



MATERIALS of CONSTRUCTION
Models: MLX4B, MLXW4B
MRLX4B¹, MRLXW4B¹

Page Number	106-091
Effective	May 2012
Replaces	Jan 2010
Section	106

NOTE: Temperature and viscosity ratings given below apply to individual components **Only**. For actual maximum temperatures and viscosities for the rated pump, see **"Operating Limits"** on backside.

PART NAME	STANDARD MATERIALS	AVAILABLE OPTIONS
Casing, Heads, Hubs	Ductile Iron: ASTM 536	Jacketed Heads Ductile Iron: ASTM 536 150 psi (1034 kPa) Max. Pressure
Liner MLX4, MRXL4	Ductile Iron: ASTM 536	
MLXW4, MRLXW4	Hardened Ductile Iron: ASTM 536	
Discs MLX4, MRXL4	Cast Iron: ASTM A48	
MLXW4, MRLXW4	Hardened Cast Iron: ASTM A48	
Bearing Covers	Ductile Iron: ASTM 536	
Bearings	Spherical Roller Bearing; Grease Lubricated, to 300°F (149°C) Max.	
Locknuts and Lockwasher	Steel	
Rotor & Shaft		
Rotor	Hardened Ductile Iron: ASTM 536	
Shaft	High Strength Steel	
Optional Relief Valve (R/V)	Cast Iron	
Relief Valve Body, Cap, Cover	Ductile Iron: ASTM 536	
Blanking Plates – Standard	Ductile Iron: ASTM 536	
Relief Valve Spring	Chrome Vanadium 400°F (204°C)	
R/V Spring Ranges	76-125 psi (5.2-8.6 Bar)	Optional springs range from 45-200 psi (3.1-13.8 Bar) - See Parts List.
O-Rings: Other than Mechanical Seal	Fluorocarbon (FKM) to 400°F (204°C)	PTFE to 500°F (260°C)
Gasket: R/V Cap	Composition	
Vanes	Duravane - Full Size with 316 Stainless Steel Wear Plate to 240°F (115°C); 20,000 SSU (4,250 cP) Maximum.	EC Bronze - Extra-Clearance to 500°F (260°C); 500 SSU (105 cP) Minimum. (Not available on MLXW4, MRLXW4) EC Laminate - Extra-Clearance to 350°F (176°C); 40,000 SSU (8,500 cP) Max. EC Hardened Ductile Iron - Extra-Clearance to 400°F (204°C); 500 SSU (105 cP) Minimum.
Push Rods	Case Hardened Steel	

Centipoise (cP) = centistokes (cSt) at fluid specific gravity of 1.0.

¹ MRLX4B and MRLXW4B have a Low Displacement Liner – flow rate and horsepower are about 75% of the MLX4B.

Models: MLX4B, MLXW4B, MRLX4B, MRLXW4B

PART NAME	STANDARD MATERIALS	AVAILABLE OPTIONS
Mechanical Seals		
Stationary O-Ring / Rotating O-Ring / Wedge	FKM to 400°F (204°C)	
Stationary Seat / Mating Ring	Hardened Steel	Silicon Carbide
Rotating Seal Face	Carbon - 50,000 SSU (10,550 cP) Max. with Lubricating Fluid	Bronze - 500 SSU (105 cP) Min. to 100,000 SSU (21,000cP) Max. Silicon Carbide – 100,000 SSU (21,000 cP) Max.
Seal Jacket / Spring	302 Stainless Steel 18-8	

Gage Ports	1/4" NPT
Flanges	4" 150lb Flat Face ANSI Compatible, Ductile Iron

OPERATING LIMITS

	STANDARD MATERIALS	OPTIONAL MATERIALS
Maximum Temperature	240°F (115°C)	300°F (149°C) with EC Metal or Laminate Vanes 400°F (204°C) Intermittent Duty with Metal Vanes (Limited by Bearings)
Maximum Viscosity	30,000 SSU (6,300 cP)	100,000 SSU (21,000 cP) Max. with Metal Vanes and Bronze or Silicon Carbide Mech. Seal Faces 40,000 SSU (8,500 cP) Max. with EC Laminate Vanes 500 SSU (105 cP) Minimum with Metal Vanes and Bronze Seal Faces
Maximum Differential Pressure	200 psi (13.8 Bar)	
Maximum Working Pressure	250 psi (17.2 Bar)	

Centipoise (cP) = centistokes (cSt) at fluid specific gravity of 1.0.

* Maximum Relief Valve Setting