

U

CENTRIFUGAL PUMPS WITH
SINGLE MECHANICAL SEAL



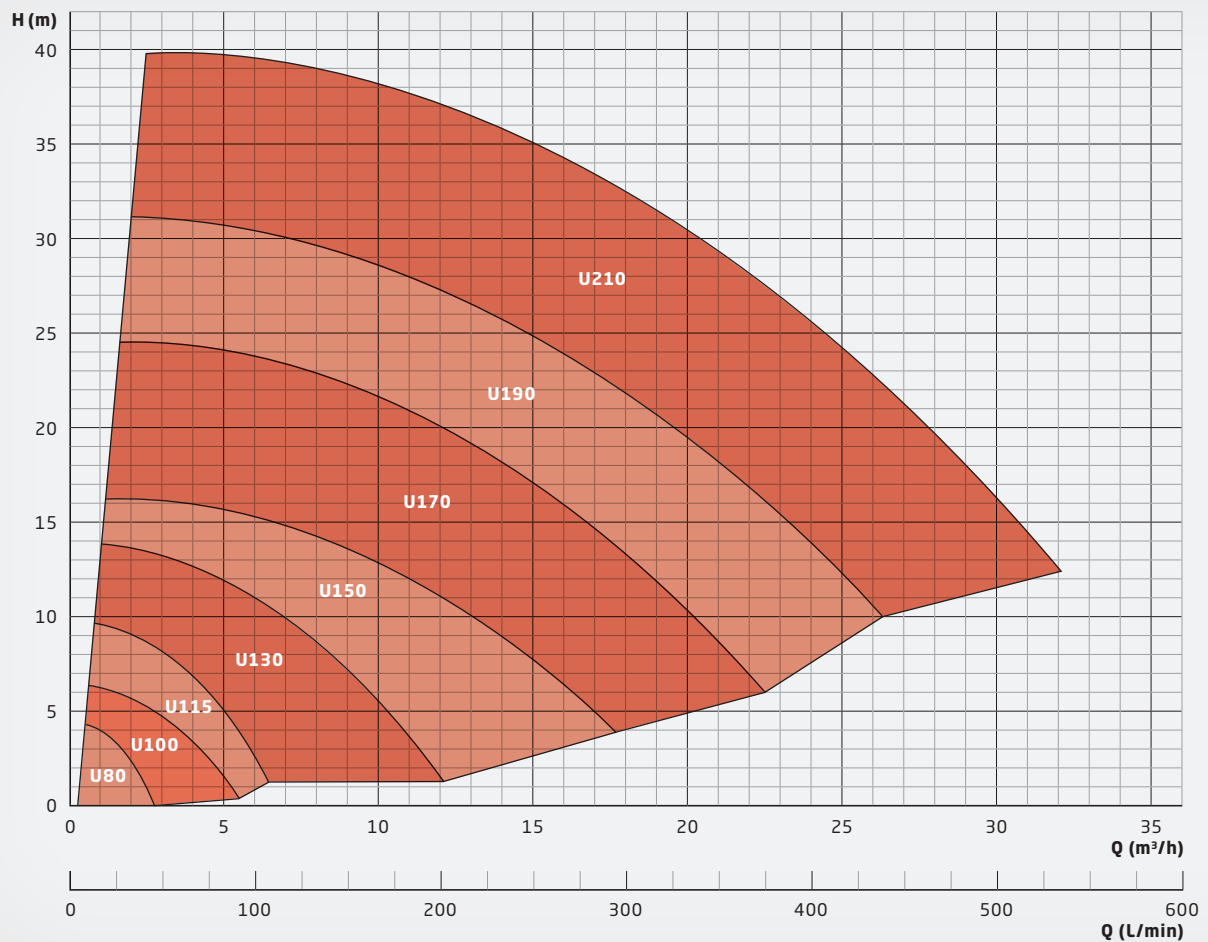
U

Centrifugal pumps with single mechanical seal

| | |
|---------------------------------------|---|
| Housing and impeller material: | PVDF |
| Elastomers: | EPDM, FKM (e.g. Viton®), FEP, FFKM (e.g. Kalrez®) |
| Mechanical seal materials: | SiC (silicon carbide), graphite carbon, PTFE-GF, Al ₂ O ₃ -ceramics |
| Metal parts: | Stainless steel ANSI 316Ti (1.4571), Hastelloy® C4 |

The U series is the SCHMITT entry model to cope with corrosive media. The impeller is directly mounted on the motor shaft extension. The pump is sealed with a single mechanical seal that is cooled and lubricated by the fluid. The mechanical seal is available in different versions, featuring various elastomer and seal face materials and an optional PVDF shaft sleeve.

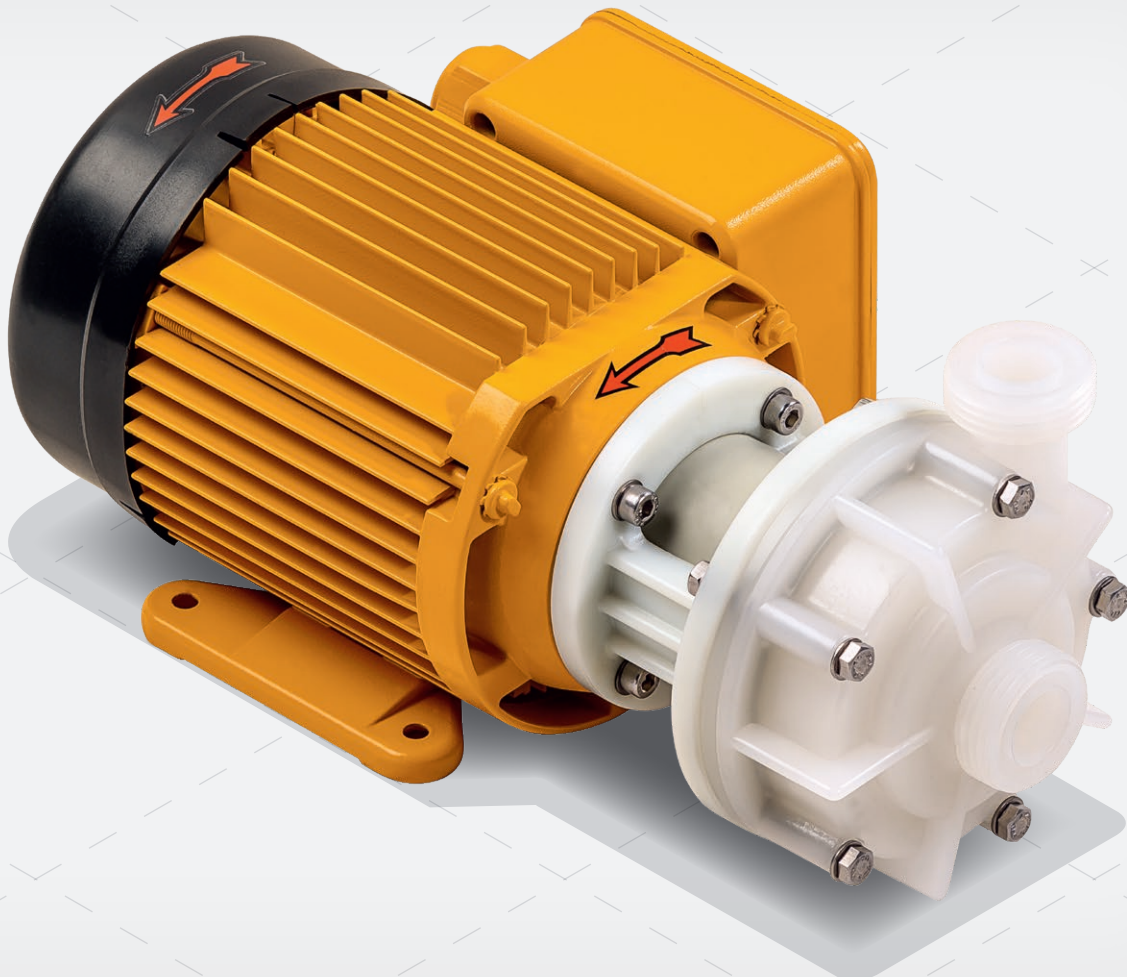
PERFORMANCE CHART



Advantages:

- + Economic and robust alternative to magnetic drive pumps
- + Pumping of magnetic particles possible
- + Compact close-coupled design
- + Suited for corrosive media

Different versions and materials available allow for a perfect match to many operating conditions. Solid particles up to 3 mm in size and 10% volume are allowed. The maximum viscosity is 150 mPas, the maximum allowed temperature is 95°C. All sizes are also available in ATEX-certified versions under the name U-EX for ATEX zone 2.





U

Centrifugal pumps with single mechanical seal

DESCRIPTION

| | |
|------------------------------|--|
| Characteristics | Non-metallic, chemical-resistant, single-stage centrifugal pump, with single mechanical seal |
| Features | <ul style="list-style-type: none">· Economic and robust alternative to magnetic drive pumps· Well-suited for solid-containing fluids due to spring-loaded mechanical seal· Pumping of magnetic particles possible· Low-maintenance-operation due to high-quality seal face materials· All wet parts made of high-quality, corrosion-resistant materials· Threaded connections (ISO 228-1) as standard· Available with flange connections from size 130· Universally applicable, low-noise and compact close-coupled design |
| Fields of application | <p>Delivery of acids, bases or other corrosive liquids in such applications, where a hermetically sealed pump is not required. Delivery of acids and bases or other corrosive liquids containing low to medium amounts of solid particles.</p> <p>For example in the following applications:</p> <ul style="list-style-type: none">· Plating and surface coating· Semiconductor technology and solar cell production· PCB and electronics manufacturing· Wastewater and fresh water treatment· Laboratory equipment and medical technology· Emission controls and gas scrubbers· Battery production and energy storage· High-purity applications, demineralized water, ultrapure water |

TYPES

Characteristics

- Pump housing: PVDF
- Elastomers: FKM, EPDM, FEP, FFKM
- Material of mechanical seal faces: PTFE/Al₂O₃, carbon/Al₂O₃, SiC/SiC, SiC/carbon

Standard motors (available from stock)

- Three-phase motors: D230/Y400 V-3ph @ 50 Hz, D277/Y480 V-3ph @ 60 Hz, IP 55, Ins.-Cl. F, also with PTC
- All motors from 0.75 kW have energy efficiency class IE3
- Single-phase motors (up to 1.1 kW: 230 V-1ph, 50 / 60 Hz, IP 55, Ins.-Cl. F)
- ATEX-certified motors (temperature rating T3)

Special motors (available on request, for example)

- Special voltages and frequencies
- ATEX-certified motors (temperature rating T4 or T5)
- Three-phase motors with integrated drive / frequency converter
- Four-pole motors with 1450 rpm @ 50 Hz / 1650 rpm @ 60 Hz
- UL- and CSA-certified motors
- Special types of protection, e.g. IP 65
- Special insulation classes, e.g. tropical insulation
- Multi-voltage, e.g. D220-290/Y380-500 V, 50 Hz; D220-332/Y380-575 V, 60 Hz
- Direct-current motors (DC or BLDC)

Operating conditions

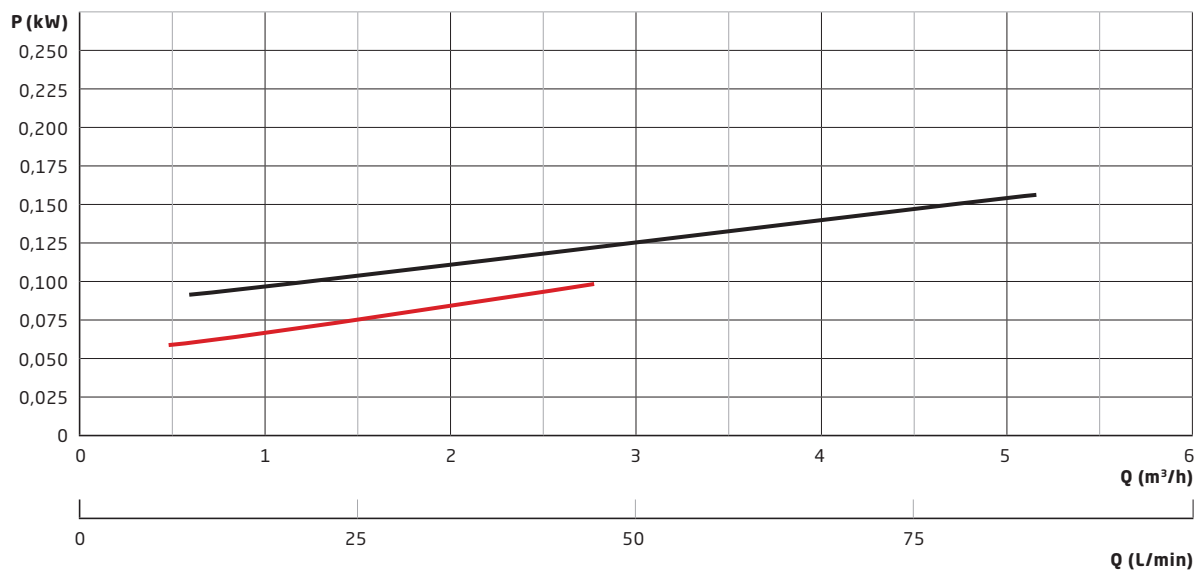
- Flow rate up to: 30 m³/h
- Maximum head up to 40 m
- Liquid temperature: -5 to 95°C (PVDF)
- Ambient temperature from -10 up to 40°C, higher temperatures on request
- Pumps can be adapted to high-density liquids (up to 2)



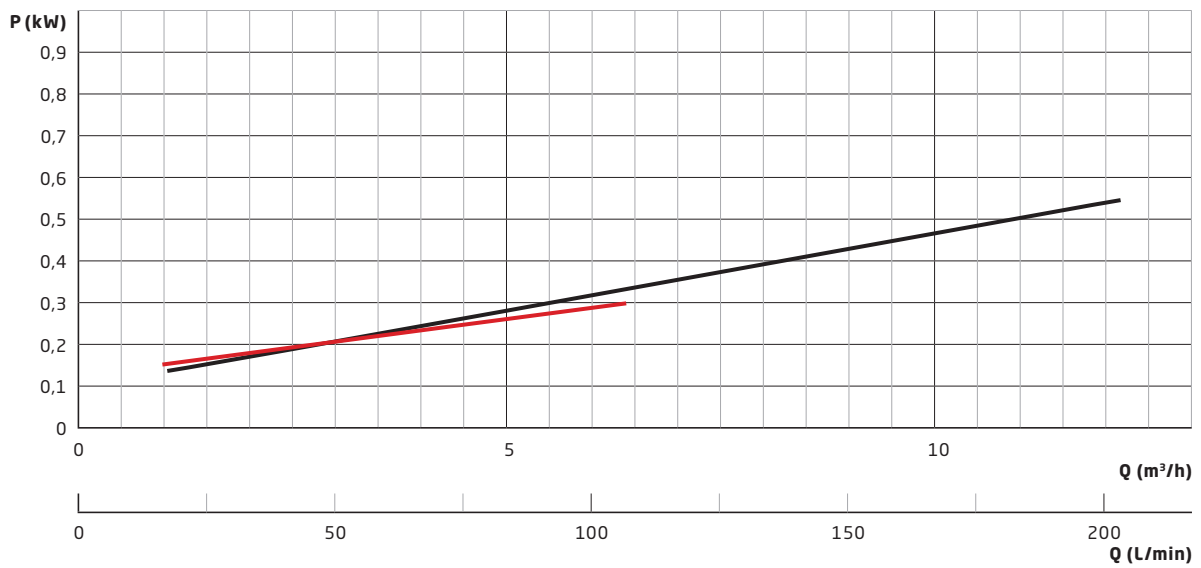
U

Centrifugal pumps with single mechanical seal

PERFORMANCE CURVE **U 80** (0.18 kW) / **U 101** (0.18 kW)



PERFORMANCE CURVE **U 115** (0.25 kW) / **U 130** (0.55 kW)

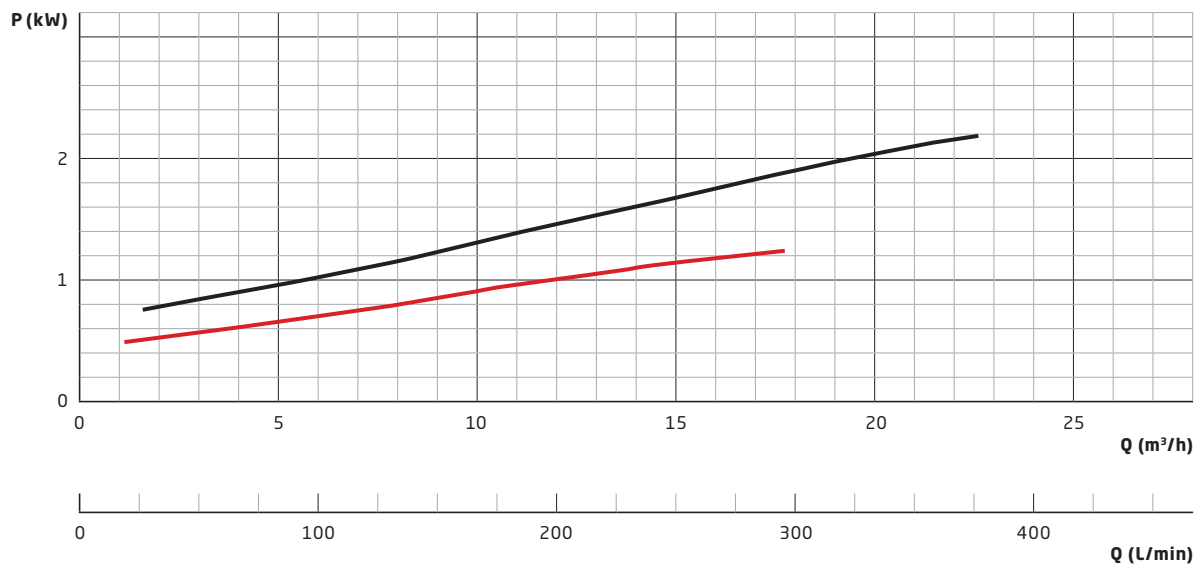
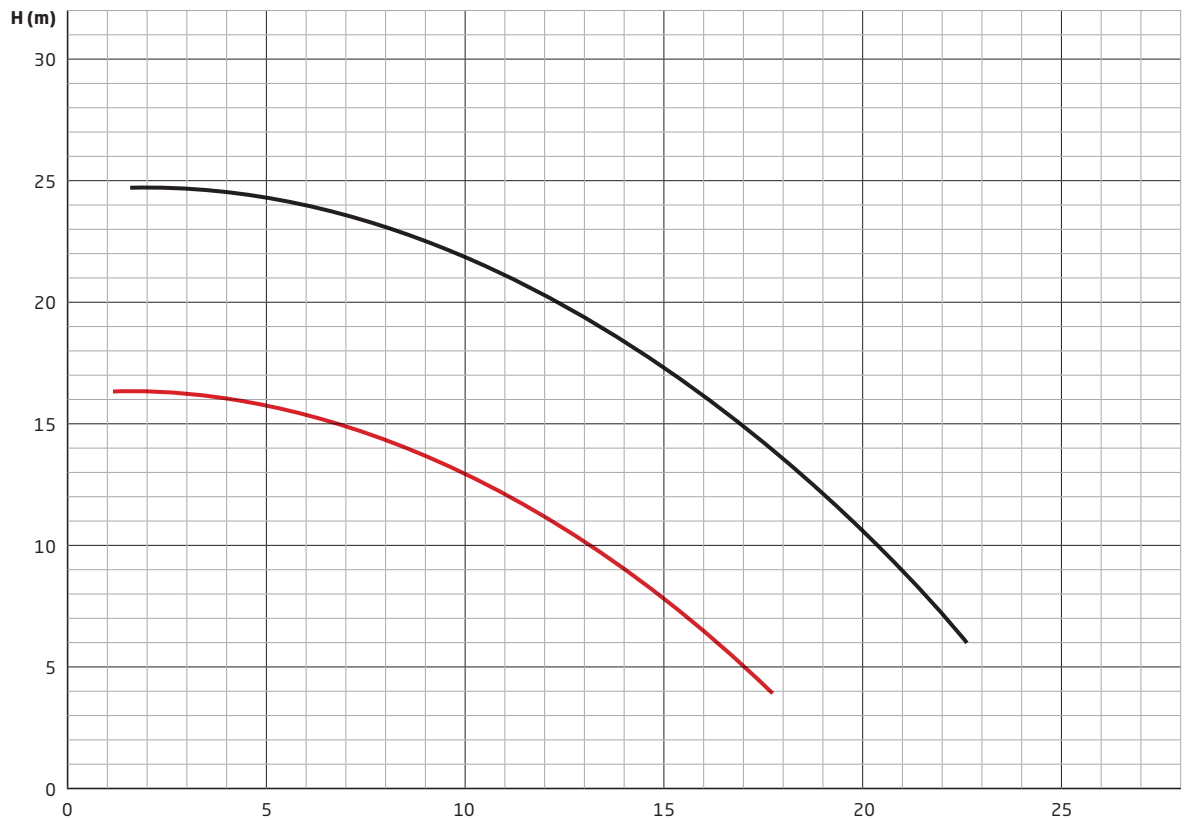




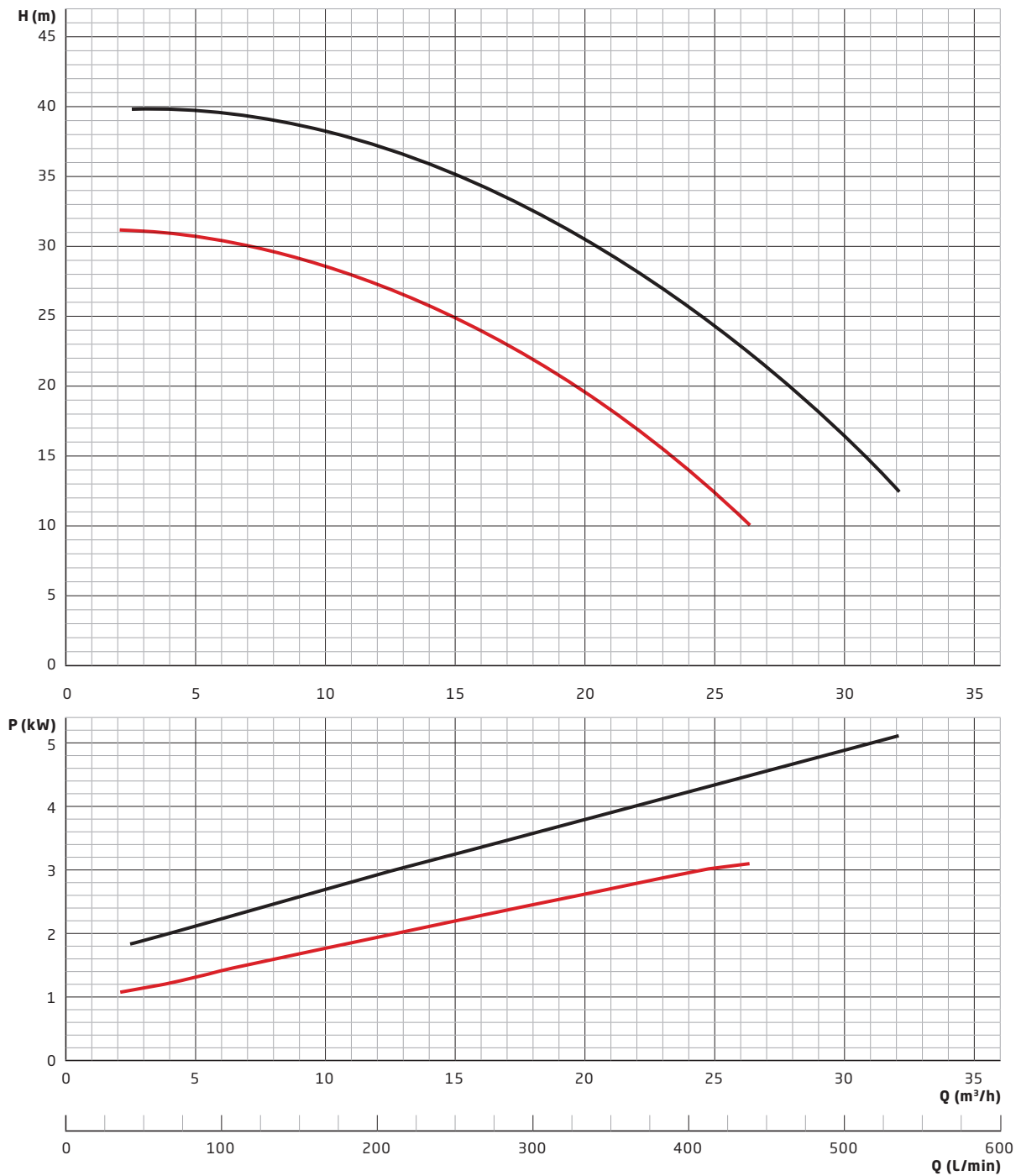
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Centrifugal pumps with single mechanical seal

PERFORMANCE CURVE **U 150** (1.1 kW) / **U 170** (2.2 kW)



PERFORMANCE CURVE **U 190** (3 kW) / **U 210** (5.5 kW)

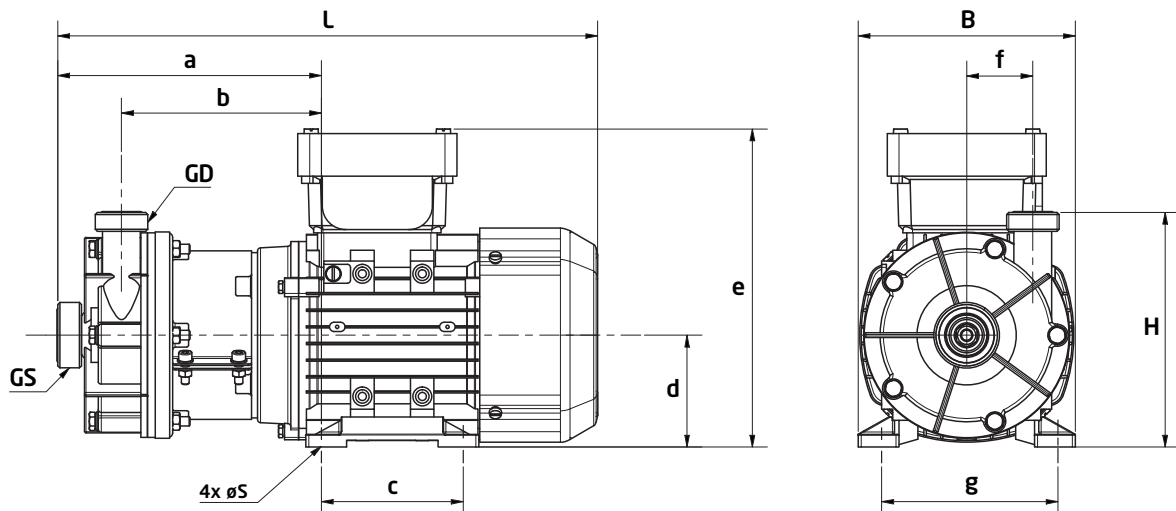




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Centrifugal pumps with single mechanical seal

DIMENSIONS



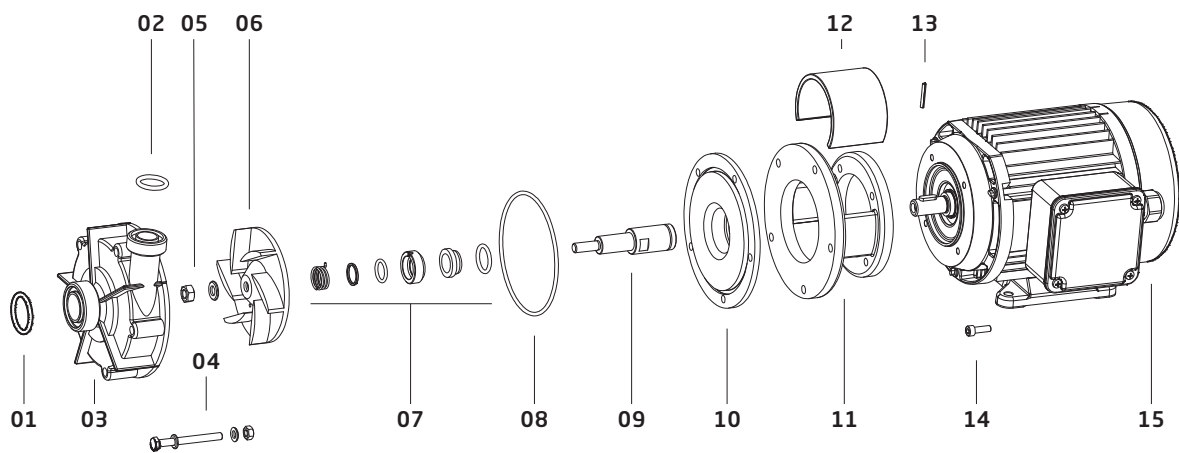
| Type | GS | | GD | | L (mm) | B (mm) | H (mm) | S (mm) | a (mm) | b (mm) | c (mm) | d (mm) | e (mm) | f (mm) | g (mm) |
|------|--------|----|--------|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Thread | DN | Thread | DN | | | | | | | | | | | |
| 80 | G¾" | 10 | G¾" | 10 | 282 | 112 | 108 | 6 | 142 | 107 | 71 | 56 | 157 | 25 | 90 |
| 101 | G1" | 15 | G1" | 15 | 283 | 112 | 118 | 6 | 143 | 109 | 71 | 56 | 157 | 31 | 90 |
| 115 | G1" | 15 | G1" | 15 | 329 | 100 | 134 | 7 | 159 | 122 | 80 | 63 | 186 | 37 | 100 |
| 130 | G1¼" | 20 | G1" | 15 | 344 | 138 | 149 | 7 | 168 | 128 | 90 | 71 | 202 | 42 | 112 |
| 150 | G1½" | 25 | G1¼" | 20 | 411 | 157 | 171 | 10 | 200 | 152 | 100 | 80 | 220 | 47 | 125 |
| 170 | G2" | 32 | G1½" | 25 | 467 | 173 | 245 | 10 | 228 | 175 | 125 | 90 | 191 | 59 | 140 |
| 190 | G2" | 32 | G1½" | 25 | 496 | 196 | 211 | 12 | 244 | 185 | 140 | 100 | 259 | 66 | 160 |
| 210 | G2¼" | 40 | G2" | 32 | 505 | 227 | 236 | 12 | 242 | 193 | 140 | 112 | 304 | 74 | 190 |

FITTINGS

SCHMITT offers an extensive range of fittings to facilitate the installation of the pump into your system:

- flange adaptors
- hose connectors
- welding connectors for stainless steel pipes
- reducers
- NPT threaded adaptors
- inlet strainers for vertical pumps
- extension pipes for vertical pumps

SPARE PARTS LIST



| Position | Description | Available materials |
|----------|---------------------------|--|
| 01 | O-ring (inlet port) | FKM, EPDM, FEP, FFKM |
| 02 | O-ring (outlet port) | FKM, EPDM, FEP, FFKM |
| 03 | Pump housing | PVDF |
| 04 | Hexagon bolt, washer, nut | V4A |
| 05 | Locking nut, washer | V4A, Hastelloy C4 |
| 06 | Impeller | PVDF |
| 07 | Mechanical seal | Various options |
| 08 | Housing seal | FKM, EPDM, FFKM |
| 09 | Shaft | Stainless steel 1.4571 / 316Ti, Hastelloy C4 |
| 10 | Backplate | PVDF |
| 11 | Flange | PP, aluminium |
| 12 | Protection cover | PP |
| 13 | Slotted pin | V4A |
| 14 | Cylinder bolt | V4A |
| 15 | Motor | |



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