

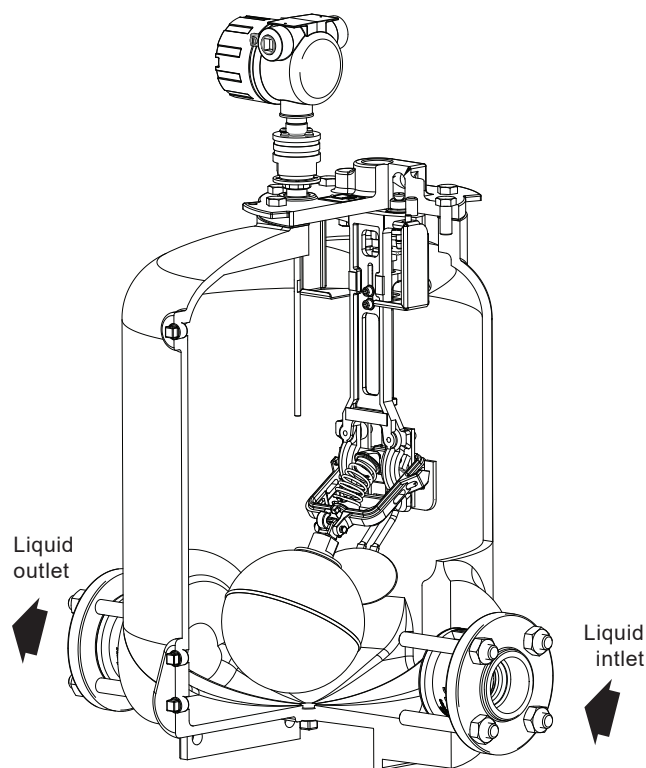


# The Pivotrol® Pump Patented PTC Pressure Powered Pump

## 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® Pump (patented) will handle liquids from 0.9 to 1.0 specific gravity.

Model	PTC	PTC-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	Ductile Iron	
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	



## Accessories

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

## Operating characteristics

Pump discharge per cycle	7.1 gal (27.0 l) Nominal
Average instantaneous discharge rate	See TI-5-030-US
Steam	3 lbs (1.4 kg) per 1000 lbs (453.5 kg) of liquid pumped
Air consumption	60 scf per 1000 lbs (453.5kg) of liquid pumped

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

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

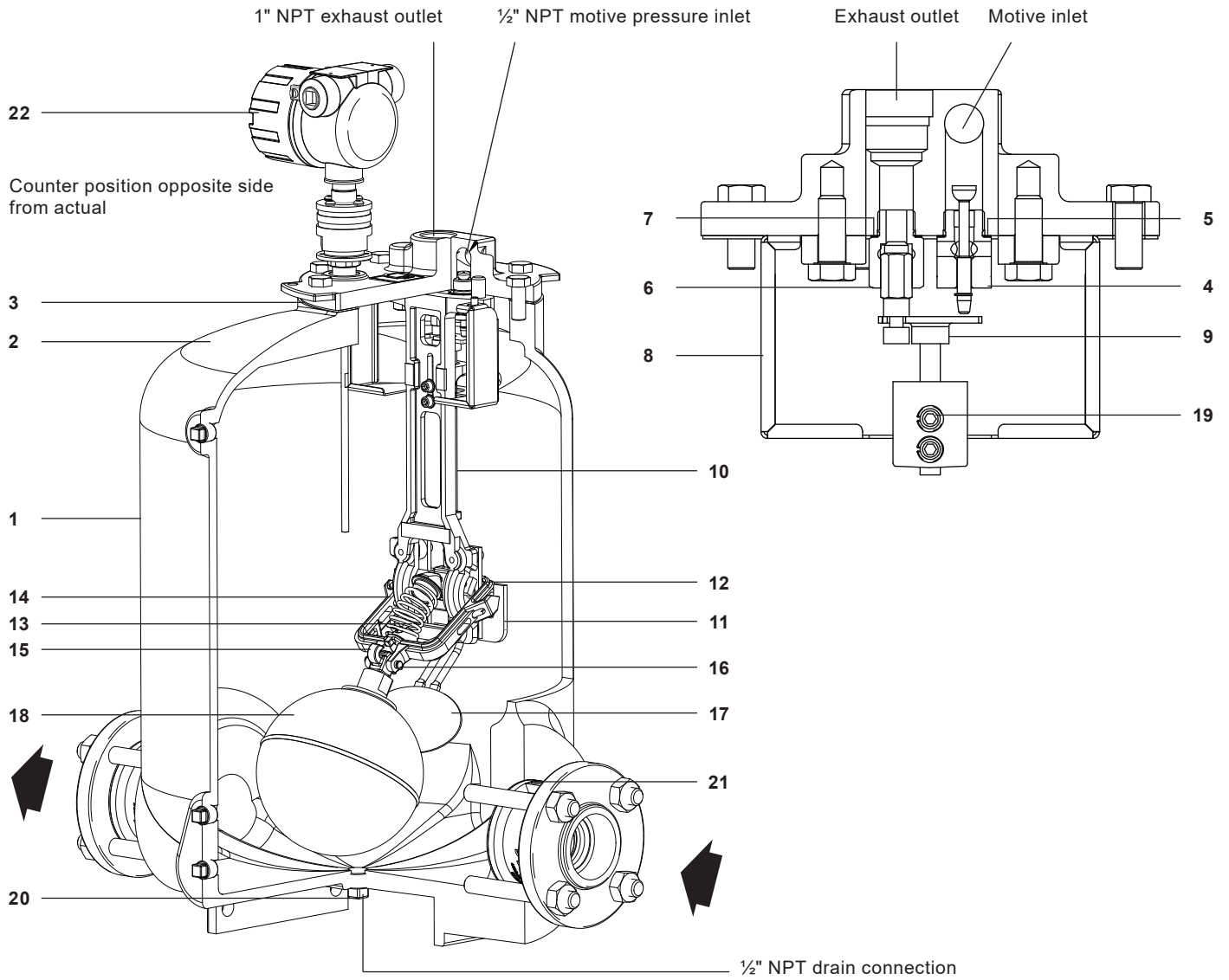
Filling head requirements		Filling height	
Filling head		Above pump cover	From base of pump
Standard recommended		12" (305 mm)	36.9" (951 mm)
Maximum filling head		48" (1219 mm)	72.9" (1852 mm)
Minimum filling head	2x2 (DN50 x DN50)	-3" (-76 mm)	21.9" (556 mm)
	3x2 (DN80 x DN50)	-1" (-25 mm)	23.9" (607 mm)
T-Bone	3x3 (DN80 x DN80)	-1" (-25 mm)	23.9" (607 mm)
Max Number of Cycles per minute = 6			
Specific gravity of pumped liquid options = <b>0.9 to 1.0; 0.8 to 0.89; 0.65 to 0.79</b>			

**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	400 °F@200 psi g	(204 °C @ 13.8 bar g)

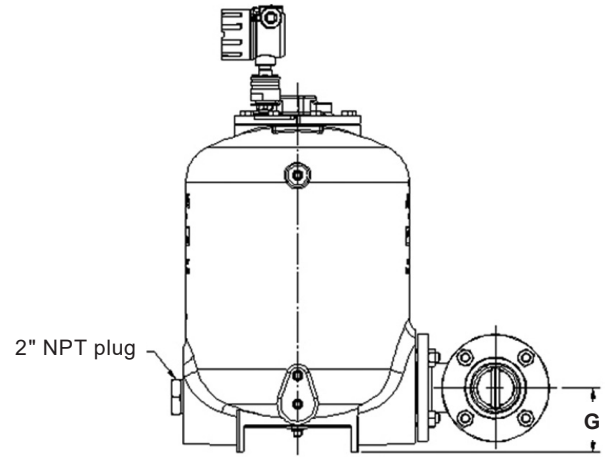
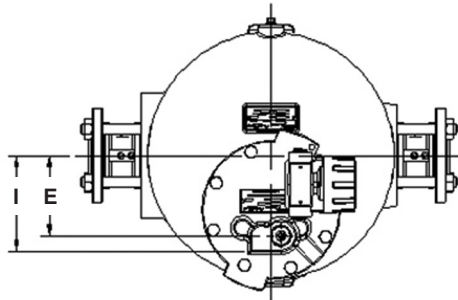
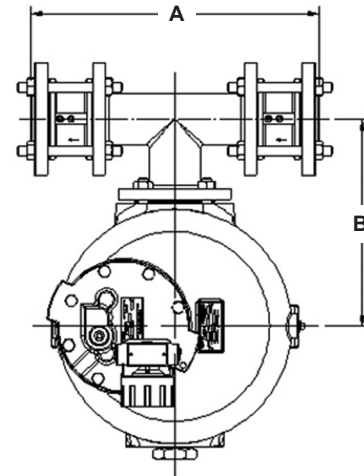
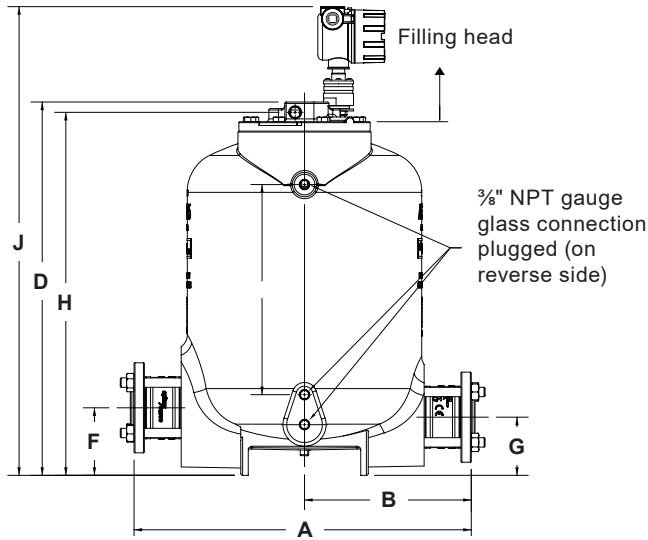
# Materials



No.	Part	Material
1	Body	Ductile Iron ASTM A395
2	Cover	Ductile Iron ASTM A395
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

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 Steel
21	Check Valves (SDCV44)	Stainless steel (see TI-7-224-US)
22	Cycle Counter	Various (see TI-5-020-US)

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



**PTC**

**PTC T-Bone**

PTC Size	Dimensions										Weight
	A	B	C	D	E	F	G	H*	I	J (Ref Only)	Pump
2" (DN50) PTC with stainless steel Check Valves	23.3	11.3	14	24.9	5.1	4.5	3.9	24.2	6.1	31.6	260 lb
	592	286	354	630	129	114	99	612	155	803	118 kg
3" (DN80) x 2" (DN50) PTC with stainless steel Check Valves	23.9	11.3	14	24.9	5.1	4.5	3.9	24.2	6.1	31.6	270 lb
	607	286	354	630	129	114	99	612	155	803	122 kg
PTC w/T-Bone 3" (DN80) x 3" (DN80) with stainless steel Check Valves	19.2	13.8	14	24.9	5.1	N/A	4.5	24.2	6.1	31.6	280 lb
	488	351	356	632	130	N/A	114	615	155	803	127 kg

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

## Capacities

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

## 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, whichever 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.