PD21

LIQUID DRAIN TRAPS (CAST IRON)

DESCRIPTION:

Liquid drain trap with all stainless steel internals. Best suited for removal of oil or liquids from the compressed air systems.

FEATURES:

The inverted bucket arrangement operates on the density difference between compressed air and water, giving a cyclic operation for discharge of the accumulated moisture / liquids from compressed air / gas systems. The valve and valve seat are hardened by a special induction hardening process to withstand continuous, prolonged operation. Perfect shut-off, no air loss.

SIZES: NPS 1/2, 3/4, 1, 1½

CONNECTIONS:

Screwed (NPT/BSPT/BSP)

LIMITING CONDITIONS:

PMA: Max. allowable pressure	250 psig
TMA: Max. allowable temp.	428 °F
Maximum operating back pressure at the outlet should not exceed 90% of the inlet pressure	
Minimum diff. pressure for satisfactory operation	1.5 psi
Cold hydro test pressure	375 psig

INSTALLATION:

The trap must be fitted vertically, with the inlet from the bottom and the outlet at the top. Correct vertical fitment is essential for easy movement of the bucket. Care must be taken to ensure that the trap level is below the level of the equipment to be drained. The bypass arrangement should be above the level of the trap. Fitment of a strainer before the trap inlet is recommended to prevent entry of dirt / foreign particles into the trap. Full-port isolation valves should be fitted before and after the trap, to be used when the trap has to be opened for maintenance.

IMPORTANT:

Ensure that the trap is primed by opening the inlet valve only a crack, at commissioning, allowing water to fill the trap before the steam enters. The inlet valve should be opened fully only after the trap is filled with water.

The trap should be installed as close as possible to the equipment to be drained. For new pipelines, ensure that the lines are properly flushed, prior to fitting the trap.

MAINTENANCE:

This product has to be removed from the line for maintenance. It is recommended that the trap be opened periodically and the internals inspected for wear, damage, and dirt. All worn or damaged parts should be replaced with new spares. A new internal kit comprising of the valve pin, valve seat, bracket and lever should be replaced as a set. The bucket vent hole should be cleaned.

All Dimensions in inches. weights in lbs.

MATERIAL:

NO.	PART	MATERIAL	QTY.
1.	BODY	CAST IRON	01
2.	COVER	CAST IRON	01
3.	BUCKET ASSLY.	AISI 304 with CS reinforcing ring	01
4.	VALVE SEAT (Hardened)	AISI 410/420	01
5.	VALVE PIN (Hardened)		01
6.	BRACKET	AISI 304	01
7.	LEVER	AISI 304	01
8.	PLUG	CARBON STEEL	01
9.	GASKET	Non CAF	01
10.	BOLT	HIGH TENSILE	*
11.	NUT	HIGH TENSILE	*
12.	PIPE	CARBON STEEL	01

Note: All internal screws are AISI 304
*Sizes NPS 1/2, 3/4 - 6 Nos., 1, 1½ - 8 Nos.

DIMENSIONS:

Nominal in inches

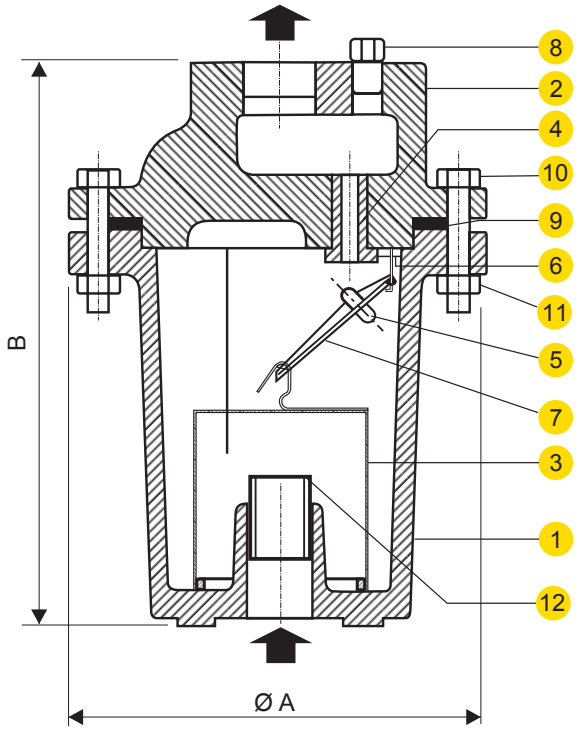
MODEL	SIZE	ØA	B	Wt.
PD21	½"	4.53	6.1	8.15 lbs
	¾"	4.53	6.69	9.25 lbs
	1"	7.32	11.1	35.20 lbs
	1½"	8.39	11.81	41.80 lbs

AVAILABLE SPARES:

Spare Kit: Valve Pin, Valve Seat, Bracket & Lever Assly.,
(Op. diff. press. should be specified.)
Bucket Assly., Gasket.

ORDERING INFORMATION:

Refer 'How to Order' page



ORDERING INFORMATION:

Refer 'How To Order Page'

CAUTION:
DO NOT USE FOR HAZARDOUS/POISONOUS MEDIA

Local regulations may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interest of development and improvement of the product, we reserve the right to change the specifications without prior notice.

DISCHARGE CAPACITY CHART

Model	"Valve Size (inch)"	DIFFERENTIAL PRESSURE (psi)																	
		4	7	15	30	43	57	70	85	100	115	128	142	156	170	185	199	213	228	250
		DISCHARGE CAPACITY																		
PD21-1/2"	3/32"	230	287	344	430	516	573	631	659	717	745	774	802	831	860	888	903	946	974	1003
	7/64"	287	330	401	516	588	688	745	788	831	874	931	974	1032	1075	1103	-	-	-	-
	1/8"	373	416	545	688	817	917	974	1032	1075	1118	-	-	-	-	-	-	-	-	-
	5/32"	430	530	659	831	974	1060	1146	-	-	-	-	-	-	-	-	-	-	-	-
	3/16"	573	774	1003	1204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/4"	717	974	1146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PD21-3/4"	7/64"	287	344	459	616	745	831	931	1003	1089	1146	1218	1290	1347	1376	1404	1433	1462	1490	1519
	1/8"	358	416	530	717	860	974	1089	1175	1290	1376	1433	1490	1548	1605	1662	-	-	-	-
	5/32"	430	530	717	917	1146	1347	1490	1662	1777	1892	2006	-	-	-	-	-	-	-	-
	3/16"	659	888	1175	1462	1720	1920	2064	-	-	-	-	-	-	-	-	-	-	-	-
	1/4"	860	1089	1433	1949	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PD21-1"	3/16"	860	1089	1318	1777	2264	2665	3081	3439	3869	4227	4586	4944	5302	5589	6019	6305	6592	6878	7165
	7/32"	1146	1462	2006	2694	3296	3797	4371	4872	5374	5804	6305	6735	7022	7165	-	-	-	-	-
	1/4"	1433	1834	2522	3439	4156	4872	5589	6305	6592	6878	7165	-	-	-	-	-	-	-	-
	9/32"	1777	2407	3296	4586	5589	6592	7165	-	-	-	-	-	-	-	-	-	-	-	-
	5/16"	2579	3439	4299	5875	6878	7452	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/8"	373	4442	5445	7165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/2"	6305	7022	8025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PD21-1 1/2"	1/4"	1290	1576	2178	2866	3296	3583	3869	4227	4514	4801	5087	5374	5732	6019	6305	6592	6878	7165	7452
	9/32"	1720	2121	2694	3583	4156	4729	5159	5732	6162	6592	7022	7380	7667	8025	8311	8598	8885	-	-
	5/16"	2293	2694	3296	4156	5016	5732	6305	6878	7308	7882	8311	8885	9171	9458	-	-	-	-	-
	11/32"	2579	3081	3726	4729	5589	6449	7308	8168	8885	9744	10318	-	-	-	-	-	-	-	-
	3/8"	2866	3368	4156	5302	6449	7452	8311	9315	10031	-	-	-	-	-	-	-	-	-	-
	7/16"	3439	4156	5159	6878	8311	9458	-	-	-	-	-	-	-	-	-	-	-	-	-
	9/16"	4299	5732	7308	8598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/4"	6878	8025	9171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Guidelines on use of Capacity Chart

"Go to the differential pressure column corresponding to or slightly higher than, but not less than the operating differential pressure at which the trap is to be used. Move vertically downwards and select a suitable model and valve size.

- The selected capacity should be equal to or higher than the condensate load after including a safety factor of 2 to 3. Oversizing is not recommended.
- Example - Operating conditions = I) Inlet press. 57 psig II) Back press. 14 psig III) Condensate load 440 lbs/hr. IV) Safety factor 2.

Model Selected: PT21-3/4"" • Valve Size : 5/32"" • Capacity 1146 lbs/hr @ a diff. pressure of 43 psi"

November 2022