ARGO HYTOS

Content

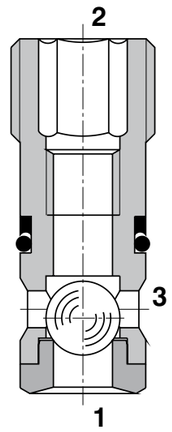
ARGO HYTOS

Notes

Load Shuttle Valve, Ball Type

LV1-043

G1/8 • Q_{max} 8 l/min (2 GPM) • p_{max} 500 bar (7300 PSI)



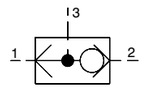
Technical Features

- Rapid response to changes in load direction
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Compact design for limited installation space availability
- In the standard version, the valve is without surface coating

Functional Description

A high pressure shuttle valve in the form of a screw-in cartridge. This valve prioritizes the respective higher pressure signal from either port 1 or 2. Tightness between ports 1 and 3 is ensured by a sharp-edge steel valve seat.

Symbol	



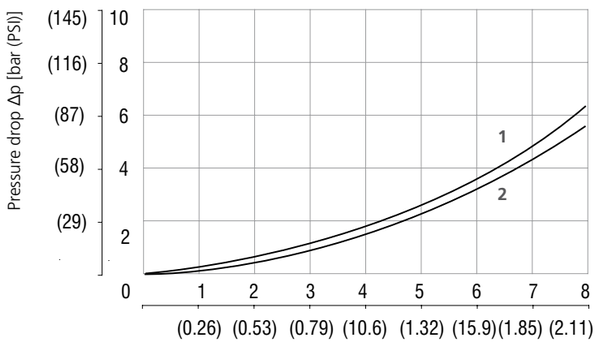
Technical Data

Valve size / Cartridge cavity		G1/8 / QY3
Max. flow	l/min (GPM)	8 (2.1)
Max. operating pressure	bar (PSI)	500 (7250)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.01 (0.022)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-QY3*
Cavity details		SMT_0019	SMT-QY3*
Spare parts		SP_8010	

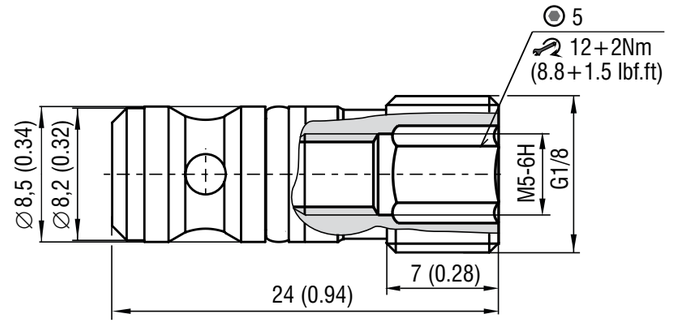
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate



	Flow direction
1	2→3
2	1→3

Dimensions in millimeters (inches)



Ordering Code

LV1-04 3 □

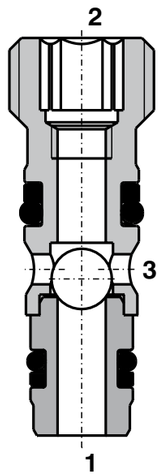
Load shuttle valve, ball type	**G1/8**	**No designation**	**Seals** NBR
		V	FPM (Viton)
			3 way

ARGO HYTOS

Load Shuttle Valve Rubber Sealed Ports

LV2-043

M12x1,5 • Q_{max} 8 l/min (2 GPM) • p_{max} 500 bar (7300 PSI)

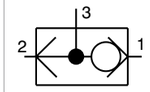


Technical Features

- Hardened and precision working parts
- Leak-free in closed position
- Fast response to load direction changes
- Compact size with small instalation space

Functional Description

A high pressure shuttle, screw-in, cartridge valve. Used for blocking or opening hydraulic circuits to define priority of flow/direction given by higher pressure circuit over a lower one. Tightness between all ports is ensured by rubber seal.

Symbol	

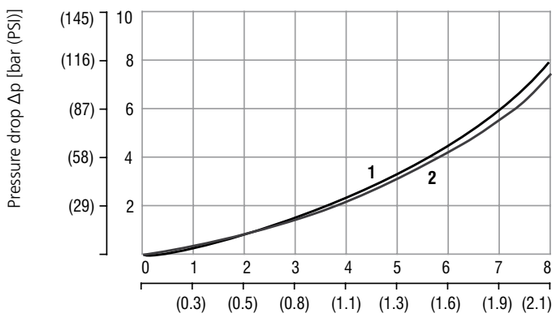
Technical Data

Valve size / Cartridge cavity		M12x1,5 / QD3
Max. flow rate	l/min (GPM)	8 (2.1)
Max. operating pressure	bar (PSI)	500 (7250)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Weight	kg (lbs)	0,01 (0.022)

		Data Sheet	Type
General information		GI_0060	products and operating conditions
Bodies for valves	In-line mounted	SB_0018	SB-QD3*
Cavity details		SMT_0019	SMT-QD3*
Spare parts		SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

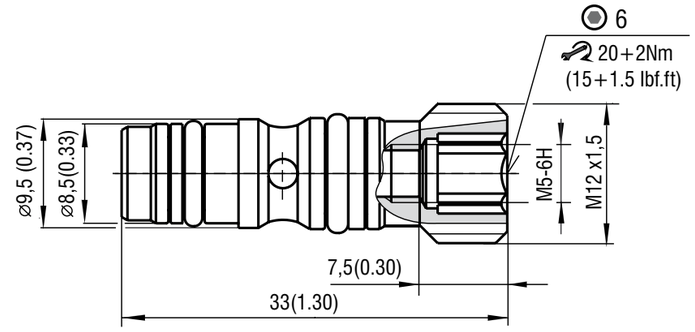
Pressure drops p-ΔQ



	Flow in direction
1	2 → 3
2	1 → 3

ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

LV2 - 04 3 ☐

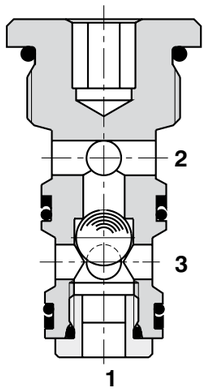
Load shuttle valve rubber sealed ports	Valve size	3 way
	Seals	
	No designation	NBR
	V	FPM (Viton)

Load Shuttle Valve, Ball Type

LV1-063/S

M22x1.5 • Q_{max} 40 l/min (11 GPM) • p_{max} 320 bar (4600 PSI)

LV1-063/S



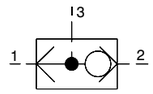
Technical Features

- Rapid response to changes in load direction
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A high pressure shuttle valve in the form of a screw-in cartridge. This valve prioritizes the respective higher pressure signal from either port 1 or 2. Tightness between ports 1 and 3 is ensured by a sharp-edge steel valve seat.

Symbol



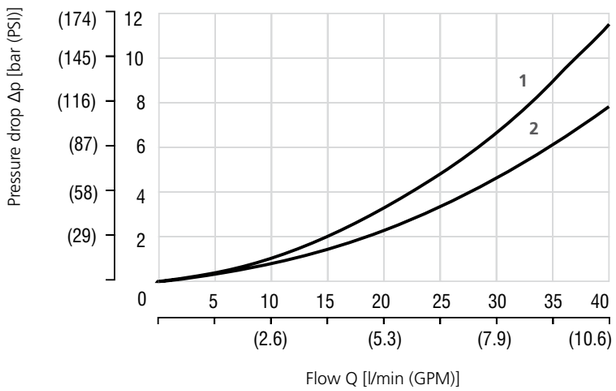
Technical Data

Valve size / Cartridge cavity		M22x1,5 / QF3
Max. flow	l/min (GPM)	40 (10.6)
Max. operating pressure	bar (PSI)	320 (4640)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.078 (0.172)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-QF3*
	Sandwich mounted	SB-04(06)_0028	SB-*-QF3*
Cavity details		SMT_0019	SMT-QF3*
Spare parts		SP_8010	

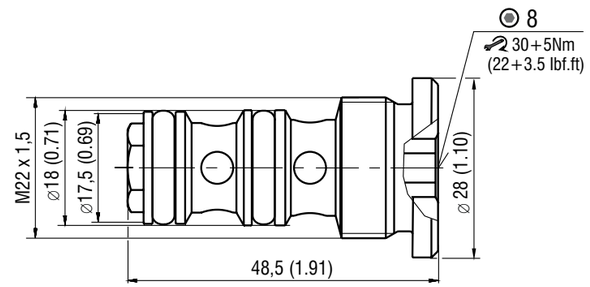
Characteristics measured at v = 32 mm²/s (156 SUS)

Pressure drops Δp-Q



	Flow direction
1	1 → 3
2	2 → 3

Dimensions in millimeters (inches)



Ordering Code

LV1-063 / S □ - □

Load shuttle valve, ball type
M22x1.5

Model
screw in cartridge

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

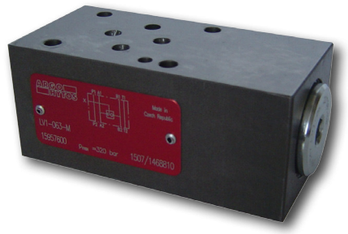
No designation **Seals** NBR
V FPM (Viton)

ARGO HYTOS

Load Shuttle Valve, Ball Type, Modular

LV1-063/M

Size 06 (D03) • Q_{max} 40 l/min (11 GPM) • p_{max} 320 bar (4600 PSI)



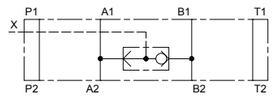
Technical Features

- Load shuttle valve, ball type with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03)
- Sandwich plate design for use in vertical stacking assemblies
- Rapid response to changes in load direction
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

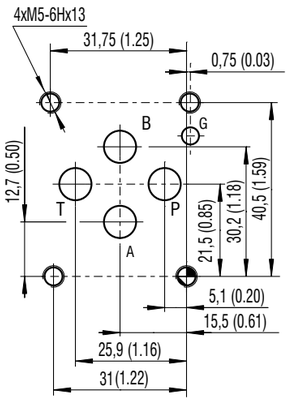
Functional Description

This high pressure shuttle valve in sandwich design is used in vertical stack assemblies to prioritze flows of higher pressure over those with lower pressure. Tightness between ports 1 and 3 is ensured by a sharp-edge steel valve seat.

Symbol



ISO 4401-03-02-0-05



Ports P, A, B, T max. ∅7.5 mm (0.29)

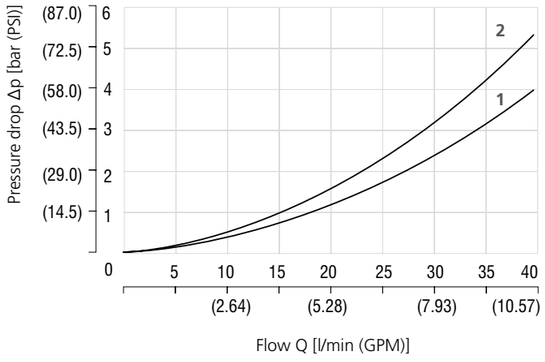
Technical Data

Valve size		06 (D03)
Max. flow	l/min (GPM)	40 (10.6)
Max. operating pressure	bar (PSI)	320 (4640)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	1.17 (2.58)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting interface	SMT_0019	Size 06
Spare parts	SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

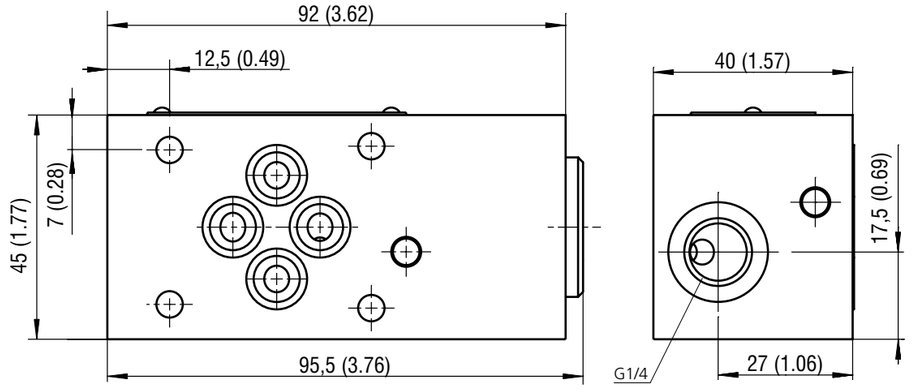
Pressure drop related to flow rate



	Flow direction
1	A → X
2	B → X

ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

LV1-063 / M □ - □

Load shuttle valve, ball type, modular

Model
sandwich plate design

Surface treatment

No designation	body phosphated, steel parts
	zinc-coated (ZnCr-3), ISO 9227 (240 h)
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

No designation	NBR
V	FPM (Viton)

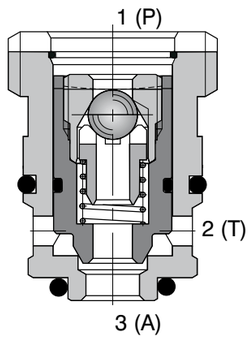
ARGO HYTOS

Load Shuttle Valve, Kick Down, Ball Type

VJL2-304

M22x1.5 • Q_{max} 15 l/min (4 GPM) • p_{max} 210 bar (3000 PSI)

Model M, G



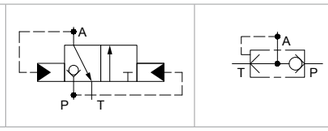
Technical Features

- Rapid response to changes in load direction
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Compact design for limited installation space availability
- In the standard version, the valve is without surface coating

Functional Description

A poppet-type hydraulic directional shuttle valve in the form of a screw-in cartridge for use in single acting cylinder applications. Pressure at port 1(P) opens the ball check valve, allowing fluid to pass to port 3(A). The poppet tightly closes the connection between ports 3(A) and 2(T). If there is no pressure at port 1(P), any pressure at port 3(A) - like from a cylinder's return spring - causes the poppet to shift such that fluid can pass from 3(A) to 2(T) but not from 3(A) and 1(P).

Symbol



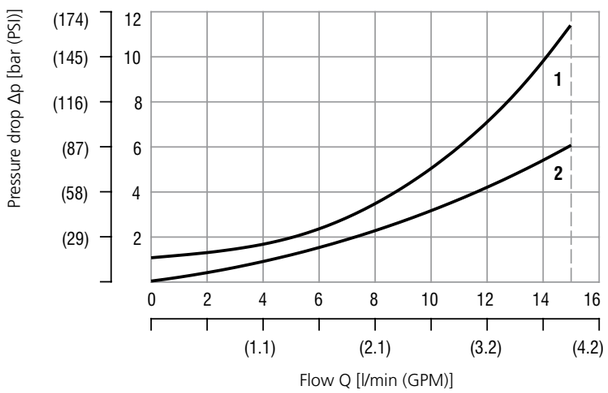
Technical Data

Valve size / Cartridge cavity		M22x1.5 / QG3
Max. flow	l/min (GPM)	15 (4)
Max. operating pressure	bar (PSI)	210 (3000)
Cracking pressure	bar (PSI)	2 ± 0.5 (29 ± 7 PSI)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.04 (0.088)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Cavity details	SMT_0019	SMT-QG3*
Spare parts	SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

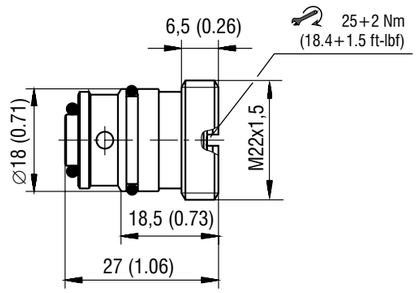


	Flow direction
1	P (1) → A (3)
2	A (3) → T(2)

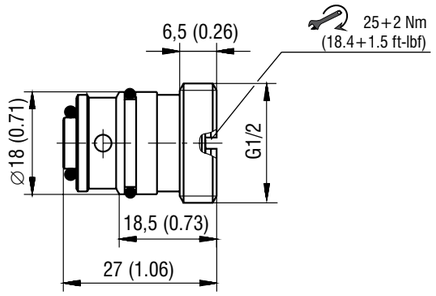
ARGO HYTOS

Dimensions in millimeters (inches)

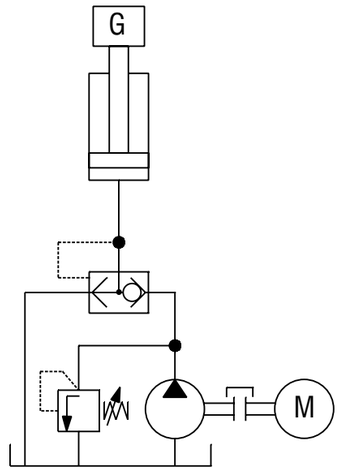
Model M



Model G



Application example



Ordering Code

VJL2-304 - □ □

Load shuttle valve, kick down
M22x1.5

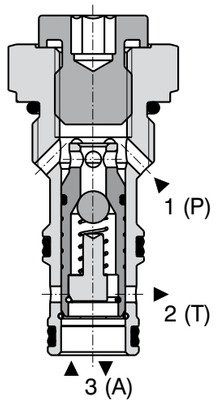
Seals
No designation NBR
V FPM (Viton)

Threads
M M22x1.5
G G1/2

Load Shuttle Valve, Kick Down

SH1F-A3

3/4-16 UNF • Q_{max} 20 l/min (5 GPM) • p_{max} 250 bar (3600 PSI)



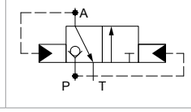
Technical Features

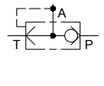
- Rapid response to changes in load direction
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A poppet type hydraulic directional shuttle valve in the form of a screw-in cartridge for use in single acting cylinder applications. Pressure at port 1(P) opens the ball check valve, allowing fluid to pass to port 3(A). The poppet tightly closes the connection between ports 3(A) and 2(T). If there is no pressure at port 1(P), any pressure at port 3(A) - like from a cylinder's return spring - causes the poppet to shift such that fluid can pass from 3(A) to 2(T) but not from 3(A) and 1(P).

Symbol





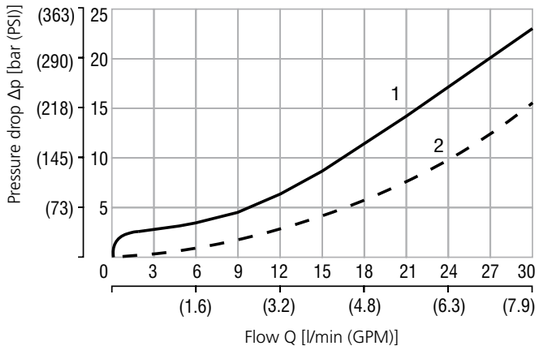
Technical Data

Valve size / Cartridge cavity		3/4-16 UNF-2A / A3
Max. flow	l/min (GPM)	20 (5.3)
Max. operating pressure	bar (PSI)	250 (3630)
Cracking pressure	bar (PSI)	2 ± 0,5 (29 ± 7 PSI)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.08 (0.18)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Cartridge cavity / Form tools	SMT_0019	SMT-A3
Spare parts	SP_8010	

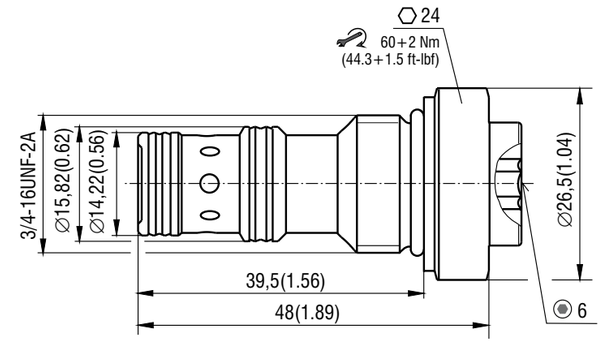
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

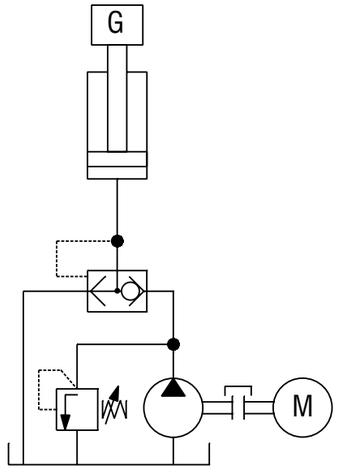


	Flow direction
1	P (1) → A (3)
2	A (3) → T (2)

Dimensions in millimeters (inches)



Application example



Ordering Code

SH1F-A3 / □ □ □ - □

Load shuttle valve, kick down
3/4-16 UNF

Valve cavity **A3**

Version
Lightline **L**

Cracking pressure
2 ± 0.5 bar (29 ± 7 PSI) **020**

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

No designation **Seals** NBR
V FPM (Viton)

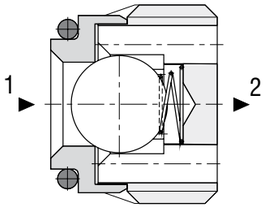
ARGO HYTOS

Check Valve, Ball Type

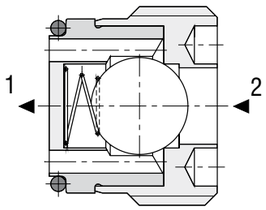
VJO1-06/S

Size 06 • Q_{max} 20 l/min (5 GPM) • p_{max} 320 bar (4600 PSI)

Model 01



Model 02

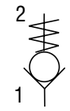


Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Compact design for limited installation space availability
- High flow capacity
- In the standard version, the valve is without surface coating

Functional Description

A hydraulic check valve in the form of a screw-in cartridge-style for use as a blocking or load-holding device. The cartridge has a ball check which is closed by spring until sufficient pressure is applied at port 1(2) to open flow to port 2(1).

Symbol	Model 01	Model 02
		

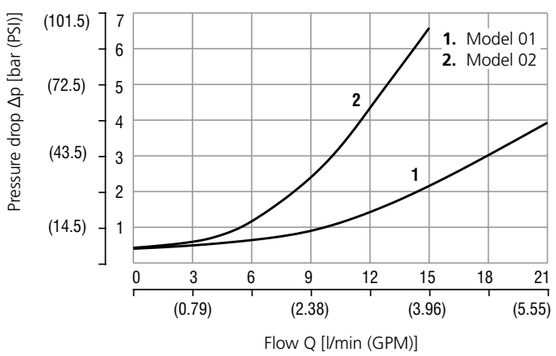
Technical Data

Valve size		06
Max. flow	l/min (GPM)	20 (5.3)
Max. operating pressure	bar (PSI)	320 (4640)
Cracking pressure	bar (PSI)	0.25 (3.62)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.007 (0.015)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Spare parts	SP_8010	

Characteristics measured at v = 32 mm²/s (156 SUS)

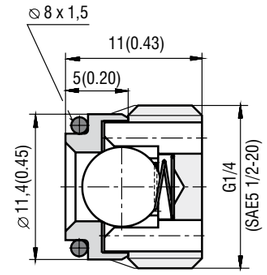
Pressure drop related to flow rate



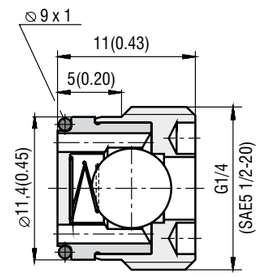
ARGO HYTOS

Dimensions in millimeters (inches)

Model 01

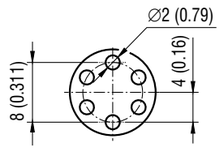


Model 02

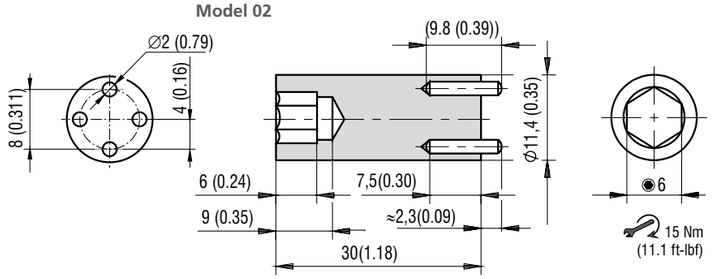


Mounting Tool in millimeters (inches)

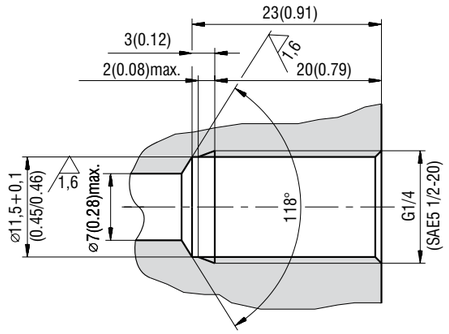
Model 01

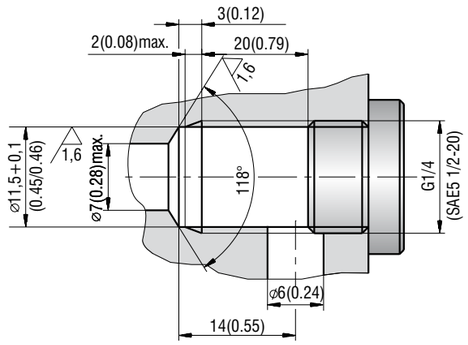


Model 02



Cavity in millimeters (inches)





Ordering Code

VJO1-06 / S □ □ - □ □

Check valve, ball type

Valve size

Screw-in

Thread
G1/4″ — **G**
SAE-5, 1/2-20 UNF — **S**

Cracking pressure
000 without spring
002 0.2 bar (2.90 PSI)

Flow direction
1 model 01
2 model 02

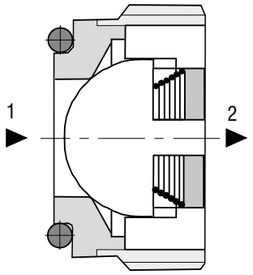
Seals
No designation NBR
V FPM (Viton)

ARGO HYTOS

Check Valve, Ball Type

VJO1-10/S

Size 10 / M20x1.5 • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



Technical Features

- Hardened precision parts
- Sharp-edged steel seats for for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Compact design for limited installation space availability
- High flow capacity
- In the standard version, the valve is without surface coating

Functional Description

A hydraulic check valve in the form of a screw-in cartridge-style for use as a blocking or load-holding device. The cartridge has a ball check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2.

Symbol	

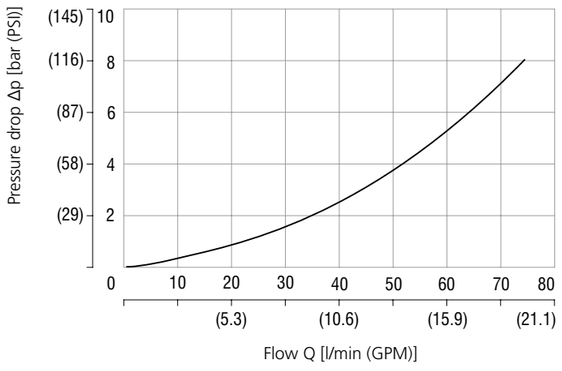
Technical Data

Valve size		10 / M20x1.5
Max. flow	l/min (GPM)	80 (21.1)
Max. operating pressure	bar (PSI)	350 (5076)
Cracking pressure	bar (PSI)	0.5 (7.25)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.017 (0.038)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Spare parts	SP_8010	

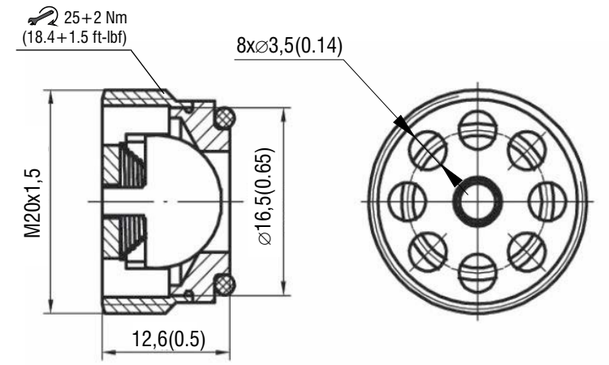
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

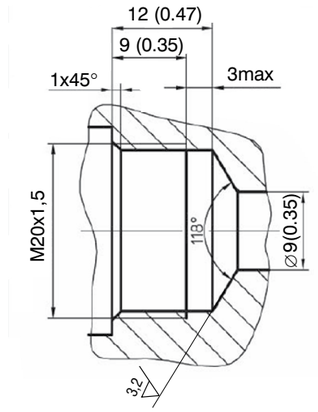


ARGO HYTOS

Dimensions in millimeters (inches)



Cavity in millimeters (inches)



Ordering Code

VJO1-10 / S □ □ □

Check valve, ball type

Valve size

Screw-in

Thread
M20x1.5 — **M**

Seals
No designation NBR
V FPM (Viton)

Cracking pressure
005 0.5 bar (7.30 PSI)

Check Valve, Poppet Type, Modular

VJO1-04/M

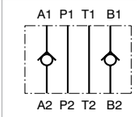
Size 04 (D02) • Q_{max} 30 l/min (8 GPM) • p_{max} 320 bar (4600 PSI)

Technical Features

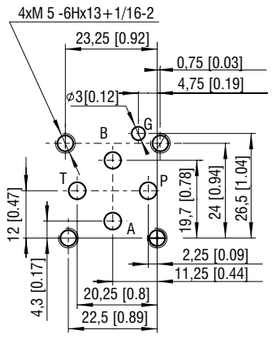
- Poppet type check valve with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 02)
- Sandwich plate design for use in vertical stacking assemblies
- Leak-free closing in one or two channels, suitable for fast cycling with long life
- Sharp-edged steel seats for dirt-tolerant performance
- High flow capacity
- Optional bias spring ranges for back-pressure control
- In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

These check valves in sandwich plate design allow flow in one and prevent flow in the other direction. The sandwich design enables vertical stacking with other components of the same size. The check valves can be built into one or two channels, the other passages are unobstructed. The cracking pressure depends on the selected bias spring.

Symbol	

ISO 4401-02-01-0-05



Ports P, A, B, T max ∅4.5 mm (0.18 in)

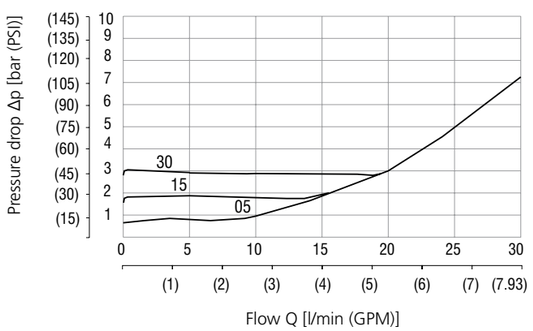
Technical Data

Valve size		04 (D02)		
Max. flow	l/min (GPM)	30 (7.9)		
Max. operating pressure	bar (PSI)	320 (4640)		
Cracking pressure	bar (PSI)	0.5 (7.3)	1.5 (21.8)	3 (43.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)		
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)		
Mass	kg (lbs)	0.4 (0.88)		

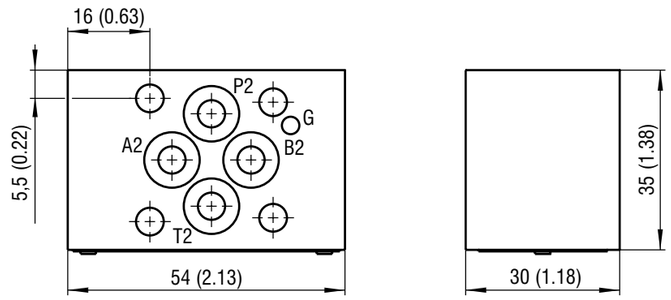
	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting interface / Tolerances	SMT_0019	Size 04
Spare parts	SP_8010	

Characteristics measured at v = 32 mm²/s (156 SUS)

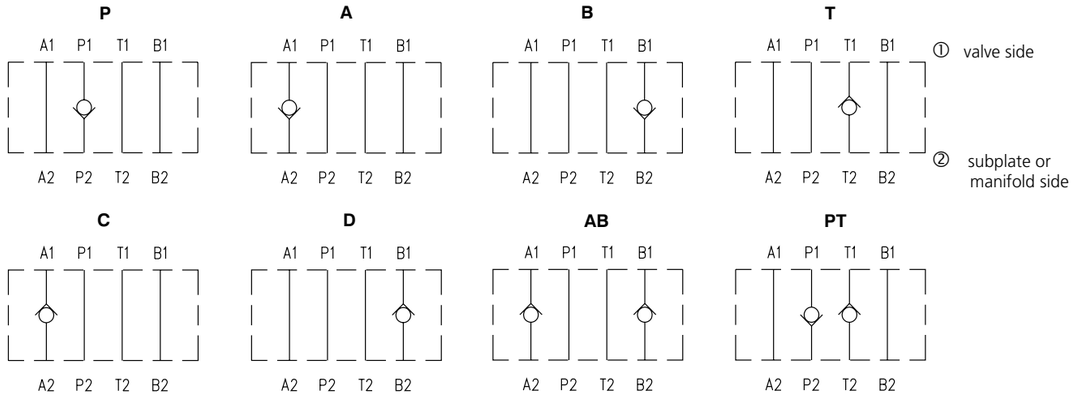
Pressure drop related to flow rate



Dimensions in millimeters (inches)



Functional symbols



Notes: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

VJO1-04 / M [ ] - [ ] [ ] - [ ]

Check valve, poppet type, modular

Valve size

Modular, sandwich plate

Functional symbols

check valve in line P	P
check valve in line A	A
check valve in line B	B
check valve in line T	T
check valve in line A, inverted	C
check valve in line B, inverted	D
check valve in line A and B	AB
check valve in line P and T	PT

Cracking pressure

05	0.5 bar (7.3 PSI)
15	1.5 bar (21.8 PSI)
30	3.0 bar (43.5 PSI)

Seals
NBR
FPM (Viton)

Surface treatment

No designation	body phosphated
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

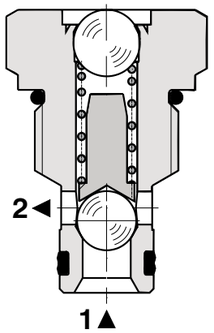
ARGO HYTOS

Check Valve, Ball Type

SC1F-A2

3/4-16 UNF • Q_{max} 40 l/min (11 GPM) • p_{max} 420 bar (6100 PSI)

High performance



Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional bias spring ranges for back-pressure control
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A hydraulic check valve in the form of a screw-in cartridge-style for use as a blocking or load-holding device. The cartridge has a ball check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2.

Symbol	

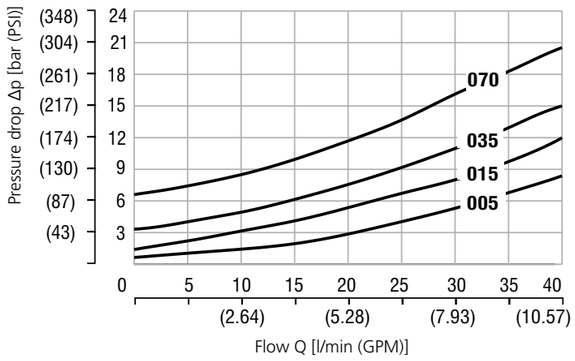
Technical Data

Valve size / Cartridge cavity		3/4-16 UNF-2A / A2			
Max. flow	l/min (GPM)	40 (10.6)			
Max. operating pressure	bar (PSI)	420 (6090)			
Cracking pressure	bar	0.5	1.5	3.5	7.0
	(PSI)	(7.3)	(21.8)	(50.8)	(101.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)			
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)			
Mass	kg (lbs)	0.06 (0.13)			

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-A2*
	Sandwich mounted	SB-04(06)_0028	SB-*A2*
Cavity details / Form tools		SMT_0019	SMT-A2*
Spare parts		SP_8010	

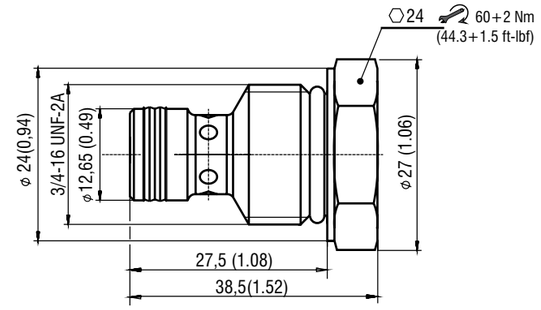
Characteristics measured at v = 32 mm²/s (156 SUS)

Pressure drop related to flow rate



ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

SC1F-A2 / □ □ □ - □

Check valve, ball type — **3/4-16 UNF**

High performance — **H**

Surface treatment

A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

No designation	NBR
V	FPM (Viton)

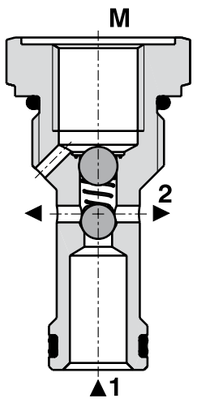
Cracking pressure

000	without spring
002	0.2 bar (2.92 PSI)
005	0.5 bar (7.3 PSI)
015	1.5 bar (21.8 PSI)
035	3.5 bar (50.8 PSI)
070	7.0 bar (101.5 PSI)

Check Valve With Pressure Gauge Port

SC1F-A3

3/4-16 UNF • Q_{max} 20 l/min (5 GPM) • p_{max} 350 bar (5100 PSI)



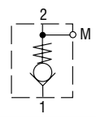
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Integrated pressure gauge port G 1/4" or SAE
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A hydraulic check valve in the form of a screw-in cartridge for use as a blocking or load-holding device. The cartridge has a ball check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2.

Symbol



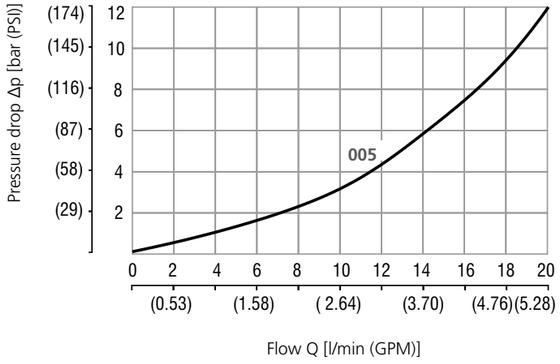
Technical Data

Valve size / Cartridge cavity		3/4-16 UNF-2A / A3
Max. flow	l/min (GPM)	20 (5.3)
Max. operating pressure	bar (PSI)	350 (5080)
Cracking pressure	bar (PSI)	0.5 (7.3)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass	kg (lbs)	0.05 (0.11)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-A3*
	Sandwich mounted	SB-04(06)_0028	SB-*A3*
Cavity details / Form tools		SMT_0019	SMT-A3*
Spare parts		SP_8010	

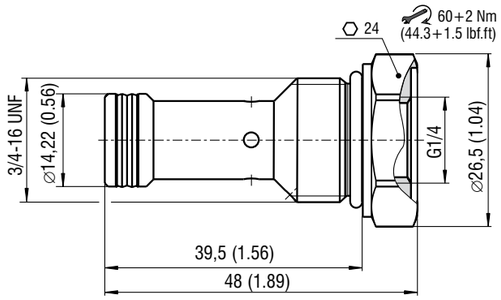
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

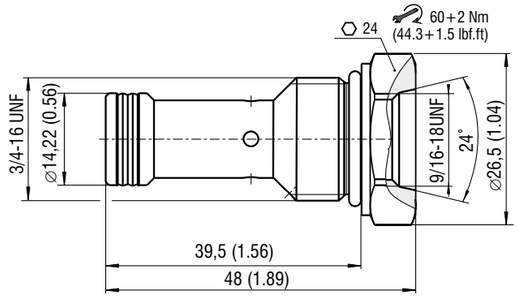


Dimensions in millimeters (inches)

Model G



Model S



Ordering Code

SC1F-A3 / □ □ - □ □ - □

Check valve with pressure gauge port 3/4-16 UNF

Light line L

Cracking pressure
0.5 bar (7.3 PSI) 005

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals
No designation NBR
V FPM (Viton)

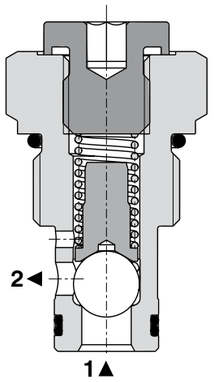
Thread
G G 1/4"
S SAE-6, 9/16-18 UNF

ARGO HYTOS

Check Valve, Ball Type

SC1F-B2

7/8-14 UNF • Q_{max} 120 l/min (32 GPM) • p_{max} 420 bar (6100 PSI)



Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional bias spring ranges for back-pressure control
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A hydraulic check valve in the form of a screw-in cartridge for use as a blocking or load-holding device. The cartridge has a ball check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2.

Symbol	

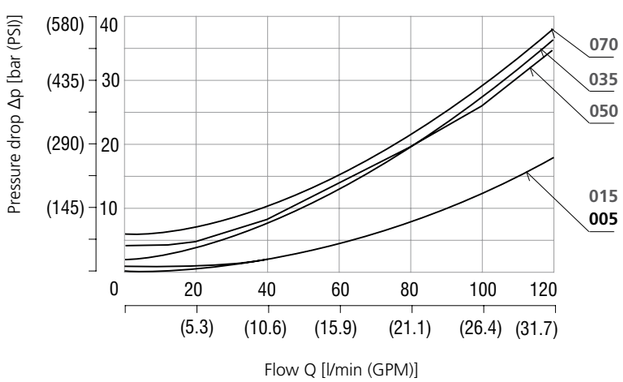
Technical Data

Valve size / Cartridge cavity		7/8-14 UNF-2A / B2				
Max. flow	l/min (GPM)	120 (31.7)				
Max. operating pressure	bar (PSI)	420 (6090)				
Cracking pressure	bar	0.5	1.5	3.5	5.0	7.0
	(PSI)	(7.3)	(21.8)	(50.8)	(72.5)	(101.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)				
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)				
Mass	kg (lbs)	0.12 (0.27)				

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-B2*
	Sandwich mounted	SB-04(06)_0028	SB-*B2*
Cavity details / Form tools		SMT_0019	SMT-B2*
Spare parts		SP_8010	

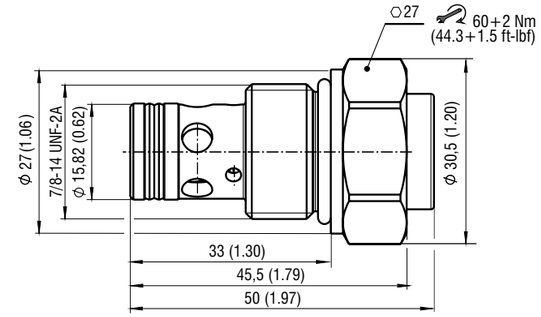
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate



ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

SC1F-B2 / □ □ □ - □

Check valve, ball type 7/8-14 UNF

High performance	**H**

Cracking pressure

000	without spring
002	0.2 bar (2.9 PSI)
005	0.5 bar (7.3 PSI)
010	1.0 bar (14.6 PSI)
015	1.5 bar (21.8 PSI)
020	2.0 bar (29.2 PSI)
035	3.5 bar (50.8 PSI)
050	5.0 bar (73 PSI)
070	7.0 bar (101.5 PSI)

Seals

No designation	NBR
V	FPM (Viton)

Surface treatment

A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

ARGO HYTOS

Check Valve, Poppet Type, Modular

MVJ3-06

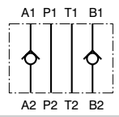
Size 06 (D03) • Q_{max} 50 l/min (13 GPM) • p_{max} 350 bar (5100 PSI)

Technical Features

- Poppet type check valve with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03)
- Sandwich plate design for use in vertical stacking assemblies
- Leak-free closing in one or two service ports , suitable for fast cycling with long life
- Sharp-edged steel seats for dirt-tolerant performance
- High flow capacity
- Optional bias spring ranges for back-pressure control
- In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

These check valves in sandwich plate design allow flow in one and prevent flow in the other direction. The sandwich design enables vertical stacking with other components of the same size. The check valves can be built into one or two channels, the other passages are unobstructed. The cracking pressure depends on the selected bias spring.

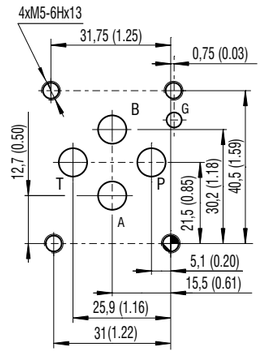
Symbol	

Technical Data

Valve size		06 (D03)			
Max. flow	l/min (GPM)	50 (13.2)			
Max. operating pressure	bar (PSI)	350 (5080)			
Cracking pressure	bar	0.5	1.5	3	5
	(PSI)	(7.3)	(21.8)	(43.5)	(72.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)			
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)			
Mass	kg (lbs)	0.8 (1.76)			

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting interface / Tolerances	SMT_0019	Size 06
Spare parts	SP_8010	

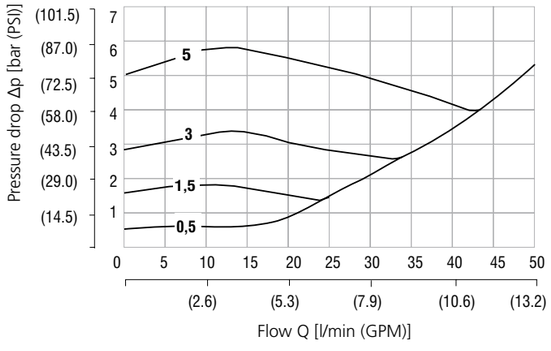
ISO 4401-03-02-0-05



Ports P, A, B, T
max ∅7.5 mm (0.29 in)

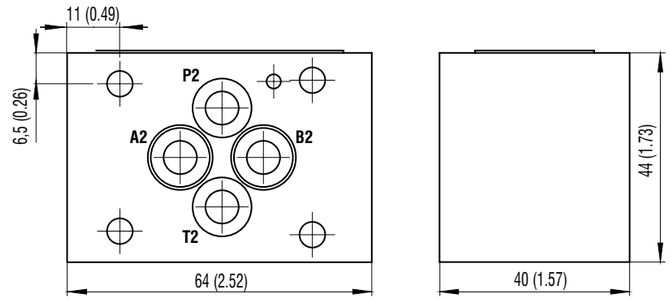
Characteristics measured at v = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

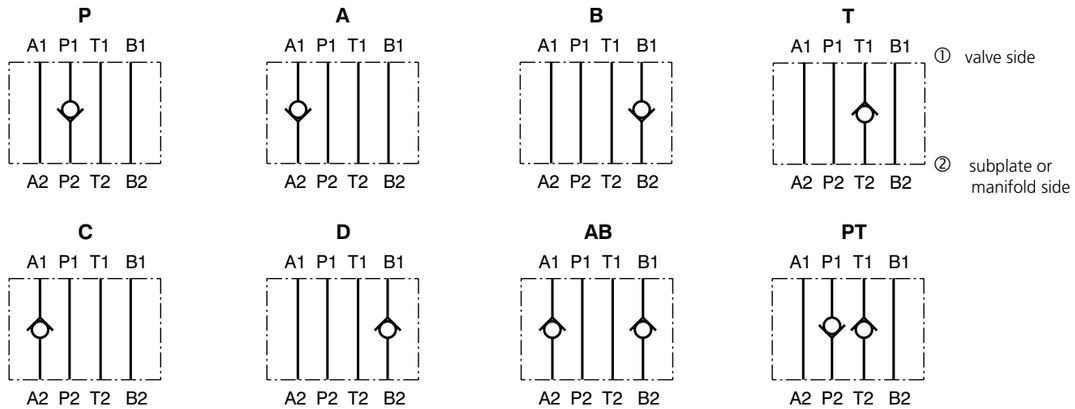


ARGO HYTOS

Dimensions in millimeters (inches)



Functional Symbols



Note: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

MVJ3-06 ☐ - ☐ - ☐ - ☐

Check valve, poppet type, modular

Valve size

Functional symbols

check valve in line P	P
check valve in line A	A
check valve in line B	B
check valve in line T	T
check valve in line A, inverted	C
check valve in line B, inverted	D
check valve in line A and B	AB
check valve in line P and T	PT

Cracking pressure

005	0.5 bar (7.3 PSI)
015	1.5 bar (21.8 PSI)
030	3.0 bar (43.5 PSI)
050	5.0 bar (72.5 PSI)

Seals

No designation	NBR
V	FPM (Viton)

Surface treatment

No designation	body phosphated
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

ARGO HYTOS

Check Valve, Poppet Type, Modular

MVJ3-10

Size 10 (D05) • Q_{max} 100 l/min (26 GPM) • p_{max} 350 bar (5100 PSI)

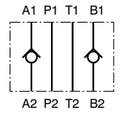
Technical Features

- Poppet type check valve with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 05)
- Sandwich plate design for use in vertical stacking assemblies
- Leak-free closing in one or two channels, suitable for fast cycling with long life
- Sharp-edged steel seats for dirt-tolerant performance
- High flow capacity
- Optional bias spring ranges for back-pressure control
- In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

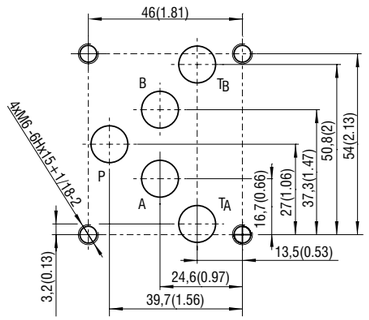
Functional Description

These check valves in sandwich plate design allow flow in one and prevent flow in the other direction. The sandwich design enables vertical stacking with other components of the same size. The check valves can be built into one or two channels, the other passages are unobstructed. The cracking pressure depends on the selected bias spring.

Symbol



ISO 4401-05-04-0-05



Ports P, A, B, T max. ∅11.2 mm (0.44 in)

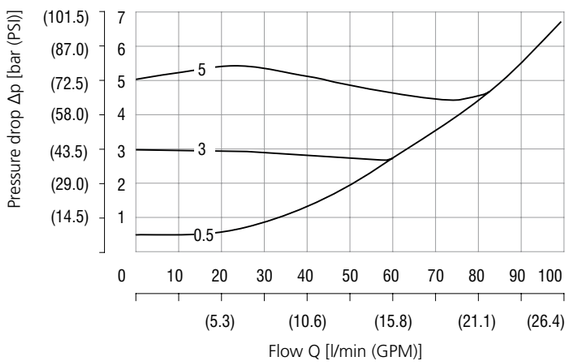
Technical Data

Valve size		10 (D05)		
Max. flow	l/min (GPM)	100 (26.4)		
Max. operating pressure	bar (PSI)	350 (5080)		
Cracking pressure	bar (PSI)	0.5 (7.3)	3 (43.5)	5 (72.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)		
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)		
Mass	kg (lbs)	2.25 (4.96)		

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting interface / Tolerances	SMT_0019	Size 10
Spare parts	SP_8010	

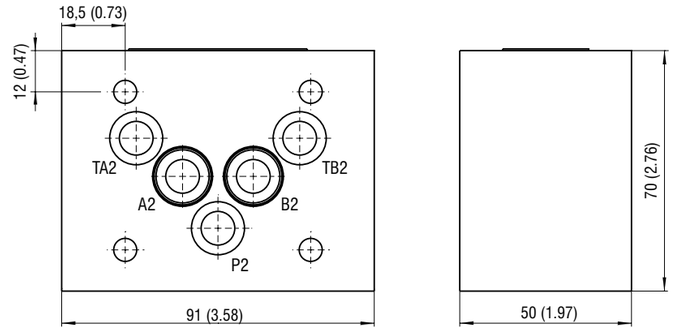
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

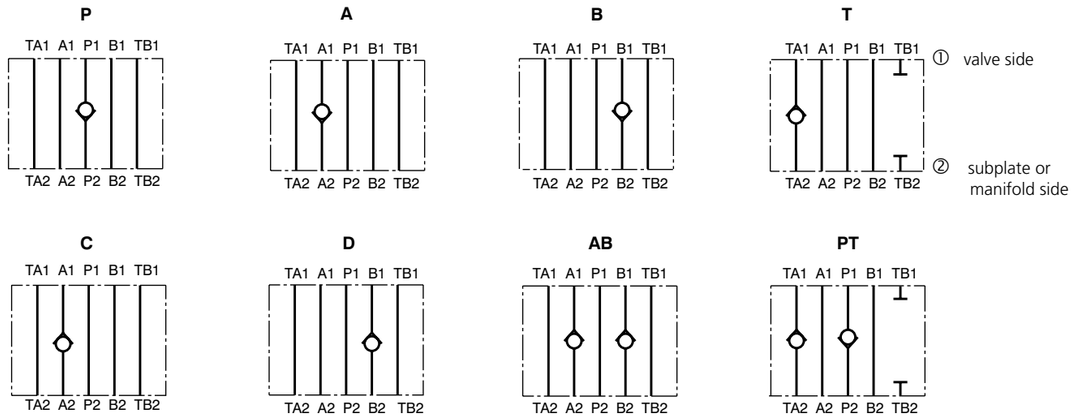


ARGO HYTOS

Dimensions in millimeters (inches)



Functional Symbols



Note: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

MVJ3-10 [ ] - [ ] - [ ] - [ ]

Check valve, poppet type, modular

Valve size

Functional symbols

check valve in line P	**P**
check valve in line A	**A**
check valve in line B	**B**
check valve in line T	**T**
check valve in line A, inverted	**C**
check valve in line B, inverted	**D**
check valve in line A and B	**AB**
check valve in line P and T	**PT**

Cracking pressure

005	0.5 bar (7.3 PSI)
030	3.0 bar (43.5 PSI)
050	5.0 bar (72.5 PSI)

Seals

No designation	NBR
V	FPM (Viton)

Surface treatment

No designation	body phosphated
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

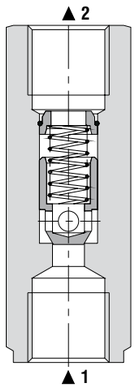
ARGO HYTOS

Check Valve, Poppet Type, In-Line

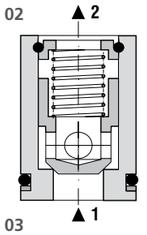
VJ3

Size 06, 08, 10, 16, 20, 25, 30 • Q_{max} 400 l/min (106 GPM) • p_{max} 320 bar (4600 PSI)

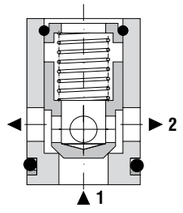
Model G1, M1, S



Model 02



Model 03



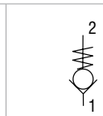
Technical Features

- Poppet type check valve, guided in-line mounting or slip-in design
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- Optional bias spring ranges for back-pressure control
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A hydraulic check valve in the form of an in-line or slip-in cartridge for use as a blocking or load-holding device. The valve has a poppet check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2.

Symbol



Technical Data

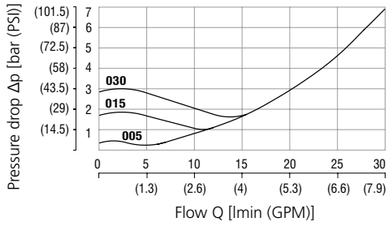
Valve size		06	08	10	16	20	25	30
Maximum flow rate	l/min (GPM)	30 (7.9)	40 (10.6)	60 (15.9)	160 (42.3)	250 (66)	300 (79.3)	400 (105.7)
Max. operating pressure	bar (PSI)	320 (4640)						
Cracking pressure	bar	0.5		1.0	1.5	3.0		5.0
	(PSI)	(7.25)		(14.5)	(21.8)	(43.5)		(72.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)						
Mass - model G1	kg (lbs)	0.11 (0.24)	0.2 (0.04)	0.34 (0.75)	0.52 (1.15)	0.95 (2.09)	1.95 (4.30)	2.35 (5.18)
- models M1, S			-				-	-
- models 02, 03		0.05 (0.11)	-	0.09 (0.2)	0.22 (0.49)	0.26 (0.57)	-	-

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Cavity details	SMT_0019	
Spare parts	SP_8010	

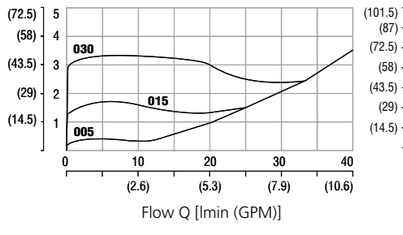
Characteristics measured at v = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

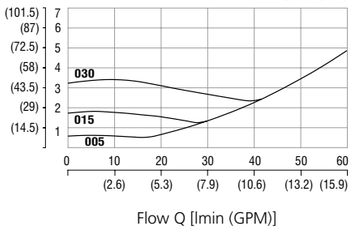
Valve size 06



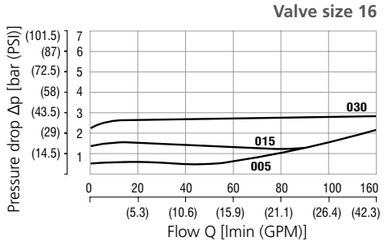
Valve size 08



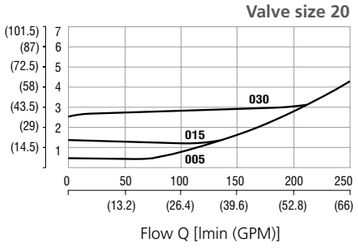
Valve size 10



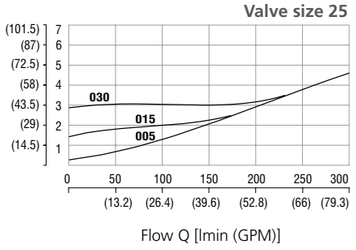
Valve size 16



Valve size 20



Valve size 25

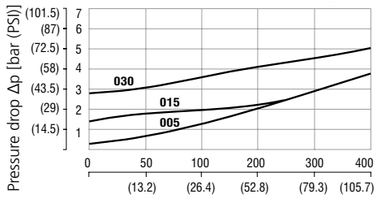


ARGO HYTOS

Characteristics measured at v = 32 mm²/s (156 SUS)

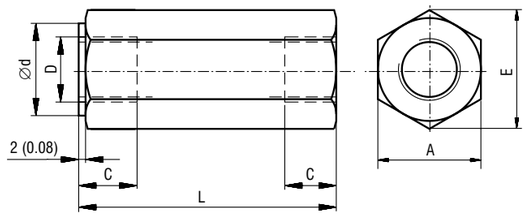
Pressure drop related to flow rate

Valve size 30

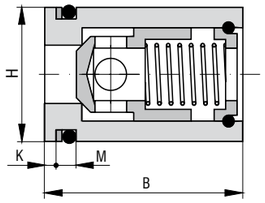


Dimensions in millimeters (inches)

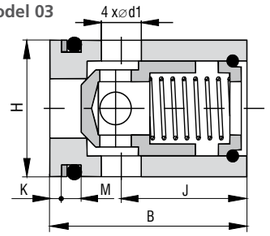
Models G1, M1, S



Model 02



Model 03



Size	A	B	C	D G1	D M1	D S	∅ d
06	19 (0.75)	27 - 0.2 (1.06 - 0.008)	12 (0.47)	G 1/4	M14x1.5	SAE-6, 9/16-18	19 (0.75)
08	24 (0.95)	-	12 (0.47)	G 3/8	-	-	24 (0.94)
10	30 (1.18)	32 - 0.2 (1.26 - 0.008)	14 (0.55)	G 1/2	M18x1.5	SAE-8, 3/4-16	30 (1.18)
16	36 (1.42)	45 - 0.2 (1.77 - 0.008)	16 (0.63)	G 3/4	M27x2	SAE-12, 1 1/16-12	36 (1.42)
20	46 (1.81)	45 - 0.2 (1.77 - 0.008)	18 (0.71)	G 1	M33x2	SAE-16, 1 5/16-12	46 (1.81)
25	60 (2.36)	-	20 (0.79)	G1 1/4	-	-	60 (2.36)
30	65 (2.56)	-	22 (0.87)	G1 1/2	-	-	65 (2.56)

Size	∅ d1	E	H	J	K	L	M
06	3.5 (0.14)	22 (0.87)	∅ 20 (0.79 f8)	18 (0.71)	1.6 (0.06)	58 (2.28)	4.4 + 0.2 (0.17 + 0.008)
08	-	27.7 (1.09)	-	-	-	58 (2.28)	-
10	5.5 (0.22)	34.5 (1.36)	∅ 25 (0.98 f8)	20 (0.79)	1.6 (0.06)	72 (2.83)	4.4 + 0.2 (0.17 + 0.008)
16	8.5 (0.34)	41.5 (1.63)	∅ 35 (1.38 f8)	27 (1.06)	2.2 (0.09)	85 (3.35)	5.3 + 0.2 (0.21 + 0.008)
20	10.5 (0.41)	53.6 (2.09)	∅ 40 (1.58 f8)	25 (0.98)	2.2 (0.09)	98 (3.86)	5.3 + 0.2 (0.21 + 0.008)
25	-	69 (2.72)	-	-	-	120 (4.72)	-
30	-	75 (2.95)	-	-	-	132 (5.20)	-

Ordering Code

VJ3 - □ - □ - □ - □

Check valve, poppet type, in-line

Valve size

06	**06**
08	**08**
10	**10**
16	**16**
20	**20**
25	**25**
30	**30**

Cracking pressure

without spring	**000**
0.5 bar (7.3 PSI)	**005**
1.0 bar (14.5 PSI)	**010**
1.5 bar (21.8 PSI)	**015**
3.0 bar (43.5 PSI)	**030**
5.0 bar (72.5 PSI)	**050**

Interface

G1	in-line mounting - with G threads
M1	with metric threads
S*	with SAE threads
02*	slip-in cartridge
03*	slip-in cartridge

*For sizes 06, 10, 16, 20 only

Surface treatment

A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

Besides the shown, commonly used valves other special models are available.
Contact our technical support for their identification, feasibility and operating limits.

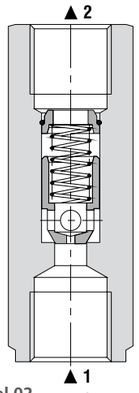
ARGO HYTOS

Check Valve with One-Way Throttling, Poppet Type, In-Line

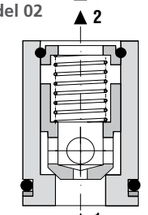
VJS3

Size 06, 10, 16, 20 • Q_{max} 250 l/min (66 GPM) • p_{max} 320 bar (4600 PSI)

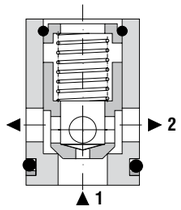
Model G1, M1, S



Model 02



Model 03



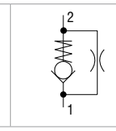
Technical Features

- Check valve, one-way throttling, poppet type, guided in-line mounted or slip-in cartridge
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Wide range of orifice diameters available
- Optional bias spring ranges for back-pressure control
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

An in-line or drop-in hydraulic check valve for use as a blocking or load-holding device. Includes a by-pass throttling orifice. The valve has a poppet check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2. In the direction from port 2 to 1 the flow is restricted by the orifice.

Symbol



Technical Data

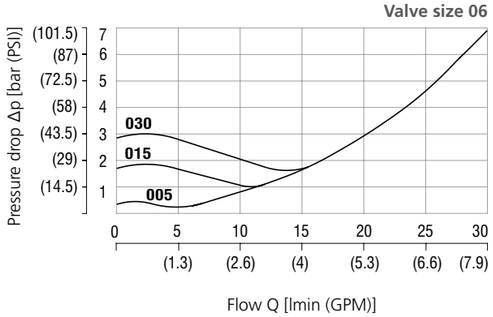
Valve size		06	10	16	20
Max. flow	l/min (GPM)	30 (7.9)	60 (15.9)	160 (42.3)	250 (66)
Max. operating pressure	bar (PSI)	320 (4640)			
Cracking pressure	bar	0.5	1.0	1.5	3.0	5.0
	(PSI)	(7.25)	(14.5)	(21.8)	(43.5)	(72.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)			
Mass - models G1, M1, S	kg (lbs)	0.11 (0.24)	0.34 (0.75)	0.52 (1.15)	0.95 (2.09)
- models 02, 03		0.05 (0.11)	0.09 (0.2)	0.22 (0.49)	0.26 (0.57)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Cavity details	SMT_0019	
Spare parts	SP_8010	

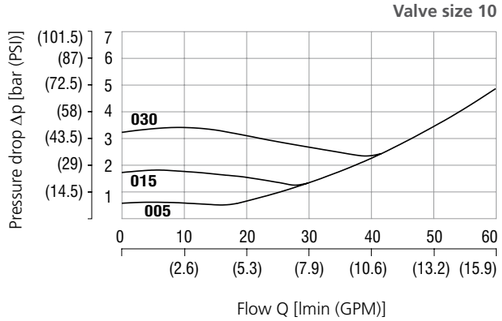
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

Valve size 06



Valve size 10

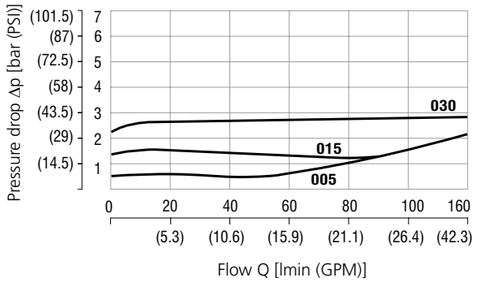


ARGO HYTOS

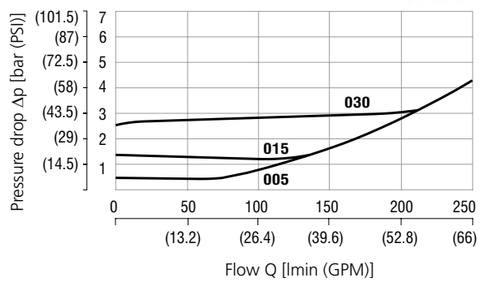
Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

Valve size 16

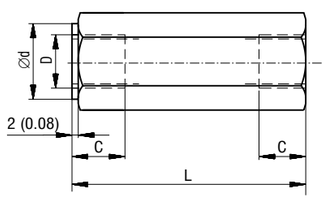


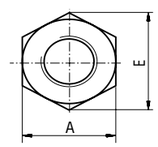
Valve size 20



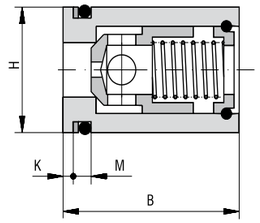
Dimensions in millimeters (inches)

Models G1, M1, S

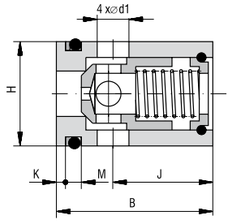




Model 02



Model 03



Size	A	B	C	D G1	D M1	D S	∅ d
06	19 (0.75)	27 - 0.2 (1.06 - 0.008)	12 (0.47)	G 1/4	M14x1.5	SAE-6, 9/16-18	19 (0.75)
10	30 (1.18)	32 - 0.2 (1.26 - 0.008)	14 (0.55)	G 1/2	M18x1.5	SAE-8, 3/4-16	30 (1.18)
16	36 (1.42)	45 - 0.2 (1.77 - 0.008)	16 (0.63)	G 3/4	M27x2	SAE-12, 1 1/16-12	36 (1.42)
20	46 (1.81)	45 - 0.2 (1.77 - 0.008)	18 (0.71)	G 1	M33x2	SAE-16, 1 5/16-12	46 (1.81)

Size	∅ d1	E	H	J	K	L	M
06	3.5 (0.14)	22 (0.87)	∅ 20 (0.79) f8	18 (0.71)	1.6 (0.06)	58 (2.28)	4.4 + 0.2 (0.17 + 0.008)
10	5.5 (0.22)	34.5 (1.36)	∅ 25 (0.98) f8	20 (0.79)	1.6 (0.06)	72 (2.83)	4.4 + 0.2 (0.17 + 0.008)
16	8.5 (0.34)	41.5 (1.63)	∅ 35 (1.38) f8	27 (1.06)	2.2 (0.09)	85 (3.35)	5.3 + 0.2 (0.21 + 0.008)
20	10.5 (0.41)	53.6 (2.09)	∅ 40 (1.58) f8	25 (0.98)	2.2 (0.09)	98 (3.86)	5.3 + 0.2 (0.21 + 0.008)

Ordering Code

VJS3-□-□-□-□-□

Check valve with one-yay throttling, poppet type, in-line

Valve size

06	06
10	10
16	16
20	20

Cracking pressure

without spring	000
0.5 bar (7.3 PSI)	005
1.0 bar (14.5 PSI)	010
1.5 bar (21.8 PSI)	015
3.0 bar (43.5 PSI)	030
5.0 bar (72.5 PSI)	050

Surface treatment

A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

Orifice diameter

020	0.20 mm (0.008 inch)
050	0.50 mm (0.02 inch)
080	0.80 mm (0.03 inch)
100	1 mm (0.04 inch)
150	1.5 mm (0.06 inch)
200	2 mm (0.08 inch)
300	3 mm (0.12 inch)

Installation

G1	in-line, with G threads
M1	in-line, with metric threads
S*	in-line, with SAE threads
02*	slip-in cartridge
03*	slip-in cartridge

*For sizes 06, 10, 16, 20 only

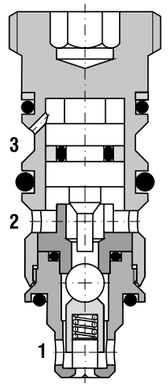
Besides the shown, commonly used valve versions other special models are available. Contact our technical support for their identification, feasibility and operating limits.

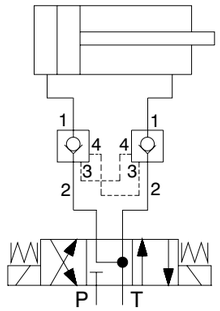
ARGO HYTOS

Check Valve, Ball Type, Pilot to Open

RJV1-05

M24x1.5 • Q_{max} 20 l/min (5 GPM) • p_{max} 250 bar (3600 PSI)





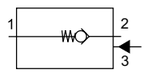
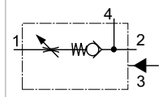
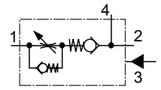
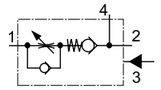
Hydraulic circuit with two pilot operated check valves. If pressured, the respective valve will pilot the other to open, thereby enabling cylinder motion in both directions. Without pressure at either valve, the cylinder is locked in place. (see application picture)

Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional sealed piston and flow restrictor integrated in hollow bolt
- Design suitable for direct cylinder mounting through hollow bolt
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 2 to 1 while under load normally inhibiting flow from 1 to 2. When pressure is applied at port 3, flow passes from port 1 to 2.
The cartridge valve has a pilot ratio of 5.76:1, meaning that a minimum of 17 % of the load pressure must be applied at port 3 to open the valve. The check valve is spring closed to secure the holding position in static conditions and without load. The valve is optionally offered with a sealed piston and a flow restrictor valve. Port 4 is available for use in double acting applications using two pilot operated check valves.

Model Code	RJV1-05	S	J1	J2
Symbol				

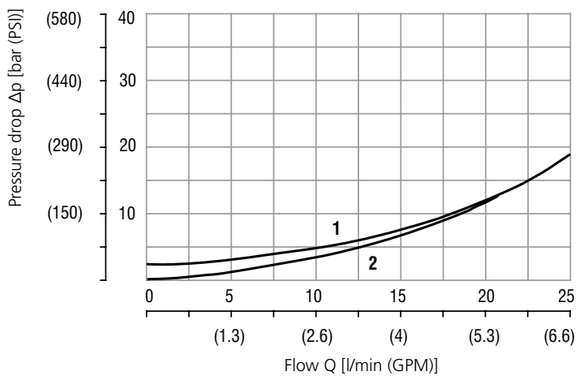
Technical Data

Valve size / Cartridge cavity		M24x1.5 / QJ2
Max. flow	l/min (GPM)	20 (5.3)
Max. operating pressure	bar (PSI)	250 (3630)
Pilot ratio		5.76:1
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Mass of the cartridge valve	kg (lbs)	0.08 (0.18)
Mass of the cartridge valve with body	kg (lbs)	1.6 (3.53)

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Cavity details	SMT_0019	SMT-QJ2*
Spare parts	SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

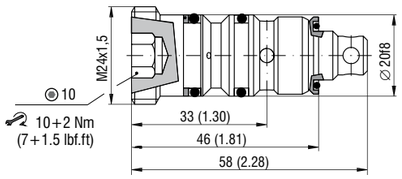


1	free flow (2→1)
2	pilot open (1→2)

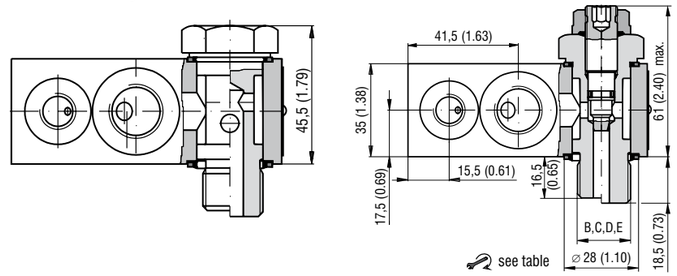
ARGO HYTOS

Dimensions in millimeters (inches)

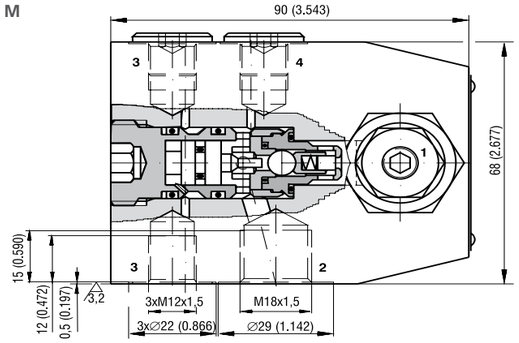
Cartridge valve RJV1-05



Model with body and hollow bolt RJV1-05*M(G)/* S, J1, J2

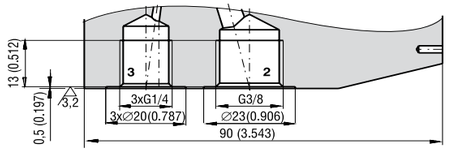


Model M



Type	Port size	⌀ D max mm (in)	Tightening torque Nm (ft-lbf)
B	M18x1.5	$18^{+0,2}$ (0.708 / 0.716)	30+3 (22.13+2.21)
C	M22x1.5	$22^{+0,2}$ (0.866 / 0.874)	70+5 (51.63+3.69)
D	G1/2	$21^{+0,2}$ (0.826 / 0.834)	70+5 (51.63+3.69)
E	G3/8	$16,6^{+0,2}$ (0.653 / 0.661)	25+3 (18.43+2.21)

Model G



Ordering Code

RJV1-05 □ □ / □ □ □ - □

Check valve, pilot to open, ball type

Valve size

Pilot piston seal
without seal — **No designation**
with seal — **S**

Model
Cartridge valve — **No designation**
with body - metric threads — **M**
with body - BSP threads — **G**

Hollow bolt threads
only for models with valve body
B M18x1.5
C M22x1.5
D G1/2
E G3/8

Hollow bolt
only for models with valve body
No designation without flow restrictor
S with flow restrictor VSV1
J1 with flow restrictor VSVJ01 and check valve
J2 with flow restrictor VSVJ1 and check valve - reversed

Seals
No designation NBR
V FPM (Viton)

Surface treatment
No designation body and flow restrictor phosphated, check valve black-coated and hollow bolt zinc-coated (ZnCr-3), ISO9227 (240 h)
A parts zinc-coated (ZnCr-3), ISO 9227 (240 h)
B parts zinc-coated (ZnNi), ISO 9227 (520 h)

ARGO HYTOS

Check Valve, Poppet Type, Pilot to Open, Modular

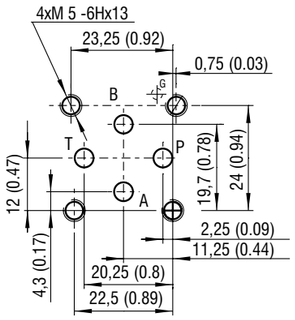
VJR1-04/M

Size 04 (D02) • Q_{max} 20 l/min (5 GPM) • p_{max} 320 bar (4600 PSI)

Technical Features

- Pilot to open check valve, poppet type with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 02)
- Sandwich plate design for use in vertical stacking assemblies
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

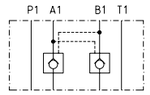
ISO 4401-02-01-0-05



Ports P, A, B, T
max ∅4.5 mm (0.18 in)

Functional Description

The valve allows flow to pass from port A(B)1 to A(B)2 while normally under load inhibiting flow from A(B)2 to A(B)1. When pressure is applied at the pilot port, the valve is opened and flow passes from port 2 to 1. The valve has a 3:1 pilot ratio, meaning that at least one third of the load pressure must be applied to open the valve. The check valve is spring closed to secure the holding position in static conditions and without load.

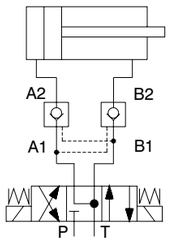
Symbol	

Technical Data

Valve size		04 (D02)
Max. flow	l/min (GPM)	20 (5.3)
Max. operating pressure	bar (PSI)	320 (4640)
Cracking pressure	bar (PSI)	1 (14.5)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Pilot ratio		3 : 1
Mass	kg (lbs)	0.7 (1.54)

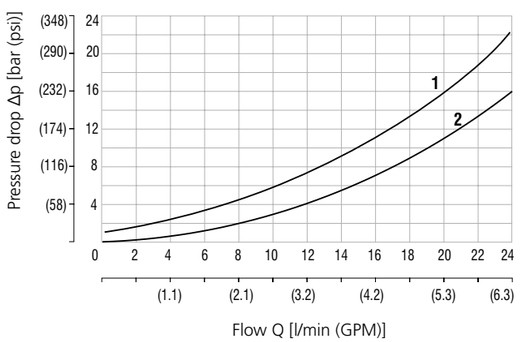
	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting interface / tolerances	SMT_0019	Size 04
Spare parts	SP_8010	

Typical circuit with pilot operated check valve



Characteristics measured at ν = 32 mm²/s (156 SUS)

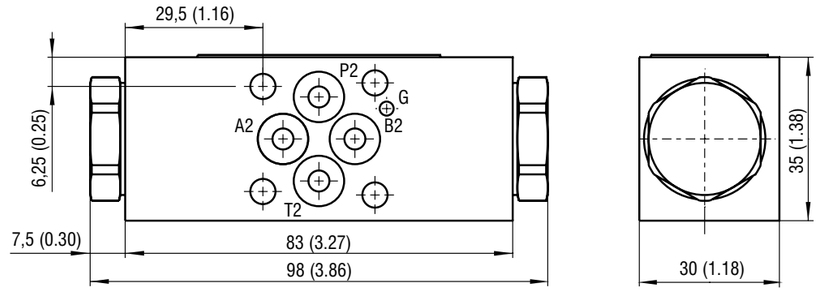
Pressure drop related to flow rate



	Flow direction
1	A1→A2 (B1→B2)
2	A2→A1 (B2→B1)

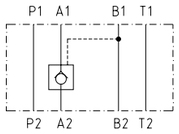
ARGO HYTOS

Dimensions in millimeters (inches)

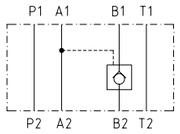


Functional symbols

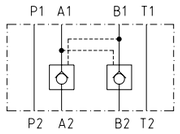
VJR1-04/MA



VJR1-04/MB



VJR1-04/MC



① valve side

② subplate or manifold side

Notes: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

VJR1-04 / M [ ] [ ] - [ ] [ ] - [ ]

Check valve, pilot to open, poppet type, modular

Valve size

Modular sandwich plate design

Functional symbols
check valve in line A — **A**
check valve in line B — **B**
check valve in line A and B — **C**

Pilot ratio
3 : 1 — **3**

Surface treatment
No designation body phosphated, steel parts
zinc-coated (ZnCr-3), ISO9227 (240 h)
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals
No designation NBR
V FPM (Viton)

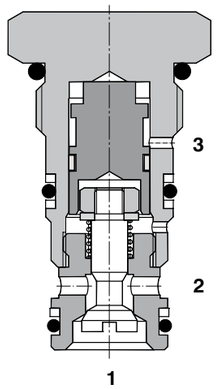
Cracking pressure
010 1 bar (14.5 PSI)

ARGO HYTOS

Check Valve, Poppet Type, Pilot to Open

SC5H-Q3/I

M20x1.5 • Q_{max} 30 l/min (8 GPM) • p_{max} 350 bar (5100 PSI)



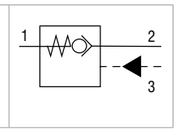
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional sealed piston
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 2 to 1 while under load normally inhibiting flow from 1 to 2. When pressure is applied at port 3, flow passes from port 1 to 2.
The cartridge valve has a pilot ratio of 3:1, meaning that at least one-third of the load pressure must be applied at port 3 to open the valve. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol



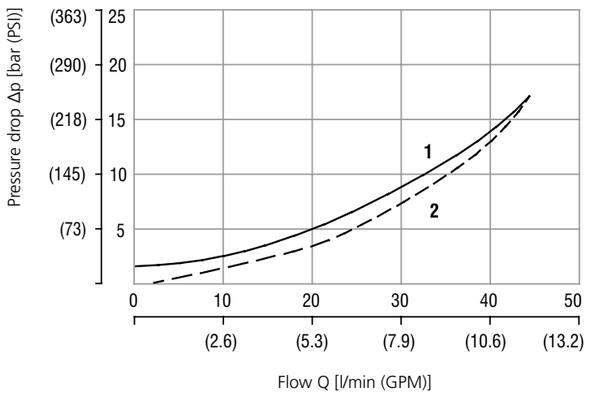
Technical Data

Valve size / Cartridge cavity		M20x1.5 / Q3
Max. flow	l/min (GPM)	30 (8)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio		3:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.08 (0.18)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-Q3*
	Sandwich mounted	SB-04(06)_0028	SB-*Q3*
Cavity details		SMT_0019	SMT-Q3*
Spare parts		SP_8010	

Characteristics measured at ν = 40 mm²/s (195 SUS)

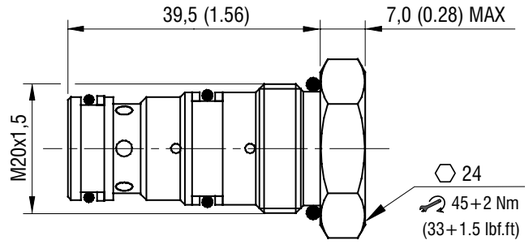
Pressure drop related to flow rate



1	free flow (2→1)
2	pilot open (1→2)

ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

SC5H-Q3/I 3 □ □ - □

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)

Check valve, pilot to open, poppet type **M20x1.5**

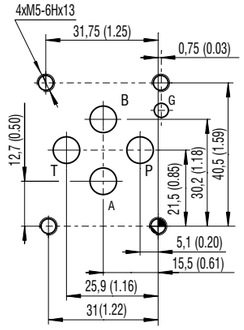
Seals
No designation NBR

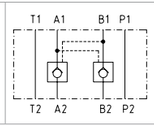
Pilot ratio
standard **3:1**

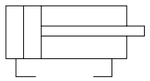
No designation **Pilot piston seal**
S with pilot piston seal

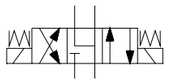
2RJV1-06/M

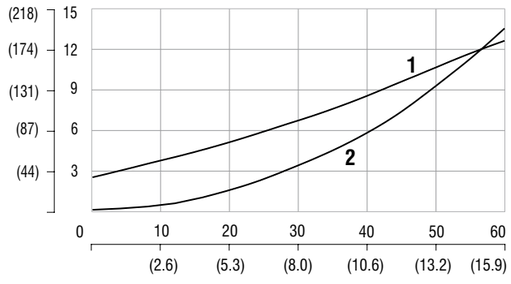
Size 06 (D03) • Q_{max} 60 l/min (16 GPM) • p_{max} 320 bar (4600 PSI)



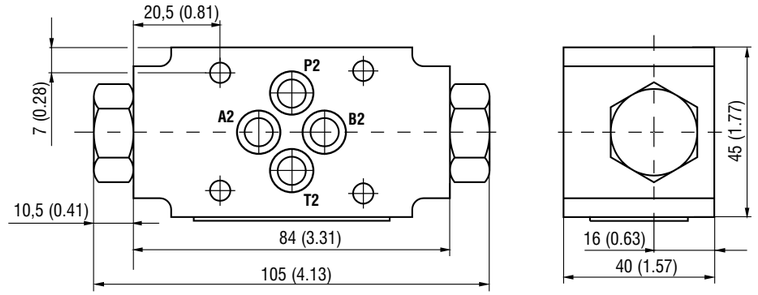
Symbol	
	





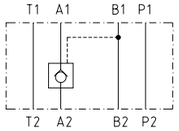


Dimensions in millimeters (inches)

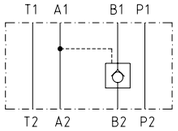


Functional symbols

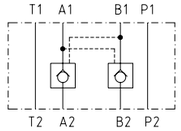
2RJV1-06/MA



2RJV1-06/MB



2RJV1-06/MC



① valve side

② subplate or manifold side

Notes: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

2RJV1 - 06 / M □ □ - □ □ - □

Check valve, pilot to open, poppet type, modular

Valve size

Modular sandwich plate design

Functional symbols

check valve in line A	**A**
check valve in line B	**B**
check valve in line A and B	**C**

Pilot ratio

3 : 1	**3**
9 : 1	**9**

Surface treatment

No designation	body phosphated, steel parts zinc-coated (ZnCr-3), ISO9227 (240 h)
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

No designation	NBR
V	FPM (Viton)

Cracking pressure

000	no spring
030	3 bar (43.5 PSI)
040*	4 bar (58.0 PSI)
050*	5 bar (72.5 PSI)
080*	8 bar (116 PSI)
120*	12 bar (174 PSI)

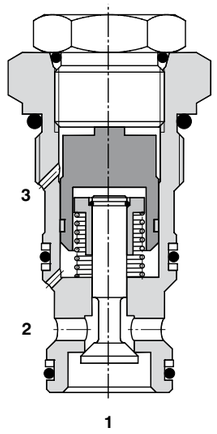
*Only for pilot ratio 3:1

ARGO HYTOS

Check Valve, Poppet Type, Pilot to Open

SC5H-R3/I

M27x1.5 • Q_{max} 90 l/min (24 GPM) • p_{max} 350 bar (5100 PSI)



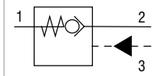
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional sealed piston
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 2 to 1 while under load normally inhibiting flow from 1 to 2. When pressure is applied at port 3, flow passes from port 1 to 2.
The cartridge valve has a pilot ratio of 4:1, meaning at least one fourth of the load pressure must be applied at port 3 to open the valve. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol



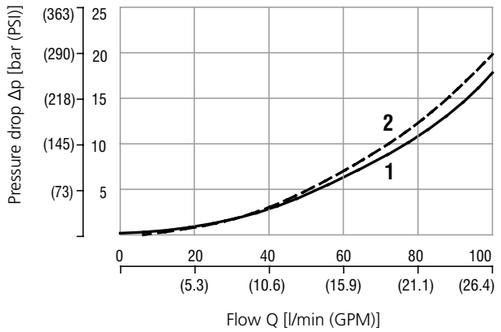
Technical Data

Valve size / Cartridge cavity		M27x1.5 / R3
Max. flow	l/min (GPM)	90 (23.8)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio		4:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.27 (0.60)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-R3*
Cavity details		SMT_0019	SMT-R3*
Spare parts		SP_8010	

Characteristics measured at ν = 40 mm²/s (195 SUS)

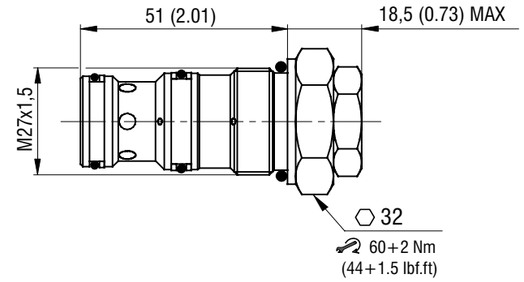
Pressure drop related to flow rate



1	free flow (2→1)
2	pilot open (1→2)

ARGO HYTOS

Dimensions in millimeters (inches)



Ordering Code

SC5H-R3/I 4 □ □ - □

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)

Check valve, pilot to open, poppet type **M27x1.5**

Seals
No designation NBR

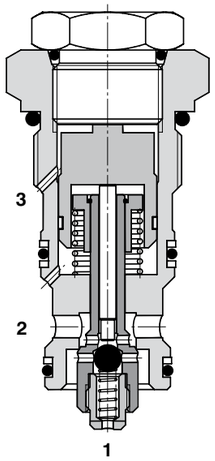
Optional pilot piston seal
No designation without seal
S with seal

Pilot ratio
standard **4:1**

Check Valve, Poppet Type, Pilot to Open, with Decompression Stage

SCD5H-R3/I

M27x1.5 • Q_{max} 90 l/min (24 GPM) • p_{max} 350 bar (5100 PSI)



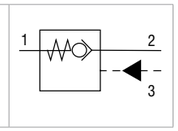
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Integrated decompression stage
- Optional sealed piston
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 2 to 1 while under load normally inhibiting flow from 1 to 2. When pressure is applied at port 3, flow passes from port 1 to 2.
The cartridge valve has a pilot ratio of 3:1, meaning at least one third of the load pressure must be applied at port 3 to open the valve. The valve includes a decompression stage with pilot ratio of 25:1 to reduce hydraulic shocks. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol



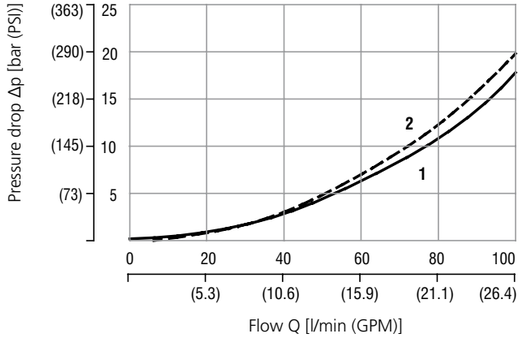
Technical Data

Valve size / Cartridge cavity		M27x1.5 / R3
Max. flow	l/min (GPM)	90 (23.8)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio decompression		25:1
Pilot ratio full flow		3:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.24 (0.53)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-R3*
Cavity details		SMT_0019	SMT-R3*
Spare parts		SP_8010	

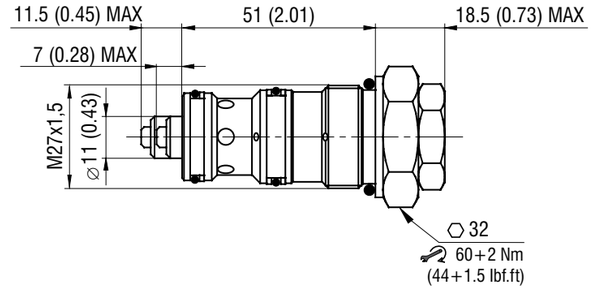
Characteristics measured at ν = 40 mm²/s (195 SUS)

Pressure drop related to flow rate



1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SCD5H-R3/I □ □ □ - □

Check valve, pilot to open, with decompression stage, poppet type M27x1.5

Pilot ratio
decompression 25:1
free flow 3:1 **3**

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)

Seals
No designation NBR

Pilot piston seal
No designation without pilot piston seal
S with pilot piston seal

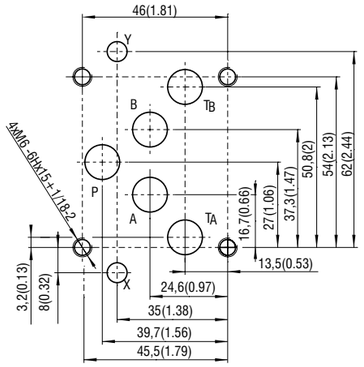
ARGO HYTOS

Pilot to Open Operated Check Valve, Poppet Type, Modular

VJR3-10/M

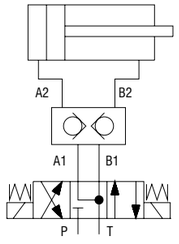
Size 10 (D05) • Q_{max} 140 l/min (37 GPM) • p_{max} 350 bar (5100 PSI)

ISO 4401-05-04-0-05



Ports P, A, B, T - max. ∅11,2 mm (0.44 in)

Typical circuit with pilot operated check valve

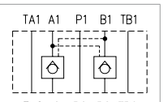


Technical Features

- Pilot to open operated check valve, poppet type with subplate mounting surface acc. to ISO 4401, DIN 24340 (CETOP 05) standards
- Sandwich plate design for use in vertical stacking assemblies
- Sharp-edged ground steel seats for for dirt-tolerant performance
- Leak-free closing and suitable for fast cycling with long life
- High flow capacity
- Valve is fitted with decompression stage facilitating steady opening without pressure peaks
- In the standard version, the valve housing is phosphated and steel parts zinc coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port A(B)1 to A(B)2 while normally closing flow from A(B)2 to A(B)1 with load. When pressure is applied at pilot port. The flow passes from port 2 to 1. The valve has a 6:1 pilot ratio. The check valve is also spring closed to secure holding position in static conditions without the load. The valve is offered with optional bias spring ranges for back-pressure control.

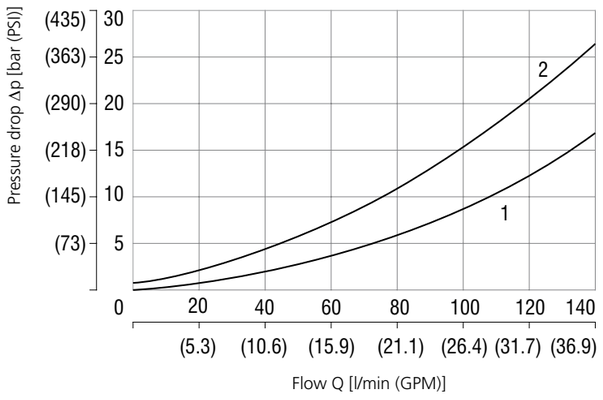
Symbol	

Technical Data

Valve size		10 (D05)
Max. flow	l/min (GPM)	140 (37)
Max. operating pressure	bar (PSI)	350 (5080)
Cracking pressure	bar (PSI)	2 (29)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)
Pilot ratio		6:1
Weight	kg (lbs)	2.2 (4.85)
	Datasheet	Type
General information	GI_0060	products and operating conditions
Mounting interface / tolerances	SMT_0019	Size 10
Spare parts	SP_8010	

Characteristics measured at ν = 32 mm²/s (156 SUS)

Pressure drop related to flow rate

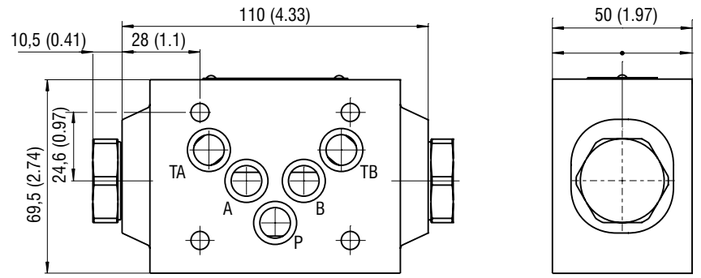


	Flow direction
1	A1→A2 (B1→B2)
2	A2→A1 (B2→B1)

ARGO HYTOS

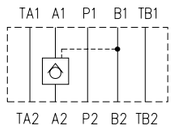
Dimensions in millimeters (inches)

Model "C„

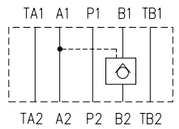


Functional symbols

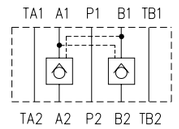
VJR3-10/MA



VJR3-10/MB



VJR3-10/MC



① valve side

② subplate or manifold side

Notes: The orientation of the symbol on the name plate corresponds with the valve function.

Ordering Code

VJR3-10 / M □ □ - □ □ - □

Check valve, pilot to open, poppet type, modular

Valve size

Modular sandwich plate design

Functional symbols
Check valve in line A — **A**
Check valve in line B — **B**
Check valve in line A and B — **C**

Pilot ratio
6:1 — **6**

Surface treatment
No designation body phosphated, steel parts zinc-coated (ZnCr-3), ISO9227 (240 h)
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals
No designation NBR
V FPM (Viton)

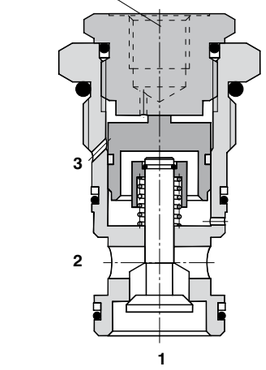
Cracking pressure
020 2.0 bar (29 PSI)

Check Valve, Poppet Type, Pilot to Open

SC5H-S3/I

1-5/16-12 UNF • Q_{max} 120 l/min (32 GPM) • p_{max} 350 bar (5100 PSI)

Optional External Pilot Port



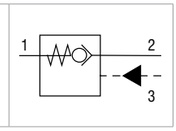
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- Optional external pilot port
- Optional sealed piston
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 2 to 1 while under load normally inhibiting flow from 1 to 2.
When pressure is applied at port 3, flow passes from port 1 to 2.
The cartridge valve has a pilot ratio of 3:1, meaning at least one third of the load pressure must be applied at port 3 to open the valve. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol



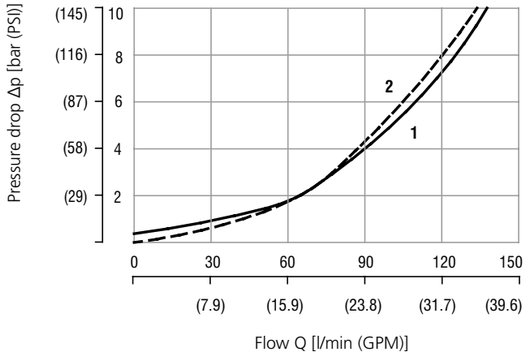
Technical Data

Valve size / Cartridge cavity		1-5/16-12 UNF-2A / S3
Max. flow	l/min (GPM)	120 (31.7)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio		3:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.28 (0.62)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-S3*
Cavity details		SMT_0019	SMT-S3*
Spare parts		SP_8010	

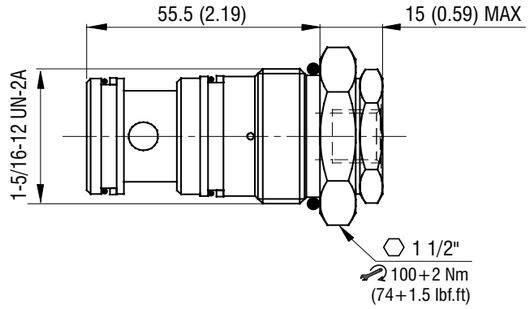
Characteristics measured at ν = 40 mm²/s (195 SUS)

Pressure drop related to flow rate



1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SC5H-S3/I 3 □ □ - □

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)

Check valve, pilot to open, poppet type — **1-5/16-12 UNF**

Seals
No designation NBR

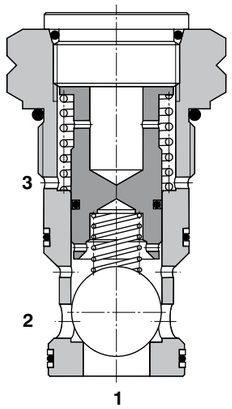
Pilot piston seal
No designation without seal
S with seal

Pilot ratio
standard **3:1**

Check Valve, Poppet Type, Pilot to Close

SCC5H-Q3/I

M20x1.5 • Q_{max} 30 l/min (8 GPM) • p_{max} 350 bar (5100 PSI)

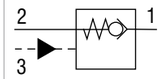


Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 1 to 2 while normally inhibiting flow from 2 to 1 under load. When pressure is applied at port 3, the poppet locks the ball valve in place, inhibiting flow from port 1 to 2.
The cartridge valve has a 2:1 pilot ratio. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol	

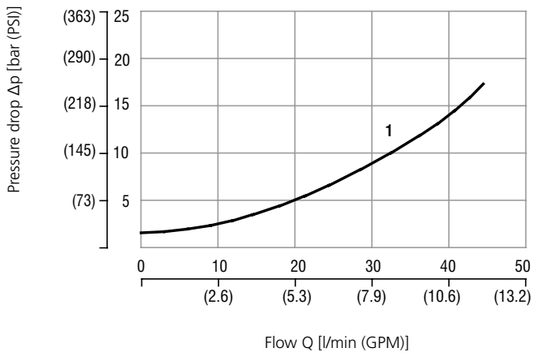
Technical Data

Valve size / Cartridge cavity		M20x1.5 / Q3
Max. flow	l/min (GPM)	30 (8)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio		2:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.08 (0.18)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-Q3*
	Sandwich mounted	SB-04(06)_0028	SB-*Q3*
Cavity details		SMT_0019	SMT-Q3*
Spare parts		SP_8010	

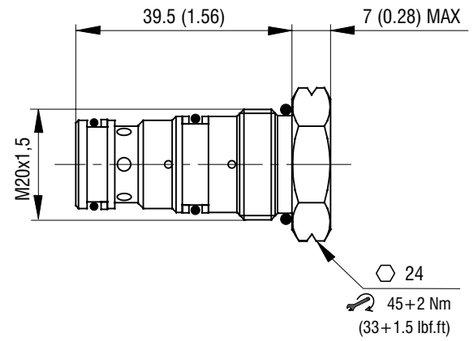
Characteristics measured at ν = 40 mm²/s (195 SUS)

Pressure drop related to flow rate



1	Free flow (1→2)

Dimensions in millimeters (inches)



Ordering Code

SCC5H-Q3/I 2 ☐ - ☐

Check valve, pilot to close, poppet type — **M20x1.5**

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)

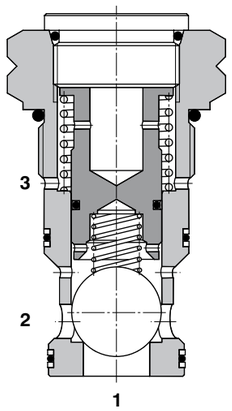
Pilot ratio
standard — **2:1**

No designation — **Seals** NBR

Check Valve, Poppet Type, Pilot to Close

SCC5H-S3/I

1-5/16-12 UNF • Q_{max} 120 l/min (32 GPM) • p_{max} 350 bar (5100 PSI)



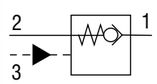
Technical Features

- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Leak-free closing, suitable for fast cycling with long life
- High flow capacity
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

The valve allows flow to pass from port 1 to 2 while normally inhibiting flow from 2 to 1 under load. When pressure is applied at port 3, the poppet locks the ball valve in place, inhibiting flow from port 1 to 2.
The cartridge valve has a 2:1 pilot ratio. The check valve is spring closed to secure the holding position in static conditions and without load.

Symbol



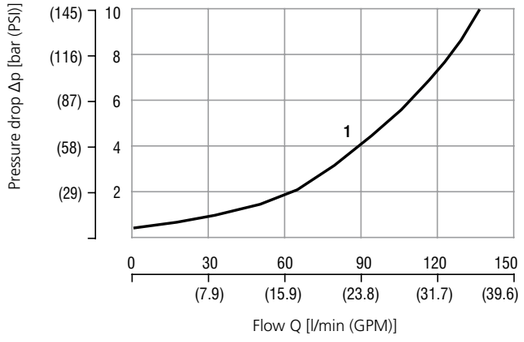
Technical Data

Valve size / Cartridge cavity		1-5/16-12 UNF-2A / S3
Max. flow	l/min (GPM)	120 (31.7)
Max. operating pressure	bar (PSI)	350 (5080)
Pilot ratio		2:1
Fluid temperature range (NBR)	°C (°F)	-20 .... +90 (-4 ... +194)
Mass	kg (lbs)	0.28 (0.62)

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-S3*
Cavity details		SMT_0019	SMT-S3*
Spare parts		SP_8010	

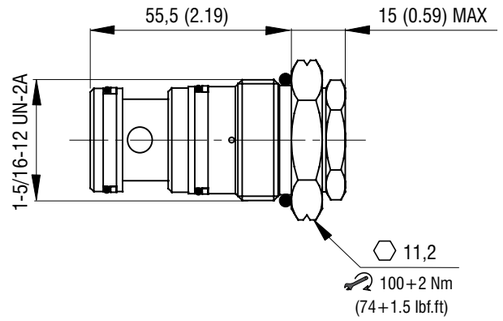
Characteristics measured at v = 40 mm²/s (195 SUS)

Pressure drop related to flow rate



1	Free flow (1→2)

Dimensions in millimeters (inches)



Ordering Code

SCC5H-S3/I 2 □ - □

Check valve, pilot to close poppet type **1-5/16-12 UNF**

Pilot ratio
standard **2:1**

No designation **Seals** NBR

Surface treatment
A zinc-coated (ZnCr-3), ISO 9227 (240 h)