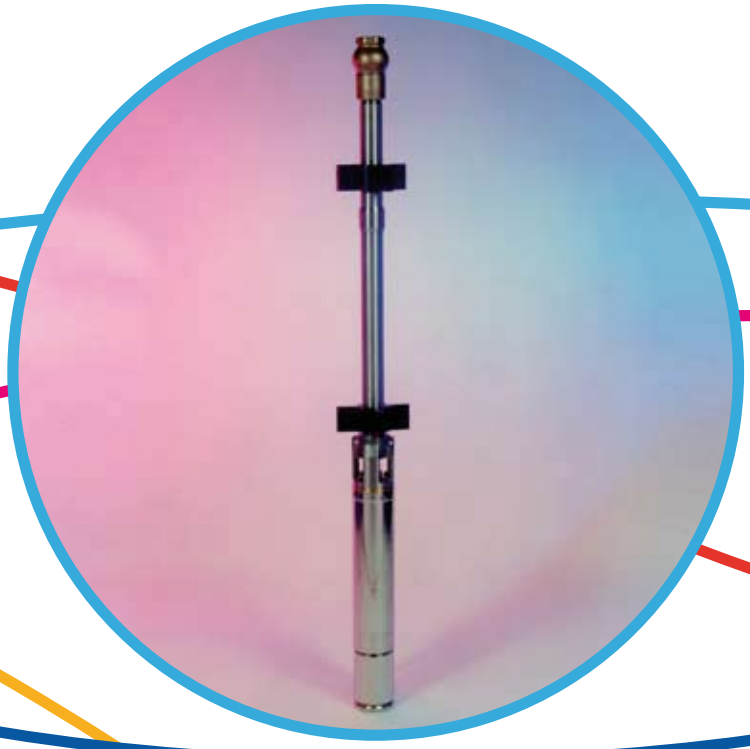
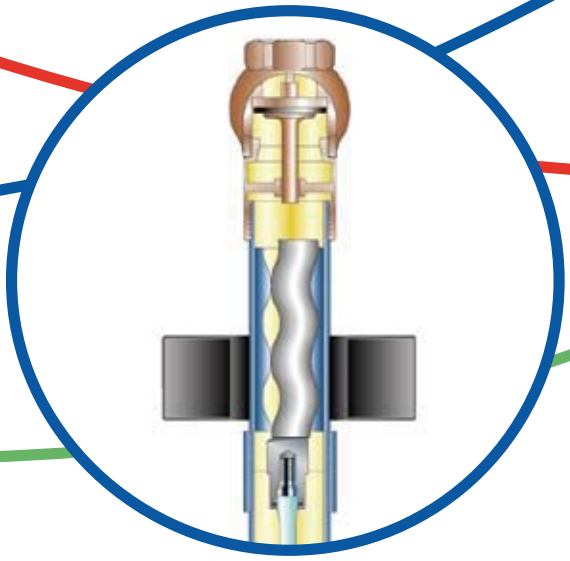
Subrotor





Mono®

One Company, Unlimited Solutions

The Real Alternative

The Mono Subrotor pump offers the first real alternative to multi-stage centrifugal borehole pumps.

Unlike the conventional borehole pump which uses centrifugal force as the energy to move the water, the Mono Subrotor uses the Progressing Cavity Rotor/Stator principle to draw water up through it.

When the hard chrome plated rotor fits inside the rubber stator the two components touch and form a seal bead, behind which a sealed capsule is formed, which moves from the suction side to the discharge of the pump as the rotor rotates inside the stator. The liquid within the capsule is delivered so positively that the pump is capable of very high pressure.

The Mono pumping principle was invented in the 1930's, and has continued to be developed and refined to meet the increasing needs of the world's pumping industries. The progressing cavity principle is one of the most efficient and reliable methods of pumping water ever. The design principle ensures that the pumps are also extremely reliable and can usually be expected to outlast multi-stage pumps, particularly on borehole water with a silt or iron oxide content.

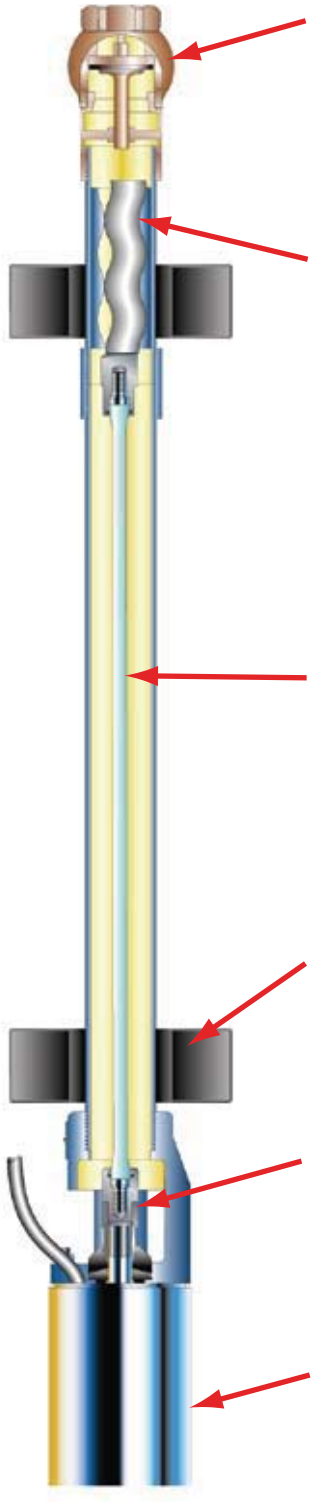
Subrotor

- Ideal for pumping bores containing iron oxides
- Lower running costs
- High head, less horsepower
- Stainless steel
- Abrasion resistance
- Simple construction
- Just one moving part does all the pumping
- Easy to maintain
- Rotor/Stator self cleaning and ensures no algae or oxide deposits i.e. no clogged pump impellers

Applications

- Suitable for 4" minimum bores
- Can pump from rivers where surface pumps cannot be used
- Waste water weir cleaning

A User Friendly Forgiving Pump



Foot Valve
Designed specifically to prevent leakage and loss of pipeline water, with minimum restriction to the pump outlet. Includes an anti-rotation pin to eliminate spindle wear.

Rotor/Stator
The Mono Pump rotor and stator optimises abrasion resistance through in-house manufacturing and stringent quality control procedures.

The rotor form and low interference results in excellent hydraulic performance and reduced breakout torque.

Flexishaft®
The Flexishaft is manufactured from toughened materials using a specific Mono process and is covered by chemically inert, abrasion resistant coating.

Stabilisers
A unique Mono development to centralise the pump element while eliminating vibration.

Motor Coupling
Seals Flexishaft connection whilst allowing easy removal from motor during maintenance.

Motor
Standard 2 pole 100mm (4”) fully submersible motor. Available in single or three phase power.

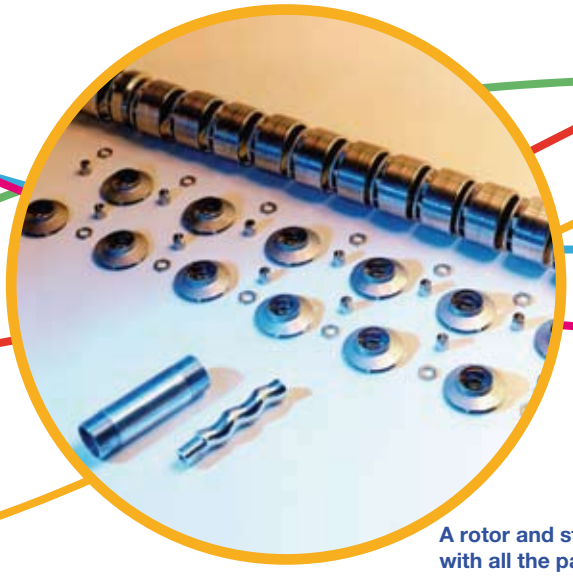
More Flow at Higher Heads
The Mono system does not just spin water along. It pushes encapsulated water with positive force, so that ample volume is maintained at high heads.

More Water, Lower Energy Bills
Mono Subrotor pumps waste the least possible energy on internal friction, especially compared to multi-stage and jet pumps.

Easy Maintenance
Unlike centrifugal pumps, the Subrotor has only one moving pump part - the rotor. Its companion, the rubber stator is also very resistant to wear and can easily be replaced with just a wrench.

Self Cleaning
The rotor sweeps the full surface of the rubber stator every turn. It is impossible for growth or iron oxide deposits etc. to develop on the surface. “No clogged pump impellers”.

Chrome Plated Rotor
Mono chrome plated, stainless rotors are up to 4 times harder than the stainless you find in centrifugal pumps.

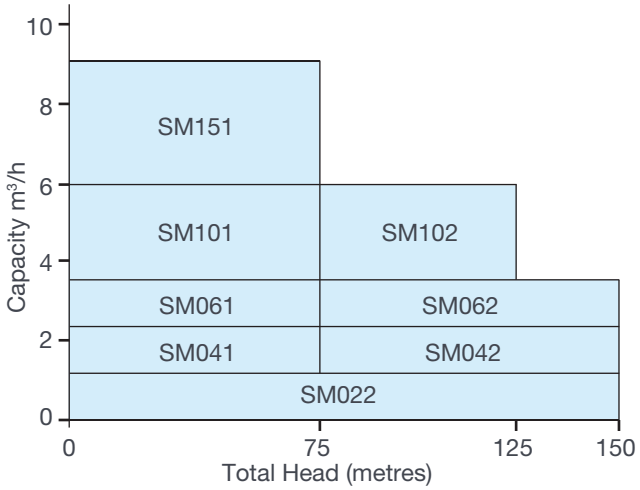


A rotor and stator compared with all the parts of a submersible pump

Performance and Coding Table

SYSTEM CODING INFORMATION													
FEATURE	**DESCRIPTION**	**BASIC SYSTEM CODING**									**FIELD VAR**			
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
SYSTEM RANGE	Submersible Mono	S	M											
PUMP SIZE NOM CAPACITY AT 3000 RPM	1.2 m^3/h			0	2									
	2.4 m^3/h			0	4									
	3.6 m^3/h			0	6									
	6.0 m^3/h			1	0									
	9.0 m^3/h			1	5									
PUMP STAGES	One					1								
	Two					2								
MODEL NO.	1995 (Loctited motor coupling)						2							
MOTOR HP	Wet-End only							0	0					
	Model 022/01-1.0HP							1	0					
	Model 061-1.5HP							1	5					
	Model 042/101-2.0HP							2	0					
	Model 062/102/151-3.0HP							3	0					
POWER SUPPLY	Wet-End only									0				
	240 / 1 / 50 - standard									1				
	220 / 1 / 50									2				
	415 / 3 / 50									3				
TYPICAL CODE	60 litres/min 2 stage Mk 2 fitted with 3.0 hp 240V single phase motor	S	M	0	6	2	2	3	0	1				

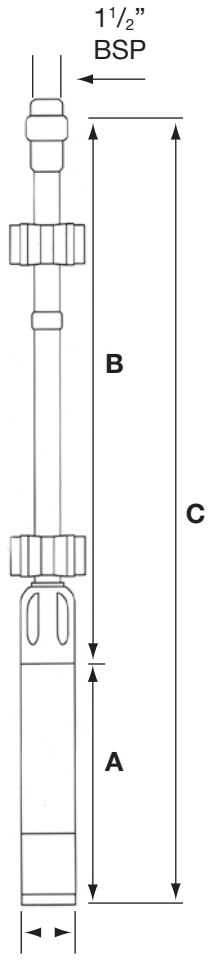
Performance Data



Technical Data

SERIES NO.	POWER	VOLT	AMPS RUN	AMPS START	A	B	C
SM0222101	.75kW/1.0hp	240V	6.1	22	370	860	1230
SM0222103	.75kW/1.0hp	415V	2.2	8.5	340	860	1200
SM0412101	.75kW/1.0hp	240V	6.1	22	370	850	1220
SM0412103	.75kW/1.0hp	415V	2.2	8.5	340	850	1190
SM0422201	1.5kW/2.0hp	240V	10	34	440	940	1380
SM0422203	1.5kW/2.0hp	415V	3.9	19.7	400	940	1340
SM0612151	1.1kW/1.5hp	240V	7.9	28	400	850	1250
SM0612153	1.1kW/1.5hp	415V	3.2	16	370	850	1120
SM0622301	2.2kW/3.0hp	240V	15	52.5	480	940	1420
SM0622303	2.2kW/3.0hp	415V	5.3	26.5	480	940	1420
SM1012201	1.5kW/2.0hp	240V	10	34	440	890	1330
SM1012203	1.5kW/2.0hp	415V	3.9	19.7	400	890	1290
SM1022301	2.2kW/3.0hp	240V	15	52.5	480	1010	1490
SM1022303	2.2kW/3.0hp	415V	5.3	26.5	480	1010	1490
SM1512301	2.2kW/3.0hp	240V	15	52.5	480	900	1380
SM1512303	2.2kW/3.0hp	415V	5.3	26.5	480	900	1380

Typical Motor weight 13.5kg. Typical wet end weight: 7.90kg.



Motor Housing 95mm

Operating Conditions

To ensure optimum performance, the following operating conditions should be observed:

- Maximum water temperature 30^{0}C
- Maximum ambient temperature for control box/starter 50^{0}C

All Subrotor pumps are suitable for installation in boreholes of 100mm diameter or larger. Stabilisers are supplied over size to be trimmed on-site to fit borehole.

Accessories Available

- Level Controller
- Single phase control box
- D.O.L. starter for three phase supply
- Flow inducer tube
- Electric power cable
- Cable jointing kits
- Stainless steel suspension wire
- Level probes

Maximum permissable length of drop cable (metres) from control box to pump

Single Phase 240V						
Motor kW	Max Run Amps	Start Amps Approx	Conductor Size - mm^2 2.5	4	6	10
0.75	5.4	30	65	105	160	-
1.1	8.7	34	50	75	115	190
1.5	10.8	45	36	60	90	145
2.2	14	55	25	40	60	100

Three Phase 415V			
Motor kW	Current Amps	Conductor Size - mm^2 2.5	4
0.75	2	-	-
1.1	2.9	285	-
1.5	3.8	225	360
2.2	5.3	165	255

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