Honeywell | Industrial & Commercial Thermal

krom schroder

Safety shut-off valve JSAV

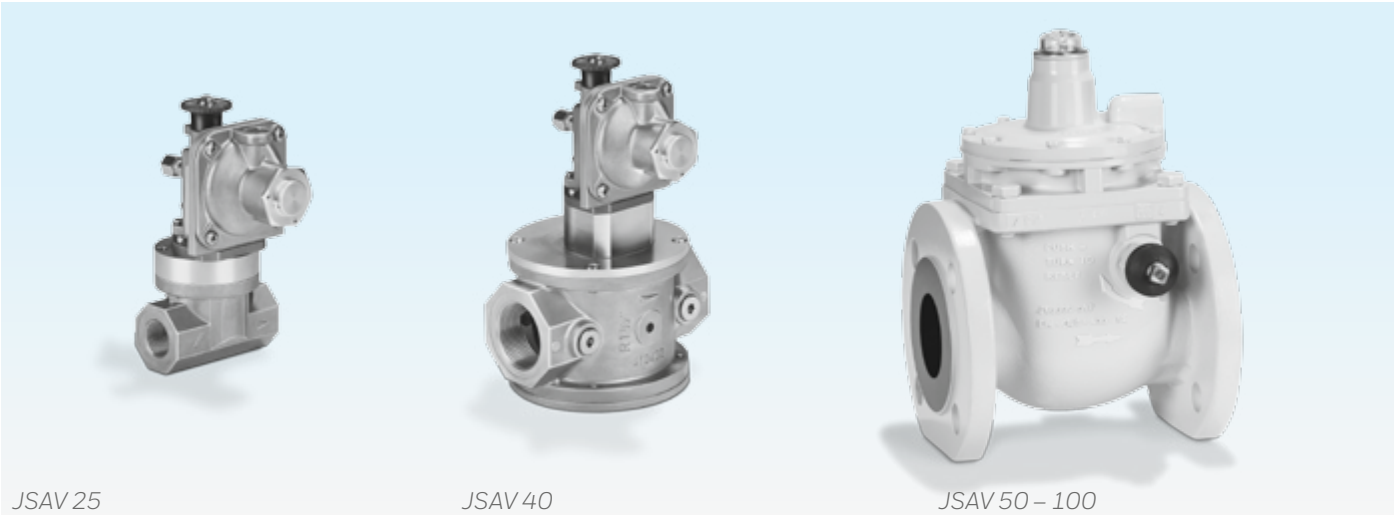
Technical Information · GB
2 Edition 02.16l

- For positive pressure with over-pressure shut-off
- DN 25, DN 40: with under-pressure shut-off
- Large adjusting range for trip pressure
- DN 25, DN 40: no purge line required
- EC type-tested and certified

Contents

= To be continued

1 Application



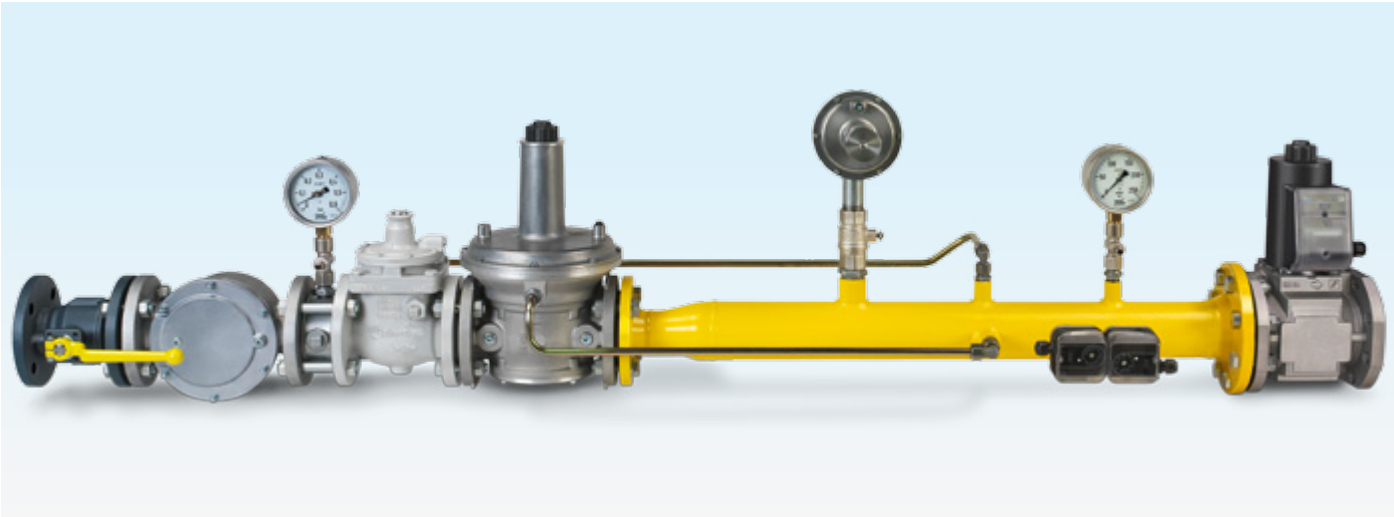
JSAV 25 JSAV 40 JSAV 50 – 100

Controls which are connected downstream of a gas pressure regulator are secured against excess gas pressure.

If the required operating conditions are not met, the gas supply is shut off.

A safety shut-off valve is required in accordance with EN 746-2 for all gas pressure control systems in which the controls downstream of the gas pressure regulator are not resistant to the supply pressure.

1.1 Example of application



The JSAV protects all controls downstream of the gas pressure regulator in the gas inlet section.

2 Certification

EU certified pursuant to

– Gas Appliances Directive (2009/142/EC)
– Pressure Equipment Directive (97/23/EC)

in conjunction with

– DIN EN 14382 (07/09)

Class A: JSAV 25 – 40 with over-pressure/under-pressure shut-off p_{do}/p_{du}.

Class B: JSAV 50 – 100 with over-pressure shut-off p_{do}.

JSAV 25 – 40 with over-pressure shut-off p_{do} pursuant to

– Gas Appliances Directive (2009/142/EC)

in conjunction with

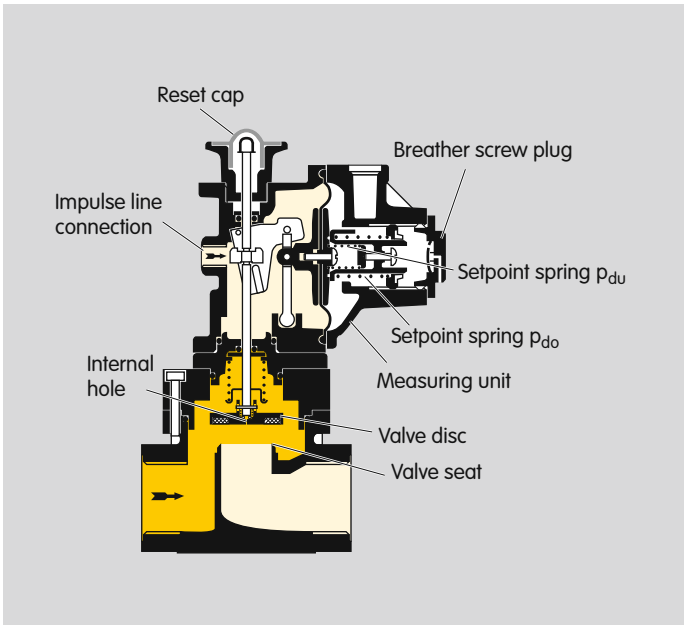
– DIN EN 14382 (07/09).

Eurasian Customs Union

The product JSAV meets the technical specifications of the Eurasian Customs Union.

3 Function

3.1 JSAV 25 – 40



The upper trip pressure is set using the outer setpoint spring in the measuring unit. The lower trip pressure is set using the inner spring in the measuring unit. The JSAV measures the pressure downstream of the gas pressure regulator via an external impulse line.

The JSAV closes once the set trip pressure has been reached. The valve disc is pressed onto the valve seat and thus shuts off the gas supply safely.

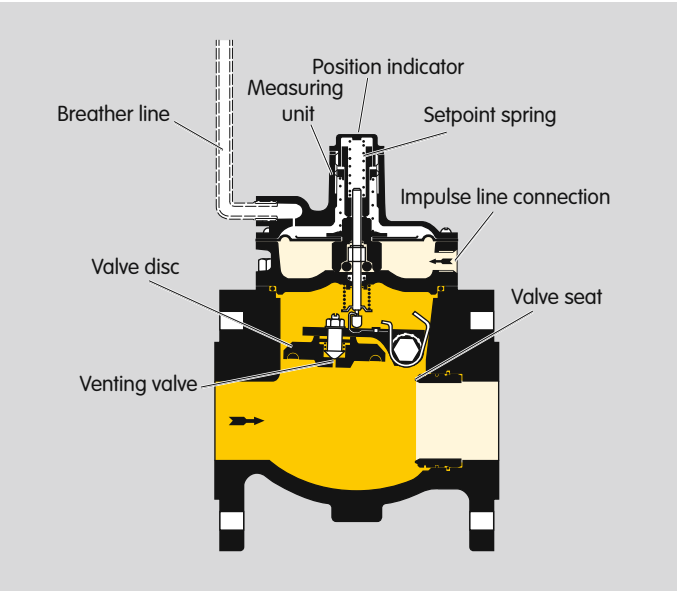
The position of the valve disc can be seen through the transparent reset cap.

The JSAV is manually reset. To do so, the pressure in the impulse line must be between the upper and lower trip pressure.

First, unscrew and remove the breather screw plug. Then loosen the reset cap. By pulling the reset cap slightly, the pressure is equalized via an internal hole in the valve disc. Once pressure equalization is complete, the reset cap can be lifted easily and the valve disc is engaged in the open position.

A relief line is not required on the measuring unit because a maximum of 30 l/h can escape via the hole in the breather screw plug.

3.2 JSAV 50 – 100



The trip pressure is set using the setpoint spring in the measuring unit. The JSAV measures the pressure downstream of the gas pressure regulator via an external impulse line.

The JSAV closes once the set trip pressure has been reached. The valve disc is pressed onto the valve seat and thus shuts off the gas supply safely.

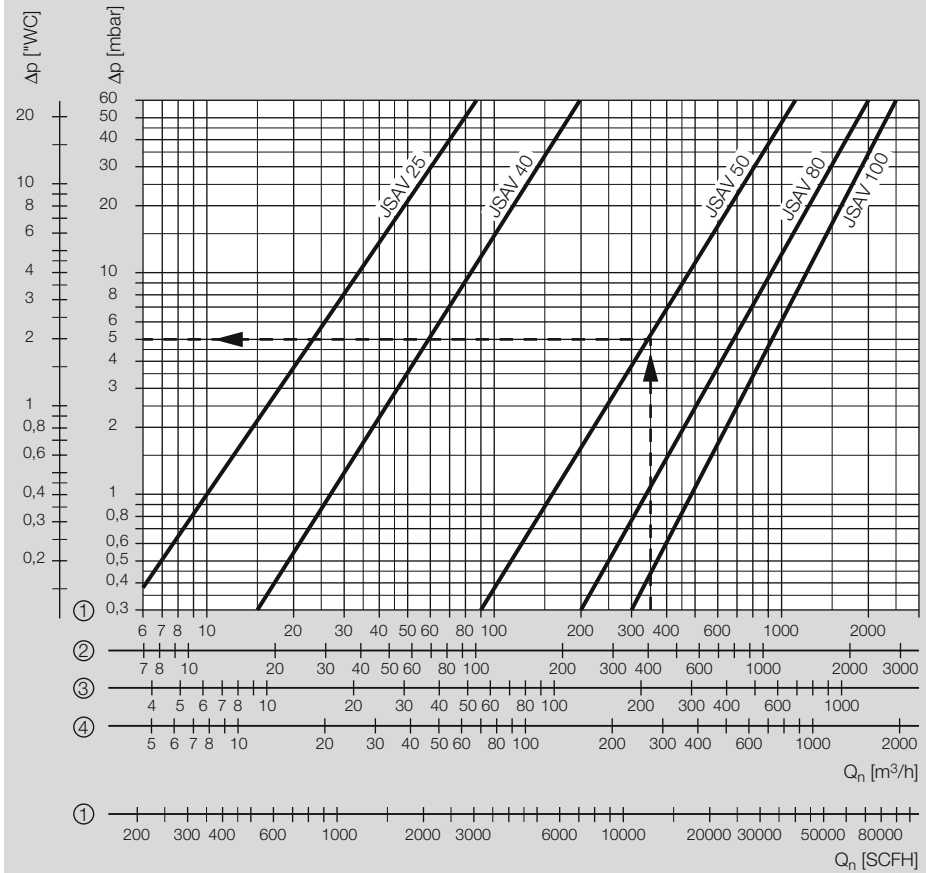
The device can simply be manually reset. The pressure in the impulse line must be distinctly below the trip pressure.

To begin with, a pressure equalization is carried out via the integrated venting valve in the valve disc using the supplied reset lever. Afterwards, the valve disc is fully opened and finally engages.

A breather line must be connected to the measuring unit to ensure that the closing function is activated as soon as the trip pressure is exceeded. A visual position indicator to show the current position of the device can be implemented by means of an electric switch as an option, see page 11 (Accessories).

The free-flow valve design allows for a very large flow rate despite a compact design.

4 Flow rate



① = natural gas (ρ = 0.80 kg/m³)
② = town gas (ρ = 0.64 kg/m³)
③ = LPG (ρ = 2.01 kg/m³)
④ = air (ρ = 1.29 kg/m³)

Reading instructions:
When determining the pressure loss, operating cubic metres must be entered. Then the pressure loss Δp read must be multiplied by the absolute pressure in bar (positive pressure + 1) to account for the change in the medium's density.

Example:
inlet pressure p_u (positive pressure) = 4 bar,
gas type: natural gas,
operating flow rate Q_b = 350 m³/h,
selected in the diagram: JSAV 50,
Δp from diagram = 5 mbar,
Δp = 5 mbar x (1 + 4) = 25 mbar on JSAV 50

5 Selection

Type	T	R	N	F	A	40	50	/1	/2	-0	-3
JSAV 25	○	●	●			●		●	●	●	
JSAV 40	○	●	●	●		●		●	●		●
JSAV 50	○			●	●		●	●		●	
JSAV 80	○			●	●		●	●		●	
JSAV 100	○			●	●		●	●		●	

● = *standard*, ○ = *available*

Order example

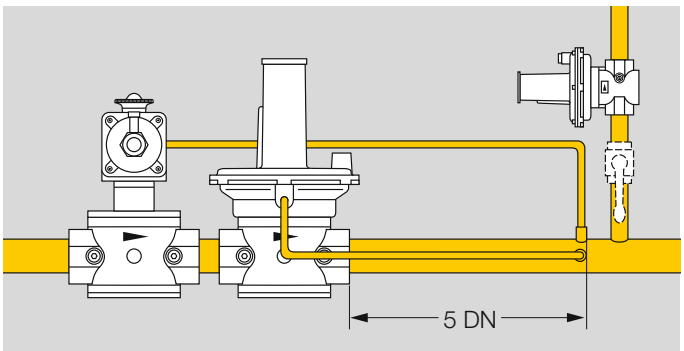
JSAV 80F50-0

5.1 Type code

Code	Description
JSAV	Safety shut-off valve
25 – 100	Nominal size
T	T-product
R N F A	Rp internal thread to ISO 7-1 NPT internal thread PN 16 flange to ISO 7005 ANSI flange
40 50	Inlet pressure $p_{u\,max.}$ = 4 bar (58 psig) Inlet pressure $p_{u\,max.}$ = 5 bar (72.5 psig)
/1 /2	Over-pressure shut-off p_{do} Over-pressure and under-pressure shut-off p_{do}/p_{du}
-0 -3	No pressure test point Screw plug at the inlet and outlet

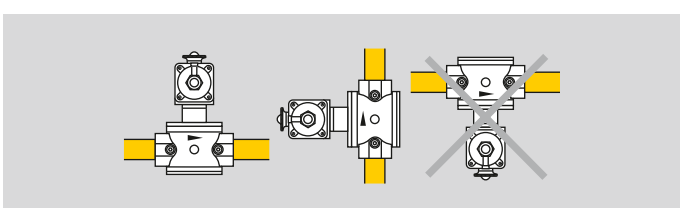
6 Project planning information

6.1 Installation

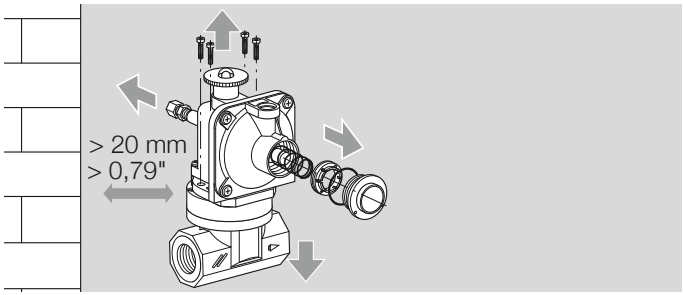


If the controls downstream of the gas pressure regulator are not resistant to the supply pressure, EN 746-2 prescribes a safety shut-off valve upstream and a safety relief valve downstream of the gas pressure regulator – regardless of how high the inlet pressure is.

Ensure that there is sufficient tube length for the impulse line.

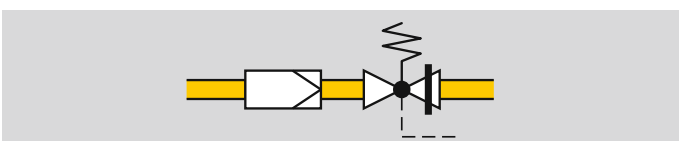


Installation position: vertical or horizontal, never upside down.



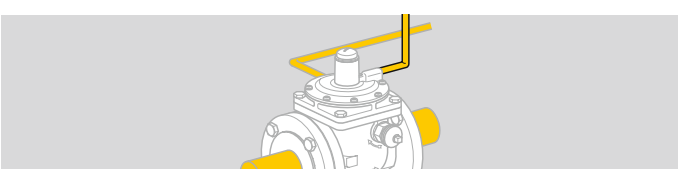
Install the unit free of mechanical stress and so that it is not in contact with masonry (min. distance 20 mm (0,79")).

Ensure that there is sufficient space for installation, adjustment and maintenance work.



Sealing material and thread cuttings must not be allowed to get into the valve housing. Install a filter upstream of every system.

Do not store or install the unit in the open air.

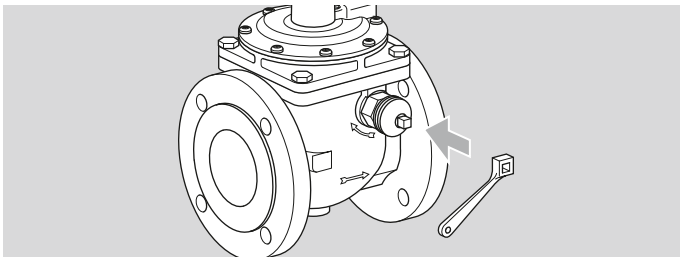


A breather line must be connected to the measuring unit to maintain the function of the JSAV.

7 Accessories

7.1 Reset lever

Reset lever to reset JSAV 50 – 100:



Order No.: 03151140.

7.2 Position switch for remote indication

The position switch can be used for electronic position checks.

Order No.: 03151185.

8 Technical data

Gas type: natural gas, town gas, LPG (gaseous), biogas (max. 0.02 %-by-vol. H_2S) and air. The gas must be dry in all temperature conditions and must not contain condensate.

Max. inlet pressure p_u:
JSAV 25 – 40: 4 bar (58 psig),
JSAV 50 – 100: 5 bar (72.5 psig).

Max. test pressure for testing the JSAV:
inlet and outlet: temporarily < 15 min. 6 bar (87 psig).
Impulse line: temporarily < 15 min. 750 mbar (10.8 psig).

Trip pressures p_{do}/p_{du} pre-set at the factory:
upper trip pressure p_{do}: 120 mbar (48.2 "WC),
JSAV 25 – 40: lower trip pressure p_{du}: 10 mbar (3.9 "WC).

Trip pressure ranges, see spring table.

Accuracy group: AG 10.

Ambient temperature:
-15 to +60°C (5 to 140°F).

Connection for housing:
JSAV..R: Rp internal thread to ISO 7-1,
JSAV..N: NPT internal thread,
JSAV..F: PN 16 flange to ISO 7005,
JSAV..A: ANSI flange.

Connection for impulse line:
JSAV 25 – 40: DN 8 ($^1/_8$ NPT), (Ermeto coupling installed)
JSAV 50 – 100: DN Rp $^1/_4$ ($^1/_4$ NPT).

Connection for breather line:
JSAV 50 – 100: DN Rp $^1/_4$ ($^1/_4$ NPT).

Housing:
JSAV 25 – 40: AlSi,
JSAV 50 – 100: GGG 40.

Diaphragm: NBR.

Valve seat: aluminium.

Valve stem: stainless steel.

Valve disc:
JSAV 25 – 40: steel with vulcanized NBR seal,
JSAV 50 – 100: aluminium with vulcanized NBR seal.

8.1 Spring table

Various trip pressure ranges can be achieved by using different springs.

8.1.1 JSAV 25 – 40../1, JSAV 25 – 40../2

Upper trip pressure p_{do}		Marking	Order No.
[mbar]	["WC]		
18 – 60*	7 – 23.4*	black	03089068*
50 – 80	19.5 – 31.2	orange	03089069
60 – 110	23.4 – 42.9	red	03089070
100 – 210**	39 – 81.9**	dark green	03089071**
200 – 350	78 – 136.5	yellow	03089072
280 – 500	109.2 – 195	white	03089073

Lower trip pressure p_{du}		Marking	Order No.
[mbar]	["WC]		
8 – 16**	3.12 – 6.24**	light blue	03089082**
16 – 60	6.24 – 23.4	brown	03089083
60 – 150	23.4 – 58.5	violet	03089084

* *Approved for pressures from 40 mbar and higher*

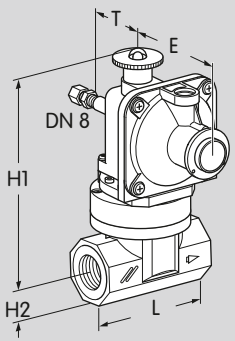
** *Standard spring*

8.1.2 JSAV 50 – 100

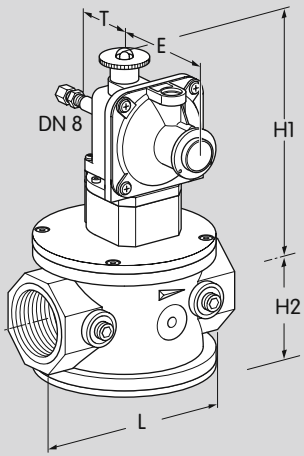
Trip pressure p_{do}		Marking	Order No.
[mbar]	[psig]		
35 – 70	0.51 – 1.02	light blue	03089063
60 – 170*	0.9 – 2.5	reddish brown	03089064*
120 – 220	1.74 – 3.2	crimson	03089065
190 – 400	2.8 – 5.8	orange/yellow	03089066
300 – 550	4.35 – 8	orange/green	03089067

** Standard spring*

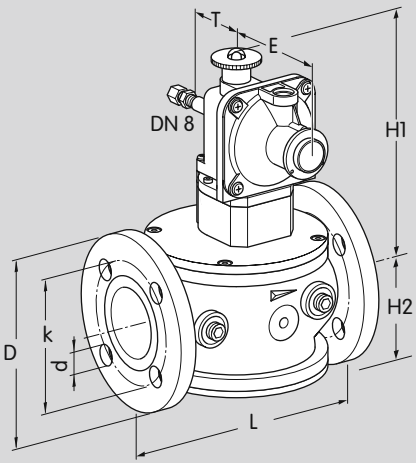
8.2 Dimensions



JSAV 25



JSAV 40R



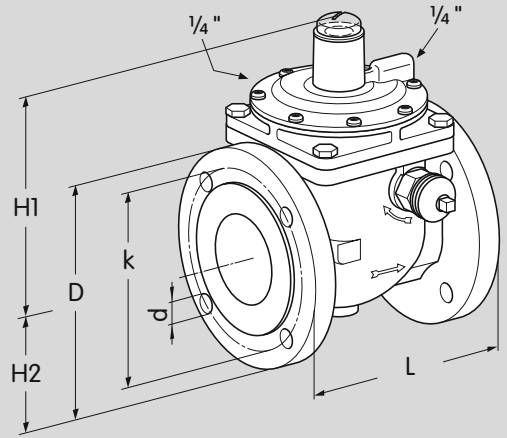
JSAV 40F

8.2.1 SAV 25 – 40 with Rp internal thread to ISO 7-1 or PN 16 flange to ISO 7005

Type	Connection	Dimensions [mm]					Flange [mm]		Drillings		Weight
		H1	H2	L	T	E	D	k	d [mm]	Anzahl	[kg]
JSAV 25R40	Rp 1	159	23	91	43	87	–	–	–	–	1
JSAV 40R40	Rp 1½	206	51	150	43	87	–	–	–	–	2.3
JSAV 40F40	DN 40	187	75	200	43	87	150	110	18	4	3.1

8.2.2 JSAV 25 – 40 with NPT internal thread

Type	Connection	Dimensions [inch]					Weight
		H1	H2	L	T	E	[lbs]
JSAV 25TN40	1 NPT	6.26	0.91	3.58	1.70	3.42	2.2
JSAV 40TN40	1½ NPT	8.11	2.00	5.91	1.70	3.42	4.85



8.2.3 JSAV 50 – 100 with PN 16 flange to ISO 7005

Type	Connection	Dimensions [mm]			Flange [mm]		Drillings		Weight
		H1	H2	L	D	k	d [mm]	Number	[kg]
JSAV 50F50	DN 50	187	83	180	165	125	18	4	13
JSAV 80F50	DN 80	200	100	220	200	160	18	8	17
JSAV 100F50	DN 100	226	110	270	220	180	18	8	24

8.2.4 JSAV 50 – 100 with ANSI flange

Type	Connection	Dimensions [inch]			Flange [inch]		Drillings		Weight
		H1	H2	L	D	k	d [inch]	Number	[lbs]
JSAV 50TA50	DN 50	7.36	3.27	7.09	6.50	4.92	0.71	4	28.6
JSAV 80TA50	DN 80	7.87	3.94	8.66	7.87	6.30	0.71	4	37.4
JSAV 100TA50	DN 100	8.90	4.33	10.63	8.66	7.09	0.71	8	52.8

9 Maintenance cycles

At least once a year, twice a year in the case of biogas.

Feedback

Finally, we are offering you the opportunity to assess this “Technical Information (TI)” and to give us your opinion, so that we can improve our documents further and suit them to your needs.

Clarity

- ◯ Found information quickly
- ◯ Searched for a long time
- ◯ Didn’t find information

  What is missing?
- ◯ No answer

Comprehension

- ◯ Coherent
- ◯ Too complicated
- ◯ No answer

Scope

- ◯ Too little
- ◯ Sufficient
- ◯ Too wide
- ◯ No answer

Use

- ☐ To get to know the product
- ☐ To choose a product
- ☐ Planning
- ☐ To look for information

Navigation

- ◯ I can find my way around
- ◯ I got “lost”
- ◯ No answer

My scope of functions

- ◯ Technical department
- ◯ Sales
- ◯ No answer

Remarks

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We reserve the right to make technical modifications in the interests of progress.

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