



# FREE FLOAT® DRAIN TRAP

## MODEL JAH7RG

HIGH-PRESSURE FREE FLOAT DRAIN TRAP WITH TIGHT SHUT-OFF FOR AIR AND INERT GAS SERVICE

### Features

**Large-capacity cast steel\* free float trap automatically drains condensate and oil from air and inert gas systems.**

1. Self-modulating free float provides continuous, smooth, low-velocity condensate discharge as process loads vary.
2. Precision-ground float and three-point seating provides superior sealing, even under no-load conditions (with rubber orifice).
3. Only one moving part, the free float, eliminates concentrated valve wear and provides long maintenance-free service life.
4. Built-in screen with large surface area ensures extended trouble-free service.

\* Stainless steel body available on request



### Specifications

Model	JAH7RG-R (rubber orifice)		JAH7RG-M (metal orifice)	
	Socket Welded	Flanged	Socket Welded	Flanged
Connection				
Size (mm)	20, 25, 40, 50		20, 25, 40, 50	
Orifice No.	10, 22, 40		G5, G10, G22, G40, G46	
Maximum Operating Pressure (MPaG)	PMO**		0.5, 1.0, 2.2, 4.0, 4.6	
Maximum Differential Pressure (MPa)	ΔPMX**		0.5, 1.0, 2.2, 4.0, 4.6	
Minimum Operating Pressure (MPaG)			0.01	
Maximum Operating Temperature (°C)	TMO		150	
Minimum Condensate Load for Tight Sealing (kg/h)			5	
Applicable Fluids*	Air, Inert Gases			

\* Do not use for toxic, flammable, or otherwise hazardous fluids. 1 MPa = 10.197 kg/cm<sup>2</sup>  
 PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 4.6  
 Maximum Allowable Temperature (°C) TMA: 425

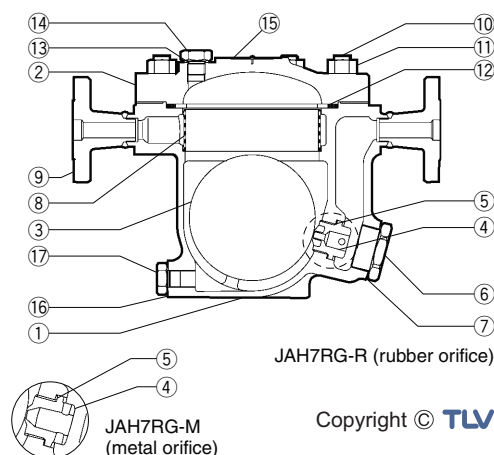
\*\* For fluids with specific gravities other than 1.0, use the table below

Model	Orifice No.	Specific Gravity										
		1.00	0.99 – 0.95	0.94 – 0.90	0.89 – 0.85	0.84 – 0.80	0.79 – 0.75	0.74 – 0.70	0.69 – 0.65	0.64 – 0.60	0.59 – 0.55	0.54 – 0.50
		Maximum Operating Pressure PMO (MPaG)					Maximum Differential Pressure PMX (MPa)					
JAH7RG-R	10	1.00	1.00	1.00	1.00	0.99	0.87	0.75	0.63	0.51	0.38	0.26
	22	2.20	2.20	2.20	2.20	2.15	1.88	1.62	1.36	1.09	0.83	0.57
	40	4.00	4.00	4.00	4.00	4.00	3.54	3.05	2.55	2.06	1.56	1.07
JAH7RG-M	G5	0.50	0.50	0.50	0.50	0.50	0.44	0.38	0.32	0.26	0.20	0.13
	G10	1.00	1.00	1.00	1.00	0.99	0.87	0.75	0.63	0.51	0.38	0.26
	G22	2.20	2.20	2.20	2.20	2.15	1.88	1.62	1.36	1.09	0.83	0.57
	G40	4.00	4.00	4.00	4.00	4.00	3.54	3.05	2.55	2.06	1.56	1.07
	G46	4.60	4.60	4.60	4.60	4.51	3.77	3.02	2.28	1.53	0.79	0.04



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.

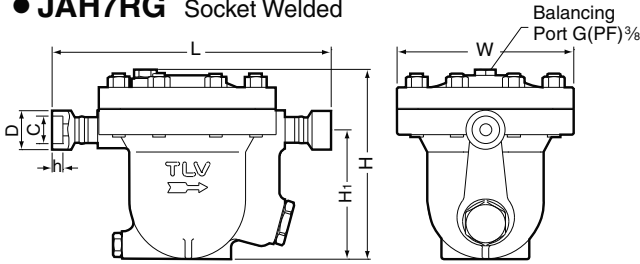
No.	Description	Material	JIS	ASTM/AISI*
①	Body	Cast Steel	—	A216 Gr. WCB
②	Cover	Carbon Steel	S25C	AISI1025
③	Float	Stainless Steel	SUS316L	AISI316L
④	Orifice	JAH7RG-R Fluorine Rubber/Stain. Steel JAH7RG-M	FPM/SUS316L	D2000HK/AISI316L
⑤	Orifice Gasket	Soft Iron	SUYP	AISI1010
⑥	Orifice Plug	Cast Stainless Steel	—	A351 Gr. CF8
⑦	Orifice Plug Gasket	Soft Iron	SUYP	AISI1010
⑧	Screen	Stainless Steel	SUS430	AISI430
⑨	Socket**/Flange	Carbon Steel	—	A105
⑩	Cover Bolt	Alloy Steel	SNB16	A193 Gr. B16
⑪	Cover Nut	Carbon Steel	S45C	AISI1045
⑫	Cover Gasket	Graphite/Stainless Steel	- / SUS304	- / AISI304
⑬	Plug Gasket	Soft Iron	SUYP	AISI1010
⑭	Balancing Line Plug	Carbon Steel	S25C	AISI1025
⑮	Nameplate	Stainless Steel	SUS304	AISI304
⑯	Drain Plug Gasket	Soft Iron	SUYP	AISI1010
⑰	Drain Plug	Carbon Steel	S25C	AISI1025



\* Equivalent \*\* Shown on reverse

**Dimensions**

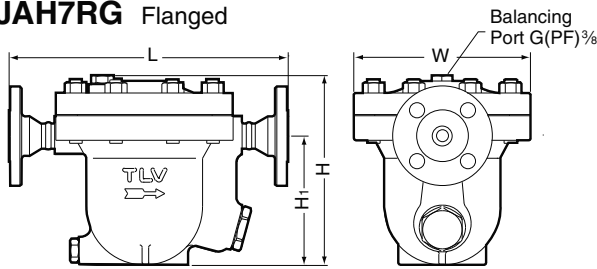
● **JAH7RG Socket Welded**



**JAH7RG Socket Welded** (mm)

Size	L	H	H <sub>1</sub>	φW	φD	φC	h	Weight (kg)
20	322	236	160	222	41.5	27.7	14	19
25	334				50	34.5		
40	336				66	49.1		21
50		79.5	61.1	17	22			

● **JAH7RG Flanged**



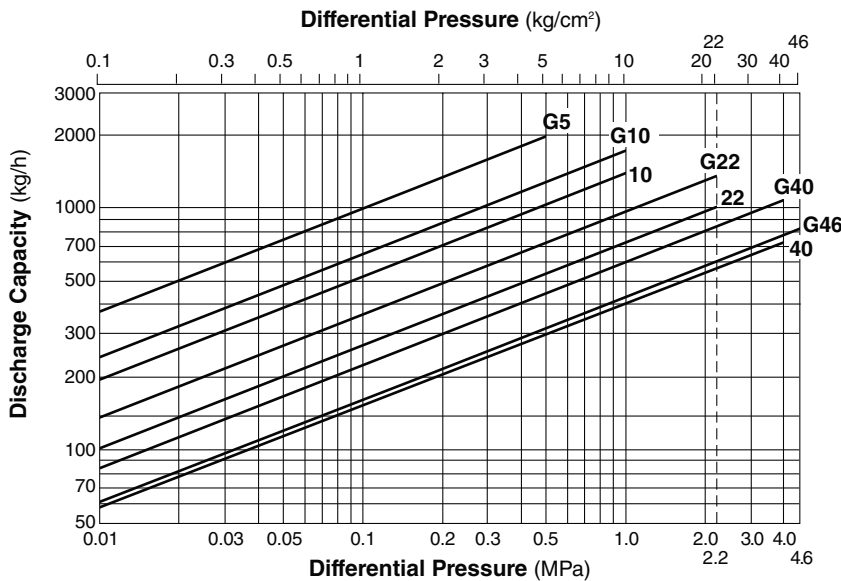
**JAH7RG Flanged** (mm)

Size	L			H	H <sub>1</sub>	φW	Weight* (kg)
	ASME Class						
	150RF	300RF	600RF				
20	340	340	340	236	160	222	23
25	385	385	385				25
40	380	380	380				29
50	390	390	390				33

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

- Note: ● A pressure-balancing line must be connected to the air/gas system from the balancing port at the top of the trap to a place above any possible condensate accumulation in the system.  
● Balancing port options: 10 or 15 mm, flanged, socket welded or screwed with other thread standards.

**Discharge Capacity**



1. Line numbers within the graph refer to orifice numbers. Orifice numbers beginning with "G" are for JAH7RG-M (metal orifice); other numbers are for JAH7RG-R (rubber orifice).
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. The chart is applicable to condensate below 100°C.
4. The discharge capacity is for liquids with a specific gravity of 1. See the Discharge Capacity Conversion Factors table for other specific gravities.
5. Recommended safety factor: at least 1.5.



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

● **Discharge Capacity Conversion Factors**

Specific Gravity (S.G.)	0.95	0.9	0.85	0.8	0.75	0.7	0.65	0.6	0.55	0.5
Conversion Factor	1.03	1.06	1.08	1.12	1.16	1.19	1.24	1.29	1.35	1.41

Before using the discharge capacity chart, multiply the required capacity (including safety factor) by the appropriate conversion factor for the specific gravity of the liquid to be discharged.

Choose from the table above or use the following formula: Conversion Factor =  $\frac{1}{\sqrt{S.G.}}$

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

