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Технические характеристики на погружные роторные насосы Subrotor, скважинные насосы с линейным валом Borehole Pump компании **Mono**

Subrotor



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.

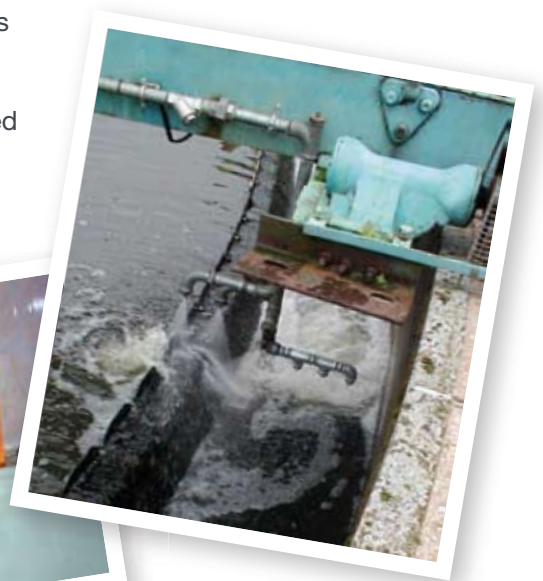
The Mono pumping principle was invented in the 1930's, and has continued to be developed and refined to meet the increasing needs of the world's pumping industries. The progressing cavity principle is one of the most efficient and reliable methods of pumping water ever. The design principle ensures that 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

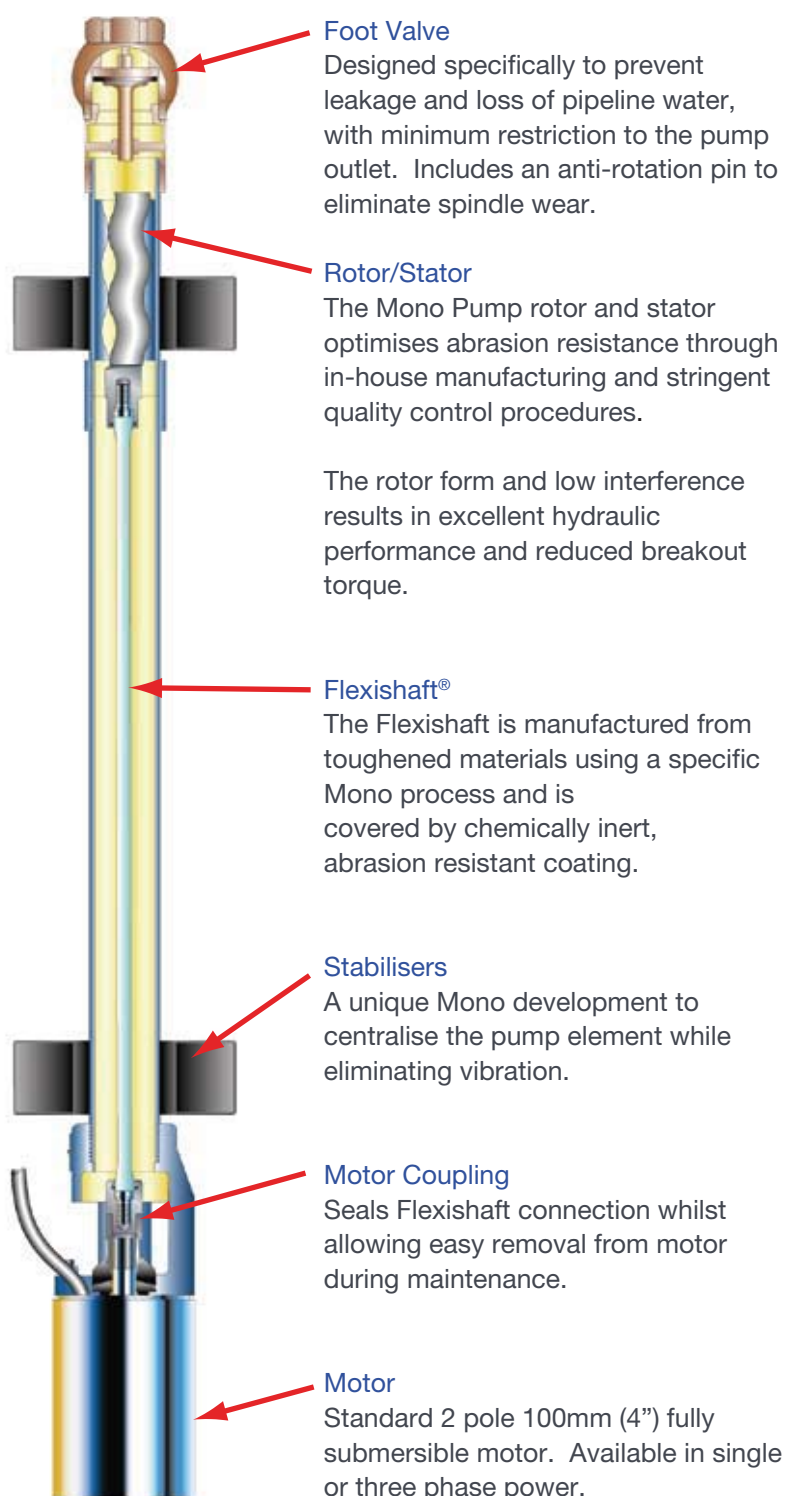
- Ideal for pumping bores containing iron oxides
- Lower running costs
- High head, less horsepower
- Stainless steel
- Abrasion resistance
- Simple construction
- Just one moving part does all the pumping
- Easy to maintain
- Rotor/Stator self cleaning and ensures no algae or oxide deposits i.e. no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



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

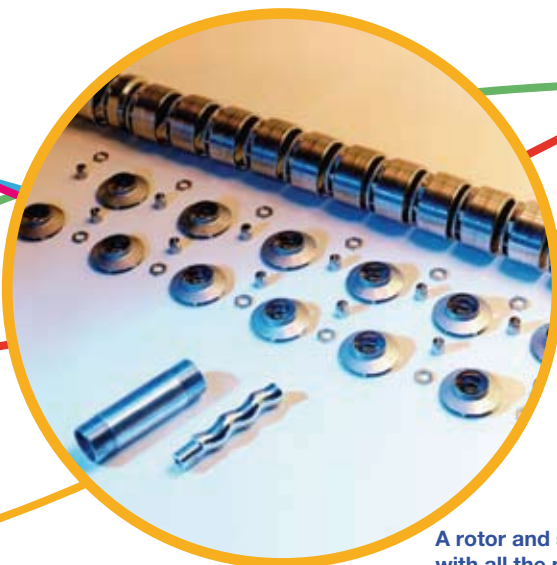
Unlike centrifugal pumps, the Subrotor has only one moving pump part - the rotor. Its companion, the rubber stator is also very resistant to wear and can easily be replaced with just a wrench.

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.

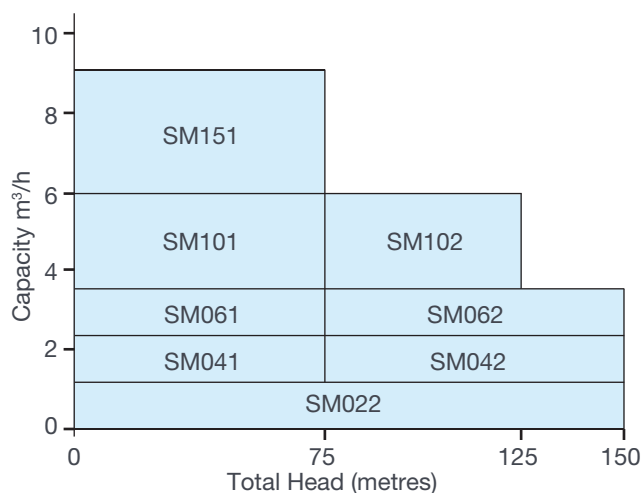


A rotor and stator compared with all the parts of a submersible pump

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 m³/h			0	2									
	2.4 m³/h			0	4									
	3.6 m³/h			0	6									
	6.0 m³/h			1	0									
	9.0 m³/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		A	B	C
			RUN	START			
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.

Operating Conditions

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

- Maximum water temperature 30°C
- Maximum ambient temperature for control box/starter 50°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.

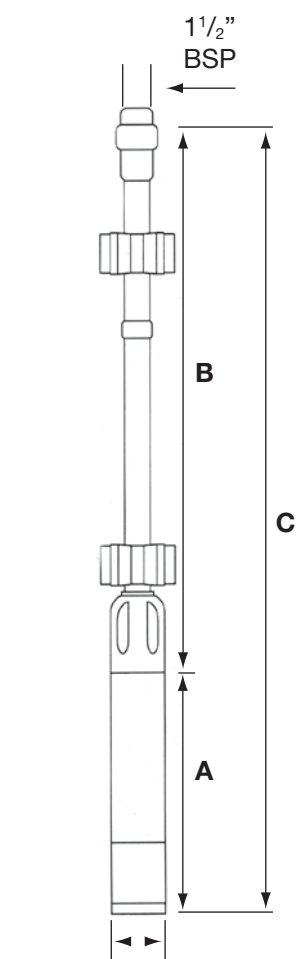
Accessories Available

- 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 permissible 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



Motor Housing 95mm

Decades of proven Reliability under Pressure

The Mono Borehole pump is the essence of simplicity in design.

The simple positive displacement, Mono designed rotor and stator are immersed below draw-down level in the bore or well.

The motor and drive head are located at ground level for easy inspection, maintenance and installation.

Flows

From 10 to 836 lpm
(100 to 11,000 gph)

Heads

Up to 300m (985 ft)

Water Types

Suitable for all types of underground waters - whether sand or silt, brackish or corrosive.

Stainless steel

Stainless steel shafting and column is available for brackish applications.

Corrosive Water Pumps

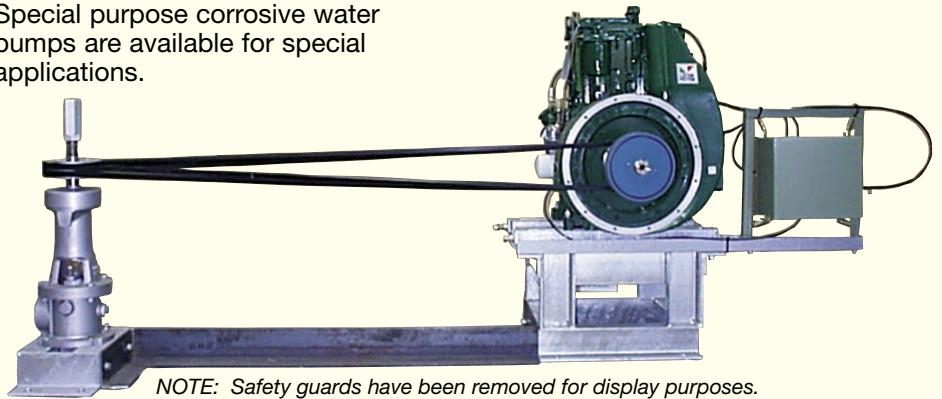
Special purpose corrosive water pumps are available for special applications.

Drive Heads

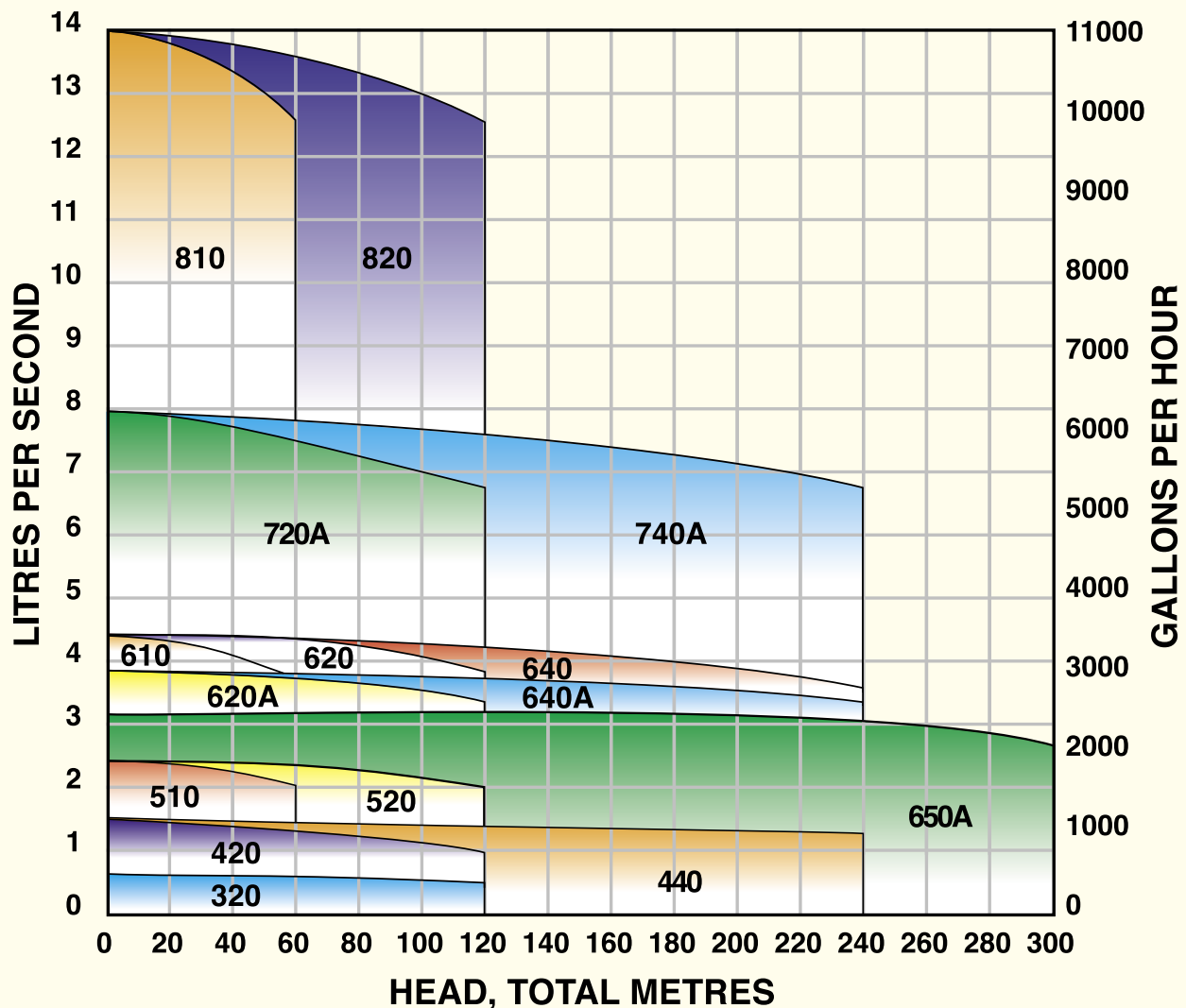
Available with a Quarter Twist drive head or where space is an issue, right angle drive head.

Power

Can be driven by Petrol, Diesel, electric or PTO.

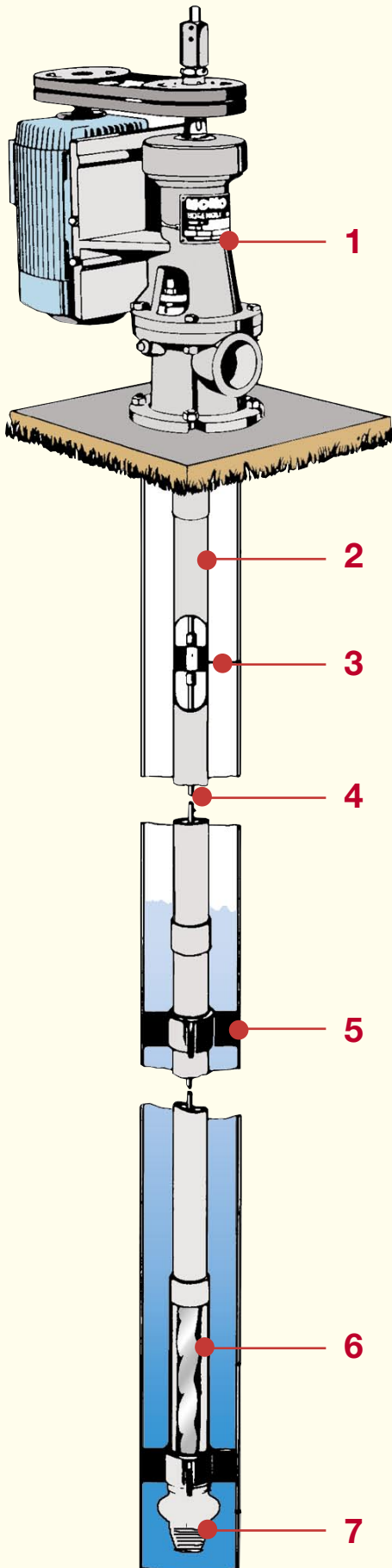


NOTE: Safety guards have been removed for display purposes. Mono Pumps supply and recommend safety guards be used on all vee belt drive arrangements.



The Mono Borehole Pump.

Simple and Strong.



1. Combined Discharge & Drive Head

Discharge heads are compact, robust and weatherproof. All feature grease lubricated pre-packed or sealed bearings. Two designs are available. Vertical shaft models for electric or quarter twist diesel drive and right angle for PTO or compact side mount diesel.

2. Column

Columns are available in 3 metre lengths manufactured from heavy duty galvanised pipe. Connection is by Mono's exclusive precision parallel threads producing a strong watertight joint.

3. Patented Bobbin or Spider Bearings

Simple, efficient and above all, long wearing, even under abrasive conditions. Short bobbin bearing shafts made of stainless steel run in bobbins to totally eliminate wear on the main drive shaft.

4. Drive Shaft

Drive shaft is supplied in equivalent lengths with rolled threads for maximum torque transmission. You have the option of carbon steel or stainless steel shafting depending on the quality of water.

5. Column Stabilizers

A unique Mono development. Supplied to support the discharge column in relation to the borecasing, thus eliminating vibration and ensuring the discharge column is always accurately centered.

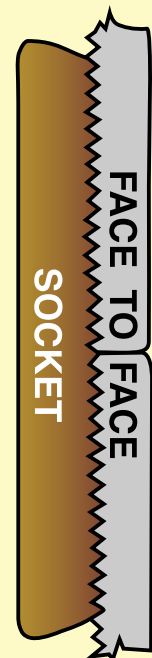
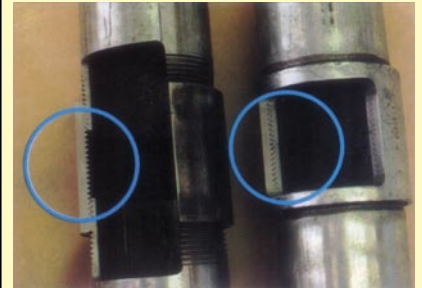
6. Rotor / Stator Pumping Element

Perfected after many years of Mono worldwide development and research.

7. Strainer with Foot Valve

Designed specifically to ensure efficient lubrication of the column to prevent leakage and loss of pipeline water with minimum restriction to the pump inlet.

Mono Heavy Duty Column



↑ |
Mono Heavy

Mono Heavy Duty Column is thick enough for parallel threads. We carefully machine the ends for a face to face connection. When you screw these faces together, you keep water out and many more threads working for you.



Medium Wall

Ordinary column in medium weights pipe required taper threads. These may seal well when new, but vibration can cause water and corrosion to enter. If these few turns of thread give way, what happens to your pump?

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