



VALVOLE DI PRESSIONE

DA/DAW

PILOT OPERATED
UNLOADING RELIEF VALVE

DA/DAW TYPE VALVE IS A PILOT OPERATED PRESSURE SHUT-OFF VALVES. IT IS USED TO CHARGE FLUID TO ACCUMULATOR IN SYSTEM, OR TO UNLOAD THE LOW PRESSURE PUMP IN HIGH/LOW PRESSURE PUMP SYSTEM.

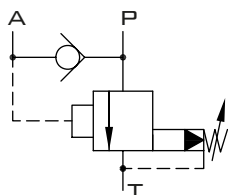


TECHNICAL DATA

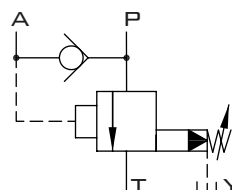
FLUID			MINERAL OIL SUITABLE FOR NBR AND FKM SEAL		
			PHOSPHATE ESTER FOR FKM SEAL		
FLUID TEMPERATURE RANGE		°C	-30 TO +80 (NBR SEAL)		
			-20 TO +80 (FKM SEAL)		
VISCOSITY RANGE		MM ² /S	10 TO 800		
DEGREE OF CONTAMINATION			MAXIMUM PERMISSIBLE DEGREE OF FLUID CONTAMINATION: CLASS 9. NAS 1638 OR 20/18/15, ISO4406		
MAX. OPERATING PRESSURE PORT A		BAR	315		
MAX.SETTING PRESSURE		BAR	50; 100; 200; 315		
SIZE			10	25	32
MAX. FLOW-RATE	VERSION 10%	L/MIN	40	80	120
	VERSION 17%		60	120	240
SOLENOID TECHNICAL DATA			REFER TO VERSION WE6, NORMALLY CLOSE CHOOSES 3WE6A9, NORMALLY OPEN CHOOSE 3WE6B9		
INSTALLATION			OPTIONAL		
SIZE			10	25	32
WEIGHT	DA	KG	APPROX.3.8	APPROX.7.9	APPROX.12.3
	DAW	KG	APPROX.5.3	APPROX.9.4	APPROX.13.8
	DAC	KG	APPROX.1.2 (IF VERSION DAWC, ADD 1.5 KG)		
	DAC30	KG	APPROX.1.5 (IF VERSION DAWC30, ADD 1.5 KG)		

SYMBOLS

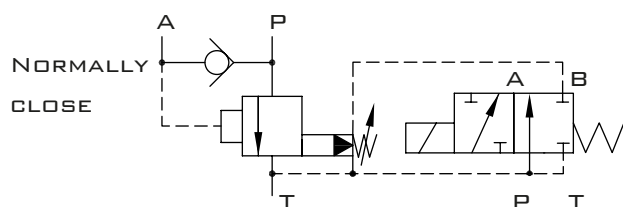
TYPE:DA...- 5XJ/...-



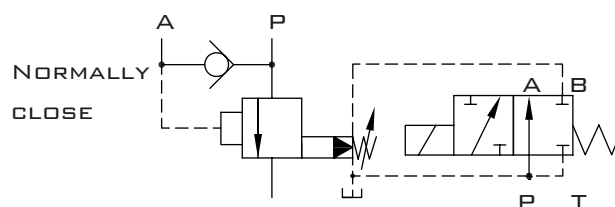
TYPE:DA...- 5XJ/...-..Y..



TYPE:DAW...A...- 5XJ/...



TYPE:DAW...A...- 5XJ/..Y..



TYPE:DAW...B...- 5XJ/...

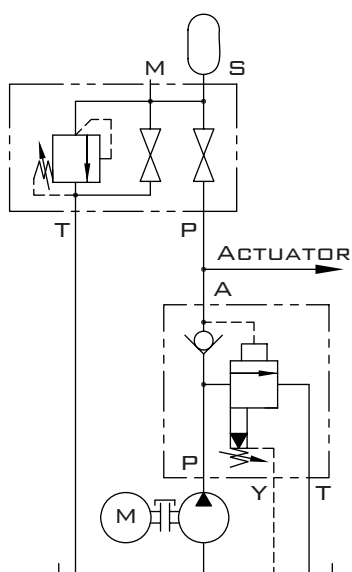


TYPE:DAW...B...- 5XJ/..Y..

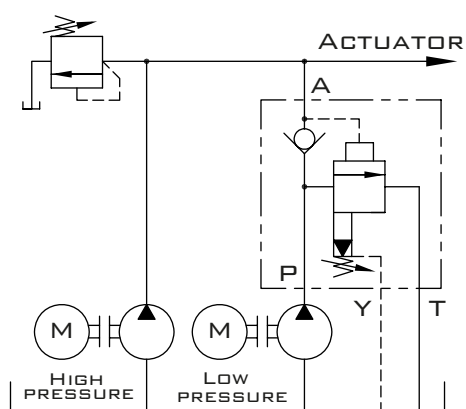


SAMPLE CIRCUIT

HYDRAULIC SYSTEM WITH ACCUMULATOR



HYDRAULIC SYSTEM WITH HIGH AND
LOW PRESSURE PUMPS



FUNCTION AND CONFIGURATION

PRESSURE SHUT-OFF VALVES BASICALLY CONSIST OF THE MAIN VALVE (1) WITH THE SPOOL ASSEMBLY (3), PILOT VALVE (2) WITH PRESSURE ADJUSTMENT ELEMENT AND CHECK VALVE (4). IN VALVES SIZE 10, THE CHECK VALVE (4.1) IS BUILT INTO THE MAIN VALVE (1). IN VALVE SIZES 25 AND 32, THE CHECK VALVE (4.2) IS BUILT INTO A SEPARATE PLATE INSTALLED UNDER THE MAIN VALVE (1).

PRESSURE SHUT-OFF VALVE TYPE DA
•DIVERTING PUMP FLOW FROM P TO A TO P TO T.

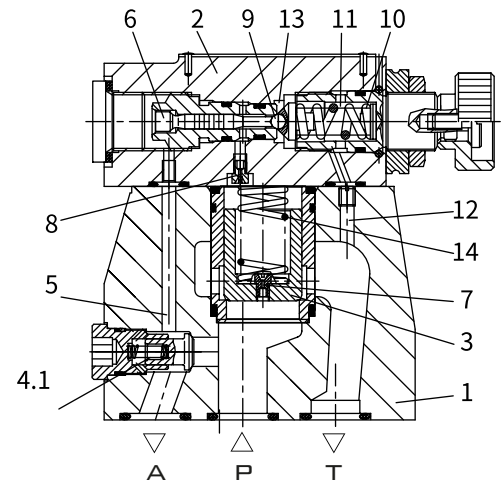
THE PUMP DELIVERS FLOW VIA CHECK VALVE (4) INTO THE HYDRAULIC SYSTEM (P TO A). PRESSURE IN PORT A ACTS ON THE PILOT CONTROL SPOOL (6) VIA PILOT LINE (5). AT THE SAME TIME, PRESSURE IN PORT P PASSES TO THE SPRING LOADED SIDE OF THE MAIN SPOOL (3) AND BALL (9) IN THE PILOT VALVE (2) VIA ORIFICES (7) AND (8). AS SOON AS THE SETTING PRESSURE IN THE HYDRAULIC SYSTEM IS REACHED, THE BALL (9) LIFTS OFF AGAINST SPRING (10). PRESSURE FLUID NOW FLOWS VIA ORIFICES (7) AND (8) INTO SPRING CHAMBER (11). THE FLUID RETURNS TO TANK EITHER INTERNALLY VIA CONTROL LINE (12) IN VALVE TYPE DA..5XJ/... OR EXTERNALLY VIA CONTROL LINE (13) IN VALVE TYPE DA..5XJ/..Y... DUE TO ORIFICES (7) AND (8), PRESSURE DROP IS NOW PRESENTED AT THE MAIN SPOOL (3). THE MAIN SPOOL (3) NOW LIFTS OFF ITS SEAT AND OPENS THE CONNECTION FROM P TO T. THE CHECK VALVE (4) CLOSES THE CONNECTION FROM A TO P. THE BALL VALVE (9) IS KEPT OPENING BY THE SYSTEM PRESSURE VIA PILOT SPOOL (6).

•DIVERTING PUMP FLOW FROM P TO T TO P TO A.

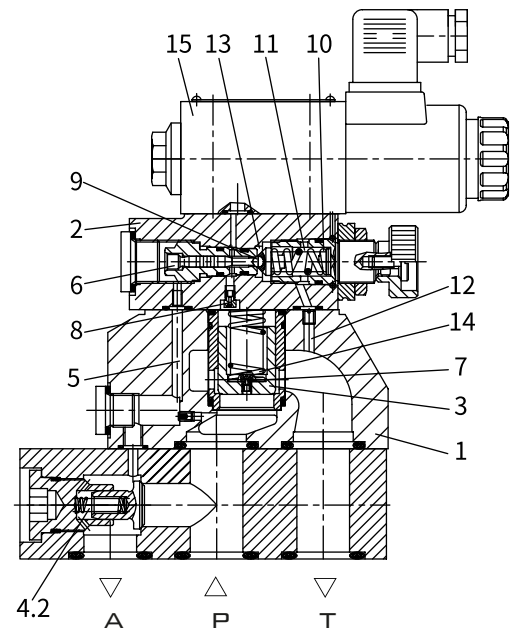
THE AREA OF THE PILOT SPOOL (6) IS 10 % OR OPTIONALLY 17 % GREATER THAN THE EFFECTIVE AREA OF THE BALL (9). THE EFFECTIVE FORCE ON THE PILOT SPOOL (6) IS, THEREFORE, 10 OR 17 % GREATER THAN THE EFFECTIVE FORCE ON THE BALL (9). WHEN THE ACTUATOR PRESSURE FALLS TO THE CUT-OFF PRESSURE WHICH CORRESPONDS TO THE SWITCHING PRESSURE DIFFERENTIAL, SPRING (10) PUSHES BALL (9) ON TO ITS SEAT. PRESSURE IS THEN BUILT UP ON THE SPRING LOADED SIDE OF THE MAIN SPOOL (3). IN CONJUNCTION WITH SPRING (14), THE MAIN SPOOL (3) IS CLOSED THE CONNECTION FROM P TO T IS ISOLATED. THE PUMP FLOW PASSES AGAIN VIA THE CHECK VALVE (4) INTO THE HYDRAULIC SYSTEM (P TO A).

PRESSURE SHUT-OFF VALVE TYPE DAW

THE FUNCTION OF THIS VALVE IS BASICALLY THE SAME AS THE DA VALVE. A SOLENOID DIRECTIONAL VALVE (15) CAN, HOWEVER SWITCH THE SETTING CUT-OFF PRESSURE OF THE PILOT VALVE EITHER FROM P TO A OR FROM P TO T.

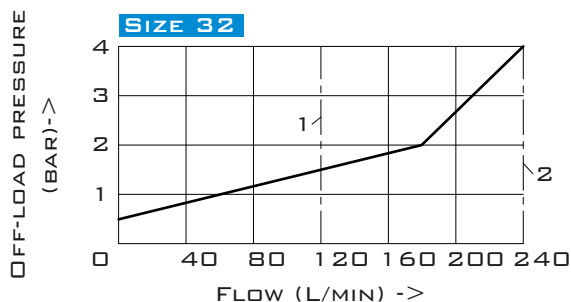
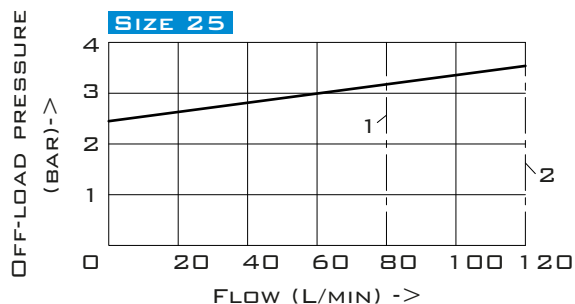
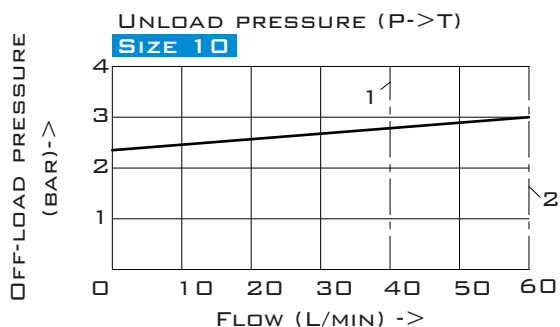


TYPE:DA10-1-5XJ/...



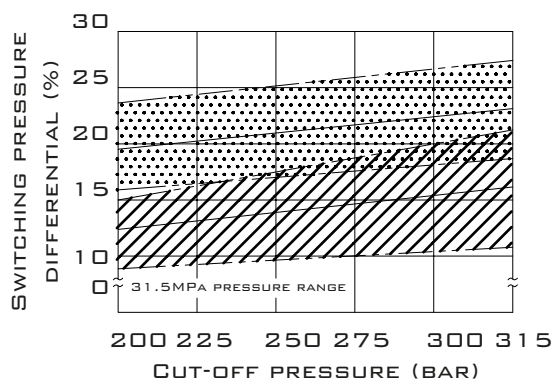
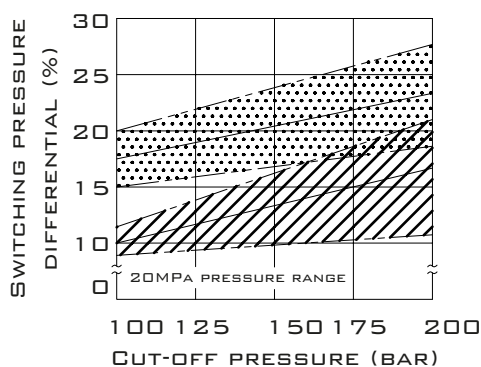
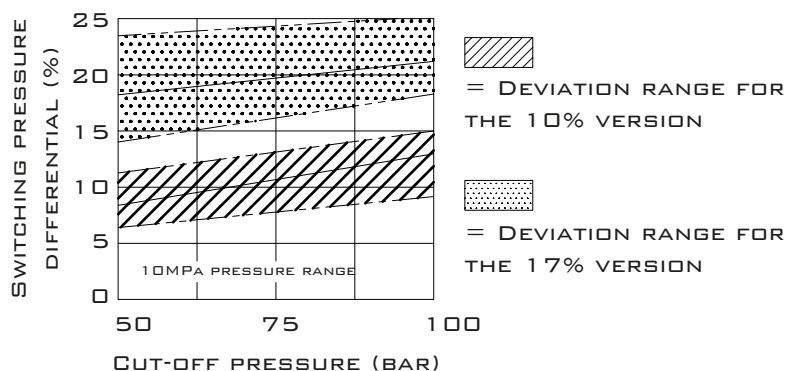
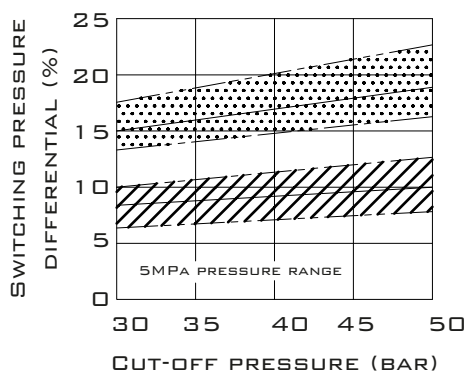
TYPE:DAW20-1-5XJ/...

CHARACTERISTIC CURVES (MEASURED AT $T=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, USING HLP46)



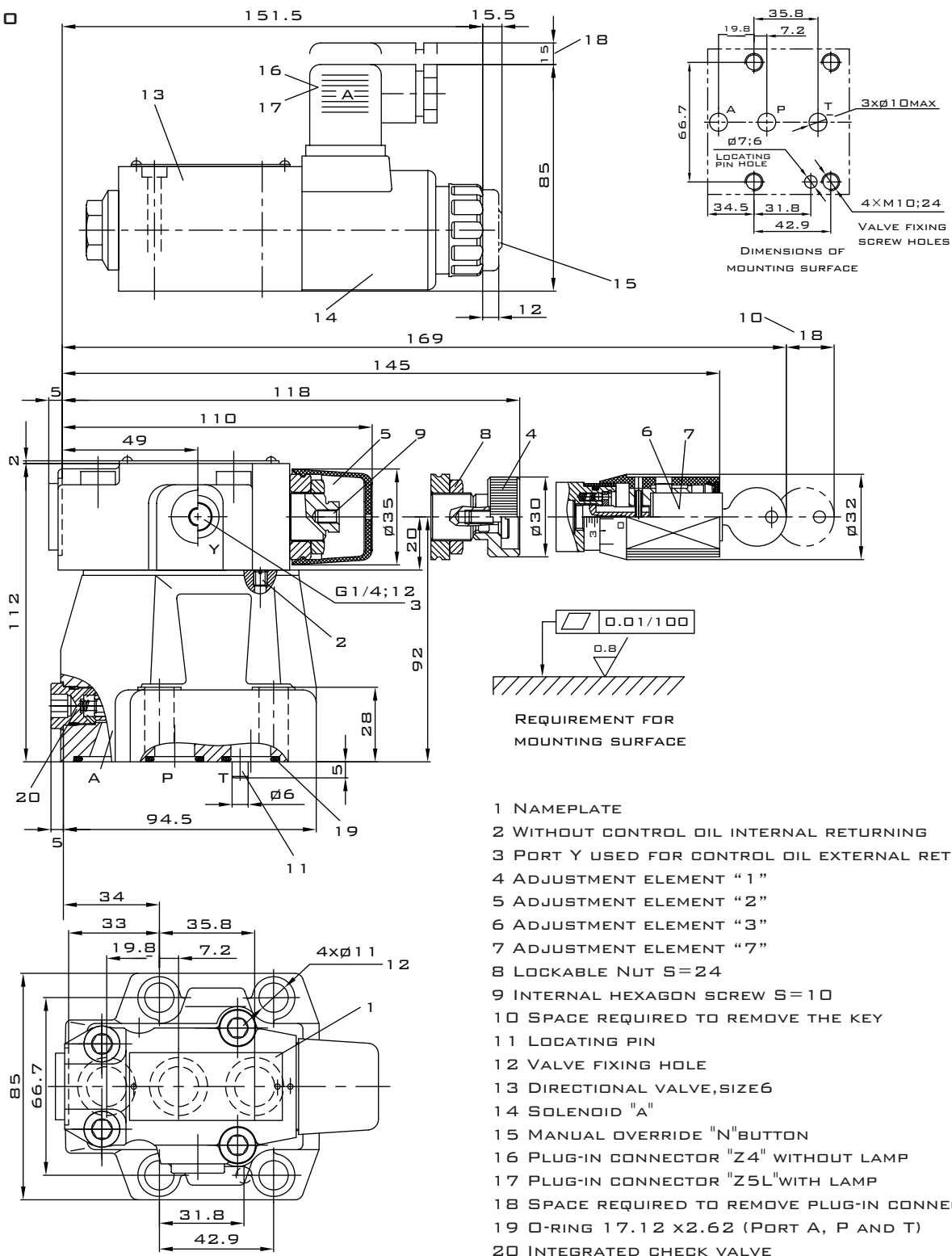
- 1** USED FOR 10% SWITCHING PRESSURE DIFFERENTIAL
2 USED FOR 17% SWITCHING PRESSURE DIFFERENTIAL
THESE CURVES ARE VALID FOR AN OUTLET PRESSURE (T) = ZERO OVER THE FULL FLOW RANGE.

SWITCHING PRESSURE DIFFERENTIAL BASED ON SETTING VALUE (P -> A)



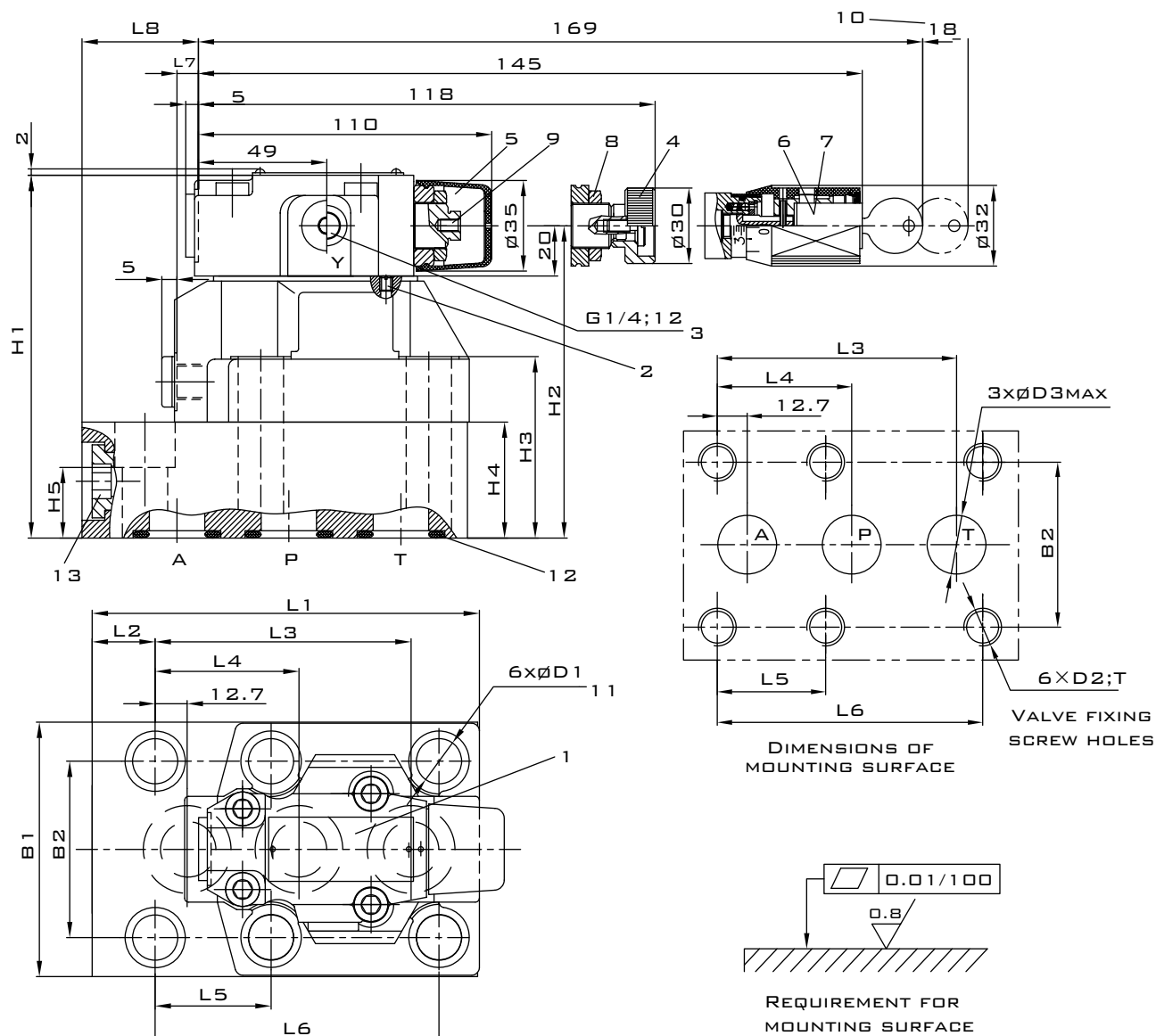
UNIT DIMENSIONS

SIZE 10



UNIT DIMENSIONS

SIZES 25 AND 32



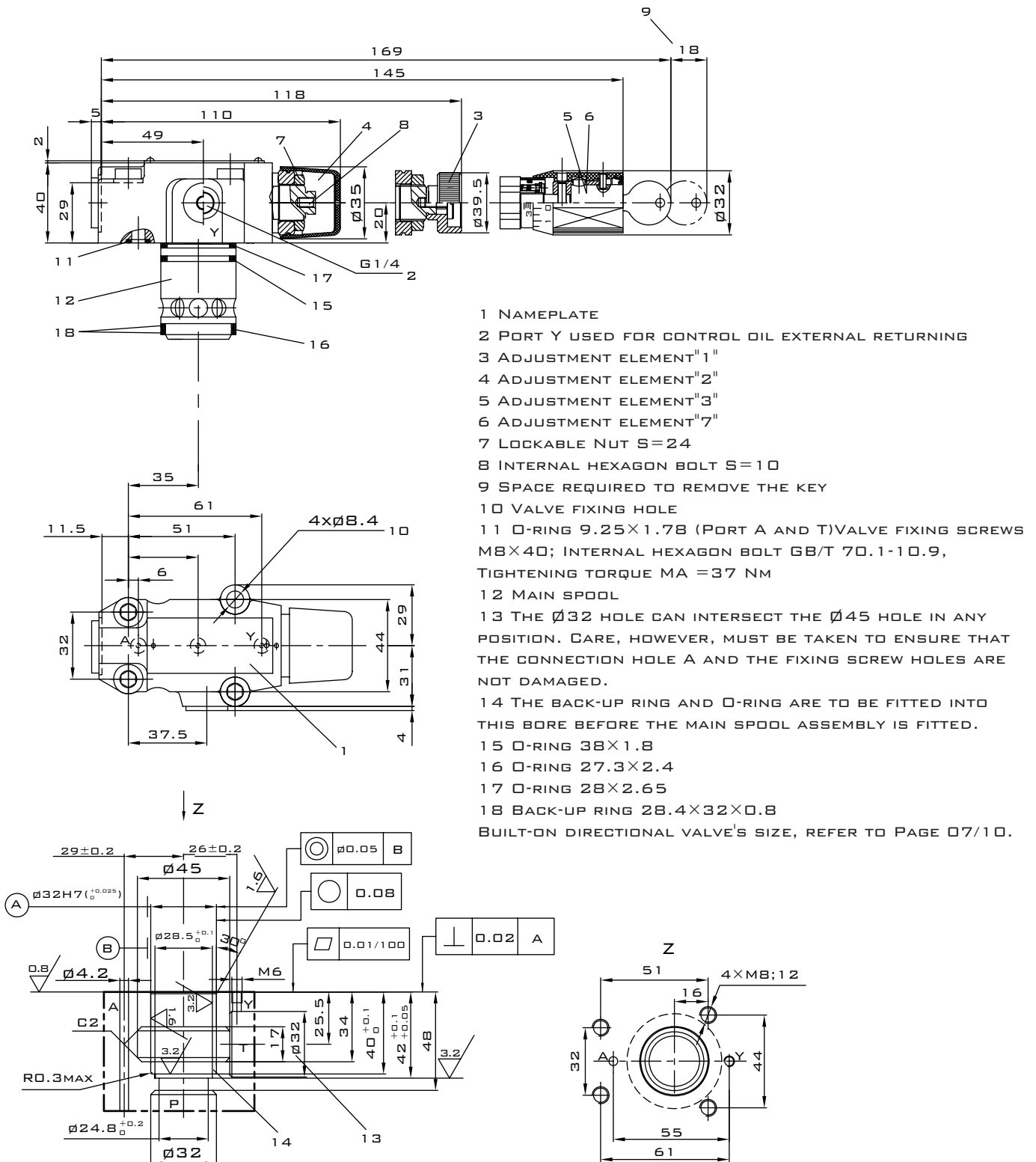
- 1 NAMEPLATE
 2 WITHOUT CONTROL OIL INTERNAL RETURNING
 3 PORT Y USED FOR CONTROL OIL EXTERNAL RETURNING
 4 ADJUSTMENT ELEMENT "1"
 5 ADJUSTMENT ELEMENT "2"
 6 ADJUSTMENT ELEMENT "3"
 7 ADJUSTMENT ELEMENT "7"
 8 LOCKABLE NUT S=24

- 9 INTERNAL HEXAGON BOLT S=10
 10 SPACE REQUIRED TO REMOVE THE KEY
 11 VALVE FIXING HOLE
 12 SIZE 25: O-RING 28.17×3.53
 SIZE 32: O-RING 34.52×3.53
 13 INTEGRATED CHECK VALVE
 BUILT-ON DIRECTIONAL VALVE'S SIZE,
 REFER TO PAGE 07/10.

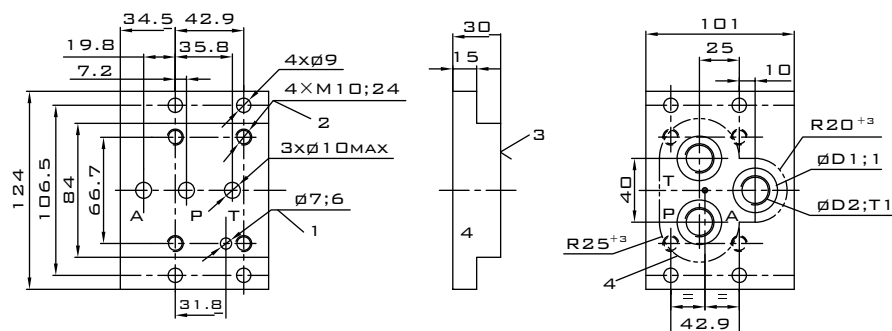
SIZE	L1	L2	L3	L4	L5	L6	L7	L8	H1	H2	H3	H4	H5	B1	B2	D1	D2	T	D3
25	153	25	101.6	57.1	46	112.7	10.5	48.2	144	124	72	46	28	100	70	18	M16	34	22
32	198	41	127	63.5	50.8	139.7	21	63.8	165	145	93	67	45	115	82.5	20	M18	37	30

UNIT DIMENSIONS

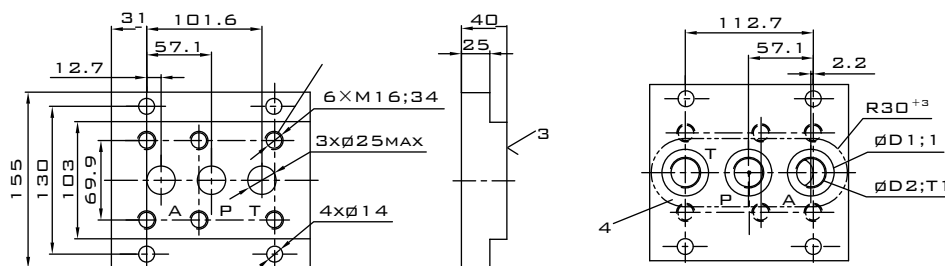
PILOT WITH MAIN SPOOL (DAC30) OR WITHOUT MAIN SPOOL ASSEMBLY (DAC)



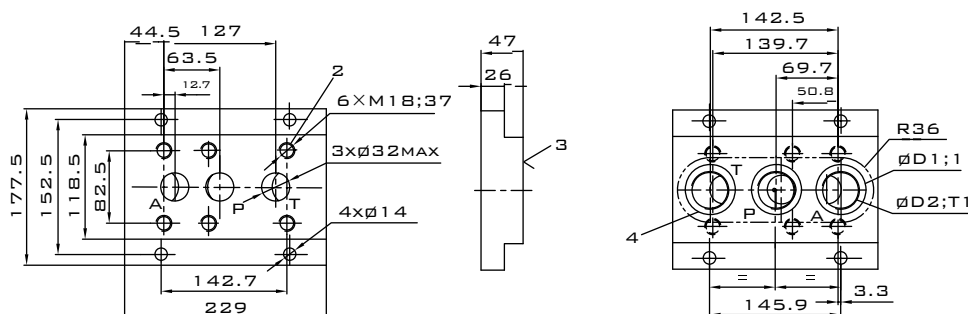
SUBPLATE DIMENSIONS



SIZE	TYPE	D1	D2	T1	VALVE FIXING SCREW	TORQUE	WEIGHT
10	G467/O1	28	G3/8	12	ACCESSORY: 4PCS M10X50 (GB/T70.1-10.9)	75NM	2.0KG
	G467/O2		M18X1.5				
	G468/O1	34	G1/2	14			
	G468/O2		M22X1.5				



SIZE	TYPE	D1	D2	T1	VALVE FIXING SCREW	TORQUE	WEIGHT
25(20)	G469/01	42	G3/4	16	ACCESSORY: 4PCS M16X100 (GB/T70.1-10.9) 2PCS M16X60 (GB/T70.1-10.9)	310NM	6.4KG
	G469/02		M27X2				
	G470/01	47	G1	18			
	G470/02		M33X2				



SIZE	TYPE	D1	D2	T1	VALVE FIXING SCREW	TORQUE	WEIGHT
32	G471/01	56	G1 1/4	20	ACCESSORY: 4PCS M18X120 (GB/T70.1-10.9) 2PCS M18X80 (GB/T70.1-10.9)	430NM	10.6KG
	G471/02		M42X2				
	G472/01	61	G1 1/2	22			
	G472/02		M48X2				

1 LOCATING PIN HOLE 2 VALVE FIXING HOLES 3 VALVE MOUNTING SURFACE 4 VALVE PANEL CUT-OUT



VALVOLE DI PRESSIONE

DA/DAW

PILOT OPERATED
UNLOADING RELIEF VALVE

ORDER CODE

DA				-		-	5XJ	/								*
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WITHOUT DIRECTIONAL
VALVE = NO CODE

WITH DIRECTIONAL
VALVE = W

PILOT OPERATED
VALVE = NO CODE

PILOT VALVE WITHOUT MAIN
SPOOL ASSEMBLY = C
(NO MARK FOR NOMINAL SIZE)

PILOT VALVE WITH MAIN
SPOOL ASSEMBLY = C
(MARKED WITH SIZE 30)

NOMINAL SIZE 10 = 10
NOMINAL SIZE 25 = 20
NOMINAL SIZE 32 = 30

FOR DAW:
NORMALLY CLOSED
(LOAD WHEN BREAKAWAY,
UNLOAD WHEN ELECTRIFIED) = A

NORMALLY OPEN
(UNLOAD WHEN BREAKAWAY,
LOAD WHEN ELECTRIFIED) = B

ROTARY KNOB = 1
ADJUSTABLE BOLT
WITH PROTECTIVE C = 2
LOCKABLE ROTARY KNOB
WITH SCALE = 3
ROTARY KNOB WITH SCALE = 7

SERIES 50J TO 59J = 5XJ
(50J TO 59J SERIES :UNCHANGED
INSTALLATION AND CONNECTION
DIMENSIONS)

FURTHER DETAILS
IN CLEAR TEXT

NO CODE= NBR SEALS
V = FKM SEALS

ONLY DAW:

Z4=ELECTRICAL PLUG
WITHOUT LAMP

Z5L= ELECTRICAL PLUG
WITH LAMP

ONLY DAW:

N= WITH HAND OVERRIDE

ONLY DAW:

G24 = 24V DC

W220-50 = 220V AC, 50Hz

W120-60 = 120V AC, 60Hz

W220R = 220V AC RECTIFICATION

(OTHER VOLTAGE REFER TO TYPE WE6)

ONLY DAW:

6E= WITH HIGH PERFORMANCE
DIRECTIONAL SPOOL VALVE

NO CODE= INTERNAL PILOT OIL DRAIN

Y = EXTERNAL PILOT OIL DRAIN

SWITCHING PRESSURE DIFFERENTIAL (P -> A)

10 = IN THE MID RANGE 10 %

17 = IN THE MID RANGE 17 %

5 = PRESSURE ADJUSTABLE 0~ 50BAR

10 = PRESSURE ADJUSTABLE 50~100BAR

20 = PRESSURE ADJUSTABLE 100~200BAR