

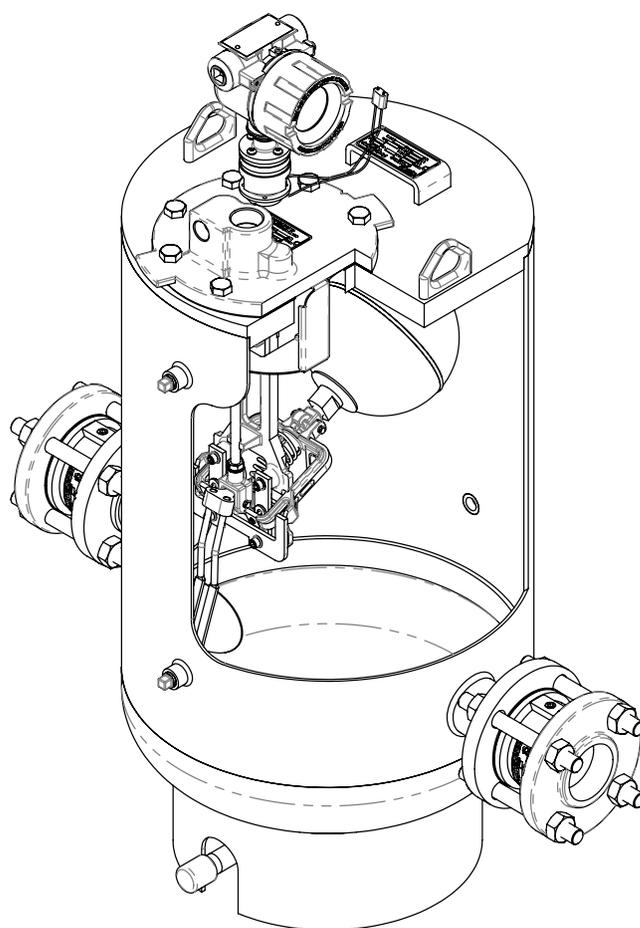


The Pivotrol® Pump Patented PTF Pressure Powered Pump Series

Description

The Spirax Sarco Pivotrol® Pump (patented) is a non electric pump which transfers high temperature condensate, or other liquids from a low point, low pressure or vacuum space to an area of higher pressure or elevation. This self-contained unit including PowerPivot® technology (patented) uses steam, compressed air or any other suitable pressurized gas as the pumping force. The standard Pivotrol® Pump (patented) will handle liquids from 0.9 to 1.0 specific gravity. Suitable for use in hazardous environments and volatile fluid pumping applications. See IM-5-201-US for full details.

Model	PTF	PTF - Stainless steel	PTF - Top Inlet	PTF - T-Bone
PMO	200 psi g (13.8 bar g)			
Sizes	2" x 2" (DN50 x DN50) 3" x 2" (DN80 x DN50)		3" x 3"	
Connections	Cover: NPT Liquid: ANSI 150/NPT			
Construction	Fabricated Steel Body ASME Code Stamped			
Warranty	3 Million Cycles or 5 Year Warranty, whichever number is achieved first. Lifetime Warranty on Spring			
Options	Pump modified to handle liquids down to 0.65 specific gravity, gauge glass reflex			



Accessories

- Gauge glass with brass cocks.
- Reflex type gauge glass -Insulation cover.

Operating characteristics

Pump discharge per cycle – 8.4 gal (31.8 l) Nominal
 Average instantaneous discharge rate – 90 gpm (5.7 l/s)
 Average Steam Consumption – 3 lbs (1.4 kg) per 1000 lbs (453.5 kg) of liquid pumped
 Average Air Consumption – 60 SCF per 1000 lbs (453.5 kg) of liquid pumped
 Filling head recommended above centerline of inlet check valve is 12" (305 mm).

For increased service life - Operate pump with motive pressure 15-20 psi g (1.0-1.4 bar g) above pump back pressure.

Limiting operating conditions

PMO	200 psi g (13.8 bar g)
Maximum operating pressure	
Minimum motive differential required:	5 psi g (0.34 bar g)

Filling head requirements		Filling height	
Filling head		Above pump cover	From base of pump
Standard recommended		12" (305 mm)	36.9" (951 mm)
Maximum filling head	PTF	48" (1219mm)	78.8" (2002 mm)
Minimum filling head	PTF 2x2 (DN50 x DN50)	-3" (-76 mm)	27.8" (706 mm)
	PTF 3x2 (DN80 x DN50)	-1" (-25 mm)	29.8" (757 mm)
	PTF-Top	39" (199 mm)	78.8" (2002 mm)
	PTF-Top	12" (305 mm)	52.9" (1344 mm)

Max Number of Cycles per minute = 6

Specific gravity of pumped liquid options = **0.9 to 1.0; 0.8 to 0.89; 0.65 to 0.79**

Pressure shell design conditions

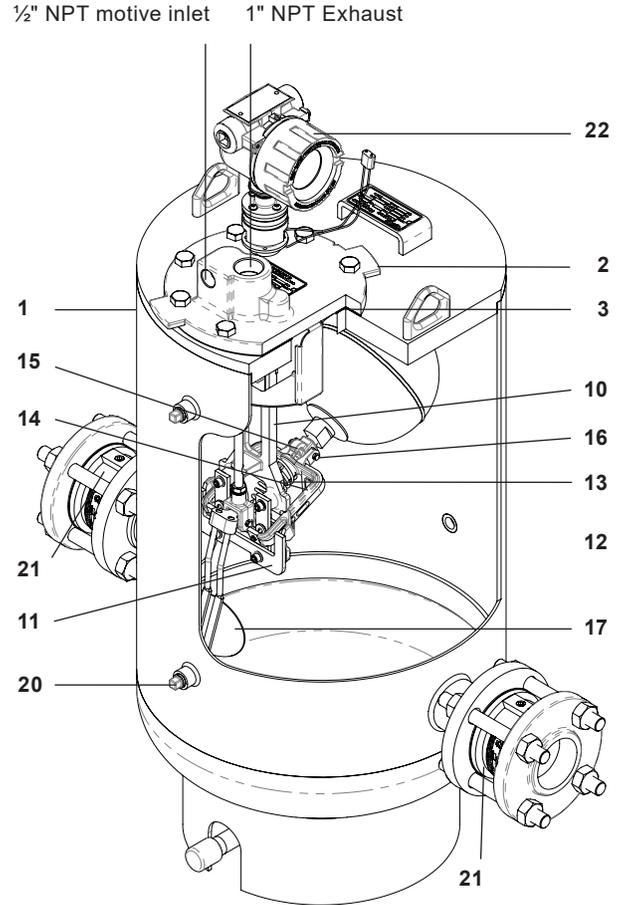
PMA	Maximum allowable pressure	200 psi g@400 °F	(13.8 bar g @ 204 °C)
TMA	Maximum allowable temperature	400 °F @ 200 psi g	(204 °C @ 13.8 bar g)
		650 °F @ 125 psi g	(343 °C @ 8.6 bar g)

Consult the factory for pressure/temperature rating with reflex gauge glass

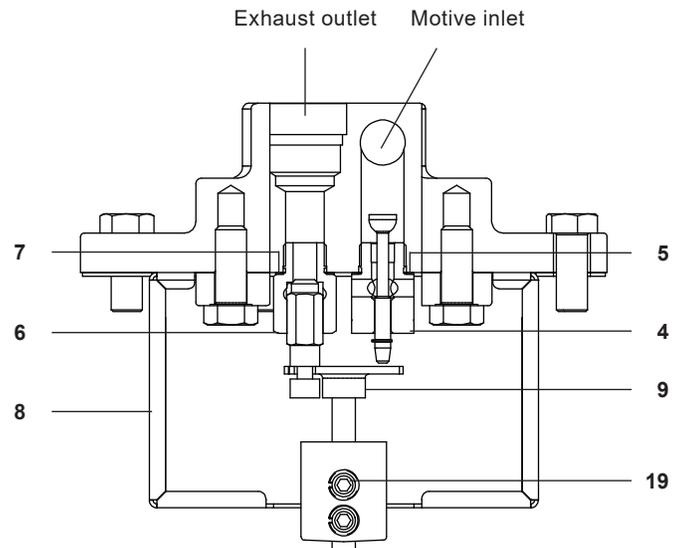
Materials

No.	Part	Material
		PTF - Fabricated Steel ASME Coded
1	Body	PTF Top: Fabricated Steel ASME Coded
		PTF SS: Fabricated Stainless steel ASME Coded
		PTF - Cast Steel ASTM SA216WCB
2	Cover	PTF Top: Cast Steel ASTM 216WCB
		PTF SS: Cast Stainless steel ASTM A351 CF8M
3	Cover Gasket	Grafoil
4	Steam Inlet Valve Assembly	Stainless steel
5	Steam Inlet Valve Gasket	Stainless steel
6	Exhaust Valve Assembly	Stainless steel
7	Exhaust Valve Gasket	Stainless steel
8	Baffle	Stainless steel
9	Push Rod Assembly	Stainless steel
10	Mechanism Support	Stainless steel
11	Bushing Mounting Plate (Bushings)	Stainless steel Carbide
12	Spring Anchor	Carbide
13	Spring	Inconel
14	Float Arm Assembly (Pivots)	Stainless steel Carbide
15	Float Pivot	Stainless steel
16	Pin	Stainless steel
17	Paddle	Stainless steel
18	Float	Stainless steel
19	Screws (typical)	Stainless steel
20	Plugs (typical)	Forged Steel
21	Check Valves (SDCV44)	Stainless steel (see TI-P154-10-US)
22	Cycle Counter	Various (see TI-P207-08-US)

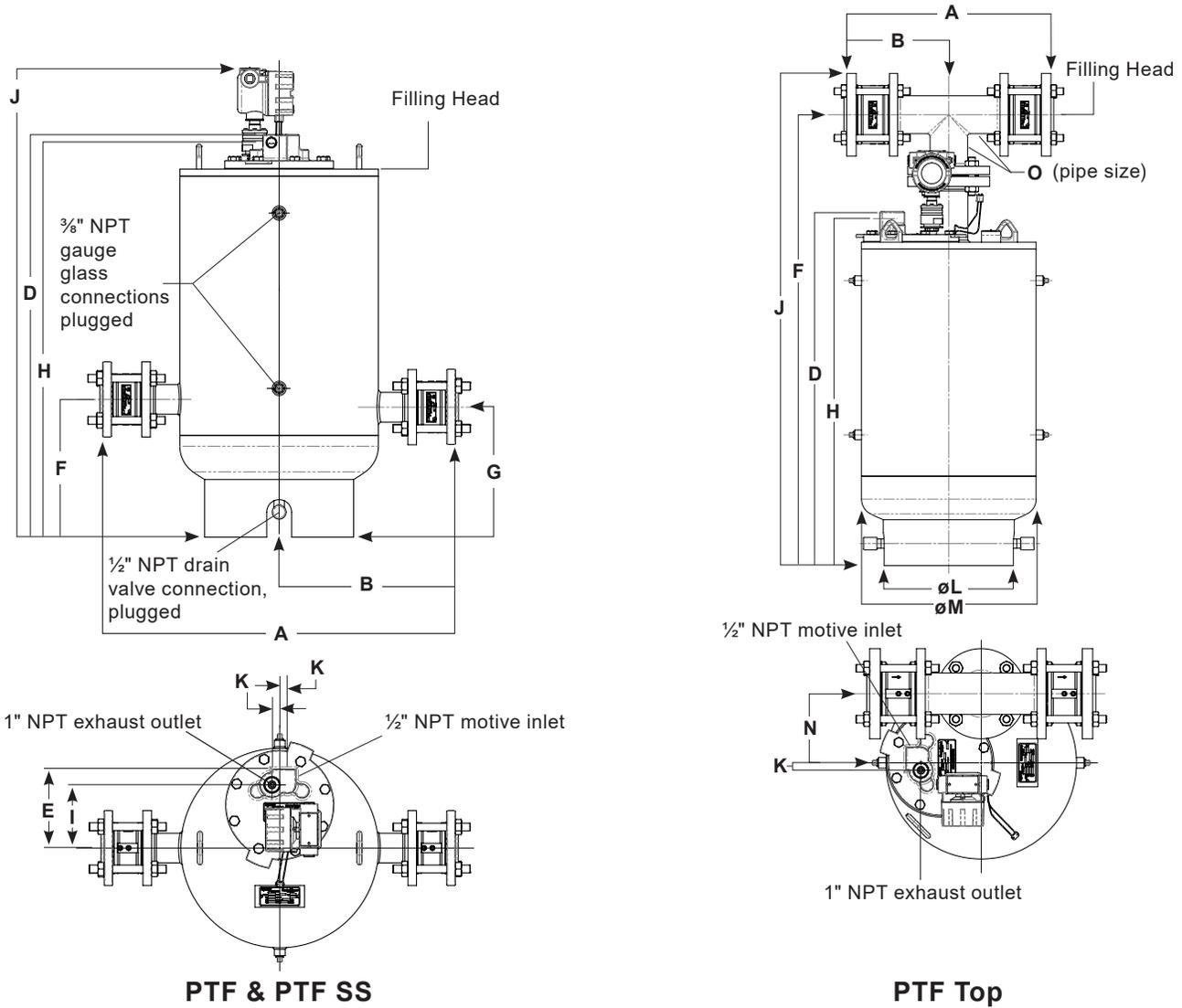
PTF & PTF SS



See reverse for Top Inlet and T-Bone views



Dimensions/weights (approximate) in inches (mm) and lbs (kg)



PTF & PTF SS

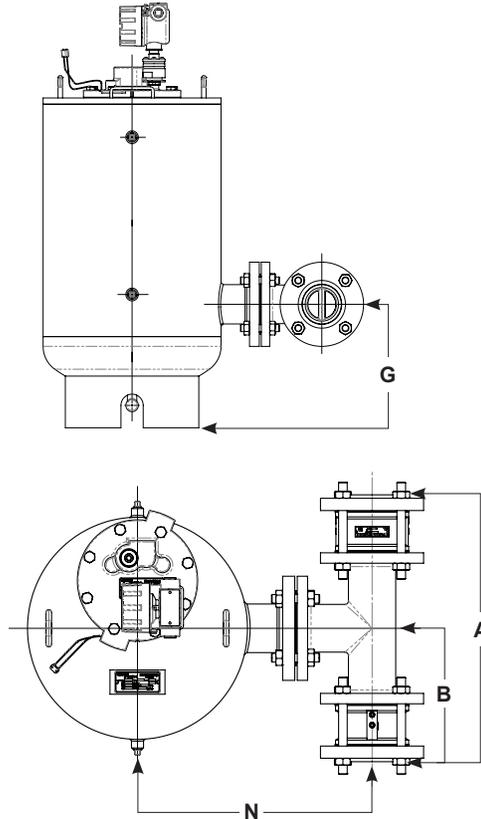
PTF Top

PTF- Stainless steel

Size	Dimensions															Weight Pump
	A	B	C	D	E	F	G	H*	I	J	K	L	M	N	O	
2" (DN50) PTF-SS Check Valves	29.2	14.4	14	32.1	5.1	11	10.4	31.5	6.3	37.3	0.6	N/A	N/A	N/A	N/A	210 lb
	742	364	354	815	129	278	263	800	160	947	15	N/A	N/A	N/A	N/A	95 kg
3" x 2" (DN80xDN50) PTF-SS Check Valves	30.2	14.4	14	32.1	5.1	11	10.4	31.5	6.3	37.3	0.6	N/A	N/A	N/A	N/A	230 lb
	767	364	354	815	129	278	263	800	160	947	15	N/A	N/A	N/A	N/A	104 kg
3" x 3" PTF-Top Check Valves	19.2	9.6	N/A	32.1	N/A	40.9	N/A	31.5	N/A	44.7	0.6	12	16	5.8	3	230 lb
	488	244	N/A	815	N/A	305	N/A	800	N/A	1135	15	305	406	147	76	104 kg
3" x 3" PTF-T Bone Check Valves	19.2	9.6	N/A	N/A	N/A	N/A	11.0	N/A	N/A	N/A	N/A	N/A	N/A	17.1	3	230 lb
	488	244	N/A	N/A	N/A	N/A	279	N/A	N/A	N/A	N/A	N/A	N/A	434	76	104 kg

* H Dimension is to the centerline of the motive supply inlet.

Dimensions/weights
(approximate) in inches (*mm*) and lbs (*kg*)



PTF T-Bone

PTF - Stainless steel

Size	Dimensions															Weight Pump	
	A	B	C	D	E	F	G	H*	I	J	K	L	M	N	O		
3" x 3" PTF-T Bone Check Valves	19.2	9.6	N/A	N/A	N/A	N/A	11.0	N/A	17.1	3	230 lb						
	488	244	N/A	N/A	N/A	N/A	279	N/A	434	76	104 kg						

* H Dimension is to the centerline of the motive supply inlet.

Sample Specification

The pump shall be Spirax Sarco Pivotrol® Pump (patented) operated by steam, compressed air or other pressurized gas to 200 psi g (13.8 bar g), which does not require any electrical energy. The pump shall have Stainless steel, split disc check valves on the inlet and outlet connections. The pump shall contain Spirax Sarco PowerPivot® (patented) inside to ensure longevity and reliability of the pump. The Pivotrol® Pump (patented) shall include an Inconel spring with a lifetime warranty and be supplied with an integral cycle counter to monitor a 3 million cycle or 5 year warranty, which ever number is achieved first. When required the pump shall be supplied with a gauge glass and custom designed insulation jacket.

Installation

Full details are given in IM-5-201-US, which accompanies the product.

Maintenance

Complete installation and maintenance instructions are given in IMI-5-201-US which accompanies the product.