

Series	Description	Size				Mounting		Configuration		Page
	DIN / ISO	¾	1	1¼	1½	SAE61	SAE62	2-port	3-port	
	Pressure valves, manual operation									
R5V	Pressure relief function	•	•	•	•	•	•	•	•	9-2
R5U	Pressure unloading function	•	•	•	•	•			•	9-8
R5S	Pressure sequence function	•	•	•		•			•	9-13
R5R	Pressure reducing function	•	•	•		•		•		9-17
	Pressure valves, proportional operation									
R5V*P2	Pressure relief function	•	•	•	•	•	•	•	•	9-23
R5R*P2	Pressure reducing function	•	•	•		•		•		9-29
	Directional seat valves									
D5S		•	•	•	•	•		•	•	9-33
	Flow valves									
F5C	Throttle valves, proportional	•	•	•		•		•		9-47
R5A	2-way pressure compensator	•	•	•		•		•		9-51
R5P	3-way pressure compensator	•	•	•		•			•	9-53
	Check valves									
C5V	Direct operated	•	•	•	•	•	•	•		9-60
C5P	Pilot and direct operated	•	•	•		•		•		9-64
	Accessories									
	Bolt kits, flanges, plugs									9-68

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

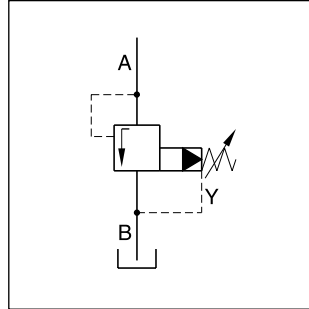
- Pilot operated with manual adjustment
- R5V with 2-port body
 - 3 sizes (SAE $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ")
 - SAE61 flange
- R5V with 3-port body
 - 4 sizes (SAE $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ ")
 - SAE61 and SAE62 flange
- 3 pressure stages
- 3 adjustment modes
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



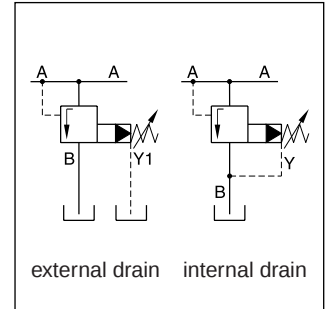
R5V 2-port



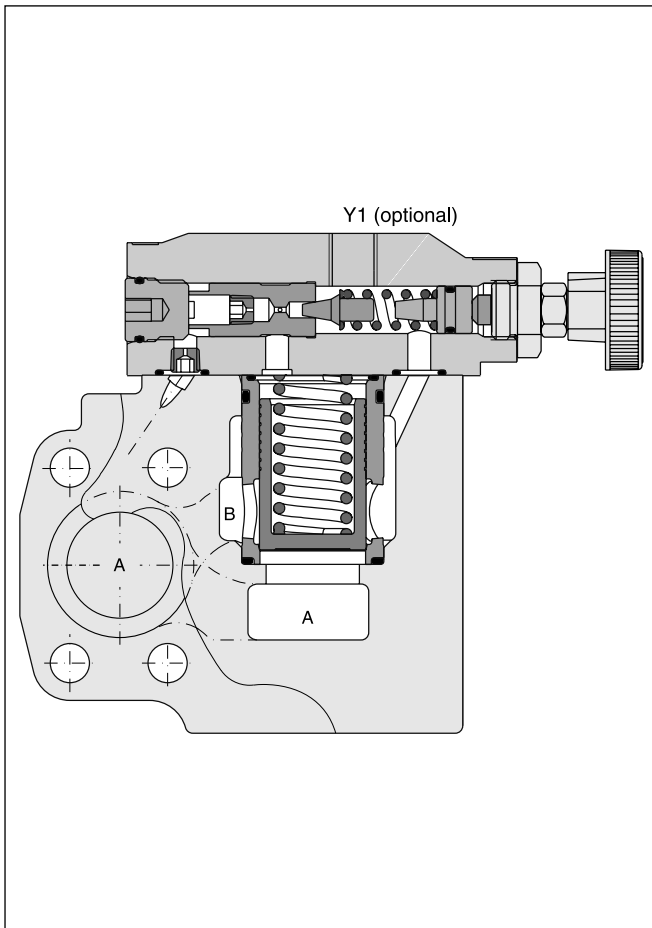
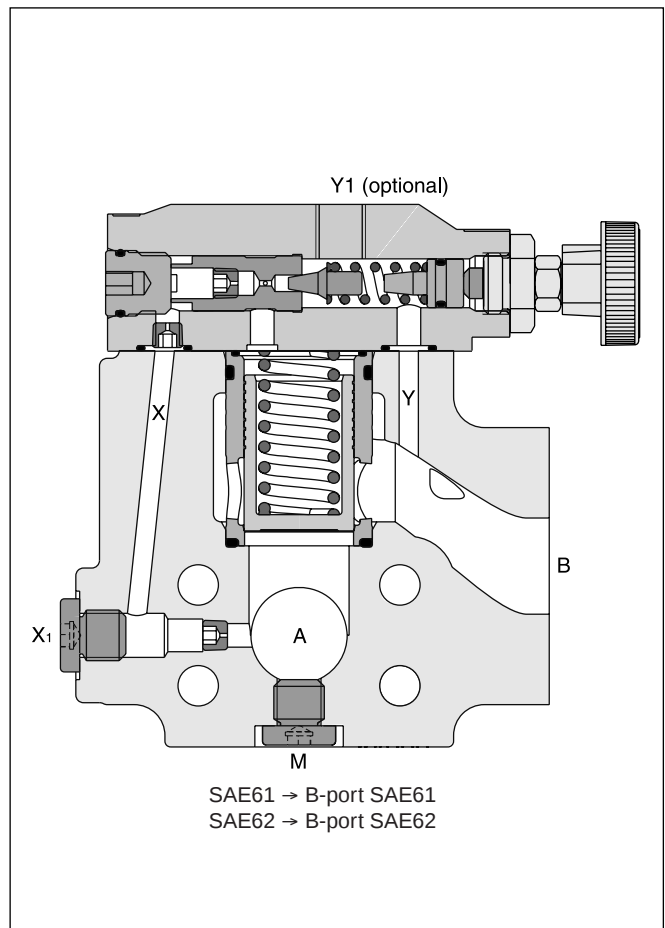
R5V 3-port



R5V 2-port



R5V 3-port

R5V 2-port**R5V 3-port**

Ordering Code

R5V		—								A			
Pressure relief valve	Nominal size	SAE Interface	Pilot ports	Pressure stages	Adjustment	Pilot oil	Switching type	Solenoid voltage	Design	Seals	Design series (not required for ordering)	Options	

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

SAE61		
Code	Size	Max. pressure [bar]
3	12	210
4	10	280
5	06/08	350

SAE62		
Code	Size	Max. pressure [bar]
6 ¹⁾	06/08/10/12	350

2-port body	
Code	pilot ports
7	Y1 = G ¼" ²⁾

3-port body	
Code	pilot ports
9	Y1 ²⁾ , X1, M = G ¼"

Code	Pressure stages
1	up to 105 bar
3	up to 210 bar
5 ³⁾	up to 350 bar

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal
4	Cylinder lock

Code	Options
008 ⁵⁾	Vent function with slow unloading
070	Metric 3-port body for R5V10 SAE62: Pressure ports (A): SAE62 with 15 mm through holes (for M14), Tank port: SAE61 (M12)
152 ⁶⁾	3-port body with metric threads

Code	Seals
1	NBR
5	FPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR ⁴⁾	98 V=
GAG ⁴⁾	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	Solenoid not activ. unpress. circulation
11	Solenoid activated unpress. circulation

Pilot oil	
Code	Drain line
2	internal
6	external from Y1-port

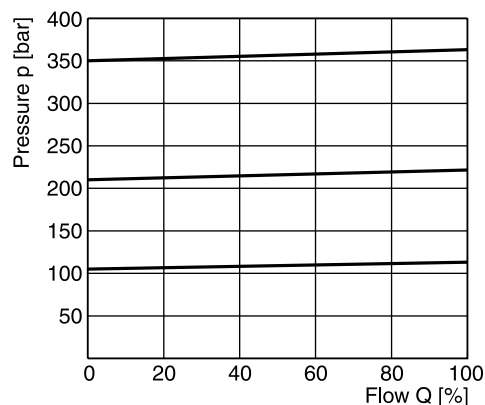
Further options on request

¹⁾ Only R5V 3-port²⁾ Y1 only available at external drain (pilot oil code 6)³⁾ R5V10-4*5 up to 280 bar⁴⁾ To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply⁵⁾ Only for vent valve function code 09⁶⁾ R5V08 SAE62: Tank port SAE61 (M10)

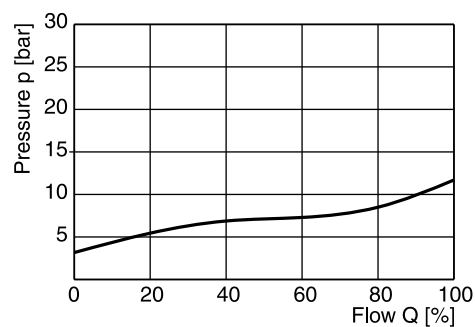
Technical data

General						
Size		06 (¾")		08 (1")	10 (1¼")	12 (1½")
Mounting		Flanged according to SAE61 and SAE62				
Mounting position		unrestricted				
Ambient temperature [°C]		-20...+50				
MTTF _D value [years]		75				
Weight	R5V 2port	[kg]	4.0	4.6	5.9	—
	R5V 3port	[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...51525				
Fluid temperature [°C]		-20...+80				
Viscosity, permitted	[cSt]	10...650				
	[mm²/s]	30				
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	[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		Energized / De-energized AC: 20/18 , DC: 46/27				
Wiring min. [mm²]		3 x 1.5 recommended				
Wiring length max. [m]		50 recommended				

p/Q performance curve

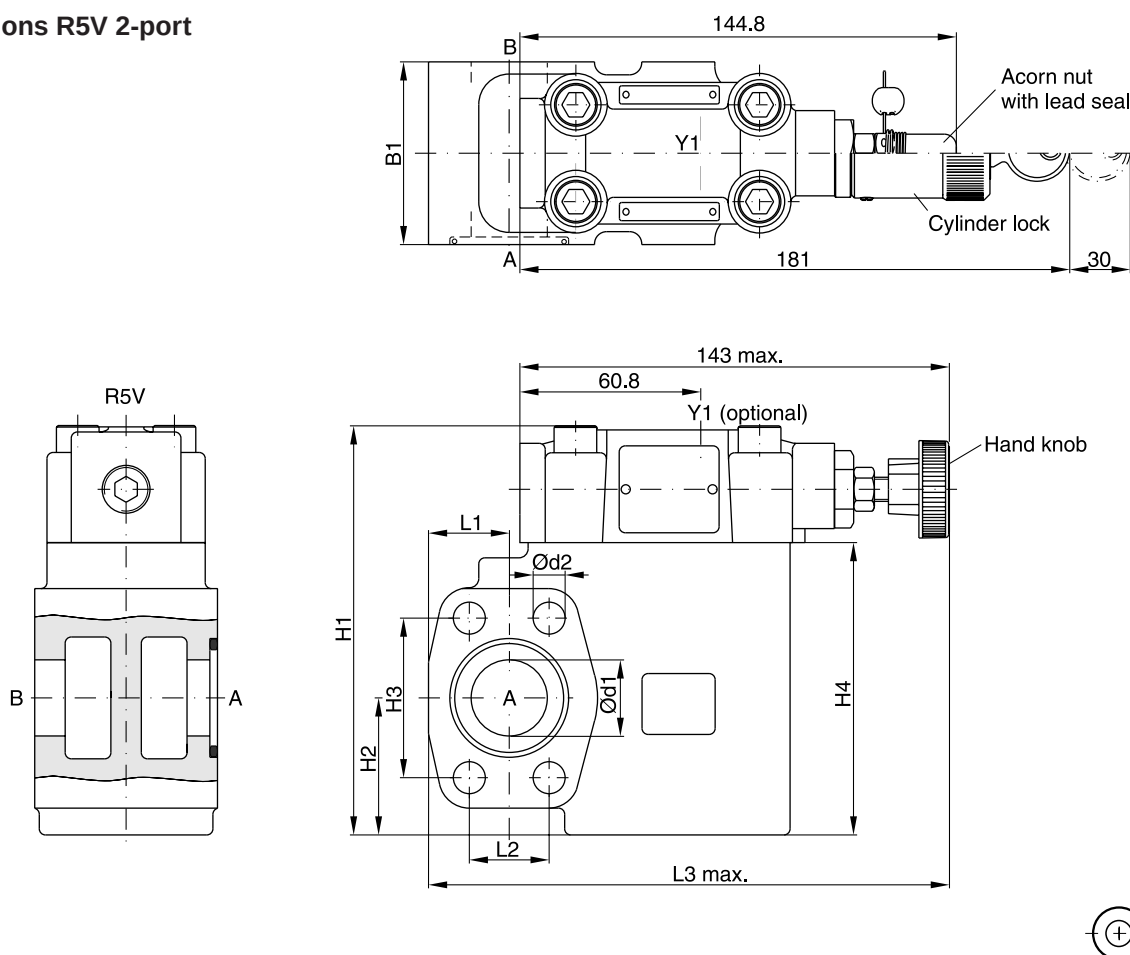


Minimum pressure curve



All characteristic curves measured with HLP46 at 50 °C.

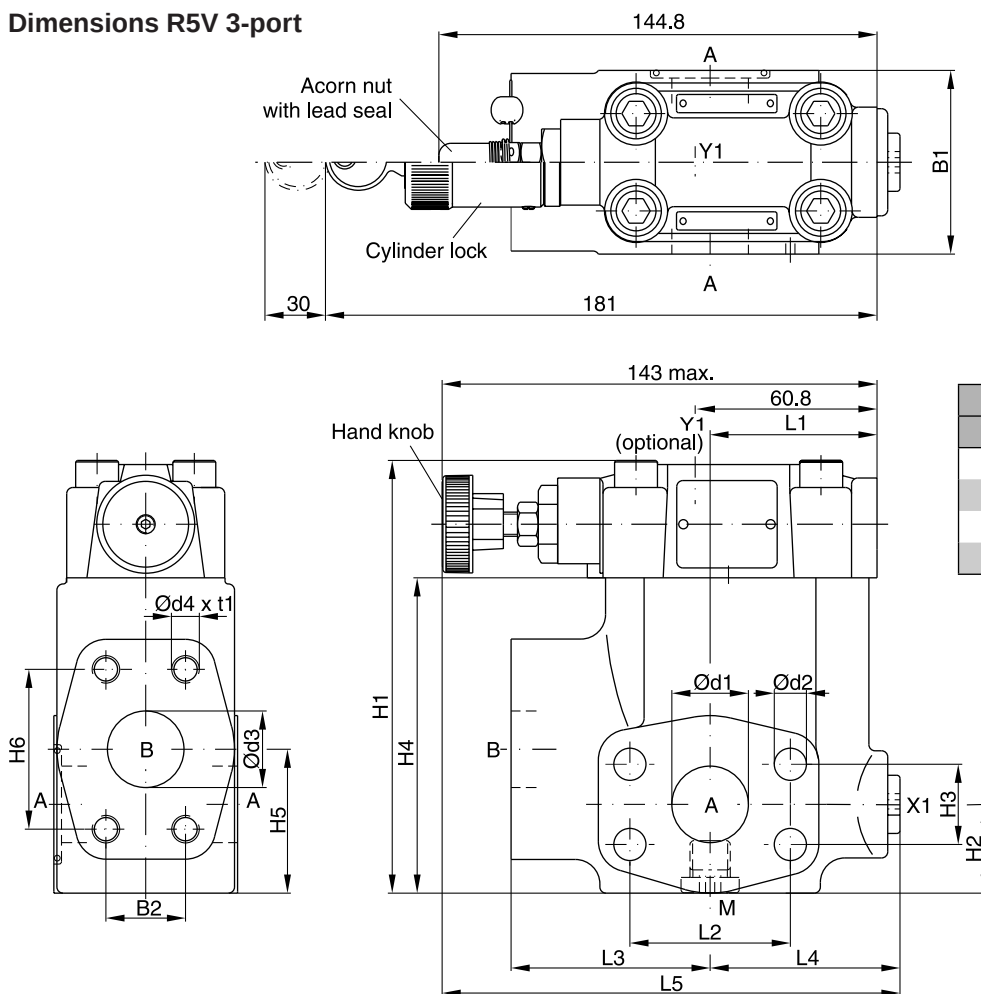
The performance curves are measured with external drain.
For internal drain the tank pressure has to be added to curve.

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"

Dimensions**Pilot Operated Pressure Relief Valve
Series R5V****Dimensions R5V 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

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	41.6	47.6	50.3	47.6	63	56	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	58	149	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	151	37.5	30.2	113	64	58.7	57.8	58.7	61	62	150.5	32	12.5	32	7/16"-14 UNC (M12)	22
12	80	35.7	178	35.5	35.7	140	73	69.8	37.3	69.8	92.5	55.2	171.2	38	13.5	38	1/2"-13 UNC (M12)	27

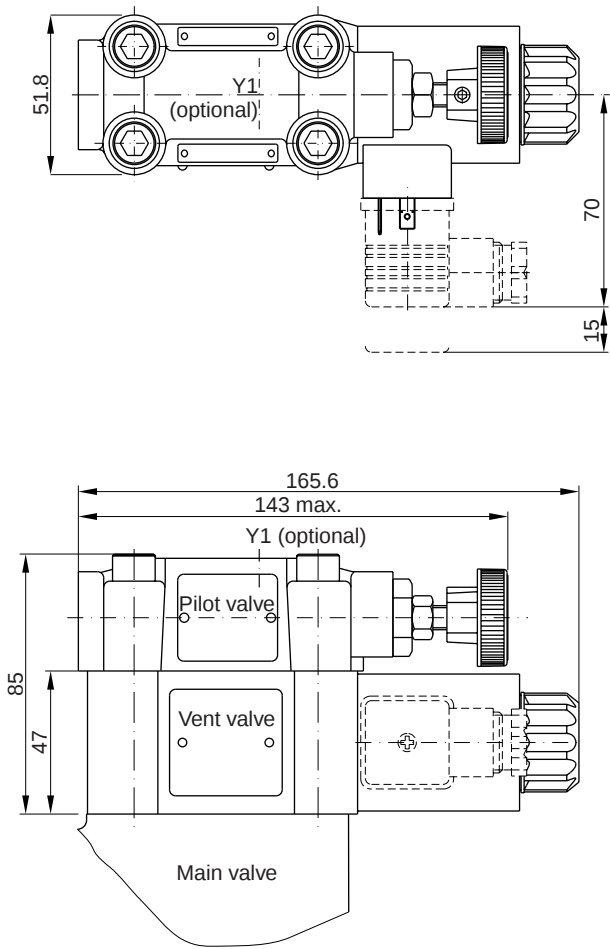
SAE62

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	41.6	50.8	50.3	50.8	63	56	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	58	149	25	12.5	25	7/16"-14 UNC (M10) ¹⁾	22
10	75	31.8	151	37.5	31.8	113	64	66.7	57.8	66.7	61	62	150.5	32	13.5	32	1/2"-13 UNC (M12)	24
12	80	36.5	178	35.5	36.5	140	73	79.4	37.3	79.4	92.5	55.2	171.2	38	17	38	5/8"-11 UNC (M16)	33

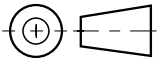
Port	Function	Port size			
		R5V06	R5V08	R5V10	R5V12
A (2)	Pressure	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
B	Tank	3/4" SAE61/62	1" SAE61/62	1 1/4" SAE61/62	1 1/2" SAE61/62
X1	External pilot port ²⁾	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Y1	External drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure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

¹⁾ T-port SAE61²⁾ Closed when supplied

Dimensions R5V with vent function



Seal kits	
NBR	FPM
DC solenoid	
S56-40609-0	S56-40609-5
AC solenoid	
S26-35237-0	S26-35237-5



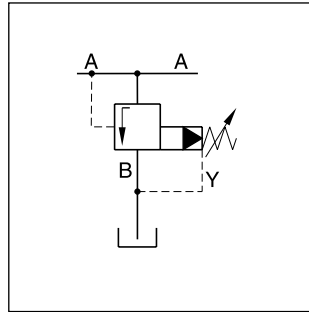
Code	R5V 2-port		R5V 3-port	
	Internal drain	External drain	Internal drain	External drain
11				
09				

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.

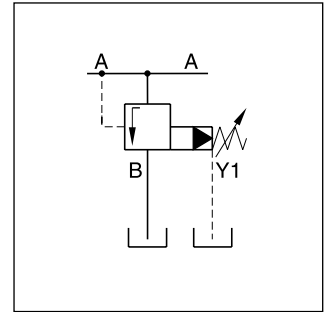
A typical application is the unloading of a pump in an accumulator circuit. The combination of an R5U, C5V and R5V on a double pump generates a high pressure / low pressure pump system without the need of a manifold block or piping between the valves.

Features

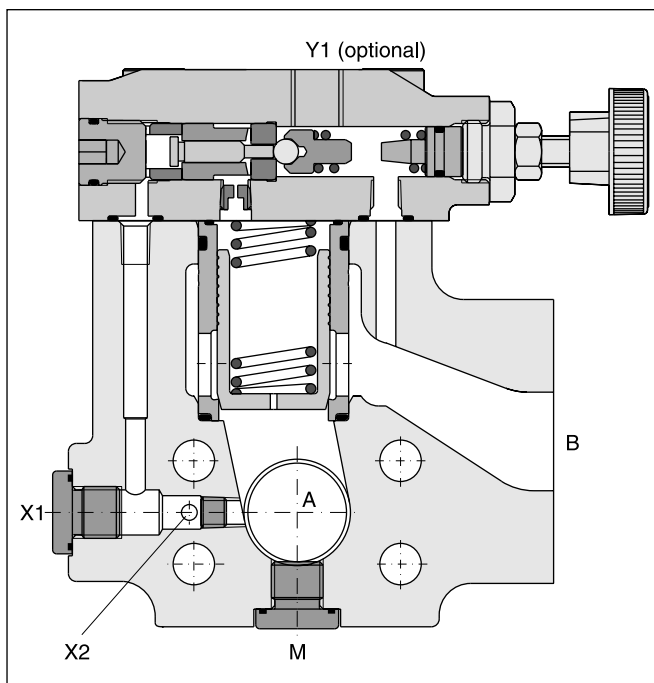
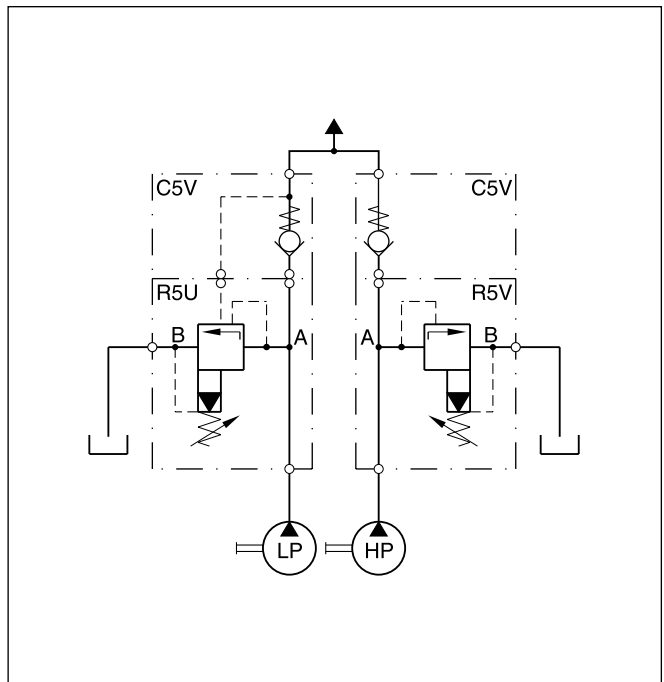
- Pilot operated unloading valve
- 3-port body with SAE61 flange
- 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2")
- 3 pressure stages
- 3 adjustment modes
 - Hand knob
 - Acorn nut with lead seal
 - Cylinder lock
- With optional vent function



R5U 3-port internal drain



R5U 3-port external drain

9**High pressure / low pressure system**

Ordering Code

R5U		—	9						A		
Pressure unloading valve	Nominal size	SAE61 interface	3-port body M, Y1, X = G 1/4"	Pressure stages	Adjustment	Pilot oil	Switching type	Solenoid voltage	Design series	Seals	Options

Code	Port size
06	SAE 3/4"
08	SAE 1"
10	SAE 1 1/4"
12	SAE 1 1/2"

SAE61		
Code	Size	Max. pressure [bar]
3	12	210
4	10	280
5	06/08	350

Code	Pressure stages [bar]	Pressure differential
1	up to 105	28 %
3	up to 210	28 %
5 ¹⁾	up to 350	15 %

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal
4	Cylinder lock

Code	Options
008 ³⁾	Vent function with slow unloading
152	3-port body with metric threads

Code	Seals
1	NBR
5	FPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR ²⁾	98 V=
GAG ²⁾	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	Solenoid not activ. unpress. circulation
11	Solenoid activated unpress. circulation

Pilot oil		
Code	Pilot	Drain
4	External via port X1 or X2	External
5	External via port X1 or X2	Internal

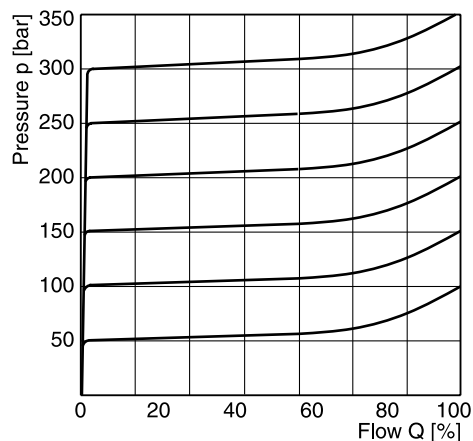
Further options on request

¹⁾ R5U10-495 up to 280 bar²⁾ To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.³⁾ Only for vent valve function code 09

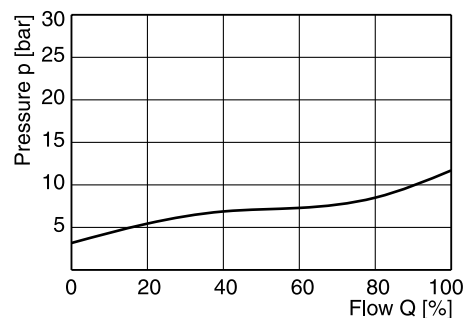
Technical data

General							
Size		06 (¾")		08 (1")		10 (1¼")	
Mounting		Flanged according to SAE61					
Mounting position		unrestricted					
Ambient temperature		[°C]		-20...+50			
MTTF _D value		[years]		75			
Weight		[kg]		3.6		4.6	
5.2		8.0					
Hydraulic							
Max. operating pressure		[bar]					
Ports A, B, X		350		350		280	
Ports Y, Y1		30		30		30	
Pressure stages		[bar]		105, 210, 350			
Nominal flow		[l/min]		90		300	
600		600					
Fluid		Hydraulic oil according to DIN 51524...51525					
Fluid temperature		[°C]		-20...+80			
Viscosity		permitted		[cSt] / [mm²/s]		10...650	
recommended		[cSt] / [mm²/s]		30			
Filtration		ISO 4406 (1999); 18/16/13					
Electrical							
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	
Supply voltage		[V]		[V]		[V]	
12 V =		24 V =		98 V =		205 V =	
Tolerance supply voltage		[%]		±10		±10	
Current consumption		hold		[A]		2.72	
in rush		[A]		2.72		1.29	
Power consumption		hold		[W]		32.7	
in rush		[W]		32.7		31	
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			

p/Q performance curve

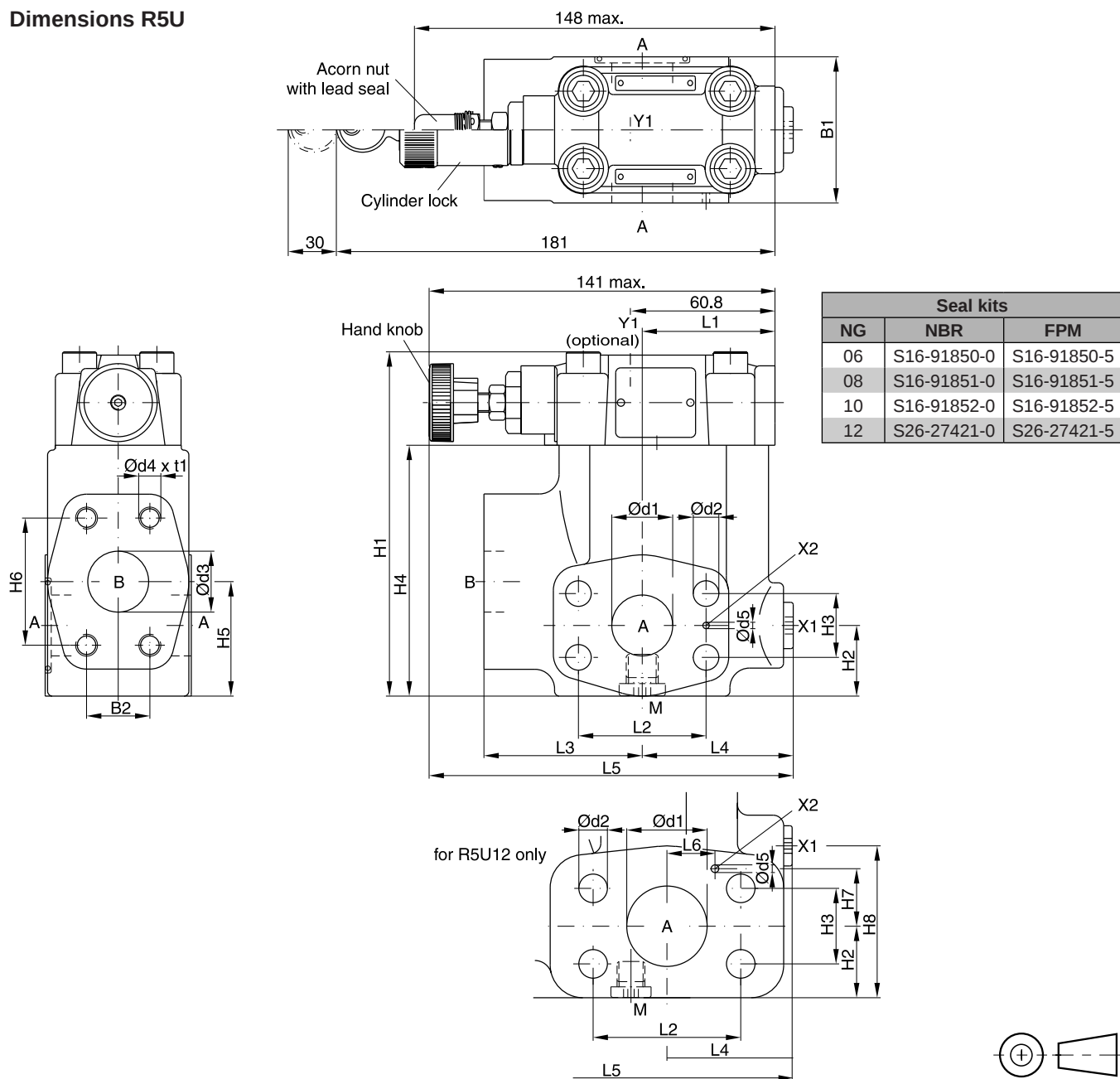


Minimum pressure curve



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.

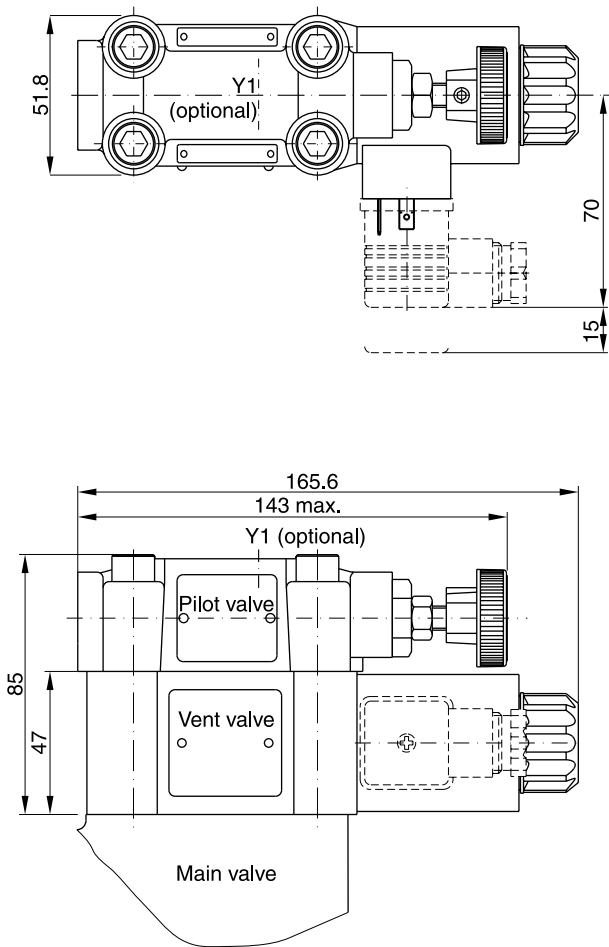
Dimensions**Pilot Operated Pressure Unloading Valve
Series R5U****Dimensions R5U**

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	41.6	47.6	50.3	47.6	63	56	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	58	149	25	10.5	25	3/8"-16 UNC	23	3.0	-	-	-
10	75	30.2	151	37.5	30.2	113	64	58.7	57.8	58.7	61	62	150.5	32	12.5	32	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	55.2	171.2	38	13.5	38	1/2"-13 UNC	27	3.0	22.4	27.2	73

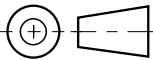
Port	Function	Port size			
		R5U06	R5U08	R5U10	R5U12
A (2)	Pressure	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
B	Tank	3/4" SAE61	1" SAE61	1 1/4" SAE61	1 1/2" SAE61
X1	External pilot port ¹⁾	G 1/4"	G 1/4"	G 1/4"	G 1/4"
Y1	External drain	G 1/4"	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"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

¹⁾ Closed when supplied

Dimensions R5U with vent function



Seal kits	
NBR	FPM
DC solenoid	
S56-40609-0	S56-40609-5
AC solenoid	
S26-35237-0	S26-35237-5



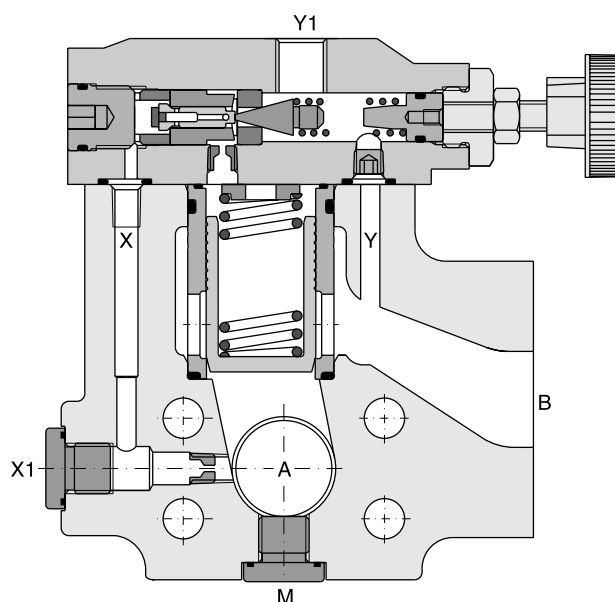
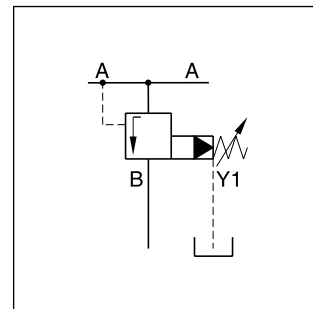
9

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.

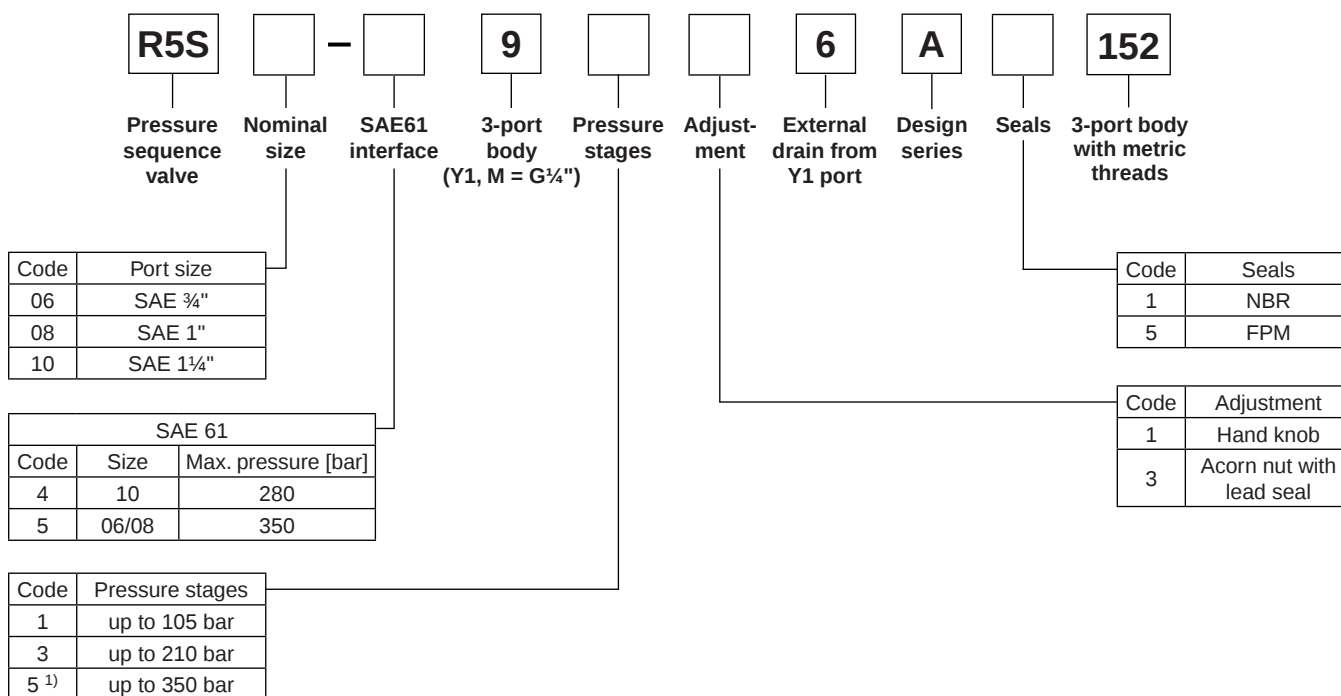
Features

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



Ordering Code / Technical Data

Ordering code



Further options on request

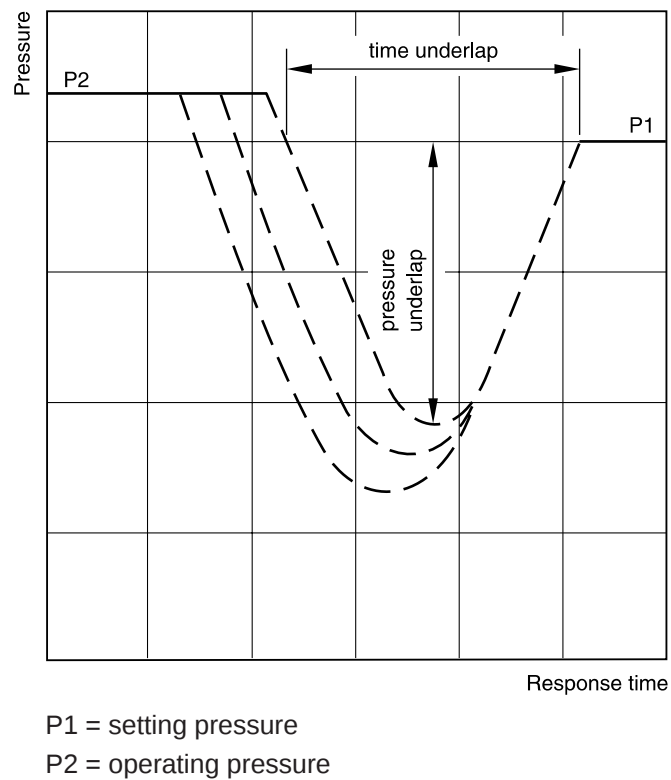
¹⁾ R5S10-495 up to 280 bar

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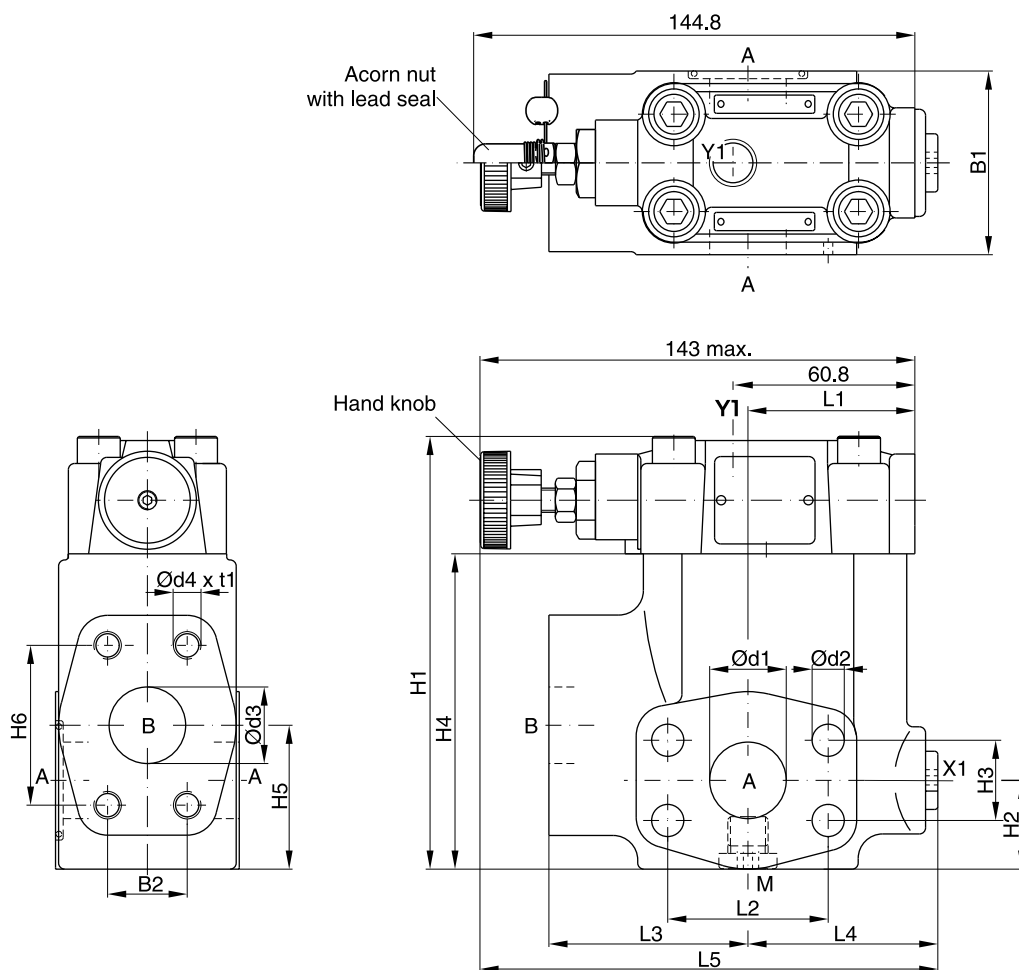
Technical Data

General			
Size		06 (¾")	08 (1")
Mounting		Flanged according to SAE61	
Mounting position		unrestricted	
Ambient temperature	[°C]	-20...+50	
MTTF _D value	[years]	75	
Weight	[kg]	3.6	4.6
Hydraulic			
Max. operating pressure	[bar]		
Ports A, B		350	350
Ports Y, Y1		30	30
Pressure stages	[bar]	105, 210, 350	
Nominal flow	[l/min]	90	300
Fluid		Hydraulic oil according to DIN 51524...51525	
Fluid temperature	[°C]	-20...+80	
Viscosity	permitted	[cSt] / [mm²/s]	10...650
	recommended	[cSt] / [mm²/s]	30
Filtration		ISO 4406 (1999); 18/16/13	

Typical pressure characteristics at closing point



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

Dimensions**Pilot Operated Sequence Valve
Series R5S****9****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	41.6	47.6	50.3	47.6	63	56	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	58	149	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	151	37.5	30.2	113	64	58.7	57.8	58.7	61	62	150.5	32	12.5	32	7/16"-14 UNC (M12)	22

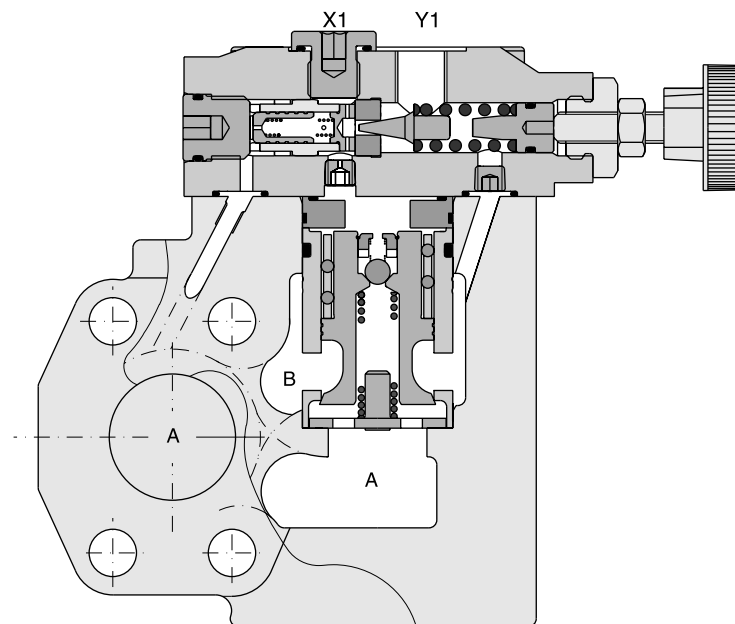
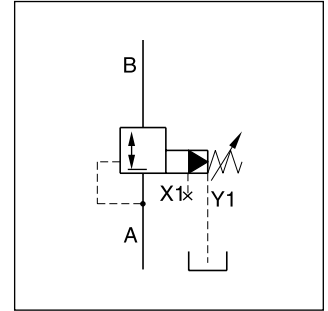
Port	Function	Port size		
		R5S06	R5S08	R5S10
A (2)	Pressure	¾" SAE61	1" SAE61	1¼" SAE61
B	Secondary port	¾" SAE61	1" SAE61	1¼" SAE61
X1	External pilot port ¹⁾	G¼"	G¼"	G¼"
Y1	External drain	G¼"	G¼"	G¼"
M	Pressure gauge	G¼"	G¼"	G¼"

¹⁾ 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 $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ")
- 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

R5R		—	8			6			A		
Pressure reducing valve	Nominal size	SAE61 Interface	2-port body (X1, Y1 = G¼")	Pressure stages	Adjustment	External drain from Y1 port	Switching type	Solenoid voltage	Design series	Seals	Options

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 ¹⁾	up to 350 bar

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal
4	Cylinder lock

Code	Seals
1	NBR
5	FPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR ²⁾	98 V=
GAG ²⁾	205 V=
W30	110 V / 50 Hz 120 V / 60Hz
W31	230 V / 50 Hz 240 V / 60 Hz

Code	Switching type
omit	Standard w/o vent function
09	Solenoid not activ. unpress. circulation
11	Solenoid activated unpress. circulation

Further options on request

9

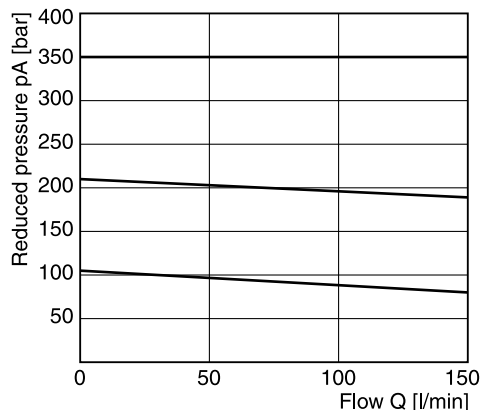
¹⁾ R5R10-485 up to 280 bar²⁾ To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

Technical Data

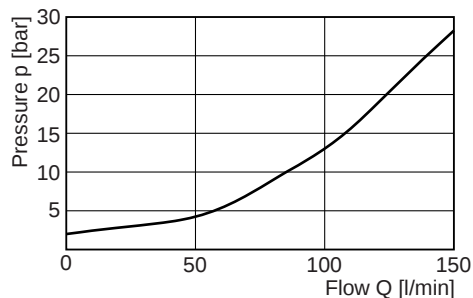
General								
Size			06 (¾")		08 (1")		10 (1¼")	
Mounting			Flanged according to SAE61					
Mounting position			unrestricted					
Ambient temperature			[°C] -20...+50					
MTTF _D value			[years] 75					
Weight			[kg] 4.0		4.6		5.9	
Hydraulic								
Max. operating pressure			[bar]					
Ports A, B, 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...51525					
Fluid temperature			[°C] -20...+80					
Viscosity			permitted [cSt] / [mm²/s]		10...650			
			recommended [cSt] / [mm²/s]		30			
Filtration			ISO 4406 (1999); 18/16/13					
Electrical								
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)					
Code			G0R	G0Q	GAR	GAG	W30	W31
Supply voltage			[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
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
Response time			[ms] Energized / De-energized AC: 20/18, DC: 46/27					
Wiring min.			[mm²] 3 x 1.5 recommended					
Wiring length max.			[m] 50 recommended					

Reduced pressure pA versus flow Q

R5R06 ¹⁾

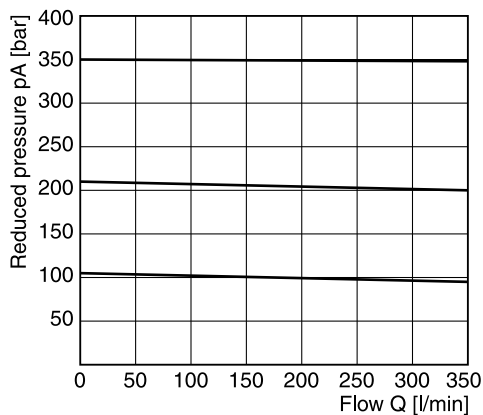


Minimum pressure curve

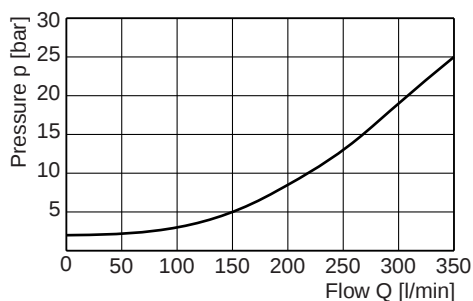


Reduced pressure pA versus flow Q

R5R08 ¹⁾

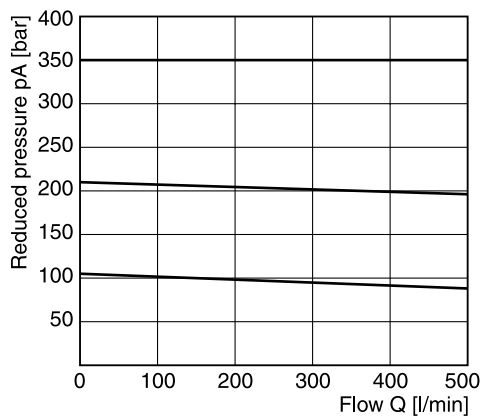


Minimum pressure curve

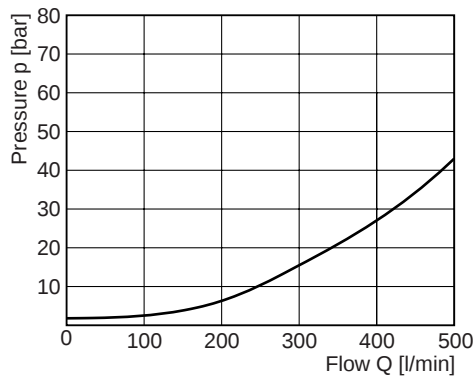


Reduced pressure pA versus flow Q

R5R10 ¹⁾



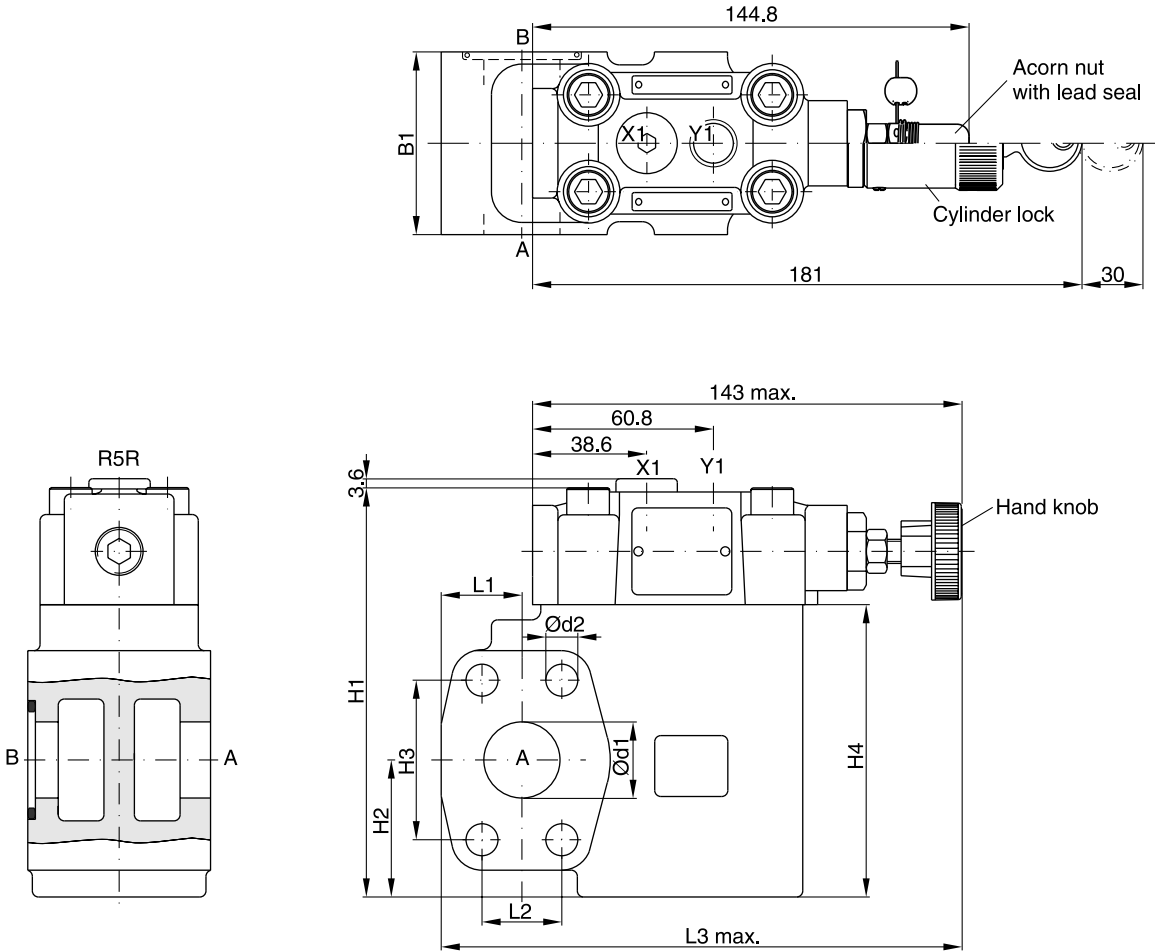
Minimum pressure curve



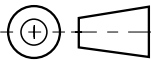
All characteristic curves measured with HLP46 at 50 °C.

¹⁾ Measured at 350 bar primary pressure pB.

R5R



9

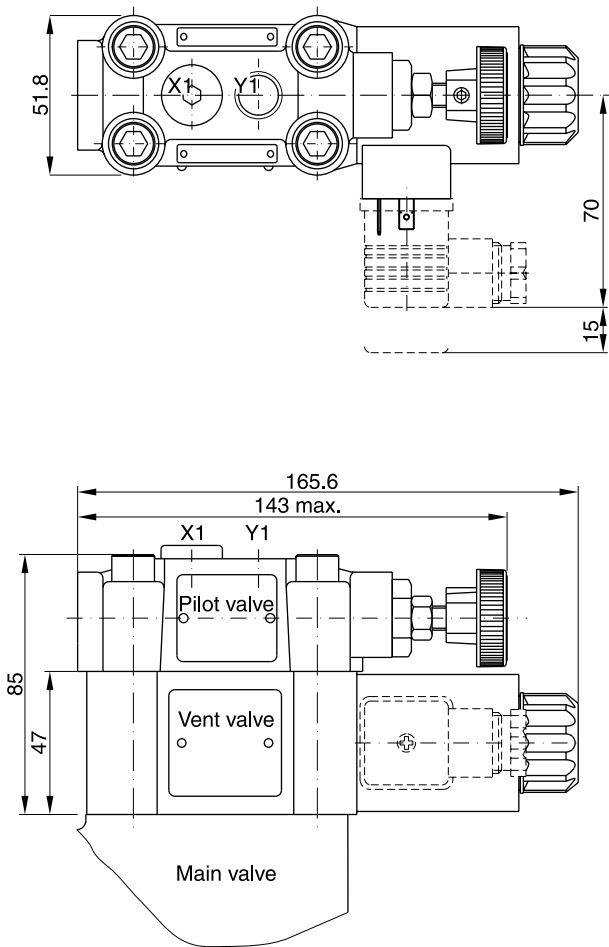


Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5

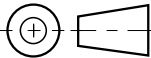
NG	B1	H1	H2	H3	H4	L1	L2	L3	d1	d2
06	60	131.6	37	47.6	90	24.6	22.2	152	19	10.5
08	60	137.6	45	52.4	96	26.5	26.2	171	25	10.5
10	75	150.6	48	58.7	109	34.0	30.2	179	32	12.5

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 with vent function



Seal kits	
NBR	FPM
DC solenoid	
S56-40609-0	S56-40609-5
AC solenoid	
S26-35237-0	S26-35237-5



9

Code	External drain
11	
09	

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

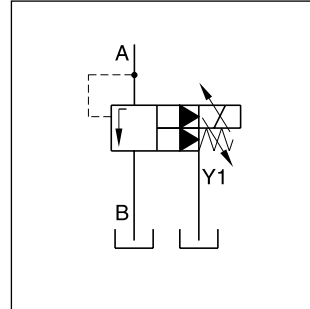
- Continuous adjustment by proportional solenoid
- R5V with 2-port body
 - 3 sizes (SAE 3/4", 1", 1 1/4")
 - SAE61 flange
- R5V with 3-port body
 - 4 sizes (SAE 3/4", 1", 1 1/4", 1 1/2")
 - SAE61 and SAE62 flange
- 3 pressure stages
- With mechanical maximum pressure adjustment



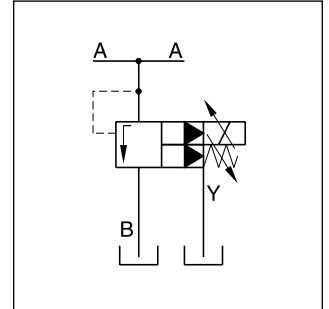
R5V*P2 2-port



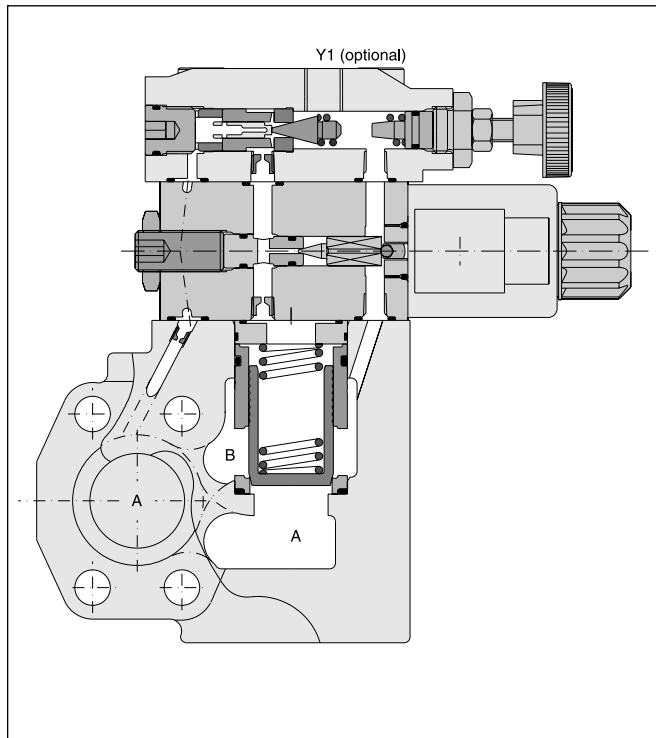
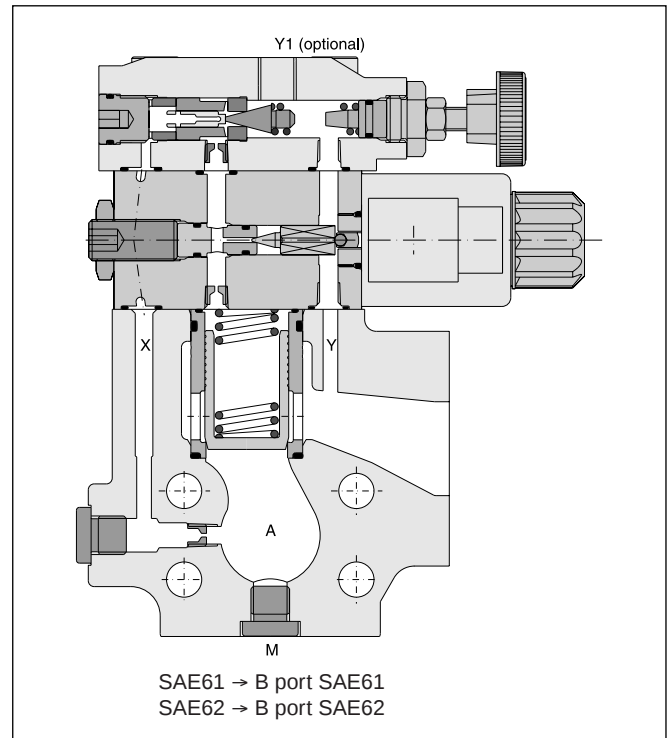
R5V*P2 3-port



R5V*P2 2-port



R5V*P2 3-port

R5V*P2 2-port**R5V*P2 3-port**

Ordering Code

R5V		—						P2	G0R	A			
Proportional pressure relief valve	Nominal size	SAE interface	Pilot ports	Pressure stages	Adjustment	Pilot oil	Proportional pressure control	Solenoid voltage 12 V 2.3 A ⁴⁾	Design	Seals	Design series (not required for ordering)	Options	

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

SAE61		
Code	Size	Max. pressure [bar]
3	12	210
4	10	280
5	06/08	350

SAE62		
Code	Size	Max. pressure [bar]
6 ¹⁾	06/08/10/12	350

2-port body	
Code	pilot ports
7	Y1 = G¼" ²⁾

3-port body	
Code	pilot ports
9	Y1 ²⁾ , X1, M = G¼"

Code	Options
070	Metric 3-port body for R5V10 SAE62: Pressure ports (A): SAE62 with 15 mm through holes (for M14), Tank port: SAE61 (M12)
152 ⁵⁾	3-port body with metric threads

Code	Seals
1	NBR
5	FPM

Pilot oil	
Code	Drain line
2	internal
6	external from Y1-port

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal

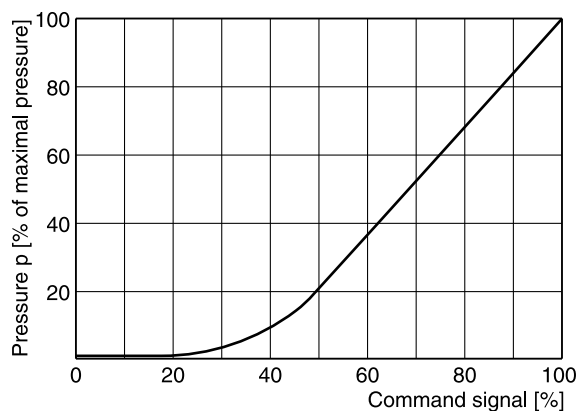
Code	Pressure stages
1	up to 105 bar
3	up to 210 bar
5 ³⁾	up to 350 bar

¹⁾ Only R5V 3port²⁾ Y1 only available at external drain (pilot oil code 6)³⁾ R5V10-4*5 up to 280 bar⁴⁾ Onboard electronics on request⁵⁾ R5V08 SAE62: Tank port SAE61 (M10)

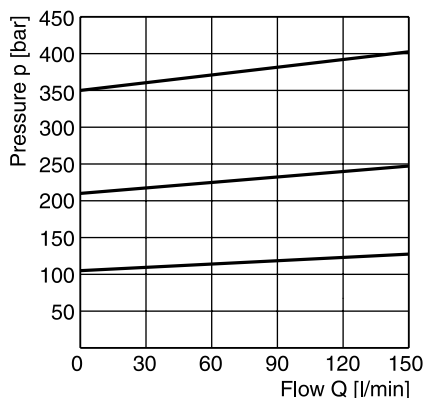
Technical Data

General						
Size		06 (¾")	08 (1")	10 (1¼")	12 (1½")	
Mounting		Flanged according to SAE61 (size 12 = SAE62)				
Mounting position		unrestricted				
Ambient temperature		[°C]	-20...+50			
MTTF _D value		[years]	75			
Weight	R5V 2port	[kg]	5.8	6.4	7.7	—
	R5V 3port	[kg]	5.4	6.4	7.0	9.8
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...51525			
Fluid temperature		[°C]	-20...+80			
Viscosity permitted		[cSt] / [mm²/s]	10...650			
Viscosity recommended		[cSt] / [mm²/s]	30			
Filtration			ISO 4406 (1999); 18/16/13			
Electrical (proportional solenoid)						
Duty ratio			100 % ED; CAUTION: coil temperature up to 150 °C possible			
Nominal voltage		[V]	12			
Max. current		[A]	2.3			
Coil resistance		[Ohm]	4 at 20 °C			
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)			
Power amplifier			PCD00A-400			

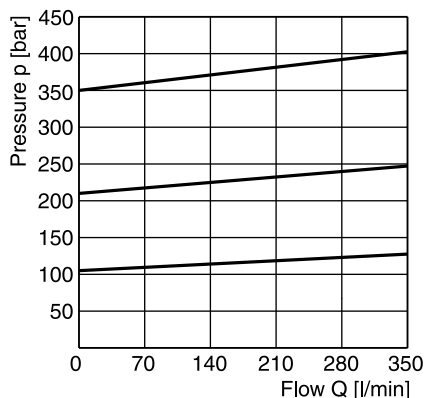
Signal/pressure curve R5V*P2



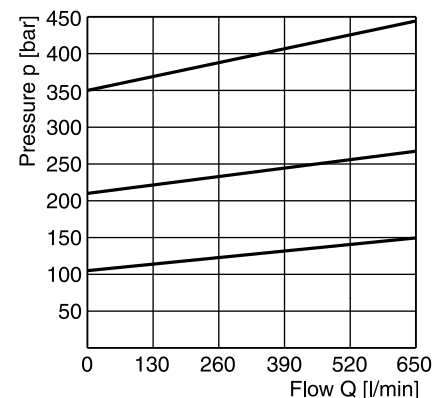
p/Q performance curve ¹⁾
R5V06*P2



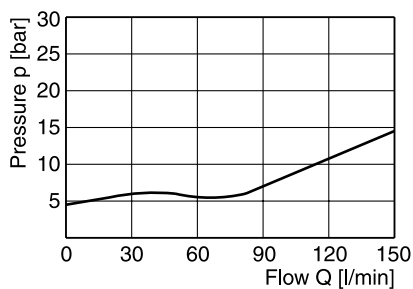
R5V08*P2



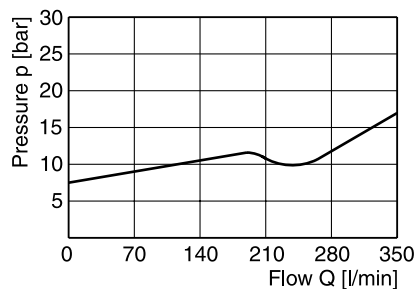
R5V10*P2



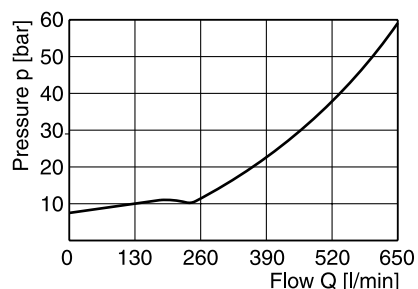
Minimum pressure curve ¹⁾
R5V06*P2



R5V08*P2

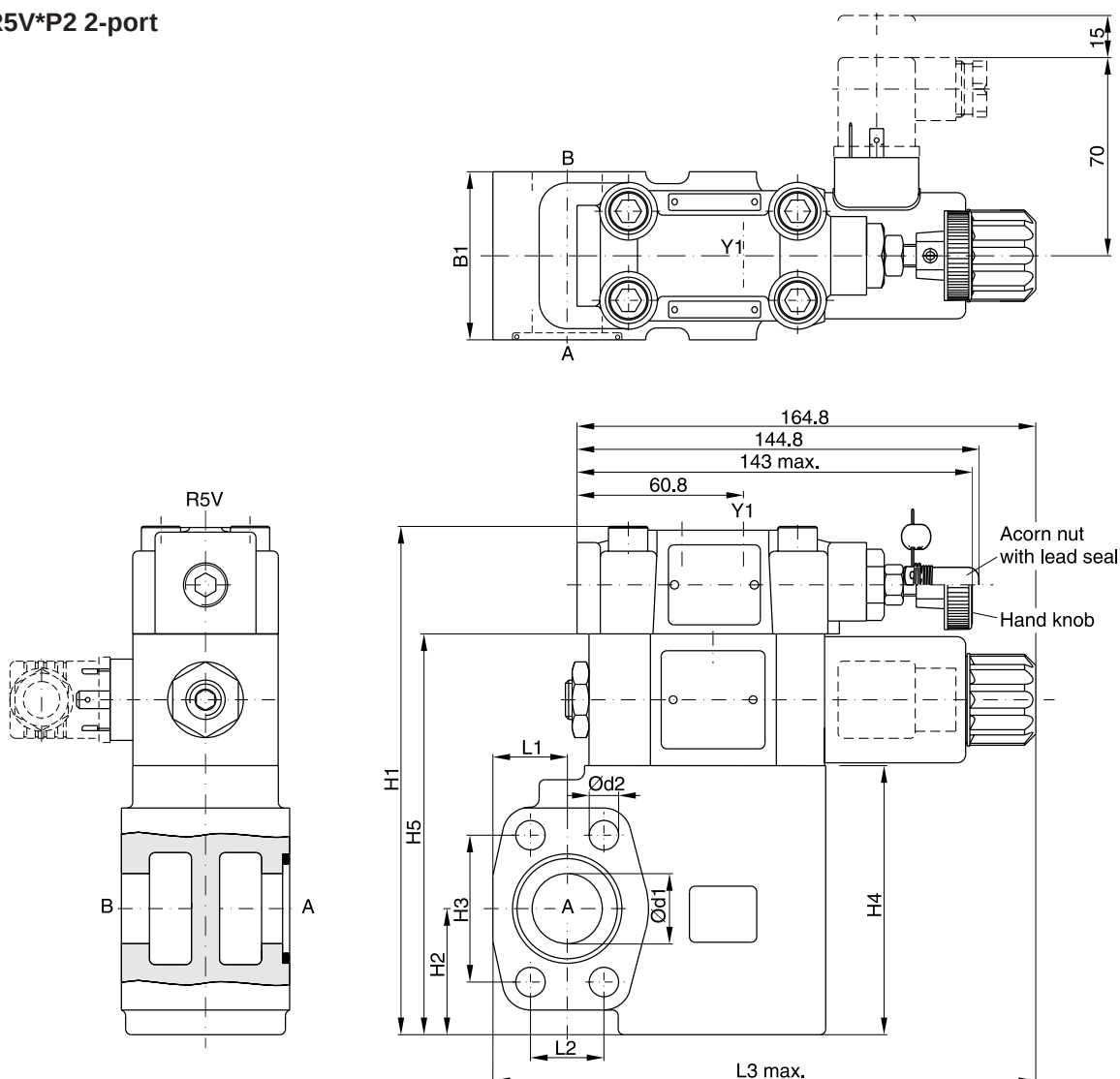


R5V10*P2



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.

Dimensions**Pilot Operated Prop. Pressure Relief Valve
Series R5V*P2****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

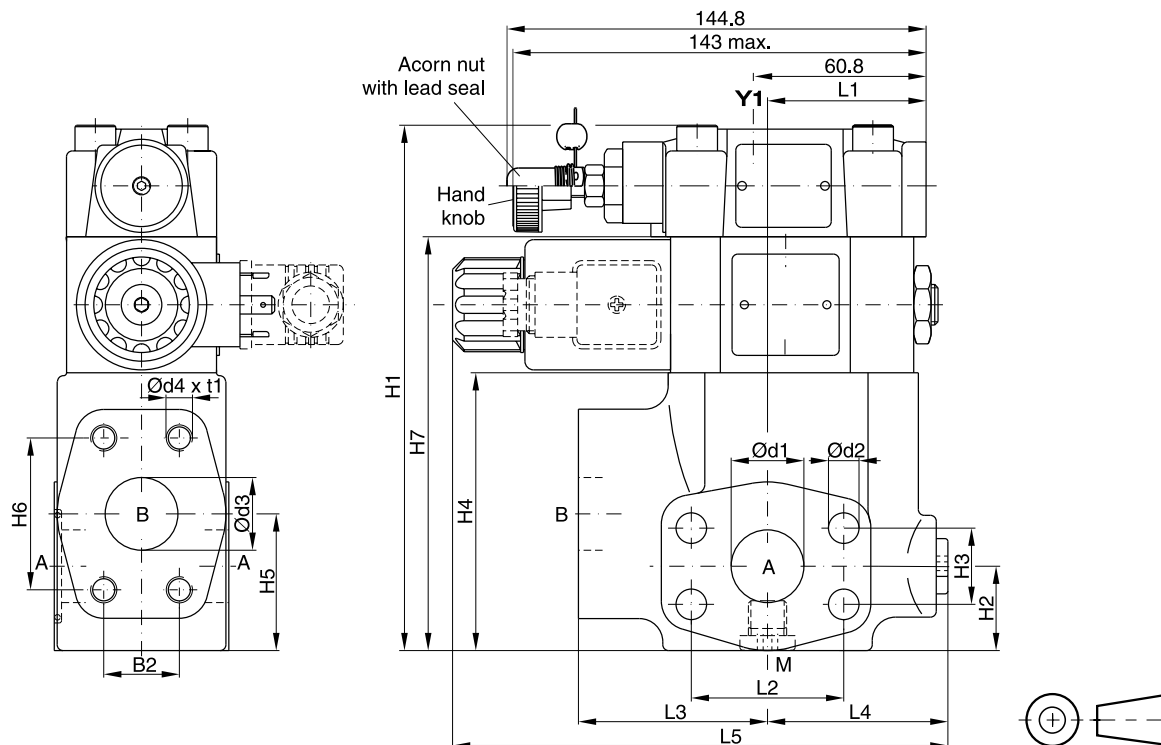
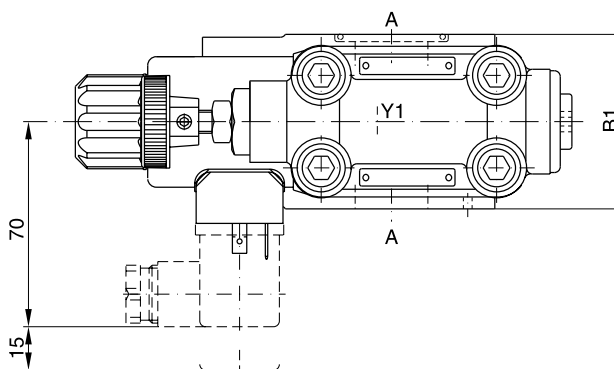
Port	Function	Port size		
		R5V06	R5V08	R5V10
A	Pressure	¾" SAE61	1" SAE61	1¼" SAE61
B	Tank	¾" SAE61	1" SAE61	1¼" SAE61
Y1	External drain	G¾"	G¾"	G¾"

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

R5VP2 UK.INDD CM 18.07.13

Dimensions**Pilot Operated Prop. Pressure Relief Valve
Series R5V*P2****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

**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	41.6	47.6	128	50.3	47.6	63	56	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	58	177	25	10.5	25	3/8"-16 UNC (M10)	23
10	75	30.2	198	37.5	30.2	113	64	58.7	160	57.8	58.7	61	62	179.1	32	12.5	32	7/16"-14 UNC (M12)	22
12	80	35.7	225	35.5	35.7	140	73	69.8	187	37.3	69.8	92.5	55.2	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	41.6	50.8	50.3	50.8	63	56	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	58	149	25	12.5	25	7/16"-14 UNC (M10) ¹⁾	22
10	75	31.8	151	37.5	31.8	113	64	66.7	57.8	66.7	61	62	150.5	32	13.5	32	1/2"-13 UNC (M12)	24
12	80	36.5	178	35.5	36.5	140	73	79.4	37.3	79.4	92.5	55.2	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

¹⁾ T-port SAE61

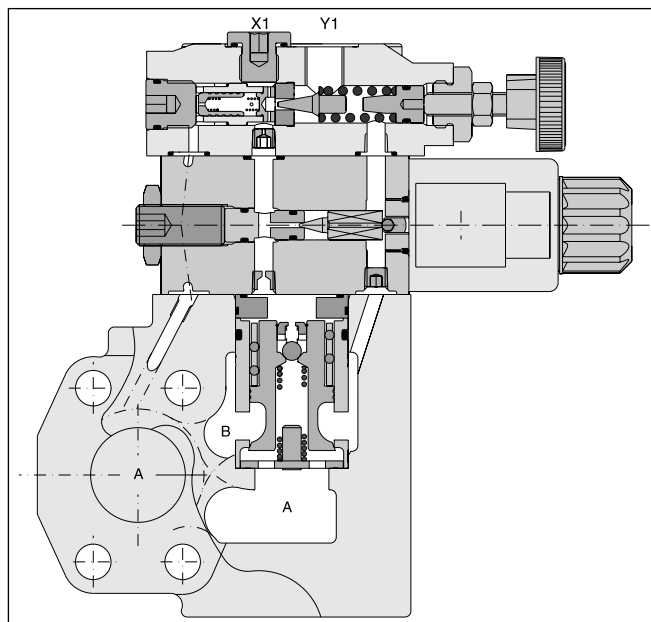
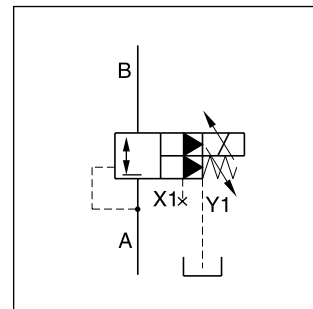
R5VP2 UK.INDD CM 18.07.13

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**

R5R		—		8				6	P2	G0R	A		
Pressure reducing valve	Nominal size	SAE61 interface	Body 2-port (X1, Y1 = G¾")	Pressure stages	Adjustment	External drain from Y1-port	Proportional pressure control	Solenoid voltage 12 V 2.3 A	Design series	Seals	Options		

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

SAE 61		
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 ¹⁾	up to 350 bar

Code	Seals
1	NBR
5	FPM

Code	Adjustment
1	Hand knob
3	Acorn nut with lead seal

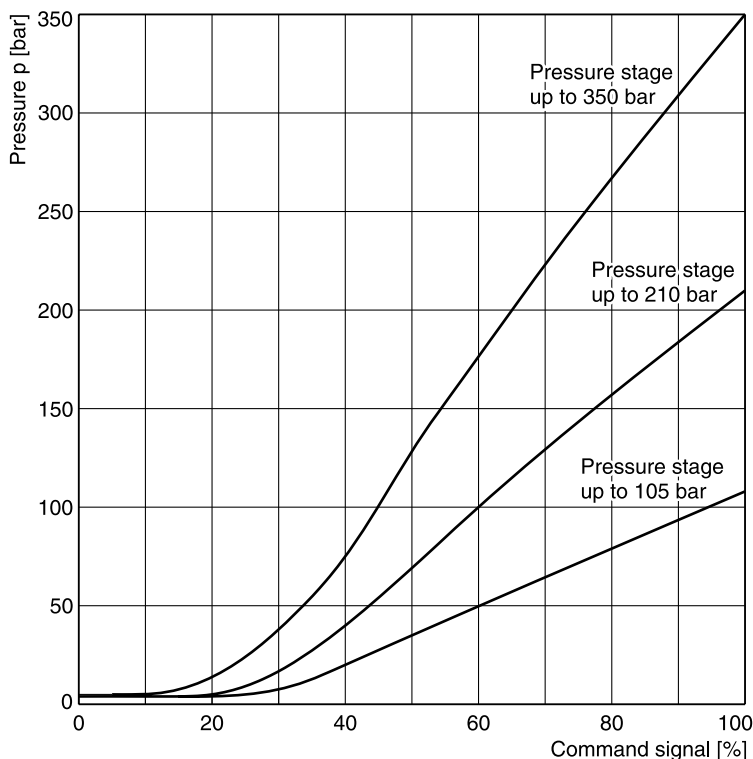
Further options on request

¹⁾ R5R10-485 up to 280 bar

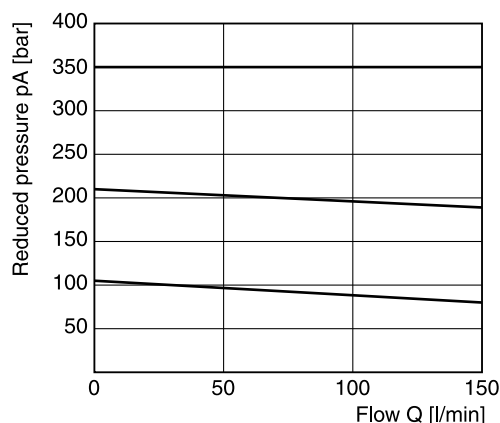
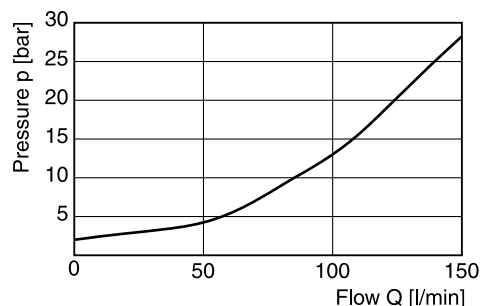
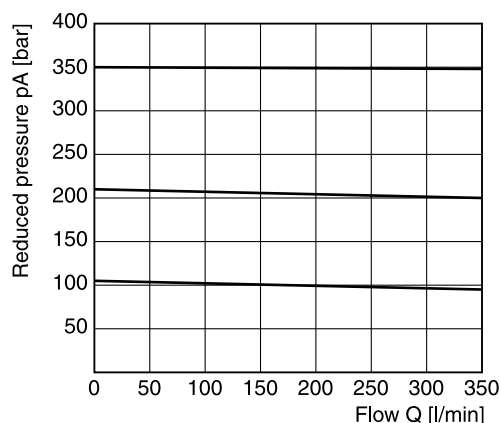
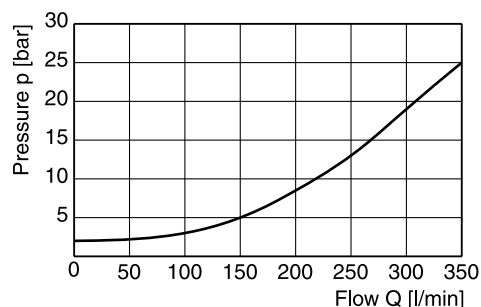
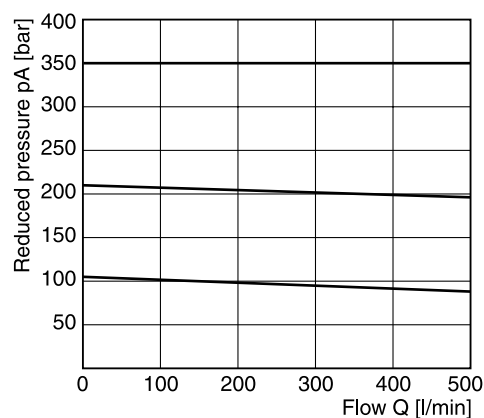
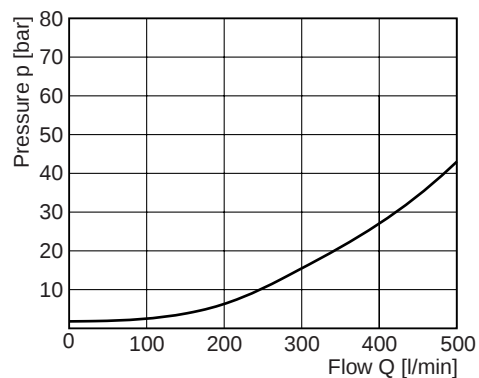
Technical data

General						
Size			06 (¾")		08 (1")	10 (1¼")
Mounting			Flanged according to SAE61			
Mounting position			unrestricted			
Ambient temperature			[°C]	-20...+50		
MTTF _D 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...51525			
Fluid temperature			[°C]	-20...+80		
Viscosity	permitted	[cSt] / [mm²/s]	10...650			
	recommended	[cSt] / [mm²/s]	30			
Filtration			ISO 4406 (1999); 18/16/13			
Electrical						
Duty ratio			100 % ED; CAUTION: coil temperature up to 150 °C possible			
Nominal voltage			[V]	12		
Max. current			[A]	2.3		
Coil resistance			[Ohm]	4 at 20 °C		
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)			
Power amplifier			PCD00A-400			

Command / pressure curve

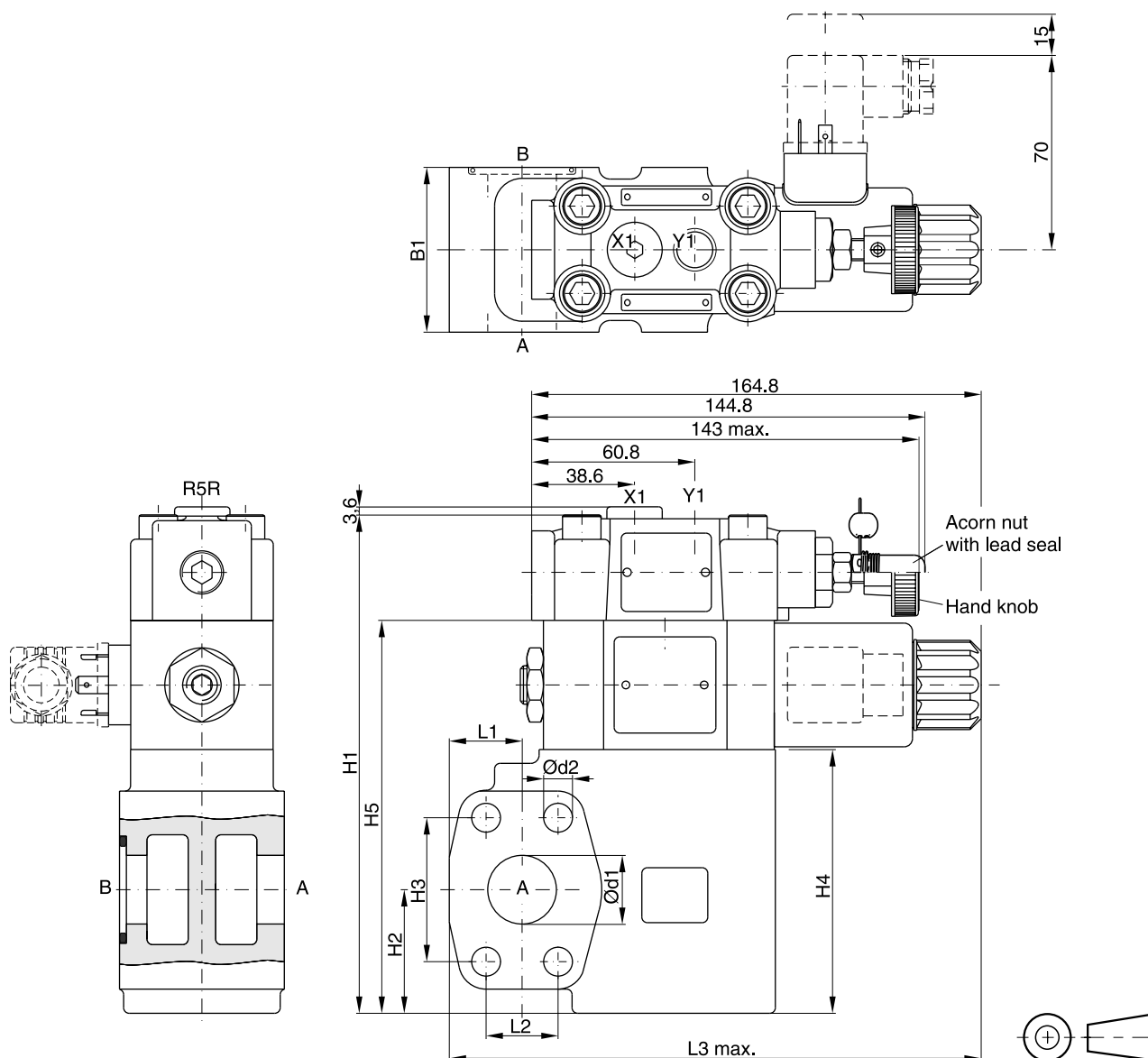


All characteristic curves measured with HLP46 at 50 °C.

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**Pilot Operated Prop. Pressure Reducing Valve
Series R5R*P2****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

R5RP2 UK.INDD CM 29.08.13

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

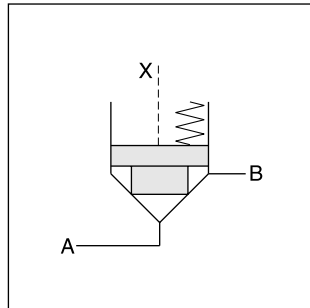
- Leak-free seat valve design
- 2- and 3-port bodies
- SAE61 flange
- Numerous pilot options
- 4 sizes, SAE $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ "
- 6 poppet types



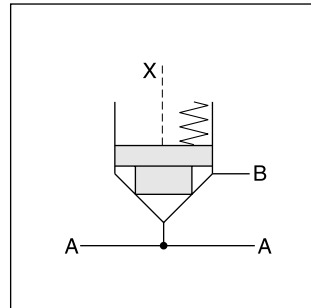
D5S 2-port



D5S 3-port

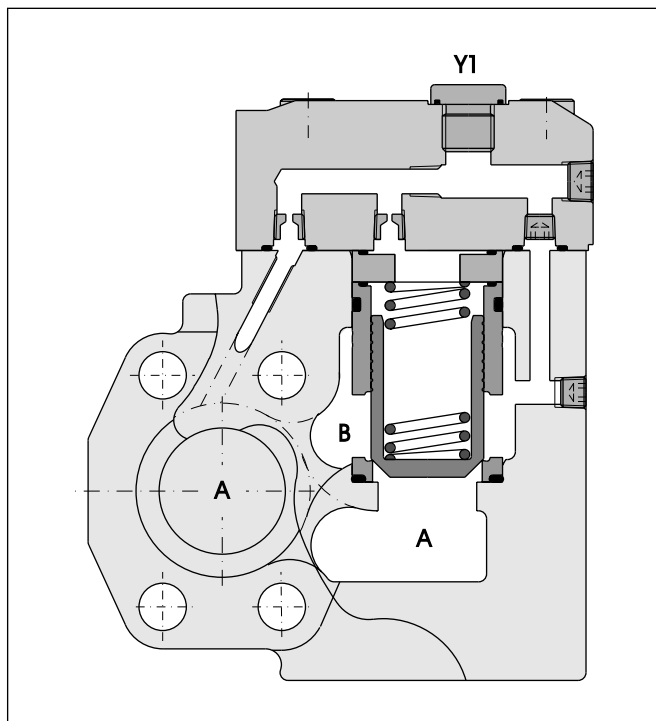


D5S 2-port

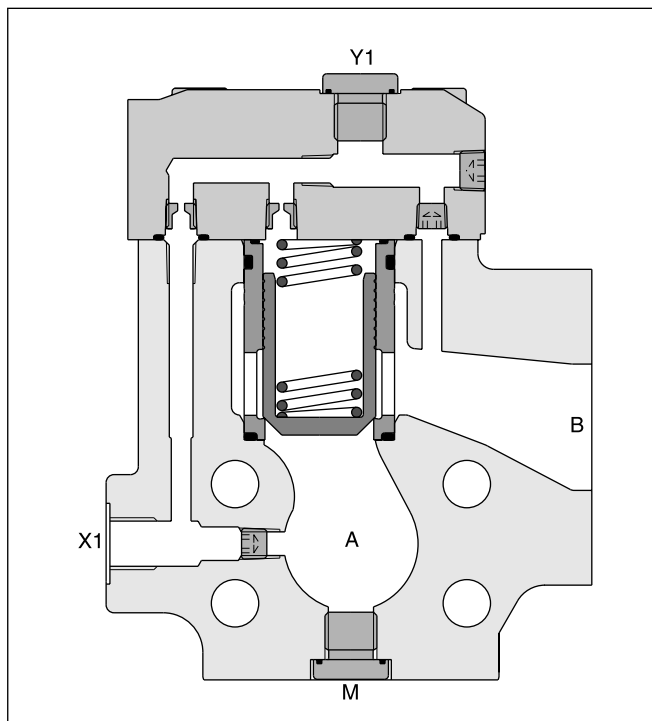


D5S 3-port

D5S 2-port



D5S 3-port



D5S		—									B		
Seat valve	Nominal size		Body	Pilot body configuration	Pilot cap	Sleeve	Spool type	Spring	Switching type	Solenoid voltage	Design series	Seals	Options

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

Code	Body	Ports
5	3-port	Seat entry, A; X1, Y1, M = G¾"
7	2-port	Seat entry, A; X1, Y1 = G¾"
8	2-port	Annular entry, B; X1 Y1 = G¾"

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 (p _z max. = p _A +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 ²⁾	08, 10, 12	Safety spool (for end position control only)	3
B ²⁾	08, 10, 12	Throttle spool, 10° chamfer	3
C ²⁾	08, 10, 12	Throttle spool, 3° chamfer	3

Code	Options
omit	Standard
013	Position control with protection

Code	Seals
1	NBR
5	FPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR ⁴⁾	98 V=
GAG ⁴⁾	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
10	VV01 without manual override
11	VV01 with manual override
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 ³⁾ with amplifier
BK	VV01 code 12 and shuttle valve code CA and position control ³⁾ with amplifier
BN	VV01 code 10 and shuttle valve code DA and position control ³⁾ with amplifier
BQ	VV01 code 12 and shuttle valve code DA and position control ³⁾ with amplifier
BC	VV01 code 10 and position control ³⁾ with amplifier
BE	VV01 code 12 and position control ³⁾ with amplifier
BA	Position control ³⁾ with amplifier
BF	Position control ³⁾ with amplifier and shuttle valve code CA
BL	Position control ³⁾ 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	
	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	—

1) D5S 3-port only

2) Springs 2, 3 and 6 only

³⁾ Position control for D5S08/10 only. Spring 2 or 4. Spool A and sleeve 3.

⁴⁾ To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

Examples see end of chapter.

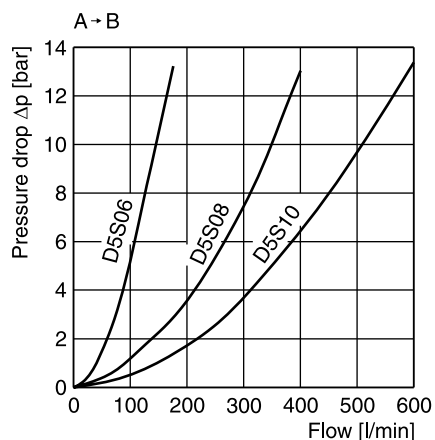
Technical data

General								
Size			06 (¾")	08 (1")	10 (1¼")	12 (1½")		
Mounting			Flanged according to SAE61					
Mounting position			unrestricted					
Ambient temperature		[°C]	-20...+50					
MTTF _D value		[years]	150					
Weight	D5S 2port	[kg]	3.6	4.1	5.4	—		
	D5S 3port	[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...51525					
Fluid temperature		[°C]	-20...+80					
Viscosity	permitted	[cSt] / [mm²/s]	10...650					
	recommended	[cSt] / [mm²/s]	30					
Filtration			ISO 4406 (1999); 18/16/13					
Electrical (solenoid)								
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)					
		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
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
Response time		[ms]	Energized / De-energized AC: 20/18 , DC: 46/27					
Wiring min.		[mm²]	3 x 1.5 recommended					
Wiring length max.		[m]	50 recommended					

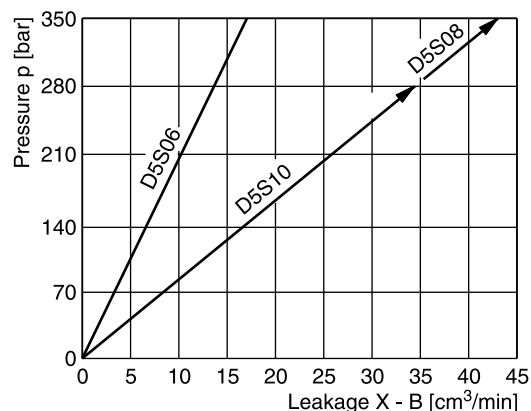
D5S pilot configuration

3-port	2-port: seat entry standard	2-port: annular entry	
with vent valve VV01			VV01
			de-energized: open de-energized: closed

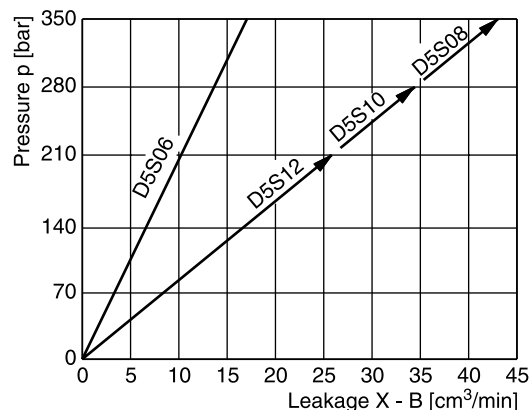
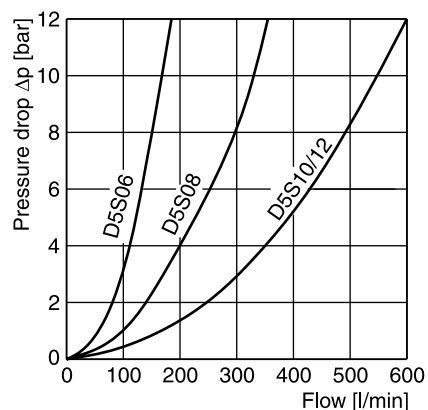
D5S 2-port



Leakage



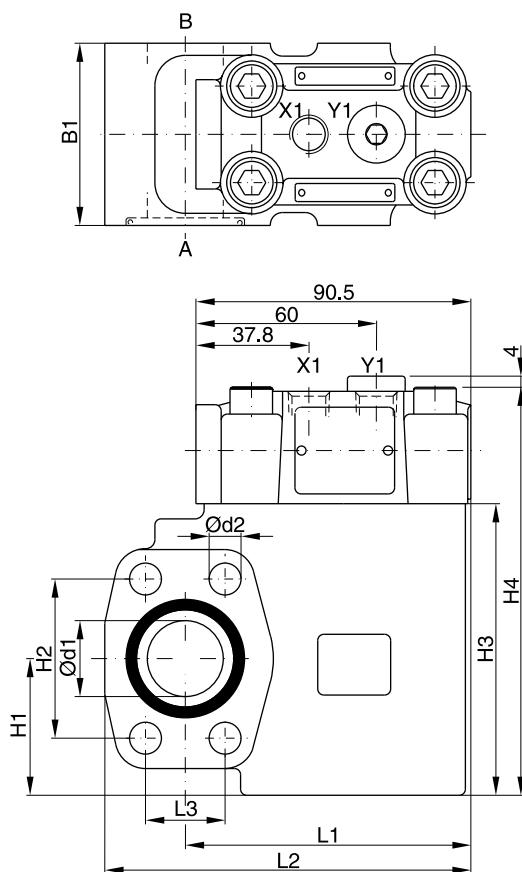
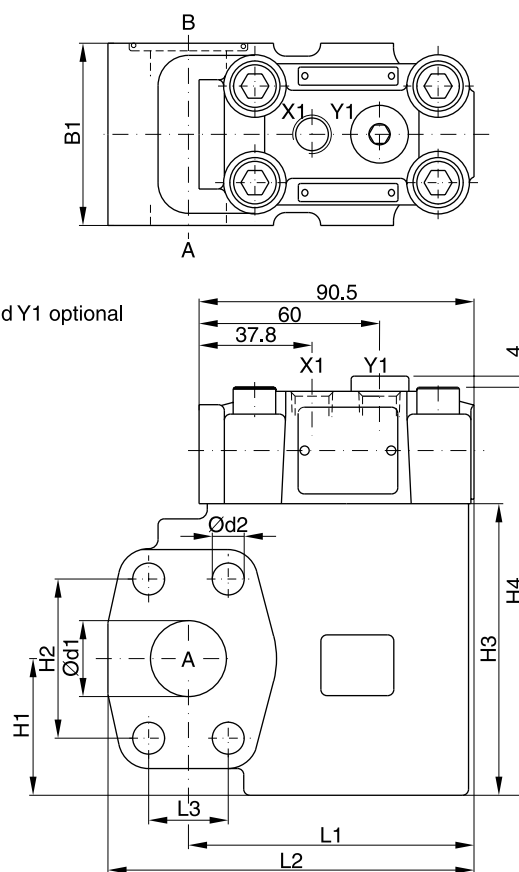
D5S 3-port



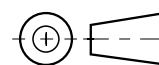
All characteristic curves measured with HLP46 at 50 °C.

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

Dimensions**Directional Seat Valve
Series D5S****D5S 2-port****Seat entry****Annular entry**

Ports X1 and Y1 optional

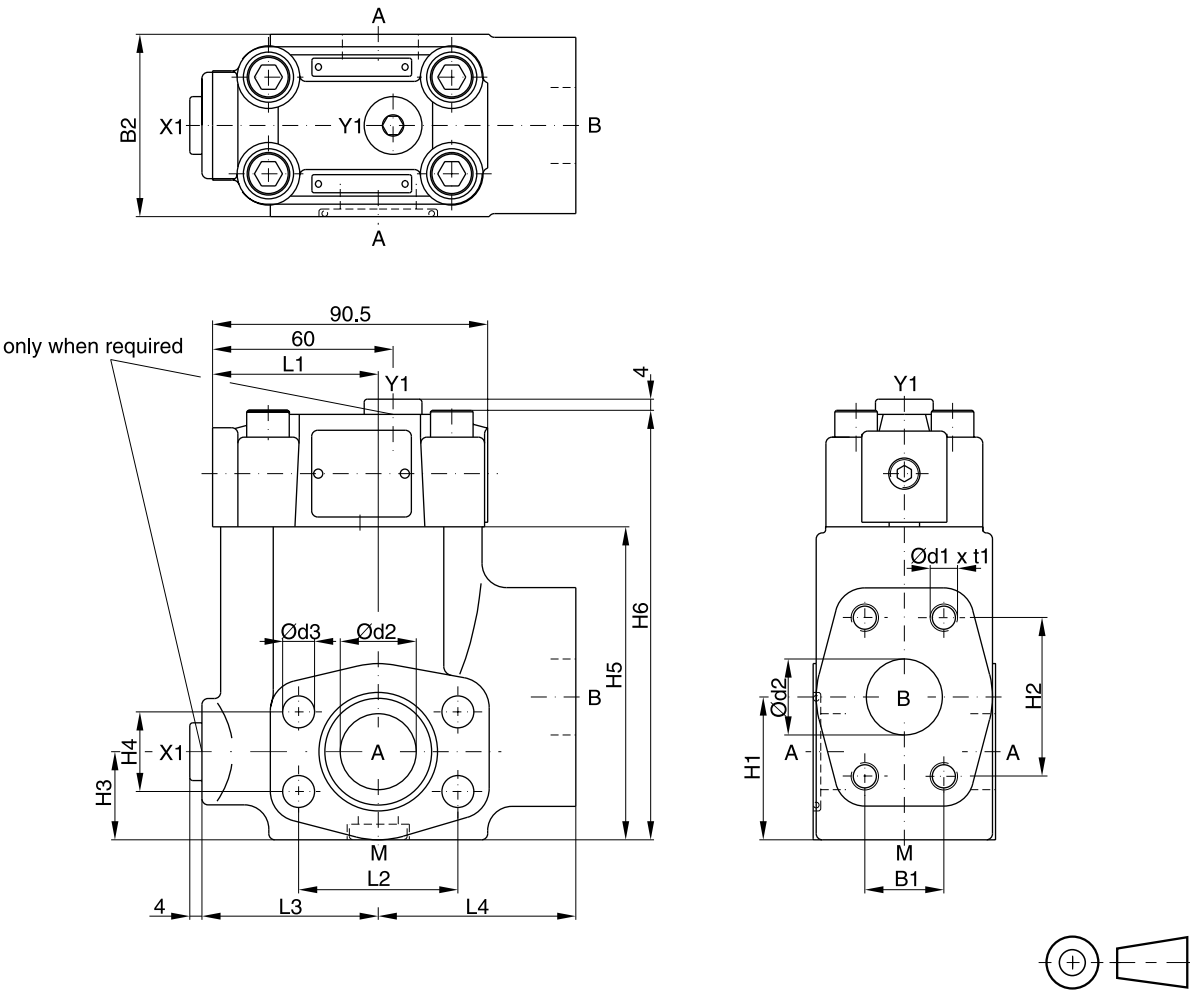
**9**

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	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	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"

D5S 3-port



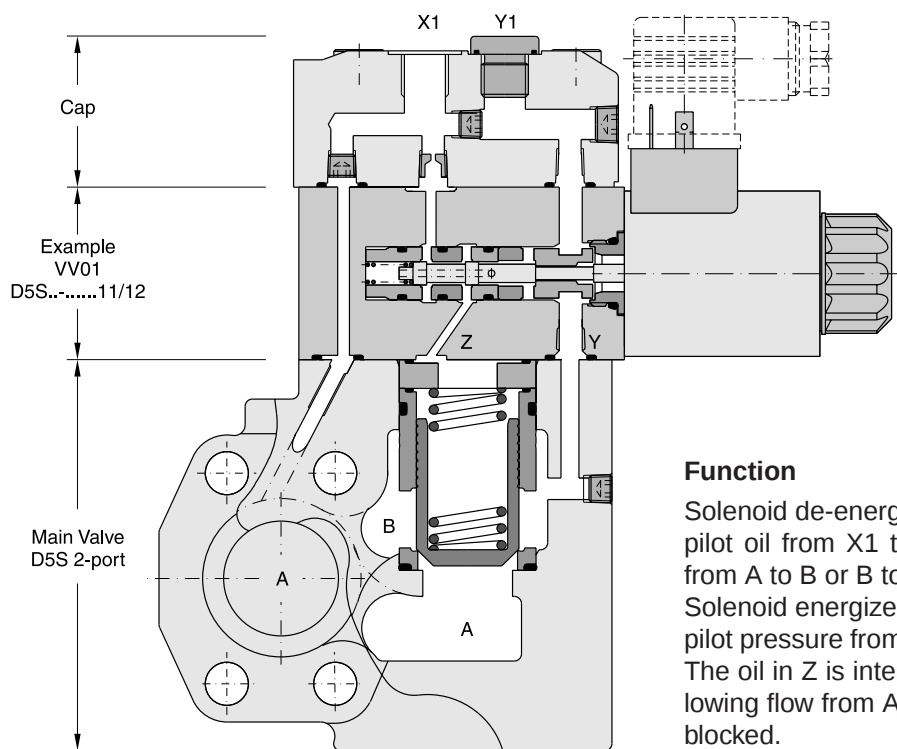
Seal kits		
NG	NBR	FPM
06	S16-91850-0	S16-91850-5
08	S16-91851-0	S16-91851-5
10	S16-91852-0	S16-91852-5
12	S26-27421-0	S26-27421-5

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	32	12.5
12	37	69.8	55	93	35.7	80	73	69.8	35.5	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 ¹⁾	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"

¹⁾ Closed when supplied

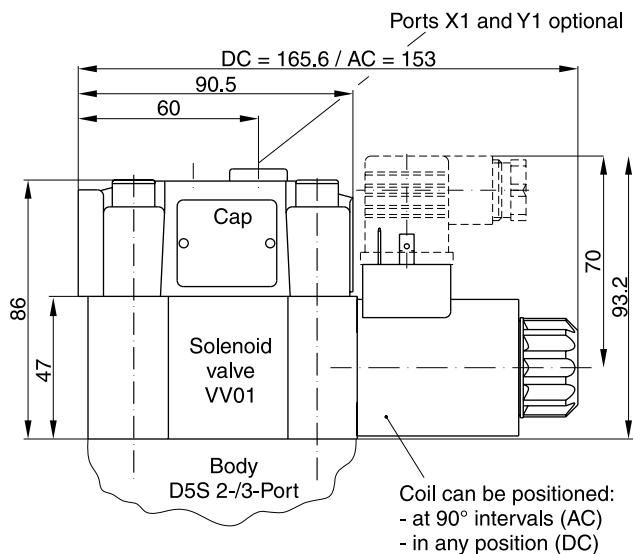
Example: pilot oil external from X1, pilot drain internal out of B



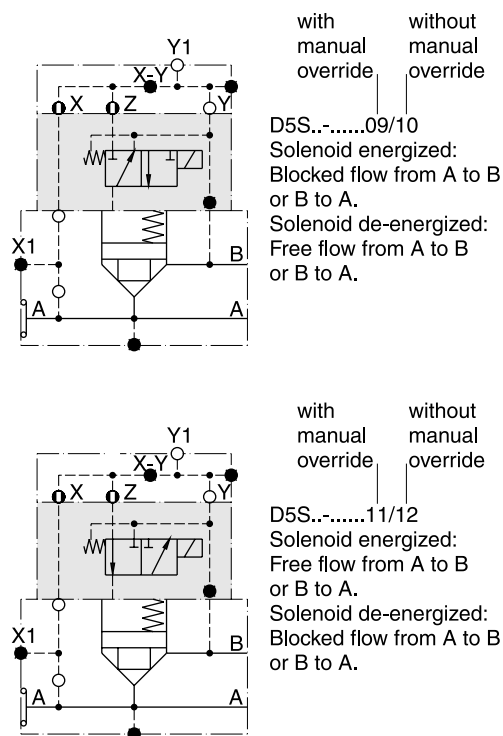
Function

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



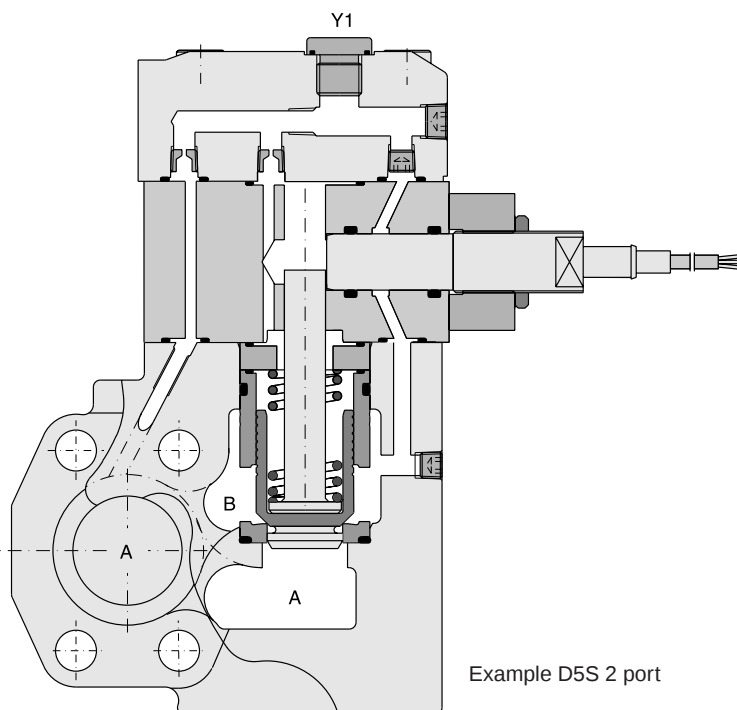
Seal kits	
NBR	FPM
DC solenoid	
S56-40609-0	S56-40609-5
AC solenoid	
S26-35237-0	S26-35237-5



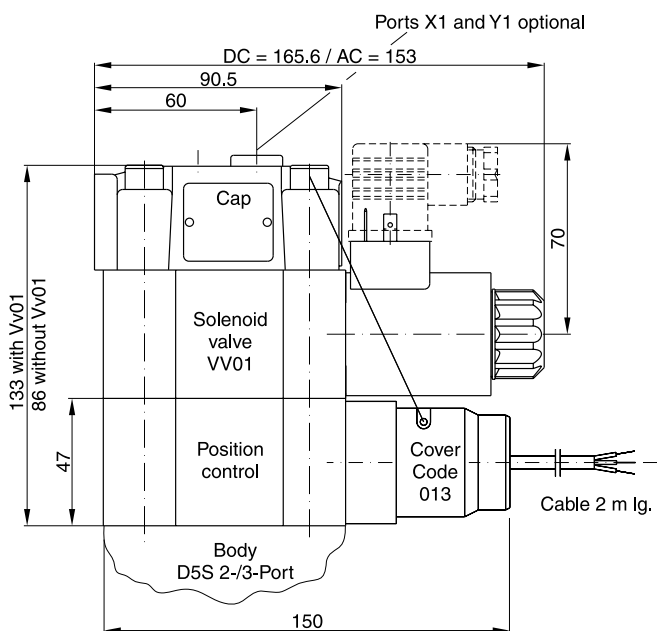
D5S with position control

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

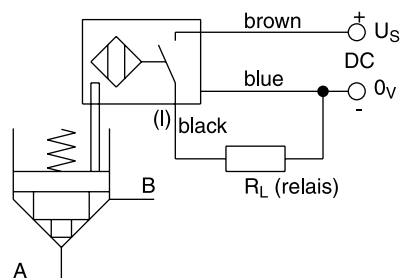
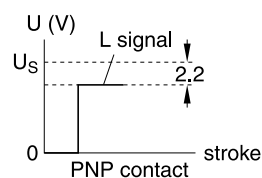
Note: Position control for D5S08 and D5S10 only.

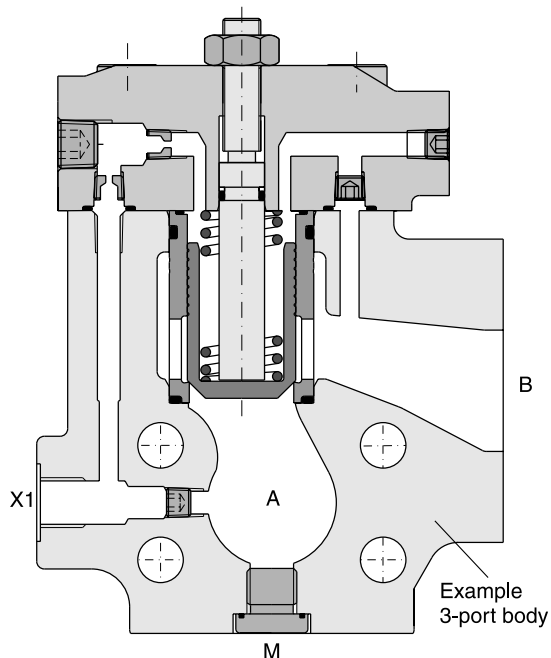


Example D5S 2 port

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 _{max}
Output current (I)	[mA]	≤ 200
Protection class		IP67
Ambient temperature	[C°]	-25...+70
Wire cross section	[mm²]	3 x 0.5

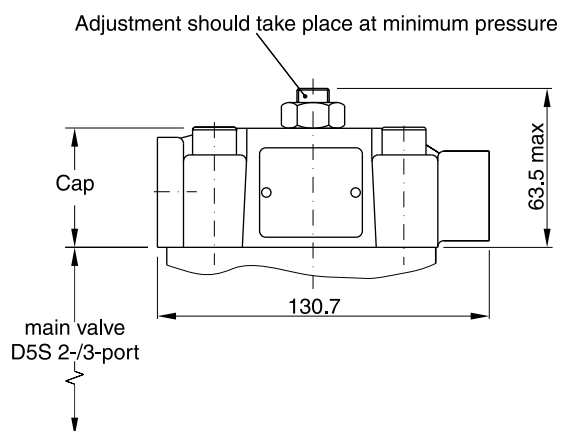
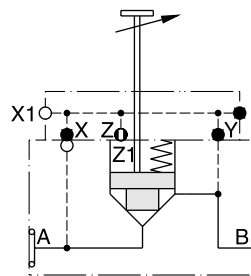
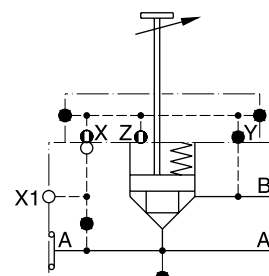
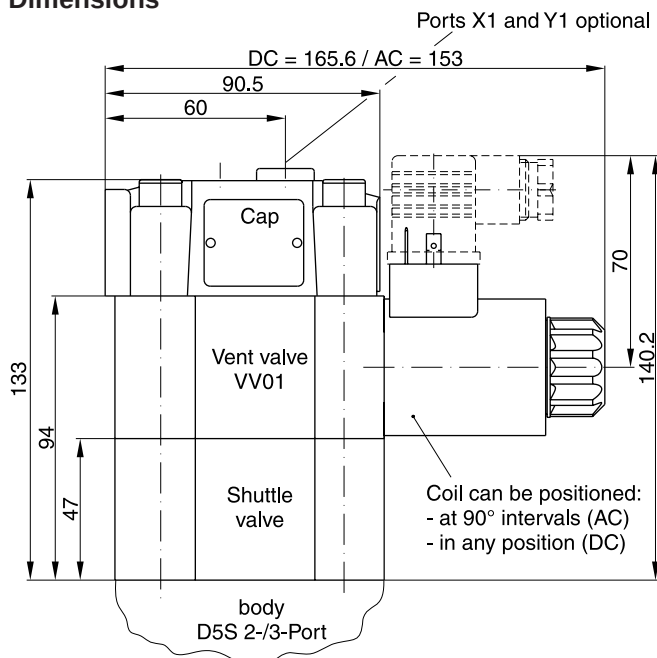


D5S stroke limiter**Example: D5S 3-port**

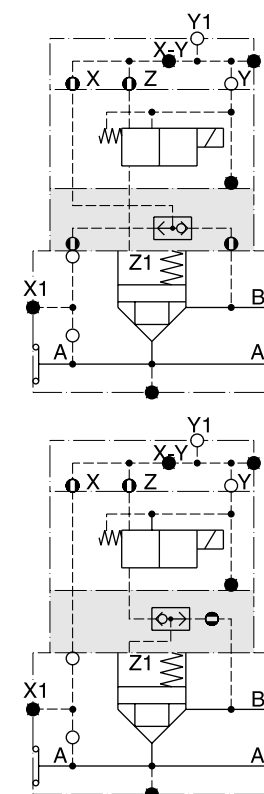
X1 = external pilot-oil (optional)

Note:

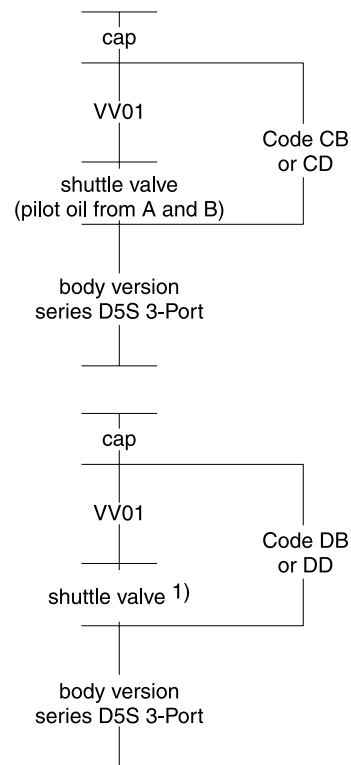
Stroke limiter not for use with D5S06, solenoid valve VV01, shuttle valve and position control.

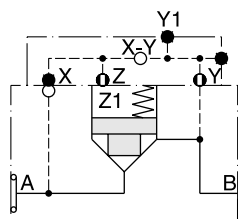
Stroke limiter dimensionsExample D5S 2-port:
D5S08-74C...
D5S10-74C...Example D5S 3-port:
D5S08-54A...
D5S10-54A...
D5S12-54A...**D5S with shuttle valve****Dimensions**

Shuttle valve only in connection with vent valve VV01.



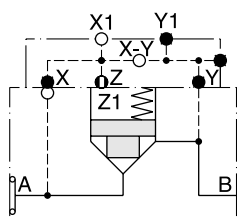
1) pilot oil from A and B, from B to A check valve function



D5S 2-port**Seat entry**

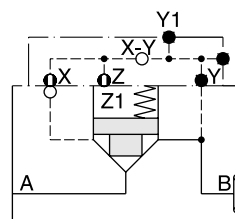
D5S...-722

Pilot oil: internal from B



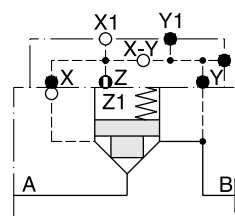
D5S...-743

Pilot oil: external from X1

Annular entry

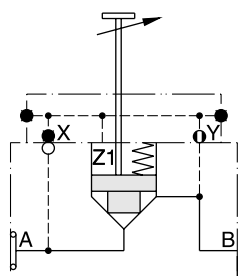
D5S...-821

Pilot oil: internal from B

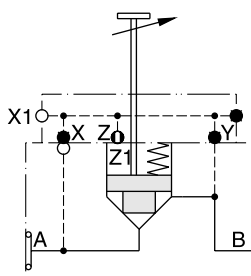


D5S...-843

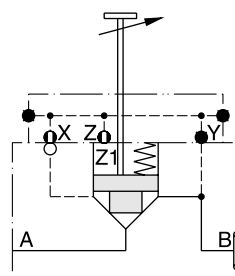
Pilot oil: external from X1

Stroke limiter D5S 2-port**Seat entry**D5S08-72B
10

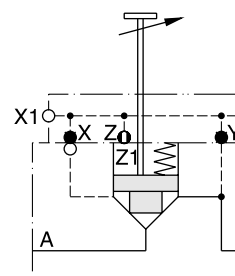
Pilot oil: internal from B

D5S08-74C
10

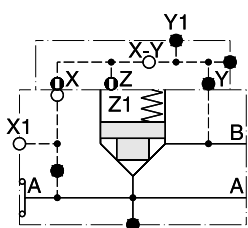
Pilot oil: external from X1

Annular entryD5S08-82A
10

Pilot oil: internal from B

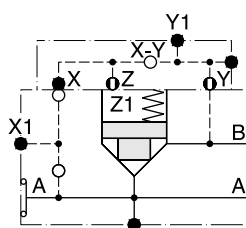
D5S08-84C
10

Pilot oil: external from X1

D5S 3-port

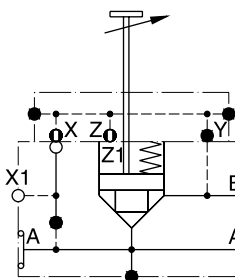
D5S ...-541

Pilot oil: external from X1

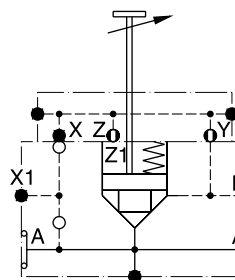


D5S ...-522

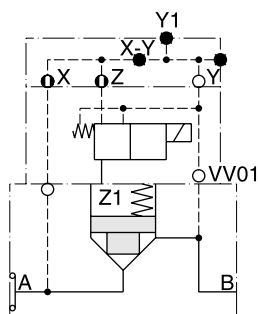
Pilot oil: internal from B

Stroke limiter D5S 3-portD5S08-54A
10
12

Pilot oil: external from X1

D5S08-52B
10
12

Pilot oil: internal from B

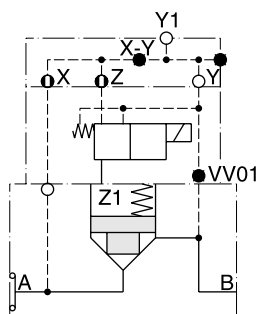
D5S 2-port with solenoid valve VV01**Seat entry**

D5S...-714...09

10

11

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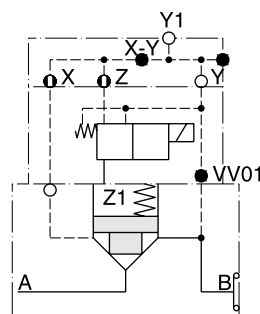
Pilot oil: internal from A
Pilot drain: internal to B

D5S...-716...09

10

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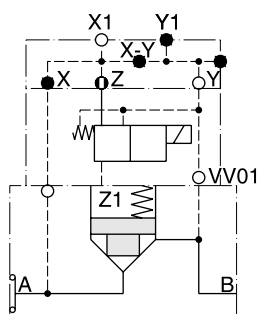
Pilot oil: internal from A
Pilot drain: external out of Y1

D5S...-826...09

10

11

12

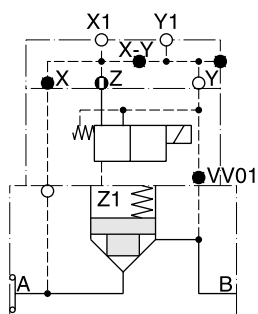
Pilot oil: internal from B
Pilot drain: external out of Y1

D5S...-745...09

10

11

12

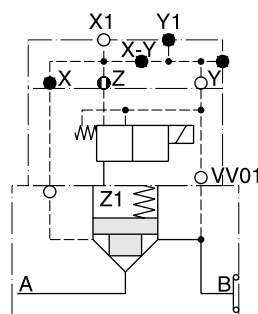
Pilot oil: internal from X1
Pilot drain: internal to B

D5S...-747...09

10

11

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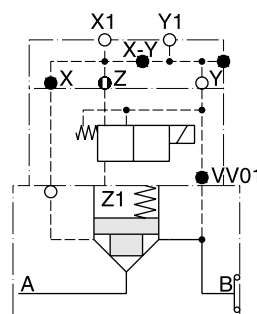
Pilot oil: internal from X1
Pilot drain: external out of Y1

D5S...-845...09

10

11

12

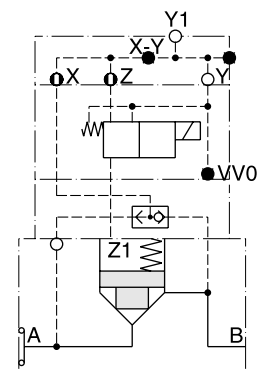
Pilot oil: internal from X1
Pilot drain: internal to B

D5S...-847...09

10

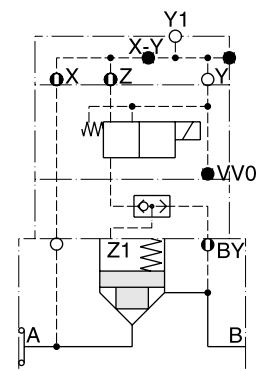
11

12

Pilot oil: internal from X1
Pilot drain: external out of Y1**D5S 2-port with with solenoid valve VV01 and shuttle valve****Seat entry**

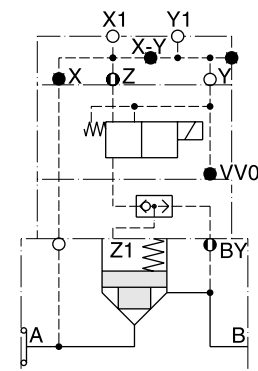
D5S...-736...CB

CD

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

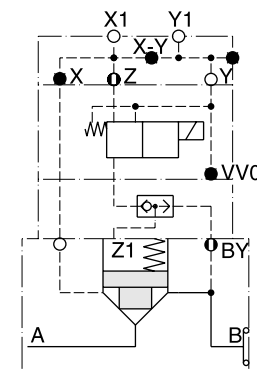
D5S...-736...DB

DD

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

D5S...-757...DB

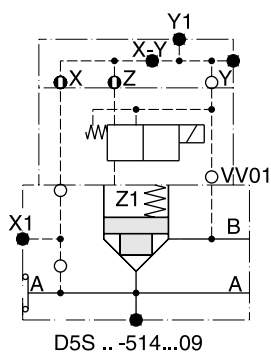
DD

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

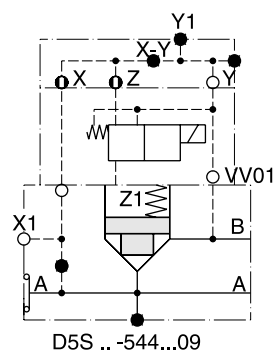
D5S...-857...DB

DD

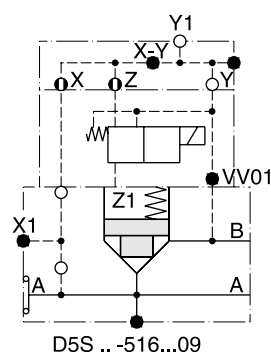
Pilot oil: external from X1 +
internal from B
Pilot drain: external out of Y1

D5S 3-port with solenoid valve VV01

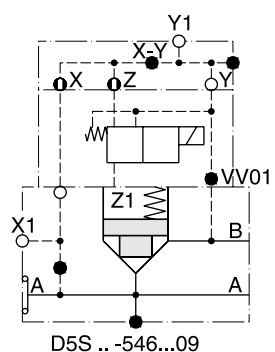
Pilot oil: internal from A
Pilot drain: internal to B



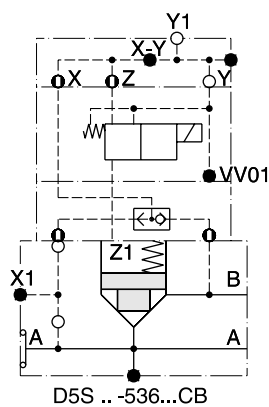
Pilot oil: external from X1
Pilot drain: internal to B



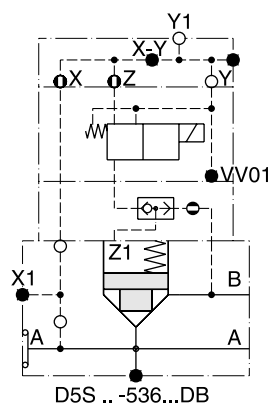
Pilot oil: internal from A
Pilot drain: external out of Y1



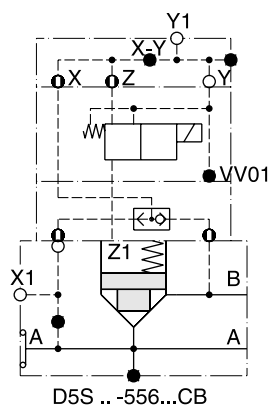
Pilot oil: external from X1
Pilot drain: external out of Y1

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

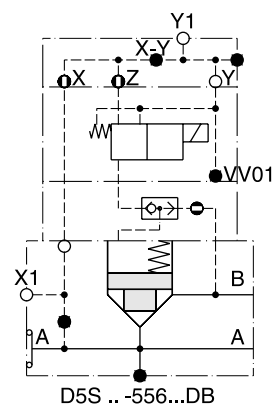
Pilot oil: internal from A +
internal from B
Pilot drain: external out of Y1



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



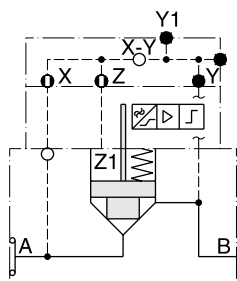
Pilot oil: internal from X1 +
internal from B
Pilot drain: external out of Y1



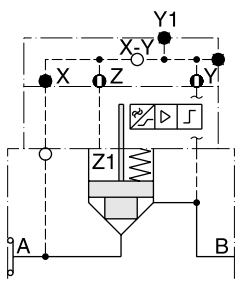
Pilot oil: external from X1 +
internal from B
Pilot drain: external out of Y1

D5S 2-port position control

Seat entry

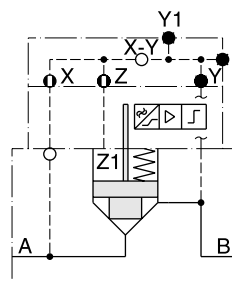
D5S08-7113A.BA
D5S10

Pilot oil: internal from A

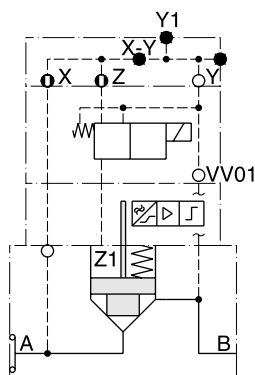
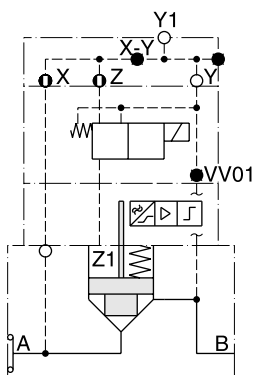
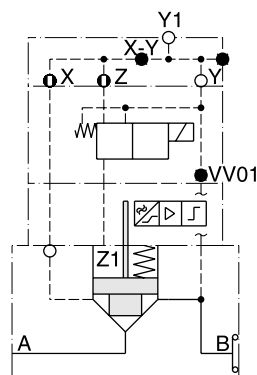
D5S08-7223A.BA
D5S10

Pilot oil: internal from B

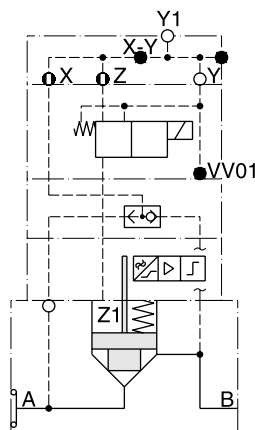
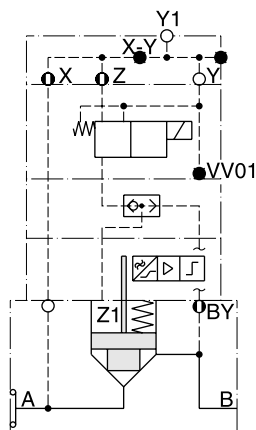
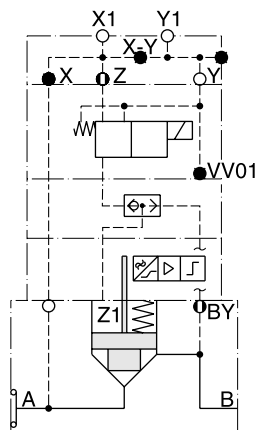
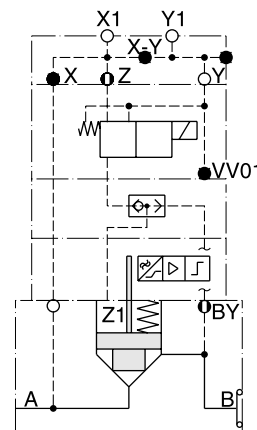
Annular entry

D5S08-8213A.BA
D5S10

Pilot oil: internal from B

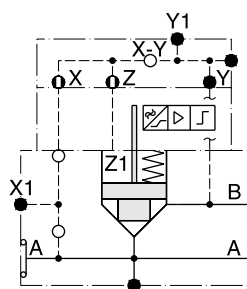
D5S08-7143A.BC
D5S10 BEPilot oil: internal from A
Pilot drain: internal to BD5S08-7163A.BC
D5S10 BEPilot oil: internal from A
Pilot drain: external out of Y1D5S08-8263A.BC
D5S10 BEPilot oil: internal from B
Pilot drain: external out of Y1

Seat entry

D5S...-736...BH
BKPilot oil: internal from A +
internal from B
Pilot drain: external out of Y1D5S...-736...BN
BQPilot oil: internal from A +
internal from B
Pilot drain: external out of Y1D5S...-757...BN
BQPilot oil: external from X1 +
internal from B
Pilot drain: external out of Y1D5S...-857...BN
BQPilot oil: external from X1 +
internal from B
Pilot drain: external out of Y1

D5S 3-port position control

Seat entry

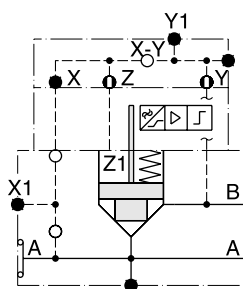


D5S08-5113A.BA

10

12

Pilot oil: internal from A

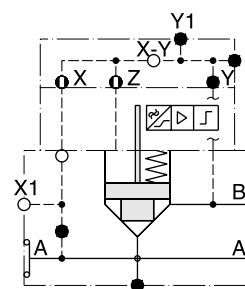


D5S08-5223A.BA

10

12

Pilot oil: internal from B

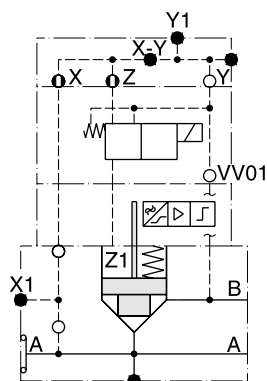


D5S08-5213A.BA

10

12

Pilot oil: external from X1

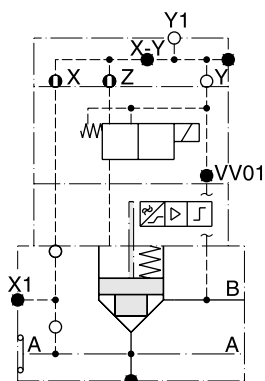


D5S08-5143A.BC

10

12

BE

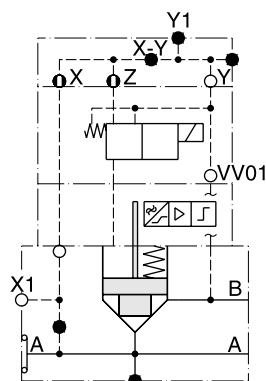
Pilot oil: internal from A
Pilot drain: internal to B

D5S08-5163A.BC

10

12

BE

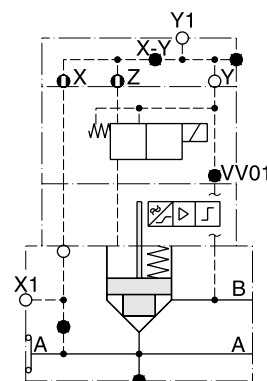
Pilot oil: internal from A
Pilot drain: external out of Y1

D5S08-5443A.BC

10

12

BE

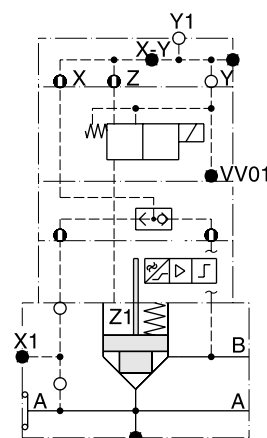
Pilot oil: external from X1
Pilot drain: internal to B

D5S08-5463A.BC

10

12

BE

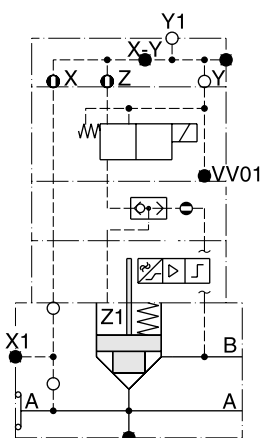
Pilot oil: external from X1
Pilot drain: external out of Y1

D5S08-5363A.BH

10

12

BE

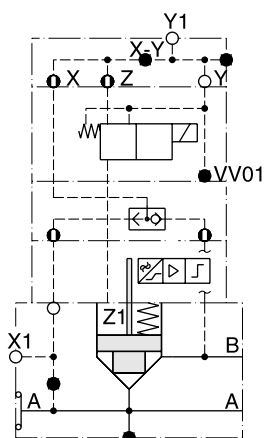
Pilot oil: internal from A +
internal from B
Pilot drain: external out of Y1

D5S08-5363A.BN

10

12

BQ

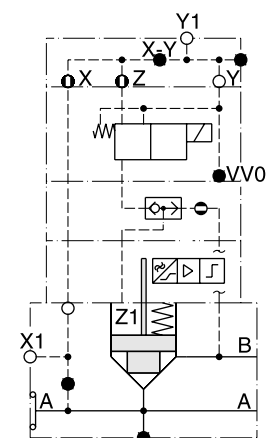
Pilot oil: internal from A +
internal from B
Pilot drain: external out of Y1

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

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.

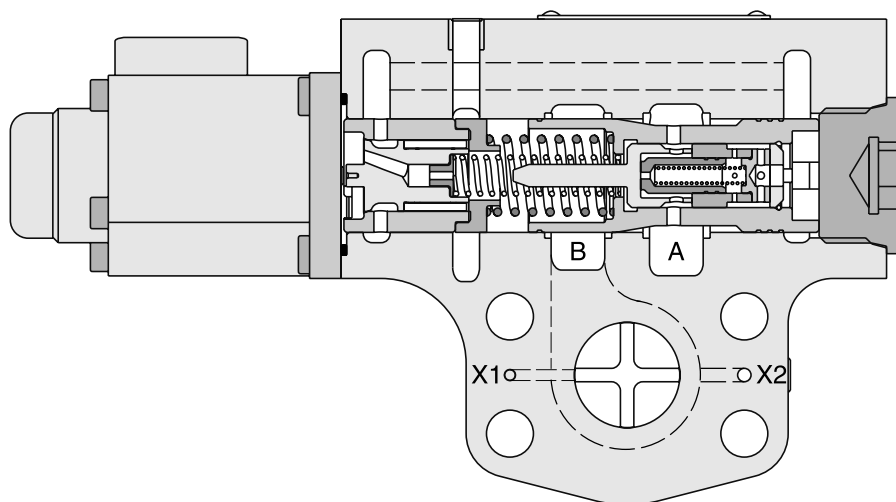
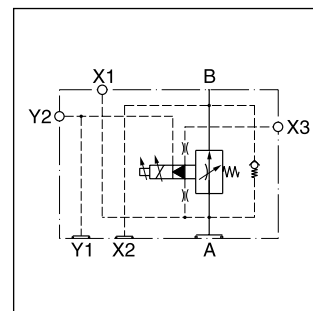
The F5C is offered with two types of response time:

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 and R5P



Ordering Code / Pilot Connection

Ordering Code

F5C			4	3		X		0	C			
Proportional throttle valve	Nomi- nal size	Pilot flow and response	SAE61 interface	Pilot ports G $\frac{3}{4}$ "	Spool type	Proportional solenoid 16 V/1.05 A	Pilot connection	Acces- sories	Design	Seals	Design series (not required for ordering)	Options

Code	Nominal size
06	SAE $\frac{3}{4}$ "
08	SAE 1"
10	SAE 1 $\frac{1}{4}$ "

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

Spool type		
Code	Size	Max. flow ¹⁾
A	06	23 l/min
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

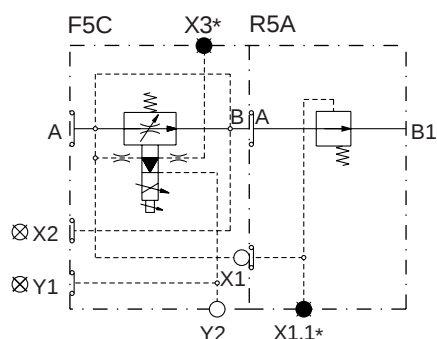
Code	Pilot connections	F5C without compensators R5A, R5P	F5C for combination with R5A	F5C for combination with R5P
2	internal PD (Y)	—	—	X1, X3, Y2 ●
	internal PP (X)			X2, Y1 ○ X2, Y1 ○
3	external PD (Y)	—	X1, X3, Y2 ○	—
	external PP (X)		X2, Y1 ⊗	
4	external PD (Y)	X3, Y2 ○	—	X2, X3, Y1, Y2 ○
	external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

¹⁾ At nominal pressure drop ($\Delta p = 8.4$ bar)

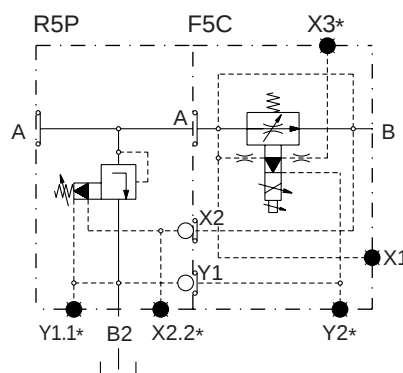
9

Pilot connection explanation

F5C with R5A



F5C with R5P



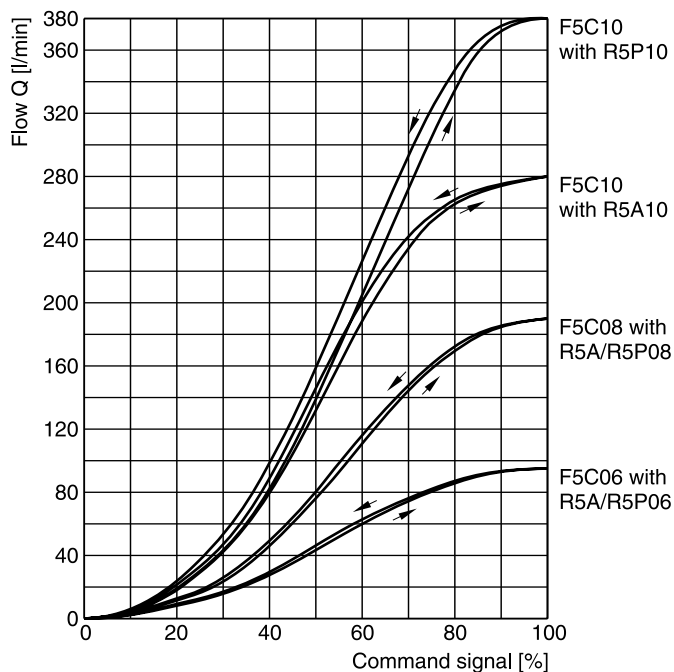
* optional

○ open ● closed ⊗ closed by counterpart

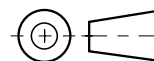
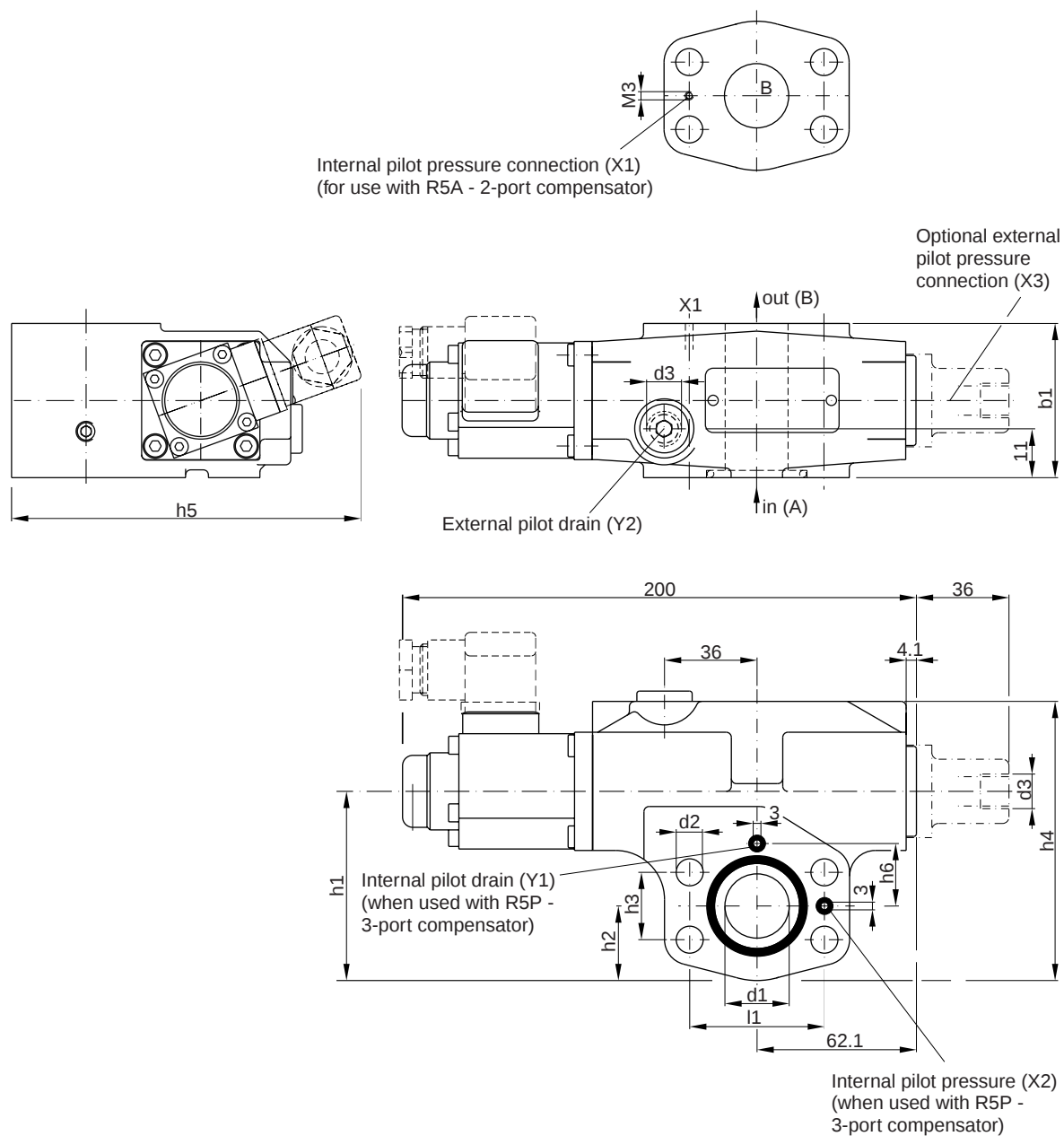
Technical data

General					
Size		06 (¾")		08 (1")	10 (1¼")
Mounting		Flanged according to SAE61			
Mounting position		unrestricted			
Ambient temperature		[°C]	-20...+50		
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...51525			
Fluid temperature		[°C]	-20...+80		
Viscosity	permitted	[cSt] / [mm²/s]	10...650		
	recommended	[cSt] / [mm²/s]	30		
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.



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

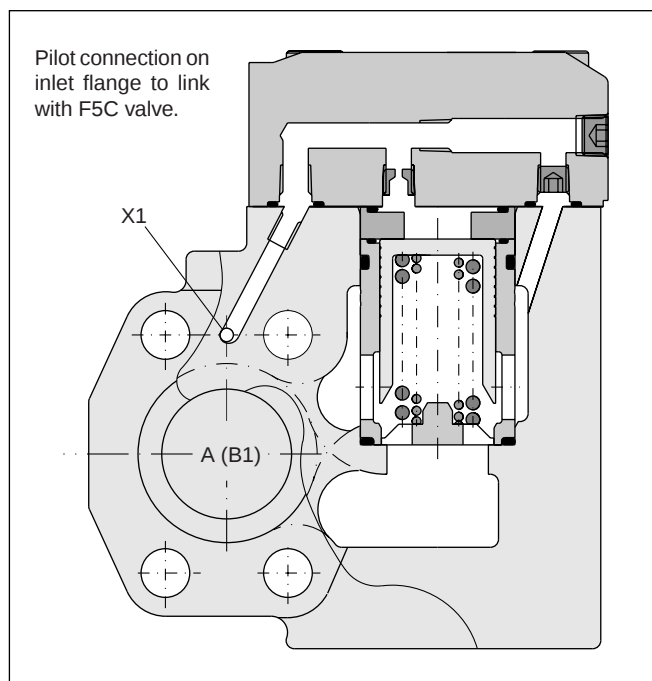
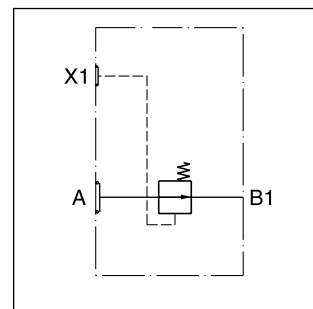
	l1	b1	h1	h2	h3	h4	h5	h6	d1	d2	d3
F5C06	47.6	60	68.2	26	22.2	103.2	183	20.8	19	10.5	G¼"
F5C08	52.4	60	73.6	29	26.2	108.6	187	24.3	25	10.5	G¼"
F5C10	58.7	75	83.5	36.5	30.2	118.5	198	29.3	32	12.5	G¼"

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**

R5A		-	4	1	01	B		
2-port compensator	Nominal size	SAE61 interface	2-port body	Plain cap	Pilot connection thru port X1	Design series	Seals	Options

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

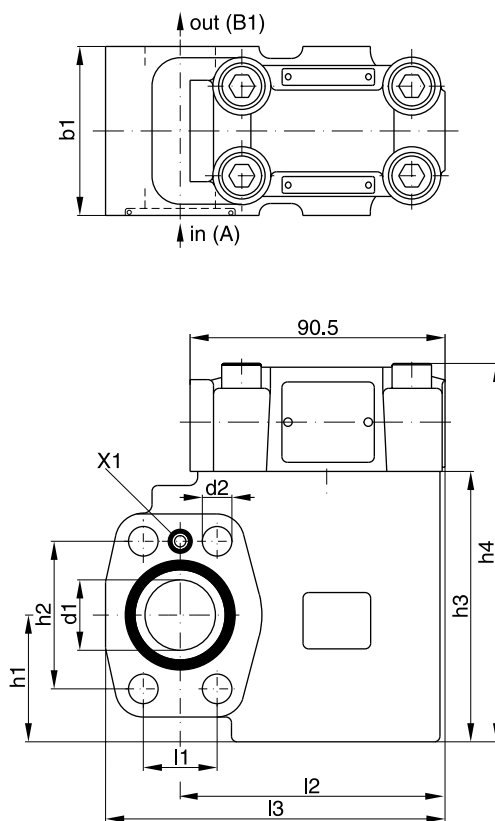
SAE 61 interface		
Code	Size	Max. pressure [bar]
4	10	280
5	06/08	350

Code	Seals
1	NBR
5	FPM

Technical data

General					
Size		06 (¾")	08 (1")	10 (1¼")	
Mounting		Flanged according to SAE61			
Mounting position		unrestricted			
Ambient temperature		[°C]	-20...+50		
MTTF _D value		[years]	150		
Weight		[kg]	3.6	4.3	5.6
Hydraulic					
Max. operating pressure		[bar]			
Ports A, B, X1			350	350	280
Control pressure		[bar]	8.4		
Nominal flow		[l/min]	90	300	600
Fluid			Hydraulic oil according to DIN 51524...51525		
Fluid temperature		[°C]	-20...+80		
Viscosity	permitted	[cSt] / [mm²/s]	10...650		
	recommended	[cSt] / [mm²/s]	30		
Filtration			ISO 4406 (1999): 18/16/13		

Dimensions



Seal kits

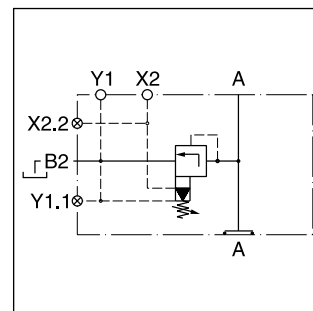
NG	NBR	FPM
06	S16-91458-0	S16-91458-5
08	S16-91457-0	S16-91457-5
10	S16-91456-0	S16-91456-5

	l1	l2	l3	b1	h1	h2	h3	h4	d1	d2
R5A06	22.2	84	108	60	37	47.6	90	128	19	10.5
R5A08	26.2	101	128	60	45	52.4	96	134	25	10.5
R5A10	30.2	101	135	75	48	58.7	109	147	32	12.5

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.

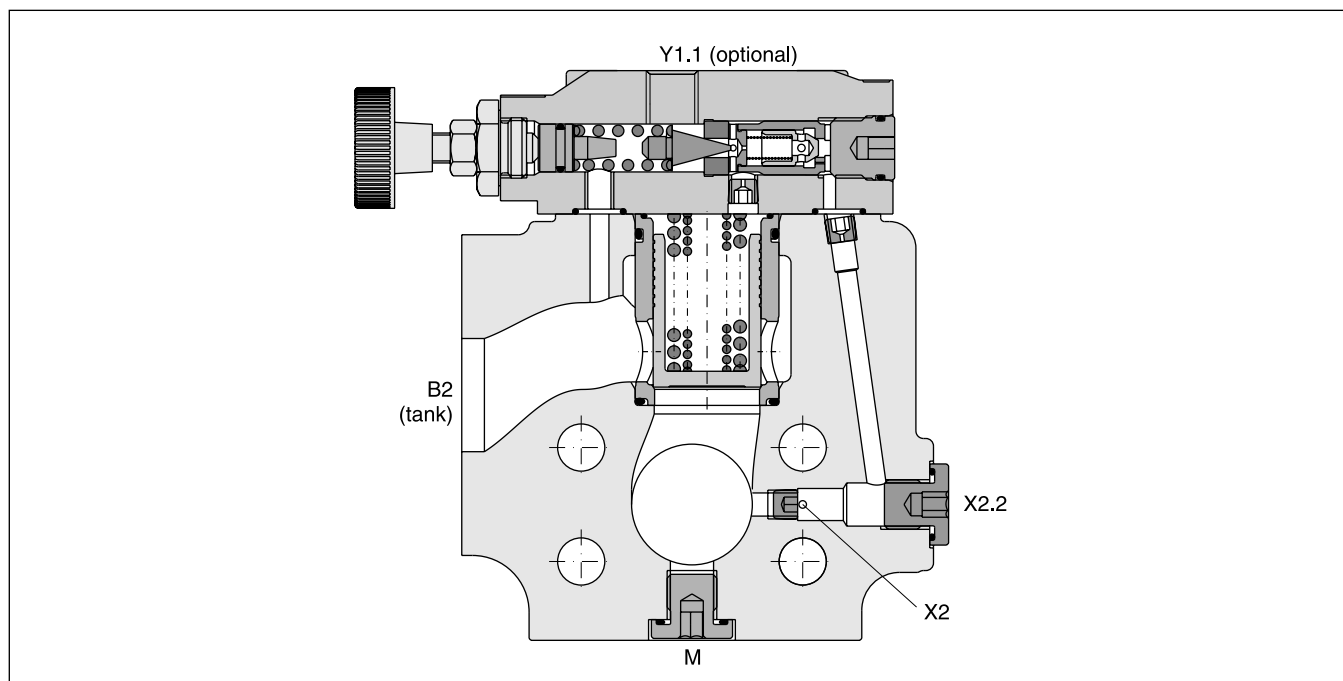
The combination with the proportional throttle valve F5C serves as a compact 3 way flow control unit in SAE flange design. The R5P is typically used as meter-in compensator in front of the flow resistor.

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



Ordering Code

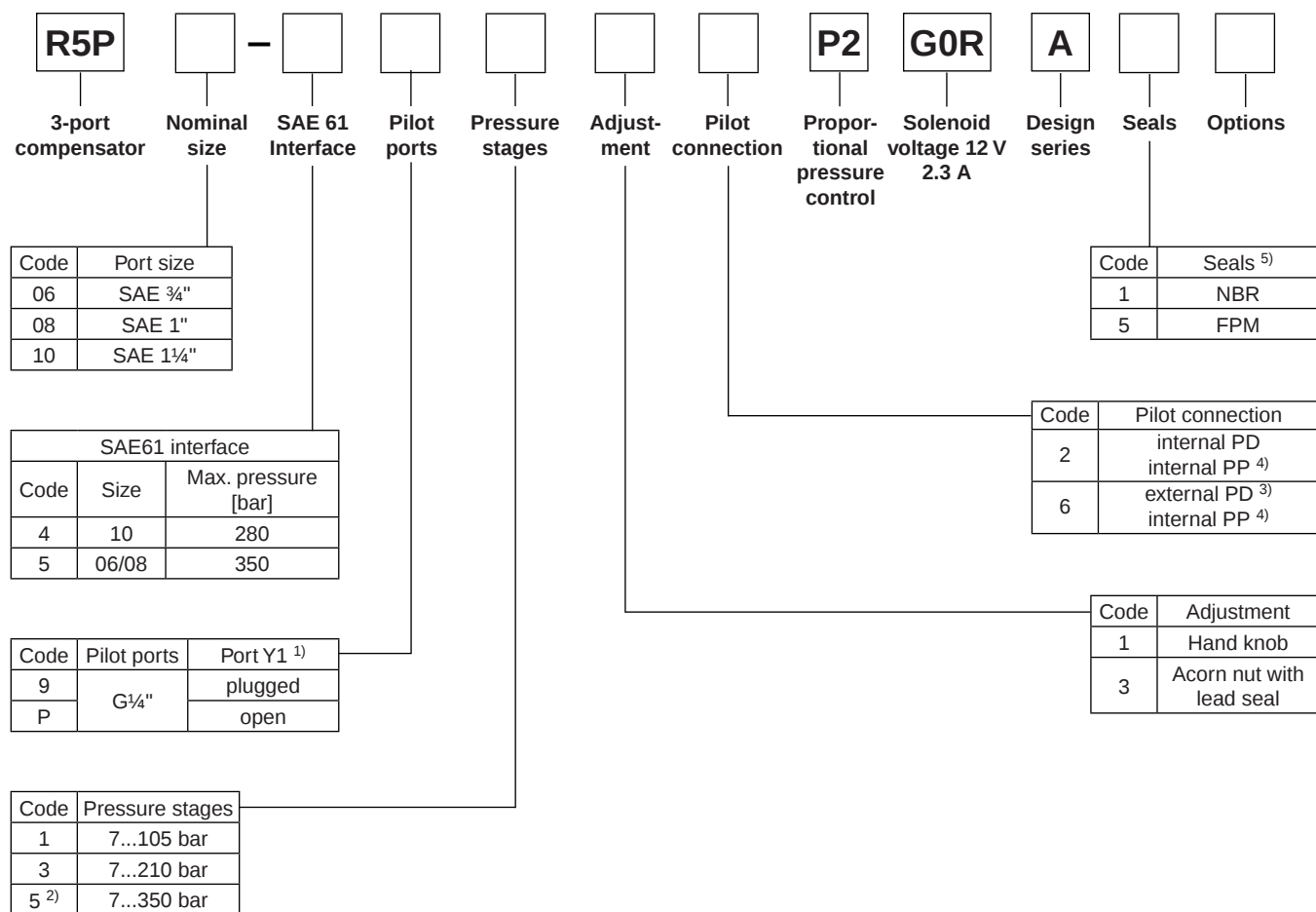
R5P

R5P										A														
3-port compensator		Nominal size	SAE 61 Interface	Pilot ports	Pressure stages	Adjustment	Pilot connection	Switching type	Solenoid voltage	Design series	Seals	Options												
Code	Port size										Code	Seals ⁶⁾												
06	SAE ¾"										1	NBR												
08	SAE 1"										5	FPM												
10	SAE 1¼"																							
<table border="1"> <thead> <tr> <th colspan="3">SAE61 interface</th> </tr> <tr> <th>Code</th><th>Size</th><th>Max. pressure [bar]</th></tr> </thead> <tbody> <tr> <td>4</td><td>10</td><td>280</td></tr> <tr> <td>5</td><td>06/08</td><td>350</td></tr> </tbody> </table>													SAE61 interface			Code	Size	Max. pressure [bar]	4	10	280	5	06/08	350
SAE61 interface																								
Code	Size	Max. pressure [bar]																						
4	10	280																						
5	06/08	350																						
Code	Pilot ports	Port Y1 ¹⁾																						
9	G¾"	plugged																						
P		open																						
Code	Pressure stages																							
1	7...105 bar																							
3	7...210 bar																							
5 ²⁾	7...350 bar																							
Code	Adjustment																							
1	Hand knob																							
3	Acorn nut with lead seal																							
Code	Solenoid voltage																							
omit	Standard w/o vent function																							
G0R	12 V=																							
G0Q	24 V=																							
GAR ⁵⁾	98 V=																							
GAG ⁵⁾	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	Solenoid not activated unpressure circulation																							
11	Solenoid activated unpressure circulation																							
Code	Pilot connection																							
2	internal PD internal PP ⁴⁾																							
6	external PD ³⁾ internal PP ⁴⁾																							

9

¹⁾ Y1 port is used in combination with F5C, when the F5C should be drained through the R5P (internal or external drain)²⁾ R5P10-4*5 up to 280 bar³⁾ Through port Y1.1⁴⁾ PP through port X1 in outlet flange⁵⁾ To be used in combination with rectifier plugs at 120 VAC/230 VAC power supply⁶⁾ Further seals on request

R5P*P2



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

²⁾ R5P10-4*5 up to 280 bar

³⁾ Through port Y1.1

⁴⁾ PP through port X1 in outlet flange

⁵⁾ Further seals on request

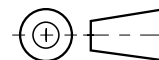
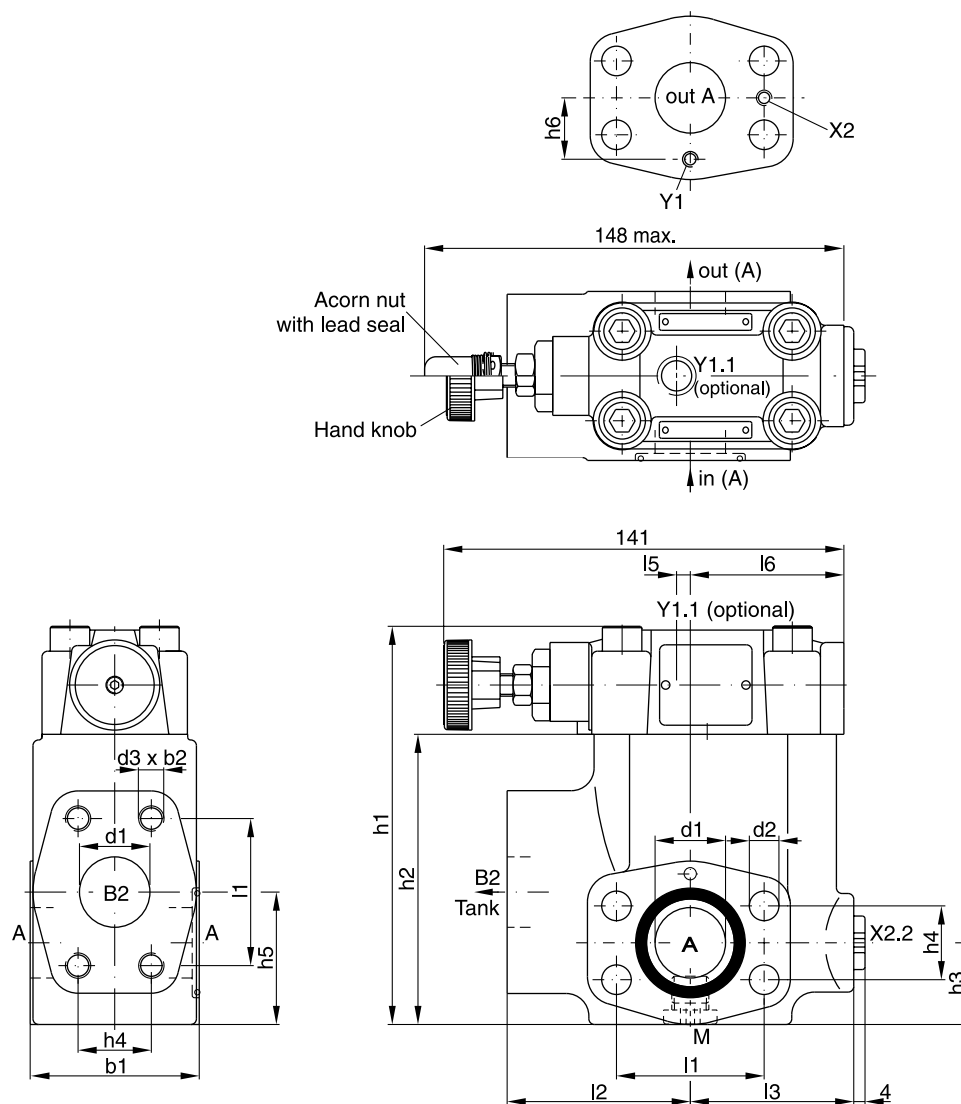
R5P

General																
Size			06 (¾")		08 (1")		10 (1¼")									
Mounting			Flanged according to SAE61													
Mounting position			unrestricted													
Ambient temperature			[°C]		-20...+50											
MTTF _D 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			[bar]		105, 210, 350											
Nominal flow			[l/min]		90		300		600							
Fluid			Hydraulic oil according to DIN 51524...51525													
Fluid temperature			[°C]		-20...+80											
Viscosity		permitted	[cSt] / [mm²/s]		10...650											
		recommended	[cSt] / [mm²/s]		30											
Filtration			ISO 4406 (1999); 18/16/13													
Electrical (solenoid) R5P with VV01																
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)													
			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	
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	
Response time			[ms]		Energized / De-energized AC: 20/18 , DC: 46/27											
Wiring min.			[mm²]		3 x 1.5 recommended											
Wiring length max.			[m]		50 recommended											

R5P*P2

General						
Size			06 (¾")	08 (1")	10 (1¼")	
Mounting		Flanged according to SAE61				
Mounting position		unrestricted				
Ambient temperature		[°C]	-20...+50			
MTTF _D value		[years]	75			
Weight		[kg]	5.5	6.2	7.1	
Hydraulic						
Max. operating pressure		Ports A, B	[bar]	350	350	280
Pressure stages			[bar]	105, 210, 350		
Nominal flow			[l/min]	90	300	600
Fluid		Hydraulic oil according to DIN 51524...51525				
Fluid temperature			[°C]	-20...+80		
Viscosity	permitted		[cSt] / [mm²/s]	10...650		
	recommended		[cSt] / [mm²/s]	30		
Filtration		ISO 4406 (1999); 18/16/13				
Electrical (proportional solenoid)						
Duty ratio		100 % ED; CAUTION: coil temperature up to 150 °C possible				
Nominal voltage			[V]	12		
Max. current			[A]	2.3		
Coil resistance			[Ohm]	4 at 20 °C		
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)				
Power amplifier		PCD00A-400				

R5P UK.INDD CM 18.07.13

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

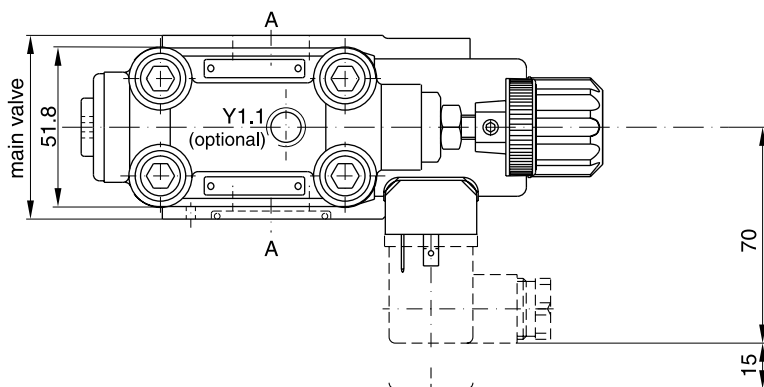
	l1	l2	l3	l4	l5	l6	b1	b2	h1	h2	h3	h4	h5	h6	d1	d2	d3
R5P06	47.6	63	56	148	1	49	60	20	119	81.6	29.5	22.2	41.6	20.8	19	10.5	3/8" UNC
R5P08	52.4	65	58	144.6	5	54.5	60	23	142	103	30.5	26.2	48.6	24.3	25	10.5	3/8" UNC
R5P10	58.7	61	62	146.6	3	56.5	75	22	149	111.5	37.5	30.2	64.1	29.3	32	12.5	7/16" UNC

Ports

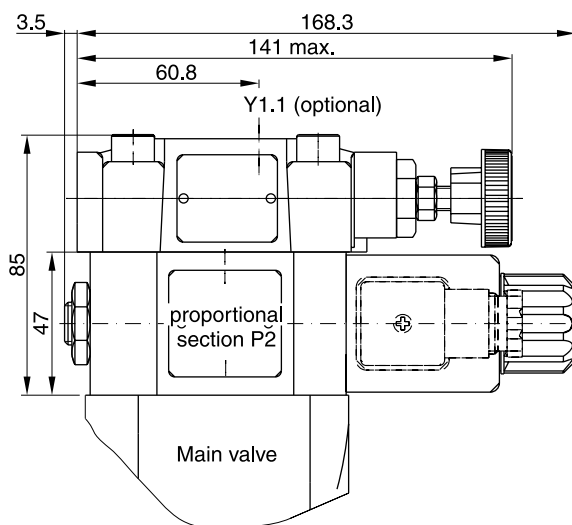
Port	Function	Port size		
		R5P06	R5P08	R5P10
A	Inlet/outlet	3/4"	1"	1 1/4"
B2	Tank	3/4"	1"	1 1/4"
X2	Internal pilot pressure	M3	M3	M3
X2.2	External pilot pressure	G 1/4"	G 1/4"	G 1/4"
Y1	Internal pilot drain	M3	M3	M3
Y1.1	External pilot drain	G 1/4"	G 1/4"	G 1/4"
M	Pressure gauge	G 1/4"	G 1/4"	G 1/4"

R5P UK.INDD CM 18.07.13

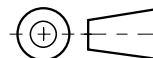
R5P*P2



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.

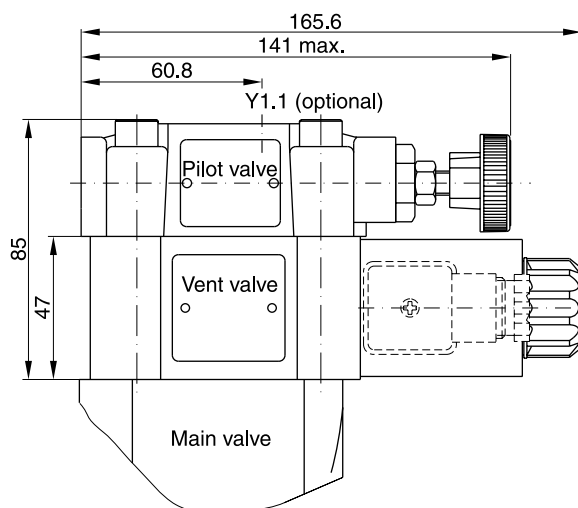
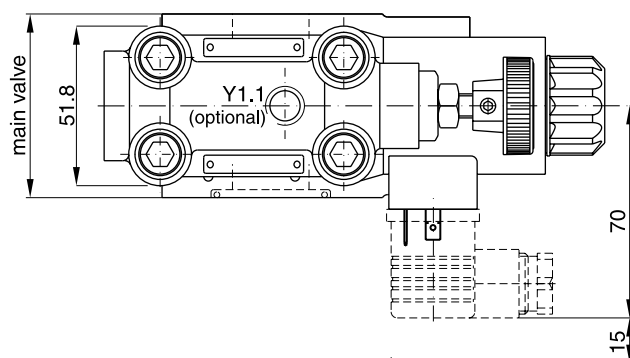


Note:
On initial start up and after long shut down periods bleed air from this plug.

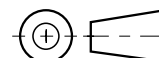


9

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

R5P with vent function

Seal kits	
NBR	FPM
DC solenoid	
S56-40609-0	S56-40609-5
AC solenoid	
S26-35237-0	S26-35237-5

**9**

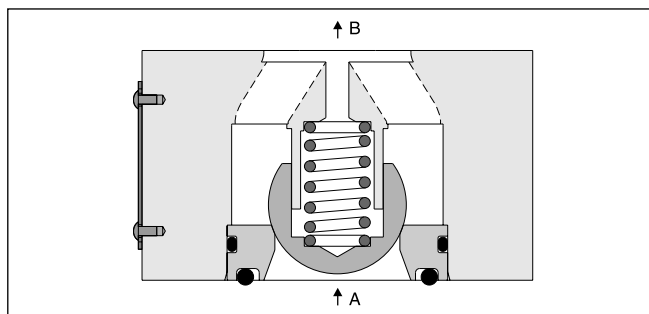
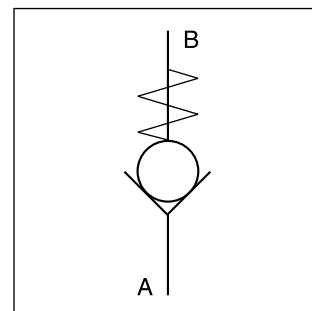
Code	Internal drain	External drain
11		
09		

R5P UK.INDD CM 18.07.13

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								Code	Options
06	SAE ¾"								omit	Standard
08	SAE 1"								019 ³⁾	M14 mounting screws
10	SAE 1¼"									
12 ¹⁾	SAE 1½"									
Code	Flange								Code	Seals
3	SAE61								1	NBR
6	SAE62								5	FPM
Code	Body sealing								Code	Cracking pressure
1	sealing for port A								0	0.5 bar
2 ²⁾	sealing for port A and X								1	1.0 bar
3	without sealing								2	2.0 bar
4	sealing for port B									
5	sealing for port A and B									

¹⁾ SAE61 only

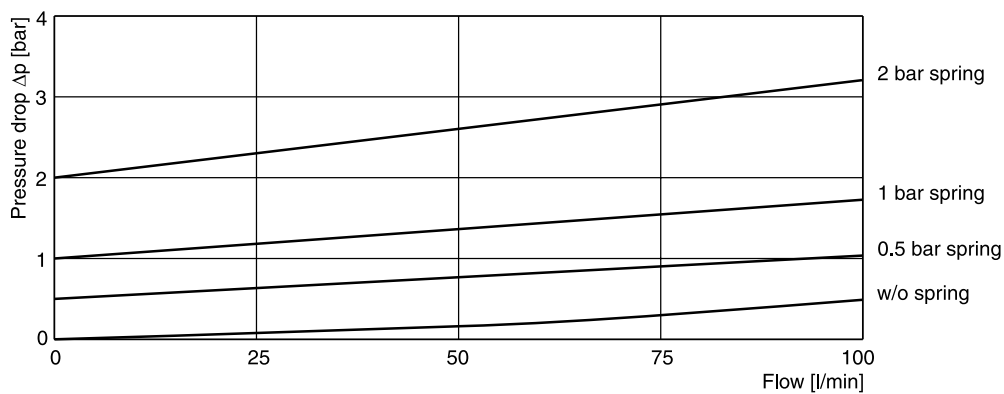
²⁾ For combination with R5U unloading valve (SAE61 only)

³⁾ Only for C5V10-6 (SAE62)

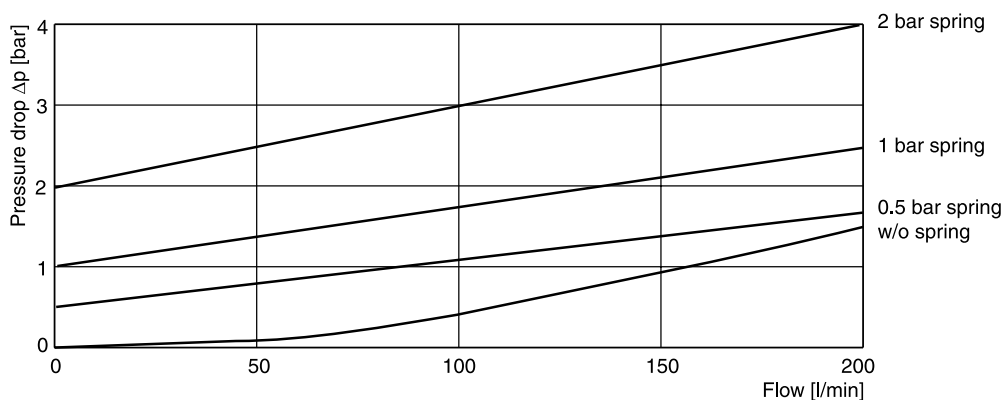
Technical Data

General								
Size			06 (¾")	08 (1")	10 (1¼")	12 (1½")		
Mounting			2-port inline flange (SAE61 and 62)					
Mounting position			unrestricted					
Ambient temperature			[°C]	-20...+50				
MTTF _D value			[years]	150				
Weight			[kg]	0.6	0.9	1.3	1.8	
Hydraulic								
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...51525					
Fluid temperature			[°C]	-20...+80				
Viscosity	permitted	[cSt]	[mm²/s]	10...650				
	recommended	[cSt]	[mm²/s]	30				
Filtration			ISO 4406 (1999); 18/16/13					

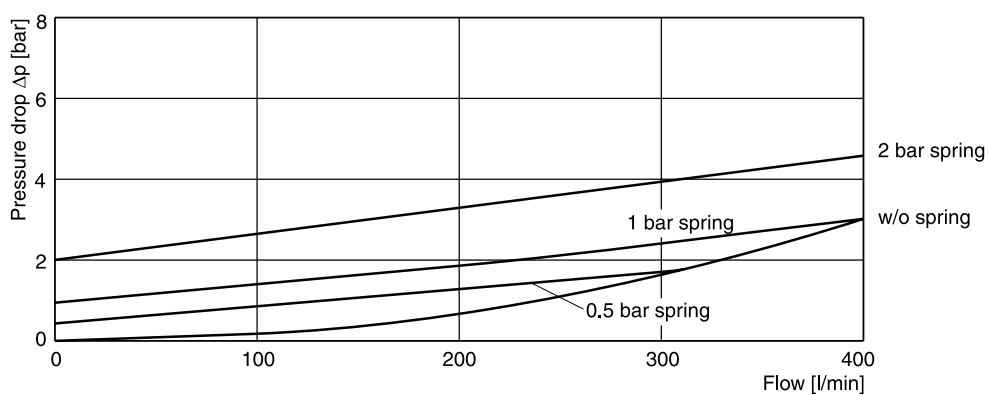
C5V06



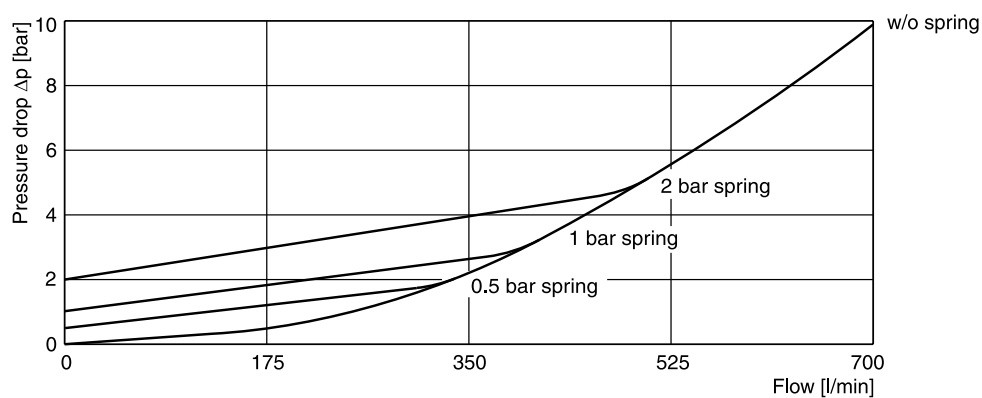
C5V08



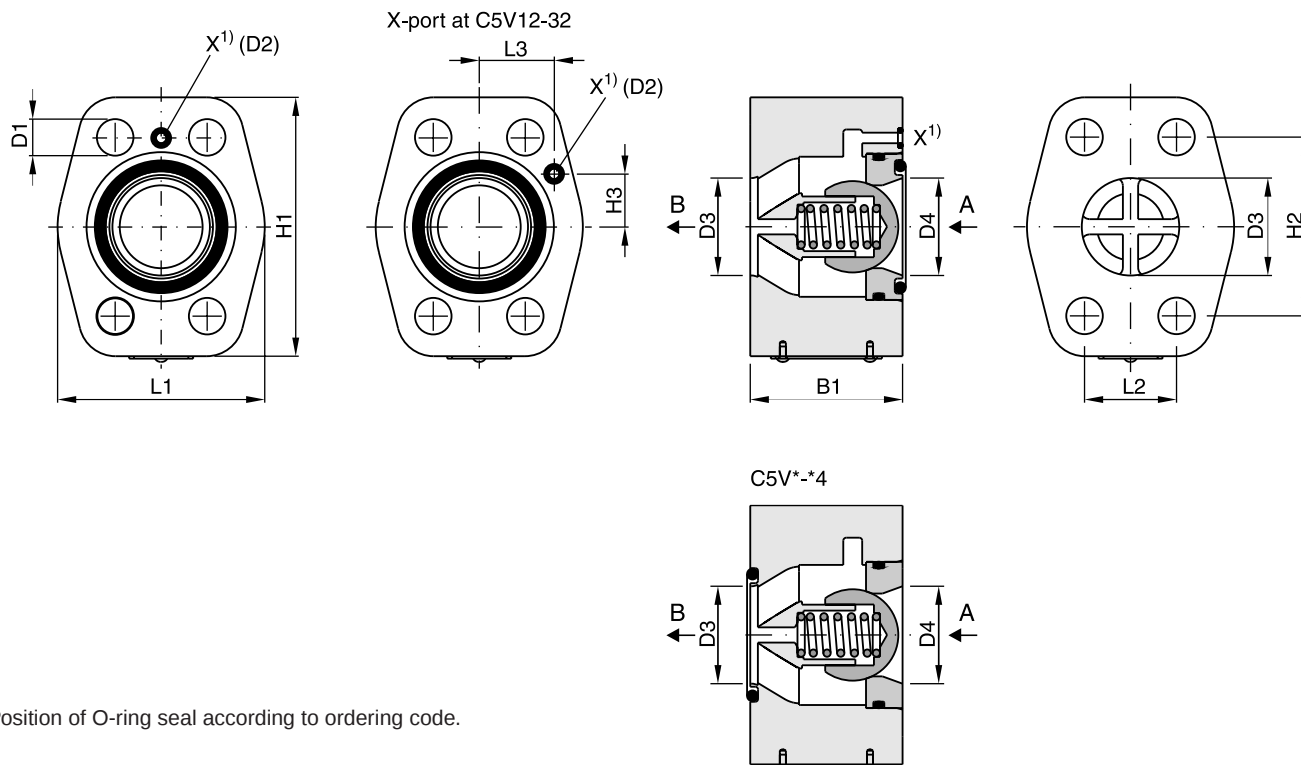
C5V10



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	27.2	64	47.6	22.4	45	10.5	Ø3	19	19
		SAE62	48	23.8	27.2	64	50.8	22.4	45	10.5	—	19	19
C5V08	1"	SAE61	60	26.2	27.2	74	52.4	22.4	45	10.5	Ø3	25	25
		SAE62	60	27.8	27.2	74	57.2	22.4	45	12.5	—	25	25
C5V10	1 1/4"	SAE61	68	30.2	27.2	85	58.7	22.4	50	12.5	Ø3	32	32
		SAE62	68	31.8	27.2	85	66.7	22.4	50	13.5 ²⁾	—	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

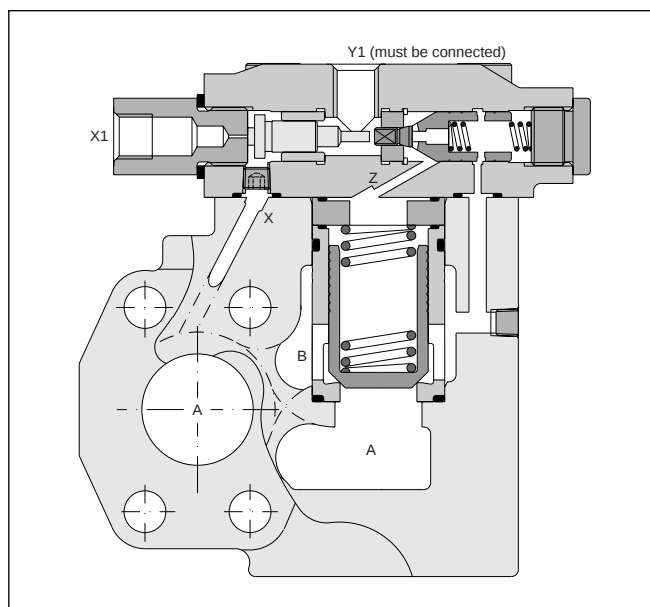
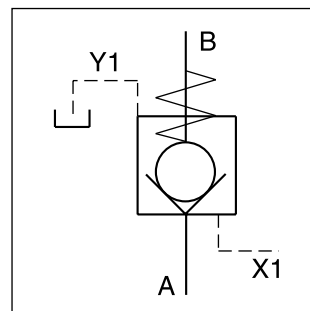
¹⁾ X1 port for C5V*32* (for use with unloading valve R5U)

²⁾ D1 = 15 at option code 019 for M14 mounting screws

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 ¾", 1", 1¼")
- 4 opening ratios
- Optional with position control

**Ordering code**

C5P

Pilot operated check valve

Nominal size

SAE61 interface

8

Pilot ports X1 and Y1=G¾"

Opening ratio

Cracking pressure

A

Design series

Seals

Options

Code	Nominal size
06	¾"
08	1"
10	1¼"

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

Code	Opening ratio	Code	Opening ratio ¹⁾
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

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

General				
Size			06 (¾")	08 (1")
Mounting			2-port inline flange (SAE61)	
Mounting position			unrestricted	
Ambient temperature		[°C]	-20...+50	
MTTF _D value		[years]	150	
Weight		[kg]	3.9	4.4
Hydraulic				
Max. operating pressure	Ports A, B	[bar]	350	350
	Port Y1	[bar]	30	30
Nominal flow		[l/min]	180	360
Fluid			Hydraulic oil according to DIN 51524...51525	
Fluid temperature		[°C]	-20...+80	
Viscosity	permitted	[cSt] / [mm²/s]	10...650	
	recommended	[cSt] / [mm²/s]	30	
Filtration			ISO 4406 (1999); 18/16/13	

Position Control

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

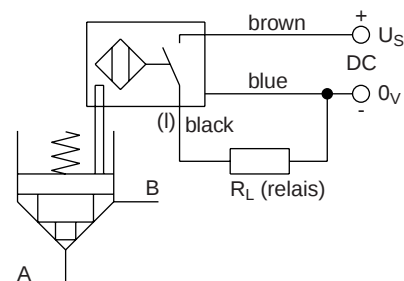
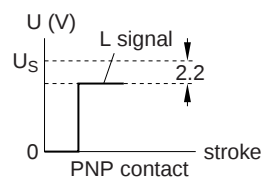
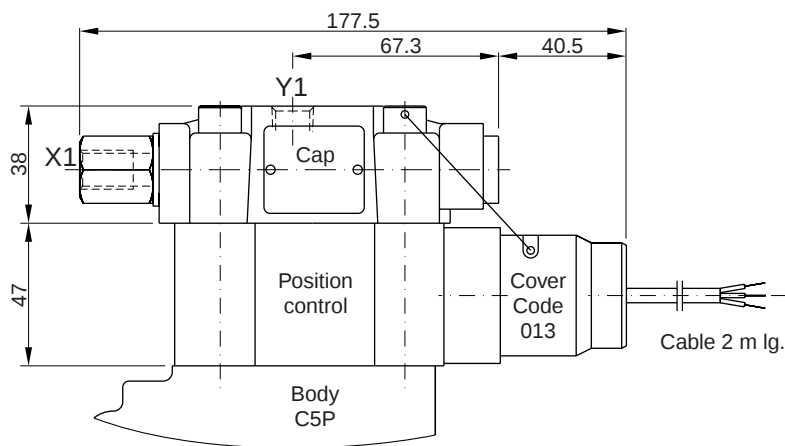
Valve open: proximity switch activated.

This proximity switch is pressure proof and has no wear-
ing parts.

Note: Position control for C5P08 and C5P10 only.

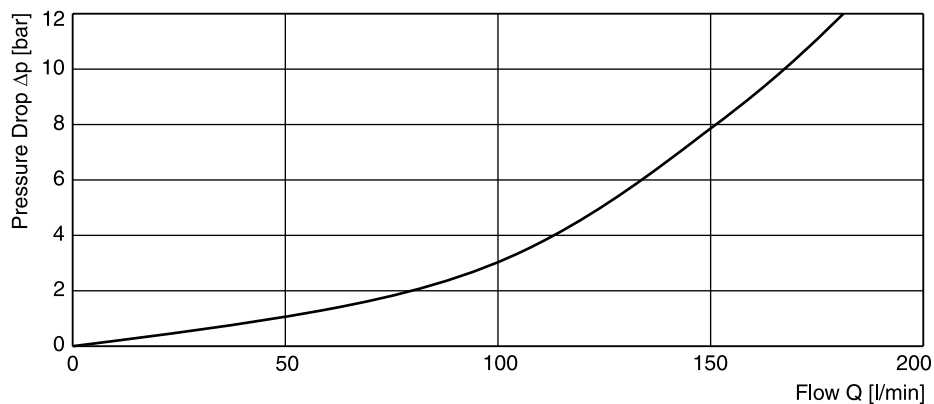
Technical data proximity switch

Function		PNP, contact
Supply voltage (U _S)	[VDC]	10...30
Supply voltage ripple	[%]	≤ 10
Current consumption	[mA]	max. 8
Residual voltage L-signal	[V]	U _S - 2.2 at I _{max}
Output current (I)	[mA]	≤ 200
Protection class		IP67
Ambient temperature	[°C]	-25...+70
Wire cross section	[mm²]	3 x 0.5

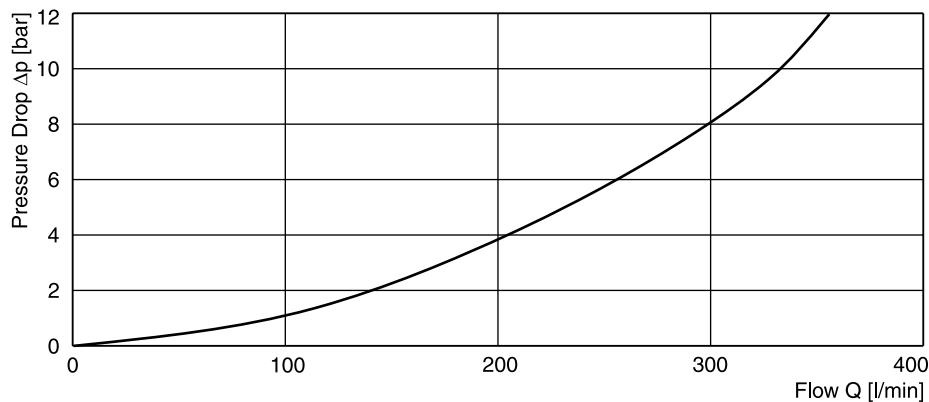


p/Q-performance curves

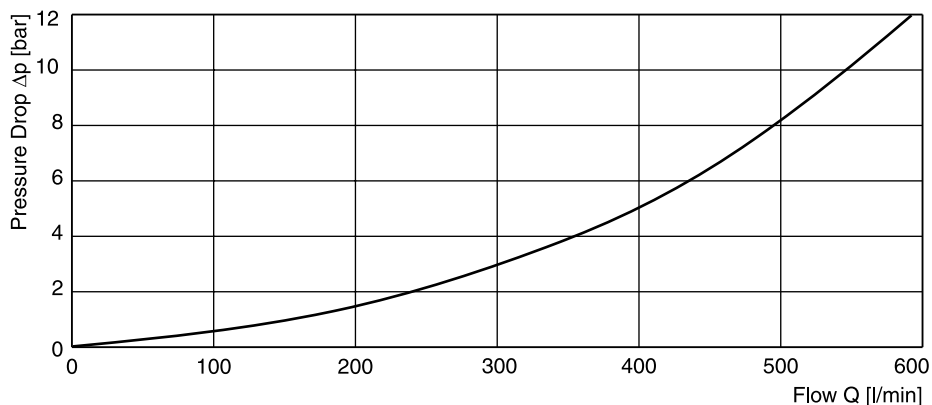
C5P06



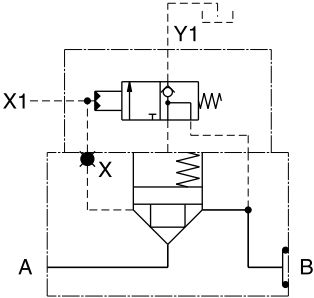
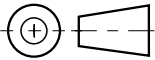
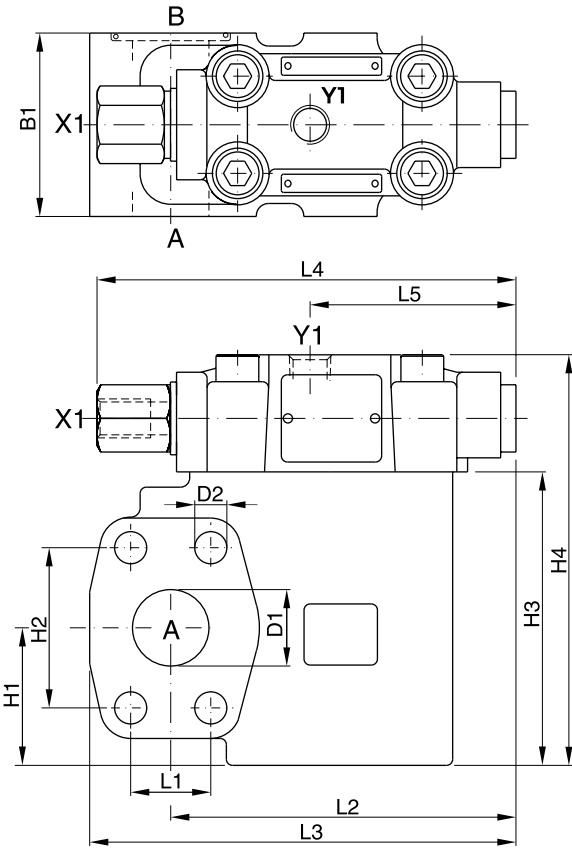
C5P08



C5P10



All characteristic curves measured with HLP46 at 50 °C.



9

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

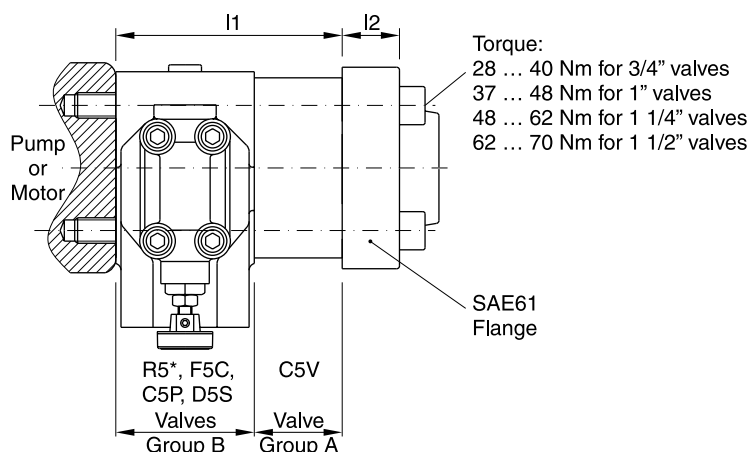
Dimensions

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"

BK bolt kits for SAE61 valves



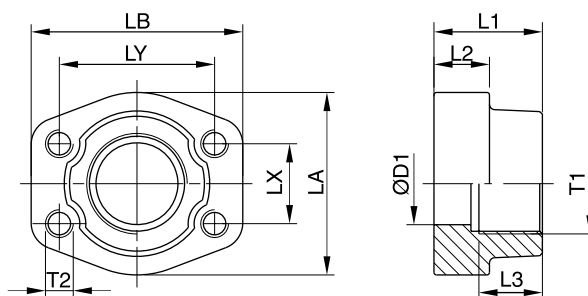
Port	Qty. of valves and group for each stack	l1	l2	UNC screws (12.9)	
				Dimension	Ordering code
3/4" SAE61	1 x A	45	16...22	3/8"-16 x 3 1/4"	BK-358-16330-0
	1 x B	60		3/8"-16 x 3 3/4"	BK-358-16350-0
	(1 x A) + (1 x B)	105		3/8"-16 x 5 1/2"	BK-358-16420-0
	2 x B	120		3/8"-16 x 6"	BK-358-16440-0
1" SAE61	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

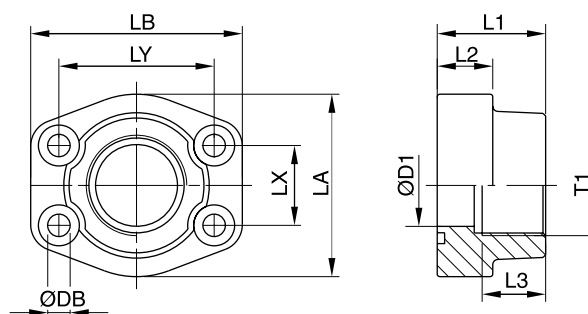
Series	Nominal size	l1	l2	UNC screws (12.9)	
				Dimension	Ordering code
C5V06	3/4"	45	21	3/8"-16 x 3 1/4"	BK-358-16330-0
C5V08	1"	45	25	7/16"-14 x 3 1/2"	BK-358-18340-0
C5V10	1 1/4"	50	27	1/2"-13 x 3 3/4"	BK-358-20350-0
R5V06-6	3/4"	60	21	3/8"-16 x 3 3/4"	BK-358-16350-0
R5V08-6	1"	60	25	7/16"-14 x 3 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. ¹⁾	Inlet flange								
		D1	L1	L2	L3	LA	LB	LX	LY	T2
SAE61										
G¾"	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
G1¼"	PCFF35GSU	31	41	21	22	69	80	30.2	58.7	7/16" UNC
G1½"	PCFF36GSU	38	44	25	24	77	94	35.7	69.9	1/2" UNC
SAE62										
G¾"	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
G1¼"	PCFF65GSU	31	44	27	25	77	94	31.8	66.6	1/2" UNC
G1½"	PCFF66GSU	38	51	30	28	89	106	36.5	79.3	5/8" UNC

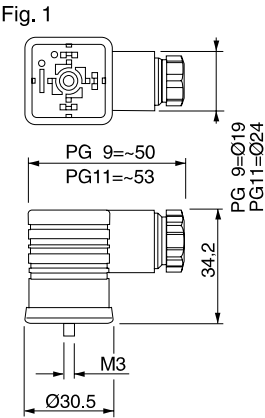
Outlet and tank port flange



Port size	Order no. 2)	Outlet and tank port flange									Srews
		D1	L1	L2	L3	LA	LB	LX	LY	DB	
SAE61											
G¾"	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
G1¼"	PFF35GSU	31	41	21	22	69	80	30.2	58.7	11.5	7/16" x 1 1/2 UNC
G1½"	PFF36GSU	38	44	25	24	77	94	35.7	69.9	13.5	1/2" x 1 3/4 UNC
SAE62											
G¾"	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
G1¼"	PFF65GSU	31	44	27	22	77	94	31.8	66.6	15.0	1/2" x 1 3/4 UNC
G1½"	PFF66GSU	38	51	30	24	89	106	36.5	79.3	17.0	5/8" x 2 1/4 UNC

¹⁾ 4-bolt flange with UNC threads²⁾ 4-bolt flange including UNC screws and O-ring

Description	Threaded cable joint	Body colour coding	Order no.
Plug DIN 43650, design type AF, protection class IP 65 Volt-ages up to 250 V	PG 9	black, B grey, A	5001710 5001711
	PG11	black, B grey, A	5001716 5001717



Other plugs on request