

Submersible Wastewater Pump Type ABS AS 0530 - 0841

SULZER



Robust, reliable submersible pumps from 1.3 to 4.7 hp 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 an 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 104 °F, or short term to 140 °F (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 230 V and three-phase 460 V, 60 Hz, 2-pole (3400 rpm) and 4-pole (1750 rpm). Insulation class F; protection type IP68. Ex protection to FM international standards.

Consult Sulzer for Ex usage with frequency inverters.

Types of operation and frequency of starting: Pumps of the AS series have been designed for intermittent use only (S3, 25%) when dry-installed, and continuous use (S1) when submerged.

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 (2½") flange.

AS 0830, 0831, 0840 & 0841: radial slot DN 80 (3") 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 seal chambers which signals an inspection alert if there is leakage at the shaft seals (not in seal 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 16/2 Ex

Hydraulics:

AS Product range

08 Discharge outlet DN (cm)

40Hydraulic type

Motor:

S Modular motor version

16 Motor power $P_2 \times 10$ hp

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 has temperature monitoring as standard.

Materials

Description	Material
Motor housing	Cast iron ASTM A48; Class 35B
Rotor shaft	Stainless steel ASTM / AISI 420
Volute	Cast iron ASTM A48; Class 35B
Impeller	Cast iron ASTM A48; Class 35B
Bottom plate	Cast iron ASTM A48; Class 35B
Fasteners	Stainless steel ASTM / AISI 420

Technical data

AS	Motor	Solids size (ins)	Discharge *	Rated voltage (V)	Motor power **		Rated current (A)	Speed (rpm)	Weight *** (lbs)
					(kW) P ₁	(hp) P ₂			
0530	S16/2W ^(†)	1.6	G 2"	230 1~	2.09	2.15	9.15	3400	75
	S16/2D	1.6	G 2"	460 3~	2.17	2.15	3.32	3400	75
	S18/2W ^(†)	1.6	G 2"	230 1~	2.46	2.41	10.80	3400	75
	S18/2D	1.6	G 2"	460 3~	2.42	2.41	3.61	3400	75
	S30/2D	1.6	G 2"	460 3~	3.87	4.02	5.50	3400	88
0630	S10/4W ^(†)	2.4	DN 65	230 1~	1.48	1.34	6.50	1750	82
	S10/4D	2.4	DN 65	460 3~	1.33	1.34	2.60	1750	82
	S16/4D	2.4	DN 65	460 3~	2.24	2.15	3.60	1750	82
	S25/4D	2.4	DN 65	460 3~	3.16	3.35	4.92	1750	93
0631	S16/2W ^(†)	1.6	DN 65	230 1~	2.09	2.15	9.15	3400	84
	S16/2D	1.6	DN 65	460 3~	2.17	2.15	3.32	3400	84
	S18/2W ^(†)	1.6	DN 65	230 1~	2.46	2.41	10.80	3400	84
	S18/2D	1.6	DN 65	460 3~	2.42	2.41	3.61	3400	84
	S35/2D	1.6	DN 65	460 3~	4.26	4.69	6.08	3400	101
0641	S35/2D	1.8	DN 65	460 3~	4.26	4.69	6.08	3400	93
0830	S10/4W ^(†)	2.4	DN 80	230 1~	1.48	1.34	6.50	1750	88
	S10/4D	2.4	DN 80	460 3~	1.33	1.34	2.60	1750	88
	S16/4D	2.4	DN 80	460 3~	2.24	2.15	3.60	1750	88
	S25/4D	2.4	DN 80	460 3~	3.16	3.08	4.92	1750	93
0831	S25/4D	3.2	DN 80	460 3~	3.16	3.35	4.92	1750	121
0840	S16/2W ^(†)	1.2	DN 80	230 1~	2.09	2.15	9.15	3400	77
	S16/2D	1.2	DN 80	460 3~	2.17	2.15	3.32	3400	77
	S18/2W ^(†)	1.2	DN 80	230 1~	2.46	2.41	10.80	3400	77
	S18/2D	1.2	DN 80	460 3~	2.42	2.41	3.61	3400	77
	S30/2D	1.2	DN 80	460 3~	3.87	4.02	5.50	3400	88
0841	S16/4D	3.2	DN 80	460 3~	2.24	2.15	3.60	1750	108
	S25/4D	3.2	DN 80	460 3~	3.16	3.35	4.92	1750	128

* G = internal thread, DN = flange

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

*** Weight with 33 ft cable. Cable size: SOOW 14/7

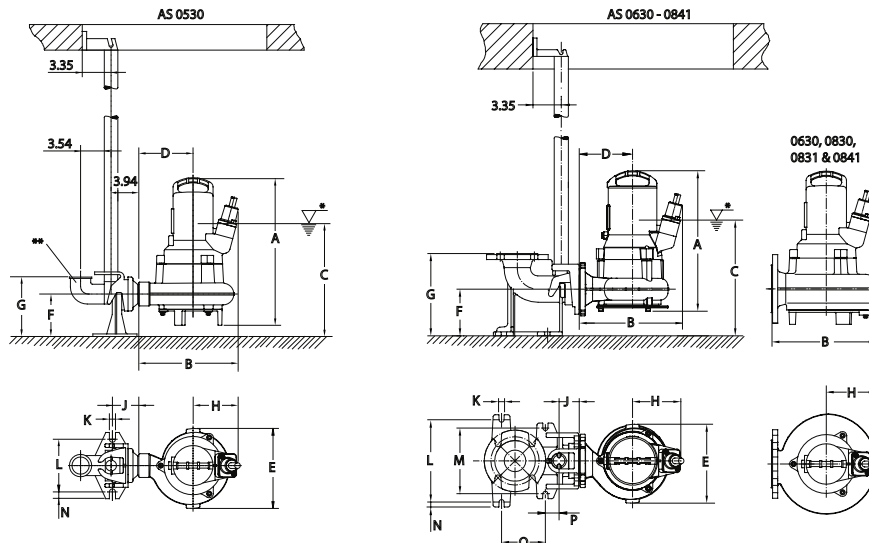
^(†) Start and Run capacitor to the following specification required in control panel.

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 (ins)

AS		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
0530	S16/2 & 18/2	17.01	11.54	13.03	6.30	9.29	4.92	6.89	5.24	3.94	0.71	6.10	n.a.	0.79	n.a.	n.a.
	S30/2	17.48	11.54	13.03	6.30	9.29	4.92	6.89	5.24	3.94	0.71	6.10	n.a.	0.79	n.a.	n.a.
0630	S10/4 & 16/4	17.21	12.17	13.70	6.18	11.58	5.51	9.72	5.79	2.24	0.71	9.65	7.68	0.60	5.20	1.58
	S25/4	17.72	12.17	13.70	6.18	11.58	5.51	9.72	5.79	2.24	0.71	9.65	7.68	0.60	5.20	1.58
0631	S16/2 & 18/2	16.10	12.01	13.62	6.30	9.33	5.51	9.72	5.71	2.13	0.71	9.65	7.68	0.60	5.20	1.58
	S35/2	16.58	12.01	13.62	6.30	9.33	5.51	9.72	5.71	2.13	0.71	9.65	7.68	0.60	5.20	1.58
0641	S35/2	16.85	12.13	13.62	6.30	9.33	5.51	9.72	5.83	2.13	0.71	9.65	7.68	0.60	5.20	1.58
0830	S10/4 & 16/4	17.21	12.09	16.06	6.30	11.58	7.87	13.47	5.79	3.46	0.71	10.83	7.68	0.79	7.17	0.98
	S25/4	17.72	12.09	16.06	6.30	11.58	7.87	13.47	5.79	3.46	0.71	10.83	7.68	0.79	7.17	0.98
0831	S25/4	18.50	15.63	17.52	9.45	12.28	7.87	13.39	6.18	3.46	0.71	10.83	7.68	0.79	7.17	0.98
0840	S16/2 & 18/2	16.46	11.02	14.92	5.12	8.27	7.87	13.47	5.83	3.46	0.71	10.83	7.68	0.79	7.17	0.98
	S30/2	16.93	11.02	14.92	5.12	8.27	7.87	13.47	5.83	3.46	0.71	10.83	7.68	0.79	7.17	0.98
0841	S16/4	18.62	15.63	17.52	9.45	12.28	7.87	13.39	6.18	3.46	0.71	10.83	7.68	0.79	7.17	0.98
	S25/4	19.10	15.63	17.72	9.45	12.28	7.87	13.39	6.18	3.46	0.71	10.83	7.68	0.79	7.17	0.98

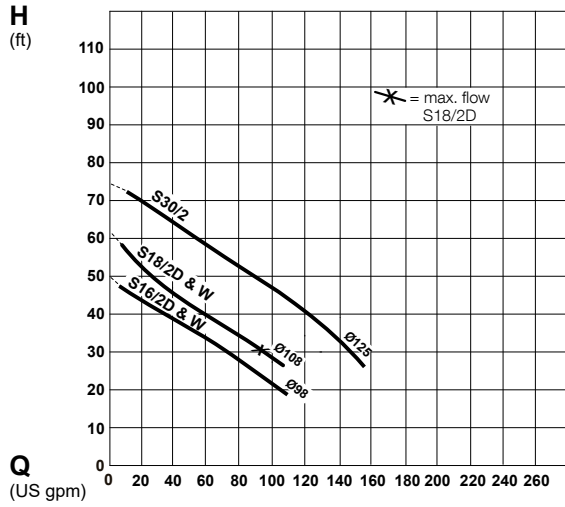


* Lowest switch-off level; minimum switch-on level must be at least 3.94 ins higher.

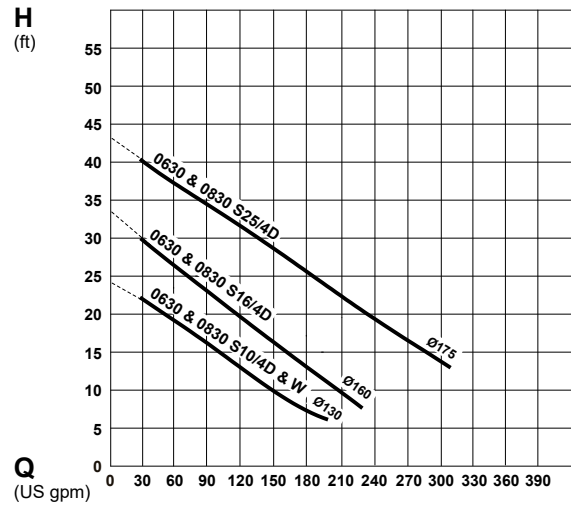
** Elbow not supplied.

Performance Curves

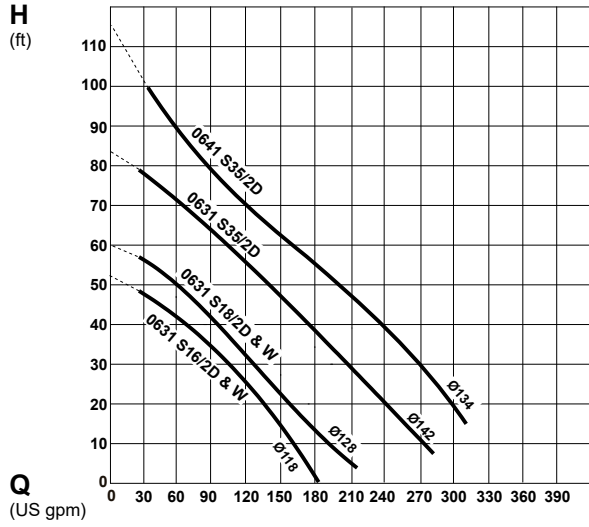
AS 0530



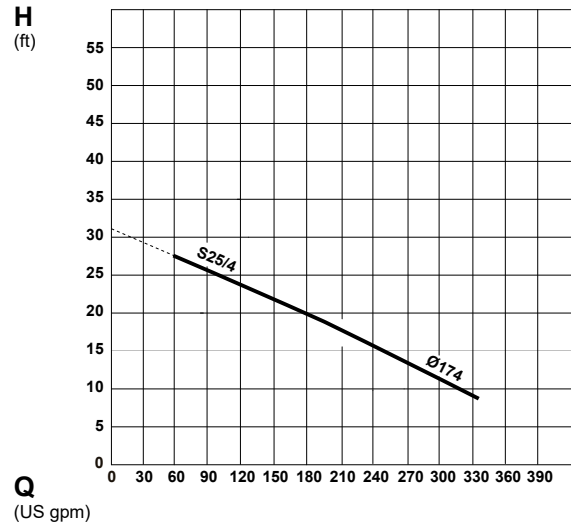
AS 0630 and 0830



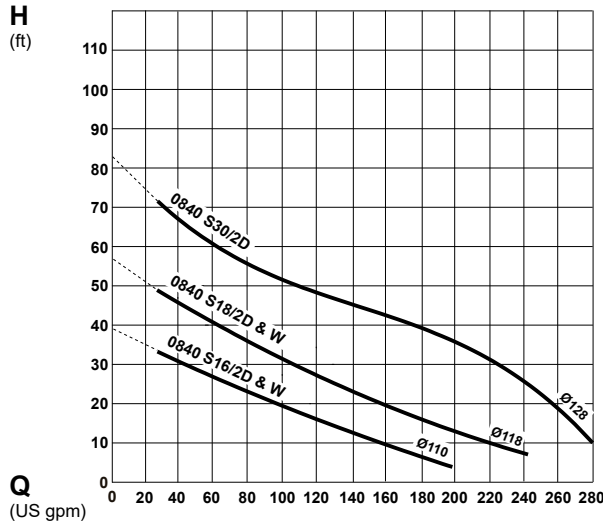
AS 0631 and 0641



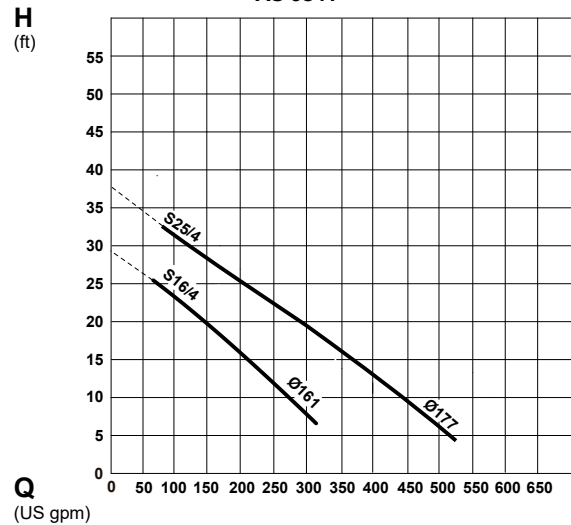
AS 0831



AS 0840



AS 0841



H = Total Head; Q = Discharge Volume. Curves to ISO 9906. 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 (2½"): 90° cast bend	62320673	0630-0641	
		DN 80 (3"): without bend	62320557	0830/31/40/41	
		DN 80 (3"): 90° cast bend	62320649	0830/31/40/41	
		DN 80 (3"): 90° cast bend	62320650	0830/31/40/41	
	Fasteners (galvanized steel) bolts and gasket (bracket to pump) anchor bolts (pedestal to base)			62610632 62610775	0830/31/40/41 0830/31/40/41
		Guide Rail (galvanized steel)	1¼" x 3.3 ft	31380007	0530-0641
	1¼" x 6.6 ft		31380008		
	1¼" x 9.8 ft		31380009		
	1¼" x 13.1 ft		31380010		
1¼" x 16.4 ft	31380011				
Chain Kit (stainless steel) Working load limit (WLL) 320 kg	5.3 ft	310101395001	0530-0841		
	9.8 ft	310101236003			
	13.1 ft	310101236004			
	19.7 ft	310101236006			
	23.0 ft	310101236007			
Fixed installation - dry well, (horizontal)	Pump Support Kit (EN-GJL-250) head and volute supports with fixing bolts and vibration damper		61825001 62665103	0831 & 0841 0630, 0830 & 0840	
Transportable installation	Skirtbase		61355013 61355012 61350526	0630 & 0830 0631 & 0641 0831 & 0841	
		Discharge Elbow (EN-GJL-250) flange to thread flange to STORZ coupling	DN 80 (3") to G 2½"	31090131	0840
			DN 80 (3") to G 2½"	62665074	
	Adaptor (galvanized steel)	DN 65 (2½") to DN 80 (3")	21405002	0630, 0631 & 0641	
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 (3")	61400534	0830/31/40/41	
		DN 80 (3")	61400523	0830/31/40/41	
	Gate Valve (brass) (EN-GJL-250)	G 2"	14040007	0530	
		DN 80 (3")	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. Seal chamber with seal monitoring.
5. Sic/Sic mechanical seal.
6. Contrablock (featured) or vortex hydraulics.

