



# EMERSON™

## YARWAY FXT300 SERIES STEAM TRAP INSTALLATION AND MAINTENANCE INSTRUCTIONS

Before installation, these instructions must be carefully read and understood.



### SCOPE OF THE MANUAL

This manual provides instructions for installation, maintenance and parts information for the FXT300 Series.

### PRODUCT DESCRIPTION

The FXT300 Series are float and thermostatic steam traps. Float is free of levers, linkages or other mechanical connections. This float is weighted to maintain orientation and acts as the valve being free to modulate condensate through the seat ring. Air vent is balanced-pressure design with stainless steel welded encapsulated bellows capable of discharging air and non-condensable gases continuously within 15°F (-9.4°C) of saturated temperature.

### Body Sizes and

End Connections: NPT:  
½" (12.7 mm),  
¾" (19.1 mm), 1" (25.4 mm),  
1½" (38.1 mm) and  
2" (50.8 mm)  
CL250 RF Flanged:  
NPS 1½ (DN 40) and  
2 (DN 50)

### Maximum Allowable

Pressure<sup>(1)</sup>: 250 psig (17.2 barg)

### Maximum

### Operating

Pressure<sup>(1)</sup>: See Table 1

### Maximum Allowable

Temperature: 450°F (232°C)

### Materials of

Construction: Body and Cover: Cast iron  
ASTM A126B

Cover Gasket:

Graphite fiber

All Internal Parts:

Stainless steel

Air Vent:

Stainless steel

SLR Orifice

Blowdown Valve

Orifice Continuous Bleed

Air Vent

### Options:

### WARNING

*Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion, fire and/or chemical contamination causing property damage and personal injury or death.*

*The FXT300 Series Steam Trap must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson instructions.*

*If leak develops in the system, service to the unit may be required. Failure to correct trouble could result in a hazardous condition.*

*Installation, operation and maintenance procedures performed by unqualified personnel may result in improper adjustment and unsafe operation. Either condition may result in equipment damage or personal injury. Only a qualified person shall install or service the FXT300 Series Steam Trap.*

### SPECIFICATIONS

The specifications section on this page provide the ratings and other specifications for the FXT300 Series.

### Available

Configurations: Type FXT300  
(Low capacity)  
Type FXT301  
(Medium capacity)  
Type FXT302  
(High capacity)  
Type FXT303  
(Super high capacity)

1. The pressure/temperature limits in this Installation and Maintenance Instructions Manual and any applicable standard or code limitation should not be exceeded.

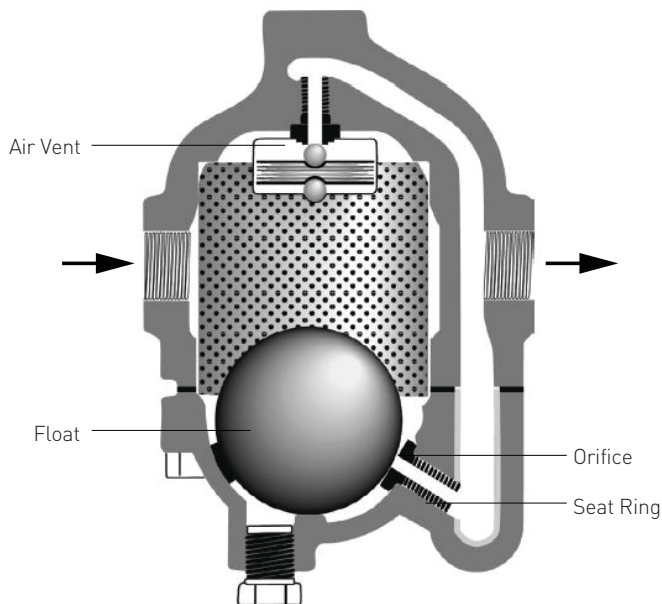
# YARWAY FXT300 SERIES STEAM TRAP

## INSTALLATION AND MAINTENANCE INSTRUCTIONS

### PRINCIPLE OF OPERATION

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.

FIGURE 1  
FXT300 and FXT301 Series Steam Trap Operational Schematic



### INSTALLATION

Install the FXT300 Series Steam Trap upright and in a horizontal line with the arrow on the body pointing in the direction of flow. Allowable inclination is 5° or less horizontally and 5° or less at right angles to the plane of the pipe line.

### MAINTENANCE

Due to normal wear that may occur, inspect the parts periodically and replace if necessary. The frequency of inspection depends on the severity of service conditions.

### CAUTION

*Inspection of the thermostatic bellows is not recommended as disassembly generally damages the unit.*

1. Disassemble the steam trap.
2. Remove the body bolts and place the lower body on a safe place.
3. Inspect the float and lower seat ring for damage and clean or replace as necessary. Clean the float with a rag and steel wool.
4. Clean the screen using a wire brush.

5. Replace bellows if needed. Use needle nose pliers or similar tool. Insert them into two of the three holes located in the bellows assembly and unscrew it from the upper body.

### NOTE

When reassembling, use threadlocker on the bellows assembly threads.

6. After inspection or repair, reassemble trap by replacing body gasket and torquing bolts as specified, see Table 2.

TABLE 1. MAXIMUM OPERATING PRESSURE

ORIFICE	MAXIMUM OPERATING PRESSURE	
	psig	barg
20	20	1.4
50	50	3.5
100	100	6.9
150	150	10.3
175	175	12.1
250	250	17.2

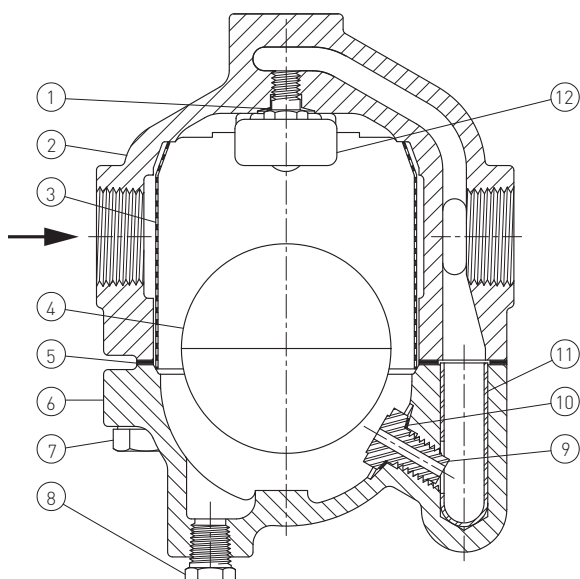
TABLE 2. FXT250 SERIES STEAM TRAP TORQUE VALUES

TRAP TYPE	BODY BOLTS		SEAT RING		SEAT RING	
	Ft-lb	N•m	Ft-lb	N•m	in-lb	N•m
FXT300	25 to 30	33.9 to 40.7	----	----	78 to 84	8.81 to 9.49
FXT301	60 to 70	81.4 to 94.9	----	----	132 to 134	14.9 to 15.1
FXT302	60 to 70	81.4 to 94.9	21.5 to 23.5	29.2 to 31.9	----	----
FXT303	115 to 135	156 to 183	37 to 41	50.2 to 55.6	----	----

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## INSTALLATION AND MAINTENANCE INSTRUCTIONS

FIGURE 2  
**FXT300 AND FXT301 SERIES STEAM TRAP ½ TO 2 NPT ASSEMBLY**



### PARTS ORDERING

When corresponding with your local Sales Office about FXT300 Series Steam Trap, always reference the assembly number. When ordering replacement parts specify the complete character part number from the following parts list.

### PARTS LIST

Key	Description	Part Number
1	Gasket, Air Vent, Copper	WAL05-14599-00
	Upper Body, Cast Iron	
2	NPS ¾ (DN 20)	WAL04-14604-00
	NPS 1 (DN 25)	WAL04-14606-00
3	Screen, 304 Stainless steel	WAL05-14609-00
4	Float, 17-7 Stainless steel	WAL05-16149-00
5	Gasket, Body, Graphite	WAL05-13403-00
6	Lower Body, Cast Iron	WAL04-14605-00
7	Bolt, Body, Steel	WAL05-14649-00
	[4 required]	
8	Pipe Plug, ¼ NPT, Steel	WAL04-03772-00
	[2 required]	
	Seat Ring, 416 Stainless steel	
	20 psi (1.4 bar)	WAL04-14613-00
	50 psi (3.5 bar)	WAL04-15694-00
9	100 psi (6.9 bar)	WAL04-14612-00
	150 psi (10.3 bar)	WAL04-15690-00
	250 psi (17.2 bar)	WAL04-14611-00
10	Gasket, Seat Ring, Copper	WAL05-14614-00
11	Sleeve, 316 Stainless steel	WAL05-14610-00
12	Air Vent, Stainless steel	WAL05-14603-00

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## INSTALLATION AND MAINTENANCE INSTRUCTIONS

**TABLE 3. FXT300 SERIES STEAM TRAP TORQUE VALUES**

NFT TRAP MODEL	REPAIR KIT <sup>(1)(2)</sup>	PCA SEAT KIT <sup>(3)</sup>	AIR VENT KIT <sup>(4)(5)</sup>	GASKET KIT <sup>(6)</sup>
FXT300-20	WAL5590110			WAL5590012
FXT300-50	WAL5590210			WAL5590211
FXT300-100	WAL5590410	WAL5590111	WAL33379	WAL5590411
FXT300-150	WAL5590510			WAL5590511
FXT300-250	WAL5590710			WAL5590711
FXT301-20	WAL5590130			WAL5590032
FXT301-50	WAL5590230			WAL5590231
FXT301-100	WAL5590430	WAL5590131	WAL33385	WAL5590431
FXT301-150	WAL5590530			WAL5590531
FXT301-250	WAL5590730			WAL5590731
FXT302-20	WAL5590150			WAL5590052
FXT302-50	WAL5590250			WAL5590251
FXT302-100	WAL5590450	WAL5590151	WAL33390	WAL5590451
FXT302-150	WAL5590550			WAL5590551
FXT302-250	WAL5590750			WAL5590751
FXT303-20	WAL5590170			WAL5590072
FXT303-50	WAL5590270			WAL5590271
FXT303-100	WAL5590470	WAL5590171	WAL33395	WAL5590471
FXT303-150	WAL5590570			WAL5590571
FXT303-250	WAL5590770			WAL5590771

1. Includes body gasket/s, air vent, air vent gasket, seat, seat gasket, screen, screen cap, float, tag and IOM.

2. For repair kit option, add "-SLR" to the end of the part number for the Steam Lock Release option.

3. Includes body gasket/s, seat, seat gasket, tag and IOM.

4. Includes body gasket/s, air vent, air vent gasket, tag and IOM.

5. Air vent tool part number is 04-15832-01.

6. Includes one body gasket. Some kits may include two gaskets as a kit for one FXT trap.

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