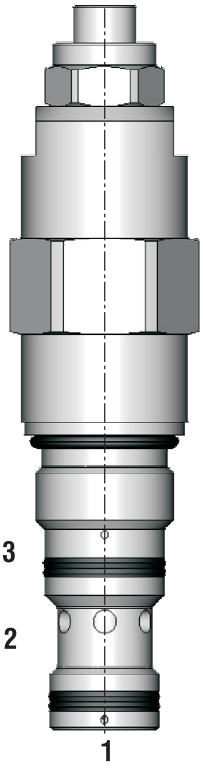
Overcenter Valve

SO5A-BP3

7/8-14 UNF • Q_{max} 40 l/min (11 GPM) • p_{max} 420 bar (6100 PSI)



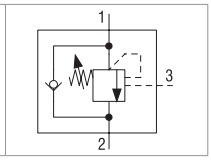
Technical Features

› The valve prevents runaway ahead of the pump in the event of a negative load
› Load-holding with leak-free closing poppet when the directional control valve is in neutral position
› Pressure relief function protecting the actuator against overloading and pressure peaks
› Integrated check valve acting as an anti-cavitation valve
› When installed close to actuator the valve can be used as a hose burst valve
› Setting can be performed during machine operation = leak free closing of adjustable element
› Wide relief pressure range of setting up to 420 bar (6100 PSI)
› In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function.

Symbol



Technical Data

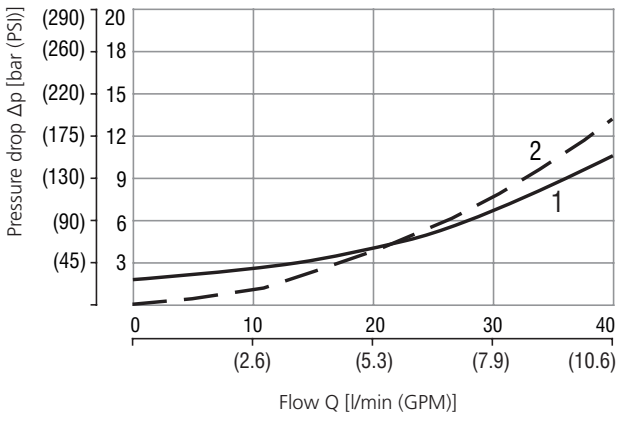
Valve size / Cartridge cavity		7/8-14 UNF-2A / BP3 (C-10-3S)		
Max. flow	l/min (GPM)	40 (10.6)		
Relief pressure range		21	32	42
Max. load induced pressure	bar (PSI)	175 (2540)	265 (3840)	350 (5080)
Max. relief pressure	bar (PSI)	210 (3050)	320 (4640)	420 (6090)
Fluid temperature range (NBR)	°C (°F)	-30... +100 (-22... +212)		
Fluid temperature range (FPM)	°C (°F)	-20... +120 (-4... +248)		
Pilot ratio		2.5:1	5:1	8:1 10:1
Leakage	ml/min	0.3 (5 drops per min)		
Weight	kg (lbs)	0.29 (0.64)		

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-BP3*
	Sandwich mounted	SB-04(06)_0028	SB-BP3*
Cavity details		SMT_0019	SMT-BP3*
Spare parts		SP_8010	

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

Pressure drop related to flow rate

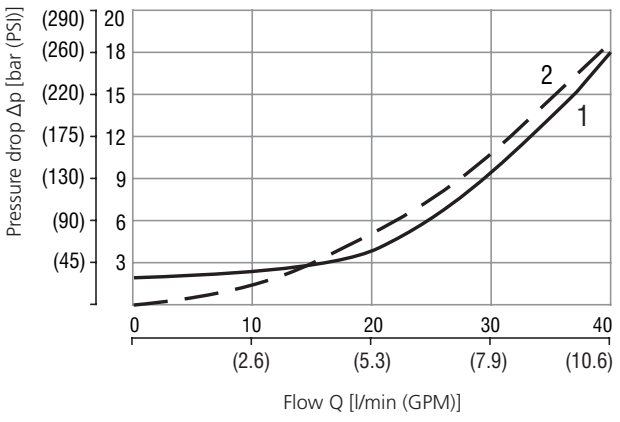
Pilot ratio 2.5:1 and 5:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Pressure drop related to flow rate

Pilot ratio 8:1



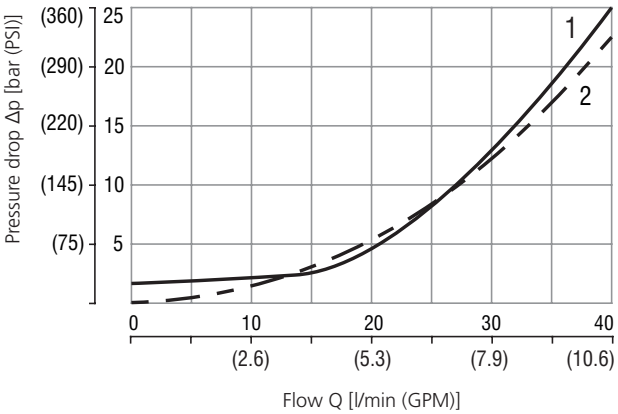
Flow	
1	free flow (2→1)
2	pilot open (1→2)

Subject to change · SO5A-BP3_5199_2en_08/2020

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

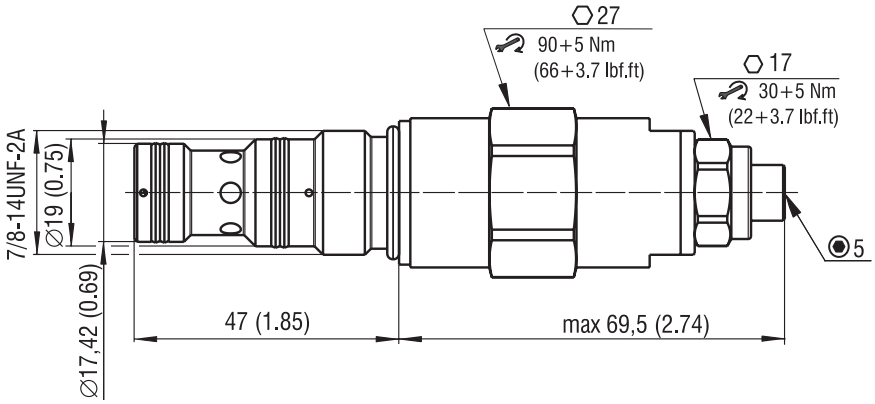
Pressure drop related to flow rate

Pilot ratio 10:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SO5A - BP3 / H □ - □ S □ - B

Overcenter valve

Valve cavity
7/8-14 UNF (C-10-3S)

Model
High performance

Pilot ratio

standard	2.5:1	**2**
	5:1	**5**
	8:1	**8**
	10:1	**10**

Relief pressure range

70 - 210 bar (1020 - 3050 PSI)	**21**
106 - 320 bar (1540 - 4640 PSI	**32**
140 - 420 bar (2030 - 6090 PSI)	**42**

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

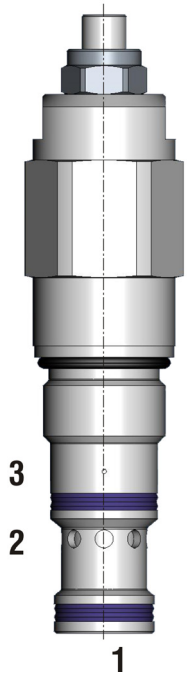
No designation	NBR
V	FPM (Viton)

Adjustment option
allen head (Hex. 5) without protective cap

Overcenter Valve

SO5A-CP3

1-1/16-12 UN • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



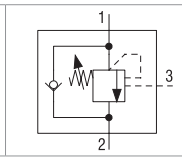
Technical Features

› The valve prevents runaway ahead of the pump in the event of a negative load
› Load-holding with leak-free closing poppet when the directional control valve is in neutral position
› Pressure relief function protecting the actuator against overloading and pressure peaks
› Integrated check valve acting as an anti-cavitation valve
› When installed close to actuator the valve can be used as a hose burst valve
› Setting can be performed during machine operation = leak free closing of adjustable element
› Wide relief pressure range of setting up to 350 bar (5100 PSI)
› In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function.

Symbol



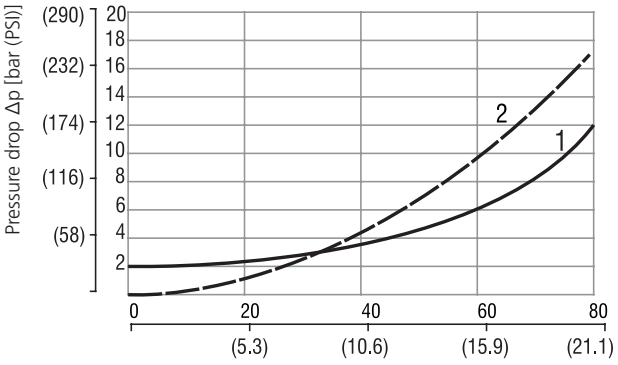
Technical Data

Valve size / Cartridge cavity			1-1/16-12 UN-2A / CP3 (C-12-3S)	
Max. flow		l/min (GPM)	80 (21.1)	
Relief pressure range			22	35
Max. load induced pressure		bar (PSI)	180 (2610)	280 (4060)
Max. relief pressure		bar (PSI)	225 (3260)	350 (5080)
Fluid temperature range (NBR)		°C (°F)	-30... +100 (-22... +212)	
Fluid temperature range (FPM)		°C (°F)	-20... +120 (-4... +248)	
Pilot ratio			2.5:1 5:1	8:1
Leakage		ml/min	0.3 (5 drops per min)	
Weight		kg (lbs)	0.40 (0.88)	
		Datasheet	Type	
General information		GI_0060	Products and operating conditions	
Valve bodies	In-line mounted	SB_0018	SB-CP3*	
	Sandwich mounted	SB-04(06)_0028	SB-CP3*	
Cavity details		SMT_0019	SMT-CP3*	
Spare parts		SP_8010		

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

Pressure drop related to flow rate

Pilot ratio 2.5:1 and 5:1

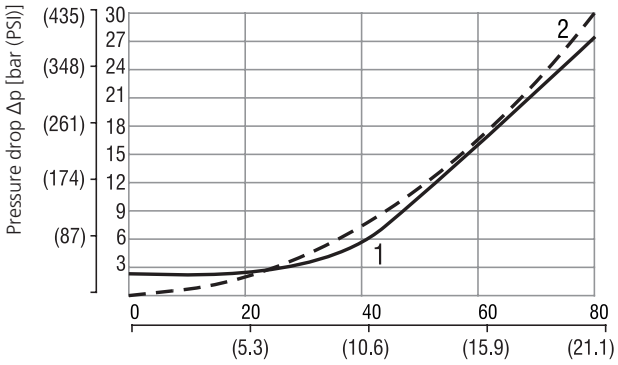


Flow Q [l/min (GPM)]

Flow	
1	free flow (2→1)
2	pilot open (1→2)

Pressure drop related to flow rate

Pilot ratio 8:1

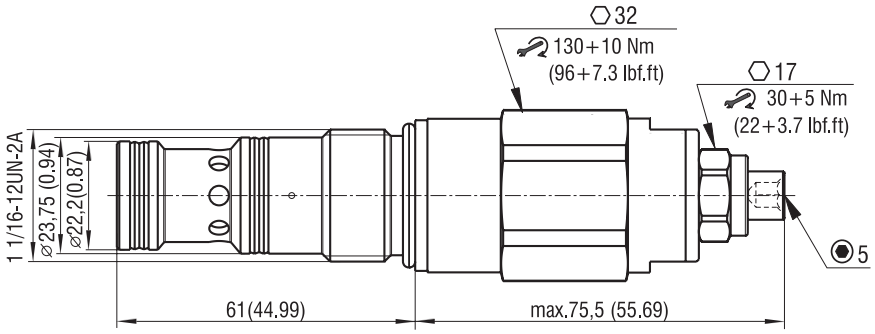


Flow Q [l/min (GPM)]

Flow	
1	free flow (2→1)
2	pilot open (1→2)

Subject to change · SO5A-CP3_5194_1en_06/2019

Dimensions in millimeters (inches)



Ordering Code

SO5A - CP3 / H ☐ - ☐ **S** ☐ **- B**

Overcenter valve

Valve cavity
1-1/16-12 UN (C-12-3S)

Model
High performance

Pilot ratio

	2.5:1	**2**
standard	5:1	**5**
	8:1	**8**

Relief pressure range

70 - 225 bar (1020 - 3260 PSI)	**22**
190 - 350 bar (2760 - 5080 PSI)	**35**

Adjustment option
allen head (Hex. 5) without protective cap

Seals

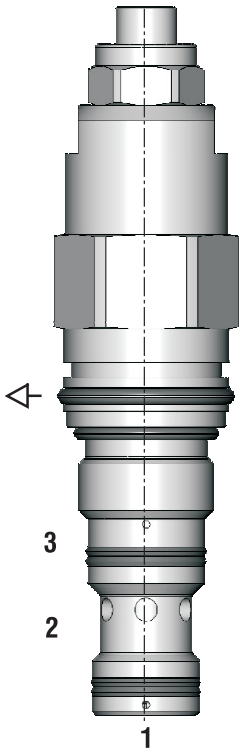
No designation	NBR
V	FPM (Viton)

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

Overcenter Valve Fully Balanced, Atmospheric Ventilation

SOB5A-BP3

7/8-14 UNF • Q_{max} 40 l/min (11 GPM) • p_{max} 420 bar (6100 PSI)



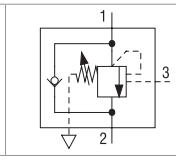
Technical Features

- The valve prevents runaway ahead of the pump in the event of a negative load
- Load-holding with leak-free closing poppet when the directional control valve is in neutral position
- Pressure relief function protecting the actuator against overloading and pressure peaks
- Integrated check valve acting as an anti-cavitation valve
- When installed close to actuator the valve can be used as a hose burst valve
- Back pressure has got negligible effect on relief setting nor the required pilot pressure
- Setting can be performed during machine operation = leak free closing of adjustable element
- Wide relief pressure range of setting, in standard up to 420 bar (6100 PSI)
- In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function. Back pressure at port 2 has got negligible effect to the pressure relief setting and the required pilot pressure.

Symbol



Technical Data

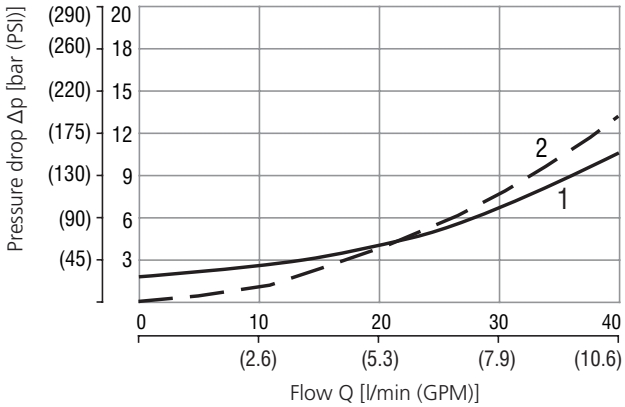
Valve size / Cartridge cavity		7/8-14 UNF-2A / BP3 (C-10-3S)		
Max. flow	l/min (GPM)	40 (10.6)		
Relief pressure range		21	32	42
Max. load induced pressure	bar (PSI)	175 (2540)	265 (3840)	350 (5080)
Max. relief pressure	bar (PSI)	210 (3050)	320 (4640)	420 (6090)
Fluid temperature range (NBR)	°C (°F)	-30... +100 (-22... +212)		
Fluid temperature range (FPM)	°C (°F)	-20... +120 (-4... +248)		
Pilot ratio		2.5:1		5:1
Leakage	ml/min	0.3 (5 drops per min)		
Weight	kg (lbs)	0.29 (0.64)		

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-BP3*
	Sandwich mounted	SB-04(06)_0028	SB-BP3*
Cavity details		SMT_0019	SMT-BP3*
Spare parts		SP_8010	

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

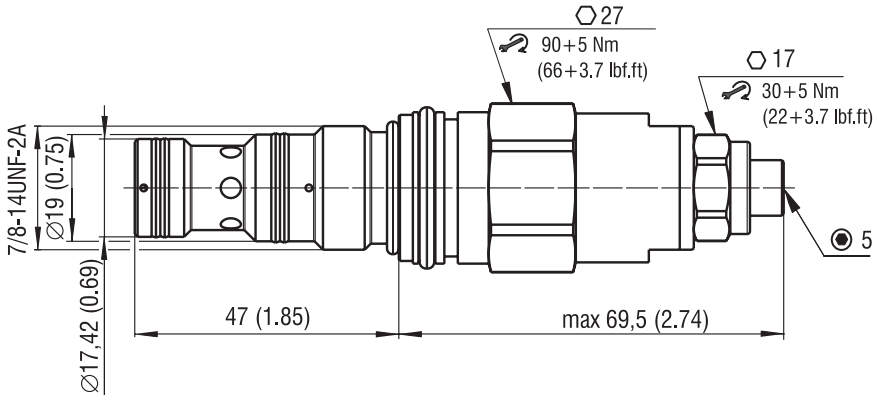
Pressure drop related to flow rate

Pilot ratio 2.5:1 and 5:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SOB5A - BP3 / H ☐ **-** ☐ **S** ☐ **- B**

Overcenter valve fully balanced, atmospheric ventilation

Valve cavity
7/8-14 UNF (C-10-3S)

Model
High performance

Pilot ratio

	2.5:1	**2**
standard	5:1	**5**

Relief pressure range

70 - 210 bar (1020 - 3050 PSI)	**21**
106 - 320 bar (1540 - 4640 PSI)	**32**
140 - 420 bar (2030 - 6090 PSI)	**42**

Adjustment option
allen head (Hex. 5) without protective cap

Seals

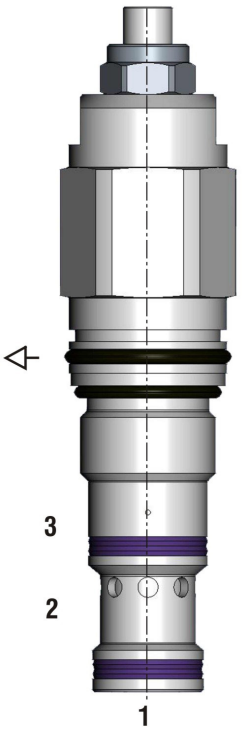
No designation	NBR
V	FPM (Viton)

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

Overcenter Valve Fully Balanced, Atmospheric Ventilation

SOB5A-CP3

1-1/16-12 UN • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



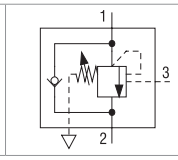
Technical Features

- The valve prevents runaway ahead of the pump in the event of a negative load
- Load-holding with leak-free closing poppet when the directional control valve is in neutral position
- Pressure relief function protecting the actuator against overloading and pressure peaks
- Integrated check valve acting as an anti-cavitation valve
- When installed close to actuator the valve can be used as a hose burst valve
- Back pressure has got negligible effect on relief setting nor the required pilot pressure
- Setting can be performed during machine operation = leak free closing of adjustable element
- Wide relief pressure range of setting up to 350 bar (5100 PSI)
- In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function. Back pressure at port 2 has got negligible effect to the pressure relief setting and the required pilot pressure.

Symbol



Technical Data

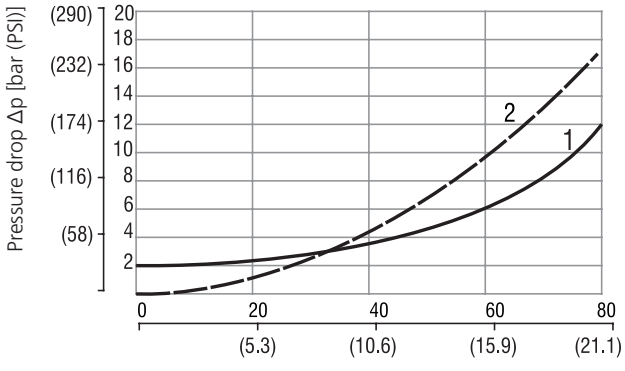
Valve size / Cartridge cavity		1-1/16-12 UN-2A / CP3 (C-12-3S)	
Max. flow	l/min (GPM)	80 (21.1)	
Relief pressure range		22	35
Max. load induced pressure	bar (PSI)	180 (2610)	280 (4060)
Max. relief pressure	bar (PSI)	225 (3260)	350 (5080)
Fluid temperature range (NBR)	°C (°F)	-30... +100 (-22... +212)	
Fluid temperature range (FPM)	°C (°F)	-20... +120 (-4... +248)	
Pilot ratio		2.5:1, 5:1	
Leakage	ml/min	0.3 (5 drops per min)	
Weight	kg (lbs)	0.40 (0.88)	

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-CP3*
	Sandwich mounted	SB-04(06)_0028	SB-CP3*
Cavity details		SMT_0019	SMT-CP3*
Spare parts		SP_8010	

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

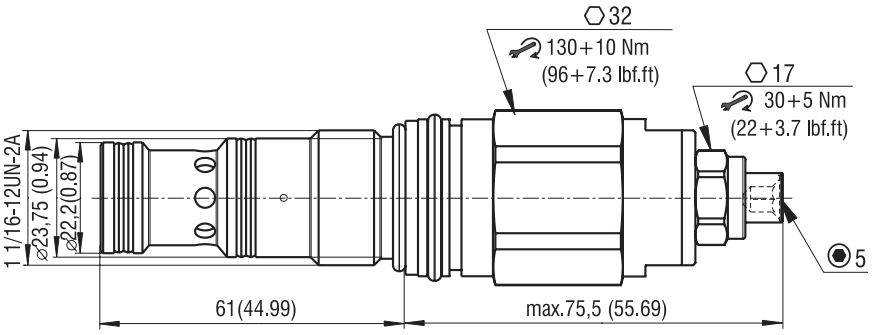
Pressure drop related to flow rate

Pilot ratio 2.5:1 and 5:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SOB5A - CP3 / H ☐ - ☐ S ☐ - B

Overcenter Valve Fully Balanced, Atmospheric Ventilation

Valve cavity
1-1/16-12 UN (C-12-3S)

Model
High performance

Pilot ratio

	2.5:1	**2**
standard	5:1	**5**

Relief pressure range

70 - 225 bar (1020 - 3260 PSI)	**22**
190 - 350 bar (2760 - 5080 PSI)	**35**

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

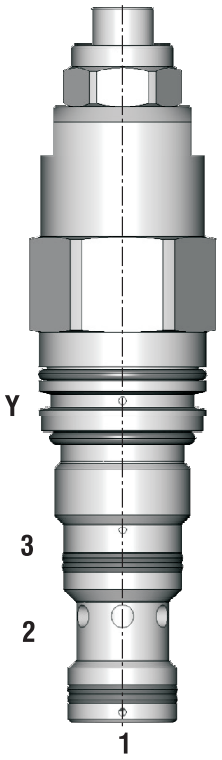
No designation	NBR
V	FPM (Viton)

Adjustment option
allen head (Hex. 5) without protective cap

Overcenter Valve Fully Balanced, Internal Drain

SOBD5A-BPY3

7/8-14 UNF • Q_{max} 40 l/min (11 GPM) • p_{max} 420 bar (6100 PSI)



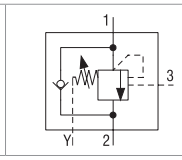
Technical Features

- The valve prevents runaway ahead of the pump in the event of a negative load
- Load-holding with leak-free closing poppet when the directional control valve is in neutral position
- Pressure relief function protecting the actuator against overloading and pressure peaks
- Integrated check valve acting as an anti-cavitation valve
- When installed close to actuator the valve can be used as a hose burst valve
- Back pressure has got negligible effect on relief setting nor the required pilot pressure
- Setting can be performed during machine operation = leak free closing of adjustable element
- Wide relief pressure range of setting, in standard up to 420 bar (6100 PSI)
- Spring chamber is vented to external drainage port Y.
- In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function. Back pressure at port 2 has got negligible effect to the pressure relief setting and the required pilot pressure.

Symbol



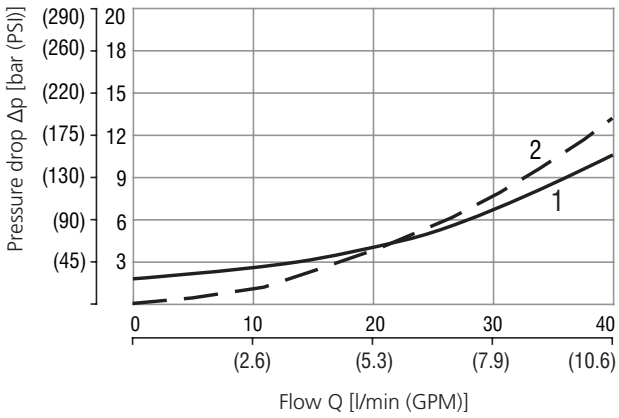
Technical Data

Valve size / Cartridge cavity			7/8-14 UNF-2A / BPY3		
Max. flow		l/min (GPM)	40 (10.6)		
Relief pressure range			21	32	42
Max. load induced pressure		bar (PSI)	175 (2540)	265 (3840)	350 (5080)
Max. relief pressure		bar (PSI)	210 (3050)	320 (4640)	420 (6090)
Fluid temperature range (NBR)		°C (°F)	-30... +100 (-22... +212)		
Fluid temperature range (FPM)		°C (°F)	-20... +120 (-4... +248)		
Pilot ratio			2.5:1		5:1
Leakage		ml/min	0.3 (5 drops per min)		
Weight		kg (lbs)	0.29 (0.64)		
		Datasheet	Type		
General information		GI_0060	Products and operating conditions		
Valve bodies	In-line mounted	SB_0018	SB-BPY3*		
	Sandwich mounted	SB-04(06)_0028	SB-06-BPY3*		
Cavity details		SMT_0019	SMT-BPY3*		
Spare parts		SP_8010			

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

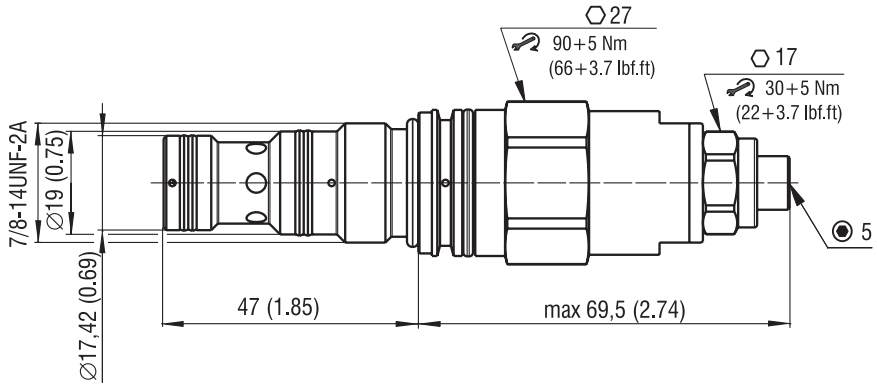
Pressure drop related to flow rate

Pilot ratio 2.5:1 and 5:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SOBD5A - BPY3 / H ☐ - ☐ S ☐ - B

Overcenter valve fully balanced, internal drain
Vented to Y port

Valve cavity
7/8-14 UNF

Model
High performance

Pilot ratio

	2.5:1	**2**
standard	5:1	**5**

Relief pressure range

70 - 210 bar (1020 - 3050 PSI)	**21**
106 - 320 bar (1540 - 4640 PSI)	**32**
140 - 420 bar (2030 - 6090 PSI)	**42**

Seals

No designation	NBR
V	FPM (Viton)

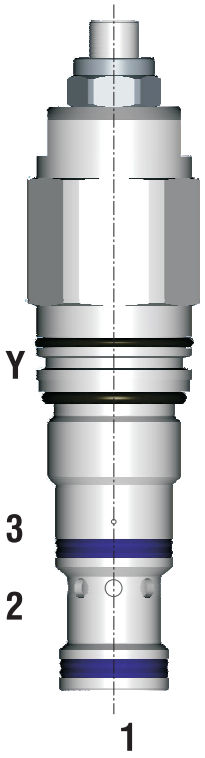
Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)

Adjustment option
allen head (Hex. 5) without protective cap

Overcenter Valve Fully Balanced, Internal Drain

SOBD5A-CPY3

1-1/16-12 UN • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



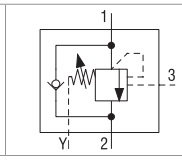
Technical Features

- The valve prevents runaway ahead of the pump in the event of a negative load
- Load-holding with leak-free closing poppet when the directional control valve is in neutral position
- Pressure relief function protecting the actuator against overloading and pressure peaks
- Integrated check valve acting as an anti-cavitation valve
- When installed close to actuator the valve can be used as a hose burst valve
- Back pressure has got negligible effect on relief setting nor the required pilot pressure
- Setting can be performed during machine operation = leak free closing of adjustable element
- Wide relief pressure range of setting, in standard up to 350 bar (5100 PSI)
- Spring chamber is vented to external drainage port Y.
- In the standard version, the valve is zinc-coated for 520 h protection acc. to ISO 9227

Functional Description

Poppet-type, screw-in motion control valve designed to control the runaway of a negative load. The built-in check valve allows reverse flow into the actuator, which is protected by the internal pressure relief function. Back pressure at port 2 has got negligible effect to the pressure relief setting and the required pilot pressure.

Symbol



Technical Data

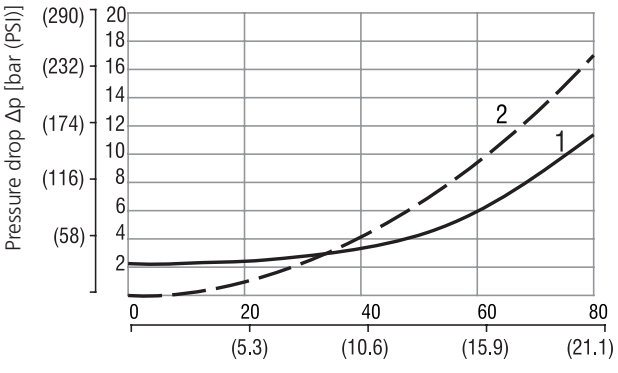
Valve size / Cartridge cavity		1-1/16-12 UN-2A / CPY3	
Max. flow	l/min (GPM)	80 (21.1)	
Relief pressure range		22	35
Max. load induced pressure	bar (PSI)	180 (2610)	280 (4060)
Max. relief pressure	bar (PSI)	225 (3260)	350 (5080)
Fluid temperature range (NBR)	°C (°F)	-30... +100 (-22... +212)	
Fluid temperature range (FPM)	°C (°F)	-20... +120 (-4... +248)	
Pilot ratio		2.5:1, 5:1	
Leakage	ml/min	0.3 (5 drops per min)	
Weight	kg (lbs)	0.40 (0.88)	

		Datasheet	Type
General information		GI_0060	Products and operating conditions
Valve bodies	In-line mounted	SB_0018	SB-CPY3*
	Sandwich mounted	SB-04(06)_0028	-
Cavity details		SMT_0019	SMT-CPY3*
Spare parts		SP_8010	

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

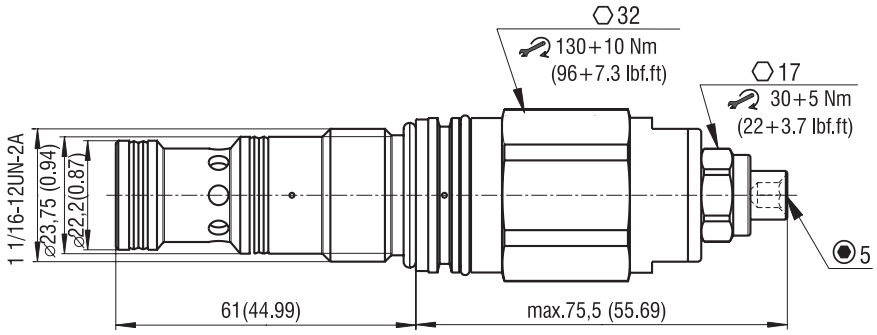
Pressure drop related to flow rate

Pilot ratio 2.5:1 and 5:1



Flow	
1	free flow (2→1)
2	pilot open (1→2)

Dimensions in millimeters (inches)



Ordering Code

SOBD5A - CPY3 / H ☐ - ☐ S ☐ - B

Overcenter valve fully balanced, internal drain
Vented to Y port

Valve cavity
1-1/16-12 UN

Model
High performance

Pilot ratio

	2.5:1	**2**
standard	5:1	**5**

Relief pressure range

70 - 225 bar (1020 - 3260 PSI)	**22**
190 - 350 bar (2760 - 5080 PSI)	**35**

Seals

No designation	NBR
V	FPM (Viton)

Adjustment option
allen head (Hex. 5) without protective cap

Surface treatment
zinc-coated (ZnNi), ISO 9227 (520 h)