

Materials of Construction: HOS

D. Materials of Construction of Major Cylinder Components

Component	Material	Industry Codes/Standards (Typical)
Cover Valve	Nodular Iron	ASTM A395; ASTM A536
Cylinder		
-4.750 - 28.00 (Cast)	Nodular Iron	ASTM A536
-Storage	Nodular Iron	ASTM A536
-Pipeline	Nodular Iron	ASTM A536
-Forging	Forged Steel	AISI 4132 (Modified)
Fasteners		
Studs & Bolts	Alloy Steel	ASTM A193 Grade B7
Head, Cylinder	Nodular Iron	ASTM A395; ASTM A536
Nuts	Carbon Steel	ASTM A194 Grade 2H
Packing Case		
Flange	Steel	---
Cups	Steel or Cast Iron	ASTM 276 Class 35/40
Garter Springs	Inconel	---
Rings		
Breaker	Coated Cast Iron	
Sealing	Carbon Graphite Filled PTFE with Cast Iron Back-Up	
Vent	Carbon Graphite Filled PTFE	
Piston		
4.75 – 10.50 in. Cyls.	Gray Cast Iron (Continuous)	ASTM A370
11.00 – 14.00 in Cyls.	Gray Cast Iron (1 Pc. Casting)	ASTM A278 Class 40
15.00 - 28.00 in. Cyls.	Aluminum Alloy, Anodized	SR 355.0 – T7E2
Rings, Piston	Carbon-Glass-Carbon Filled PTFE	Siemens Energy's DW173
Rod, Piston	Alloy Steel Induction Hardened	AISI 4140; AISI 4142
Valves		
Guard & Seat	Nodular Iron Brinell Hardness Min 240, Max 302	ASTM A536 Grade 100-70-03
Plates (PF) Elements (HammerHead)	"Hi Temp" Peek (Non-Metallic) "Hi Temp" Peek (Non-Metallic)	
Springs (PF) Springs (HammerHead)	Chrome Silicon 17-7 PH SS OR Elgiloy	