



**MATERIALS OF CONSTRUCTION**

Hand Pump Models:  
210A, 414B, 807B, 828B

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**NOTE:** The following applies to standard models. Options are only available as separate kits.

PART NAME	STANDARD MATERIALS	AVAILABLE KIT OPTIONS
<b>All Models</b>		
Cylinder and Head	Cast Iron	
Vanes	Carbon	
Vane Springs	Stainless Steel	
Rotor	Sintered Iron	
Shaft and Pin Assembly	Steel	
Crank Arm	Zinc Plated Steel	
Grip, Handle	Wood	
Pin, Handle	Steel	
Packing	Aramid Fiber/Graphite/Nitrile	
Packing Nut	Acetal Homopolymer	
Head Gasket 210A	Paper	
Head O-Ring 414B	Buna-N	
Capscrews	Steel	
Jam Nut	Zinc Plated Steel	
<b>AT, BR(F), and DP(F) Models</b>		
Discharge Spout	Zinc Plated Steel	
Suction Pipe AT, BR, DP	Galvanized Steel or Zinc Plated Steel	Telescoping Pipe: Galvanized Steel/ Aluminum with Buna-N or EPR or FKM
BRF and DPF	Telescoping Pipe with Screen: Galvanized Steel/Aluminum with Buna-N O-rings	Solvent O-ring Kit contains EPR and FKM O-rings
Bung Adaptor	Aluminum	
Bushing	Galvanized Iron	
Tank Washer	Buna-N	
<b>BR(F) Only Models</b>		
Hose BR models	Buna Liner/Neoprene* Cover	Nylon Liner/Neoprene Cover
BRF210A	Buna Liner/Neoprene* Cover with Anti-static wire	
Nozzle	Aluminum	
Nozzle Hanger	Aluminum	
Hose Adaptor	Galvanized Steel	
Vacuum Breaker Assembly	Brass/Stainless Steel	
<b>DP(F) Only Models</b>		
Drip Pan Assembly	Cast Iron with Zinc Plated Steel/Brass fittings	

\* On Buna Lined hoses, cover may be Neoprene, Buna, or Hypalon at Blackmer's discretion.

PART NAME	STANDARD MATERIALS	AVAILABLE OPTIONS
<b>807 and 828 Models</b>		
Cover, Head	Cast Iron	
Gasket, Head Cover	Fiber	
Large Gear	Cast Iron	
Small Gear	Steel	
Pinion	Steel	
Lip Seal	Buna-N	
Washer	Copper	
Oil Cup	Steel	
Key	Steel	
Grove Pin	Steel	

### IN-LINE (STYLE PA) PUMP BODY PORT CONNECTIONS

PUMP SIZE	STANDARD	OPTIONAL
210	3/4" NPT	
414	1 1/4" NPT	
807	1 1/4" NPT	
828	1 1/4" NPT	

### OPERATING LIMITS

		STANDARD MATERIALS	OPTIONAL MATERIALS
Maximum Temperature		250°F (120°C)	
Minimum Temperature		-25°F (-31°C)	
Maximum Viscosity	210A	2,000 SSU (420 cP)	
	414B	10,000 SSU (2,200 cP)	
	807B	30,000 SSU (6,300 cP)	
	828B	5,000 SSU (1,050 cP)	
Maximum Pressure	210A	10 PSI	
	414B	20 PSI	
	807B	40 PSI	
	828B	10 PSI	

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