NOVA NFT250 SERIES
VARIABLE ORIFICE STEAM TRAPS

Pressures To 250 PSIG (17.2 barg)
Temperatures to 450°F (232°C)

All Stainless Steel Internal Components — Hardened valves and seats. Extra long life and dependable service. Resists water hammer. Protects against erosion and corrosion.

Erosion Proof — Discharge passage is protected with a stainless steel liner.

Integral Strainer — Stainless Steel screen prevents dirt problems. Blow-down connection provided.

Thermostatic Air Vent — Full balanced pressure element for immediate and complete air venting.

Variable Orifice — Condensate is discharged continuously through the seat ring which is modulated by the float. This provides a smooth, even flow without high velocity or steam entrainment.

SLR Orifice — Optional continuous bleed prevents flash steam lockup when it is impossible to install trap at low point in system.

Guarantee — Traps are guaranteed against defects in materials or workmanship for 3 years.

MODELS

- **NFT250**–Low capacity
- **NFT251**–Medium capacity
- **NFT252**–High capacity
- **NFT253**–Super high capacity

Installation Tip: Always install STV Test & Block Valve as part of trap station
SEE PAGE 118

Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 102

APPLICATIONS

- Steam Lines
- Process Equipment
- Steam Cookers
- Steam Heated Vats
- Pressing Machinery
- Unit Heaters
- Oil Preheaters
- Converters
- Coils
- Rotating Drum

OPTIONS   *See Page 9*

- SLR - SLR Orifice
- B - Blowdown Valve (contact factory)
- Orifice Continuous Bleed Air Vent
- 250# - 250# Flanged Connection* (Flat Faced)

*Available on NFT 253 only.

Canadian Registration # OE0591.9C

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-condensibles 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.
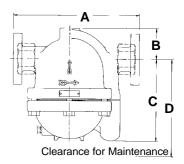
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VARIABLE ORIFICE STEAM TRAPS

SPECIFICATION

Steam trap shall be of float and thermostatic design. Float shall be free of levers, linkages, or other mechanical connections. Float shall be weighted to maintain orientation and shall act as the valve being free to modulate condensate through the seat ring. Air vent shall be of balanced pressure design with stainless steel welded encapsulated bellows capable of discharging air and noncondensable gases continuously within 15°F of saturated temperature. Trap shall contain integral strainer and stainless steel exhaust port sleeve. Trap shall be cast iron bodied suitable for pressures to 250 psi and available in 1/2" through 2" NPT or flanged.

Clearance for Maintenance   Clearance for Maintenance

Connections:
½"-2" NPT or 1½"-2" Flanged

MATERIALS OF CONSTRUCTION

Body and Cover . . . . .Cast Iron ASTM A126B
All Internal Parts . . . . .Stainless Steel
Air Vent . . . . . .Balanced Pressure, Stainless Steel
Cover Gasket . . . . .Graphite Fiber

MAXIMUM OPERATING CONDITIONS

PMO: Max. Operating Pressure

ORIFICE	PMO	
20	20 psig	(1.4 barg)
50	50 psig	(3.5 barg)
100	100 psig	(6.9 barg)
150	150 psig	(10.3 barg)
250	250 psig	(17.2 barg)

PMA: Max. Allowable Pressure:
250 psig (17.2 barg)
TMA: Max. Allowable Temperature:
450°F (232°C)

Dimensions

Model	Size	Connection	Inches (mm) A	B	C	D	Weight Lbs. (kg)
NFT250	½ & ¾	NPT	4¼ (108)	2¾ (69)	3⅝ (92)	5½ (140)	6 (2.7)
NFT251	¾ & 1	NPT	5½ (140)	2¹⁵/₁₆ (74)	4⁹/₁₆ (116)	6¾ (171)	13 (5.9)
NFT252†	1 & 1½	NPT	11 (279)	2¹⁵/₁₆ (74)	7¾ (197)	10 (254)	41 (18.6)
NFT253	1½ & 2	NPT	13¾ (349)	2¹⁵/₁₆ (74)	11⅝ (295)	15⅜ (391)	120 (54.5)
NFT253	1½ & 2	250# Flg.	15¾ (400)	2¹⁵/₁₆ (74)	11⅝ (295)	15⅜ (391)	130 (59.1)

Maximum Capacity–lbs/hr (10°F Below Saturation)

Trap	Orifice Size	Max. ∆P	Differential – PSIG (barg) 1 (.07)	5 (.34)	10 (.69)	15 (1.03)	20 (1.38)	30 (2.07)	50 (3.45)	75 (5.17)	100 (6.90)	125 (8.62)	150 (10.3)	175 (12.1)	200 (13.8)	225 (15.5)	250 (17.2)
NFT250	0.193	20	264	810	1050	1100	1200										
	0.141	50	190	430	610	750	870	1070	1400								
	0.102	100	88	160	250	300	350	425	530	670	710						
	0.091	150	70	140	219	260	295	345	410	470	520	555	590				
	0.067	250	37	90	140	170	200	240	300	340	390	405	415	440	460	480	500
NFT251	0.277	20	590	1600	2100	2400	2450										
	0.209	50	340	760	1080	1330	1540	1900	2460								
	0.157	100	200	500	650	740	830	950	1100	1300	1400						
	0.141	150	170	385	527	627	705	825	990	1130	1240	1330	1415				
	0.120	250	110	255	360	425	500	575	700	800	900	940	1000	1050	1100	1150	1200
NFT252	0.593	20	2720	6280	8600	10500	11700										
	0.469	50	1750	3920	5560	6830	7900	9700	12600								
	0.339	100	930	2170	3130	3840	4460	4990	6020	7030	7960						
	0.316	150	850	1935	2650	3150	3540	4140	4970	5685	6230	6690	7100				
	0.261	250	670	1400	1900	2400	2540	3000	3500	4100	4200	4900	5100	5300	5500	5750	6000
NFT253	1.102	20	8000	15000	18000	19900	22800										
	0.875	50	5460	12600	15600	16900	18400	21000	25400								
	0.593	100	2800	6350	8700	10900	12800	13700	16600	18700	21000						
	0.578	150	2690	6120	8385	9970	11200	13100	15700	17980	19700	21150	22450				
	0.484	250	1600	3770	5300	6470	7560	8610	10400	12100	13600	14600	15500	16300	17100	17800	18400

For Kg/Hr Multiply by .454