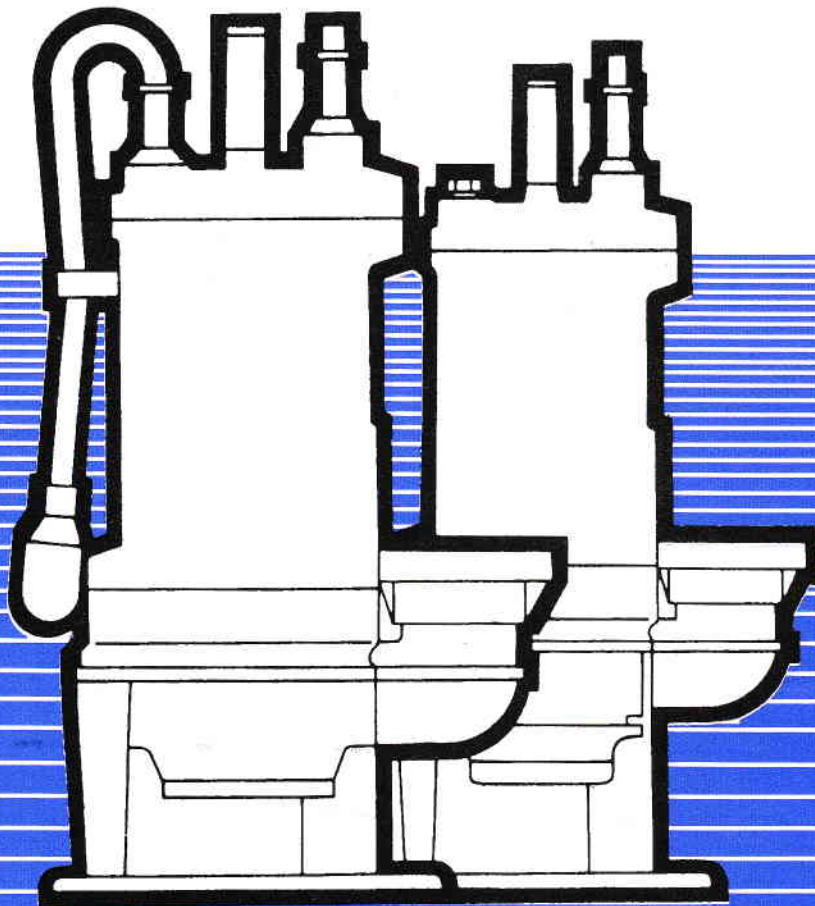




Small-size Submersible
Sludge Pumps

GFLU, GFEU, GFRU GFSU, GFDU, GFZU and Mixers M-120



Application

Pumps and mixers are intended for pumping or mixing polluted water, dense sludge, sewage and waste water with max. 14 volume percents of solids and fibrous stuffs of non abrasive nature.

It is advantageous to use them for pumping from surface-and under-surface sources - rivers, ponds, sumps, pools, cellars, wells, and so on.

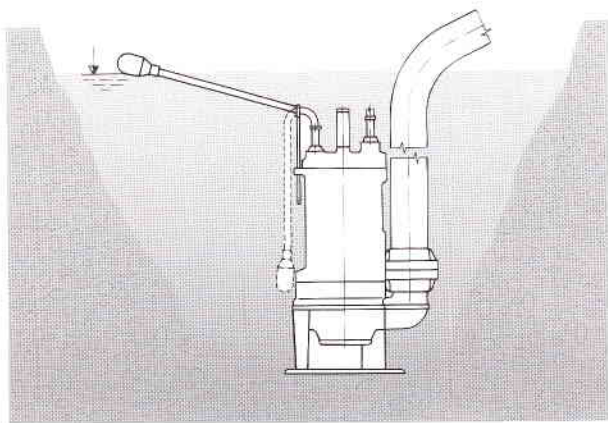
Max. temperature of liquid 40 °C
Volume pH ranging 6,5 - 9 pH
Max. submersion of pump-set 10 m

Besides vertical working position these pumps may work in horizontal or inclined positions excepting three-phase pumps with float switch which may be only operated in vertical position or at deviation of max. 30° from vertical position.

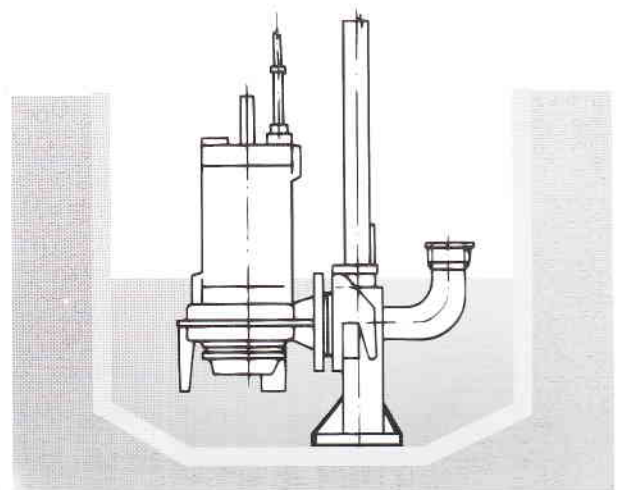
With their dimensions, service simplicity and trouble-free manipulation they are available for the widest circle of customers.

These pumps are of modular close-coupled design, which allows connection of various hydraulics to the drive part - according to a liquid being pumped (see cross-sections illustrated thereafter).

Arrangement options



Wet sump



Wet sump with lowering equipment

Material options

Main parts are of following constructional materials:

El. motor and pump casings	-	grey cast iron
Impeller	-	grey cast iron
Disintegrator GFZU	-	tool steel
Mixing propeller M-120	-	stainless steel
Shaft	-	stainless steel
Wear O-rings	-	rubber
Mechanical seal	-	SiC + ceramics

Accessories and equipment

Wet sump

1. Connecting cable in length 10 m.
2. Barrel spanner 10 for rotor turning.
3. Float-type switching device for automatic operation.
4. Quick coupler 52 or screw joint 49/2".
5. Discharge hose 52 x 10/1 in length 10 m (on request).
6. Discharge hose 32 in length 10 m (on request).
7. Hose connection 32 (on request).

Wet sump with lowering equipment

1. Connecting cable in length 10 m.
2. Barrel spanner 10 for rotor turning.
3. Float-type switching device for automatic operation.
4. Quick coupler 52 or screw joint 49/2".
5. Discharge hose 52 x 10/1 in length 10 m (on request).
6. Discharge hose 32 in length 10 m (on request).
7. Hose connection 32 (on request).
8. Lowering equipment.

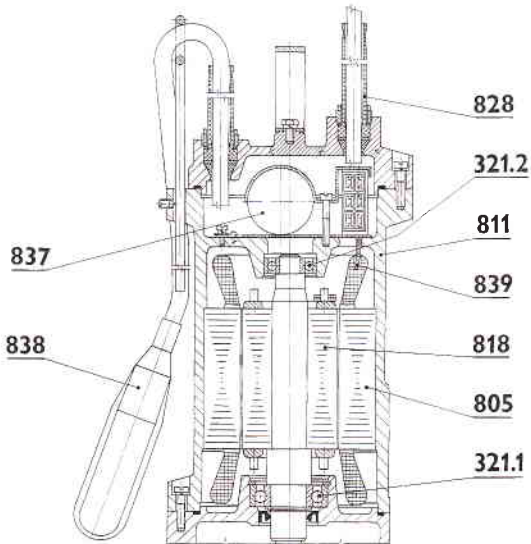
**THIS PRODUCT IS FRIENDLY
TO THE ENVIRONMENT**

Modular Arrangement

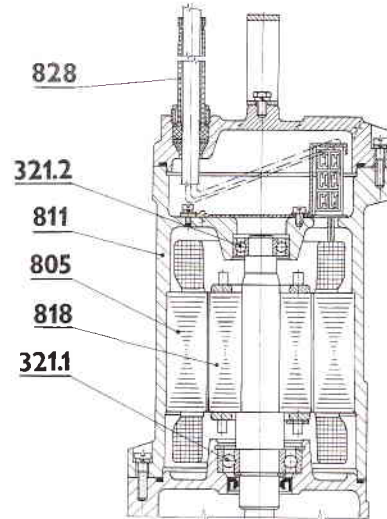
One Electric Motor Unit • Hydraulics Options

Electric Motor Unit Long shaft

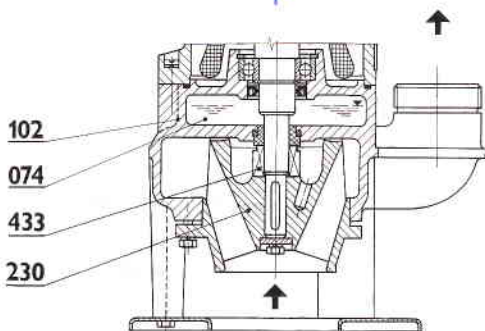
Single-phase version with or without float



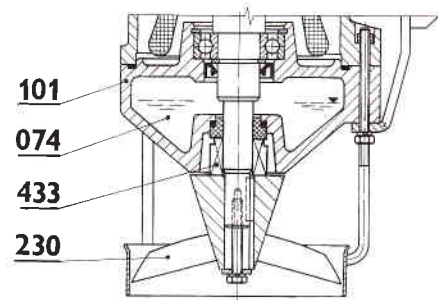
Three-phase version with or without float



Hydraulic part



50 - GFLU 50 - GFEU



M-120

Only three-phase version without float

- 074 - Oil filling friendly to the environment
- 101 - Mixer case
- 102 - Volute casing
- 230 - Impeller
- 230 - Mixing propeller

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

- 828 - Cable guard
- 837 - Capacitor
- 838 - Float-type switching device
- 839 - Thermal fuses

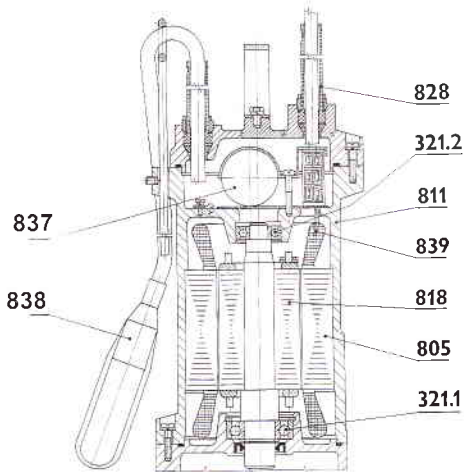
Modular Arrangement

One Electric Motor Unit • Hydraulics Options

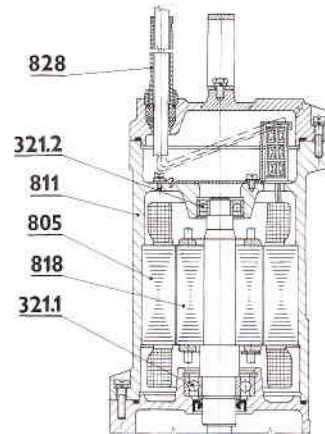
Electric Motor Unit

Short shaft

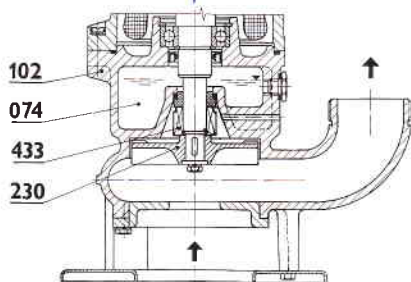
Single-phase version with or without float



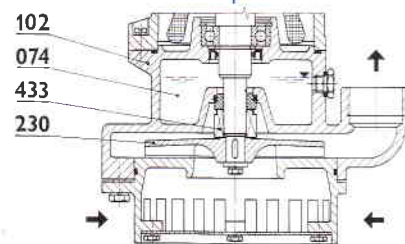
Three-phase version with or without float



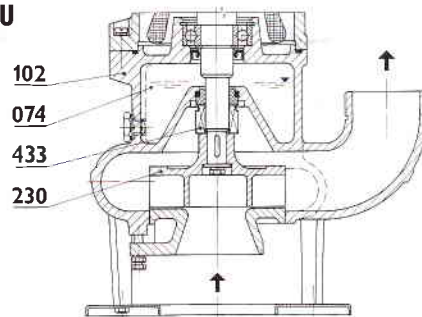
Hydraulic part



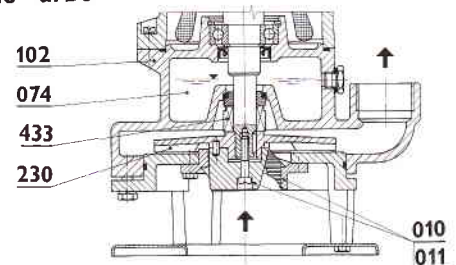
50 - GFRU



40 - GFDU



50 - GFSU



40 - GFZU
Only three-phase version

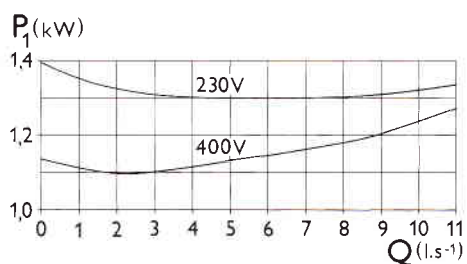
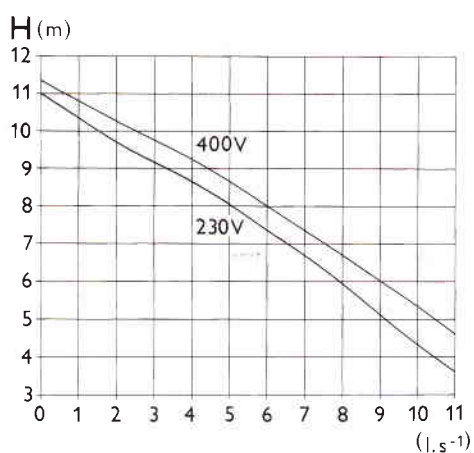
- 010 - Disintegrator
- 011 - Disintegrator
- 074 - Oil filling friendly to the environment
- 102 - Volume casing
- 230 - Impeller

- 331.1 - Lower bearing
- 321.2 - Upper bearing
- 433 - Mechanical seal
- 805 - Stator
- 811 - Stator body
- 818 - Rotor

- 828 - Cable guard
- 837 - Capacitor
- 838 - Float-type switching device
- 839 - Thermal fuses

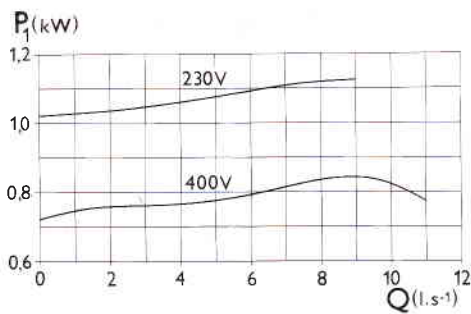
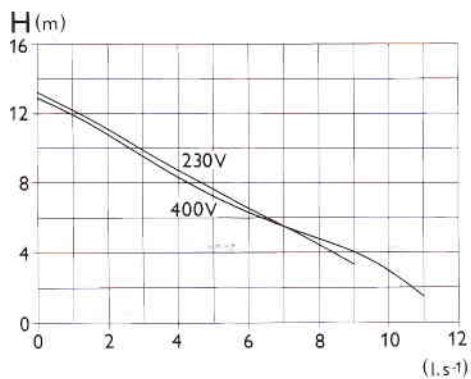
Technical Specification for 50 - GFLU pumps

Impeller	scroll-type two-channel						
Passageability of impeller	∅ (mm)	20					
Pumped liquid	sludge and waste water containing solids, without fibrous stuff tending to winding-up						
Electric motor	single-purpose						
Rated power	P ₂ (kW)	1,1					
Insulation class and protection	Cl. F; IP 68∇ 10 m						
Voltage	U (V)	110	230	240	400	415	380
Frequency	f (Hz)	50					60
Number of phases		1		3		3	
Cut-out current max.	I (A)	14	6,8	8	2,4	2,7	4,2
Capacitor	C (μF)	200	35	35	-		-
Speed	n (min ⁻¹)	2840		2800		2840	
Connecting cable H07 RN - F	With float	3 x 1,5	3 x 1		5 x 1		5 x 1
	Without float	3 x 1,5	3 x 1		4 x 1		4 x 1
Weight inclusive of cable	m (kg)	31	28		26		26



Technical Specification for 50 - GFEU pumps

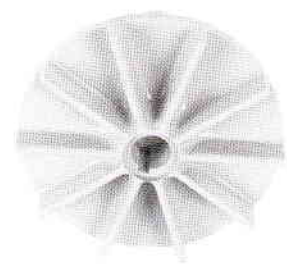
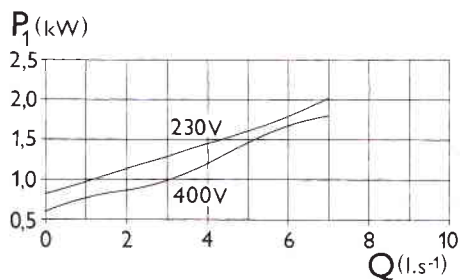
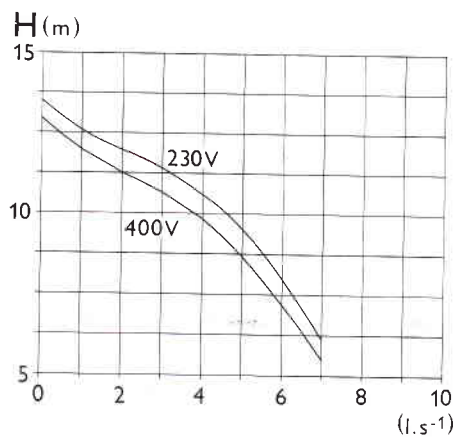
Impeller	scroll-type two-channel					
Passageability of impeller	∅ (mm)	20				
Pumped liquid	sludge and waste water containing solids, without fibrous stuff tending to winding-up					
Electric motor	single-purpose					
Rated power	P ₂ (kW)	1,1				
Insulation class and protection	Cl. F; IP 68 ▽ 10 m					
Voltage	U (V)	110	230	240	400	415
Frequency	f (Hz)	50				
Number of phases		1		3		
Cut-out current max.	I (A)	11	6,2	7	2,2	1,8
Capacitor	C (μF)	200	35	35	-	
Speed	n (min ⁻¹)	2840			2800	
Connecting cable H07 RN - F	With float	3 x 1,5	3 x 1		5 x 1	
	Without float	3 x 1,5	3 x 1		4 x 1	
Weight inclusive of cable	m (kg)	32	29		27	



Technical Specification for 50 - GFRU pumps

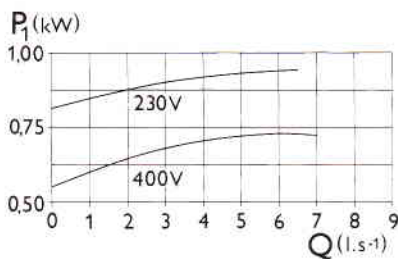
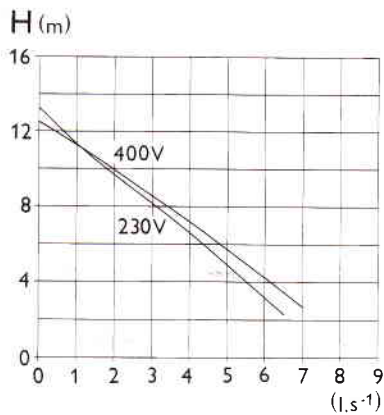
Impeller	torque-flow				
Passageability of impeller \varnothing (mm)	30				
Pumped liquid	sludge, sewage, raw waste water content of gas and fibrous stuffs with				
Electric motor	single-purpose				
Rated power P_2 (kW)	1,1				
Insulation class and protection	Cl. F; IP 68 ∇ 10 m				
Voltage U (V)	110	230	240	400	415
Frequency f (Hz)	50				
Number of phases	1			3	
Cut-out current max. I (A)	*)	7,3	8	3,2	3,1
Capacitor C (μ F)	200	35	35	-	
Speed n (min^{-1})	2840			2800	
Connecting cable H07 RN - F	With float	3 x 1,5	3 x 1	5 x 1	
	Without float	3 x 1,5	3 x 1	4 x 1	
Weight inclusive of cable m (kg)	29	26		24	

*) Data not given above may be received upon request.



Technical Specification for 50 - GFSU pumps

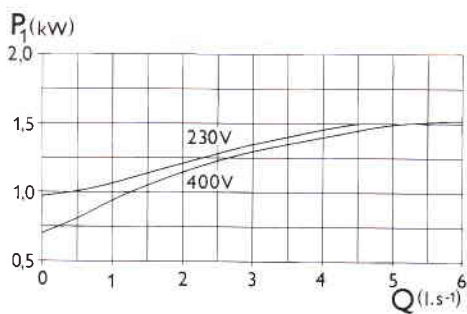
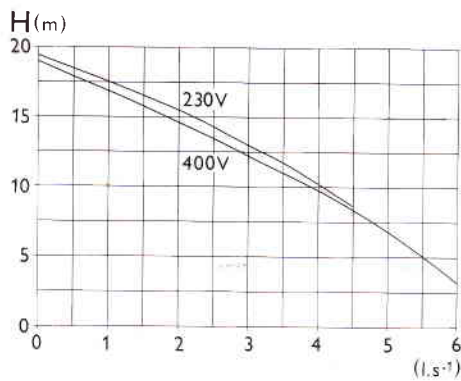
Impeller		open single-channel				
Passageability of impeller	∅ (mm)	24				
Pumped liquid		sludge, sewage, raw waste water with solids and short fibrous stuff of organic character				
Electric motor		single-purpose				
Rated power	P ₂ (kW)	1,1				
Insulation class and protection		Cl. F; IP 68 ∇ 10 m				
Voltage	U (V)	110	230	240	400	415
Frequency	f (Hz)	50				
Number of phases		1			3	
Cut-out current max.	I (A)	11	6,3	6	1,9	2,5
Capacitor	C (μF)	200	35	35	-	
Speed	n (min ⁻¹)	2840			2800	
Connecting cable H07 RN - F	With float	3 x 1,5	3 x 1		5 x 1	
	Without float	3 x 1,5	3 x 1		4 x 1	
Weight inclusive of cable	m (kg)	29	26		24	



Technical Specification for 40-GFDU, 50-GFDU pumps

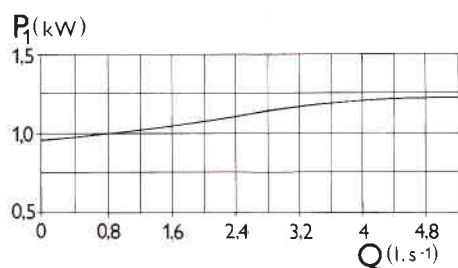
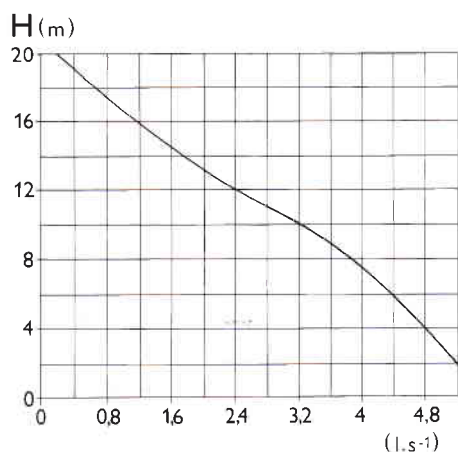
Impeller		open multi-channel				
Passageability of impeller	\varnothing (mm)	5				
Pumped liquid		clean and slightly polluted water containing solids				
Electric motor		single-purpose				
Rated power	P_2 (kW)	1,1				
Insulation class and protection		Cl. F; IP 68 ∇ 10 m				
Voltage	U (V)	110	230	240	400	415
Frequency	f (Hz)	50				
Number of phases		1			3	
Cut-out current max.	I (A)	*)	8	8	2,9	3
Capacitor	C (μ F)	200	35	35	-	
Speed	n (min^{-1})	2840			2800	
Connecting cable H07 RN - F	With float	3 x 1,5	3 x 1		5 x 1	
	Without float	3 x 1,5	3 x 1		4 x 1	
Weight inclusive of cable	m (kg)	28	25		23	

*) Data not given above may be received upon request.



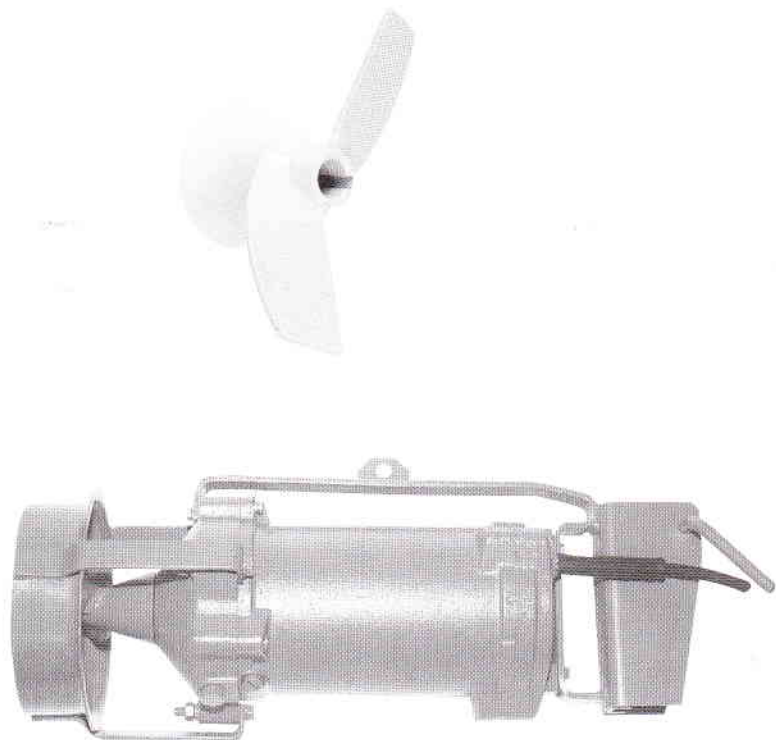
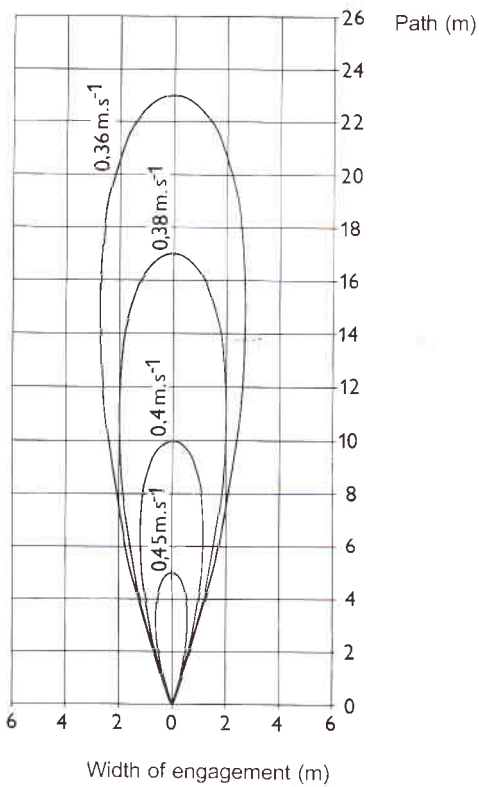
Technical Specification for 40-GFZU, 50-GFZU pumps

Impeller	open, multi-channel with disintegrator			
Passageability of impeller	∅	(mm)	5	
Pumped liquid	waste water containing long fibrous stuffs of organic character, left-overs			
Electric motor	single-purpose			
Rated power	P_2	(kW)	1,1	
Insulation class and protection	Cl. F; IP 68 ∇ 10 m			
Voltage	U	(V)	400	415
Frequency	f	(Hz)	50	
Number of phases	3			
Cut-out current max.	I	(A)	3,2	2,9
Capacitor	C	(μ F)	-	
Speed	n	(min^{-1})	2800	
Connecting cable H07 RN - F	With float		5 x 1	
	Without float		4 x 1	
Weight inclusive of cable	m	(kg)	24	

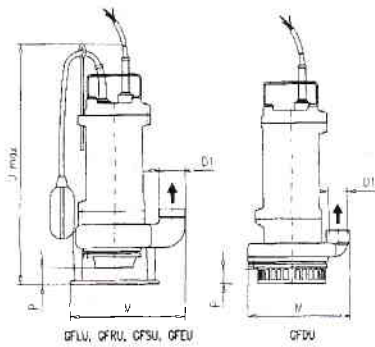


Technical Specification for M-120 Mixers

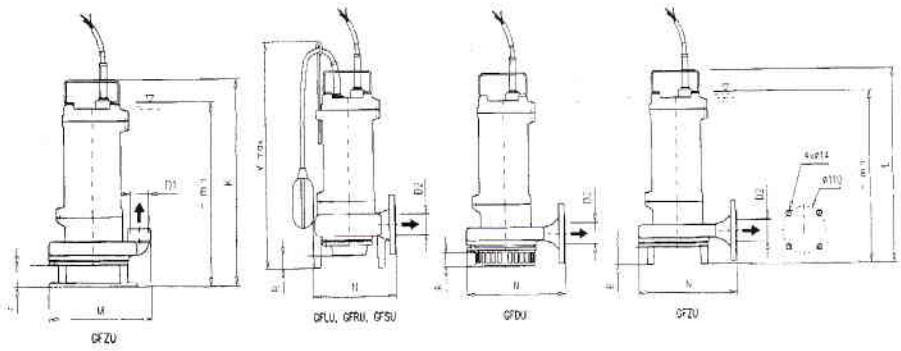
Propeller			two-blade	
Passageability of propeller	∅	(mm)	50	
Mixed liquid			sludge, dense liquids	
Electric motor			single-purpose	
Rated power	P ₂	(kW)	1,1	
Insulation class and protection			Cl. F; IP 68 ∇ 10 m	
Voltage	U	(V)	400	415
Frequency	f	(Hz)	50	
Number of phases			3	
Cut-out current max.	I	(A)	3	3
Capacitor	C	(μ F)	-	
Speed	n	(min ⁻¹)	2800	
Connecting cable H07 RN - F			4 x 1	
Weight inclusive of cable	m	(kg)	23	



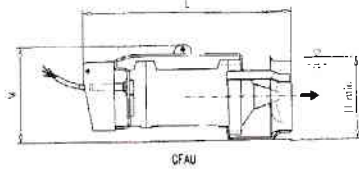
PUMP WITH
THREADED BRANCH



PUMP WITH
FLANGED BRANCH

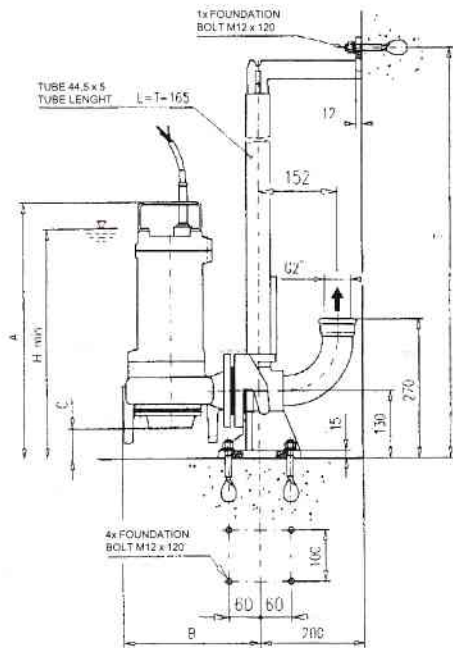


MIXER

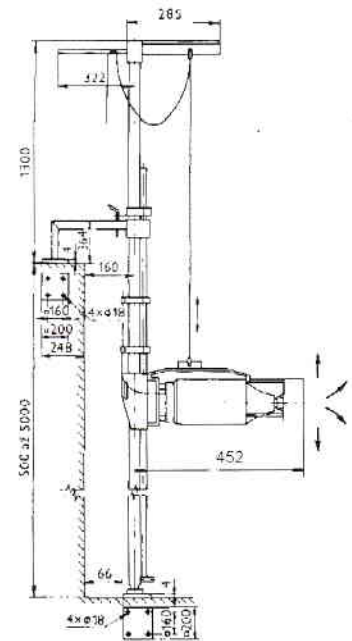


TYPE	VERSION	D1	D2	H			K			L			M	N	P	R	U			V		
				1F	1F ^{110V} _{115V}	3F	1F	1F ^{110V} _{115V}	3F	1F	1F ^{110V} _{115V}	3F					1F	1F ^{110V} _{115V}	3F	1F	1F ^{110V} _{115V}	3F
GFLU	WITH FLOAT	G2"	50	420	520	440	472	579	486	464	571	443	262	212	37	29	602	709	581	594	701	573
	WITHOUT FLOAT					400			451													
GFRU	WITH FLOAT	G2"	50	430	530	450	479	586	493	479	586	493	262	202	38	38	609	716	588	609	761	588
	WITHOUT FLOAT					410			458													
GFSU	WITH FLOAT	G2"	50	445	545	465	495	602	509	487	594	501	262	215	32	24	625	732	604	617	724	596
	WITHOUT FLOAT					425			474			466										
GFEU	WITH FLOAT	G2"	-	460	560	480	512	619	526	-	-	-	262	-	35	-	642	749	621	-	-	-
	WITHOUT FLOAT					440			491													
GFDU	WITH FLOAT	G ¹ / ₄ "	50	400	500	420	452	559	466	452	559	466	232	255	32	32	582	689	561	582	689	561
	WITHOUT FLOAT					380			431			431										
GFZU	WITH FLOAT	G ¹ / ₄ "	50	-	-	430	-	-	476	-	-	468	232	255	48	40	-	-	571	-	-	563
	WITHOUT FLOAT					390			441			433										
M-120	WITH FLOAT	-	-	-	-	200	-	-	-	-	-	490	215	-	-	-	-	-	-	-	-	-

Lowering equipment for pumps



Lowering equipment for mixer



TYPE	VERSION	A		B	C	H		
		1F	1F ^{110V} _{115V}			3F	3F	
GFLU	WITH FLOAT	494	601	508	264	59	445	465
	WITHOUT FLOAT			473				425
GFRU	WITH FLOAT	534	641	548	254	93	485	505
	WITHOUT FLOAT			513				465
GFSU	WITH FLOAT	537	644	551	267	74	490	510
	WITHOUT FLOAT			516				470
GFDU	WITH FLOAT	508	615	522	307	88	460	480
	WITHOUT FLOAT			487				440
GFZU	WITH FLOAT	-	-	522	307	94	-	480
	WITHOUT FLOAT			487				440

On the customer request these pumps may be supplied together with a lowering equipment without guide rod. Flanges of discharge branch and lowering equipment are sealed with the aid of rubber ring placed in the flange groove.

On the customer request this mixer may be supplied together with a lowering equipment inclusive of guide rod. It is possible to turn the mixer through an angle of 10° in horizontal plane.

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