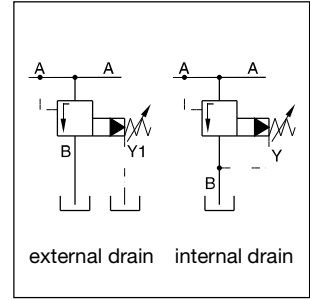


Pilot operated pressure relief valves series R5V have a similar design to the subplate mounted R4V series. The SAE flanges allow to mount the valves directly on the outlet flanges of pumps or inlet flanges of actuators to achieve a very compact design.

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

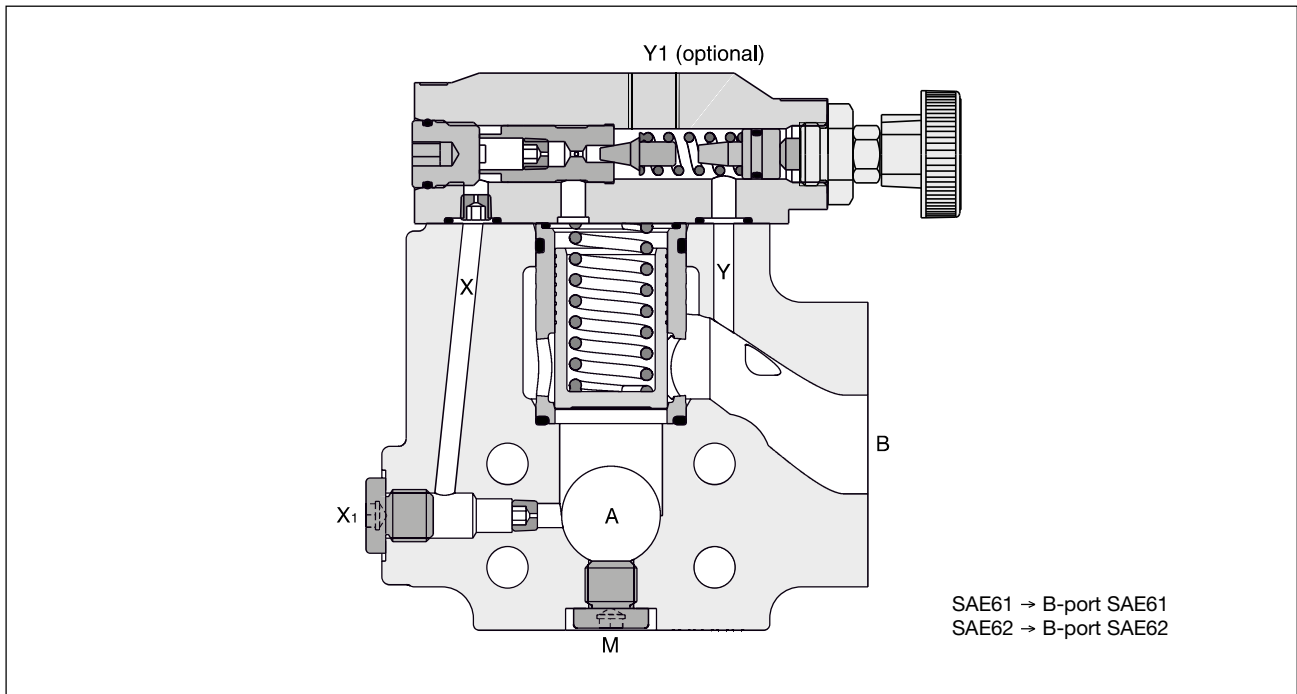
**Features**

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



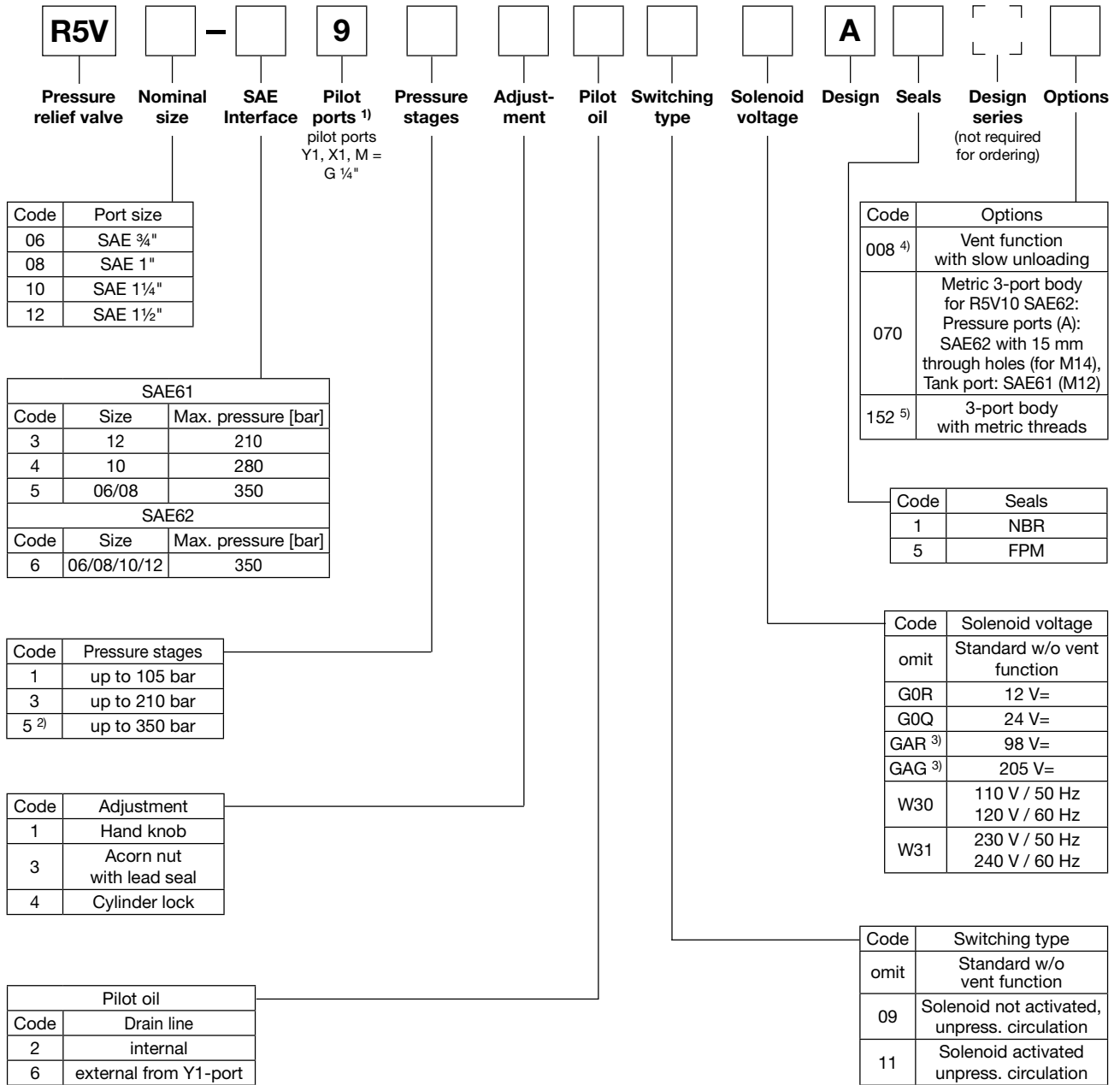
**R5V**

9



**Ordering Code**

**Pilot Operated Pressure Relief Valve  
Series R5V**



Further options on request

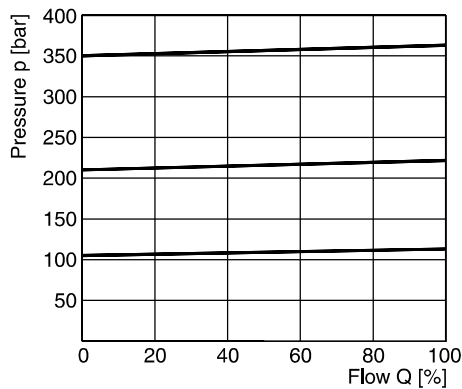
<sup>1)</sup> Y1 only available at external drain (pilot oil code 6).  
<sup>2)</sup> R5V10-495 up to 280 bar.  
<sup>3)</sup> To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.  
<sup>4)</sup> Only for vent valve function code 09.  
<sup>5)</sup> R5V08 SAE62: Tank port SAE61 (M10).

**Technical data**

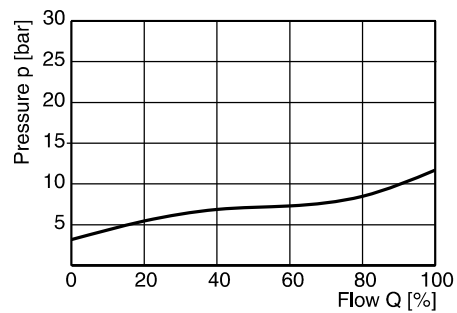
<b>General</b>						
Size		<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>	<b>12 (1½")</b>	
Mounting	Flanged according to SAE61 and SAE62					
Mounting position	unrestricted					
Ambient temperature	[°C]	-20...+60				
MTTF <sub>D</sub> value	[years]	75				
Weight	[kg]	3.6	4.6	5.2	8.0	
<b>Hydraulic</b>						
Max. operating pressure	[bar]					
SAE61 Ports A, B		350	350	280	210	
Port Y1		30	30	30	30	
SAE62 Ports A, B		350	350	350	350	
Port Y1		30	30	30	30	
Pressure stages	[bar]	105, 210, 350				
Nominal flow	[l/min]	90	300	600	600	
Fluid	Hydraulic oil according to DIN 51524					
Fluid temperature	[°C]	-20...+70 (NBR: -25...+70)				
Viscosity, permitted	[cSt] / [mm <sup>2</sup> /s]	20 ... 400				
Viscosity, recommended	[cSt] / [mm <sup>2</sup> /s]	30...80				
Filtration	ISO 4406 (1999); 18/16/13					
<b>Electrical (solenoid)</b>						
Duty ratio	100 % ED; CAUTION: coil temperature up to 150 °C possible					
Protection class	IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)					
	Code	G0R	G0Q	GAR	GAG	W30 W31
Supply voltage	[V]	12 V =	24 V =	98 V =	205 V =	110 at 50 Hz 230 at 50 Hz
	[V]					120 at 60 Hz 240 at 60 Hz
Tolerance supply voltage	[%]	±10	±10	±10	±10	±5 ±5
Current consumption hold	[A]	2.72	1.29	0.33	0.13	0.6 / 0.55 0.3 / 0.27
in rush	[A]	2.72	1.29	0.33	0.13	2.5 / 2.4 1.25 / 1.2
Power consumption hold	[W]	32.7	31	31.9	28.2	70/70 VA 70/70 VA
in rush	[W]	32.7	31	31.9	28.2	280/290 VA 280/290 VA
Solenoid connection	Connector as per EN175301-803, solenoid identification as per ISO 9461					
Wiring min.	[mm <sup>2</sup> ]	3 x 1.5 recommended				
Wiring length max.	[m]	50 recommended				

9

**p/Q performance curve**

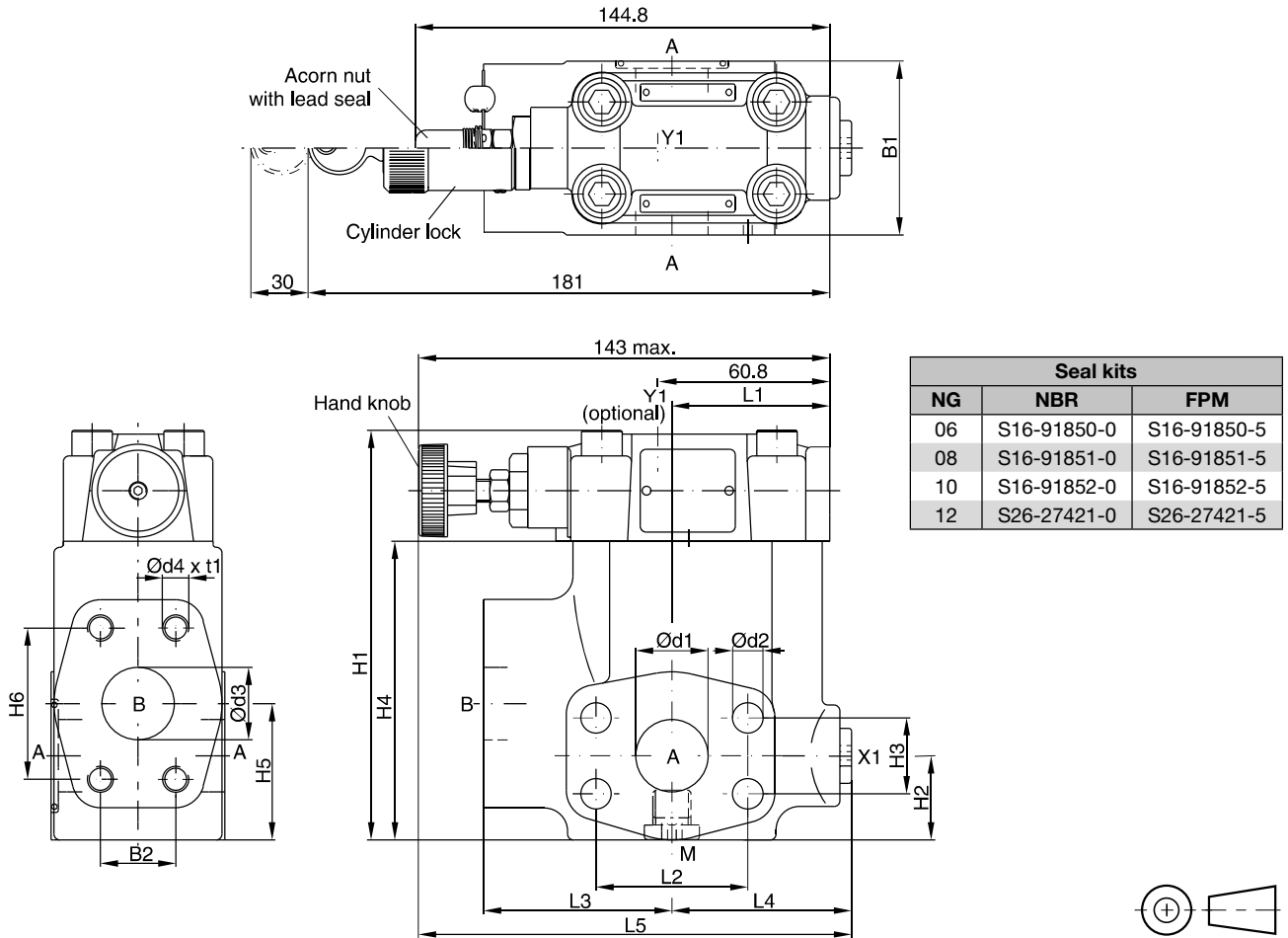


**Minimum pressure curve**



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.



**SAE61**

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

**SAE62**

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

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

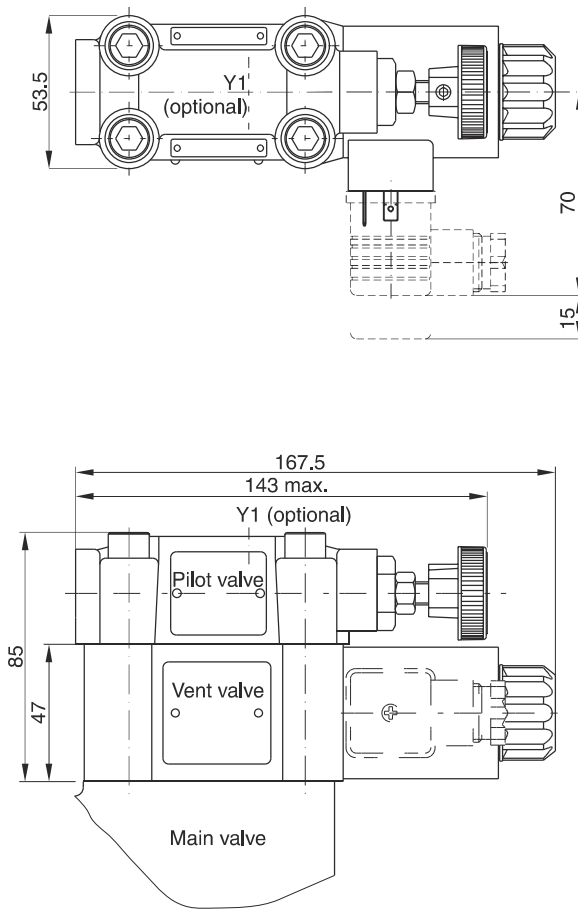
<sup>1)</sup> T-port SAE61.

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

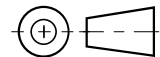
**Dimensions**

**Pilot Operated Pressure Relief Valve  
Series R5V**

**Dimensions R5V with vent function**



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



**9**

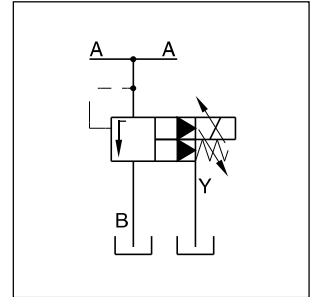
Code	Internal drain	External drain
11		
09		

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.

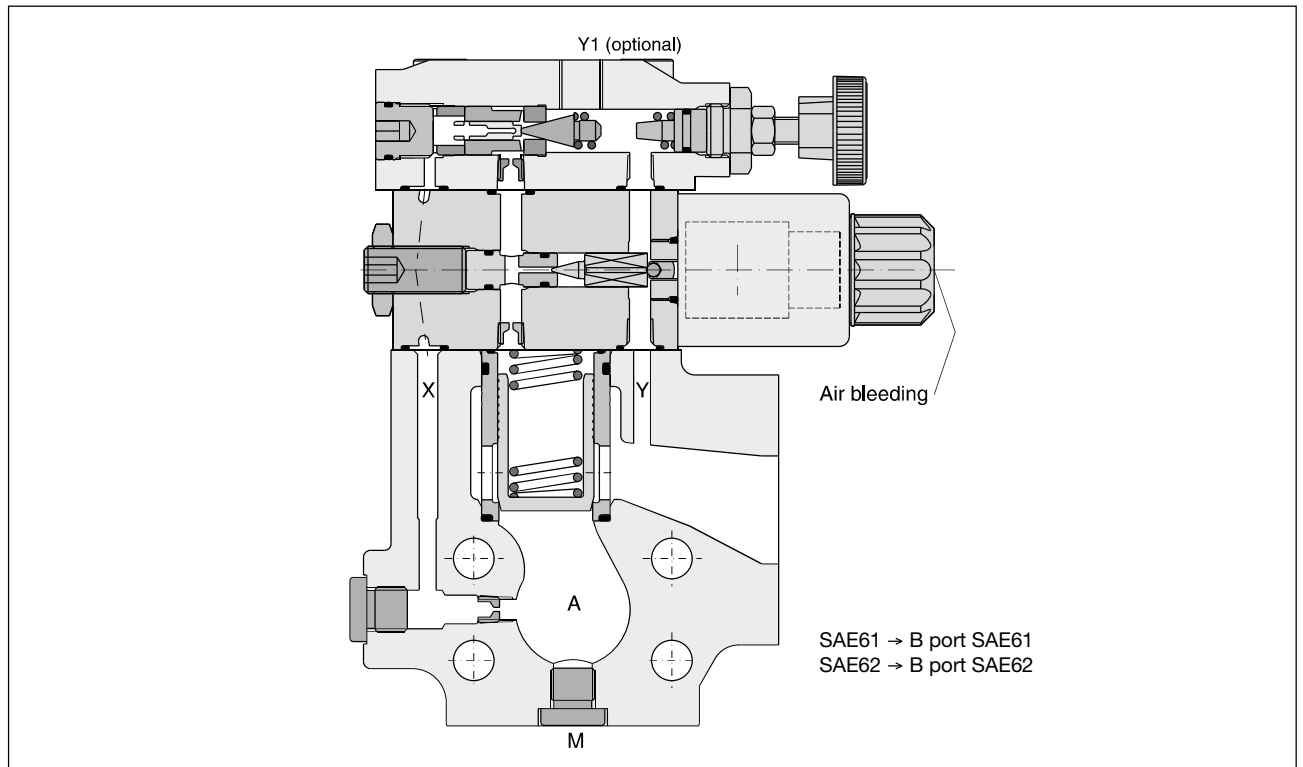
The optimum performance can be achieved in combination with the digital amplifier module PCD00A-400.

**Features**

- Continuous adjustment by proportional solenoid
- R5V with 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

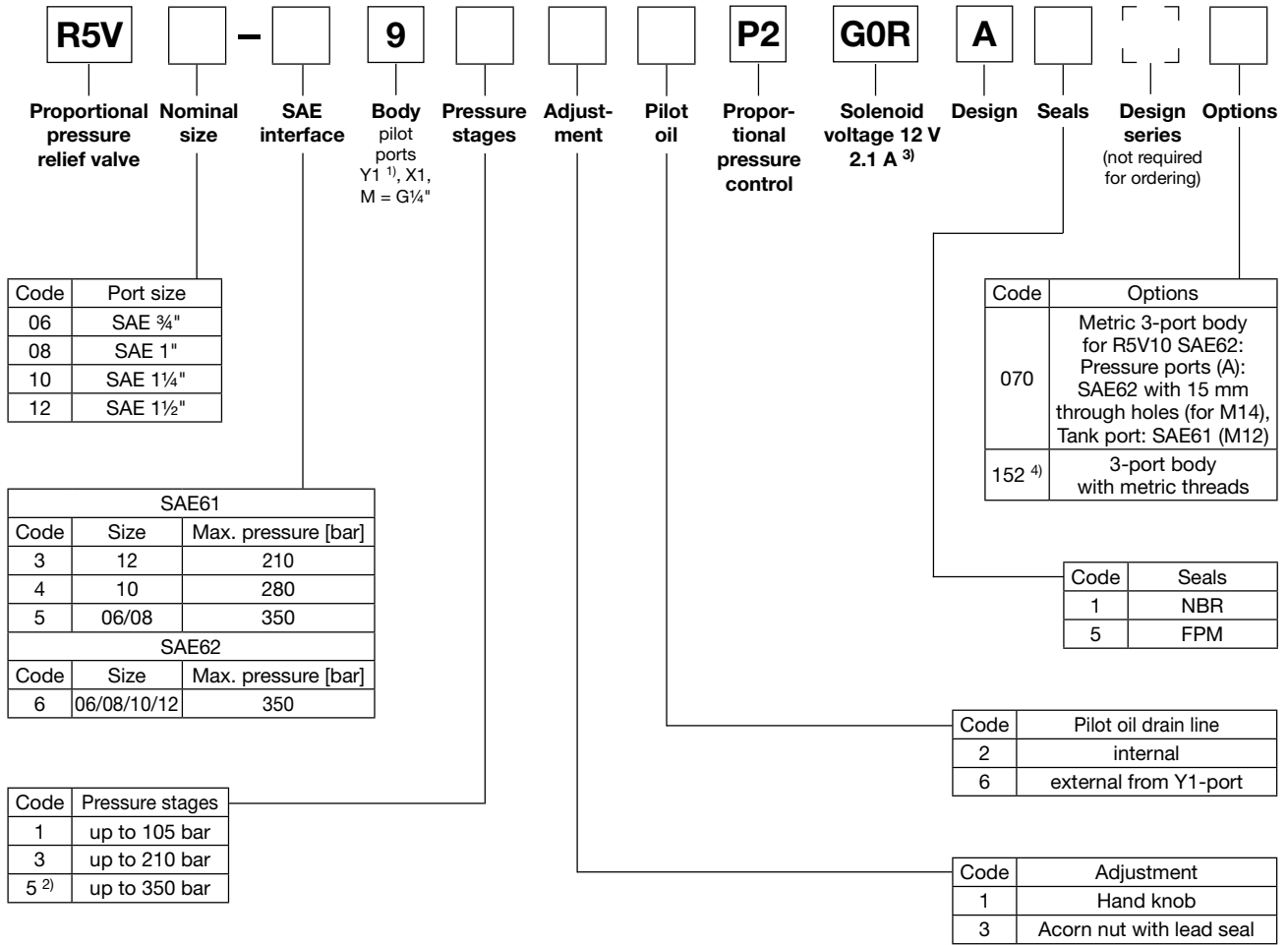


**R5V\*P2**



**Ordering Code**

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

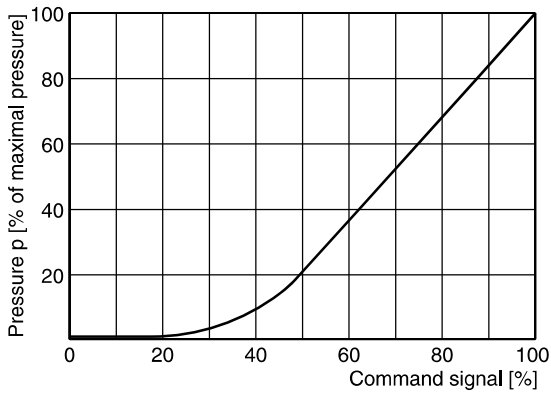


<sup>1)</sup> Y1 only available at external drain (pilot oil code 6).  
<sup>2)</sup> R5V10-495 up to 280 bar.  
<sup>3)</sup> Onboard electronics on request.  
<sup>4)</sup> R5V08 SAE62: Tank port SAE61 (M10).

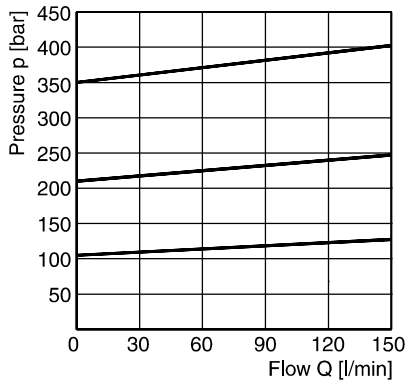
<b>General</b>					
Size		<b>06 (¾")</b>	<b>08 (1")</b>	<b>10 (1¼")</b>	<b>12 (1½")</b>
Mounting		Flanged according to SAE61 (size 12 = SAE62)			
Mounting position		unrestricted			
Ambient temperature	[°C]	-20...+60			
MTTF <sub>D</sub> value	[years]	75			
Weight	[kg]	5.4	6.4	7.0	9.8
<b>Hydraulic</b>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



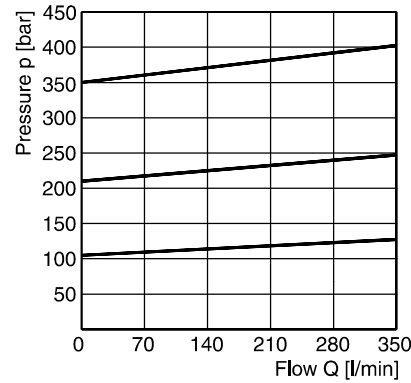
**Signal/pressure curve R5V\*P2**



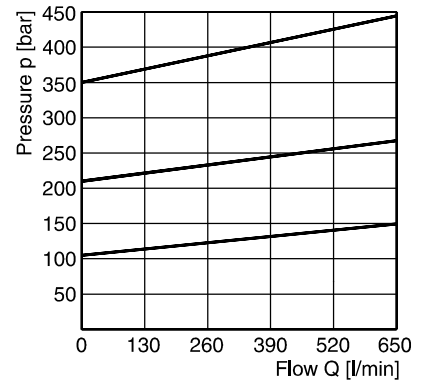
**p/Q performance curve <sup>1)</sup>  
R5V06\*P2**



**R5V08\*P2**

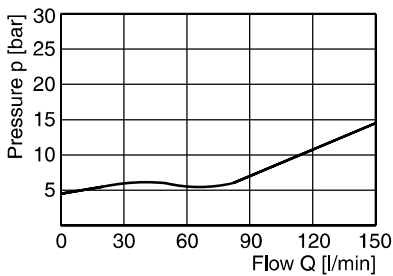


**R5V10\*P2**

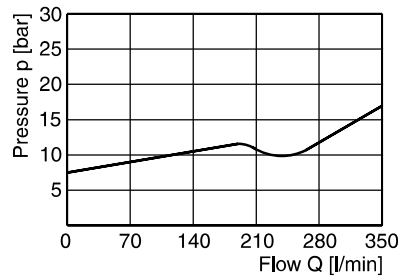


**9**

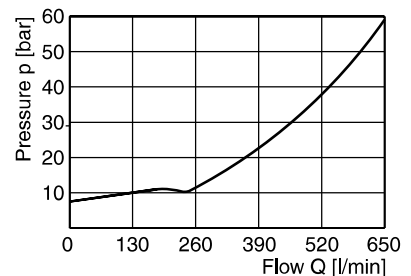
**Minimum pressure curve <sup>1)</sup>  
R5V06\*P2**



**R5V08\*P2**



**R5V10\*P2**



All characteristic curves measured with HLP46 at 50 °C.

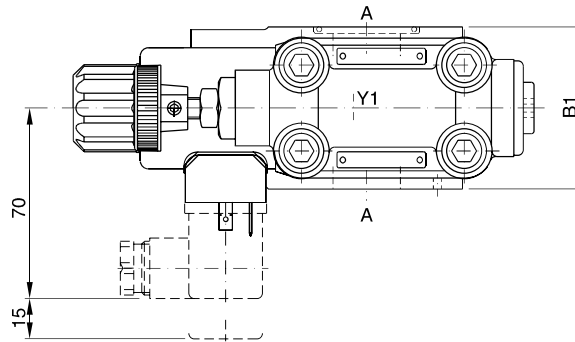
<sup>1)</sup> The performance curves are measured with external drain. For internal drain the tank pressure has to be added to curve.

**Dimensions**

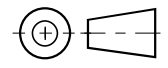
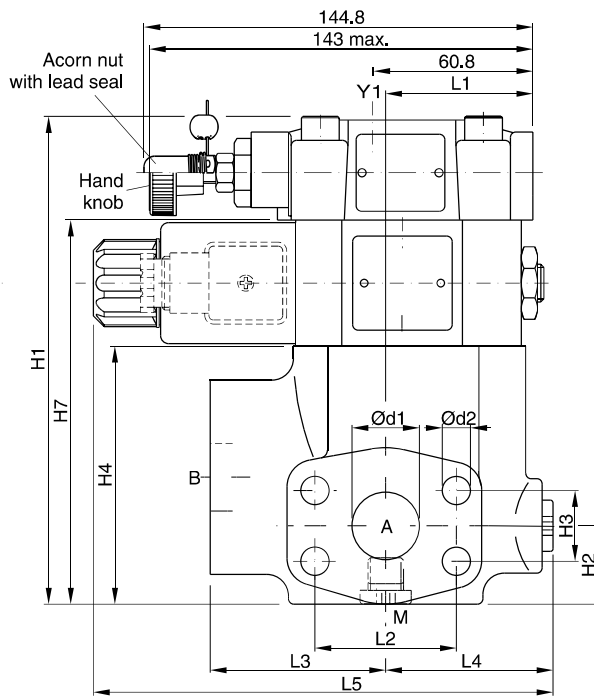
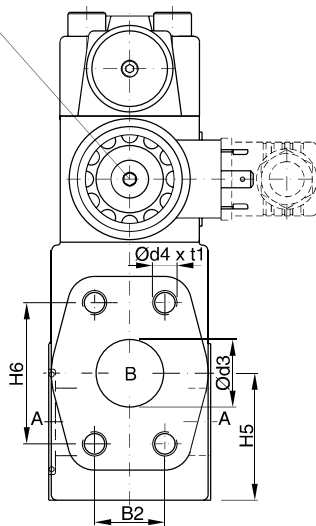
**Pilot Operated Prop. Pressure Relief Valve  
Series R5V\*P2**

**R5V\*P2 3-port**

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



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



**9**

**SAE61**

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

**SAE62**

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

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

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

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