

Sensing Valves



Sensing Valves TV / TVN

Rated flow from 12 l/min to 160 l/min



Suitability for Industry-Specific Applications



Sensing valves TV / TVN

Applications

- Sensing valve for applications where some of the suction pads may not always be in contact with the workpiece
- Vacuum line to a suction pad is opened only if a workpiece is detected by a mechanical sensor
- May be installed in any orientation

Design

- Sensing valve with spring-loaded plunger and protective cap
- Type TVN with molded-on suction-pad nipple for direct mounting
- Does not react if the suction pad is only partially in contact with the workpiece

Our Highlights...

- Sensing valve with spring-loaded plunger
- Reaction is unaffected by the workpiece material
- Minimum size

Your Benefits...

- > The vacuum line is opened only if the suction pad is in contact with the workpiece (mechanical sensing)
- > Can also be used for porous workpieces
- > Also suitable for use in restricted spaces

Designation Code Sensing Valves TV / TVN

Abbreviated designation	Connection thread	Plunger stroke in mm	Nipple family
Example TV G1/4-AG 5:			
TV	G1/4-AG	5	
TV without suction pad nipple	G1/8-AG (AG = male (M))	5	N007
TVN with molded-on suction pad nipple	G1/4-AG	to	N008
	G1/2-AG	13	N009
			N041

Ordering Data Sensing Valves TV / TVN

Sensing valve TV / TVN is delivered as a ready to connect product.



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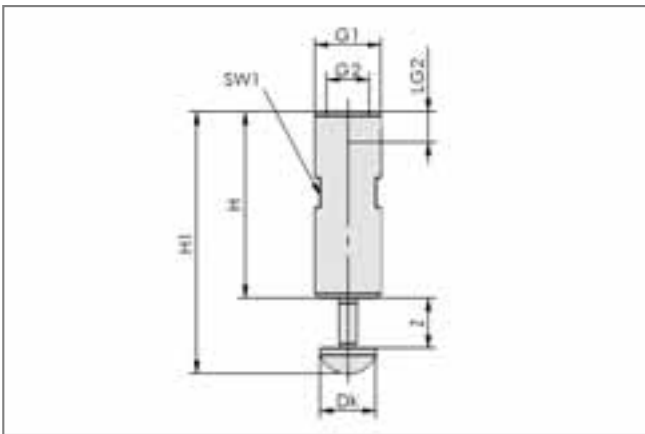
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Type	Part Number
TV G1/4-AG 8	10.05.10.00064
TV G1/4-AG 13	10.05.10.00061
TV G1/2-AG 13	10.05.10.00038
TVN G1/8-AG 6 N007	10.05.10.00021
TVN G1/8-AG 6.5 N008	10.05.10.00023
TVN G1/4-AG 8.4 N041	10.05.10.00058
TVN G1/4-AG 9 N009	10.05.10.00065

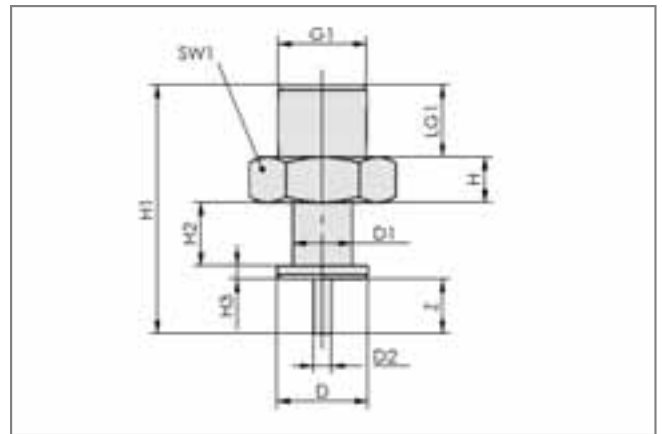
Technical Data Sensing Valves TV / TVN

Type	Nominal flow rate [m ³ /h]	Nominal flow rate [l/min]
TV G1/4-AG 8	3.3	55
TV G1/4-AG 13	3.3	55
TV G1/2-AG 13	9.6	160
TVN G1/8-AG 6 N007	0.7	12
TVN G1/8-AG 6.5 N008	0.7	12
TVN G1/4-AG 8.4 N041	4.6	78
TVN G1/4-AG 9 N009	4.6	78

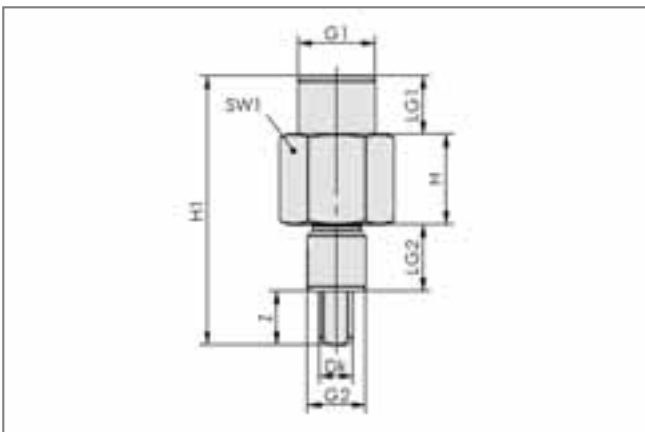
Design Data Sensing Valves TV / TVN



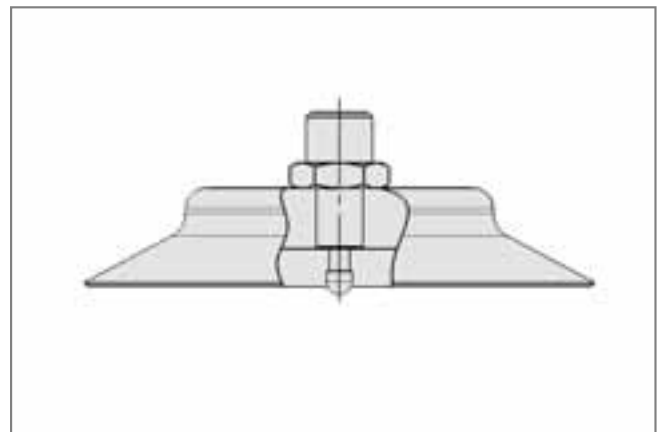
TV G1/4 to G1/2



TVN G1/8-AG-6, G1/8-AG-6.5 and G1/4-AG-8.4



TVN G1/4-AG-9



Installation example, sensing valve in flat suction pad

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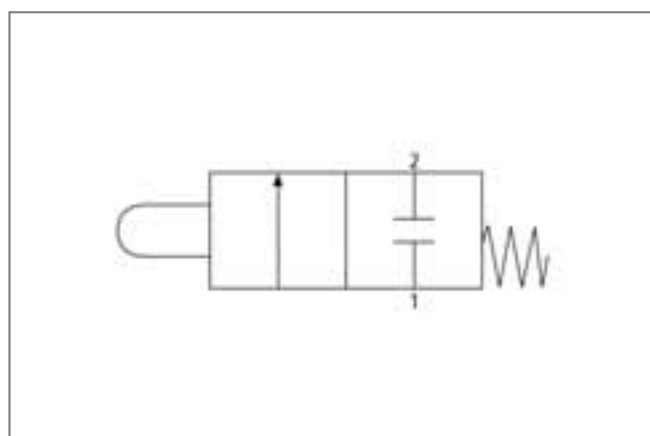
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Design Data Sensing Valves TV / TVN

Type	Dimensions in mm													
	D	D1	D2	Dk	G1	G2	H	H1	H2	H3	LG1	LG2	SW1	Z
TV G1/4-AG 8	-	-	-	11	G1/4"-M	G1/8"-F	45.5	58.2	-	-	-	6	11	8.0
TV G1/4-AG 13	-	-	-	11	G1/4"-M	G1/8"-F	45.5	63.5	-	-	-	6	11	13.0
TV G1/2-AG 13	-	-	-	11	G1/2"-M	G3/8"-F	54.5	67.5	-	-	-	12	19	13.0
TVN G1/8-AG 6 N007	10	6.5	2.0	-	G1/8"-M	-	5.0	27.5	7.0	1.5	8	-	14	6.0
TVN G1/8-AG 6.5 N008	14	8.5	2.0	-	G1/8"-M	-	5.0	28.5	7.0	2.0	8	-	14	6.5
TVN G1/4-AG 8.4 N041	17	8.7	6.0	-	G1/4"-M	-	10.0	44.7	12.3	3.0	11	-	17	8.4
TVN G1/4-AG 9 N009	-	-	-	6	G1/4"-M	M10x1.25-M	15.5	47.0	-	-	10	12	17	9.0

Functional Circuit Diagram Sensing Valves TV / TVN



Circuit diagram TV/TVN (1 = vacuum generator; 2 = suction pad)

Recommended Suction Pad Connections TVN

Sensing valve with nipple TVN	Suction pad type*
TVN G1/8-AG 6	PFG 25
TVN G1/8-AG 6	PFG 30
TVN G1/8-AG 6	PFG 35
TVN G1/8-AG 6	PFG 40
TVN G1/8-AG 6.5	PFG 50
TVN G1/4-AG 8.7	SHFN 50, SHFN 70, SHFN 85
TVN G1/4-AG 9	PFG 60, SHFN 70 E, SHFN 85 E
TVN G1/4-AG 9	PFG 80, SHFN 70 E, SHFN 85 E
TVN G1/4-AG 9	PFG 95, SHFN 70 E, SHFN 85 E

*Except PFG VU1

