



Pressure Reducing Valves Technical Information

Quick Reference

Pressure Reducing, Non-Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP230-2	SDC10-3	Pressure Reducing, Non-Relieving,	40 l/min [11 US gal/min]	210 bar [3000 psi]	PR - 4
	PRC 06	NCS06/3	Direct Acting	40 l/min [11 US gal/min]	315 bar [4500 psi]	PR - 5
Pressure Reducing, Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP230-1	SDC10-3	Pressure Reducing, Relieving, Direct Acting	40 l/min [11 US gal/min]	210 bar [3000 psi]	PR - 6
Pressure Reducing, Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	PRR10-PVG	SDC10-3	Pressure Reducing, Relieving, Direct Acting, Designed for PVG Actuators	40 l/min [11 US gal/min]	210 bar [3000 psi]	PR - 7
Pressure Reducing, Non-Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP230-4	SDC10-3	Pressure Reducing, Non-Relieving,	40 l/min [11 US gal/min]	350 bar [5000 psi]	PR - 8
	PPRC 06	NCS06/3	Pilot Operated	40 l/min [11 US gal/min]	315 bar [4500 psi]	PR - 9
Pressure Reducing, Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	PRMP 064	SDC10-3	Pressure Reducing, Relieving,	40 l/min [11 US gal/min]	315 bar [4500 psi]	PR - 10
	CP231-3	CP12-3S	Pilot Operated	115 l/min [30 US gal/min]	350 bar [5000 psi]	PR - 11
Pressure Reducing, Relieving	Model No.	Cavity	Description	Flow*	Pressure	Page
	PRR10-DRD	SDC10-4	Pressure Reducing, Relieving, Direct Acting with Damping Port	38 l/min [10 US gal/min]	207 bar [3000 psi]	PR - 12

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

PRESSURE REDUCING VALVES

Pressure reducing valves are pressure limiting devices that limit pressure in one portion of a circuit while leaving system pressure unaffected. They are available in direct-acting and pilot-operated types and as pressure reducing/relieving valves or as pressure reducing valves only.

Pressure reducing valves



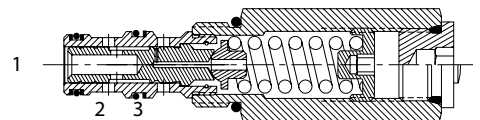
DIRECT ACTING PRESSURE REDUCING / RELIEVING VALVES

Direct-acting pressure reducing/relieving valves allow flow to pass from 2 to 1 until the pressure at 1 reaches the predetermined setting, at which point the spool shifts to restrict input flow from 2 (reducing mode) or to open flow from 1 to 3 (relieving mode) as needed to maintain the regulated pressure at 1.

Advantages of direct-acting pressure reducing valves are:

- Fast response
- Economical

Direct acting pressure reducing valve



A typical application for direct-acting pressure reducing valves is for pressure control in systems requiring two or more different pressure settings. These valves are best suited for low flow applications such as hydraulic brake or motor shift.



Pressure Reducing Valves Technical Information

Application Notes

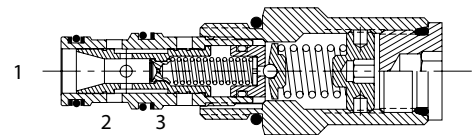
PILOT-OPERATED PRESSURE REDUCING / RELIEVING VALVES

Pilot-operated pressure reducing/relieving valves operate similarly to direct-acting pressure reducing/relieving valves -- the spool allows flow to pass from 2 to 1 until the pressure at 1 reaches the predetermined setting and forces the pilot poppet off its seat. This creates a pressure differential across the spool that causes the spool to shift and maintain regulated pressure at 1 in the same manner as the direct-acting pressure reducing/relieving valve.

Advantages of pilot-operated relief valves are:

- Smooth, stable response
- High pressure capability
- Precise pressure control with varying flow rates

Pilot-operated pressure reducing valve



A typical application for pilot-operated pressure reducing valves is for pressure control in systems requiring two or more different pressure settings where high pressure capability and/or extremely precise pressure control is required.



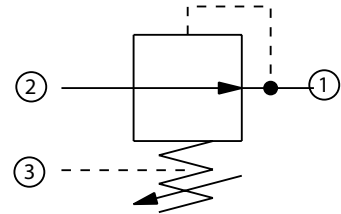
Pressure Reducing Valves Technical Information

Pressure Reducing, Non-Relieving, Direct Acting CP230-2

OPERATION

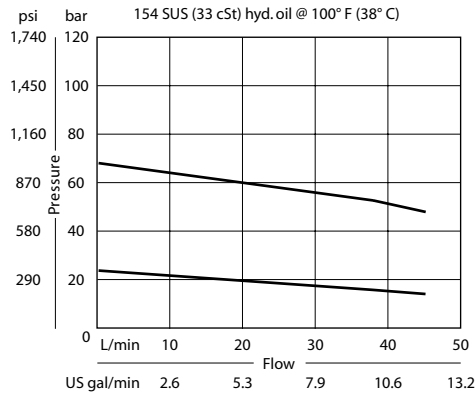
This is a direct-acting pressure-reducing (non-relieving) valve.

Schematic



SPECIFICATIONS

Theoretical performance



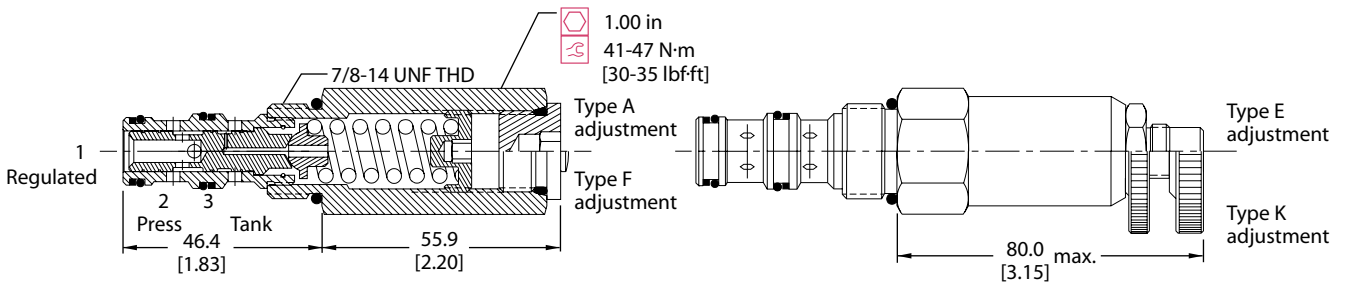
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [11 US gal/min]
Weight	0.25 kg [0.56 lb]
Cavity	SDC10-3

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP230 - 2 - B - 6S - A - C - 100

<p>Seals</p> <p>B = Buna-N V = Viton</p> <p>Housing and ports</p> <p>0 = No Housing SE3B = Al, 3/8 BSP SE4B = Al, 1/2 BSP 6S = Al, #6 SAE 8S = Al, #8 SAE</p> <p>Other housings available</p> <p>Adjustment option</p> <p>A = Internal E = External F = Tamper resistant K = Knob</p>	<p>Seal kit</p> <p>120027 120028</p> <p>Housing P/N</p> <p>No Housing SDC10-3-SE-3B SDC10-3-SE-4B CP10-3-6S CP10-3-8S</p>	<p>Crack pressure</p> <p>Code x 10 = psi Example: 100 = 1000 psi</p> <p>Pressure range</p> <table border="0"> <tr> <td>A =</td> <td>4-28</td> <td>[psi]</td> </tr> <tr> <td>Std. setting</td> <td>17</td> <td>[250]</td> </tr> <tr> <td>B =</td> <td>5-55</td> <td>[75-800]</td> </tr> <tr> <td>Std. setting</td> <td>28</td> <td>[400]</td> </tr> <tr> <td>C =</td> <td>7-97</td> <td>[100-1400]</td> </tr> <tr> <td>Std. setting</td> <td>69</td> <td>[1000]</td> </tr> <tr> <td>D =</td> <td>34-166</td> <td>[500-2400]</td> </tr> <tr> <td>Std. setting</td> <td>103</td> <td>[1500]</td> </tr> </table>	A =	4-28	[psi]	Std. setting	17	[250]	B =	5-55	[75-800]	Std. setting	28	[400]	C =	7-97	[100-1400]	Std. setting	69	[1000]	D =	34-166	[500-2400]	Std. setting	103	[1500]
A =	4-28	[psi]																								
Std. setting	17	[250]																								
B =	5-55	[75-800]																								
Std. setting	28	[400]																								
C =	7-97	[100-1400]																								
Std. setting	69	[1000]																								
D =	34-166	[500-2400]																								
Std. setting	103	[1500]																								



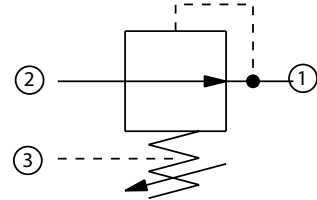
Pressure Reducing Valves Technical Information

Pressure Reducing, Non-Relieving, Direct Acting PRC 06

OPERATION

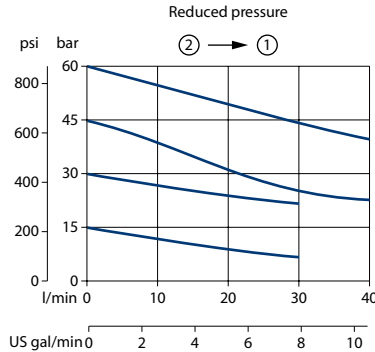
This is a direct-acting pressure reducing (non-relieving) valve.

Schematic



SPECIFICATIONS

Theoretical performance



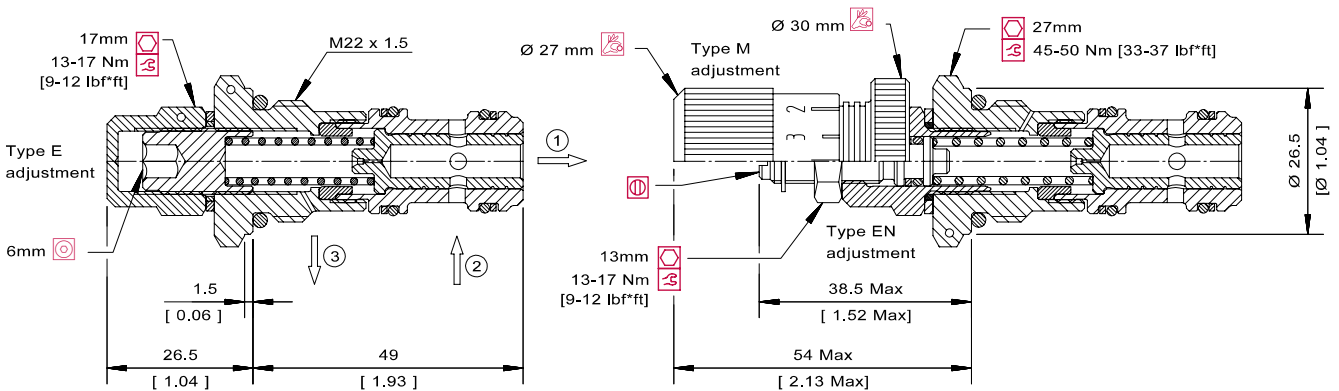
Specifications

Rated pressure	315 bar [4500 psi]
Rated Flow	40 l/min [11 US gal/min]
Weight	0.14 kg [0.31 lb]
Cavity	NCS06/3

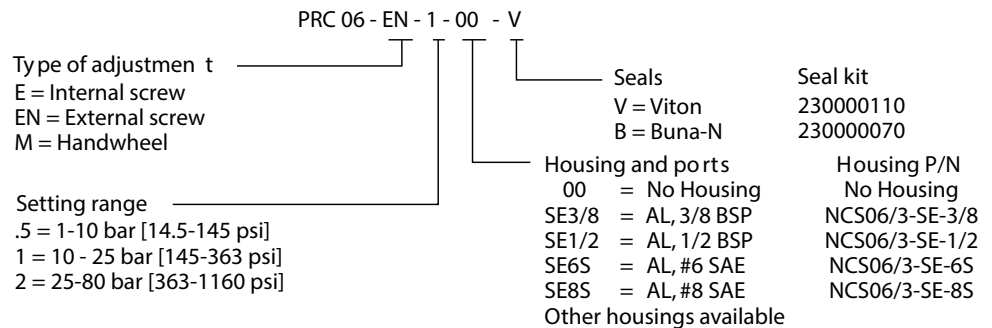
DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION



To order this valve with a specific factory setting, contact your Danfoss ICS representative



Pressure Reducing Valves Technical Information

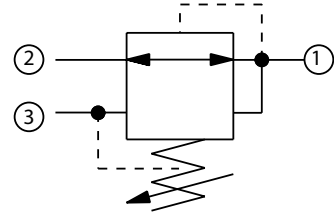
Pressure Reducing, Relieving, Direct Acting

CP230-1

OPERATION

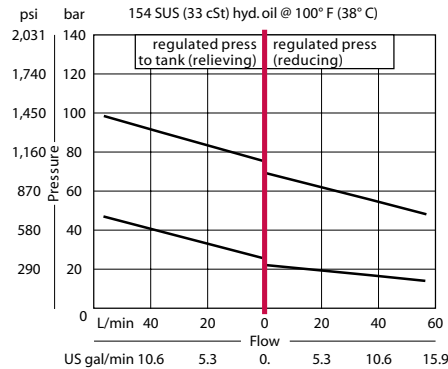
This is a direct-acting pressure reducing/relieving valve.

Schematic



SPECIFICATIONS

Theoretical performance



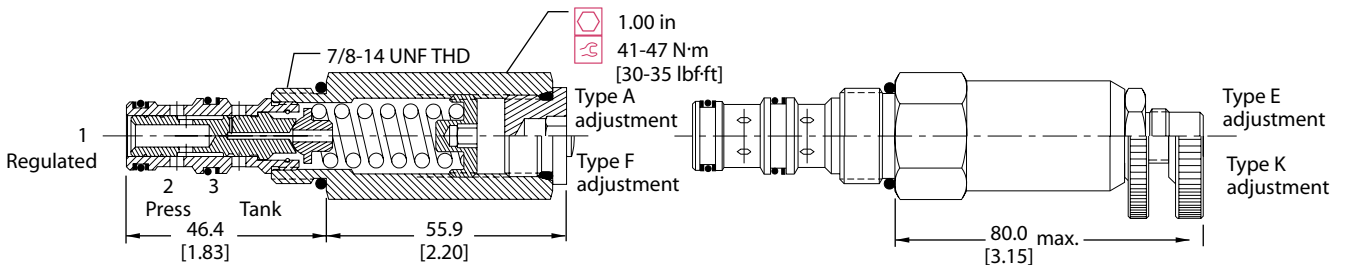
Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [11 US gal/min]
Weight	0.23 kg [0.51 lb]
Cavity	SDC10-3

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP230 - 1 - B - 6S - A - C - 100

Seals
B = Buna-N
V = Viton

Seal kit
120570
120571

Housing and ports
0 = No Housing
SE3B = Al, 3/8 BSP
SE4B = Al, 1/2 BSP
6S = Al, #6 SAE
8S = Al, #8 SAE
Other housings available

Housing P/N
No Housing
SDC10-3-SE-3B
SDC10-3-SE-4B
CP10-3-6S
CP10-3-8S

Pressure setting
Code x 10psi (0.69 bar)
Example: 100 = 1000 psi (70 bar)

Pressure range	
A =	4-28 bar [50-400] [psi]
Std. setting	17 [250]
B =	5-55 bar [75-800]
Std. setting	28 [400]
C =	7-97 bar [100-1400]
Std. setting	69 [1000]
D =	34-166 bar [500-2400]
Std. setting	103 [1500]

Adjustment option
A = Internal
E = External
F = Tamper resistant
K = Knob



Pressure Reducing Valves Technical Information

Pressure Reducing, Relieving, Direct Acting, Designed for PVG Actuators
PRR10-PVG

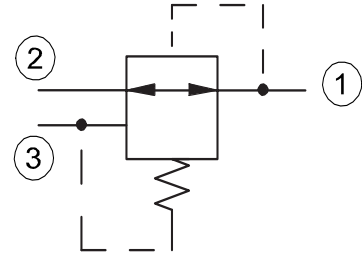
OPERATION

This is a direct-acting pressure reducing/relieving valve, designed for PVG actuators.

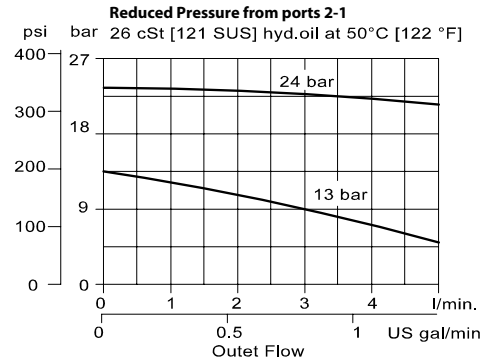
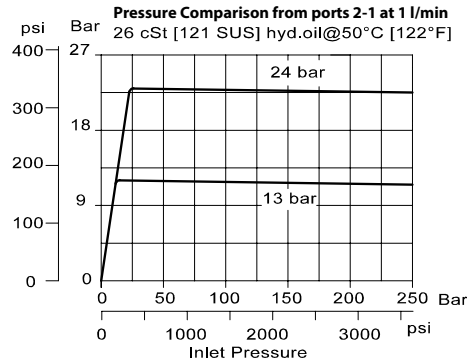
SPECIFICATIONS

Max. pressure in port 2	210 bar [3000 psi]
Maximum flow	5 l/min [1.3 US gal/min]
Cartridge Weight	0.23 kg [0.51 lb]
Cavity	SDC10-3

Schematics



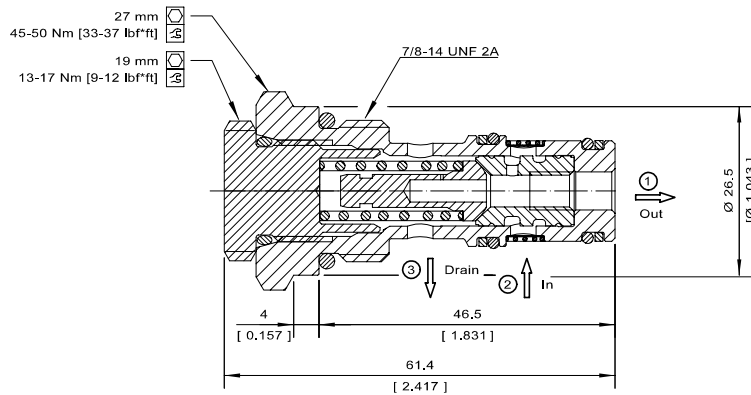
Theoretical performance



DIMENSIONS

Cross-sectional view

mm [in]



ORDERING INFORMATION

PRR10-PVG-E-13-B-F-00

Body and ports
00 = Cartridge only
6S = Al, #6 SAE
8S = Al, #8 SAE
SE3B = Al, 3/8 BSP
SE4B = Al, 1/2 BSP
Other housings available

Body Nomenclature
No Body
CP10-3-6S
CP10-3-8S
SDC10-3-SE3B
SDC10-3-SE4B

F = FILTER 300um
(Omit if not required)

Pressure setting: _____
E13 = 13 Bar for Electrical (PVE)
H24 = 24 Bar for Hydraulic (PVH) or High Current (PVHC)

SEALS
B = Buna 230000650
V = Viton 354001019



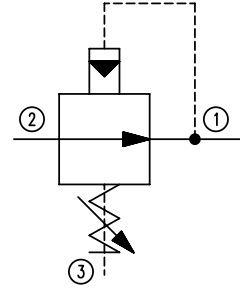
Pressure Reducing Valves Technical Information

Pressure Reducing, Non-Relieving, Pilot Operated CP230-4

OPERATION

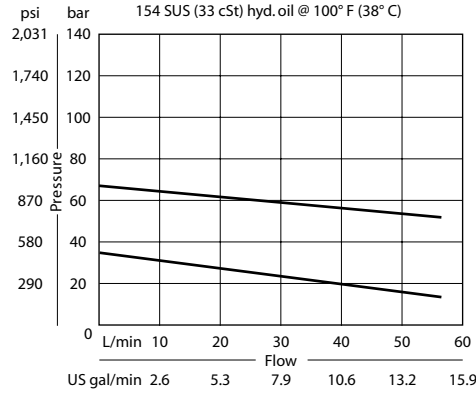
This is a pilot-operated pressure-reducing (non-relieving) valve.

Schematic



SPECIFICATIONS

Theoretical performance



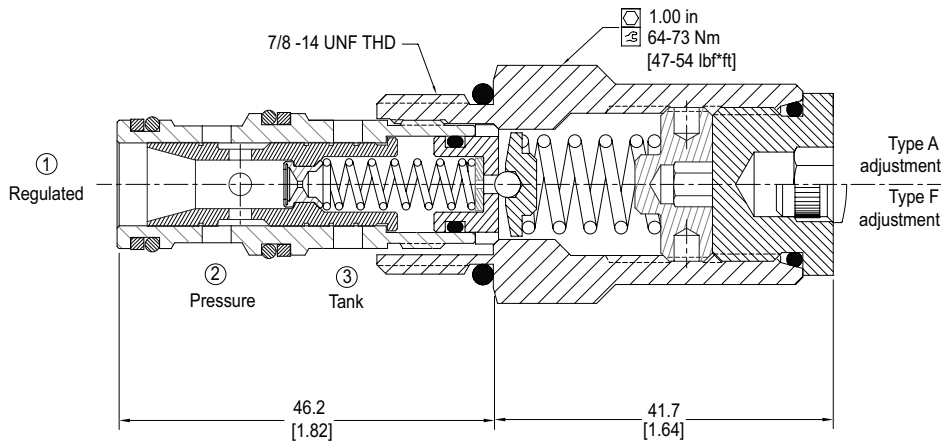
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [11 US gal/min]
Weight	0.20 kg [0.43 lb]
Cavity	SDC10-3

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

CP230 - 4 - B - 6S - A - C - 150

Seals
B = Buna-N
V = Viton

Seal kit
120027
120028

Housing and ports
0 = No Housing
SE3B = Al, 3/8 BSP
SE4B = Al, 1/2 BSP
6S = Al, #6 SAE
8S = Al, #8 SAE
Other housings available

Housing P/N
No Housing
SDC10-3-SE-3B
SDC10-3-SE-4B
CP10-3-6S
CP10-3-8S

Adjustment option
A = Internal
E = External
F = Tamper resistant
K = Knob

Pressure setting
Code x 10psi (0.69 bar)
Example: 150 = 1500 psi (105 bar)

Pressure range

	bar	[psi]
A = Standard	14-55	[200-800]
B = Standard	28	[400]
C = Standard	21-103	[300-1500]
D = Standard	69	[1000]
Standard	28-207	[400-3000]
Standard	103	[1500]
Standard	28-345	[400-5000]
Standard	103	[1500]



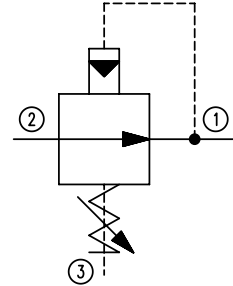
Pressure Reducing Valves Technical Information

Pressure Reducing, Non-Relieving, Pilot Operated PPRC 06

OPERATION

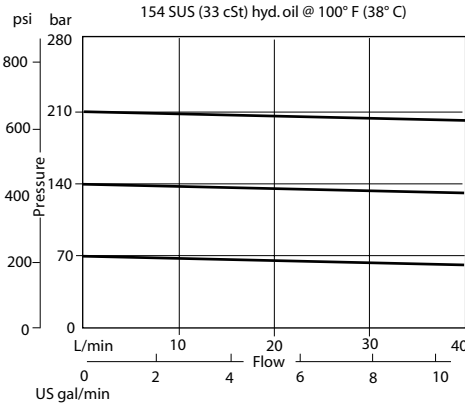
This is a pilot-operated pressure reducing (non-relieving) valve.

Schematic



SPECIFICATIONS

Theoretical performance



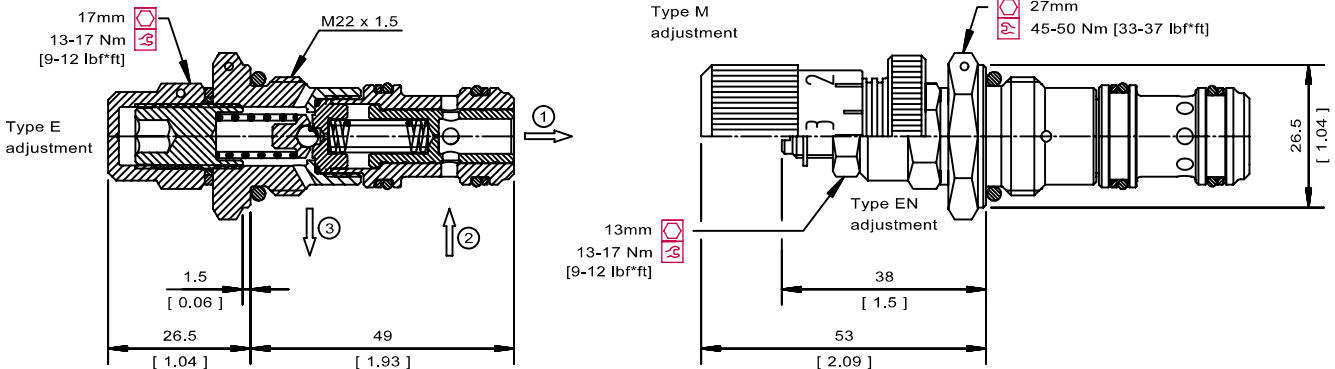
Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	40 l/min [11 US gal/min]
Weight	0.14 kg [0.31 lb]
Cavity	NCS06/3

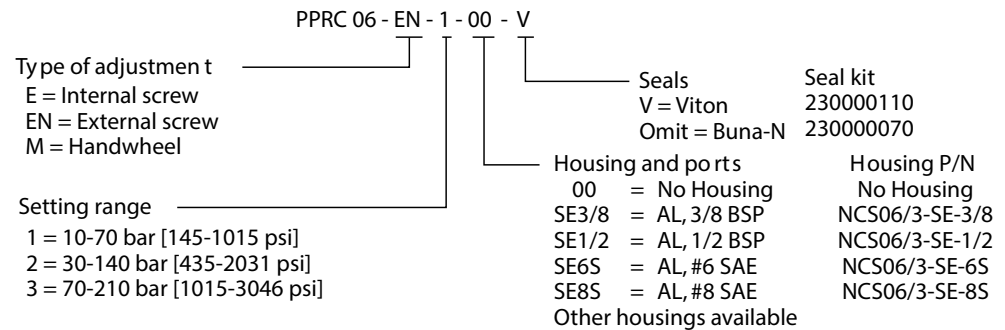
DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION



To order this valve with a specific factory setting, contact your Danfoss ICS representative



Pressure Reducing Valves Technical Information

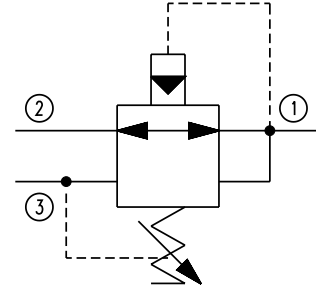
Pressure Reducing, Relieving, Pilot Operated

PRMP 064

OPERATION

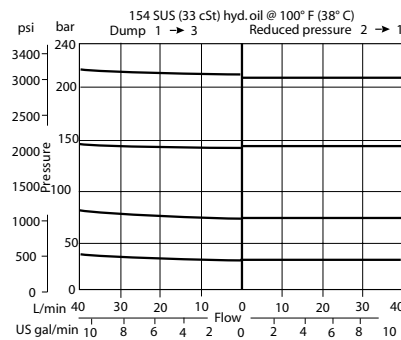
This is a pilot-operated pressure reducing/relieving valve.

Schematic



SPECIFICATIONS

Theoretical performance



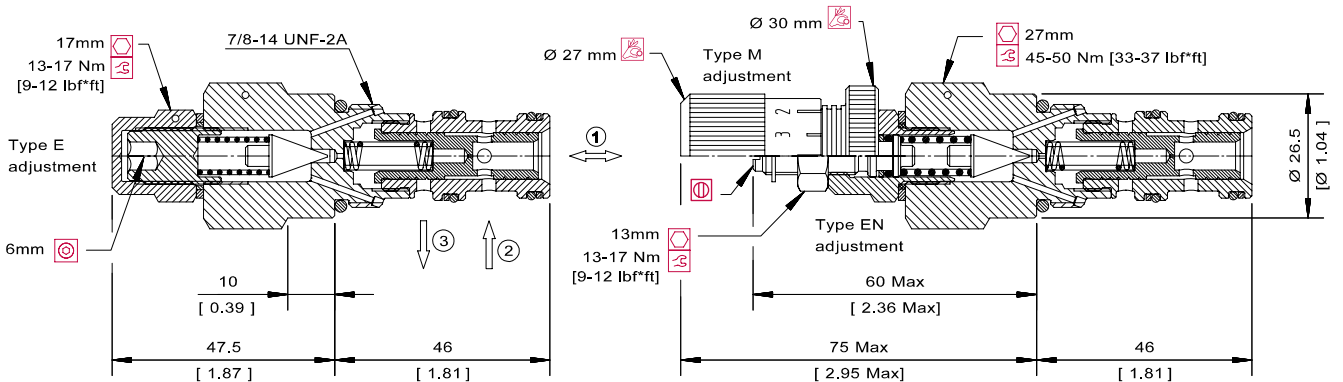
Specifications

Rated pressure	315 bar [4500 psi]
Rated Flow	40 l/min [11 US gal/min]
Weight	0.21 kg [0.46 lb]
Cavity	SDC10-3

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

PRMP 064 - EN - 1 - SE3/8 - V

Adjustment
E = Internal screw
EN = External screw
M = Handwheel

Setting range
1 = 10-70 bar [145-1015 psi]
2 = 30-140 bar [435-2031 psi]
3 = 70-210 bar [1015-3046 psi]

Seals Seal Kit
V = Viton 354001019
Omit = Buna-N 354000919

Housing and ports Housing P/N
00 = No Housing No Housing
SE3B = Al, 3/8 BSP SDC10-3-SE-3B
SE4B = Al, 1/2 BSP SDC10-3-SE-4B
6S = Al, #6 SAE CP10-3-6S
8S = Al, #8 SAE CP10-3-8S

Other housings available

To order this valve with a specific factory setting, contact your Danfoss ICS representative



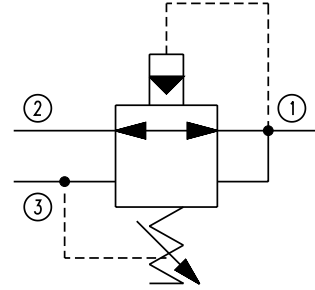
Pressure Reducing Valves Technical Information

Pressure Reducing, Relieving, Pilot Operated CP231-3

OPERATION

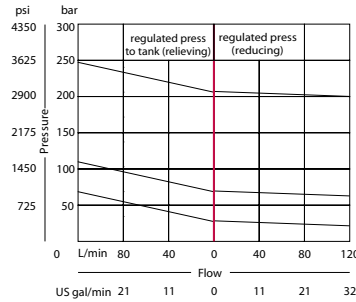
This is a pilot-operated pressure reducing/relieving valve.

Schematic



SPECIFICATIONS

Theoretical performance



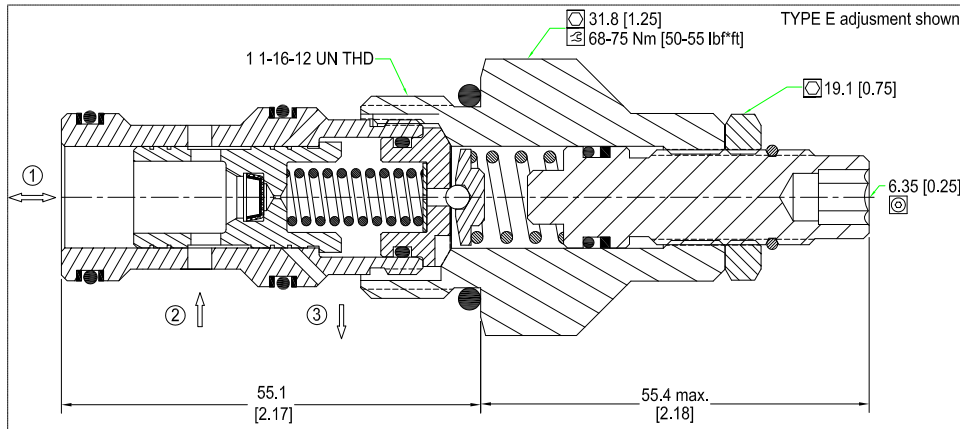
Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	115 l/min [30 US gal/min]
Weight	0.27 kg [0.60 lb]
Cavity	CP12-3S

DIMENSIONS

mm [in.]

Cross-sectional view



ORDERING INFORMATION

CP231-3-B-10S-A-A-050

Seals	B = Buna-N V = Viton	Seal kit	120335 120336	Adjustment options	A = Internal F = Tamper Resistant E = External K = Knob	Pressure range	A = 14-55 bar [200-800 psi] B = 21-103 bar [300-1500 psi] C = 27-207 bar [400-3000 psi] D = 27-345 bar [400-5000 psi]	Pressure setting	Code x 10psi (0.69 bar) Example: 050 = 500 psi (34 bar)	Housing and ports	0 = No Housing 4B = Al, 1/2 BSP 6B = Al, 3/4 BSP 10S = Al, #10 SAE 12S = Al, #12 SAE Other housings available	Housing P/N	No Housing CP12-3S-4B/2B CP12-3S-6B/2B CP12-3S-10S/4S CP12-3S-12S/4S
--------------	-------------------------	-----------------	------------------	---------------------------	--	-----------------------	--	-------------------------	--	--------------------------	--	--------------------	--



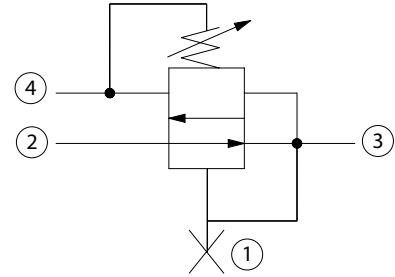
Pressure Reducing Valves Technical Information

Pressure Reducing, Relieving, Direct Acting with Damping Port
PRR10-DRD

OPERATION

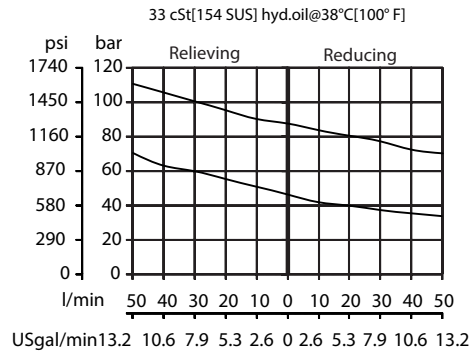
This is a direct-acting pressure reducing/relieving valve, with damping port.

Schematic



SPECIFICATIONS

Theoretical performance



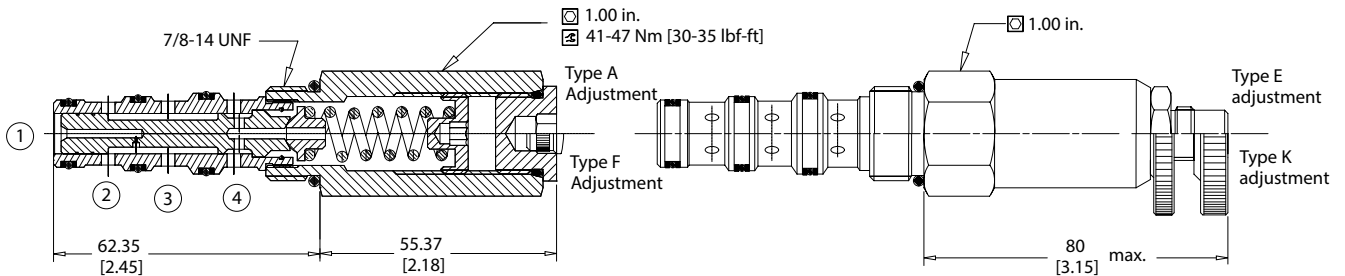
Specifications

Rated pressure	207 bar [3000 psi]
Rated Flow at 7 bar [100 psi]	38 l/min [10 US gal/min]
Weight	0.29 kg [0.64 lb]
Cavity	SDC10-4

DIMENSIONS

mm [in]

Cross-sectional view



ORDERING INFORMATION

PRR10-DRD-4-E-104-B-00

Pressure Range	Housing and ports	Housing Part #
1 = 4-27 bar [50-400 psi]	00 = No Housing	No Housing
Standard Setting 21 bar [300 psi]	3B = Al, 3/8 BSP	CP10-4-3B
2 = 5-55 bar [70-800 psi]	4B = Al, 1/2 BSP	CP10-4-4B
Standard Setting 35 bar [500 psi]	6S = Al, #6 SAE	CP10-4-6S
3 = 7-96 bar [100-1400 psi]	8S = Al, #8 SAE	CP10-4-8S
Standard Setting 69 bar [1000 psi]	Seals	Seal Kit
4 = 35-165 bar [500-2400 psi]	B = Buna-N	120023
Standard Setting 104 bar [1500 psi]	V = Viton	120024
Adjustment Type	Pressure Setting	
A = Internal	104 = 104 bar [1500 psi]	
E = External	XXX = Standard Setting	
F = Tamper Resistant		
K = Knob		

P108 370E