YARWAY FIT100 SERIES FLOAT AND THERMOSTATIC STEAM TRAP

DATASHEET

Provides reliable condensate removal and is especially suited to protect equipment at the point of heat transfer.

FIT100 Series

FEATURES

- Respond quickly to sudden pressure and condensate load changes
- Condensate discharge temperature closely follows the saturation curve
- Function is not impaired by high back pressure
- Energy efficient
- Simple construction
- Excellent air handling
- Inline repairable

AVAILABLE OPTION

Steam Lock Release

- Prevents steam binding
- Used in syphon applications such as cooking kettles and rotary dryers.

GENERAL APPLICATION

The FIT100 Series float and thermostatic steam traps are an excellent choice in process applications due to their adaptability to changes in process conditions and ability to remove air for optimal heat transfer.

TECHNICAL DATA

Technology:	Mechanical, Float and Thermostatic
Maximum Temperature Rating:	Ductile iron: 500°F (260°C) Carbon steel: 750°F (400°C) CF8M: 750°F (400°C)
Maximum Operating Pressure:	See Tables 4 and 5
Capacity:	Up to 2750 lbs/hr (1250 kg/hr)
Materials:	Ductile iron, WCB or CF8M construction all with Stainless steel internals

TABLE 1. FIT100 SERIES TECHNICAL DATA

TYPE	MATERIAL	SIZE	END CONNECTION	MAXIMUM ALLOWABLE PRESSURE	
				psig	bar
FIT120	Ductile iron	NPS ½, ¾, 1 (DN 15, 20, 25)	NPT, BSPT, CL 150 RF, PN16	220	15.2
FIT130	WCB Carbon steel	NPS ½, ¾ (DN 15, 20)	NPT, SWE, BSPT, CL 150 RF, CL 300 RF, CL 600 RF, PN40	465	32
FIT140	CF8M SST	NPS ½, ¾ (DN 15, 20)	NPT, SWE, BSPT, CL 150 RF, CL 300 RF, CL 600 RF, PN40	465	32

PRINCIPLE OF OPERATION

The FIT100 Series steam trap operates using the density difference between steam and condensate.

On startup, the thermostatic air vent, caged stainless welded bellows, is open, allowing air to flow freely through the vent valve orifice. When condensate flows into the trap, the float rises, allowing condensate to be discharged. Once air and non-condensables have been evacuated, hot condensate will cause the thermostatic vent to close. Condensate will continue to be discharged as long as condensation occurs. During normal operation, an increase in the load causes the liquid level in the trap to rise. The float then rises and rolls off the seat ring, allowing more condensate to flow out. The float sinks as the condensate load decreases, moving nearer to the seat ring, decreasing the effective size of the orifice and allowing less condensate to discharge. This provides smooth, continuous operation that reacts instantly to load variation while maintaining a water seal over the seat ring to prevent live steam loss.

INSTALLATION

Install the FIT100 Series steam trap in a horizontal line with the arrow on the body pointing in the direction of flow and the arrow on the nameplate pointed at the ground.

Ensure a strainer, such as the Yarway 921, is installed upstream of the steam trap.

FIGURE 1
FIT100 Series Steam Trap Dimensions

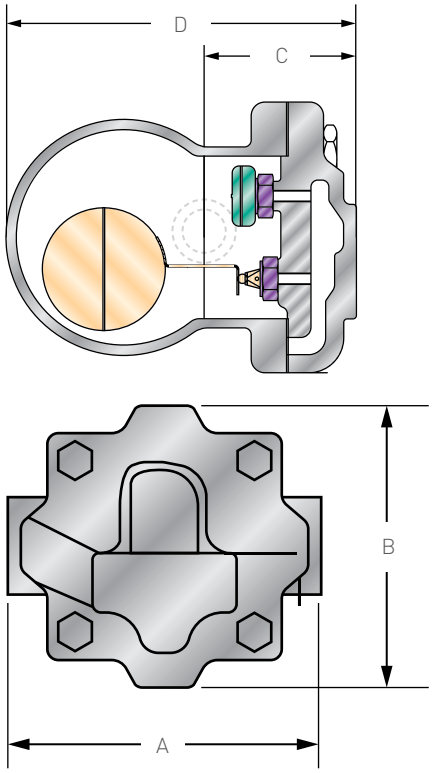

TABLE 2. PARTS AND MATERIALS

DESCRIPTION	MATERIAL
Body	FIT120: Ductile iron FIT130: WCB Carbon steel FIT140: CF8M Stainless steel
Bonnet	
Float assembly	Stainless steel
Float assembly screws	
Orifice	
Orifice gasket	
Air vent	
Air vent gasket	
Bonnet gasket	Clad non-asbestos
Bonnet cap screws	Class 8.8

TABLE 3. FIT100 SERIES DIMENSIONS AND WEIGHTS

TYPE	SIZE	END CONNECTION	A		B		C		D		WEIGHT	
			In.	mm	In.	mm	In.	mm	In.	mm	lbs	kg
FIT120	NPS ½, ¾ (DN 15, 20)	Threaded	4.8	122	4.2	107	2.6	67	5.9	149	6.6	3.0
		Flanged	5.9	150	4.2	107	2.6	67	5.9	149	10.0	4.6
	NPS 1 (DN 25)	Threaded	5.7	145	4.2	107	3.0	76	6.6	169	8.8	4.0
		Flanged	6.3	160	4.6	117	3.0	76	6.6	169	14.3	6.5
FIT130	NPS ½, ¾ (DN 15, 20)	Threaded	5.9	150	5.3	135	2.8	71	6.6	169	13.0	6.0
FIT140		Flanged	5.9	150	5.3	135	4.5	114	7.1	180	16.5	7.5

TABLE 4. MAXIMUM CAPACITY - lbs/hr

TYPE	SIZE	CONSTRUCTION	MAX. ΔP, psig	DIFFERENTIAL PRESSURE, psig														
				5	10	20	40	50	65	80	100	125	145	180	200	300	400	465
FIT120	NPS ½, ¾ (DN 15, 20)	FIT120-65	65	400	520	700	950	1000	1150	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-145	145	175	250	355	500	560	640	705	790	885	950	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-200	200	120	165	235	335	375	430	475	530	590	635	710	750	- - - -	- - - -	- - - -
	NPS 1 (DN 25)	FIT120-65	65	1050	1430	1750	2150	2400	2750	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-145	145	480	620	820	1080	1200	1320	1380	1550	1650	1750	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-200	200	260	330	440	580	620	700	740	850	920	1030	1090	1150	- - - -	- - - -	- - - -
FIT130 FIT140	NPS ½, ¾ (DN 15, 20)	FIT130-65 FIT140-65	65	450	630	850	1100	1250	1350	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT130-145 FIT140-145	145	235	330	465	660	735	840	930	1030	1165	1250	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT130-200 FIT140-200	200	220	320	380	480	570	640	680	770	810	880	960	1050	- - - -	- - - -	- - - -
		FIT130-300 FIT140-300	300	90	125	175	250	280	320	355	410	395	480	530	560	680	- - - -	- - - -
		FIT130-465 FIT140-465	465	70	90	110	150	170	200	220	240	260	270	300	330	370	420	450

TABLE 5. MAXIMUM CAPACITY - kg/hr

TYPE	SIZE	CONSTRUCTION	MAX. ΔP, bar	DIFFERENTIAL PRESSURE, bar														
				0.35	0.7	1.4	2.8	3.5	4.5	5.5	6.9	8.6	10	12.4	13.8	20.7	27.6	32
FIT120	NPS ½, ¾ (DN 15, 20)	FIT120-65	4.5	182	236	318	432	455	523	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-145	10.0	80	114	161	227	255	291	320	359	402	432	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-200	13.8	55	75	107	152	170	195	216	241	268	289	323	341	- - - -	- - - -	- - - -
	NPS 1 (DN 25)	FIT120-65	4.5	477	650	795	977	1091	1250	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-145	10.0	218	282	373	491	545	600	627	705	750	795	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT120-200	13.8	118	150	200	264	282	318	336	386	418	468	495	523	- - - -	- - - -	- - - -
FIT130 FIT140	NPS ½, ¾ (DN 15, 20)	FIT130-65 FIT140-65	4.5	205	286	386	500	568	614	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT130-145 FIT140-145	10.0	197	150	211	300	334	382	423	473	530	568	- - - -	- - - -	- - - -	- - - -	- - - -
		FIT130-200 FIT140-200	13.8	100	145	173	218	259	291	309	350	368	400	436	477	- - - -	- - - -	- - - -
		FIT130-300 FIT140-300	20.7	41	57	80	113	127	145	161	186	180	218	214	255	309	- - - -	- - - -
		FIT130-465 FIT140-465	32.0	32	41	50	68	77	91	100	109	118	123	136	150	168	191	205

ORDERING GUIDE

Available Configurations (Select One)
- ☐ FIT120-65
- ☐ FIT120-145
- ☐ FIT120-200
- ☐ FIT130-65
- ☐ FIT130-145
- ☐ FIT130-200
- ☐ FIT130-300
- ☐ FIT130-465
- ☐ FIT140-65
- ☐ FIT140-145
- ☐ FIT140-200
- ☐ FIT140-300
- ☐ FIT140-465

Body Sizes (Select One)
- ☐ NPS ½ (DN 15)
- ☐ NPS ¾ (DN 20)
- ☐ NPS 1 (DN 25)

End Connection Style (Select One)
- ☐ BSPT
- ☐ NPT
- ☐ SWE
- ☐ CL 150 RF
- ☐ CL 300 RF
- ☐ CL 600 RF
- ☐ PN16
- ☐ PN40

Option
- ☐ Steam Lock Release

Trap Station Accessories
- ☐ Stop Valve – Inlet
- ☐ Strainer
- ☐ Check Valve
- ☐ Stop Valve – Test
- ☐ Stop Valve – Outlet
- ☐ Stop Valve – Drip Pocket
- ☐ Stop Valve – Bypass