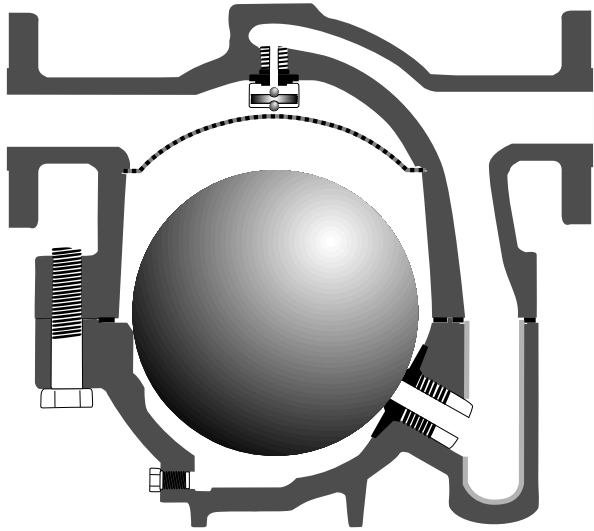


NOVA NFT650 SERIES VARIABLE ORIFICE STEAM TRAPS

Pressures To 650 PSIG (44.8 barg)
Temperatures to 750°F (400°C)



Applications

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

Options *See page 8*

- SLR - SLR Orifice
- B - Blowdown Valve
- Continuous Bleed Air Vent
- 300# or 600# Flanged Connection*

*Available on NFT652 and NFT653 only.

Canadian Registration # 0E0591.9

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 — Provided with 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.

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

Models

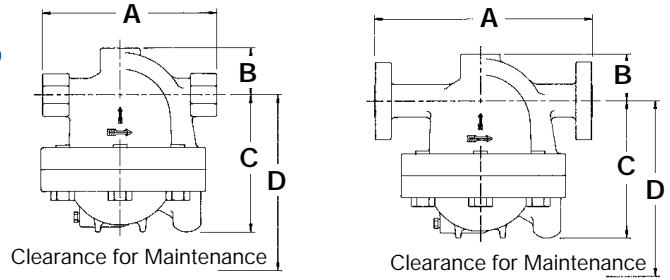
- **NFT651**—Low capacity
- **NFT652**—Medium capacity
- **NFT653**—High capacity

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.

NOVA NFT650 SERIES VARIABLE ORIFICE STEAM TRAPS



Connections:
1/2"-2" NPT or 1 1/2"-2" Flanged

Typical 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 steel bodied suitable for pressures to 650 psi and available in 1/2" through 2" NPT, Socket Weld, or flanged.

Materials of Construction

Body & Cover: ASTM A216 Grade WCB

Cover Gasket: Spiral Wound 304 Stainless w/graphite filler

All Internal: Stainless Steel

Air Vent: Balanced Pressure, Welded Stainless Steel

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)
175	175 psig (12.1 barg)
300	300 psig (20.7 barg)
400	400 psig (27.6 barg)
600	600 psig (41.4 barg)

PMA: Max. Allowable Pressure: 650 psig (44.8 barg)

TMA: Max. Allowable Temperature: 750°F (400°C)

Dimensions		Inches (mm)						Weight Lbs. (kg)
Model	Size	A			B	C	D	
		NPT	300#	600#				
NFT651	1/2, 3/4 & 1	5 1/2 (140)	—	—	3 1/16 (78)	5 7/16 (138)	7 1/4 (184)	21 (9.5)
NFT652	1	11 (279)	13 3/4 (349)	13 3/4 (349)	2 15/16 (75)	8 3/4 (222)	11 3/8 (290)	84 (38.2)
	1 1/2 & 2	11 (279)	13 3/4 (349)	14 9/16 (370)	2 15/16 (75)	8 3/4 (222)	11 3/8 (290)	87 (39.5)
NFT653	1 1/2	13 3/4 (349)	16 3/4 (426)	17 3/8 (411)	3 5/16 (84)	11 7/8 (392)	16 (406)	192 (87.3)
	2	13 3/4 (349)	16 11/16 (424)	17 7/16 (443)	3 5/16 (84)	11 7/8 (302)	16 (406)	195 (88.6)

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

Trap	Orifice Max. ΔP	Differential – PSIG (barg)														
		1 (.07)	5 (.34)	10 (.69)	20 (1.38)	50 (3.45)	75 (5.17)	100 (6.90)	150 (10.3)	175 (12.1)	200 (13.8)	250 (17.2)	300 (20.7)	400 (27.6)	500 (34.5)	600 (41.4)
NFT651	20	590	1600	2100	2450											
	50	340	760	1080	1540	2460										
	100	200	500	650	830	1100	1300	1400								
	175	180	350	500	675	900	1000	1100	1300	1400						
	400	100	220	300	390	510	585	640	740	795	835	920	1000	1140		
	600	75	145	180	225	300	340	375	435	465	490	540	585	665	740	800
NFT652	20	2720	6280	8600	11700											
	50	1750	3920	5560	7900	12600										
	100	930	2170	3130	4460	6020	7030	7960								
	175	800	1700	2300	3200	4400	5000	5500	6400	6900						
	300	645	1240	1565	1955	2575	2940	3220	3740	4000	4220	4640	5060			
	400	515	995	1250	1565	2060	2355	2575	2995	3200	3380	3720	4050	4600		
NFT653	600	370	710	895	1120	1470	1680	1840	2140	2290	2410	2655	2890	3300	3655	3955
	20	8000	15000	18000	22800											
	50	5460	12600	15600	18400	25400										
	100	2800	6350	8700	12800	16600	18700	21000								
	175	2400	5500	7600	10300	14400	16500	18200	20750	21900						
	300	1500	3500	5200	7075	9325	10655	11655	13545	14485	15275	16815	18315			
NFT653	400	1400	2800	4200	5630	7420	8480	9270	10770	11520	12150	13380	14570	16555		
	600	800	1800	2800	3900	5220	5970	6530	7585	8110	8555	9420	10260	11655	12960	13990

For Kg/Hr Multiply by .454