

## Electric submersible pumps with cutter system for sewage and effluent.

### TGR 15

#### 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. The TGRs 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.

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

**Pumped liquid:** Clear water and drainage water, sewage containing soft solids. Max. liquid temperature: 40°C.

**Operation:** motor submerged: permanent (S1), motor surfaced: short term (S2) or intermittent (S3), see technical data.

#### Design

Fully submersible, compact integrated motor-pump consisting of:

**Pump:** Single stage centrifugal pump with horizontal discharge G 2 AG.

**Impeller:** 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 F, degree of protection IP 68. Cable:

Model W: H07 RN - F3 G1

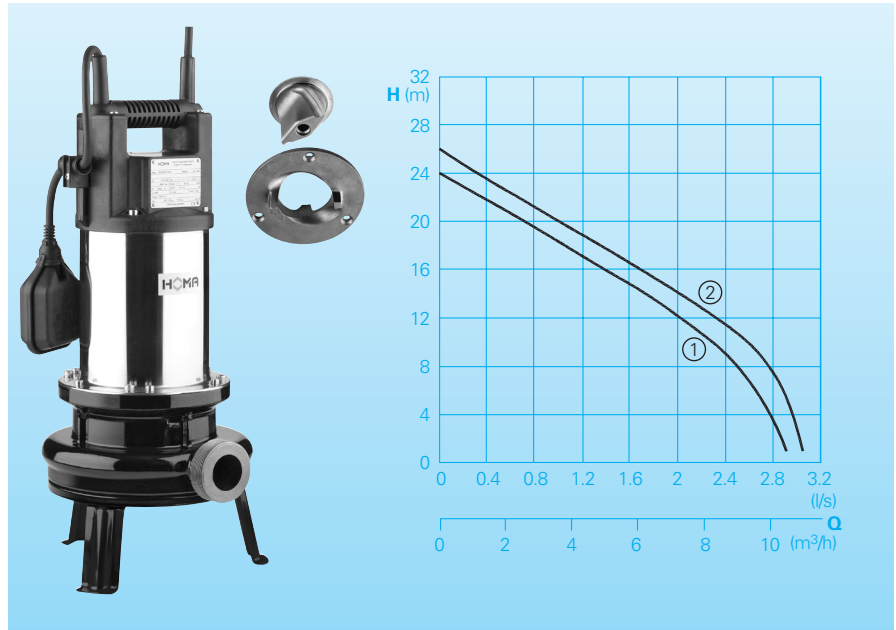
Model D: H07 RN - F4 G1

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

**Seals:** Combination of mechanical seals (silicon-carbide/silicon-carbide) and lip seal in separate oil chamber.

Explosion proofed grinder pumps according to ATEX, see range GRP.

#### Performances



#### Technical Data

Curve No.	Pump type	Motor P <sub>1</sub> (kW)	P <sub>2</sub> (kW)	Nominal current (A)	Discharge	Operation S2 (min)	S3* (%)	Weight (kg)
①	TGR 15 W (A)	1,5	1,2	7,0	G2 AG	20	40	19
②	TGR 15 D (A)	1,5	1,2	2,5	G2 AG	30	50	19

\*Example: 40% = 4 min operation + 6 min break (cycle time 10 min)

**Model W:** 230V/1Ph 50Hz

**Model D:** 400V/3Ph 50Hz

**Speed:** 2900 rpm

#### Materials

Pump housing	Cast iron EN-GJL-250
Cutter system	stainless steel
Impeller	stainless steel 1.4308
Motor housing	stainless steel 1.4301
Rotor shaft	stainless steel 1.4104
Motor housing cover	Composite GFK30
Mechanical seal	SiC
Mechanical connection parts	stainless steel
Elastomere	NBR

#### Equipment supplied

Pump with base stand, 10m of cable.

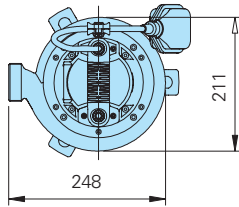
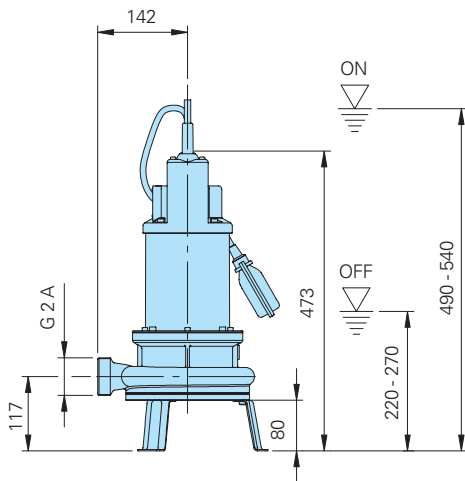
**Model W:** with plug type F.

**Model D:** with phase inverter.

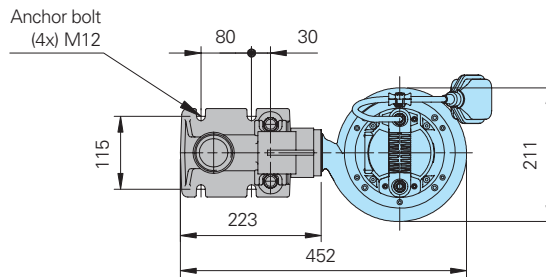
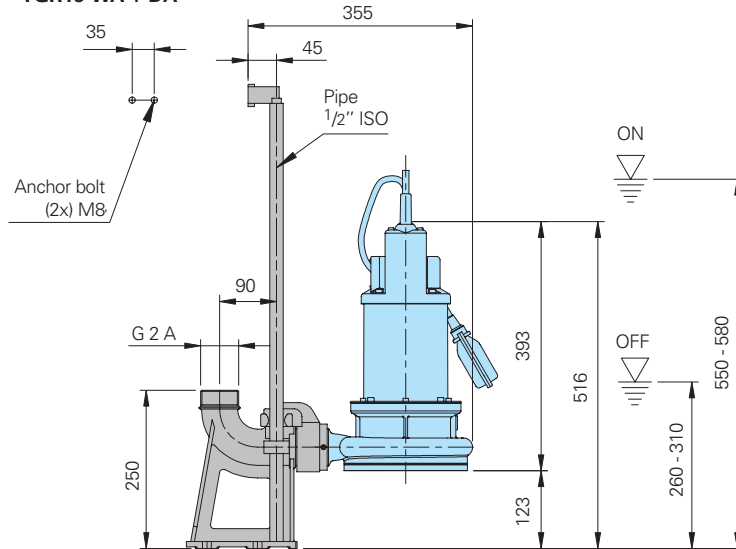
**Model A:** with automatic level control HOMA-Nivomatik.

**Dimensions and Installations** (all dimensions in mm)

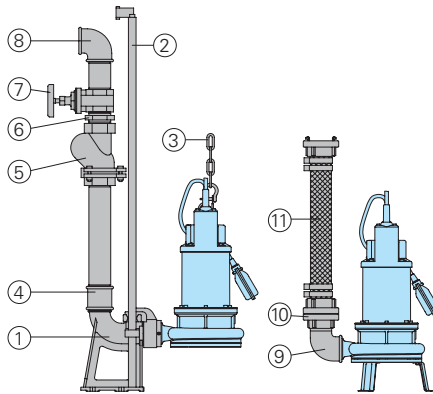
**Free standing pump with base stand**



**Wet well installation with auto-coupling system  
KK 50 / 2" TGR15 WA + DA**



**Accessories**



Description	Dimension	Part No.
① Auto-coupling system with flange and upper slide rail bracket – flanged pump coupling	BSP 2	8604005
○ Auto-coupling system complete or partial in stainless steel	all types	on request
○ Screw-kits for installation of coupling-system		on request

Description	Dimension	Part No.
② Guide rails, pair, per m steel galvanized stainless steel	Ø 1/2	2190085
	Ø 1/2	2190250
③ Pump chain sets, tested. With shackle, One- or Two-strand, different lengths and load capacities		on request
④ Galvanized double nipple	BSP 2 F	2109102
	BSP 2 F/	2102210
	BSP 1 1/2 F	
⑤ Cast iron swing check valve	BSP 1 1/2 F	2212902
	BSP 2 F	2212903
⑥ Galvanized double nipple	BSP 1 1/2 M	2009020
	BSP 2 M	2009018
⑦ Bronze gate valve	BSP 1 1/2 F	2216015
	BSP 2 F	2216020
⑧ 90° galvanized elbow	BSP 1 1/2 F	2113605
	BSP 2 F	2113606
T-piece for twin-pump arrangement	BSP 1 1/2 F	2114302
	BSP 2 F	2114306

Description	Dimension	Part No.
⑨ 90° galvanized elbow	BSP 2 F/M	2111506
⑩ STORZ fixed-coupling	C-2 F	2010005
STORZ hose coupling	C-38 mm Ø	2013002
	C-52 mm Ø	2013003
⑪ Synthetic pressure hose with rubber lining and couplings	C-38 mm Ø	2611311
	length 10 m	2611312
	length 20 m	2611310
	C-52 mm Ø	2611310
	length 10 m	2611315
	length 15 m	2611315
	length 20 m	2611320
	length 30 m	2611330
Reinforced hose, per m	Ø 38 mm	2632042
	Ø 50 mm	2632050
Hose bands	1 1/2"	2304854
	2"	2306009
○ Control panel for single or twin pump stations for automatic operation		on request



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