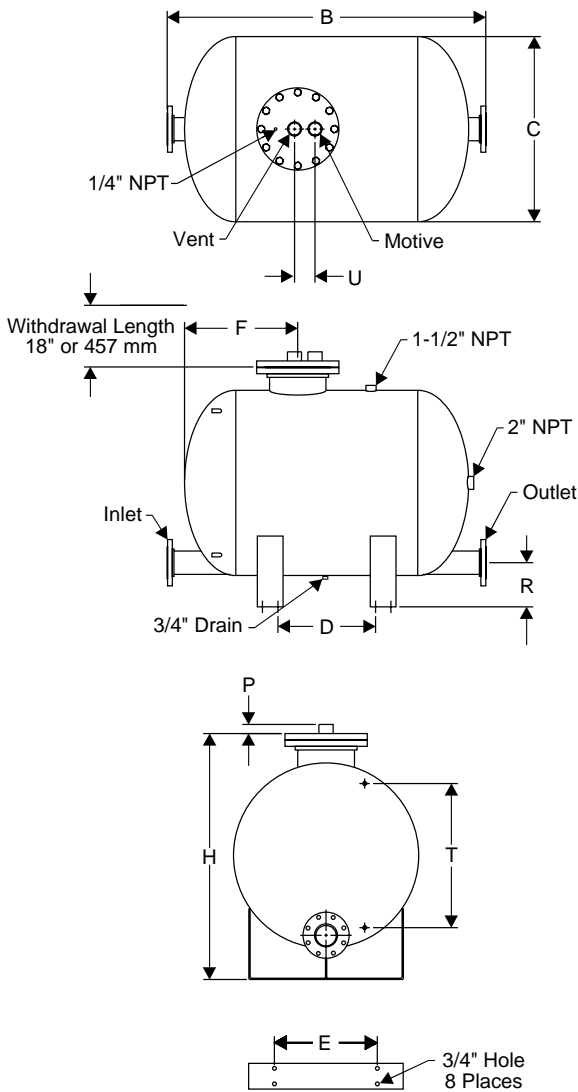




Armstrong® PT-516 High Capacity Pump Trap

Condensate Recovery Equipment



Effective recovery and return of hot condensate are essential to overall plant efficiency while conserving energy. Large amounts of condensate provide the best opportunities to save energy.

The Armstrong PT-516 High Capacity Pump Trap is the low maintenance, non-electric solution to moving large amounts of condensate and other liquids from low points, low pressures or vacuum spaces to an area of higher elevation or pressure. Condensate can be returned at temperatures well above the 210°F (99°C) limit of conventional electric pumps without the headaches of leaking seals or cavitation.

Features

- Non-electric—Uses inexpensive steam, air or gas to operate the pump trap
- No leaking seals/packings, impeller wear, electrical or motor problems—Reduces maintenance and downtime
- Single trade installation or repair reduces installation and maintenance costs
- Direct spring/float actuated mechanism—No maintenance intensive diaphragm operated valve mechanism
- Compression spring design—Reduces downtime, ensures performance and reliability
- Rugged stainless steel internals—Durable and corrosion resistant for enhanced service life
- Closed loop—No motive steam or flash steam loss, therefore capturing and returning all valuable Btu back to the system (see General Applications on page CRE-25)
- Safety—Pump can be placed in flooded pits without fear of electrocution or circuit breaker defaults
- Explosion proof—Standard unit intrinsically safe without additional cost

For a fully detailed certified drawing, refer to CDF #1017.

PT-516 High Capacity Pump Trap Physical Data

	in	mm
Inlet Connection	4 150# ANSI Flg.	100 150# ANSI Flg.
Outlet Connection	4 150# ANSI Flg.	100 150# ANSI Flg.
Motive Connection	2 NPT	50 NPT
Vent Connection	2 NPT	50 NPT
Gauge Glass Conn.	1/2 NPT	15 NPT
"B"	62	1,574
"C"	36	914
"D"	19-1/16	484
"E"	20	508
"F"	22	559
"H"	48	1,219
"P"	1-3/4	44
"R"	8-3/4	222
"T"	28	711
"U"	4	100
Weight	807	366
Number of Bolts	12	12

Maximum Operating Pressure on standard unit: 150 psig (10 bar).
 For higher pressure, consult factory.
 Maximum Allowable Pressure (standard vessel design): 150 psig @ 500°F (10 bar @ 277°C).
 300 psi (21 bar) vessel available upon request.

PT-516 Capacity Conversion Factors for Other Fill Heads

Fill Head	in		mm		in		mm		in		mm	
	0	0	6	152	12	305	16	406	24	610	36	914
PT-516	0.7		0.75		0.8		0.85		1.0		1.08	

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

PT-516 High Capacity Pump Trap

Typical Applications

- Low pressure heating systems
- Process heat exchanger or coils with modulating steam control
- Remote installations (tracing, tank farms or remote coils)
- Systems under vacuum
- Hazardous (explosion proof) areas
- Caustic environments
- Sumps or submersed areas

PT-516 High-Capacity Pump Trap Materials	
Name of Part	Description
Cap, Body, Bolting	Fabricated steel 150 psi ASME Sec. VIII design "U" stamp coded
Cap Gasket	Compressed non-asbestos
Inlet Valve Assembly	Stainless steel
Vent Valve Assembly	Stainless steel
Mechanism Assembly: Frame, Float and Spring	Stainless steel

NOTES: 300 psi ASME vessel available upon request. PT-516 available in all stainless steel. Consult factory.

Armstrong PT-516 Pump Trap Sizing and Selection

Condensate Recovery Equipment

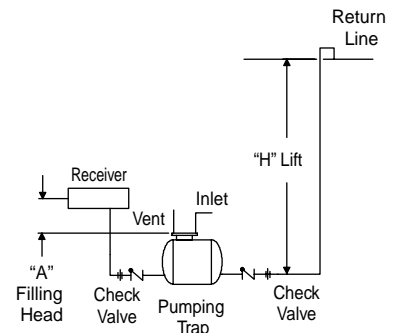
PT-516 Pump Trap Capacities							
Motive Pressure		Total Lift or Back Pressure		4" x 4" Connections 24" Fill Head			
				Steam Motive		Air Motive	
psig	bar	psig	bar	lb/hr	kg/hr	lb/hr	kg/hr
15	1.0	5	0.34	28,962	13,137	57,619	26,136
25	1.7			37,162	16,857	61,911	28,083
35	2.5			42,563	19,307	64,738	29,365
50	3.5			48,288	21,903	67,735	30,725
60	4			51,214	23,231	69,267	31,420
70	4.5			53,688	24,138	70,562	32,007
75	5			54,796	24,855	71,142	32,270
100	7			59,414	26,950	73,559	33,366
125	8.5			62,995	28,575	*	*
150	10.34			65,922	29,902	*	*
25	1.7	15	1	36,720	16,656	50,783	23,035
35	2.5			40,611	18,421	54,293	24,627
50	3.5			45,196	20,501	58,013	26,315
60	4			47,740	21,655	59,915	27,177
70	4.5			50,005	22,682	61,523	27,907
75	5			51,054	23,159	62,243	28,233
100	7			55,675	25,254	65,243	29,594
125	8.5			59,552	27,013	*	*
150	10.34			62,923	28,542	*	*

Motive Pressure		Total Lift or Back Pressure		4" x 4" Connections 24" Fill Head					
				Steam Motive		Air Motive			
psig	bar	psig	bar	lb/hr	kg/hr	lb/hr	kg/hr		
35	2.5	25	1.7	29,212	13,251	46,238	20,973		
50	3.5			33,413	15,156	50,962	23,116		
60	4			35,672	16,181	53,376	24,211		
70	4.5			37,646	17,076	55,418	25,138		
75	5			38,548	17,485	56,313	25,544		
100	7			42,454	19,257	60,141	27,280		
125	8.5			45,649	20,706	*	*		
150	10.34			*	*	*	*		
50	3.5			40	3	26,210	11,889	41,244	18,708
60	4					27,353	12,407	44,028	19,971
70	4.5	28,319	12,846			46,382	21,039		
75	5	28,752	13,042			47,435	21,517		
100	7	30,555	13,860			51,828	24,022		
125	8.5	31,954	14,494			*	*		
150	10.34	33,097	15,013			*	*		
70	4.5	60	4			25,973	11,781	32,026	14,527
75	5					26,373	11,963	33,514	15,202
100	7					28,042	12,720	40,951	18,575
125	8.5			29,336	13,307	*	*		
150	10.34			30,394	13,787	*	*		
100	7			80	5.5	23,892	10,837	34,893	15,827
125	8.5					24,231	10,991	*	*
150	10.34					24,570	11,145	*	*

NOTES: Published capacities above are based on **actual** steam testing using a minimum 200°F condensate. Published capacities are based on the use of external check valves supplied by Armstrong.
*Consult factory.

Application Data

- Fluid to be pumped: _____
- Temperature of fluid to be pumped: _____ °F °C
- Specific gravity: _____
- Required flow rate: _____ lb/hr GPM kg/hr
- Equipment pressure: _____
 - Constant Modulation
 - _____ psig Min. _____ to Max. _____
 - psig kg/cm²
- Fill head distance (A): _____ Inches Millimeters
- Discharge condensate return line size: _____ Inches Millimeters
- Motive gas: _____ Steam Air Gas
- Motive pressure available: _____ psig kg/cm Other _____
- Return line pressure: _____ psig kg/cm Other _____
- Vertical lift (H): _____ Feet Meters
- Can pump be vented to atmosphere? Yes No
- Is there a condensate reservoir? Yes No If yes, what size? _____
- Is reservoir vented? Yes No
- Would you like Armstrong to quote on a packaged pre-piped engineered system? Yes No



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