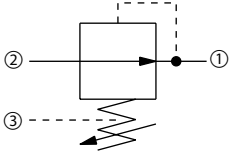
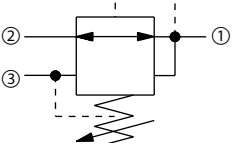
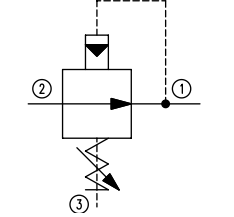
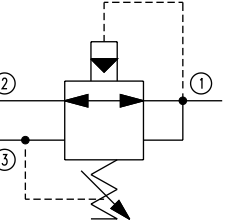


Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	PRC 06	NCS06/3	Reducing only valve (direct acting)	40 l/min [10 US gal/min]	315 bar [4500 psi]	05.4
	CP230-2	SDC10-3		40 l/min [10 US gal/min]	210 bar [3000 psi]	05.5

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP230-1	SDC10-3	Reducing/relieving valve (direct acting)	40 l/min [10 US gal/min]	210 bar [3000 psi]	05.6

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	PPRC 06	NCS06/3	Reducing only valve (pilot operated)	40 l/min [10 US gal/min]	315 bar [4500 psi]	05.7
	CP230-4	SDC10-3		40 l/min [10 US gal/min]	350 bar [5000 psi]	05.8

Symbol	Model No.	Cavity	Description	Flow*	Pressure	Page
	PRMP 064	SDC10-3	Reducing/relieving valve (pilot operated)	40 l/min [10 US gal/min]	315 bar [4500 psi]	05.9
	CP231-3	CP12-3S		115 l/min [30 US gal/min]	350 bar [5000 psi]	05.10

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

## Cartridge Valves Technical Information

### Pressure reducing valves

#### Application notes

#### 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



F102 010

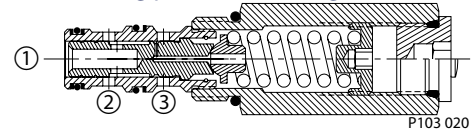
#### DIRECT ACTING PRESSURE REDUCING / RELIEVING VALVES

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



P103 020

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.



## Cartridge Valves Technical Information

### Pressure reducing valves

#### Application notes

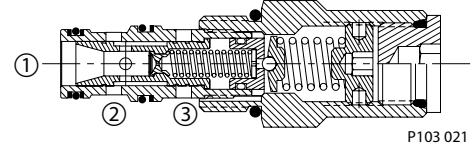
#### PILOT-OPERATED PRESSURE REDUCING / RELIEVING VALVES

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.



# Cartridge Valves Technical Information

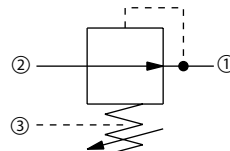
## Pressure reducing valves

### PRC 06

#### OPERATION

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

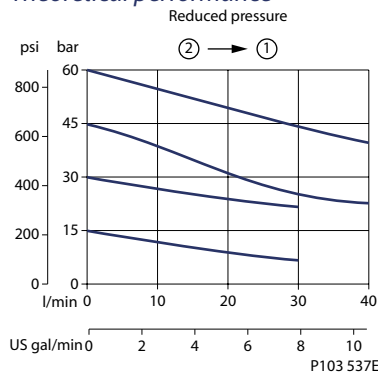
#### Schematic



P102 140E

#### SPECIFICATIONS

#### Theoretical performance



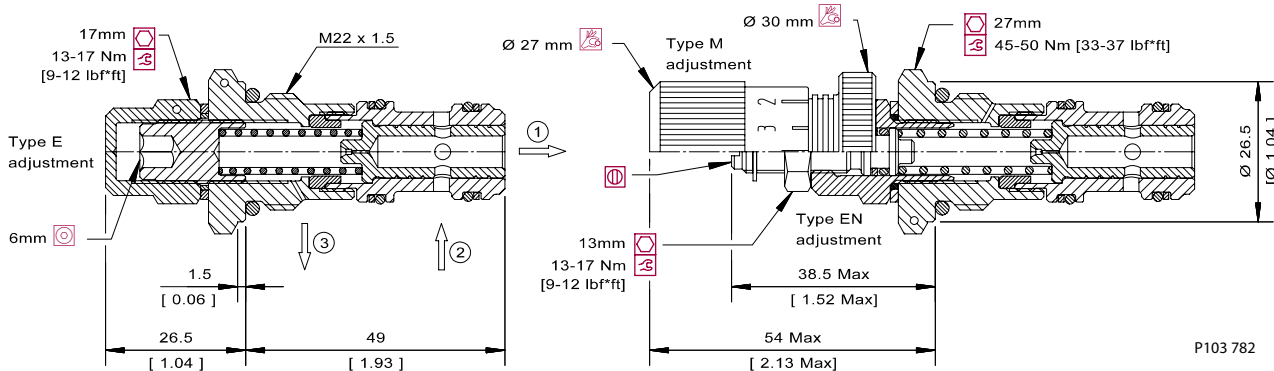
#### Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 US gal/min]
Weight	0.14 kg [0.31 lb]
Cavity	NCS06/3

#### DIMENSIONS

mm [in]

#### Cross-sectional view



#### ORDERING INFORMATION

PRC 06 - EN - 1 - 00 - V

#### Type of adjustment

E = Internal screw  
EN = External screw  
M = Handwheel

#### Setting range

.5 = 1-10 bar [14.5-145 psi]  
1 = 10 - 25 bar [145-363 psi]  
2 = 25-80 bar [363-1160 psi]

#### Seals

V = Viton  
B = Buna-N

#### Seal kit

230000110  
230000070

#### Housing and ports

00 = No Housing  
SE3/8 = AL, 3/8 BSP  
SE1/2 = AL, 1/2 BSP  
SE6S = AL, #6 SAE  
SE8S = AL, #8 SAE  
Other housings available

#### Housing P/N

No Housing  
NCS06/3-SE-3/8  
NCS06/3-SE-1/2  
NCS06/3-SE-6S  
NCS06/3-SE-8S

To order this valve with a specific factory setting, contact your Sauer-Danfoss representative P103 784E



# Cartridge Valves Technical Information

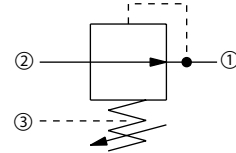
## Pressure reducing valves

### CP230-2

### OPERATION

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

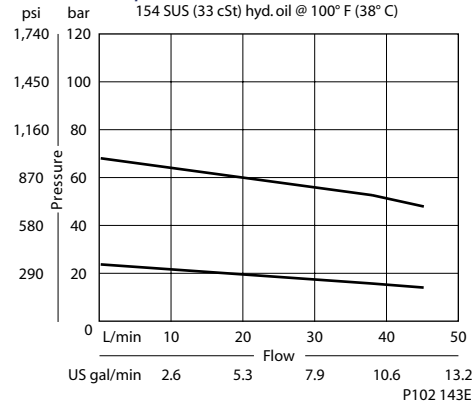
### Schematic



P102 140E

### SPECIFICATIONS

#### Theoretical performance



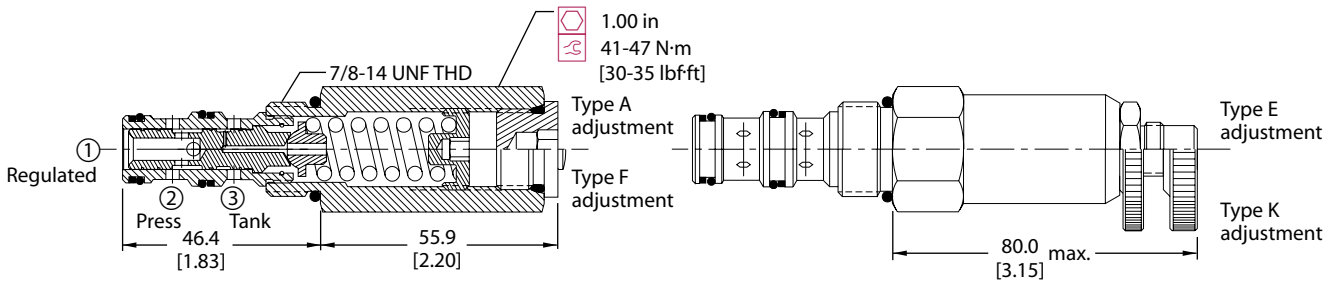
#### Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 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**

<b>Seals</b> B = Buna-N V = Viton	<b>Seal kit</b> 120027 120028	<b>Housing P/N</b> No Housing SDC10-3-SE-3B SDC10-3-SE-4B CP10-3-6S CP10-3-8S	<b>Crack pressure</b> Code x 10 = psi Example: 100 = 1000 psi																								
<b>Housing and ports</b> 0 = No Housing SE3B = Al, 3/8 BSP SE4B = Al, 1/2 BSP 6S = Al, #6 SAE 8S = Al, #8 SAE Other housings available			<b>Pressure range</b>																								
<b>Adjustment option</b> A = Internal E = External F = Tamper resistant K = Knob			<table border="0"> <tr> <td>A =</td> <td>4-28</td> <td>[50-400]</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	[50-400]	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	[50-400]																									
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]																									

P102 144E

Pressure reducing valves CP230-2



# Cartridge Valves Technical Information

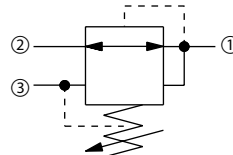
## Pressure reducing valves

### CP230-1

#### OPERATION

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

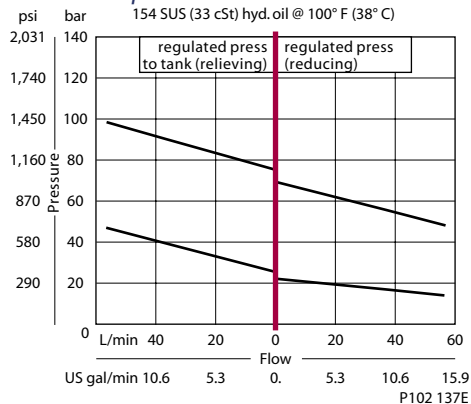
#### Schematic



P102 135E

#### SPECIFICATIONS

#### Theoretical performance



P102 137E

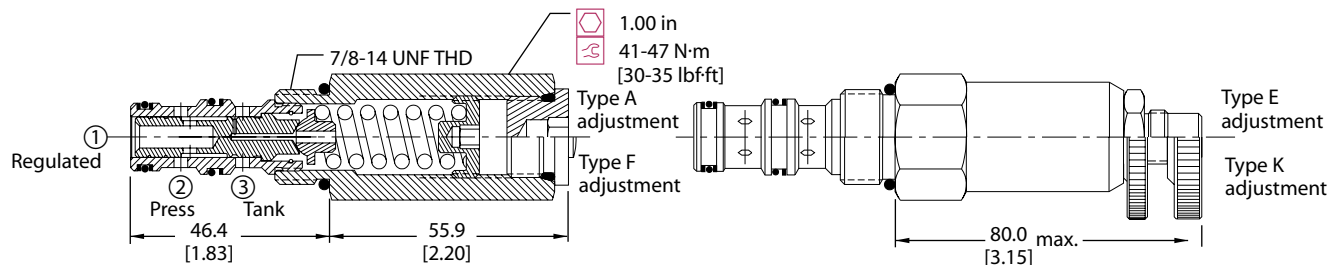
#### Specifications

Rated pressure	210 bar [3000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 US gal/min]
Weight	0.23 kg [0.51 lb]
Cavity	SDC10-3

#### DIMENSIONS

mm [in]

#### Cross-sectional view



P102 136E

#### ORDERING INFORMATION

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

#### Seals

- B = Buna-N
- V = Viton

#### 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

#### Adjustment option

- A = Internal
- E = External
- F = Tamper resistant
- K = Knob

#### Seal kit

- 120570
- 120571

#### 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

	bar	[psi]
A =	4-28	[50-400]
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]

P102 139E



# Cartridge Valves Technical Information

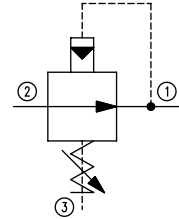
## Pressure reducing valves

### PPRC 06

#### OPERATION

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

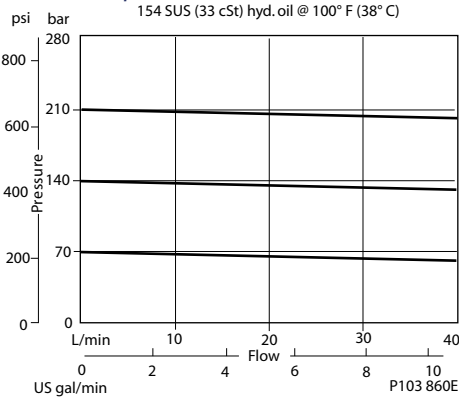
Schematic



P103 231

#### SPECIFICATIONS

##### Theoretical performance



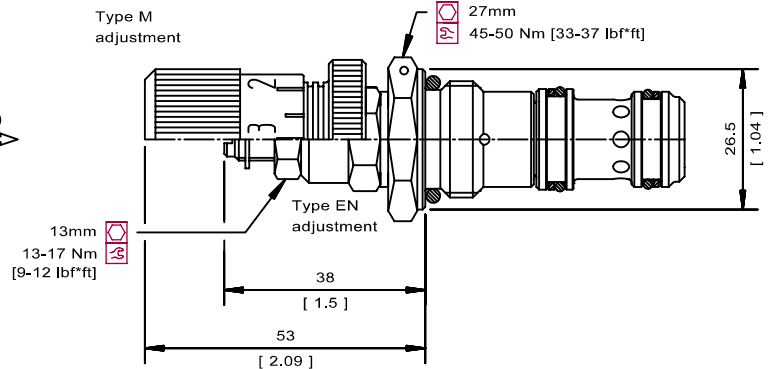
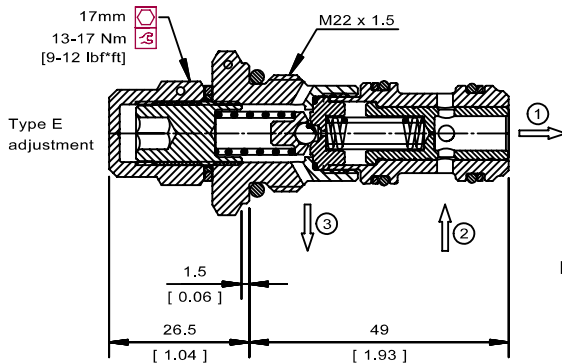
##### Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 US gal/min]
Weight	0.14 kg [0.31 lb]
Cavity	NCS06/3

#### DIMENSIONS

mm [in]

##### Cross-sectional view



P103 913E

#### ORDERING INFORMATION

PPRC 06 - EN - 1 - 00 - V

**Type of 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**  
 V = Viton  
 Omit = Buna-N

**Seal kit**  
 230000110  
 230000070

**Housing and ports**  
 00 = No Housing  
 SE3/8 = AL, 3/8 BSP  
 SE1/2 = AL, 1/2 BSP  
 SE6S = AL, #6 SAE  
 SE8S = AL, #8 SAE  
 Other housings available

**Housing P/N**  
 No Housing  
 NCS06/3-SE-3/8  
 NCS06/3-SE-1/2  
 NCS06/3-SE-6S  
 NCS06/3-SE-8S

To order this valve with a specific factory setting, contact your Sauer-Danfoss representative P103 794E



# Cartridge Valves Technical Information

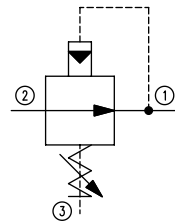
## Pressure reducing valves

### CP230-4

#### OPERATION

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

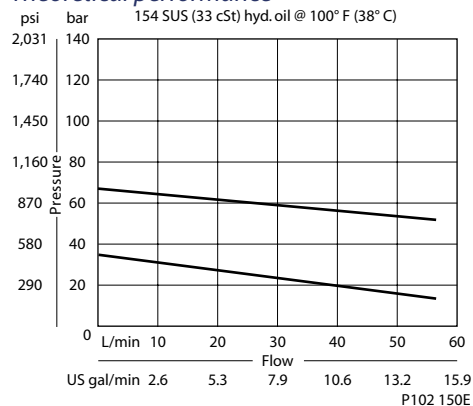
#### Schematic



P103 231

#### SPECIFICATIONS

#### Theoretical performance



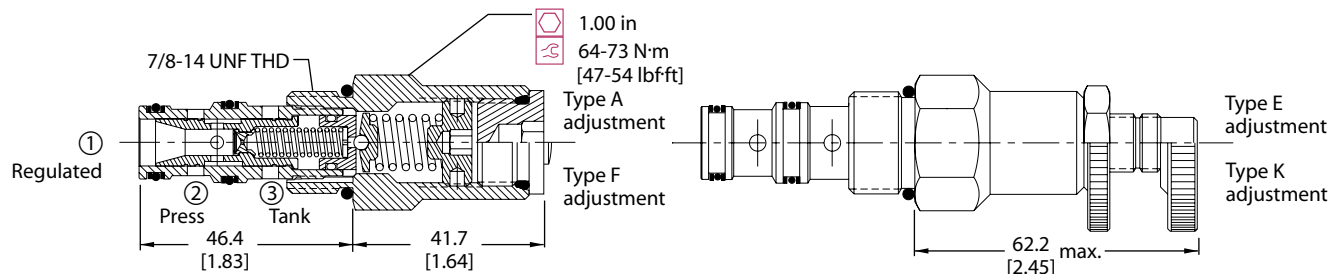
#### Specifications

Rated pressure	350 bar [5000 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 US gal/min]
Weight	0.20 kg [0.43 lb]
Cavity	SDC10-3

#### DIMENSIONS

mm [in]

#### Cross-sectional view



P102 149E

#### ORDERING INFORMATION

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

#### Seals

- B = Buna-N
- V = Viton

#### 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

#### Adjustment option

- A = Internal
- E = External
- F = Tamper resistant
- K = Knob

#### Seal kit

- 120027
- 120028

#### 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: 150 = 1500 psi (105 bar)

#### Pressure range

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

P102 152E





# Cartridge Valves Technical Information

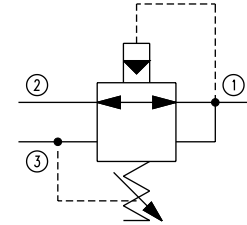
## Pressure reducing valves

### PRMP 064

#### OPERATION

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

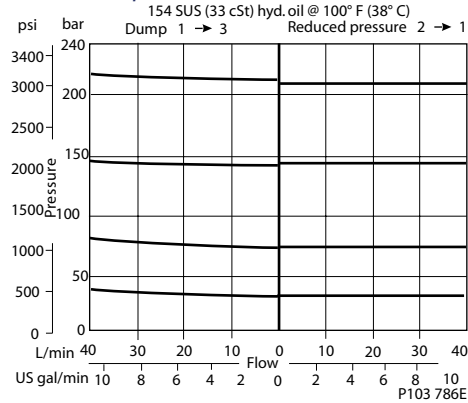
#### Schematic



P103 230

#### SPECIFICATIONS

#### Theoretical performance



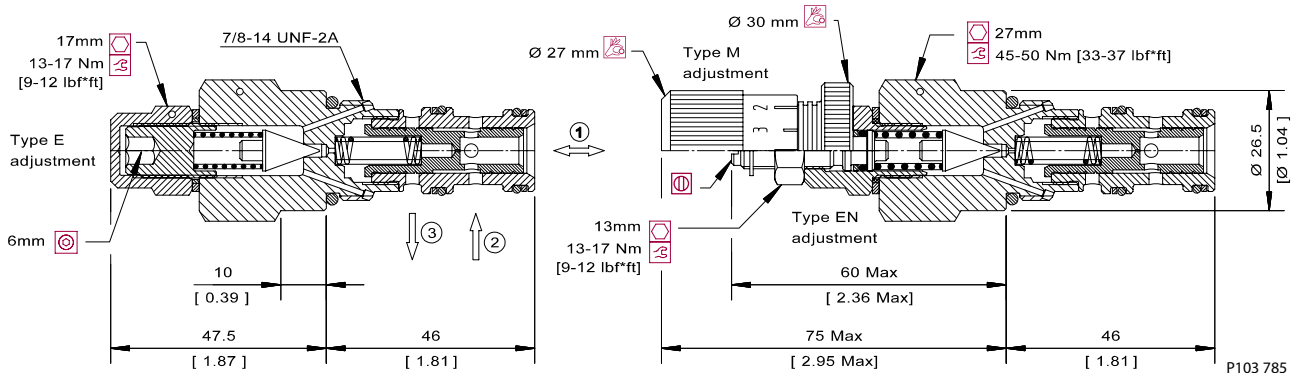
#### Specifications

Rated pressure	315 bar [4500 psi]
Rated flow at 7 bar [100 psi]	40 l/min [10 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

V = Viton  
Omit = Buna-N

#### Seal Kit

354003719  
230000070

#### Housing and ports

00 = No Housing  
SE3B = Al, 3/8 BSP  
SE4B = Al, 1/2 BSP  
6S = Al, #6 SAE  
8S = Al, #8 SAE

#### Housing P/N

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

Other housings available

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

P103 787E



# Cartridge Valves Technical Information

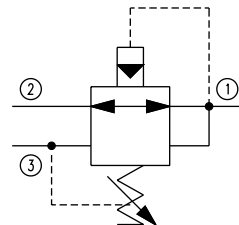
## Pressure reducing valves

### CP231-3

#### OPERATION

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

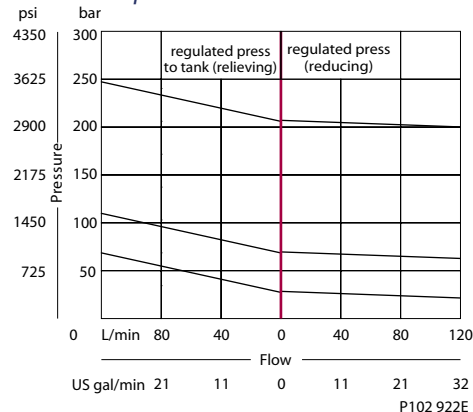
#### Schematic



P103 230

#### SPECIFICATIONS

#### Theoretical performance



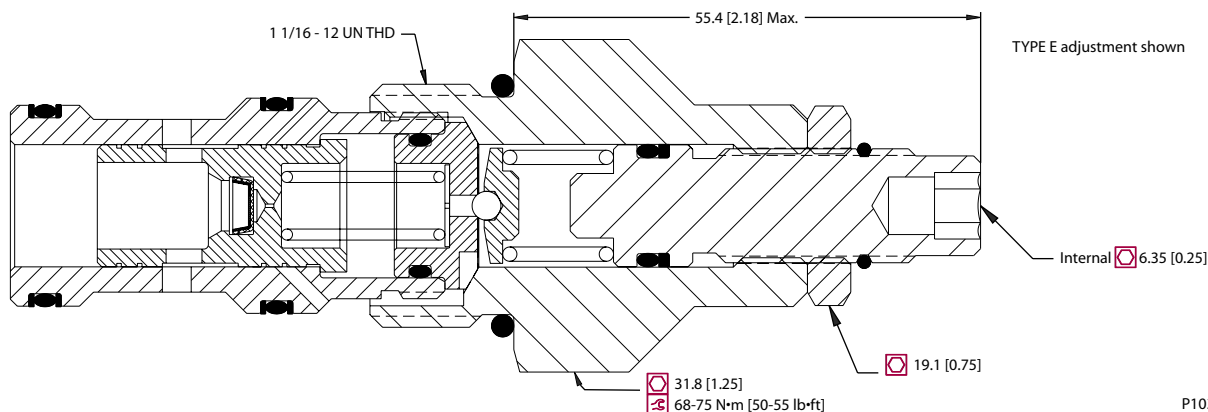
#### Specifications

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



P103 621E

#### ORDERING INFORMATION

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

**Pressure setting**  
Code x 10psi (0.69 bar)  
Example: 050 = 500 psi (34 bar)

**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]

**Adjustment options**

- A = Internal
- F = Tamper Resistant
- E = External
- K = Knob

**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

**Seals**

- B = Buna-N
- V = Viton

**Seal kit**

- 120335
- 120336

**Housing P/N**

- No Housing
- CP12-3S-4B/2B
- CP12-3S-6B/2B
- CP12-3S-10S/4S
- CP12-3S-12S/4S

P102 622E

Pressure reducing valves  
CP231-3