



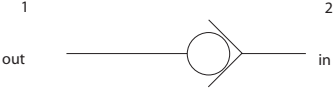
Cartridge Valves Technical Information

Check Valves

Quick Reference

Cartridge	Model No.	Cavity	Description	Flow*	Pressure	Page
	CV04-NB	CP04-2	Check Valve, Ball Type, Normal Direction	3 l/min [1 US gal/min]	207 bar [3000 psi]	02.6
	CV08-NB	SDC08-2		30 l/min [8 US gal/min]	310 bar [4500 psi]	02.7
	CV10-NB	SDC10-2		83 l/min [22 US gal/min]	207 bar [3000 psi]	02.8

Cartridge	Model No.	Cavity	Description	Flow*	Pressure	Page
	CV08-NP	SDC08-2	Check Valve, Poppet Type, Normal Direction	30 l/min [8 US gal/min]	310 bar [4500 psi]	02.9
	CV10-NP	SDC10-2		85 l/min [22 US gal/min]	300 bar [4350 psi]	02.10
	CP100-3	SDC10-2		115 l/min [30 US gal/min]	350 bar [5000 psi]	02.11
	CP102-1	SDC16-2		210 l/min [55 US gal/min]	210 bar [3000 psi]	02.12
	CP103-1	SDC20-2		380 l/min [100 US gal/min]	210 bar [3000 psi]	02.13


Cartridge	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP104-2	CP04-2	Check Valve, Reverse Direction	3 l/min [1 US gal/min]	210 bar [3000 psi]	02.14


* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.


Cartridge Valves Technical Information

Check Valves

Quick Reference

Cartridge	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP108-2	SDC08-2	Check Valve, Reverse Direction	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.15
	CP100-2	SDC10-2		50 l/min [13 US gal/min]	350 bar [5000 psi]	02.16
	CP101-2	CP12-2		75 l/min [20 US gal/min]	350 bar [5000 psi]	02.17
	CP102-2	SDC16-2		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.18
	CP103-2	SDC20-2		265 l/min [70 US gal/min]	350 bar [5000 psi]	02.19

Slip-in	Model No.	Cavity	Description	Flow*	Pressure	Page
	3C50-01	FC-144	Check Valve, Slip-in	70 l/min [19 US gal/min]	210 bar [3000 psi]	02.20
	3C60-01	FC-144		70 l/min [19 US gal/min]	140 bar [2000 psi]	02.21
	3C80-01	FC-304		190 l/min [50 US gal/min]	140 210 bar [2000 psi]	02.22
	3C90-01	FC-304		190 l/min [50 US gal/min]	210 bar [3000 psi]	02.23


Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	3C11-01	none	Check Valve, In-line, Female Port	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.24
	RS 06	none		30 l/min [8 US gal/min]	350 bar [5000 psi]	02.25
	3C12-01	none		35 l/min [9 US gal/min]	350 bar [5000 psi]	02.26
	RS 10	none		60 l/min [16 US gal/min]	350 bar [5000 psi]	02.27
	3C13-01	none		70 l/min [19 US gal/min]	350 bar [5000 psi]	02.28
	3C14-01	none		95 l/min [25 US gal/min]	350 bar [5000 psi]	02.29
	RS 13	none		100 l/min [26 US gal/min]	315 bar [4500 psi]	02.30
	RS 19	none		140 l/min [37 US gal/min]	280 bar [4000 psi]	02.31
	3C15-01	none		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.32
	RS 25	none		200 l/min [53 US gal/min]	245 bar [3500 psi]	02.33
	3C16-01	none		230 l/min [61 US gal/min]	350 bar [5000 psi]	02.34

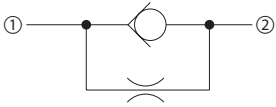
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.

Cartridge Valves Technical Information

Check Valves

Quick Reference

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	3CM11-01	none	Check Valve, In-line, Male Port	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.35
	3CM12-01	none		35 l/min [9 US gal/min]	350 bar [5000 psi]	02.36
	3CM13-01	none		70 l/min [19 US gal/min]	350 bar [5000 psi]	02.37
	3CM14-01	none		95 l/min [25 US gal/min]	350 bar [5000 psi]	02.38
	3CM15-01	none		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.39
	3CM16-01	none		230 l/min [61 US gal/min]	350 bar [5000 psi]	02.40

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	2RN11-01	none	Check Valve, In-line, Female Port, with Orifice	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.41

* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.

Cartridge Valves Technical Information

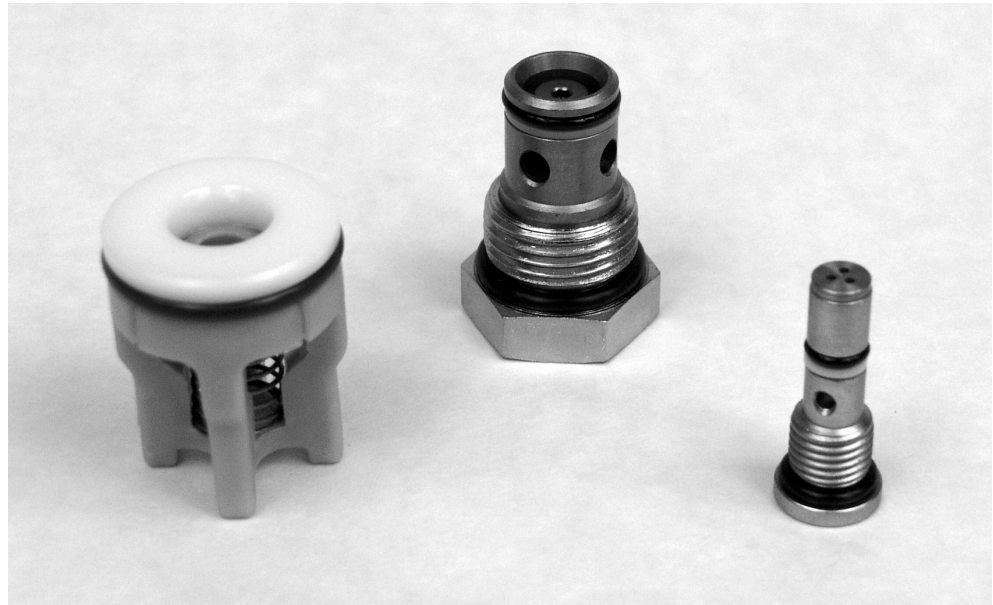
Check Valves

Application Notes

BASIC OPERATION

Check valves allow free flow in one direction and block flow in the opposite direction.

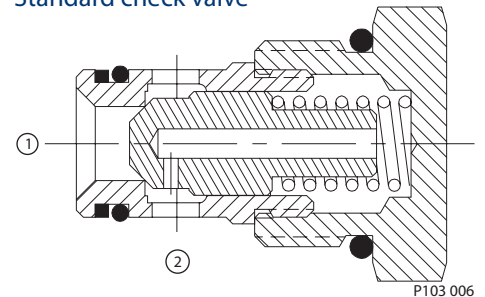
Check valves



STANDARD CHECK VALVES

Standard check valves, suitable for most applications, have fully guided poppets which always block flow from 2 to 1. They are spring biased closed until sufficient pressure is applied at 1 to open flow to 2. This pressure is commonly called the crack pressure. Several crack pressures are available for each model. Consult check valves section for details. This valve is also available with an integral orifice for free flow in one direction and controlled flow (speed) in the opposite direction.

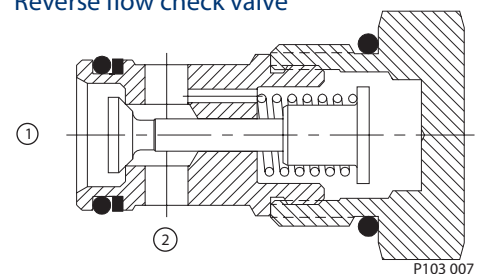
Standard check valve



REVERSE FLOW CHECK VALVES

Reverse flow check valves, useful for higher pressure applications or where housing or size constraints require this flow path are also available. These valves have guided poppets that block flow from 1 to 2 and are spring biased closed until sufficient pressure is applied at 2 to open flow to 1.

Reverse flow check valve



Cartridge Valves Technical Information

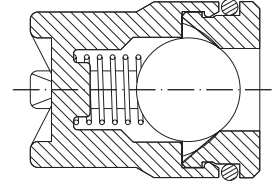
Check Valves

Application Notes

SLIP-IN CHECK VALVES

Slip-in style check valves are cartridges that drop into small cavities and are retained by SAE plugs or by other cartridge valves. They are ideal for use in manifolds where space savings is critical. Versions of these valves with Delrin® seats are also available for applications requiring extremely low leakage.

Slip-in check valve

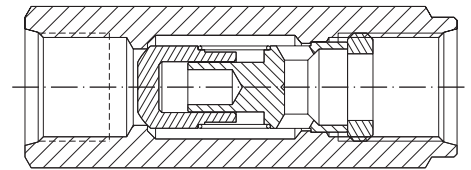


P103 008

INLINE CHECK VALVES

Also available are in-line check valves, which can be used to simplify machine plumbing.

Inline check valve



P103 009

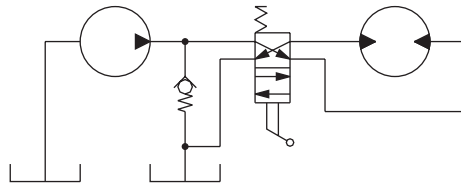
APPLICATIONS

Check valves have many common

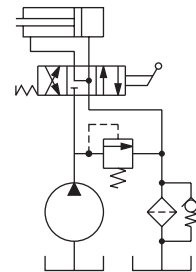
applications including:

- Low pressure relief valve
- Bypass for filter elements
- Logic for load-sensing circuits
- Anti-cavitation or make-up
- Load holding (refer to Motion Control Valves for more information)

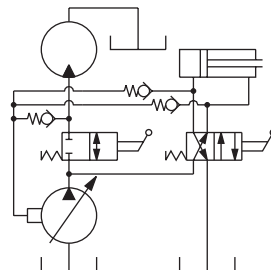
Low pressure relief valve



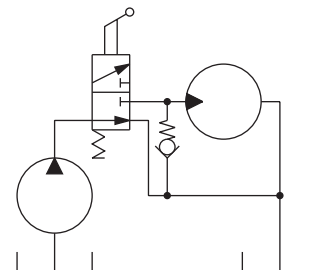
Bypass for filter elements



Logic for load-sensing circuits



Anti-cavitation



P103 010



Cartridge Valves Technical Information

Check Valves

Cartridge

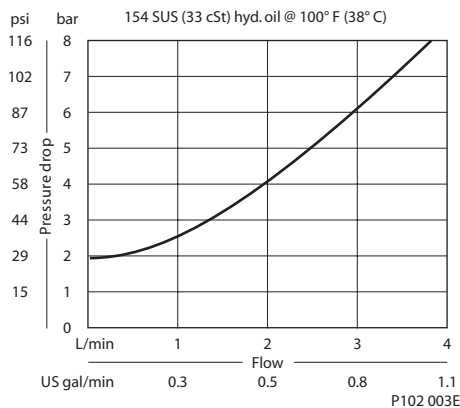
CV04-NB

OPERATION

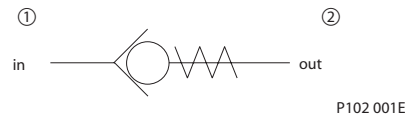
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



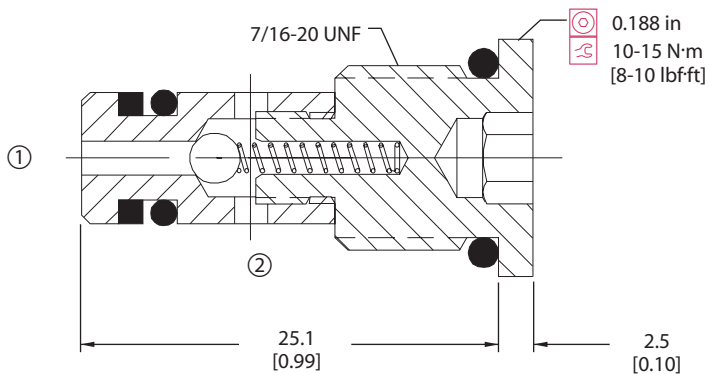
Specifications

Rated pressure	207 bar [3000 psi]
Rated flow at 7 bar [100 psi]	3 l/min [1 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.01 kg [0.03 lb]
Cavity	CP04-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 000E

ORDERING INFORMATION

CV04-NB-0.3-B-00

Crack Pressure
0.3 = 0.3 bar [5 psi]
1.7 = 1.7 bar [25 psi]

Housing and ports
00 = No Housing
4S = Al, #4 SAE
2B = Al, 1/4 BSP

Housing Part #
No Housing
CP04-2-4S
CP04-2-2B

Seals
B = Buna-N
V = Viton

Seal Kit
120077
11019554

P108 388E

Check valves
CV04-NB



Cartridge Valves Technical Information

Check Valves

Cartridge

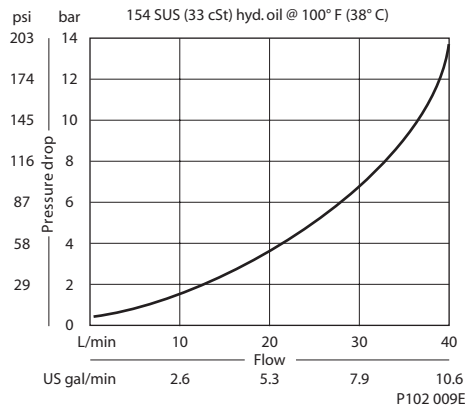
CV08-NB

OPERATION

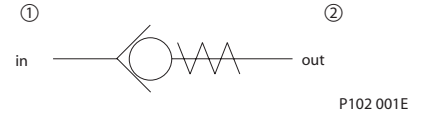
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



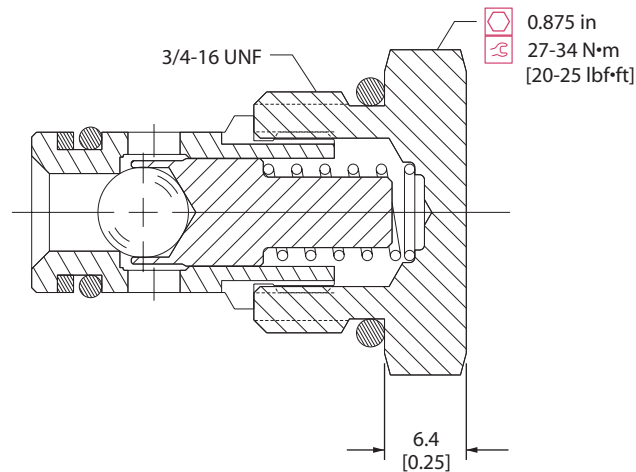
Specifications

Rated pressure	310 bar [4500 psi]
Rated flow at 7 bar [100 psi]	30 l/min [8 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.05 kg [0.11 lb]
Cavity	SDC08-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CV08-NB-0.3-B-00

Crack Pressure	Housing and ports	Housing Part #
0.3 = 0.3 bar [5 psi]	00 = No Housing	No Housing
0.7 = 0.7 bar [10 psi]	DG-2B = Al, 1/4 BSP	SDC08-2-DG-2B
1 = 1.0 bar [15 psi]	DG-3B = Al, 3/8 BSP	SDC08-2-DG-3B
2 = 2.0 bar [30 psi]	4S = Al, #4 SAE	CP08-2-4S
5 = 5.0 bar [65 psi]	6S = Al, #6 SAE	CP08-2-6S
7 = 7.0 bar [100 psi]	Seals	Seal Kit
	B = Buna-N	120221
	V = Viton	120222

P108 389E

Check valves CV08-NB



Cartridge Valves Technical Information

Check Valves

Cartridge

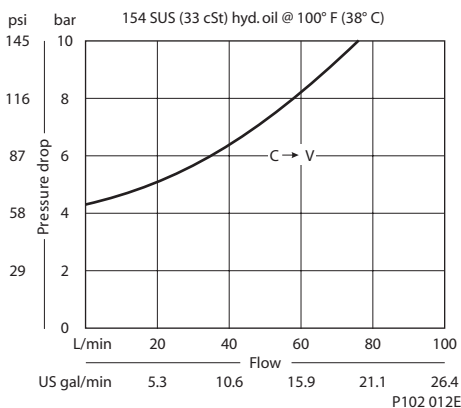
CV10-NB

OPERATION

This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

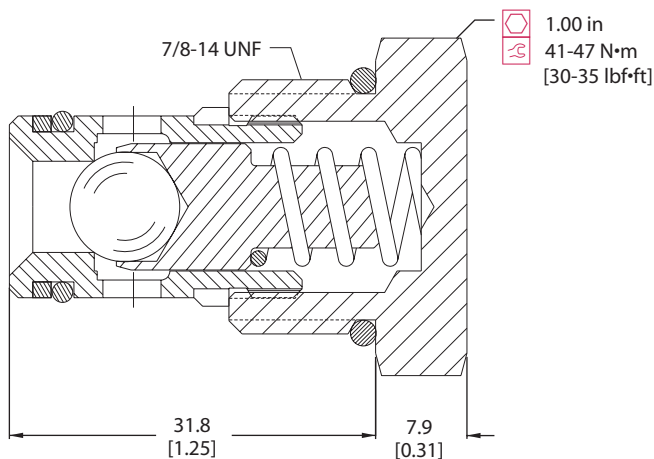
Specifications

Rated pressure	207 bar [3000 psi]
Rated flow at 7 bar [100 psi]	83 l/min [22 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.08 kg [0.17 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 558

ORDERING INFORMATION

CV10-NB-0.3-B-00

Crack Pressure

- 0.3 = 0.3 bar [5 psi]
- 1 = 1.0 bar [15 psi]
- 2 = 2.0 bar [30 psi]
- 5 = 5.0 bar [65 psi]
- 7 = 7.0 bar [100 psi]
- 10 = 10.3 bar [150 psi]

Housing and ports

- 00 = No Housing
- DG-3B = Al, 3/8 BSP
- DG-4B = Al, 1/2 BSP
- 6S = Al, #6 SAE
- 8S = Al, #8 SAE

Housing Part #

- No Housing
- SDC10-2-DG-3B
- SDC10-2-DG-4B
- CP10-2-6S
- CP10-2-8S

Seals

- B = Buna-N
- V = Viton

Seal Kit

- 120015
- 120016

P108 390E



Cartridge Valves Technical Information

Check Valves

Cartridge

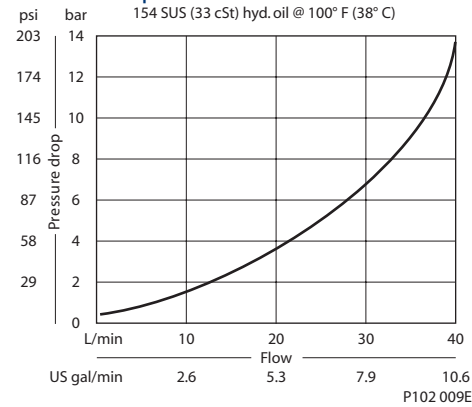
CV08-NP

OPERATION

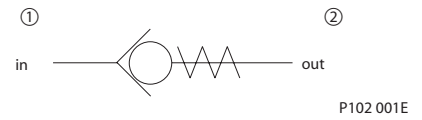
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



Specifications

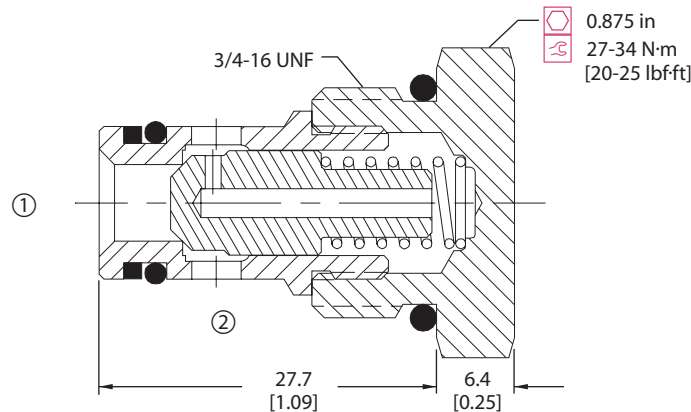
Rated pressure	310 bar [4500 psi]
Rated flow at 7 bar [100 psi]	30 l/min [8 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.05 kg [0.11 lb]
Cavity	SDC08-2

Check valves
CV08-NP

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CV08-NP-0.3-B-4S

Crack Pressure

- 0.3 = 0.3 bar [5 psi]
- 0.7 = 0.7 bar [10 psi]
- 1 = 1.0 bar [15 psi]
- 2 = 2.0 bar [30 psi]
- 5 = 5.0 bar [65 psi]
- 7 = 7.0 bar [100 psi]

Housing and ports

- 00 = No Housing
- DG2B = Al, 1/4 BSP
- DG3B = Al, 3/8 BSP
- 4S = Al, #4 SAE
- 6S = Al, #6 SAE
- Other housings available

Housing P/N

- No Housing
- SDC08-2-DG-2B
- SDC08-2-DG-3B
- CP08-2-4S
- CP08-2-6S

Seals

- Seal kit
- B = Buna N 120221
- V = Viton 120222

P103 651E

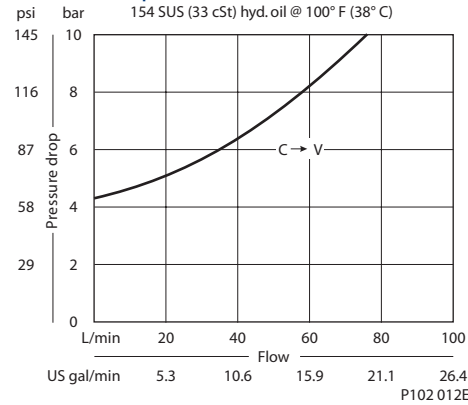
Cartridge Valves Technical Information
 Check Valves
 Cartridge
 CV10-NP

OPERATION

This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

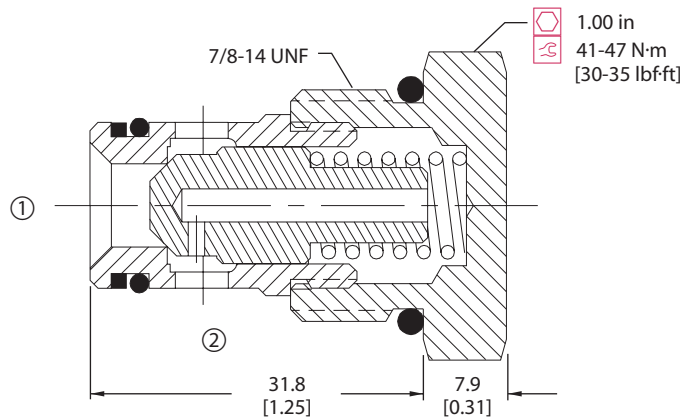
Specifications

Rated pressure	300 bar [4350 psi]
Rated flow at 7 bar [100 psi]	85 l/min [22 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.08 kg [0.18 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 011E

ORDERING INFORMATION

CV10-NP-5-B-6S

Crack Pressure

- 0.3 = 0.3 bar [5 psi]
- 1 = 1.0 bar [15 psi]
- 2 = 2.0 bar [30 psi]
- 5 = 5.0 bar [65 psi]
- 7 = 7.0 bar [100 psi]
- 10 = 10 bar [145 psi]

Housing and ports

- 00 = No Housing
- DG3B = Al, 3/8 BSP
- DG4B = Al, 1/2 BSP
- 6S = Al, #6 SAE
- 8S = Al, #8 SAE
- Other housings available

Housing P/N

- No Housing
- SDC10-2-DG-3B
- SDC10-2-DG-4B
- CP10-2-6S
- CP10-2-8S

Seals

- B = Buna N 120015
- V = Viton 120016

Seal kit

P103 650E



Cartridge Valves Technical Information

Check Valves

Cartridge

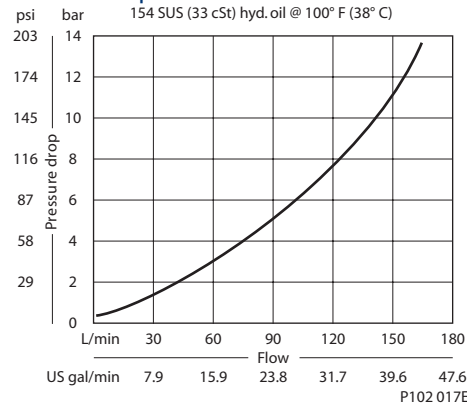
CP100-3

OPERATION

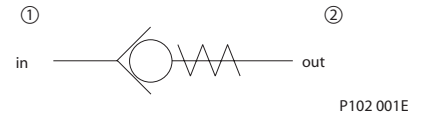
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



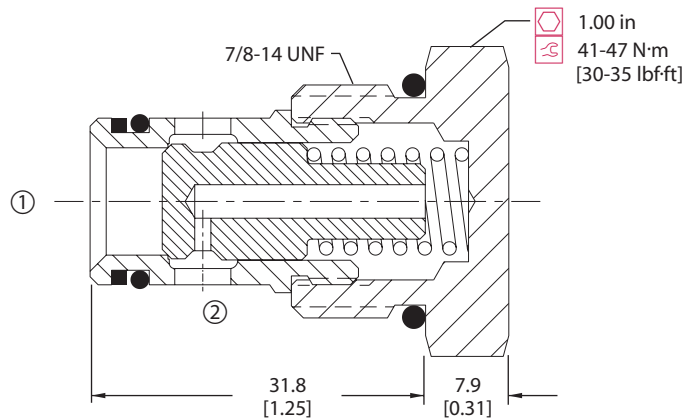
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	115 l/min [30 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.08 kg [0.17 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP100-3-B-8S-005

Housing and ports

- 0 = No Housing
- DG3B = Al, 3/8 BSP
- DG4B = Al, 1/2 BSP
- 6S = Al, #6 SAE
- 8S = Al, #8 SAE
- Other housings available

Housing P/N

- No Housing
- SDC10-2-DG-3B
- SDC10-2-DG-4B
- CP10-2-6S
- CP10-2-8S

Crack pressure

- 005 = 0.34 bar [5 psi]
- 015 = 1.0 bar [15 psi]
- 040 = 2.8 bar [40 psi]
- 065 = 4.5 bar [65 psi]

Seals

- B = Buna-N
- V = Viton
- Seal kit
- 120015
- 120016

P102 171E

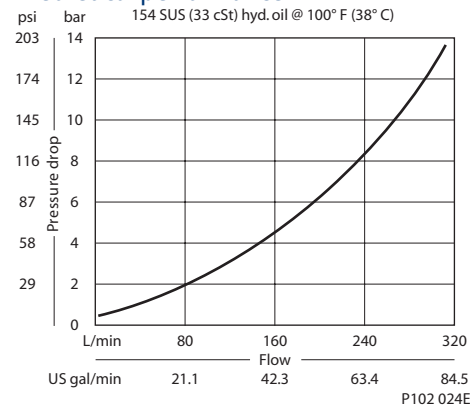
Cartridge Valves Technical Information
 Check Valves
 Cartridge
 CP102-1

OPERATION

This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

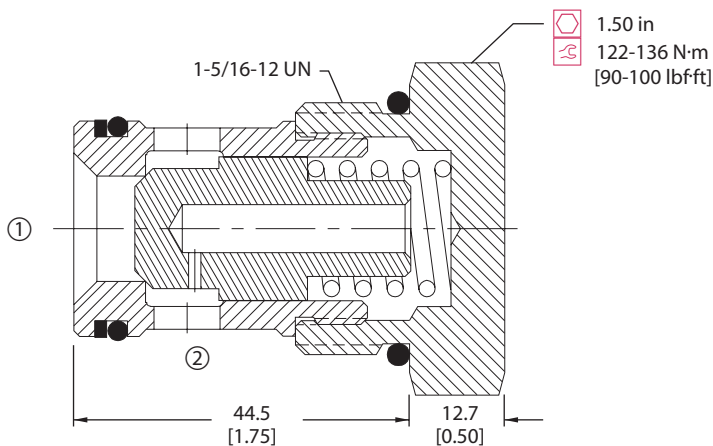
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	210 l/min [55 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.26 kg [0.57 lb]
Cavity	SDC16-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 023E

ORDERING INFORMATION

CP102-1-B-16S-005

<p>Housing and ports</p> <ul style="list-style-type: none"> 0 = No Housing DG6B = Al, 3/4 BSP DG8B = Al, 1 BSP 12S = Al, #12 SAE 16S = Al, #16 SAE Other housings available <p>Seals</p> <ul style="list-style-type: none"> B = Buna-N V = Viton 	<p>Seal kit</p> <ul style="list-style-type: none"> 120019 120020 	<p>Housing P/N</p> <ul style="list-style-type: none"> No Housing SDC16-2-DG-6B SDC16-2-DG-8B CP16-2-12S CP16-2-16S 	<p>Crack pressure</p> <ul style="list-style-type: none"> 005 = 0.34 bar [5 psi] 015 = 1.0 bar [15 psi] 030 = 2.1 bar [30 psi] 040 = 2.8 bar [40 psi] 065 = 4.5 bar [65 psi] 100 = 6.9 bar [100 psi]
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P102 186E



Cartridge Valves Technical Information

Check Valves

Cartridge

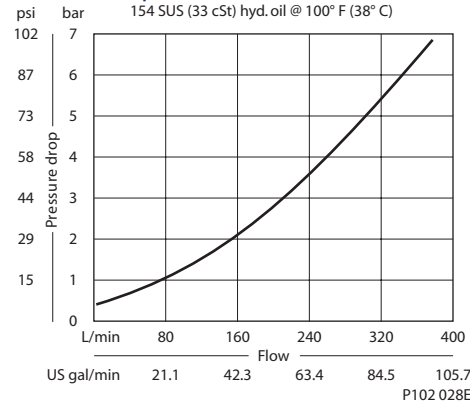
CP103-1

OPERATION

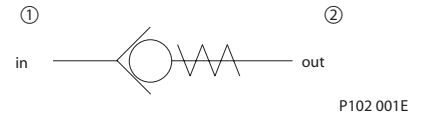
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



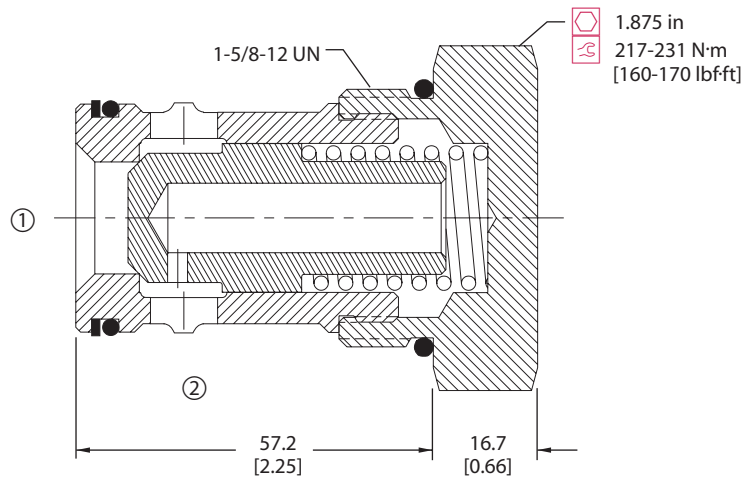
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	380 l/min [100 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.54 kg [1.20 lb]
Cavity	SDC20-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP103-1-B-20S-005

Housing and ports
 0 = No Housing
 8B = Al, 1 BSP
 10B = Al, 1-1/4 BSP
 16S = Al, #16 SAE
 20S = Al, #20 SAE
 Other housings available

Seals
 B = Buna-N
 V = Viton

Seal kit
 120011
 120012

Housing P/N
 No Housing
 CP20-2-8B
 CP20-2-10B
 CP20-2-16S
 CP20-2-20S

Crack pressure

005 = 0.34 bar [5 psi]
 015 = 1.0 bar [15 psi]
 065 = 4.5 bar [65 psi]

P102 194E

Check valves CP103-1



Cartridge Valves Technical Information

Check Valves

Cartridge

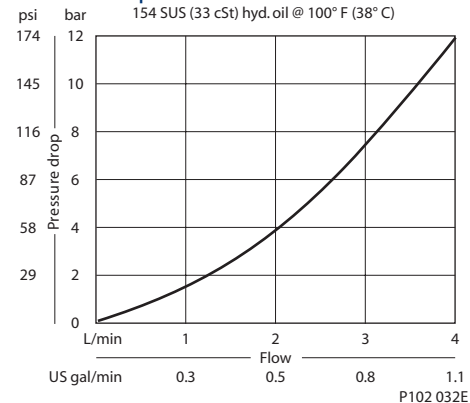
CP104-2

OPERATION

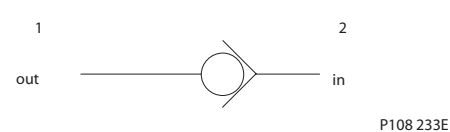
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



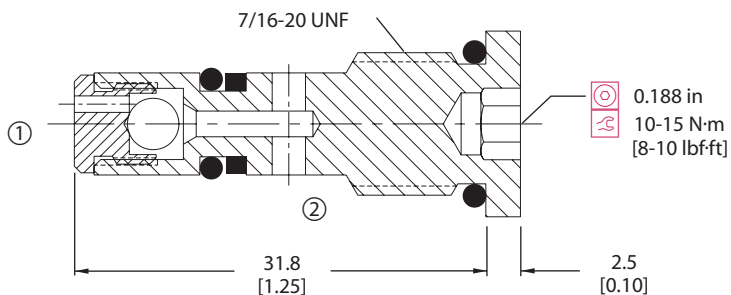
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	3 l/min [1 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.01 kg [0.03 lb]
Cavity	CP04-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP104-2-B-4S

Housing and ports

- 0 = No Housing
- 2B = Al, 1/4 BSP
- 4S = Al, #4 SAE
- Other housings available

Housing P/N

- No Housing
- CP04-3-2B
- CP04-2-4S

Seals

- B = Buna-N Seal kit 120077
- V = Viton Seal kit 11019554

P102 147

Check valves
CP104-2



Cartridge Valves Technical Information

Check Valves

Cartridge

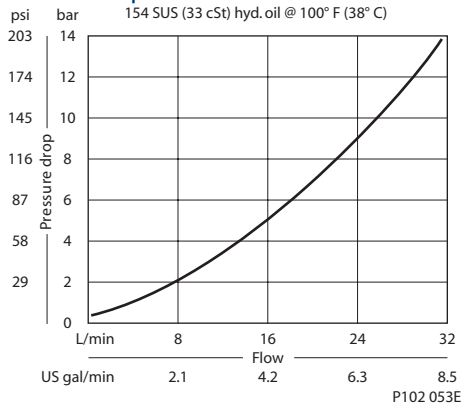
CP108-2

OPERATION

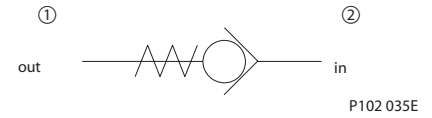
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



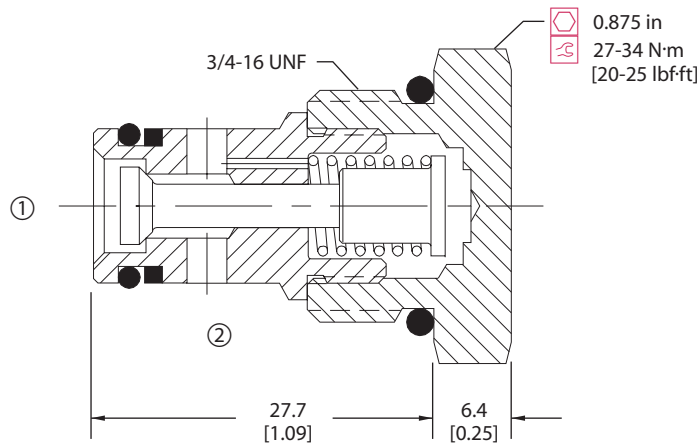
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.05 kg [0.11 lb]
Cavity	SDC08-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 052E

ORDERING INFORMATION

CP108-2-B-6S-005

Housing and ports

- 0 = No Housing
- DG2B = Al, 1/4 BSP
- DG3B = Al, 3/8 BSP
- 4S = Al, #4 SAE
- 6S = Al, #6 SAE
- Other housings available

Housing P/N

- No Housing
- SDC08-2-DG-2B
- SDC08-2-DG-3B
- CP8-2-4S
- CP8-2-6S

Crack pressure

- 005 = 0.34 bar [5 psi]
- 015 = 1.0 bar [15 psi]
- 030 = 2.1 bar [30 psi]
- 050 = 3.4 bar [50 psi]
- 065 = 4.5 bar [65 psi]
- 100 = 6.9 bar [100 psi]

Seals

- B = Buna-N 120221
- V = Viton 120222

Seal kit

- 120221
- 120222

P102 156E



Cartridge Valves Technical Information

Check Valves

Cartridge

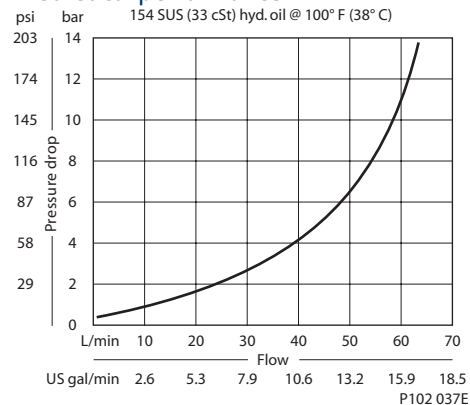
CP100-2

OPERATION

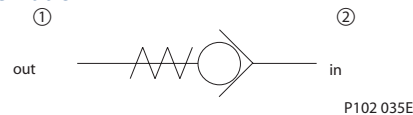
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



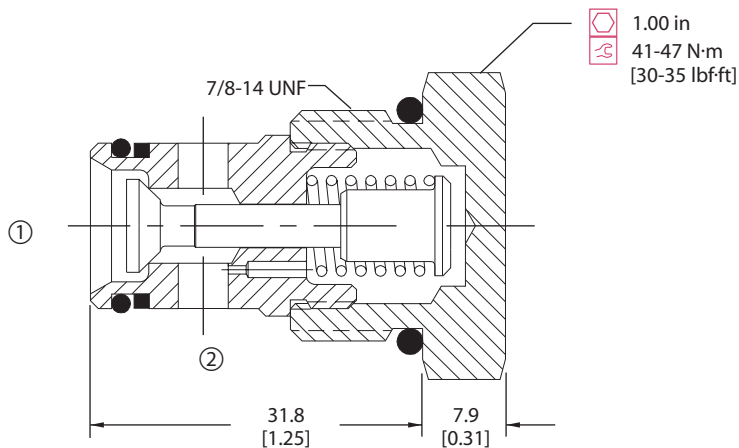
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	50 l/min [13 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.08 kg [0.17 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP100-2-B-8S-005

Housing and ports

- 0 = No Housing
- DG3B = Al, 3/8 BSP
- DG4B = Al, 1/2 BSP
- 6S = Al, #6 SAE
- 8S = Al, #8 SAE
- Other housings available

Housing P/N

- No Housing
- SDC10-2-DG-3B
- SDC10-2-DG-4B
- CP10-2-6S
- CP10-2-8S

Crack pressure

- 005 = 0.34 bar [5 psi]
- 015 = 1.0 bar [15 psi]
- 030 = 2.1 bar [30 psi]
- 050 = 3.4 bar [50 psi]
- 065 = 4.5 bar [65 psi]
- 100 = 6.9 bar [100 psi]

Seals

- B = Buna-N
- V = Viton
- Seal kit
- 120015
- 120016

P102 166E



Cartridge Valves Technical Information

Check Valves

Cartridge

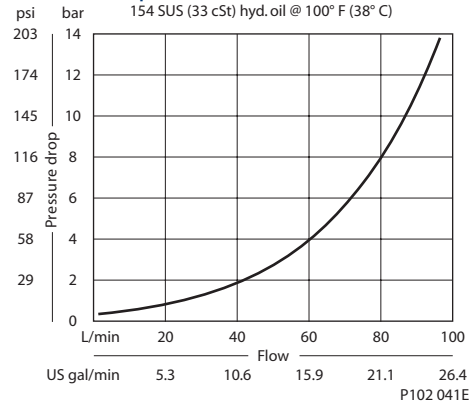
CP101-2

OPERATION

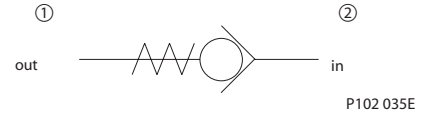
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



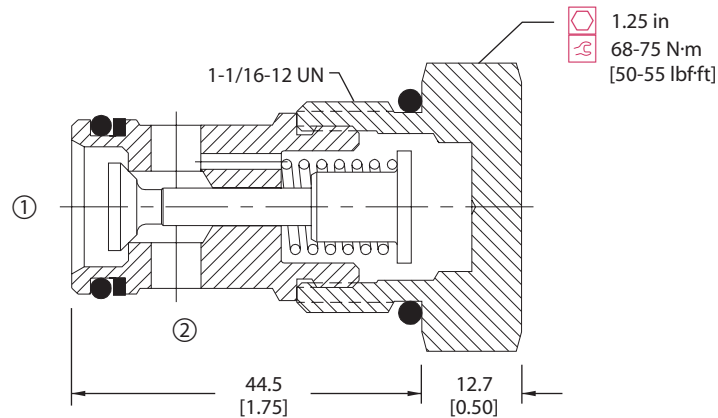
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	75 l/min [20 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.18 kg [0.40 lb]
Cavity	CP12-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 040E

ORDERING INFORMATION

CP101-2-B-12S-005

Housing and ports

- 0 = No Housing
- 4B = Al, 1/2 BSP
- 6B = Al, 3/4 BSP
- 10S = Al, #10 SAE
- 12S = Al, #12 SAE
- Other housings available

Housing P/N

- No Housing
- CP12-2-4B
- CP12-2-6B
- CP12-2-10S
- CP12-2-12S

Crack pressure

- 005 = 0.34 bar [5 psi]
- 015 = 1.0 bar [15 psi]
- 030 = 2.1 bar [30 psi]
- 065 = 4.5 bar [65 psi]
- 100 = 6.9 bar [100 psi]

Seals

- B = Buna-N
 - V = Viton
- Seal kit
120017
120018

P102 181E

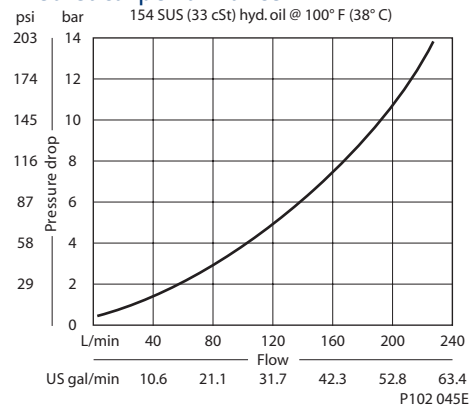
Cartridge Valves Technical Information
 Check Valves
 Cartridge
 CP102-2

OPERATION

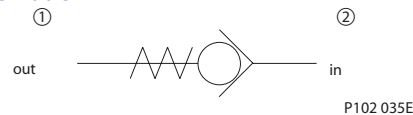
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



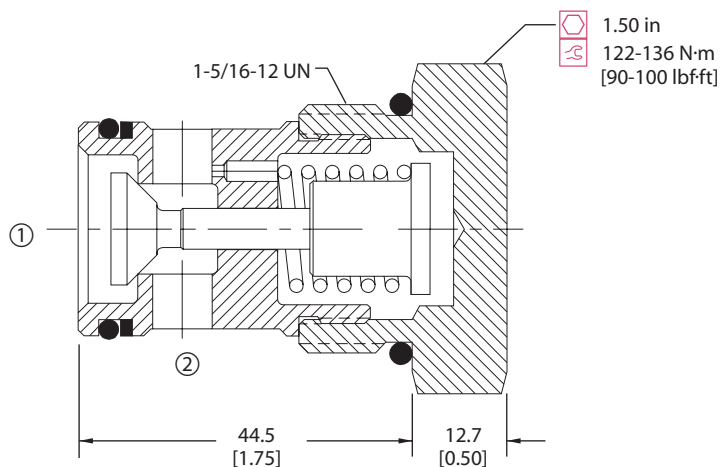
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	150 l/min [40 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.26 kg [0.57 lb]
Cavity	SDC16-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP102-2-B-16S-005

Housing and ports

0 = No Housing
 HG-6B = Al, 3/4 BSP
 HG-8B = Al, 1 BSP
 12S = Al, #12 SAE
 16S = Al, #16 SAE
 Other housings available

Housing P/N

No Housing
 SDC16-2-HG-6B
 SDC16-2-HG-8B
 CP16-2-12S
 CP16-2-16S

Crack pressure

005 = 0.34 bar [5 psi]
 015 = 1.0 bar [15 psi]
 030 = 2.1 bar [30 psi]
 050 = 3.4 bar [50 psi]
 065 = 4.5 bar [65 psi]
 100 = 6.9 bar [100 psi]

Seals

B = Buna-N 120019
 V = Viton 120020

P102 190E



Cartridge Valves Technical Information

Check Valves

Cartridge

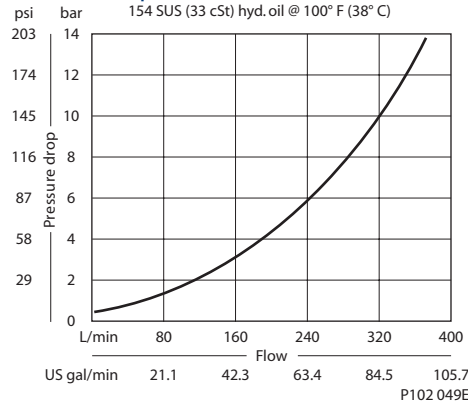
CP103-2

OPERATION

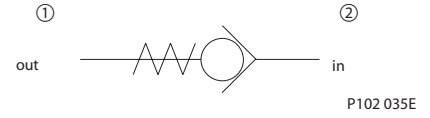
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



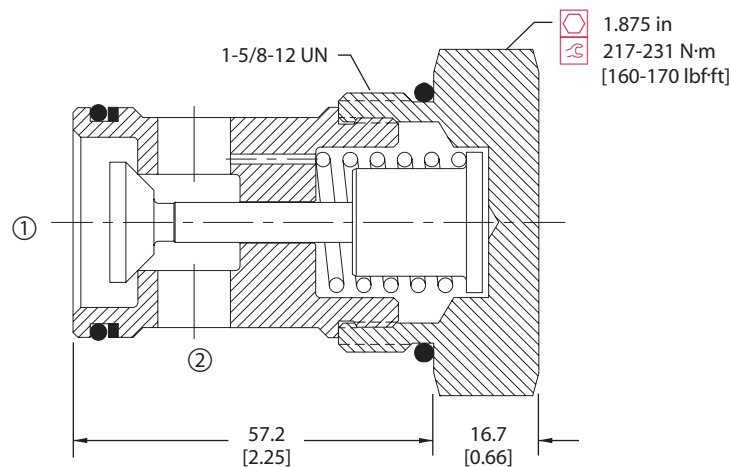
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	265 l/min [70 US gal/min]
Leakage	6 drops/min @ 207 bar [3000 psi]
Weight	0.54 kg [1.20 lb]
Cavity	SDC20-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP103-2-B-20S-005

Housing and ports		Housing P/N	Crack pressure
0	= No Housing	No Housing	005 = 0.34 bar [5 psi]
8B	= Al, 1 BSP	CP20-2-8B	015 = 1.0 bar [15 psi]
10B	= Al, 1-1/4 BSP	CP20-2-10B	030 = 2.1 bar [30 psi]
16S	= Al, #16 SAE	CP20-2-16S	050 = 3.4 bar [50 psi]
20S	= Al, #20 SAE	CP20-2-20S	065 = 4.5 bar [65 psi]
	Other housings available		100 = 6.9 bar [100 psi]
Seals			
Code	Seal kit		
B = Buna-N	120011		
V = Viton	120012		

P102 142E

Check valves CP103-2



Cartridge Valves Technical Information

Check Valves

Slip-in

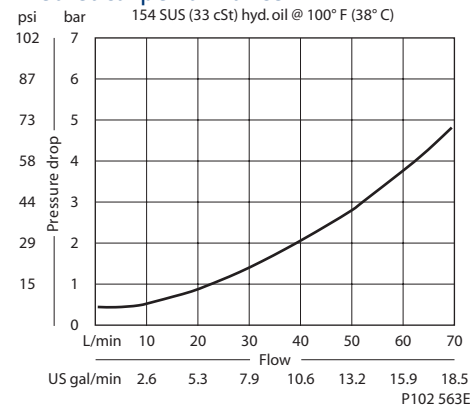
3C50-01

OPERATION

This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

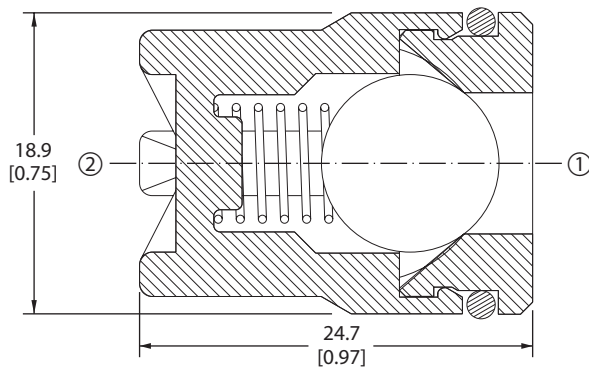
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	70 l/min [19 US gal/min]
Leakage	15 drops/min @ rated pressure
Weight	0.03 kg [0.07 lb]
Cavity	FC-144

DIMENSIONS

mm [in]

Cross-sectional view



P102 550

ORDERING INFORMATION

3C50-01-B-0-005

Crack pressure
005 = 0.34 bar [5 psi]

Housing and ports
0 = No Housing

Seals
B = Buna-N
V = Viton

Seal kit
720399
720420

P102 552E

Check valves
3C50-01



Cartridge Valves Technical Information

Check Valves

Slip-in

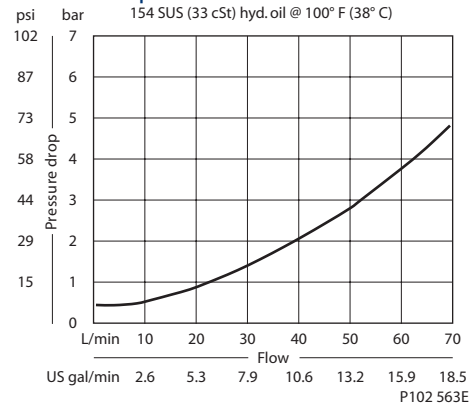
3C60-01

OPERATION

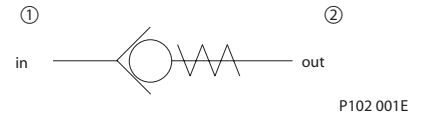
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1. Valve uses a Delrin® seat for low leakage

SPECIFICATIONS

Theoretical performance



Schematic



Specifications

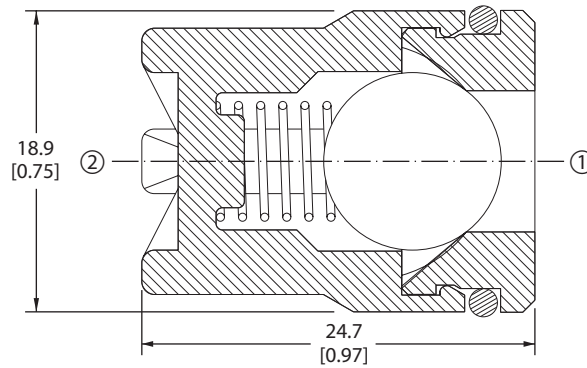
Rated pressure	140 bar [2000 psi]
Rated flow at 7 bar [100 psi]	70 l/min [19 US gal/min]
Leakage	6 drops/min @ rated pressure
Weight	0.01 kg [0.02 lb]
Cavity	FC-144

Check valves
3C60-01

DIMENSIONS

mm [in]

Cross-sectional view



P102 550

ORDERING INFORMATION

3C60-01-B-0-005

- Crack pressure
005 = 0.34 bar [5 psi]
- Housing and ports
0 = No Housing
- Seals
B = Buna-N
V = Viton

Seal kit
720399
720420

P102 551E



Cartridge Valves Technical Information

Check Valves

Slip-in

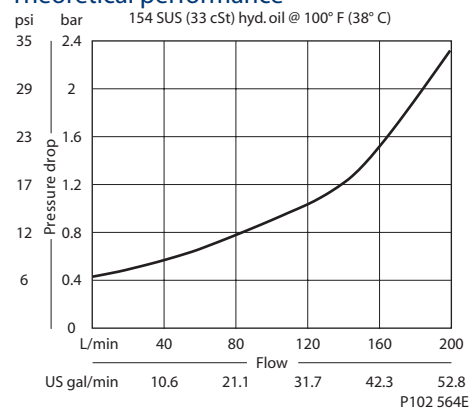
3C80-01

OPERATION

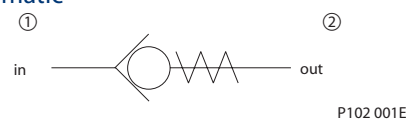
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1. Valve uses a Delrin® seat for low leakage.

SPECIFICATIONS

Theoretical performance



Schematic



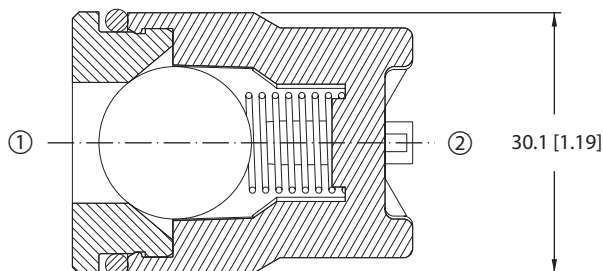
Specifications

Rated pressure	140 bar [2000 psi]
Rated flow at 7 bar [100 psi]	190 l/min [50 US gal/min]
Leakage	6 drops/min @ rated pressure
Weight	0.04 kg [0.09 lb]
Cavity	FC-304

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C80-01-B-0-005

Cracking pressure
005 = 0.34 bar [5 psi]
025 = 1.7 bar [25 psi]

Housing and ports
00 = No Housing

Seals
B = Buna-N Seal kit 720607
V = Viton Seal kit 720601

P102 554E

Check valves
3C80-01



Cartridge Valves Technical Information

Check Valves

Slip-in

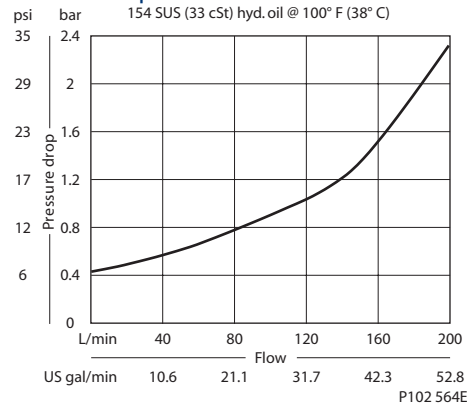
3C90-01

OPERATION

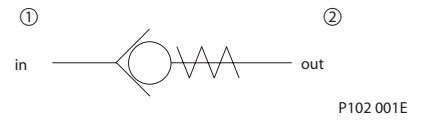
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



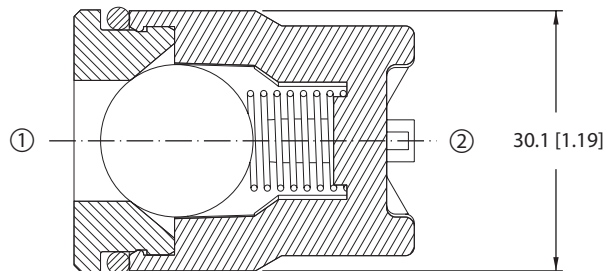
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	190 l/min [50 US gal/min]
Leakage	15 drops/min @ rated pressure
Weight	0.05 kg [0.11 lb]
Cavity	FC-304

DIMENSIONS

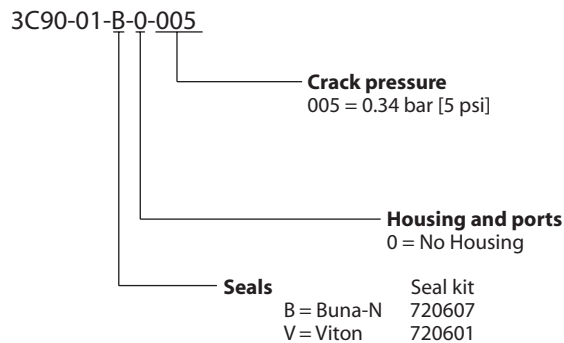
mm [in]

Cross-sectional view



P102 553E

ORDERING INFORMATION



P102 555E



Cartridge Valves Technical Information

Check Valves

In-line

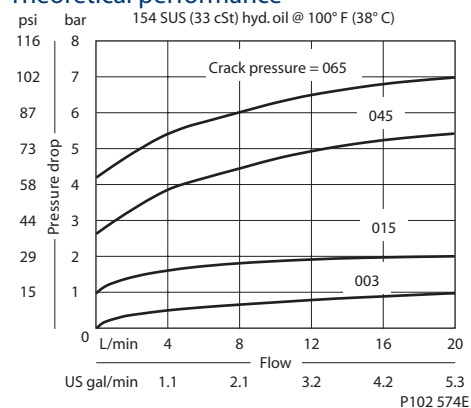
3C11-01

OPERATION

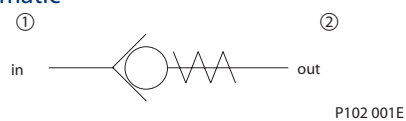
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



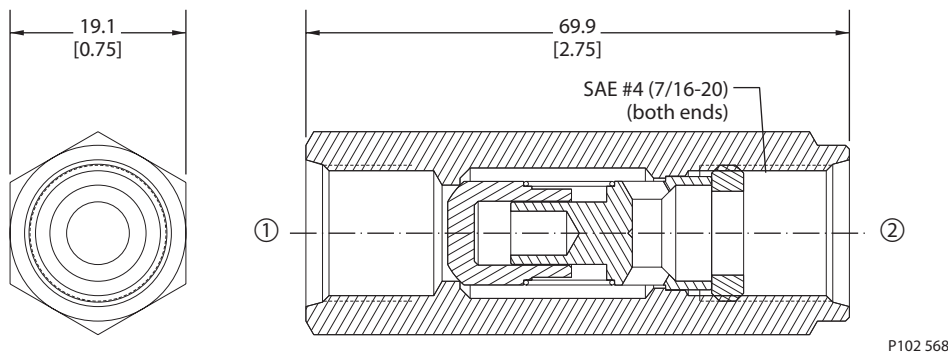
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.11 kg [0.24 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C11-01-4S-65

Crack pressure

3 = 0.2 bar [3 psi]
 15 = 1.0 bar [15 psi]
 45 = 3.1 bar [45 psi]
 65 = 4.5 bar [65 psi]

Port sizes
 4S = SAE #4

P102 580E

3C11-01
Check valves
10-112C

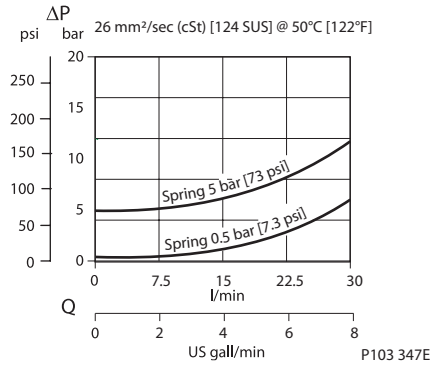
Cartridge Valves Technical Information
 Check Valves
 In-line
 RS 06

OPERATION

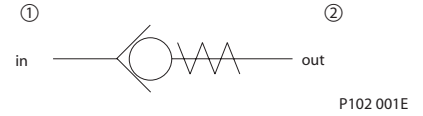
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



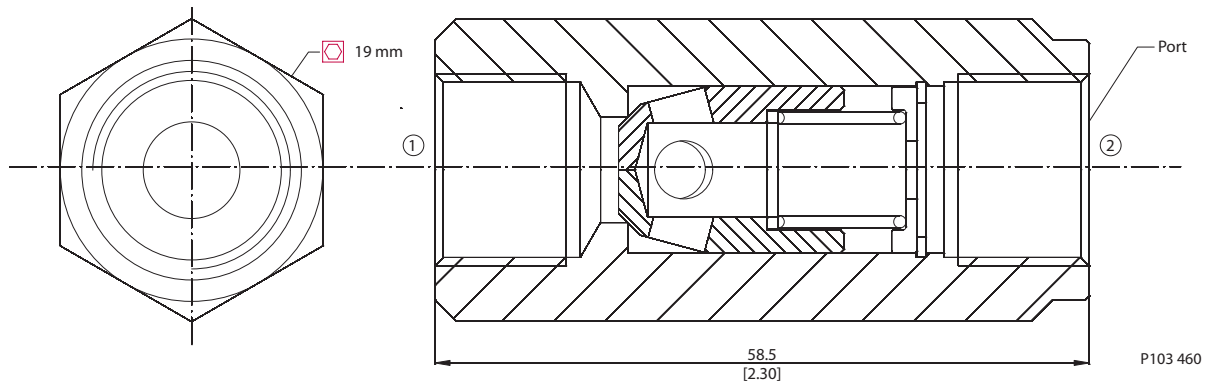
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	30 l/min [8 US gal/min]
Weight	0.08 kg [0.18 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RS 06 / 0,5 G

Port

A = SAE #6
 G = 1/4 BSP

Crack pressure

0.5 = 0.5 bar [7.25 psi]
 5 = 5 bar [72.5 psi]

P103 348E

Check valves
 RS 06



Cartridge Valves Technical Information

Check Valves

In-line

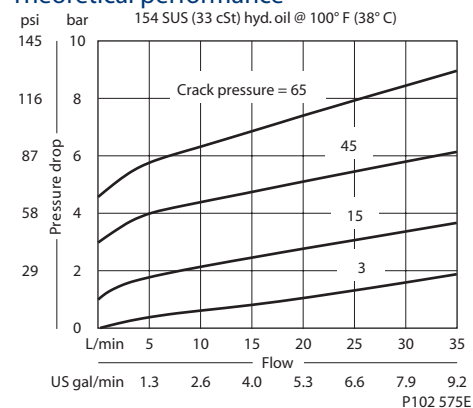
3C12-01

OPERATION

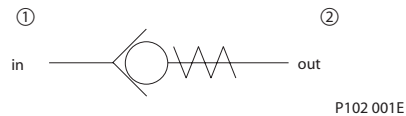
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



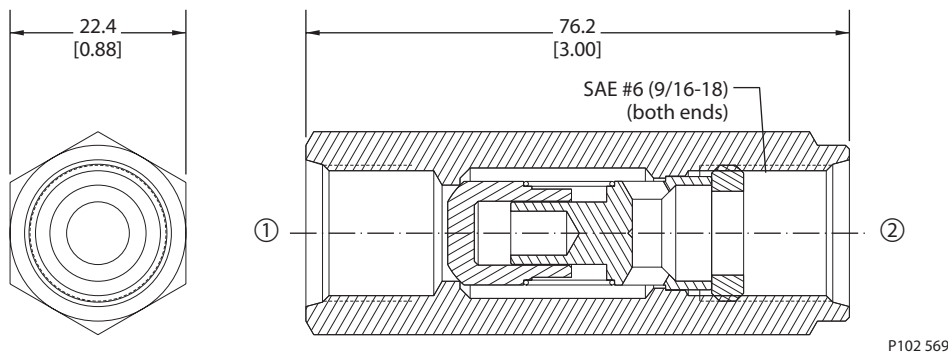
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	35 l/min [9 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.17 kg [0.37 lb]
Cavity	none

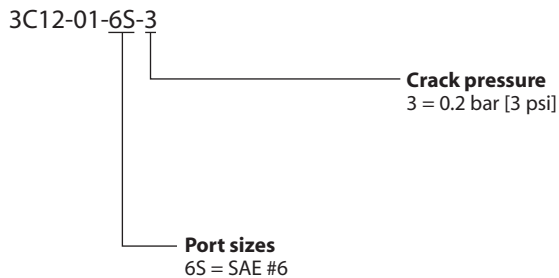
DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION



P102 581E



Cartridge Valves Technical Information

Check Valves

In-line

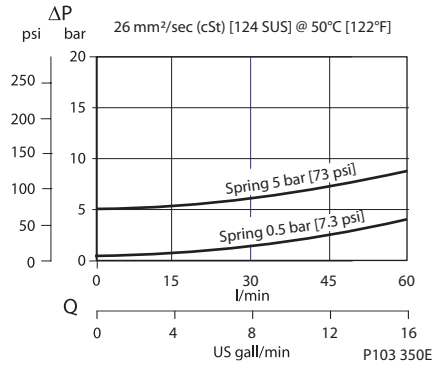
RS 10

OPERATION

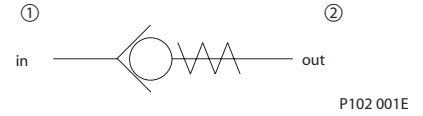
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



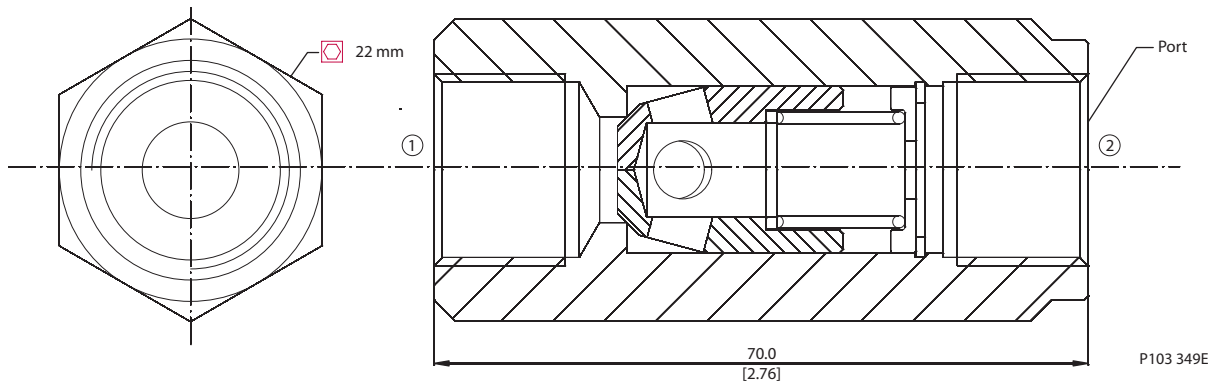
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	60 l/min [16 US gal/min]
Weight	0.13 kg [0.29 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RS 10 / 5 - G

Port
G = 3/8 BSP

Crack Pressure
0.5 = 0.5 bar [7 psi]
5 = 5 bar [73 psi]

P103 351E

Check valves RS 10



Cartridge Valves Technical Information

Check Valves

In-line

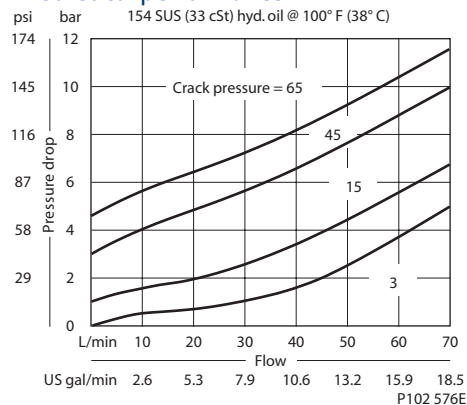
3C13-01

OPERATION

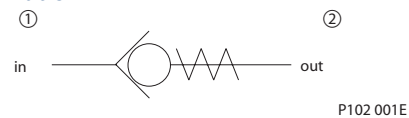
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



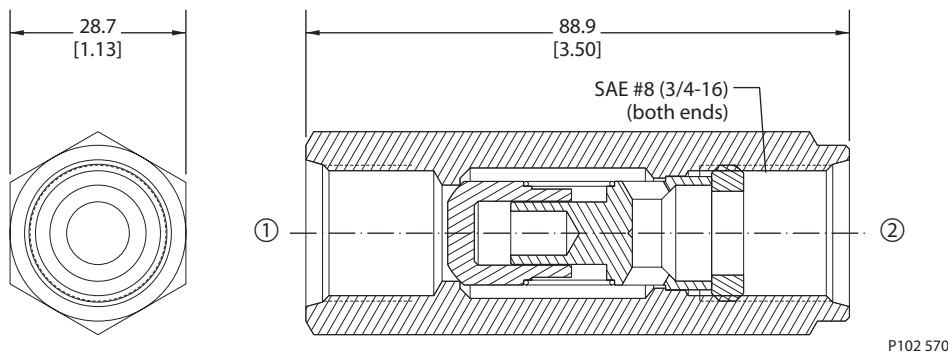
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	70 l/min [19 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.31 kg [0.68 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C13-01-8S-3

Crack pressure
 3 = 0.2 bar [3 psi]
 15 = 1.0 bar [15 psi]
 45 = 3.1 bar [45 psi]
 65 = 4.5 bar [65 psi]

Port sizes
 8S = SAE #8

P102 582E

Check valves
3C13-01



Cartridge Valves Technical Information

Check Valves

In-line

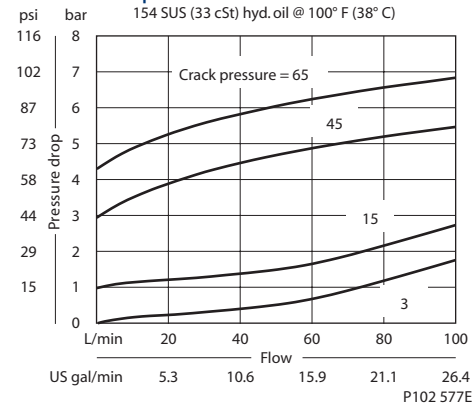
3C14-01

OPERATION

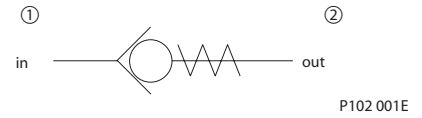
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



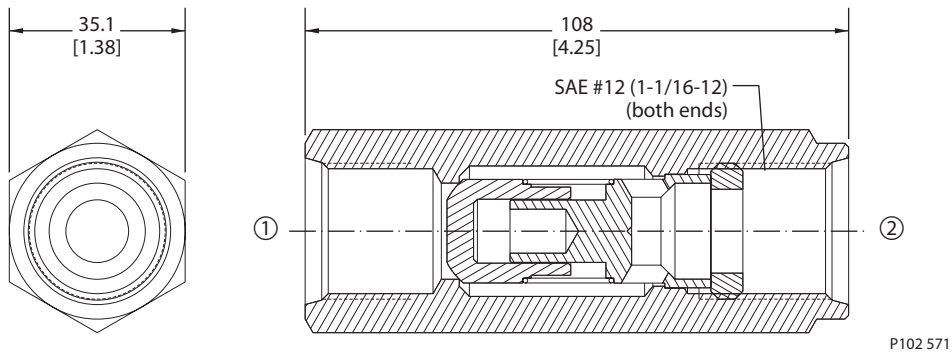
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	95 l/min [25 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.54 kg [1.19 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C14-01-12S-3

Crack pressure

- 3 = 0.2 bar [3 psi]
- 15 = 1.0 bar [15 psi]
- 45 = 3.1 bar [45 psi]
- 65 = 4.5 bar [65 psi]

Port sizes

12S = SAE #12

P102 583E

Check valves
3C14-01

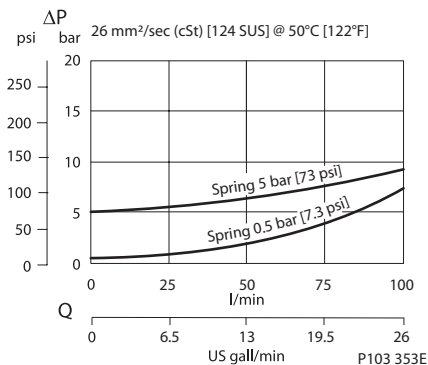
Cartridge Valves Technical Information
 Check Valves
 In-line
 RS 13

OPERATION

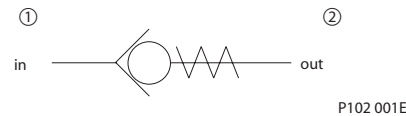
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



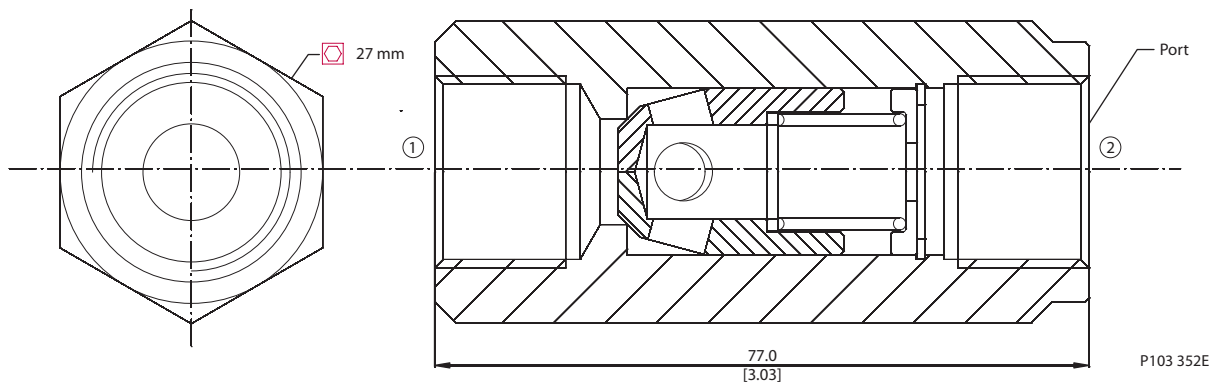
Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	100 l/min [26 US gal/min]
Weight	0.21 kg [0.46 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RS 13 / 0.5 - G

Ports
 G = 1/2 BSP

Crack Pressure
 0.5 = 0.5 bar [7 psi]
 5 = 5 bar [73 psi]

P103 354E

Check valves
 RS 13

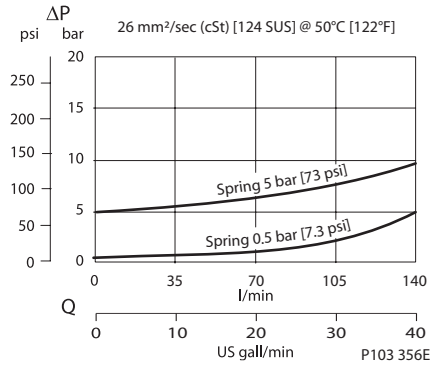
Cartridge Valves Technical Information
 Check Valves
 In-line
 RS 19

OPERATION

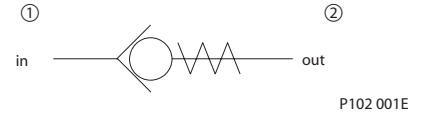
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



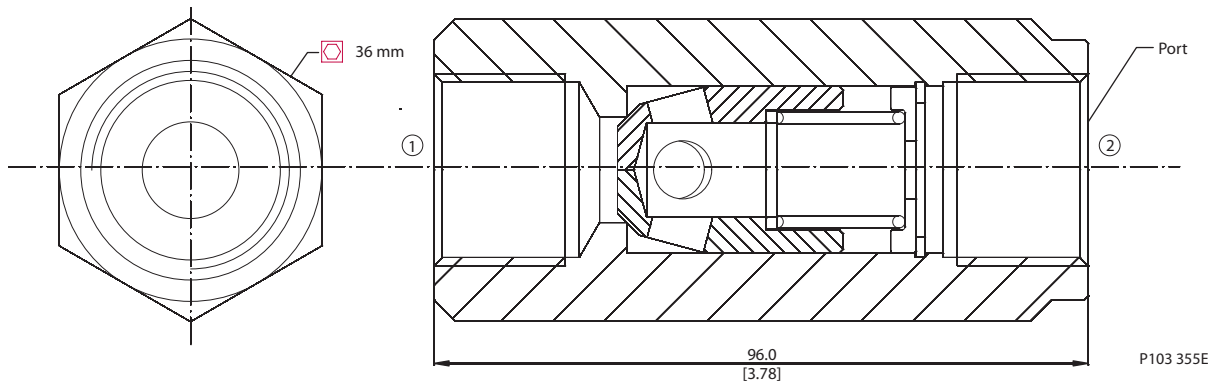
Specifications

Rated pressure	280 bar [4000 psi]
Rated flow at 7 bar [100 psi]	140 l/min [37 US gal/min]
Weight	0.43 kg [0.95 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RS 19 / 0.5 - G

Ports

A = SAE #12
 G = 3/4 BSP

Crack Pressure

0.5 = 0.5 bar [7 psi]
 5 = 5 bar [73 psi]

P103 357E

Check valves RS 19



Cartridge Valves Technical Information

Check Valves

In-line

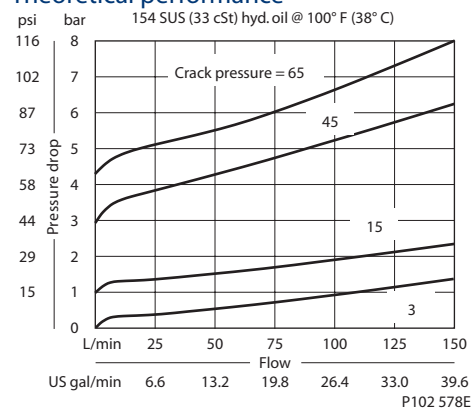
3C15-01

OPERATION

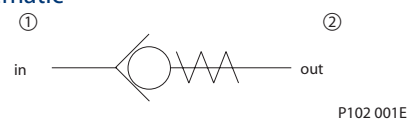
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



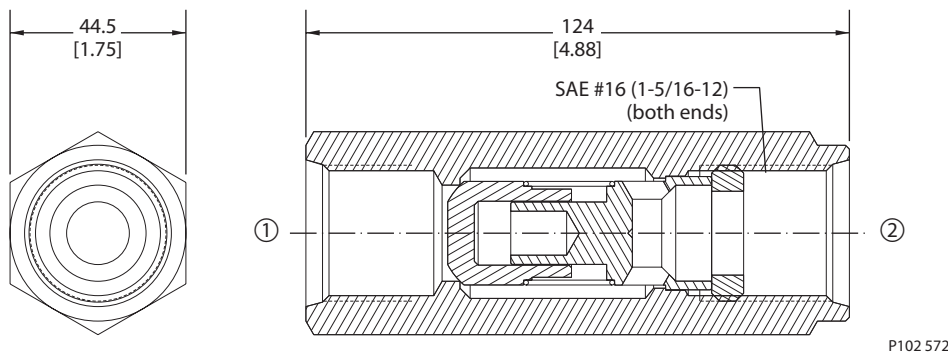
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	150 l/min [40 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	1.00 kg [2.20 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C15-01-16S-45

Crack pressure
 3 = 0.2 bar [3 psi]
 15 = 1.0 bar [15 psi]
 45 = 3.1 bar [45 psi]
 65 = 4.5 bar [65 psi]

Port sizes
 16S = SAE #16

P102 584E

Check valves
3C15-01



Cartridge Valves Technical Information

Check Valves

In-line

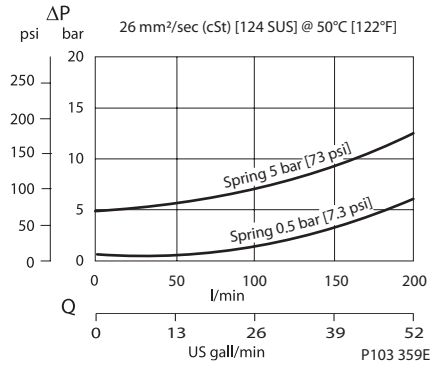
RS 25

OPERATION

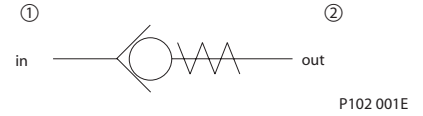
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



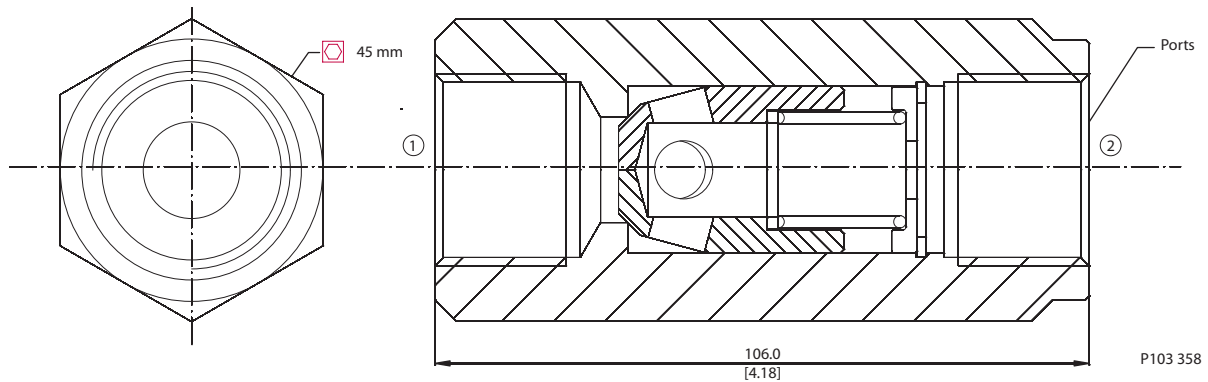
Specifications

Rated pressure	245 bar [3500 psi]
Rated flow at 7 bar [100 psi]	200 l/min [53 US gal/min]
Weight	0.88 kg [1.94 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RS 25 / 0.5 - G

Ports
A = SAE #16
G=1 BSP

Crack Pressure
0.5 = 0.5 bar [7 psi]
5 = 5 bar [73 psi]

P103 360E

Check valves RS 25



Cartridge Valves Technical Information

Check Valves

In-line

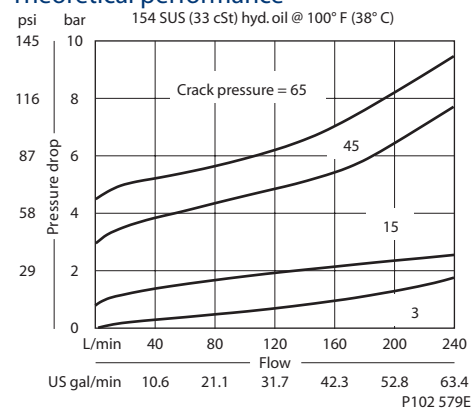
3C16-01

OPERATION

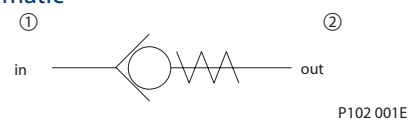
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



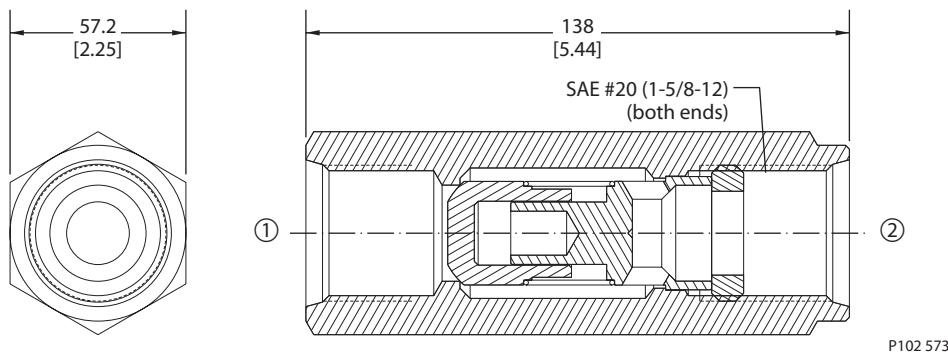
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	230 l/min [61 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	1.91 kg [4.21 lb]
Cavity	none

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C16-01-20S-3

Crack pressure
 3 = 0.2 bar [3 psi]
 15 = 1.0 bar [15 psi]
 45 = 3.1 bar [45 psi]
 65 = 4.5 bar [65 psi]

Port sizes
 20S = SAE #20

P102 585E

Check valves
3C16-01

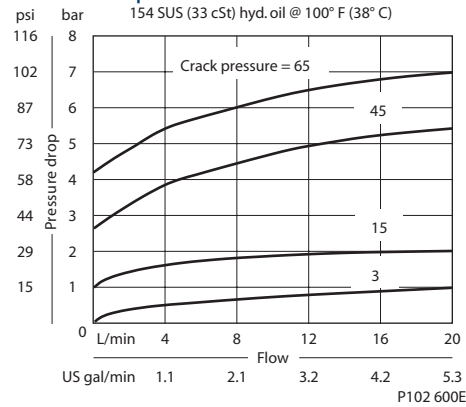
Cartridge Valves Technical Information
 Check Valves
 In-line
 3CM11-01

OPERATION

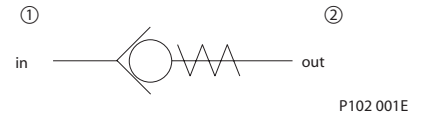
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



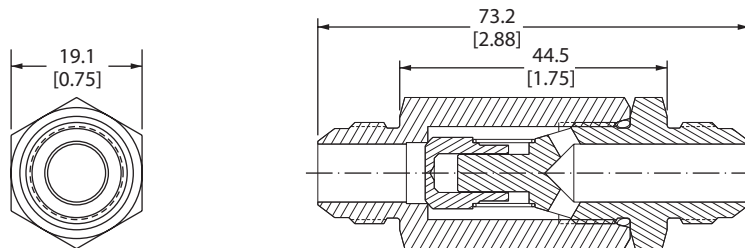
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.09 kg [0.20 lb]
Cavity	none

DIMENSIONS

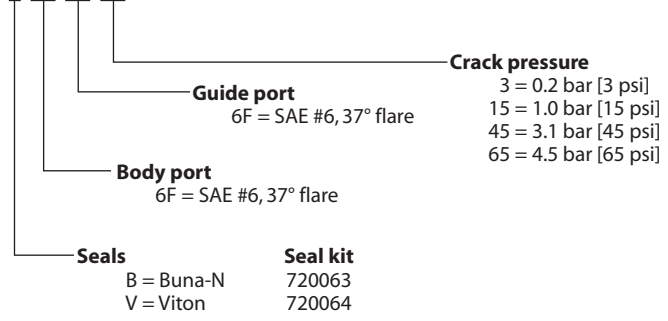
mm [in]

Cross-sectional view



ORDERING INFORMATION

3CM11-01-B-6F-6F-03



P102 606E

Check valves
 3CM11-01



Cartridge Valves Technical Information

Check Valves

In-line

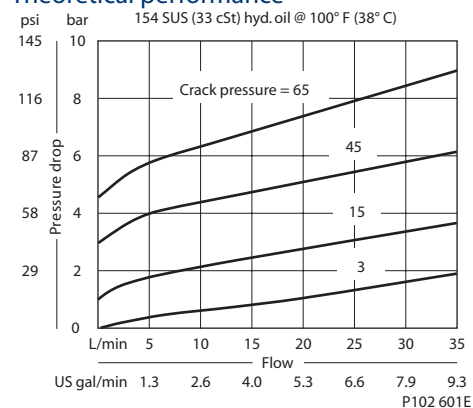
3CM12-01

OPERATION

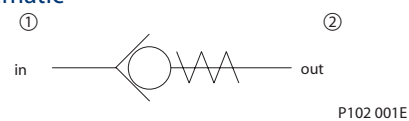
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



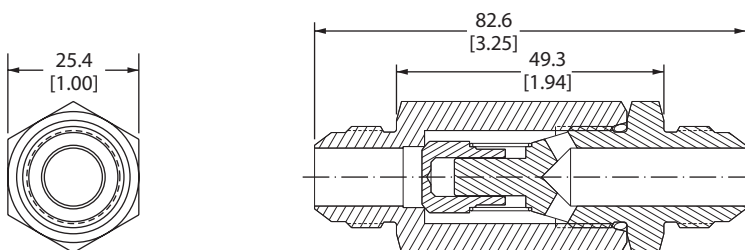
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	35 l/min [9 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.23 kg [0.51 lb]
Cavity	none

DIMENSIONS

mm [in]

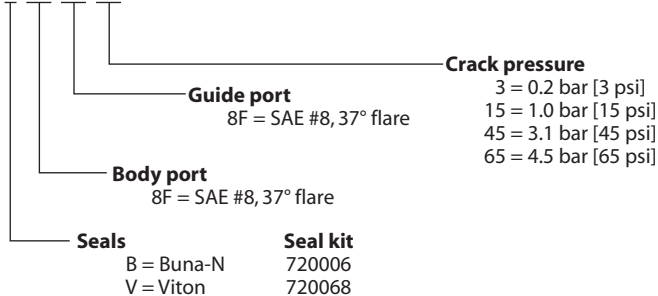
Cross-sectional view



P102 595

ORDERING INFORMATION

3CM12-01-B-8F-8F-03



P102 607E

Cartridge Valves Technical Information

Check Valves

In-line

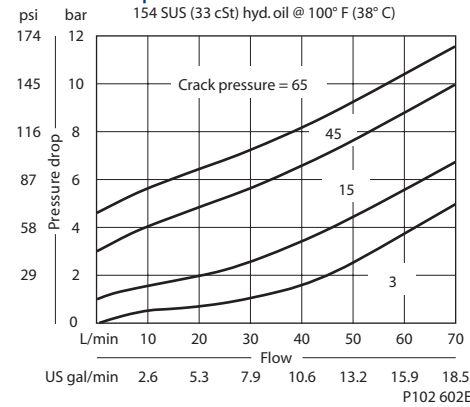
3CM13-01

OPERATION

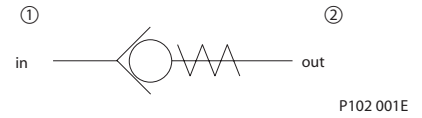
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



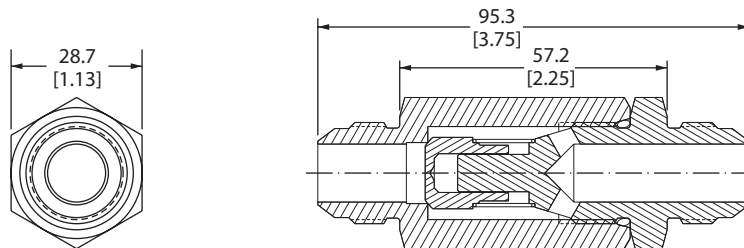
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	70 l/min [19 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.28 kg [0.62 lb]
Cavity	none

DIMENSIONS

mm [in]

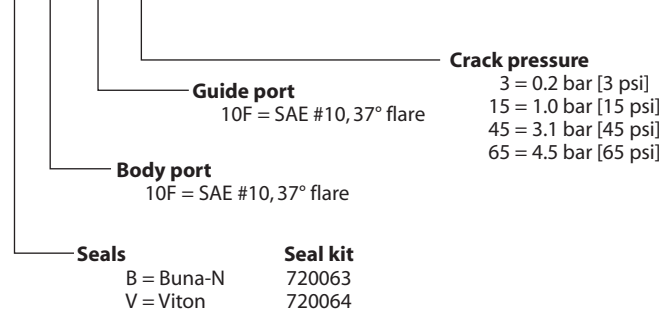
Cross-sectional view



P102 596

ORDERING INFORMATION

3CM13-01-B-10F-10F-03



P102 608E

Check valves 3CM13-01



Cartridge Valves Technical Information

Check Valves

In-line

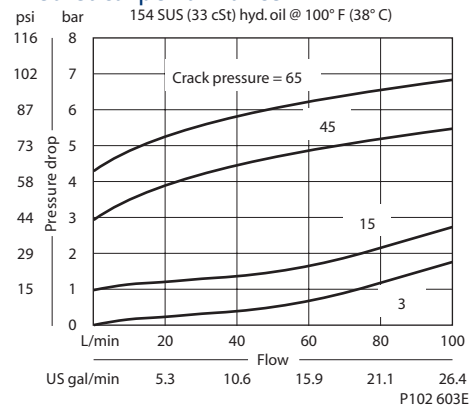
3CM14-01

OPERATION

This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

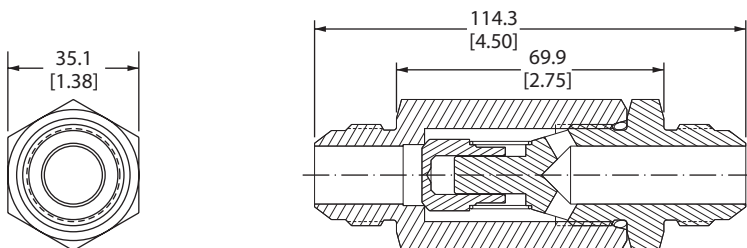
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	95 l/min [25 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.51 kg [1.12 lb]
Cavity	none

DIMENSIONS

mm [in]

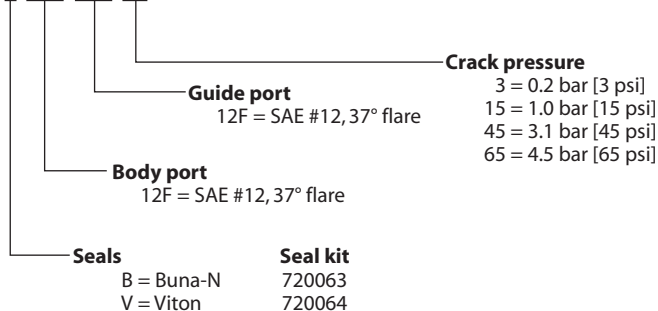
Cross-sectional view



P102 597

ORDERING INFORMATION

3CM14-01-B-12F-12F-03



P102 609E

Check valves
3CM14-01

Cartridge Valves Technical Information

Check Valves

In-line

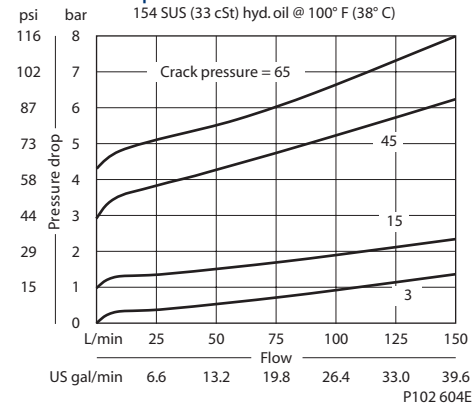
3CM15-01

OPERATION

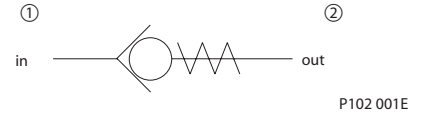
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



Specifications

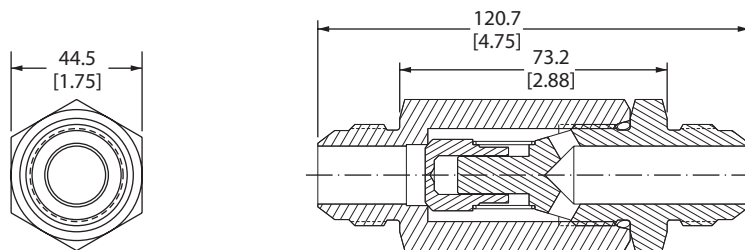
Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	150 l/min [40 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	0.85 kg [1.87 lb]
Cavity	none

Check valves
 3CM15-01

DIMENSIONS

mm [in]

Cross-sectional view



P102 598

ORDERING INFORMATION

3CM15-01-B-16F-16F-03

Crack pressure
 3 = 0.2 bar [3 psi]
 15 = 1.0 bar [15 psi]
 45 = 3.1 bar [45 psi]
 65 = 4.5 bar [65 psi]

Guide port
 16F = SAE #16, 37° flare

Body port
 16F = SAE #16, 37° flare

Seals
 B = Buna-N
 V = Viton

Seal kit
 720063
 720064

P102 610E



Cartridge Valves Technical Information

Check Valves

In-line

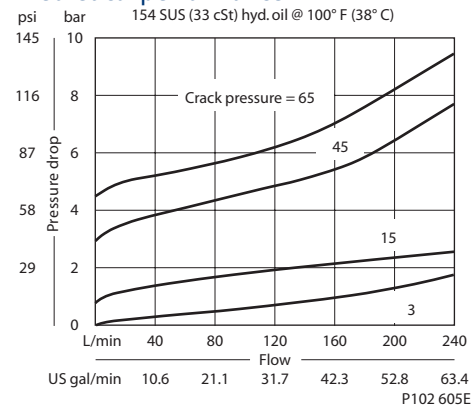
3CM16-01

OPERATION

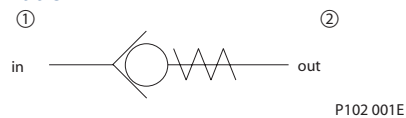
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



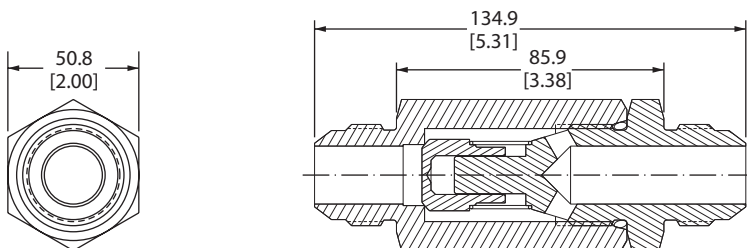
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	230 l/min [61 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	1.47 kg [3.24 lb]
Cavity	none

DIMENSIONS

mm [in]

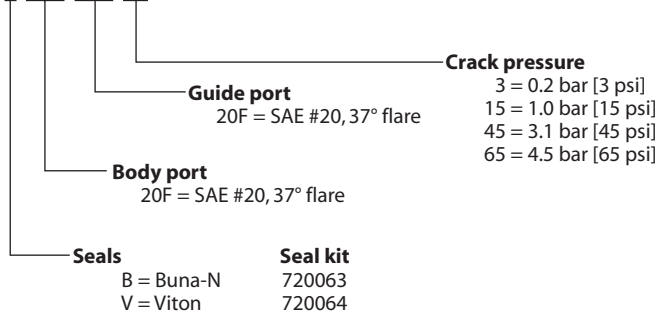
Cross-sectional view



P102 599

ORDERING INFORMATION

3CM16-01-B-20F-20F-03



P102 611E

Check valves
3CM16-01



Cartridge Valves Technical Information

Check Valves

In-line

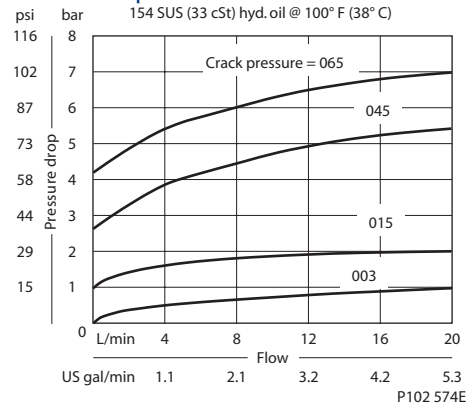
2RN11-01

OPERATION

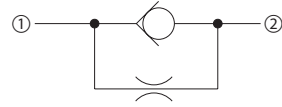
This valve allows free flow from 1 to 2 and restricted flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 592

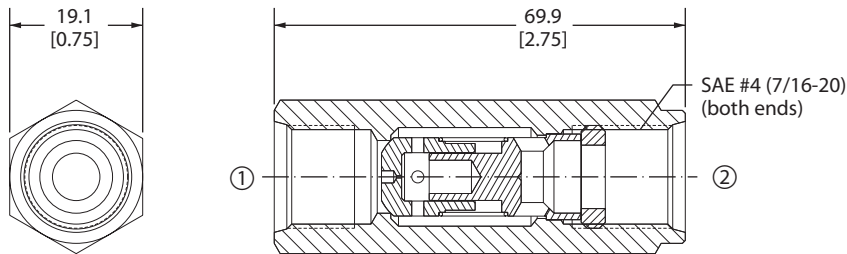
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	20 l/min [5 US gal/min]
Weight	0.11 kg [0.24 lb]
Cavity	none

DIMENSIONS

mm [in]

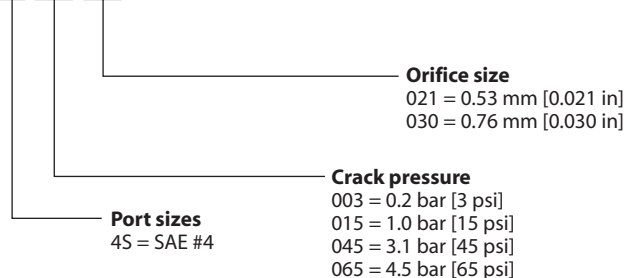
Cross-sectional view



P102 591E

ORDERING INFORMATION

2RN11-01-4S-003-021



P102 593E

Check valves
2RN11-01



Cartridge Valves Technical Information

Check Valves

Notes