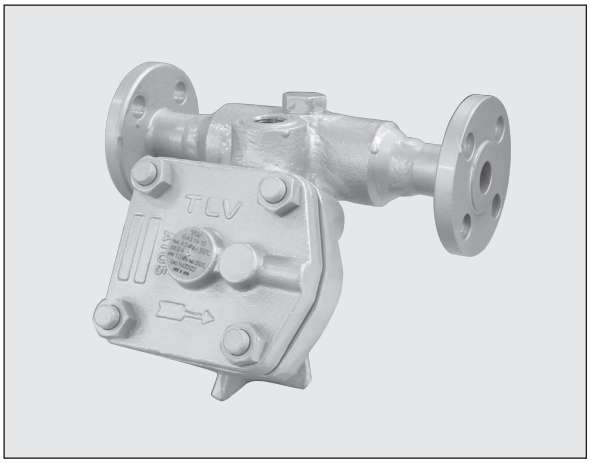
FREE FLOAT® GAS TRAP
MODEL GAS1N

STEEL GAS TRAP WITH TIGHT SHUT-OFF FOR INERT AND HAZARDOUS GASES

Benefits

High pressure, inline repairable free float trap with tight shut-off. Automatically drains condensate from air and gas systems.

1. Constant water seal and unique rotational seating design eliminate concentrated wear to ensure long life.
2. Three-point seating provides a tight seal even under no-load conditions (with rubber orifice).
3. Easy, inline access to internal parts simplifies cleaning and lowers maintenance costs.



Specifications

Model		GAS1N (Metal Orifice)			GAS1N (Rubber Orifice)		
Connection		Screwed	Socket Weld	Flanged	Screwed	Socket Weld	Flanged
Size (in)		½, ¾, 1			½, ¾, 1		
Orifice No.		5, 10, 21, 45			10, 21		
Maximum Operating Pressure (psig)	PMO**	75, 150, 300, 640			150, 300		
Maximum Differential Pressure (psi)	ΔPMX**	75, 150, 300, 640			150, 300		
Minimum Operating Pressure (psig)		Vacuum			Vacuum		
Maximum Operating Temperature (°F)	TMO	572 (S)*, 662 (C)*			302		
Maximum Allowable Pressure (psig)	PMA	640			640		
Maximum Allowable Temperature (°F)	TMA	572 (S)*, 662 (C)*			572 (S)*, 662 (C)*		

* (S) = Stainless steel version (C) = Cast steel version ** For specific gravities other than 1.00, use table below **GAS1N is a non-standard product, consult TLV for delivery time required**

Orifice No.		Specific Gravity					
		1.00 - 0.85	0.84 - 0.80	0.79 - 0.75	0.74 - 0.70	0.69 - 0.65	0.64 - 0.60
		Max. Operating Pressure PMO (psig) & Max. Differential Pressure ΔPMX (psi)					
10	Rubber	150	150	115	84	52	20
21	Rubber	300	300	236	172	109	46
5	Metal	75	71	53	40	24	10
10	Metal	150	150	115	84	52	20
21	Metal	300	300	236	172	109	46
45	Metal	640	640	516	368	236	97

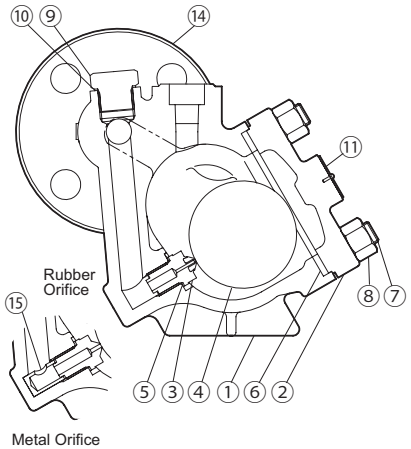
⚠ CAUTION

To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

Consult TLV for use with toxic, flammable or otherwise hazardous gases.

No.	Description	Material	ASTM/AISI*	JIS
①	Body	Cast Steel	A216 Gr.WCB	—
②	Cover	Carbon Steel	A105	—
③	Orifice (Metal)	—	—	—
	Orifice (Rubber)	Fluorine Rubber/Stainl. Stl.	D2000HK/AISI304	FPM/SUS304
④	Float	Stainless Steel	AISI316L	SUS316L
⑤	Orifice Gasket	Soft Iron	AISI1010	SUYP
⑥	Cover Gasket	Graphite/Stainless Steel	- / AISI304	- / SUS304
⑦	Cover Bolt	Alloy Steel	A193 Gr.B16	SNB16
⑧	Cover Nut	Carbon Steel	AISI1045	S45C
⑨	Plug	Stainless Steel	AISI303	SUS303
⑩	Plug Gasket	Soft Iron	AISI1010	SUYP
⑪	Nameplate	Stainless Steel	AISI304	SUS304
⑫	Drain Plug**	Carbon/Cast Steel	AISI1025	S25C
⑬	Drain Plug Gasket**	Soft Iron	AISI1010	SUYP
⑭	Flange/Socket**	Carbon Steel***	A105	—
⑮	Bushing	Stainless Steel	AISI303	SUS303

* Equivalent ** Shown on reverse *** Material depends on flange specifications



Options

1. Body material stainless steel.
2. Flanged or screwed balancing port connection.
3. Orifice material EPDM (ethylene propylene rubber), TMO 212 °F.

Leakage Rating

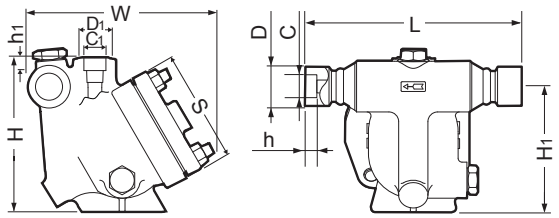
Maximum Seat Leakage

Model	Orifice	Minimum ΔP (psi)
		0.1
GAS1N	Rubber	<0.15 standard ml/min, <1 bubble/min
	Metal	<0.1% of rated valve capacity

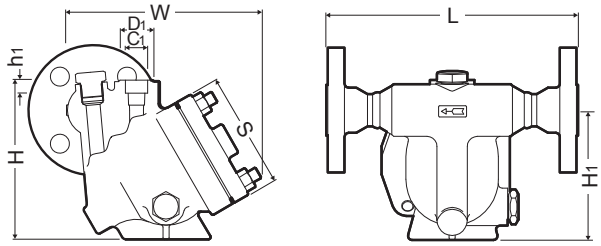
* Standard milliliters based on 60 °F, 14.73 psi abs.

Dimensions

● **GAS1N** Screwed & Socket Weld



● **GAS1N** Flanged



NOTE:
A pressure balancing line must be connected to the gas or air system from the balancing port at the top of the trap to a place above any possible condensate accumulation in the system.

GAS1N Screwed* (in)

Size	L	H	H_1	W	S	Weight (lb)
½	8 ¼	6 5/16	5 ⅛	7 9/16	4 ½	22
¾						
1						24

* NPT, other standards available

GAS1N Socket Weld* (in)

Size	L	H	H_1	W	S	ϕD	ϕC	h	Weight (lb)
½	8 ¼	6 5/16	5 ⅛	7 9/16	4 ½	1 5/16	0.855	½	22
¾						1 9/16	1.065		
1						1 7/8	1.330		24

* ASME B16.2005, other standards available

GAS1N Flanged (in)

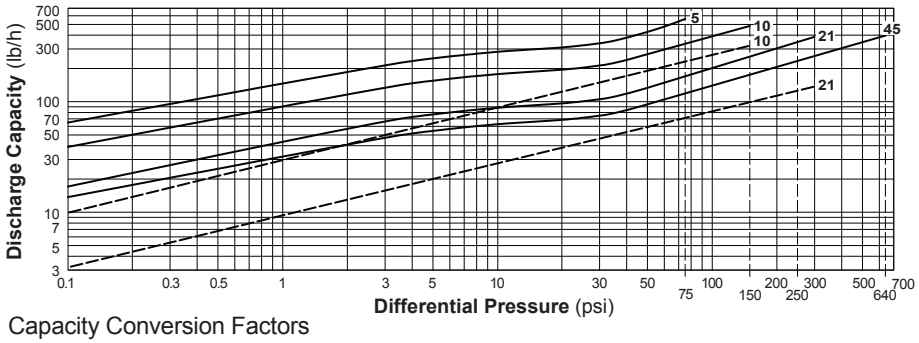
Size	L Connects to ASME Class 150RF	300RF	600RF	900RF	H	H_1	W	S	Weight* (lb)
½	9 13/16				6 5/16	5 ⅛	7 9/16	4 ½	24
¾	9 13/16								29
1	9 13/16								31

Other standards available, but length and weight may vary
* Weight is for Class 600RF

Balancing Port Dimensions (in)

Pipe Size	ϕD_1	ϕC_1	h_1
⅜	1 1/16	0.690	½
½	1 5/16	0.855	
¾	1 9/16	1.065	

Discharge Capacity



– – – Rubber Orifice
——— Metal Orifice

1. Line numbers within the graph refer to orifice numbers.
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. The chart is applicable to condensate below 212°F (Rubber Orifice) or 11°F below saturated steam temperature (Metal Orifice).
4. The discharge capacity is for a liquid with specific gravity of 1.
5. Recommended safety factor: at least 1.5

Capacity Conversion Factors

Specific Gravity (S.G.)	0.95	0.9	0.85	0.8	0.75	0.7	0.65	0.6
Conversion Factor	1.03	1.06	1.08	1.12	1.16	1.19	1.24	1.29

Before using the capacity chart multiply the required capacity (including safety factor) by the appropriate conversion factor for the specific gravity of the liquid. Choose from the table above or use the following formula: Conversion factor = $\frac{1}{\sqrt{S.G.}}$

⚠ CAUTION

DO NOT use traps under conditions that exceed maximum differential pressure, as condensate backup will occur!

⚠ CAUTION

DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Member of FCI Fluid Controls Institute, Inc.

Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001