PRODUCT OVERVIEW

INDUSTRIAL HYDRAULICS

DUPLOMATIC
MOTION SOLUTIONS

ABOUT THIS GUIDE

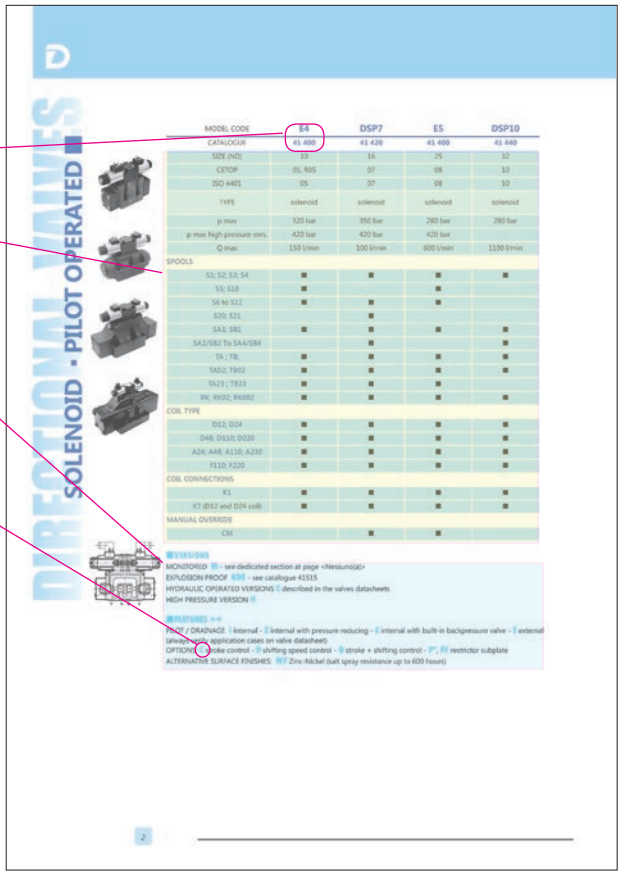
This guide is intended for a smart overview of our industrial hydraulics and let you find quickly the product you need.

data sheet ref.

main characteristics, available versions and options are shown together for quick comparison.

A brief description of the features follows.

The highlighted letter that precedes the description is the same letter that identifies the option in the identification code, in the data sheet, for an easy reference.



Not all the options are available for all versions: always verify technical data, details and availability in the technical data sheet.

You can find data sheets always up-to-date in various languages by scanning this QR code with your smartphone

or on our webpages at:

www.duplomatic.com/products

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INDUSTRIAL

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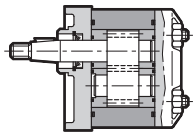
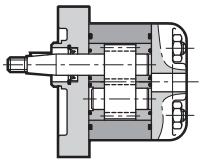


MODEL CODE	GP* - external gear			
CATALOGUE	11 100			
PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
GP1				
0013	1,3	2,0	250	6000
0020	2,0	3,0		
0027	2,7	4,0		5000
0034	3,4	5,1		
0041	4,1	6,1		4000
0051	5,1	7,6	230	
0061	6,1	9,1		3800
0074	7,4	11,1	200	3200
0091	9,1	13,6	180	2600
GP2				
0070	7,0	10,5	250	4000
0095	9,5	14,2		3000
0113	11,3	16,9	230	4000
0140	14,0	21,0		
0158	15,8	23,7	210	
0178	17,8	26,7		3600
0208	20,8	31,2	180	3200
0234	23,4	35,1		3000
0279	27,9	41,8	170	2500
GP3				
0207	20,7	31,0	230	3500
0225	22,5	33,7		
0264	26,4	39,6		3000
0337	33,7	50,5		
0394	39,4	59,1	220	
0427	42,7	64,0	210	2800
0514	51,4	77,1	200	2400
0600	60,0	90,0	190	2800
0696	69,6	104,4	170	2500
0776	77,6	116,4	160	2300
0876	87,6	131,4	140	2000

FEATURES ++

ROTATION: **R** clockwise - **L** counterclockwise - **D** reversible (for single pumps only)
MOUNTING FLANGE: **9** rectangular shape 4 holes - **0** SAE J744 2 holes
SHAFT END: **7** tapered keyed - **5** cylindrical keyed - **0** cylindrical keyed SAE-J744 - **1** SAE-J744 splined
HYDRAULIC CONNECTIONS: **F** flanged - **B** BSP threaded ports - **U** UNF threaded ports

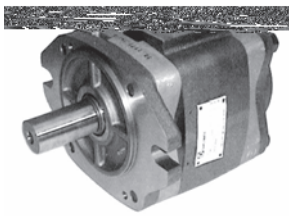
OTHER: see catalogue for **F**/**M**/**R** through shaft - **H** high pressure

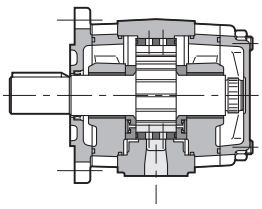


MODEL CODE	1P - external gear			
CATALOGUE	11 110			
PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
1P				
1,6	1,1	1,6	230	6000
2	1,3	2,0		
2,5	1,6	2,4		
3,3	2,1	3,2		
4,2	2,7	4,0		
5	3,2	4,8	210	5000
5,8	3,7	5,6		4500
6,7	4,2	6,4		4000
7,5	4,8	7,2	190	3500
9,2	5,8	8,7		3000
11,5	8,0	11,9	160	2100

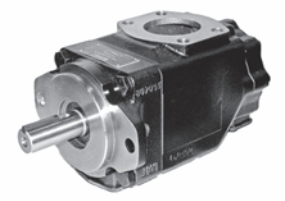
FEATURES ++

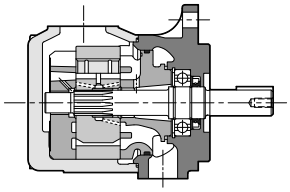
ROTATION: clockwise. MOUNTING FLANGE: rectangular shape 4 holes. SHAFT END: tapered keyed
HYDRAULIC CONNECTIONS: BSP threaded





MODEL CODE	IGP* - internal gear			
CATALOGUE	12 100			
PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
IGP3				
003	3.6	5.4	330	3600
005	5.2	7.8		
006	6.4	9.6		
008	8.2	12.3		
010	10.2	15.3		
IGP4				
013	13.3	19.9	330	3600
016	15.8	23.7		3400
020	20.7	31,0		3200
025	25.4	38,1	300	3000
032	32.6	48,9	250	2800
IGP5				
032	33.1	49,6	315	3000
040	41,0	61,5		2800
050	50,3	75,4	280	2500
064	64,9	97,3	230	2200
IGP6				
064	64,1	96,1	300	2600
080	80,7	121,0	280	2400
100	101,3	151,9	250	2100
125	126,2	189,3	210	1800





MODEL CODE **FV6 - fixed displacement**

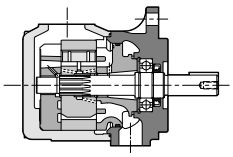
CATALOGUE **13 110**

PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
FV6C				
03	10,8	16,2	240	2800
05	17,2	25,8		
06	21,3	31,9		
08	26,4	39,6		
10	34,1	51,1		
12	37,1	55,6		
14	46,0	69,0		
17	58,3	87,4		
20	63,8	95,7		
22	70,3	105,4		
25	79,3	118,9		2500
28	88,8	133,2	160	
31	100,0	150,0		
FV6D				
14	47,6	71,4	210	2500
17	58,2	87,3		
20	66,0	99,0		
24	79,5	119,3		
28	89,7	134,6		
31	98,3	147,5		
35	111,0	166,5		
38	120,3	180,5		
42	136,0	204,0		2200
45	145,7	218,6		
50	158,0	237,0	160	
FV6E				
42	132,3	198,5	210	2200
45	142,4	213,6		
50	158,5	237,8		
52	164,8	247,2		
57	179,8	269,6		
62	196,7	295,1		
66	213,3	320,0		
72	227,1	340,0		
85	269,0	403,0	80	2000

FEATURES ++

PUMP SIZE: **C** from 10.8 to 100 cm³/rev - **D** from 47.6 to 158 cm³/rev - **E** from 132.3 to 269 cm³/rev
ROTATION: **R** clockwise - **L** counterclockwise
MOUNTING FLANGE: SAE B J744, SAE C J744
SHAFT END: cylindrical keyed SAE, non-SAE, involute spline SAE, non-SAE. See catalogue.
HYDRAULIC CONNECTIONS: SAE J518 flanged.

FV67 DOUBLE AND TRIPLE pumps available.



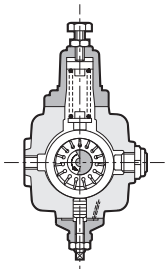
MODEL CODE **FV7 - fixed displacement**

CATALOGUE **13 120**

PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
FV7B				
02	5,8	8,7	320	3600
03	9,8	14,7		
04	12,8	19,2		
05	15,9	23,9		
06	19,8	29,7		
07	22,5	33,8		
08	24,9	37,4		
10	31,8	47,7		
12	41,0	61,5	275	3000
15	50,0	75,0	240	
FV7D				
14	44,0	66,0	250	3000
17	55,0	82,5		
20	66,0	99,0		
22	70,3	105,5		
24	81,1	121,7		
28	90,0	135,0		
31	99,2	148,8		
35	113,4	170,1		2800
38	120,6	180,9		
42	137,5	206,3	230	2500

FEATURES ++

PUMP SIZE: **B** from 5.8 to 50 cm³/rev - **D** from 44 to 137.5 cm³/rev
ROTATION: **R** clockwise - **L** counterclockwise; MOUNTING FLANGE: SAE B J744, SAE C J744, ISO 3019-2
SHAFT END: cylindrical keyed SAE, non SAE, ISO; involute spline SAE. See catalogue.
HYDRAULIC CONNECTIONS: SAE J518 flanged.



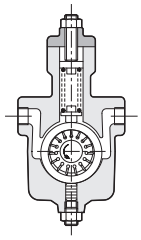
MODEL CODE **PVD - direct variable displacement**

CATALOGUE **14 100**

PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1450 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
PVD				
25	17,9	25,0	120	1800
30	22,8	30,0	100	
37	28,1	36,0		
45	34,5	45,6		
48	34,5	47,5		
56	42,8	58,0		
72	53,1	72,5		
90	69,0	91,3	80	
115	86,2	116,0		
145	105,5	145,0		

FEATURES ++

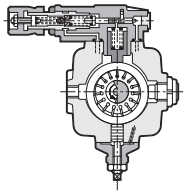
ROTATION: clockwise. MOUNTING: **K** rectangular shape 4 holes w. conical keyed shaft end.
H ISO 3019/2 w. cylindrical keyed shaft end. HYDRAULIC CONNECTIONS: BSP threaded/SAE flange
PRESSURE COMPENSATOR: mechanical, direct
OTHER: **Q** flow adjuster - see catalogue for **MULTIPLE PUMPS**



MODEL CODE	PVE - direct variable displacement			
CATALOGUE	14 110			
PUMP SIZE	DISPLACEMENT	MAX FLOW RATE at 1800 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
PVE				
006	6,6	12,0	70	1800
011	11,1	20,0		
016	16,6	30,0		
023	22,2	40,0		

FEATURES ++

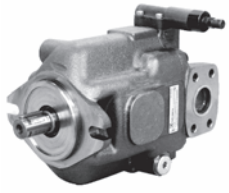
ROTATION: clockwise. MOUNTING FLANGE: **9** rectangular shape 4 holes - **0** SAE J744 2 holes
SHAFT END: cylindrical keyed SAE-J744. HYDRAULIC CONNECTIONS: BSP threaded
PRESSURE COMPENSATOR: mechanical, direct. **PC2** up to 35 bar - **PC3** up to 70 bar

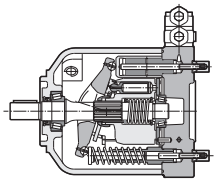


MODEL CODE	PVA - piloted variable displacement			
CATALOGUE	14 200			
PUMP SIZE	DISPLACEMENT	FLOW RATE at 1450 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
PVA				
22	16	23,2	160	1800
28	20	29,0		
35	25	36,2		
45	31,5	45,6		
56	40	58,0	160	1800
72	50	72,5		
90	63	91,3	150	
115	80	116,0		
145	100	145,0		

FEATURES ++

ROTATION: clockwise. MOUNTING FLANGE: ISO 3019/2 4 holes
SHAFT END: cylindrical keyed. HYDRAULIC CONNECTIONS: BSP threaded / SAE flanged
PRESSURE COMPENSATOR: hydraulic, piloted.
OTHER: **Q** flow adjuster - **M** Dual pressure value selection device - see catalogue for **MULTIPLE PUMPS**





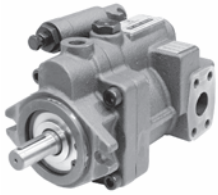
MODEL CODE	VPPM - medium pressures			
CATALOGUE	16 100			
PUMP SIZE	MAX DISPLACEMENT	FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm3/rev]	[l/min]	[bar]	[rpm]
VPPM				
029	29	43,5	280	3000
046	46	69,0		2600
073	73	109,5		2200
087	87	131,9	250	1850

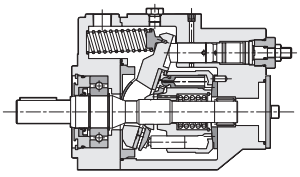
FEATURES ++

ROTATION: **R** clockwise - **L** counterclockwise
MOUNTING FLANGE: **5** ISO 3019/2 - **0** SAE J744 2 holes
SHAFT END: **5** cylindrical keyed ISO 3019-2 - **0** cylindrical keyed SAE J744 - **1** SAE J744 splined
HYDRAULIC CONNECTIONS: **S** SAE flange w. metric bolts suction/delivery, drainage BSP threaded
T SAE flange w. UNF bolts suction/delivery, drainage UNF threaded

CONTROLS: **PC** pressure - **PCR** remote pressure control - **PCX** with external pressure control devices - **PQC** pressure and flow rate -**PQCE5** integrated proportional flow and pressure control **PQNC** power - **PQNCE5** power, with integrated proportional flow and pressure control

OTHER: see catalogue for **MULTIPLE PUMPS**



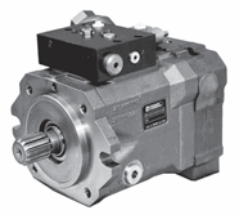


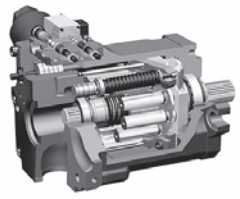
MODEL CODE	VPPL - low-medium pressures			
CATALOGUE	16 200			
PUMP SIZE	MAX DISPLACEMENT	FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
VPPL				
008	8	12	210	2000
016	16	24		
022	22	33		
036	36	54		
046	46	69		
070	70	105	280	1800
100	100	150		

FEATURES ++

ROTATION: clockwise
MOUNTING FLANGE: **0** SAE-2 (VPPL 008, 016, 022, 036, 046) - **1** SAE-4 (VPPL 070 , 100)
SHAFT END: cylindrical keyed SAE-J744
HYDRAULIC CONNECTIONS: **S** SAE flange w. metric bolts suction/delivery, drainage BSP threaded
B BSP theaded ports (VPPL-008)

CONTROLS: **PC5**, **PC6** pressure - **PCR** remote pressure control - **PCX5**, **PCX6** with external pressure control devices - **PQC** pressure and flow rate





MODEL CODE **HPR - high pressures**

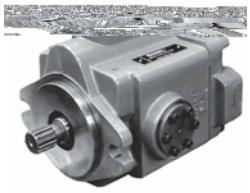
CATALOGUE **16 300**

PUMP SIZE	MAX DISPLACEMENT	FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
HPR				
055	55,0	82,5	420	2700
075	75,9	113,9		2500
105	105,0	157,5		2500
135	135,7	203,5		2350
165	165,6	248,2		2200
210	210,1	315,5		2100
280	281,9	422,9		2000

FEATURES ++

ROTATION: **R** clockwise
MOUNTING FLANGE: SAE J744 2 holes; SAE J744 4 holes for HPR210 and 280
SHAFT END: SAE J744 splined - Cylindrical keyed upon request
HYDRAULIC CONNECTIONS: flange fittings - SAE 3000 suction / SAE 6000 pressure
POWER TAKE-OFF: **A00** SAE A flange, no shaft coupling (single pump, std).
See catalogue for power take-off / through drive shaft available couplings.

CONTROLS: **LP6** load sensing w. pressure cut-off - **TL2** load sensing w. power control (HPR105, 135, 210 and 280 only) - **ET6** continuous displacement control w.power limiter and pressure cut-off (HPR105, 135, 210 and 280 only) **D12K2** or **D24K2** available coils.



MODEL CODE **AP1V - medium-high pressures**

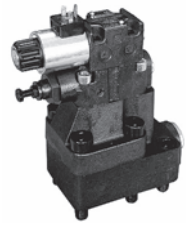
CATALOGUE **16 500**

PUMP SIZE	MAX DISPLACEMENT	FLOW RATE at 1500 rpm	MAX OPERATING PRESSURE	MAX ROTATION SPEED
	[cm³/rev]	[l/min]	[bar]	[rpm]
AP1V				
015	14,9	22,4	280	3000
021	20,9	31,6		
035	35,3	52,9		
045	45,2	67,8		
065	65,9	98,9		

FEATURES ++

ROTATION: **R** clockwise - **L** counterclockwise
MOUNTING FLANGE: SAE J744 2 holes
SHAFT END: **0** cylindrical keyed SAE J744 - **1** SAE J744 splined
HYDRAULIC CONNECTIONS: **R** SAE flanges on rear - **S** SAE flanges on side;
for A1PV-015 only: **R** BSP ports on rear - **S** BSP ports on side
POWER TAKE-OFF: **000** no shaft coupling (single pump, std). PTO available for pumps AP1V-035, 045 and 065 with side ports only. See catalogue.

CONTROLS: **PC** pressure - **PCR** remote pressure control - **PQC** pressure and flow rate



MODEL CODE	MRQA MRQA/C	RQR3-P	RQRM3-P	RQR5-P RQA5-P	RQRM5-P RQAM5-P	RQR7-P RQA7-P	RQRM7-P RQAM7-P
CATALOGUE	21 400	21 410	21 420	21 410	21 420	21 410	21 420
SIZE (ND)	6	10		25		32	
SIZE ISO 6264	03	06		08		10	
TYPE	unloading	unloading	unloading + venting	unloading	unloading + venting	unloading	unloading + venting
p max	350 bar						
Q max	40 l/min	200 l/min		400 l/min		500 l/min	
PRESSURE ADJ. RANGE							
up to 70 bar	■	■	■	■	■	■	■
up to 210 bar	■	■	■	■	■	■	■
up to 280 bar	■	■	■	■	■	■	■

■ VERSIONS

R remote piloting - **A** or **/C** embedded check valve (w.subplate - non ISO mounting)

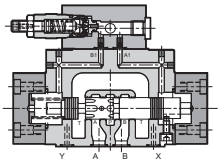
■ FEATURES++

PUMP SWITCH: **1** 75% of set value - **2** 63% of set value (no MRQA)
OPTIONS: **I** internal drainage (RQ*M-P only) - **M** adjustment knob - **CM** boot (solenoid op. only)
COILS: power supply **DC** 12V, 24V, 48V, 110V, 220V; **AC** 12V, 24V, 48V, 110V, 220V; F110, F220 - DIN 43650 connector

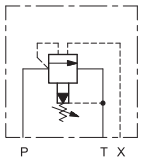
MODEL CODE	Z3-P	Z5-P	ZC2	DZC5 DZC5R	DZC7	DZC8
CATALOGUE	22 300	22 300	24 300	24 310	24 310	24 310
SIZE (ND)			6	10	16	25
SIZE (ISO)	5781-06	5781-08	5781-03	P05, 4401-05	4401-07	4401-08
TYPE	reducing 2-way	reducing 2-way	reducing + relieving	reducing + relieving	reducing + relieving	reducing + relieving
p max	250 bar		350 bar			
Q max	40 l/min	110 l/min	25 l/min	150 l/min	300 l/min	500 l/min
PRESSURE ADJ. RANGE						
up to 70 bar			■	■	■	■
up to 140 bar			■	■	■	■
up to 210 bar	■	■	■	■	■	■

■ FEATURES++

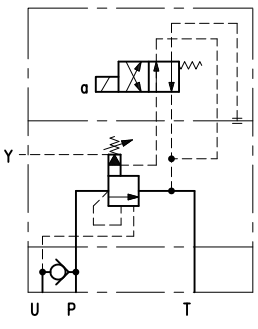
Z*-P OPTIONS: **R** reduced drainage - **C** check valve U→E w. cracking pressure 0.5 bar
DZC* OPTIONS: **I** internal pilot/drainage - **E** external pilot/drainage - **K1** adjustment knob



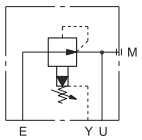
RQR*-P



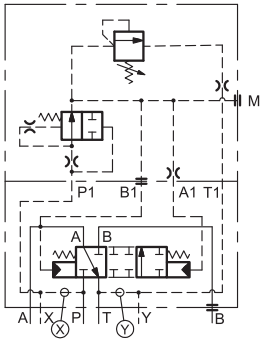
RQAM*-P



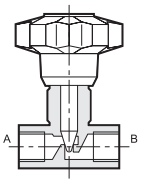
Z*-P

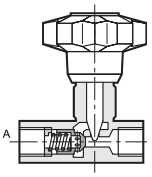


DZC*

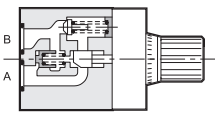


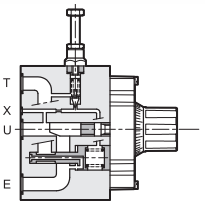
MODEL CODE	RS* - throttle						
CATALOGUE	31 200						
*	2	3	4	5	6	7	8
port THREAD	1/4" BSP	3/8" BSP	1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP
TYPE	throttle						
p max	400				320		
Q nom	15	30	50	80	150	200	220





MODEL CODE	RSN* - throttle check						
CATALOGUE	31 210						
*	2	3	4	5	6	7	8
port THREAD	1/4" BSP	3/8" BSP	1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP
TYPE	throttle check						
p max	400				320		
Q nom	15	30	50	80	150	200	220
Q free max	35	80	150	200	300	400	500





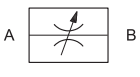
MODEL CODE	RPC1	RPC1-T3	RPC2	RPC2-T3	RPC3	RPC3-T3
CATALOGUE	32 200	32 250	32 300	32 350	32 300	32 350
SIZE (ND)	6		10		16	
SIZE ISO 6263	03		06		07	
TYPE	2-way pressure and temperature compensated	3-way pressure and temperature compensated	2-way pressure and temperature compensated	3-way pressure and temperature compensated	2-way pressure and temperature compensated	3-way pressure and temperature compensated
p max	250		320		250	
Δp	10 bar	12 bar	10 bar		12 bar	
Q min contr.	0,025 l/min	0,035 l/min	0,05 l/min	0,06 l/min	0,12 l/min	0,13 l/min
CONTROLLED FLOW						
0.5	■					
1; 4; 10; 16	■	■				
22	■	■	■			
30	■					
38			■			
50				■		
70			■			
100					■	
150					■	■

■FEATURES ++

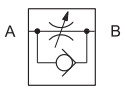
RPC*: **C** check valve - **X** check valve + anti jump P port (RPC1 only) - **M** single turn knob - **RC** compensating stroke governor (RPC2 and RPC3)
RPC*-T3: **Q** pressure relief valve 10 ÷ 210 bar (RPC2-T3 and RPC3-T3) - **M** single turn knob

■SYMBOLS

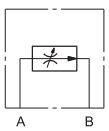
RS*



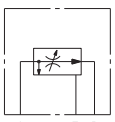
RSN*



RPC*



RPC*-T3



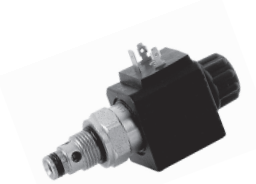
MODEL CODE	CR	PRK10	DBV	PCK06-P	PCK06-PT
CATALOGUE	21 100	21 111	21 120	21 140	22 140
seat type	D-10E	SAE-10	D-10E	D-10D	
port THREAD	ø20,6	7/8-14 UNF-2B	M30 x 1,5	ø20,6	
TYPE	direct	pilot	direct	NO compensator	NC compensator
p max	350	350	380	350	
Q max	50	120	120	40	

PRESSURE ADJ. RANGES

CR: **2** up to 25 bar - **3** up to 70 bar - **4** up to 140 bar - **5** up to 210 bar - **6** up to 350 bar
PRK10: **070** 6 ÷ 70 bar - **140** 6 ÷ 140 bar - **210** 6 ÷ 210 bar - **350** 6 ÷ 350 bar
DBV: **035** up to 35 bar - **050** up to 50 bar - **080** up to 80 bar - **100** up to 100 bar - **160** up to 160 bar
200 up to 200 bar - **250** up to 250 bar - **300** up to 300 bar
PCK06: **V** variable 7 ÷ 33 - **4** 4 bar - **8** 8 bar

MODEL CODE	RS*-I - throttle				
CATALOGUE	31 200				
*	2	3	4	5	6
port THREAD	M20x1,5	M20x1,5	M27x2	M33x2	M42x2
TYPE	throttle				
p max	320				
Q nom	15	30	50	80	150

MODEL CODE	RSN*-I - throttle check			
CATALOGUE	31 210			
*	2	3	4	5
port THREAD	M20x1,5	M27x2	M33x2	M42x2
TYPE	throttle check			
p max	320			
Q nom	15	30	50	80
Q free max	35	80	150	200

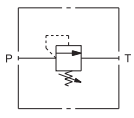


MODEL CODE	VR2-I	VR5-I	VR7-I	VSK1	VSK2	KT08
CATALOGUE		45 100		45 110	45 110	43 100
port THREAD	1/4"	3/4"	1" 1/4	slip-in ø11,75 mm	M12x1	3/4-16 UNF
TYPE	check valve			shuttle	shuttle	solenoid, poppet
p max	320	250	250	350	350	350
Q max	50	150	300	20	3	50

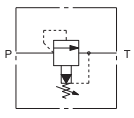
FEATURES ++

VR*-I CRACKING PRESSURE: **1** 0.5 bar - **3** 5 bar - **4** 10 bar
KT08: **NO** normally open - **NC** normally closed - ELECTRICAL OPTIONS same as DL3 valve, see at DIRECTIONAL VALVES.

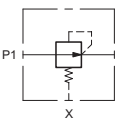
CR*, DBV



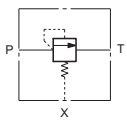
PRK10



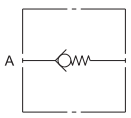
PCK06-P*



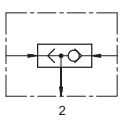
PCK06-PT*



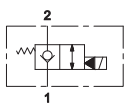
VR*I



VSK*

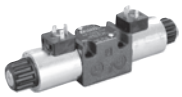


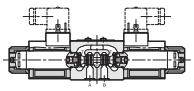
KT08-2NC



DIRECTIONAL

DIRECTIONAL VALVES
SOLENOID - DIRECT OPERATED





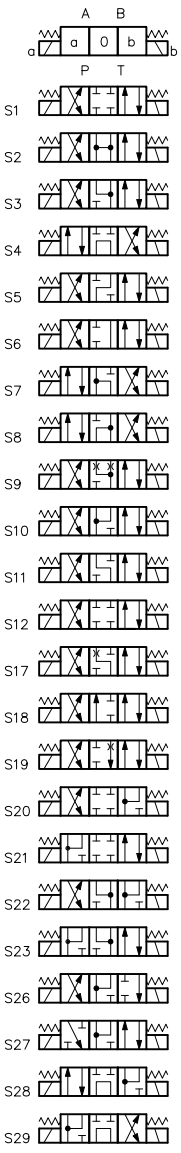
MODEL CODE	DL2	DS3	DL3	DL3B	DS5	DL5	DL5B
CATALOGUE	41 100	41 150	41 211	41 220	41 310	41 330	41 335
SIZE	04	06			10		
ISO 4401 / CETOP	02	03			05		
TYPE	Standard	Standard	Compact version	8 W Low consumption	Standard	Compact version	Compact version
p max	250 bar	350 bar	280 bar	280 bar	320 bar	320 bar	320 bar
Q max	20 l/min	100 l/min	50 l/min	60 l/min	150 l/min	125 l/min	125 l/min
SPOOLS							
S1; S2; S3; S4	■	■	■	■	■	■	■
S5; S6; S7; S8		■			■		
S9 to S29		■			■		
SA* ; SB*	■	■	■	■	■	■	■
RSA* ; RSB*		■					
TA ; TB	■	■	■	■	■	■	■
TA02 ; TB02		■	■	■	■	■	■
TA23 ; TB23		■	■		■	■	■
TA/TB 30; TA/TB 33		■					
RK		■	■	■	■		
RK1; RK02; 1RK		■			■		
COIL TYPE							
D12	■	■	■		■	■	■
D14		■					
D24	■	■	■	■	■	■	■
D28		■	■			■	■
D48		■	■				
D110; D125; D220		■			■		
A24; A48; A110; A230		■	■		■	■	
F110; F220		■			■		
R110; R220	■		■				
COIL CONNECTIONS							
K1	■	■	■	■	■	■	■
K2		■	■				■
K4			■				
K7		■	■		■		■
K7D (diode)		■	■				■
K8			■				
MANUAL OVERRIDES							
CM		■	■		■	■	■
CH		■	■				
CP		■					■
CK / CK1		■	■		■	■	■
CPK		■	■				■

■FEATURES ++

MONITORED **M** - see dedicated section at page 20
EXPLOSION PROOF **D*K*** - see catalogue 41 515
SOFT-SHIFT **F** / **S**
EXTERNAL DRAIN **Y** available for ISO 4401-05 sizes
ALTERNATIVE SURFACE FINISHES: **W7** Zinc-Nickel (salt spray resistance up to 600 hours)
DS3 SPECIAL VERSIONS: **UL** certified coils - **R** fixing screws as 4WE6*6X Rexroth

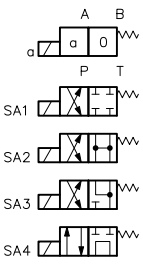
S*

2 solenoids
3 positions
spring offset



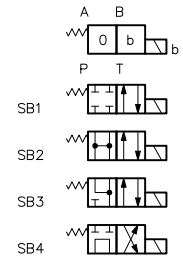
SA*

1 solenoid side A
2 positions
(middle + external)
with spring offset



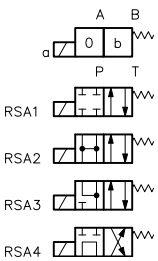
SB*

1 solenoid side B
2 positions
(middle + external)
with spring offset



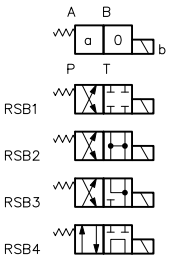
RSA*

1 solenoid side A
2 positions
(external + middle)
with spring offset



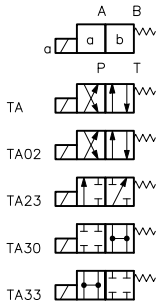
RSB*

1 solenoid side B
2 positions
(external + middle)
with spring offset



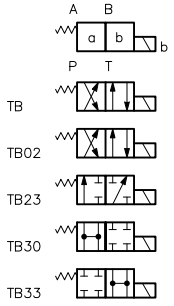
TA*

1 solenoid side A
2 external positions
with spring offset



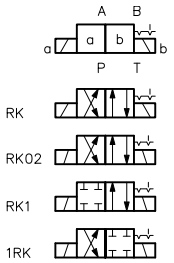
TB*

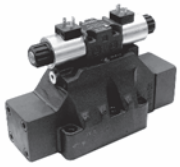
1 solenoid side B
2 external positions
with spring offset



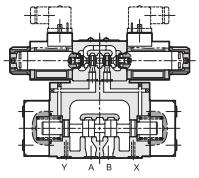
RK

2 solenoids
2 positions
with detent





	MODEL CODE	E4	DSP7	E5	DSP10
	CATALOGUE	41 400	41 420	41 400	41 440
	SIZE (ND)	10	16	25	32
	CETOP	05, R05	07	08	10
	ISO 4401	05	07	08	10
	TYPE	solenoid	solenoid	solenoid	solenoid
	p max	320 bar	350 bar	320 bar	350 bar
	p max high pressure vers.	420 bar	420 bar	420 bar	-
	Q max	150 l/min	300 l/min	600 l/min	1100 l/min
SPOOLS					
	S1; S2; S3; S4	■	■	■	■
	S5; S18	■		■	
	S6 to S12	■	■	■	
	S20; S21		■		
	SA1; SB1	■	■	■	■
	SA2/SB2 to SA4/SB4		■		■
	TA ; TB;	■	■	■	■
	TA02; TB02	■	■	■	■
	TA23 ; TB23	■	■	■	
	RK; RK02; RK002	■	■	■	■
COIL TYPE					
	D12; D24	■	■	■	■
	D48; D110; D220	■	■	■	■
	A24; A48; A110; A230	■	■	■	■
	F110; F220	■	■	■	■
COIL CONNECTIONS					
	K1	■	■	■	■
	K7 (D12 and D24 coil)	■	■	■	
MANUAL OVERRIDE					
	CM	■	■	■	■



■VERSIONS

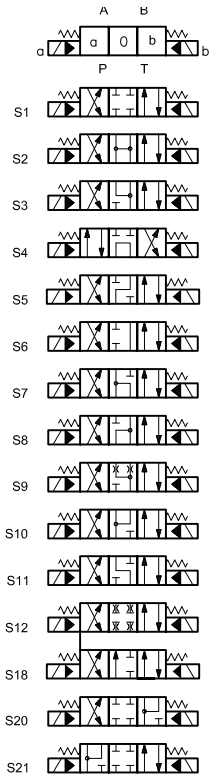
MONITORED **M** - see dedicated section at page 20
EXPLOSION PROOF **D*K*** - see catalogue 41 515
HYDRAULIC OPERATED VERSIONS **C** described in the valves datasheets
HIGH PRESSURE VERSION **H**

■FEATURES ++

PILOT / DRAINAGE **I** internal - **Z** internal with pressure reducing - **C** internal with built-in backpressure valve
E external (always verify application cases on valve datasheet)
OPTIONS: **C** stroke control - **D** shifting speed control - **G** stroke + shifting control - **P***, **PF** restrictor subplate
ALTERNATIVE SURFACE FINISHES: **W7** Zinc-Nickel (salt spray resistance up to 600 hours)

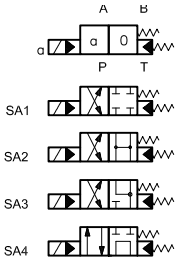
S*

2 solenoids
3 positions
spring offset



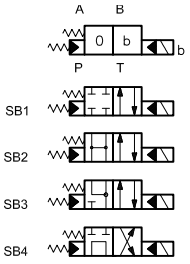
SA*

1 solenoid side A
2 positions
(middle + external)
with spring offset



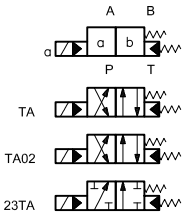
SB*

1 solenoid side B
2 positions
(middle + external)
with spring offset



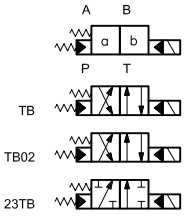
TA*

1 solenoid side A
2 external positions
with spring offset



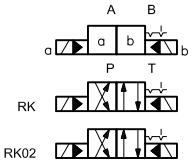
TB*

1 solenoid side B
2 external positions
with spring offset



RK

2 solenoids
2 positions
with detent



MODEL CODE	DSH3	DSH3L	DSR3L DSR3H	DSA3	DSC3	DSH5	DSA5
CATALOGUE	41 600	41 605	41 610	41 620	41 630	41 600	41 620
SIZE (ND)	06					10	
CETOP	03					05	
ISO 4401	03					05	
TYPE	lever	lever compact	roller cam	air	hydraulic	lever	air
p max	350 bar					320 bar	
Q nom	75 l/min	60 l/min	75 l/min	75 l/min	75 l/min	150 l/min	120 l/min
SPOOLS							
S1; S2; S3; S4	■	■		■	■	■	■
S5 to S23				■			■
SA1; SA2; SA3; SA4	■			■	■	■	■
SB1; SB2; SB3; SB4				■	■		■
TA	■	■	■	■	■	■	■
TA02, TA23	■			■	■		■
TB				■	■		■
TB02, TB23				■	■		■
TAK	■	■				■	
TAK02, TAK23	■						
SK1; SK2; SK3; SK4	■	■				■	
SAK1; SAK2; SAK3; SAK4	■					■	
R			■				
RK				■	■		■
RK1, RK02; 1RK				■			■

FEATURES ++

DSR3 VERSIONS: **L** compact - **H** heavy duty - **R** two roller (DSR3L only)

DSH* / DSH3L ALTERNATIVE SURFACE FINISHES: **W7** Zinc-Nickel (salt spray resistance up to 600 hours)

MODEL CODE	ECA	ECB1	ECB2	ECD	ECH
CATALOGUE	49 000				
TYPE	EN 175301-803:2006 form A (ex DIN 43650)				
version	2 poles + GND	2 poles + GND + LED (led ON = energized)		bridge rectifier	RC damping circuit
supply	AC/DC	AC/DC		AC	AC/DC
voltage	up to 230 V	10 to 50 V	70 to 250 V	up to 230 V	up to 230 V
coil type	AC or DC	AC or DC	AC or DC	DC fed w. AC	AC or DC

FEATURES ++

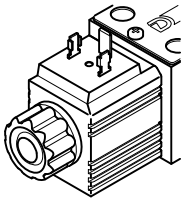
ECA COLOR : **B** black - **A** gray

MODEL CODE	ECL	ECF
CATALOGUE	49 300	49 310
TYPE	power saving device	rapid energizing
plug	EN 175301-803 connector	
power supply	8 to 30 V DC	24 to 30 V DC
max current	6A	

For 12 and 24V DC coils

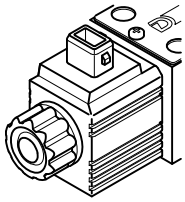
K1

DIN 43650
(standard)



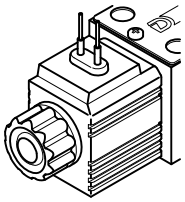
K2

AMP Junior



K4

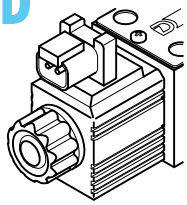
outgoing cables



K7, K7D

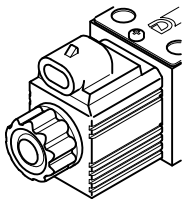
for male connector
DEUTSCH DT06-2S

K7D with internal
diode to avoid
voltage peaks



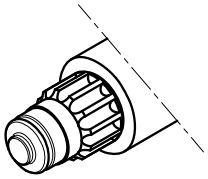
K8

AMP Super Seal



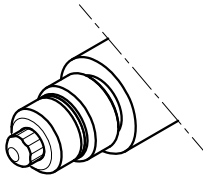
CM

Boot



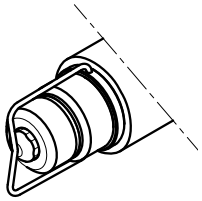
CP

Push
DC valves only



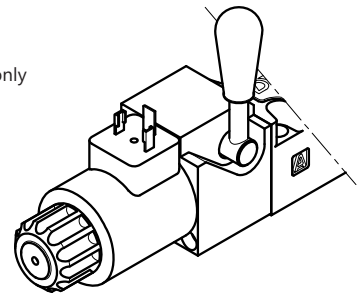
CPK

Push with detent
DC valves only



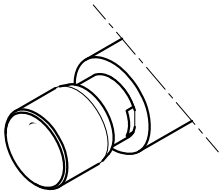
CH

Lever
DC valves only

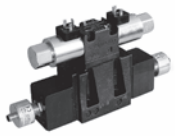


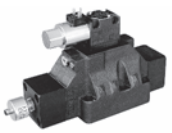
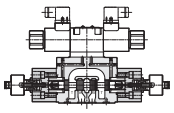
CK1

Knob,
DC valves only



DIRECTIONAL VALVES
SOLENOID - MONITORED



MODEL CODE	DS3M	DS5M	DSP5M DSP5RM	DSP7M	DSP8M	DSP10M
CATALOGUE			41 505			
SIZE	6	10		16	25	32
CETOP	03	05	P05, R05	07	08	10
ISO 4401	03	05	05	07	08	10
TYPE	direct op.	direct op.	pilot op.	pilot op.	pilot op.	pilot op.
p max	350 bar	320 bar		350 bar	350 bar	350 bar
Q max	80 l/min	120 l/min	150 l/min	300 l/min	600 l/min	1100 l/min

FEATURES ++

The compliance of these valves with the CE safety requirements has been verified by TÜV Sud.

COIL TYPE: **D12** 12V DC - **D24** 24V DC - **D110** 110V DC - **D220** 220V DC

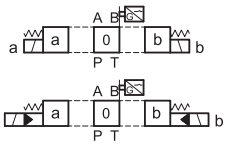
K1 DIN 43650 connection

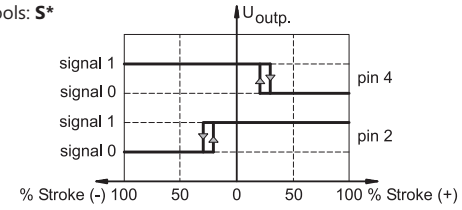
RO

1 sensor

middle position monitored

spools: **S***



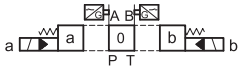


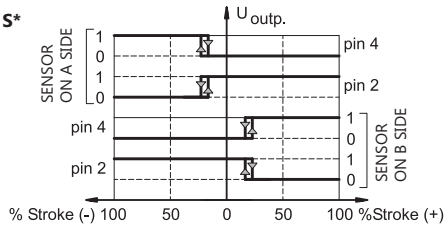
MO

2 sensors

middle position monitored

spools: **S***



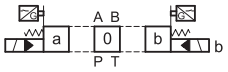


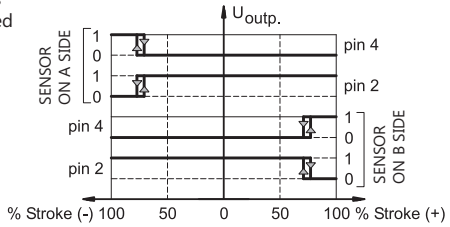
MAB

2 sensors

2 external positions monitored

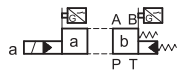
spools: **S***

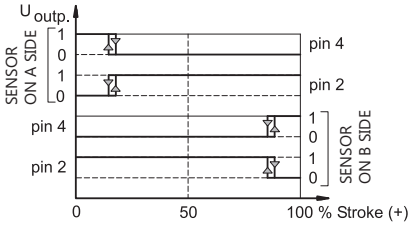




2 positions monitored

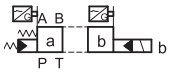
spools: **SA*, TA***

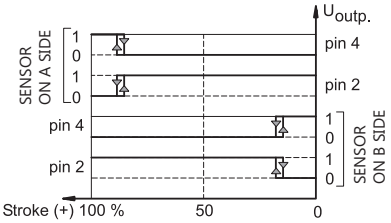




2 positions monitored

spools: **SB*, TB***

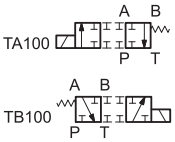




AVAILABLE SPOOLS/MONITORED POSITIONS

	S*	SA* SB*	TA TA100	TA02	TB TB100	TB02	RK
DS3M							
R0	■						
MA		■	■	■	■		
MB		■	■	■	■		
DS5M							
R0	■						
MA		■	■	■	■	■	
MB		■	■	■	■	■	
DSP*M							
R0	■						
MA		■	■		■		■
MB		■	■		■		■
M0	■						
MAB	■	■	■		■		

SPECIALS



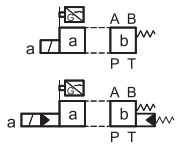
Refer to the 'solenoid operated' section for standard spools, and to the datasheet n° 41505 for the full range of available spools.

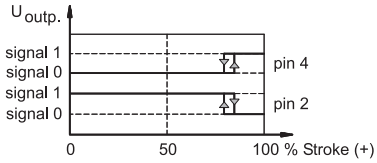
MA

1 sensor

spools:
SA*, TA*

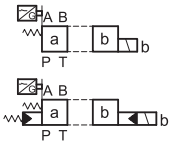
actuated position monitored

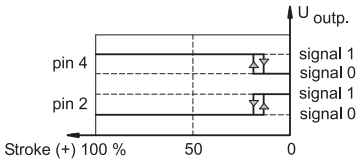




spools:
SB*, TB*

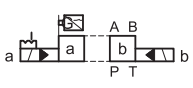
initial position monitored

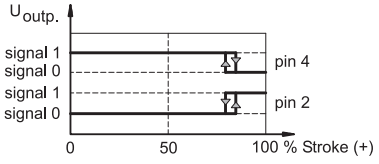




spools: **RK**

'A' position monitored



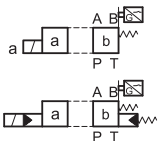


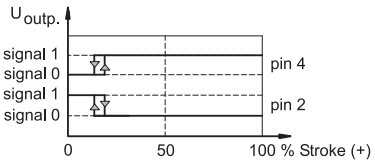
MB

1 sensor

spools:
SA*, TA*

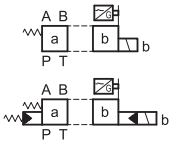
initial position monitored

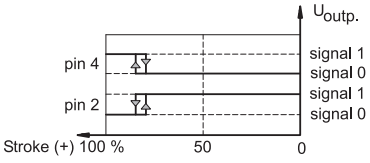




spools:
SB*, TB*

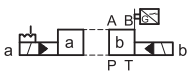
actuated position monitored

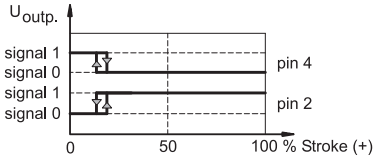


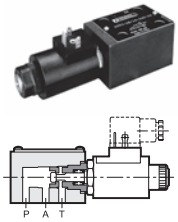


spools: **RK**

'B' position monitored





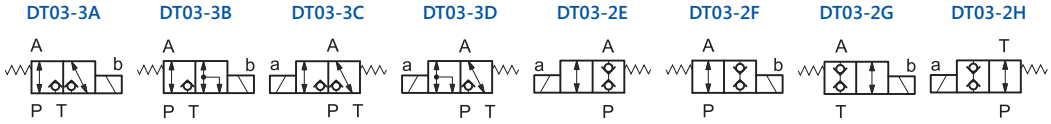


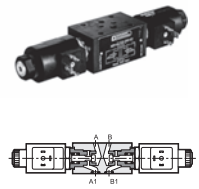
MODEL CODE	DT03-3A	DT03-3B	DT03-3C	DT03-3D	DT03-2E	DT03-2F	DT03-2G	DT03-2H
CATALOGUE	42 200							
Size (ISO)	4401-03							
TYPE	subplate mounting, 3-way solenoid operated				subplate mounting, 2-way solenoid operated			
p max	250 bar							
Q max	12 l/min	25 l/min	25 l/min	25 l/min	25 l/min	12 l/min	25 l/min	25 l/min

FEATURES ++

SUPPLY VOLTAGES: direct current **12V-CC** 12 V - **24V-CC** 24 V; alternating current **24RAC** 24 V - **110RAC** 110V - **220RAC** 220 V
RESTRICTORS PLUG ON P LINE: **D08** orifice Ø0.8 - **D10** orifice Ø1

SYMBOLS



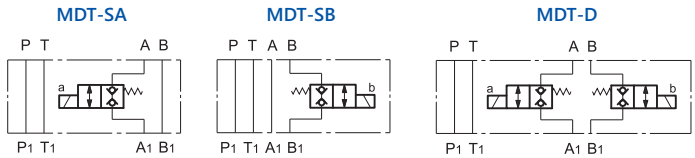


MODEL CODE	MDT-SA	MDT-SB	MDT-D
CATALOGUE	42 250		
Size (ISO)	4401-03		
TYPE	modular version		
p max	250 bar		
Q max	25 l/min	25 l/min	25 l/min

FEATURES ++

SUPPLY VOLTAGES: direct current **12V-CC** 12 V - **24V-CC** 24 V; alternating current **110RAC** 110V - **220RAC** 220 V

SYMBOLS



MODEL CODE	VD*-W							
CATALOGUE	45 200							
*	2	3	4	5	6	7	8	9
port THREAD	1/4" BSP	3/8" BSP	1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP
TYPE	check							
p max	400 bar				320 bar			
Q nom	25 l/min	40 l/min	75 l/min	125 l/min	200 l/min	280 l/min	650 l/min	850 l/min

FEATURES ++

CRACKING PRESSURE: **1** 0.35 bar - **2** 2bar - **T4** 4 bar - **3** 6 bar - **4** 10 bar

MODEL CODE	VR3-P	VR5-P	VR7-P	VP3-P*-MU	VP5-P*-MU
CATALOGUE		45 300		46 300	
port dimensions	3/8" BSP	3/4" BSP	1" 1/4 BSP	ISO 5781-06	ISO 5781-08
TYPE	check			p.o. check	
p max	350 bar	350 bar	250 bar	320 bar	320 bar
Q max	100 l/min	200 l/min	400 l/min	50 l/min	100 l/min

VR*P FEATURES ++

CRACKING PRESSURE : **1** 0.5 bar - **3** 5 bar - **4** 10 bar

VP*-P*-MU FEATURES ++

CRACKING PRESSURE: **2** 3.5 bar - **3** 5 bar

OPTION: **P** decompression device

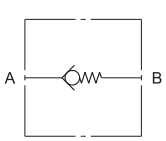
MODEL CODE	CFP-S*						
CATALOGUE	46 400						
*	032	040	050	063	080	100	125
Size (ND)	32	40	50	63	80	100	125
TYPE	filling valves						
p max	350 bar						
Q max	160 l/min	250 l/min	400 l/min	600 l/min	1000 l/min	1600 l/min	2500 l/min

FEATURES ++

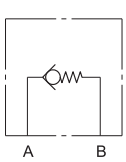
OPTION: **0** without pre-opening - **1** with pre-opening (not available for ND 125)

SYMBOLS

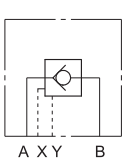
VD*-W



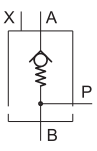
VR*-P

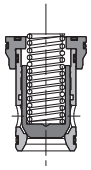


VP*-P*-MU



CFP-S*





MODEL CODE	LC*					
CATALOGUE	48 900					
SIZE (ND)	16	25	32	40	50	63
TYPE	ISO 7368 slip-in cartridge valves					
p max	420					
Q max QS	250 l/min	500 l/min	900 l/min	1300 l/min	2000 l/min	3000 l/min
Q max QD	200 l/min	450 l/min	800 l/min	1100 l/min	1700 l/min	2700 l/min
Q max PS	200 l/min	400 l/min	900 l/min	1000 l/min	1500 l/min	2500 l/min
TYPE						
QS0.5	■	■	■	■	■	
QS2	■	■	■	■	■	■
QD4	■	■	■	■	■	
PS1						■
PS2	■	■	■	■	■	

■ VERSIONS

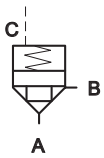
QS flow control (1:1,66) - **QD** flow control with damping nose (1:1,66) - **PS** pressure control (1:1)

■ FEATURES ++

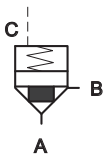
CRACKING PRESSURE: **0.5** 0,5 bar - **1** 1 bar (ND 63 only) - **2** 2 bar - **4** 4 bar
OPTIONS: **LL** low leakage (not available for QS 0.5 and LC16-PS*)

■ SYMBOLS

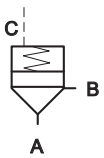
LC*QS



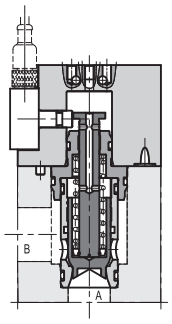
LC*QD



LC*PS



MONITORED



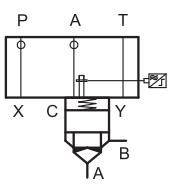
MODEL CODE	LCM*				
CATALOGUE	48 900				
SIZE (ND)	16	25	32	40	50
TYPE	ISO 7368 slip-in cartridge valves				
p max	350				
Q max QS	250 l/min	500 l/min	900 l/min	1300 l/min	2000 l/min

■ FEATURES ++

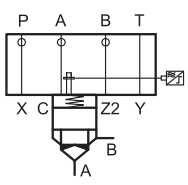
The compliance of these valves with the CE safety requirements has been verified by TÜV Sud.
CRACKING PRESSURE: 4 bar
MONITORING: PNP type NO, closed position monitored, 24V DC
COVER FUNCTION: **D** check valve - **Z** piloting of other cartridges
OPTIONS: **LL** low leakage

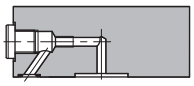
■ SYMBOLS

LCM*D



LCM*Z





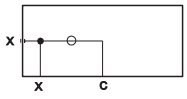
MODEL CODE	LP*					
CATALOGUE	48 900					
SIZE (ND)	16	25	32	40	50	63
TYPE	covers					
TYPE						
R	■	■	■			■
D	■	■	■	■	■	■
DZ	■	■	■	■		
DF1	■	■	■	■	■	
DF2	■	■	■	■		
Q	■	■	■	■	■	■
DP4	■	■	■	■	■	■
DP6	■	■	■	■	■	■
DPE4	■	■	■	■	■	
DPE6	■	■	■	■	■	

FUNCTIONS

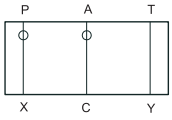
R directional control and check valve with external pilot x - **D** directional control and check valve
DZ directional control with possibility to pilot other cartridges in line - **DF1** directional control and check with double pilot line - **DF2** directional control and check with priority piloting from two external lines
Q flow control - **DP4** pressure control with a built-in relief valve set 140 bar - **DP6** pressure control with a built-in relief valve set 350 bar - **DPE4** pressure control by means of proportional valve set 140 bar - **DPE6** pressure control by means of proportional valve set 350 bar

SYMBOLS

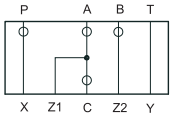
LP*R



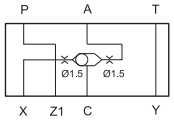
LP*D



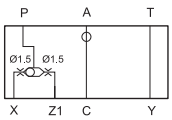
LP*DZ



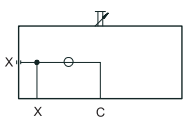
LP*DF1



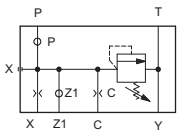
LP*DF2



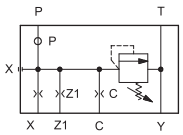
LP*Q



LP*DP

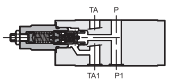


LP*DPE



STACK VALVES OVERVIEW

All modular valves with screw adjustment may be provided with **ADJUSTMENT KNOB**, with the exception of the valves size ISO 4401-02.
Some valves may be provided with alternative surface finishes. Contact our sales dept. for more detailed information.

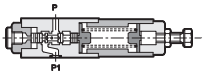


MODEL CODE	PRM2	MCD	MRQ	PRM5	PRM7	PBM3
CATALOGUE	61 100	61 200	61 220	61 310	61 410	61 260
SIZE	4	6	6	10	16	6
ISO 4401 / CETOP	02	03	03	05	07	03
TYPE	relief, direct operated		relief, pilot operated			backpressure
p max	320 bar	350 bar	350 bar	350 bar	350 bar	350 bar
Q max	20 l/min	50 l/min	75 l/min	120 l/min	300 l/min	50 l/min
Q max free lines		75 l/min				75 l/min
VERSIONS						
PT; SP (P → T)	■	■	■	■	■	
SAT (A → T)		■	■	■		
BT; SBT (B → T)	■	■	■	■		
DT (A and B → T)	■	■	■	■		
SB (B → A)		■	■			
D, cross (A→B and B → A)		■	■	■		
B→ B1						■

PRESSURE ADJ. RANGES

PRM2 : **4** 63 ÷ 125 bar - **5** 80 ÷ 210 bar - **6** 125 ÷ 320 bar
MCD, MRQ: **2** up to 25 bar - **3** up to 70 bar - **4** up to 140 bar - **5** up to 210 bar - **6** up to 350 bar
PRM5: **070** 6 ÷ 70 bar - **140** 6 ÷ 140 bar - **210** 6 ÷ 210 bar - **350** 6 ÷ 350 bar
PRM7: **4** 15 ÷ 160 bar - **5** 15 ÷ 250 bar - **6** 15 ÷ 315 bar
PBM3:**2** up to 25 bar - **3** up to 70 bar - **4** up to 140 bar

MODEL CODE	PZM2	MZD	Z4M	PZM7	MSD	SD4M
CATALOGUE	62 100	62 200	62 300	62 410	63 200	63 300
SIZE	4	6	10	16	6	10
ISO 4401 / CETOP	02	03	05	07	03	05, R05
TYPE	reducer				sequence	
p max	320 bar	350 bar	320 bar	350 bar	350 bar	320 bar
Q max	20 l/min	50 l/min	80 l/min	250 l/min	50 l/min	80 l/min
Q max free lines	30 l/min	75 l/min	100 l/min		75 l/min	100 l/min
VERSIONS						
I; P (reduction in P)	■	■	■	■	■	■
A (reduction in A)		■	■	■		
B (reduction in B)		■	■			

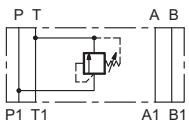


PRESSURE ADJ. RANGES

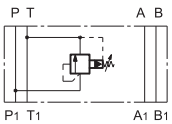
PZM2: **2** 4 ÷ 32 bar - **3** 5 ÷ 80 bar - **4** 10 ÷ 200 bar - **5** 25 ÷ 250 bar
MZD, variable **2** 3 ÷ 35 bar - **3** 10 ÷ 70 bar - **4** 30 ÷ 140 bar - **5** 50 ÷ 280 bar . MZD, fixed: **20**, **25** and **30** bar
Z4M: **3** 5 ÷ 70 bar - **4** 8 ÷ 140 bar - **5** 10 ÷ 210 bar - **6** 15 ÷ 320 bar
PZM7: Z4M: **3** 15 ÷ 100 bar - **5** 15 ÷ 250 bar
MSD: **3** 10 ÷ 70 bar - **4** 30 ÷ 140 bar - **5** 50 ÷ 280 bar
SD4M: **3** up to 70 bar - **4** up to 140 bar - **5** up to 210 bar

SYMBOLS

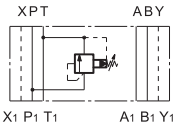
PRM2-PT, MCD-SP



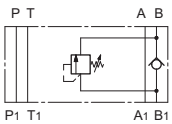
MRQ-SP



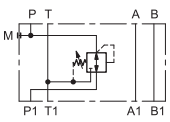
PRM7-PT

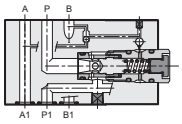


PBM3



MZD

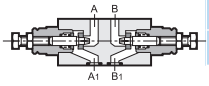




MODEL CODE	PCM3-P	PCM3-PT	PCM5-P	PCM5-PT	PCM8-P	PCM8-PT
CATALOGUE	63 310		63 320		63 520	
SIZE	6		10		25	
ISO 4401 / CETOP	03		05		08	
TYPE	2-way compensator	3-way compensator	2-way compensator	3-way compensator	2-way compensator	3-way compensator
p max	350 bar		320 bar		350 bar	
Q max	40 l/min		100 l/min	110 l/min	300 l/min	

■ PRESSURE ADJ. RANGES

V variable 7 to 33 bar (PCM3 only) - **4** 4 bar - **5** 5 bar



MODEL CODE	QTM2	MERS	QTM5	QTM7
CATALOGUE	64 100	64 200	64 310	64 410
SIZE	4	6	10	16
ISO 4401 / CETOP	02	03	05	07
TYPE	flow restrictor			
p max	320 bar	350 bar	350 bar	350 bar
p cracking	0,4 bar	0,5 bar	0,5 bar	0,7 bar
Q max	30 l/min	50 l/min	120 l/min	250 l/min
METER OUT				
SA (on line A)	■	■	■	■
SB (on line B)	■	■	■	
D (on line A and B)	■	■	■	■
METER IN				
RSA (on line A)		■ (G)	■	
RSB (on line B)		■ (G)	■	
RD (on line A and B)		■	■	

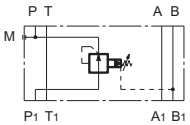
■ MERS FEATURES ++

G* VERSION: the valve body does not provide the OR seats.

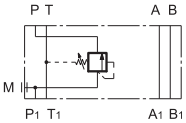
The mounting interface is achieved by interposition of an OR subplate, included. The flow control (meter-in or meter-out) depends on the way of assembly the valve on the subplate.

The G version is available with SA, SB and D configurations.

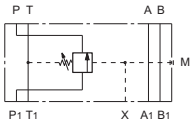
Z4M*-A, PZM7-PA



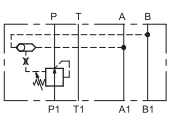
MSD



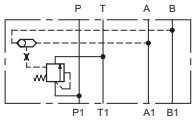
SD4M



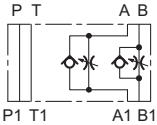
PCM*-PV

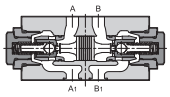


PCM*-PT

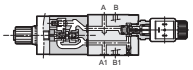


MERS-D, QTM*-D





MODEL CODE	CHM2	MVR	MVR-RS/P	MVPP	VR4M	CHM5	CHM7
CATALOGUE	65 100	65 200	65 210	65 250	65 300	65 360	65 410
SIZE	4	6			10		16
ISO 4401 / CETOP	02	03			05		07
TYPE	pilot operated	check valve	w. restrictor	pilot operated	check valve,	pilot operated	pilot operated
p max	320 bar	350 bar			320 bar	320 bar	350 bar
p cracking	2 bar	0,5; 3; 5 bar	1 bar	3 bar	0,5; 8 bar	2 bar	2 bar
Q max	30 l/min	50 l/min			100 l/min	120 l/min	300 l/min
Q max free lines		75 l/min					
CHECK VALVE							
SP, P (on line P)		■	■		■		
SA (on line A)	■	■		■		■	■
SB (on line B)	■	■		■		■	■
ST (on line T)		■			■		
D (on line A and B)	■	■		■		■	■
PT, SPT (on line P and T)		■					



MODEL CODE	RPC1*M	RPC1*4M	RLM3
CATALOGUE	66 200	66 300	66 260
SIZE	6	10	6
ISO 4401 / CETOP	03	05	03
TYPE	adjustment compensated in flow and temperature		solenoid speed control
p max	250 bar	250 bar	250 bar
Q max free lines	65 l/min	120 l/min	65 l/min
Q reverse free	40 l/min	40 l/min	-
METER OUT			
A (on line A)	■	■	■
B (on line B)	■	■	
D (on line A and B)	■	■	
T (on line T)	■		■
METER IN			
P (on line P)	■		
PCT3 (on line P w. adj on T)	■		

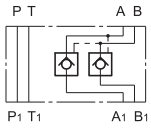
■ FEATURES ++

FLOW ADJUSTMENT RANGE: **K** body only (without flow control valve). **1** 1 l/min - **4** 4l/min - **10** 10 l/min - **16** 16 l/min **22** 22 l/min - **30** 30 l/min

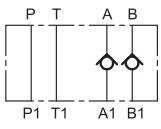
RLM3 ONLY: for **A** normally open - **C** normally closed solenoid valve.
ELECTRICAL OPTIONS same as DL3 valve, see at DIRECTIONAL VALVES.

■ SYMBOLS

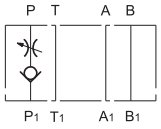
CHM*-D



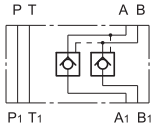
MVR-D



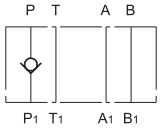
MVR-RS/P



MVPP-D



VR4M-SP



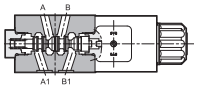
MODEL CODE	MDS3	MDS5	KTM3	MDF3	MDT
CATALOGUE	41 251	41 351	43 100	41 270	42 250
SIZE	6	10	6		
ISO 4401 / CETOP	03	05	03		
TYPE	directional		NC and NA, poppet	shut-off	poppet directional
p max	350 bar		350 bar	350 bar	250 bar
Q max	50 l/min	100 l/min	40 l/min	50 l/min	25 l/min

■MDS3 ++

AVAILABLE SPOOLS: **S1**, **S12**, **SA1**, **SA12**, **SB1**, **SB12**, **S3**, **RSA1**, **RSB1**, **TA**, **TB**, **TA31**, **TB31**. See spools schemes at DIRECTIONAL VALVES.
POWER SUPPLY: **DC** 12V, 24V, 28V, 48V, 110V, 220V; **AC** 24V, 48V, 110V, 220V
COIL CONNECTION: **K1** DIN 43650 - **K7** Deutsch (D12 and D24 only)
MANUAL OVERRIDES: **CM** boot - **CP** push - **CPK** push w. detent

■MDS5 ++

AVAILABLE SPOOLS: **S1**, **SA1**, **SB1**, **TA**, **TB**. See spools schemes at DIRECTIONAL VALVES.
POWER SUPPLY: **DC** 12V, 24V; **AC** 24V, 48V, 110V, 230V
COIL CONNECTION: **K1** DIN 43650
MANUAL OVERRIDES: **CM** boot - **CK1** knob



■KTM3 ++

NO normally open - **NC** normally closed
VERSIONS: **P** delivery interception on P line - **PT** interception on P-T lines **D** outgoing interception on A and B lines - **RD** incoming interception on A and B lines - **SB** outgoing interception on B line
OPTIONS: **CM** boot
ELECTRICAL OPTIONS same as DL3 valve, see at DIRECTIONAL VALVES.

■MDF3 ++

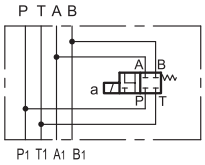
A initial position open - **C** initial position closed
POWER SUPPLY: **DC** 12V, 24V, 48V, 110V, 220V - DIN 43650 connections.

■MDT ++

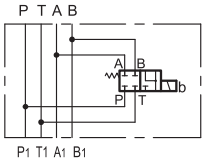
A initial position open - **C** initial position closed
VERSIONS: **SA** control on line A - **SB** control on line B - **D** control on lines A and B
SUPPLY VOLTAGES: direct current **12V-CC** 12 V - **24V-CC** 24 V; alternating current **110RAC** 110V - **220RAC** 220 V - DIN 43650 connections.

■MDS3 SPECIALS

TA31

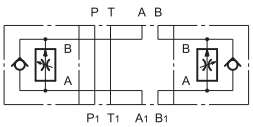


TB31

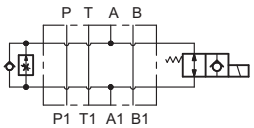


Please refer to the 'solenoid operated' section for standard spools.

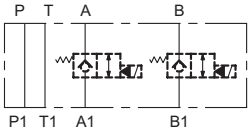
RPC1*M/D



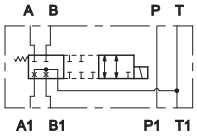
RLM3A-A



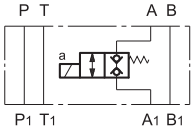
KTM3-D



MDF3-A



MDT-SA1



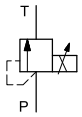
MODEL CODE	CRE	PRED3	PRED3G	PRED3J	PRE3	PRE3G
CATALOGUE	81 100	81 210	81 220	81 230	81 240	81 250
SIZE (ND)	cartridge	06				
SIZE ISO / CETOP	-	4401-03				
TYPE	relief, direct op.	relief direct operated	relief direct operated with OBE	relief with OBE and pressure feedback	relief pilot operated	relief pilot operated with OBE
p max	350 bar	350 bar			350 bar	
Q max	1,5 l/min	3 l/min			40 l/min	
PERFORMANCES						
hysteresis	< 5%	< 5%	< 3 %	< 1 %	< 5%	< 3 %
resp. time 0→100 %	80 ms	80 ms	60 ms	60 ms	80 ms	100 ms
resp. time 100→0 %	40 ms	40 ms	40 ms	40 ms	40 ms	35 ms
PRESSURE ADJ. RANGE						
up to 70 bar	■	■	■		■	■
up to 140 bar	■	■	■	■	■	■
up to 210 bar		■	■	■	■	■
up to 250 bar	■					
up to 350 bar		■	■	■	■	■

MODEL CODE	PRE10	PRE10G	PRE10J	PRE25	PRE25G	PRE25J	PRE32	PRE32G	PRE32J
CATALOGUE	81 310	81 320	81 330	81 310	81 320	81 330	81 310	81 320	81 330
SIZE (ND)	10			25			32		
SIZE ISO	6264-06			6264-08			6264-10		
TYPE	relief	relief with OBE	relief with OBE and press. feedback	relief	relief with OBE	relief with OBE and press. feedback	relief	relief with OBE	relief with OBE and press. feedback
p max	350 bar								
Q max	200 l/min			400 l/min			500 l/min		
PERFORMANCES									
hysteresis	< 5%	< 3 %	< 1 %	< 5%	< 3 %	< 1 %	< 5%	< 3 %	< 1 %
resp. time 0→100 %	60 ms			60 ms			60 ms		
resp.time 100→0 %	40 ms			40 ms			40 ms		

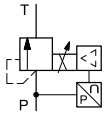
■ **PRE*(D)*K*** ex-proof versions of PRED3, PRE3, PRE* available, cat. 81315
PRESSURE ADJ. RANGE: **070** up to 70 bar - **140** up to 140 bar - **210** up to 210 bar - **350** up to 350 bar

■SYMBOLS

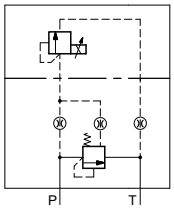
CRE / PRED3



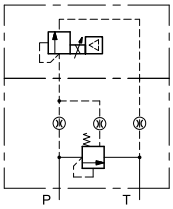
PRED3G / J



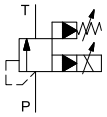
PRE3



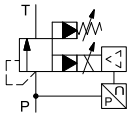
PRE3G



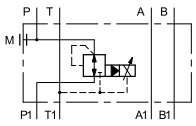
PRE*



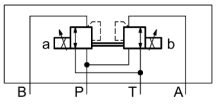
PRE*G / J



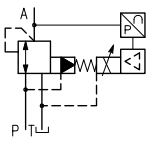
MZE



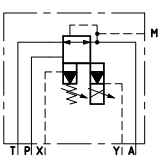
ZDE3 / ZDE3G



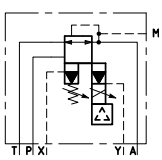
PZE3G / J

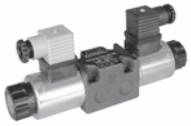


DZCE*

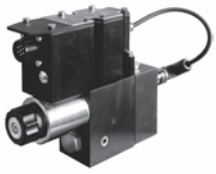


DZCE*G





MODEL CODE	MZE	PZE3	PZE3G	PZE3J	ZDE3	ZDE3G
CATALOGUE	81 500	81 501	81 502	81 503	81 510	81 520
SIZE (ND)	06	06			06	
SIZE ISO	4401-03	4401-03			4401-03	
TYPE	reducing	three-port pressure reducing, pilot operated			reducing, direct operated	
	modular, pilot op.		with OBE	with OBE and pressure feedback		with OBE
p max	320 bar	350 bar			100 bar	
Q max	30 l/min	50 l/min			15 l/min	
PERFORMANCES						
hysteresis	<3%	< 5%	< 3 %	< 1 %	< 4%	< 3%
resp. time 0→100%	100 ms	90 ms	90 ms	90 ms	30 ms	20 ms
resp.time 100→0%	80 ms	90 ms	90 ms	40 ms	30 ms	20 ms



■ MZE

PRESSURE ADJ. RANGE: **3** 7 ÷ 70 bar - **4** 7.5 ÷ 150 bar - **5** 8 ÷ 230 bar

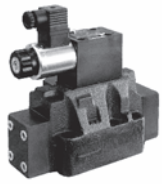
■ PZE3, PZE3G, PZE3J

PRESSURE ADJ. RANGE: **025** 0 ÷ 25 bar - **070** 0 ÷ 70 bar - **140** 0 ÷ 140 bar - **210** 0 ÷ 210 bar - **310** 0 ÷ 310 bar

■ ZDE3, ZDE3G

VERSIONS: **ZDE3K*** ex-proof version available, cat. 81515 - **D** pressure reduction in A and B - **SA** pressure reduction in A (solenoid on side B) no ZDE3G - **SB** pressure reduction in B (solenoid on side A)

EXTRA COIL CONNECTION: **K7** Deutsch (no ZDE3G) OPTIONS: **CM** boot manual override - **CS** screw manual override



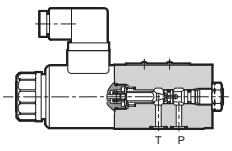
MODEL CODE	DZCE5	DZCE5G	DZCE7	DZCE7G	DZCE8	DZCE8G
CATALOGUE	81 600	81 610	81 600	81 610	81 600	81 610
SIZE (ND)	10		16		20	
SIZE ISO	4401-05, R05, P05		4401-07		4401-08	
TYPE	three-port pressure reducing / relieving valve					
p max	350 bar					
Q max	150 l/min		300 l/min		500 l/min	
PERFORMANCES						
hysteresis	< 4%	< 2%	< 4%	< 2%	< 4%	< 2%
resp. time 0→100%	100 ms	100 ms	100 ms	100 ms	100 ms	100 ms
resp.time 100→0%	50 ms	50 ms	50 ms	50 ms	50 ms	50 ms

■ DZCE*K* ex-proof versions available, cat. 81605

PRESSURE ADJ. RANGE: **070** 1 ÷ 70 bar - **140** 1 ÷ 140 bar - **210** 1 ÷ 210 bar - **300** 1 ÷ 300 bar

OPTIONS: **I** internal pilot /drain - **E** external pilot /drain

E

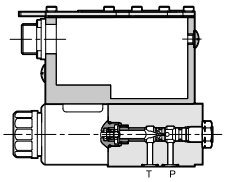


■ PROPORTIONAL CONTROL

COIL CONNECTION: **K1** DIN 43650 style

POWER SUPPLY: **D12** 12V DC - **D24** 24V DC.

G



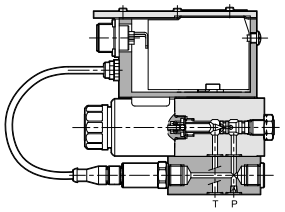
■ ON.BOARD ELECTRONICS

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, 0 - 10V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor

J



■ OBE + PRESSURE TRANSDUCER

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, 0 - 10V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor

MODEL CODE	RPCED1	RPCER1	RPCED1-T3	QDE3	QDE5
CATALOGUE	82 200	82 250	82 210	82 220	82 220
SIZE (ND)	6			6	10
SIZE ISO / CETOP	6263-03			6263-03	4401-05
TYPE	2-port compensated	2-port compensated + LVDT	3-port compensated	2 or 3-port compensated	2 or 3-port compensated
p max	250 bar				
Δp	10 bar		8 bar	4 and 8 bar	8
Q min controlled	0,025 l/min		0,5 l/min	0,4 l/min	2 l/min
PERFORMANCES					
hysteresis	< 6 %	< 2,5 %	< 6 %	< 6 %	< 6 %
response time 0 → 100 %	60 ms	180 ms	60 ms	70 ms	
response time 100 → 0 %	80 ms	150 ms	80 ms	-	-
CONTROLLED FLOW					
1,5 ; 4 ; 8	■	■	■		
14				■	
16	■	■	■		
20				■	
25	■	■	■		
30				■	
40				■	
80					■

■FEATURES ++

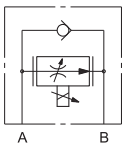
QDE* are suitable both as restrictive or as bypass flow control, depending on the ports realized on the mounting surface.

COILS: power supply **D12** 12V DC - **D24** 24V DC

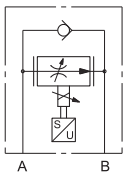
OPTIONS: **CM** boot manual override (QDE3 only)- **CS** screw manual override (QDE3 only)- **CK1** knob
W7 Zinc-nickel (salt spray resistance up to 600 hours) (QDE* only)

■SYMBOLS

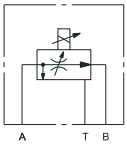
RPCED1



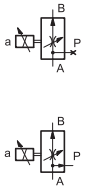
RPCER1



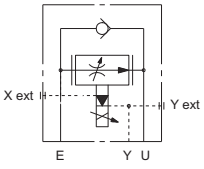
RPCED1-T3



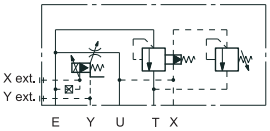
QDE*



RPCE*



RPCE*-T3



MODEL CODE	RPCE2		RPCE2-T3		RPCE3		RPCE3-T3	
CATALOGUE	82 300				82 450			
SIZE ISO / CETOP	6263-06				6263-07			
TYPE	2-port compensated		3-port compensated		2-port compensated		3-port compensated	
p max	250 bar				250 bar			
Δp	10 bar				10 bar			
Q min contr.	0,2 lt/min		0,5 l/min		0,5 l/min		1,5 l/min	
PERFORMANCES								
hysteresis	< 8 %							
response time 0 → 100 %	250 ms				250 ms			
response time 100 → 0 %	120 ms				120 ms			
CONTROLLED FLOW								
35 (G only)	■							
37	■							
72	■							
80			■					
100					■ (G)		■	

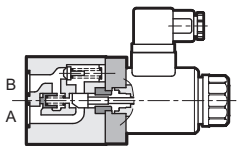
■ FEATURES ++

G differential gain. Available only in RPCE2 at 35 l/min and in RPCE3 at 100 l/min.

RPCE*: **E** external pilot

RPCE*-T3: **E** external pilot - **M** unloading device

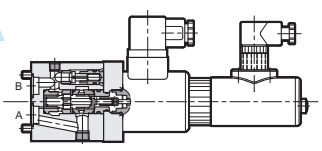
E



■ PROPORTIONAL CONTROL

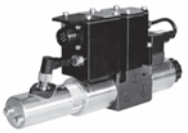
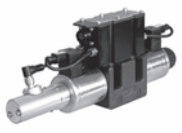
COIL CONNECTION: DIN 43650 style
POWER SUPPLY: **D24** 24V DC

R



■ POSITION TRANSDUCER

COIL CONNECTION: **K1** DIN 43650 style
LVDT CONNECTION: 4 pin M12 PG7
supply: 18 - 36 V DC
output: 2 - 10 V

MODEL CODE	DSE3B	DSE3	DSE3G	DSE5	DSE5G	DSE3F	DSE3J	DSE5J
CATALOGUE	83 215	83 210	83 220	83 260	83 270	83 240	83 230	83 280
SIZE (ND)	06			10		06		10
CETOP	03			05, R05		03		05
ISO 4401	03			05		03		05
TYPE	direct operated - open loop					direct operated - closed loop		
	compact version	standard	with OBE	standard	with OBE	with LVDT	with LVDT + OBE	with LVDT + OBE
p max	350 bar			320 bar		350 bar		320 bar
Q max	40 l/min			90 l/min		40 l/min	80 l/min	180 l/min
PERFORMANCES								
hysteresis	< 6 %	< 6 %	< 3 %	< 6 %	< 3 %	< 1,5 %	< 0,2 %	
response time 0→100 %	50 ms	50 ms	25 ms	50 ms	50 ms	30 ms	20 ms	40 ms
response time 100→0 %	40 ms	40 ms	20 ms	40 ms	30 ms	25 ms	20 ms	30 ms
frequency resp. (± 10 %) magnitude at -3dB	-	-	-	-	-	-	40 Hz	35 Hz
phase lag at 90°	-	-	-	-	-	-	50 Hz	35 Hz
NOMINAL FLOW (Δp 10 bar)								
01R		■	■				■	
4		■	■				■	
8	■	■	■			■		
12							■	
16	■	■	■			■		
16/08		■	■					
26	■	■	■			■		
26/13		■	■					
30				■	■		■	
30/15							■	
50								■
60				■	■			
60/30				■	■			
75								■
70/35								■
COIL TYPE								
D12	■	■		■		■		
D14	■	■		■				
CONNECTIONS								
K1	■	■		■		■		
K7	■	■						
K11			■		■		■	■
MANUAL OVERRIDES								
CM	■	■	■					
CS		■	■					
CH		■						
CK1	■	■		■				

■FEATURES ++

EXPLOSION PROOF **DS(P)E*K*** see datasheet 83 510

FAIL SAFE POSITION: **FS** available for valves type 'J' with spools type Z

DSE5 EXTERNAL DRAIN **Y** mounting surface ISO 4401-05-05-0-05 - **L** mounting surface ISO 4401-05-06-0-05

ALTERNATIVE SURFACE FINISHES: **W7** Zinc-Nickel (salt spray resistance up to 600 hours) upon request.

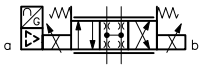
CZ*

OVERLAP JUMP

for DSE*G only

CZ*

CZ*R



Z*

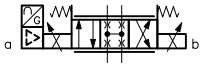
ZERO OVERLAP

for DSE*J only

Z*

Z*FS

Z*R

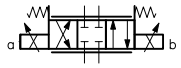


C*

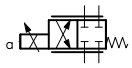
CLOSED CENTRE

*SB scheme available only on valves without on-board electronics.

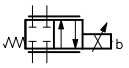
C*



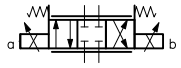
C*SA



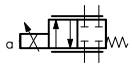
C*SB



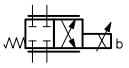
C*R



C*RSA



C*RSB

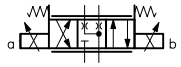


A*

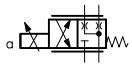
OPEN CENTRE

*SB scheme available on low cost and standard valves only.

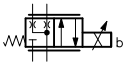
A*



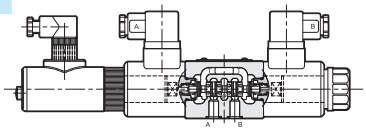
A*SA



A*SB



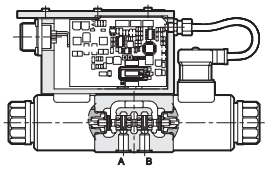
F



■ POSITION TRANSDUCER

LVDT connection: 4 pin M12 PG7
supply: 18 - 36 V DC
output: 2 - 10 V

G



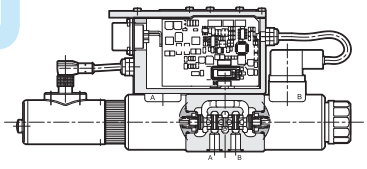
■ ON.BOARD ELECTRONICS

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ± 10 V or 0 - 10 V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor

J



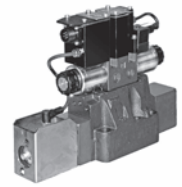
■ OBE + POSITION TRANSDUCER

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ± 10 V or 0 - 10 V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor

MODEL CODE	DSPE5	DSPE5G	DSPE7	DSPE7G	DSPE8	DSPE8G	DSPE10	DSPE10G
CATALOGUE	83 310	83 320	83 310	83 320	83 310	83 320	83 310	83 320
SIZE (ND)	10		16		25		32	
CETOP	P05, R05		07		08		10	
ISO 4401	05		07		08		10	
TYPE	pilot operated, for open loop							
	standard	with OBE	standard	with OBE	standard	with OBE	standard	with OBE
p max	350 bar							
Q max	180 l/min		450 l/min		800 l/min		1600 l/min	
PERFORMANCES								
hysteresis	< 4 %	< 2 %	< 4 %	< 2 %	< 4 %	< 2 %	< 4 %	< 2 %
response time 0 → 100 %	50 ms	30 ms	80 ms	50 ms	100 ms	70 ms	200 ms	100 ms
response time 100 → 0 %	40 ms	15 ms	50 ms	25 ms	70 ms	55 ms	120 ms	150 ms
NOMINAL FLOW at 10 bar Δp								
80, 80/40	■	■						
100			■	■				
150, 150/75			■	■				
200					■	■		
300, 300/150					■	■		
350							■	■
500, 500/250							■	■



MODEL CODE	DSPE5J	DSPE7J	DSPE8J	DSPE10J	DSPE11J
CATALOGUE			83 330		
SIZE (ND)	10	16	25	32	35
CETOP	P05, R05	07	08	10	10+
ISO 4401	05	07	08	10	10+
TYPE	closed loop with LVDT + OBE				
p max	350 bar				
Q max	180 l/min	450 l/min	800 l/min	1600 l/min	2800 l/min
PERFORMANCES					
hysteresis	< 0,5 %				
response time 0 → 100 %	40 ms	35 ms	45 ms	100 ms	100 ms
response time 100 → 0 %	35 ms	30 ms	35 ms	140 ms	140 ms
NOMINAL FLOW AT 10 BAR ΔP					
80, 80/40	■				
100		■			
150, 150/75		■			
200			■		
300, 300/150			■		
350				■	
500, 500/250				■	
800					■

■FEATURES ++

EXPLOSION PROOF **DS(P)E*K*** see datasheet 83 510

PILOT / DRAIN **I** internal - **Z** internal pilot with pressure reducing - **E** external (always verify application cases on valve datasheet)

MANUAL OVERRIDE: **CM** boot - **CS** screw (on DSPE* only) - **CK1** knob (on DSPE* only)

ALTERNATIVE SURFACE FINISHES: **W7** Zinc-Nickel (salt spray resistance up to 600 hours) upon request.

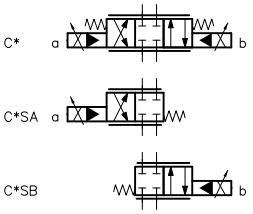
DSPE11J is the high flow version of DSPE10J, with oversized ports.

C*

CLOSED CENTRE

*SA scheme available on DSPE5G, DSPE7G, DSPE5J and DSPE7J

*SB scheme available on DSPE8G, DSPE8J and DSPE10G

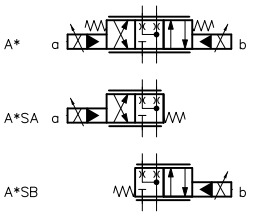


A*

OPEN CENTRE

*SA scheme available on DSPE5G, DSPE7G, DSPE5J and DSPE7J

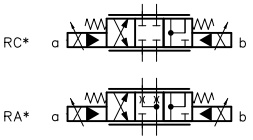
*SB scheme available on DSPE8G, DSPE8J and DSPE10G



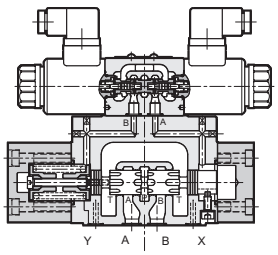
R*

REGENERATIVE

not available on size 05



E

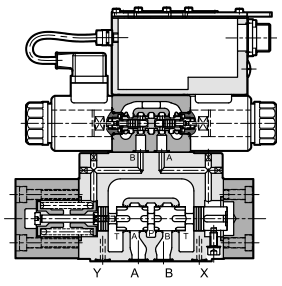


■ PROPORTIONAL CONTROL

COIL CONNECTION: **K1** DIN 43650 style

POWER SUPPLY: **D12** 12V DC - **D24** 24V DC.

G



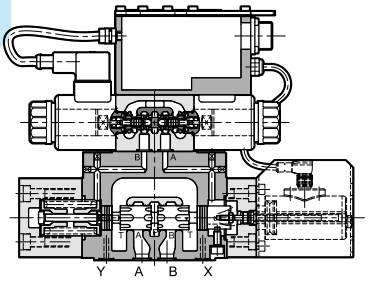
■ ON.BOARD ELECTRONICS

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ±10V or 0 - 10V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor

J

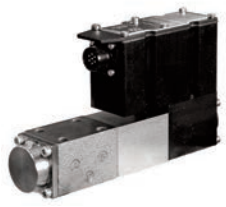


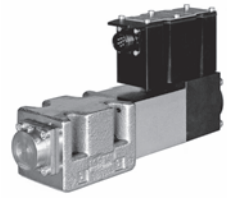
■ OBE + POSITION TRANSDUCER

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ±10V or 0 - 10V
E1 current, 4 - 20 mA

PIN C: **A** external enable
B internal enable
C 0V monitor



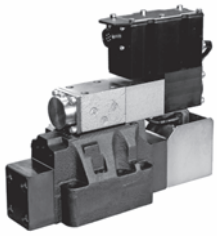


MODEL CODE	DXE3J	DXE5J
CATALOGUE	85 120	85 220
SIZE (ND)	6	10
CETOP	03	05
ISO 4401	4401-03	4401-05
TYPE	high response servo-proportional valves	
p max	350 bar	350 bar
Q max	70 l/min	100 l/min
PERFORMANCES		
hysteresis	< 0,2%	< 0,2%
response time 0 → 100 %	< 10 ms	< 20 ms
frequency response (± 10%) amplitude at -3dB phase lag at 90°	 85 Hz 100 Hz	 30 Hz 80 Hz
NOMINAL FLOW AT Δp 70 bar		
1, 2, 5	■	
10	■	
20	■	
40	■	
60		■
100		■

■FEATURES ++

FAIL SAFE TYPE **F1** closed centre - **F3** open centre - **FC** cross position

SURFACE FINISH: **W7** Zinc-Nickel (salt spray resistance up to 600 hours)



MODEL CODE	DXRE5RJ	DXRE7J	DXRE8J	DXRE10J	DXRE11J
CATALOGUE			85 330		
SIZE (ND)	10	16	25	32	35
CETOP	R05	07	08	10	10+
ISO 4401	4401-05-05	4401-07	4401-08	4401-10	4401-10+
TYPE	pilot operated servo proportional valves				
p max	350	350	350	350	350
Q max	180	450	850	1600	3500
PERFORMANCES FOR ZERO OVERLAP SPOOLS					
response time 0 → 100 %	25	25	30	50	50
frequency response (± 10%) amplitude at -3dB phase lag at 90°	 40 60	 35 50	 30 45	 20 35	 20 35
100	■				
120		■			
220		■			
250			■		
400			■		
800				■	
1000					■
PERFORMANCES FOR POSITIVE OVERLAP SPOOLS					
hysteresis	< 0,1 %				
response time 0 → 100 %	20 ms	20 ms	30 ms	120 ms	120 ms

■FEATURES ++

PILOT / DRAIN: **I** internal - **E** external (always verify application cases on valve datasheet)

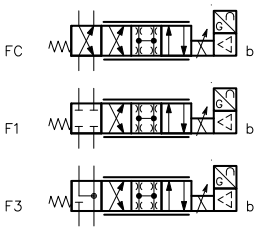
ALTERNATIVE SURFACE FINISH: **W7** Zinc-nickel (salt spray resistance up to 600 hours) upon request.

DXRE11J is the high flow version of DXRE10J with oversized ports.

DIRECT OPERATED

LZ

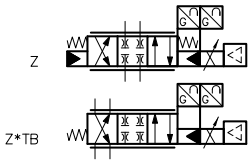
ZERO OVERLAP
with linear flow
characteristic



PILOT OPERATED

Z*

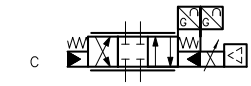
ZERO OVERLAP
with linear flow
characteristic



C*

CLOSED CENTRE

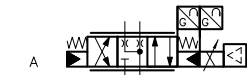
with linear flow
characteristic



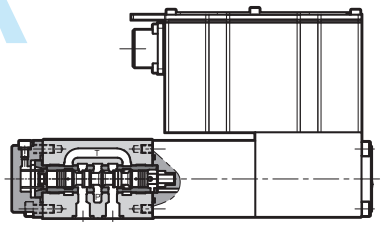
A*

OPEN CENTRE

with linear flow
characteristic



X

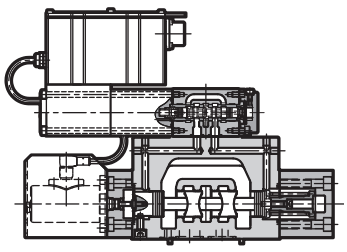


■ SERVO PROPORTIONAL
OBE + POSITION TRANSDUCER

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ± 10 V
E1 current, 4 - 20 mA
PIN C: **A** external enable
B internal enable
C 0V monitor

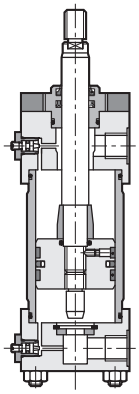
XR



■ SERVO PROPORTIONAL
OBE + POSITION TRANSDUCERS

main connection 24V DC, 6 pin +PE

REF. SIGNAL: **E0** voltage, ± 10 V
E1 current, 4 - 20 mA
PIN C: **A** external enable
B internal enable
C 0V monitor



MODEL CODE	HC2
CATALOGUE	71 000
TYPE	Hydraulic actuators according to ISO 6020-2
p max continuous	160 bar
p max operating	210 bar
p peak	250 bar
stroke	max 5000 mm
speed	standard 0,5 m/s low friction 15 m/s

FEATURES

SINGLE / DOUBLE ROD available
HCK2 ex-proof version available, see catalogue.

MOUNTING STYLE: **A** flange, front - **B** flange, rear - **C** clevis, female - **D** clevis, male - **F** spheric swivel - **G** feet - **H** swinging, front - **L** swinging, mid - **N** swinging, rear - **P** tie rods, front - **Q** tie rods, back - **R** tie rods, front and back - **T** threaded holes, front - **U** threaded holes, rear

SENSORS: As option. **FP** PNP proximity sensor - **FMR** reed magnetic sensors - **FMH** Hall effect magnetic sensors

ALTERNATIVE ROD THREAD: **W** female - **X** male, light - **Y** female, light

SEALS: **K** standard nitrile+polyurethane - **M** low friction nitrile+PFTE - **V** high temperature / viton+PFTE

CUSHIONING: **0** without - **1** front - **2** back - **3** both front and back

BREATHERS: **0** without - **S** with, both front and back

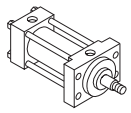
CONNECTIONS POSITION: four position available, see related datasheet.

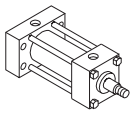
ROD / BORE AVAILABILITY

ROD diameter (mm)	BORE (mm) 25	32	40	50	63	80	100	125	160	200
12	■									
14		■								
18	■	■	■							
22		■	■	■						
28			■	■	■					
36				■	■	■				
45					■	■	■			
56						■	■	■		
70							■	■	■	
90								■	■	■
110									■	■
140										■

A B

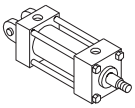
flanged
ME5
ME6

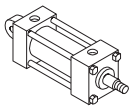




C D

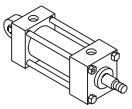
clevis
MP1
MP3





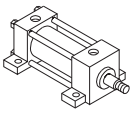
F

swivel joint
MP5



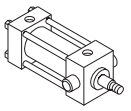
G

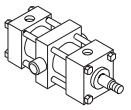
feet
MS2

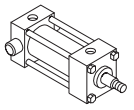


H L N

swinging
MT1
MT2
MT4

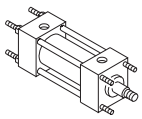






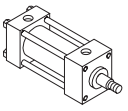
P Q R

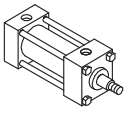
tie rods
MX1
MX2
MX3



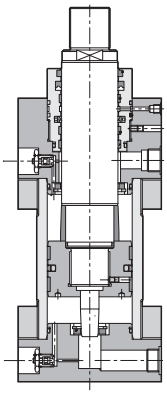
T U

threaded holes
MX5
MX6





MODEL CODE	HC3
CATALOGUE	71 200
TYPE	Hydraulic actuators according to ISO 6022
p max continuous	250 bar
p max operating	320 bar
stroke	max 5000 mm
speed	standard 0,5 m/s low friction 15 m/s



FEATURES

SINGLE / DOUBLE ROD available
HCK3 ex-proof version available, see catalogue.

MOUNTING STYLE: **A** flange, front - **B** flange, rear - **D** clevis, male - **F** spheric swivel - **L** swinging, mid
SENSORS: As option. **FP** PNP proximity sensor - **FMR** reed magnetic sensors - **FMH** Hall effect magnetic sensors

ALTERNATIVE ROD THREAD: **W** female

SEALS: **K** standard nitrile+polyurethane - **M** low friction nitrile+PFTE - **V** high temperature / viton+PFTE

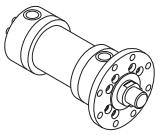
CUSHIONING: **0** without - **1** front - **2** back - **3** both front and back

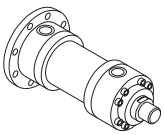
BREATHERS: **0** without - **S** with, both front and back
DRAIN: **0** without - **E** external, with port on the front end

CONNECTIONS POSITION: four position available, see related datasheet.

A B

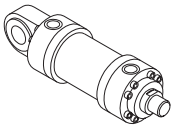
flanged
MF3
MF4





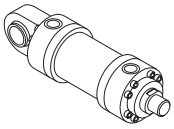
D

clevis
MP3



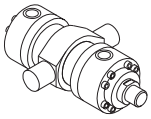
F

swivel joint
MP5



L

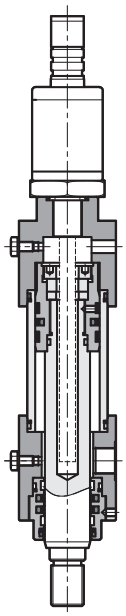
swinging
MT4



ROD / BORE AVAILABILITY

(*) bores not foreseen in the ISO 6022 standard

ROD diameter (mm)			BORE (mm)											
			50	63	80	100	125	140*	160	180*	200	250	320	400
	32	36	■											
	40	45		■										
	50	56			■									
	63	70				■								
	80	90					■							
	90	100						■						
	100	110							■					
	110	125								■				
	125	140									■			
	160	180										■		
	200	220											■	
	250	280												■



MODEL CODE	HCX*	HCX3*
CATALOGUE	71 100	71 300
TYPE	Servocylinders	
	according to ISO 6020-2	according to ISO 6022
p max continuous	160 bar	250 bar
p max operating	210 bar	320 bar
max stroke	5000 mm	5000 mm
max speed	standard 0,5 m/s	low friction 15 m/s
bore	Ø40 mm to Ø200 mm	Ø50 mm to Ø400 mm
rod	Ø22 mm to Ø140 mm	Ø32 mm to Ø280 mm

FEATURES

SINGLE / DOUBLE ROD available

MOUNTING STYLE: **A** flange, front - **G** feet - **H** swinging, front - **L** swinging, mid - **N** swinging, rear - **P** tie rods, front - **Q** tie rods, back

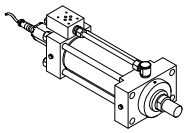
SENSORS: Wide range of transducers available, **M3** 0 ÷ 10 V - **M3A** ±10 V **M2** 4 ÷ 20 mA - **M8** 20 ÷ 4 mA - **M6** CAN-open - **M1** SSI, digital **MP** ProfiBus. Further types upon request.

VALVE MOUNTING SURFACE: **04** ISO 10372 (servovalves) - **3** ISO 4401-03 **5** 4401-05 - **9** custom

SEALS: low friction nitrile+PFTE or **V** high temperature viton+PFTE

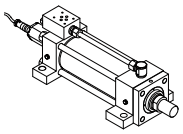
A

flanged
ME5



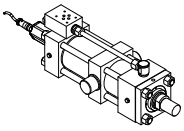
G

feet
MS2



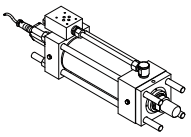
H L N

swinging
MT1
MT2
MT4



P Q R

tie rods
MX1
MX2
MX3



ROD / BORE AVAILABILITY

ROD diameter (mm) \ BORE (mm)	40	50	63	80	100	125	160	200
22	■	■						
28	■	■	■					
36		■	■	■				
45			■	■	■			
56				■	■	■		
70					■	■	■	
90						■	■	■
110							■	■
140								■

MODEL CODE	EDC	EDM-M	EDM-J	EWM-A-SV	EWM-A-PV
CATALOGUE	89 120	89 251	89 255	89 610	89 620
TYPE	single amplifier	for proportional valves in open loop	for proportional valves in closed loop without OBE	for servovalves	for proportional valves in open loop
MOUNTING	on-board	rail mounting		rail mounting	
configuration	by hands/software	software		by hands	software
IP grade	IP 65/67	IP 20		IP 20	
power supply	10 - 30 V DC	9 - 36 V DC	24 V DC	18 - 30 V DC	12 - 30 V DC
reference signal	0 ÷ 10 V 0 ÷ 5 V 4 ÷ 20 mA	0 ÷ 10 V ± 10 V 4 ÷ 20 mA	± 10 V 4 ÷ 20 mA	± 10 V	0 ÷ 10 V; ± 10 V 4 ÷ 20 mA 8 digital binary

EDC

MAX CURRENT : **1** 860 mA - **2** 1200 mA - **3** 1600 mA - **4** 1880 mA - **5** 2600 mA
PWM: **1** 100 Hz - **2** 200 Hz - **3** 300 Hz - **4** 400 Hz - **5** 500 Hz

EDM-M

VERSION: **1** for single solenoid valves - **2** for dual solenoid valves - **3** 2 channels - independent control of 2 solenoids
MAX CURRENT : **1** 860 mA - **2** 1200 mA - **3** 1600 mA - **4** 1880 mA - **5** 2600 mA; PWM: **1** 100 Hz - **2** 200 Hz - **3** 300 Hz - **4** 400 Hz

EDM-J

For valves type F. Each card is set and combined with its valve in factory, with univocal serial number.

EWM-A-SV

CONFIGURATION: DIL switches and trimmers inside the casing. 5 DIL switches allow to set a current value from 0 to 200 mA, with increments of 10 mA. (10, 20, 30 ... etc.).

EWM-A-PV

CARD FUNCTIONS: To be set via software: **A-PV** analogue ± 10V or 4 ÷ 20 mA (one channel, 2 solenoids) - **2A-PV** analogue 0 ÷ 10V or 4 ÷ 20 mA (two indipendent channels) - **D-RL** digital, 8 pre-set values, selectable by 3 digital inputs (8 binary targets). For both single or dual solenoids proportional valve either.

MODEL CODE	EWM-S-AA	EWM-ST-AA	EWM-S-AD	EWM-SP-DAD	EWM-SP-DAD
CATALOGUE	89 410	89 411	89 420	89 440	89 445
TYPE	card for closed loop systems				
CONTROL	position controller			position, pressure, both	
MOUNTING	rail mounting				
IP grade	IP 20				
power supply	12 - 30 V DC	12 - 30 V DC	24 - 30 V DC	24 - 30 V DC	24 - 30 V DC
reference signal	analogue	analogue	analogue	Profibus DP	ProfiNet / EtherCat
OUTPUT					
E	± 10 V differential 4 ÷ 20 mA	4 ÷ 20 mA	± 10 V differential 4 ÷ 20 mA	± 10 V differential 4 ÷ 20 mA	± 10 V differential 4 ÷ 20 mA
M*	-	500 ÷ 2600 mA	-	-	-
FEEDBACK					
voltage 0 ÷ 10	■	■	■	■	■
current 4 ÷ 20 mA	■	■	■	■	■
digital, SSI			■	■	■

EWM-S-AA / EWM-ST-AA

Position controller for systems with analogue sensor. The EWM-ST-AA has been designed for steam turbine applications, with dedicated parameters.

EWM-S-AD

Position controller for systems with digital position feedback, it can work with analogue also.

EWM-SP-DAD

Position controller for closed loop systems for position, pressure or both position and pressure control. It works with a digital sensor for positioning, and one or two analogue sensors for pressure sensing. Embedded interface for Profibus DP or ProfiNet communication.

All these modules have to be programmed via software. USB port on front panel. Free download of the software EWMPC and PLC configuration files from our site. Sampling time of the control loop: 1 ms.

ELECTRONICS
SYNCHRONIZATION

MODEL CODE	EWM-MS-AA	EWM-2SS-DAD	EWM-2SS-DAD
CATALOGUE	89 450	89 470	89 475
TYPE	card for closed loop systems		
CONTROL	synchro 2 / 6 axes	synchro 2 axes	synchro 2 axes
MOUNTING	rail mounting		
IP grade	IP 20		
power supply	12 - 30 V DC	24 V DC	24 V DC
reference signal	0 ÷ 10 V 4 ÷ 20 mA	Profibus DP	ProfiNet / EtherCat
OUTPUT			
E	± 10 V differential 4 ÷ 20 mA	± 10 V differential 4 ÷ 20 mA	± 10 V differential 4 ÷ 20 mA
M2	500 ÷ 2600 mA	-	-
FEEDBACK			
voltage 0 ÷ 10	■	■	■
current 4 ÷ 20 mA	■	■	■
digital, SSI		■	■

■ EWM-MS-AA

FUNCTIONS: MASTER/MASTER position control (2 axes); MASTER/SLAVE position control, for up 6 axes.
If the synchronisation controller is active, it overrides the position control process. INDEPENDENT POSITIONING by separate commands position. One card per axis to be driven is needed.

■ EWM-2SS-DAD SYSTEM

2 axes sinchronized positioning via Fieldbus (ProfiBus, ProfiNet, EtherCat). Fieldbus card embedded.
MASTER/SLAVE or MASTER/MASTER. Motion profile (speed and position) via Fieldbus.
One card per system (2 axesis needed.

All these modules have to be programmed via software. USB port on front panel. Free download of the software EWMPC and .GSD file from our site.

PRESSURE ■

MODEL CODE	EWM-P-AA	EWM-PQ-AA
CATALOGUE	89 500	89 550
TYPE	card for closed loop systems	
CONTROL	pressure	pressure + flow
MOUNTING	rail mounting	
IP grade	IP20	
power supply	12 - 30 V DC	
reference / p signal	0 ÷ 10 V 4 ÷ 20 mA	0 ÷ 10 V 4 ÷ 20 mA
Q input	-	±10 V 4 ÷ 20 mA
OUTPUT		
E	-	±10 V differential 4 ÷ 20 mA
M1	500 ÷ 2600 mA	-
FEEDBACK		
voltage 0 ÷ 10	■	■
current 4 ÷ 20 mA	■	■

■ EWM-P-AA

For proportional pressure reducing and pressure relief valves. The power amplifier is embedded.
The reference signal is transferred directly to the pressure valve and the closed loop compensates just the linearity failures.

■ EWM-PQ-AA

For zero-overlap control valves. The p/Q controller automatically switches between flow and pressure control modes to assure the set point limits of the differential pressures has not to exceed.

All these modules have to be programmed via software. USB port on front panel. Free download of the EWMPC software from our site. Sampling time of the control loop: 1 ms.

MODEL CODE	EDCPC	LINPC-USB
CODE	3898301001	89 850
TYPE	software kit	test device
for	ECL, ECF, EDC	proportional valves with LIN-bus interface type G, J, X series 20, 30 and 31

EDCPC

The kit is made of software CD, drivers, cable USB/serial port and an adaptor with serial port that should be plugged on the amplifier.

LINPC-USB

The kit contains a test device with embedded connection cable 7 pin and the USB cable for connection to the PC.
The dedicated software of each valve series is available for free download from our web site.
No additional power supply is required: the device uses the supply source from the 7 pin system cable.

MODEL CODE	EWMPC/20	EBC
TYPE	free-download software	
for	EWM cards series 20 proportional valves	proportional valves with LIN-bus interface type G, J, X series 30 and 31 EDM-M, EDM-J cards series 30

EWMPC

Software for parameterization of EWM series 20 cards. Compliant for OS Windows 7, 8 and 10.
Card connection via USB port, with USB 2.0 cable A – B (standard USB printer cable).

EBC

Software for parameterization and diagnostic of:
- Duplomatic proportional valves with LIN-bus interface type G, J and X, series 30 and 31.
  To be combined with LINPC tool.
- Duplomatic EDM-M and EDM-J cards, series 30.

Compliant for OS Windows 7, 8 and 10.
Card connection via USB port, with USB 2.0 cable A – micro B.

MODEL CODE	PM RQ3*	PM RQ5*	PM RQ7*	PM RQA5*	PM SZ3*	PM SZ5*
CATALOGUE	51 000					
PATTERN	ISO 6264-06	ISO 6264-08	ISO 6264-10	-	ISO 5781-06	ISO 5781-08
TYPE	for pressure valves - ports on rear					
p max	350 bar	350 bar	350 bar	350 bar	320 bar	320 bar
PORT THREAD						
P, E	1/2" BSP	1" BSP	1 ¼" BSP	3/4" BSP	1/2" BSP	1" BSP
T	3/4" BSP	1/4" BSP	1 ¼" BSP	3/4" BSP		
X	1/4" BSP			-	1/4" BSP	
Y	-	-	-	-	1/4" BSP	
U	-	-	-	3/4" BSP	1/2" BSP	1" BSP

MODEL CODE	PM RPC1*	PM RPC2*	PM RPCQ2*	PM RPC3*	PM RPCQ3*
CATALOGUE	51 000				
PATTERN	ISO 6263-03	ISO 6263-06-05	ISO 6263-06-07	ISO 6263-07-09	ISO 6263-07-11
TYPE	for flow control valves				
p max	250 bar	320 bar	320 bar	250 bar	250 bar
PORT THREAD					
A, B	3/8" BSP	-			
E, U	-	1/2" BSP	1/2" BSP	1" BSP	1" BSP
T	-	-	1/2" BSP		1" BSP
X			1/4" BSP		1/4" BSP
PORT POSITION					
rear	■	■	■	■	■
side	■				

MODEL CODE	PM MD	PM D4		PM E4	PM E07	PM E5
CATALOGUE	51 000					
PATTERN	ISO 4401-03	ISO 4401-05		CETOP P05	ISO 4401-07	ISO 4401-08
TYPE	for directional valves					
p max	350 bar	320 bar		320 bar	350 bar	350 bar
PORT THREAD						
A, B, P, T	3/8" BSP	3/8" BSP	1/2" BSP	3/4" BSP	1" BSP	1 ½" BSP
X, Y	-	-	-	1/4" BSP	1/4" BSP	1/4" BSP
PORT POSITION						
rear	■	■		■	■	
side	■		■	■	■	■

PLATES

MODEL CODE	PE-MD	PE- C/PA	PE- C/PB	PE-D4/M	PC-D4
CATALOGUE	59 000				
SIZE ISO 4401	03	03	03	05	05 to 03
TYPE	blanking	cross PA /BT	cross PB/AT	blanking	conversion
p max	350 bar				

MODEL CODE	P2D	P2T	P4D-D*	P4D*
CATALOGUE	52 000		53 000	
FOR SIZE	ISO 4401-03		ISO 4401-03	ISO 4401-05
TYPE	modular subplates			
Q max	50 l/min		100 l/min	100 l/min
PORT SIZE				
P, A, B, T low	3/8" BSP		see options	
T up	1/2" BSP			
material	cast iron			
stations	1	2	1	1

■P2* FEATURES ++

OPTIONS: **F** threaded ports, additional T port - **I** intermediate type with threaded bores and additional T port - **Z** designed for installation of an ISO 4401-03 pressure reducing valve - **M*** built-in pressure relief valve

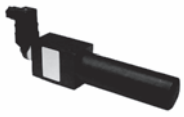
■P4* FEATURES ++

D3 mounting surface ISO 4401-03 (CETOP 03) , A and B side ports 3/8" BSP - **D3P** mounting surface ISO 4401-03 (CETOP 03) and A and B rear ports 1/2" BSP - **F** mounting surface ISO 4401-05 (CETOP 05) , A and B side ports 1/2" BSP - **P** mounting surface ISO 4401-05 (CETOP 05) and A and B rear ports 3/8" BSP - **M*** built-in pressure relief valve (4 ranges available)

MODEL CODE	P2A*	P2X*
CATALOGUE	52 100	52 110
FOR SIZE	ISO 4401-03	
TYPE	multi-station manifold	
PORTS	side	rear
p max	210 bar	350 bar
Q max	50 l/min	100 l/min
PORT THREAD		
A, B	3/8" BSP	1/2" BSP
P, T	1/2" BSP	1/2" BSP
material	aluminium	cast iron
stations	2 to 8	2, 4 or 6

■P2X* FEATURES ++

M with seat for pressure relief cartridge valve. See related datasheet for details.



MODEL CODE	FSI	FST	FPH	FPM	FPHM	FRT	FRC
CATALOGUE	95 100	95 110	95 210	95 220	95 230	95 150	95 160
TYPE	suction filters		pressure filters			return filters	
mounting	submerged	flanged	online		subplate	above reservoir flanged	above reservoir online
differential p max	1 bar	1 bar	20 bar 210 bar (cart. 5 µm)	21 bar	210 bar	3 bar	3 bar
working pressure	-	-	420 bar	210 bar	315 bar	3 bar	7 bar
FILTRATION							
metal wire mesh 90 µm	■	■	-				
fiber 05 µm	-	-	■	■	■		
fiber 10 µm	-	-	■	■	■	■	
fiber 25 µm	-	-	■	■	■	■	■
paper 10 µm	-	-				■	■
paper 25 µm	-	-					■
AVAILABLE SIZES / FLOWRATE RANGE (l/min)							
ISO 4401-03	-	-	-	-	12 - 16	-	-
ISO 4401-05	-	-	-	-	22 - 28	-	-
3/8" BSP	9	-	-	-	-	-	-
1/2" BSP	14	-	10 -33	25 - 60	-	18 - 30	-
3/4" BSP	25	-	19 - 65	35 - 80	-	50 - 85	65 - 75
1" BSP	45	-	40 - 105	40 - 100	-	65 - 130	-
1 1/4" BSP	75	70	88 - 230	-	-	150 -210	-
1 1/2" BSP	100	-	120 - 320	-	-	160 - 290	180 - 200
2" BSP	160	-	-	-	-	280 - 430	-
2 1/2" BSP	250	-	-	-	-	-	-
3" BSP	350	-	-	-	-	-	-
2 1/2" SAE		100					
3" SAE		200					
4" SAE	-	300	-	-	-	-	-
ACCESSORIES							
Clogging indicator, visual		VS/10	VPM/10	VPM/10	VM/10	VR/10	VR/10
Clogging indicator, electric		ES/10	-	-	-	ER/11	ER/11
Clogging indicator, visual+electric		-	EPM/10	EPM/10	EM/10	-	-
Filter element (spare part)		FSTE	FPHE	FPME	FPHME	FRTE	FRCE

■ FEATURES++

BYPASS VALVE: FRT, FRC pressure opening 1,7 bar. FPH, FPM: **0** without - **B** with (Bypass valve not available with cartridge fiber 05 µm).
FILTER ELEMENT: Available as spare parts too for all filters. FRC, FPM : **S** standard - **L** long lasting

MODEL CODE	M63*R	M63*PF
CATALOGUE	91 000	
TYPE	pressure gauges - according to EN 837-1	
mounting	1/4"BSP radial connection	1/4"BSP flange connection
p max	end scale value for short period	

FEATURES++

GAUGE SCALE: **006** 0 ÷ 6 bar - **010** 0 ÷ 10 bar - **016** 0 ÷ 16 bar - **025** 0 ÷ 25 bar - **060** 0 ÷ 60 bar - **100** 0 ÷ 100 bar **160** 0 ÷ 160 bar -**250** 0 ÷ 250 bar - **400** 0 ÷ 400 bar.
PF Flange connection available from 060 to 400 only.

MODEL CODE	PS*2	PS*4	PS*6	PS*8
CATALOGUE	91 100			
TYPE	pressure switch, piston			
p max	350 bar		650 bar	
p adjustment range	3 - 35 bar	6 -140 bar	10 - 350 bar	20 - 630 bar

FEATURES++

MOUNTING **P** ISO 4401-03 subplate - **T** threaded port 1/4" BSP

MODEL CODE	PTH			
CATALOGUE	92 100			
TYPE	pressure transmitters			
p nom	40 bar	100 bar	250 bar	400 bar
p max	120 bar	300 bar	750 bar	1000 bar
p burst	280 bar	500 bar	1000 bar	2000 bar
hysteresis	± 0.2% of nominal pressure			
accuracy	0.5% of nominal pressure			
TEB total error band	± 0.5% of nominal pressure			

FEATURES++

HYDRAULIC CONNECTION: threaded port 1/4" BSP with seal (DIN 3869)
OUTPUT SIGNAL: **E1** current 4 ÷ 20 mA - **E0** voltage 0 ÷ 10 V;
upon request: **E2** voltage 0 ÷ 5 V - **E5** voltage 0.5 ÷ 4.5 V ratiometric
ELECTRICAL CONNECTION: **K10** mini DIN 43650 - **K12** M12 - 5 pin

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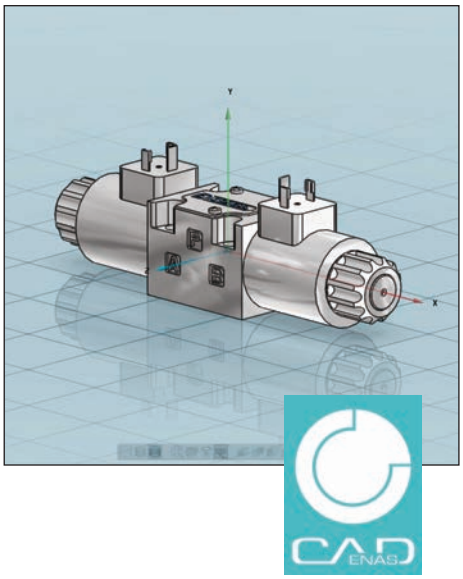

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NOTES

NOTES

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