

MODERN TECHNOLOGIES AND LONG - TERM EXPERIENCE

■ GFDU, GFZU, GFLU, GFEU, GFRU, GFSU



SUBMERSIBLE SLUDGE & SEWAGE PUMPS

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Application

Pumps (and the agitator) are intended for pumping, and/or mixing polluted water, thick sludge, sewage, raw waste water which contain up to 14 volume percent of total solids, with small broken and fibrous stuffs.

They are favourable for pumping out of surface and underground supplies - as rivers, ponds, sumps, pools, cellars, wells, and so on.

Max. temperature of a pumped liquid 40 °C
 Values pH ranging from 6.5 to 9 ph
 Max. submersion of a pump-set 10 m

Besides their vertical position those pumps (and the agitator) may work in both horizontal and inclined ones. With their sizes, simple servicing and easy handling they are available for the widest circle of consumers.

Pumps (and the agitator) are available in a close-coupled workmanship. Suitable pump type may be selected according to a pumping liquid sort - see Pump performace data.

Material Options

Pump main parts are available in following constructional materials:

- Motor and pump casings - grey cast iron
- Impeller - grey cast iron
- Disintegrator GFZU - hardened stainless steel
- Mixing propeller GFAU - stainless steel
- Shaft - stainless steel
- O-rings - rubber
- Mechanical seal - SIC + ceramics

Accessories and Equipment

Wet sump

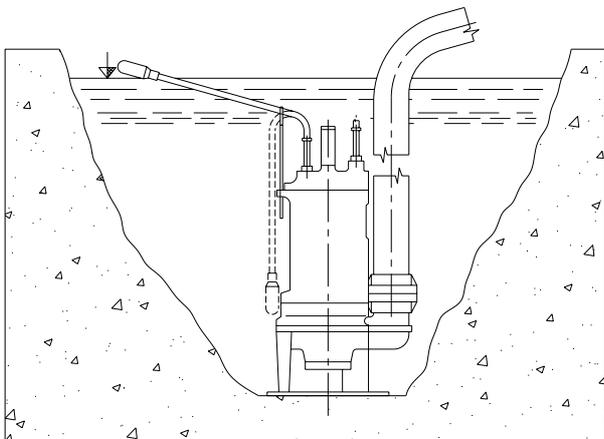
1. Power cable in length of 10 m (without a plug).
2. Barrel spanner 10 for rotor turning-over (with GFZU box spanner for hexagon, size 5).
3. Float switch for automatic operation. (Only single-phase workmanship, as a standard. With the three-phase workmanship it is available only on a special request).
4. Quick coupler 52 (exclusive of 40-GFDU).
5. Discharge hose 52 x 10/1 in length of 10 m (for pumps with discharge DN 50).

Wet sump with lifting equipment

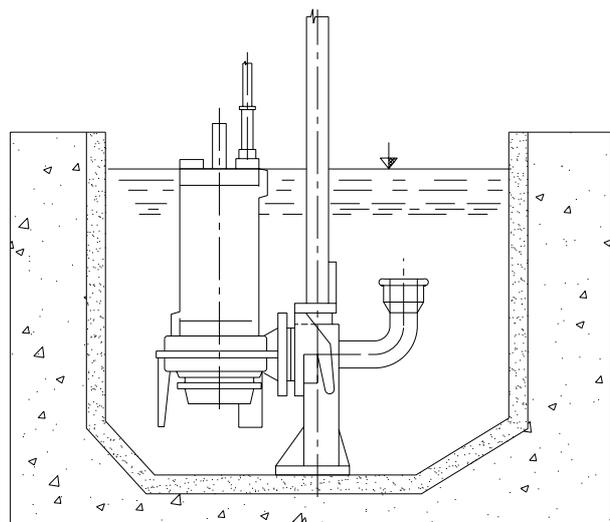
1. Power cable in length of 10 m (without a plug).
2. Barrel spanner 10 for rotor turning-over (with GFZU box spanner for hexagon, size 5)
3. Float switch for automatic operation (only single-phase workmanship, as a standard. With the three-phase workmanship it is available only on a special request).
4. Lifting equipment. According to the customer wish it is possible with the pump GF.U

PRODUCT IS FRIENDLY TO THE ENVIRONMENT

Versions of Arrangement



Wet sump



Wet sump with lifting equipment

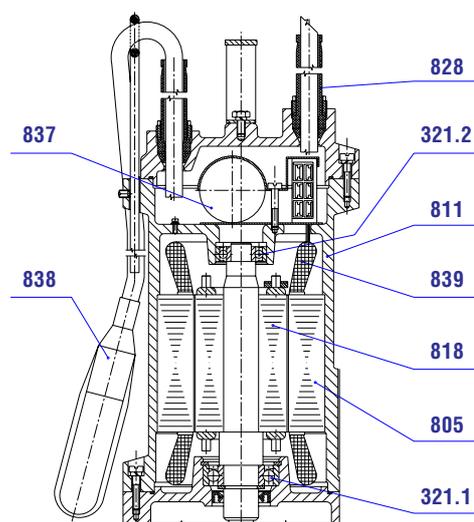
Arrangement

Uniform motor unit ● Versions of impeller

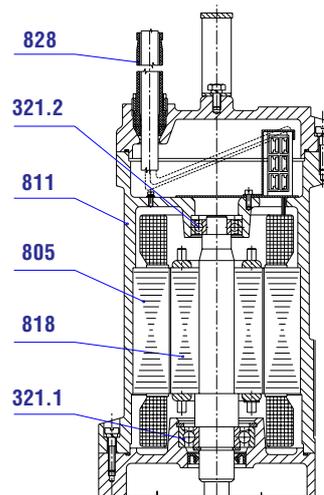
Motor unit

Long shaft version

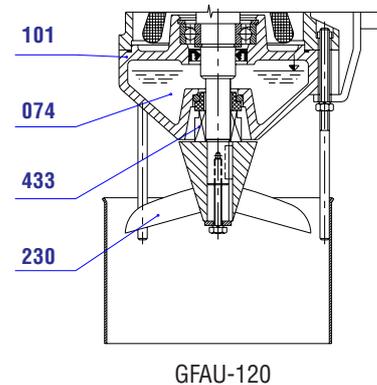
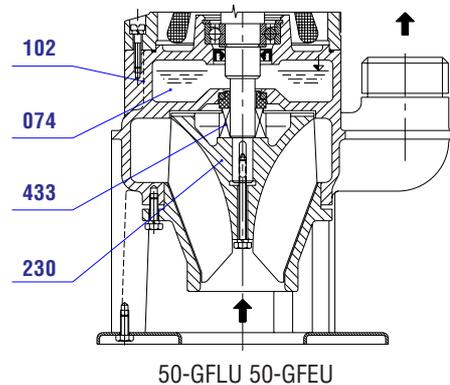
Single-phase version with a float



Three-phase version without a float



Hydraulic part



Items numbering according to DIN 24 250

074 Oil charge friendly to the environment
 101 Agitator casing
 102 Volute casing
 230 Impeller
 230 Mixing propeller (GFAU-120)
 321.1 Lower bearing
 321.2 Upper bearing
 433 Mechanical seal

805 Stator
 811 Stator body
 818 Rotor
 828 Cable sheathing
 837 Capacitor (only on single-phase version)
 838 Float switch
 839 Thermal cut-outs (only on single-phase version)

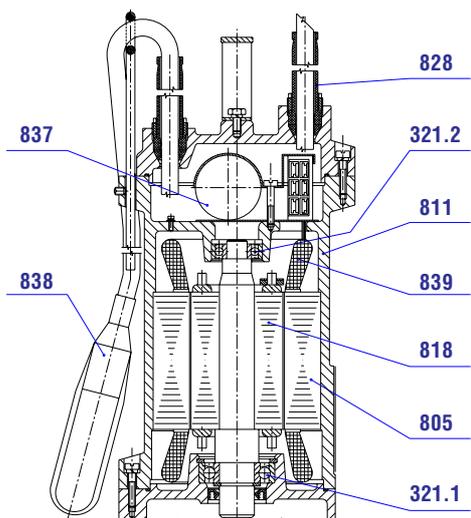
Arrangement

Uniform motor unit • Versions of impeller

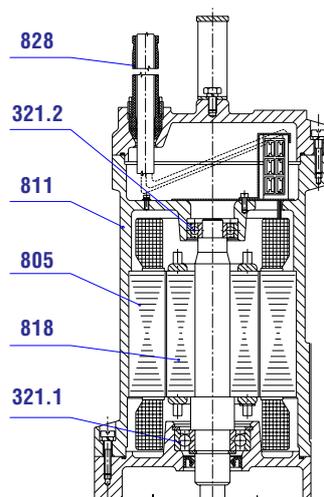
Motor unit

Short shaft version

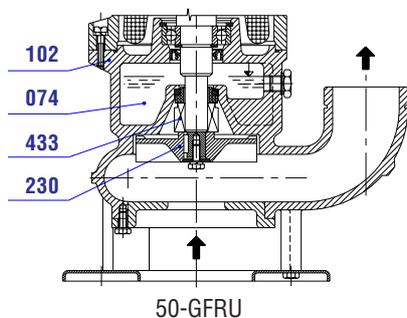
Single-phase version with a float



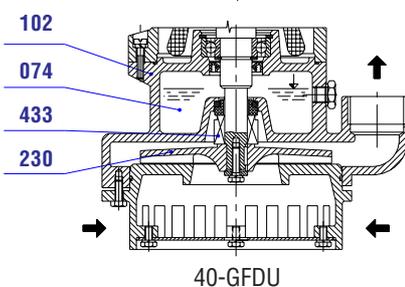
Three-phase version without a float



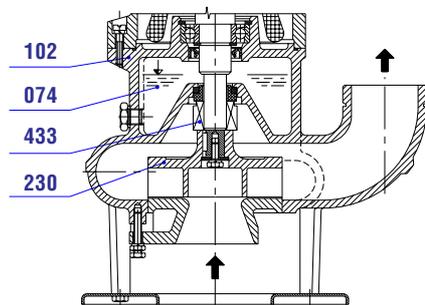
Hydraulic part



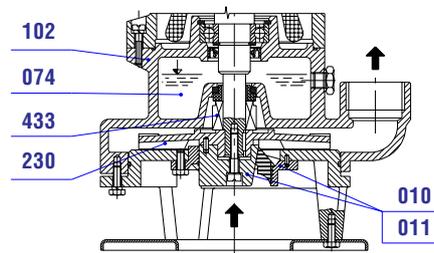
50-GFRU



40-GFDU



50-GFSU



40-GFZU
(jen tojfázové version)

Items numbering according to DIN 24 250

- 010 Disintegrator
- 011 Disintegrator
- 074 Oil charge friendly to the environment
- 102 Volute casing
- 230 Impeller

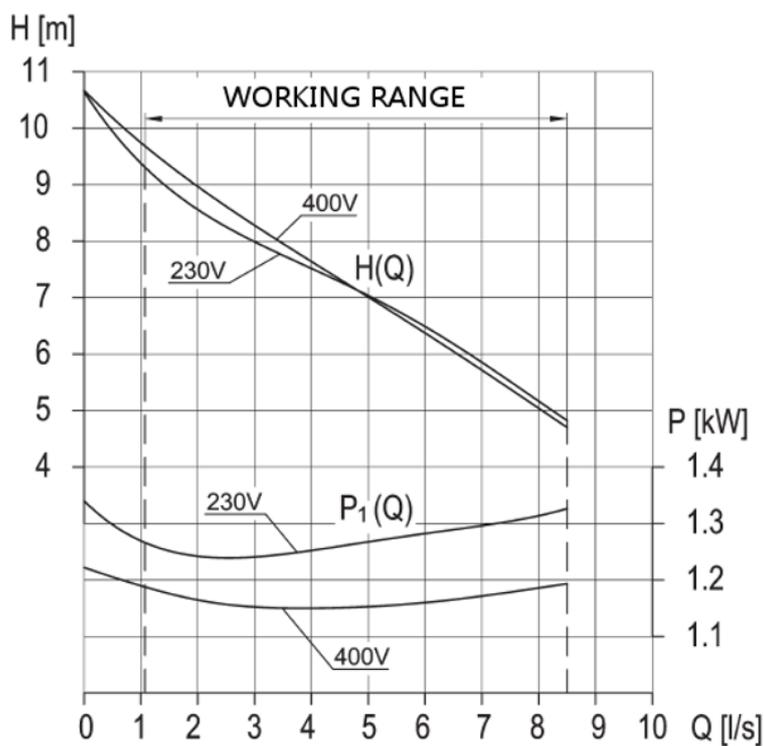
- 321.1 Lower bearing
- 321.2 Upper bearing
- 433 Mechanical seal
- 805 Stator
- 811 Stator body

- 818 Rotor
- 828 Cable sheathing
- 837 Capacitor (only on single-phase version)
- 838 Float switch
- 839 Thermal cut-outs (only on single-phase version)

Performance data for pump 50-GFLU

Impeller		scroll double-vaned			
Impeller passages	∅ (mm)	20			
Pumped liquid		sludge and waste water with content of small broken stuffs, without fibrous ones inclined to rolling-up			
Electric motor		single-purpose			
Rated power output	P_2 (kW)	1,1			
Insulation and covering		Class F; IP 68 ∇ 10 m			
Voltage	U (V)	230	240	400	415
Frequency	f (Hz)	50			
Number of phases		1		3	
Max. cut-out current	I (A)	7	8	2.5	2.7
Capacitor	C (μF)	35	35	-	
Speed of rotation	n (min ⁻¹)	2840		2800	
Connecting cable HO7 RN-F		3×1		4×1	
Weight inclusive of a cable	m (kg)	28		26 ^{*)}	

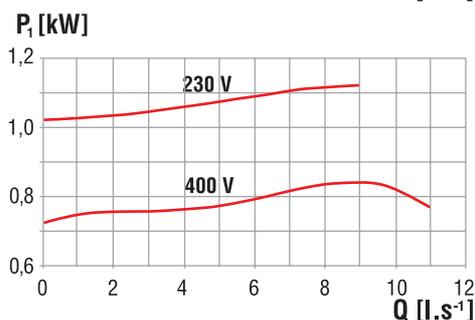
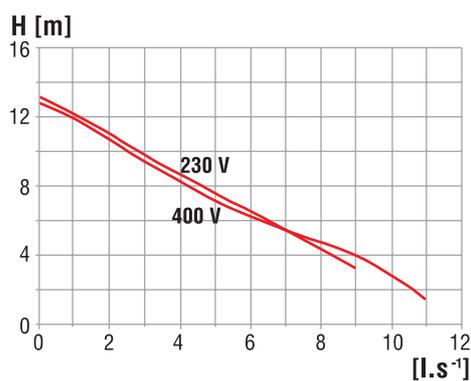
*) The weight of the three-phase pump with a float is 27.5 kg



Performance data for pumps 50-GFEU

Impeller		scroll single-vaned			
Impeller passages	∅ (mm)	20			
Pumped liquid		sludge, sewage, raw waste water with a content of total solids up to 14 percent, viscous liquids			
Electric motor		single-purpose			
Rated power output	P_2 (kW)	1,1			
Insulation and covering		Class F; IP 68 ∇ 10 m			
Voltage	U (V)	230	240	400	415
Frequency	f (Hz)	50			
Number of phases		1		3	
Max. cut-out current	I (A)	6.2	7	2	1.8
Capacitor	C (μF)	35	35	-	
Speed of rotation	n (min ⁻¹)	2840		2800	
Connecting cable HO7 RN-F		3×1		4×1	
Weight inclusive of a cable	m (kg)	29		27 ^{*)}	

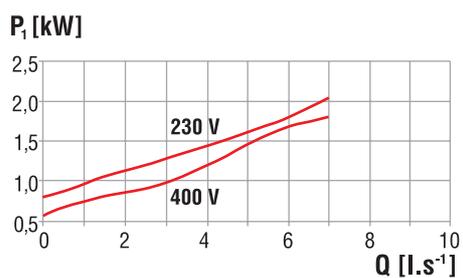
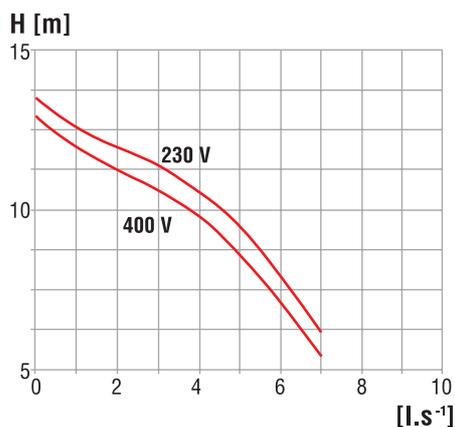
*) The weight of the three-phase pump with a float is 28.5 kg



Performance data for pumps 50-GFRU

Impeller		recessed (vortex)			
Pump passages	∅ (mm)	30			
Pumped liquid		sludge, sewage, raw waste water with a content of gases and fibrous stuffs of organic nature			
Electric motor		single-purpose			
Rated power output	P_2 (kW)	1,1			
Insulation and covering		Class F; IP 68 ∇ 10 m			
Voltage	U (V)	230	240	400	415
Frequency	f (Hz)	50			
Number of phases		1		3	
Max. cut-out current	I (A)	9.3	8	3.2	3.1
Capacitor	C (μF)	35	35	-	
Speed of rotation	n (min ⁻¹)	2840		2800	
Connecting cable HO7 RN-F		3×1		4×1	
Weight inclusive of a cable	m (kg)	26		24 ^{*)}	

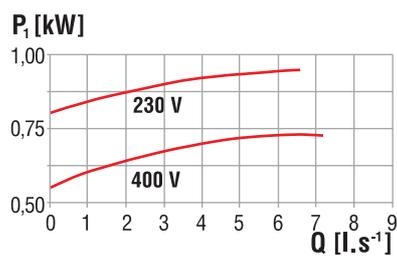
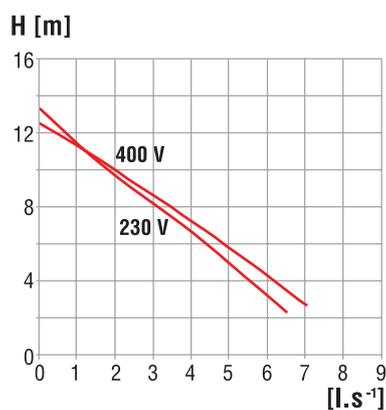
*) The weight of the three-phase pump with a float 25.5 kg



Performance data for pumps 50-GFSU

Impeller		open single-vaned			
Pump passages	∅ (mm)	24			
Pumped liquid		sludge, sewage, raw waste water with a content of solids and short fibrous stuffs of organic nature			
Electric motor		single-purpose			
Rated power output	P_2 (kW)	1.1			
Insulation and covering		Class F; IP 68 ∇ 10 m			
Voltage	U (V)	230	240	400	415
Frequency	f (Hz)	50			
Number of phases		1		3	
Max. cut-out current	I (A)	5.2	6	1.9	2.5
Capacitor	C (μF)	35	35	-	
Speed of rotation	n (min ⁻¹)	2840		2800	
Connecting cable HO7 RN-F		3×1		4×1	
Weight inclusive of a cable	m (kg)	26		24 ^{*)}	

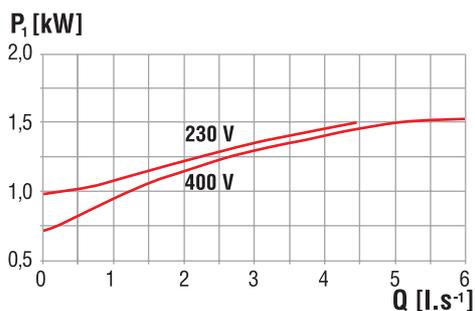
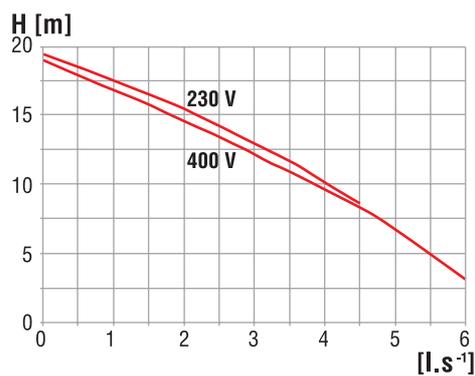
*) The weight of the three-phase pump with a float is 25.5 kg



Performance data for pumps 40-GFDU

Impeller		open multi-vaned			
Pump passages	∅ (mm)	5			
Pumped liquid		clean and slightly polluted water with content of solids			
Electric motor		single-purpose			
Rated power output	P_2 (kW)	1.1			
Insulation and covering		Class F; IP 68 ∇ 10 m			
Voltage	U (V)	230	240	400	415
Frequency	f (Hz)	50			
Number of phases		1		3	
Max. cut-out current	I (A)	8.3	8	3	3
Capacitor	C (μF)	35	35	-	
Speed of rotation	n (min ⁻¹)	2840		2800	
Connecting cable HO7 RN-F		3×1		4×1	
Weight inclusive of a cable	m (kg)	25		23 ^{*)}	

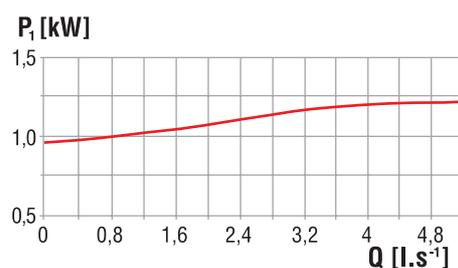
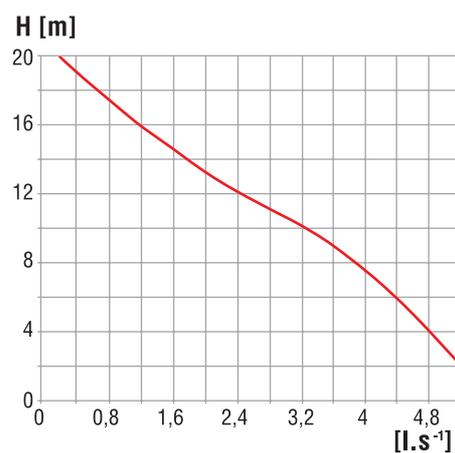
*) The weight of the three-phase pump with a float is 24.5 kg.



Performance data for pumps 40-GFZU

Impeller	open multi-vaned with disintegrator		
Impeller passages	∅ (mm)	5	
Pumped liquid	raw waste water containing long fibrous stuffs of organic character and garbage		
Electric motor	single-purpose		
Rated power output	P_2 (kW)	1,1	
Insulation and covering	Class F; IP 68 ∇ 10 m		
Voltage	U (V)	400	415
Frequency	f (Hz)	50	
Number of phases	3		
Max. cut-out current	I (A)	3,2	2,9
Capacitor	C (μF)	-	
Speed of rotation	n (min ⁻¹)	2800	
Connecting cable HO7 RN-F	4×1		
Weight inclusive of a cable	m (kg)	24 ^{*)}	

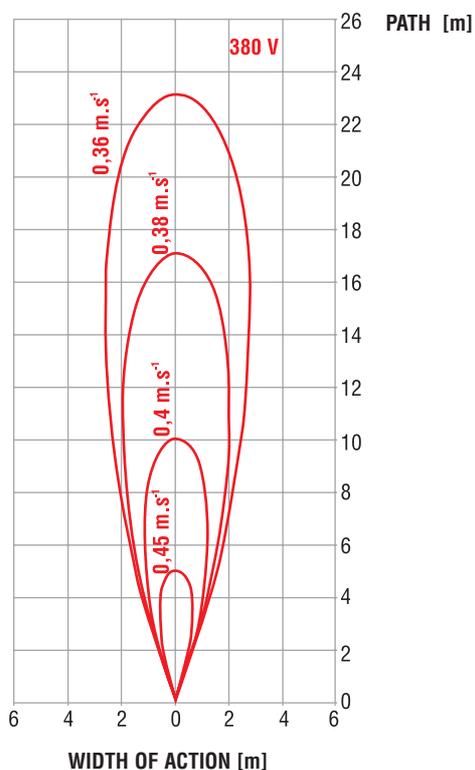
*) The weight of the three-phase pump with a float is 25.5 kg.



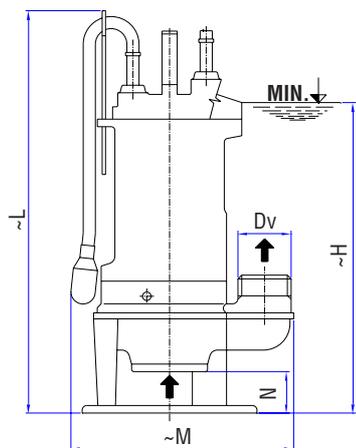
Performance data for agitators GFAU-120

Propeller		double-bladed	
Impeller passages	∅ (mm)	50	
Mixed liquid		sludge, thick stuffs	
Electric motor		single-purpose	
Rated power output	P_2 (kW)	1.1	
Insulation and covering		Class F; IP 68 ∇ 10 m	
Voltage	U (V)	400	415
Frequency	f (Hz)	50	
Number of phases		3	
Max. cut-out current	I (A)	3	3
Capacitor	C (μF)	-	
Speed of rotation	n (min ⁻¹)	2800	
Connecting cable HO7 RN-F		4×1	
Weight inclusive of a cable	m (kg)	23	

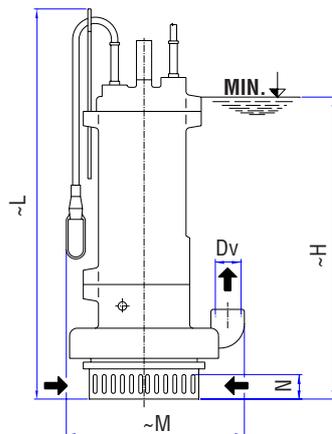
VELOCITY FIELD



Single-phase version



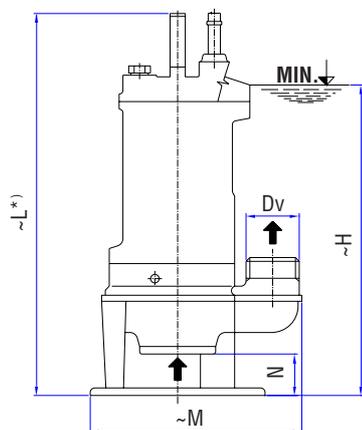
GFLU, GFEU, GFRU, GFSU



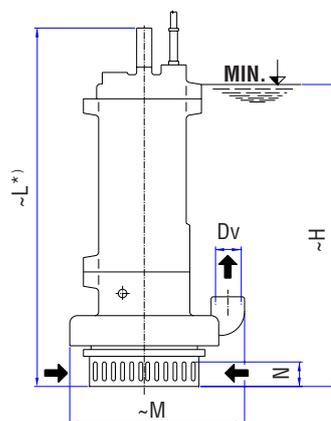
GFDU

	GFLU	GFEU	GFRU	GFSU	GFDU
L	515	515	500	530	470
M	310	310	330	330	310
N	40	30	40	45	25
H	400	400	400	400	400
Dv	G 2"	G 2"	G 2"	G 2"	G 1 1/4"

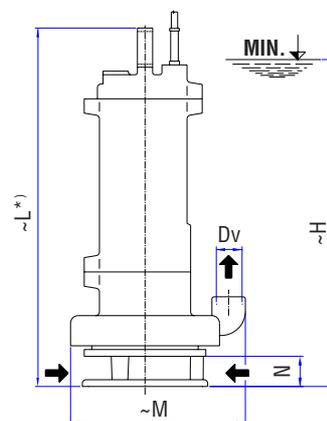
Three-phase version



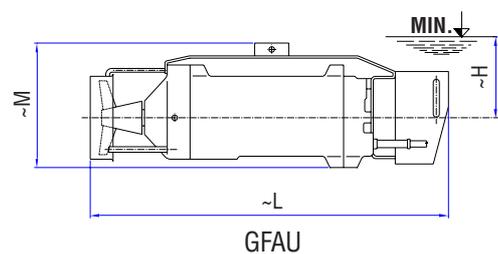
GFLU, GFEU, GFRU, GFSU



GFDU



GFZU

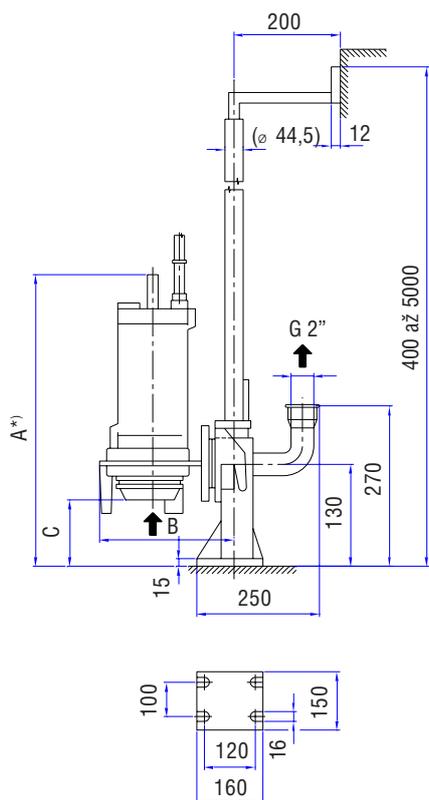


GFAU

	GFLU	GFEU	GFRU	GFSU	GFDU	GFZU	GFAU
L	475*)	475*)	460*)	490*)	430*)	445*)	550
M	260	260	280	280	260	235	200
N	40	30	40	45	25	48	-
H	400	400	400	400	400	400	400
Dv	G 2"	G 2"	G 2"	G 2"	G 1 1/4"	G 1 1/4"	-

*) With the three-phase pump with a float the length L is longer by 35 mm.

Lifting equipment for pumps

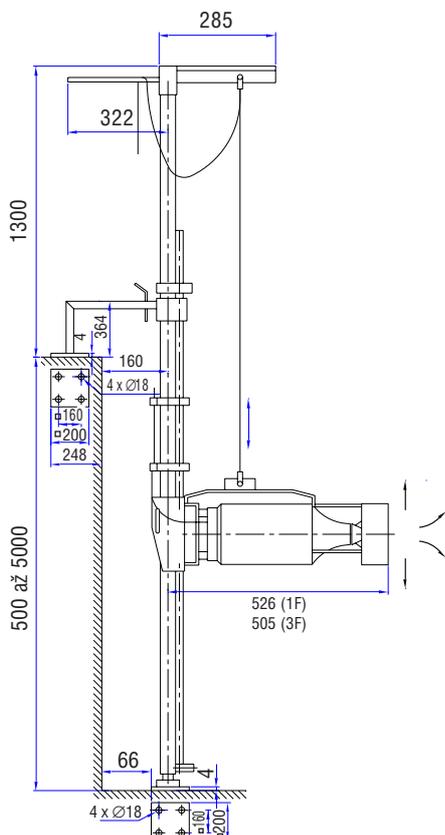


Series	Version	A	B	C
GFLU	1F	495	250	60
GFLU	3F	475*)		
GFRU	1F	535	255	95
GFRU	3F	515*)		
GFSU	1F	535	265	75
GFSU	3F	505*)		
GFDU	1F	510	307	55
GFDU	3F	490*)		
GFZU	3F	490*)	307	95

*) With the three-phase pump with a float the length A is longer by 35 mm.

On the customer wish those pumps are supplied with a lifting equipment without a column pipe. Flanges of discharge branch and lifting equipment are sealed with rubber joint ring being placed in the flange groove.

Lifting equipment for agitators



On the customer wish that agitator may be supplied with complete lifting equipment, inclusive of a column pipe. It is possible to turn the agitator slightly in horizontal plane through an angle of 10°.