

Onyx GEM™ Trap

Technical Datasheet



The GEM Trap is a low maintenance steam trap with no moving parts; it will not wear and its performance is guaranteed* on saturated steam for 10 years. The unique orifice and multistaged throat technology utilises the expansion of the flash steam created by the pressure differential across the trap to control the flow of condensate.

Operating over variable loads, the GEM Trap will suit all industrial applications. The single piece bodies are manufactured from wear and corrosion resistant grades of stainless steel.

The GEM Trap is the most energy efficient steam trap on the market and is supplied with a full sizing and commissioning service.

THE ONYX GEM TRAP

Onyx Traps contain GEM's inverted cone technology and a robust reinforced mesh strainer basket with large surface area to further protect the orifice from debris.

- ▶ Same face to face dimension as mechanical traps
- ▶ Quick and easy to install
- ▶ Fully maintainable in-line
- ▶ Easy access to both strainer basket and orifice chamber

Suitable Applications

- ▶ Low to medium load process applications
- ▶ Line drainage / trace heating

Rating	PMA	TMA
DN15 / 1/2"	50 barg (730 psig)	400 °C (750 °F)
DN20 / 3/4"	50 barg (730 psig)	400 °C (750 °F)

- ▶ PMA 100 barg (1450 psig) available on request – refer to markings on individual trap
- ▶ For all ratings over 50 barg, a charge will be applicable to pressure test.

Ancillary Parts

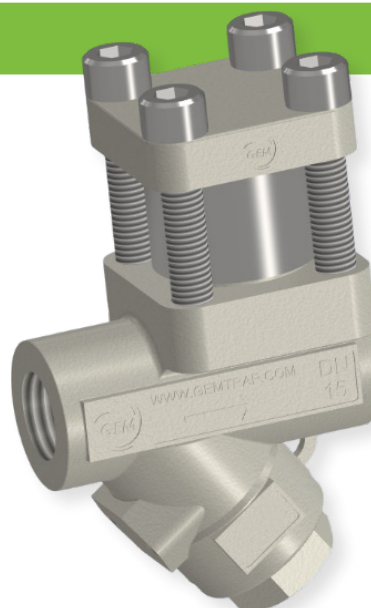
- ▶ Insulation jacket
- ▶ Optional drainage valve
- ▶ Optional online cleaning tool

Available Spares

- ▶ Quality kammprofile and graphite gaskets
- ▶ Robust SS reinforced strainer basket

Sizes & Connection Types Available

	Flanged	Threaded BSP / NPT	Socket Weldable
DN15 / 1/2"	On request	✓	✓
DN20 / 3/4"	On request	✓	✓



GEM TRAP BENEFITS

Quality, Efficiency, Reliability and Service

Permanent Energy Savings

- ▶ Typical payback < 2 years
- ▶ Inherently more efficient than mechanical steam traps

10 Year Performance Guarantee*

- ▶ No moving parts to wear or fail
- ▶ No inserts – no leak path

Reduced Maintenance

- ▶ No on-going trap surveys
- ▶ Minimal annual maintenance

Improved Process Control

- ▶ No pressurisation of condensate return system
- ▶ Elimination of steam trap related waterhammer

Performs Across Industrial Variable Loads

- ▶ Each trap supplied with full sizing and commissioning service

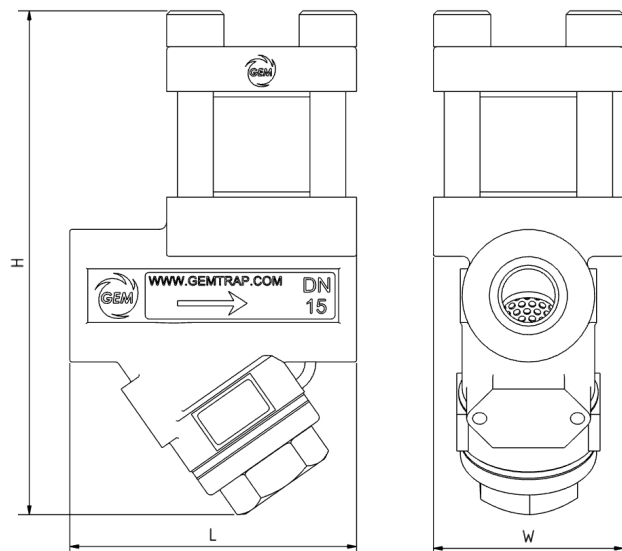
* Reduced guarantee offered for superheated steam

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Product Diagram



Materials

Part	Material
Trap Body	EN 10088-3 1.4401 / ASTM A479 316
Cover	Cast Stainless Steel ASTM A351 CF8M
Connector Body	Cast Stainless Steel ASTM A351 CF8M
Connector Cap	Cast Stainless Steel ASTM A351 CF8M
Connector Cap Gasket	Kammprofile 316 Stainless Steel Core / Graphite-faced
Strainer Basket	Reinforced 316 Stainless Steel 60 Mesh
Bolts	ASTM A193 B8M Cl.2

- ▶ Full product traceability is part of our Quality Assurance procedure
- ▶ Type 3.1 material certification to EN 10204:2004
- ▶ Thermal Energy reserve the right to amend material specification

All certification/inspection requirements must be stated at time of order placement.

For further information on the full GEM™ Trap range contact us at technical@thermalenergy.com or visit www.thermalenergy.com

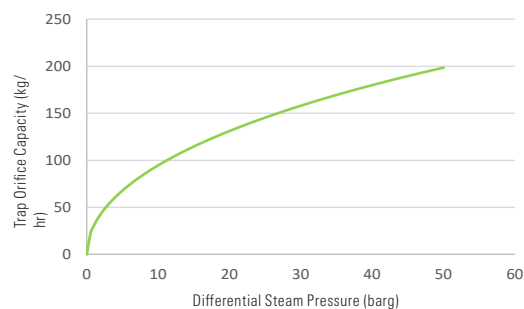
Dimensions & Weights

	OX15 (DN15 / 1/2")	OX20 (DN20 / 3/4")
Height (H)	141 mm	141 mm
Height (H)*	151 mm	151 mm
Length (L)	80 mm	80 mm
Width (W)	53 mm	53 mm
Weight	1.6kg	1.6kg

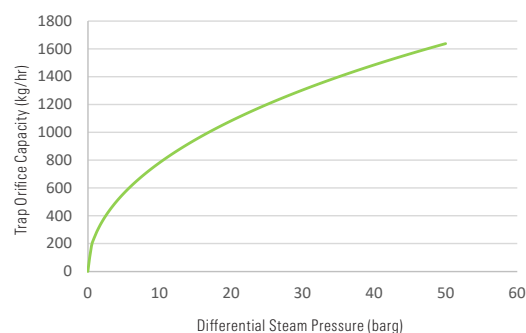
*Extended capacity

Discharge Capacity

Standard



Extended Capacity



Maximum discharge capacity for Onyx Trap at saturation temperature.*

The GEM Trap will have 2-3 times the capacity at start-up.

* Actual capacity is dependent on internal sizing configuration.