

Pump Materials -- Well Temperature

Configurations & materials for virtually any well condition

Pump Drivers



PNEUMATIC V-2 Extended

ELECTRIC Anchor



SOLAR - Apollo

HIGH-TEMPERATURE / CORROSION RESISTANT

Pump materials of construction for stuffing box and downhole components will vary depending upon the temperature of the well. Blackhawk works with you to define the materials and configurations that are best suited to the well environment and fluid conditions.

WELL TEMP. TO 150° F

Drive Rod	Gray
Seal plate(s)	Delrin
Seal cartridges	Buna
Piston	Delrin
Riser tubing	HDPE

WELL TEMP. 150° F TO 200° F

Drive Rod	Gray
Seal plate(s)	Brass
Seal cartridges	Buna/Viton
Piston	PEEK
Riser tubing	Steel

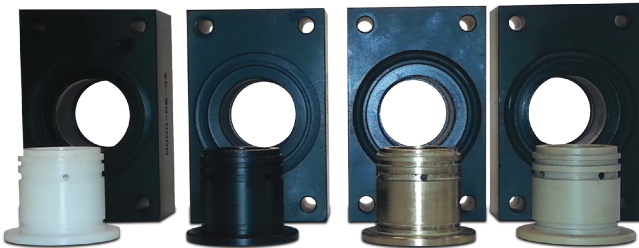
WELL TEMP. 200° F TO 250° F

Drive Rod	Green
Seal plate(s)	Brass
Seal cartridges	Buna/Viton/PEEK
Piston	PEEK/Brass
Riser tubing	Steel

MATERIALS OF CONSTRUCTION

MATERIAL	DESCRIPTION	PUMP USES	ADVANTAGES	HEAT RANGE
Gray rod	Fiber-reinforced thermoplastic	Drive rod	Strong, lightweight, flexible	To 212° F
Green rod	Fiber-reinforced thermoplastic	Drive rod	Strong, lightweight, flexible	To 300° F
Delrin®	Crystalline thermoplastic	Seal plates, cartridges, pistons	High stiffness, low friction, excellent dimensional stability	To 150° F
Buna	Nitrile rubber copolymer	Seal cartridges	Resistant to oil, fuel, other chemicals	To 250° F
Viton®	Synthetic rubber and fluoropolymer elastomer	Seal cartridges	Resistant to petroleum fluids	To 400° F
PEEK	Semi-crystalline organic thermoplastic polymer	Seal cartridges, pistons	High chemical resistance, strong, light, low friction	To 400° F
Brass	Alloy of copper and zinc	Seal plates and cartridges, pistons	Resists corrosion, strong, low friction	900+° F

* For wells above 250° F, specialty components include brass pistons and brass seal cartridges



Delrin seal plates; cartridges in Delrin white, Delrin black, brass, PEEK

Pistons in



Delrin PEEK brass brass with XT seals

Seal plates in Delrin & brass

Fact Sheet #19