



Small Submersible Sludge Pump

GFRF-032

Application

Small submersible pump GFRF-032 is destined for pumping heavily polluted wastewater of high density, e.g. faeces, sludge containing fine particles and fibrous material up to Ø 20 mm. Basic operating position of the pump is vertical, however, it can be operated in inclined and horizontal positions (this pump shall be completely submerged).

Application methods:

- Pumping faeces
- Reservoir pumping-out or re-filling
- Pumping water from water wells and pools
- Pumping-out cesspits, shafts, excavations
- Pumping-out water from flooded spaces (cellars, shafts and excavations)
- Drainage of buildings and pieces of land
- Sprinkling and watering gardenlands, greenlands and green-houses
- Circulation and water aeration in basins, ponds, and so on.

Max. temperature of a pumped liquid 40 °C
 Max. temperature of ambience 40 °C
 Allowed pH range of a pumped liquid 6.5 - 9 pH
 Max. density of a pumped liquid 1050 kg.m⁻³
 Max. submersion of pump set 10 m
 Pump throughlet..... Ø 20 mm

Workmanship options

- 03 Three-phase, 400V, 50HZ, without a float
 11 Single-phase, 230V, 50HZ, without a float
 21 Single-phase, 230V, 50HZ, with a float

Performance data

			GFRF - 032 - 41 - LC - N	
Workmanship version			Single-phase	Three-phase
Rate of flow	Q	(l.s ⁻¹)	0.3 - 2.8	0.3 - 3.5
Delivery head	H	(m)	9-3	10.3 - 3.3
Electric motor			Single-purpose	Single-purpose
Pump set power input	Pc	(kW)	0.8	0.95
Insulation, protection and max. submersion			F, IP 68, ≧10m	F, IP 68, ≧10m
Voltage	U	(V)	230	400
Frequency	f	(Hz)	50	50
Breaking current, max.	I	(A)	3,8	1.8
Speed	n	(min ⁻¹)	2840	2800
Capacitor	C	(µF)	20/450	-
Pump set weight (including 10m cable)	m	(kg)	11.5	12.2

Accessories and Equipment

Workmanship version	Single-phase	Three-phase
Normally, the following equipment is delivered together with the submersible pump:		
1. Connecting cable (10m)	3 x 1 mm ²	4 x 1 mm ²
2. Plug	5537	-
3. Unmanned operation	Floating switch	-

Single-phase version – over-current protection and thermal protection (clixons) are built in the motor winding – so there is no need of special protection

Three-phase version – it is necessary to protect it with an overcurrent circuit-breaker or use some short-circuit and overcurrent protective gears (more detailed information can be found in the middle of the Service Manual).

Design

Pump is of single stage construction, and it is designed with an electric motor on a common shaft, forming a compact closed set (with a suction hole located in the lower part).

Impeller is open, torque-flow.

Discharge branch with the internal thread G 1¼” is placed vertically on the pump casing – there are more versions of connection to the delivery pipeline.

Electric motor is of an asynchronous type (in single-phase and three-phase versions). Against water leakage from the hydraulic part the electric motor is protected by sealing sub-assembly formed of a mechanical seal, a radial lip seal and oil charge between the stuffing box and wear ring.

Oil charge is friendly to environment.

Connecting cable is perfectly sealed in a special bushing and protected from rapture.

Material options

Pump main parts are made of the following constructional materials:

Pump casing	- grey cast iron
Bearing housing	- grey cast iron
Impeller	- grey cast iron
Pump jacket	- stainless steel
Shaft	- corrosion-proof steel

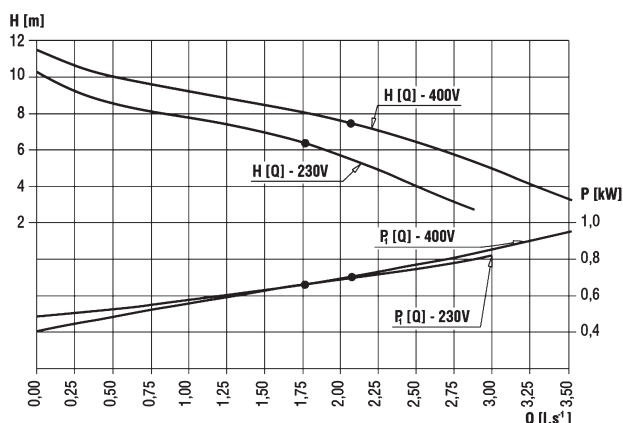
Versions of pump connection:

Stationary – pipeline G 1¼”

Portable – hose DN 25

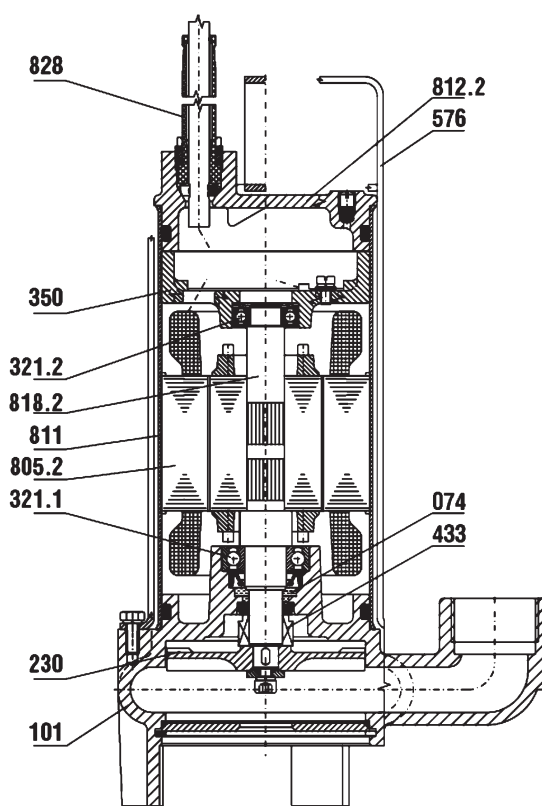
Pump Informative Characteristic

PERFORMANCE PARAMETERS - SINGLE-PHASE VERSION (230V)
 - THREE-PHASE VERSION (400V)

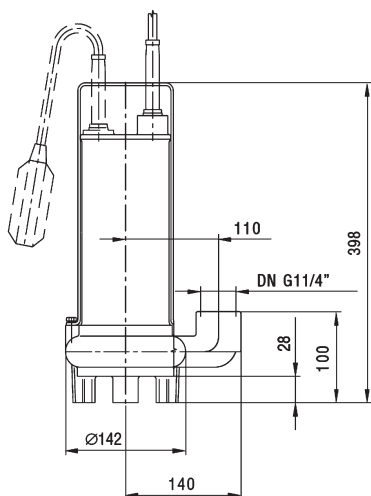


Informative Section through Pump

- 074 - Oil (friendly to the environment)
- 101 - Pump casing
- 230 - Impeller
- 321.1 - Bearing (lower)
- 321.2 - Bearing (upper)
- 350 - Upper bearing housing
- 433 - Mechanical seal
- 576 - Handle
- 805.1 - 1-phase electric motor
- 805.2 - 3-phase electric motor
- 811 - Jacket
- 812.1 - Terminal board cover (with a float)
- 812.2 - Terminal board cover (without a float)
- 818 - Rotor
- 828 - Cable jacket – bandage
- 837 - Capacitor (only with 1-phase version)
- 838 - Floating switch (1-phase version with a float)



Pump Dimensions



1-PHASE PUMP WITHOUT FLOAT

1-PHASE PUMP WITH FLOAT

