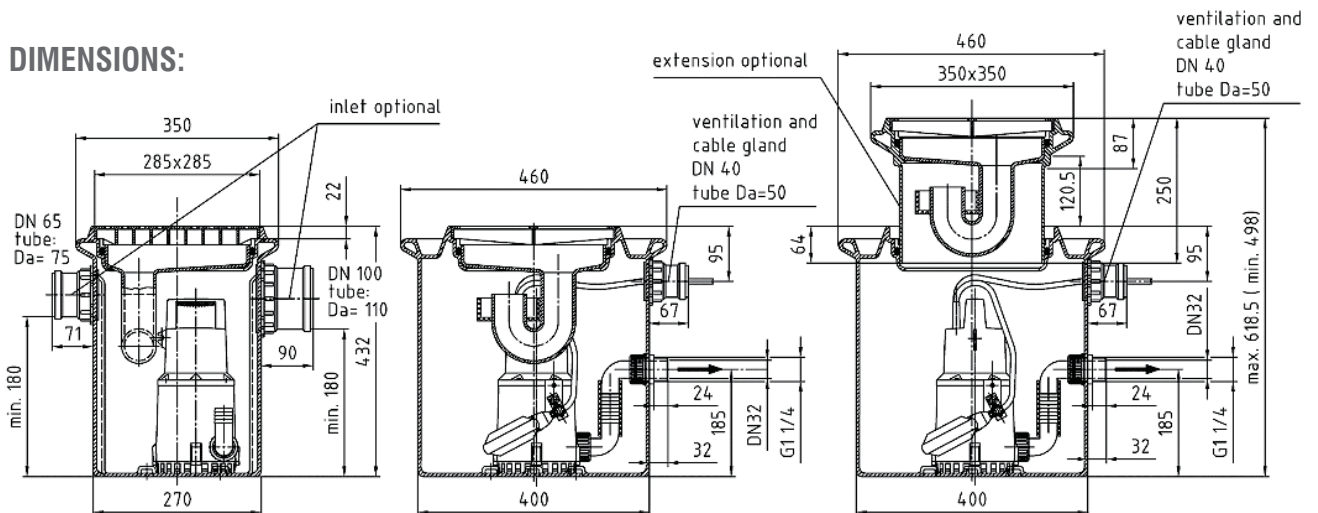
APPLICATIONS:

- removal of domestic waste water **without faeces** from washing machines, showers, washing basins etc.
- for installation underground in rooms, protected from frost

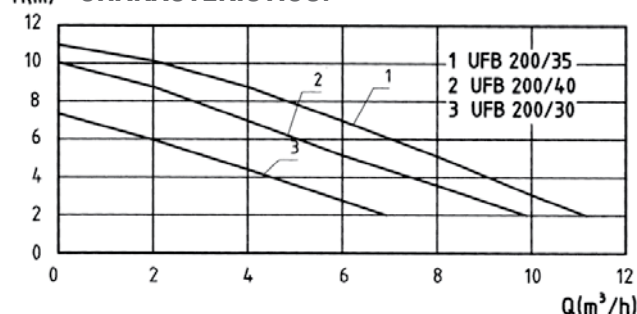
TECHNICAL DATA:

Type	Item-No.	P ₁ [W]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]	price group
UFB 200/30	13300	300	130	230	1,3	2800	7	7,5	10	6,1	A
UFB 200/35	13350	850	430	230	3,7	2800	11	11,0	10	7,0	A
UFB 200/40	13400	850	430	230	3,7	2800	10	10,0	30	8,0	A
Lid	133001										B
Extension	133002										B
Additional connections:											
DN 50	133003										B
DN 70	133004										B
DN 100	133005										B

DIMENSIONS:



CHARACTERISTICS:



DELIVERY CONTENTS:

- plastic grate, siphon, sand-trap, DN 50 inlet coupling and 10 m power cable with 3 pin plug

Series SWH 100 (above-ground box)

NEW



FEATURES:

- easy, no problem installation, plug ready installed
- container in PP with ca. 10 l usable content integrated switch device within tank cover plate with acoustic alarm notification when water level is higher than permitted
- floating contact for external alarm or washing machine stop
- simple installation and maintenance through slide piece for the feed inlet
- the pre-prepared shower inlet, situated 80 mm off the floor, and the separately delivered feeding connection piece can therefore be easily installed without drilling into the tank itself
- operating temperature 40°C (for short periods to 90°C)
- pressure drop 1 1/4" with integrated non-return valve
- tank ventilation by active carbon filter
- 1,5 m connection cable with power current plug

APPLICATIONS:

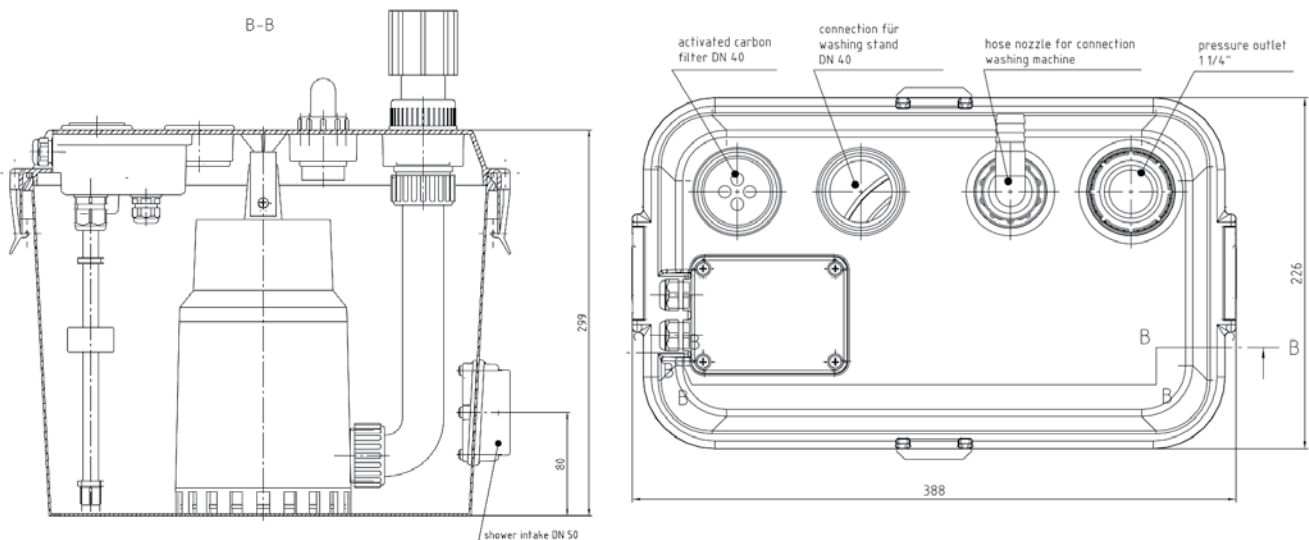
- conveying of domestic waste water **free of raw sewage** from washing machines, showers, other washing devices etc.
- for above floor installation in frost free rooms below the back water level

TECHNICAL DATA:

Type	Item-No.	P ₁ [W]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]	price group
SWH 100	13100	300	130	230	1,3	2800	8,0	6	10	5,0	A
SWH 170	13170	850	430	230	3,7	2800	11,5	10	10	6,0	A
SWH 190	13190	850	430	230	3,7	2800	14,0	11	10	7,0	A
Basement Waste Water Ejector units Series SWH 100 accessories											
WMS	255998	Washing machine stop SWH 100-190									B
	180200	Alarm bell (230 V)									B
	180207	Light signal lamp (230 V)									B

Characteristics: see Page 21

DIMENSIONS:



washing machine stop / characteristic SWH

ACCESSORIES:



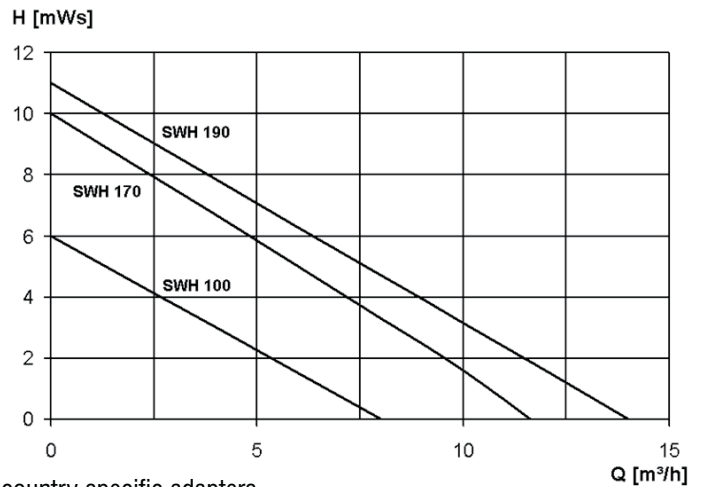
The washing machine stop can be applied everywhere, where units do not dispose of suds directly but through an in-line pumping system.

The switch device is connected to the pumping system contact. The washing machine plug is plugged into the socket of the switchdevice and this in the mains socket. The system is now ready for operation. If the pumping system

fails, the power supply to the washing machine is interrupted.

Connector conforms German standard usable only with the country specific adapters.

CHARACTERISTICS SWH:



CONDENSATE PUMPING SYSTEM

Series ZKH (above-ground box)

NEW



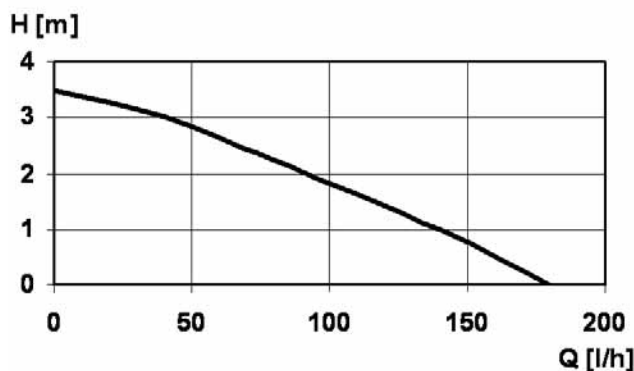
FEATURES:

- The pumping system serves to pump out condensate from the climate control unit and the gas calorific value boilers with a pH-value up to 3.2.
- The On-Off control is automatic by a robust float switch
- If the pumps fail (unacceptably high water level in the tank), an alarm switch can switch off the climate control unit or calorific value boiler (maximum switching capacity 4 A), an alarm buzzer is also included
- Connection for the pressure hose with 6 mm or 9 mm inside diameter, 5 m hose 9 mm included in the scope of delivery
- Integrated non-return valve to prevent the return of condensate Maximum operating temperature 40°C
- 2 m connection cable without plug

TECHNICAL DATA:

Type	Item-No.	U [V]	I _N [A]	Behälter-volumen	Qmax [l/h]	Hmax [m]	Weight [kg]
ZKH 05	13800	230	0,4	0,5 l	180	3,5	1,4

CHARACTERISTICS:



DIMENSIONS:

height 125 mm, width 205 mm, depth 120 mm

Series SWH 500 (above-ground box)



FEATURES:

- polyethylene container with 75 l – effective capacity
- simplex units are installed with an E-ZW submersible waste water pump with a float switch
- duplex units have 2 pumps and a ZPS2-W control unit with pneumatic level control
- pump housing, motor housing, shaft and strainer are made of stainless steel, impeller is made of polyamide
- **solid size 10 mm** for SWH 500/50 and SWH 500/65
- **solid size 30 mm** for SWH 500/80
- operating temperature 40°C (short term up to 90°C) water-proofed cable-gland with 3 m power cable and 3 pin plug

APPLICATIONS:

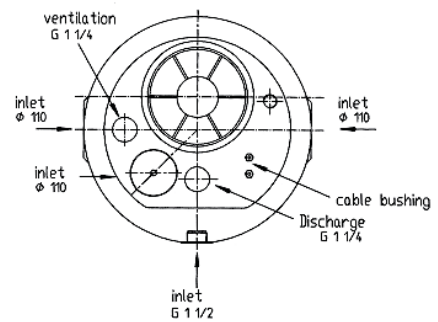
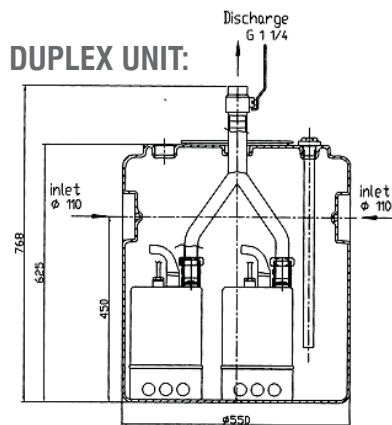
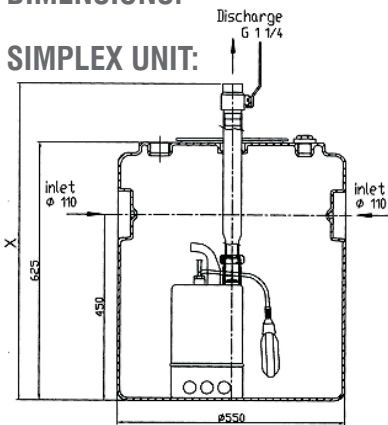
- as ejector units after grease separators
- above-ground installation in rooms protected from frost below the backwash level
- removal of domestic waste water **without faeces** from washing machines, showers etc.

TECHNICAL DATA:

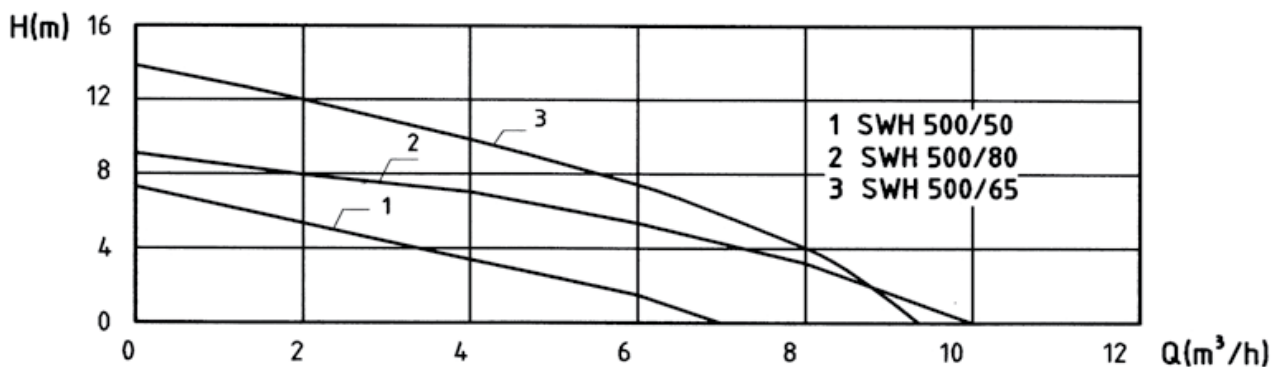
Type	Item-No.	P ₁ [W]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Solids size [mm]	Weight [kg]
SWH 500/50	135.50	380	210	230	1,8	2800	7,5	7,5	10	21,5
SWH 500/50 Duplex	135.50.2	380	210	230	1,8	2800	7,5	7,5	10	28,0
SWH 500/65	135.65	850	430	230	3,7	2800	9,5	14,0	10	23,0
SWH 500/65 Duplex	135.65.2	850	430	230	3,7	2800	9,5	14,0	10	31,0
SWH 500/80	135.80	850	430	230	3,7	2800	10	8,5	30	24,0
SWH 500/80 Duplex	135.80.2	850	430	230	3,7	2800	10	8,5	30	33,0

Available as underground box on request

DIMENSIONS:



CHARACTERISTICS:



MICROBOY



FEATURES:

- polyethylene container for direct connection to EURO-Toilets
- 4 DN 40 inlets on the side for connection of a washbasin, shower or bidet
- air is vented from the container through an active carbon filter
- fitted with a vortex pump with a stainless steel cutting device
- max. temperature of medium is 40°C
- pressurized discharge 1 1/4" IG with integrated non-return valve, either right or left
- alarm signal given when a malfunction occurs
- 1,5 m power cable with 3 pin plug

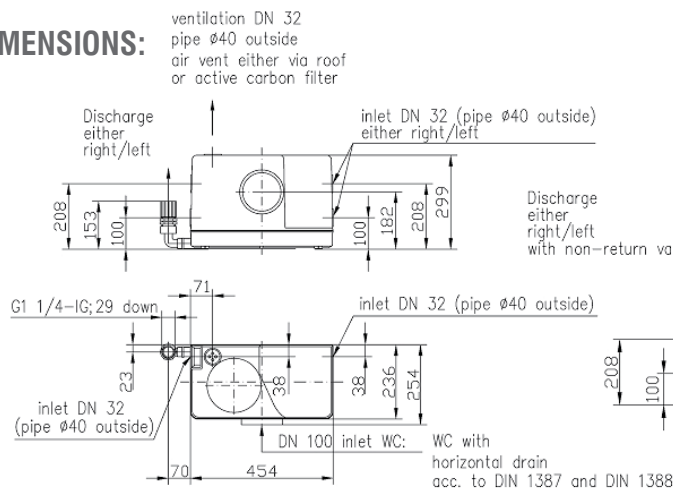
APPLICATIONS:

- single-toilet ejection unit for restricted use according to prEN 1825-3 below the backwash level e.g. in cellars or for the refurbishment of old buildings
- The objects to be drained must be situated in the same room. This unit should only be installed on a system where a second toilet above the backwash level exists. It is only possible to connect one wash basin, shower and bidet, further objects should not to be connected

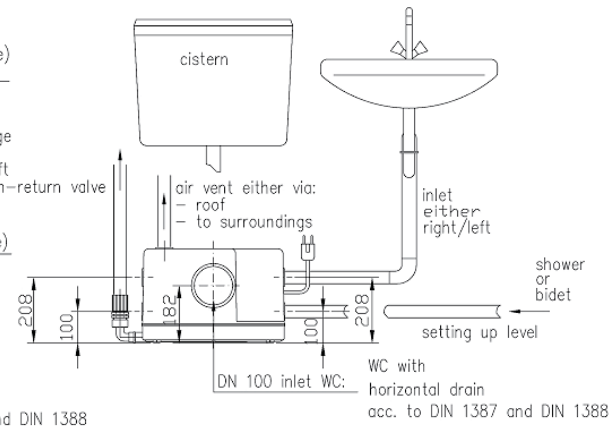
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
MICROBOY	11017 E2	600	350	230	2,5	2800	10	10	11

DIMENSIONS:



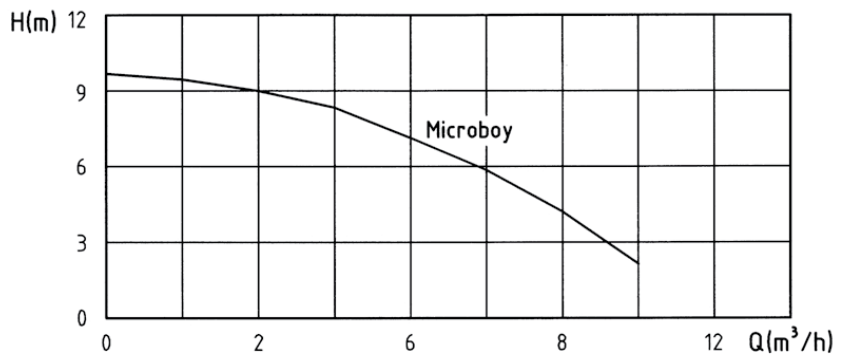
EXAMPLE OF INSTALLATION:



EXAMPLE OF USE:



CHARACTERISTICS:



DELIVERY CONTENTS:

- complete, ready to be plugged in

Miniboy / Miniboy Duplex



SIMPLEX UNIT FEATURES:

- polyethylene container with 55 l effective capacity
- 35 l switching capacity
- simplex unit fitted with a three phase vortex pump
- sealed with a mechanical seal and shaft seal with intermediate oil chamber
- pressurized discharge either DN 80 or DN 100
- inlet for PP-pipe DN 100, rotatable and height adjustable
- additional connections 1 1/2" for manual diaphragm pump
- air vent DN 65 (Ø 75)
- pneumatic level control with LCD-display, potential free terminal for fault and alarm signals
- 3,5 m power cable from motor

APPLICATIONS:

- removal of domestic sewage out of a cellar or a single family house
- above-ground installation in rooms protected from frost below the backwash level



DUPLEX UNITS EXECUTION:

- polyethylene container with 150 l effective capacity
- 75 l switching capacity
- fitted with 2 vortex pumps
- sealed with a mechanical seal and shaft seal with intermediate oil chamber
- 2 DN 100 pressurized discharges
- inlet for PP-pipe DN 100, rotatable and height adjustable
- additional connections 1 1/2" for manual diaphragm pump
- air vent DN 65 (Ø 75)
- pneumatic level control with LCD display, automatic change over function, automatic control of second pump during peak load or malfunction, potential free terminal for fault and alarm signals
- 3,5 m power cable from motors

APPLICATIONS:

- removal of domestic sewage out of single- or multi family houses
- in public institutions, where the disposal of sewage is not allowed to be interrupted
- above-ground installation in rooms protected from frost below the backwash level

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Miniboy 1,5 W	11011	2,0	1,5	230	9,3	1400	40	7,0	40
Miniboy 1,5 D	11010	1,9	1,5	400	3,3	1400	40	7,0	40
Miniboy 3,0 D	11007	4,0	3,0	400	6,9	1400	60	11,0	50
Miniboy Duplex 1,5 D	11015	1,9	1,5	400	3,3	1400	40	7,0	70
Miniboy Duplex 3,0 D	11016	4,0	3,0	400	6,9	1400	60	11,0	90

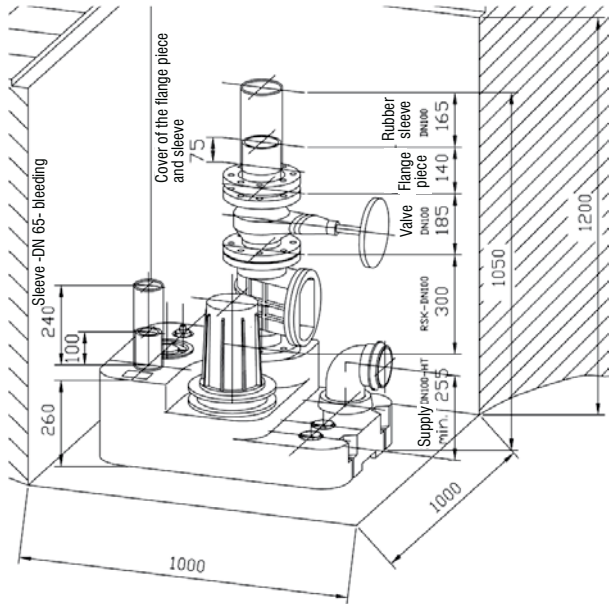
Protection grade: IP 68 **Accessories: see page 34**

DELIVERY CONTENTS:

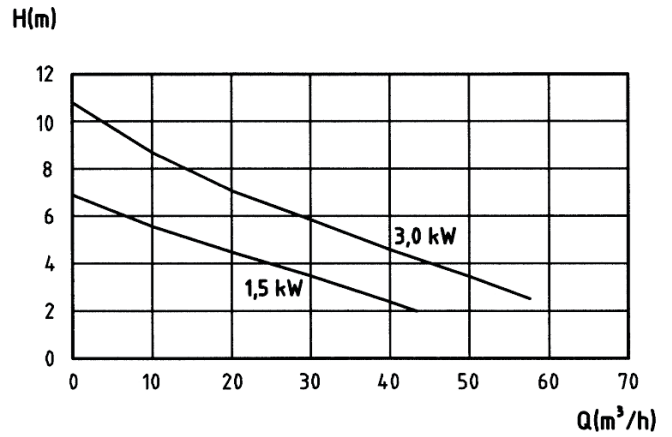
- simplex unit with non-return valve DN 80 or DN 100, flexible connection with fasteners for discharge pipe and air vent, a DN 80 or DN 100 flanged discharge pipe and a control unit
- duplex unit with 2 DN 100 non-return valves, Y-pipe DN 100/100/100, flexible connection with fasteners for discharge pipe and air vent, a DN 100 flanged discharge pipe and a control unit

Miniboy / Miniboy Duplex

EXAMPLE OF INSTALLATION:

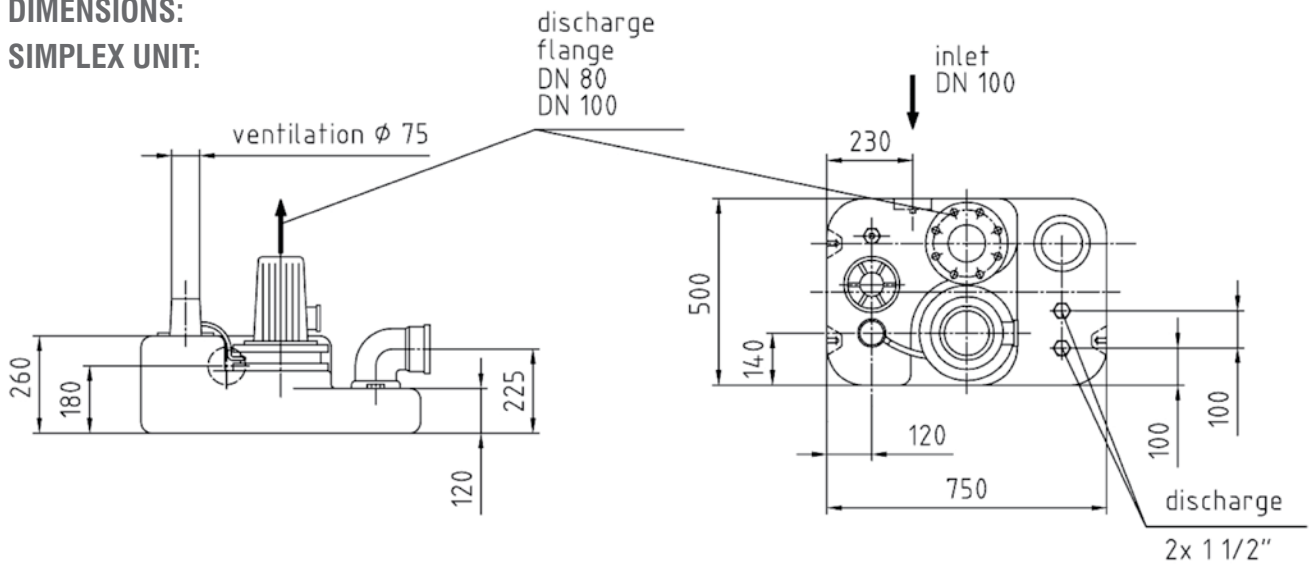


CHARACTERISTICS:

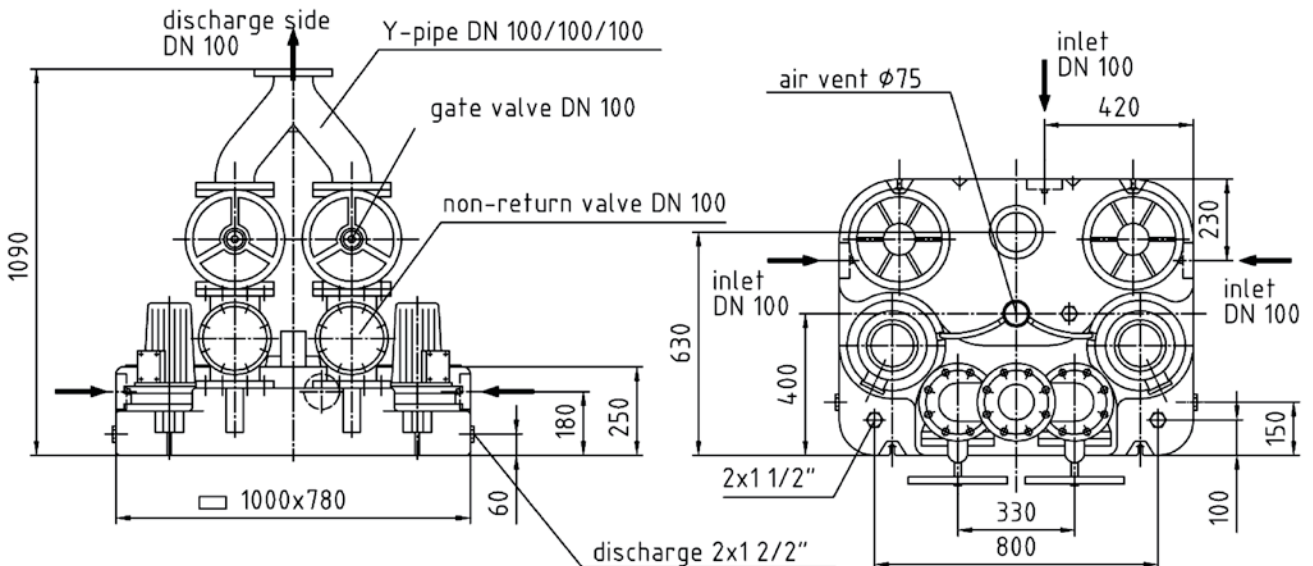


DIMENSIONS:

SIMPLEX UNIT:



DUPLEX UNIT:



Miniboy SEN / Miniboy Duplex SEN**SIMPLEX UNIT FEATURES:**

- polyethylene container with 140 l capacity and 70 l switching volume
- simplex unit is fitted with a three-phase or single phase grinder pump
- sealed with tandem mechanical seal with an intermediate oil chamber
- pressurized discharge either DN 50 or 2" AG
- 2 inlets for DN 100 PP pipe
- additional connection 1 1/2" for a manual diaphragm pump
- air vent DN 65 (Ø 75)
- pneumatic level control with LCD display, potential free terminal for fault and alarm signals
- 3,5 m power cable to motor
- protection grade IP 68

**DUPLEX UNIT FEATURES:**

- polyethylene container with 200 l capacity and 100 l switching volume
- fitted with 2 three phase grinder pumps
- sealed with tandem mechanical seal with an intermediate oil chamber
- 2 DN 50 pressurized discharges
- 2 lateral inlets for DN 100 PP-pipe, another inlet for either a DN 100 (PP pipe) or DN 150 (flange connection)
- additional connections 1 1/2" for manual diaphragms pumps
- air vent DN 65 (Ø 75)
- pneumatic level control with LCD display, automatic change over function; automatic control of second pump during peak load or malfunction; potential free terminal for fault and alarm signals
- 3,5 m power cable from motor
- protection grade IP 68

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Miniboy SEN 1,5 W	11080.1	3,1	2,2	230	13,7	2800	22	13	48
Miniboy SEN 1,5 D	11081.1	2,7	2,2	400	4,6	2800	22	13	48
Miniboy SEN 2,2 D	11084.1	2,7	2,2	400	4,6	2800	24	15	48
Miniboy SEN 3,0 D	11087.1	5,1	4,0	400	8,5	2800	26	22	53
Miniboy SEN 4,0 D	11188.1	5,1	4,0	400	8,5	2800	26	27	53
Miniboy SEN 5,0 D	11190.1	2,7	2,2	400	4,6	2800	22	22	49
Miniboy Duplex SEN 1,5	11082.1	2,7	2,2	400	4,6	2800	22	13	88
Miniboy Duplex SEN 2,2	11085.1	2,7	2,2	400	4,6	2800	24	15	88
Miniboy Duplex SEN 3,0	11083.1	5,1	4,0	400	8,5	2800	26	22	98
Miniboy Duplex SEN 4,0	11189.1	5,1	4,0	400	8,5	2800	26	27	98
Miniboy Duplex SEN 5,0	11191.1	2,7	2,2	400	4,6	2800	22	22	89

CHARACTERISTICS:

- see page 10, ZFS 70.1 - ZFS 70.5

APPLICATIONS:

- disposal of sewage from single houses and apartment blocks with bigger heads or long pressure ducts
- above-ground installation in rooms protected from frost below the backwash level

DELIVERY CONTENTS:

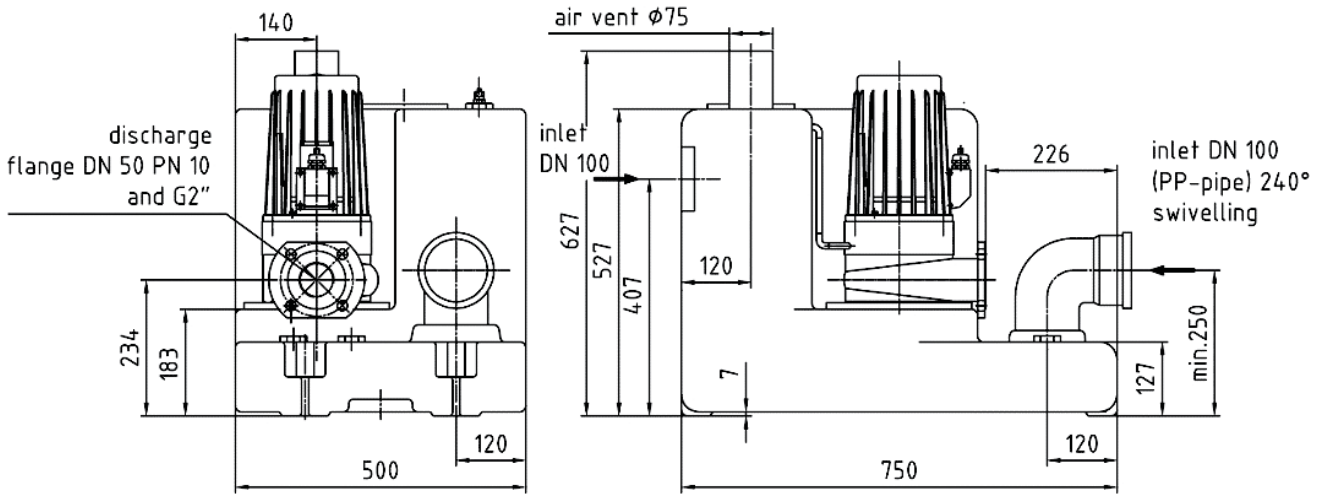
- container and control unit ready for connection, flexible pipe for air vent and DN 50, 90° bend, non-return valve DN 50 as well as Y-pipe made of stainless-steel DN 50/DN50/DN50 (Y-pipe only for duplex units)

Container with special diameters available on request.

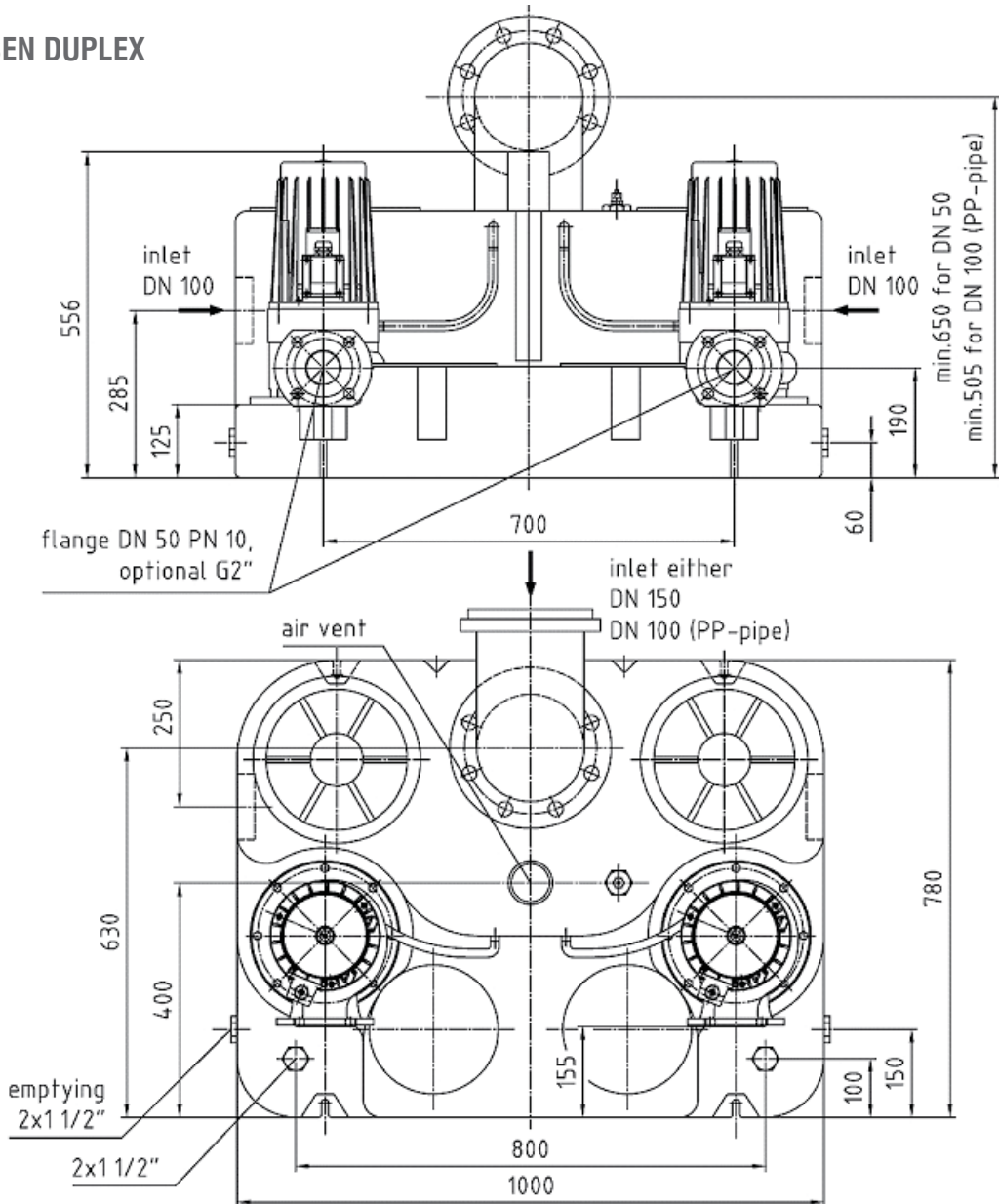
Miniboy SEN / Miniboy Duplex SEN

DIMENSIONS:

MINIBOY SEN



MINIBOY SEN DUPLEX



Boy / Boy Duplex**SIMPLEX UNIT FEATURES:**

- polyethylene container with 140 l effective capacity
- 70 l switching capacity
- simplex unit fitted with a three-phase vortex pump
- sealed with mechanical seal and shaft seal with intermediate oil chamber
- pressurized discharge either DN 80 or DN 100
- 2 DN 100 inlets for PP-pipe
- additional connections 1 1/2" for manual diaphragm pump
- air-vent DN 65 (Ø 75)
- pneumatic level control with LCD display, potential free terminal for fault and alarm signals
- 3,5 m power cable from motor

APPLICATIONS:

- disposal of domestic sewage of single- or multi family houses, small businesses etc.
- above-ground installation in rooms protected from frost below the backwash level

**DUPLEX UNIT FEATURES:**

- polyethylene container with 200 l effective capacity
- 100 l switching capacity
- fitted with 2 vortex pumps
- sealed with a mechanical seal and shaft seal with intermediate oil chamber
- 2 DN 100 pressurized discharges
- 2 lateral DN 100 inlets for PP-pipe, another inlet for either a DN 100 (PP pipe) or a DN 150 (flange connection)
- additional connections 1 1/2" für manual diaphragm pumps
- air vent DN 100 (Ø 110)
- pneumatic level control with LCD display, automatic change over function, automatic control of second pump during peak load or malfunction, potential free terminal for fault and alarm signals
- 3,5 m power cable from motors

APPLICATIONS:

- disposal of domestic sewage of apartment blocks, large businesses etc.
- institutions, where disposal of sewage is not allowed to be interrupted
- above-ground installation in rooms protected from frost below the backwash level

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Boy 1,5 D	11020	1,9	1,5	400	3,3	1400	40	7,0	65
Boy 3,0 D	11021	4,0	3,0	400	6,9	1400	60	11,0	75
Boy Duplex 1,5 D	11030	1,9	1,5	400	3,3	1400	40	7,0	90
Boy Duplex 3,0 D	11031	4,0	3,0	400	6,9	1400	60	11,0	110

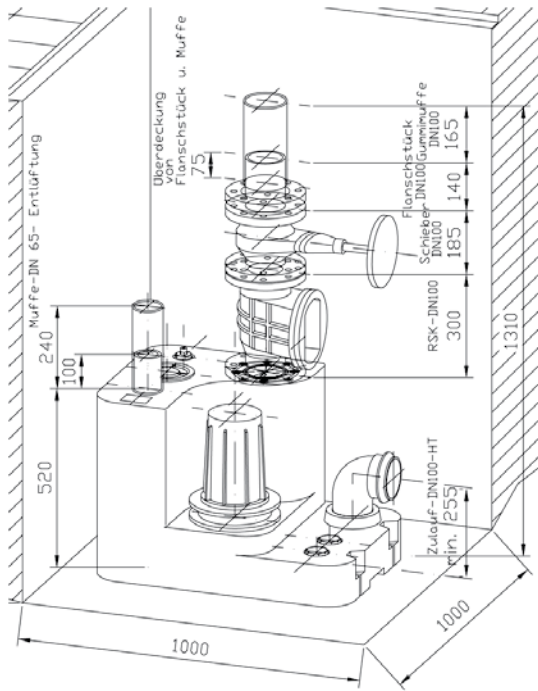
Protection grade: IP 68

Accessories: see page 34**DELIVERY CONTENTS:**

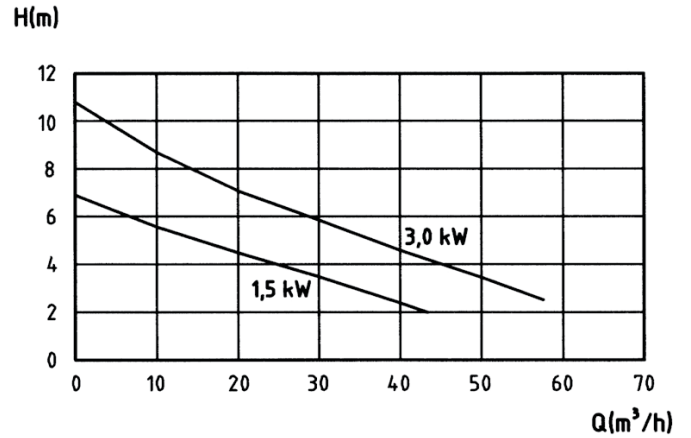
- simplex unit with non-return valve DN 80 or DN 100, flexible connection with fasteners for discharge pipe and air vent, a DN 80 or DN 100 flanged discharge pipe and a control unit
- duplex unit with 2 DN 100 non-return valves, Y-pipe DN 100/100/100, flexible connection with fasteners for discharge pipe and air vent, a DN 100 flanged discharge pipe and a control unit

Boy / Boy Duplex

EXAMPLE OF INSTALLATION:

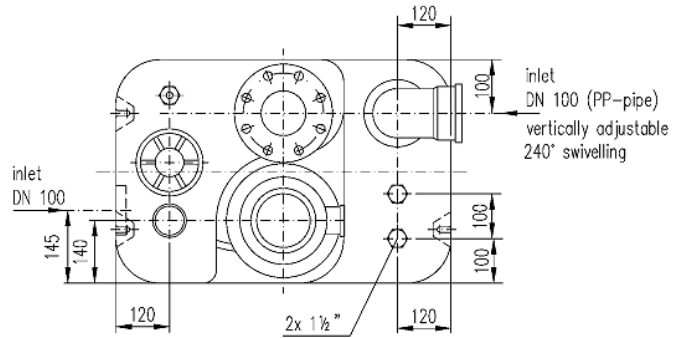
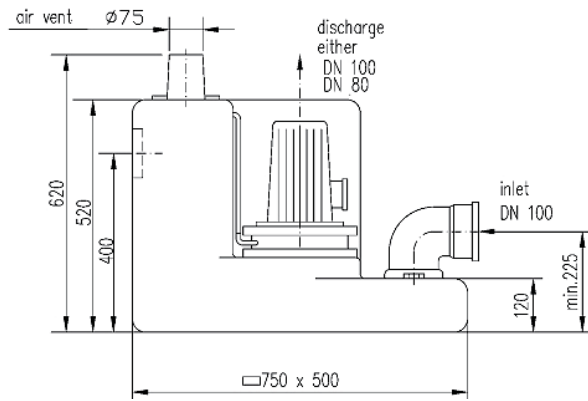


CHARACTERISTICS:

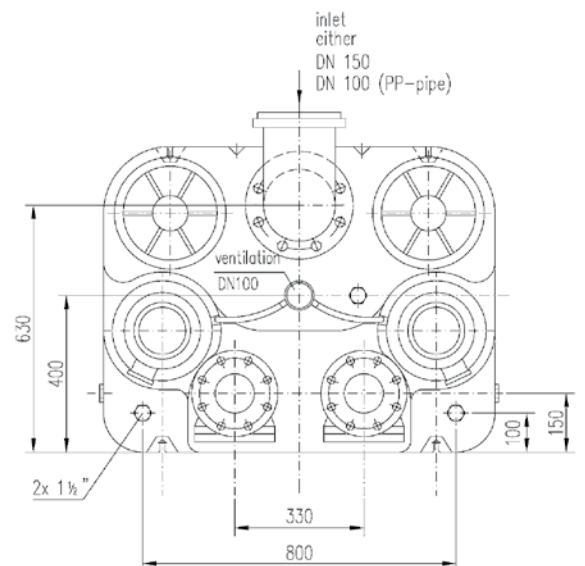
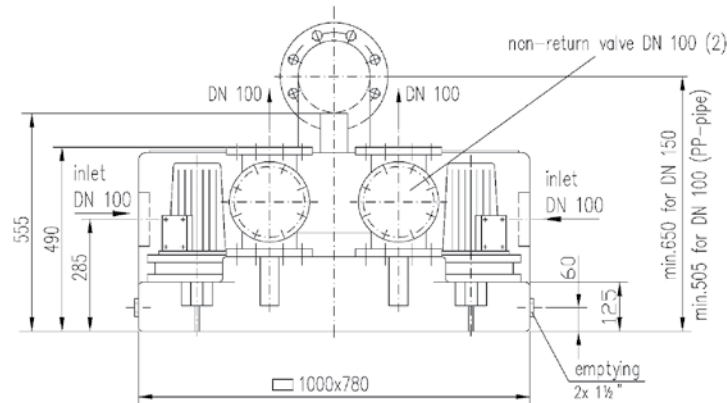


DIMENSIONS:

SIMPLEX UNIT:



DUPLEX UNIT:



W 80 / W 80 Duplex**SIMPLEX UNIT FEATURES:**

- polyethylene container with 350 l effective capacity
- 175 l switching capacity
- simplex unit fitted with a three phase vortex pump with an 80 mm clearance
- sealed with a mechanical seal and shaft seal with intermediate oil chamber
- pump housing is cast with a DN 100 90° discharge bend
- lateral inlet with a DN 150 flange
- connection 1 1/2" for a manual diaphragm pump
- air vent with a DN 100 flange
- pneumatic level control with LCD display, potential free terminal for fault and alarm signals
- 3,5 m power cable from motor

APPLICATIONS:

- disposal of sewage from apartment blocks, small businesses etc.
- above-ground installation in rooms protected from frost below the backwash level

**DUPLEX UNIT FEATURES:**

- polyethylene container with 480 l effective capacity
- 270 l switching capacity
- fitted with 2 vortex pumps with an 80 mm clearance
- sealed with a mechanical seal and shaft seal with intermediate oil chamber
- 2 DN 100 pressurized discharges
- lateral inlet with a DN 150 flange
- connection 1 1/2" for manual diaphragm pump
- air vent with a DN 100 flange
- pneumatic level control with LCD display, automatic change over function, automatic control of second pump during peak load or malfunction, potential free terminal for fault and alarm signals
- 3,5 m power cable from motors

APPLICATIONS:

- disposal of domestic sewage from apartment blocks, schools, public and trade institutions
- institutions where disposal of sewage is not allowed to be interrupted
- above-ground installation in rooms protected from frost below the backwash level

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Qmax [m ³ /h]	Hmax [m]	Weight [kg]
W 80	11040	4,0	3,0	400	6,9	1400	60	11,0	115
W 80 Duplex	11050	4,0	3,0	400	6,9	1400	60	11,0	205

Protection grade: IP 68

Special dimensions, other connections and on-site welding available on request!

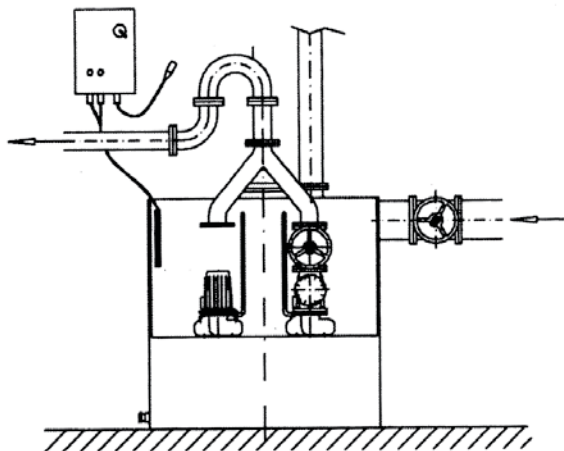
DELIVERY CONTENTS:

- container and control unit, ready for connection

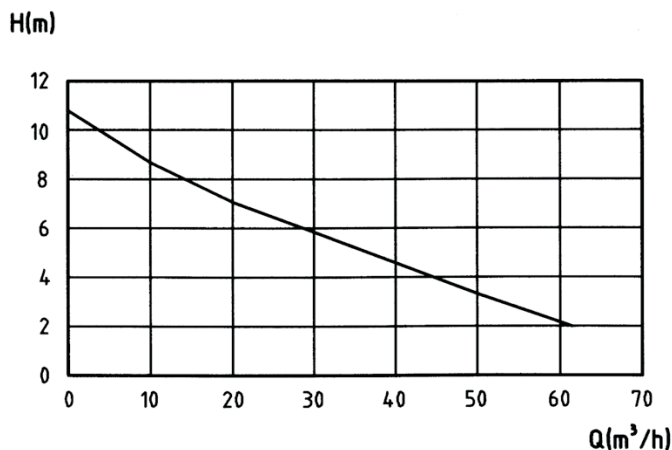
Accessories: see page 34

W 80 / W 80 Duplex

EXAMPLE OF INSTALLATION:

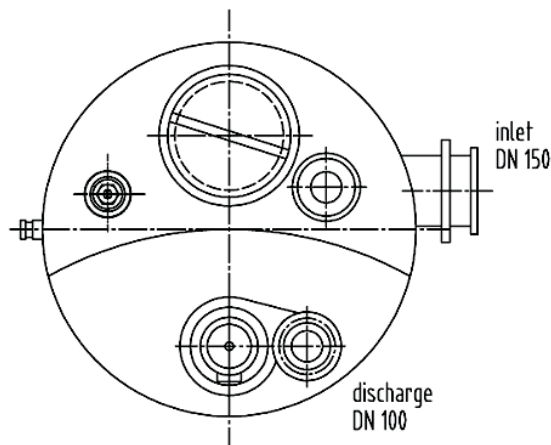
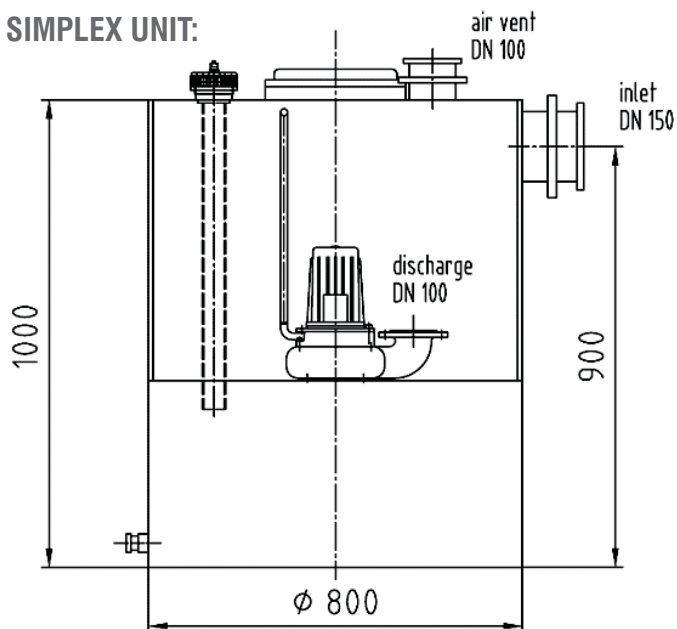


CHARACTERISTICS:

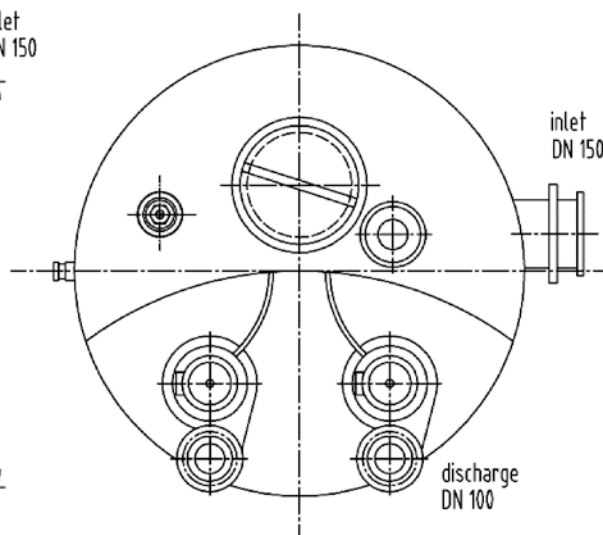
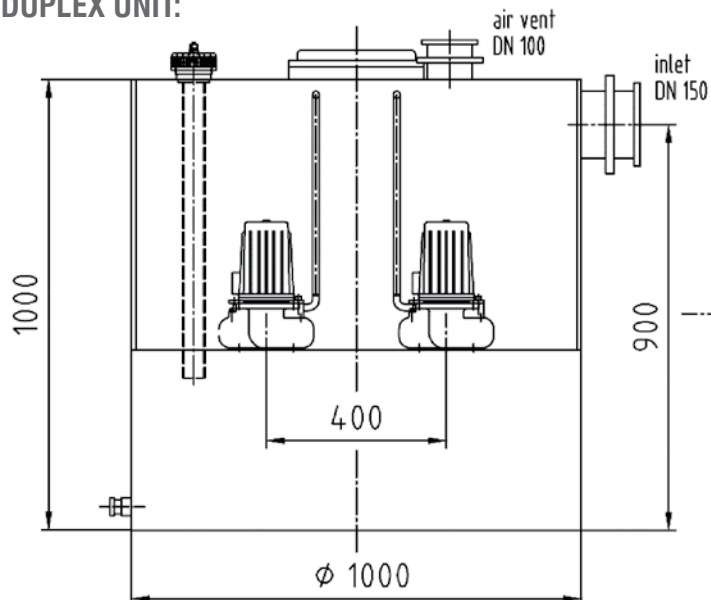


DIMENSIONS:

SIMPLEX UNIT:



DUPLEX UNIT:



WUZ 100 / WUZ 100 Duplex**SIMPLEX UNIT FEATURES:**

- polyethylene container with 480 l effective capacity
- 270 l switching capacity
- simplex unit fitted with a vortex pump with a fibre cutting tip
- up to 4,0 kW, 80 mm clearance, and from 5,5 kW up, 100 mm clearance
- sealed with tandem mechanical seals with an intermediate oil chamber
- pump housing has a flanged DN 100 90° discharge bend
- lateral inlet with a DN 150 flange
- connection 1 1/2" for manual diaphragm pump
- air vent with a DN 100 flange
- pneumatic level control with LCD display, potential free terminal for fault and alarm signals
- 3,5 m power cable from motor
- 7,5 kW motors have a star-delta start

APPLICATIONS:

- disposal of sewage from apartment blocks and small businesses etc.
- above-ground installation in rooms protected from frost below the backwash level

**DUPLEX UNIT FEATURES:**

- polyethylene container with 1000 l capacity
- 500 l switching capacity
- fitted with 2 vortex pumps with a fibre cutting tips
- up to 4,0 kW, 80 mm clearance and from 5,5 kW up, 100 mm clearance
- sealed with tandem mechanical seals with an intermediate oil chamber
- pump housing has a flanged DN 100 90° discharge bend
- lateral inlet with a DN 150 flange
- connection 1 1/2" for a manual diaphragm pump
- air vent with a DN 100 flange
- pneumatic level control with LCD display, automatic change over function; automatic control of second pump during peak load or malfunction; potential free terminal for fault and alarm signals
- 3,5 m power cable from motors
- 7,5 kW motors have a star-delta start

APPLICATIONS:

- disposal of domestic sewage from apartment blocks, residential complex, hospitals, schools etc.
- institutions where disposal of sewage is not allowed to be interrupted
- above-ground installation in rooms protected from frost below the backwash level

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]	Schutz- grad
WUZ 100 3,0	11060	4,0	3,0	400	6,9	1400	120	10,0	210	IP 68
WUZ 100 4,0	11061	5,5	4,0	400	11,2	1400	140	13,0	220	IP 68
WUZ 100 5,5	11062	6,3	5,5	400	12,1	1400	160	18,0	225	IP 57
WUZ 100 7,5	11063	8,7	7,5	400	16,9	1400	165	22,0	240	IP 57
WUZ Duplex 3,0	11070	4,0	3,0	400	6,9	1400	120	10,0	370	IP 68
WUZ Duplex 4,0	11071	5,5	4,0	400	11,2	1400	140	13,0	385	IP 68
WUZ Duplex 5,5	11072	6,3	5,5	400	12,1	1400	160	18,0	400	IP 57
WUZ Duplex 7,5	11073	8,7	7,5	400	16,9	1400	165	22,0	425	IP 57

Special dimensions, other connections and on-site welding available on request!

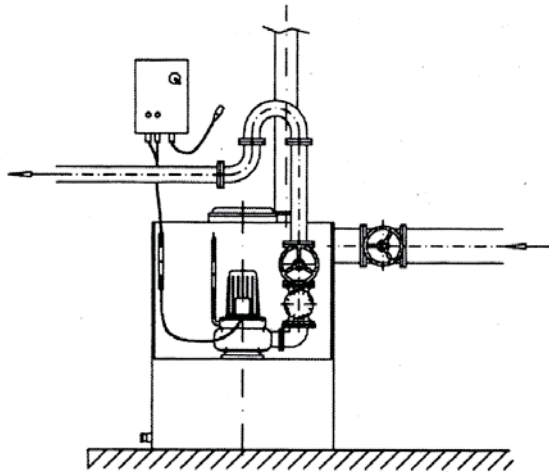
DELIVERY CONTENTS:

- container and control unit, ready for connection

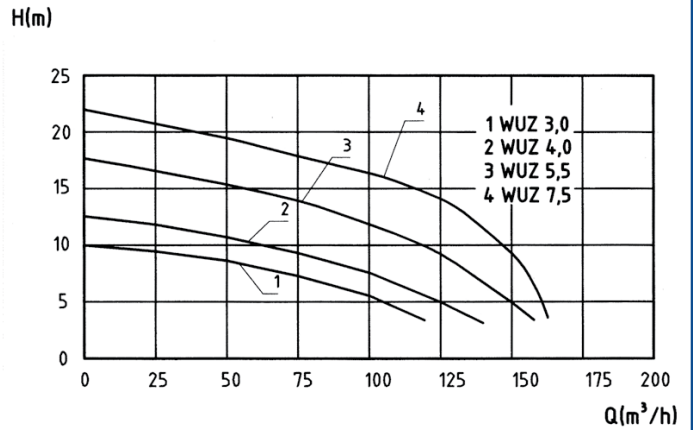
Accessories: see page 34

WUZ 100 / WUZ 100 Duplex

EXAMPLE OF INSTALLATION:

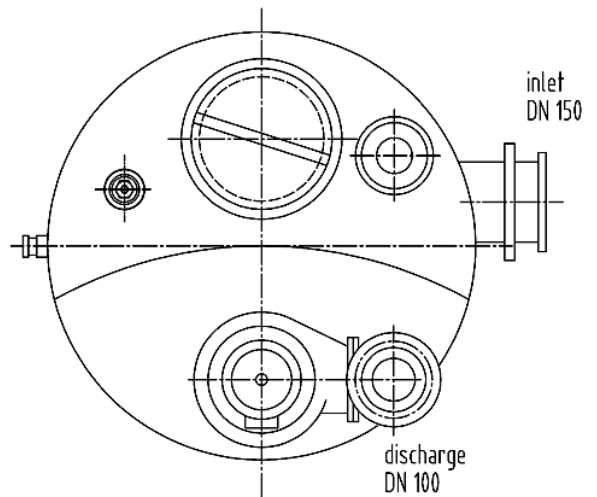
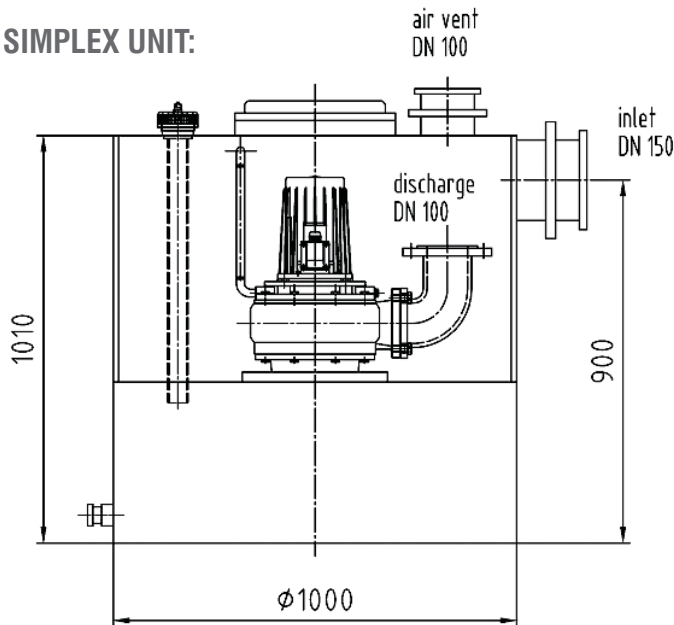


CHARACTERISTICS:

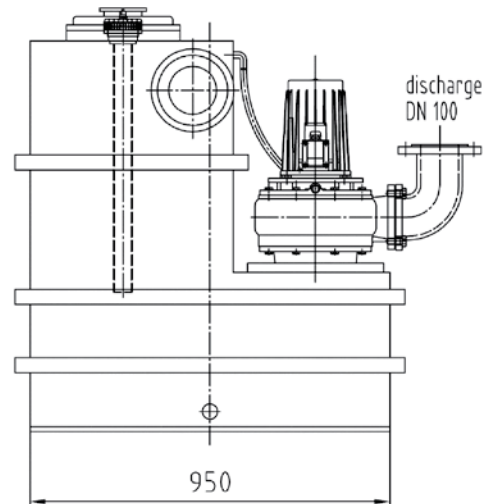
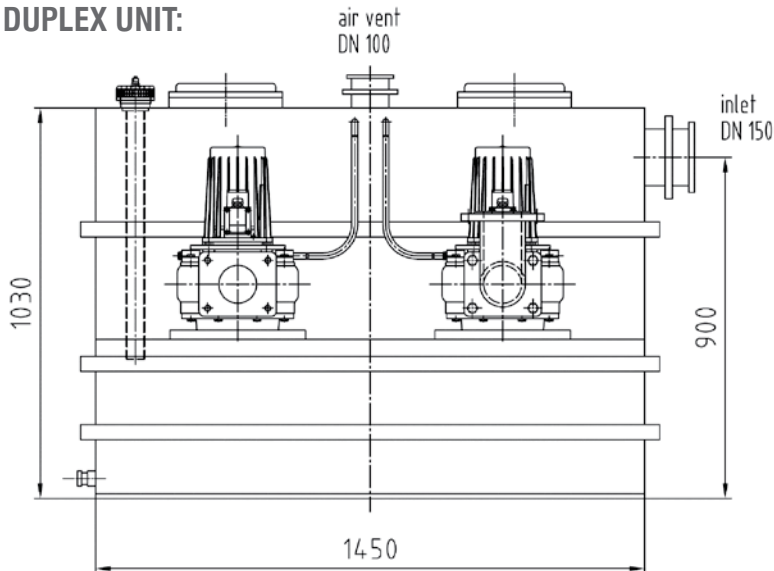


DIMENSIONS:

SIMPLEX UNIT:



DUPLEX UNIT:



ACCESSORIES FOR SEWAGE EJECTION UNITS

price group B

Description		Item-No.
Gate valve	DN 80	116080
	DN 100	116100
	DN 125	116125
	DN 150	116150
Plastic supply valve with connection for HT pipe	DN 80	116000.2
Plastic supply valve with connection for HT pipe	DN 100	116000.1
PE Non-return valve (see picture below)	DN 80	50103
	DN 100	50104
Flange	DN 80	160080
	DN 100	160100
	DN 125	160125
	DN 150	160150
Pipe 90° bend (PE) with flanges	DN 100 - 90°	110010
	DN 125 - 90°	110011
	DN 150 - 90°	110012
Reducing pipe with flanges	DN 125/100	110020
	DN 150/100	110021
Y-pipe (PE) for duplex unit	DN 100/100/100	161010
	DN 125/100/100	161025
	DN 150/100/100	161015
Manual diaphragm pump 1 1/2" for emergency emptying		110003
Brass three-way diverting valve 1 1/2"		110004
Mains independent alarm circuit (230/12 V) with battery recharger, rechargable battery and potential free terminal		255500
Float switch for alarm circuit (for float control) with 10 m cable		550.006 180208
Siren (12 V)		180200
Siren (230 V)		
Ball valve made of cast iron	flange DN 50	50004
Gate valve made of cast iron	flange DN 50	116050
Y-pipe	DN 50/50/50 (PE)	161005
	DN 65/50/50 (PE)	161006
for Miniboy Duplex SEN	DN 50/50/50 (stainless steel)	200.180
Reducing pipe (PE)	DN 50/65	110018
Flange	DN 50	160050
	DN 65	116965
Compression flange-adapter	DN 50 - d 63	118003
Coupling	G 2" - d 63	118001

NON-RETURN VALVES - PLASTIC

price group A

RSK

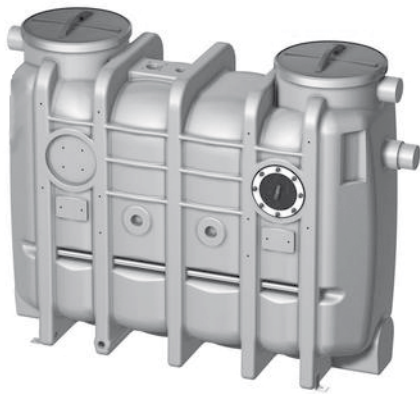


RSK DN 80/100

- housing, connecting flanges and cleaning cover made of polyethylene, flap made of rubber
- with bleed screw
- straight, 100% free clearance
- suited for installation in vertical and horizontal pipes
- limits: -35 up to +50°C, max. 6 bar
- size DN 80: 240 mm, DN 100: 300 mm
- with gaskets

Item-No., see above

Grease Separators PE - oval



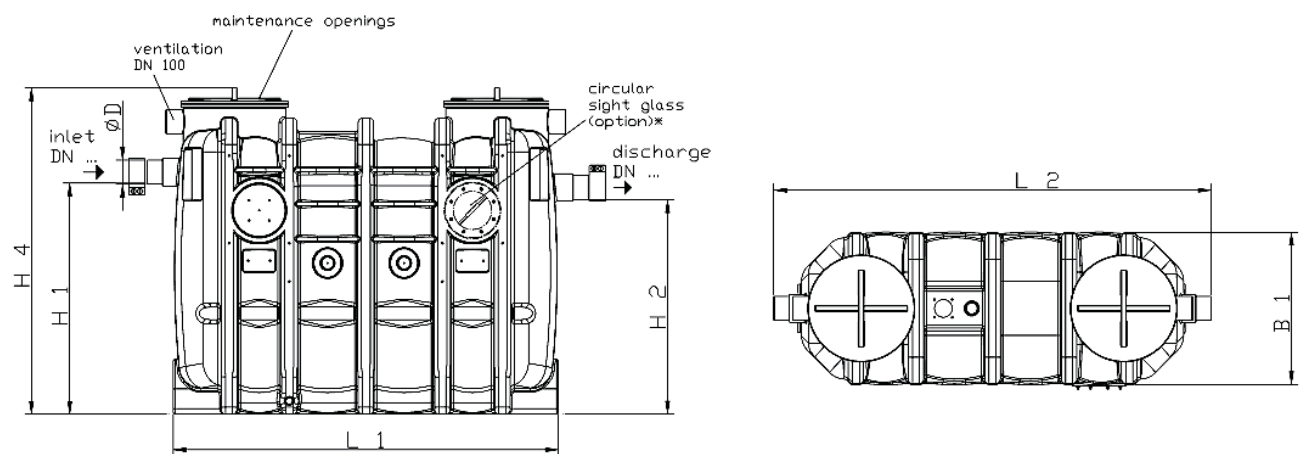
FEATURES:

- polyethylene grease separator for mounting in rooms protected from frost
- compact oval design
- acc. DIN EN 1825 without partition between the silt trap and grease separator
- inlet and discharge connection suitable for PEHD-pipe
- odour retaining cover with screw top
- circular sight glass, sampling and filling devices are available as accessories
- discharge devices are available as accessories

DIMENSIONS:

NG	Item-No.	DN	weight [kg]	Dimensions in mm							Volume in l		
				D	L1	L2	H1	H2	H4	B1	mud	gerase	Total
NG 1	42001.1	100	50	110	1100	1300	830	760	1300	700	106	100	320
NG 2	42002.1	100	55	110	1100	1300	1055	985	1500	700	210	100	440
NG 4	42004.1	100	75	110	1760	2000	1055	985	1500	700	400	200	830
NG 10	42010.1	150	170	160	2450	2370	1250	1180	1700	950	1000	520	2000

Sampling device is intergrated into the discharge of the NG 10 models



ACCESSORIES:

Description	Item-No.
Circular sight glass	420006
Sampling device	DN 100 420100
	DN 150 420150
Discharge device with DN 65 suction connection DN 65, incl. storz-coupling B – 2 1/2" IG and blanking cover (for oval version)	420065.1
Filling device	1" 420004
	1 1/2" 420005

Grease separators with flush and disposal pumps available on request!
Grease Separator for installation underground available on request!

FPS Basic Chamber

NEW



FEATURES THE SIMPLEX UNIT FPS BASED:

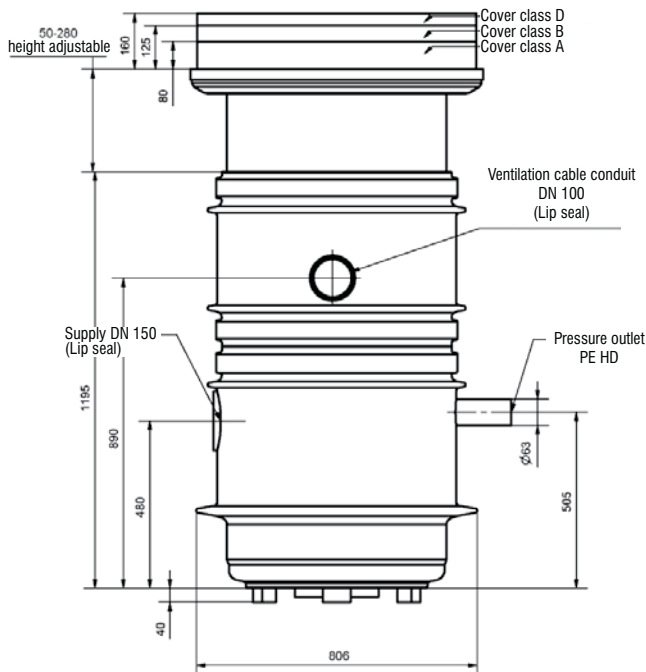
- Prefabricated shaft made from corrosion-resistant PE-HD
- Pipes DN 32 made from stainless steel, assembled complete, with coupling system for the installation of a Series ZFS 70.1-ZFS 70.5 or ZPG 70.1-ZPG 70.4 or ZPG 50
- pump, return-flow inhibitor, shut-off valve and flushing connection 1"
- pressure outlet PE-HD 63 x 5.8 - outside of the shaft
- 1x inlet DN 150, compatible for KG pipe, other inlets possible as an option
- 2x Connection DN 100 for cable fairlead and ventilation

APPLICATIONS:

- Removal of effluent from houses
- as drainage pumping station
- for pressure drainage
- for installation outside buildings
- **also in access areas of shaft covers Class B and D**

BEGU Cover	Total-height [mm]	max. inlet depth OK terrain to the bottom of the pipe [mm]
A	1365-1595	1190
B	1410-1640	1235
D	1445-1675	1270

DIMENSIONS:



Type	Item-No.
FPS based with attachment, pipe and fittings (without pump + control) Shaft height H = 1200 mm	53002

The shaft is buoyancy safe to a groundwater level of 0.5 m from the lower edge of the shaft!

ACCESSORIES:

Description	Item-No.
BEGU Shaft cover class A (accessible)	11500
BEGU Shaft cover class B (accessible for car)	11550
BEGU Shaft cover class D (accessible for lorry)	11564
attachement 550 mm	51162.5
operating key	200.209

FPS-KE / FPS-KD



SIMPLEX UNIT FEATURES (FPS-KE):

- fully assembled pump made of corrosion-protected polyethylene
- safe against buoyancy up to a ground water level of 1,2 m from the bottom edge of the station
- fitted with DN 50 pipes made of stainless steel, with a coupling system for the ZFS 70, ZPG 50 or ZPG 70 pump series
- with non-return valve, gate valve and 1" connection for flushing of piping system
- pressurized discharge PE-HD 63x5,8 passes through the sump wall
- 1 DN 150 inlet, for PP-pipe, further inlets available on request
- 2 DN 100 connections for cable glands and air vent

DUPLEX UNIT FEATURES (FPS-KD):

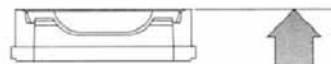
- fully assembled sump made of corrosion-protected polyethylene
- safe against buoyancy up to a ground water level of 1,2 m from the bottom edge of the station
- fitted with DN 50 pipes made of stainless steel for 2 pumps, with a coupling system for the ZFS 70, ZPG 50 or ZPG 70 pump Series
- with non-return valve, Y-pipe, gate valve and 1" connection for flushing of piping system
- pressurized discharge PE-HD 63x5,8 passes through the sump wall
- 1 DN 150 inlet, for PP-pipe, further inlets available on request
- 2 DN 100 connections for cable glands and air vent

APPLICATIONS:

- removal of sewage from single houses or apartment blocks
- as drainage-ejector station
- installation outside of buildings, suitable also in passable areas

DIMENSIONS:

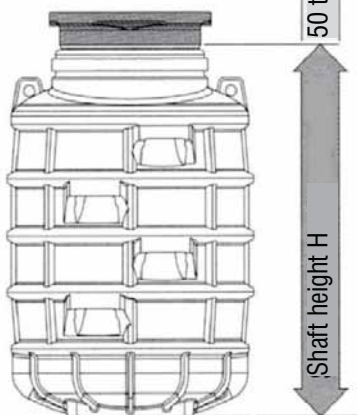
manhole cover



extension, hight-adjustable



station



Height of station H	Height incl. extension and manhole-cover class A	max. inlet
1600	1730-1960	1360
2100	2230-2460	1860
3100	3230-3460	2860

Height of station H	Height incl. extension and manhole-cover class B	max. inlet
1600	1775-2005	1405
2100	2275-2505	1905
3100	3275-3505	2905

Height of station H	Height incl. extension and manhole-cover class D	max. inlet
1600	1810-2040	1440
2100	2310-2540	1940
3100	3310-3540	2940

FPS-KE / FPS-KD

Type

Item-No.

FPS-KE simplex unit with extension, pipes and fittings,
(without pump + control unit)

Height of station H = 1600 mm	53001
Height of station H = 2100 mm	53.001.2
Height of station H = 3100 mm	53.001.3

FPS-KD duplex unit with extension, pipes and fittings,
(without pump + control unit)

Height of station H = 1600 mm	53201
Height of station H = 2100 mm	53.201.2
Height of station H = 3100 mm	53.201.3

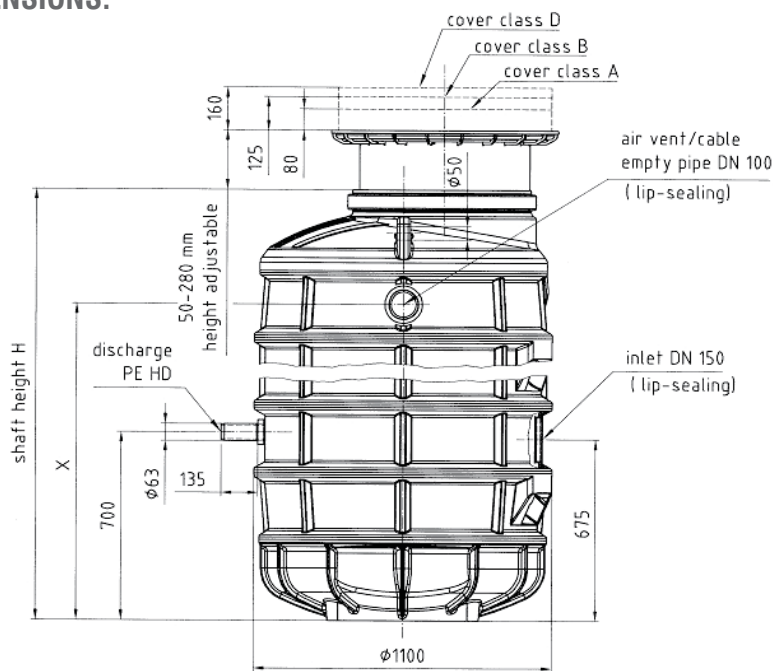
ACCESSORIES:

Description

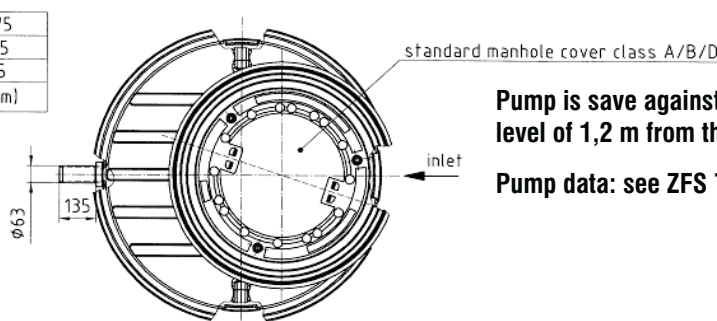
Item-No.

BEGU manhole cover class A (max 1,5t)	11500
BEGU manhole cover class B (max 12,5t)	11550
BEGU manhole cover class D (max 40t)	11564

DIMENSIONS:



3100	2675
2100	1675
1600	1175
shaft height H	X (mm)



Pump is save against buoyancy up to a ground water level of 1,2 m from the bottom edge of the station!

Pump data: see ZFS 70, ZPG 50, ZPG 70

DELIVERY CONTENTS:

- station equipped with pipes and fittings, without pump, control unit and manhole cover
- pumps see ZFS 70 (page 10) and ZPG 50/70 (page 8), control unit see "Control units for submersible pumps" (pages 16-17)

FPSH / FPSH Duplex

FEATURES: SIMPLEX UNIT FPSH:

- fully assembled polyethylene simplex pump station with integrated sewage collecting room
- capacity ca. 100 l
- dry installed sewage grinding pump with cutting device, Series ZFS 70
- stainless steel and PE discharge pipe and fittings with a connection for flushing the system
- pressurized-discharge: pipe connection PE-HD 63 x 5,8 (outside of unit)
- DN 150 inlet pipe (d 160)
- DN 65 air vent pipe (d 75)
- control unit with pneumatic level control
- separate float switch for high water alarm

FEATURES DUPLEX UNIT FPSH-DUPLEX:

- fully assembled polyethylene duplex pump station with integrated sewage collecting room
- capacity ca. 150 l
- 2 dry installed grinder pumps with cutting device Series ZFS 70
- stainless steel and PE discharge pipe and fittings with a connection for flushing the system
- pressurized-discharge: pipe connection PE-HD 63 x 5,8 (outside of unit)
- DN 150 inlet pipe (d 160)
- DN 65 air vent pipe (d 75)
- control unit with pneumatic level control for two pumps
- automatically change over function, automatic control of second pump during peak load or malfunction
- separate float switch for high water alarm

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]
FPSH 1,5 W	51152	3,1	2,2	230	13,7	2800	22	13
FPSH 1,5 D	51150	2,7	2,2	400	4,6	2800	22	13
FPSH 2,2 D	51220	2,7	2,2	400	4,6	2800	24	15
FPSH 3,0 D	51300	5,1	4,0	400	8,5	2800	26	22
FPSH 4,0 D	51302	5,1	4,0	400	8,5	2800	26	27
FPSH 1,5 W Duplex	51153	3,1	2,2	230	13,7	2800	22	13
FPSH 1,5 Duplex	51151	2,7	2,2	400	4,6	2800	22	13
FPSH 2,2 D Duplex	51221	2,7	2,2	400	4,6	2800	24	15
FPSH 3,0 D Duplex	51301	5,1	4,0	400	8,5	2800	26	22
FPSH 4,0 D Duplex	51303	5,1	4,0	400	8,5	2800	26	27

ACCESSORIES:

Description		Item-No.
Manhole cover, surface-watertight	Class A (max 1,5 t)	51162.TA
Manhole cover, surface-watertight	Class B (max 12,5 t)	51162.TB
Manhole cover, surface-watertight	Class D (max 40 t)	51162.TD

APPLICATIONS

- disposal of sewage from single houses or apartment blocks
- as drainage-ejector station
- for installation outside of buildings suitable also in passable areas

CHARACTERISTICS:

- see page 10, Series ZFS

DIMENSIONS:

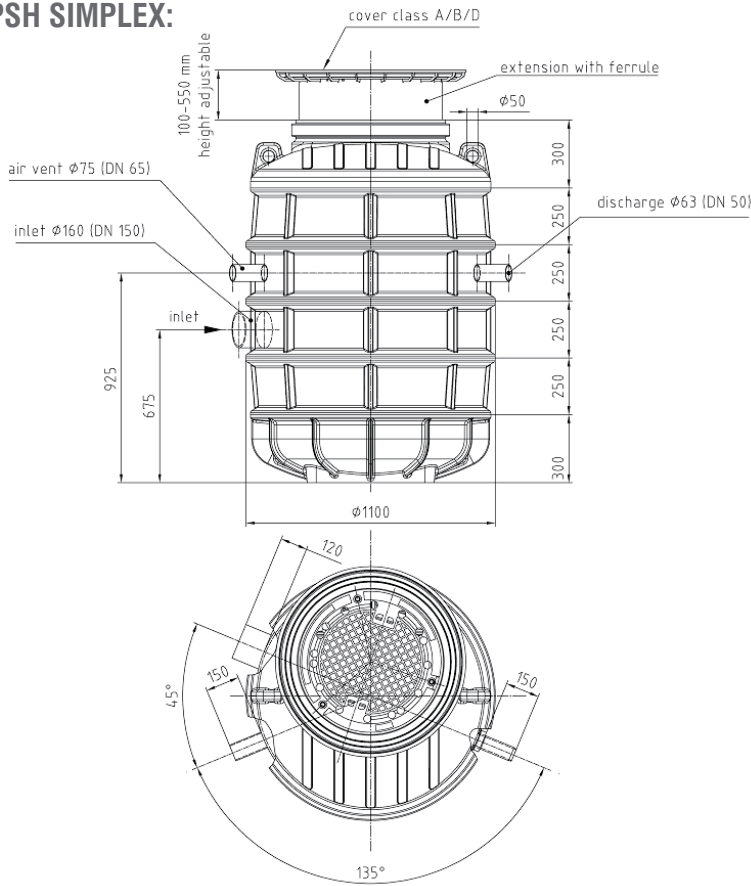
- see page 38

DELIVERY CONTENTS:

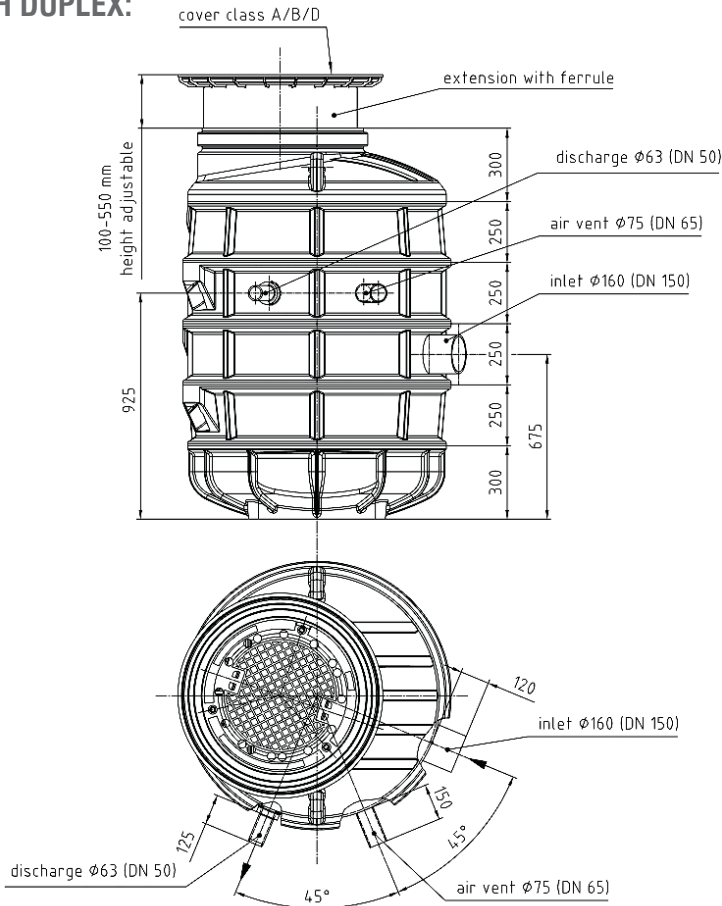
- unit fully assembled with grinder pump, control unit and fittings
- mains dependent alarm circuit with alarm signal for installation indoors

FPSH / FPSH Duplex

DIMENSIONS FPSH SIMPLEX:



DIMENSIONS FPSH DUPLEX:



Pump is save against buoyancy up to a ground water level of 1,2 m from the bottom edge of the station!

USS 3000 / 4000

FEATURES:

- mobile diaphragm pump with 1" suction and discharge hose
- universal application through interchangeable suction nozzles
- powered by an AC motor with 10 m power cable
- oil-resistant diaphragm as well as suction and discharge hoses standard with the USS 4000

APPLICATIONS:

- complete emptying and cleaning of containers
- removal of spillages & flooding
- cleaning of swimming pools or ponds
- removal of abrasive medium

TECHNICAL DATA:

Type	Item-No.	P ₁ [W]	P ₂ [W]	U [V]	I _N [A]	Q _{max} [m ³ /h]	H _{max} [m]	max. head [m]	max. Solids size [mm]	Weight [kg]
USS 3000	88.000	270	150	230	1,2	3,0	12	6,5	15	23
USS 4000	88.001	270	150	230	1,2	3,0	12	6,5	15	23

The Zehnder USS 3000 is a robust portable diaphragm pump. The rubber diaphragm inside the stainless-steel pump housing extracts wastewater and sludge with ease. It is very resistant to abrasive waste particles such as small stones, sludge and leaves. And whereas other pumps may incur damage the USS 3000 has the ability to run without any detrimental effects under such conditions.

The USS 3000 is suitable for many applications. The built-in diaphragm technology is best suited to areas where pollution, flooding or sludging has occurred.

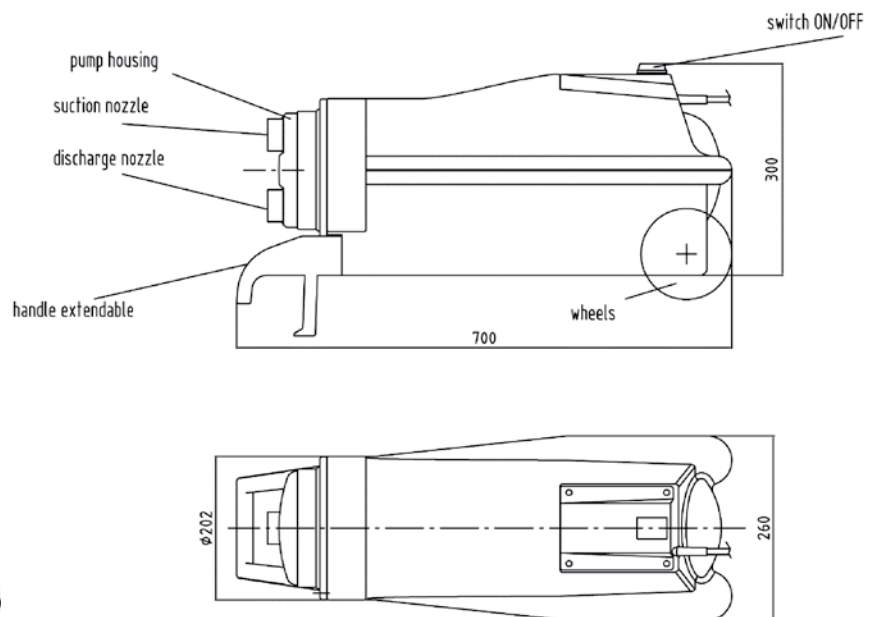
The high volume capacity and continuous pumping action of the USS 3000 reduce the overall processing time and eliminate the need for the continual emptying of containers. For

example, in the past when a cellar was flooded several tools had to be used to clean it including submersible pumps and wet vacuum cleaners.

With the USS 3000/4000 you need nothing else to do the job from start to finish, greatly reducing the costs associated with operation (electrical consumption), and additional equipment. And of course, you'll save yourself time and effort.

The USS 3000 is supplied with various standard accessories as shown below. The **Zehnder** name is synonymous with high standards of quality and value. Every **USS 3000/4000** unit is tested extensively prior to dispatch. Only then can it leave the plant with **Zehnder's „Seal of Quality“**.

DIMENSIONS:



DELIVERY CONTENTS:

- 10 m power cable with 3 pin plug
- 3,5 m suction and discharge hose, incl. 3 suction nozzles

Accessories: siehe Page 43

USS 7000 / 8000

THE UNIVERSAL POND CLEANER FOR PROFESSIONALS WITH CONTINUOUS SUCTION BY ADJUSTABLE FOURFOLD DIAPHRAGM PUMP



FEATURES:

- This product is a mobile adjustable fourfold diaphragm pump for professionals and has been developed for the cleaning of ponds. With the accessories included in the delivery it is possible to suck and to remove mud and other solid parts without any problems.
- In addition to that you can use this product for dewatering- and cleaning jobs (i.e. flooded and silted cellars and swimming pools etc.). In contrast to conventional centrifugal pumps a dry-run does not harm the pump, the special membrane technology even allows dry aspiration, that means that filling the pump housing or the pipes is not necessary.
- To save the membrane you should avoid sucking pointy or sharp-edged solids. The USS 7000 is not allowed to be used for oily media. **The USS 8000 is suitable for oily media.**

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	Qmax [m³/h]	Hmax [m]	max. head [m]	Solids size [mm]	Weight [kg]
USS 7000	88.007	1,0	0,75	230	3,7	5,8	12	6,5	15	45
USS 8000	88.008	1,0	0,75	230	3,7	5,8	12	6,5	15	45

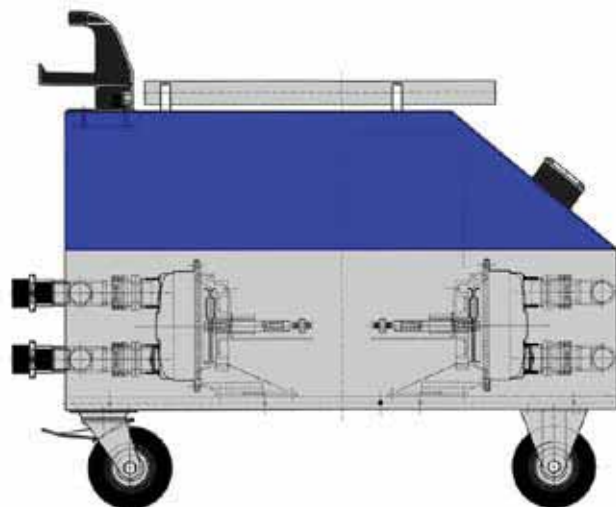
MATERIALS:

pump housing: stainless steel
 Membrane: USS 7000 EPDM, USS 8000 NBR
 Screws: stainless steel
 seals: NBR

ACCESSORIES:

Contents of delivery:

- 3 pcs. extraction nozzles
- 1 pcs. suction hose ready for connection, length 3,5 m incl. gaskets
- 1 pcs. interconnecting suction pipes each 0,5 m
- 1 pcs. the suction pipe is fitted with handgrip
- 1 pcs. discharge hose ready for connection, length 3,5 m incl. gaskets
- 4 pcs. replacement Membrane
- 8 pcs. replacement non-return valves
- 1 pcs. peg for holding the suction hose
- 3 pcs. replacement O-Ring for suction pipe
- 2 pcs. gaskets for suction/pressure pipe



for Universal-Pond Cleaner

TECHNICAL DATA:

Accessories	suitable for US\$ 3000 & US\$ 7000	suitable for US\$ 4000 & US\$ 8000	Item-No.
Suction mat with 3,5 m suction hose	x		205303
Vacuum head with a 1,2-3,6 m Telescopie arm and 6 m suction hose	x		26512.1
Vacuum head with a 1,8-4,8 m Telescopie arm and 10,5 m suction hose	x		26512.2
3 m floatable hose with connection for the extension of suction or discharge	x		26512.3
price for floatable hose in 1,5 m steps (price per meter)	x		26512.0
Suction or discharge hose extension with connectors 5 m	x		89.002.1
Suction or discharge hose extension with connectors 10 m	x		89.002.2
Suction or discharge hose extension with connectors 20 m	x		89.002.3
Suction or discharge hose extension with connectors 5 m oil resistant		x	89.003.3
Suction or discharge hose extension with connectors 10 m oil resistant		x	89.003.4
Suction or discharge hose extension with connectors 20 m oil resistant		x	89.003.5
Stainless steel suction tubing 0,5 m	x	x	200.114

SUCTION TUBING



VACUUM HEAD



TELESCOPIC ARM WITH FLOODABLE HOSE



SUCTION MAT (46 CM X 27 CM)



Series EP / MP- multistage



FEATURES EP:

- self-priming injection pump
- pump housing, motor housing, motor shaft and screws made of stainless steel; diffuser and impeller made of polyamide
- sealed with a mechanical seal
- suction and discharge tap 1"
- suction head up to 8,5 m



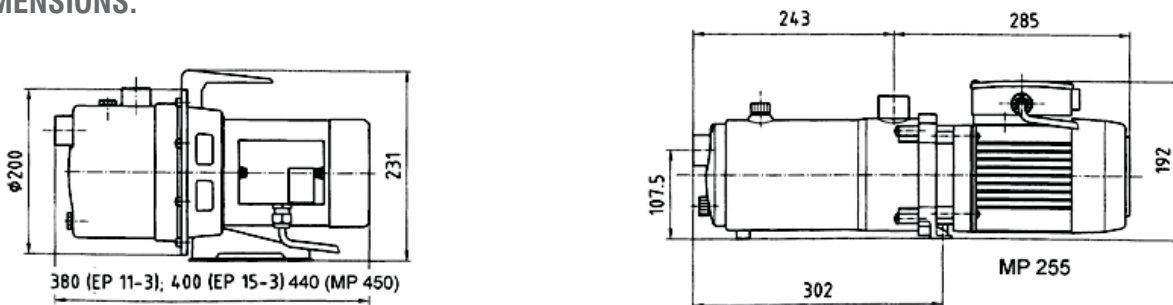
FEATURES MP:

- self-priming multistage centrifugal pump
- pump housing, motor shaft and screws made of stainless steel; motor housing in aluminium; guide-/gear wheels in wear-resistant polyamide plastic
- sealed with a mechanical seal
- suction and discharge trap 1"
- suction head up to 8,5 m

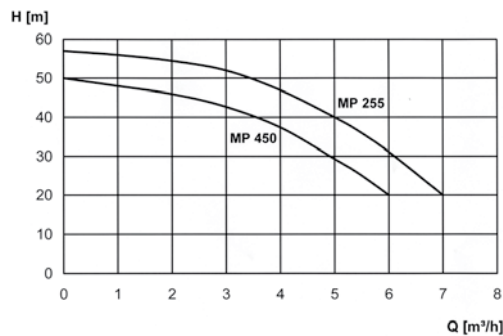
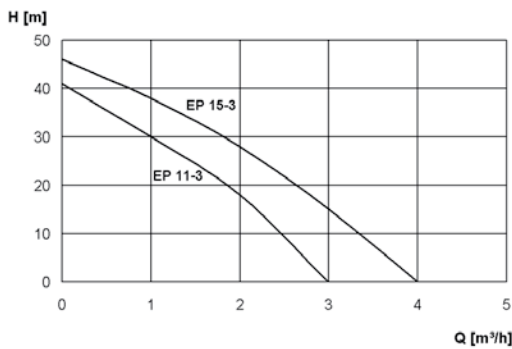
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
EP 11-3	85.312	0,6	0,35	230	2,9	2800	2,9	41	9,5
EP 15-3	85.316	1,0	0,7	230	4,4	2800	4,0	46	10
MP 450	85.450	1,7	1,3	230	7,4	2800	6,0	50	11,0
MP 255	85.475.1	1,7	1,4	230	7,4	2800	7,0	57	12,5

DIMENSIONS:



CHARACTERISTICS:



DELIVERY CONTENTS:

- with 1,5 m power cable with 3 pin plug
- on / off switch (for the EP and MP 450/550 only)

APPLICATIONS:

- watering of home and garden
- water supply
- emptying of swimming pools

Series EPA / HMP multistage



FEATURES EPA:

- self-priming injection pump
- pump housing, motor housing, motor shaft and screws made of stainless steel, diffuser and impeller made of polyamid
- sealed with a mechanical seal
- 20 l steel or stainless steel diaphragm tank
- pressure switch (from 0 - 5 bar)
- suction head up to 8,5 m
- suction and discharge tap 1"

FEATURES HMP:

- self-priming multistage centrifugal pump
- pump housing, motor shaft and screws made of stainless steel; motor housing in aluminium; guide-/gear wheels in wear-resistant polyamide plastic
- sealed with a mechanical seal
- 20 l steel or stainless steel diaphragm tank
- pressure switch (from 0 - 5 bar)
- suction head up to 8,5 m
- suction and discharge tap 1"

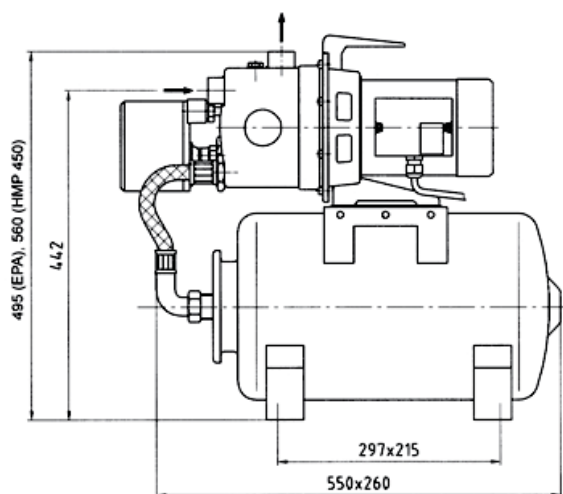
TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [W]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
EPA 11-3	86.313	0,6	0,35	230	2,9	2800	2,9	41	18
EPA 15-3	86.317	1,0	0,7	230	4,4	2800	4,0	46	19
EPA 11-3E	86.314	with 20 l stainless steel tank							
EPA 15-3E	86.318	with 20 l stainless steel tank							
HMP 450	86.450	1,7	1,3	230	7,4	2800	6,0	50	15
HMP 255	86.475.1	1,7	1,4	230	7,4	2800	7,0	57	16,5
HMP 450E	85.450E	with 20 l stainless steel tank							
HMP 255E	86.475.2	with 20 l stainless steel tank							

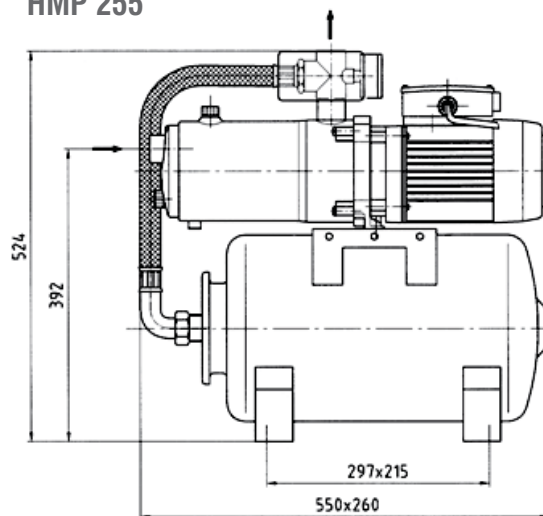
Characteristics: see EP/MP

DIMENSIONS FOR 20 L DIAPHRAGM TANKS:

EPA / HMP 450



HMP 255



DELIVERY CONTENTS:

- 3 pin plug, with 1,5 m power cable
- on / off switch

APPLICATIONS:

- watering of home and garden
- water supply

Series WX



FEATURES:

- self-priming injector pump in stainless steel with pump housing also in stainless steel
- quality motor with stainless steel-motor shaft
- thermal overload protection
- suction head up to 8,5 m
- suction- and discharge trap 1"
- connection cable 1,5 m and power current plug

APPLICATIONS:

- watering of home and garden

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Garden pump – pump housing in stainless steel									
WX 3200	85.132	0,6	0,35	230	2,9	2800	2,9	41,0	8,9
WX 3800	85.138	1,0	0,7	230	4,4	2800	4,0	46,0	9,0
WX 5200	85.152	1,6	1,3	230	7,0	2800	5,0	60,0	12,5



FEATURES:

- self-priming injector pump in stainless steel with pump housing also in stainless steel
- quality motor with stainless steel-motor shaft
- thermal overload protection
- suction head up to 8,5 m
- suction- and discharge trap 1"
- pressure switch with dry-run protection
- connection cable 1,5 m and power current plug

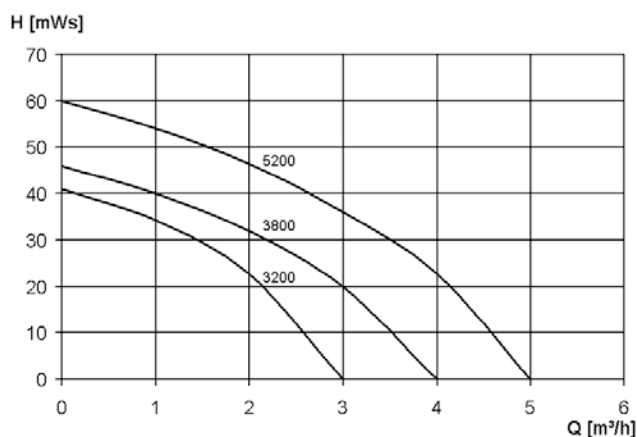
APPLICATIONS:

- watering of home and garden

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Booster Pumps - pump housing in stainless steel									
HAE 3200	87.132	0,6	0,35	230	2,9	2800	2,9	41,0	9,3
HAE 3800	87.138	1,0	0,7	230	4,4	2800	4,0	46,0	9,4
HAE 5200	87.152	1,6	1,3	230	7,0	2800	5,0	60,0	12,9

CHARACTERISTICS:



WX 3200-5200
HAE 3200-5200

Series HWX



FEATURES:

- self-priming injector pump in stainless steel with pump housing also in stainless steel
- quality motor with stainless steel-motor shaft
- thermal overload protection
- suction head up to 8,5 m
- suction- and discharge trap 1"
- pressure switch
- membrane pressure tank 20 l in steel
- connection cable 1,5 m and power current plug

APPLICATIONS:

- watering of home and garden

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Booster Units - pump housing in stainless steel									
HWX 3200	86.132	0,6	0,35	230	2,9	2800	2,9	41,0	15,5
HWX 3800	86.138	1,0	0,7	230	4,4	2800	4,0	46,0	17,0
HWX 5200	86.152	1,6	1,3	230	7,0	2800	5,0	60,0	20,0



FEATURES:

- self-priming injector pump in stainless steel with pump housing also in stainless steel
- quality motor with stainless steel-motor shaft
- thermal overload protection
- suction head up to 8,5 m
- suction- and discharge trap 1"
- pressure switch
- membrane pressure tank 20 l in stainless steel
- connection cable 1,5 m and power current plug

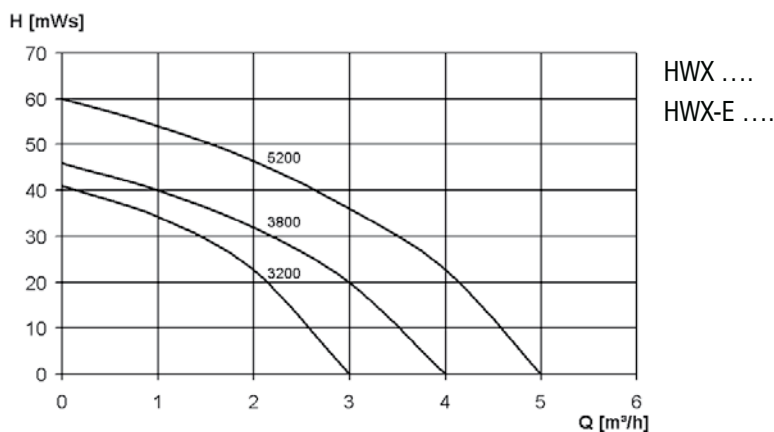
APPLICATIONS:

- watering of home and garden

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Q _{max} [m ³ /h]	H _{max} [m]	Weight [kg]
Booster Units - in super stainless steel throughout									
HWX-E 3800	86.238	1,0	0,7	230	4,4	2800	4,0	46,0	17,3
HWX-E 5200	86.252	1,6	1,3	230	7,0	2800	5,0	60,0	20,3

CHARACTERISTICS:



ACCESSORIES FOR GARDEN PUMPS / BOOSTER UNITS

price group A

Description	Item-No.	
Pre-filter 1", small – for garden pumps	129049	
Pre-filter 1", big – for booster units	129049/1	
Float switch for intermediate coupling with 10 m power cable	129111	
Dry-run protection 1" for intermediate coupling	129114.1	
electronic pressure switch with dry-run protection		
ZD 15	bis 1,2 kW, 1" AG	89.151
ZD 20	bis 2,2 kW, 1 1/4" AG	89.201
1" Suction hose kit 7 m	129081.2	
Diaphragm tank (steel), laying	Retrofit packet 20 l	20100
Diaphragm tank (steel), laying	Retrofit packet 60 l	20160
Diaphragm tank (stainless steel), laying	Retrofit packet 20 l	20201
Diaphragm tank (stainless steel), laying	Retrofit packet 50 l	20250
Float switch for retrofitting		
Function "emptying"	Cable length: 0,5 m	270016.1
	Cable length: 2 m	550.011
	Cable length: 5 m	550.009
	Cable length: 10 m	550.006
	Cable length: 15 m	550.017
	Cable length: 20 m	550.018
Float switch for retrofitting		
Function "filling"	Cable length: 0,5 m	270016.2
	Cable length: 2 m	550.012
	Cable length: 5 m	550.010
	Cable length: 10 m	550.004
	Cable length: 15 m	550.019
	Cable length: 20 m	550.020
Float switch for retrofitting		
Function "emptying and filling"	Cable length: 0,5 m	550.022
	Cable length: 2 m	550.023
	Cable length: 5 m	550.024
	Cable length: 10 m	550.025
	Cable length: 15 m	550.026
	Cable length: 20 m	550.027



pre-filter big / small



float switch for intermediate coupling



Electronic pressure switch with dry-run protection



dry-run protection

Series RWNA



FEATURES:

- plug ready compact plant installation for automatic rain water supply from a cistern
- automatic reserve supply from drinking water network in case of rain water shortage and acoustic alarm notice in case of overflow
- collection tank in PE with built on injector pump
- switch over from rain water to drinking water and visa versa is automatically controlled
- electronic switch control system for automatic operation

APPLICATIONS:

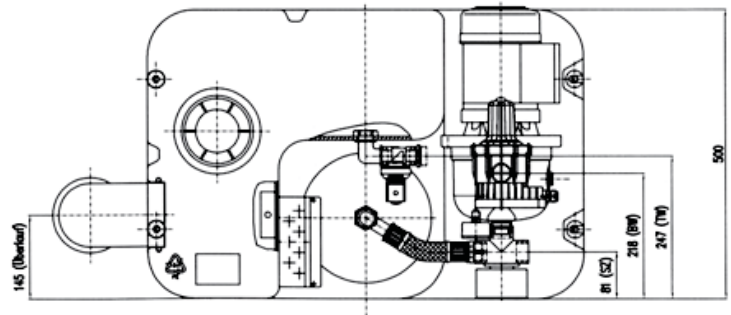
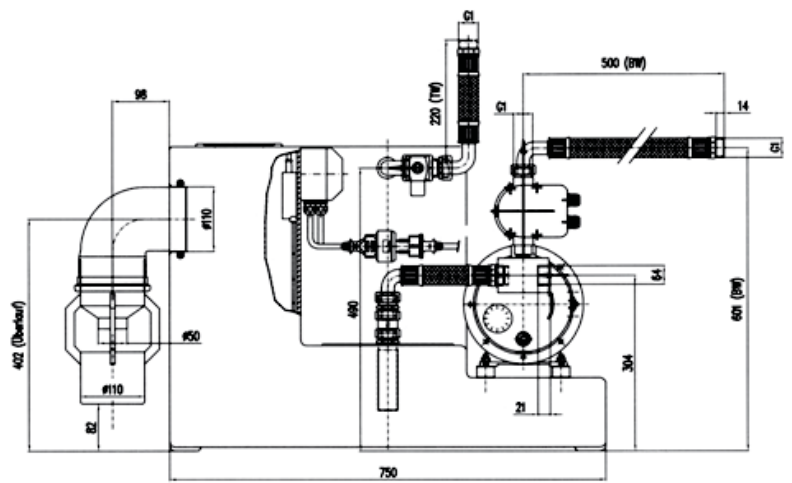
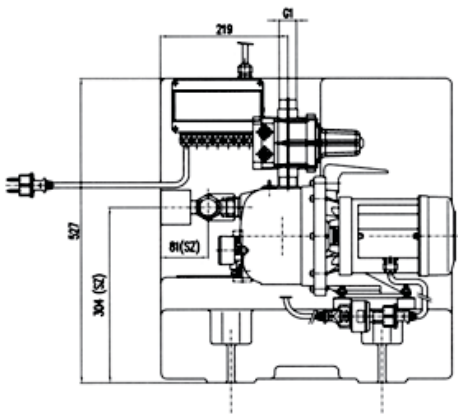
- domestic water supply
- garden irrigation

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [min ⁻¹]	Qmax [m ³ /h]	Hmax [m]	Weight [kg]
RWNA 11	16011	0,6	0,35	230	2,9	2800	2,8	41	26,0
RWNA 15	16015	1,0	0,7	230	4,4	2800	3,8	46	27,0
RWNA MP 450	16045	1,7	1,3	230	7,4	2800	6,0	50	30,0

DVGW audited: test number 99-0259-WNE

DIMENSIONS:



TW = mains water
 BW = service water
 SZ = cistern water

DELIVERY CONTENTS:

- 3 pin plug, float switch with 20m cable (cistern), 2 flexible hoses
- 1 KG 87° bend DN 100 - with overflow kit Ø 110

Series TM

NEW



FEATURES:

- oil filled asynchronous motor in stainless steel housing with thermal overload protection
- sheath flow cooling for permanent operation
- sliding ring seal made from silicon carbide material
- motor shaft and Pump housing from stainless steel
- rotor and guide wheel gears from low-wear plastics
- modern, efficient pump hydraulics ensure high performance at low energy consumption

APPLICATIONS:

- irrigation for gardens, nurseries and agriculture
- pressurization of domestic water supplies from well & tanks

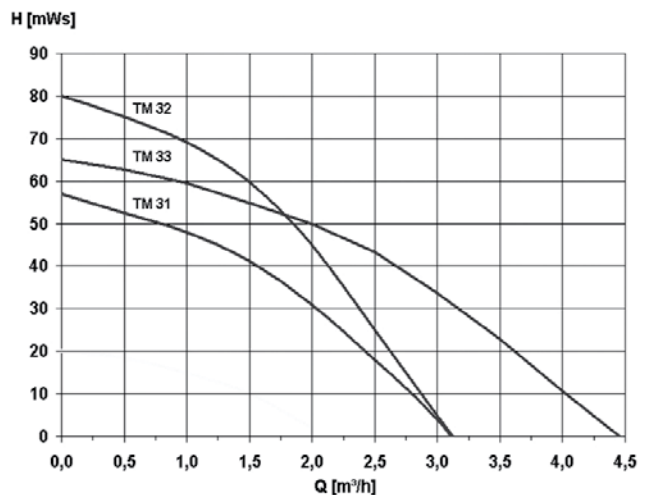
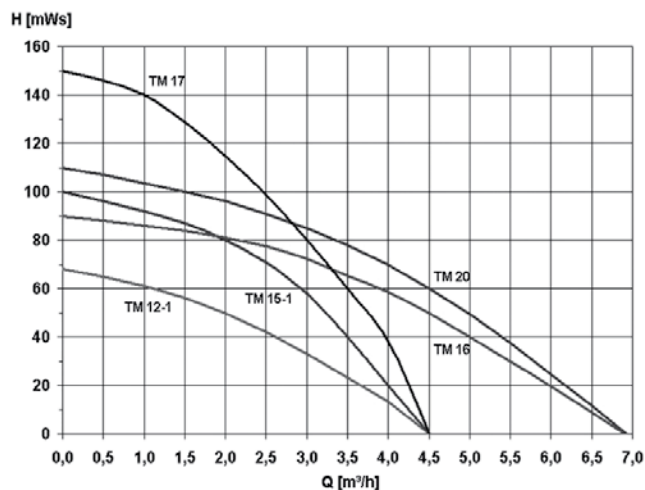
DELIVERY CONTENTS:

- deep well pump with 20 m connection cable incl. switch device, 230 V 50 Hz, plug-in ready

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	Q _{max} [m ³ /h]	H _{max} [m]	Outside Ø [mm]	Pressure Connection	Cable length [m]	Weight [kg]
TM 12-1	28112	1,2	0,8	230	5,2	4,5	68	100	1"	20,0	12
TM 15-1	28115	2,1	1,2	230	9,3	4,5	100	100	1"	20,0	14
TM 16	28116	2,5	1,6	230	10,9	7,0	90	100	1 1/4"	20,0	15
TM 17	28117	3,0	2,2	230	13,5	4,5	150	100	1"	1,5	17
TM 20	28120	3,0	2,2	230	13,5	7,0	110	100	1 1/4"	1,5	17
TM 31	16031	0,86	0,46	230	3,8	3,1	57	78	1"	20,0	12
TM 32	16032	1,13	0,64	230	5,2	3,1	80	78	1"	20,0	14
TM 33	16033	1,13	0,64	230	5,2	4,5	65	78	1"	20,0	13

CHARACTERISTICS:



Series TM / packages

IRRIGATION WATER SUPPLY – PACKAGE:

Delivery content:

- deep well pump with 20 m cable, switch device
- pressure switch with dry run protection
- 10 m stainless steel drop wire with wire clips
- non return valve



DOMESTIC WATER SUPPLY – PACKAGE:

Delivery content:

- deep well pump with 20 m cable, switch device
- 20 ltr. membrane pressure vessel, steel lined
- pressure switch, manometer, 5- way piece, Connection hose
- dry run protection hydrostop
- 10 m stainless steel drop wire with wire clips
- non return valve



Description	Item-No.	Weight [kg]
Irrigation water supply – package TM 12-1	16012	15
Irrigation water supply – package TM 15-1	15015	17
Irrigation water supply – package TM 16	15016	18
Irrigation water supply – package TM 17	15017	20
Irrigation water supply – package TM 20	15020	20
Irrigation water supply – package TM 31	16031.0	15
Irrigation water supply – package TM 32	16032.0	17
Irrigation water supply – package TM 33	16033.0	16
Domestic water supply – package TM 12-1	16012.1	21
Domestic water supply – package TM 15-1	15015.1	23
Domestic water supply – package TM 16	15016.1	24
Domestic water supply – package TM 17	15017.1	26
Domestic water supply – package TM 20	15020.1	26
Domestic water supply – package TM 31	16031.1	21
Domestic water supply – package TM 32	16032.1	23
Domestic water supply – package TM 33	16033.1	22

Series TM / Float draw-off



DELIVERY CONTENTS:

TM 12-1 with float draw-off

- TM 12-1 deep well pump with 20 m cable with shockproof socket-integrated condenser, mains switch and motor protection
- Float draw-off 1 1/4" with filter, length of hose 1 m
- Pump underframe with tension clamp
- 4 m plastic rope as an aid to drain

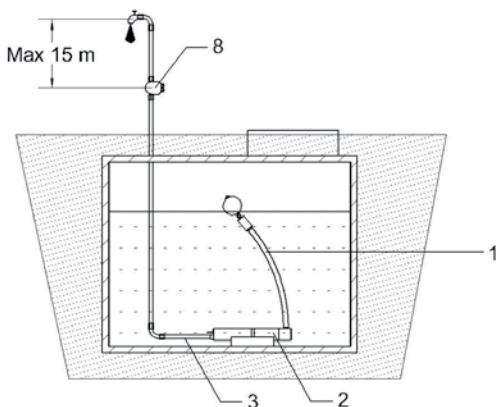
Description	Item-No.	Weight [kg]
TM 12-1 with float draw-off	28112.2	14
Sprinkling package TM 12-1 with float draw-off	28112.3	17
Water supply package TM 12-1 with float draw-off	28112.4	23

Sprinkling package with TM 12-1 with float draw-off

- TM deep well pump with float draw-off (see above)
- electronic pressure switch with dry run protection
- Non-return valve

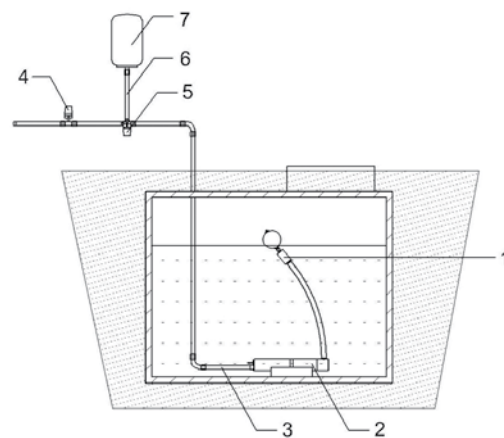
Water supply package with TM 12-1 with float draw-off

- TM deep well pump with float draw-off (see above)
- Diaphragm pressure vessel, 20 l steel plated
- Pressure switch, manometer, 5-Way piece, Reinforced hose, Dry run protection
- Non-return valve



Sprinkling package

- 1 – float draw-off
- 2 – Pump with support
- 3 – Pressure pipe
- 4 – dry run protection



Water supply package

- 5 – pressure switch with a 5 way joint
- 6 – Pressure pipe
- 7 – Diaphragm pressure vessel
- 8 – Pressure switch

Series UWP / TM



FEATURES:

- multistage centrifugal stainless steel pump
- motor- and pump housing, suction filter and cable protection made of stainless steel, impeller and guiding wheels made of plastic
- sealed with a mechanical seal
- with integrated non-return valve

APPLICATIONS:

- domestic water supply, garden watering
- agriculture

DELIVERY CONTENTS:

- single-phase version with 1,5 m power cable and control box with 3 pin plug
- three-phase version with 1,5 m power cable

TECHNICAL DATA:

Type	Item-No.	P ₂ [kW]	U [V]	I _N [A]	Q _{max} [m ³ /h]	H _{max} [m]	Outside Ø [mm]	Pressure Connection	Weight [kg]
UWP 8/11 D	28812	1,5	400	4,0	14,4	55	96	2"	18,4
UWP 8/15 D	28813	2,2	400	5,9	14,4	79	96	2"	22,0
UWP 8/18 D	28814	3,0	400	7,8	14,4	110	96	2"	27,0
UWP 8/26 D	28816	4,0	400	10,0	14,4	150	96	2"	37,5
UWP 12/6 W	28000	1,5	230	11,1	21	32	96	2"	20,6
UWP 12/6 D	28010	1,5	400	4,0	21	32	96	2"	19,2
UWP 12/9 D	28011	2,2	400	5,9	21	50	96	2"	24,2
UWP 12/12 D	28012	3,0	400	7,8	21	71	96	2"	31,0
UWP 12/15 D	28013	4,0	400	10,0	21	95	96	2"	40,0
UWP 12/23 D	28015	5,5	400	13,7	21	132	96	2"	50,0

ACCESSORIES:

Description		Item-No.
Three-phase switching unit	1,2 - 1,8 A	114015
	1,8 - 2,6 A	114022
	2,6 - 3,7 A	114060
	3,7 - 5,5 A	114050
	5,5 - 8,0 A	114030
	8,0 - 11,5 A	114040
Control unit ZS (direct connection) Three-phase	up to 5,5 kW	128600
Control unit ZS (direct connection with dry-run protection) Three-phase	up to 5,5 kW	128603
Control box ZS with dry-run protection Single-phase		128606
Electrode made of stainless steel (2 pcs. for dry-run protection necessary)		128610
Electrode cable 1 x 1,5 mm ²	per m	128611
Stainless steel cable Ø 4 mm	per m	128632
Stainless steel cable Ø 5 mm	per m	128630
Cable clamp (2 pcs. per ring required)		128631
Cable connector	up to 4 x 4,0 mm ²	128620
Under water cable H07RN-F per m	4 x 1,5 mm ²	201064
	4 x 2,5 mm ²	201065

ZP DEA



FEATURES:

- complete pressure compensation unit with 1-4 centrifugal pumps
- frames, sensors, fittings and pipe system made of stainless steel
- diaphragm extension tank
- frequency converter ensures consistent operation
- pressure switch or pressure sensor to control stage operation

TRANSPORTED MEDIUMS:

- drinking water acc. DIN 2000
- industrial water without abrasive or long-fibred components

APPLICATIONS:

- pressure compensation in houses, public and industrial buildings
- drinking water supply, water supply for fire-fighting

TECHNICAL DATA:

- capacity: up to 240 m³/h
- head: up to 24 bar
- pumps: acc. DIN 1988, 1-4 vertical centrifugal pumps, standing or lying next to each other, one of them as spare pump
- temp. of medium: up to 25°C acc. DIN 1988

DELIVERY CONTENTS:

- unit complete with pumps, diaphragm extension tank and control box
- optional accessories: flexible pipe connection, diaphragm expansion tank, noise damping, remote control/data transfer

FILTER PUMPS / SMALL PERIPHERAL PUMP

UP

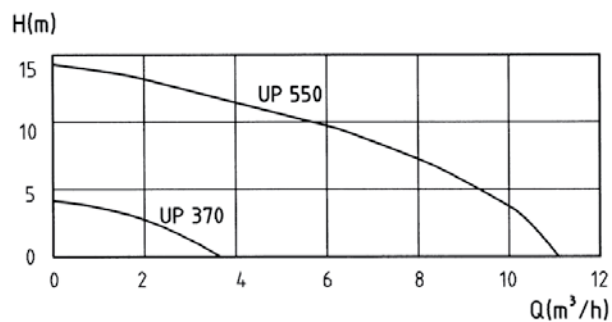


(Abb. UP)

FEATURES:

- One-stage, normal suction centrifugal pump
- Pump housing from plastic, motor from Aluminium, impeller from plastic
- Sealed by sliding ring seal
- Suction and pressure connection 1 1/4"

CHARACTERISTICS:



APPLICATIONS:

- Cooling and filter circuits, general water supply, Pond agitation, industrial agitation

TECHNICAL DATA:

Type	Item-No.	P ₁ [kW]	P ₂ [kW]	U [V]	I _N [A]	n [50Hz]	Qmax [m ³ /h]	Hmax [m]	Weight [kg]
UP 370	88.150	0,6	0,37	230	2,8	1400	3,5	3,6	6,5
UP 550	88.100	0,75	0,5	230	3,2	2800	11	14	6,8

UP 550 also with frequency converter for speed control available

FEATURES:

- special containers made of polyethylene (PE) or polypropylene (PP) in sealed or open version
- round or angular free standing tanks without pressure
- wall thickness meets the "Test and building codes" of the Institute for civil engineering in Berlin
- connections either flanged or as plain end pipe
- custom designed containers available on request

CHARACTERISTICS:

- low weight
- food-grade quality and suitable for drinking water
- impact and shock resistant
- high resistance against acids and caustic solutions
- PE (HWU), is weather and light resistant making it suitable for outdoors

APPLICATIONS:

- sewage collection containers
- container for neutralisation plants
- collecting basins
- overflow tank
- filter containers
- initial collecting containers
- silt traps

DELIVERY CONTENTS:

- special containers according to a Technical drawing
- on-site welding available on request

TECHNICAL DATA:

Features	Capacity [l]	max length [mm]	max. width [mm]	max. height [mm]	max. diameter [mm]
round	50 - 20.000	-	-	-	2.000
angular	100 - 20.000	5.000	2.500	2.500	-

Special dimensions on request

PRODUCT RANGE AND PRICE LIST

Sewage and Sanitary Installations

- Recommended prices without obligation. VAT not included.
- prices valid from 01 January 2008.
- This price list replaces all previous price lists.
- The prices are subject to our delivery and payment conditions.
- Purchases only possible through sanitary and pump wholesalers.
- Returned goods valued less than € 50 (net price) will not be credited.
- Returned goods valued over € 50 will be charged a handling fee, dependant on costs involved.
- Returned goods which are Custom built will not be accepted.

Misprints and technical modifications without prior notice.

Abbreviations:

- A float-switch
- W single phase
- D three-phase current
- Ex explosion protected version
- K plastic
- E simplex unit (only with final pump stations)
- D duplex unit (only with final pump stations)
- d outside diameter

WHICH PUMP IS SUITABLE FOR WHICH PURPOSE?

Submersible pumps are designed to handle large volumes of water (7.000 to 21.000 l/h) as needed for example when a cellar is flooded. They do not build up any significant pressure and are not suited for use with garden sprinklers etc. (exception: submersible pressure pump TDP 800)

Wellpumps are designed to pump up from depths down to 55 m. They are generally used for pumping water out of wells for watering purposes or for household plumbing systems.

Garden pumps, Automatic and other household pumps do not compare to submersible pumps in their flow capacities (3.200 to 5.200 l/h) but are capable of producing much more pressure (4,3 to 5,8 bar). They are designed to supply the equivalent to a mains supply where required e. g. for garden hoses, sprinklers, showers, flushing toilets etc.

Explanation of pump pressure capacity in bar.

The definition of the maximum head capacity for a pump also defines its pressure capacity. A head value of 10 m is equivalent to a pressure of 1 bar such that a pump with a maximum head value of 46 m is capable of producing a pressure of 4,6 bar.

It is very important that all connections are secure from leaks.

Any leaks on the outlet side of the pump will not affect the performance of the pump. However water from these leaks could cause damage in the home or workplace. Leaks on the inlet (suction) side of the pump could result in a loss of pressure that will seriously affect the performance of the pump.

The influence of hose diameter on capacity.

The smaller the diameter of the hose the higher the hydraulic resistance in the system. Hoses of diameter 1/2" to 3/4" are allways affected by a certain degree of hydraulic resistance.

What's a dry run?

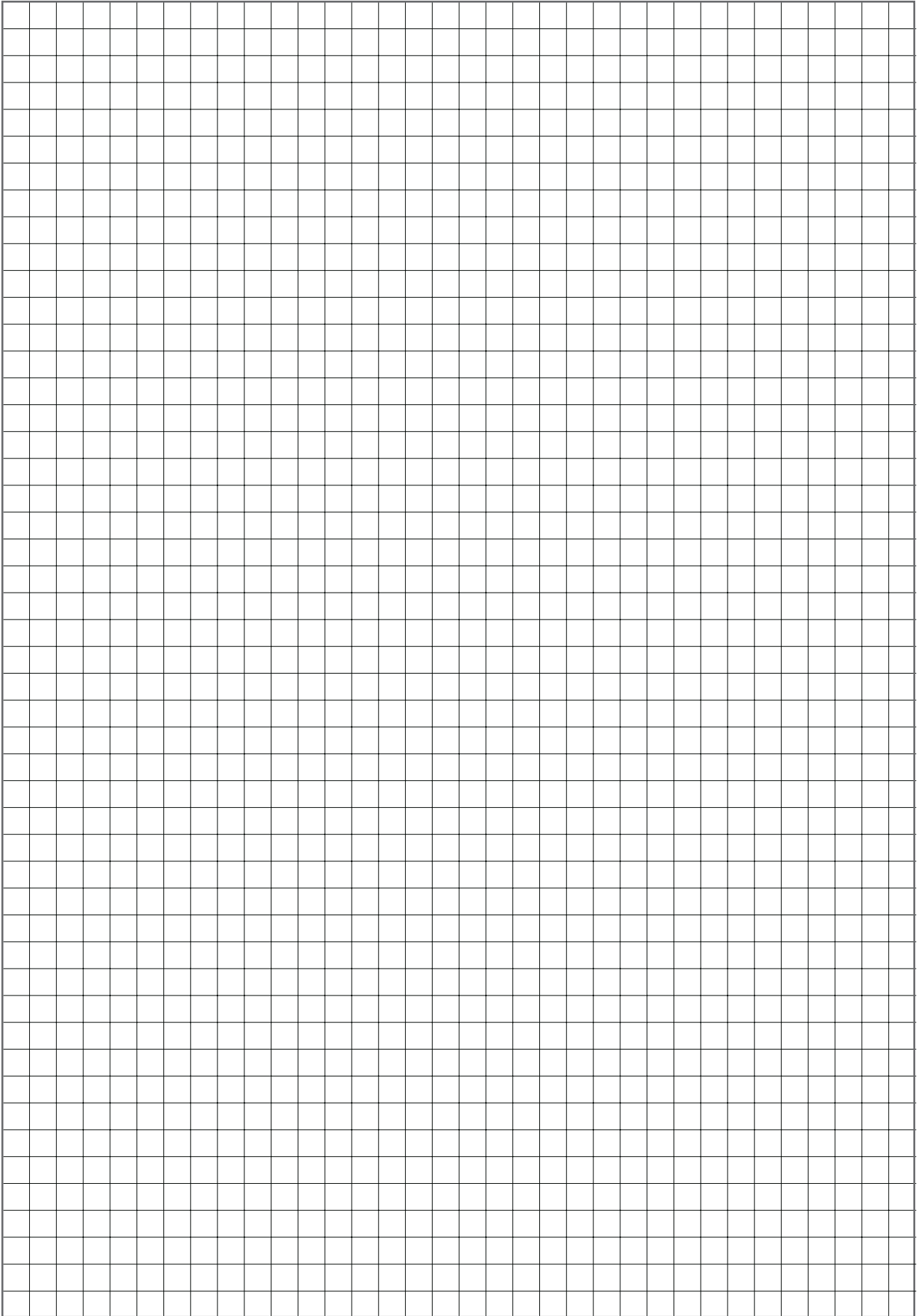
Certain parts of a pump can only function efficiently when they are covered in or cooled by water. These parts would be damaged should the pump be allowed to run in a dry condition.

What happens above the maximum pumping temperature.

Heat causes expansion in most materials. Seals can be damaged by heat and the motor destroyed by water leaking in. The motors of submersible pumps are generally cooled by the transported water and such a system cannot function if the water temperature is too high.

Other voltages and frequencies on request.

Technical modifications without prior notice.



Pumps and Units for Industry, Home and Garden



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- Level switching
- Cable assembly

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