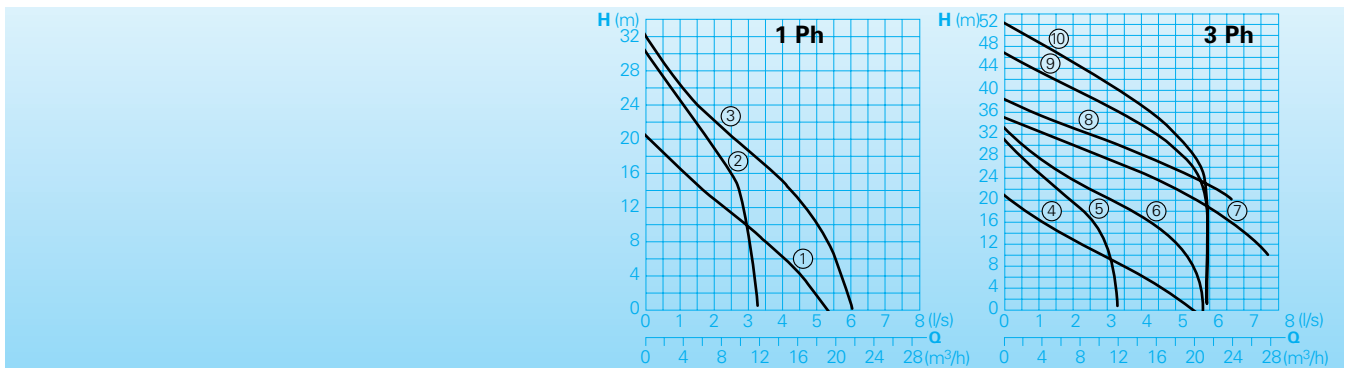


Electric submersible pumps with cutter system for sewage and effluent.

Barracuda GRP 16-50



Application

The installation of conventional sewer systems in areas of low population like small villages, farms or under difficult topographic conditions is often extremely expensive, mainly because of the high cost for large diameter pipework installation. HOMA provides the perfect, economical alternative with Barracuda grinder pump pressure sewage systems. The Barracuda pumps cut all solids present in the sewage into small particles. This allows the use of pipes from 1 1/2" diameter, which can be easily laid at low cost with a minimum of construction work.

DIN EN 12050-1: Conformity and design approved and controlled by LGA, certificate No. 0220119.

Installation: Transportable or permanent. Models with float switch control for automatic pump operation, depending on liquid level in the sump.

Pumped liquid: Waste water or sewage containing soft solids. Max. liquid temperature: 35°C, short term up to 60°C.

Operation: Permanent (S1).

Design

Fully submersible, compact integrated motor-pump consisting of:

Pump: Single stage centrifugal pump with horizontal discharge BSP 2" M.

Impeller/Cutter: Open multi-channel impeller. Cutter system at pump inlet consisting of stationary cutter ring and blade rotor.

Motor: Fully submersible, pressure-tight electric motor, single or three phase. Thermal sensors embedded in stator winding. Insulation class H, degree of protection IP 68.

Technical Data

Curve No.	Pump type	Motor input P ₁ (kW)	Motor output P ₂ (kW)	Operation-/Start Capacitor* (µF)	Speed (rpm)	Nominal current (A)	Weight (kg)
①	GRP 16 (B) W (A) (Ex)	1,5	1,1	30/60	2900	7,5	27
②	GRP 20 W (A) (Ex)	2,1	1,5	50/100	2900	9,5	33
③	GRP 26 W (A) (Ex)	2,5	1,8	50/100	2900	11,5	33
④	GRP 16 (B) D (A) (Ex)	1,3	0,9		2900	2,5	27
⑤	GRP 20 D (A) (Ex)	2,1	1,6		2900	3,5	33
⑥	GRP 26 D (A) (Ex)	2,5	1,9		2900	4,4	33
⑦	GRP 36 D (A) (Ex)	3,7	3,1		2900	6,4	44
⑧	GRP 36 HD (A) (Ex)	3,7	3,1		2900	6,4	44
⑨	GRP 44 D (Ex)	4,4	3,7		2840	7,5	56
⑩	GRP 50 D (Ex)	5,2	4,4		2840	8,7	56

*Capacitor: For the operation it is necessary to install a capacitor in the control box.

Model GRP 16 B: With base stand
Model A: With automatic level control
Model Ex: explosion proof
Model W: 230-240 V / 1 Ph
Model D: 400-415 V / 3 Ph

Motor start: GRP 16-36: direct-on-line
 GRP 44-50: star-delta-start

Cable:

GRP16W: H07RN-F4G1,5
 GRP16D: H07RN-F7G1,5
 GRP20-36: H07RN-F7G1,5
 GRP16-36Ex: H07RN-F PLUS 6G1,5
 GRP44-50(Ex): H07RN-F(PLUS)10G1,5

Shaft/Bearing: Large diameter stainless steel rotor shaft, heavy duty pre-lubricated bearings.

Seals: GRP 16 with combination of mechanical seal (silicon-carbide/silicon-carbide) and lip seal in oil chamber. Models from GRP 20 with two mechanical seals (silicon-carbide/silicon-carbide) in oil chamber, oil inspection from outside. Seal condition monitoring probe on request.

Explosion protection: All Models available with explosion proof motors according to Ⓜ II 2G EEx d [ib] II BT4.

Materials:

Motor housing, pump housing, impeller	Cast iron GG25/EN-GJL-250
Cutter system	Stainless steel 1.4122
Rotor shaft, screws	Stainless steel
Mechanical seal	Silicon-carbide
O-rings	Perbonane

Equipment supplied

Model W (230-240 V / 1 Ph): 10 m of cable. Control box W19 (GRP16W); WT19 (GRP26-36W) available as accessories.

Model D (400-415 V / 3 Ph): 10 m of cable. Control box DT32 available as accessories.

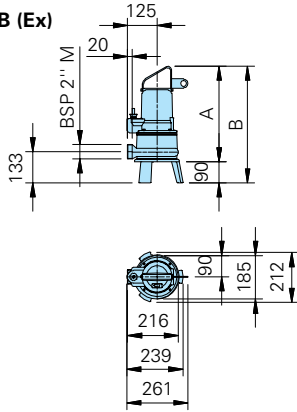
Model A: With additional automatic level control, with AS float switch, control box WA10/19; DA10/32; DA10/12 with overload protection, manual-auto-switch, and 10 m of cable. Model W with integrated capacitor.

Model Ex with intrinsically safe relay.

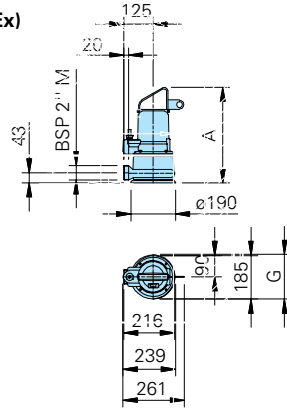
Model GRP 16 B: With mounted base stand.

Dimensions and Installations

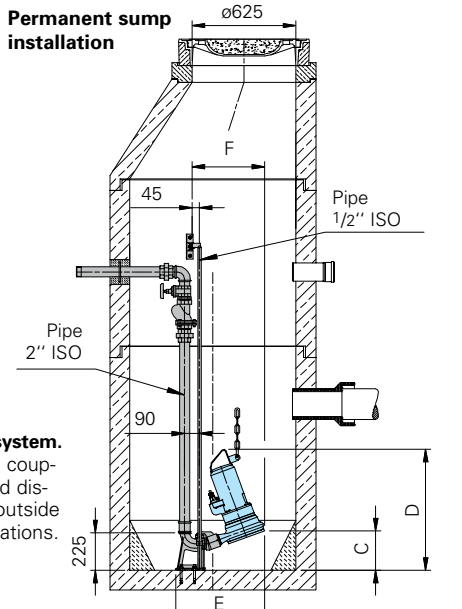
GRP 16 B (Ex)



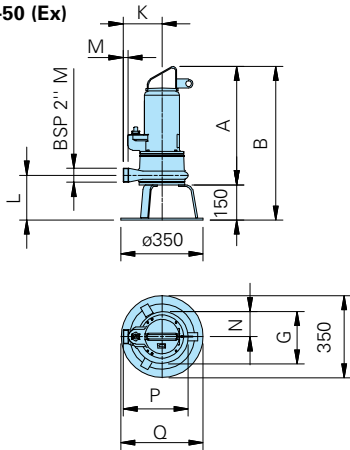
GRP 16 (Ex)



Permanent sump installation

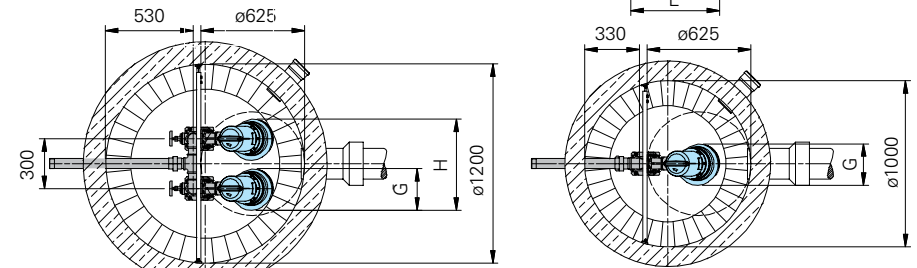


GRP 20-50 (Ex)



Permanent sump installation with auto-coupling system.

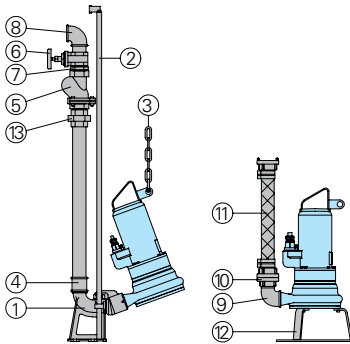
Permanent installation utilizing a submerged auto-coupling guide rail system for automatic connection and disconnection of the pump from the pipework from outside the sump. Applicable for single and multi pump stations. Advantages: Little space requirement, easy pump service and maintenance.



all dimensions in mm

Dim. for Pump type	A	B	C	D	E	F	G	H	K	L	M	N	P	Q
GRP 16 (B)(Ex)	406	496	172	560	457	360	190	490						
GRP 20 (Ex), 26 (Ex)	468	618	183	630	504	407	223	523	165	191	20	107	277	350
GRP 36 (HD) (Ex)	505	655	183	672	504	407	223	523	165	191	20	107	277	350
GRP 44 (Ex), 50 (Ex)	545	695	187	706	527	429	250	550	180	193	25	119	304	355

Accessories



Part Description	Dimension	Part No.
① Auto-coupling system Type KK50S/R 2", with: - Cast iron auto-coupling with thread - Cast iron flanged pump coupling - Cast iron upper slide rail bracket	BSP2" M BSP2" F BSP1/2"	8604008
○ Auto-coupling system complete or partial in stainless steel	all types	on request

Part Description	Dimension	Part No.
○ Screw-kits for installation of coupling system		on request
② Guide rails, pair, per m steel galvanized stainless steel	1/2" dia. 1/2" dia.	2190085 2190250
③ Lifting chain, per m steel galvanized stainless steel	5 mm dia. 5 mm dia.	2800350 2800353
Shackle steel galvanized for chain stainless steel for chain	5 mm dia. 5 mm dia.	2801450 2801390
④ Galvanized socket	BSP 2" F BSP 2" F x BSP 1 1/2" F	2109102 2109210
⑤ Cast iron swing check valve	BSP 1 1/2" F BSP 2" F	2212902 2212903
⑥ Bronze gate valve	BSP 1 1/2" F BSP 2" F	2216015 2216020
⑦ Galvanized double nipple	BSP 1 1/2" M BSP 2" M	2009020 2009018
⑧ 90° galvanized elbow	BSP 1 1/2" F BSP 2" F	2113605 2213606
T-piece for twin pump arrangement	BSP 1 1/2" F BSP 2" F	2114302 2114306

Part Description	Dimension	Part No.
⑨ 90° galvanized elbow	BSP 2" F x BSP 1 1/2" F BSP 2" F/M	2112605 2111506
⑩ STORZ-fixed coupling	C-BSP1 1/2" M C-BSP 2" F	2010003 2010204
⑪ Reinforced hose, per m (inner dia.)	38 mm dia. 50 mm dia.	2632042 2632050
STORZ-hose coupling with spigot	C-38 dia. C-52 dia.	2013002 2013003
Brass STA-hose coupling	BSP 1 1/2" M	2001513
Hose band	1 1/2" 2"	2304854 2306009
Synthetic pressure hose with rubber lining and couplings, C-52 mm dia.	length 10 m length 15 m length 20 m length 30 m	2611310 2611315 2611320 2611330
⑫ Ring base stand for	GRP 20, GRP 26 and GRP 36 GRP 44, GRP 50	7321445 7324535
○ Control panel for single or twin pump stations for automatic operation		on request

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Electric submersible pumps with cutter system for sewage and effluent.

Barracuda GRP 56-111

Application

The installation of conventional sewer systems in areas of low population like small villages, farms or under difficult topographic conditions is often extremely expensive, mainly because of the high cost for large diameter pipework installation. HOMA provides the perfect, economical alternative with Barracuda grinder pump pressure sewage systems. The Barracuda pumps cut all solids present in the sewage into small particles. This allows the use of pipes from 50 mm diameter, which can be easily laid at low cost with a minimum of construction work.

The range of GRP 56-111 models offer unique hydraulic performance, combined with high efficiency and a supreme quality standard. These pumps are applied wherever extreme high head pumping capability up to 7 bar is required.

DIN EN 12050-1: Conformity and design approved and controlled by LGA, certificate No. 0220119.

Pumped liquid: Waste water or sewage containing soft solids.

Max. liquid temperature: 35°C, short term up to 60°C.

Operation: Permanent (S1)

Design

Fully submersible, compact integrated motor-pump consisting of:

Pump: Single stage centrifugal pump with horizontal discharge DN 50.

Impeller: Open multi-channel impeller. Cutter system at pump inlet consisting of stationary cutter ring and blade rotor from hardened (45 rockwell C scale minimum) high alloy stainless steel.

Motor: Fully submersible, pressure-tight electric motor, three phase, oil-filled. Thermal sensors embedded in stator winding. Insulation class H. Degree of motor protection IP 68. Cable connection chamber totally isolated from motor housing.

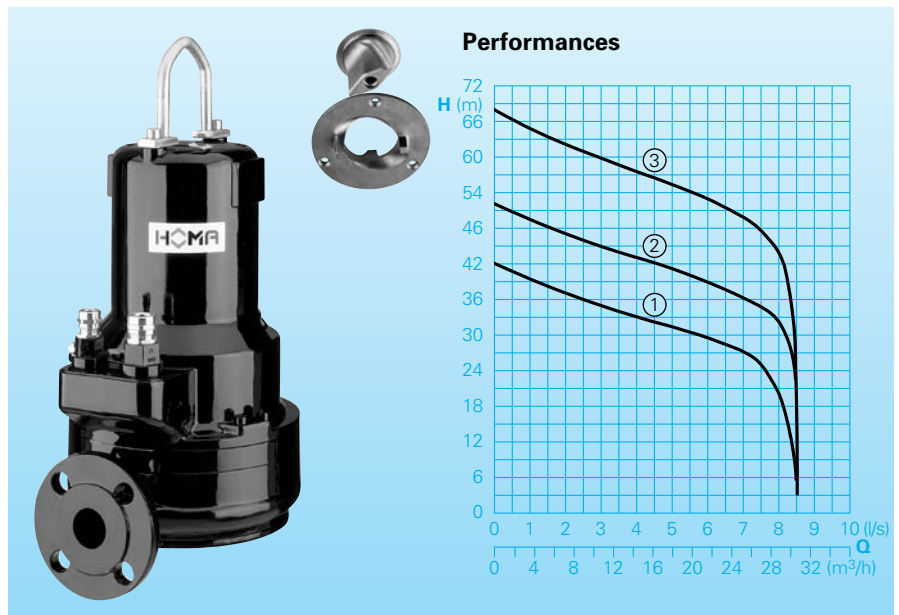
Cable:

H07RN-F7G1,5 and 5G 1,5

Model Ex:

H07RN - F-PLUS 10G1,5 and 4G1,5.

Shaft/Bearing: Large diameter stainless steel rotor shaft, pre-lubricated bearings.



Technical Data

Curve No.	Pump type	Motor input P ₁ (kW)	Motor output P ₂ (kW)	Voltage (V)	Speed (rpm)	Nominal current (A)	Weight (kg) Stand. mod.	Weight (kg) Ex mod.
①	GRP 56 (U)D(Ex)	7,5	6,4	400-415/3Ph	2900	13,0	104	108
②	GRP 76 (U)D(Ex)	7,5	6,4	400-415/3Ph	2900	13,0	104	108
③	GRP 111 (U)D(Ex)	11,0	9,5	400-415/3Ph	2900	18,8	107	111

Discharge: DN 50

Cable length: 10 m

Model U: With cooling jacket

Model Ex: Explosion proof

Seals: Combination of mechanical seals (silicon-carbide) in a separate oil-chamber. Oil inspection from outside. Electronic seal probe fitted into the oil chamber.

Motorjacket: All models available with jacket cooling for drywell installation or not fully submerged operation.

Explosion protection: All models available with explosion proof motors according to Ⓜ II 2 G EEx de [ib] IIBT4.

Materials:

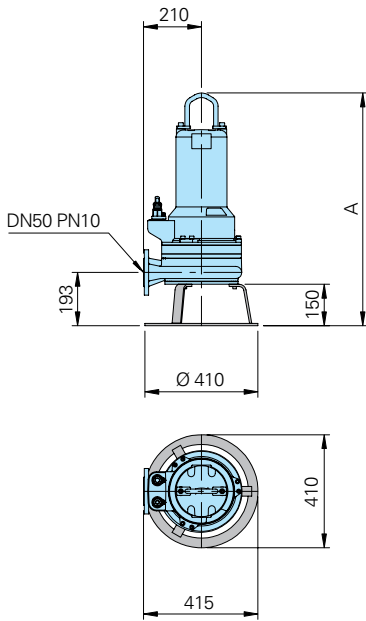
Pump housing, impeller, motor housing	Cast iron GG25/EN-GJL-250
Cutter system	Stainless steel 1.4122
Mechanical seals	Silicon-carbide/silicon-carbide
Rotor shaft, screws, cooling jacket (U)	Stainless steel
Seal kit	Perbonane

Equipment supplied

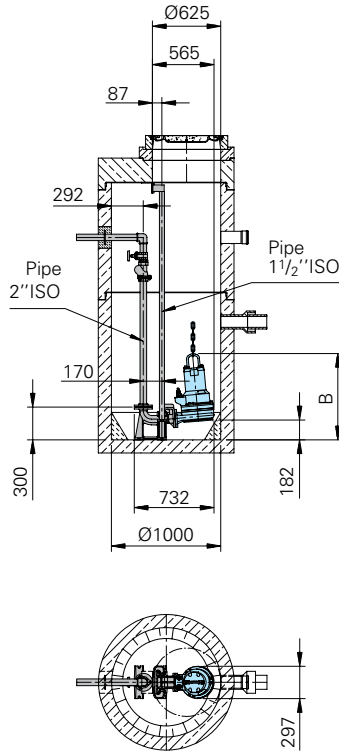
Pump with 10 m of cable.

Dimensions and Installations

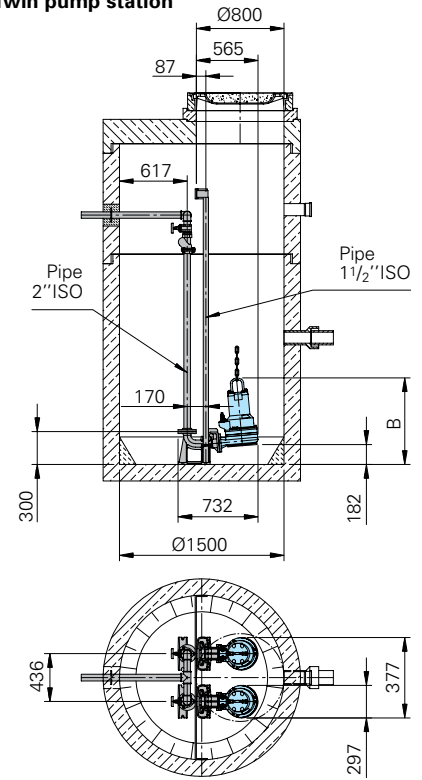
Free standing pump with ringbase stand GRP 56 - GRP 111 (U) D (Ex)



Permanent sump installation Single pump station



Twin pump station



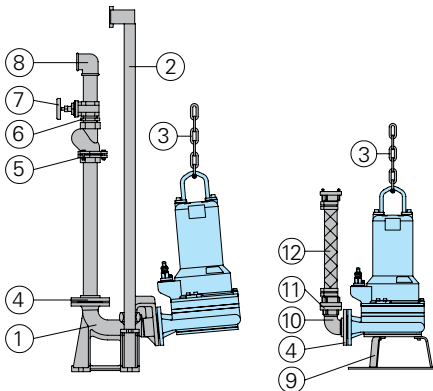
Permanent sump installation with auto-coupling system

Permanent installation utilizing a submerged auto-coupling guide rail system for automatic connection and disconnection of the pump from the pipework from outside the sump. Applicable for single and multi pump stations.
Advantages: Little space requirement, easy pump service and maintenance.

all dimensions in mm

Type	A	B
GRP 56 (U)	771 (775)	790 (794)
GRP 76 (U)	771 (775)	790 (794)
GRP 111 (U)	844 (848)	862 (866)

Accessories



Part Description	Dimension	Part No.
① Auto-coupling system type KK50/50, with: - Cast iron auto-coupling with flange and thread - Cast iron flanged pump coupling - Cast iron upper slide rail bracket	DN50 DN50 BSP1/2"	8604012

Part Description	Dimension	Part No.
○ Auto-coupling system complete or partial in stainless steel	all types	on request
○ Screw-kits for installation of coupling system		on request
② Guide rails, pair, per m		
steel galvanized	1 1/2" dia.	2190155
stainless steel	1 1/2" dia.	2190254
③ Lifting chain, per m		
steel galvanized	BSP 1 1/2"	2800380
stainless steel	BSP 1 1/2"	2800384
Shackle		
steel galvanized for chain 8 mm dia.		2801380
stainless steel for chain 8 mm dia.		2801390
④ Threaded flange	DN 50/ BSP 2" F	2215050
⑤ Cast iron swing check valve	BSP 2" F	2212903
⑥ Galvanized double nipple	BSP 2" M	2009018

Part Description	Dimension	Part No.
⑦ Bronze gate valve	BSP 2" F	2216020
⑧ 90° galvanized elbow	BSP 2" F	2113606
T-piece for twin pump operation	BSP 2" F	2114306
⑨ Ring base stand		7321465
⑩ 90° galvanized elbow	BSP 2" M/F	2111506
⑪ STORZ-fixed coupling	C-BSP 2" M	2010203
⑫ Reinforced hose, per m (inner dia.)	50 mm Ø	2632050
STORZ-hose coupling with spigot	C-52 mm	2013003
Hose band	2"	2306009
Synthetic pressure hose with rubber lining and couplings,	10 m	2611310
	15 m	2611315
	20 m	2611320
	30 m	2611330
○ Control panel for single or twin pump stations for automatic operation		On request



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