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## Characteristics

Pilot operated pressure relief valves series R5V have a similar design to the subplate mounted R4V series. The SAE flanges allow to mount the valves directly on the outlet flanges of pumps or inlet flanges of actuators to achieve a very compact design.

Valves with SAE flanges can also be bolted together to combine functions without the need of a manifold block.

### Features

- Pilot operated with manual adjustment
- R5V with 2-port body
  - 3 sizes (SAE 3/4", 1", 1 1/4")
  - SAE61 flange
- R5V with 3-port body
  - 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2")
  - SAE61 and SAE62 flange
- 3 pressure stages
- 3 adjustment modes
  - Hand knob
  - Acorn nut with lead seal
  - Cylinder lock
- With optional vent function

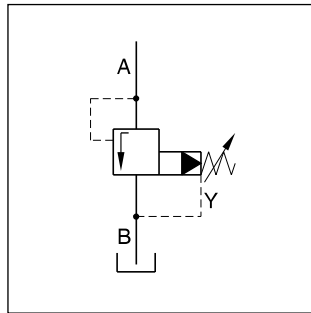
## Pilot Operated Pressure Relief Valve Series R5V



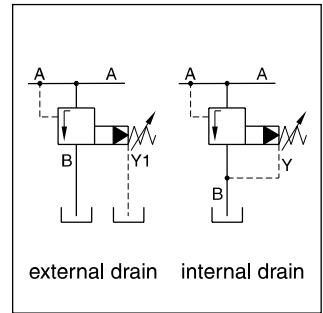
R5V 2-port



R5V 3-port

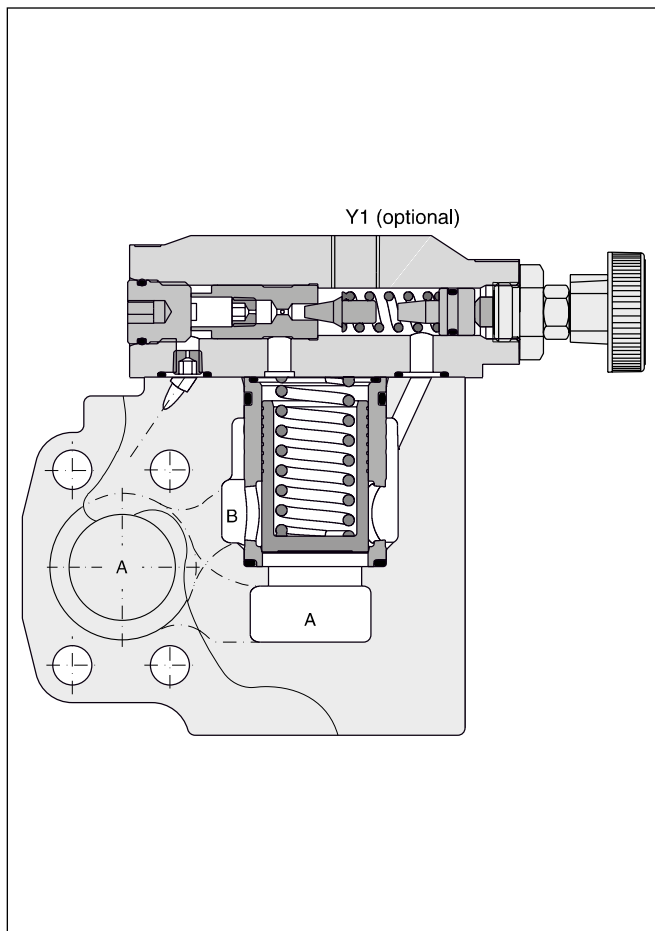


R5V 2-port

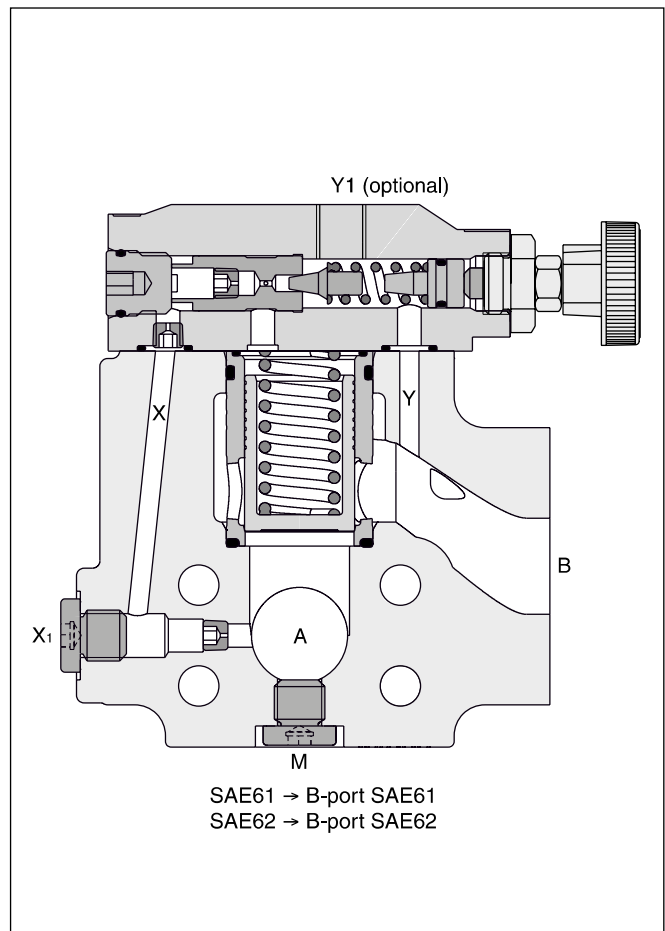


R5V 3-port

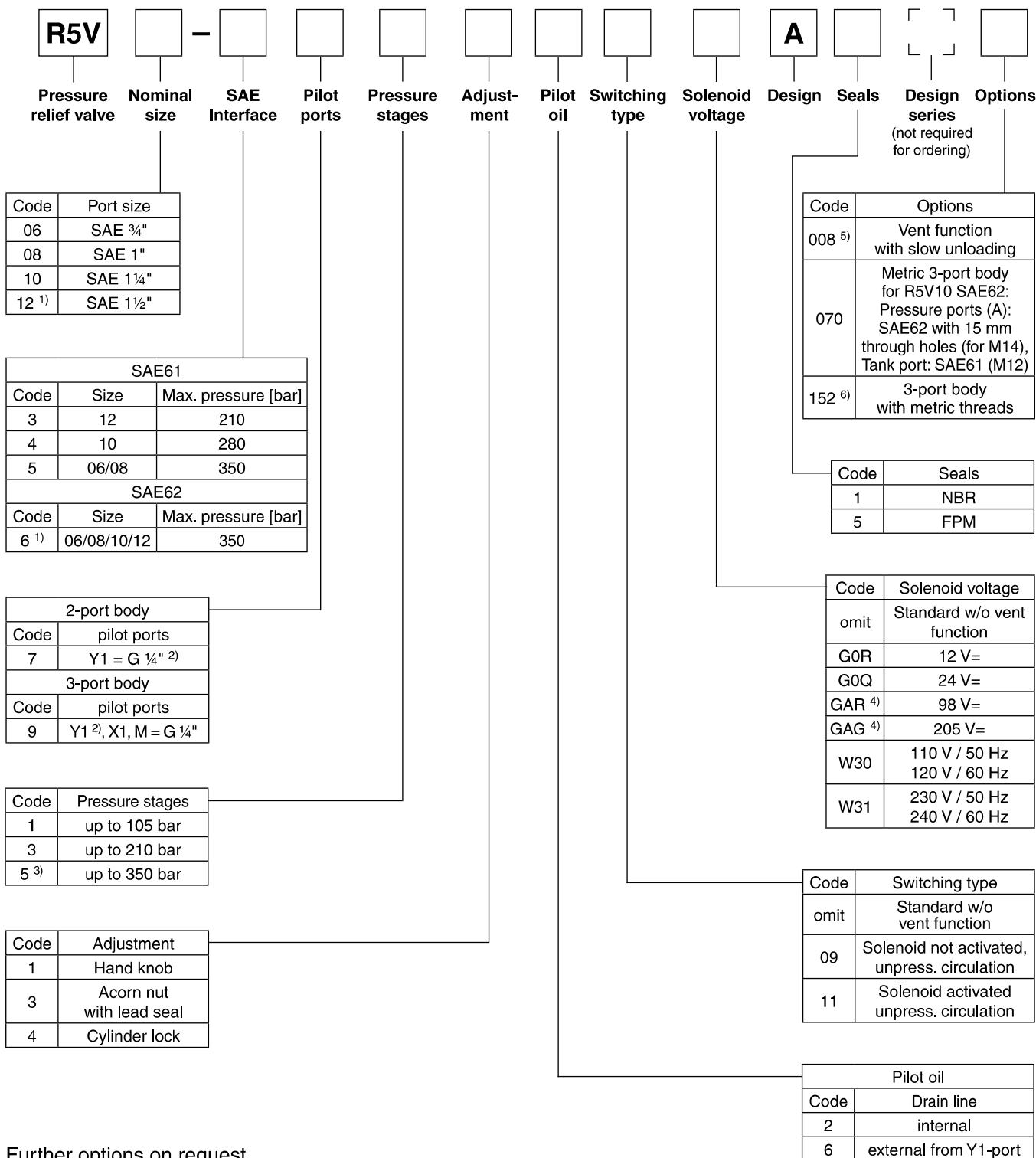
### R5V 2-port



### R5V 3-port



Ordering Code



Further options on request

1) Only R5V 3-port.  
 2) Y1 only available at external drain (pilot oil code 6).  
 3) R5V10-4\*5 up to 280 bar.  
 4) To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.  
 5) Only for vent valve function code 09.  
 6) R5V08 SAE62: Tank port SAE61 (M10).

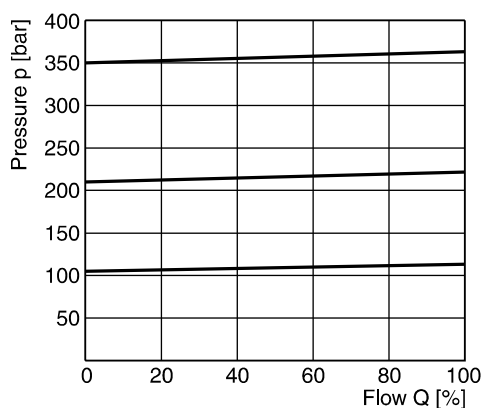


**Technical data**

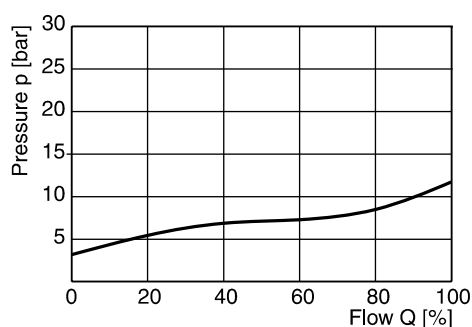
General								
Size			<b>06 (3/4")</b>	<b>08 (1")</b>	<b>10 (1 1/4")</b>	<b>12 (1 1/2")</b>		
Mounting	Flanged according to SAE61 and SAE62							
Mounting position	unrestricted							
Ambient temperature	[°C]	-20...+60						
MTTF <sub>D</sub> value	[years]	75						
Weight	R5V 2-port	[kg]	4.0	4.6	5.9	—		
	R5V 3-port	[kg]	3.6	4.6	5.2	8.0		
Hydraulic								
Max. operating pressure	[bar]							
	SAE61 Ports A, B		350	350	280	210		
	Port Y1		30	30	30	30		
	SAE62 Ports A, B		350	350	350	350		
	Port Y1		30	30	30	30		
Pressure stages	[bar]	105, 210, 350						
Nominal flow	[l/min]		90	300	600	600		
Fluid	Hydraulic oil according to DIN 51524							
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)						
Viscosity,	permitted	[cSt] / [mm <sup>2</sup> /s]	20 ... 400					
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80					
Filtration	ISO 4406 (1999); 18/16/13							
Electrical (solenoid)								
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible							
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)							
Supply voltage	Code		G0R	G0Q	GAR	GAG	W30	W31
	[V] [V]		12 V =	24 V =	98 V =	205 V =	110 at 50 Hz 120 at 60 Hz	230 at 50 Hz 240 at 60 Hz
Tolerance supply voltage	[%]		±10	±10	±10	±10	±5	±5
Current consumption	hold	[A]	2.72	1.29	0.33	0.13	0.6 / 0.55	0.3 / 0.27
	in rush	[A]	2.72	1.29	0.33	0.13	2.5 / 2.4	1.25 / 1.2
Power consumption	hold	[W]	32.7	31	31.9	28.2	70/70 VA	70/70 VA
	in rush	[W]	32.7	31	31.9	28.2	280/290 VA	280/290 VA
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461							
Wiring min.	[mm <sup>2</sup> ]	3 x 1.5 recommended						
Wiring length max.	[m]	50 recommended						

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**p/Q performance curve**



**Minimum pressure curve**



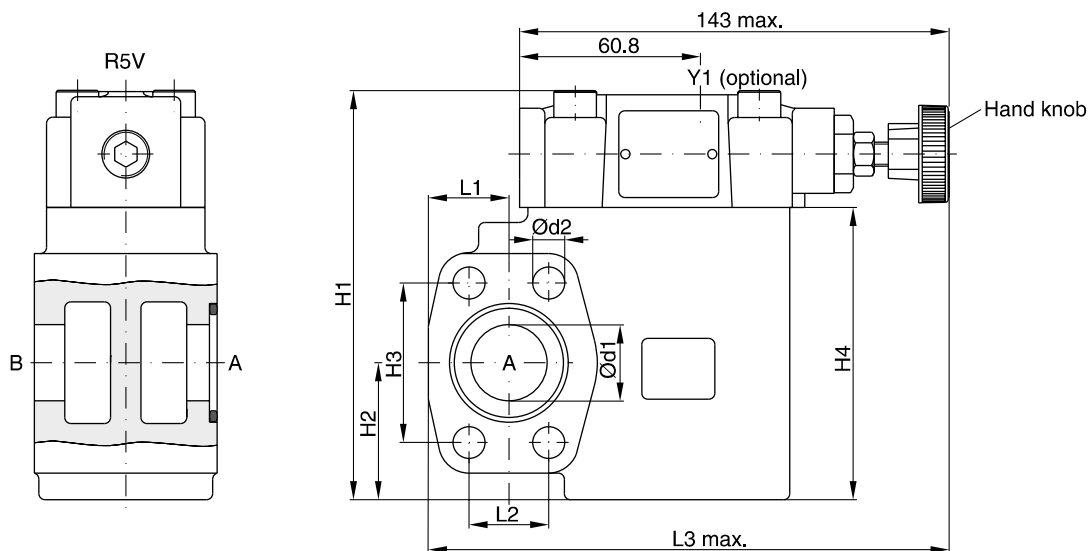
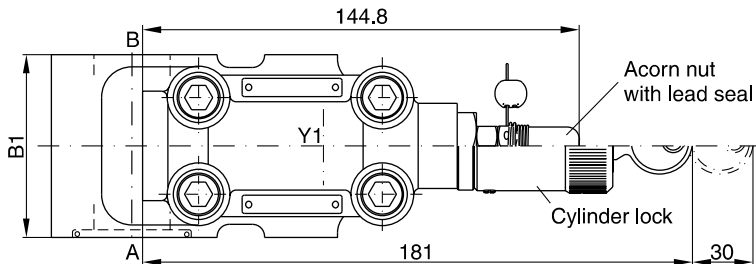
All characteristic curves measured with HLP46 at 50 °C.

The performance curves are measured with external drain.  
 For internal drain the tank pressure has to be added to curve.

**Dimensions**

**Pilot Operated Pressure Relief Valve  
Series R5V**

**Dimensions R5V 2-port**



**SAE61**

Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

NG	B1	H1	H2	H3	H4	L1	L2	L3	d1	d2
06	60	131.6	37	47.6	90	24.6	22.2	152	19	10.5
08	60	137.6	45	52.4	96	26.5	26.2	171	25	10.5
10	75	150.6	48	58.7	109	34.0	30.2	179	32	12.5

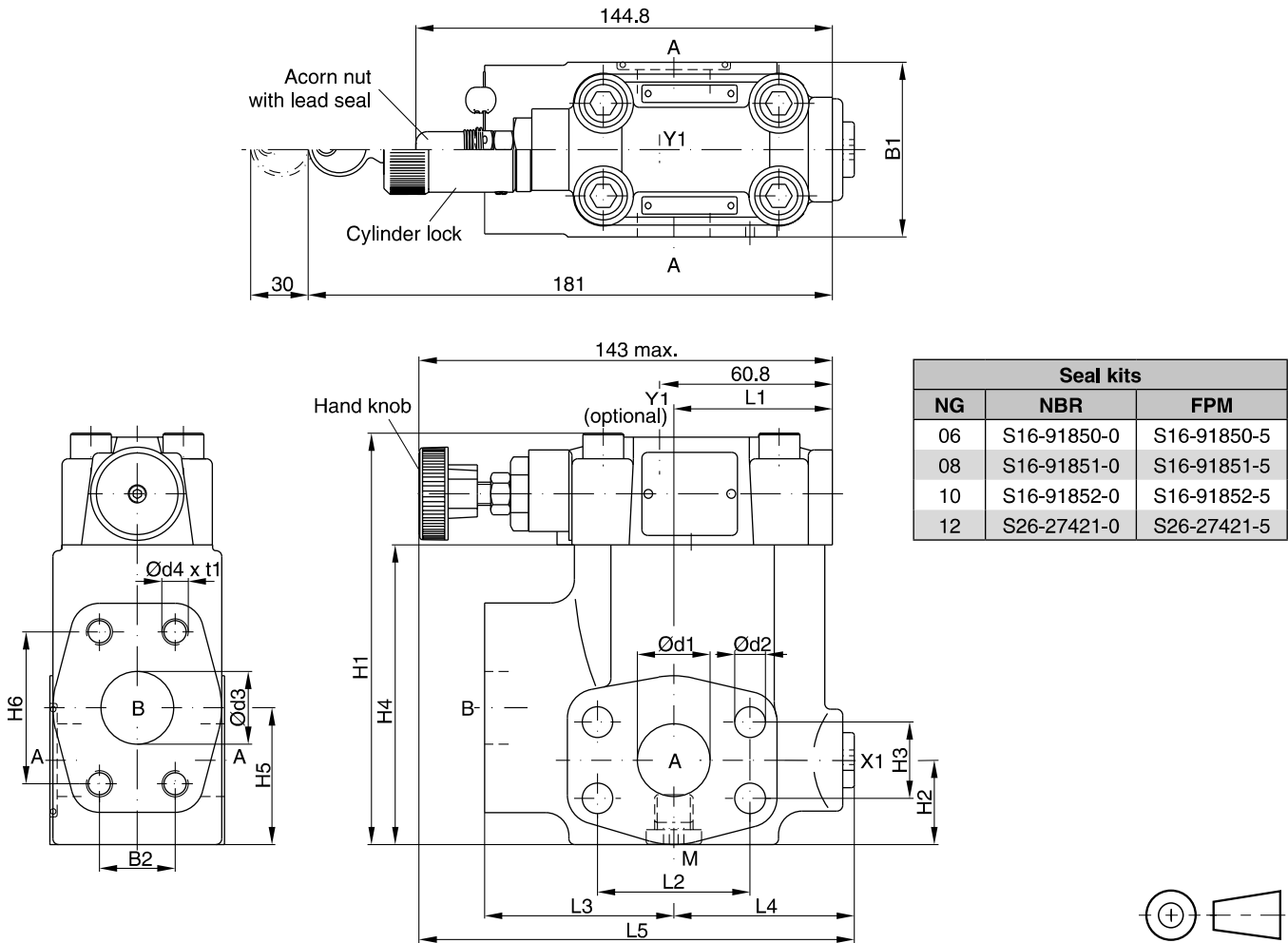
Port	Function	Port size		
		R5V06	R5V08	R5V10
A	Pressure	¾" SAE61	1" SAE61	1¼" SAE61
B	Tank	¾" SAE61	1" SAE61	1¼" SAE61
Y1	External drain	G¼"	G¼"	G¼"

RSV UK.INDD 11.04.19



Dimensions

Dimensions R5V 3-port



SAE61

NG	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60	22.2	119	29.5	22.2	81	41	47.6	50.3	47.6	63	60	152	19	10.5	19	3/8"-16 UNC (M10)	20
08	60	26.2	141	30.5	26.2	103	47	52.4	55.8	52.4	65	62	149	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	151	37.5	30.2	113	65	58.7	57.8	58.7	61	68	150.5	32	12.5	30	7/16"-14 UNC (M12)	22
12	80	35.7	178	72	35.7	140	73	69.8	37.3	69.8	92.5	59.2	171.2	38	13.5	38	1/2"-13 UNC (M12)	27

SAE62

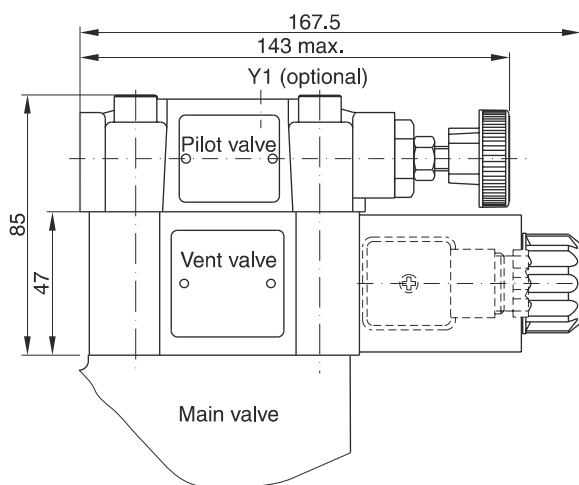
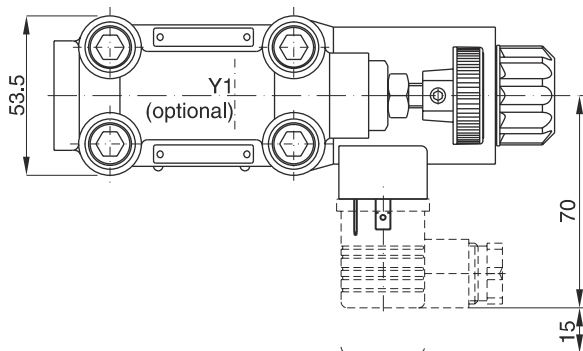
NG	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60	23.8	119	29.5	23.8	81	41	50.8	50.3	50.8	63	60	152	19	10.5	19	3/8"-16 UNC (M10)	20
08	60	27.8	141	30.5	27.8	103	47	57.2	55.8	57.2	65	62	149	25	12.5	25	7/16"-14 UNC (M10) <sup>1)</sup>	22
10	75	31.8	151	37.5	31.8	113	65	66.7	57.8	66.7	61	68	150.5	32	13.5	30	1/2"-13 UNC (M12)	24
12	80	36.5	178	72	36.5	140	73	79.4	37.3	79.4	92.5	59.2	171.2	38	17	38	5/8"-11 UNC (M16)	33

Port	Function	Port size			
		R5V06	R5V08	R5V10	R5V12
A (2)	Pressure	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
B	Tank	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
X1	External pilot port <sup>2)</sup>	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Y1	External drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"	G 1/4"

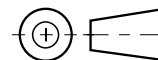
<sup>1)</sup> T-port SAE61.

<sup>2)</sup> Closed when supplied.

**Dimensions R5V with vent function**



Seal kits	
NBR	FPM
<b>DC solenoid</b>	
S56-40609-0	S56-40609-5
<b>AC solenoid</b>	
S26-35237-0	S26-35237-5



Code	R5V 2-port		R5V 3-port	
	Internal drain	External drain	Internal drain	External drain
11				
09				

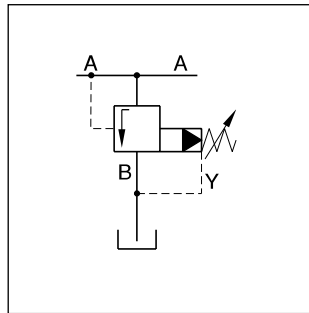
**Characteristics**

Pilot operated pressure unloading valves series R5U have a similar design to the subplate mounted R4U series. The SAE flanges allow to mount the valve directly on the outlet flanges of pumps.

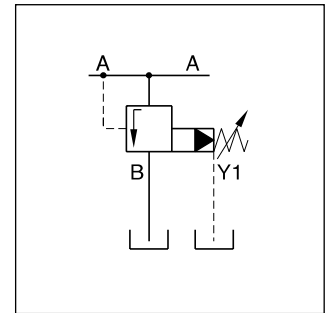
A typical application is the unloading of a pump in an accumulator circuit. The combination of an R5U, C5V and R5V on a double pump generates a high pressure / low pressure pump system without the need of a manifold block or piping between the valves.

**Features**

- Pilot operated unloading valve
- 3-port body with SAE61 flange
- 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2")
- 3 pressure stages
- 3 adjustment modes
  - Hand knob
  - Acorn nut with lead seal
  - Cylinder lock
- With optional vent function

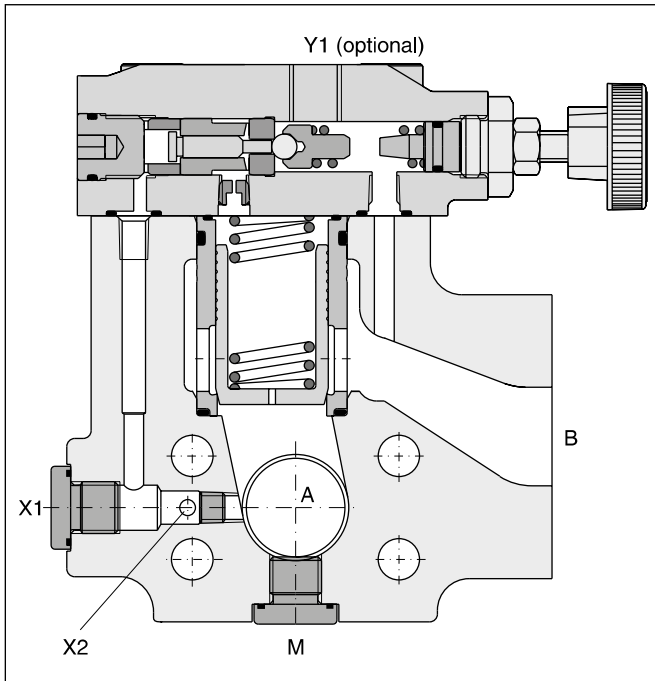


R5U 3-port internal drain

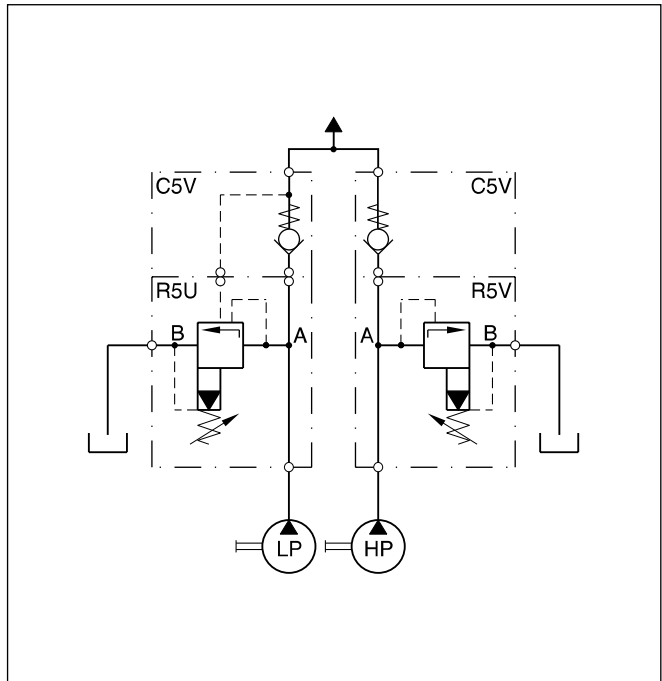


R5U 3-port external drain

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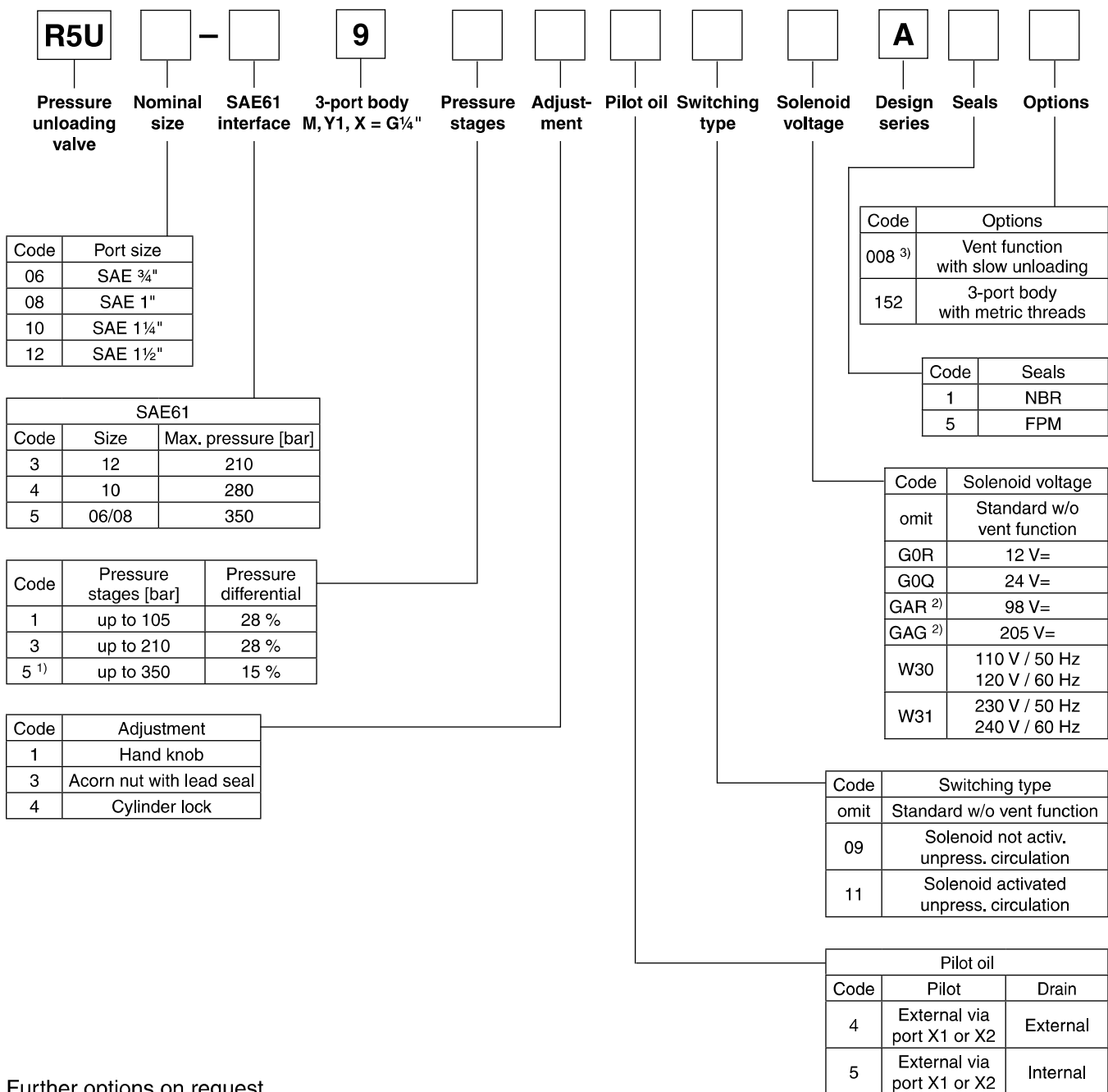


**High pressure / low pressure system**





Ordering Code



Further options on request

<sup>1)</sup> R5U10-495 up to 280 bar.

<sup>2)</sup> To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

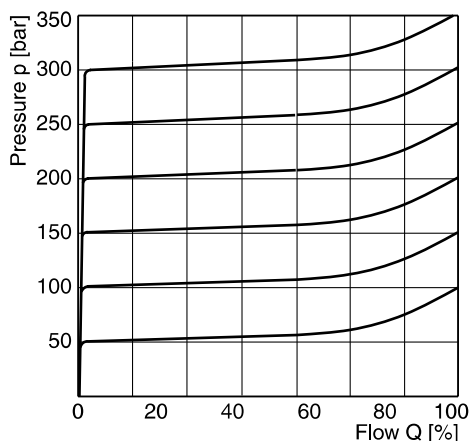
<sup>3)</sup> Only for vent valve function code 09.

**Technical data**

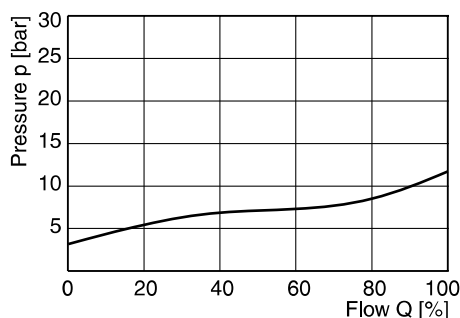
<b>General</b>		<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>	<b>12 (1½")</b>		
Size							
Mounting	Flanged according to SAE61						
Mounting position	unrestricted						
Ambient temperature	[°C]	-20...+60					
MTTF <sub>D</sub> value	[years]	75					
Weight	[kg]	3.6	4.6	5.2	8.0		
<b>Hydraulic</b>							
Max. operating pressure	[bar]						
Ports A, B, X		350	350	280	210		
Ports Y, Y1		30	30	30	30		
Pressure stages	[bar]	105, 210, 350					
Nominal flow	[l/min]	90	300	600	600		
Fluid	Hydraulic oil according to DIN 51524						
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)					
Viscosity	permitted [cSt] / [mm²/s]	20 ... 400					
	recommended [cSt] / [mm²/s]	30...80					
Filtration	ISO 4406 (1999); 18/16/13						
<b>Electrical</b>							
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible						
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)						
	Code	G0R	G0Q	GAR	GAG	W30	W31
Supply voltage	[V]	12 V =	24 V =	98 V =	205 V =	110 at 50 Hz	230 at 50 Hz
	[V]					120 at 60 Hz	240 at 60 Hz
Tolerance supply voltage	[%]	±10	±10	±10	±10	±5	±5
Current consumption	hold [A]	2.72	1.29	0.33	0.13	0.6 / 0.55	0.3 / 0.27
	in rush [A]	2.72	1.29	0.33	0.13	2.5 / 2.4	1.25 / 1.2
Power consumption	hold [W]	32.7	31	31.9	28.2	70/70 VA	70/70 VA
	in rush [W]	32.7	31	31.9	28.2	280/290 VA	280/290 VA
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461						
Wiring min.	[mm²]	3 x 1.5 recommended					
Wiring length max.	[m]	50 recommended					

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**p/Q performance curve**



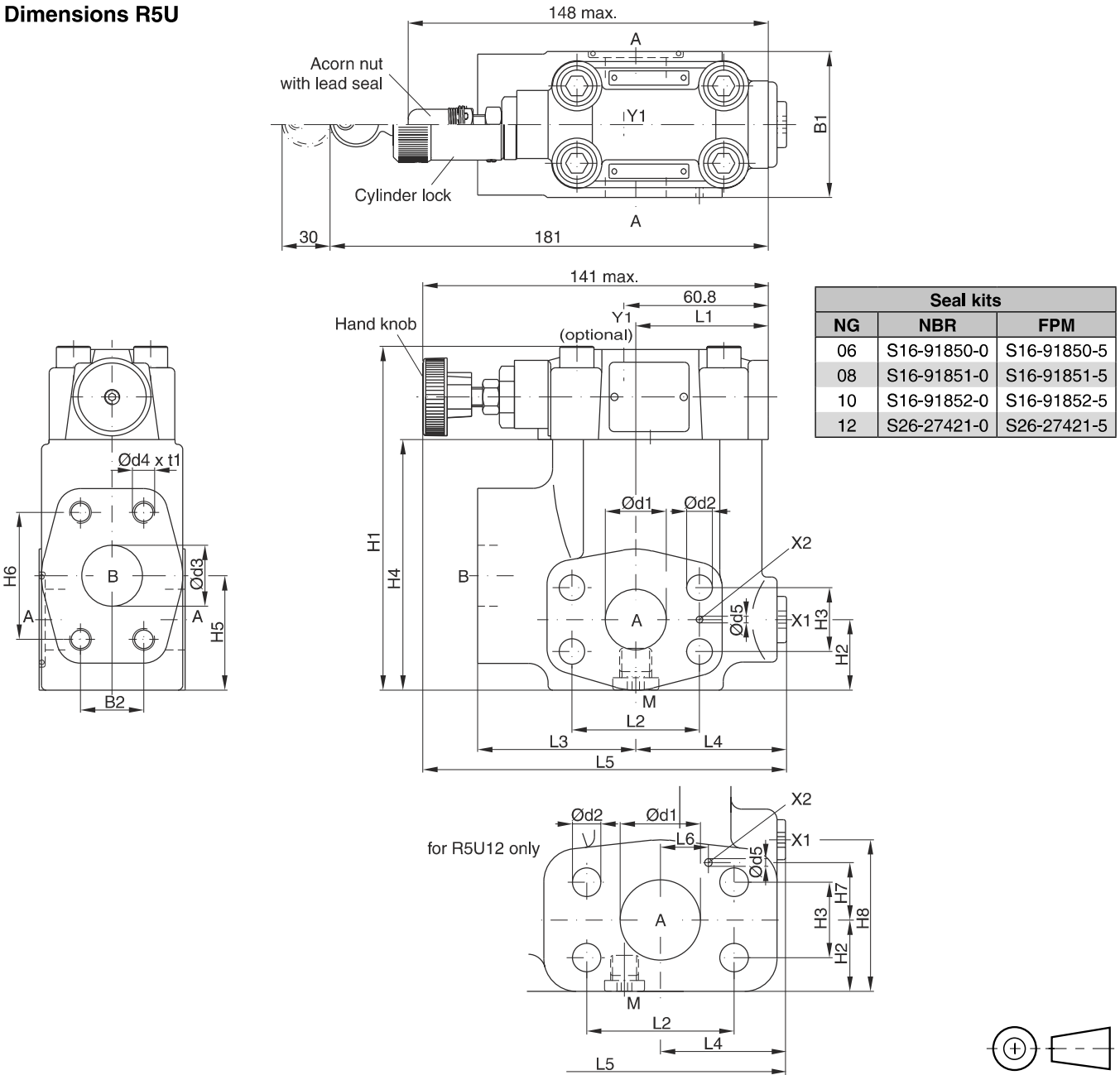
**Minimum pressure curve**



All characteristic curves measured with HLP46 at 50 °C.

The performance curves are measured with external drain.  
 For internal drain the tank pressure has to be added to curve.

**Dimensions R5U**



NG	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4	t1	d5	L6	H7	H8
06	60	22.2	119	29.5	22.2	81	41	47.6	50.3	47.6	63	60	152	19	10.5	19	3/8"-16 UNC	20	3.0	-	-	-
08	60	26.2	141	30.5	26.2	103	47	52.4	55.8	52.4	65	62	149	25	10.5	25	3/8"-16 UNC	23	3.0	-	-	-
10	75	30.2	151	37.5	30.2	113	65	58.7	57.8	58.7	61	68	150.5	32	12.5	30	7/16"-14 UNC	22	3.0	-	-	-
12	80	35.7	178	35.5	35.7	140	73	69.8	37.3	69.8	92.5	59.2	171.2	38	13.5	38	1/2"-13 UNC	27	3.0	22.4	27.2	72

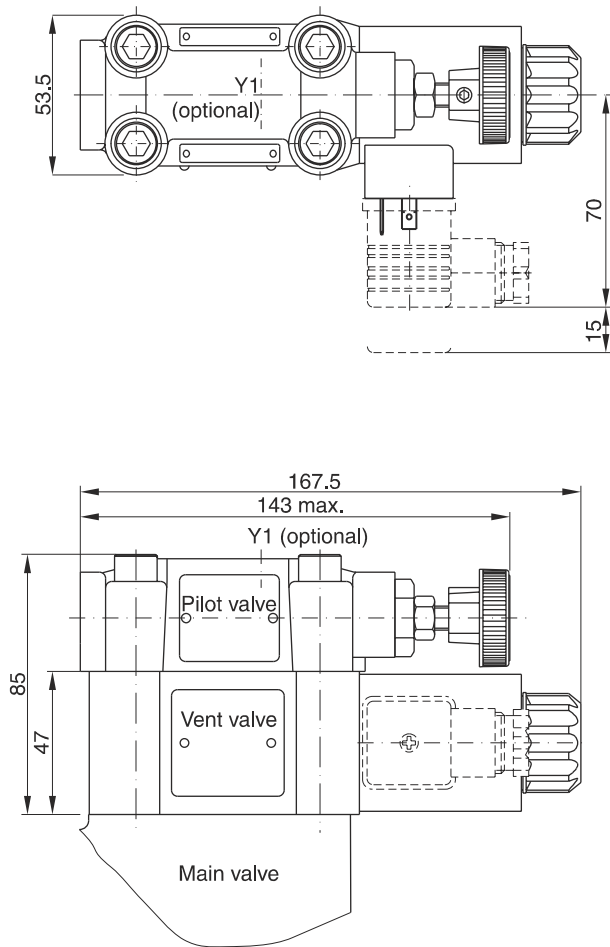
Port	Function	Port size			
		R5U06	R5U08	R5U10	R5U12
A (2)	Pressure	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
B	Tank	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
X1	External pilot port <sup>1)</sup>	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Y1	External drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"	G 1/4"

<sup>1)</sup> Closed when supplied.



**Dimensions**

**Dimensions R5U with vent function**



Seal kits	
NBR	FPM
<b>DC solenoid</b>	
S56-40609-0	S56-40609-5
<b>AC solenoid</b>	
S26-35237-0	S26-35237-5

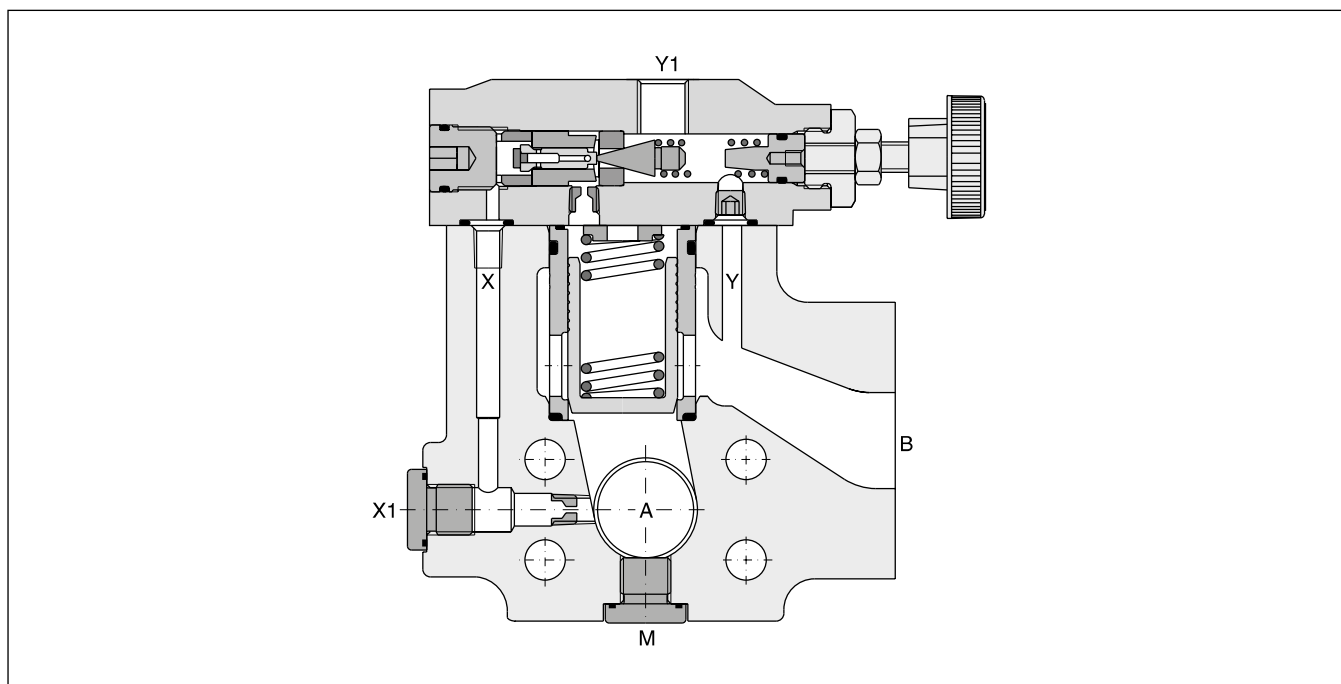
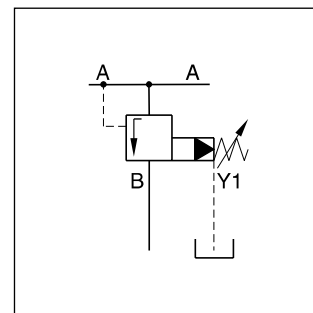
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Code	Internal drain	External drain
11		
09		

Pilot operated sequence valves series R5S have a similar design to the subplate mounted R4S series. The SAE flanges allow to mount the valve directly on the inlet flanges of actuators or outlet flanges of pumps to achieve a very compact design.

**Features**

- Pilot operated with manual adjustment
- 3-port body with SAE61 flange
- 3 sizes (SAE 3/4", 1", 1 1/4")
- 3 pressure stages
- 2 adjustment modes
  - Hand knob
  - Acorn nut with lead seal
- Optional with vent function (on request)

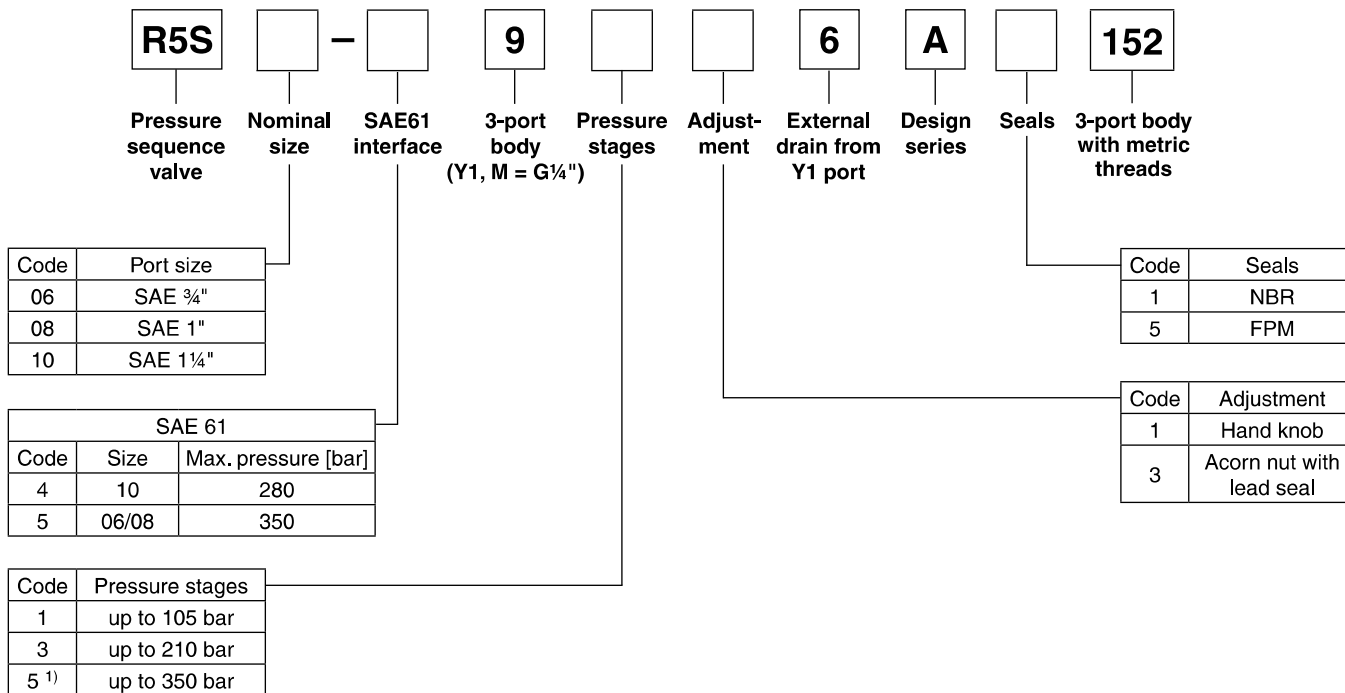


R5S UK.INDD 10.04.19



Ordering Code / Technical Data

Ordering code



Further options on request

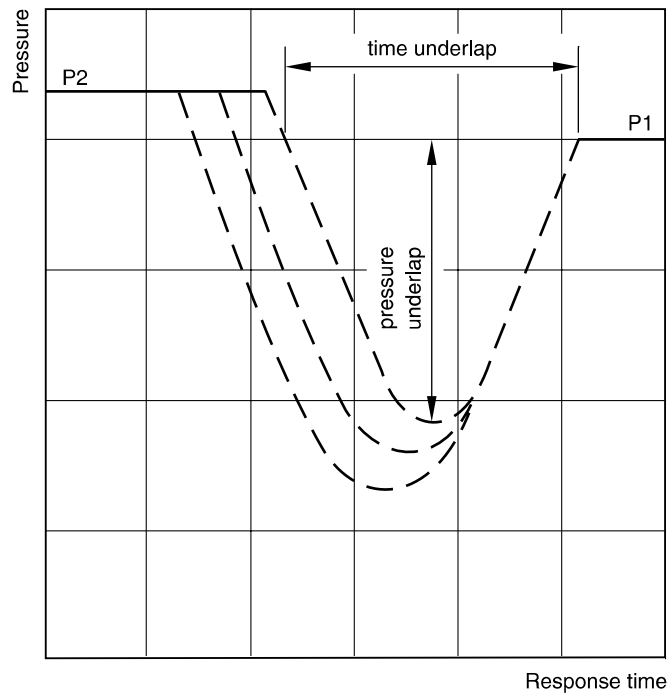
Technical data

General		06 (3/4")	08 (1")	10 (1 1/4")
Size				
Mounting		Flanged according to SAE61		
Mounting position		unrestricted		
Ambient temperature	[°C]	-20...+60		
MTTF <sub>D</sub> value	[years]	75		
Weight	[kg]	3.6	4.6	5.2
Hydraulic				
Max. operating pressure	[bar]			
Ports A, B		350	350	280
Ports Y, Y1		30	30	30
Pressure stages	[bar]	105, 210, 350		
Nominal flow	[l/min]	90	300	600
Fluid		Hydraulic oil according to DIN 51524		
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)		
Viscosity	permitted [cSt] / [mm <sup>2</sup> /s]	20 ... 400		
	recommended [cSt] / [mm <sup>2</sup> /s]	30...80		
Filtration		ISO 4406 (1999); 18/16/13		

<sup>1)</sup> R5S10-495 up to 280 bar.



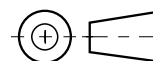
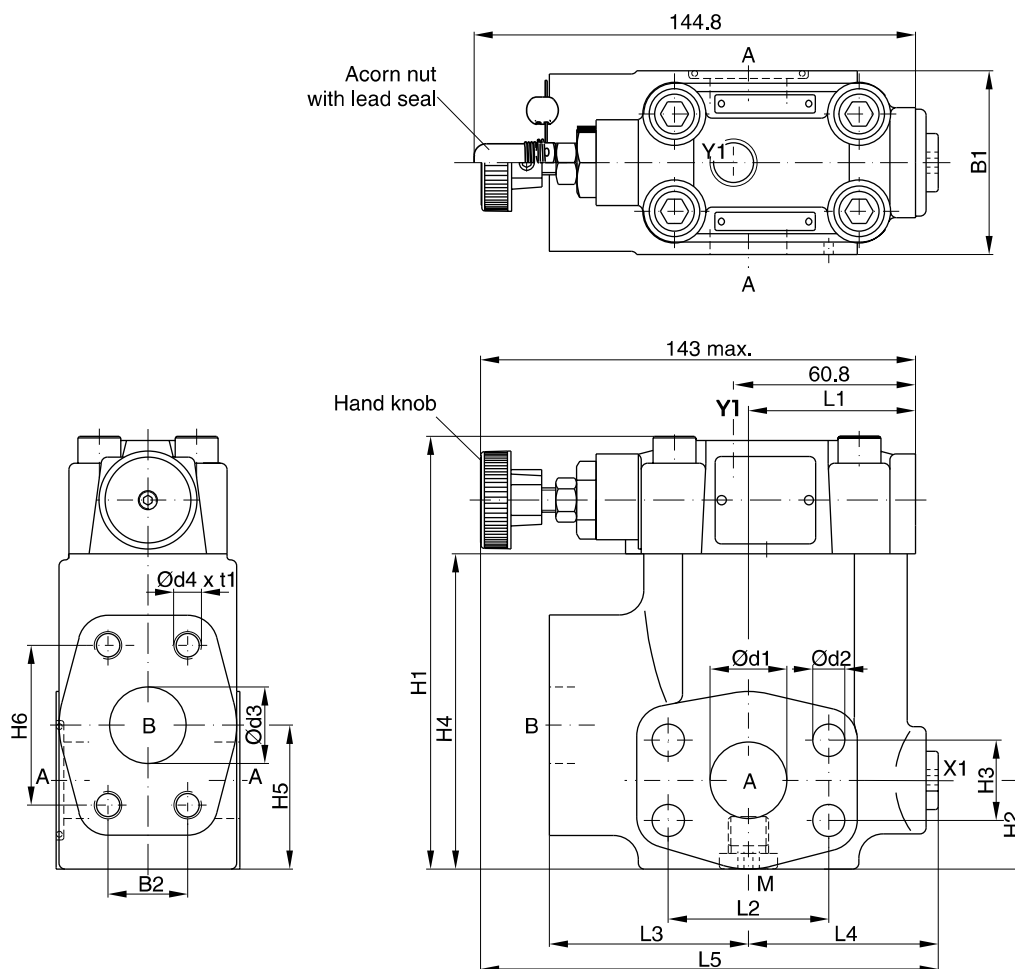
**Typical pressure characteristics at closing point**



P1 = setting pressure  
P2 = operating pressure

Time and pressure underlap depend on the characteristics of the specific system.

Dimensions



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SAE61

Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

NG	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60	22.2	119	29.5	22.2	81	41	47.6	50.3	47.6	63	60	152	19	10.5	19	3/8"-16 UNC (M10)	20
08	60	26.2	141	30.5	26.2	103	47	52.4	55.8	52.4	65	62	149	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	151	37.5	30.2	113	65	58.7	57.8	58.7	61	68	150.5	32	12.5	30	7/16"-14 UNC (M12)	22

Port	Function	Port size		
		R5S06	R5S08	R5S10
A (2)	Pressure	3/4" SAE61	1" SAE61	1 1/4" SAE61
B	Secondary port	3/4" SAE61	1" SAE61	1 1/4" SAE61
X1	External pilot port <sup>1)</sup>	G 1/4"	G 1/4"	G 1/4"
Y1	External drain	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"

<sup>1)</sup> Closed when supplied.

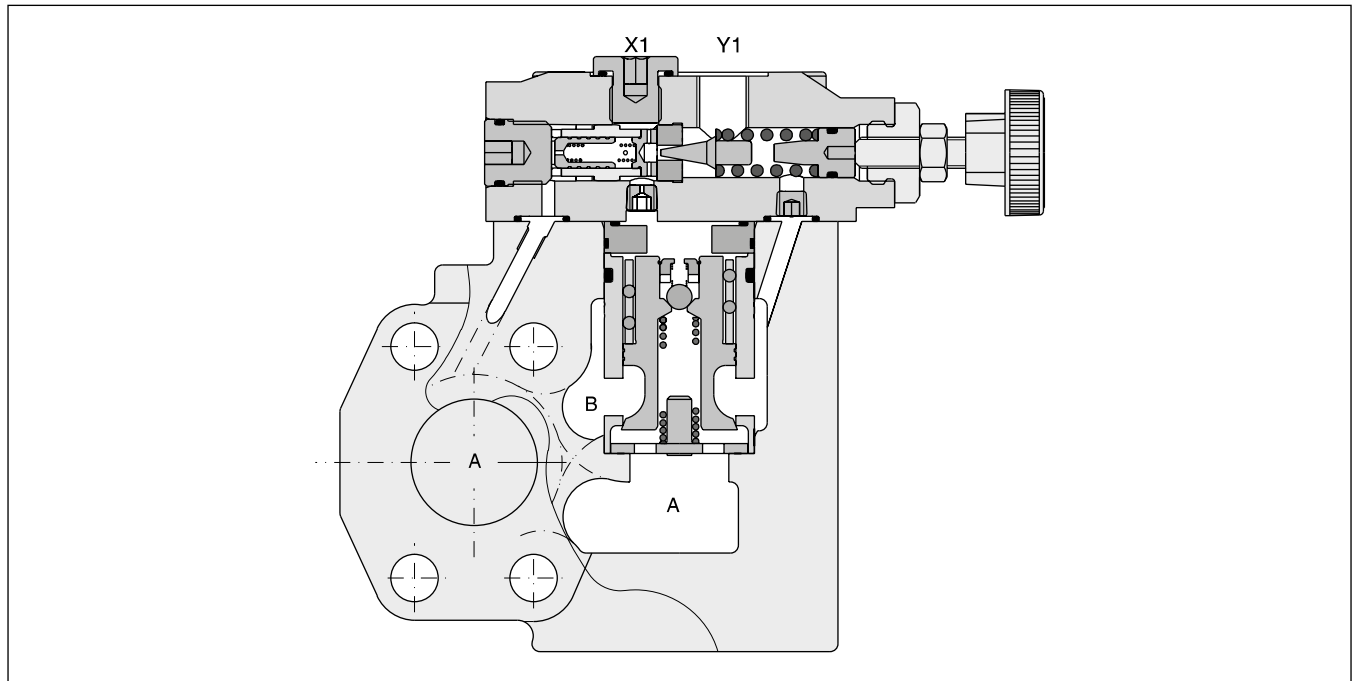
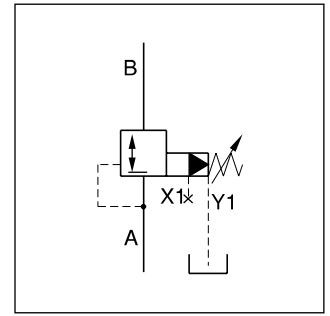




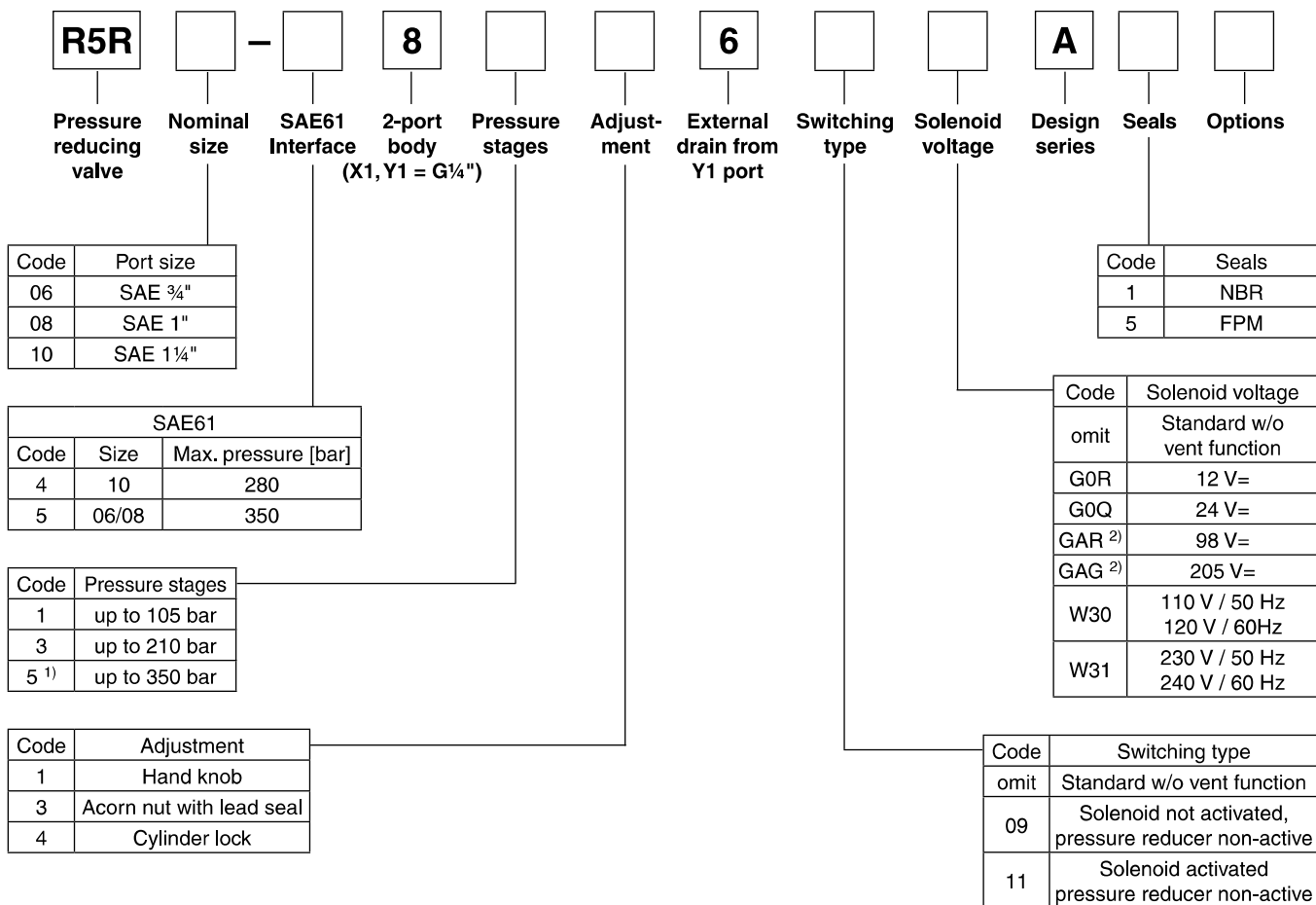
Pilot operated pressure reducing valves series R5R have a similar design as the subplate mounted R4R series. The SAE flanges allow to mount the valves directly on the inlet flanges of actuators to achieve a very compact design.

**Features**

- Pilot operated with manual adjustment
- Normally closed to avoid unintended motion
- 2-port body with SAE61 flange
- 3 sizes (SAE 3/4", 1", 1 1/4")
- 3 pressure stages
- 3 adjustment modes
  - Hand knob
  - Acorn nut with lead seal
  - Cylinder lock
- With optional vent function
- Flow direction B → A



Ordering Code



Further options on request

9

<sup>1)</sup> R5R10-485 up to 280 bar.

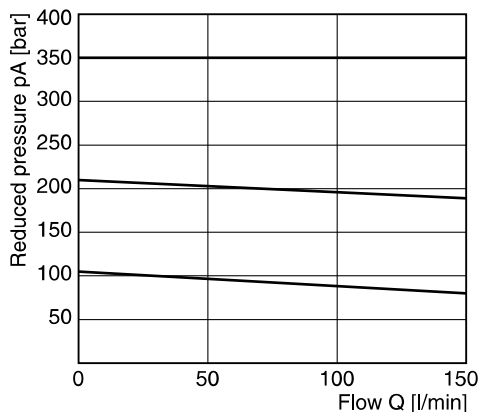
<sup>2)</sup> To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.



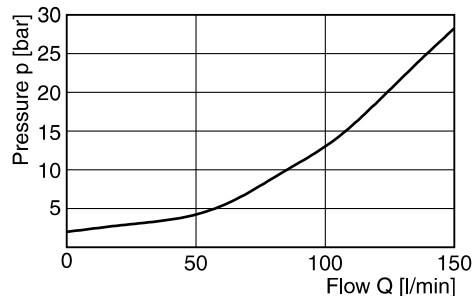
<b>General</b>								
Size			<b>06 (¾")</b>		<b>08 (1")</b>		<b>10 (1¼")</b>	
Mounting	Flanged according to SAE61							
Mounting position	unrestricted							
Ambient temperature	[°C]	-20...+60						
MTTF <sub>D</sub> value	[years]	75						
Weight	[kg]	4.0		4.6		5.9		
<b>Hydraulic</b>								
Max. operating pressure	[bar]							
	Ports A, B, X1	350		350		280		
	Port Y1	30		30		30		
Flow direction	B → A							
Pressure stages	[bar]	105, 210, 350						
Nominal flow	[l/min]	90		300		500		
Fluid	Hydraulic oil according to DIN 51524							
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)						
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400					
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80					
Filtration	ISO 4406 (1999); 18/16/13							
<b>Electrical</b>								
Duty ratio	100% ED; CAUTION: coil temperature up to 150 °C possible							
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)							
	Code	G0R	G0Q	GAR	GAG	W30	W31	
Supply voltage	[V] [V]	12 V =	24 V =	98 V =	205 V =	110 at 50 Hz 120 at 60 Hz	230 at 50 Hz 240 at 60 Hz	
Tolerance supply voltage	[%]	±10	±10	±10	±10	±5	±5	
Current consumption	hold	[W]	2.72	1.29	0.33	0.13	0.6 / 0.55	
	in rush	[W]	2.72	1.29	0.33	0.13	2.5 / 2.4	
Power consumption	hold	[ms]	32.7	31	31.9	28.2	70/70 VA	
	in rush	[ms]	32.7	31	31.9	28.2	280/290 VA	
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461							
Wiring min.	[mm <sup>2</sup> ]	3 x 1.5 recommended						
Wiring length max.	[m]	50 recommended						

**Reduced pressure pA versus flow Q**

**R5R06** <sup>1)</sup>

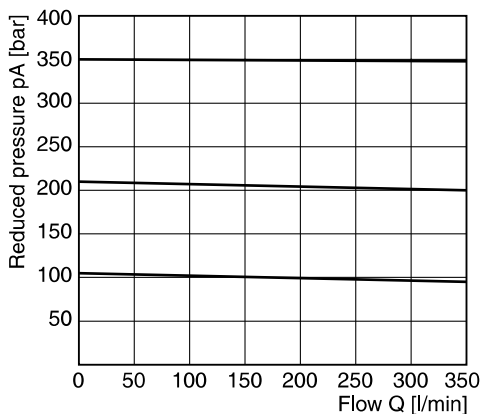


**Minimum pressure curve**

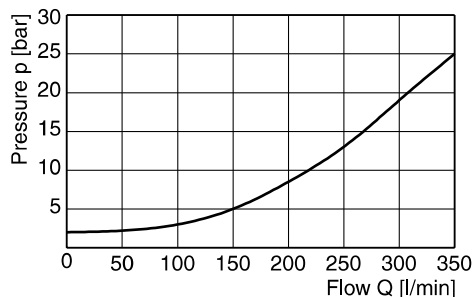


**Reduced pressure pA versus flow Q**

**R5R08** <sup>1)</sup>



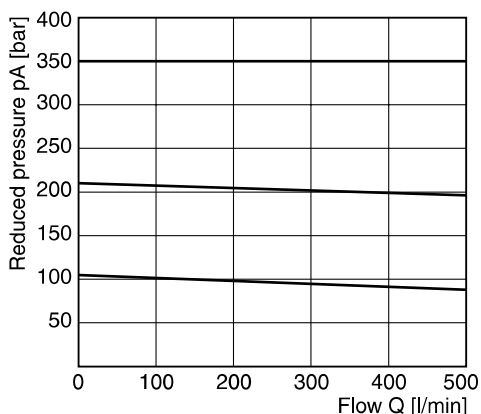
**Minimum pressure curve**



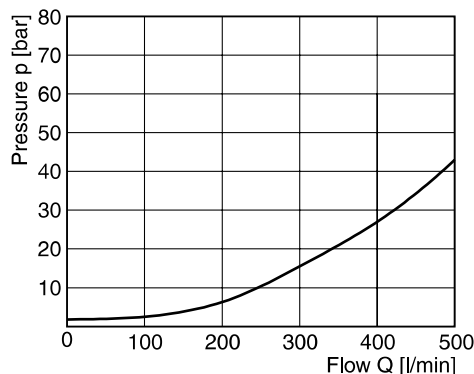
**9**

**Reduced pressure pA versus flow Q**

**R5R10** <sup>1)</sup>



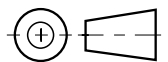
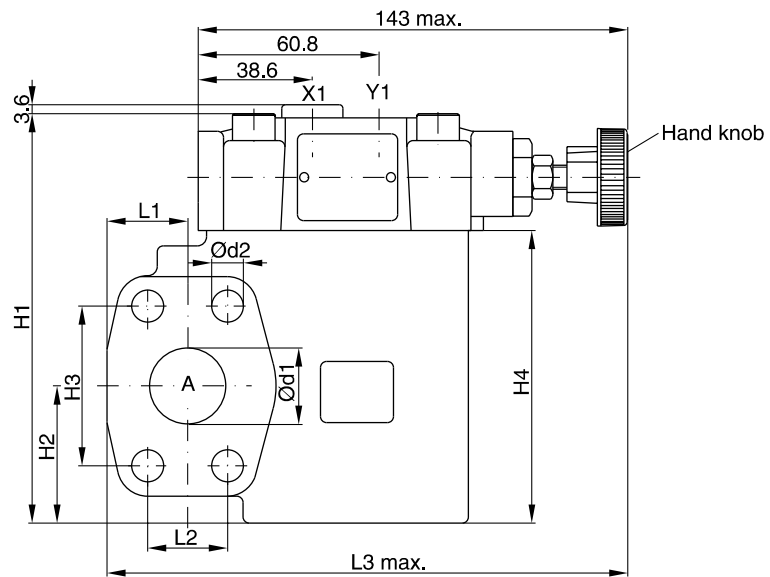
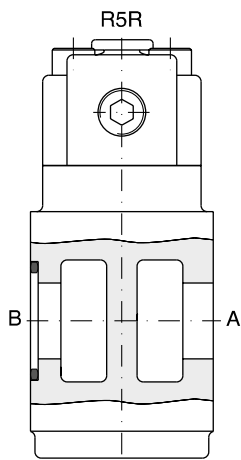
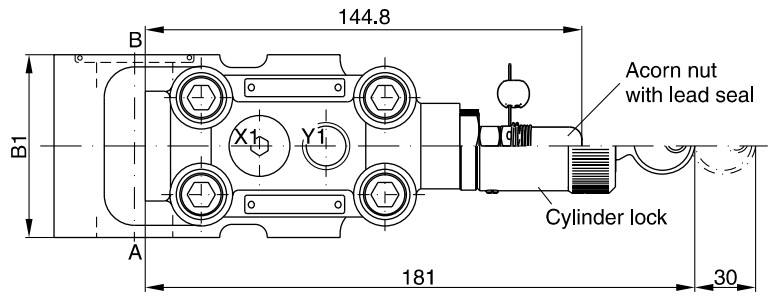
**Minimum pressure curve**



All characteristic curves measured with HLP46 at 50 °C.

<sup>1)</sup> Measured at 350 bar primary pressure pB.

**R5R**



**9**

Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

NG	B1	H1	H2	H3	H4	L1	L2	L3	d1	d2
06	60	131.6	37	47.6	90	24.6	22.2	152	19	10.5
08	60	137.6	45	52.4	96	26.5	26.2	171	25	10.5
10	75	150.6	48	58.7	109	34.0	30.2	179	32	12.5

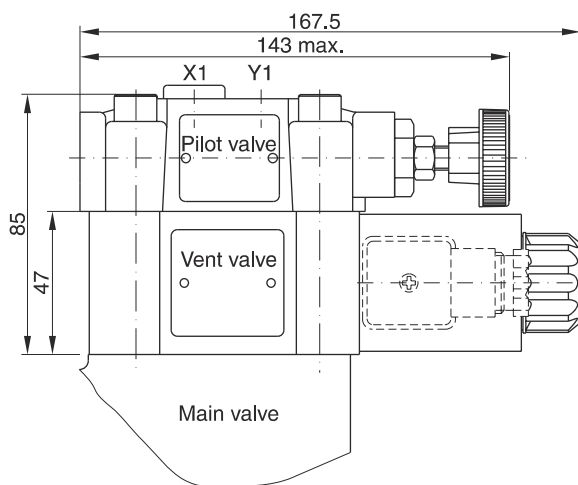
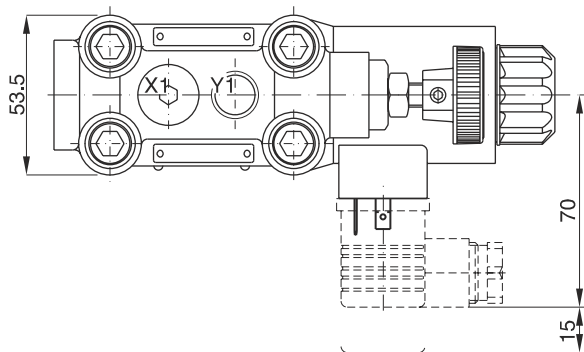
Port	Function	Port size		
		R5R06	R5R08	R5R10
B	Inlet pressure	¾" SAE61	1" SAE61	1¼" SAE61
A	Reduced outlet pressure	¾" SAE61	1" SAE61	1¼" SAE61
Y1	External drain	G¼"	G¼"	G¼"
X1	Pressure gauge	G¼"	G¼"	G¼"

R5R UK.INDD 10.04.19

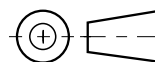


**Dimensions**

**R5R with vent function**



Seal kits	
NBR	FPM
<b>DC solenoid</b>	
S56-40609-0	S56-40609-5
<b>AC solenoid</b>	
S26-35237-0	S26-35237-5



9

Code	External drain
11	
09	

### Characteristics

Proportional pressure relief valves series R5V\*P2 are based on the mechanically adjusted series R5V. The additional proportional unit between the mechanical pilot valve and the main stage allows continuous pressure adjustment.

The optimum performance can be achieved in combination with the digital amplifier module PCD00A-400.

### Features

- Continuous adjustment by proportional solenoid
- R5V with 2-port body
  - 3 sizes (SAE 3/4", 1", 1 1/4")
  - SAE61 flange
- R5V with 3-port body
  - 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2")
  - SAE61 and SAE62 flange
- 3 pressure stages
- With mechanical maximum pressure adjustment

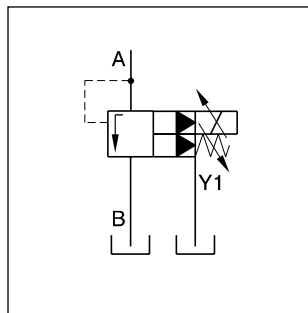
### Pilot Operated Prop. Pressure Relief Valve Series R5V\*P2



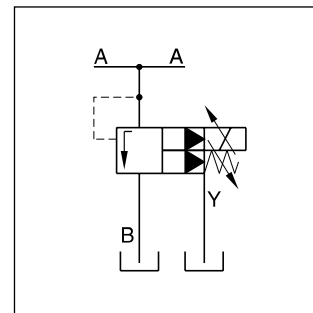
R5V\*P2 2-port



R5V\*P2 3-port

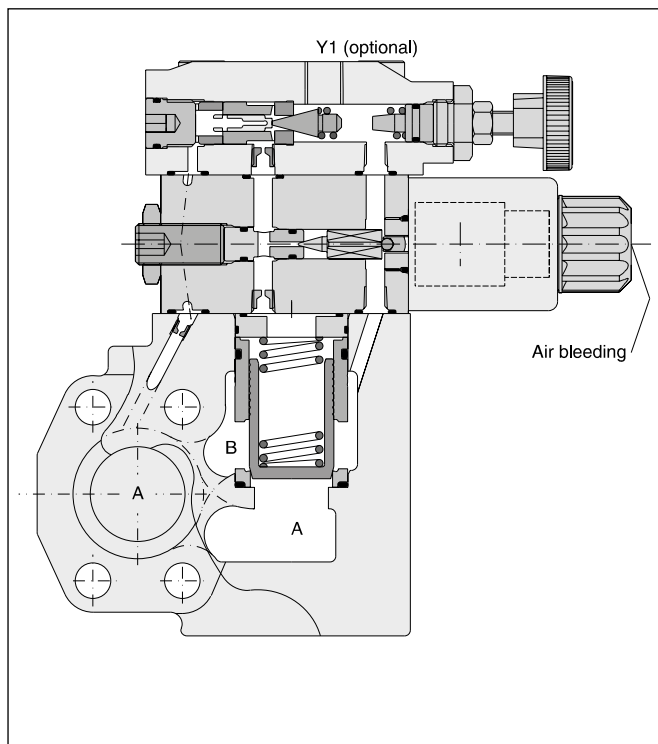


R5V\*P2 2-port

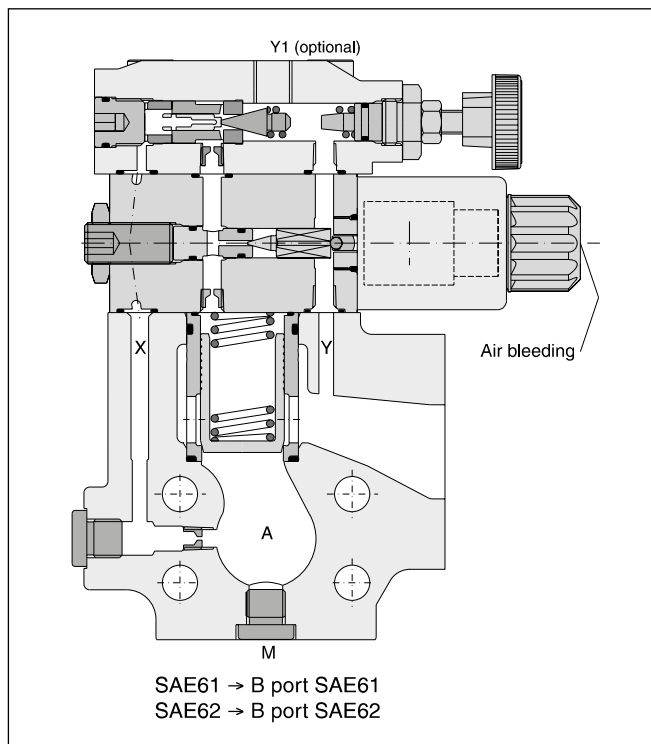


R5V\*P2 3-port

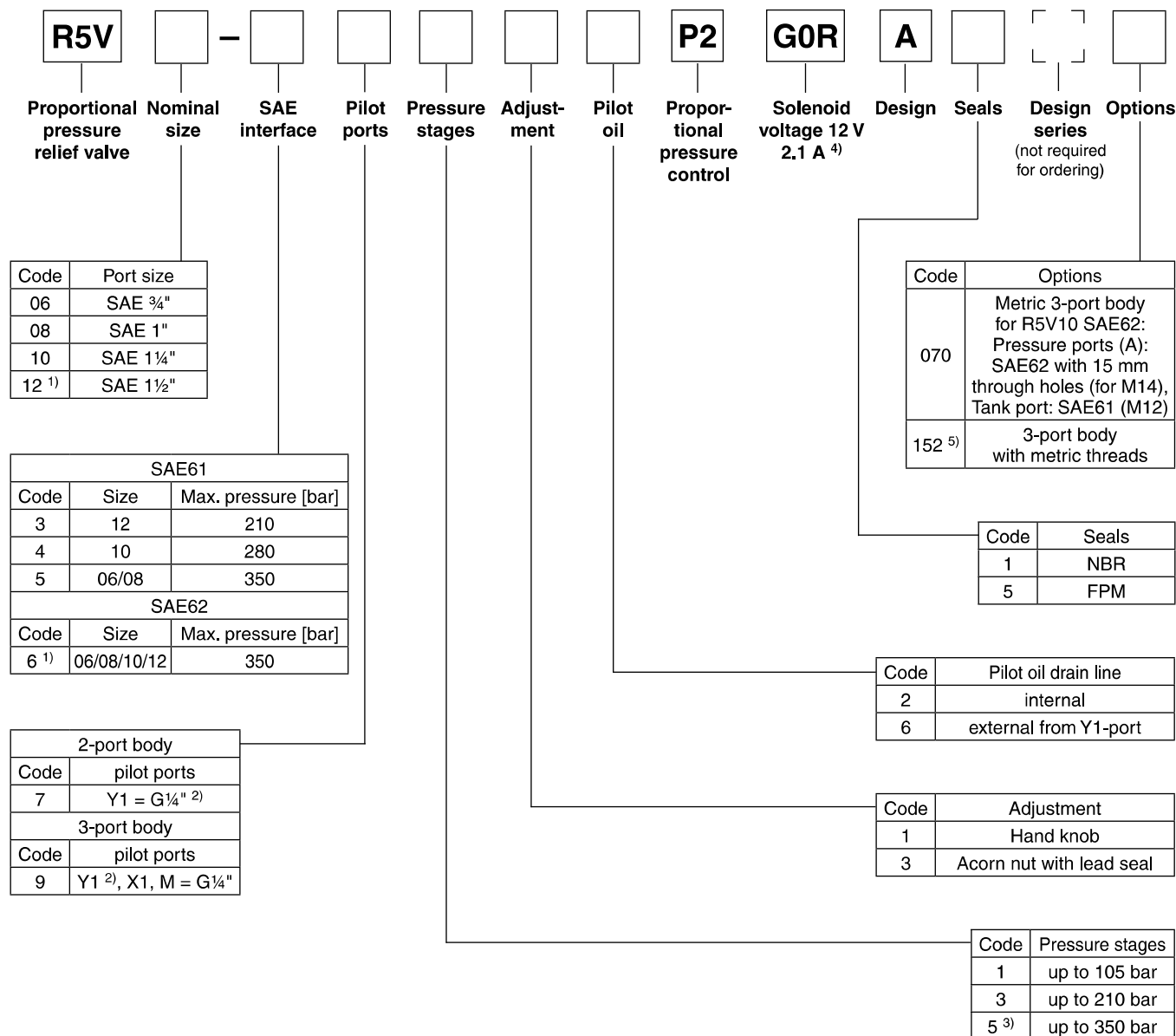
### R5V\*P2 2-port



### R5V\*P2 3-port



**Ordering Code**



<sup>1)</sup> Only R5V 3port.

<sup>2)</sup> Y1 only available at external drain (pilot oil code 6).

<sup>3)</sup> R5V10-4\*5 up to 280 bar.

<sup>4)</sup> Onboard electronics on request.

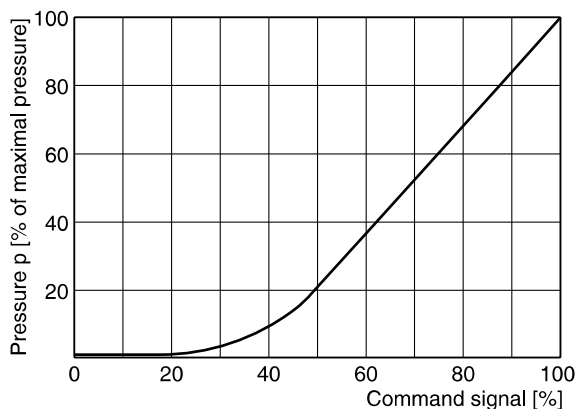
<sup>5)</sup> R5V08 SAE62: Tank port SAE61 (M10).



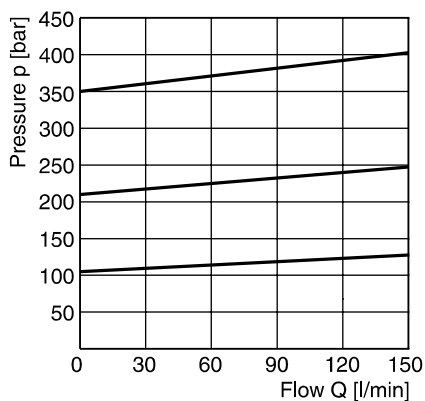
**Technical Data**

<b>General</b>						
Size			<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>	<b>12 (1½")</b>
Mounting	Flanged according to SAE61 (size 12 = SAE62)					
Mounting position	unrestricted					
Ambient temperature	[°C]	-20...+60				
MTTF <sub>D</sub> value	[years]	75				
Weight	R5V 2-port	[kg]	5.8	6.4	7.7	—
	R5V 3-port	[kg]	5.4	6.4	7.0	9.8
<b>Hydraulic</b>						
Max. operating pressure	[bar]					
	SAE61 Ports A, B		350	350	280	210
	Port Y1		30	30	30	30
	SAE62 Ports A, B		350	350	350	350
	Port Y1		30	30	30	30
Pressure stages	[bar]	105, 210, 350				
Nominal flow	[l/min]		90	300	600	600
Fluid	Hydraulic oil according to DIN 51524					
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)				
Viscosity permitted	[cSt] / [mm <sup>2</sup> /s]	20...400				
Viscosity recommended	[cSt] / [mm <sup>2</sup> /s]	30...80				
Filtration	ISO 4406 (1999); 18/16/13					
<b>Electrical (proportional solenoid)</b>						
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible					
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)					
Code	G0R					
Supply voltage	[V]	12 V =				
Max. current	[A]	2.1				
Coil resistance at 20 °C	[Ohm]	4.28				
Solenoid connection	Connector as per EN 175301-803					
Power amplifier, recommended	PCD00A-400					

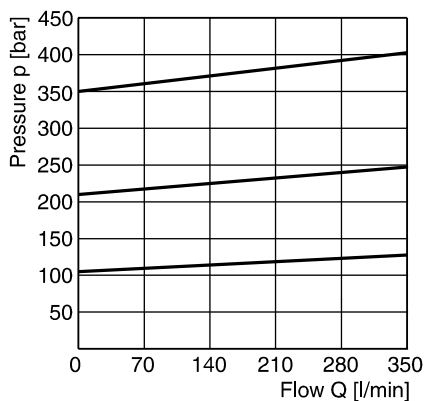
**Signal/pressure curve R5V\*P2**



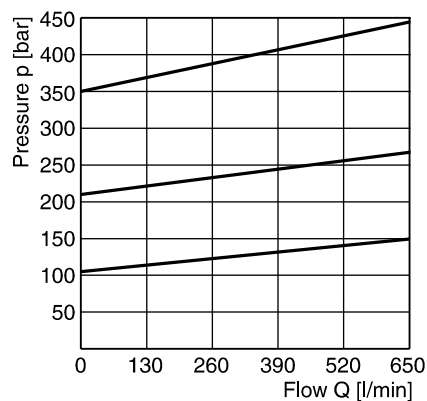
**p/Q performance curve 1)  
R5V06\*P2**



**R5V08\*P2**

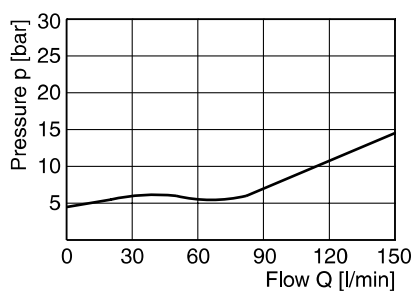


**R5V10\*P2**

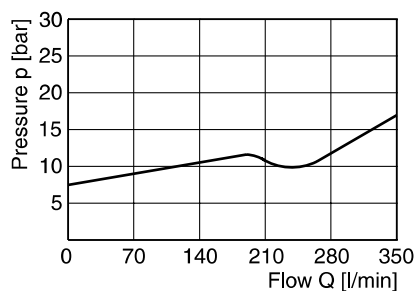


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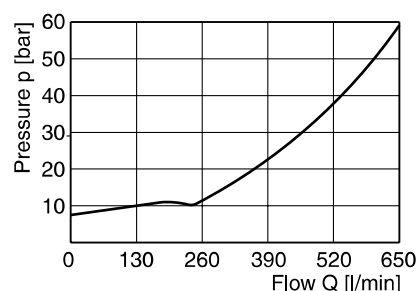
**Minimum pressure curve 1)  
R5V06\*P2**



**R5V08\*P2**



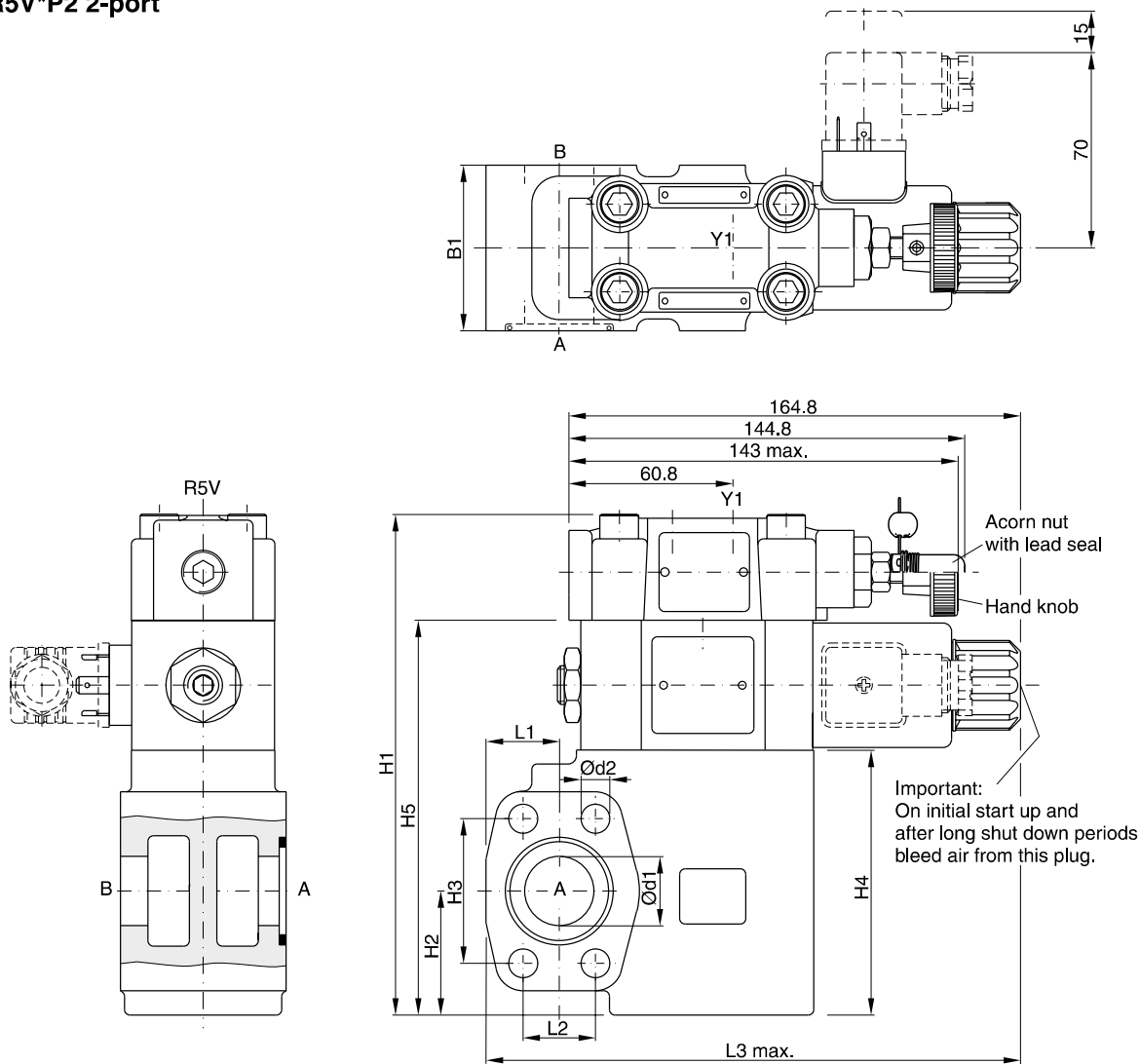
**R5V10\*P2**



All characteristic curves measured with HLP46 at 50 °C.

1) The performance curves are measured with external drain. For internal drain the tank pressure has to be added to curve.

**R5V\*P2 2-port**



**SAE61**

Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
Prop. section P2 *	S26-58473-0	S26-58473-5

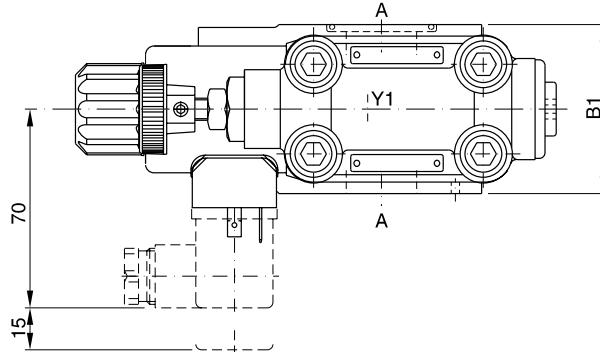
NG	B1	H1	H2	H3	H4	H5	L1	L2	L3	d1	d2
06	60	175	37	47.6	90	137	24.6	22.2	174	19	10.5
08	60	181	45	52.4	96	143	26.5	26.2	193.6	25	10.5
10	75	194	48	58.7	109	156	34.0	30.2	201	32	12.5

Port	Function	Port size		
		R5V06	R5V08	R5V10
A	Pressure	¾" SAE61	1" SAE61	1¼" SAE61
B	Tank	¾" SAE61	1" SAE61	1¼" SAE61
Y1	External drain	G¼"	G¼"	G¼"

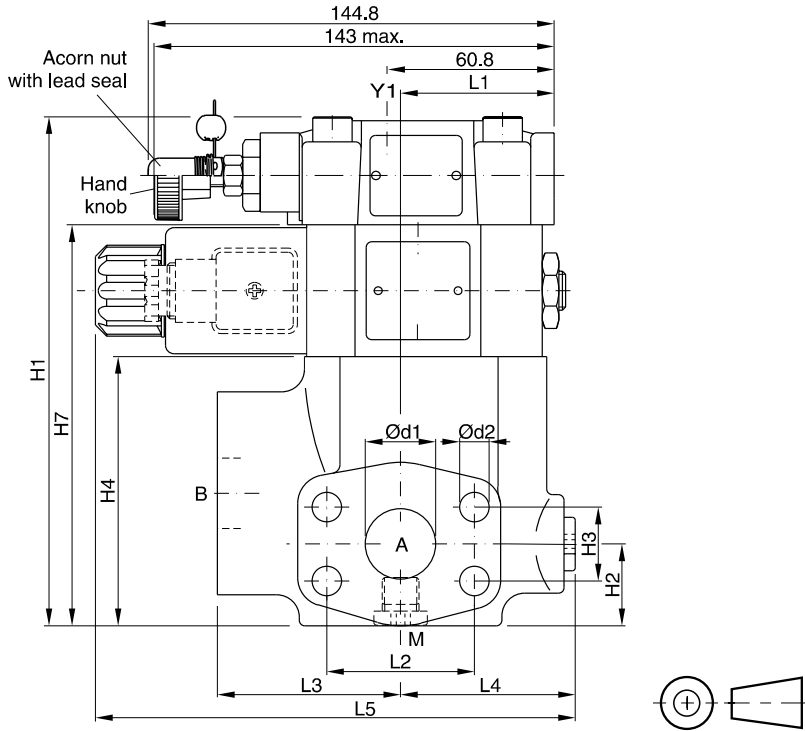
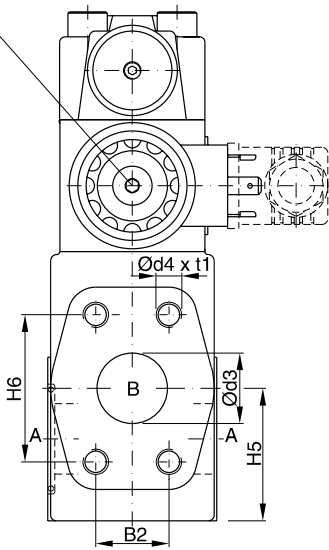
\* Please combine seal kit of one size with seal kit of Prop. section P2 for complete seal kit.

**R5V\*P2 3-port**

Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
12	S26-27421-0	S26-27421-5
Prop. section P2 *	S26-58473-0	S26-58473-5



**Important:**  
 On initial start up and after long shut down periods bleed air from this plug.



**9**

**SAE61**

NG	B1	B2	H1	H2	H3	H4	H5	H6	H7	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60	22.2	166	29.5	22.2	81	41	47.6	128	50.3	47.6	63	60	174.6	19	10.5	19	3/8"-16 UNC (M10)	20
08	60	26.2	188	30.5	26.2	103	47	52.4	150	55.8	52.4	65	62	177	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	198	37.5	30.2	113	65	58.7	160	57.8	58.7	61	68	179.1	32	12.5	30	7/16"-14 UNC (M12)	22
12	80	35.7	225	72	35.7	140	73	69.8	187	37.3	69.8	92.5	59.2	186.8	38	13.5	38	1/2"-13 UNC (M12)	27

**SAE62**

NG	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	d1	d2	d3	d4 (option 152)	t1
06	60	23.8	119	29.5	23.8	81	41	50.8	50.3	50.8	63	60	152	19	10.5	19	3/8"-16 UNF (M10)	20
08	60	27.8	141	30.5	27.8	103	47	57.2	55.8	57.2	65	62	149	25	12.5	25	7/16"-14 UNC (M10) <sup>1)</sup>	22
10	75	31.8	151	37.5	31.8	113	65	66.7	57.8	66.7	61	68	150.5	32	13.5	30	1/2"-13 UNC (M12)	24
12	80	36.5	178	72	36.5	140	73	79.4	37.3	79.4	92.5	59.2	171.2	38	17	38	5/8"-11 UNC (M16)	33

Port	Function	Port size			
		R5V06	R5V08	R5V10	R5V12
A (2)	Pressure	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
B	Tank	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
Y1	External drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"	G 1/4"

\* Please combine seal kit of one size with seal kit of Prop. section P2 for complete seal kit.

<sup>1)</sup> T-port SAE61.

R5VP2 UK.INDD 11.04.19

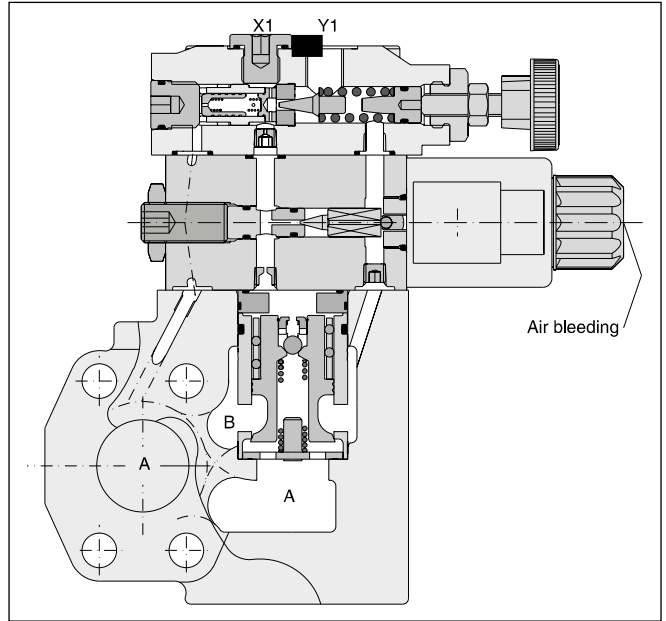
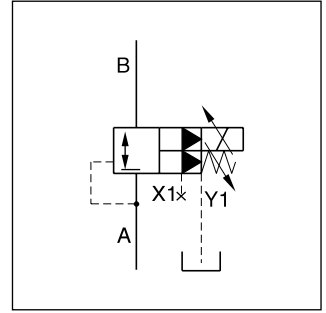


Proportional pressure reducing valves series R5R\*P2 are based on the mechanically adjusted series R5R. The additional proportional unit between the mechanical pilot valve and the main stage allows continuous pressure adjustment.

The optimum performance can be achieved in combination with the digital amplifier module PCD00A-400.

**Features**

- Continuous adjustment by proportional solenoid
- 2-port body with SAE61 flange
- 3 sizes (SAE ¾", 1", 1¼")
- 3 pressure stages
- With mechanical maximum pressure adjustment



**Ordering code**

<b>R5R</b>		-		<b>8</b>				<b>6</b>	<b>P2</b>	<b>G0R</b>	<b>A</b>		
Pressure reducing valve	Nominal size	SAE61 interface	Body 2-port (X1, Y1 = G¼")	Pressure stages	Adjustment	External drain from Y1-port	Proportional pressure control	Solenoid voltage 12 V 2.1 A	Design series	Seals	Options		

**9**

Code	Port size
06	SAE ¾"
08	SAE 1"
10	SAE 1¼"

SAE61		
Code	Size	Max. pressure [bar]
4	10	280
5	06/08	350

Code	Pressure stages
1	up to 105 bar
3	up to 210 bar
5 <sup>1)</sup>	up to 350 bar

Code	Seals
1	NBR
5	FPM

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal

Further options on request

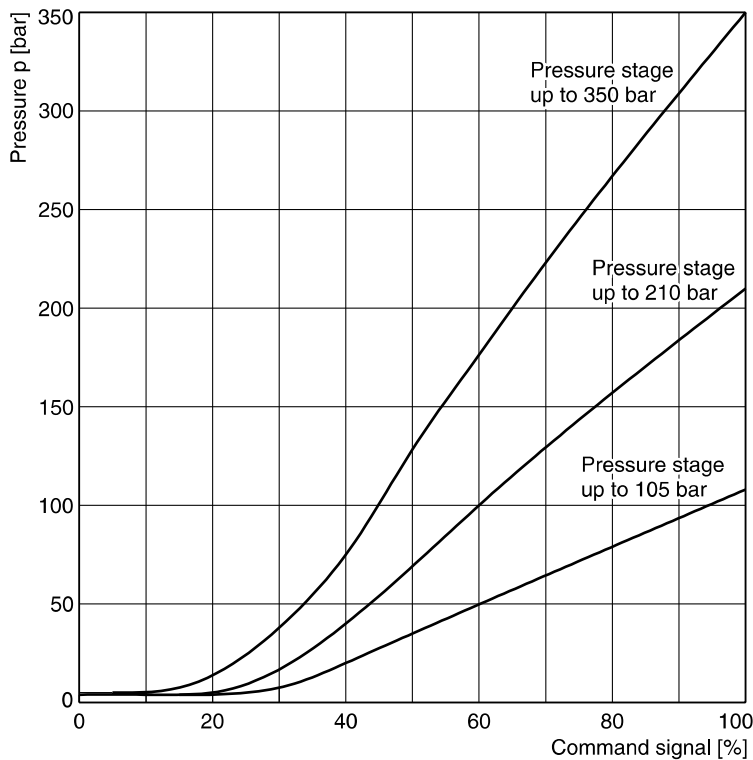
<sup>1)</sup> R5R10-485 up to 280 bar.

**Technical Data / Characteristic Curves**

**Technical data**

General			
Size			<b>06 (3/4")</b> <b>08 (1")</b> <b>10 (1 1/4")</b>
Mounting	Flanged according to SAE61		
Mounting position	unrestricted		
Ambient temperature	[°C]	-20...+60	
MTTF <sub>D</sub> value	[years]	75	
Weight	[kg]	5.8	6.4      7.7
Hydraulic			
Max. operating pressure	Ports A, B, X1	[bar]	350      350      280
	Port Y1	[bar]	30      30      30
Pressure stages	[bar]	105, 210, 350	
Nominal flow	[l/min]	90	300      500
Fluid	Hydraulic oil according to DIN 51524		
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)	
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80
Filtration	ISO 4406 (1999); 18/16/13		
Electrical (proportional solenoid)			
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible		
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)		
Code	G0R		
Supply voltage	[V]	12 V =	
Max. current	[A]	2.1	
Coil resistance at 20 °C	[Ohm]	4,28	
Solenoid connection	Connector as per EN 175301-803		
Power amplifier, recommended	PCD00A-400		

**Command / pressure curve**



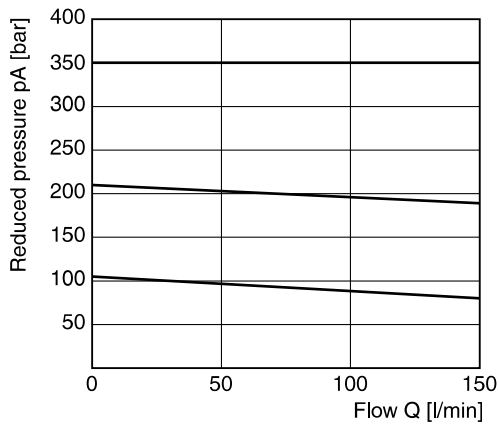
All characteristic curves measured with HLP46 at 50 °C.

R5RP2 UK.INDD 11.04.19

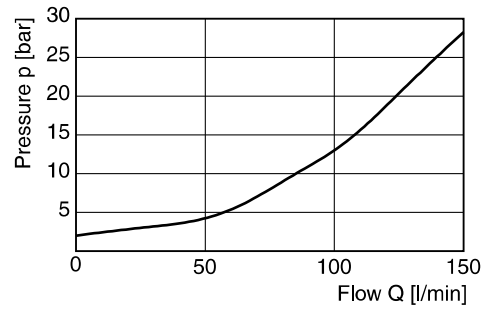


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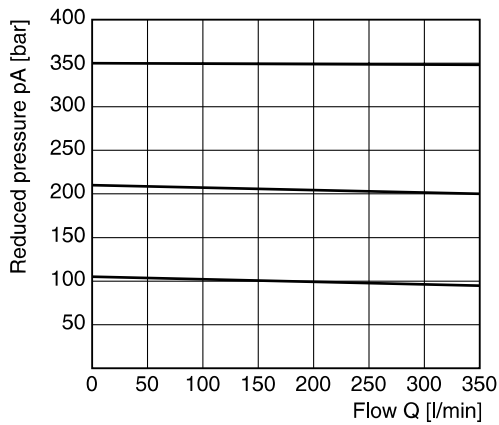
**Reduced pressure pA vs. flow Q**  
**R5R06\*P2 1)**



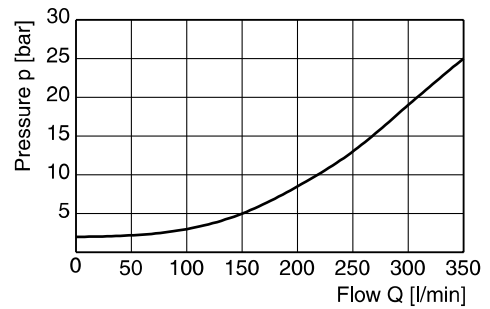
**Minimum pressure curve**



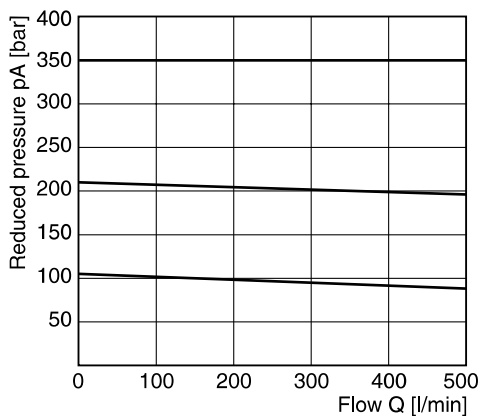
**Reduced pressure pA vs. flow Q**  
**R5R08\*P2 1)**



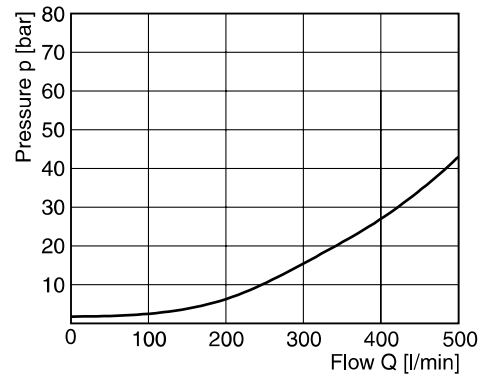
**Minimum pressure curve**



**Reduced pressure pA vs. flow Q**  
**R5R10\*P2 1)**



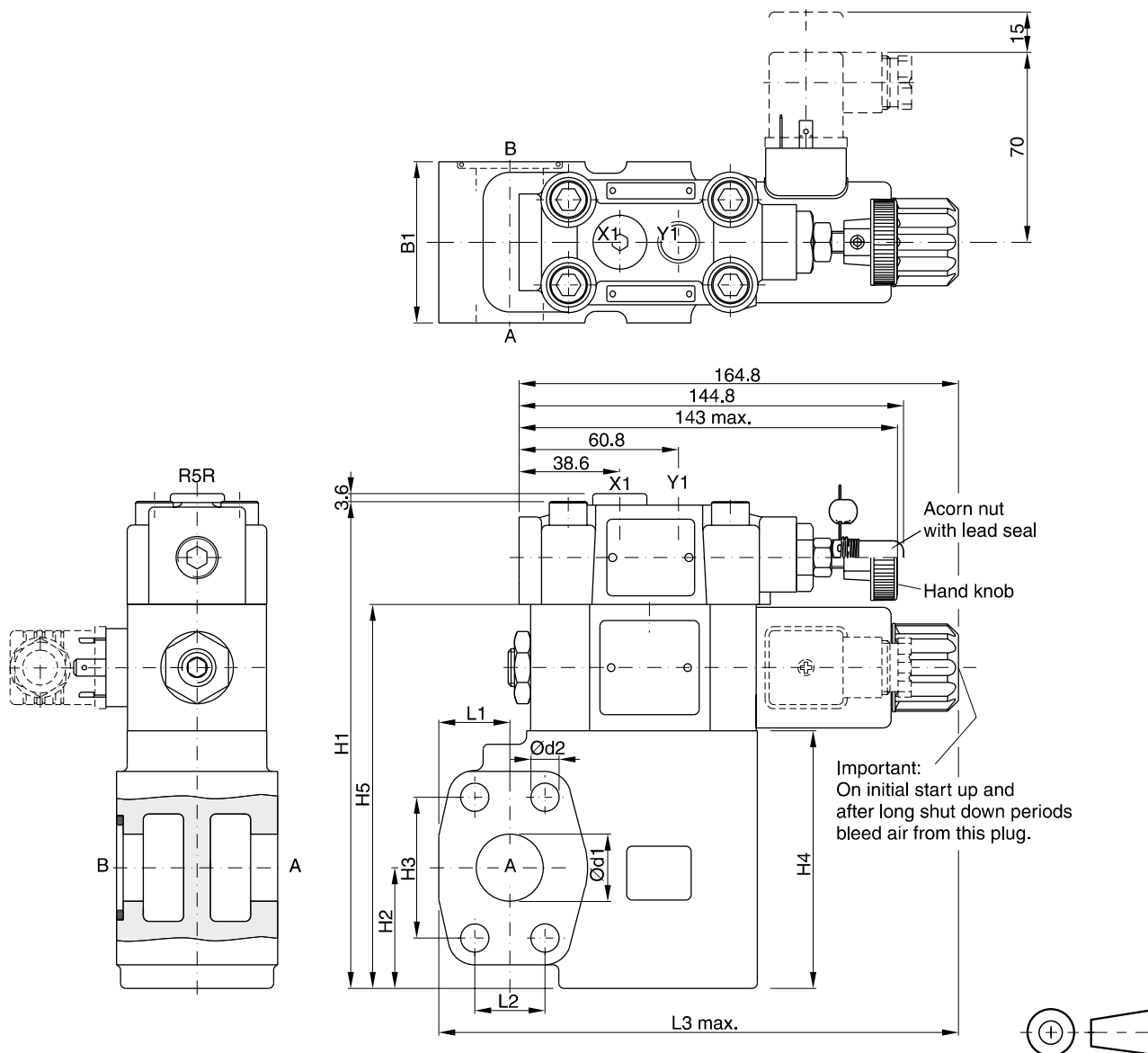
**Minimum pressure curve**



All characteristic curves measured with HLP46 at 50 °C.

1) Measured at 350 bar primary pressure pB.

**Dimensions**



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Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
Prop. section P2 *	S26-58473-0	S26-58473-5

NG	B1	H1	H2	H3	H4	H5	L1	L2	L3	d1	d2
06	60	175	37	47.6	90	137	24.6	22.2	174	19	10.5
08	60	181	45	52.4	96	143	26.5	26.2	193.6	25	10.5
10	75	194	48	58.7	109	156	34.0	30.2	201	32	12.5

Port	Function	Port size		
		R5R06	R5R08	R5R10
B	Inlet pressure	¾" SAE61	1" SAE61	1¼" SAE61
A	Reduced outlet pressure	¾" SAE61	1" SAE61	1¼" SAE61
Y1	External drain	G¼"	G¼"	G¼"
X1	Pressure gauge	G¼"	G¼"	G¼"

\* Please combine seal kit of one size with seal kit of Prop. section P2 for complete seal kit.



**Characteristics**

Seat valves series D5S are designed for directional control functions. They enable individual hydraulic solutions for nominal flow up to 800 l/min due to a large variety of poppets, springs and covers, including shuttle valves, stroke limiters, solenoid valves (VV01) and position control.

A complete program is offered under the Parker brand:

Subplate mounted valves (Series D4S - chapter 6)

SAE flange valves (Series D5S - chapter 9)

Pipe mounted valves (Series D4S - chapter 10)

Slip-in cartridges (Series CAR - on request)

**Features**

- Leak-free seat valve design
- 2- and 3-port bodies
- SAE61 flange
- Numerous pilot options
- 4 sizes, SAE 3/4", 1", 1 1/4", 1 1/2"
- 6 poppet types

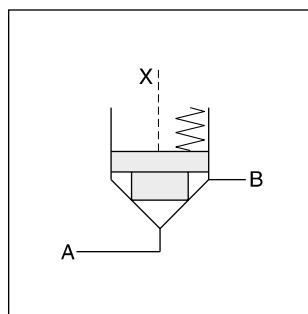
**Directional Seat Valve  
Series D5S**



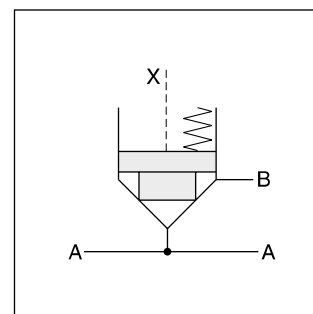
D5S 2-port



D5S 3-port

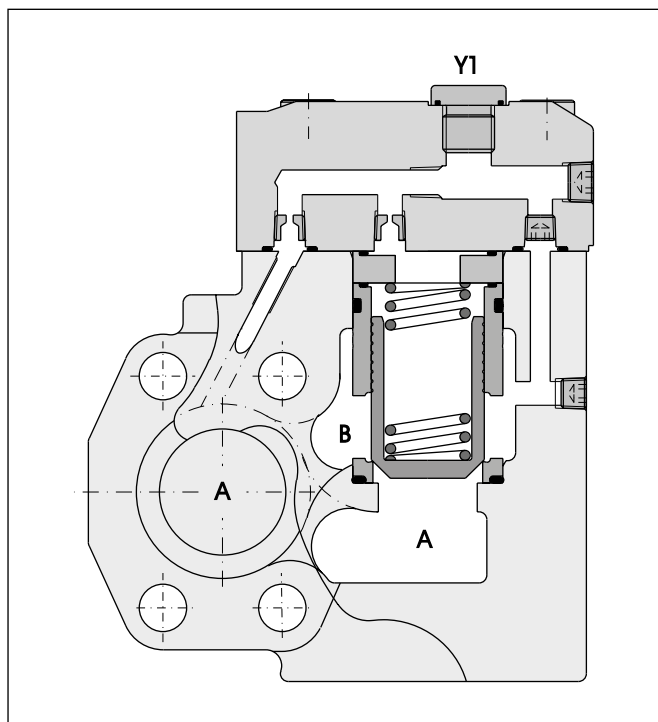


D5S 2-port

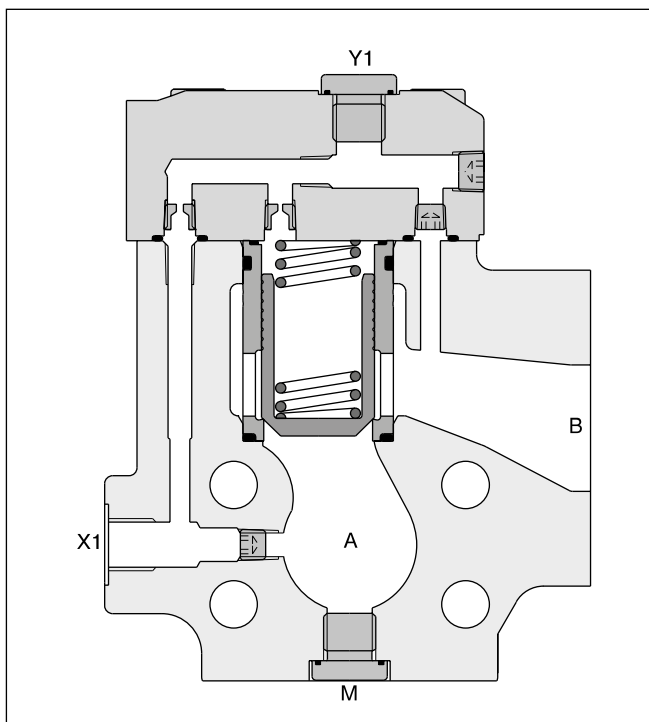


D5S 3-port

**D5S 2-port**

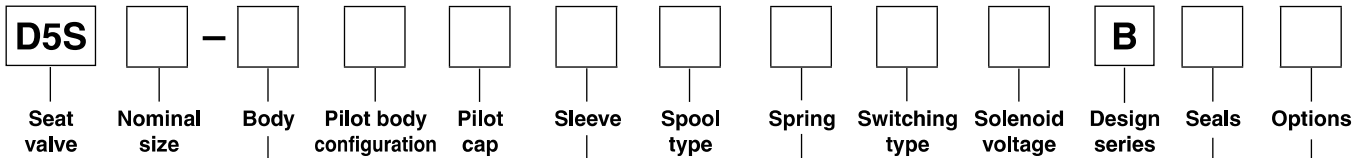


**D5S 3-port**



D5S UK.INDD 11.04.19





Code	Port size
06	SAE 3/4"
08	SAE 1"
10	SAE 1 1/4"
12 <sup>1)</sup>	SAE 1 1/2"

Code	Body	Ports
5	3-port	Seat entry, A; X1, Y1, M = G 1/4"
7	2-port	Seat entry, A; X1, Y1 = G 1/4"
8	2-port	Annular entry, B; X1, Y1 = G 1/4"

Code	Pilot oil line in body
1	internal from A
2	internal from B
3	internal from A and B
4	external from X1
5	internal from B, external from X1

Code	Body	Ports	X	Y	Z	X-Y	X1	Y1	VV01
Standard									
1	2-/3-port	Pilot oil = pilot drain	●	●	●	○	—	●	—
2	2-/3-port	Pilot oil = pilot drain	●	●	●	○	—	●	—
3	2-port	Pilot oil = pilot drain	●	●	●	○	○	●	—
With solenoid valve (VV01)									
4	2-/3-port	Internal to B	●	○	●	●	—	●	○
5	2-port	Internal to B	●	○	●	●	○	●	○
6	2-/3-port	Ext. out of cap	●	○	●	●	—	○	●
7	2-port	Ext. out of cap	●	○	●	●	○	○	●
With stroke limiter (not for D5S06)									
A	2-/3-port	Pilot oil = pilot drain	●	●	●	—	●	—	—
B	2-/3-port	Pilot oil = pilot drain	●	●	—	—	●	—	—
C	2-port	Pilot oil = pilot drain	●	●	●	—	○	—	—

○ open bore ● closed bore ◐ orifice Ø 1.2

Code	Sleeve
1	AA = 95 %, AB = 5 %
3	AA = 60 %, AB = 40 %

Code	Size	Poppet type	Sleeve
1	06, 08, 10, 12	With closed bottom and 15° chamfer (pz max. = pA +20 bar)	1
2	06	With 0.8 dia. orifice at the bottom and 15° chamfer	1
	08, 10	With 1.2 dia. orifice at the bottom and 15° chamfer	1
4	06, 08, 10, 12	With closed bottom and 45° chamfer	1, 3
A <sup>2)</sup>	08, 10, 12	Safety spool (for end position control only)	3
B <sup>2)</sup>	08, 10, 12	Throttle spool, 10° chamfer	3
C <sup>2)</sup>	08, 10, 12	Throttle spool, 3° chamfer	3

Examples see end of chapter.

<sup>1)</sup> D5S 3-port only.  
<sup>2)</sup> Springs 2, 3 and 6 only.  
<sup>3)</sup> Position control for D5S08/10 only. Spring 2 or 4. Spool A and sleeve 3.  
<sup>4)</sup> To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

Code	Options
omit	Standard
013	Position control with protection

Code	Seals
1	NBR
5	FFPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR <sup>4)</sup>	98 V=
GAG <sup>4)</sup>	205 V=
W30	110 V / 50 Hz ; 120 V / 60 Hz
W31	230 V / 50 Hz ; 240 V / 60 Hz

Code	Switching type	
omit	Standard w/o vent function	
09	VV01 with manual override	de-energized: open
10	VV01 without manual override	
11	VV01 with manual override	de-energized: closed
12	VV01 without manual override	
CA	Shuttle valve	
DA	Shuttle valve	
CB	VV01 code 09 and shuttle valve code CA	
CD	VV01 code 11 and shuttle valve code CA	
DB	VV01 code 09 and shuttle valve code DA	
DD	VV01 code 11 and shuttle valve code DA	
BH	VV01 code 10 and shuttle valve code CA and position control <sup>3)</sup> with amplifier	
BK	VV01 code 12 and shuttle valve code CA and position control <sup>3)</sup> with amplifier	
BN	VV01 code 10 and shuttle valve code DA and position control <sup>3)</sup> with amplifier	
BQ	VV01 code 12 and shuttle valve code DA and position control <sup>3)</sup> with amplifier	
BC	VV01 code 10 and position control <sup>3)</sup> with amplifier	
BE	VV01 code 12 and position control <sup>3)</sup> with amplifier	
BA	Position control <sup>3)</sup> with amplifier	
BF	Position control <sup>3)</sup> with amplifier and shuttle valve code CA	
BL	Position control <sup>3)</sup> with amplifier and shuttle valve code DA	

Code	Spring (approx. cracking pressure [bar])					
	Sleeve Code 1			Sleeve Code 3		
	A -> B		A -> B	B -> A		B -> A
	D5S06	D5S08/12	D5S06	D5S08/12	D5S06	D5S08/12
1	2.8	3.5	6.5	6.5	9.5	11.0
2	0.5	0.5	1.0	1.0	1.5	1.7
3	0.3	0.3	0.6	0.6	0.9	1.0
4	2.2	2.2	4.0	3.5	5.5	6.0
5	—	9.0	—	16.0	—	28.0
6	1.2	1.2	2.0	2.2	3.0	3.8
7	3.0	—	8.0	—	12.0	—

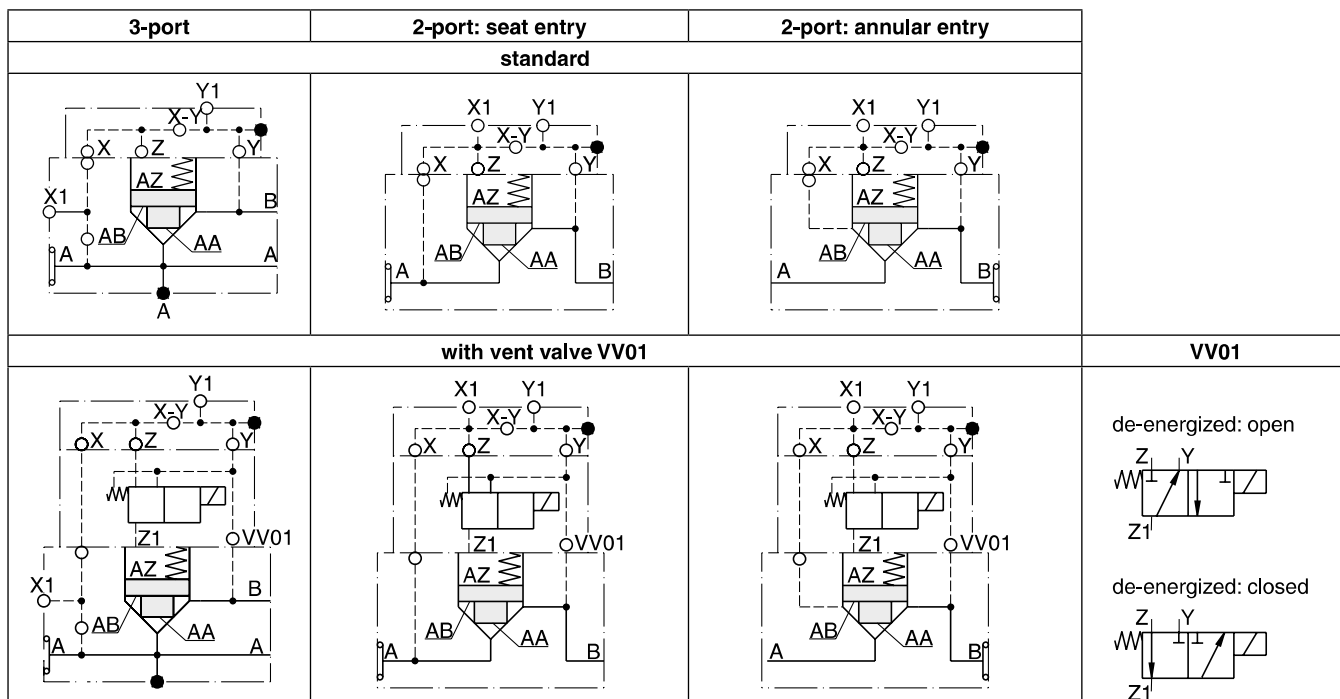


**Technical data**

General		06 (¾")	08 (1")	10 (1¼")	12 (1½")
Size					
Mounting		Flanged according to SAE61			
Mounting position		unrestricted			
Ambient temperature	[°C]	-20...+60			
MTTF <sub>D</sub> value	[years]	150			
Weight	D5S 2-port [kg]	3.6	4.1	5.4	—
	D5S 3-port [kg]	3.4	4.4	5.0	7.8
Hydraulic					
Max. operating pressure	[bar]				
	SAE61 Ports A, B	350	350	280	210
	Port Y1	30	30	30	30
Nominal flow	[l/min]	180	360	600	800
Fluid		Hydraulic oil according to DIN 51524			
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)			
Viscosity	permitted [cSt] / [mm²/s]	20...400			
	recommended [cSt] / [mm²/s]	30...80			
Filtration		ISO 4406 (1999); 18/16/13			

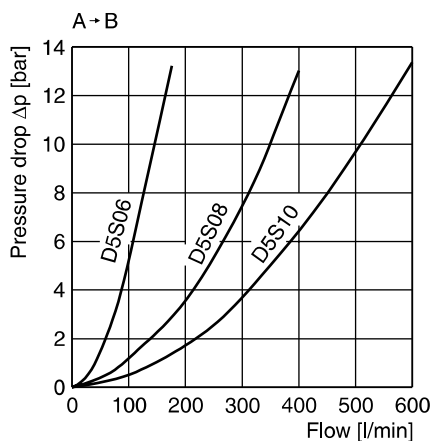
Electrical (solenoid)						
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible					
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)					
Code	G0R	G0Q	GAR	GAG	W30	W31
Supply voltage	12 V =	24 V =	98 V =	205 V =	110 at 50 Hz 120 at 60 Hz	230 at 50 Hz 240 at 60 Hz
Tolerance supply voltage	[%]	±10	±10	±10	±5	±5
Current consumption	hold [A]	2.72	1.29	0.33	0.13	0.6 / 0.55
	in rush [A]	2.72	1.29	0.33	0.13	2.5 / 2.4
Power consumption	hold [W]	32.7	31	31.9	28.2	70 / 70 VA
	in rush [W]	32.7	31	31.9	28.2	280 / 290 VA
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461					
Wiring min.	[mm2]	3 x 1.5 recommended				
Wiring length max.	[m]	50 recommended				

**D5S pilot configuration**

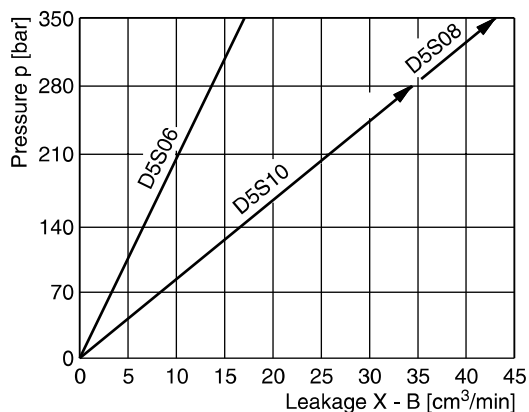


**Characteristic Curves / Cartridges**

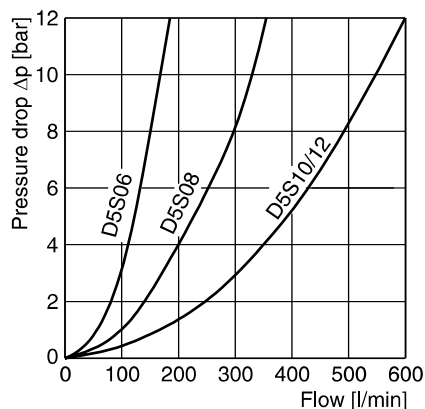
**D5S 2-port**



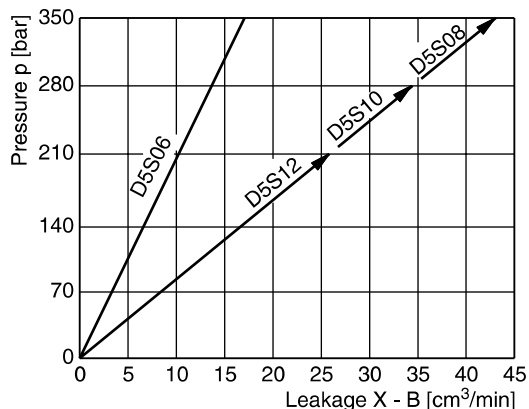
**Leakage**



**D5S 3-port**



**Leakage**



All characteristic curves measured with HLP46 at 50 °C.

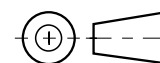
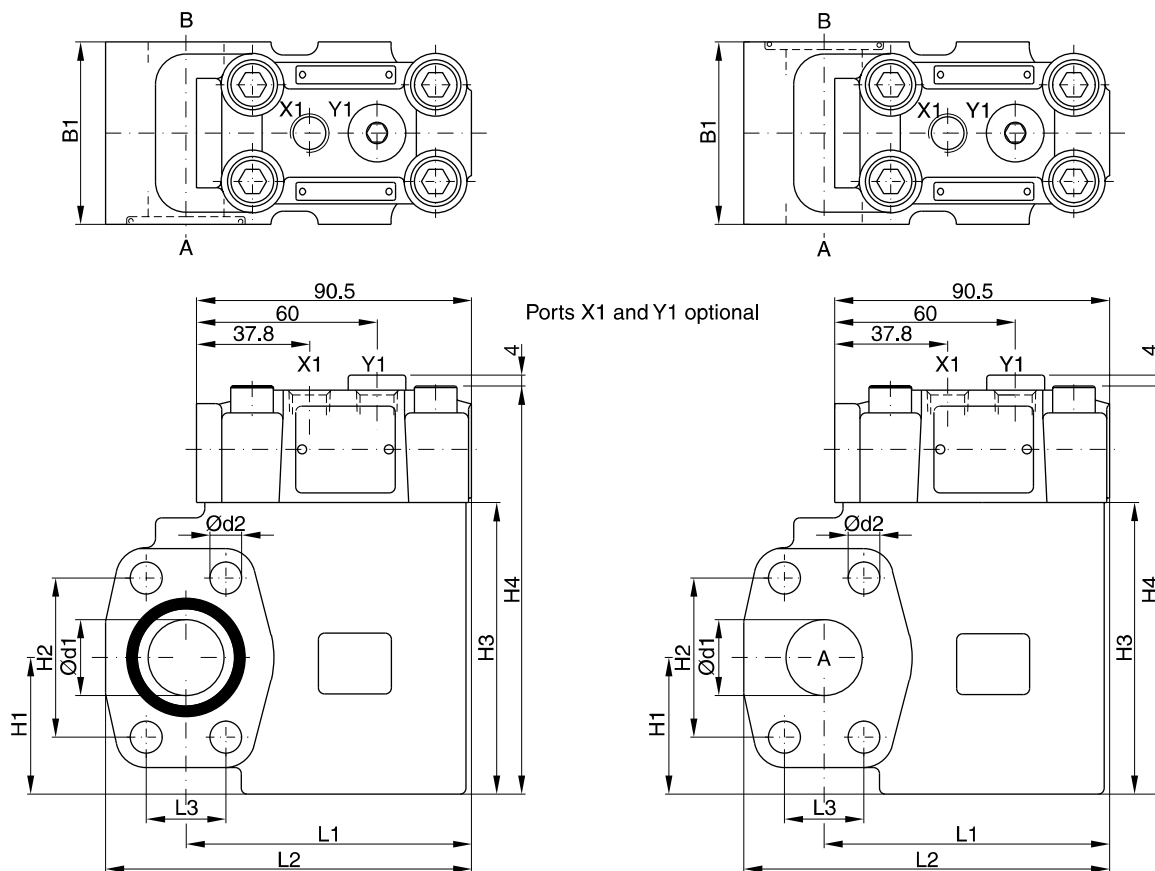
**Selection of cartridges**

Sleeve 1, poppet 1	Sleeve 1, poppet 2	Sleeve 1, poppet 4	Sleeve 3, poppet 4	Sleeve 3, poppet A	Sleeve 3, poppet B/C
Z	Z	Z	Z	Z	Z
A	A	A	A	A	A
1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 15° chamfer	1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 15° chamfer orifice	1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 45° chamfer	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer safety spool	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer throttle spool

**D5S 2-port**

**Seat entry**

**Annular entry**



Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

NG	I1	I2	I3	b1	h1	h2	h3	h4	d1	d2
06	77	101.0	22.2	60	37	47.6	90	127.6	19	10.5
08	94	120.5	26.2	60	45	52.4	96	133.6	25	10.5
10	94	128.0	30.2	75	48	58.7	109	146.6	32	12.5

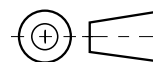
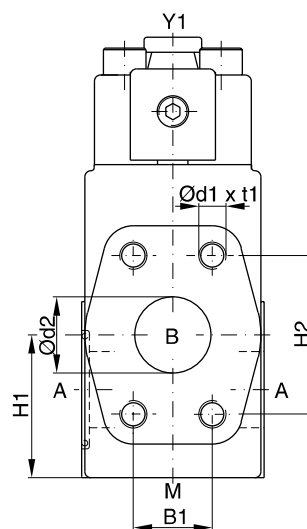
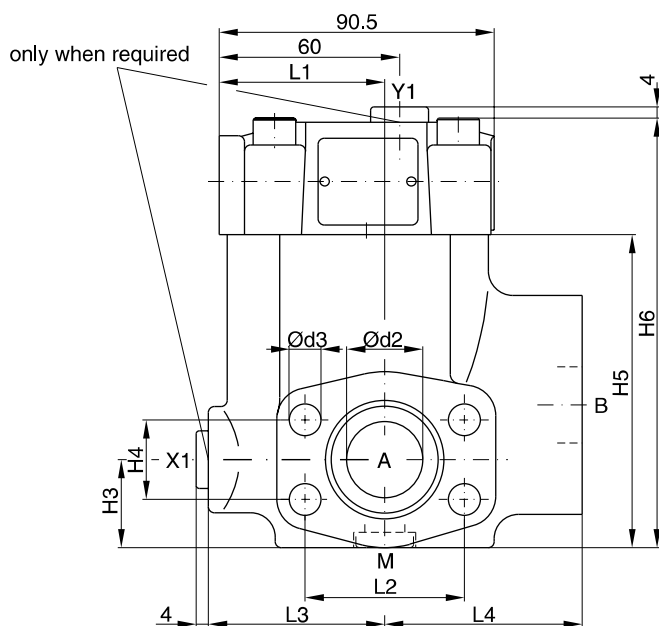
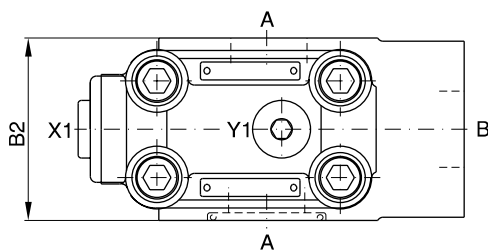
Ports	Function	Port size		
		D5S06	D5S08	D5S10
A	Inlet or outlet	3/4" SAE61	1" SAE61	1 1/4" SAE61
B	Outlet or inlet	3/4" SAE61	1" SAE61	1 1/4" SAE61
X1	External pilot port	G 1/4"	G 1/4"	G 1/4"
Y1	External pilot drain	G 1/4"	G 1/4"	G 1/4"

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Dimensions

D5S 3-port



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Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
12	S26-27421-0	S26-27421-5

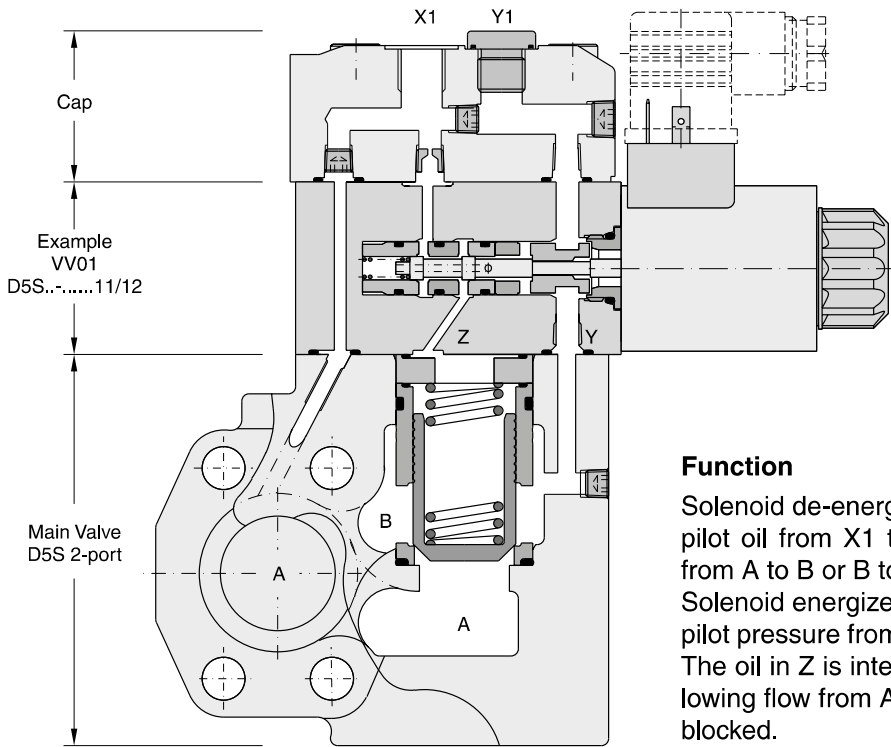
NG	I1	I2	I3	I4	b1	b2	h1	h2	h3	h4	h5	h6	d1	t1	d2	d3
06	49	47.6	56	63	22.2	60	41	47.6	29.5	22.2	82	119	3/8" UNC	20	19	10.5
08	55	52.4	58	65	26.2	60	47	52.4	30.5	26.2	103	141	3/8" UNC	23	25	10.5
10	57	58.7	64	61	30.2	75	65	58.7	37.5	30.2	113	150	7/16" UNC	22	30	12.5
12	37	69.8	55	93	35.7	80	73	69.8	72	35.7	140	178	1/2" UNC	27	38	13.5

Ports	Function	Port size			
		D5S06	D5S08	D5S10	D5S12
A (2x)	Inlet or outlet	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
B	Outlet or inlet	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
X1 <sup>1)</sup>	External pilot port	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Y1	External pilot drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"	G 1/4"

<sup>1)</sup> Closed when supplied.



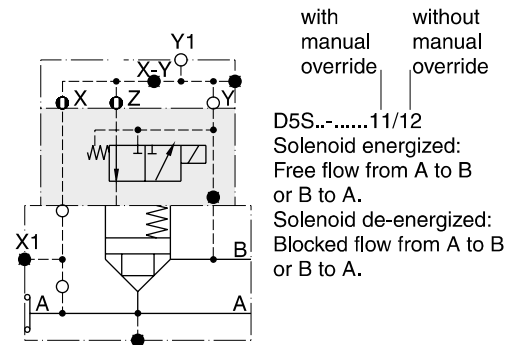
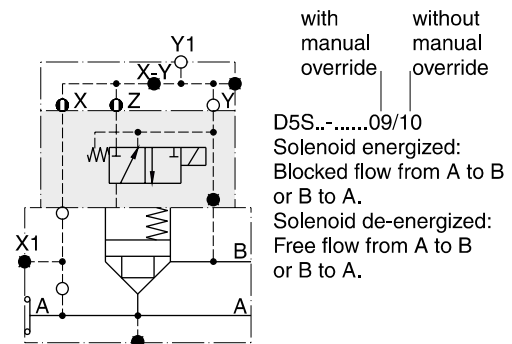
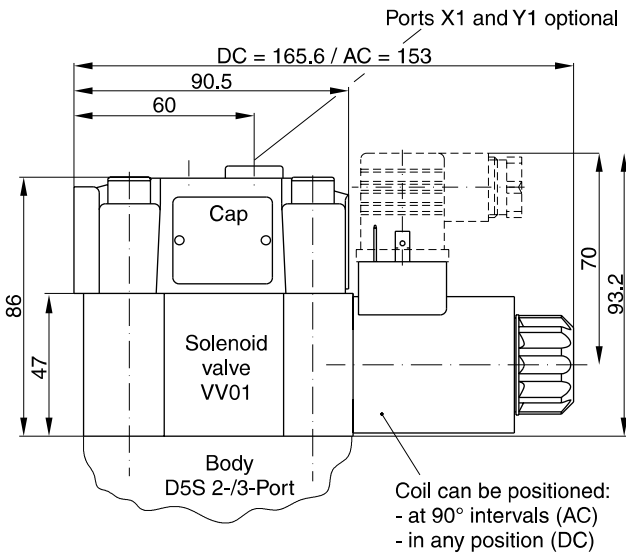
**Example: pilot oil external from X1, pilot drain internal out of B**



**Function**

Solenoid de-energized:  
 pilot oil from X1 to Z blocks the connection from A to B or B to A.  
 Solenoid energized:  
 pilot pressure from X1 is blocked in the VV01. The oil in Z is internally drained to port B. Allowing flow from A to B, while B to A remains blocked.

**D5S with VV01 dimensions**

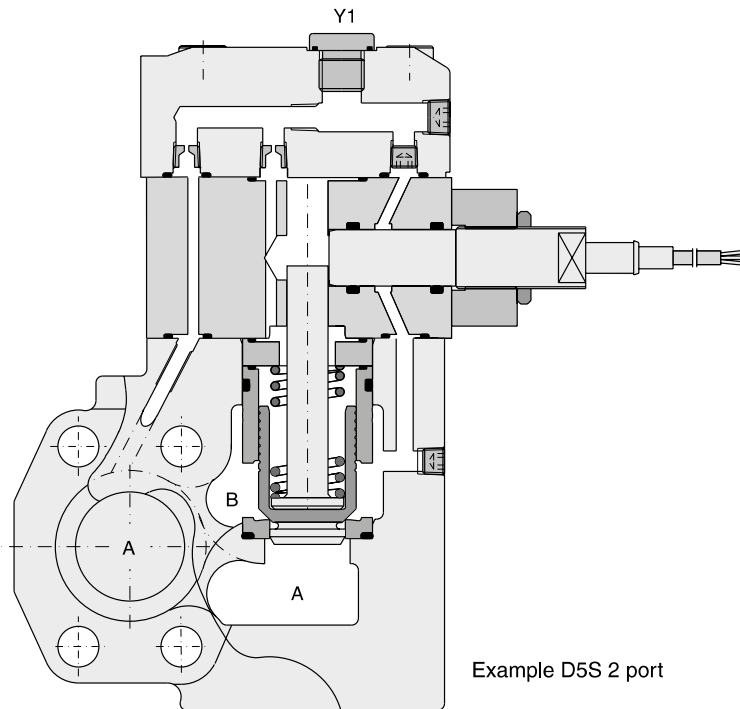


Seal kits	
NBR	FPM
<b>DC solenoid</b>	
S56-40609-0	S56-40609-5
<b>AC solenoid</b>	
S26-35237-0	S26-35237-5

**D5S with position control**

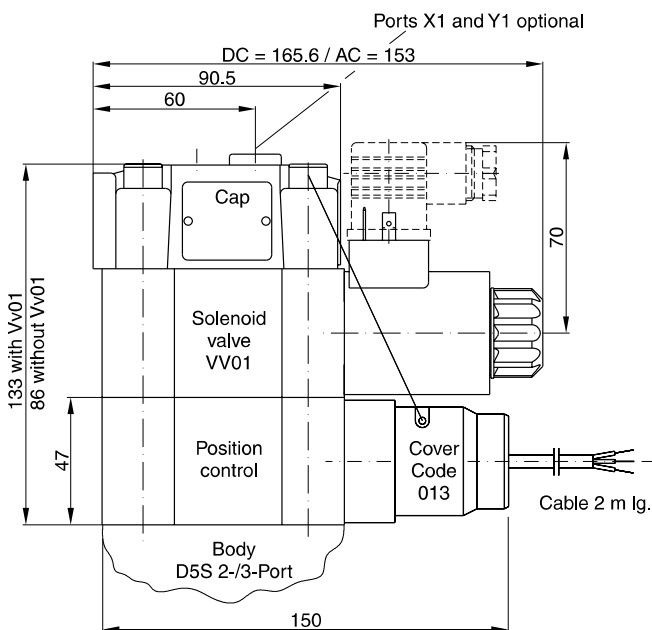
Position control by proximity switch (incl. amplifier). Valve open: proximity switch activated. This proximity switch is pressure proof and has no wearing parts.

Note: Position control for D5S08 and D5S10 only.



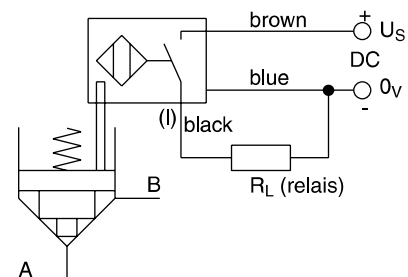
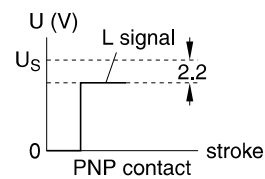
Example D5S 2 port

**D5S with position control dimensions**



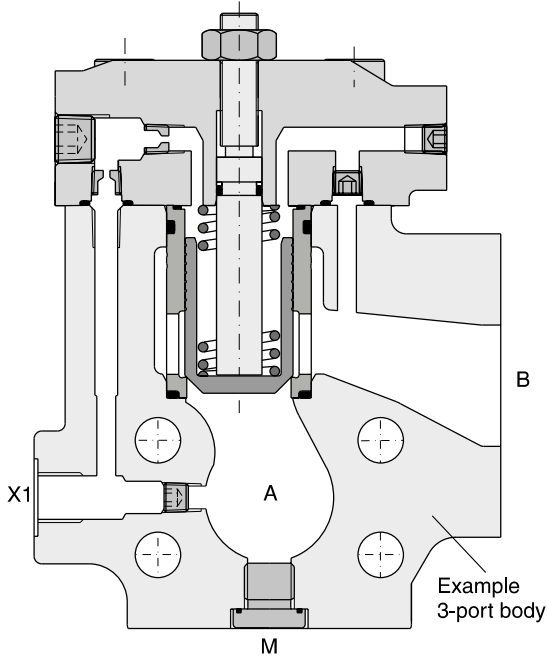
**Technical data (proximity switch)**

Function		PNP contact
Supply voltage (Us)	[VDC]	10...30
Supply voltage ripple	[%]	≤ 10
Current consumption	[mA]	max. 8
Residual voltage L-signal	[V]	Us - 2.2 at I <sub>max</sub>
Output current (I)	[mA]	≤ 200
Protection class		IP67
Ambient temperature	[C°]	-25...+70
Wire cross section	[mm <sup>2</sup> ]	3 x 0.5





**D5S stroke limiter**  
**Example: D5S 3-port**

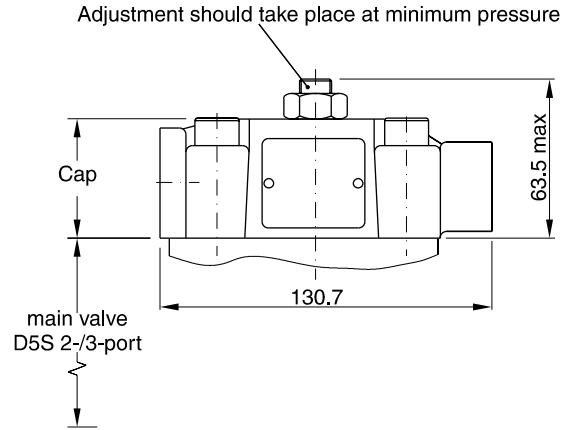


X1 = external pilot-oil (optional)

Note:

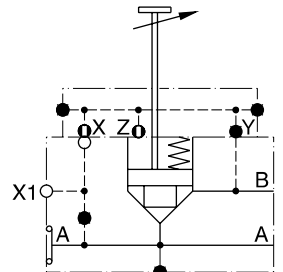
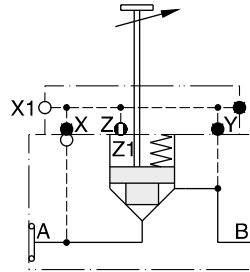
Stroke limiter not for use with D5S06, solenoid valve VV01, shuttle valve and position control.

**Stroke limiter dimensions**

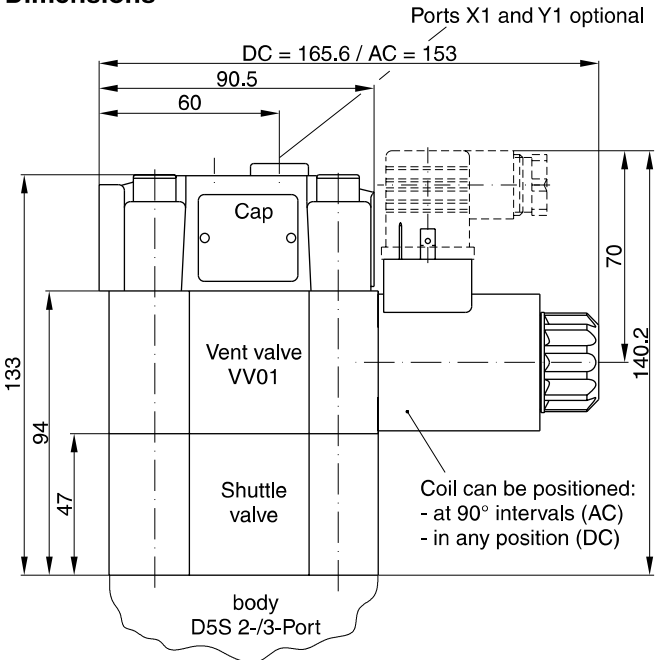


Example D5S 2-port:  
 D5S08-74C...  
 D5S10-74C...

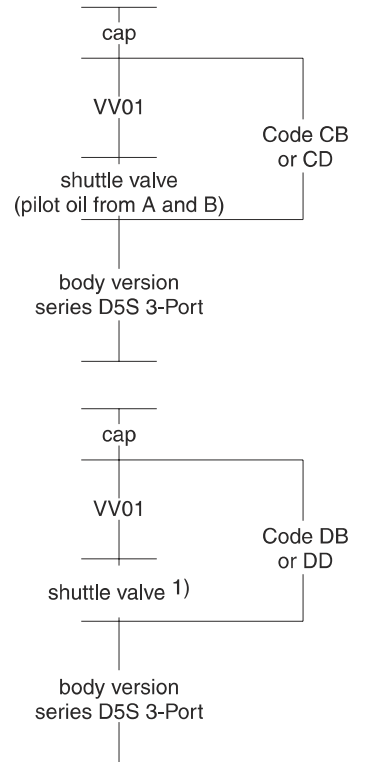
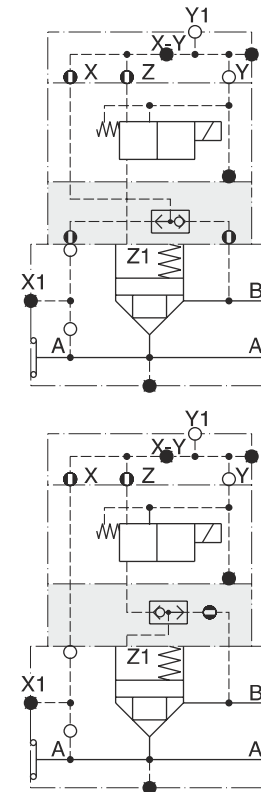
Example D5S 3-port:  
 D5S08-54A...  
 D5S10-54A...  
 D5S12-54A...



**D5S with shuttle valve**  
**Dimensions**



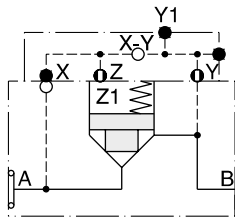
Shuttle valve only in connection with vent valve VV01.



1) Pilot oil from A and B, from B to A check valve function

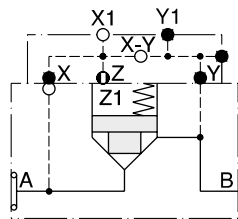
**D5S 2-port**

**Seat entry**



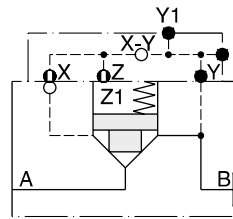
D5S...-722

Pilot oil: internal from B



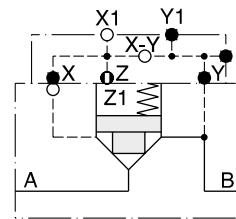
D5S...-743

Pilot oil: external from X1



D5S...-821

Pilot oil: internal from B



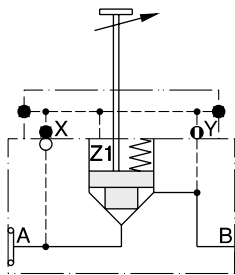
D5S...-843

Pilot oil: external from X1

**Annular entry**

**Stroke limiter D5S 2-port**

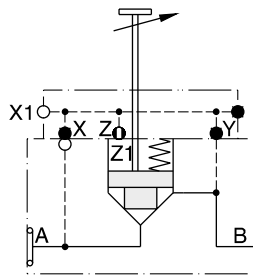
**Seat entry**



D5S08-72B

10

Pilot oil: internal from B

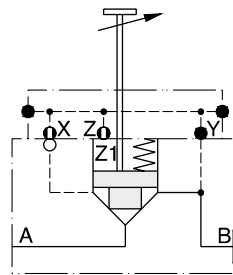


D5S08-74C

10

Pilot oil: external from X1

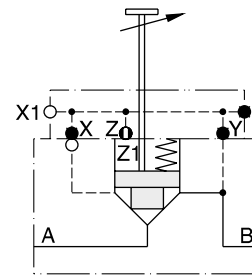
**Annular entry**



D5S08-82A

10

Pilot oil: internal from B



D5S08-84C

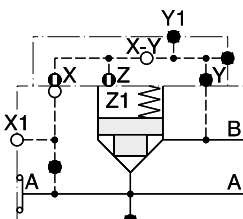
10

Pilot oil: external from X1

9

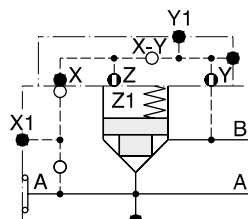
**D5S 3-port**

**Stroke limiter D5S 3-port**



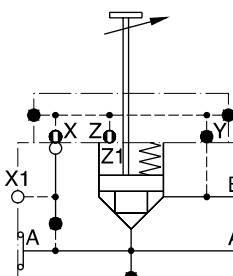
D5S ...-541

Pilot oil: external from X1



D5S ...-522

Pilot oil: internal from B

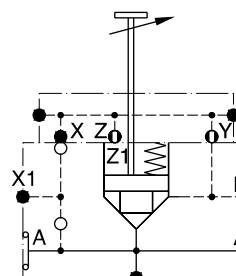


D5S08-54A

10

12

Pilot oil: external from X1



D5S08-52B

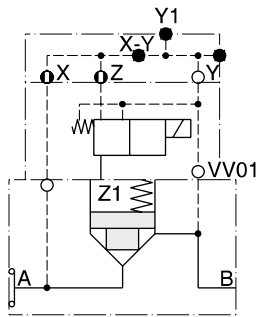
10

12

Pilot oil: internal from B

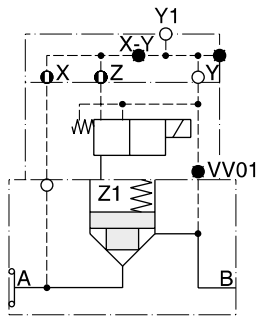
**D5S 2-port with solenoid valve VV01**

**Seat entry**



D5S..-714...09  
10  
11  
12

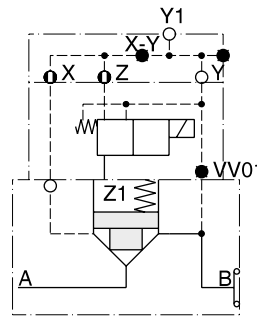
Pilot oil: internal from A  
Pilot drain: internal to B



D5S..-716...09  
10  
11  
12

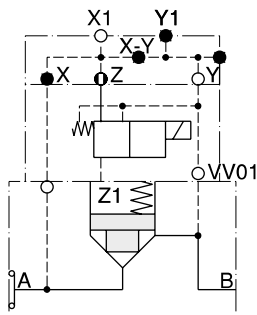
Pilot oil: internal from A  
Pilot drain: external out of Y1

**Annular entry**



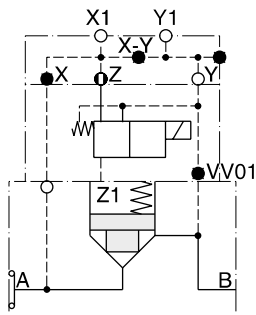
D5S..-826...09  
10  
11  
12

Pilot oil: internal from B  
Pilot drain: external out of Y1



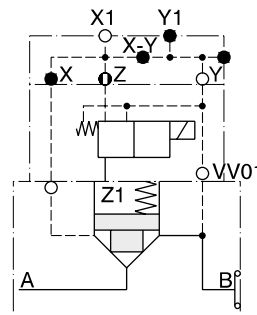
D5S..-745...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: internal to B



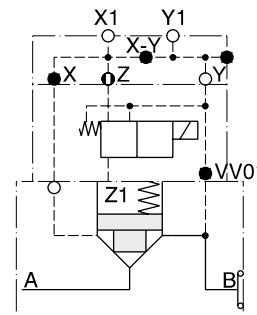
D5S..-747...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: external out of Y1



D5S..-845...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: internal to B

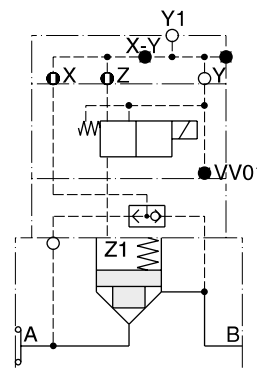


D5S..-847...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: external out of Y1

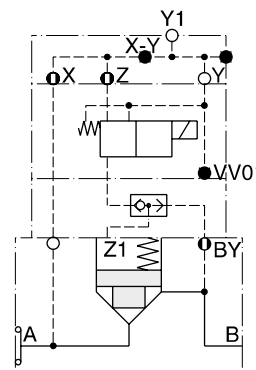
**D5S 2-port with with solenoid valve VV01 and shuttle valve**

**Seat entry**



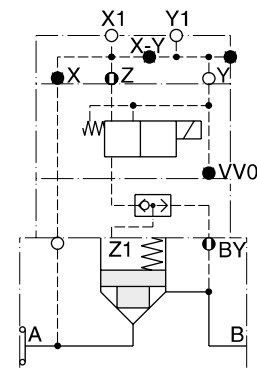
D5S..-736...CB  
CD

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



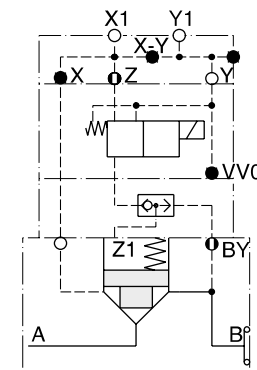
D5S..-736...DB  
DD

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



D5S..-757...DB  
DD

Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

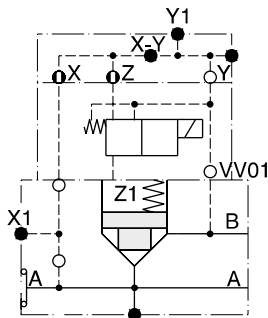


D5S..-857...DB  
DD

Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

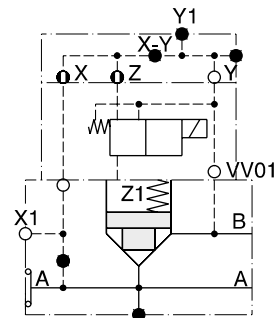
**Ordering Code Explanation (Examples)**

**D5S 3-port with solenoid valve VV01**



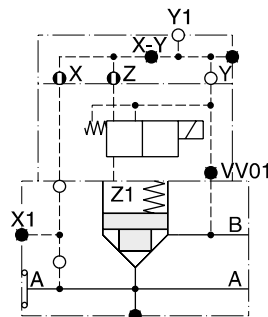
D5S ..-514...09  
10  
11  
12

Pilot oil: internal from A  
Pilot drain: internal to B



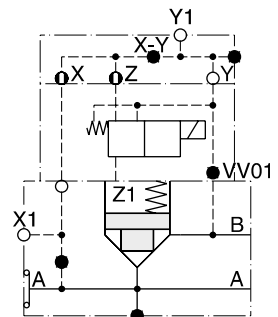
D5S ..-544...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: internal to B



D5S ..-516...09  
10  
11  
12

Pilot oil: internal from A  
Pilot drain: external out of Y1

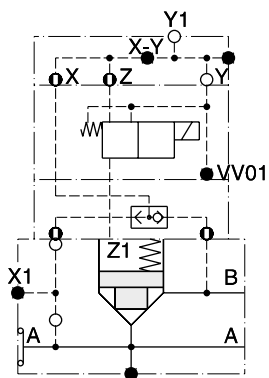


D5S ..-546...09  
10  
11  
12

Pilot oil: external from X1  
Pilot drain: external out of Y1

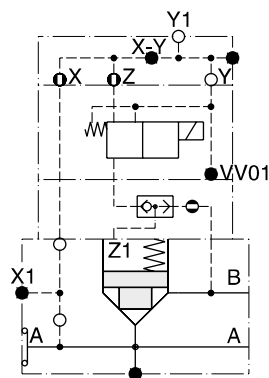
9

**D5S 3-port with with solenoid valve VV01 and shuttle valve**



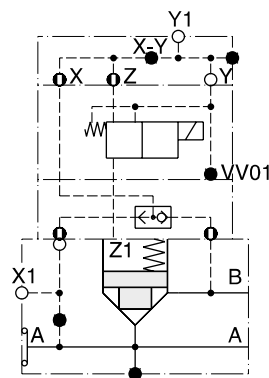
D5S ..-536...CB  
CD

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



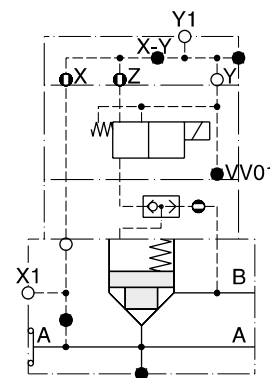
D5S ..-536...DB  
DD

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



D5S ..-556...CB  
CD

Pilot oil: internal from X1 +  
internal from B  
Pilot drain: external out of Y1

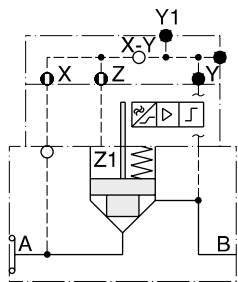


D5S ..-556...DB  
DD

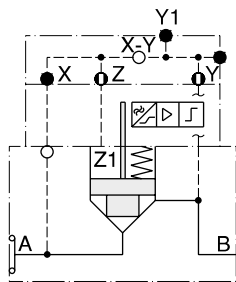
Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

**D5S 2-port position control**

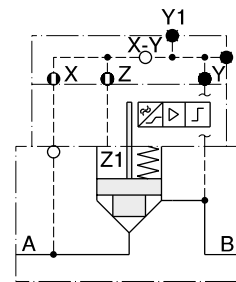
**Seat entry**



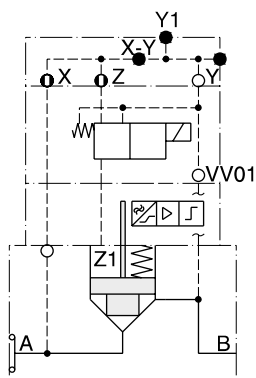
D5S08-7113A.BA  
D5S10  
Pilot oil: internal from A



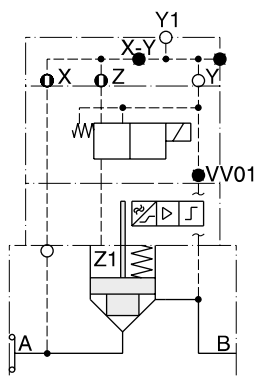
D5S08-7223A.BA  
D5S10  
Pilot oil: internal from B



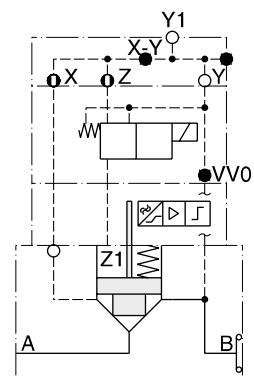
D5S08-8213A.BA  
D5S10  
Pilot oil: internal from B



D5S08-7143A.BC  
D5S10 BE  
Pilot oil: internal from A  
Pilot drain: internal to B

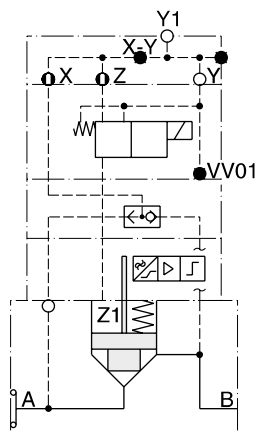


D5S08-7163A.BC  
D5S10 BE  
Pilot oil: internal from A  
Pilot drain: external out of Y1

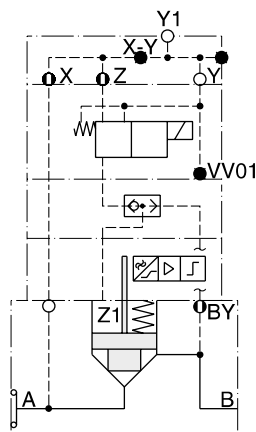


D5S08-8263A.BC  
D5S10 BE  
Pilot oil: internal from B  
Pilot drain: external out of Y1

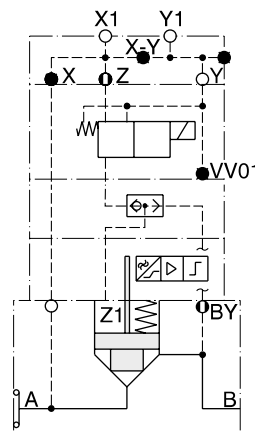
**Seat entry**



D5S..-736...BH  
BK  
Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1

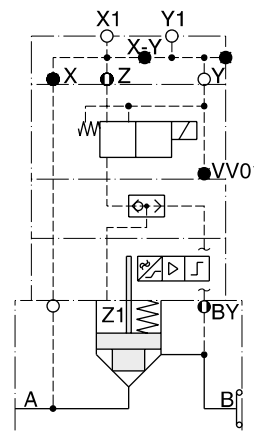


D5S..-736...BN  
BQ  
Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



D5S..-757...BN  
BQ  
Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

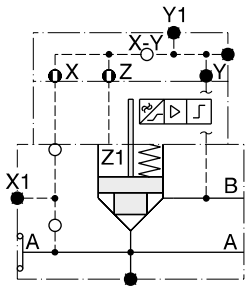
**Annular entry**



D5S..-857...BN  
BQ  
Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

**D5S 3-port position control**

**Seat entry**

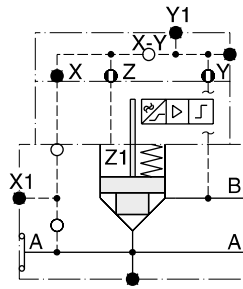


D5S08-5113A.BA

10

12

Pilot oil: internal from A

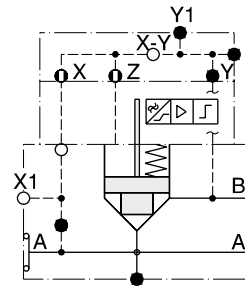


D5S08-5223A.BA

10

12

Pilot oil: internal from B

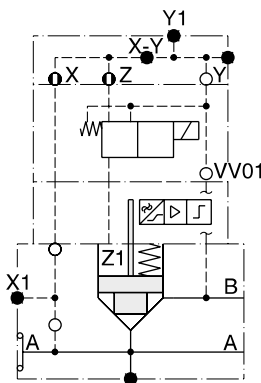


D5S08-5213A.BA

10

12

Pilot oil: external from X1



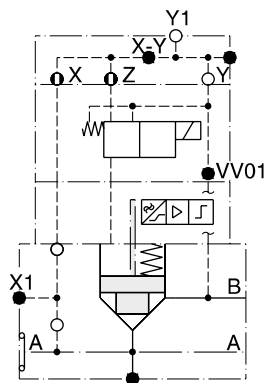
D5S08-5143A.BC

10

12

BE

Pilot oil: internal from A  
Pilot drain: internal to B



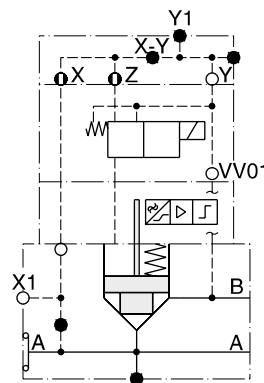
D5S08-5163A.BC

10

12

BE

Pilot oil: internal from A  
Pilot drain: external out of Y1



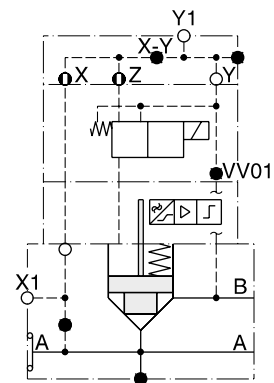
D5S08-5443A.BC

10

12

BE

Pilot oil: external from X1  
Pilot drain: internal to B



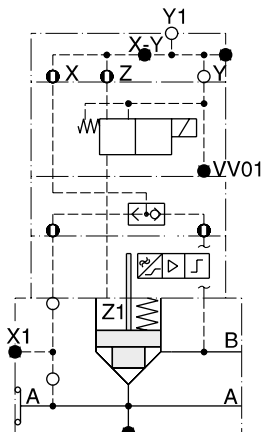
D5S08-5463A.BC

10

12

BE

Pilot oil: external from X1  
Pilot drain: external out of Y1



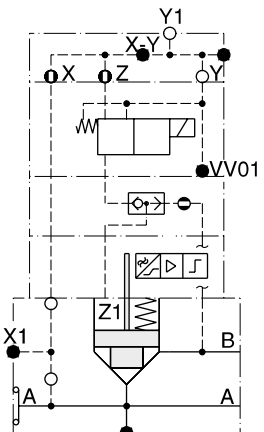
D5S08-5363A.BH

10

12

BK

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



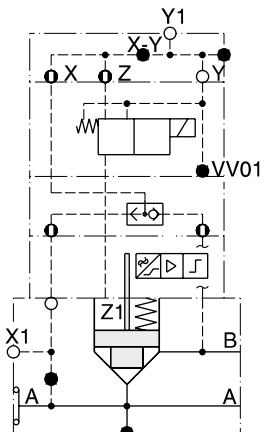
D5S08-5363A.BN

10

12

BQ

Pilot oil: internal from A +  
internal from B  
Pilot drain: external out of Y1



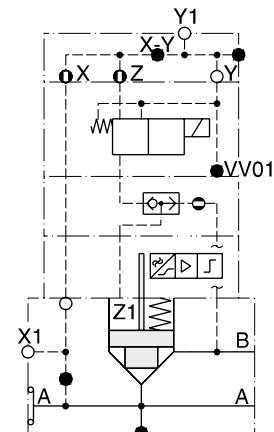
D5S08-5563A.BH

10

12

BK

Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1



D5S08-5563A.BN

10

12

BQ

Pilot oil: external from X1 +  
internal from B  
Pilot drain: external out of Y1

**Characteristics**

**Proportional Throttle Valve  
Series F5C**

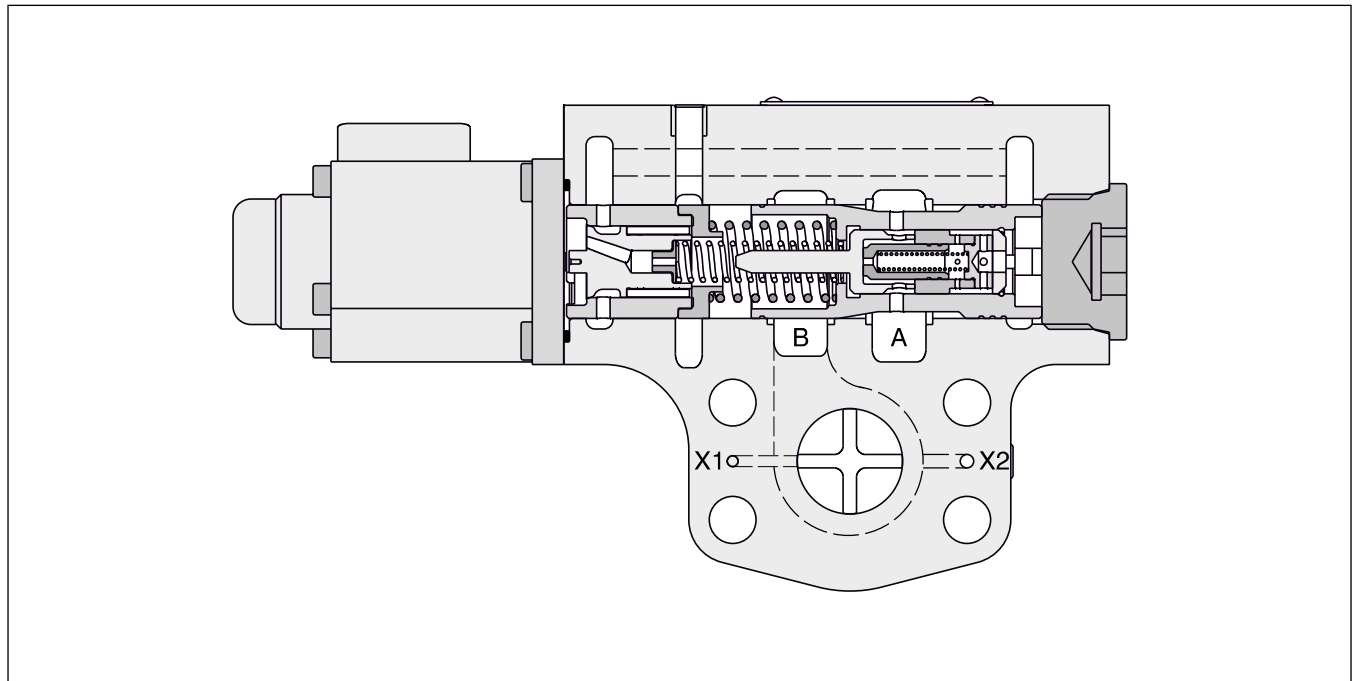
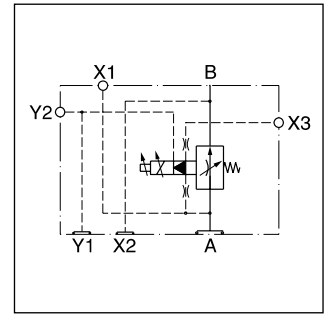
Proportional throttle valves series F5C allow to adjust the flow in proportion to the input signal. The combination of the F5C with pressure compensators R5A or R5P serves as a flow control valve - providing load compensated flow.

The F5C is offered with two types of response time:

- standard 350 ms at 1 l/min pilot flow
- code A 250 ms at 2 l/min pilot flow

**Features**

- Spool type proportional throttle valve
- SAE61 flange
- Maximum flow 380 l/min
- 3 sizes, SAE 3/4", 1", 1 1/4"
- Load compensated flow in combination with R5A/R5P



Ordering Code / Pilot Connection

Ordering Code

<b>F5C</b>			<b>4</b>	<b>3</b>		<b>X</b>		<b>0</b>	<b>C</b>			
Proportional throttle valve	Nominal size	Pilot flow and response	SAE61 interface	Pilot ports G¼"	Spool type	Proportional solenoid 16 V/1.05 A	Pilot connection	Accessories	Design	Seals	Design series (not required for ordering)	Options

Code	Nominal size
06	SAE ¾"
08	SAE 1"
10	SAE 1¼"

Code	Pilot flow	Max. response
—	1 l/min	350 ms
A	2 l/min	250 ms

Spool type		
Code	Size	Max. flow <sup>1)</sup>
B	06/08	45 l/min
1	06/08/10	95 l/min
2	08/10	190 l/min
3	10	380 l/min

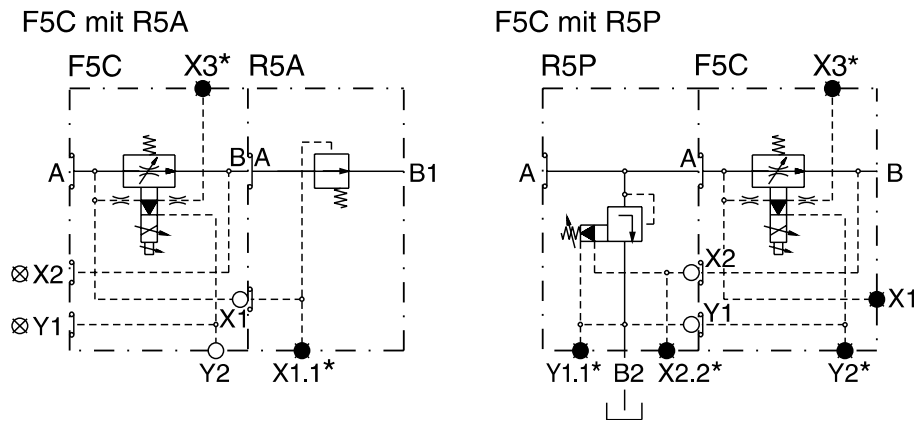
  

Code	Seals
1	NBR
5	FPM

Code	Pilot connections	F5C without compensators R5A, R5P	F5C for combination with R5A	F5C for combination with R5P
2	internal PD (Y)	—	—	X1, X3, Y2 ● X2, Y1 ○ X2, Y1 ○
	internal PP (X)	—	—	
3	external PD (Y)	—	X1, X3, Y2 ○ X2, Y1 ⊗	—
	external PP (X)	—	—	
4	external PD (Y)	X3, Y2 ○ X1 ● X2, Y1 ⊗	—	X2, X3, Y1, Y2 ○ X1 ●
	external PP (X)	—	—	
5	external PD (Y)	—	X1, Y2 ○ X3 ● X2, Y1 ⊗	—
	internal PP (X)	—	—	
6	external PD (Y)	X1, X3 ● X2, Y1 ⊗ Y2 ○	—	X1, X3 ● X2, Y1, Y2 ○
	internal PP (X)	—	—	

9

Pilot connection explanation



○ open ● closed ⊗ closed by counterpart

<sup>1)</sup> At nominal pressure drop ( $\Delta p = 8.4 \text{ bar}$ ).

\* optional

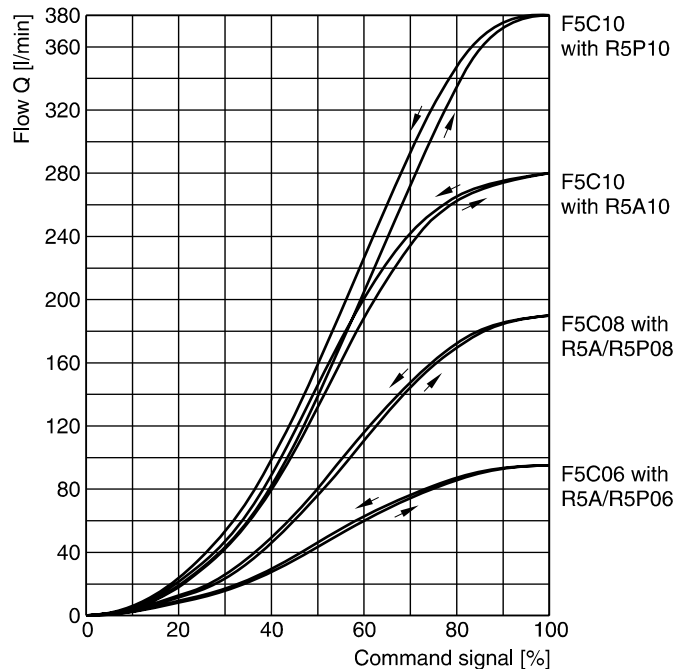


Technical Data / Characteristic Curves

Technical data

General				
Size		06 (3/4")	08 (1")	10 (1 1/4")
Mounting	Flanged according to SAE61			
Mounting position	unrestricted			
Ambient temperature	[°C]	-20...+60		
Weight	[kg]	3.9	4.1	5.8
Hydraulic				
Max. operating pressure				
Ports A, B, X1, X2, X3	[bar]	350	300	280
Ports Y1, Y2	[bar]	70		
Max. pressure drop (from A to B)	[bar]	21		
Nominal flow	[l/min]	95	190	380
Fluid	Hydraulic oil according to DIN 51524			
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)		
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400	
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80	
Filtration	ISO 4406 (1999); 18/16/13			
Electrical characteristics				
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible			
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461			
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)			
Supply voltage	[V]	16		
Current consumption	[A]	1.05		
Resistance	[Ohm]	11.3		
Response time	[ms]	see ordering code		

Characteristic curves

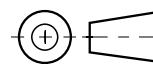
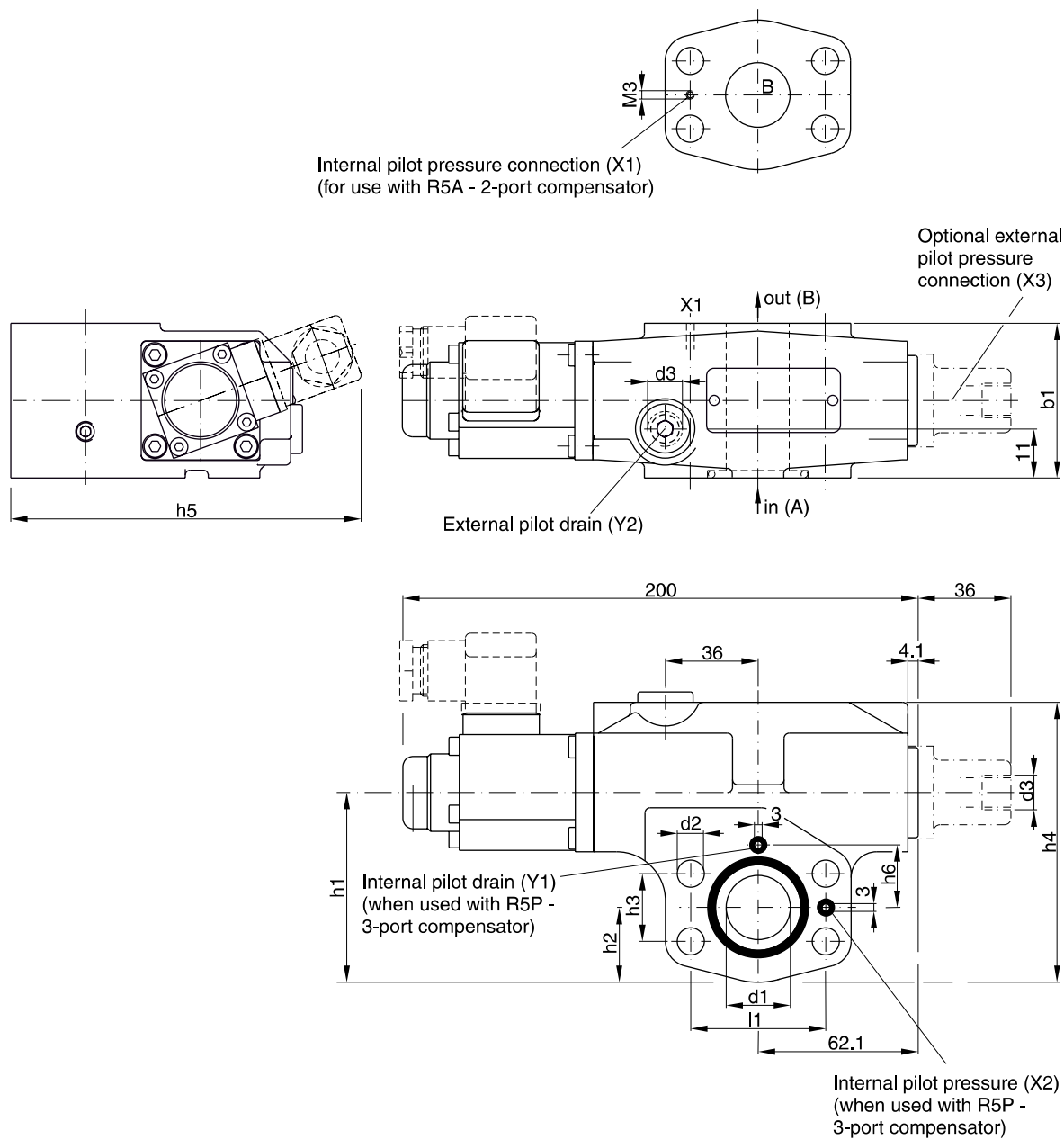


All characteristic curves measured with HLP46 at 50 °C.

F5C UK.INDD 11.04.19



Dimensions



Seal kits		
NG	NBR	FPM
06 / 08 / 10	S26-58484-0	S26-58484-5

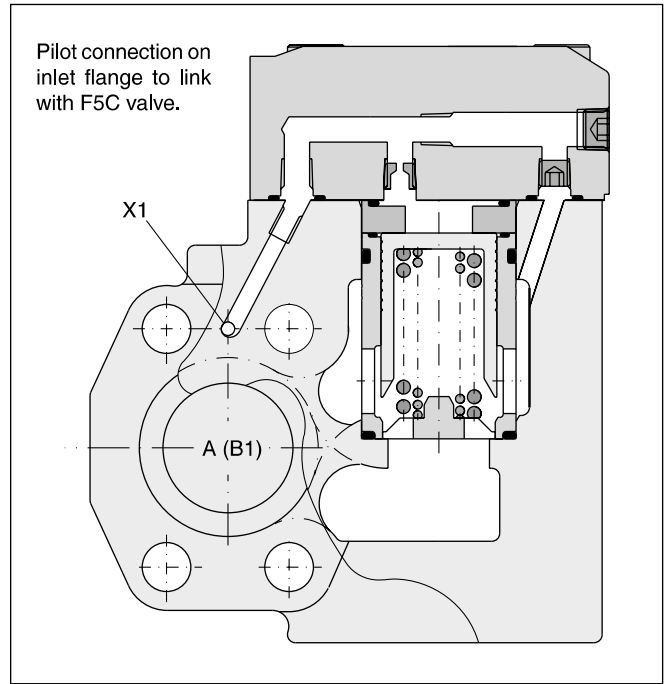
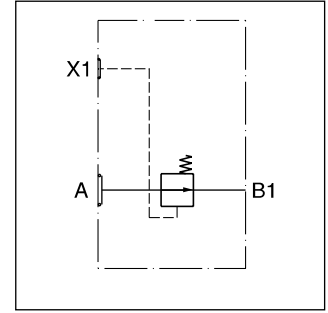
	l1	b1	h1	h2	h3	h4	h5	h6	d1	d2	d3
F5C06	47.6	60	68.2	26	22.2	103.2	183	20.8	19	10.5	G¼"
F5C08	52.4	60	73.6	29	26.2	108.6	187	24.3	25	10.5	G¼"
F5C10	58.7	75	83.5	36.5	30.2	118.5	198	29.3	32	12.5	G¼"

Direct operated 2-way pressure compensators series R5A can be combined with any type of fixed or adjustable flow resistor (throttle) to provide a load compensated flow.

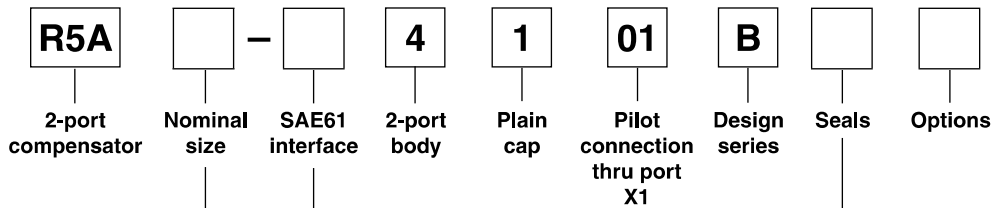
The combination with the proportional throttle valve F5C serves as a compact 2-way flow control unit in SAE flange design. The R5A is typically used as meter-out compensator behind the flow resistor.

**Features**

- Seated type 2-way pressure compensator
- SAE61 flange
- 8.4 bar control pressure
- 3 sizes, SAE 3/4", 1", 1 1/4"
- Load compensated flow in combination with F5C



**Ordering code**



Code	Nominal size
06	SAE 3/4"
08	SAE 1"
10	SAE 1 1/4"

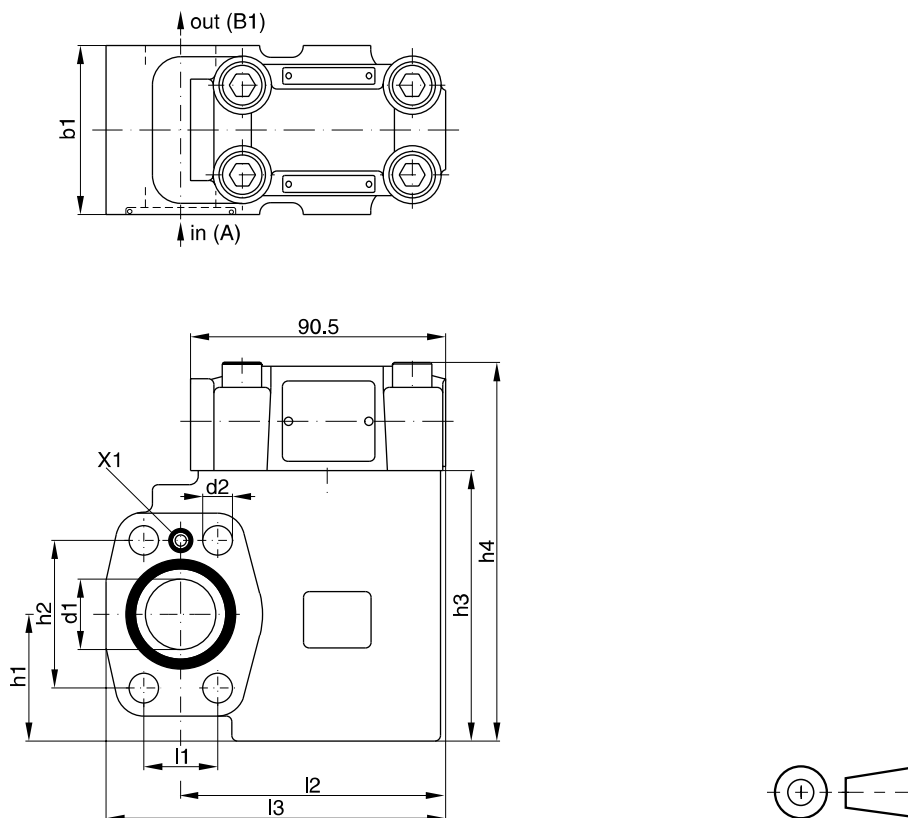
SAE 61 interface		
Code	Size	Max. pressure [bar]
4	10	280
5	06/08	350

Code	Seals
1	NBR
5	FPM

**Technical data**

General				
Size		<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>
Mounting		Flanged according to SAE61		
Mounting position		unrestricted		
Ambient temperature	[°C]	-20...+60		
MTTF <sub>D</sub> value	[years]	150		
Weight	[kg]	3.6	4.3	5.6
Hydraulic				
Max. operating pressure Ports A, B, X1	[bar]	350	350	280
Control pressure	[bar]	8.4		
Nominal flow	[l/min]	90	300	600
Fluid		Hydraulic oil according to DIN 51524		
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)		
Viscosity,	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400	
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80	
Filtration		ISO 4406 (1999); 18/16/13		

**Dimensions**



Seal kits		
NG	NBR	FPM
06	S16-91458-0	S16-91458-5
08	S16-91457-0	S16-91457-5
10	S16-91456-0	S16-91456-5

	l1	l2	l3	b1	h1	h2	h3	h4	d1	d2
R5A06	22.2	77	101	60	37	47.6	90	128	19	10.5
R5A08	26.2	94	120.5	60	45	52.4	96	134	25	10.5
R5A10	30.2	94	128	75	48	58.7	109	147	32	12.5

R5A UK.INDD 11.04.19

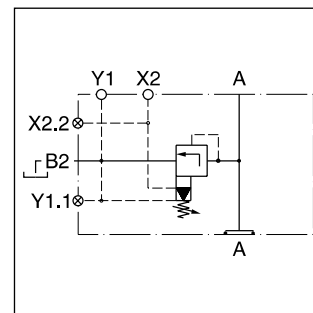


**Characteristics**

Direct operated 3-way pressure compensators series R5P can be combined with any type of fixed or adjustable flow resistor (throttle) to provide a load compensated flow.

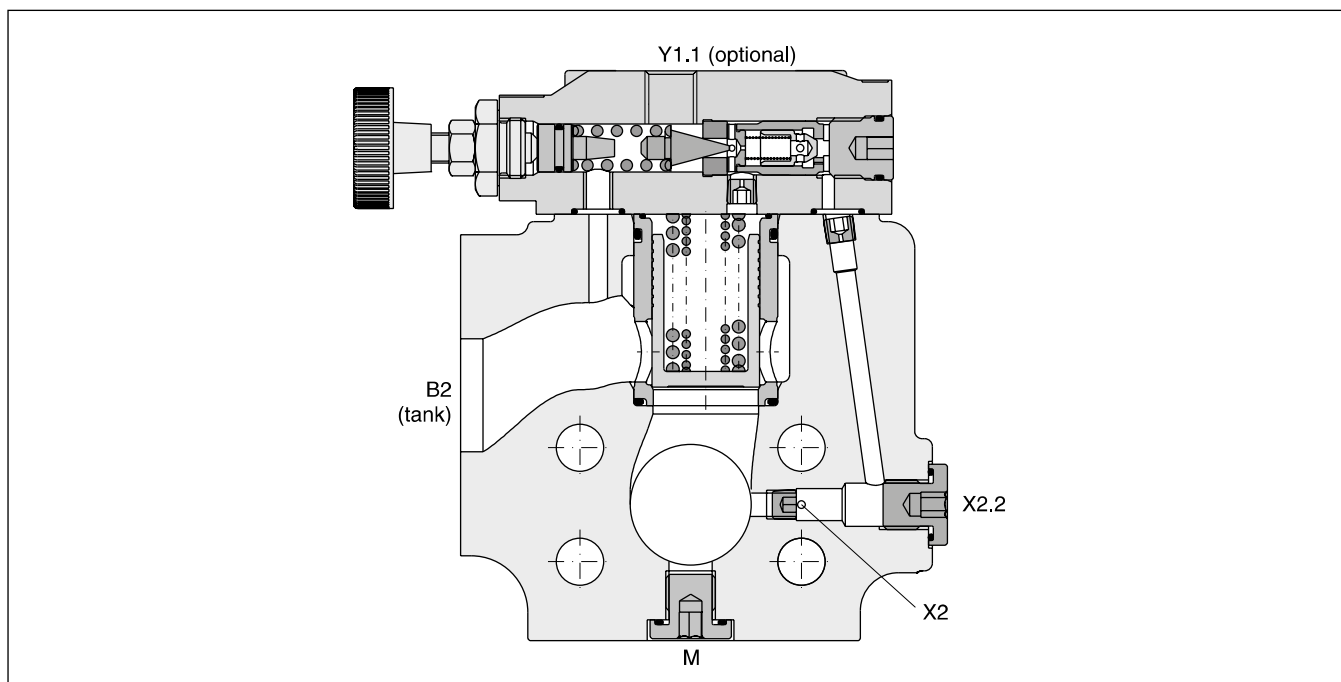
The combination with the proportional throttle valve F5C serves as a compact 3-way flow control unit in SAE flange design. The R5P is typically used as meter-in compensator in front of the flow resistor.

The R5P is additionally equipped with a pressure relief pilot, that controls the compensator cartridge and operates as system pressure relief valve. The R5P\*P2 provides a proportional relief function.



**Features**

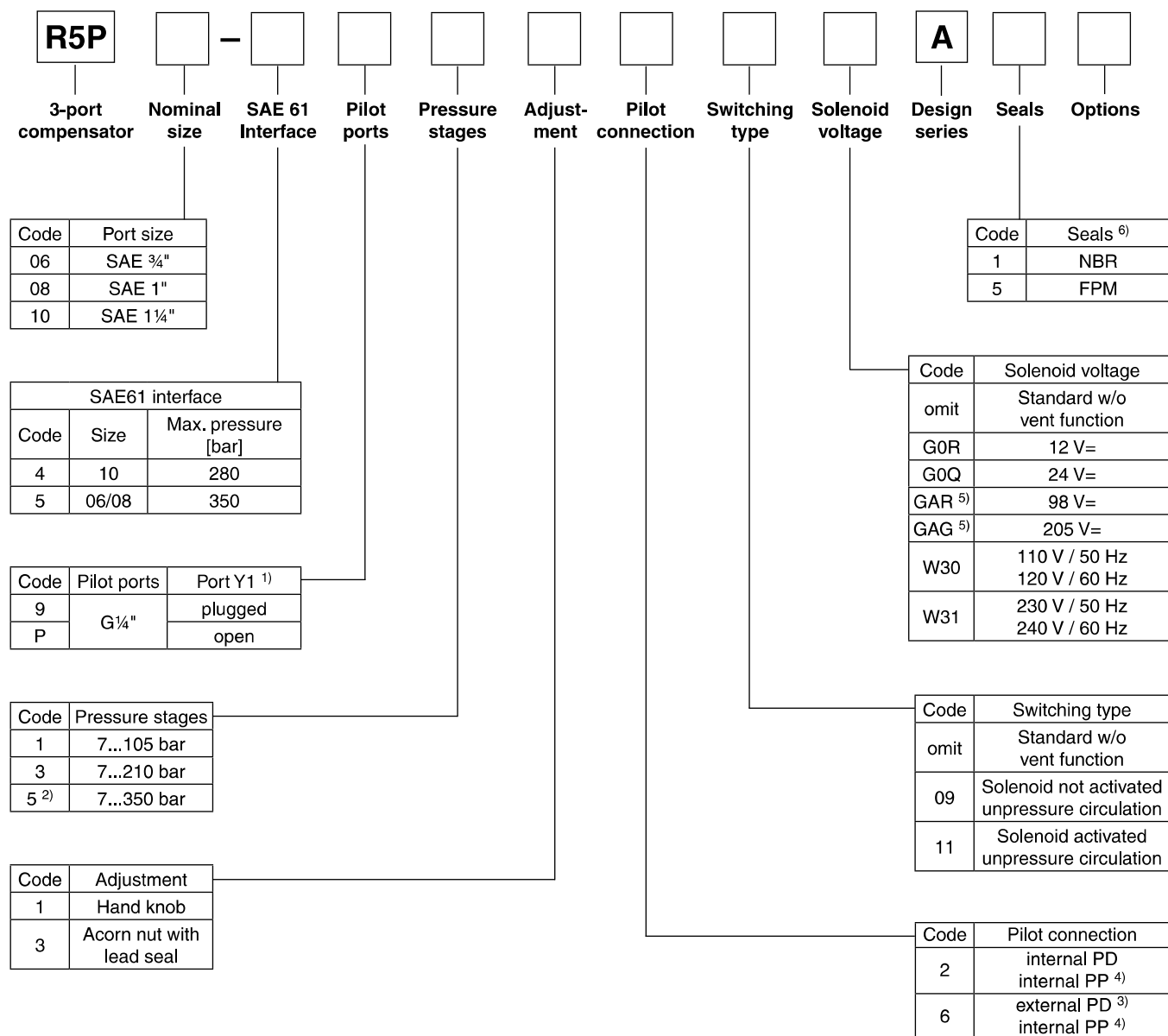
- Seated type 3-way pressure compensator
- SAE61 flange
- 8.4 bar control pressure
- Pressure relief function (optionally proportional)
- With optional vent function
- 3 sizes, SAE 3/4", 1", 1 1/4"
- Load compensated flow in combination with F5C



R5P UK.INDD 11.04.19



R5P



<sup>1)</sup> Y1 port is used in combination with F5C, when the F5C should be drained through the R5P (internal or external drain).

<sup>2)</sup> R5P10-4\*5 up to 280 bar.

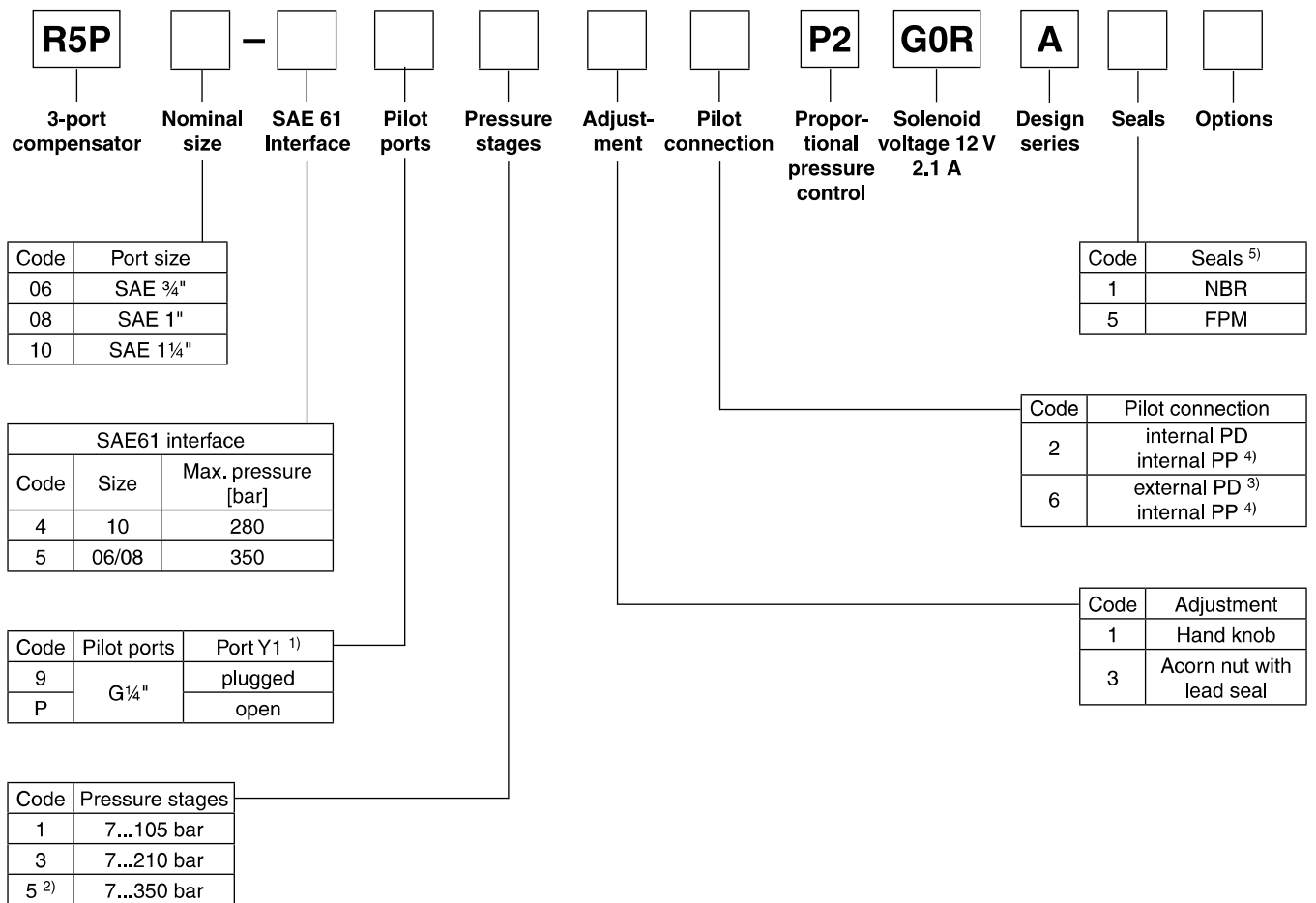
<sup>3)</sup> Through port Y1.1.

<sup>4)</sup> PP through port X1 in outlet flange.

<sup>5)</sup> To be used in combination with rectifier plugs at 120 VAC/230 VAC power supply.

<sup>6)</sup> Further seals on request.

**R5P\*P2**



<sup>1)</sup> Y1 port is used in combination with F5C, when the F5C should be drained through the R5P (internal or external drain).  
<sup>2)</sup> R5P10-4\*5 up to 280 bar.  
<sup>3)</sup> Through port Y1.1.  
<sup>4)</sup> PP through port X1 in outlet flange.  
<sup>5)</sup> Further seals on request.

Technical Data

R5P

General						
Size			06 (3/4")	08 (1")	10 (1 1/4")	
Mounting	Flanged according to SAE61					
Mounting position	unrestricted					
Ambient temperature	[°C]	-20...+60				
MTTF <sub>D</sub> value	[years]	150				
Weight	R5P	[kg]	3.7	4.4	5.3	
	R5P with VV01	[kg]	5.4	6.1	7.0	
Hydraulic						
Max. operating pressure	Ports A, B	[bar]	350	350	280	
Pressure stages			105, 210, 350			
Nominal flow			90	300	600	
Fluid	Hydraulic oil according to DIN 51524					
Fluid temperature			-20...+70 (NBR: -25...+70)			
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400			
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80			
Filtration	ISO 4406 (1999); 18/16/13					
Electrical (solenoid) R5P with VV01						
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible					
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)					
	Code		G0R	G0Q	GAR	GAG
Supply voltage	[V]		12 V =	24 V =	98 V =	205 V =
Tolerance supply voltage	[%]		±10	±10	±10	±10
Current consumption	hold	[A]	2.72	1.29	0.33	0.13
	in rush	[A]	2.72	1.29	0.33	0.13
Power consumption	hold	[W]	32.7	31	31.9	28.2
	in rush	[W]	32.7	31	31.9	28.2
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461					
Wiring min.	[mm <sup>2</sup> ]	3 x 1.5 recommended				
Wiring length max.	[m]	50 recommended				

R5P\*P2

General						
Size			06 (3/4")	08 (1")	10 (1 1/4")	
Mounting	Flanged according to SAE61					
Mounting position	unrestricted					
Ambient temperature	[°C]	-20...+60				
MTTF <sub>D</sub> value	[years]	75				
Weight	[kg]		5.5	6.2	7.1	
Hydraulic						
Max. operating pressure	Ports A, B	[bar]	350	350	280	
Pressure stages			105, 210, 350			
Nominal flow			90	300	600	
Fluid	Hydraulic oil according to DIN 51524					
Fluid temperature			-20...+70 (NBR: -25...+70)			
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400			
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80			
Filtration	ISO 4406 (1999); 18/16/13					
Electrical (proportional solenoid)						
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible					
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)					
Code	G0R					
Supply voltage	[V]	12 V =				
Max. current	[A]	2.1				
Coil resistance at 20 °C	[Ohm]	4.28				
Solenoid connection	Connector as per EN 175301-803					
Power amplifier, recommended	PCD00A-400					

R5P UK.INDD 11.04.19



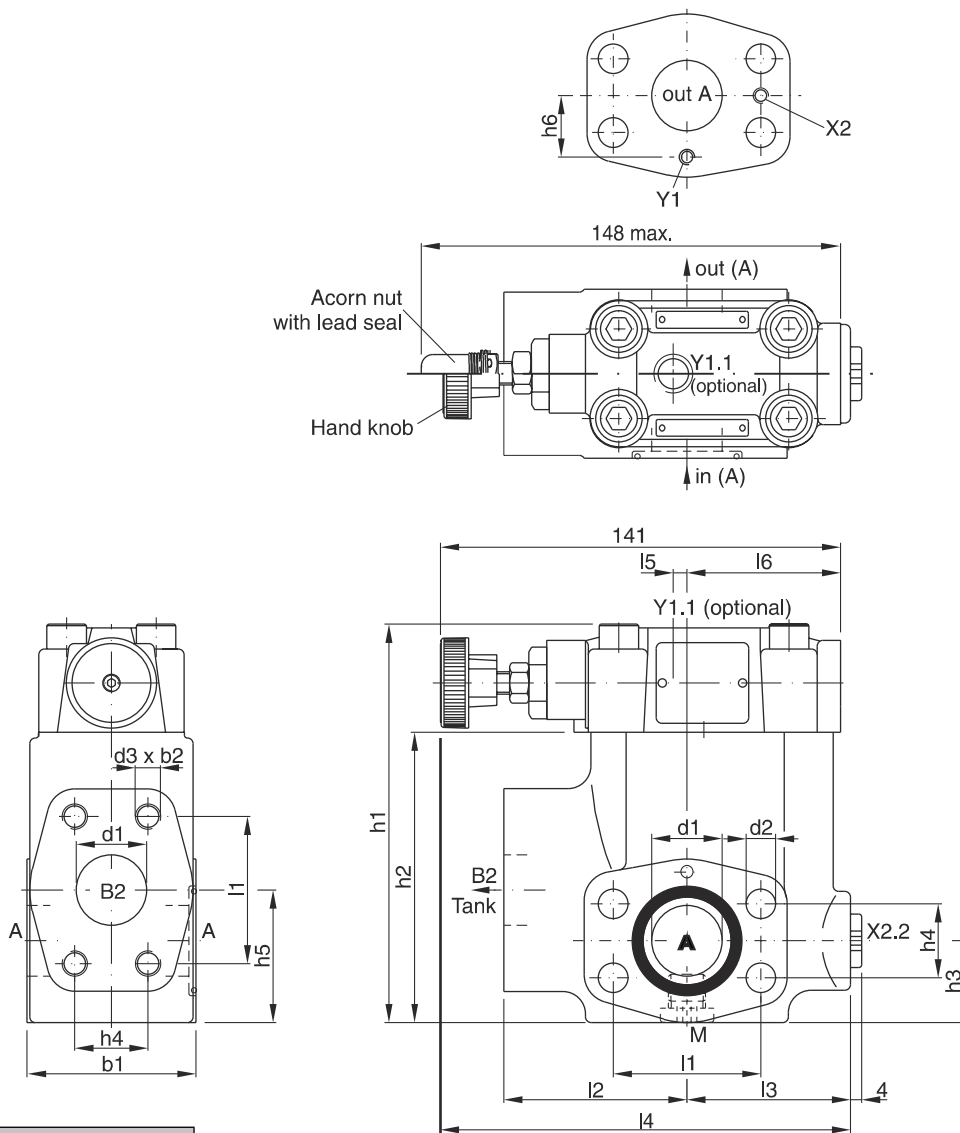
9



**Dimensions**

**3-Port Pressure Compensator  
Series R5P**

**R5P**



Seal kits		
NG	NBR	FPM
06	S16-91461-0	S16-91461-5
08	S16-91460-0	S16-91460-5
10	S16-91459-0	S16-91459-5

	l1	l2	l3	l4	l5	l6	b1	b2	h1	h2	h3	h4	h5	h6	d1	d2	d3
R5P06	47.6	63	56	148	1	49	60	20	119	81.6	29.5	22.2	41.6	20.8	19	10.5	3/8" UNC
R5P08	52.4	65	58	144.6	5	54.5	60	23	142	103	30.5	26.2	48.6	24.3	25	10.5	3/8" UNC
R5P10	58.7	61	64	146.6	3	56.5	75	22	149	113	37.5	30.2	64.1	29.3	32	12.5	7/16" UNC

**Ports**

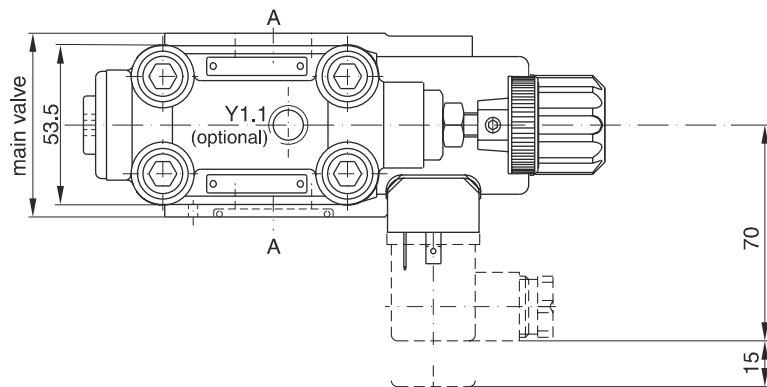
Port	Function	Port size		
		R5P06	R5P08	R5P10
A	Inlet/outlet	3/4"	1"	1 1/4"
B2	Tank	3/4"	1"	1 1/4"
X2	Internal pilot pressure	M3	M3	M3
X2.2	External pilot pressure	G 1/4"	G 1/4"	G 1/4"
Y1	Internal pilot drain	M3	M3	M3
Y1.1	External pilot drain	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"

R5P UK.INDD 11.04.19

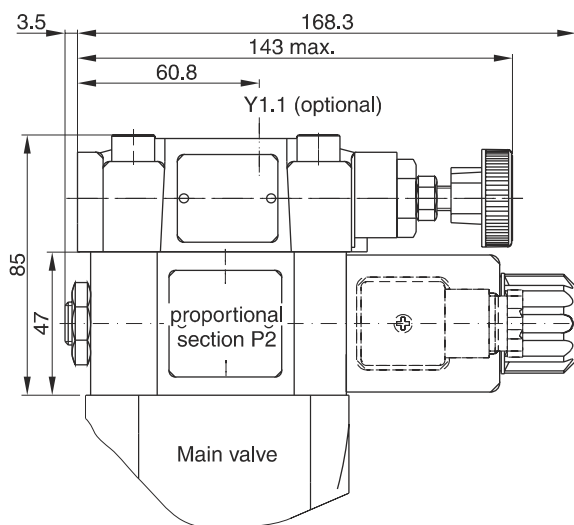


**Dimensions**

**R5P\*P2**

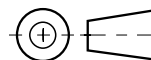


Drain line only external from the pilot head (Y1.1).  
The pilot drain port must be connected to a stable low pressure tank line. Pressure variations in the drain port should be avoided.

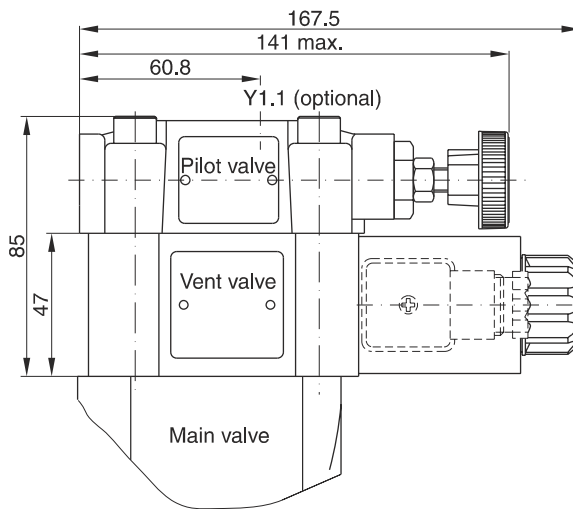
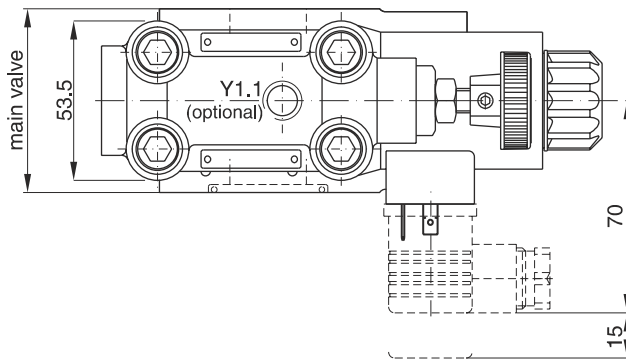


	Kit	
	NBR	FPM
Prop. section P2	S26-58473-0	S26-58473-5

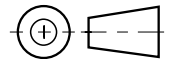
Note:  
On initial start up and after long shut down periods bleed air from this plug.



**R5P with vent function**



Seal kits	
NBR	FPM
<b>DC solenoid</b>	
S56-40609-0	S56-40609-5
<b>AC solenoid</b>	
S26-35237-0	S26-35237-5



**9**

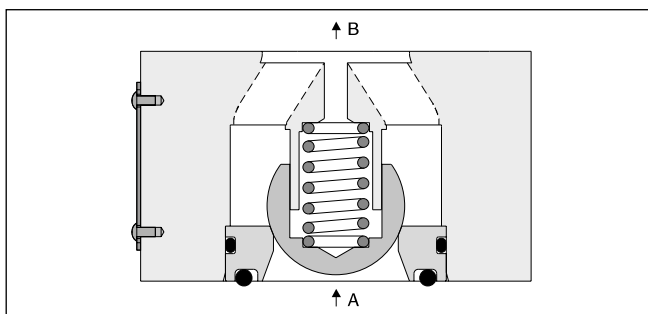
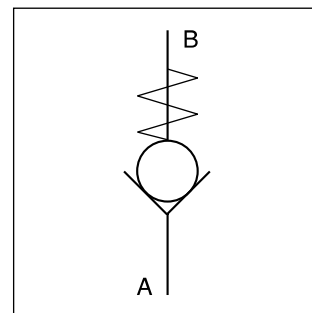
Code	Internal drain	External drain
11		
09		

**Characteristics / Ordering Code**

Direct operated check valves series C5V provide free flow in one direction and block the flow in the counter direction. The SAE flanges allow to mount the C5V directly on the pressure port of pumps for protection against pressure shocks from the system.

**Features**

- Direct operated check valve
- SAE61 and SAE62 flange
- 4 sizes (SAE ¾", 1", 1¼", 1½")
- 3 springs
- 5 options for body sealing



**Ordering Code**

**C5V** — [ ] — [ ] [ ] [ ] **B** [ ] [ ]

Direct operated check valve    Nominal size    Flange    Body sealing    Cracking pressure    Design series    Seals    Options

Code	Port size
06	SAE ¾"
08	SAE 1"
10	SAE 1¼"
12	SAE 1½"

Code	Flange
3	SAE61
6	SAE62

Code	Body sealing
1	Sealing for port A
2 <sup>1)</sup>	Sealing for port A and X
3	Without sealing
4	Sealing for port B
5	Sealing for port A and B

Code	Options
omit	Standard
019 <sup>2)</sup>	M14 mounting screws

Code	Seals
1	NBR
5	FPM

Code	Cracking pressure
0	0.5 bar
1	1.0 bar
2	2.0 bar

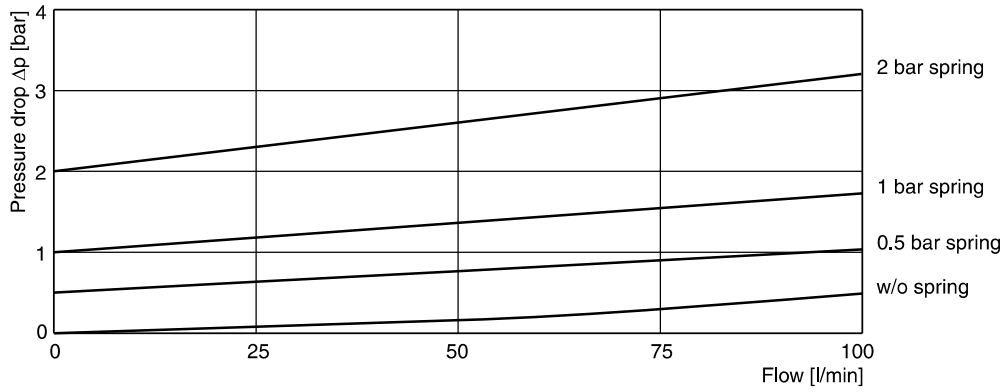
<sup>1)</sup> For combination with R5U unloading valve (SAE61 only)

<sup>2)</sup> Only for C5V10-6 (SAE62)

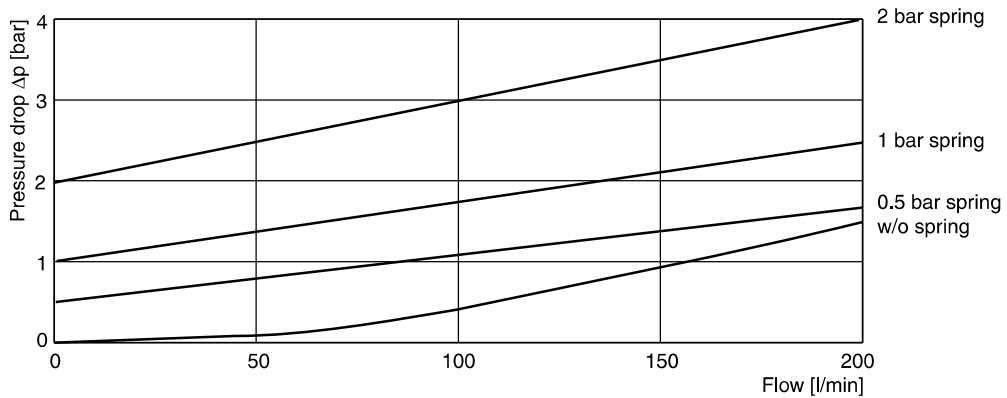
**Technical Data**

<b>General</b>						
Size			<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>	<b>12 (1½")</b>
Mounting	2-port inline flange (SAE61 and 62)					
Mounting position	unrestricted					
Ambient temperature	[°C]	-20...+60				
MTTF <sub>D</sub> value	[years]	150				
Weight	[kg]	0.6	0.9	1.3	1.8	
<b>Hydraulic</b>						
Max. operating pressure	SAE61	[bar]	350	350	280	210
	SAE62	[bar]	420	420	420	420
Nominal flow		[l/min]	100	200	400	750
Fluid	Hydraulic oil according to DIN 51524					
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)				
Viscosity	permitted	[cSt] / [mm <sup>2</sup> /s]	20...400			
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80			
Filtration	ISO 4406 (1999); 18/16/13					

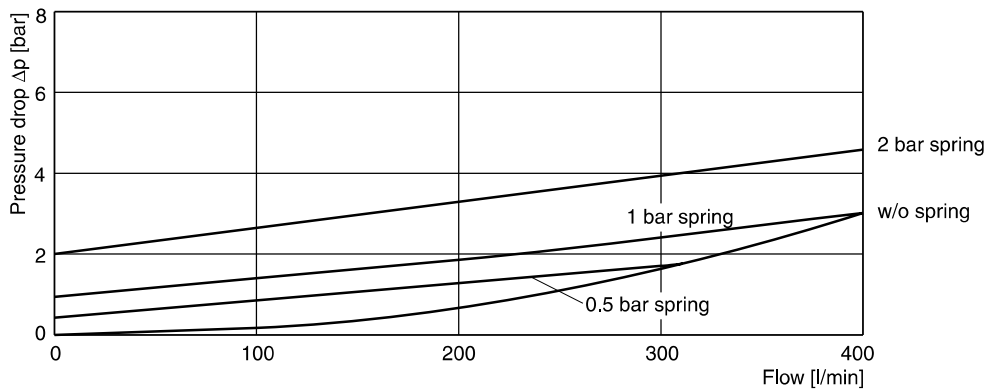
**C5V06**



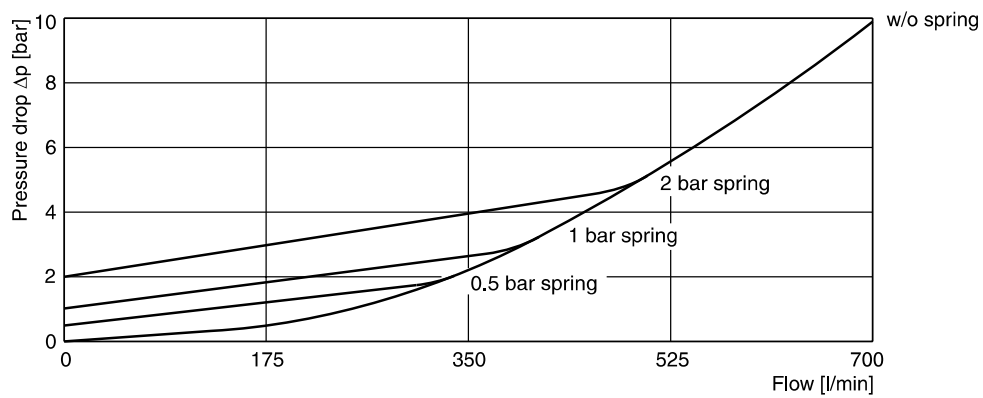
**C5V08**



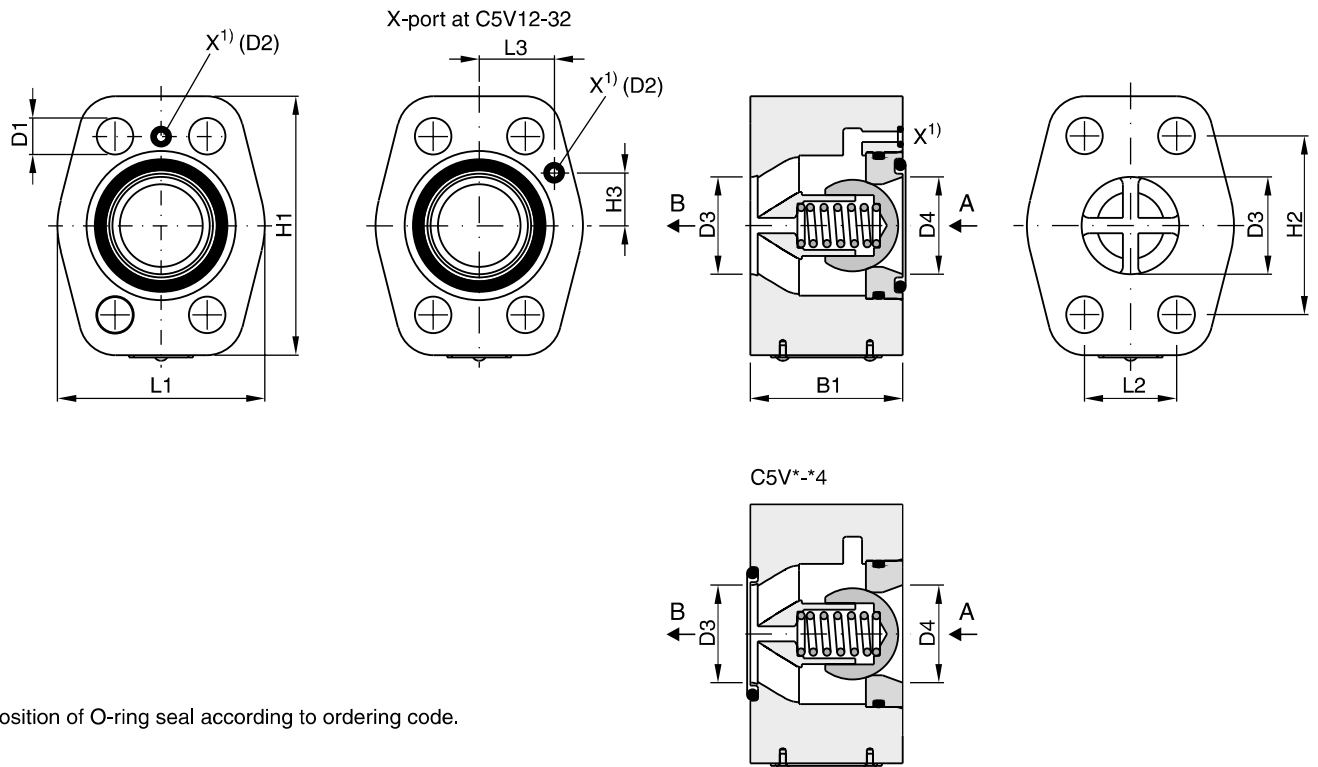
**C5V10**



**C5V12**



All characteristic curves measured with HLP46 at 50 °C.



Position of O-ring seal according to ordering code.

Seal kits		
NG	NBR	FPM
06	S26-75409-0	S26-75409-5
08	S26-75410-0	S26-75410-5
10	S26-75411-0	S26-75411-5
12	S26-75412-0	S26-75412-5

Series	Nominal Size		L1	L2	L3	H1	H2	H3	B1	D1	D2	D3 + 0.8	D4
C5V06	3/4"	SAE61	48	22.2	–	64	47.6	–	45	10.5	Ø3	19	19
		SAE62	48	23.8	–	64	50.8	–	45	10.5	–	19	19
C5V08	1"	SAE61	60	26.2	–	74	52.4	–	45	10.5	Ø3	25	25
		SAE62	60	27.8	–	74	57.2	–	45	12.5	–	25	25
C5V10	1 1/4"	SAE61	68	30.2	–	85	58.7	–	50	12.5	Ø3	32	32
		SAE62	68	31.8	–	85	66.7	–	50	13.5 <sup>2)</sup>	–	32	32
C5V12	1 1/2"	SAE61	80	35.7	27.2	104	69.8	22.4	50	13.5	Ø3	42	38
		SAE62	80	36.5	27.2	104	79.4	22.4	50	17	–	42	38

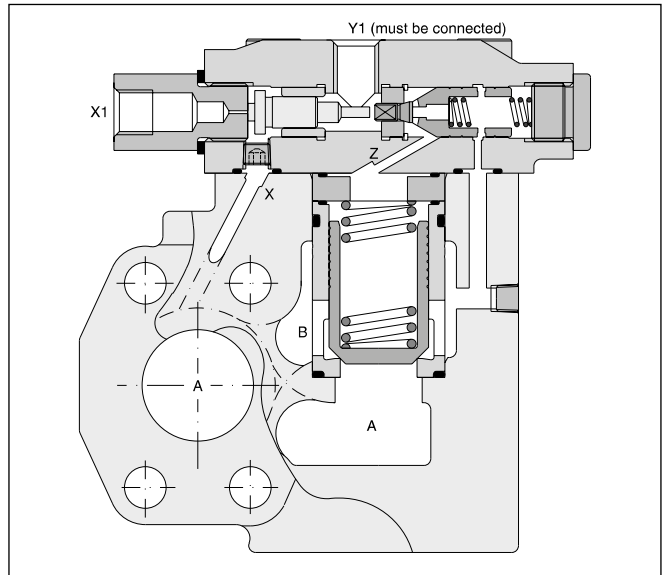
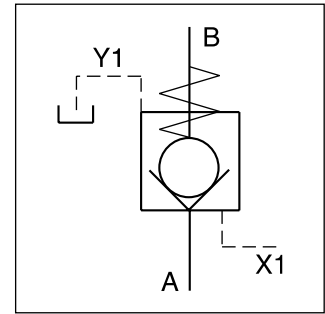
<sup>1)</sup> X1 port for C5V\*32\* (for use with unloading valve R5U).  
<sup>2)</sup> D1 = 15 at option code 019 for M14 mounting screws.

**Characteristics / Ordering Code**

Pilot operated check valves series C5P have a similar design to the subplate mounted C4V series. The SAE flanges allow to mount directly on the flanges of actuators to achieve a very compact design.

**Features**

- Pilot operated check valve
- 2-port body with SAE61 flange
- 3 sizes (SAE 3/4", 1", 1 1/4")
- 4 opening ratios
- Optional with position control



**Ordering code**

9

**C5P**

Pilot operated check valve

—

Nominal size

SAE61 interface

**8**

Pilot ports X1 and Y1=G 1/4"

Opening ratio

Cracking pressure

**A**

Design series

Seals

Options

Code	Nominal size
06	3/4"
08	1"
10	1 1/4"

SAE61		
Code	Max. pressure	Size
4	280 bar	10 (SAE61)
5	350 bar	06/08 (SAE61)

Code	Opening ratio	Code	Opening ratio <sup>1)</sup>
1	1 : 1	E	1 : 1
3	3 : 1	F	3 : 1
8	8 : 1	G	8 : 1
9	10 : 1	H	10 : 1

Code	Options
omit	Standard
013	Position control with protection

Code	Seals
1	NBR
5	FPM

Code	Size	Flow A → B	Flow B → A
2	06	1.0 bar	1.5 bar
	08/10	1.0 bar	1.7 bar
4	06	4.0 bar	5.5 bar
	08/10	3.5 bar	6.0 bar
6	06	2.0 bar	3.0 bar
	08/10	2.2 bar	3.8 bar

<sup>1)</sup> Position control incl. amplifier for C5P08/10 only.





General			06 (3/4")	08 (1")	10 (1 1/4")
Size			06 (3/4")	08 (1")	10 (1 1/4")
Mounting			2-port inline flange (SAE61)		
Mounting position			unrestricted		
Ambient temperature	[°C]		-20...+60		
MTTF <sub>D</sub> value	[years]		150		
Weight	[kg]		3.9	4.4	5.7
Hydraulic					
Max. operating pressure	Ports A, B	[bar]	350	350	280
	Port Y1	[bar]	30	30	30
Nominal flow		[l/min]	180	360	600
Fluid	Hydraulic oil according to DIN 51524				
Fluid temperature	[°C]		-20...+70 (NBR: -25...+70)		
Viscosity, permitted		[cSt] / [mm <sup>2</sup> /s]	20...400		
	recommended	[cSt] / [mm <sup>2</sup> /s]	30...80		
Filtration	ISO 4406 (1999); 18/16/13				

**Position Control**

Position control by proximity switch with amplifier.  
The closed position is monitored.

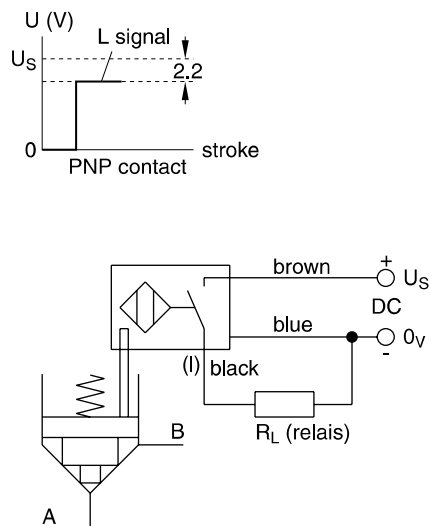
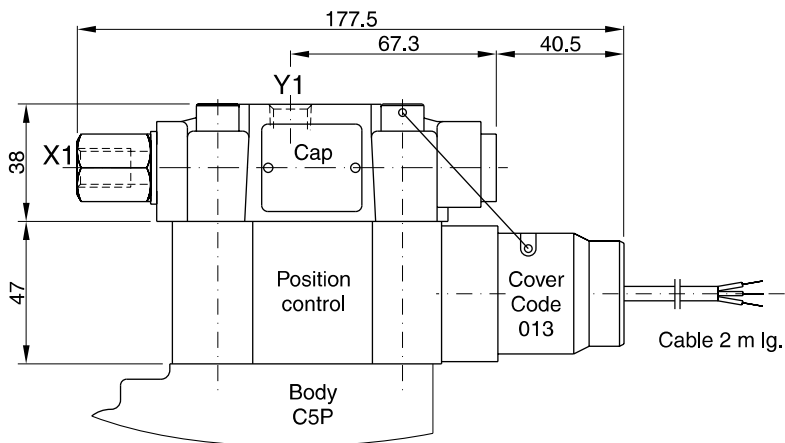
Valve open: proximity switch activated.

This proximity switch is pressure proof and has no wearing parts.

Note: Position control for C5P08 and C5P10 only.

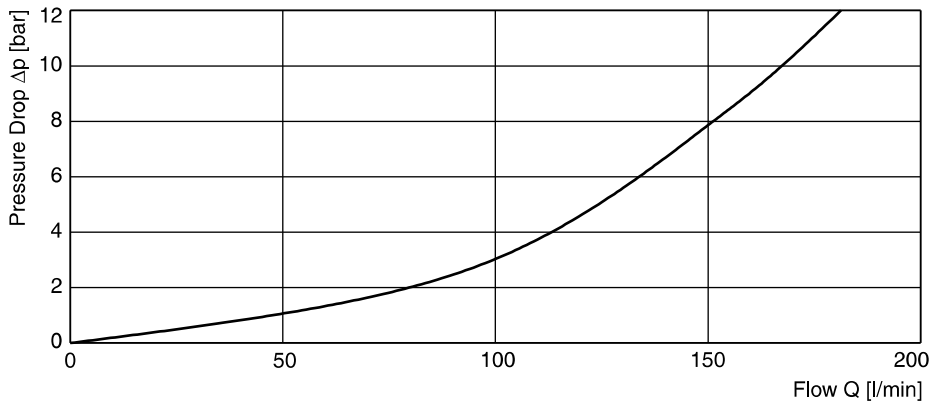
**Technical data proximity switch**

Function	PNP, contact	
Supply voltage (U <sub>s</sub> )	[VDC]	10...30
Supply voltage ripple	[%]	≤ 10
Current consumption	[mA]	max. 8
Residual voltage L-signal	[V]	U <sub>s</sub> - 2.2 at I <sub>max</sub>
Output current (I)	[mA]	≤ 200
Protection class	IP67	
Ambient temperature	[C°]	-25...+70
Wire cross section	[mm <sup>2</sup> ]	3 x 0.5

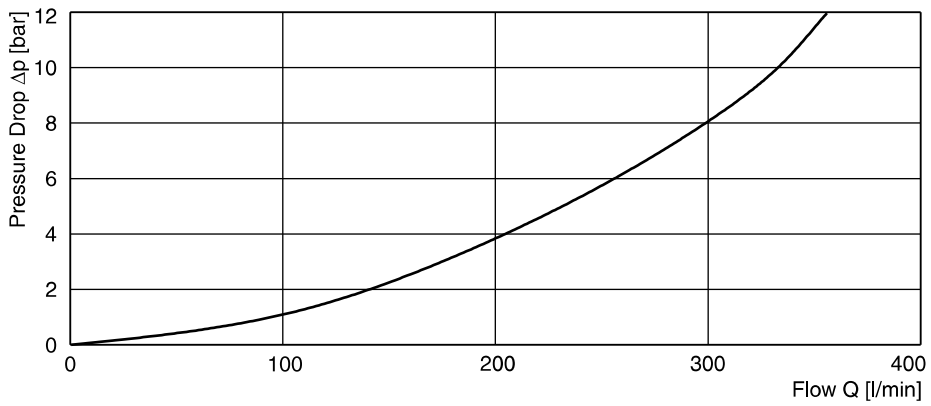


**p/Q-performance curves**

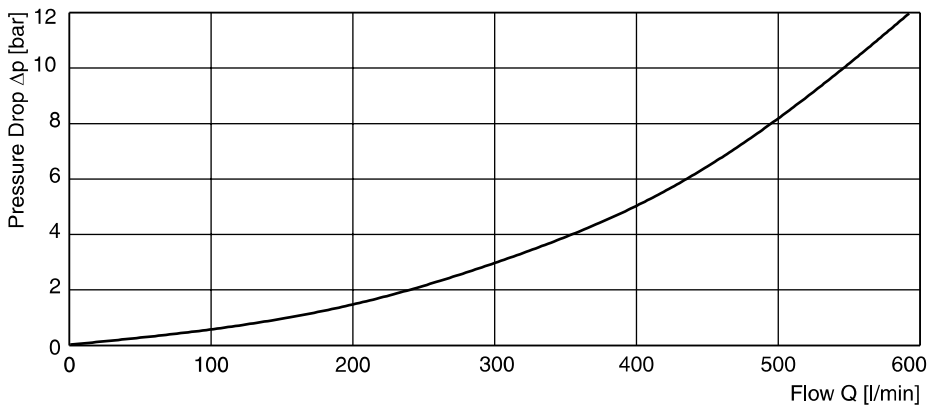
**C5P06**



**C5P08**

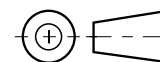
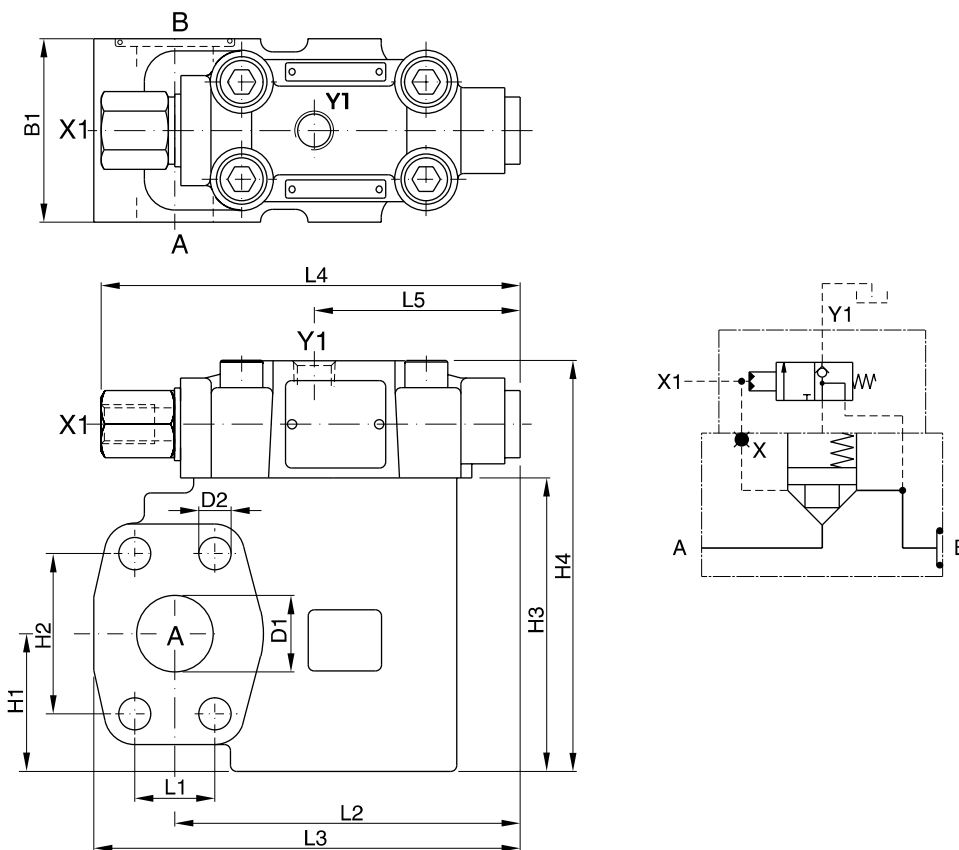


**C5P10**



All characteristic curves measured with HLP46 at 50 °C.

CSP UK.INDD 11.04.19



Seal kits		
NG	NBR	FPM
06	S26-59404-0	S26-59404-5
08	S26-59405-0	S26-59405-5
10	S26-59406-0	S26-59406-5

**Dimensions**

Type	L1	L2	L3	L4	L5	B1	H1	H2	H3	H4	D1	D2
C5P06	22.2	95.8	119.8	137	67.3	60	37	47.6	90	128	19	10.5
C5P08	26.2	112.9	139.4	137	67.3	60	45	52.4	96	134	25	10.5
C5P10	30.2	112.9	146.9	137	67.3	75	48	58.7	109	147	32	12.5

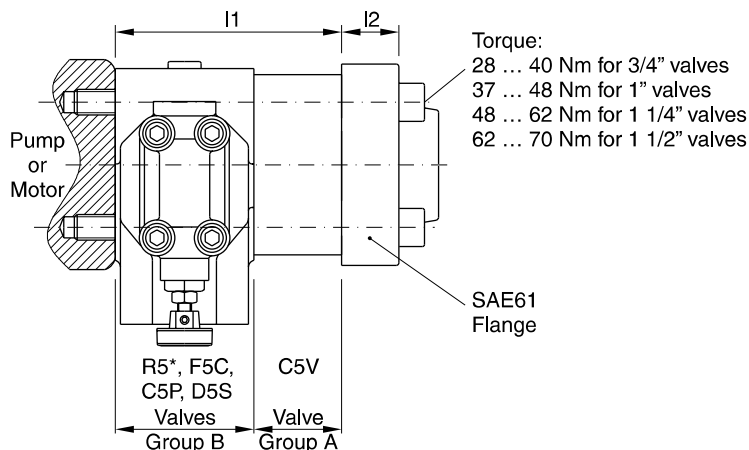
**Ports**

Port	Function	Port size		
		C5P06	C5P08	C5P10
A	Inlet or outlet	¾" SAE61	1" SAE61	1¼" SAE61
B	Outlet or inlet	¾" SAE61	1" SAE61	1¼" SAE61
X1	External pilot port	G¼"	G¼"	G¼"
Y1	External pilot drain	G¼"	G¼"	G¼"

C5P UK.INDD 11.04.19



**BK bolt kits for SAE61 valves**



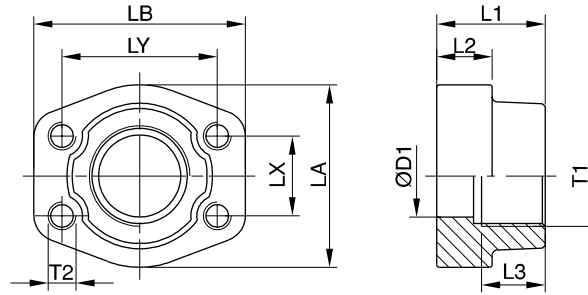
Port	Qty. of valves and group for each stack	I1	I2	UNC screws (12.9)	
				Dimension	Ordering code
3/4" SAE61	1 x A	45	16...22	3/8"-16 x 3 1/4"	BK-358-16330-0
	1 x B	60		3/8"-16 x 3 3/4"	BK-358-16350-0
	(1 x A) + (1 x B)	105		3/8"-16 x 5 1/2"	BK-358-16420-0
	2 x B	120		3/8"-16 x 6"	BK-358-16440-0
1" SAE61	1 x A	45	18...24	3/8"-16 x 3 1/4"	BK-358-16330-0
	1 x B	60		3/8"-16 x 3 3/4"	BK-358-16350-0
	(1 x A) + (1 x B)	105		3/8"-16 x 5 3/4"	BK-358-16430-0
	2 x B	120		3/8"-16 x 6 1/4"	BK-358-16450-0
1 1/4" SAE61	1 x A	50	21...25	7/16"-14 x 3 1/2"	BK-358-18340-0
	1 x B	75		7/16"-14 x 4 1/2"	BK-358-18380-0
	(1 x A) + (1 x B)	125		7/16"-14 x 6 1/2"	BK-358-18460-0
	2 x B	150		7/16"-14 x 7 1/2"	BK-358-18500-0
1 1/2" SAE61	1 x A	50	25...27	1/2"-13 x 3 3/4"	BK-358-20350-0
	1 x B	80		1/2"-13 x 5"	BK-358-20400-0
	(1 x A) + (1 x B)	130		1/2"-13 x 6 3/4"	BK-358-20470-0
	2 x B	160		1/2"-13 x 8"	BK-358-20520-0

1 bolt kit contains 4 screws.

**BK bolt kits for SAE62 valves**

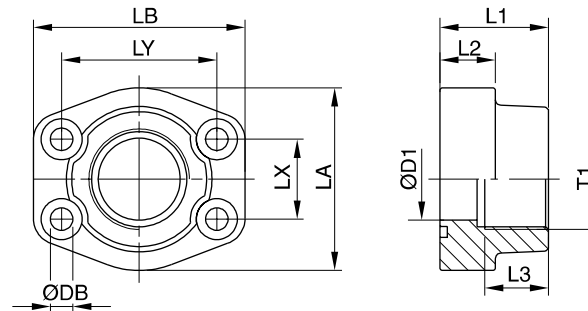
Series	Nominal size	I1	I2	UNC screws (12.9)	
				Dimension	Ordering code
C5V06	3/4"	45	21	3/8"-16 x 3 1/4"	BK-358-16330-0
C5V08	1"	45	25	7/16"-14 x 3 1/2"	BK-358-18340-0
C5V10	1 1/4"	50	27	1/2"-13 x 3 3/4"	BK-358-20350-0
R5V06-6	3/4"	60	21	3/8"-16 x 3 3/4"	BK-358-16350-0
R5V08-6	1"	60	25	7/16"-14 x 3 3/4"	BK-358-18350-0
R5V10-6	1 1/4"	75	27	1/2"-13 x 4 1/2"	BK-358-20380-0
R5V12-6	1 1/2"	80	30	5/8"-11 x 5 1/4"	BK-358-24410-0

**Inlet flange**



Port size	Order no. <sup>1)</sup>	Inlet flange								
		D1	L1	L2	L3	LA	LB	LX	LY	T2
<b>SAE61</b>										
G $\frac{3}{4}$ "	PCFF33GSU	19	36	18	19	49	66	22.3	47.6	3/8" UNC
G1"	PCFF34GSU	25	38	18	19	53	71	26.2	52.4	3/8" UNC
G1 $\frac{1}{4}$ "	PCFF35GSU	31	41	21	22	69	80	30.2	58.7	7/16" UNC
G1 $\frac{1}{2}$ "	PCFF36GSU	38	44	25	24	77	94	35.7	69.9	1/2" UNC
<b>SAE62</b>										
G $\frac{3}{4}$ "	PCFF63GSU	19	36	19	22	53	71	23.8	50.8	3/8" UNC
G1"	PCFF64GSU	25	44	24	24	69	80	27.8	57.2	7/16" UNC
G1 $\frac{1}{4}$ "	PCFF65GSU	31	44	27	25	77	94	31.8	66.6	1/2" UNC
G1 $\frac{1}{2}$ "	PCFF66GSU	38	51	30	28	89	106	36.5	79.3	5/8" UNC

**Outlet and tank port flange**

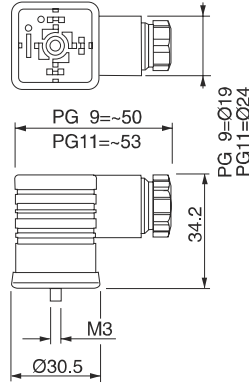


Port size	Order no. <sup>2)</sup>	Outlet and tank port flange									Srews
		D1	L1	L2	L3	LA	LB	LX	LY	DB	
<b>SAE61</b>											
G $\frac{3}{4}$ "	PFF33GSU	19	36	18	18	49	66	22.3	47.6	10.5	3/8" x 1 1/2 UNC
G1"	PFF34GSU	25	38	18	20	53	71	26.2	52.4	10.5	3/8" x 1 1/2 UNC
G1 $\frac{1}{4}$ "	PFF35GSU	31	41	21	22	69	80	30.2	58.7	11.5	7/16" x 1 1/2 UNC
G1 $\frac{1}{2}$ "	PFF36GSU	38	44	25	24	77	94	35.7	69.9	13.5	1/2" x 1 3/4 UNC
<b>SAE62</b>											
G $\frac{3}{4}$ "	PFF63GSU	19	36	19	18	53	71	23.8	50.8	10.5	3/8" x 1 1/2 UNC
G1"	PFF64GSU	25	44	24	20	69	80	27.8	57.2	11.5	7/16" x 1 1/2 UNC
G1 $\frac{1}{4}$ "	PFF65GSU	31	44	27	22	77	94	31.8	66.6	15.0	1/2" x 1 3/4 UNC
G1 $\frac{1}{2}$ "	PFF66GSU	38	51	30	24	89	106	36.5	79.3	17.0	5/8" x 2 1/4 UNC

<sup>1)</sup> 4-bolt flange with UNC threads.

<sup>2)</sup> 4-bolt flange including UNC screws and O-ring.

Description	Threaded cable joint	Body colour coding	Order no.
Plug EN 175301-803 <sup>1)</sup> , design type AF, protection class IP65 Voltages up to 250 V	PG 9	black, B grey, A	5001710 5001711
	PG11	black, B grey, A	5001716 5001717



Other plugs on request

<sup>1)</sup> EN 175301-803 (new) corresponding with DIN 43650 (old).