

SEALLESS LaBOUR MHL / MPL SERIES

LaBour MHL / MPL...Control fugitive emissions with superior self-priming pumps for handling many toxic, corrosive, or expensive liquids when metallic construction is required.

MHL / MPL Features/Benefits

SEALLESS MAGNETIC DRIVE DESIGN

Mechanical shaft seals or packing and the inherent leakage from their use is eliminated. Seal flush is not needed so pumped product will not be diluted or contaminated. Expensive, complicated, and difficult to maintain double seal flushing systems are no longer required. Soon to be implemented EPA emissions standards necessitating monitoring for many services utilizing conventional pump designs is not required.

OPTIMAL DESIGN

The MHL / MPL's back pull-out design allows maintenance to be completed without removing the casing from the piping. A fully open impeller design reduces axial thrust and our proven triple-throat casing, balancing radial thrust. Both assure extended bearing life while offering improved vapor handling capabilities reducing priming times vs. conventional impeller designs. Our time proven, superior performance HYDRO-BALANCE principle self-priming design has been perfected since it's introduction in 1922 by the founder of LaBour Pump Company.

METALLIC CONSTRUCTION

The strength and durability of a wide range of alloys, including Ductile Iron, are available to handle the toughest applications. To extend bearing life, external and recirculated flush arrangements are available, when process fluids contain abrasive solids.

MHL / MPL - Series Specifications

Number of Models	7
Model Numbers	10W, 12W, 15W, 20XW, & 23XW
Size (Suction X Discharge)	2.0" X 2.0" to 3.0" X 3.0"
Impeller Type	Open
Impeller Dia. (Max. - Min.)	6.13" to 10.00"
RPM	1150 to 3500
Max. Flow (GPM)	400
Max. Head (Ft.)	280
Max. Motor (HP)	30
Motor Type	Ft Mnt NEMA
Magnet Torque (Lb-Ft)	70
Max. W.P. (PSI @ °F)	150
Max. Hydro Test (PSI)	225
Temperature Range (°F)	32 - 250
Minimum Flow (GPM)	10
Viscosity: up to (cp) (Max.)	154
at specific gravity	1.2
Solids: Particle Size (Max.)	200 microns
Max. Concentration	5% by weight
Diametrical Clearance:	
TEFLON ¹ Bearing (In.)	.012
GRAPHALLOY ² Bearing (In.)	.006
STELLITE ³ Bearing (In.)	.006
Axial Brg. Clearance (In.)	.011
Materials:	
Casing	Ductile Iron, 316SS, Elcomet K, R-55, A-48, Y-17
Impeller	316SS, Elcomet K, R-55, A-48, Y-17
Bushing Plate	316SS, Elcomet K, R-55, A-48, Y-17
Rear Casing	Y-17
Impeller Shaft	316SS, 20SS, NITRONIC ⁴ 50, HASTELLOY ⁵ C-22
Secondary Containment	C Steel, 316SS, 20SS
Magnet Lining	PFA
Magnet Material	Rare Earth
Sleeve Bearings & Thrust Bearings	RULON ⁶ #123, STELLITE ³ , GRAPHALLOY ²
Gaskets / O-Rings	SEPCO ⁶ 6234 / FPM / TEFLON ¹ Encapsulated Silicon
Weight (bare pump in Lbs.)	420 to 880
REMARKS:	
Ft Mnt = Foot Mounted	

MATERIALS OF CONSTRUCTION

NON-METALLIC MATERIALS

◇ PFA (Perfluoroalkoxytetrafluoroethylene)

PFA is virtually chemically inert. For most chemicals, the permeability is slightly lower than that of PTFE. Its tensile properties at elevated temperatures are slightly better than PTFE. Some uses are liners, rear casings, and impellers. **Maximum service temperature is 450°F.**

◇ FPM (Also-Known-As: FKM) (Fluorocarbon)

FPM is an elastomer and is recommended for use with: petroleum oils, Di-ester base lubricants, Silicon fluids and greases, halogenated hydrocarbons, selected phosphate ester fluids and acids. FPM is not recommended for use with, ketones, skydrol fluids, amines, anhydrous ammonia, low molecular weight esters and ethers, and hot hydrofluoric or chlorosulfonic acids.

METALLIC MATERIALS

◇ A-48 (ASTM CD4-MCu)

A heat-treatable alloy that has outstanding corrosion, erosion, and wear resistance. A-48 has excellent resistance to sulfuric, phosphoric, nitric, formic, and many other acid and salts.

◇ Elcomet K (ASTM CN-7M)

A LaBour alloy developed in 1927 for improved resistance to 10% - 40% sulfuric acid at temperatures up to 175°F. Elcomet K is more resistant to reducing conditions than standard stainless steels while also resistant to oxidizing solutions.

◇ R-55 (ASTM none)

The relatively high silicon content (4%) is the basis for R-55 alloy's excellent corrosion resistance to mineral acids at elevated temperatures. Also a nickel-base alloy, it is highly resistant to intergranular corrosion. R-55 will withstand the corrosion effects of both oxidizing and reducing agents.

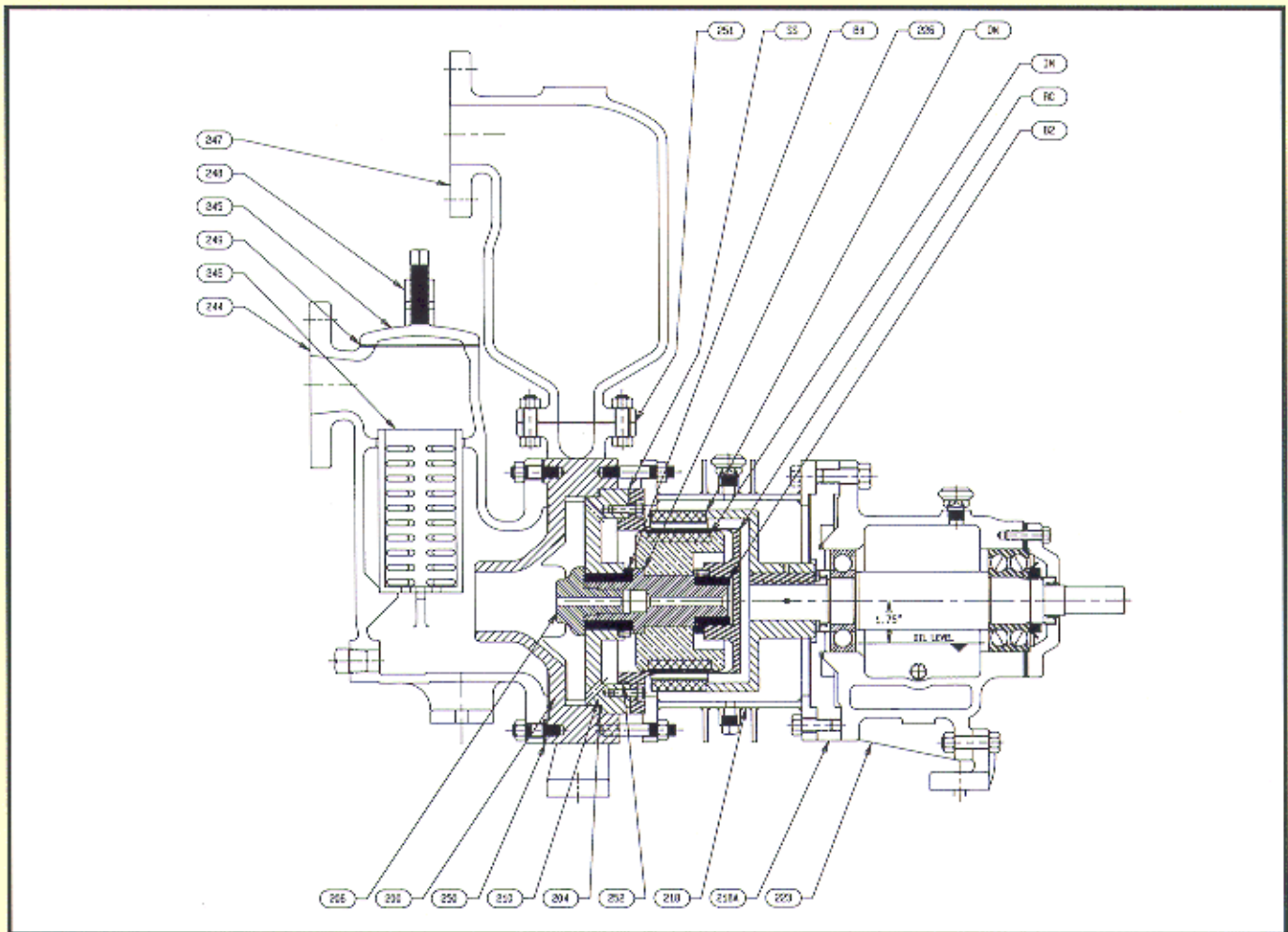
◇ Y-17 (ASTM CW-6M)

A nickel-base alloy containing significant amounts of molybdenum and chromium. Y-17 has exceptional resistance to strong oxidizing agents and bleaching solutions.

For further information on the above materials or those that are found on the table to the left please contact your local LaBour representative.

1. Registered trademark of Du Pont.
2. Registered trademark of Graphite Metallizing Corporation.
3. Registered trademark of Haynes International.
4. Registered trademark of Amoco Incorporated U.S.A.
5. Registered trademark of Dixon Corporation.
6. Registered trademark of SEPCO.

MHL / MPL CROSS-SECTIONAL DRAWING

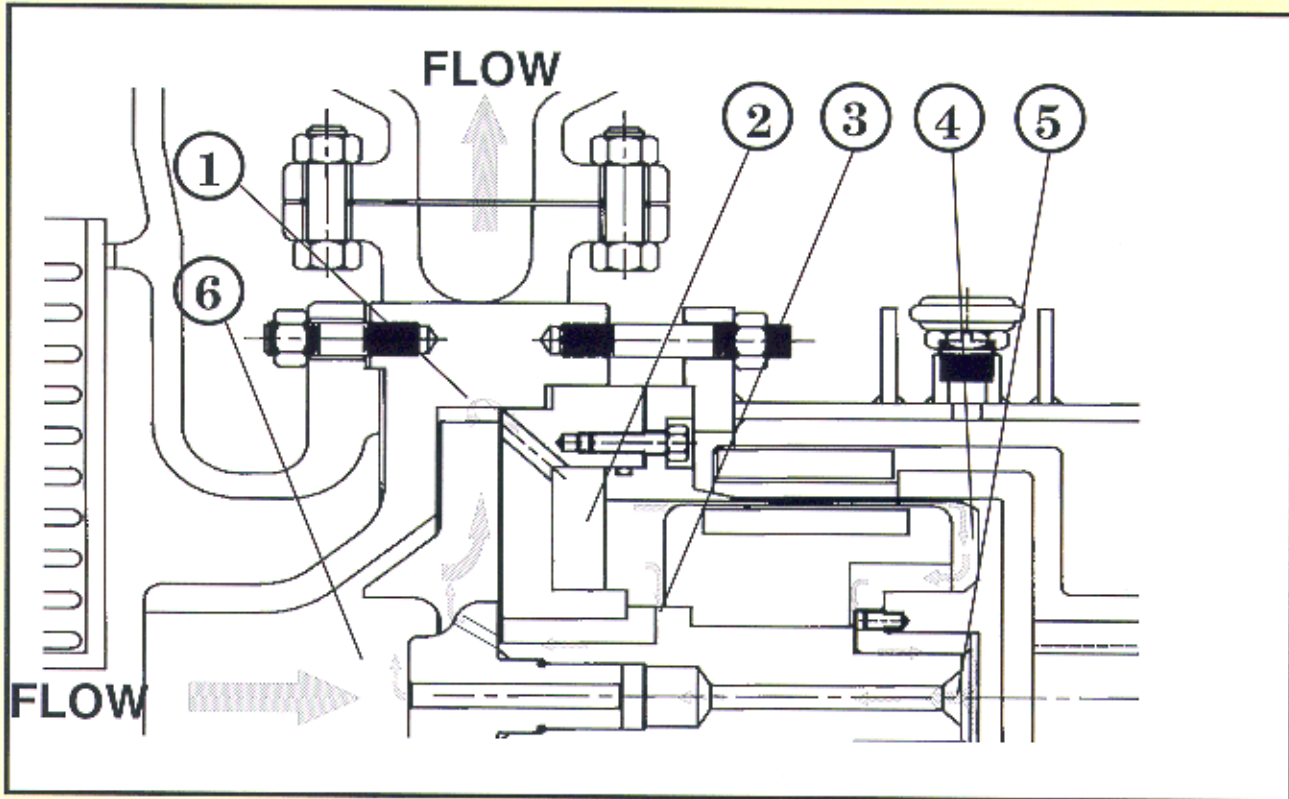


No.	PART NAME	QTY.
200	Casing	1
204	Casing Gasket	1
206	Impeller	1
210	Bushing Plate	1
218	Adapter	1
218A	Adapter Cover	1
223	Bearing Housing	1
226	Impeller Shaft	1
244	Trap	1
245	Trap Cover	1
246	Strainer	1
247	Separator	1

No.	PART NAME	QTY.
248	Clamp	1
249	Gasket (Trap Cover)	1
250	Gasket (Trap)	1
251	Gasket (Separator)	1
252	O-Ring (Rear Casing)	1
B1	Front Bearing	1
B2	Rear Bearing	1
IM	Inner Magnet	1
OM	Outer Magnet	1
RC	Rear Casing	1
SS	Shims	1

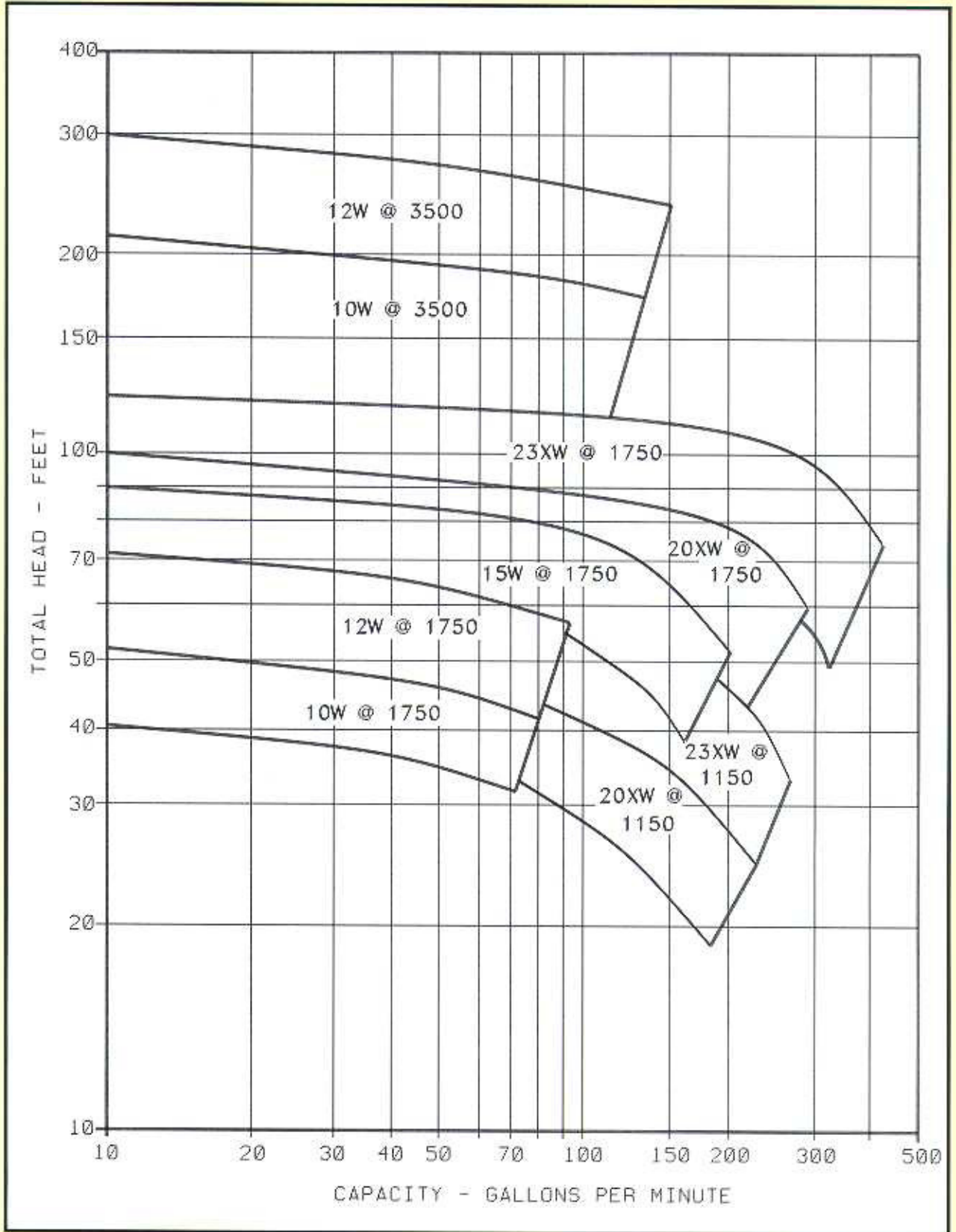
* = The separator for the MHL is mounted in the horizontal position.
The drawing above is the perpendicular MPL.

MHL / MPL BEARING LUBRICATION



Lubrication liquid follows a path from the impeller inlet to the high pressure zone ① of the casing. Then through the two circulation holes in the bushing plate to zone ②. At this point the flow divides into two different paths. Some of the liquid flows to zone ④ where it enters the rear bearing at the thrust face and continues through the straight grooves in the bore of the bearing to zone ⑤. It returns to the low pressure zone ⑥ at the suction inlet, through a centerline hole in the shaft and impeller. The rest of the liquid from the zone ② flows through the front thrust and radial bearing zone ③ returning to the impeller inlet through hydraulic balance holes in the impeller.

SEALLESS MHL / MPL RANGE CHARTS



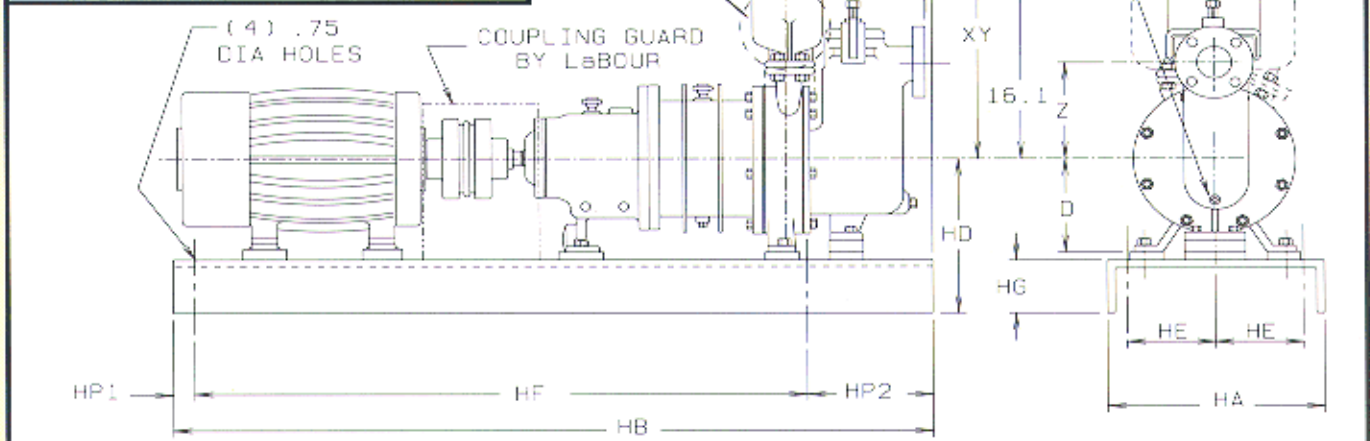
MHL / MPL GENERAL DIMENSIONAL DRAWING

MODEL	SUCTION	DISCHARGE
10W	2.0	2.0
12W	2.0	2.0
15W	2.5	2.5
20XW	3.0	3.0
23XW	3.0	3.0

ALL FLANGES ARE 150# ANSI STANDARD FLAT FACE

DASHED LINES ARE FOR MHL. SOLID LINES SHOW THE MPL. SEPARATORS ARE THE MAIN DIFFERENCE BETWEEN THE TWO.

MPL SEPERATOR
MHL SEPARATOR



PUMP TYPE	PUMP SIZE	D	W	XY	Y	Z
MHL	10W	6.0	0.5	N/A	N/A	7.4
MHL	12W	6.0	0.5	N/A	N/A	7.4
MPL	15W	8.25	1.7	19.7	5.9	9.1
MPL	20XW	8.25	0.4	22.6	6.3	8.5
MPL	23XW	8.25	0.7	23.1	6.0	8.5

PUMP TYPE	MOTOR FRAME	HA	HB	HD	HE	HF	HG	HP1	HP2
MHL	N/A	15.0	59.0	10.4	6.3	56.5	3.4	1.25	1.25
MPL	-215T	15.0	64.0	12.4	6.0	49.5	4.13	1.25	9.0
MPL	-286T	18.0	70.0	13.0	7.5	55.5	4.75	1.25	9.0

TYPICAL OPTIONS / ACCESSORIES

Drain/Vent & Gage Connections
 Dry Run Protector
 Flow Switch
 Leak Detector
 Pressure Switch
 Thermostat
 150# or 300# Flanges

Channel Base
 Stilt Legs
 Drip Rims/Pans
 Oil Levelers
 Oil Mist Lubrication
 Labyrinth Oil Seals
 Coupling Guards
 Couplings

Flushing Arrangements
 (Including Cyclone Separators)
 Non-Metallic Base Plates
 Shaft w/ Wear Resistant Coatings
 Shaft w/ Replaceable Sleeves
 Corrosion Resistant Paints
 Without Suction Trap & Strainer



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