

Submersible Wastewater Pump Type ABS AS 0530 - 0841

SULZER



Robust, reliable submersible pumps from 1 to 3 kW for pumping clear water, wastewater and sewage from buildings and sites in domestic and commercial areas.

Applications

AS submersible pumps have been designed for the economic and reliable pumping of wastewater and sewage, and can be used with automatic coupling system for fixed applications or as portable units.

- The 2" discharge version is especially suitable for pumping wastewater from underground garages.
- With vortex hydraulics the AS is particularly suitable for fluids containing fibrous or abrasive matter and for sewage.
- The Contrablock hydraulic system is suitable for larger proportions of solid or fibrous matter.
- Maximum allowable temperature of the medium is 40 °C, or short term to 60 °C (max. 5 minutes).

Construction

The water pressure-tight, encapsulated fully flood-proof motor and the pump section form a compact, robust, unit construction.

Motor

Single-phase 220-240 V and three-phase 400 V, 50 Hz, 2-pole (2900 r/min) and 4-pole (1450 r/min). Insulation class F; protection type IP 68. Ex protection to II 2G Ex db IIB T4 Gb and FM international standards.

Consult Sulzer for Ex usage with frequency inverters.

Bearings

The stainless steel motor shaft is supported in lubricated-for-life ball bearings.

Shaft sealing

Between motor and hydraulic section by means of a high quality sealing unit using a silicon carbide mechanical seal, independent of direction of rotation and resistant to temperature shock. Seal at motor side is by oil lubricated lip seal.

Discharge

AS 0530: G 2" internal thread (DN 50).

AS 0630 to 0641: radial slot DN 65 flange.

AS 0830, 0831, 0840 & 0841: radial slot DN 80 flange.

Temperature monitoring

Thermal sensors in the stator to switch off the pump in the case of overheating and switch on automatically after cooling down (option on standard AS). Temperature and leakage relays are required (see accessories table).

Seal monitoring

DI system consisting of a sensor in the motor and oil chambers which signals an inspection alert if there is leakage at the shaft seals (option on standard AS; not in oil chamber on Ex version). Temperature and leakage relays are required (see accessories table).

Hydraulics

AS 0530, 0630, 0631, 0830, 0831: vortex, open, recessed four-vane impeller.

AS 0641, 0840, 0841: Contrablock, open single-vane impeller with spiral bottom plate.



Identification Code

e.g. AS 0840 S 12/2 Ex

Hydraulics:

AS Product range

08 Discharge outlet DN (cm)

40 Hydraulic type

Motor:

S Modular motor version

12 Motor power P_2 kW x 10

2 Number of poles

Ex Explosive-proof

Features

- Hydraulic design with Contrablock system or vortex impellers.
- High reliability even under long term operating conditions.
- For wastewater and sewage containing solid or fibrous particles.
- In standard or Ex-versions.
- Option of automatic seal and temperature monitoring. Ex version with temperature monitoring as standard.
- Available for transportable or fixed installation.

Materials

| Description | Material |
|---------------|-----------------------------------|
| Motor housing | Cast iron EN-GJL-250 |
| Rotor shaft | Stainless steel 1.4021 (AISI 420) |
| Volute | Cast iron EN-GJL-250 |
| Impeller | Cast iron EN-GJL-250 |
| Bottom plate | Cast iron EN-GJL-250 |
| Fasteners | Stainless steel 1.4401 (AISI 316) |

Technical data

| AS | Motor | Solids size (mm) | Discharge * | Rated voltage (V) | Motor power ** (kW) | | Rated current (A) | Speed (r/min) | Weight *** (kg) |
|------|-----------------------|---------------------|-------------|----------------------|------------------------|----------------|----------------------|------------------|--------------------|
| | | | | | P ₁ | P ₂ | | | |
| 0530 | S12/2W ^(†) | 40 | G 2" | 220-240 1~ | 1.77 | 1.20 | 8.22 | 2900 | 34 |
| | S12/2D | 40 | G 2" | 400 3~ | 1.69 | 1.20 | 3.29 | 2900 | 34 |
| | S17/2D | 40 | G 2" | 400 3~ | 2.31 | 1.70 | 3.97 | 2900 | 34 |
| | S26/2D | 40 | G 2" | 400 3~ | 3.43 | 2.60 | 5.64 | 2900 | 40 |
| 0630 | S10/4W ^(†) | 60 | DN 65 | 220-240 1~ | 1.69 | 1.00 | 7.49 | 1450 | 37 |
| | S13/4D | 60 | DN 65 | 400 3~ | 1.93 | 1.30 | 3.60 | 1450 | 37 |
| | S22/4D | 60 | DN 65 | 400 3~ | 2.88 | 2.20 | 5.15 | 1450 | 42 |
| 0631 | S12/2W ^(†) | 40 | DN 65 | 220-240 1~ | 1.77 | 1.20 | 8.22 | 2900 | 38 |
| | S12/2D | 40 | DN 65 | 400 3~ | 1.69 | 1.20 | 3.29 | 2900 | 38 |
| | S17/2W ^(†) | 40 | DN 65 | 220-240 1~ | 2.36 | 1.65 | 10.60 | 2900 | 38 |
| | S17/2D | 40 | DN 65 | 400 3~ | 2.31 | 1.70 | 3.97 | 2900 | 38 |
| | S30/2D | 40 | DN 65 | 400 3~ | 3.74 | 3.00 | 6.23 | 2900 | 46 |
| 0641 | S30/2D | 45 | DN 65 | 400 3~ | 3.74 | 3.00 | 6.23 | 2900 | 42 |
| 0830 | S10/4W ^(†) | 60 | DN 80 | 220-240 1~ | 1.69 | 1.00 | 7.49 | 1450 | 40 |
| | S13/4D | 60 | DN 80 | 400 3~ | 1.93 | 1.30 | 3.60 | 1450 | 40 |
| | S22/4D | 60 | DN 80 | 400 3~ | 2.88 | 2.20 | 5.15 | 1450 | 42 |
| 0831 | S22/4D | 80 | DN 80 | 400 3~ | 2.88 | 2.20 | 5.15 | 1450 | 45 |
| 0840 | S12/2W ^(†) | 30 | DN 80 | 220-240 1~ | 1.77 | 1.20 | 8.22 | 2900 | 35 |
| | S12/2D | 30 | DN 80 | 400 3~ | 1.69 | 1.20 | 3.29 | 2900 | 35 |
| | S17/2D | 30 | DN 80 | 400 3~ | 2.31 | 1.70 | 3.97 | 2900 | 35 |
| | S26/2D | 30 | DN 80 | 400 3~ | 3.43 | 2.60 | 5.64 | 2900 | 40 |
| 0841 | S13/4D | 80 | DN 80 | 400 3~ | 1.93 | 1.30 | 3.60 | 1450 | 41 |
| | S22/4D | 80 | DN 80 | 400 3~ | 2.88 | 2.20 | 5.15 | 1450 | 56 |

* G = internal thread, DN = flange

** P₁ = Power at mains; P₂ = Power at motor shaft.

*** Weight with 10 m cable. Cable size: Standard = 4G1.5, Ex = 7G1.5

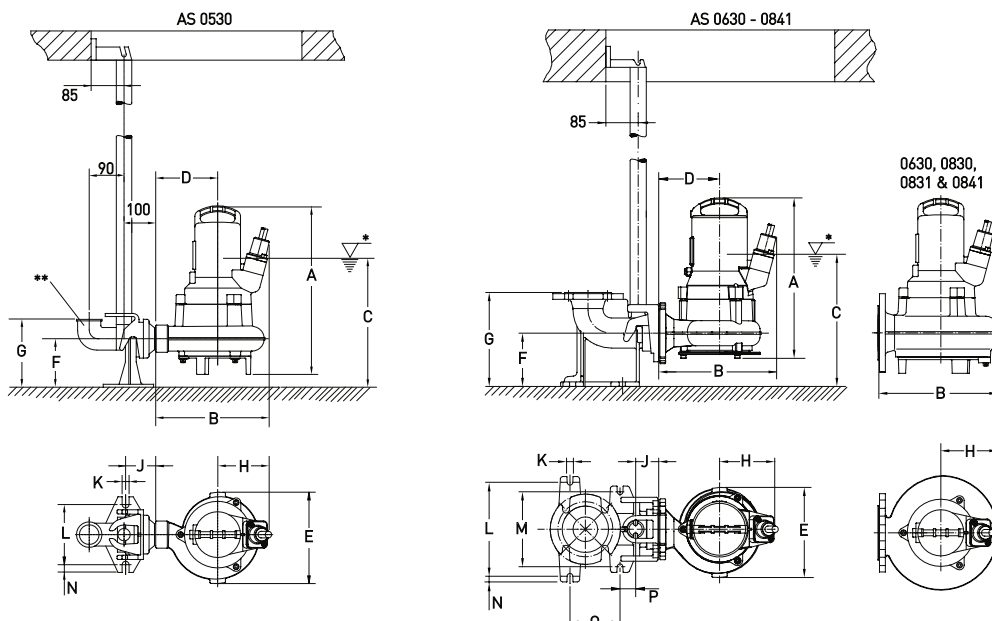
^(†) Start and Run capacitor to the following specification required in control panel.

Start: 125-160µF. Run: 40µF (2x20µF) for S10/4W, 30µF for S12/2W & S17/2W.

The recommended start time for the motors is two seconds.

Dimensions (mm)

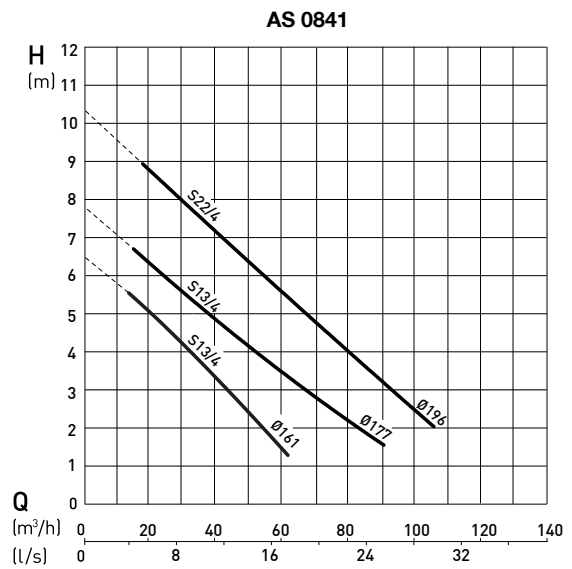
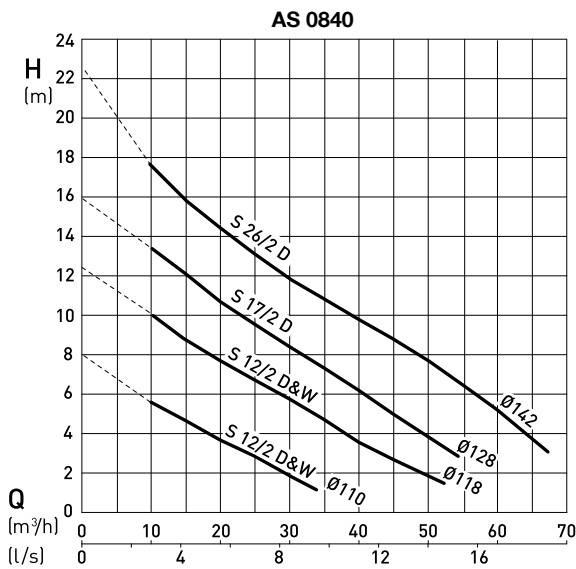
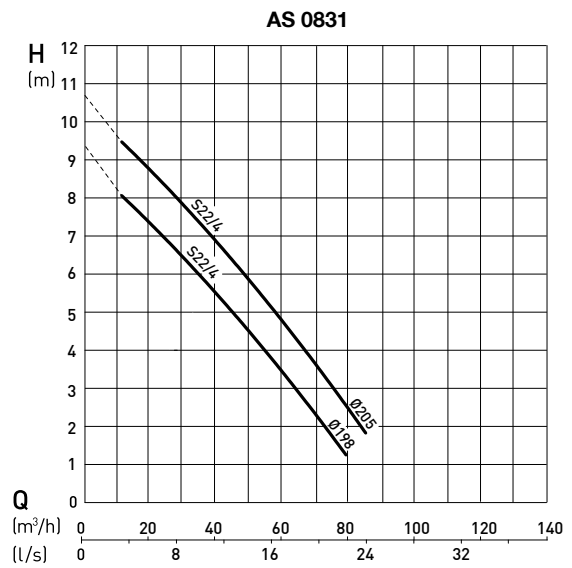
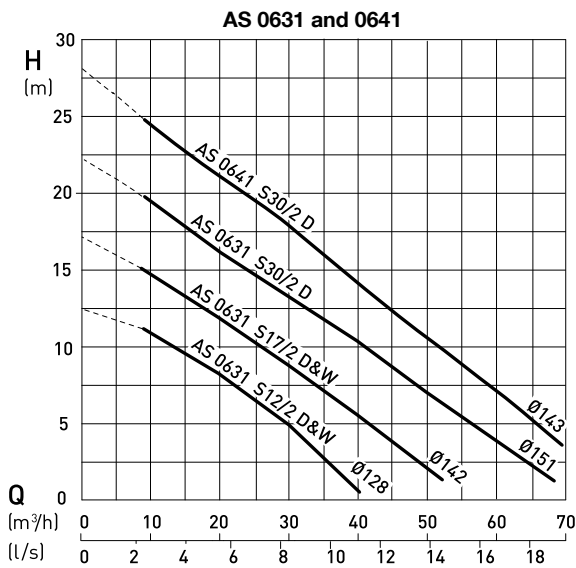
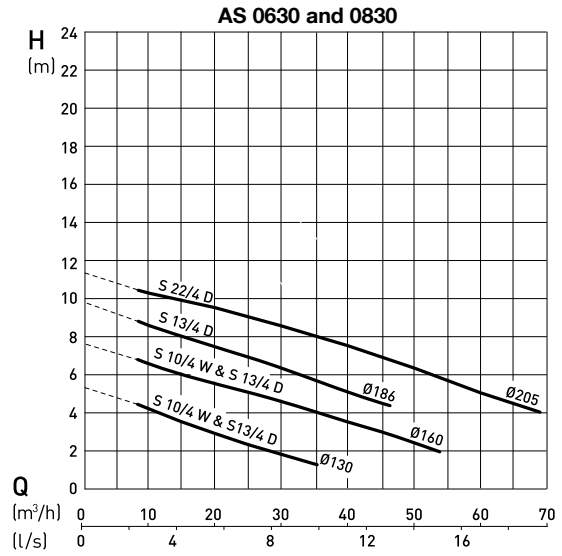
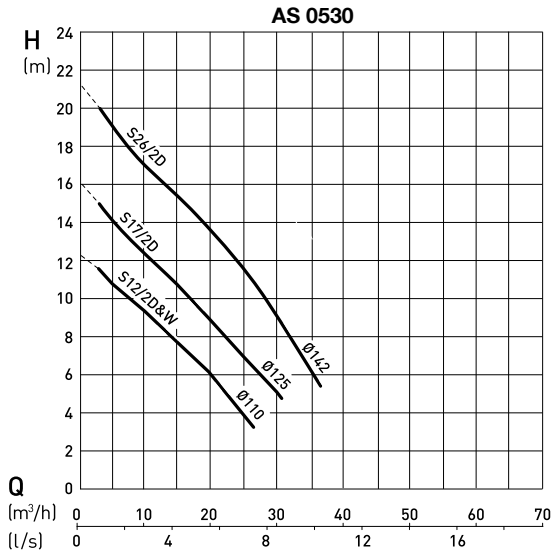
| AS | | A | B | C | D | E | F | G | H | J | K | L | M | N | O | P |
|------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|------|----|------|------|
| 0530 | S12/2 & 17/2 | 432 | 293 | 331 | 160 | 236 | 125 | 175 | 133 | 100 | 18 | 155 | n.a. | 20 | n.a. | n.a. |
| | S26/2 | 444 | 293 | 331 | 160 | 236 | 125 | 175 | 133 | 100 | 18 | 155 | n.a. | 20 | n.a. | n.a. |
| 0630 | S10/4 & 13/4 | 437 | 309 | 348 | 157 | 294 | 140 | 247 | 147 | 57 | 18 | 245 | 195 | 15 | 132 | 40 |
| | S22/4 | 450 | 309 | 348 | 157 | 294 | 140 | 247 | 147 | 57 | 18 | 245 | 195 | 15 | 132 | 40 |
| 0631 | S12/2 & 17/2 | 409 | 305 | 346 | 160 | 237 | 140 | 247 | 145 | 54 | 18 | 245 | 195 | 15 | 132 | 40 |
| | S30/2 | 421 | 305 | 346 | 160 | 237 | 140 | 247 | 145 | 54 | 18 | 245 | 195 | 15 | 132 | 40 |
| 0641 | S30/2 | 428 | 308 | 346 | 160 | 237 | 140 | 247 | 148 | 54 | 18 | 245 | 195 | 15 | 132 | 40 |
| 0830 | S10/4 & 13/4 | 437 | 307 | 408 | 160 | 294 | 200 | 342 | 147 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| | S22/4 | 450 | 307 | 408 | 160 | 294 | 200 | 342 | 147 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| 0831 | S22/4 | 470 | 397 | 445 | 240 | 312 | 200 | 340 | 157 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| 0840 | S12/2 & 17/2 | 418 | 280 | 379 | 130 | 210 | 200 | 342 | 148 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| | S26/2 | 430 | 280 | 379 | 130 | 210 | 200 | 342 | 148 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| 0841 | S13/4 | 473 | 397 | 445 | 240 | 312 | 200 | 340 | 157 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |
| | S22/4 | 485 | 397 | 450 | 240 | 312 | 200 | 340 | 157 | 88 | 18 | 275 | 195 | 20 | 182 | 25 |



* Lowest switch-off level; minimum switch-on level must be at least 100 mm higher.

** Elbow not supplied.

Performance Curves



H = Total Head; Q = Discharge Volume. Curves to ISO 9906 (60 Hz available on request). N.B. please use the ABSEL program to validate pump selection.

Accessories

| | Description | Size | Part no. | AS | |
|---|---|----------------------|-------------|-------------------------|---------------|
| Fixed installation with Sulzer Automatic Coupling System | Pedestal (cast iron EN-GJL-250) threaded (with fixing bolts and transition piece) flange (with fixing bolts) flange (with fixing bolts) flange (fixing bolts not included) flange (with plug/clamp connection and fixing bolts) | 2" without bend | 62320560 | 0530 | |
| | | DN 65: 90° cast bend | 62320673 | 0630 - 0641 | |
| | | DN 80 without bend | 62320557 | 0830 & 0840 | |
| | | DN 80: 90° cast bend | 62320649 | 0830/31/40/41 | |
| | | DN 80: 90° cast bend | 62320650 | 0830/31/40/41 | |
| | Fasteners (galvanized steel) bolts and gasket (bracket to pump) anchor bolts (pedestal to base) | | | 62610632 | 0830/31/40/41 |
| | | | | 62610775 | 0830/31/40/41 |
| | Guide Rail (galvanized steel) | 1¼" x 1 m | | 31380007 | 0530 - 0641 |
| | | 1¼" x 2 m | | 31380008 | |
| | | 1¼" x 3 m | | 31380009 | |
| | | 1¼" x 4 m | | 31380010 | |
| | | 1¼" x 5 m | | 31380011 | |
| Chain Kit (galvanized steel) | 3 m | | 61265065 | 0530 - 0841 | |
| | 4 m | | 61265093 | | |
| | 6 m | | 61265069 | | |
| | 7 m | | 61265096 | | |
| Chain Kit (stainless steel) | 3 m | | 61265081 | 0530 - 0841 | |
| | 4 m | | 61265099 | | |
| | 6 m | | 61265085 | | |
| | 7 m | | 61265102 | | |
| Fixed installation - dry well, (horizontal) | Pump Support Kit (EN-GJL-250) head and volute supports with fixing bolts and vibration damper | | 61825001 | 0831 & 0841 | |
| | | | 62665103 | 0530 - 0830 & 0840 | |
| (vertical) | Ground Support Stand | | 61355002 | 0831 & 0841 | |
| Transportable installation | Ground Support Stand | | 42895016 | 0630 & 0830 | |
| | | | 61355012 | 0631 & 0641 | |
| | | | 61350526 | 0831 & 0841 | |
| | Discharge Elbow (EN-GJL-250) flange to thread flange to STORZ coupling | DN 80 to G 2½" | 31090131 | 0840 | |
| | | DN 80 to G 2½" | 62665074 | | |
| | Adaptor (galvanized steel) | DN 65 to DN 80 | 21405002 | 0630 & 0631 | |
| General | Non-return Ball Valve (EN-GJL-250) internal thread internal thread with inspection hatch flange with inspection hatch and venting flange with inspection hatch | G 2" | 61400527 | 0530 | |
| | | G 2½" | 61400543 | 0630 - 0641 | |
| | | DN 80 | 61400534 | 0830/31/40/41 | |
| | | DN 80 | 61400523 | 0830/31/40/41 | |
| | Gate Valve (brass) (EN-GJL-250) | G 2" | 14040007 | 0530 | |
| | | DN 80 | 61420500 | 0830, 0831, 0840 & 0841 | |
| | Leakage Relay Type ABS CA 461 | 110 - 230 VAC | 16907010 | 0530 - 0841 | |
| 18 - 36 VDC, SELV | | 16907011 | 0530 - 0841 | | |
| Temperature and Leakage Relay Type ABS CA 462 | 110 - 230 VAC | 16907006 | 0530 - 0841 | | |
| | 18 - 36 VDC, SELV | 16907007 | 0530 - 0841 | | |

Design

1. Ball bearings; lubricated-for-life.
2. Watertight cable entry.
3. Motor with thermal sensor in air-filled motor housing.
4. Oil chamber with seal monitoring.
5. Sic/Sic mechanical seal.
6. Contrablock (featured) or vortex hydraulics.

