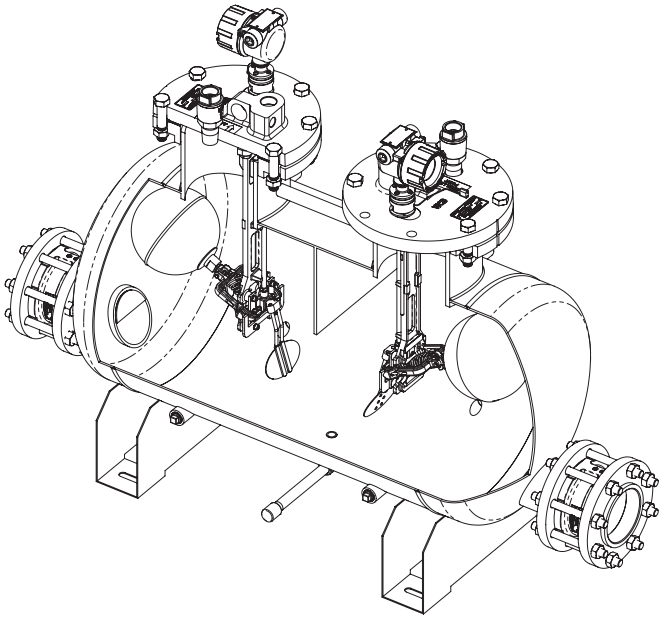
The Pivotrol® Pump Patented PTF4 (High Capacity) Pressure Powered Pump

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® PTF4 Pump (patented) will handle liquids from 0.88 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	PTF4
PMO	200 psi g (13.8 bar g)
Sizes	4" x 4" (DN100 x DN100)
Connections	Inlet and outlet: ANSI 150 flange NPT/SW Motive and exhaust: NPT/SW
Construction	Fabricated steel body ASME code stamped Stainless steel internals
Warranty	3 million cycles or 5 year warranty, whichever number is achieved first. Lifetime warranty on spring
Options	Gauge glass assembly reflex



Operating characteristics

Pump discharge per cycle	26.9 gal *(101.8l)* Nominal
Maximum instantaneous discharge rate	450 gpm *(28 l/s)*
Steam/Air consumption	See TI-5-030-US

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	Maximum operating pressure	200 psi g *(13.8 bar g)*
Minimum motive differential required:		5 psi g *(0.34 bar g)*
Maximum back pressure:		75% of motive pressure

Filling head requirements	Filling Head Above Pump Cover	Filling Height From Base of Pump
Standard recommended	36" *(914 mm)*	69.5" *(1765 mm)*
Maximum filling head	60" *(1524 mm)*	92" *(2337 mm)*
Minimum filling head	-3" *(-76 mm)*	29.3" *(744 mm)*
Maximum number of cycles per minute = 6		

Note: See TI-5-020-US for cycle counter details.

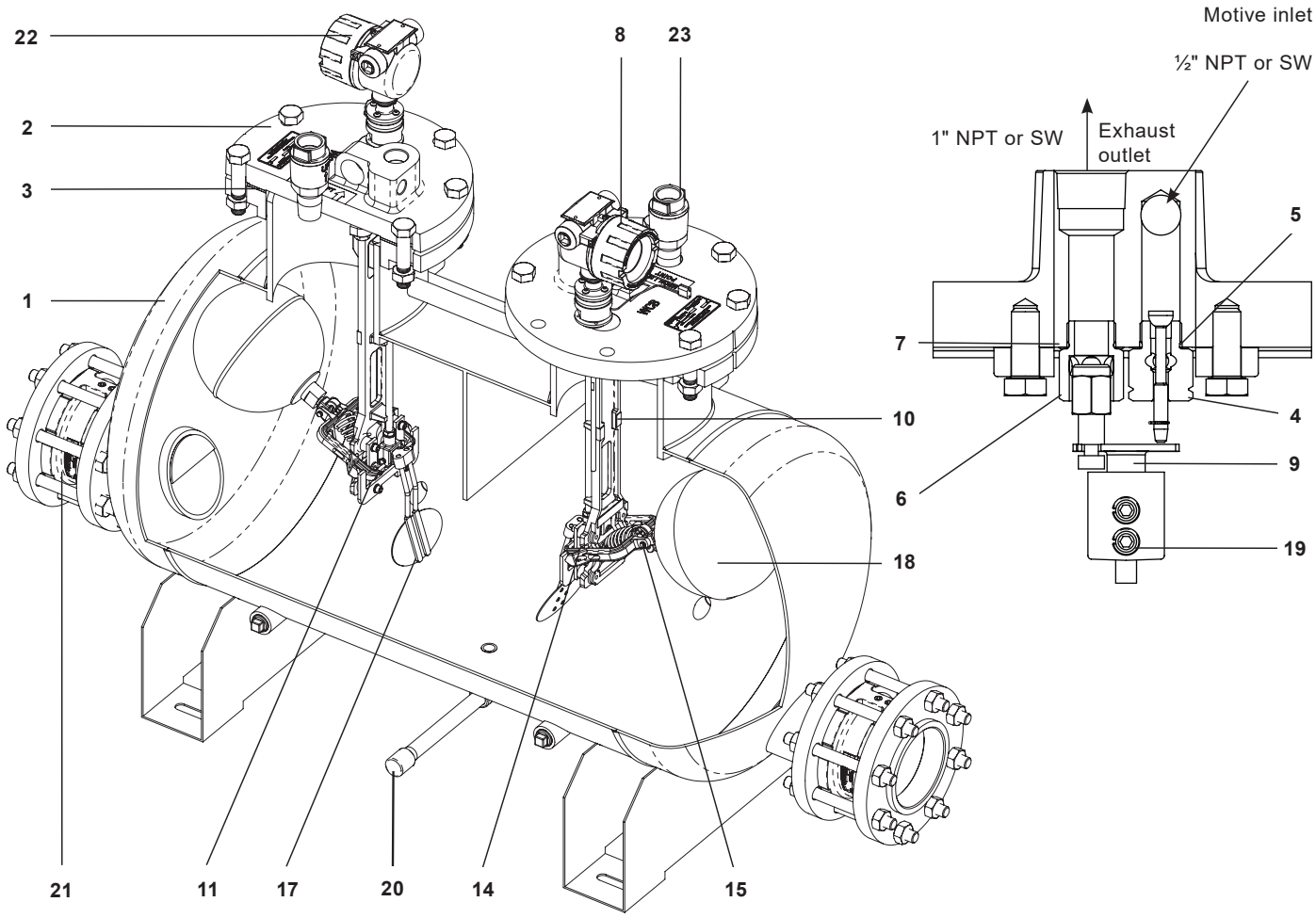
Pressure shell design conditions

PMA	Maximum allowable pressure		200 psi g @ 400 °F	*(13.8 bar g @ 204 °C)*
TMA	Maximum allowable temperature		650 °F @ 125 psi g	*(343 °C @ 8.6 bar g)*
		with reflex gauge glass:	600 °F @ 125 psi g	*(315 °C @ 8.6 bar g)*

Capacities

For sizing and selection data, see TI-5-030-US

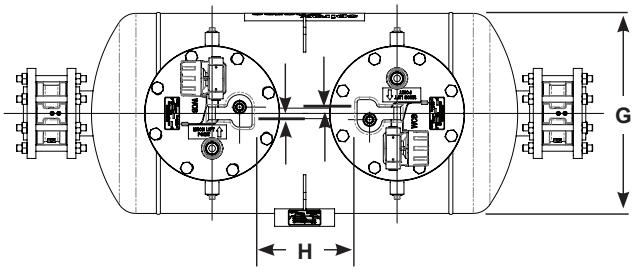
Materials

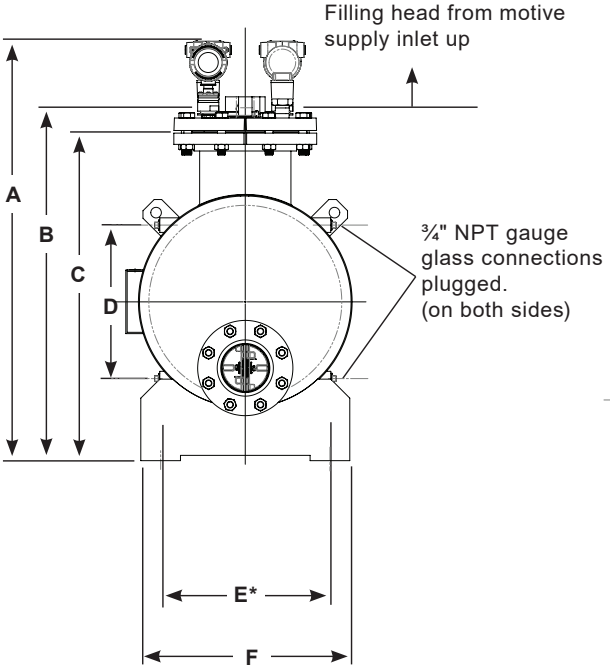


No.	Part	Material	
1	Body	Fabricated steel	ASME coded
2	Cover	Cast steel	ASTM A216 WCB
3	Cover gasket	Spiral wound	AISI 304/Graphite
4	Steam inlet valve assembly	Stainless steel	
5	Steam inlet valve gasket	Stainless steel	
6	Exhaust valve assembly	Stainless steel	
7	Exhaust valve gasket	Stainless steel	
8	Eye bolt	Stainless steel	
9	Push rod assembly	Stainless steel	
10	Mechanism support	Stainless steel	
11	Bushing mounting plate (Bushings)	Stainless steel Carbide	

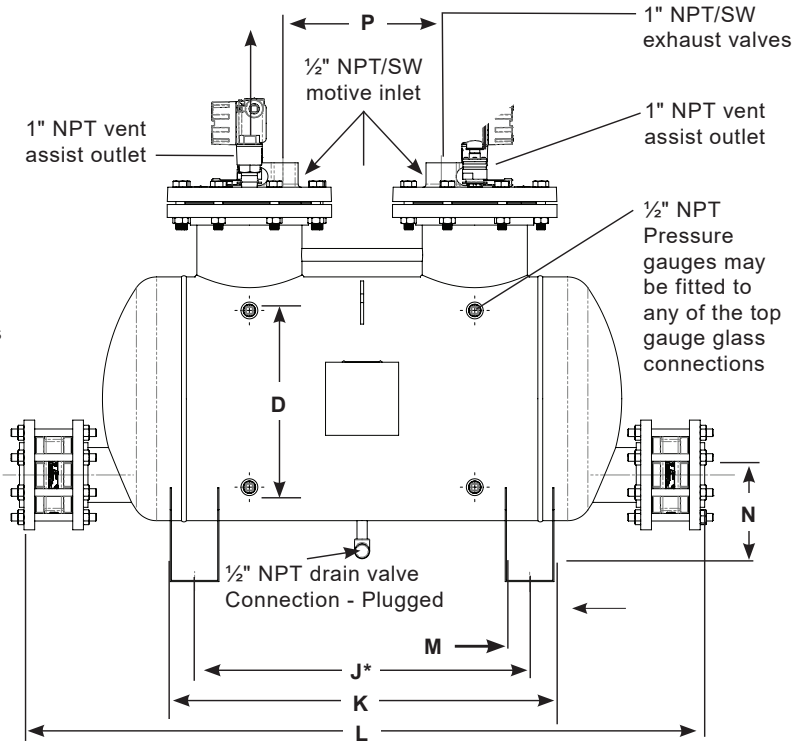
No.	Part	Material
12	Spring anchor	Carbide
13	Spring	Inconel
14	Float arm assembly (Pivots)	Stainless steel carbide
15	Float pivot	Stainless steel
16	Pin	Stainless steel
17	Paddle	Stainless steel
18	Float	Stainless steel
19	Screws (typical)	Stainless steel
20	Plugs (typical)	Forged stainless steel
21	Check valves (SDCV44)	Stainless steel (see TI-P154-10-US)
22	Cycle counter	Various (see TI-P207-08-US)
23	Vent assist valve	Stainless steel

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





* Mounting holes ⅝" holes center to center through bottom



* Mounting holes ⅝" holes center to center through bottom

A (Ref Only)	B*	C	D	E	F	G	H	I	J	K	L	M	N	P	Weight
39.5	33.5	32.0	14.5	16.0	19.8	20.0	10.5	0.6	27.5	31.5	56.2	4.0	8.8	13.0	550 lb
1002	*851*	*813*	*368*	*406*	*503*	*508*	*267*	*15*	*699*	*800*	*1427*	*102*	*224*	*330*	*249 kg*

*B Dimensions is to the centerline of the motive supply inlet.

Reflex Gauge Glass weight = 23 lb *(10.4 kg)* (Each)
Cover and Mechanism Assembly weight = 65 lb *(29.5 kg)* (Each)

Sample specification

The pump shall be Spirax Sarco Pivotrol® Pump (patented) PTF4, operated by steam, compressed air or other pressurized gas to 200 psi g (13.8 bar g), which does not require any electrical energy, and is capable of pumping liquids down to 0.88 specific gravity. The pump shall have stainless steel, split disc check valves on the inlet and outlet connections. The pump shall contain Spirax Sarco PowerPivot® (patented) technology to ensure longevity and reliability of the pump. The Pivotrol® Pump 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 reflex gauge glass.

Installation

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, which accompanies the product.