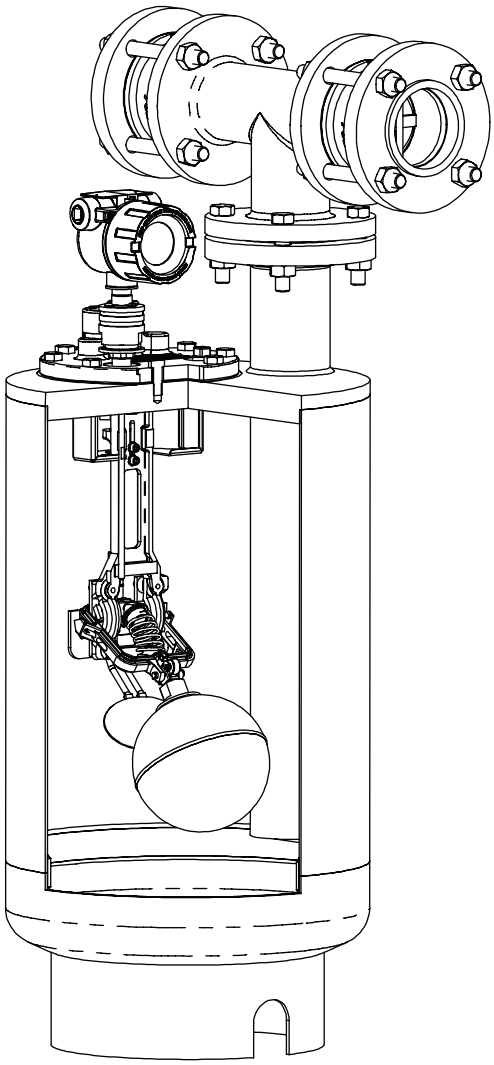
The Pivotrol® Pump Patented PTF TOP Inlet

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.

Model	PTF Top Inlet
PMO	200 psi g (13.8 bar g)
Sizes	3" x 3"
Connections	Cover: NPT Liquid: ANSI 150/NPT
Construction	ASME Coded Steel
Options	Pump modified to handle liquids down to 0.65 specific gravity
Warranty	3 million cycles or 5-years, whichever is achieved first. Lifetime warranty on Spring



Accessories

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

Capacities

For sizing and selection data, see TI-P207-12-US.

Operating characteristics

Pump discharge per cycle	PTF: 8.4 gal (31.8 l) Nominal
Average instantaneous discharge rate	90 gpm (5.7 l/s)
Average steam consumption	3 lbs (1.36 kg) per 1000 lbs (454 kg) of liquid pumped
Average air consumption	60 SCFM per 1000 lbs (454 kg) of liquid pumped

Filling head recommended above centerline of inlet check valve is 12" (305mm).

For increased service life
Operate pump with motive pressure 15 - 20 psi g (1 - 1.4 bar g) above pump back pressure.

Limiting operating conditions

PMO

Maximum Operating Pressure			200 psi g (13.8 barg)
Minimum motive differential required:			5 psi g (0.34 bar g)
Filling Head Requirements		**Filling Head Above Check Valve Centerline**	**Filling Height From Base of Pump**
Max filling head	PTF-Top	39" (991 mm)	78.8" (2002 mm)
Min filling head	PTF-Top	12" (305 mm)	52.9" (1344 mm)

Max Number of Cycles per minute = 6

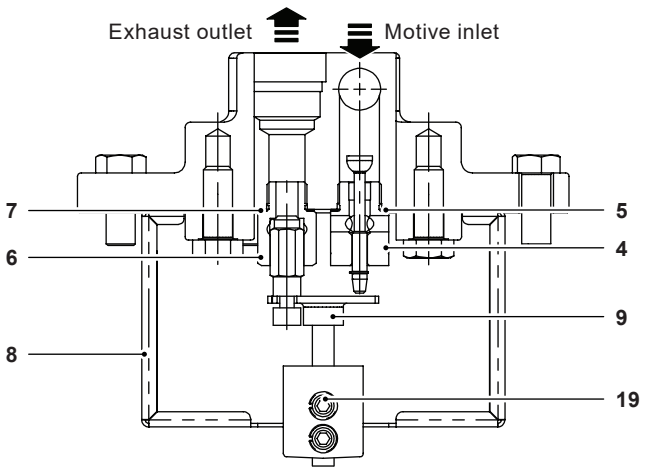
Specific gravity of pumped liquid options = 0.9 to 1.0; 0.8 to 0.89; 0.65 to 0.79

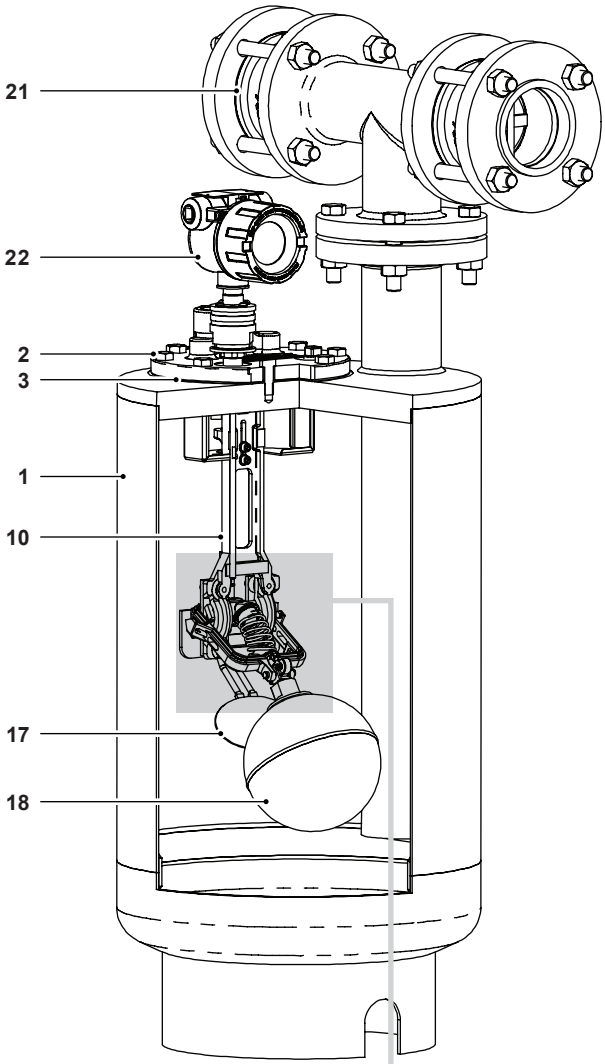
Pressure shell design conditions

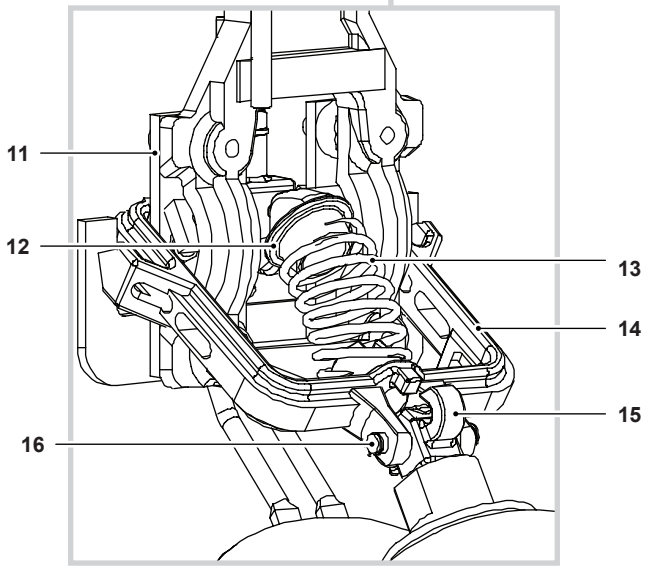
PMA	Maximum allowable pressure	200 psi g @ 388 °F	(13.8 bar g @ 198 °C)
TMA	Maximum allowable temperature	650 °F @ 124 psi g	(343 °C @ 8.5 bar g)

Materials

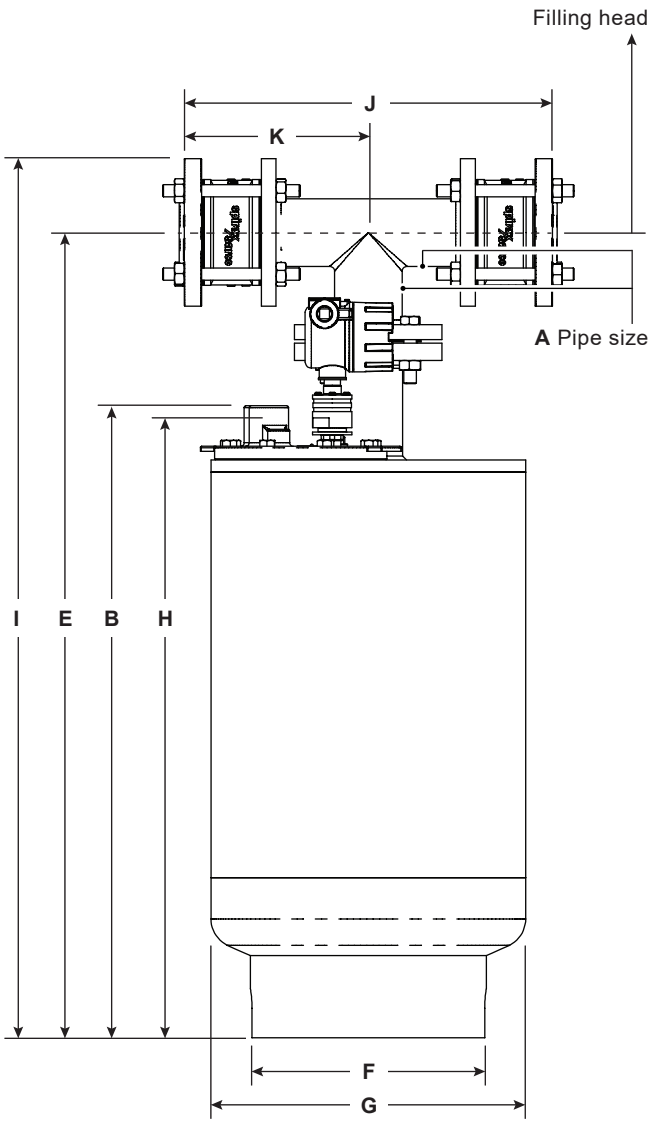
No.	Part	Material
1	Body	PTF-Top Fabricated Steel ASME coded
2	Cover	Cast Steel ASTM 216WCB
3	Cover Gasket	Grafoil
4	Steam Inlet Valve Assembly	Stainless Steel
5	Steam Inlet Valve Gasket	Stainless Steel
6	Exhaust Valve Assembly	Stainless Steel
7	Exhaust Valve Gasket	Stainless Steel
8	Baffle	Stainless 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 (TI-P154-10-US)
22	Cycle Counter	Various (see TI-P207-08-US)







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

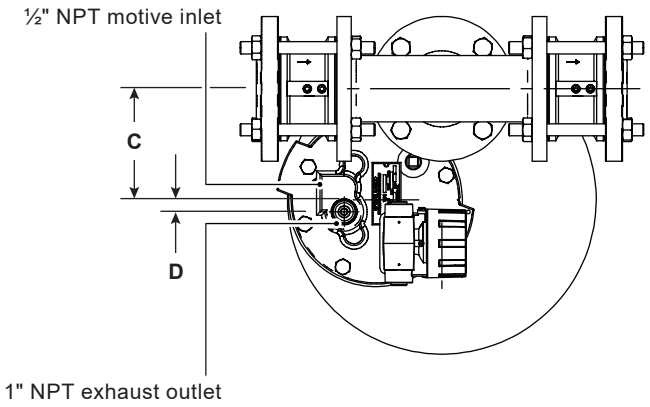


Size	A	B	C	D
3" x 3" PTF-Top	3 (76)	32.1 (815)	5.8 (147)	0.6 (15)

Size	E	F	G	H*
3" x 3" PTF-Top	40.9 (1039)	12 (305)	16 (406)	31.5 (800)

Size	I	J	K	Weight Pump
3" x 3" PTF-Top	44.7 (1135)	19.2 (488)	9.6 (244)	230 lb (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 x 3 year warranty. When required the pump shall be supplied with a gauge glass and custom designed insulation jacket.

Installation
For generic hook-up sketch, see TI-P207-12-US. Full details are given in IM-5-201-US, which accompanies the product.

Maintenance
Complete installation and maintenance instructions are given in IM-5-201-US, a copy of which is supplied with each pump.