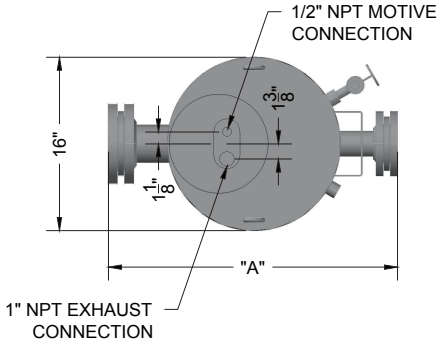
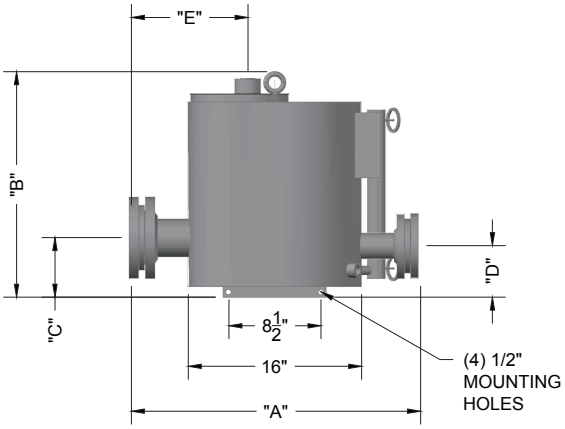
POP-LP LOW PROFILE STEAM FIRED CONDENSATE PUMP

THERMAFLO ENGINEERING INCORPORATED Since 1986
Manufacturers Of Steam Fired Specialty Equipment



TOP VIEW



FRONT VIEW

Model	**POP-LP Low Profile**
Top Cover	**ASME Carbon Steel**
Inlet Connection	**ASME 304 Stainless Steel**
Outlet Connection	**ASME 304 Stainless Steel**
Top Mech Mount Plate	**Carbon Steel**
Check Valves	**316 Stainless Steel**
PMO Pressure Max Operating	**150 PSIG**
TMO Temperature Max Operating	**450°F**

ASME Code Section VIII Stampled and Constructed

FEATURES — MADE IN USA

- **"Ultra Low" profile Design for High Capacity and space saving Installations**
- **Engineered with the unique "Single Compression Spring" design which extends the pump life many cycles over any competitor.**
- **ASME Code Section VIII Stamped 304 Stainless Steel Body, inlet/outlet and connections eliminates internal condensate corrosion**
- **Sight glass with internal check valves standard**
- **All Stainless Steel internal Mechanism parts and check valves for long life and ultimate corrosion resistance**
- **100% Steam Tested before shipment eliminates troublesome startups**
- **Operates using steam, air and other gases as the motive power**
- **Totally non electric and can be used in NEMA 4,7,9 and 4X locations**

SAMPLE SPECIFICATIONS

The POP-LP Non-Electric pressure operated pump shall be capable of operating with a maximum motive pressure of 150 psig steam, air or other gas supply. The pump body shall be ASME Code Section VIII constructed and stamped 150 psig @ 450°F 304 stainless steel. The internal pump mechanism shall be of the single compression spring design with the mechanism assembly constructed of stainless steel. The motive and steam valves shall be stainless steel hardened to Rockwell 40C. Pump shall be furnished complete with stainless steel wafer type check valves and shall be steam tested with certification papers before shipment.

DIMENSIONS --- INCHES

SIZE	A	B	C	D	E	DRY WT / FLOODED WT (LBS)
1.5" X 1.5"	26.5	20.9	5.5	4.8	15.8	189 / 307
2" X 2"	26.5	20.9	5.5	4.8	15.8	190 / 308
3" X 2"	26.5	20.9	5.5	4.8	15.8	191 / 309

Cover	SAS16 Grade 70 Carbon Steel- 1.25" Thick Steel
Body	SA240 304 Stainless Steel
Cover Studs and Buts	B7 Carbon Steel
Bottom Plate	SA240 304 Stainless Steel
Inlet Nozzle and Flange	304 Stainless Steel
Outlet Nozzle and Flange	304 Stainless Steel
Inlet Steam Valve	Hardened Stainless Steel 40 RC
Vent Valve	Hardened Stainless Steel 40 RC
Mechanism Yoke	Stainless Steel
Ball Float	Stainless Steel
Internal Compression Spring	Inconel x 750
Other Internal Mechanism Parts	Stainless Steel
Check Valves	304 Stainless Steel
Inlet and Outlet Mating Flanges	SA105 Carbon Steel

P.O. Box 473639, Charlotte, NC 28247 | Phone 704.940.1228 | Fax 704.940.1227 | www.thermafloengineering.com

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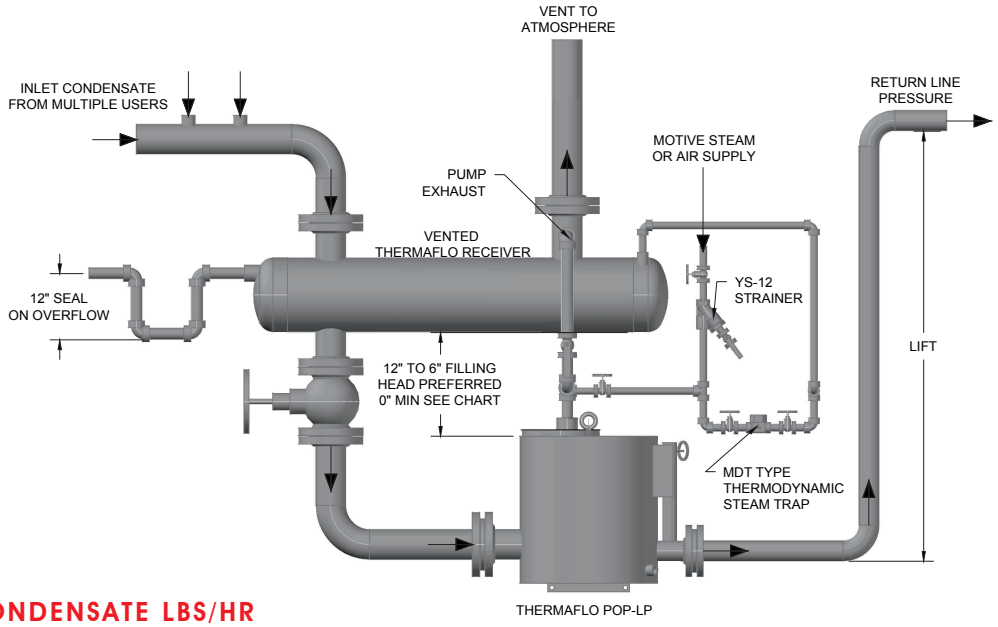
TYPICAL OPEN LOOP VENTED RECEIVER

The open loop POP-LP hookup utilizes condensate from several users into a vented receiver, as shown, that is vented to atmosphere. This equalizes the pressure from the various condensate sources. Any flash steam generated is vented to atmosphere. However, the POP-LP can be hooked up in a "closed loop" piping arrangement for draining single steam users. Refer to the Thermaflo POP Series hookup manual.



CAPACITIES STEAM MOTIVE CONDENSATE LBS/HR

MOTIVE PRESSURE PSIG	TOTAL BACK PRESSURE PSIG	1.5" X 1.5" 12" FILL HEAD	2" X 2" 12" FILL HEAD	3" X 2" 12" FILL HEAD
10	5	2,460	4,360	5,400
10	2	3,420	7,590	8,000
25	15	3,828	5,650	6,290
25	10	4,389	7,320	8,330
25	5	5,200	8,710	9,000
50	40	2,570	3,850	4,587
50	25	4,590	7,650	8,990
50	10	5,764	8,920	9,760
75	60	2,826	4,090	4,490
75	40	4,409	6,660	7,830
75	15	6,270	9,550	9,947
100	80	3,260	4,640	5,160
100	60	4,400	6,290	6,880
100	40	5,731	7,760	8,680
100	25	6,614	9,820	10,110
125	115	2,720	3,680	4,160
125	10	3,669	4,710	5,240
125	80	4,510	6,230	6,770
125	60	5,324	7,580	8,190
125	40	6,534	8,720	9,090
125	25	7,326	9,329	10,261
150	100	3,934	4,600	5,490
150	80	4,653	5,690	6,980
150	60	5,590	6,970	8,370
150	40	6,457	8,180	9,390
150	25	9,460	10,095	10,830

Note: When using the POP-LP inclosed loop vacuum applications a correction factor of .85 should be used.

USING THE SIZING CHART

This sizing chart determines the size of the POP-LP Pressure Operated Pump when the motive steam/air, back pressure and lbs/hr condensate load are know. The motive pressure is selected on the left hand column. The second column represents the total back pressure the pump is discharging against. Select the lbs/hr that matches your application and the POP-LP pump size.

Example shown: 100 psig motive pressure, 40 psig total back pressure, 5900 LBS/HR required, 2"x2" POP-LP selected.

CAPACITY CORRECTIONS FACTORS FOR ALTERNATE FILL HEADS

PUMP INLET SIZE	FILLING HEAD			
	0"	6"	12"	18"
1.5	.45	.85	1.00	1.10
2"	.45	.85	1.00	1.10
3"	.45	.85	1.00	1.10

ACCESSORIES

- Brass Gauge Glass wit internal check valves and isolation valves
- Reflex type Gauge Glass
- Insulation Cover
- Cycle Counter for monitoring the amount of liquid pumped
- Cycle Counter with Digital Output

OPERATING CHARACTERISTICS

- Pump Cycle per Discharge 5.6 gal
- Average Steam Consumption – 3LBS of steam per 1,000 LBS of liquid

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