


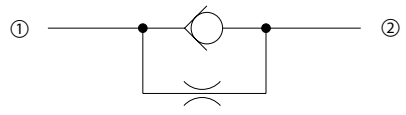


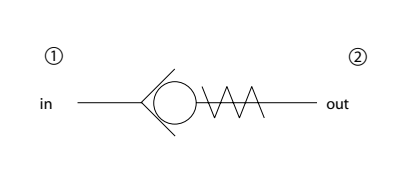
Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	3C100	FC-336	Check valve	15 l/min [4 US gal/min]	280 bar [4000 psi]	02.5
	CV08-NP	SDC08-2		30 l/min [8 US gal/min]	310 bar [4500 psi]	02.6
	RC 12	NCS12/2		90 l/min [24 US gal/min]	315 bar [4500 psi]	02.7
	CV10-NP	SDC10-2		85 l/min [22 US gal/min]	300 bar [4350 psi]	02.8
	CP100-3	SDC10-2		115 l/min [30 US gal/min]	350 bar [5000 psi]	02.9
	CP101-1	CP12-2		100 l/min [26 US gal/min]	210 bar [3000 psi]	02.10
	CP102-1	SDC16-2		210 l/min [55 US gal/min]	210 bar [3000 psi]	02.11
	CP103-1	SDC20-2		380 l/min [100 US gal/min]	210 bar [3000 psi]	02.12

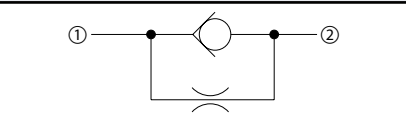
Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP104-2	CP04-2	Check valve (reverse flow)	3 l/min [1 US gal/min]	210 bar [3000 psi]	02.13
	CP108-2	SDC08-2		20 l/min [5 US gal/min]	350 bar [5000 psi]	02.14
	CP100-2	SDC10-2		50 l/min [13 US gal/min]	350 bar [5000 psi]	02.15
	CP101-2	CP12-2		75 l/min [20 US gal/min]	350 bar [5000 psi]	02.16
	CP102-2	SDC16-2		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.17
	CP103-2	SDC20-2		265 l/min [70 US gal/min]	350 bar [5000 psi]	02.18

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	3C50	FC-144	Check valve (slip in)	70 l/min [19 US gal/min]	210 bar [3000 psi]	02.19
	3C60	FC-144		70 l/min [19 US gal/min]	140 bar [2000 psi]	02.20
	3C90	FC-304		190 l/min [50 US gal/min]	210 bar [3000 psi]	02.21
	3C80	FC-304		190 l/min [50 US gal/min]	140 bar [2000 psi]	02.22

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

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP100-9	SDC10-2	Check valve (with orifice)	85 l/min [22 US gal/min]	210 bar [3000 psi]	02.23

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	3C11	none	Check valve (inline)	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.24
	3C12	none		35 l/min [9 US gal/min]	350 bar [5000 psi]	02.25
	3C13	none		70 l/min [19 US gal/min]	350 bar [5000 psi]	02.26
	3C14	none		95 l/min [25 US gal/min]	350 bar [5000 psi]	02.27
	3C15	none		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.28
	3C16	none		230 l/min [61 US gal/min]	350 bar [5000 psi]	02.29
	3CM11	none		20 l/min [5 US gal/min]	350 bar [5000 psi]	02.30
	3CM12	none		35 l/min [9 US gal/min]	350 bar [5000 psi]	02.31
	3CM13	none		70 l/min [19 US gal/min]	350 bar [5000 psi]	02.32
	3CM14	none		95 l/min [25 US gal/min]	350 bar [5000 psi]	02.33
	3CM15	none		150 l/min [40 US gal/min]	350 bar [5000 psi]	02.34
	3CM16	none		230 l/min [61 US gal/min]	350 bar [5000 psi]	02.35
	RS 06	none		30 l/min [8 US gal/min]	350 bar [5000 psi]	02.36
	RS 10	none		60 l/min [16 US gal/min]	350 bar [5000 psi]	02.37
	RS 13	none		100 l/min [26 US gal/min]	315 bar [4500 psi]	02.38
	RS 19	none		140 l/min [37 US gal/min]	280 bar [4000 psi]	02.39
	RS 25	none		200 l/min [53 US gal/min]	245 bar [3500 psi]	02.40

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	2RN11	none	Check valve (inline with orifice)	20 l/min [5 US gal/min]	350 bar [5000 psi]	02.41

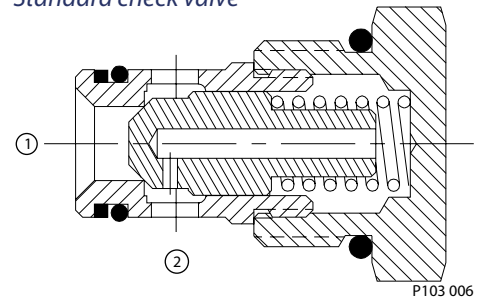
* Flow ratings are based on a pressure drop of 7 bar [100 psi] unless otherwise noted. They are for comparison purposes only.

BASIC OPERATION

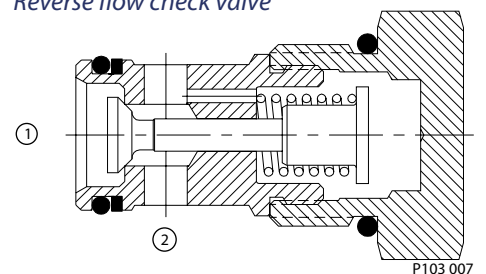
Check valves allow free flow in one direction and block flow in the opposite direction.

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

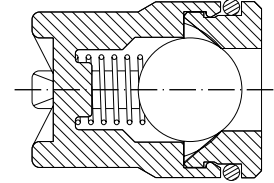
Check valves

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

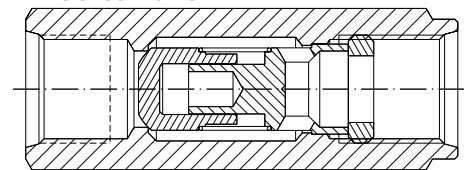


P103 008

INLINE CHECK VALVES

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

Inline check valve



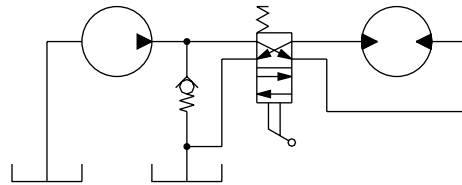
P103 009

APPLICATIONS

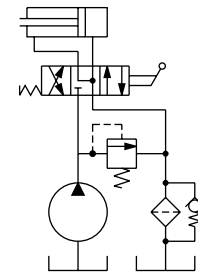
Check valves have many common applications including:

- 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)

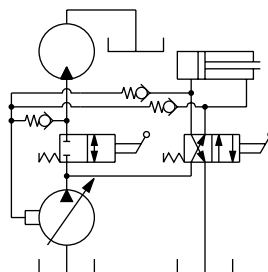
Low pressure relief valve



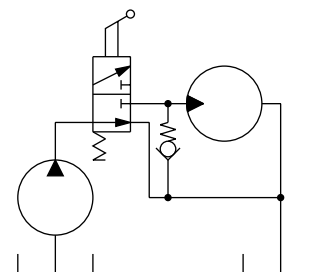
Bypass for filter elements



Logic for load-sensing circuits



Anti-cavitation



P103 010



Cartridge Valves Technical Information

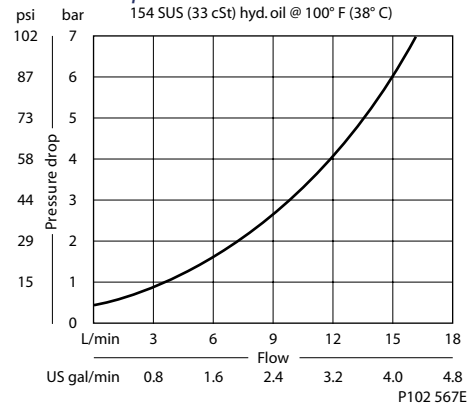
Check valves 3C100

OPERATION

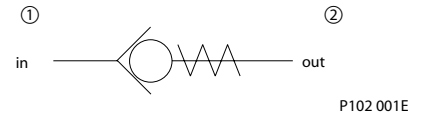
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



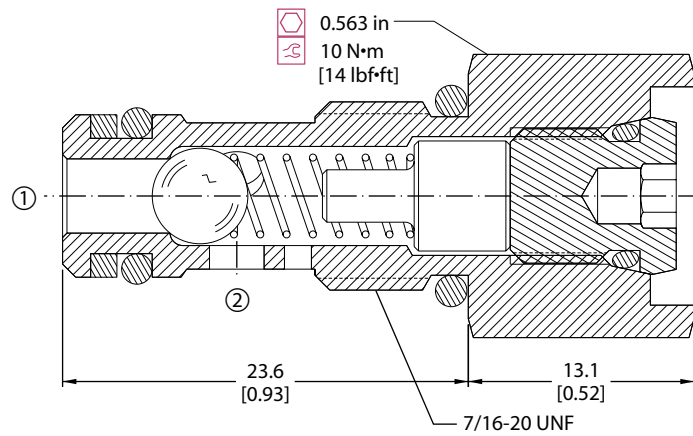
Specifications

Rated pressure	280 bar [4000 psi]
Rated flow at 7 bar [100 psi]	15 l/min [4 US gal/min]
Leakage	6 drops/min @ rated pressure
Weight	0.27 kg [0.60 lb]
Cavity	FC-336

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

3C100-01-B-0-005

- Crack pressure**
 - 000 = 0 bar [0 psi]
 - 005 = 0.3 bar [5 psi]
 - 030 = 2.1 bar [30 psi]
- Housing and ports**
 - 00 = No Housing
 - 4S = Al, #4 SAE
 - Other housings available
- Housing P/N**
 - No Housing
 - FC-336-4S
- Seals**
 - B = Buna-N
 - V = Viton
- Seal kit**
 - 120665
 - 120666

P102 566E

Check valves
3C100



Cartridge Valves Technical Information

Check valves

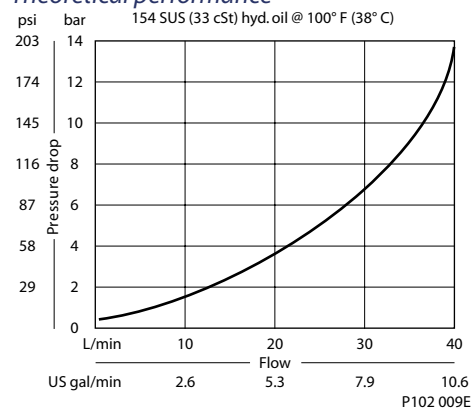
CV08-NP

OPERATION

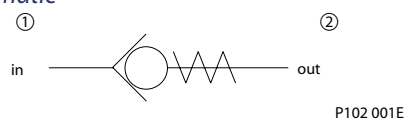
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



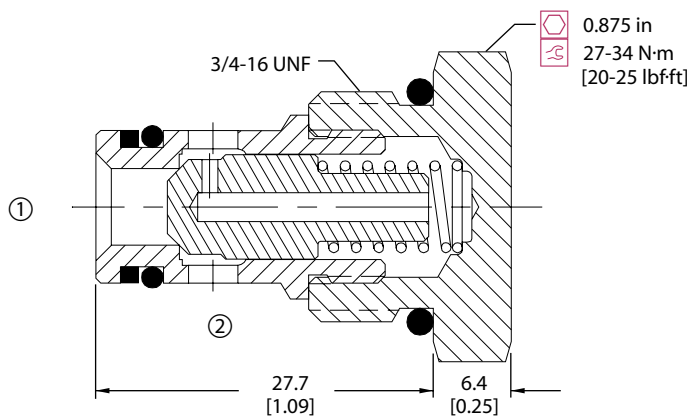
Specifications

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

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

- B = Buna N 120221
- V = Viton 120222

Seal kit

P103 651E



Cartridge Valves Technical Information

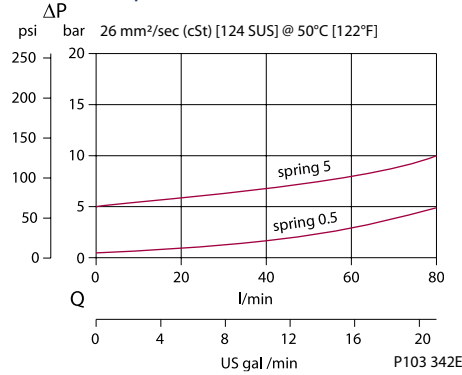
Check valves RC 12

OPERATION

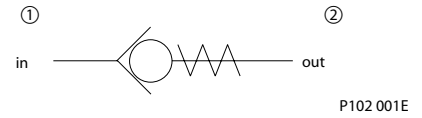
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



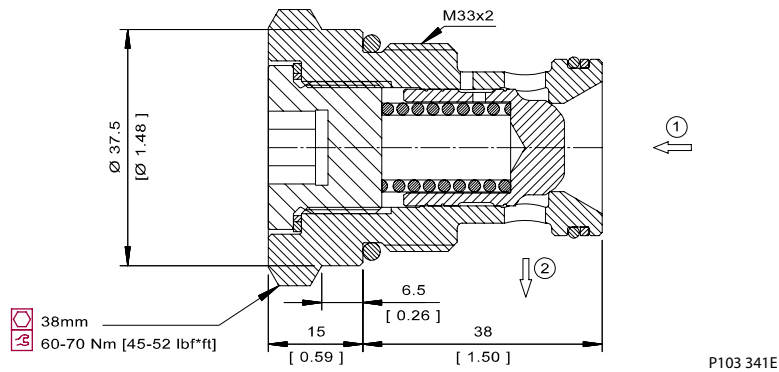
Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	90 l/min [24 US gal/min]
Weight	0.17 kg [0.37 lb]
Cavity	NCS12/2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

RC 12 - 5 - DG1/2 - V

Crack Pressure

0.5 = 0.5 bar [7 psi]
 5 = 5 bar [65 psi]

Seals

V = Viton
 Omit = Buna-N

Seal Kit
 230000470
 230000120

Housing and ports

00 = No Housing
 DG1/2 = Al, 1/2 BSP
 DG3/4 = Al, 3/4 BSP
 DG8S = Al, #8 SAE
 DG12S = Al, #12 SAE
 Other housings available

Housing P/N

No Housing
 NCS12/2-DG-1/2
 NCS12/2-DG-3/4
 NCS12/2-DG-8S
 NCS12/2-DG-12S

P103 343E



Cartridge Valves Technical Information

Check valves

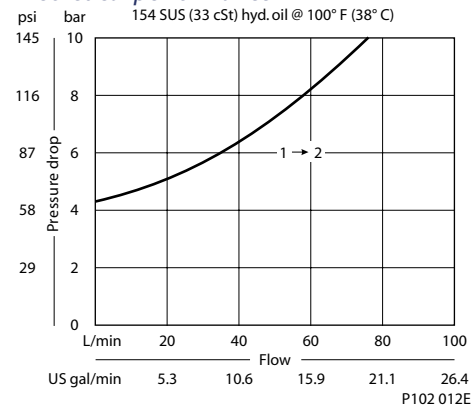
CV10-NP

OPERATION

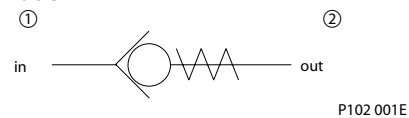
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



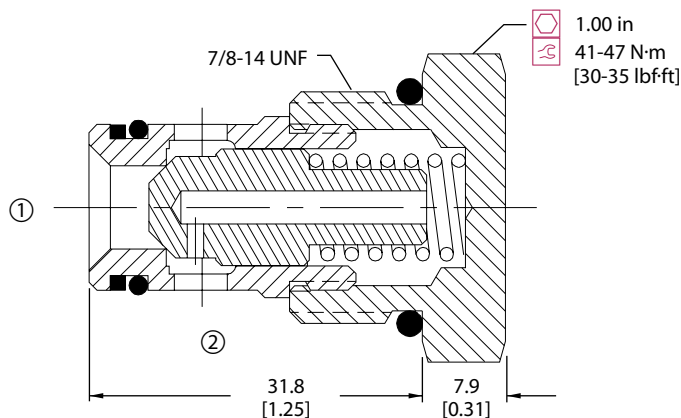
Specifications

Rated pressure	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

Check valves CV10-NP



Cartridge Valves Technical Information

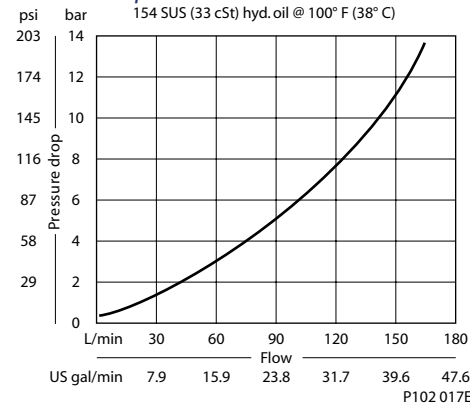
Check valves CP100-3

OPERATION

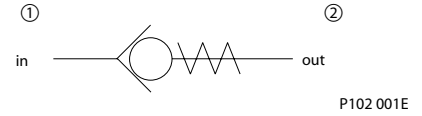
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



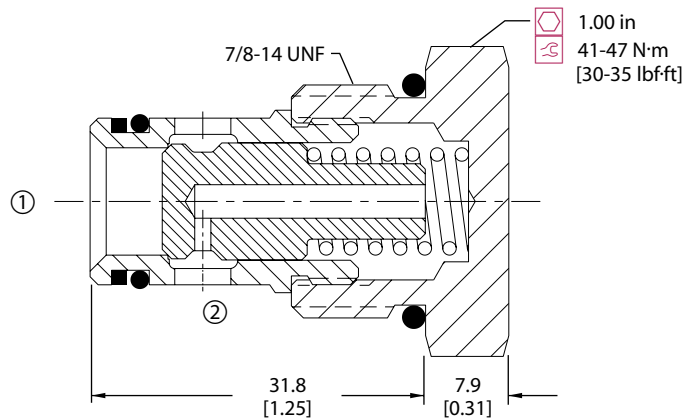
Specifications

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



P102 016E

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 Seal kit 120015
- V = Viton Seal kit 120016

P102 171E



Cartridge Valves Technical Information

Check valves

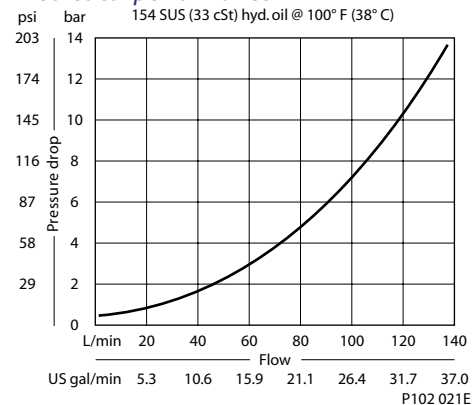
CP101-1

OPERATION

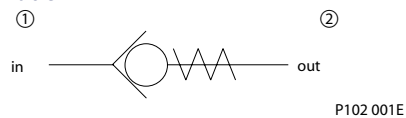
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



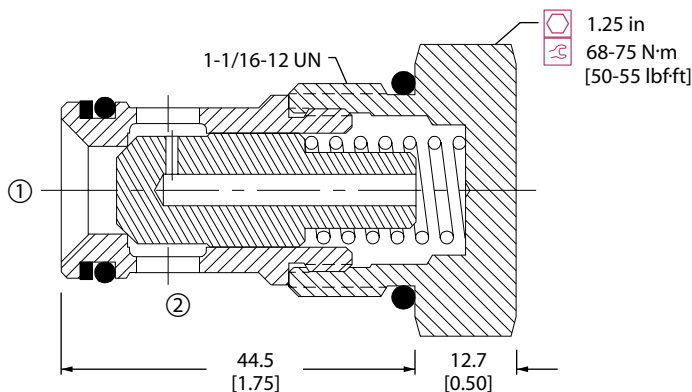
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	100 l/min [26 US gal/min]
Leakage	6 drops/min @ Rated pressure
Weight	0.18 kg [0.40 lb]
Cavity	CP12-2

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP101-1-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 = 0.3 bar [5 psi]
- 015 = 1.0 bar [15 psi]
- 065 = 4.5 bar [65 psi]
- 100 = 6.9 bar [100 psi]

Seals

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

Seal kit

- 120017
- 120018

P102 176E



Cartridge Valves Technical Information

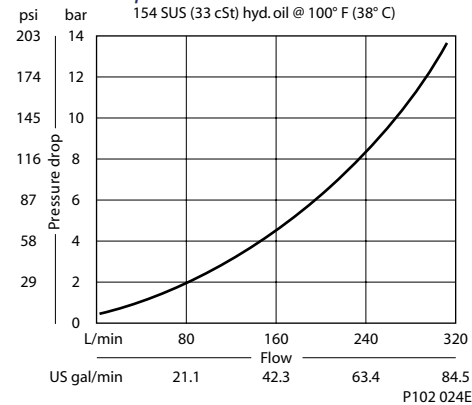
Check valves CP102-1

OPERATION

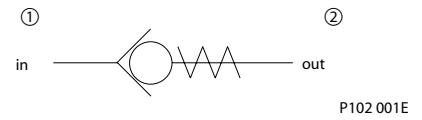
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



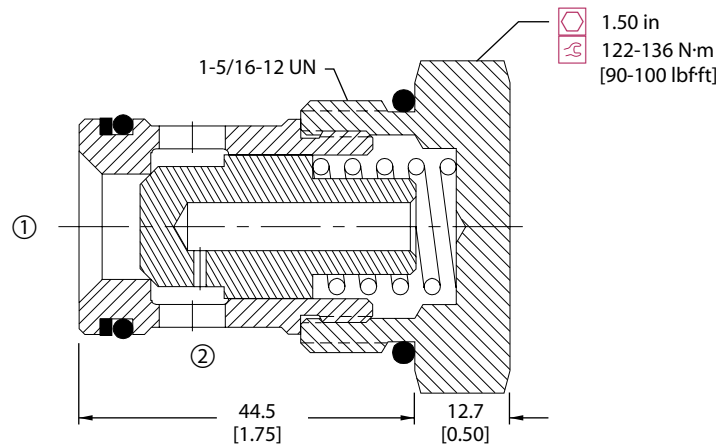
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	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



ORDERING INFORMATION

CP102-1-B-16S-005

Housing and ports

- 0 = No Housing
- DG6B = Al, 3/4 BSP
- DG8B = Al, 1 BSP
- 12S = Al, #12 SAE
- 16S = Al, #16 SAE
- Other housings available

Seals

- B = Buna-N Seal kit 120019
- V = Viton Seal kit 120020

Housing P/N

- No Housing
- SDC16-2-DG-6B
- SDC16-2-DG-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]
- 040 = 2.8 bar [40 psi]
- 065 = 4.5 bar [65 psi]
- 100 = 6.9 bar [100 psi]

P102 186E



Cartridge Valves Technical Information

Check valves

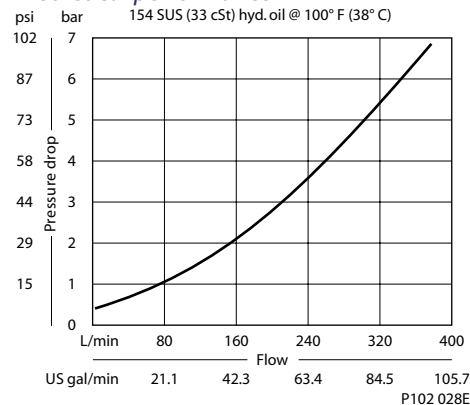
CP103-1

OPERATION

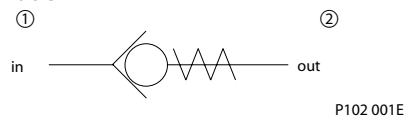
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



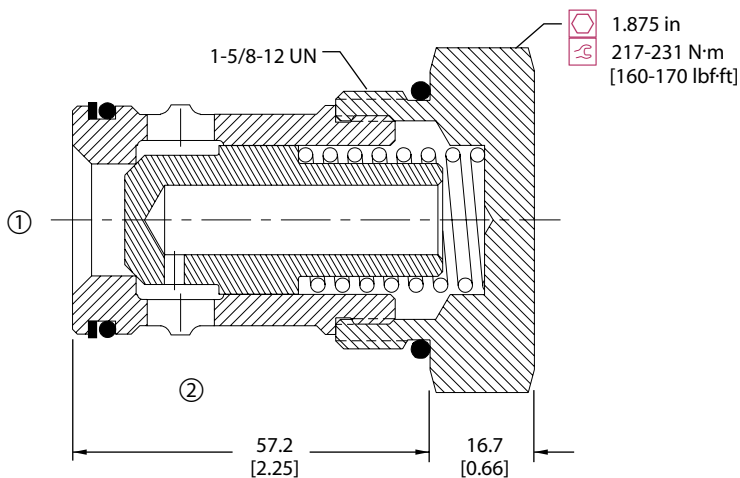
Specifications

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



P102 027E

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

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]

Seals
 B = Buna-N
 V = Viton

Seal kit
 120011
 120012

P102 194E



Cartridge Valves Technical Information

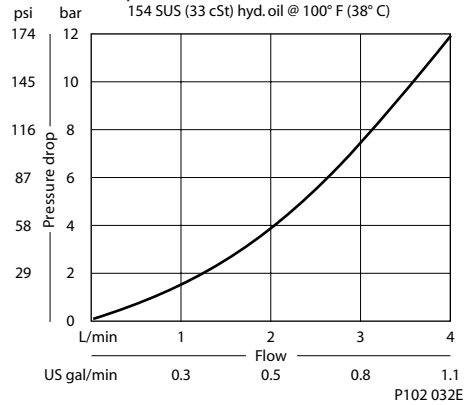
Check valves CP104-2

OPERATION

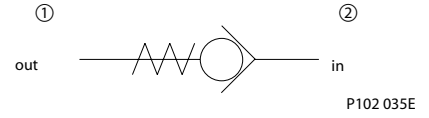
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



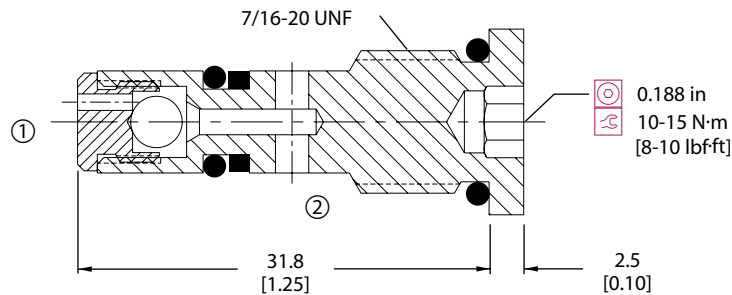
Specifications

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



P102 031E

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
- V = Viton

Seal kit

- 120077
- 11019554

P102 147



Cartridge Valves Technical Information

Check valves

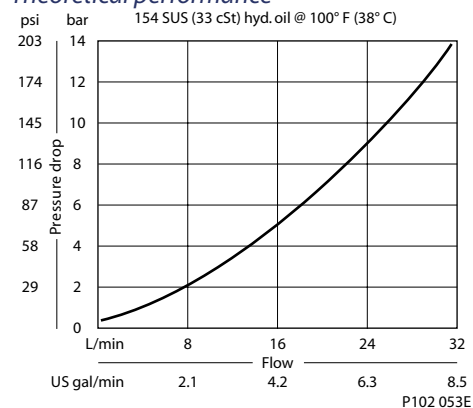
CP108-2

OPERATION

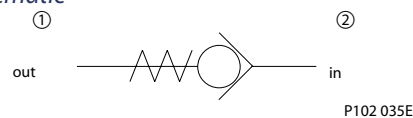
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



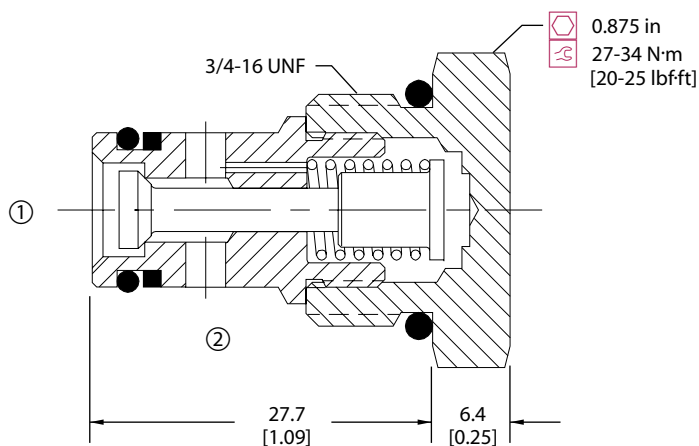
Specifications

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



ORDERING INFORMATION

CP108-2-B-6S-005

Housing and ports	Housing P/N	Crack pressure
0 = No Housing	No Housing	005 = 0.34 bar [5 psi]
DG2B = Al, 1/4 BSP	SDC08-2-DG-2B	015 = 1.0 bar [15 psi]
DG3B = Al, 3/8 BSP	SDC08-2-DG-3B	030 = 2.1 bar [30 psi]
4S = Al, #4 SAE	CP8-2-4S	050 = 3.4 bar [50 psi]
6S = Al, #6 SAE	CP8-2-6S	065 = 4.5 bar [65 psi]
Other housings available		100 = 6.9 bar [100 psi]
Seals	Seal kit	
B = Buna-N	120221	
V = Viton	120222	

P102 156E

Check valves CP108-2



Cartridge Valves Technical Information

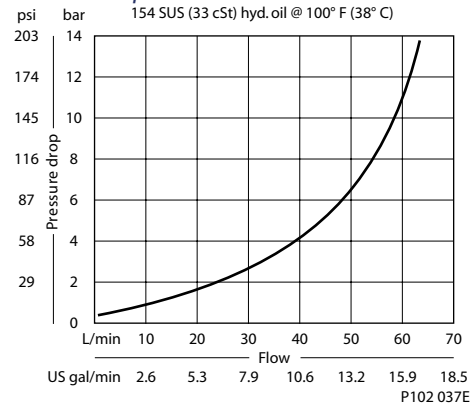
Check valves CP100-2

OPERATION

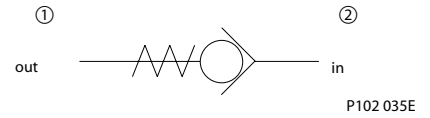
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



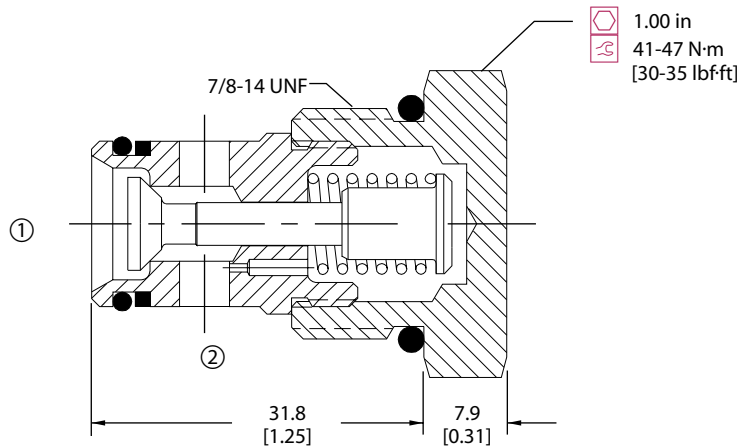
Specifications

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



P102 036E

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 Seal kit 120015
- V = Viton Seal kit 120016

P102 166E



Cartridge Valves Technical Information

Check valves

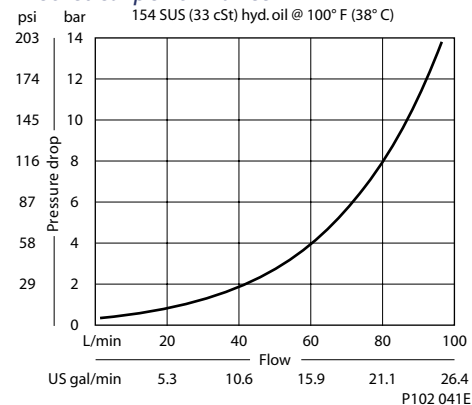
CP101-2

OPERATION

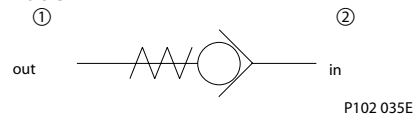
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



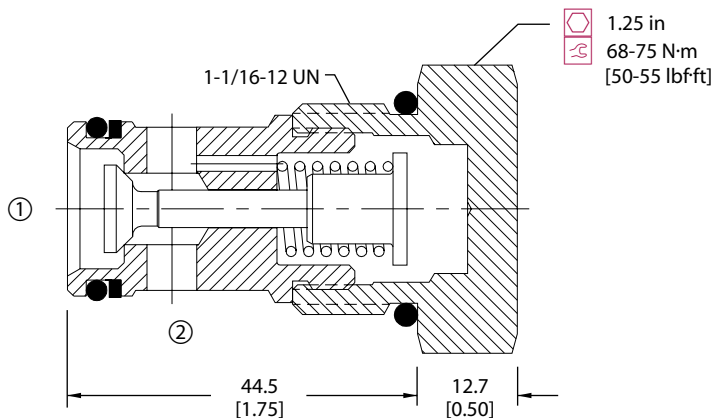
Specifications

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



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

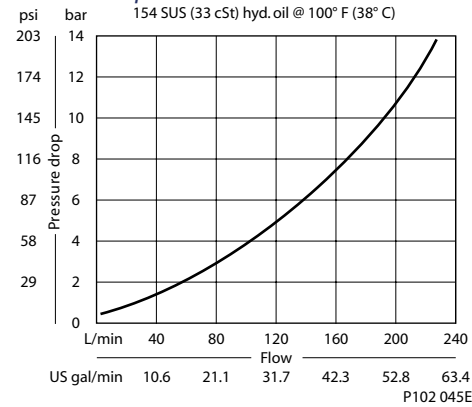
Check valves CP102-2

OPERATION

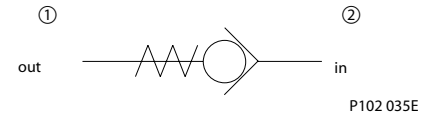
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



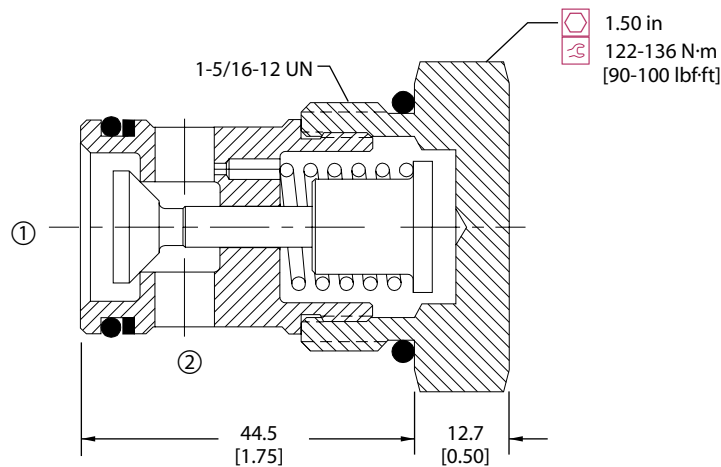
Specifications

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



P102 044E

ORDERING INFORMATION

CP102-2-B-16S-005

Housing and ports

- 0 = No Housing
- DG6B = Al, 3/4 BSP
- DG8B = Al, 1 BSP
- 12S = Al, #12 SAE
- 16S = Al, #16 SAE
- Other housings available

Housing P/N

- No Housing
- SDC16-2-DG-6B
- SDC16-2-DG-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
- V = Viton
- Seal kit
- 120019
- 120020

P102 190E

Check valves CP102-2



Cartridge Valves Technical Information

Check valves

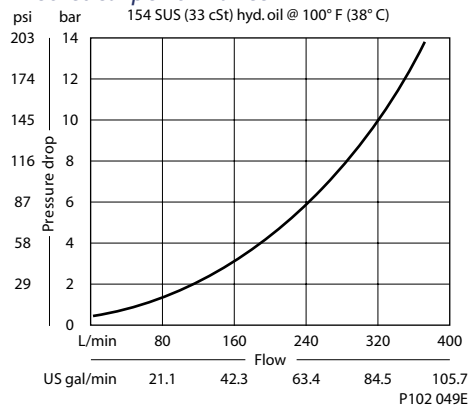
CP103-2

OPERATION

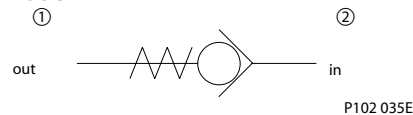
This valve allows free flow from 2 to 1 and blocks flow from 1 to 2.

SPECIFICATIONS

Theoretical performance



Schematic



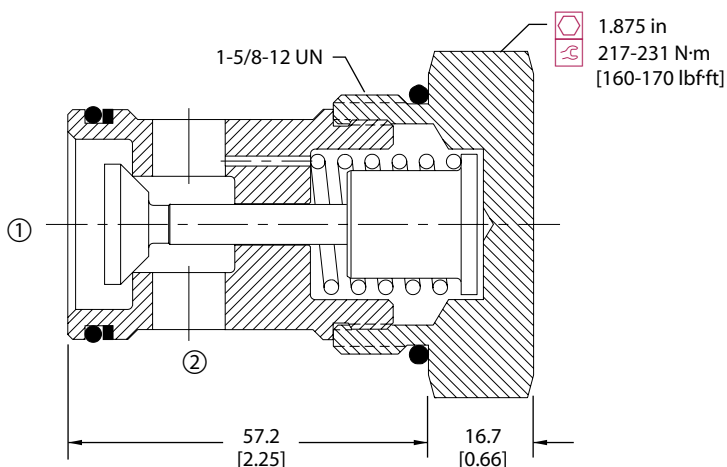
Specifications

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



P102 048E

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



Cartridge Valves Technical Information

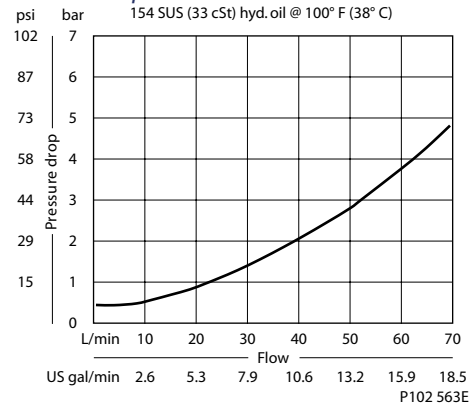
Check valves 3C50

OPERATION

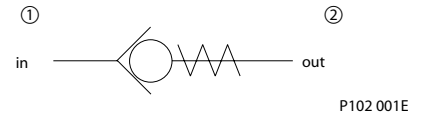
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



Specifications

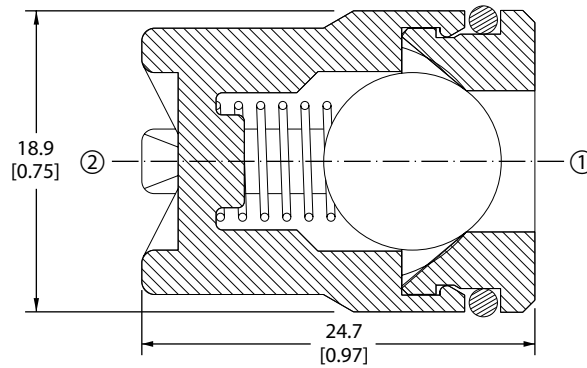
Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	70 l/min [19 US gal/min]
Leakage	15 drops/min @ rated pressure
Weight	0.03 kg [0.07 lb]
Cavity	FC-144

Check valves
3C50

DIMENSIONS

mm [in]

Cross-sectional view



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



Cartridge Valves Technical Information

Check valves

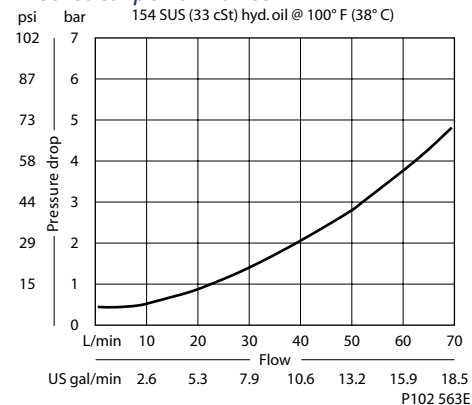
3C60

OPERATION

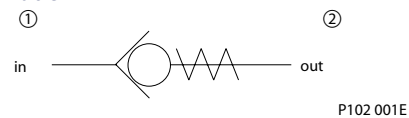
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1. Valve uses a Delrin® seat for low leakage

SPECIFICATIONS

Theoretical performance



Schematic



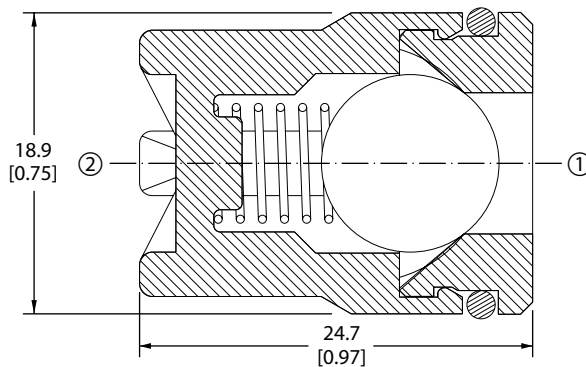
Specifications

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

DIMENSIONS

mm [in]

Cross-sectional view



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

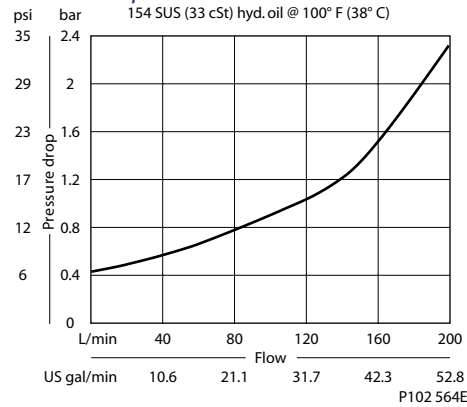
Check valves 3C90

OPERATION

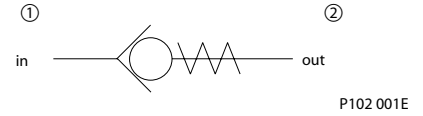
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



Specifications

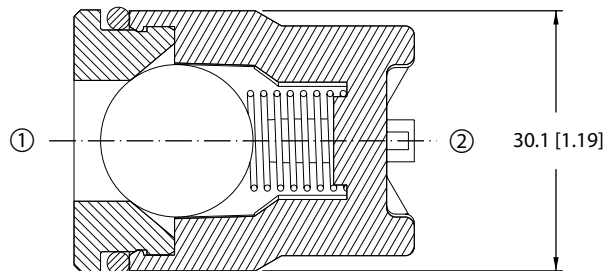
Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	190 l/min [50 US gal/min]
Leakage	15 drops/min @ rated pressure
Weight	0.05 kg [0.11 lb]
Cavity	FC-304

Check valves
3C90

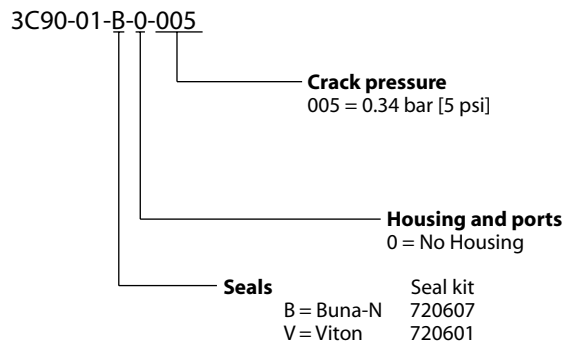
DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION



P102 555E



Cartridge Valves Technical Information

Check valves

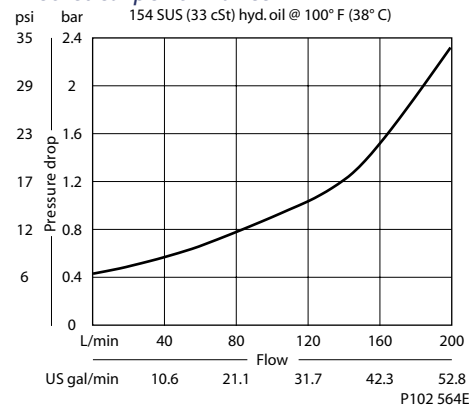
3C80

OPERATION

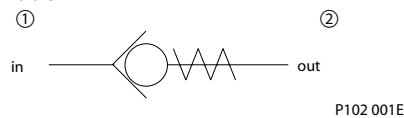
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1. Valve uses a Delrin® seat for low leakage.

SPECIFICATIONS

Theoretical performance



Schematic



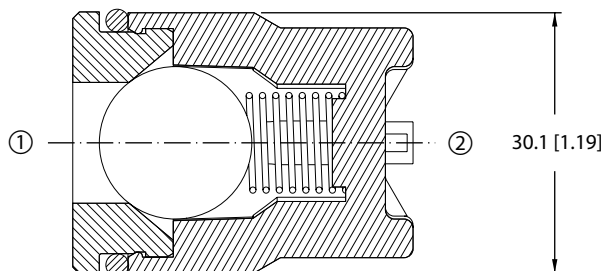
Specifications

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



Cartridge Valves Technical Information

Check valves

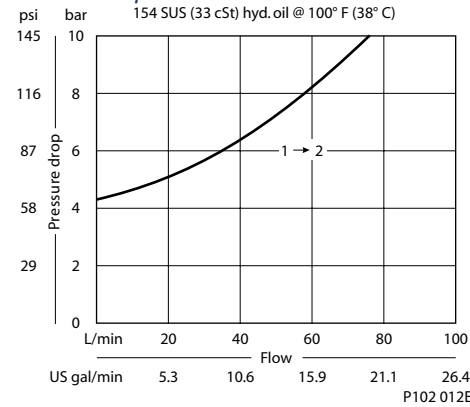
CP100-9

OPERATION

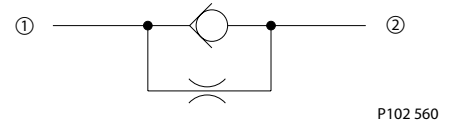
This valve allows free flow from 1 to 2 and restricted flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



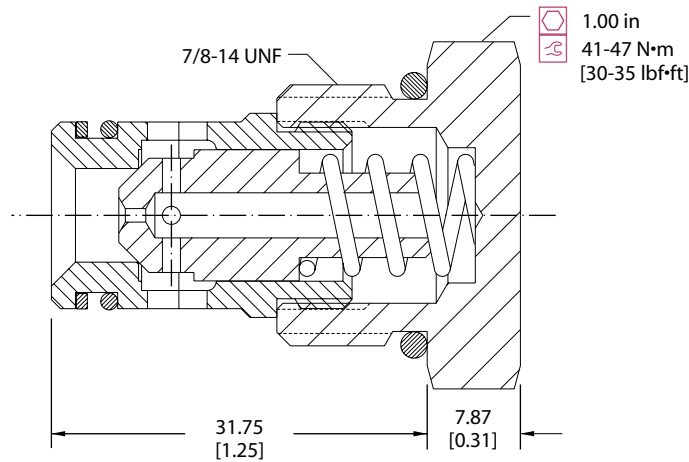
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	85 l/min [22 US gal/min]
Weight	0.08 kg [0.17 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

Cross-sectional view



P102 561

ORDERING INFORMATION

CP100-9-B-8S-065-045

Orifice size
045 = 1.14 mm [0.045 in]

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

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]
150 = 10.5 bar [150 psi]
180 = 12.4 bar [180 psi]

Seals
B = Buna-N
V = Viton

Seal kit
120015
120016

P102 562E



Cartridge Valves Technical Information

Check valves

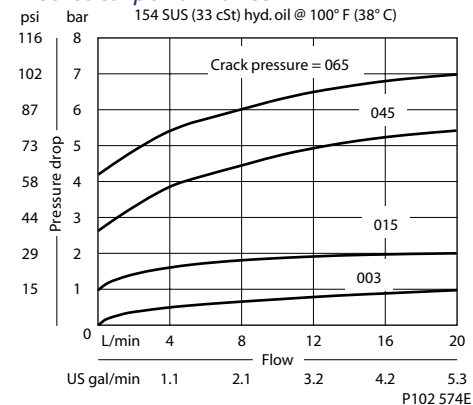
3C11

OPERATION

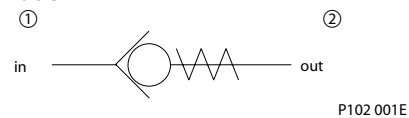
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



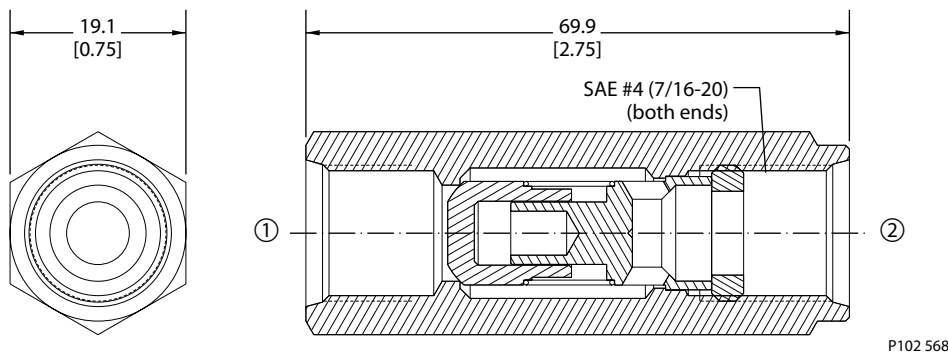
Specifications

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

Check valves
3C11



Cartridge Valves Technical Information

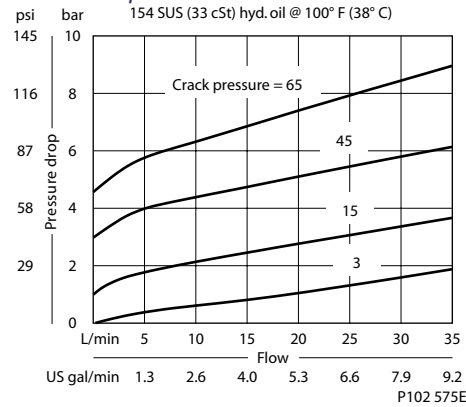
Check valves 3C12

OPERATION

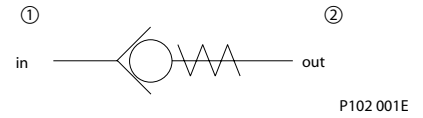
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



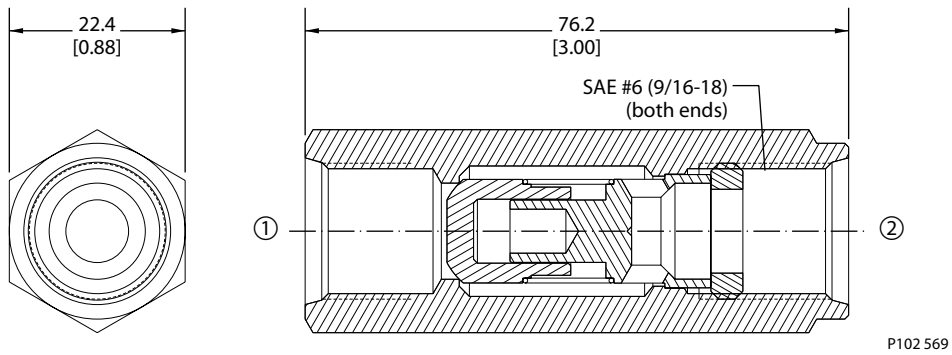
Specifications

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

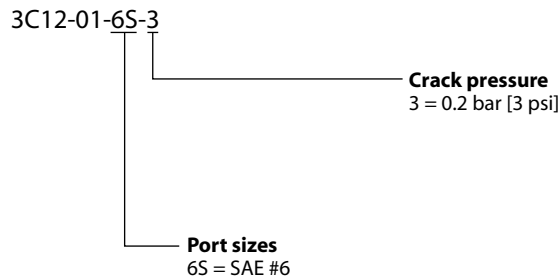
DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION



P102 581E

Check valves
3C12



Cartridge Valves Technical Information

Check valves

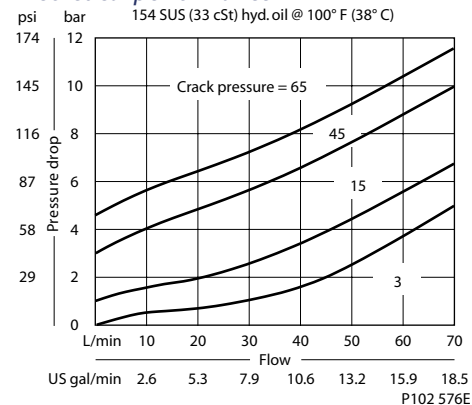
3C13

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

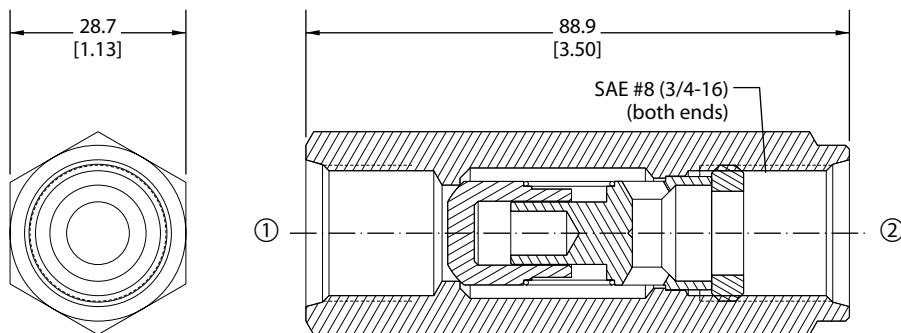
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	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



P102 570

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



Cartridge Valves Technical Information

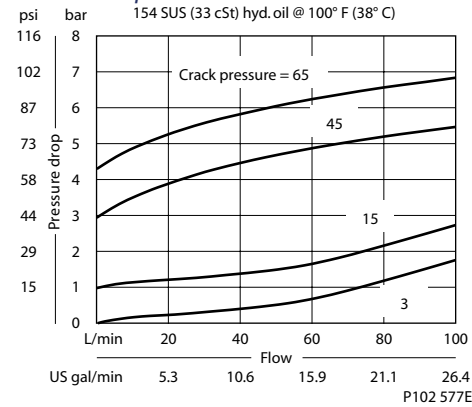
Check valves 3C14

OPERATION

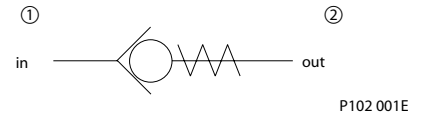
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



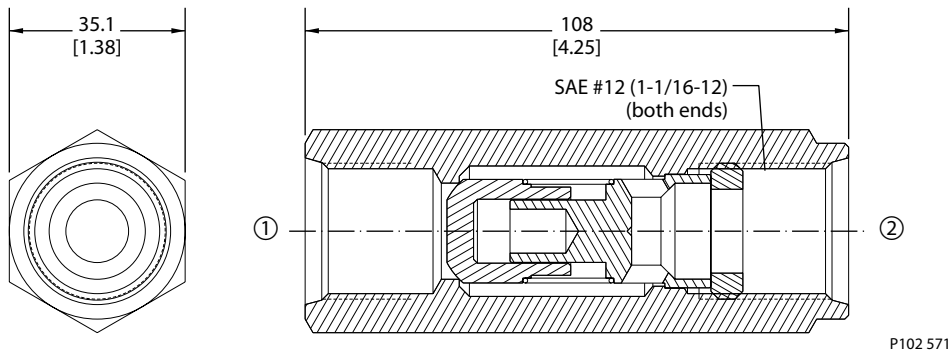
Specifications

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



Cartridge Valves Technical Information

Check valves

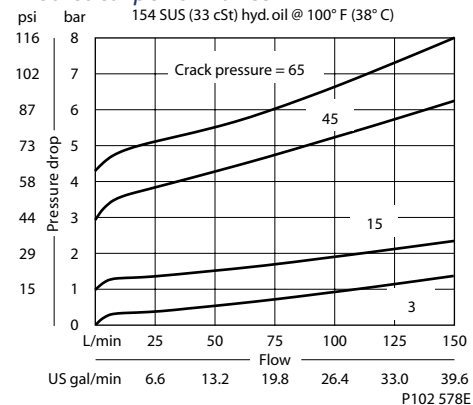
3C15

OPERATION

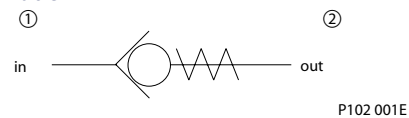
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



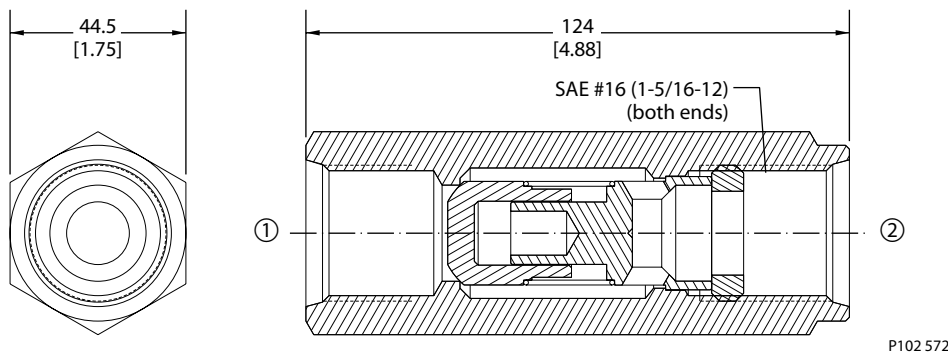
Specifications

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



Cartridge Valves Technical Information

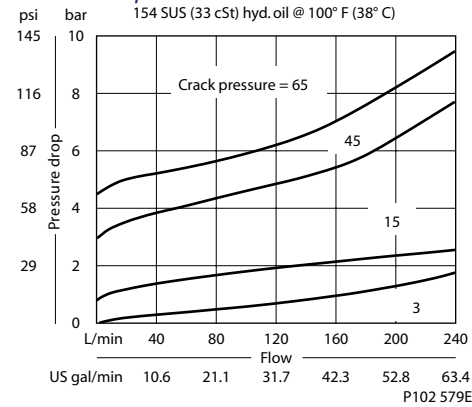
Check valves 3C16

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

Specifications

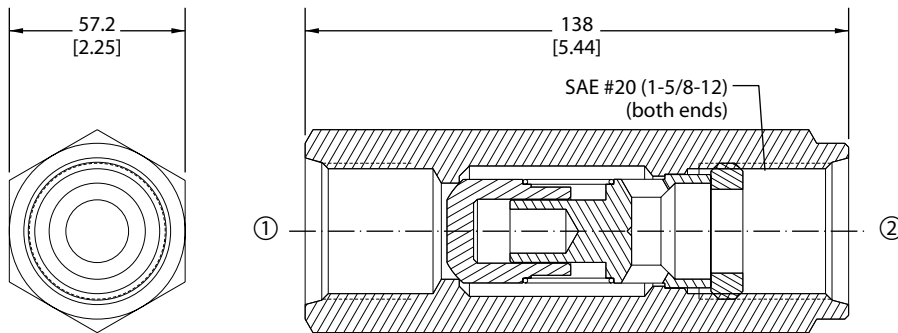
Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	230 l/min [61 US gal/min]
Leakage	5 drops/min @ Rated pressure
Weight	1.91 kg [4.21 lb]
Cavity	none

Check valves
3C16

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



Cartridge Valves Technical Information

Check valves

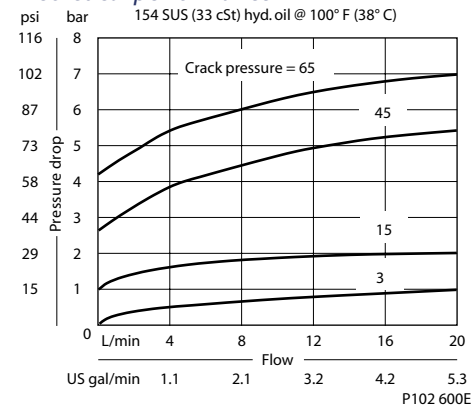
3CM11

OPERATION

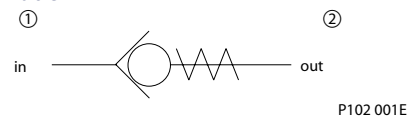
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



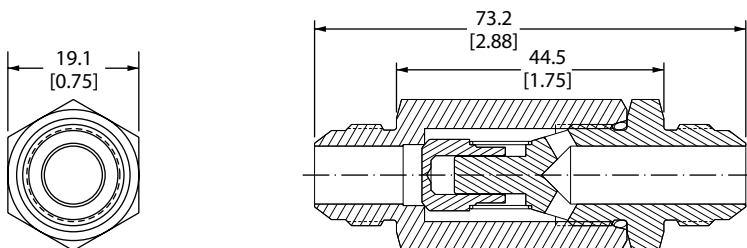
Specifications

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]

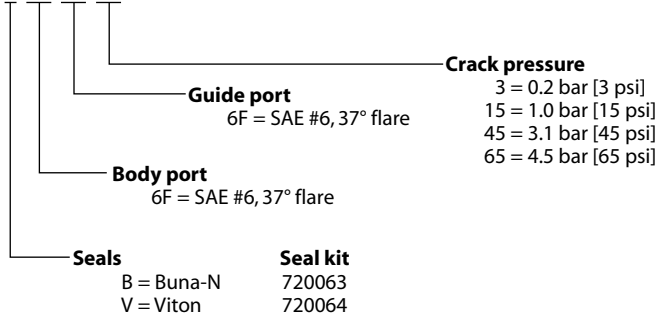
Cross-sectional view



P102 594

ORDERING INFORMATION

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



P102 606E



Cartridge Valves Technical Information

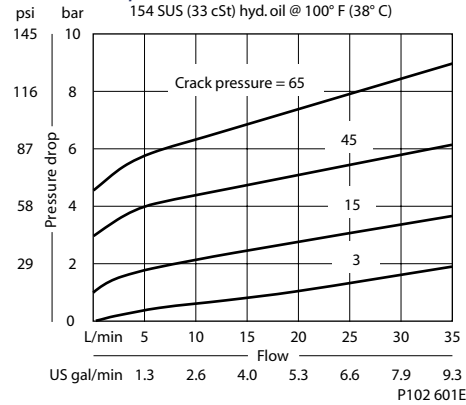
Check valves 3CM12

OPERATION

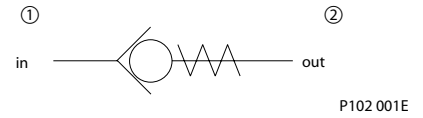
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



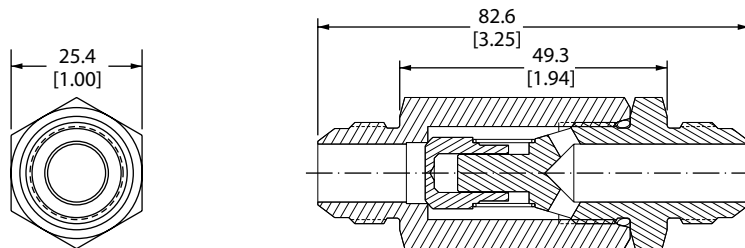
Specifications

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]

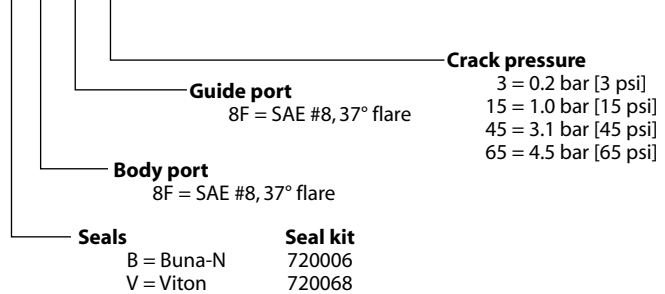
Cross-sectional view



P102 595

ORDERING INFORMATION

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



P102 607E

Check valves
3CM12



Cartridge Valves Technical Information

Check valves

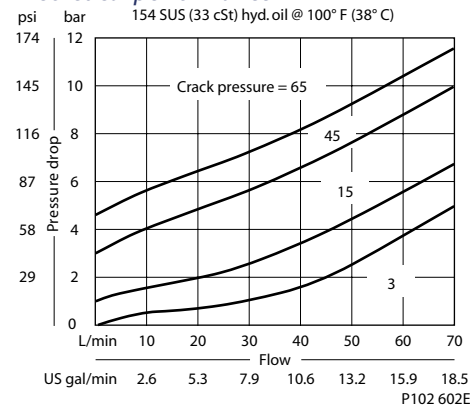
3CM13

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

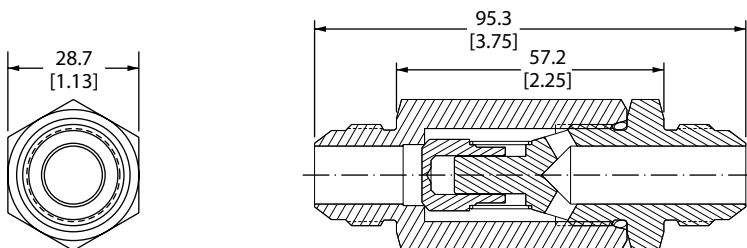
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	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]

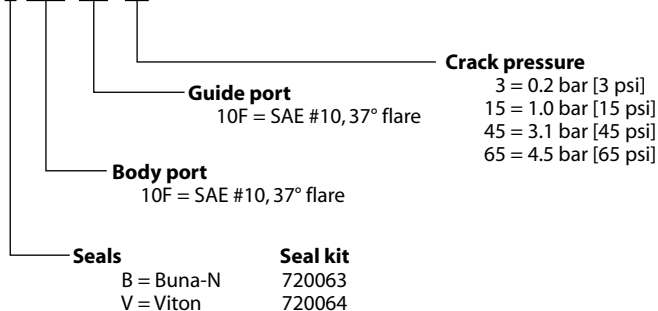
Cross-sectional view



P102 596

ORDERING INFORMATION

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



P102 608E

Check valves
3CM13



Cartridge Valves Technical Information

Check valves

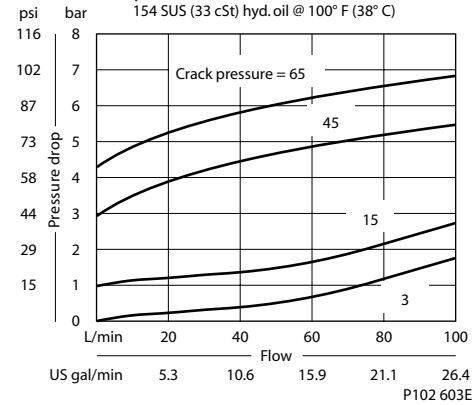
3CM14

OPERATION

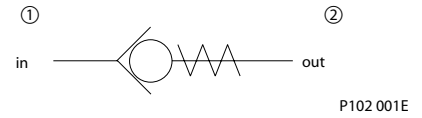
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



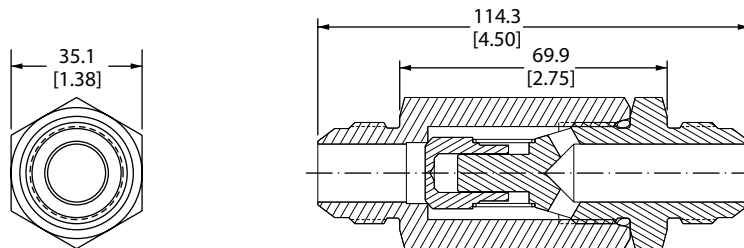
Specifications

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	0.51 kg [1.12 lb]
Cavity	none

DIMENSIONS

mm [in]

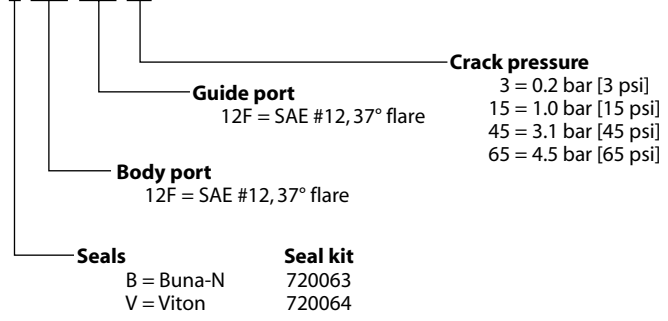
Cross-sectional view



P102 597

ORDERING INFORMATION

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



P102 609E

Check valves 3CM14



Cartridge Valves Technical Information

Check valves

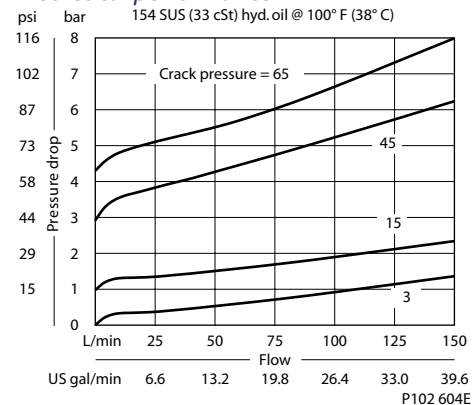
3CM15

OPERATION

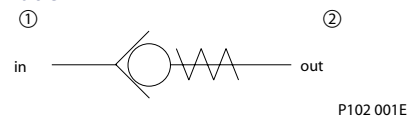
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



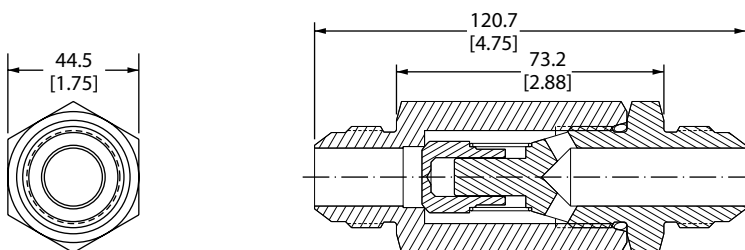
Specifications

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

DIMENSIONS

mm [in]

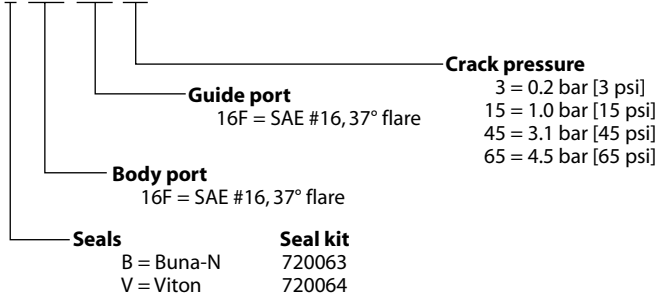
Cross-sectional view



P102 598

ORDERING INFORMATION

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



P102 610E

Check valves
3CM15



Cartridge Valves Technical Information

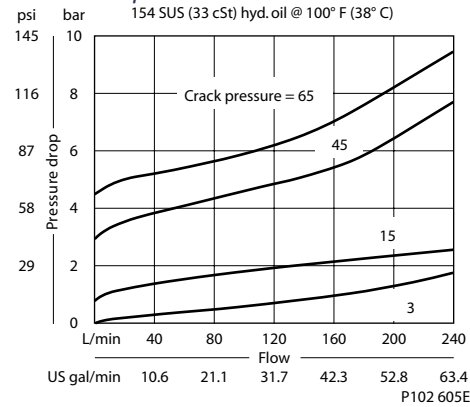
Check valves 3CM16

OPERATION

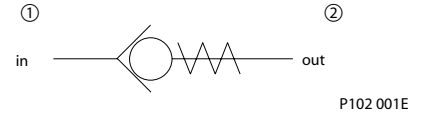
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



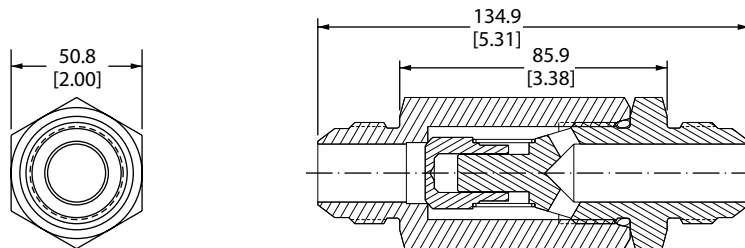
Specifications

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]

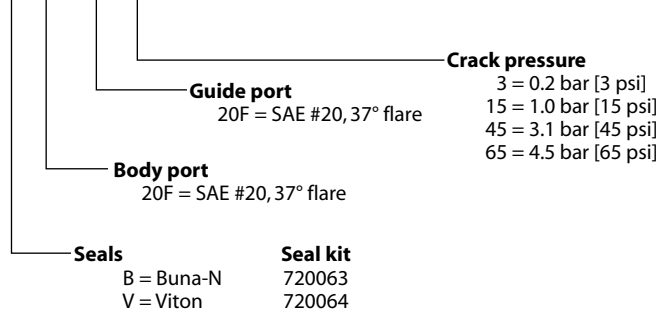
Cross-sectional view



P102 599

ORDERING INFORMATION

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



P102 611E

Check valves
3CM16



Cartridge Valves Technical Information

Check valves

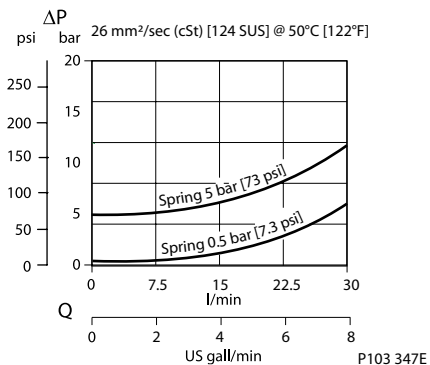
RS 06

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

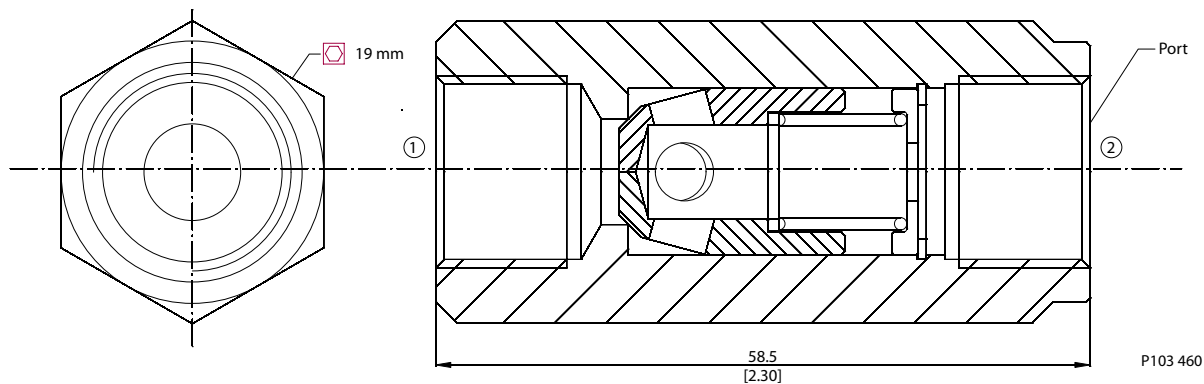
Specifications

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

DIMENSIONS

mm [in]

Cross-sectional view



P103 460

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



Cartridge Valves Technical Information

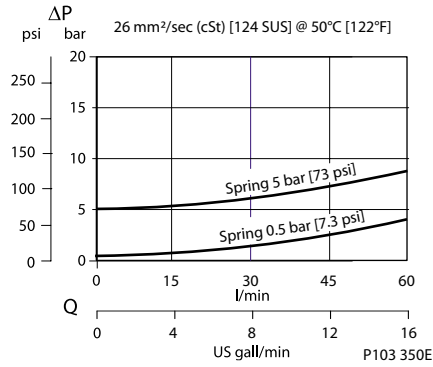
Check valves RS 10

OPERATION

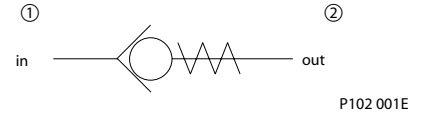
This valve allows free flow from 1 to 2 and blocks flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



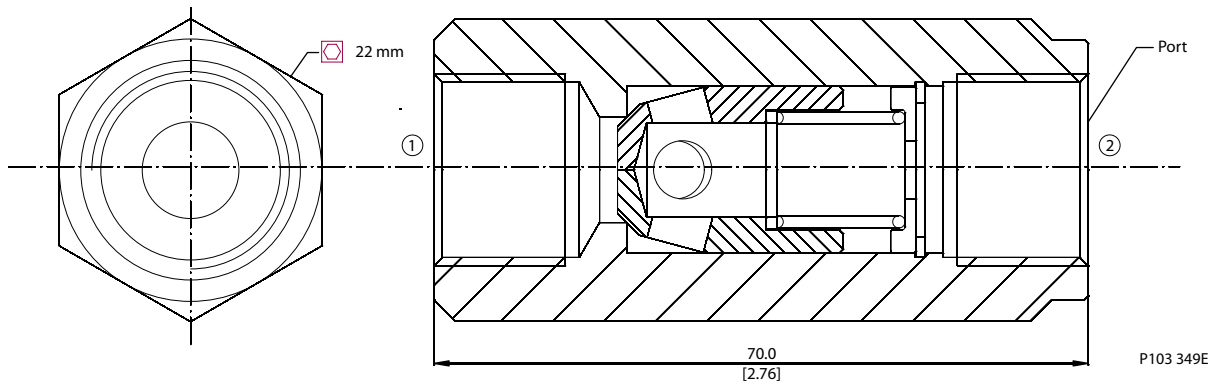
Specifications

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

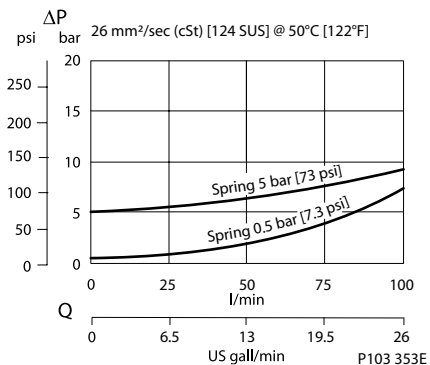
RS 13

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

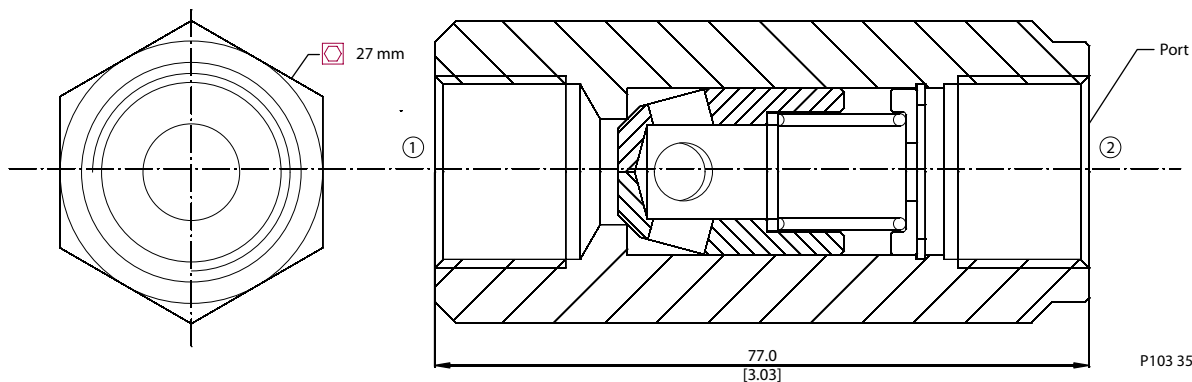
Specifications

Rated pressure	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 = ½ 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

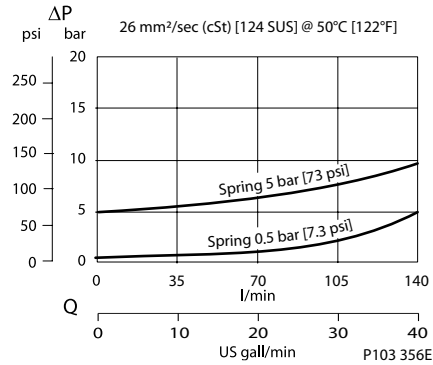
Check valves RS 19

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

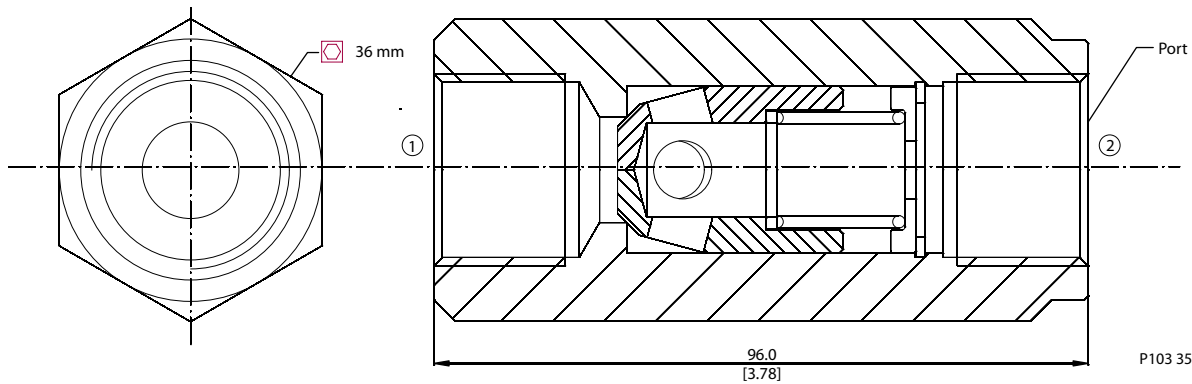
Specifications

Rated pressure	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



P103 355E

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



Cartridge Valves Technical Information

Check valves

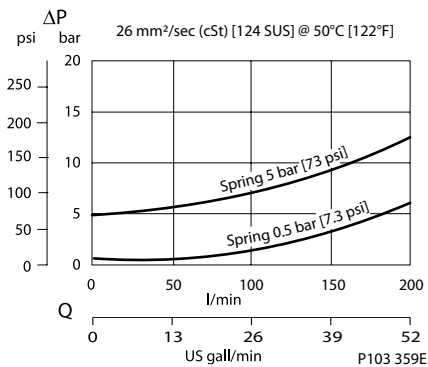
RS 25

OPERATION

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

SPECIFICATIONS

Theoretical performance



Schematic



P102 001E

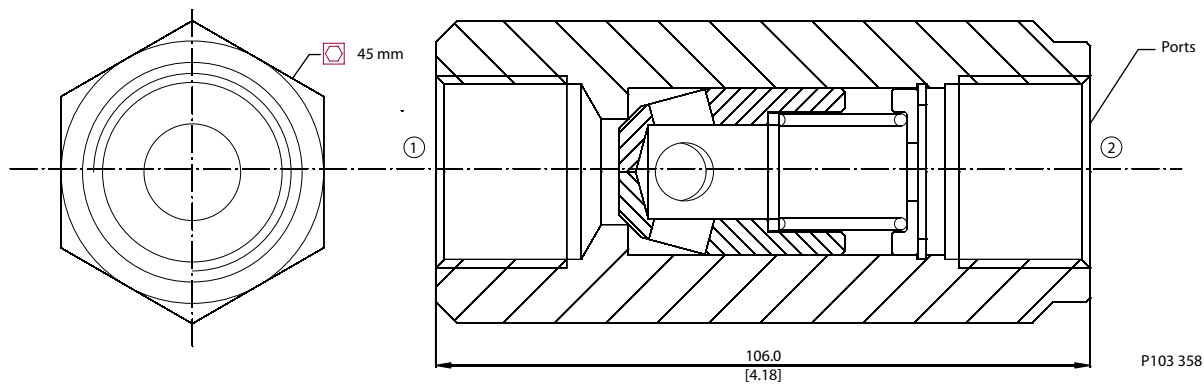
Specifications

Rated pressure	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



P103 358

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

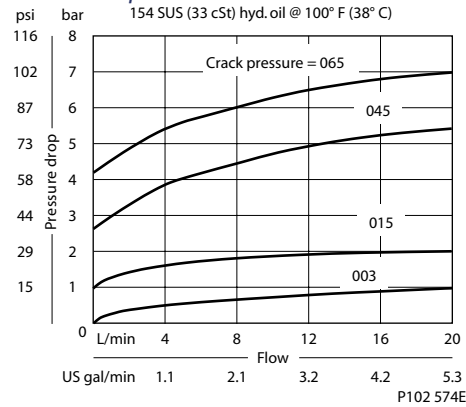
Check valves 2RN11

OPERATION

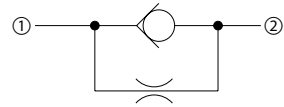
This valve allows free flow from 1 to 2 and restricted flow from 2 to 1.

SPECIFICATIONS

Theoretical performance



Schematic



P102 592

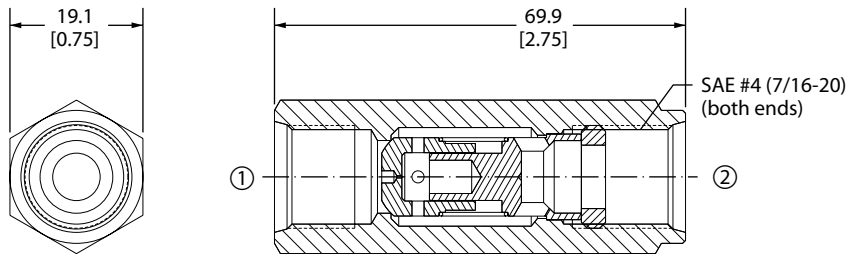
Specifications

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]

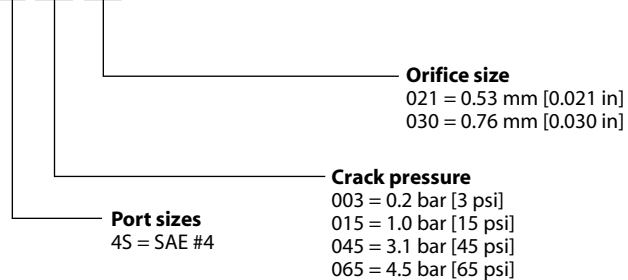
Cross-sectional view



P102 591E

ORDERING INFORMATION

2RN11-01-4S-003-021



P102 593E



Cartridge Valves Technical Information
Check valves
Notes

Check valves