



CATALOGUE NO.  
**VC-21**

## INSTRUMENTATION / CNG *CHECK VALVES (NRV)*

**THE COMPANY :**

**DAWSONS-TECH®** is an ISO 9001:2015 certified manufacturing company offers wide range of **Consistent, Reliable and Superior Quality** High Pressure Instrumentation / CNG / Hydrogen Products used in Vehicles, Fueling Equipments like CNG Cascades, CNG Dispensers, Booster Compressors, Online Compressors, Decompression Skid, LCV Filling Post, Meter Regulation Skids, Pressure Regulation Skids, etc.




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"**.

**QUALITY :**

**DAWSONS-TECH®** pursues not only performance of its products but also ensures **"TOTAL QUALITY CONTROL MANAGEMENT SYSTEMS IN ACCORDANCE WITH 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.

**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

 <b>OUR CAPABILITIES</b>	 <b>CERTIFICATIONS</b>	 <b>BENEFITS</b>
<ul style="list-style-type: none"> <li>• Over 35 Years of Experience</li> <li>• Excellent Technical Knowledge</li> <li>• Latest Design Equipment's &amp; Software</li> <li>• Modern Manufacturing Facilities</li> <li>• Highly Motivated Team of Employees</li> <li>• Excellent Inspection Facilities</li> <li>• Product Performance Testing Facilities</li> </ul>	<ul style="list-style-type: none"> <li>• ISO 9001-2015</li> <li>• ISO 14001-2015</li> <li>• ISO 45001-2018</li> <li>• PED 2014/68/EU</li> <li>• ASTM F1387-19</li> <li>• MSS SP-99-2016a</li> <li>• Helium Leak Test</li> <li>• Hydro Static Proof Test</li> <li>• Pneumatic Proof Test</li> </ul>	<ul style="list-style-type: none"> <li>• High Quality</li> <li>• Proven Design for Leak Free Connections</li> <li>• Effective Operations</li> <li>• High Efficiency</li> <li>• Prompt Reply</li> <li>• Maximum Flexibility</li> <li>• Maximum Safety in Operation</li> <li>• Substantial Cost Saving</li> </ul>







**RESEARCH & DEVELOPMENT :**

With our extensive 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**.

**OUR MISSION**

 <b>RESPONSIBILITY</b>	 <b>RELIABILITY</b>	 <b>ENVIRONMENTAL AWARENESS</b>	 <b>TECHNICAL EXPERTISE</b>	 <b>INNOVATIVE TECHNOLOGY</b>	 <b>DEVELOPMENT</b>	 <b>CUTTING EDGE SOLUTIONS</b>	 <b>TOTAL CUSTOMER SATISFACTION</b>
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**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 6000 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 6000 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
- 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 : VC31 has been tested for Hydrostatic Proof and Burst Test in accordance with MSS SP-99-2016a Clause 5.5 & 5.6.

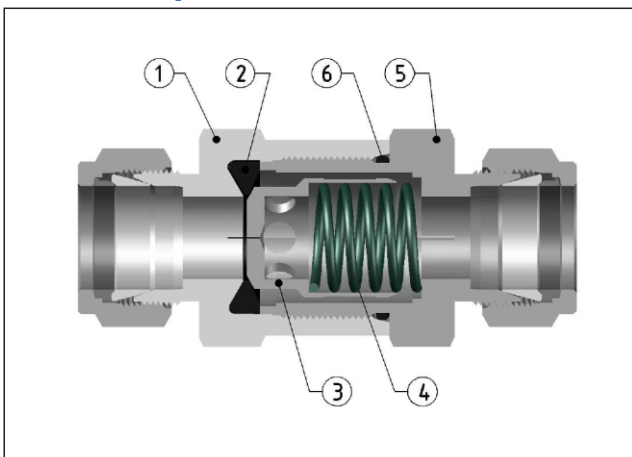
### Testing :

- 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 Construction :



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

**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\* :**

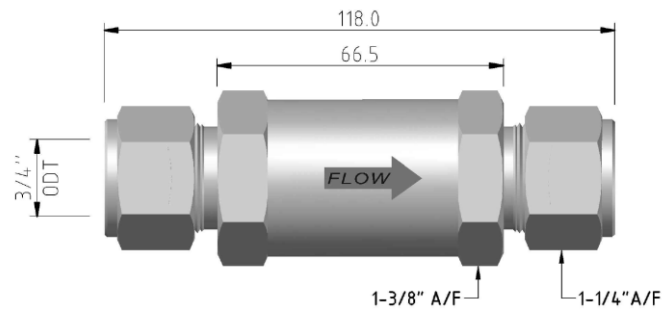
The differential pressure between the inlet and outlet, at which an initial flow is passing through the Valve.

**Reseal Pressure\*\* :**

The differential pressure between the inlet and outlet, 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			
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 : VC35 is a very compact, robust and heavy duty designed 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 : VC35 has been tested for Hydrostatic Proof and Burst Test in accordance with MSS SP-99-2016a Clause 5.5 & 5.6.

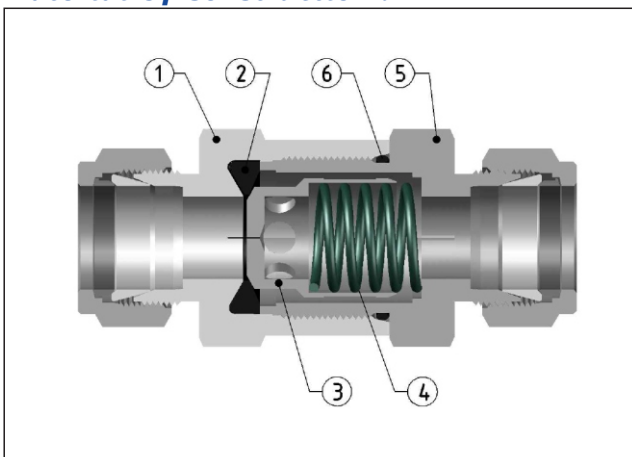
### Testing :

- 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 Construction :



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

**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.

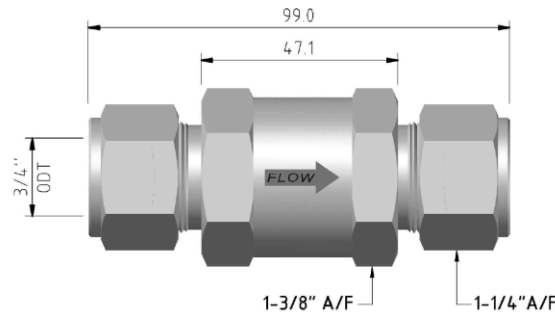
**Reseal Pressure\*\* :**

The differential pressure between the inlet and outlet, 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			
Male NPT	1/4	4.7	0.75	55.0	11/16	VC35-MM4N
	3/8	7.8	2.13	60.0	1	VC35-MM6N
	1/2	7.8	2.13	69.2	1	VC35-MM8N
	3/4	15.0	6.0	83.5	1-5/8	VC35-MM12N
	1	15.0	6.0	93.3	1-5/8	VC35-MM16N
Female NPT	1/4	4.7	0.75	54.1	11/16	VC35-FF4N
	3/8	7.8	2.13	64.8	1	VC35-FF6N
	1/2	7.8	2.13	83.6	1-1/16	VC35-FF8N
	3/4	15.0	6.0	90.1	1-5/8	VC35-FF12N
	1	15.0	6.0	97.3	1-5/8	VC35-FF16N
Fractional Tube Fitting	1/4	4.7	0.75	61.8	11/16	VC35-TT4
	3/8	7.8	2.13	70.0	1	VC35-TT6
	1/2	7.8	2.13	75.3	1	VC35-TT8
	3/4	15.0	6.0	89.5	1-5/8	VC35-TT12
	1	15.0	6.0	98.5	1-5/8	VC35-TT16
Metric Tube Fitting	6 mm	4.7	0.75	61.8	11/16	VC35-TT6M
	8 mm	6.4	2.02	68.5	1	VC35-TT8M
	10 mm	7.8	2.13	71.1	1	VC35-TT10M
	12 mm	7.8	2.13	75.3	1	VC35-TT12M
	22 mm	15.0	6.0	88.5	1-5/8	VC35-TT22M
	25 mm	15.0	6.0	98.5	1-5/8	VC35-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

2) End Connection Type	TT : Tube Fittings
	FF : Female x Female
	MM : Male x Male

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
3) Pipe End Connection Size			
	4	1/4"	
	6	3/8"	
	8	1/2"	
	12	3/4"	
	16	1"	

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
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Fueling Products



Twin Ferrule Compression Tube Fittings



Tube Fittings for Pressure Rating 15000 PSIG



Precision Thread Pipe Fittings & Adapters



37° Flare Fittings



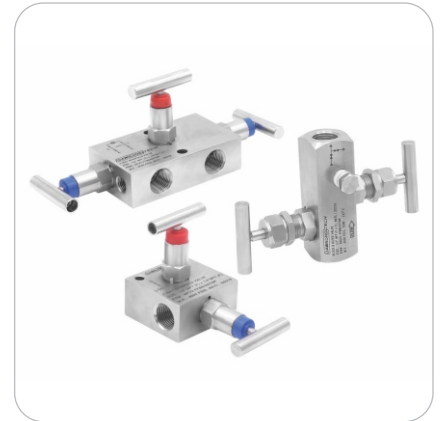
2 Way Ball Valves



3 Way Trunnion Ball Valves



Quick Connect Couplings



2 / 3 Way Manifold / Block & Bleed Valves



Relief Valves



CNG Receptacles Series : DTLR01 & DTLR03



CNG Receptacles Series : DTSR05 & DTSR07

**NOTES :** \_\_\_\_\_

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Registered Office and Manufacturing Plant :

## **DAWSONS-TECH COMPONENTS LLP**

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