

GQS, GQV Submersible Sewage and Drainage Pumps



PATENTED



Construction

Single-impeller submersible pumps, with free-flow (vortex) impeller.
GQS: with vertical threaded delivery port (G 2").
GQV: with horizontal flanged and threaded delivery port (DN 50 - G 2").

Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

Applications

For domestic or industrial waste water, dirty water with solids up to 50 mm grain size, for liquids which are compatible with the pump materials.
 For draining rooms or emptying tanks.
 Extraction of water from ponds, streams or pits and for rainwater collection.

Operating conditions

Liquid temperature up to 35° C.
 pH value: 6-11.
 Maximum immersion depth: 5 m.
 Minimum immersion depth: 275 mm.
 Continuous duty (with submerged motor).

Motor

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).
GQV, GQS: three-phase 230 V ± 10%;
 three-phase 400 V ± 10%;
 Cable: H07RN-F, 4G1 mm², length 10 m, without plug.
GQVM, GQSM: single-phase 230 V ± 10%,
 with float switch and thermal protector.
 Incorporated capacitor.
 Cable: H07RN-F, 3G1 mm², length 10 m, with plug CEI-UNEL 47166.

Insulation class F.
 Protection IP X8 (for continuous immersion)
 Triple impregnation humidity-proof dry winding.
 Constructed in accordance with: EN 60034-1;
 EN 60335-1, EN 60335-2-41.

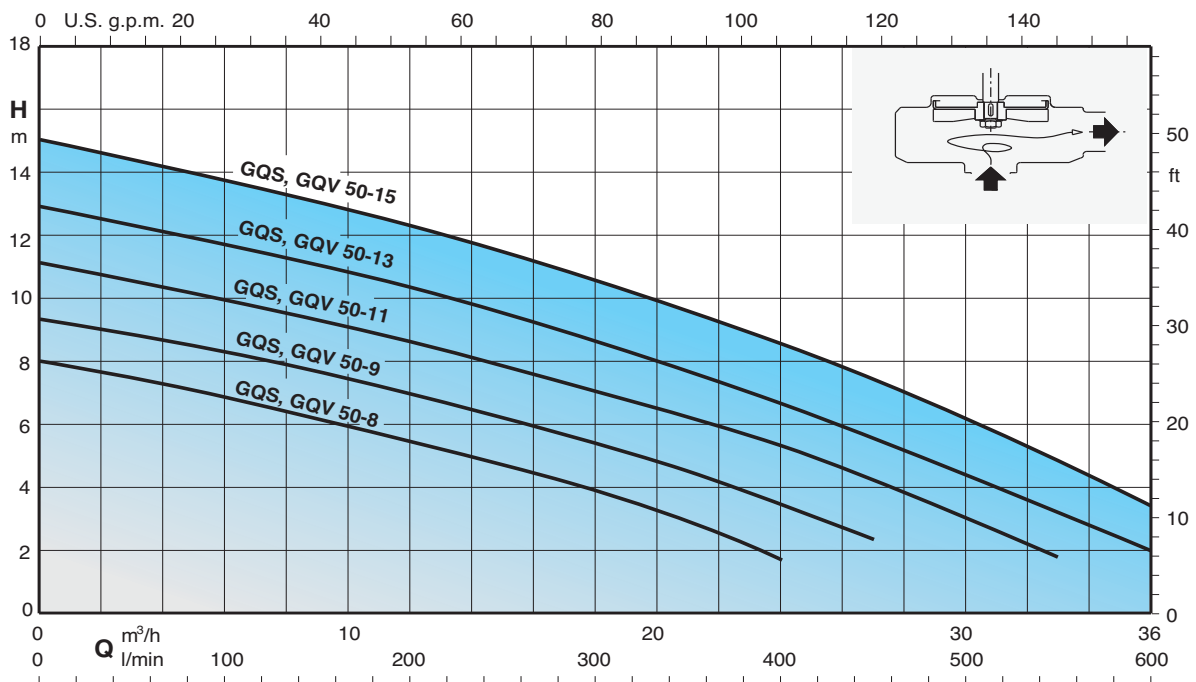
Other features on request

- Other voltages. - Frequency 60 Hz (as per 60 Hz data sheet).
- Other mechanical seal. - Cable length 20 m.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

Materials

| Component | Material |
|--|--|
| Pump casing Impeller | Cast iron GJL 200 EN 1561 |
| Motor jacket Jacket cover Casing cover | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal: upper lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

Characteristic curves n ≈ 2900 rpm



Performance n ≈ 2900 rpm

| 3~ | 230V 400V | | 1~ | 230V Capacitor | | | P1 | | | P2 | | | Q m³/h l/min | H _m | | | | | | | | | | | |
|------------------------|-----------|-----|--------------------------|----------------|----|-----|------|------|------|------|------|------|--------------------|----------------|------|------|-----|-----|-----|-----|-----|-----|----|--|--|
| | A | A | | A | µf | Vc | kW | kW | HP | 0 | 3 | 6 | | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | | |
| GQS 50-8 GQV 50-8 | 2,6 | 1,5 | GQSM 50-8 GQVM 50-8 | 4,3 | 16 | 450 | 0,95 | 0,55 | 0,75 | 8 | 7,4 | 6,9 | 6,3 | 5,6 | 4,8 | 4 | 3 | 1,8 | - | - | - | - | | | |
| GQS 50-9 GQV 50-9 | 3,1 | 1,8 | GQSM 50-9 GQVM 50-9 | 4,8 | 16 | 450 | 1,1 | 0,75 | 1 | 9,3 | 8,8 | 8,3 | 7,7 | 7 | 6,2 | 5,3 | 4,3 | 3,2 | 2,2 | - | - | - | | | |
| GQS 50-11 GQV 50-11 | 4 | 2,3 | GQSM 50-11 GQVM 50-11 | 6,6 | 25 | 450 | 1,45 | 0,9 | 1,2 | 11 | 10,5 | 10 | 9,3 | 8,6 | 7,8 | 7 | 6,2 | 5,2 | 4,2 | 3 | 1,8 | - | | | |
| GQS 50-13 GQV 50-13 | 5,2 | 3 | GQSM 50-13 GQVM 50-13 | 8,4 | 30 | 450 | 1,8 | 1,1 | 1,5 | 12,8 | 12,2 | 11,6 | 11 | 10,3 | 9,5 | 8,6 | 7,7 | 6,7 | 5,7 | 4,5 | 3,3 | 2 | | | |
| GQS 50-15 GQV 50-15 | 6,9 | 4 | GQSM 50-15 GQVM 50-15 | 13 | 35 | 450 | 2,2 | 1,5 | 2 | 15 | 14,4 | 13,7 | 13 | 12,2 | 11,3 | 10,4 | 9,5 | 8,5 | 7,4 | 6,2 | 4,8 | 3,5 | | | |

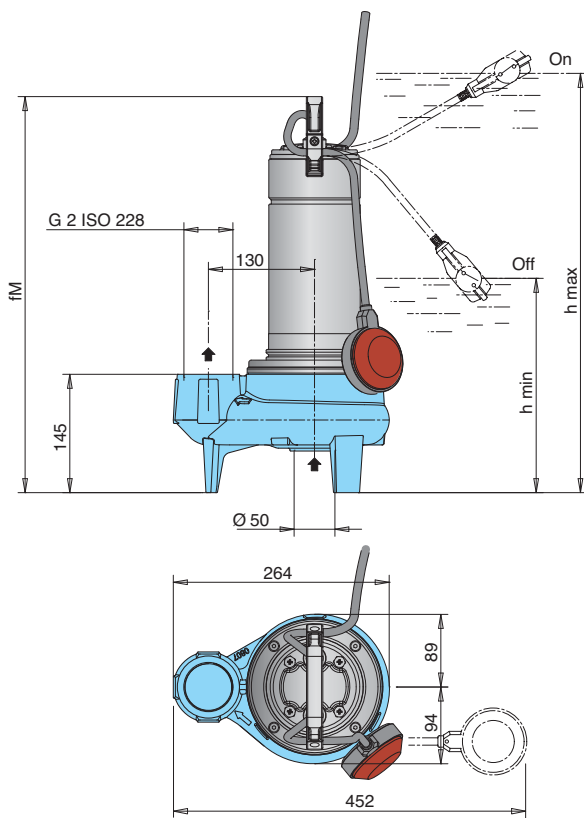
P1 Max. power input.

P2 Rated motor power output.

Density $\rho = 1000 \text{ kg/m}^3$.

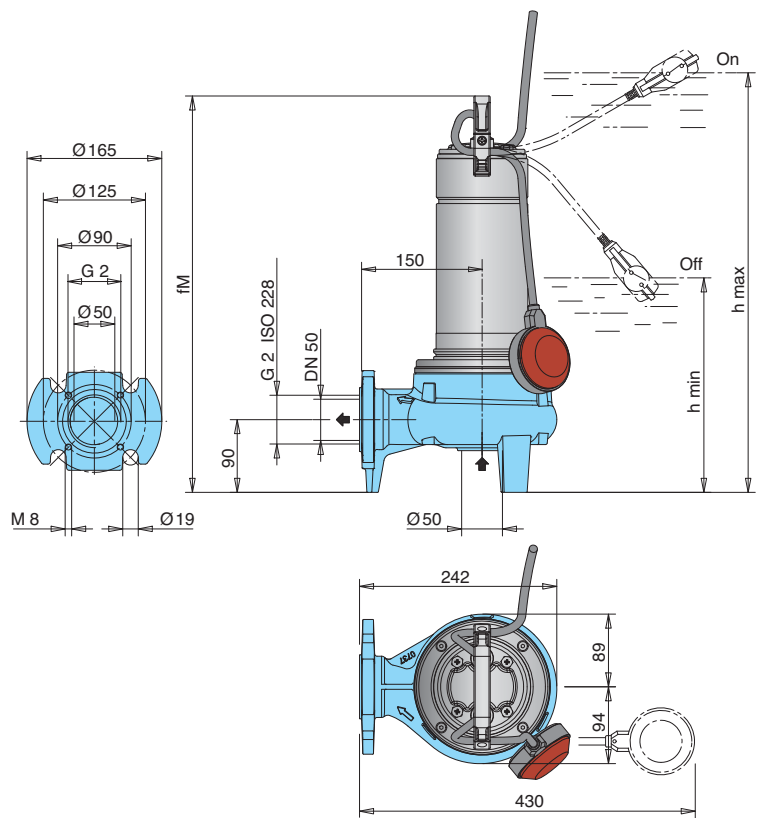
Kinematic viscosity $\nu = \text{max } 20 \text{ mm}^2/\text{sec}$.

Dimensions and weights



| TYPE | mm | | | kg ⁽¹⁾ | |
|--------------|-----|-------|-------|-------------------|------|
| | fM | h max | h min | GQS | GQSM |
| GQS(M) 50-8 | 460 | 535 | 275 | 14,8 | 15,8 |
| GQS(M) 50-9 | 460 | 535 | 275 | 15 | 16 |
| GQS(M) 50-11 | 485 | 560 | 300 | 15,8 | 17,8 |
| GQS(M) 50-13 | 505 | 580 | 320 | 18,8 | 20,3 |
| GQS 50-15 | 505 | 580 | 320 | 20,3 | - |
| GQSM 50-15 | 535 | 610 | 350 | - | 21,8 |

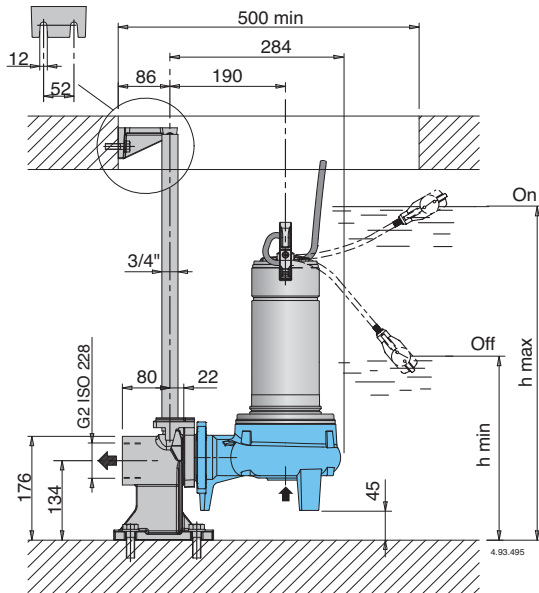
1) With cable length: 10 m



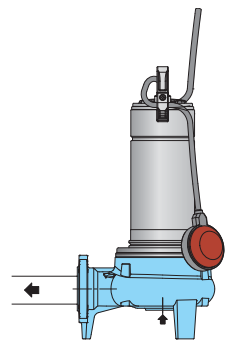
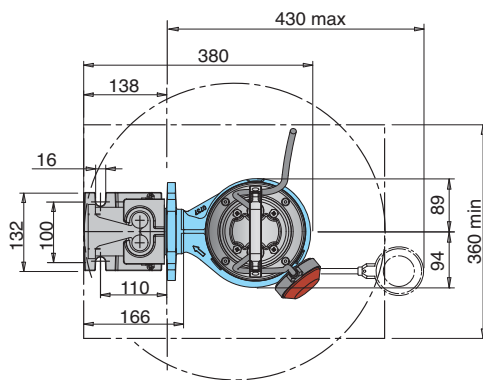
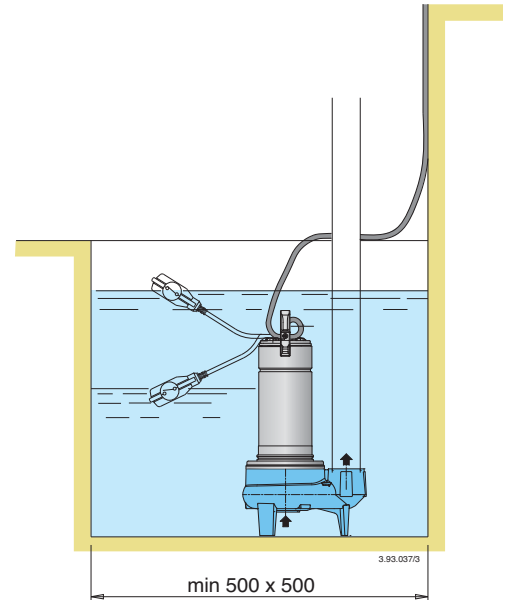
| TYPE | mm | | | kg ⁽¹⁾ | |
|--------------|-----|-------|-------|-------------------|------|
| | fM | h max | h min | GQV | GQVM |
| GQV(M) 50-8 | 460 | 535 | 275 | 15 | 16 |
| GQV(M) 50-9 | 460 | 535 | 275 | 15,2 | 16,2 |
| GQV(M) 50-11 | 485 | 560 | 300 | 16 | 18 |
| GQV(M) 50-13 | 505 | 580 | 320 | 19 | 20,5 |
| GQV 50-15 | 505 | 580 | 320 | 20,5 | - |
| GQVM 50-15 | 535 | 610 | 350 | - | 22 |

1) With cable length: 10 m

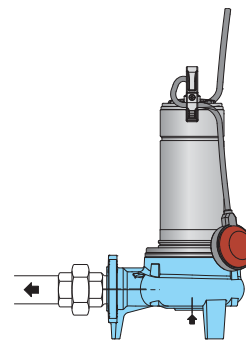
Installation examples



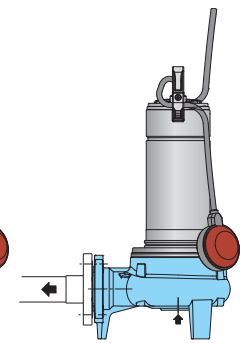
| TYPE | mm | |
|--------------|-------|-------|
| | h max | h min |
| GQV(M) 50-8 | 580 | 320 |
| GQV(M) 50-9 | 580 | 320 |
| GQV(M) 50-11 | 605 | 345 |
| GQV(M) 50-13 | 625 | 365 |
| GQV 50-15 | 625 | 365 |
| GQVM 50-15 | 655 | 395 |



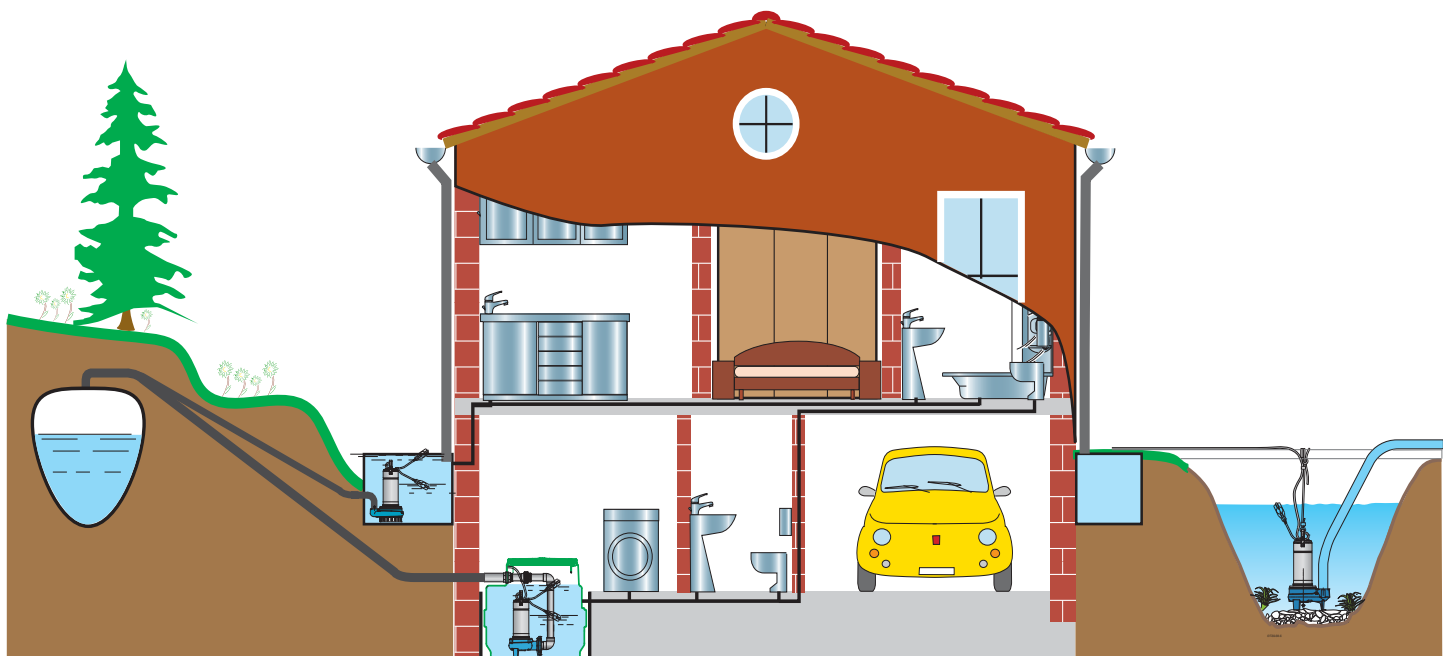
Pump with threaded ports: pipes screwed into the ports



Pump with threaded ports: pipes with union couplings (locally available)



Pump with DN 50 flanged ports: pipes with counter-flanges (locally available)



Features

Cable length 10 m, pump single-phase with plug

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Handle in polypropylene, with frame in stainless steel.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Ring against accidental extraction of the cable.

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

Chamber with food/pharmaceutical machinery oil

Maximum flexibility of connection:

- Flange DN 50 PN 10 EN 1092-2
- N. 4 M8 holes on Ø 90 for duck foot coupling SA-G2"
- G 2 ISO 228

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

Shaft in chrome-nickel stainless steel.

Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

The free-flow impeller (vortex) construction is particularly suitable for liquids containing solids up to 50 mm grain size.

GQV

G 2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

GQS