

## D-31.22

**Stacki H rostat, ISO size 5**  
**B pass F ction**

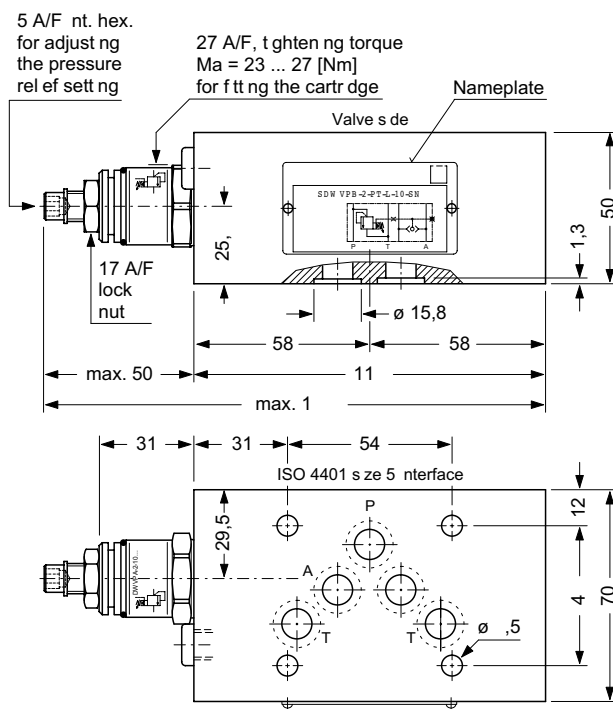
**Two-sta e**

Series SDWVP -2 ... / SDWVPZ-2 ...  
55 l/m n, 315 bar

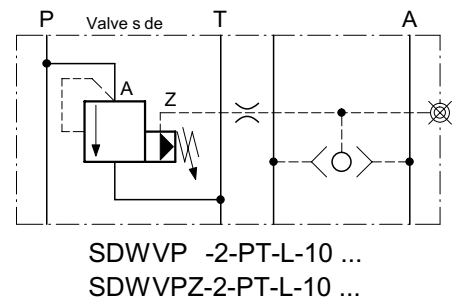
- Interface to ISO 4401 / TOP R35H size 05  
NFPA D05 / DIN 24 340 A10
- Hydrostat with integral pressure relief function
- Hydrostat spring: SDWVPB-2 ... = 8 bar (fixed setting)  
SDWVPZ-2 ... = 5 bar (fixed setting)
- With integral damping orifice in Z line
- With integral shuttle valve between A and B
- Good corrosion protection, stainless steel adjusting screw
- Option: with solenoid controlled unloading function
- Option: with LS signal port on the mounting interface



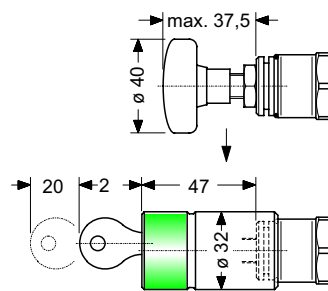
### DIMENSIONS



### SYMBOL



### OPTIONS



Adjuster style **H**  
Hand knob  
(can be fitted by user)

Adjuster style **Z4**  
Lockable hand knob type 2H  
complies with Volkswagen  
Factory Specification BV 1.09  
(factory option only)

### DESCRIPTION

Series SDWVPB ...-10 and SDWVPZ ...-10 stack valves are applied in hydraulic circuits as bypass hydrostats with fixed spring settings options of 8 bar or 5 bar. They feature an integral pressure relief function.

The pressure relief setting should be at least 10% higher than the maximum dynamic load which can occur at the actuator.

The orifice which is essential to ensure oscillation-free operations already incorporated in the Z port of the cartridge.

The integral shuttle valve signals the higher of the load pressures in A or back to the hydrostat, which in turn maintains the pressure in P at a level which is higher still by the amount of the hydrostat spring setting.

In conjunction with an orifice or proportional valve located in the downstream P-to-A or P-to-T lines, the overall result produces the benefits of a 3-way flow control function with integral pressure relief (see the application example on page 3).



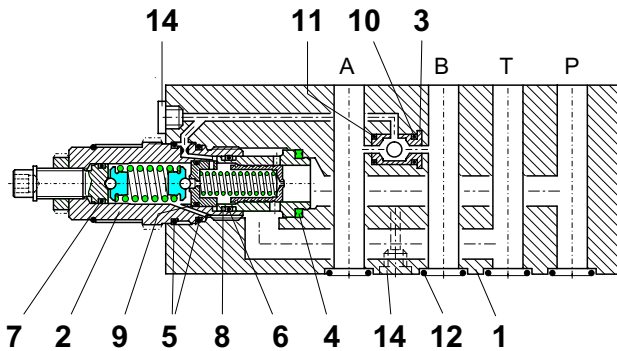
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## SCHEMATIC SECTION

showing the relevant ports



## COMPONENTS / SERVICE PARTS

It.	Qty.	Description	
1	1	Stacking body 50 x 70 x 116 type L-10	
2	--	Hydrostat cartridge type DWVPA-2-10 ...	
3	1	Hydrostat cartridge type DWVPZ-2-10 ...	
3	1	Shuttle valve type RW-2,5	
	1	Seal kit no. DS-268, comprising *):	
4	1	1*) Seal $\varnothing$ 22,1 / 16,5 x 2,5	
5	2	2*) O-ring no. 020 $\varnothing$ 21,95 x 1,78 N90	
6	1	1*) O-ring $\varnothing$ 14,00 x 2,00 N90	
7	1	1*) O-ring no. 012 $\varnothing$ 9,25 x 1,78 N90	
8	2	2*) Backup ring $\varnothing$ 18 / 15,2 x 1,2	
9	1	1*) O-ring no. 013 $\varnothing$ 10,82 x 1,78 N90	
10	--	1*) O-ring $\varnothing$ 5,50 x 1,50 N90	
11	1	1*) O-ring $\varnothing$ 4,00 x 1,50 N90	
12	5	5*) O-ring no. 014 $\varnothing$ 14,12 x 1,78 N90	
13			
14	2	2*) Plug screw G 1/8" ED VSTI	

\*) = part of seal kit no. DS-268  
 ▲ = available as service part

TO ORDER SERVICE PARTS, STATE:

- complete unit model code from the nameplate, including the design number
- data sheet number, including issue date
- part item number from above list
- part description from above list
- quantity required

## INSTALLATION AND SERVICING

MUST BE CARRIED OUT WITH CARE, AND BY QUALIFIED PERSONNEL ONLY.

At installation, be sure to mount the valve with the correct faces contacting the adjacent units and with all interface connections lining up properly.

When changing seals, the new seals should be thoroughly oiled or greased before fitting them to the valve.

Use the correct tightening torques when fitting the cartridge.

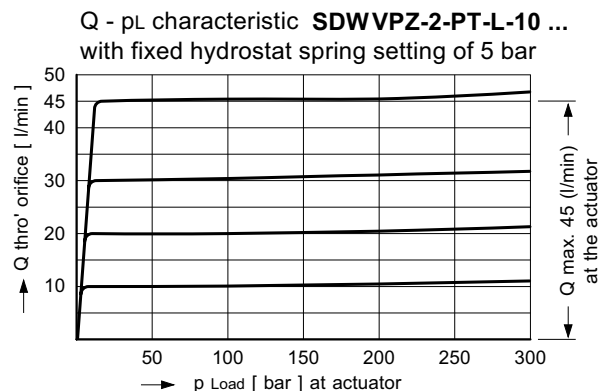
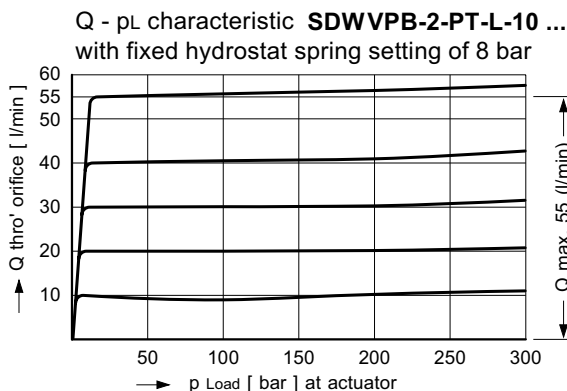
**NOTE** - before removing the cartridge, fully decompress the hydrostat spring by turning back the adjusting screw. If the hydrostat spring is compressed while the cartridge is removed, the cartridge neck will be pushed out of the cartridge head.

## MAIN CHARACTERISTICS

Type	stacking bypass hydrostat
Design	two-stage, seated pilot, sliding main spool type
Mounting method	stack mounting
Size	ISO 4401 size 05 interface nominal 10 mm
Mass	2,95 kg
Mounting attitude	unrestricted
Flow direction	see symbol
Operating pressure	... 315 bar in P, A, B and T

Hydrostat spring	SDWVPB ... = 8 bar fixed setting SDWVPZ ... = 5 bar fixed setting
Fluids	hydraulic oils HL and HLP to DIN 51 524 other fluids by arrangement
Min. fluid cleanliness	18/14 to ISO 4406 / CETOP RP70H 8 ... 9 to NAS 1638
Fluid temperature range	-20° ... +60° C
Viscosity range	10 ... 300 cSt
Flow rate Q max.	... 55 l/min
Flow rate Q max. attainable at the actuator	... 55 l/min with SDWVPB ... ... 45 l/min with SDWVPZ ...

## PERFORMANCE DATA Oil viscosity 33 cSt



## MODEL CODE KEY

Ex.

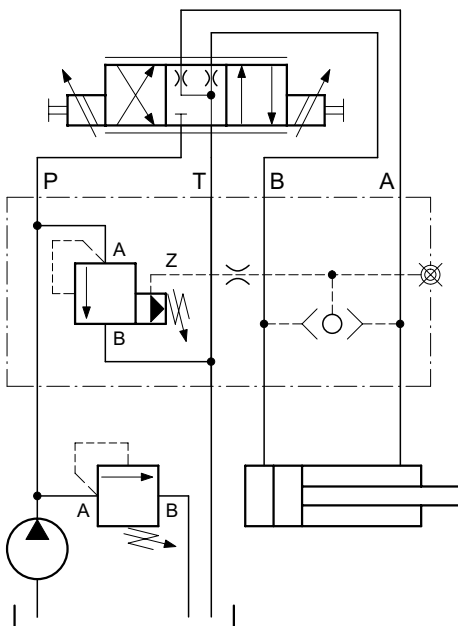
S D W V P B - 2 - PT - L - 10 - S N - 1

S	= stacking valve	
D	= pressure function	
W	= hydrostat	
V	= two-stage	
P	= with cartridge valve	
B	= standard model with 8 bar hydrostat spring	}
C ... Q	= standard model per relevant data sheet	
Y ... R	= special features by arrangement	
Z	= special feature - with 5 bar hydrostat spring	
2	= pressure control type 2	
PT	= function from P to T	
L	= stacking body, code L	
10	= ISO 4401 size 5 interface, nominal 10 mm	
S	= with hex. skt. screw adjuster ( standard )	}
H	= with hand knob adjuster	
Z	= with lockable hand knob adjuster type Z4	
N	= pressure range ... 315 bar	}
M	= pressure range ... 210 bar	
L	= pressure range ... 65 bar	
(blank)	= Nitrile seals ( standard )	}
V	= Viton seals	
S	= special seals by arrangement	
1 ... 9	= design number (omit when ordering new units)	

## RELATED DATA SHEETS

- i - 41     DIN 24 340 A10 interface
- D - 28.22   Hydrostat cartridge, series DWVPA-2-10 ... / DWVPZ-2-10 ...
- R - 32     Shuttle valve, series RW-2,5

## APPLICATION EXAMPLE

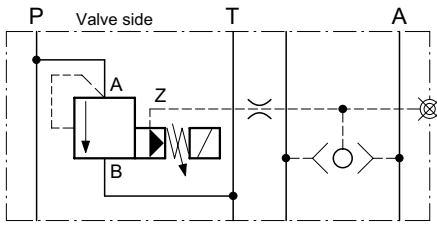


When combined with a downstream orifice or proportional valve, the bypass hydrostat provides a three-way flow control function with integral pressure relief, with its associated benefits.

These are:

- the maximum pressure in P is equal to the varying load pressure in A or B - whichever is the greater - plus the fixed setting of the hydrostat spring. This means that any surplus oil is spilled off to tank at just above the load pressure, rather than at the main relief valve setting.
- the flow rate set by the orifice remains constant even as the load pressure fluctuates up or down
- if the load pressure reaches the value set with the adjusting screw, the hydrostat functions as the primary relief valve
- if the control line Z is vented when the flow control orifice is closed, the hydrostat will unload the main flow circuit to tank.

Option with solenoid controlled unloading

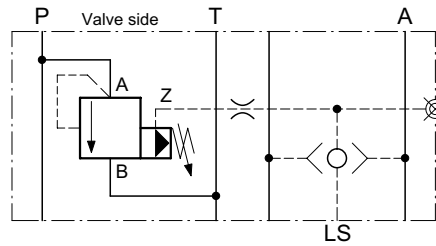


Function:

Very low levels of unloaded recirculating back pressure can be achieved by using a solenoid controlled bypass hydrostat.

The solenoid must be energised whenever any of the actuators is to be operated.

Option with LS signal port



Function:

With this option it is possible to use the manifold block to signal the highest of the various load pressures in one or more stacking assemblies back to port Z of the hydrostat, thus avoiding the use of external pipework.