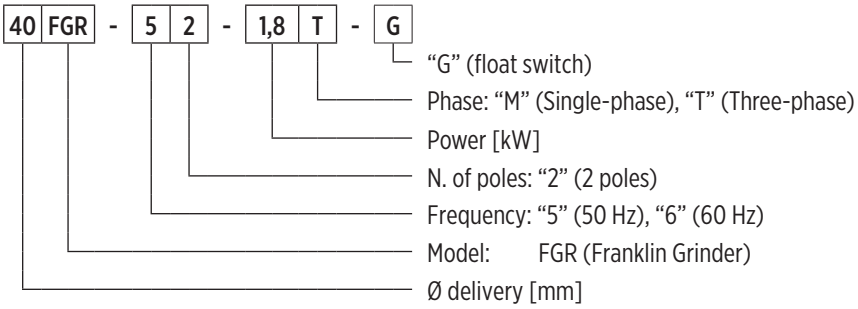
FGR Series - Pumps with grinder unit 50 Hz

FGR SERIES – PUMPS WITH GRINDER UNIT 50 HZ

PUMP IDENTIFICATION CODE



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40FGR SERIES 50 HZ

FEATURES & BENEFITS

APPLICATIONS

Pumping of clear non-loaded fluids

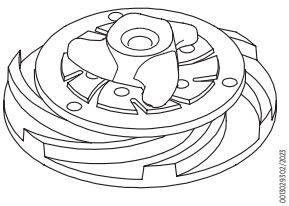
Extraction of water from ponds, streams or pits and for rainwater collection

Wastewater

MARKETS

CAST IRON SUBMERSIBLE WASTEWATER LIFT PUMPS WITH GRINDER UNIT

These series of grinder pumps are particularly used in civil and industrial sewage plants. They have been designed to pump the liquid at high head with very low capacity. The cutter unit, in a special hard stainless steel, cuts into small pieces threadlike materials contained in the liquids. As the risk of clogging is avoided small diameter pipes are used. These pumps can be used to lift the sewage of blocks of flats and villas, small isolated areas far from the sewer systems; the sewage of hotels and campsites, in the food and paper industry and in those particular situations where the installation is often expensive by using a gravity system.



IMPELLER WITH GRINDER UNIT

GENERAL FEATURES

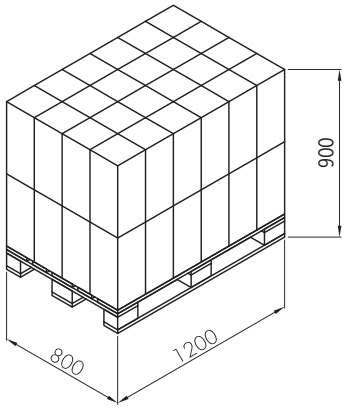
Materials/Constr.design		
Impeller with grinder unit		Cast iron EN GJL200
External casing		Stainless steel AISI304
Pump body		Cast iron EN GJL200
Cover		Cast iron EN GJL200
Grinder unit		Hardened stainless steel
Mechanical seal	**motor side**	Seal ring
	pump side	Silicon carbide (SiC/SiC)
Motor shaft		Stainless steel AISI416
Power cable	**Type**	10 m H07RN-F type
	Single-phase	4G1mm² with SHUKO plug (CEE7/VII), box with manual overload cut-out and with starting and operating capacitors.
	Three-phase	4G1mm²
Motor		
Constr.design		asynchronous squirrel cage-type in dry chamber
Type		2 poles; 50 Hz
Insulation class		F
Protection degree		IP68
Voltage	**Single-phase**	230V ±6% built-in overheating protection, float switch as optional
	Three-phase	230V ±10%, 400V ±10%
Limits of use		
Maximum liquid temperature		+40 °C
pH of pumped liquid		6 - 10
Liquid density		1,0 kg/dm³
Maximum immersion depth:		5 m
Min. immersion depth for continuous service		303 mm
Max. number of starting/hour		20
Construction options		

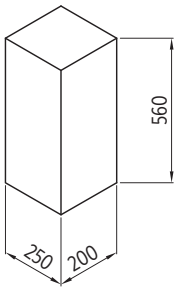
- 60 Hz version
- Different voltages
- Food-grade white oil

DIMENSIONAL DRAWINGS

Packaging		
Pump model	Dimensions [mm]	Weight [kg]
40FGR-52-0,75	255x205x560	18,7
40FGR-52-1,1	255x205x560	20,7

Pallet			
Pump model	Dimensions [mm]	N° of pumps	Weight [kg]
40FGR-52-0,75	800x1200x900	32	600
40FGR-52-1,1	800x1200x900	32	670





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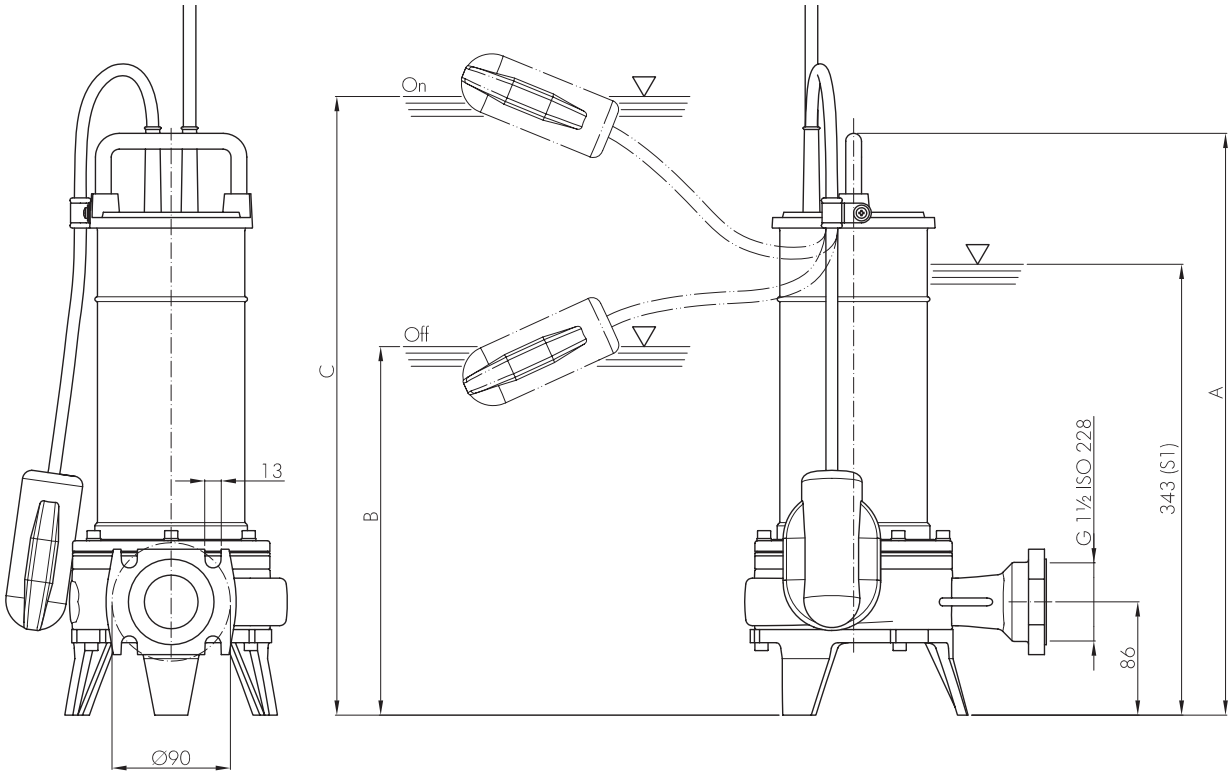
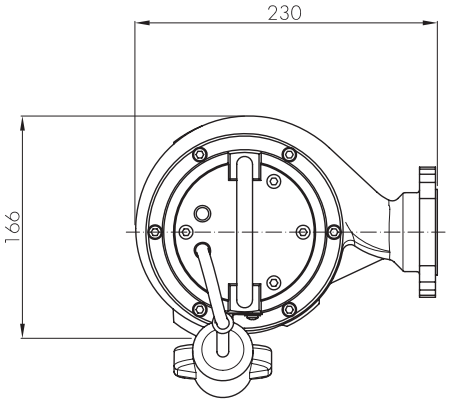


Dimensions [mm]			
Pump model	A	B	C
40FGR-52-0,75	**438**	280	470
40FGR-52-1,1	**463**	305	495



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TECHNICAL DATA

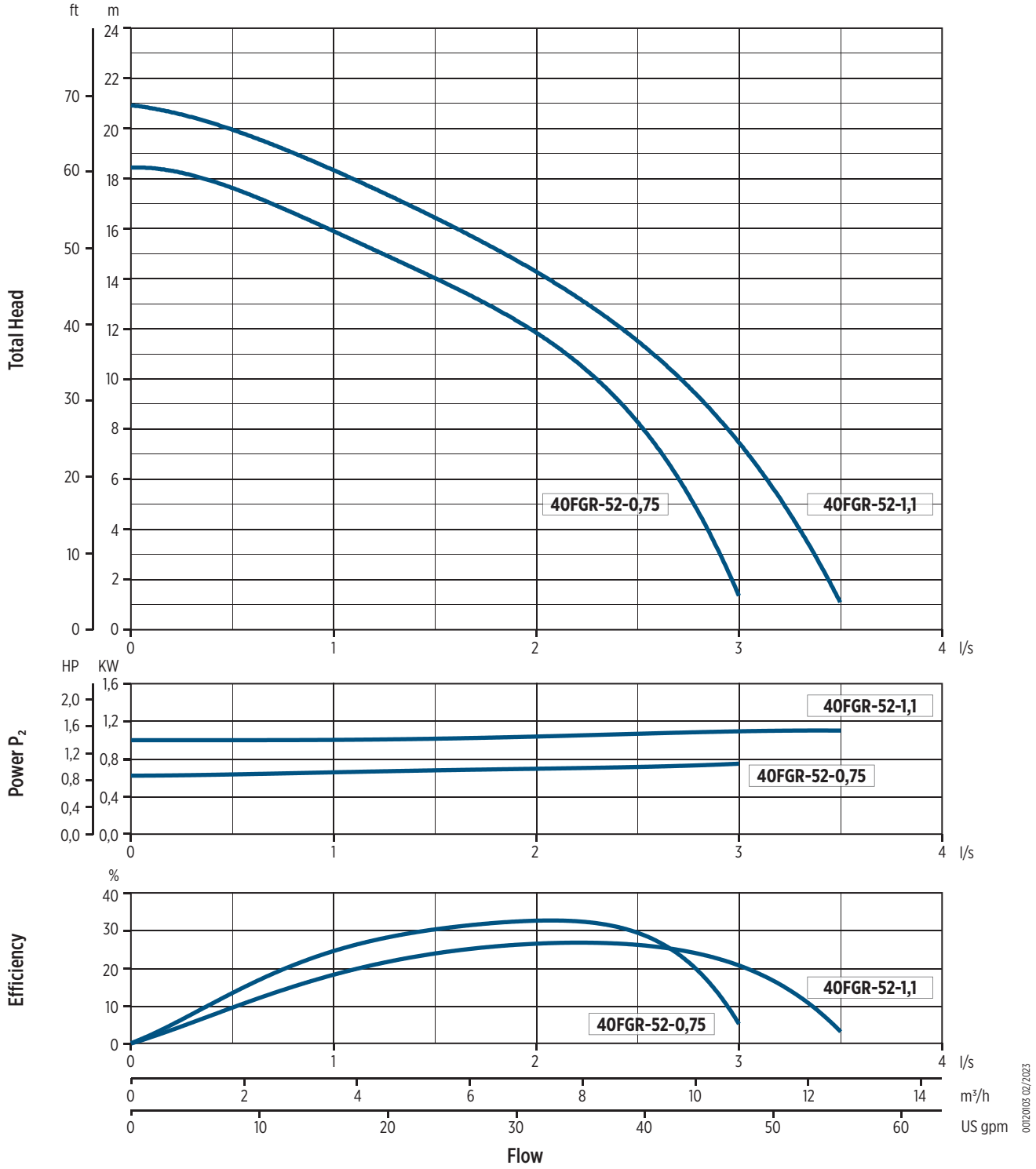
Pump model	Motor absorbed power P1	Rated power P_2		Voltage	Rated current	Phase	Power cable		float switch	Running capacitor	Delivery port	Weight [kg]
	[kW]	[kW]	[HP]	[V]	[A]		length [m]	Type		[µf]		
40FGR-52-0,75M	0,9	0,75	1	230	4,8	1 ~	10	4G1	-	20	G1½	18
40FGR-52-0,75M-G	0,9	0,75	1	230	4,8	1 ~	10	4G1	•	20	G1½	18
40FGR-52-0,75T	0,9	0,75	1	400	1,8	3 ~	10	4G1	-	-	G1½	18
40FGR-52-1,1M	1,4	1,1	1,5	230	6	1 ~	10	4G1	-	25	G1½	20
40FGR-52-1,1M-G	1,4	1,1	1,5	230	6	1 ~	10	4G1	•	25	G1½	20
40FGR-52-1,1T	1,4	1,1	1,5	400	2,1	3 ~	10	4G1	-	-	G1½	20

"-" = not available
• = available

HYDRAULIC PERFORMANCE AT 50 HZ

Pump model	Phase	Q = Delivery							
		l/sec 0	0,5	1	1,5	2	2,5	3	3,5
		m^3/h 0	1,8	3,6	5,4	7,2	9	10,8	12,6
		US gpm 0	7,9	15,8	23,7	31,7	39,6	47,5	55,5
		H = Total meters head of water column [m]							
40FGR-52-0,75	1 ~	18,5	17,4	16,2	14	11,6	8,5	1,3	
	3 ~	18,5	17,4	16,2	14	11,6	8,5	1,3	
40FGR-52-1,1	1 ~	21	19,7	18,5	16,6	14,2	11,2	7,8	1
	3 ~	21	19,7	18,5	16,6	14,2	11,2	7,8	1

PERFORMANCE CURVES AT 50 HZ



INSTALLATION

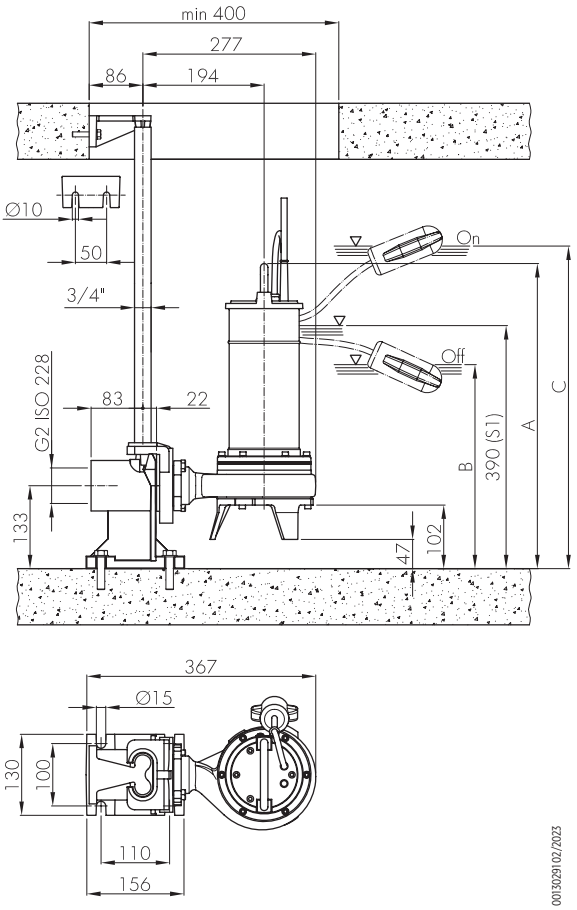
INSTALLATION INSTRUCTIONS

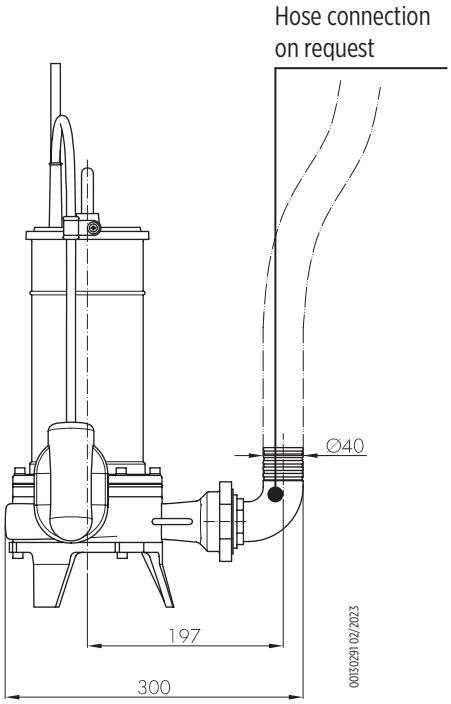
PERMANENT INSTALLATION WITH COUPLING SYSTEM

It is the recommended installation for the permanent pumping station. The electric pump is guided by two pipes and it is connected automatically to the coupling system. The quick connection ensures that the pump can be easily removed and re-installed.

TRANSPORTABLE INSTALLATION

Transportable as emergency pump with connection to the hose and for free installation in the well.





Pump model	Installation Dimensions [mm]		
	A	B	C
40FGR-52-0,75	485	330	515
40FGR-52-1,1	510	355	540

50FGR SERIES 50 HZ

FEATURES & BENEFITS

APPLICATIONS

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Wastewater

MARKETS

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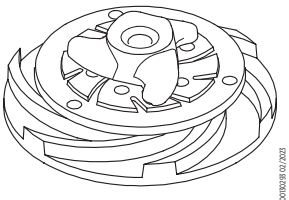


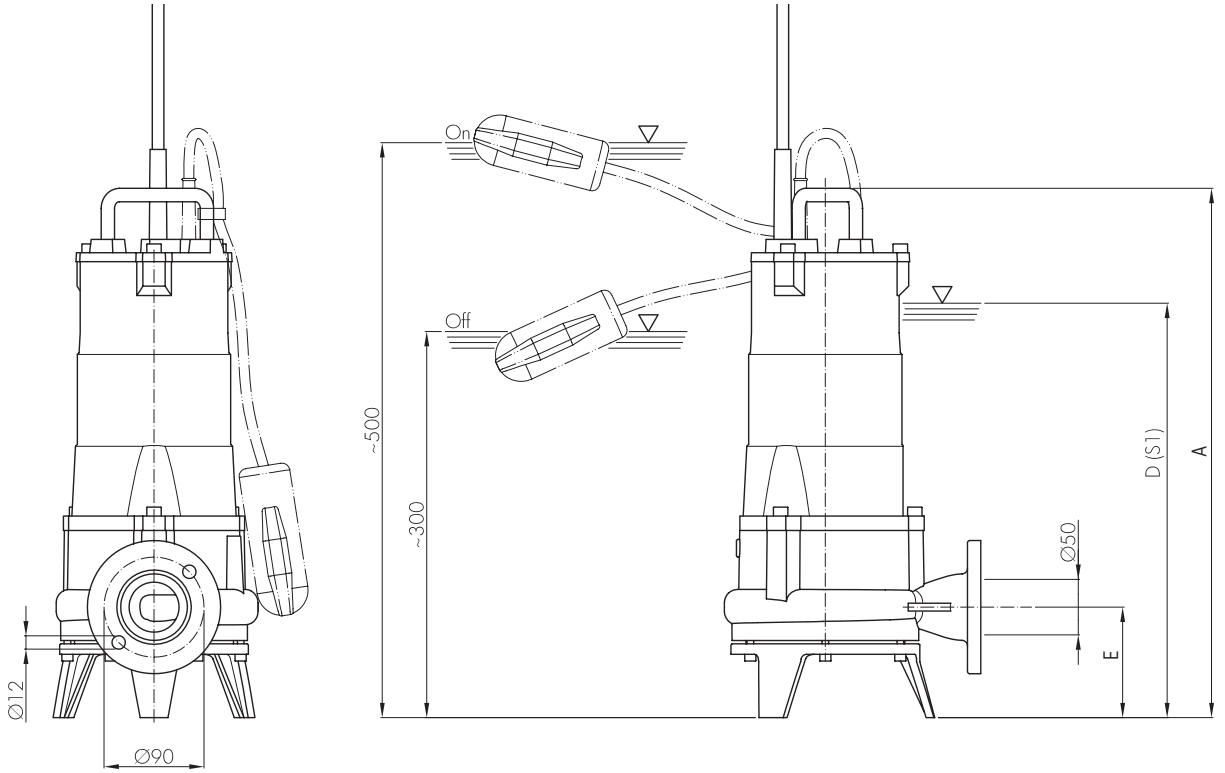
IMPELLER WITH GRINDER UNIT

GENERAL FEATURES

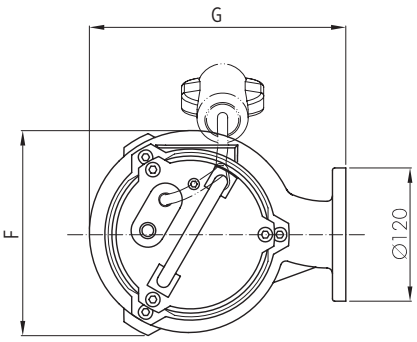
Materials/Constr.design		
Impeller with grinder unit		Cast iron EN GJL200
External casing		Cast iron EN GJL200
Pump body		Cast iron EN GJL200
Cover		Cast iron EN GJL200
Grinder unit		Stainless steel AISI431
Mechanical seal	**motor side**	Graphite/Alumina
	pump side	Silicon carbide (SiC/SiC)
Motor shaft		Stainless steel AISI431
Power cable	**Type**	10 m H07RN-F type
	Single-phase	4G1mm² with SHUKO plug (CEE7/VII), box with manual overload cut-out and with starting and operating capacitors.
	Single-phase 50FGR-52-1,6M	4G2,5mm² with SHUKO plug (CEE7/VII), box with manual overload cut-out and with starting and operating capacitors.
	Three-phase	4G1,5mm²
Motor		
Constr.design		asynchronous squirrel cage-type oil filled
Type		2 poles; 50 Hz
Insulation class		F
Protection degree		IP68
Voltage	**Single-phase**	230V ±6% built-in overheating protection (up to 1,1 kW), float switch as optional
	Three-phase	230V ±10%, 400V ±10%
Limits of use		
Maximum liquid temperature		+40 °C
pH of pumped liquid		6 - 10
Liquid density		1,0 kg/dm³
Maximum immersion depth:		5 m
Min. immersion depth for continuous service		
50FGR-52-1,1M/T		373 mm
50FGR-52-1,6M/T / 50FGR-52-2,2T		440 mm
Max. number of starting/hour		20
Construction options		

- 60 Hz version
- Different voltages
- Food-grade white oil

DIMENSIONAL DRAWINGS



Pump model	Dimensions [mm]				
	A	D	E	F	G
50FGR-52-1,1	477	373	100	185	231
50FGR-52-1,6	550	440	110	220	276
50FGR-52-2,2	550	440	110	220	276



Packaging		
Pump model	Dimensions [mm]	Weight [kg]
50FGR-52-1,1	290x245x585	35
50FGR-52-1,6	300x260x585	41
50FGR-52-2,2	300x260x585	43

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TECHNICAL DATA

Pump model	Motor absorbed power P1	Rated power P_2		Voltage	Rated current	Phase	Power cable		float switch	Running capacitor	Delivery port	Weight [kg]
	[kW]	[kW]	[HP]	[V]	[A]		length [m]	Type		[µf]		
50FGR-52-1,1M	1,4	1,1	1,5	230	7	1 ~	10	4G1,5	-	30	G2 (Ø50)	34
50FGR-52-1,1M-G	1,4	1,1	1,5	230	7	1 ~	10	4G1,5	•	30	G2 (Ø50)	34
50FGR-52-1,1T	1,4	1,1	1,5	400	11	3 ~	10	4G2,5	•	-	G2 (Ø50)	34
50FGR-52-1,1T-G	1,4	1,1	1,5	400	11	3 ~	10	4G2,5	-	-	G2 (Ø50)	34
50FGR-52-1,6M	2,3	1,6	2,1	230	3	1 ~	10	4G1,5	-	40	G2 (Ø50)	40
50FGR-52-1,6M-G	2,3	1,6	2,1	230	3	1 ~	10	4G1,5	•	40	G2 (Ø50)	40
50FGR-52-1,6T	2,3	1,6	2,1	400	4	3 ~	10	4G1,5	-	-	G2 (Ø50)	40
50FGR-52-1,6T-G	2,3	1,6	2,1	400	4	3 ~	10	4G1,5	•	-	G2 (Ø50)	40
50FGR-52-2,2T	3,1	2,2	3	400	5	3 ~	10	4G1,5	-	-	G2 (Ø50)	42

"-" = not available
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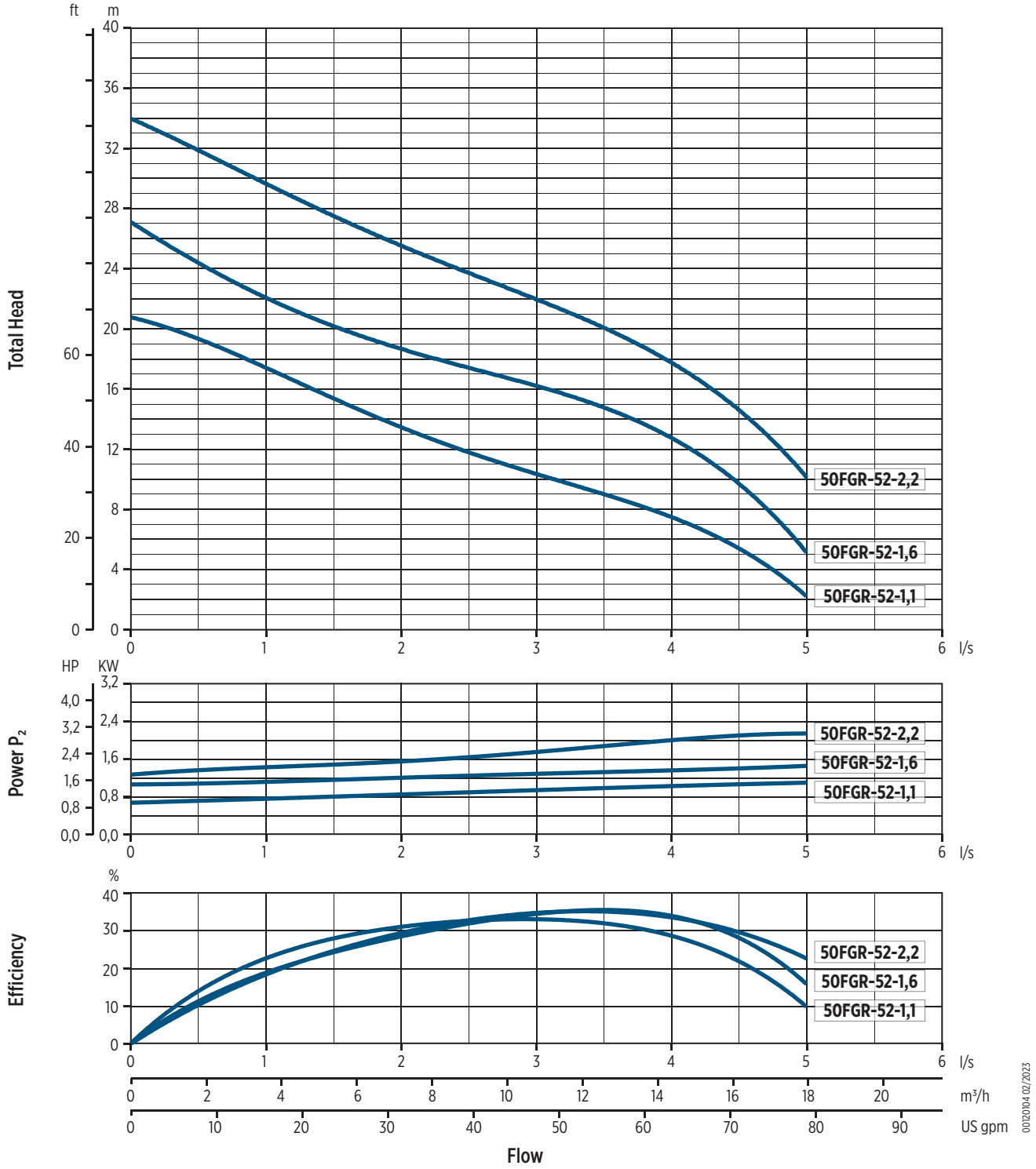
HYDRAULIC PERFORMANCE AT 50 HZ

Pump model	Phase	Q = Delivery										
		l/sec 0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
		m^3/h 0	1,8	3,6	5,4	7,2	9	10,8	12,6	14,4	16,2	18
		US gpm 0	7,9	15,8	23,7	31,7	39,6	47,5	55,5	63,4	71,3	79,2
		H = Total meters head of water column [m]										
50FGR-52-1,1	1 ~	21	19	17	15,8	14	12	9,5	8,8	7,8	5,8	2
	3 ~	21	19	17	15,8	14	12	9,5	8,8	7,8	5,8	2
50FGR-52-1,6	1 ~	27	25	21	20,5	19	18	15,5	14,5	13	10	5
	3 ~	27	25	21	20,5	19	18	15,5	14,5	13	10	5
50FGR-52-2,2	3 ~	34	32	29,5	27,5	25,7	23,8	22	20	17,5	15	10

PERFORMANCE CURVES AT 50 HZ



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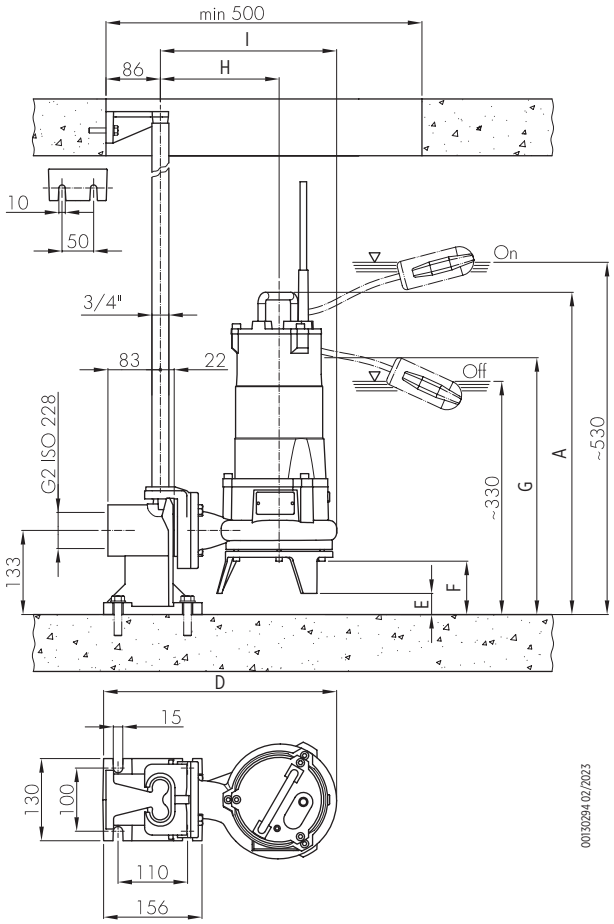

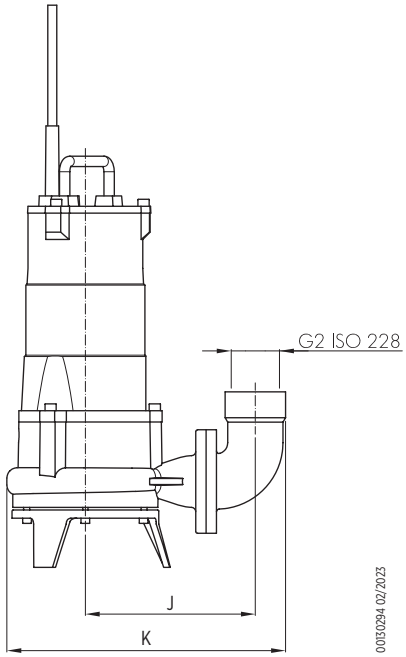

Pump model	Installation Dimensions [mm]								
	A	D	E	F	G	H	I	J	K
50FGR-52-1,1	510	370	34	85	407	193	279	197	232
50FGR-52-1,6	574	414	24	76	464	215	324	224	368
50FGR-52-2,2	574	414	24	76	464	215	324	224	368