

DAWSONS-TECH[®]

OVER 35 YEARS OF EXPERIENCE

Instrumentation Check Valves



***Most Cost Effective, World Class Quality
Flow Control Components for Wide Range
of Industries and Applications***

THE COMPANY

DAWSONS-TECH is an ISO 9001:2015 certified manufacturing company offers wide range of **Consistent and Reliable World Class Quality Flow Control Components** used in Fluid / Gas Control systems in a wide range of Industries.

MANUFACTURING :

DAWSONS-TECH established its comprehensive state of art manufacturing and testing facility installing various CNC Turning Centre and CNC Turnmill Centre, Vertical Machining Centre, etc. with the highly motivated and dedicated team of employees in place. This facilitate us to design and manufacture our product range under stringent quality checks and measurements that ensures **"A TOTAL CUSTOMER SATISFACTIONS WITH ZERO DEFECT PRODUCTS"**.

QUALITY :

DAWSONS-TECH pursues not only performance of its products but also ensures **"TOTAL QUALITY CONTROL MANAGEMENT SYSTEMS IN ACCORDANCE TO ISO 9001:2015"** which is achieved by alerting and educating each and every employee, the importance of quality and by implementing the quality control procedures at every stage of production to final inspection from incoming raw material to finish products.

		
OUR CAPABILITIES	CERTIFICATIONS	DEMAND IN INDUSTRIES
<ul style="list-style-type: none"> • Over 35 Years of Experience • Excellent Technical Knowledge • Latest Design Equipment's & Software • Modern Manufacturing Facilities • Highly Motivated Team of Employees • Excellent Inspection Facilities • Product Performance Testing Facilities 	<ul style="list-style-type: none"> • ISO 9001-2015 • PED 2014/68/EU • ASTM F1387-19 • MSS SP-99-2016a • Helium Leak Test • Hydro Static Proof Test • Pneumatic Proof Test 	<ul style="list-style-type: none"> • Original Equipment Manufacturers • Chemical & Petrochemical • Oil & Gas • Power • Compressed Natural Gas (CNG) • Pharmaceutical • Semiconductor
 <div>BENEFITS</div> <ul style="list-style-type: none"> • High Quality • Proven Design for Leak Free Connections • Effective Operations 	<ul style="list-style-type: none"> • High Efficiency • Technical Expertise • Prompt Reply 	<ul style="list-style-type: none"> • Maximum Flexibility • Maximum Safety in Operation • Substantial Cost Saving

RESEARCH & DEVELOPMENT :

With our long experience, expertise and continues Research & Development with incorporation of advanced technology and high-tech cutting-edge machineries, **DAWSONS-TECH** is committed to constant upgradation and expand its product range to meet the requirements of its customer to their entire satisfaction at every time.

CUSTOMER SATISFACTION :

We strive to achieve total customer satisfaction and continuously work to set higher goals to provide the reliable quality, timely delivery of our products and prompt services in the best interest of our customers with very competitive price.

CHECK VALVES SERIES : VC31

DAWSONS-TECH Check Valve Series : VC31 is a very compact and robust in construction and designed for unidirectional flow control of fluids and gases for medium pressure (UPTO 3000 PSIG) used in Instrumentation systems.

Features / Benefits :

- Back stopped poppet design to minimum spring stress.
- Elastomeric seat provides leak tight seal.
- Provides large flow, minimum of chatter and fluctuation.
- Variable cracking pressure : 1/3, 1, 5, 10, 25, 50 and 100 PSIG.
- Suitable for Vacuum and medium-pressure Fluid/Gas applications.
- Available in Material SS316L.
- Heat code traceability to certified material test report.
- Every Valve is Pressure tested.

Product Range & Operating Parameters :

- | | |
|--|---|
| • Pressure Rating | : UPTO 3000 PSIG (207 Bar) at CWP |
| • Temperature Rating | : UPTO 198°C with Fluorocarbon 'O' Ring |
| • End Connections - Fractional | : 1/4" to 1" Tube OD |
| • End Connections - Metric | : 6mm to 25mm |
| • End Connections - Tube OD Pipe Thread | : 1/4" to 1" Male / Female BSP / BSPT / NPT |
| • End Connections - Metal Gasket Face Seal | : 1/4" to 1" |
| • End Connections - 'O' Ring Face Seal | : 1/4" to 1" |

Applications :

- Gas
- Liquid
- Fluid handling.

Type Test Approvals :

The design of **DAWSONS-TECH** Check Valve Series : VC31 has been tested for Hydrostatic Proof and Burst Test in accordance with MSS SP-99-2016a Clause 5.5 & 5.6.

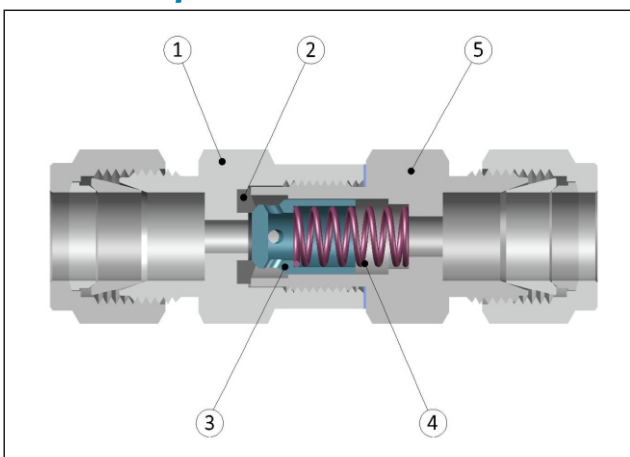
Testing :

- Standard Test : Each Valve is pressure tested with Nitrogen at 1000 PSIG (69 Bar) for leakage at the seat and packing.
- Optional Hydrostatic Test : This test is performed with De-ionized water at 1.5 times the working pressure.

Certification :

The certificate to 3.1 acc. to EN10204 for Valves Body Material and pressure test will be provided on request.

Material Of Constructions :



Sr. No.	Description	Material
1	Inlet Body	SS316
2	'O' Ring	Fluorocarbon
3	Poppet	SS316
4	Spring	Stainless Steel
5	Outlet Body	SS316

Pressure Temperature Rating :

Material Size	SS316L	
	1/8" to 1/2" 6mm to 12mm	3/4" & 1" 22mm & 25mm
Temperature F° (C°)	Working Pressure, PSIG (Bar)	
-10 (-23) to 100 (37)	3000 (207)	2550 (176)
200 (93)	2575 (177)	2180 (151)
250 (121)	2450 (168)	2010 (139)
300 (148)	2325 (160)	1910 (132)
375 (190)	2185 (150)	1790 (124)

Cracking And Reseal Pressure :

Cracking Pressure*	Cracking Pressure Range	Reseal Pressure**
PSIG (Bar)	PSIG (Bar)	PSIG (Bar)
1/3 (0.02)	UPTO 3 (0.2)	6 to 20 (0.41 to 1.3) Back Pressure
1 (0.06)	UPTO 4 (0.27)	5 to 20 (0.34 to 1.3) Back Pressure
5 (0.34)	3 to 9 (0.20 to 0.62)	5 to 20 (0.34 to 1.3) Back Pressure
10 (0.68)	7 to 15 (0.48 to 1.0)	3 to 10 (0.2 to 0.68) Back Pressure
25 (1.7)	20 to 30 (1.3 to 2.0)	5 (0.34) or more Inlet Pressure

Cracking Pressure* :

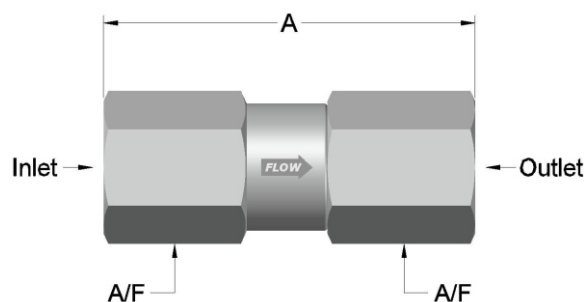
The differential pressure between the inlet and outlet, at which an initial flow is passing through the Valve.

Reseal Pressure :**

The differential pressure between the outlet and inlet, at which no flow is passing through the Valve.

Technical Data :

Connection Sizes	Cracking Pressure PSIG (Bar)	Max. Flow Coefficient (Cv)	Back Pressure at 70°F (20°C) PSIG (Bar)
1/8, 1/4, 6mm	1/3 (0.02), 1 (0.06),	0.75	3000 (207)
3/8, 1/2, 8mm - 12mm	5 (0.34), 10 (0.68) &	2.26	3000 (207)
3/4, 1, 22mm, 25mm	25 (7.1)	6.56	2550 (176)



STANDARD CONFIGURATION DIMENSIONS

End Connection		Flow Data		A (mm)	A/F (Inch)	Dawsons-Tech Part No.
Type	Size	Orifice (mm)	Cv			
Metal Gasket Face Seal	1/4	4.6	0.72	50.0	3/4	VC31-GFS4
	1/2	9.5	2.93	83.3	1-1/4	VC31-GFS8
	3/4	12.7	5.63	96.0	1-3/8	VC31-GFS12
'O' Ring Face Seal	1/4	4.7	0.75	56.4	3/4	VC31-ORF4
	1/2	10.3	3.17	90.4	1-1/4	VC31-ORF8
	3/4	15.1	6.01	117.9	1-3/8	VC31-ORF12
Male NPT	1/4	4.7	0.75	54.5	3/4	VC31-MM4N
	3/8	9.1	2.26	75.2	1	VC31-MM6N
	1/2	11.5	3.53	90.4	1-1/4	VC31-MM8N
	3/4	15.1	6.01	103.9	1-3/8	VC31-MM12N
	1	16.7	6.56	114.8	1-5/8	VC31-MM16N
Female NPT	1/4	4.7	0.75	61.0	3/4	VC31-FF4N
	3/8	9.5	2.26	77.0	1	VC31-FF6N
	1/2	11.5	3.53	90.4	1-1/4	VC31-FF8N
	3/4	15.1	6.01	103.9	1-3/8	VC31-FF12N
	1	16.7	6.56	122.9	1-5/8	VC31-FF16N
Fractional Tube Fitting	1/4	4.7	0.75	61.5	3/4	VC31-TT4
	3/8	7.1	2.09	83.1	1	VC31-TT6
	1/2	10.7	3.53	103.6	1-1/4	VC31-TT8
	3/4	15.1	6.01	110.2	1-3/8	VC31-TT12
	1	16.7	6.56	117.6	1-5/8	VC31-TT16
Metric Tube Fitting	6 mm	4.7	0.75	61.7	3/4	VC31-TT6M
	8 mm	6.4	2.02	84.6	1	VC31-TT8M
	10 mm	7.9	2.16	85.1	1	VC31-TT10M
	12 mm	9.5	2.93	103.1	1-1/4	VC31-TT12M
	22 mm	15.1	6.01	109.2	1-3/8	VC31-TT22M
	25 mm	16.7	6.56	120.4	1-5/8	VC31-TT25M

Dimensions are for reference only and subject to change.

DAWSONS-TECH Check Valve Series VC51 is a very compact, robust and heavy duty design for unidirectional flow control of fluids and gases for high pressure (UPTO 6000 PSIG) used in Instrumentation system.

It is used in various applications where high integrity leak rates and re-sealing capabilities are desired.

Features / Benefits :

- Back stopped poppet design to minimum spring stress.
- 'O' Ring bonded poppet seat provides leak tight seal.
- Provides large flow, minimum of chatter and fluctuation.
- Variable cracking pressure: 1/3, 1, 5, 10, 25, 50 and 100 PSIG.
- Suitable for Vacuum and high-pressure Fluid/Gas applications.
- Available in Material SS316L.
- Every Valve is Pressure tested.

Product Range & Operating Parameters :

- Pressure Rating : UPTO 6000 PSIG (413 Bar) at CWP
- Temperature Rating : UPTO 198°C with Fluorocarbon 'O' Ring
- End Connections - Fractional : 1/4" to 1" Tube OD
- Metric : 6mm to 25mm
- Tube OD Pipe Thread : 1/4" to 1" Male / Female BSP / BSPT / NPT
- Metal Gasket Face Seal : 1/4" to 1"
- 'O' Ring Face Seal : 1/4" to 1"

Applications :

- Gas
- Liquid
- Fluid handling.

Type Test Approvals :

The design of **DAWSONS-TECH** Check Valve Series : VC51 has been tested for Hydrostatic Proof and Burst Test in accordance with MSS SP-99-2016a Clause 5.5 & 5.6.

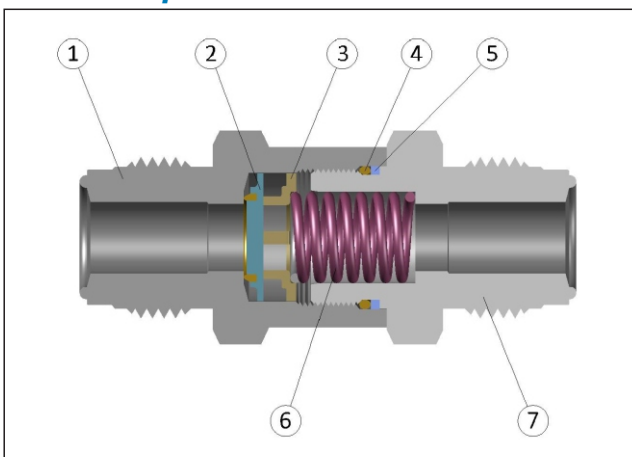
Testing :

- Standard Test : Each Valve is pressure tested with Nitrogen at 1500 PSIG (104 Bar) for leakage at the seat and packing.
- Optional Hydrostatic Test : This test is performed with De-ionized water at 1.5 times the working pressure.

Certification :

The certificate to 3.1 acc. to EN10204 for Valves Body Material and pressure test will be provided on request.

Material Of Constructions :



Sr. No.	Description	Material
1	Inlet Body	SS316
2	Bonded Popet	SS316
3	Pusher	SS316
4	'O' Ring	Fluorocarbon
5	Backup Ring	PTFE
6	Spring	SS302
7	Outlet Body	SS316

Pressure Temperature Rating :

Material Size	SS316L	
	1/8" to 1/2" 6mm to 12mm	3/4" & 1" 22mm & 25mm
Temperature F° (C°)	Working Pressure, PSIG (Bar)	
-10 (-23) to 100 (37)	6000 (413)	5000 (344)
200 (93)	5160 (355)	4290 (296)
250 (121)	4910 (338)	4080 (281)
300 (148)	4660 (321)	3875 (267)
400 (204)	4280 (295)	3560 (245)

Cracking And Reseal Pressure :

Cracking Pressure*	Cracking Pressure Range	Reseal Pressure**
PSIG (Bar)	PSIG (Bar)	PSIG (Bar)
1/3 (0.02)	UPTO 3 (0.2)	UPTO 6 (0.4) Back Pressure
1 (0.06)	UPTO 4 (0.27)	UPTO 4 (0.27) Back Pressure
5 (0.34)	3 to 9 (0.20 to 0.62)	UPTO 2 (0.13) Back Pressure
10 (0.68)	7 to 15 (0.48 to 1.0)	3 (0.2) or more Inlet Pressure
25 (1.7)	20 to 30 (1.3 to 2.0)	17 (1.1) or more Inlet Pressure

Cracking Pressure* :

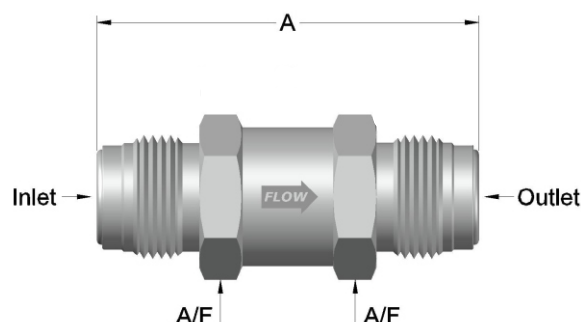
The differential pressure between the inlet and outlet, at which an initial flow is passing through the Valve.

Reseal Pressure :**

The differential pressure between the outlet and inlet, at which no flow is passing through the Valve.

Technical Data :

Connection Sizes	Cracking Pressure PSIG (Bar)	Max. Flow Coefficient (Cv)	Back Pressure at 70°F (20°C) PSIG (Bar)
1/8, 1/4, 6mm	1/3 (0.02), 1 (0.06),	0.67	6000 (408)
3/8, 1/2, 8mm - 12mm	5 (0.34), 10 (0.68) &	1.80	6000 (408)
3/4, 1, 22mm, 25mm	25 (7.1)	4.7	5000 (344)


STANDARD CONFIGURATION DIMENSIONS

End Connection		Flow Data		A (mm)	A/F (Inch)	Dawsons-Tech Part No.
Type	Size	Orifice (mm)	Cv			
Metal Gasket Face Seal	1/4	4.7	0.75	58.0	11/16	VC51-GFS4
	1/2	7.8	2.13	69.2	1	VC51-GFS8
	3/4	15.0	6.0	76.1	1-5/8	VC51-GFS12
'O' Ring Face Seal	1/4	4.7	0.75	50.4	11/16	VC51-ORF4
	1/2	7.8	2.13	59.8	1	VC51-ORF8
	3/4	15.0	6.0	73.6	1-5/8	VC51-ORF12
	1	15.0	6.0	73.6	1-5/8	VC51-ORF16
Male NPT	1/4	4.7	0.75	55.0	11/16	VC51-MM4N
	3/8	7.8	2.13	60.0	1	VC51-MM6N
	1/2	7.8	2.13	69.2	1	VC51-MM8N
	3/4	15.0	6.0	83.5	1-5/8	VC51-MM12N
	1	15.0	6.0	93.3	1-5/8	VC51-MM16N
Female NPT	1/4	4.7	0.75	54.1	11/16	VC51-FF4N
	3/8	7.8	2.13	64.8	1	VC51-FF6N
	1/2	7.8	2.13	83.6	1-1/16	VC51-FF8N
	3/4	15.0	6.0	90.1	1-5/8	VC51-FF12N
	1	15.0	6.0	97.3	1-5/8	VC51-FF16N
Fractional Tube Fitting	1/4	4.7	0.75	61.8	11/16	VC51-TT4
	3/8	7.8	2.13	70.0	1	VC51-TT6
	1/2	7.8	2.13	75.3	1	VC51-TT8
	3/4	15.0	6.0	89.5	1-5/8	VC51-TT12
	1	15.0	6.0	98.5	1-5/8	VC51-TT16
Metric Tube Fitting	6 mm	4.7	0.75	61.8	11/16	VC51-TT6M
	8 mm	6.4	2.02	68.5	1	VC51-TT8M
	10 mm	7.8	2.13	71.1	1	VC51-TT10M
	12 mm	7.8	2.13	75.3	1	VC51-TT12M
	22 mm	15.0	6.0	88.5	1-5/8	VC51-TT22M
	25 mm	15.0	6.0	98.5	1-5/8	VC51-TT25M

Dimensions are for reference only and subject to change.

ORDERING INFORMATION :

For Example : Part No. VC31-FF8N-SSV-5

Valve Series	End Connection Type	End Connection Type	Pipe Thread Type	Material	Seal Material	Cracking Pressure
VC31	FF	8	N	SS	V	5
1	2	3	4	5	6	7

For Example : Part No. VC51-FF8N-SSV-10

Valve Series	End Connection Type	End Connection Type	Pipe Thread Type	Material	Seal Material	Cracking Pressure
VC51	FF	8	N	SS	V	10
1	2	3	4	5	6	7

Part No. Code Description :

1)	Valve Series	VC31	
		VC51	

3)	End Connection Size Tube Fittings			
	Fractional Tube		Metric Tube	
	4	1/4"	6m	6mm
	6	3/8"	8m	8mm
	8	1/2"	10m	10mm
	12	3/4"	12m	12mm
	16	1"	22m	22mm
			25m	25mm
	Pipe End Connection Size			
			4	1/4"
			6	3/8"
			8	1/2"
			12	3/4"
		16	1"	

2)	End Connection Type	TT	: Tube Fittings
		GFS	: Metal Gasket Face Seal
		ORF	: 'O' Ring Face Seal
		FF	: Female x Female
		MM	: Male x Male

4)	End Connection Thread Type	N	: NPT
		RT	: BSPT
		RG	: BSP (Female)

5)	Material	SS	: SS316
		SSL	: SS316L

6)	Seal Material	V	: Fluorocarbon
		R	: Nitrile
		E	: EPR
		Z	: Neoprene

7)	Cracking Pressure in PSIG	1/3	1	5	10	25	50	100
----	---------------------------	-----	---	---	----	----	----	-----

OUR PLEDGE

DAWSONS-TECH is self-committed for continuous development and upgradation of its products to meet the growing demands for Industries requirements of Flow Control Components by advanced technology induction and cutting-edge solution which is in-line with focused objective mission

**"TO PROVIDE OUR CUSTOMERS
WITH CONSISTENT RELIABLE QUALITY PRODUCTS
AT RIGHT TIME & COMPETITIVE PRICE"**



Twin Ferrule Tube Fittings



Precision Thread / Weld Pipe Fittings



37° Flare / BSPP 60° Cone Fittings



**High Purity Metal Gasket
Face Seal Fittings**



**High Purity 'O' Ring
Face Seal Fittings**



High Purity Weld Fittings



Instrumentation / UHP Ball Valves



Instrumentation / UHP Check Valves



**Instrumentation
Needle / Gauge Valves**



**High Pressure Wellhead
Grease / Bleed Fittings**



Gauge Cock & Accessories



Quick Connect Couplings

NOTES : _____



Registered Office and Manufacturing Plant :

DAWSONS-TECH COMPONENTS LLP

Unit No. DD - 6 & 7, Khan Real Industrial Estate,

N. H. 08, Pelhar, Vasai Phata, Vasai (East),

Dist. Palghar - 401 208, Maharashtra, India.

Mobile : +91-9833355596

Email : info@dawsonstech.com

Website: www.dawsonstech.com

LLPIN: AAN-0434

Catalogue No. VC-21