



AIR & DRAIN TRAPS

**JA·JAHR Series / G8
TATSU2
SS1VG / JAHRG Series**



TLV® Free Float Technology

AIR TRAPS For Air

In today's world of automation, compressed air is used in many different industries including high-precision machinery and instrumentation. After air is compressed it is cooled by an after-cooler or in a receiver tank, where condensate is formed from the air as water droplets. This condensate also occurs in compressed air distribution piping, leading to rust and fluctuation in high-precision machinery, as well as causing a reduction in product quality. Air traps protect your equipment and products by discharging condensate automatically.

■ Long Service Life

The hinge-less lever-less free float has one moving part allowing for simple operation. With infinite sealing surfaces, the free float does not suffer from concentrated wear, maintaining initial performance quality over a long time period.

JA·JAHR Series/G8

■ Continuous Condensate Discharge

The float adjusts quickly to changes in condensate flow adjusting the valve seat opening, ensuring continuous rapid discharge without condensate backup.

JA·JAHR Series/G8

■ Rubber Valve Seat for Tight Sealing

The standardized rubber* valve seat allows for tight sealing with the precision ground float.

JA Series*/G8

* JA7.2, JA7.5, JA8 and JAHR Series equip fluorine resin valve seat.

■ Valve Seat Cleaning Mechanism

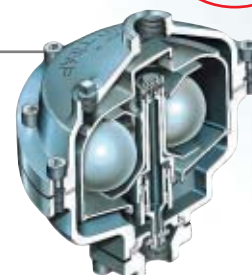
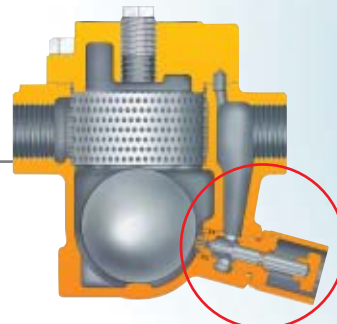
Equipped with an external plunger unit, blockage caused by oils and/or scale can be easily eliminated.

JA Series (JA3D/JA3/JA5/JA7)

■ Discharge High-Viscosity Condensate

With a large (16 mm) orifice, unique intermittent discharge and self-cleaning function, high-viscosity condensate as well as condensate containing dirt/scale can be discharged. Discharges large amounts of condensate (up to approx. 7.4 tons/hour).

TATSU2



for the Highest Reliability

DRAIN TRAPS

For Air and Inert Gases*

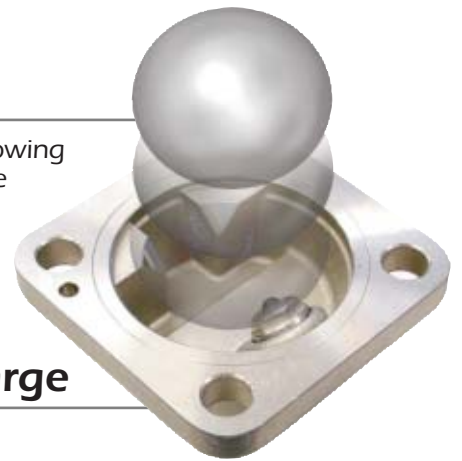
Like compressed air, after air or other inert gases are compressed they are cooled, and condensate is formed from air or the gas as water droplets. Condensate is the cause of many challenges resulting in rust and freezing in the pipes as well as a reduction in product quality. Drain traps for discharging condensate from both compressed air and inert gases protect your equipment and products by discharging condensate automatically as it forms while maintaining a tight seal. These traps are made with durable steel construction for a long service life.

* Do not use with toxic, flammable or otherwise hazardous gases.

Long Service Life

The hinge-less lever-less free float has one moving part allowing for simple operation. With infinite sealing surfaces, the free float does not suffer from concentrated wear, maintaining initial performance quality over a long time period.

SS1VG Series/JAHRG Series



Continuous Condensate Discharge

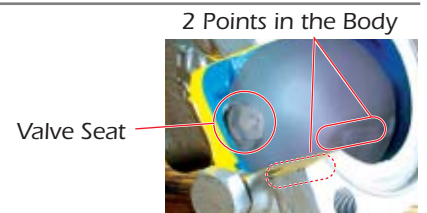
The float adjusts quickly to changes in condensate flow adjusting the valve seat opening, ensuring continuous rapid discharge without condensate backup.

SS1VG Series/JAHRG Series

Three Point Seating for Tight Sealing

The high-precision ground float fits securely on the three-point seating creating a high-quality seal even for metal valve seats comparable to that of rubber.

SS1VG Series/JAHRG Series



Materials for High-Temperature/Pressure

For higher temperature and pressure applications, TLV Drain Traps offer choices in body and valve seat material to meet specific needs. The SS1VG has all-stainless steel construction with a metal valve seat available for high-temperature applications. The JAHRG Series features cast steel bodies for high-pressure applications with tight-sealing provided by a rubber valve seat, or higher temperatures with a metal valve seat.

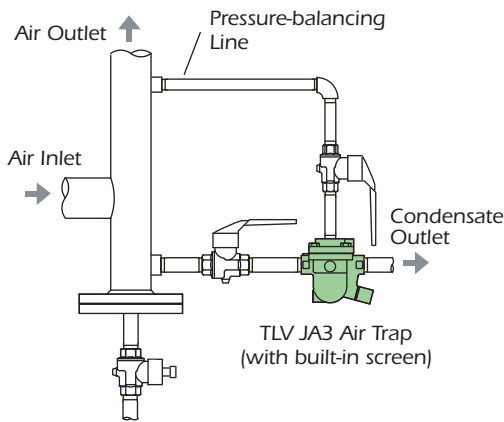
SS1VG Series/JAHRG Series



JA·JAHR Series /G8

AIR TRAPS

Sample Application: Air Main Drip



Features:

- Free float type for continuous condensate discharge.
- Only one moving part, the free float, simplifies operation and provides reliable service.
- Usable for installation in both horizontal and vertical piping (JA3D).
- External valve seat cleaning mechanism easily eliminates blockage (JA3D/JA Series).
- Large orifice to reduce valve seat blockage (JA7/G8).
- Large capacity (Max. 2.5 t/h) and/or high pressure (PMO 4.0 MPaG).

Applications:

- Discharge of condensate in air lines (end of piping after receiver tanks, after coolers, etc.).
- Small compressed air lines (JA3D/JA3).
- Lubricated air compressor systems where small amounts of oil get into the condensate (JA7/G8).



JA3D

Valve-seat
Cleaning



JA5

Valve-seat
Cleaning

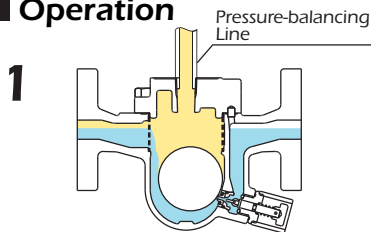


JAH8R

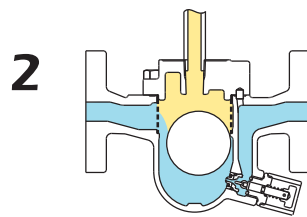


G8

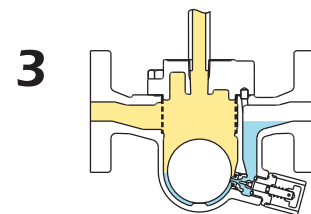
Operation



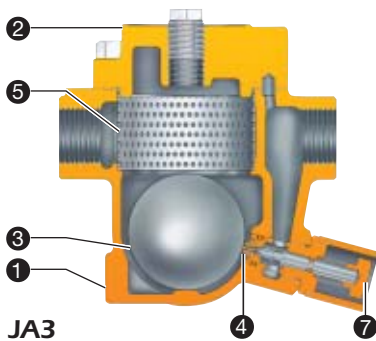
1 As condensate enters the trap, the float rises controlling the size of the valve seat opening. With the valve open, the condensate is continuously discharged.



2 If a large condensate load enters the trap at once, the float rises to open the valve seat fully, increasing the condensate discharge capacity.

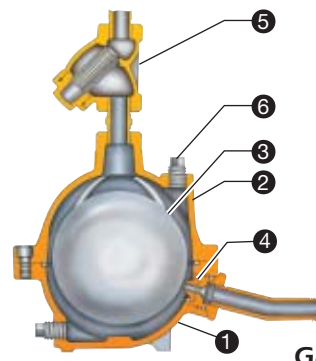


3 If no condensate enters the trap, the float is fully lowered to close the valve seat. The water level remains above the valve seat, promoting tight sealing.



JA3

No.	Part Name
①	Body
②	Cover
③	Float
④	Valve Seat
⑤	Screen
⑥	Balancing Plug
⑦	Plunger



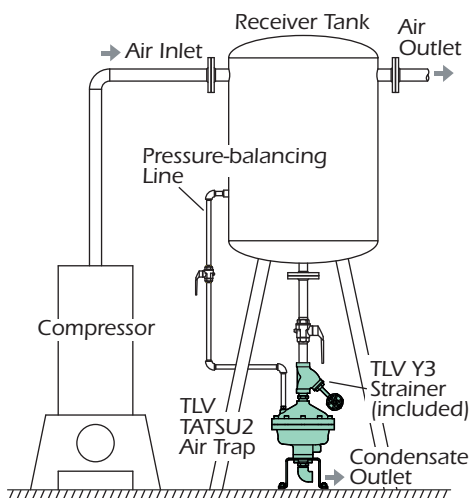
G8

No.	Part Name
①	Body
②	Cover
③	Float
④	Valve Seat
⑤	Strainer
⑥	Balancing Plug

Model	JA3D	JA3	JAF3	JA5	JAF5	JA7	JA7.2	JA7.5	JA8	G8	JAH7.2R	JAH7.5R	JAH8R
Body Material	ZA	DCI	CI	DCI	DCI	CI	CI	CI	CI	CI	CS	CS	CS
Valve Seat Material	NBR	NBR	NBR	NBR	NBR	NBR	PTFE	PTFE	PTFE	NBR	PTFE	PTFE	PTFE
Connection	S	S	F	S	F	S	F	F	F	S	SW, F	SW, F	SW, F
Max. Operating Press. (MPaG)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.0	4.0	4.0	4.0
Max. Operating Temp. (°C)	100	100	100	100	100	100	150	150	150	100	150	150	150

* ZA: Zinc Alloy, DCI: Ductile Cast Iron, CI: Cast Iron, CS: Cast Steel, FPM: Fluorine Rubber, PTFE: Fluorine Resin, NBR: Nitrile Rubber
S = Screwed, F = Flanged, SW = Socket Welded

Sample Application: Receiver Tank



Features:

- Large (16 mm diameter) valve seat for easy discharge of oil, rust and scale.
- Large condensate discharge capacity (approx. 7.4 tons/hour).
- Automatic self-cleaning function during operation keeps the valve seat free of any blockage.



TATSU2

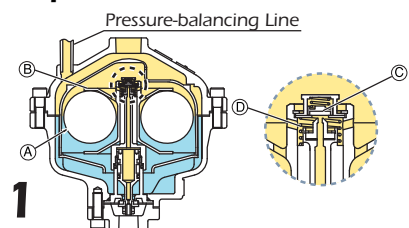
Large Capacity

For High-viscosities

Applications:

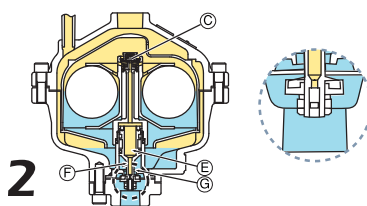
- Air piping containing oil, rust or scale.
- Air-using receiver tanks or other equipment with higher viscosity condensate.

Operation



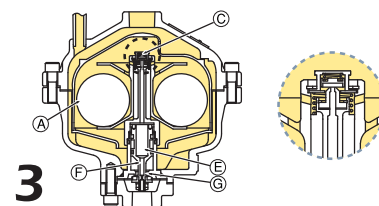
1

Condensate and oil flow into the trap and accumulate. When the level in the trap body rises to a point where the floats (A) rise and lift the float holder (B), the pilot valve (C) opens with the help of the coil spring (D).



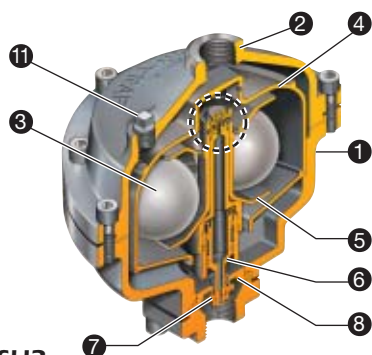
2

When pilot valve (C) opens, secondary pressure air enters the pressure chamber (E) lowering the piston (F) and opening the main valve (G) to discharge condensate.

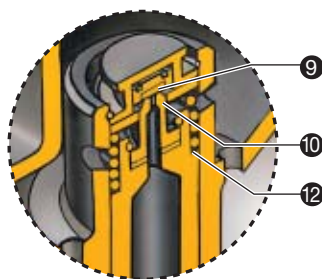


3

While the condensate inside the float cover discharges, the floats (A) fall and cause the pilot valve (C) to close. The pressure in the pressure chamber (E) is released to the outlet and the piston (F) rises to close the main valve (G) after a slight delay to allow the main valve to self-clean during discharge.



TATSU2

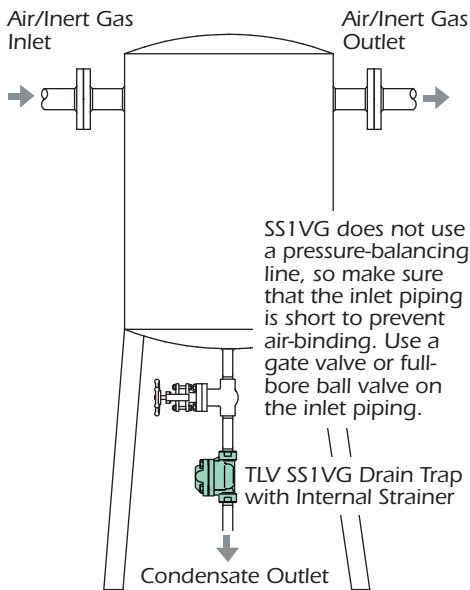


No.	Part Name
①	Body
②	Cover
③	Float
④	Float Cover
⑤	Float Holder
⑥	Piston
⑦	Main Valve
⑧	Main Valve Seat
⑨	Pilot Valve
⑩	Pilot Valve Seat
⑪	Balancing Plug
⑫	Opening Spring

Note: Y Strainer with Blowdown Valve Included

Model	TATSU2
Body Material	Cast Iron
Connection	Screwed
Max. Operating Pressure (MPaG)	1.0
Min. Operating Pressure (MPaG)	0.2
Max. Operating Temperature (°C)	80

Sample Application: Receiver Tank



Features:

- High-precision ground free float with three-point seating technology for tight sealing even during low-load conditions.
- Only one moving part, the free float, simplifies operation and provides reliable service.
- All-stainless steel body with long life for vertical installation.
- Small models allow installation even with limited space.

Applications*:

- Discharge of condensate from compressed air or inert gas-using equipment (compressors, etc.)
- Discharge of condensate in compressed air or inert gas lines (end of piping after receiver tanks, aftercoolers, etc.).
- Small capacity compressed air or inert gas lines.

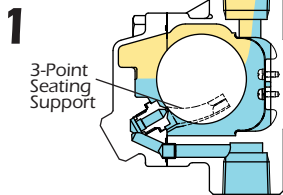
* Do not use for toxic, flammable or otherwise hazardous gases.



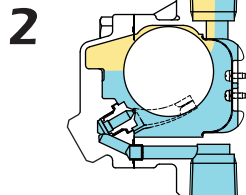
SS1VG



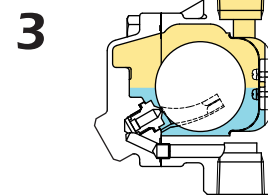
Operation



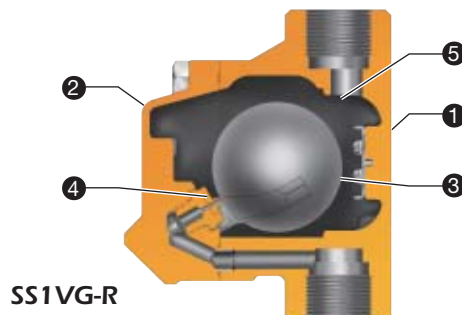
As condensate enters the trap, the float rises controlling the size of the valve seat opening. With the valve open, the condensate is continuously discharged.



If a large condensate load enters the trap at once, the float rises to open the valve seat fully, increasing the condensate discharge capacity.



If no condensate enters the trap, the float is fully lowered to close the valve seat. The water level remains above the valve seat, promoting tight sealing.



SS1VG-R

	Part Name
①	Body
②	Cover
③	Float
④	Orifice (Valve Seat)
⑤	Screen

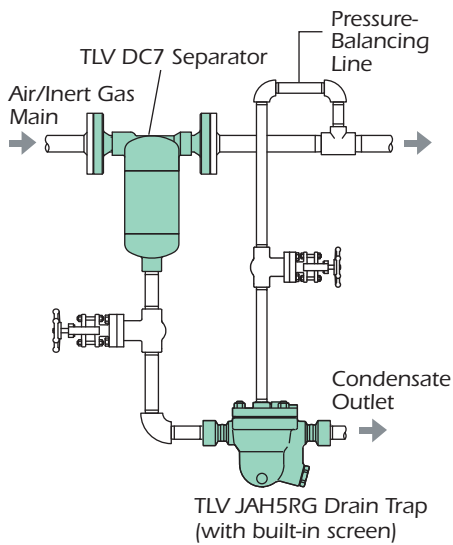
Model	SS1VG-R	SS1VG-M
Body Material	Stainless Steel	Stainless Steel
Valve Seat Material	Fluorine Rubber	Metal
Connection	Screwed	Screwed
Max. Operating Pressure (MPaG)	1.0	2.1
Max. Operating Temperature (°C)	150	220
Min. Condensate Load for Tight Sealing (kg/h)	0	0.5

JAH RG Series

DRAIN TRAPS

Sample Application:

Main Line with Separator



Features:

- High-precision ground free float with three-point seating technology for tight sealing even during low-load conditions.
- Only one moving part, the free float, simplifies operation and provides reliable service.
- Durable pressure-resistant design.
- Small model allows installation even with limited space (JAH5RG).

Applications*:

- Discharge of condensate from compressed air or inert gas-using equipment (compressors, etc.)
- Discharge of condensate in compressed air or inert gas lines (end of piping after receiver tanks, aftercoolers, etc.).
- Large capacity compressed air or inert gas lines.

* Do not use for toxic, flammable or otherwise hazardous gases.

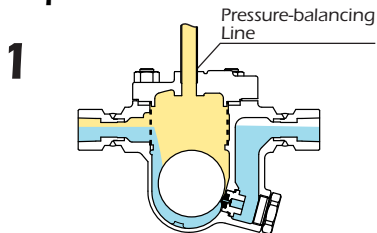


JAH5RG

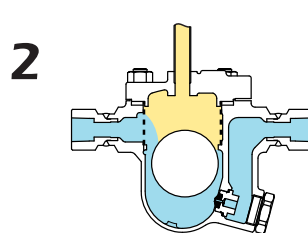
Three-Point Seating

For High-pressures

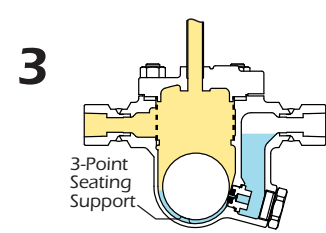
Operation



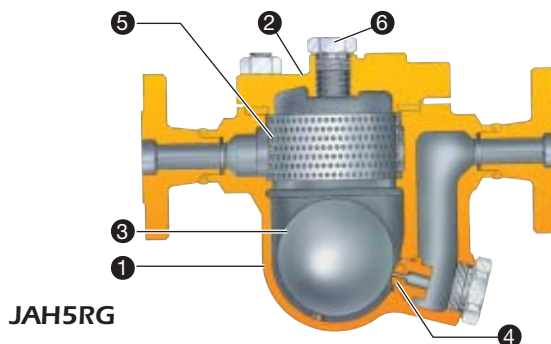
1 As condensate enters the trap, the float rises controlling the size of the valve seat opening. With the valve open, the condensate is continuously discharged.



2 If a large condensate load enters the trap at once, the float rises to open the valve seat fully, increasing the condensate discharge capacity.



3 If no condensate enters the trap, the float is fully lowered to close the valve seat. The water level remains above the valve seat, promoting tight sealing.



JAH5RG

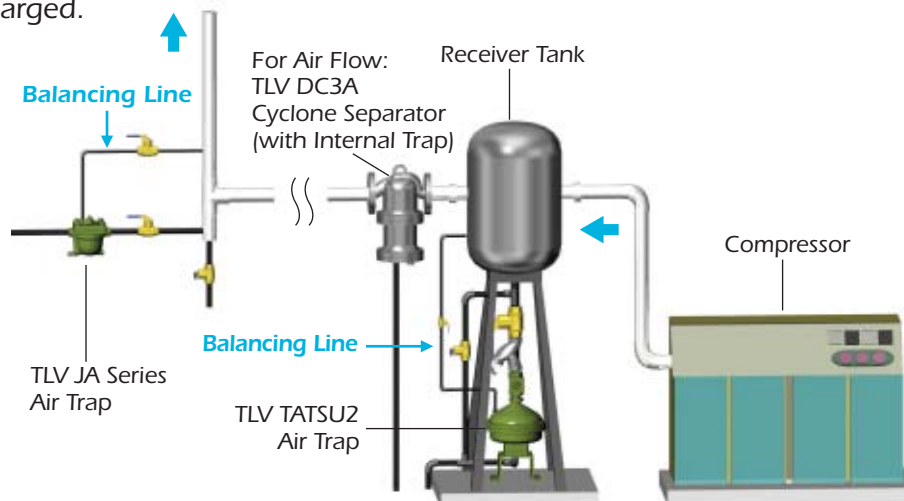
No.	Part Name
①	Body
②	Cover
③	Float
④	Orifice (Valve Seat)
⑤	Screen
⑥	Balancing Plug

Model	JAH5RG-R	JAH5RG-M	JAH7RG-R	JAH7RG-M
Body Material	Cast Steel	Cast Steel	Cast Steel	Cast Steel
Valve Seat Material	Fluorine Rubber	Metal	Fluorine Rubber	Metal
Connection*	S, W, F	S, W, F	W, F	W, F
Max. Operating Pressure (MPaG)	2.2	4.6	4.0	4.6
Max. Operating Temperature (°C)	150	425	150	425
Min. Condensate Load for Tight Sealing (kg/h)	0	1	0	5

* S = Screwed, W = Socket Weld, F = Flanged

Pressure-balancing Line

Without a pressure-balancing line connected between the trap cover and a dry portion of the piping/receiver tank, air or gas binding can occur. Air or gas binding occurs when vapor in the trap cavity cannot be displaced by the incoming condensate, which prevents condensate from being discharged.



Note: Since the SS1VG is installed vertically, a balancing line is not generally required. However, to prevent air binding, use as short as possible straight and vertical inlet piping with a minimum nominal diameter of 15 mm.

Selection Guide

Applicable Fluids	Model	Connection	Body Material	Piping Direction	Valve Seat Material	Operating Press. Range (MPaG)	Max. Operating Temperature (°C)	Max. Discharge Capacity (kg/h)	Min. Specific Gravity*	Special Feature	
Air	JA3D	Screwed	Zinc Alloy	Horiz./Vert.	Nitrile Rubber	0.01 - 1.6	100	230	1.0	Plunger for manual valve seat cleaning	
	JA3		Ductile Cast Iron	Horizontal				275			
	JAF3		Flanged					Cast Iron			Vertical
	JA5	Screwed	Ductile Cast Iron					1620			
	JAF5	Flanged	Cast Iron					1340			
	JA7							9410			
	G8	Screwed	Cast Iron	Vertical	PTFE**	0.01 - 1.0	150	8710		Increased capacity	
	JA7.2	Flanged						Cast Steel			Horizontal
	JA7.5		9410	Increased capacity and high pressure service							
	JA8		0.01 - 4.0		8710						
	JAH7.2R			25770							
	JAH7.5R	Screwed	Cast Iron	Vertical	Nitrile Rubber	0.2 - 1.0	80	7400		Discharges High-Viscosity Condensate	
JAH8R											
Air and Inert Gases ***	SS1VG-R	Screwed, Socket Welded, Flanged	Cast Stainless Steel	Vertical	Fluorine Rubber	0.01 - 1.0	150	130	0.50	All parts are stainless steel	
	SS1VG-M				Metal**	0.01 - 2.1	220	385			
	JAH5RG-R	Socket Welded, Flanged	Cast Steel	Horizontal	Fluorine Rubber	0.01 - 2.2	150	270		High pressure service	
	JAH5RG-M				Metal**	0.01 - 4.6	425	560			
	JAH7RG-R				Fluorine Rubber	0.01 - 4.0	150	1380			
	JAH7RG-M				Metal**	0.01 - 4.6	425	2000			

* Maximum operating pressure, maximum differential pressure and condensate discharge capacity are affected by the specific gravity of the condensate.

** Metal and PTFE valve seats require a minimum condensate load for tight sealing. See individual product pages for details.

*** Do not use for toxic, flammable or otherwise hazardous gases.

Full product details (sizes, connections, pressures, capacities and materials) are included in the individual specification data sheets (SDS).



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.

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ISO 9001/ISO 14001

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is approved by LRQA Ltd. to ISO 9001/14001

