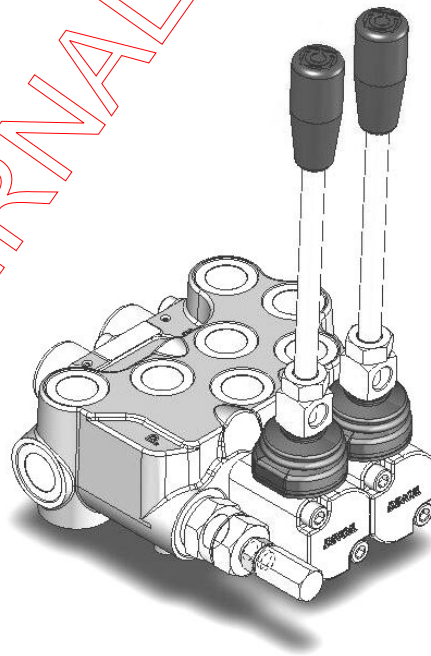


PRODUCT DATA SHEET
REV.9

Product: (DO6DE---)

GENERAL INDEX

General specifications	page 2
Overall dimensions	page 3
Hydraulic circuits	page 5
Pressure drop curves	page 6
Ordering instructions	page 17
Number of sections	page 18
Threads	page 19
Torques	page 20
Main relief valve	page 21
Spool control	page 23
Spool – Circuit	page 30
Actuators on lever side	page 44
Actuators on spool control side	page 49
Port auxiliary valves	page 50
Following section	page 51
Options on T line	page 52
Type of P – T	page 55
Levers	page 56
Machining	page 59
Spare part list	page 61



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This document has been drawn up with the greatest attention to precision and accuracy of all data herein contained.

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General features

Number of sections	<i>From 1 to 7</i>	
Circuit type	<i>Parallel</i>	
Spool diameter	<i>15 mm</i>	<i>0.59 in</i>
Spool O-Ring hardness	<i>60 sh</i>	
Port auxiliary valves	<i>Port relief valve (VL)</i>	
Carry Over preparation (power beyond)	<i>Standard</i>	
Carry Over plug (power beyond)	<i>Optional</i>	

Working features

Following characteristics are influenced by testing conditions. Values are obtained with oil at viscosity of 21 CST, temperature of 50°C and pressure of 100 bars, double acting spool (circuit 1) and are valid only for standard threads.

Nominal flow rate	<i>35 l/min</i>	<i>9.2 US gpm</i>
Maximum flow rate	<i>45 l/min</i>	<i>11.9 US gpm</i>
Maximum pressure	<i>250 bar</i>	<i>3650 psi</i>
Maximum tank pressure	<i>50 bar</i>	<i>730 psi</i>
Max. internal leakage (A or B => P and T)	<i>8 cm³/min</i>	<i>0.49 in³/min</i>

Fluid working range

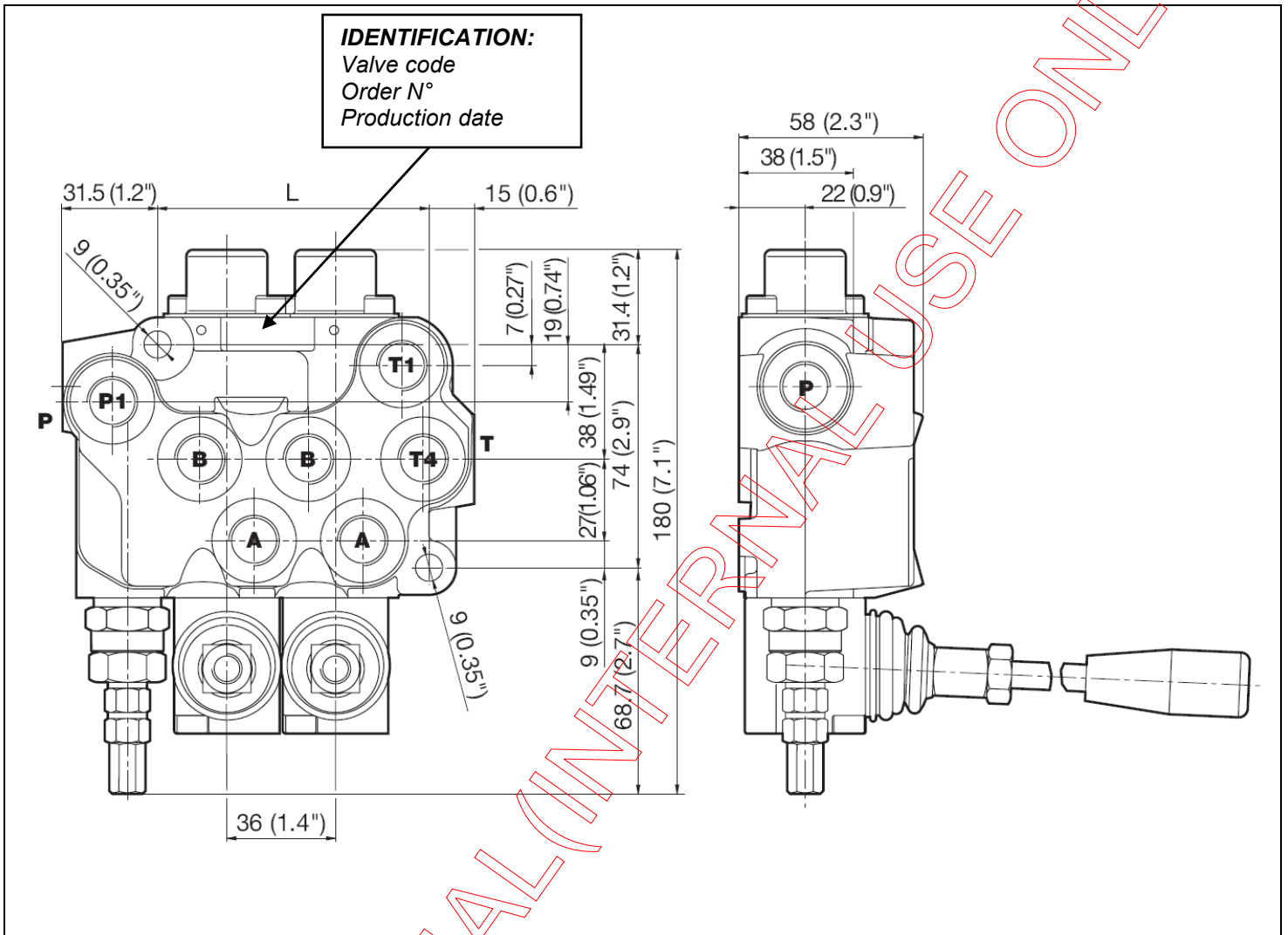
Fluid	<i>Mineral based oil</i>
Working temperature (*)	<i>-20°C +80°C with NBR seals -20°C +130°C with HNBR seals</i>
Working oil viscosity	<i>From 10 cSt to 100 cSt</i>

(*) For different working temperature, fluid or viscosity, please contact our sales department.
NOTE: do not wash valve with direct water jet.

Units of measure – conversion factors

	METRIC	BSP
Length	<i>1 mm = 0,0394 in</i>	<i>1 in = 25,4 mm</i>
Mass	<i>1 kg = 2,205 lb</i>	<i>1 lb = 0,454 kg</i>
Force	<i>1 Nm = 0,102 kgf</i>	<i>1 kgf = 9,807 Nm</i>
Volume	<i>1 l = 0,2200 gal UK</i>	<i>1 gal UK = 4,546 l</i>
	<i>1 l = 0,2642 gal US</i>	<i>1 gal US = 3,785 l</i>
Pressure	<i>1 bar = 100000 Pa</i>	<i>1 Pa = 0,00001 bar</i>
	<i>1 bar = 14,5 psi</i>	<i>1 psi = 0,0689 bar</i>

Overall dimensions



Weights

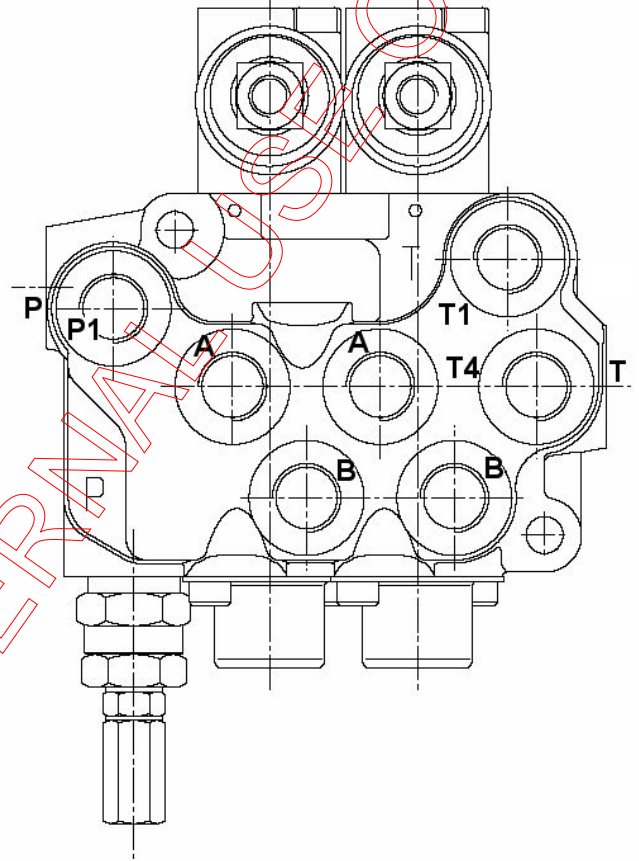
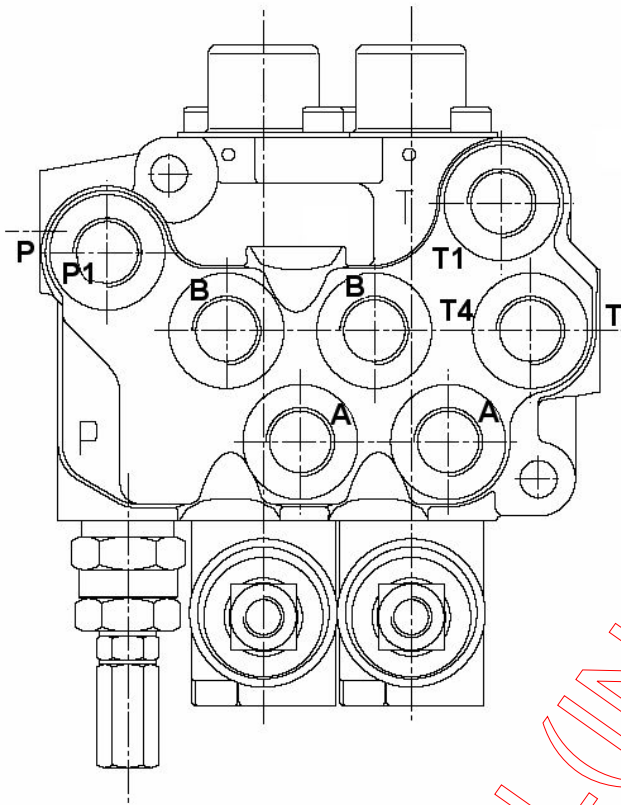
MOD.	L. mm (inch)	Weight Kg (lb)	MOD.	L. mm (inch)	Weight Kg (lb)
ML1	54 (2.12)	2.9 (6.4)	ML5	198 (7.8)	7.8 (17.2)
ML2	90 (3.54)	4.2 (9.2)	ML6	234 (9.21)	9.0 (19.9)
ML3	126 (4.96)	5.3 (11.7)	ML7	270 (10.62)	10.2 (22.6)
ML4	162 (6.37)	6.6 (14.5)			

Inlet side – definition of port A - B

Port A is defined by the lever side. When valve is right inlet the position of the letter associated to the port is inverted

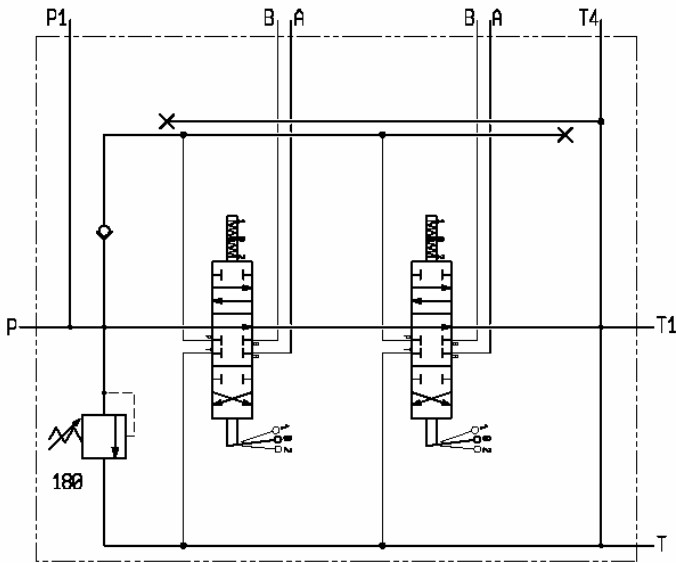
Left inlet

Right inlet

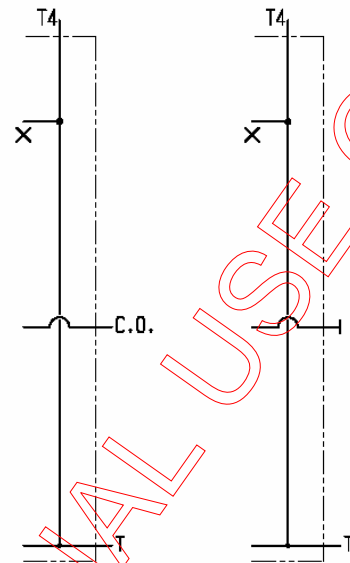


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Hydraulic circuits



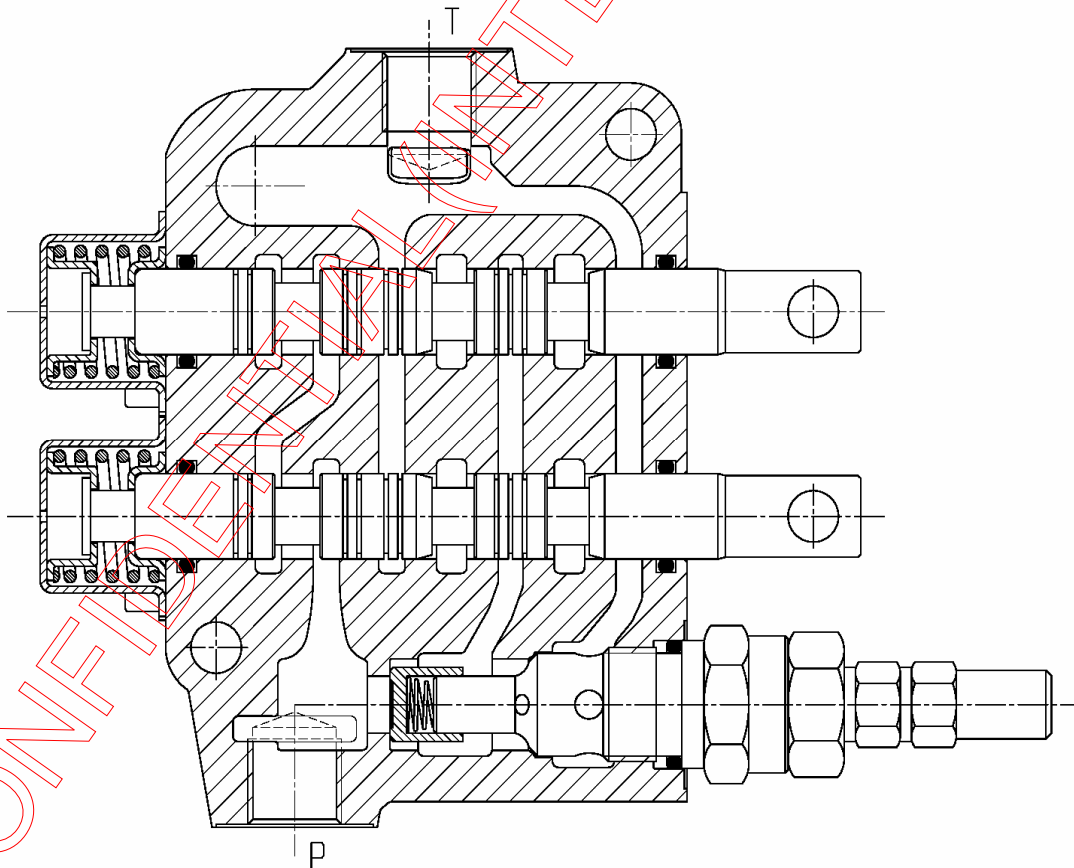
Standard Circuit (es. ML2 AZ A1x2 PP1TT1T4)



Carry Over

Closed centre

Section

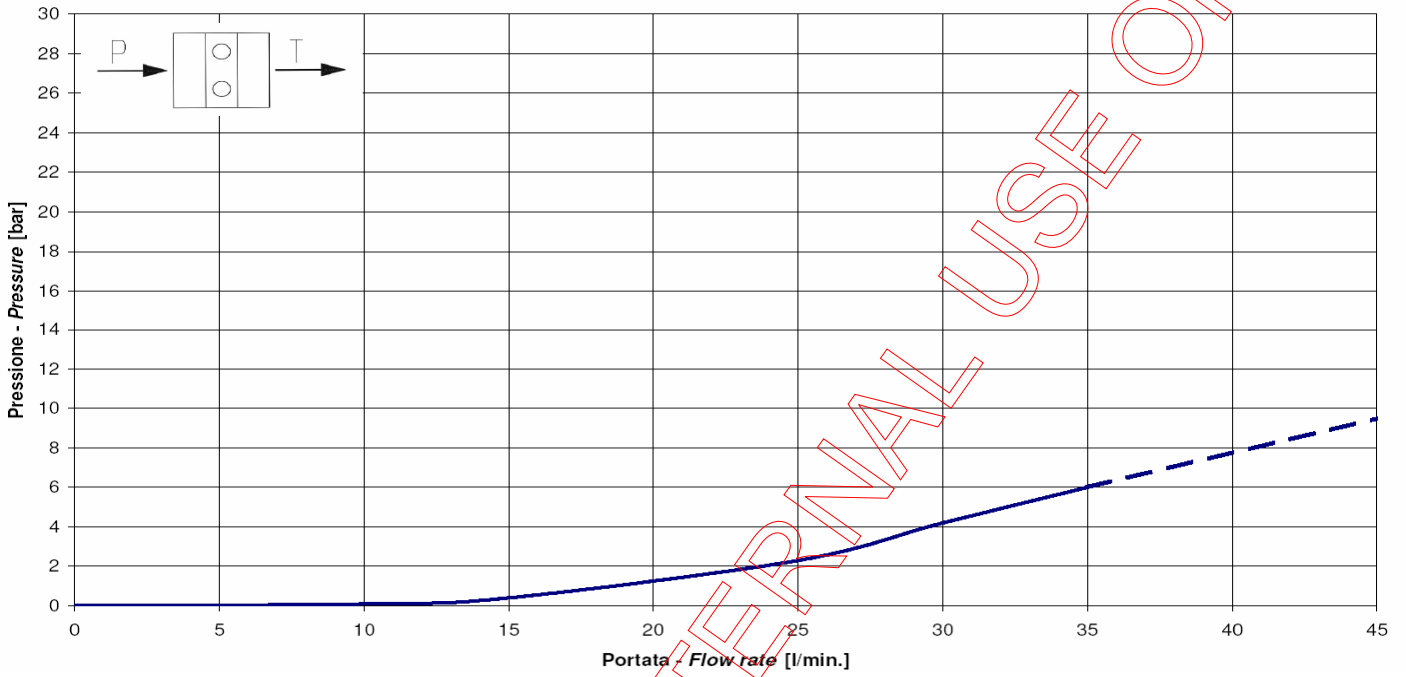




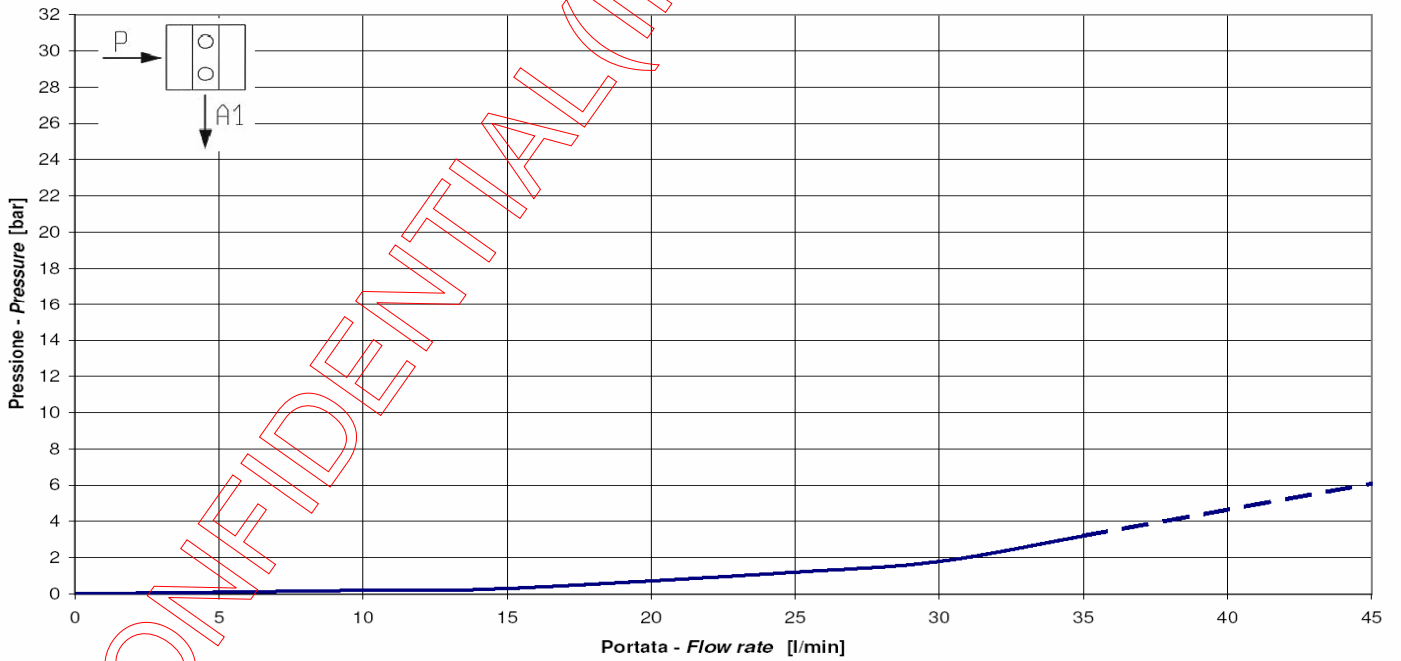
Pressure drop curves

All curves are obtained with oil at 21 cSt of viscosity (50°C) and with double acting spool (See test norm DSP01000B).

P-T ML/1 Spola - Spool 2921EE01000 21cSt

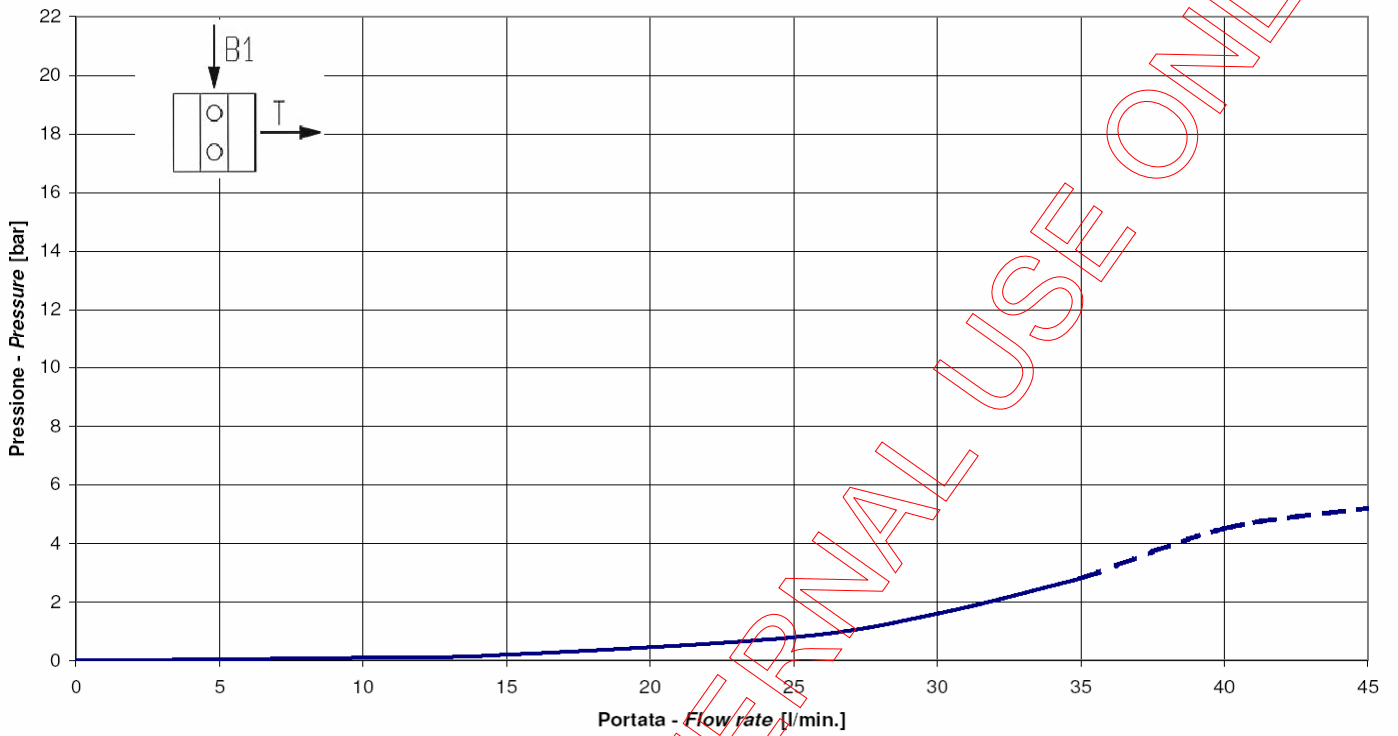


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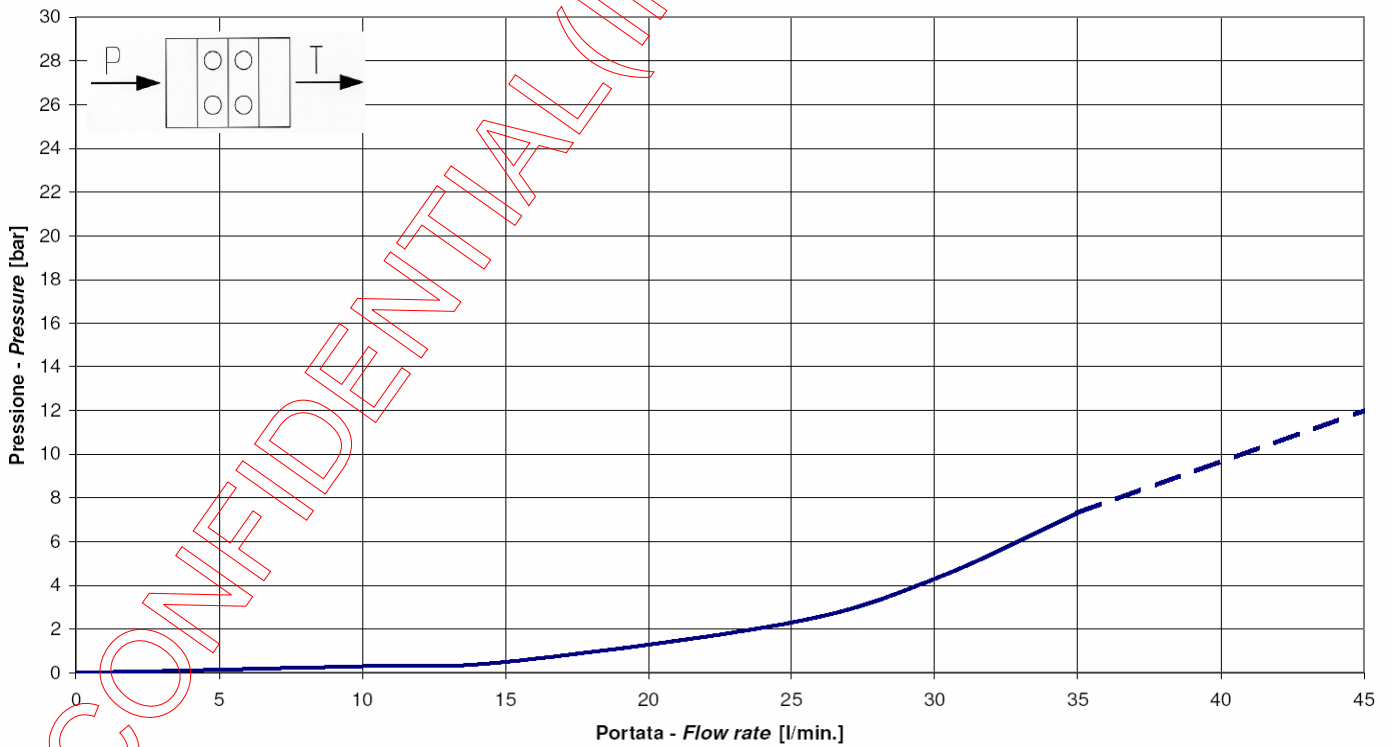




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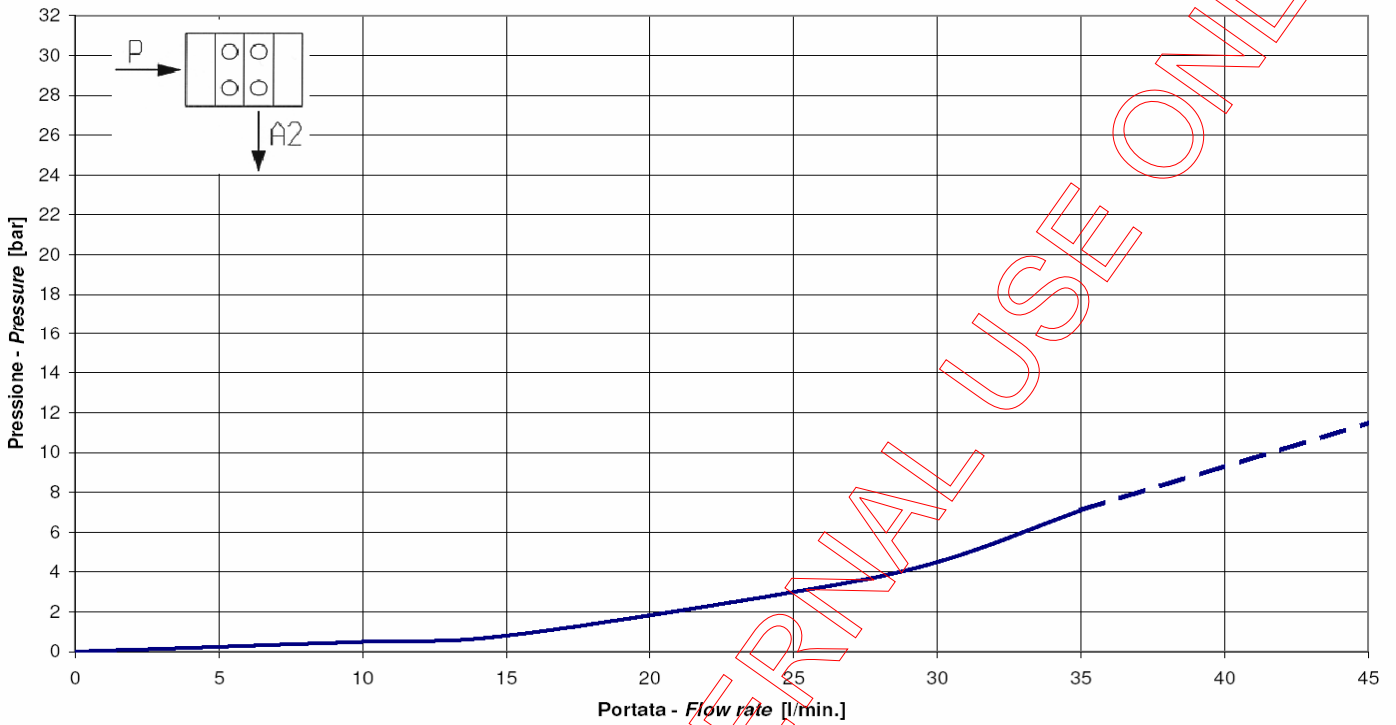


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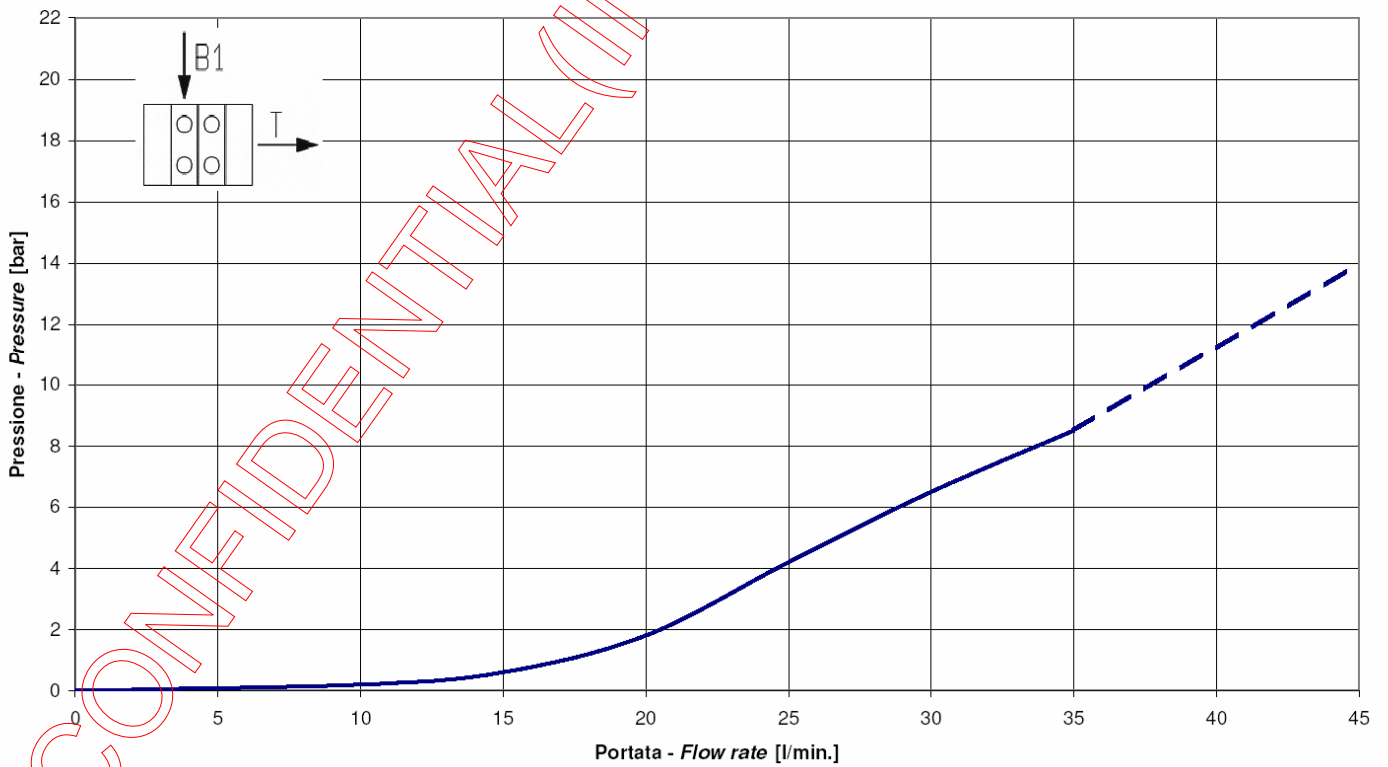




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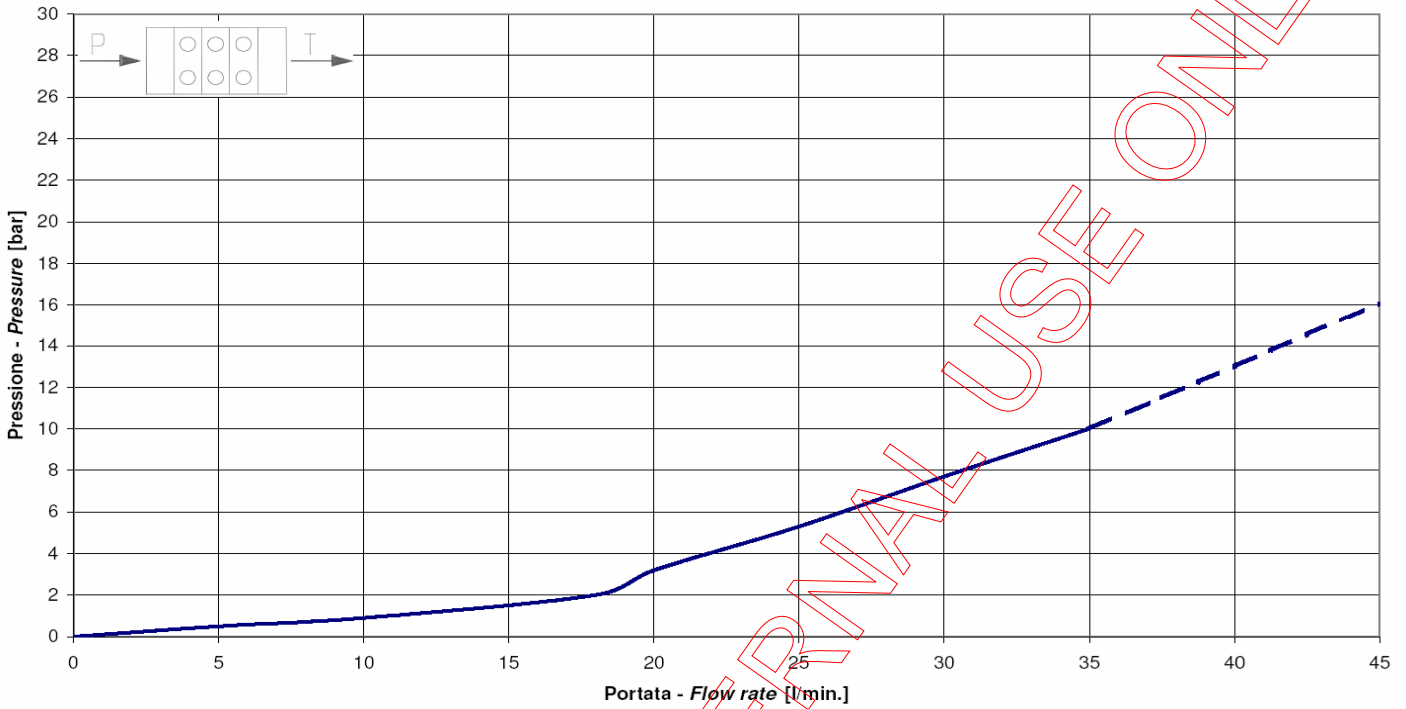


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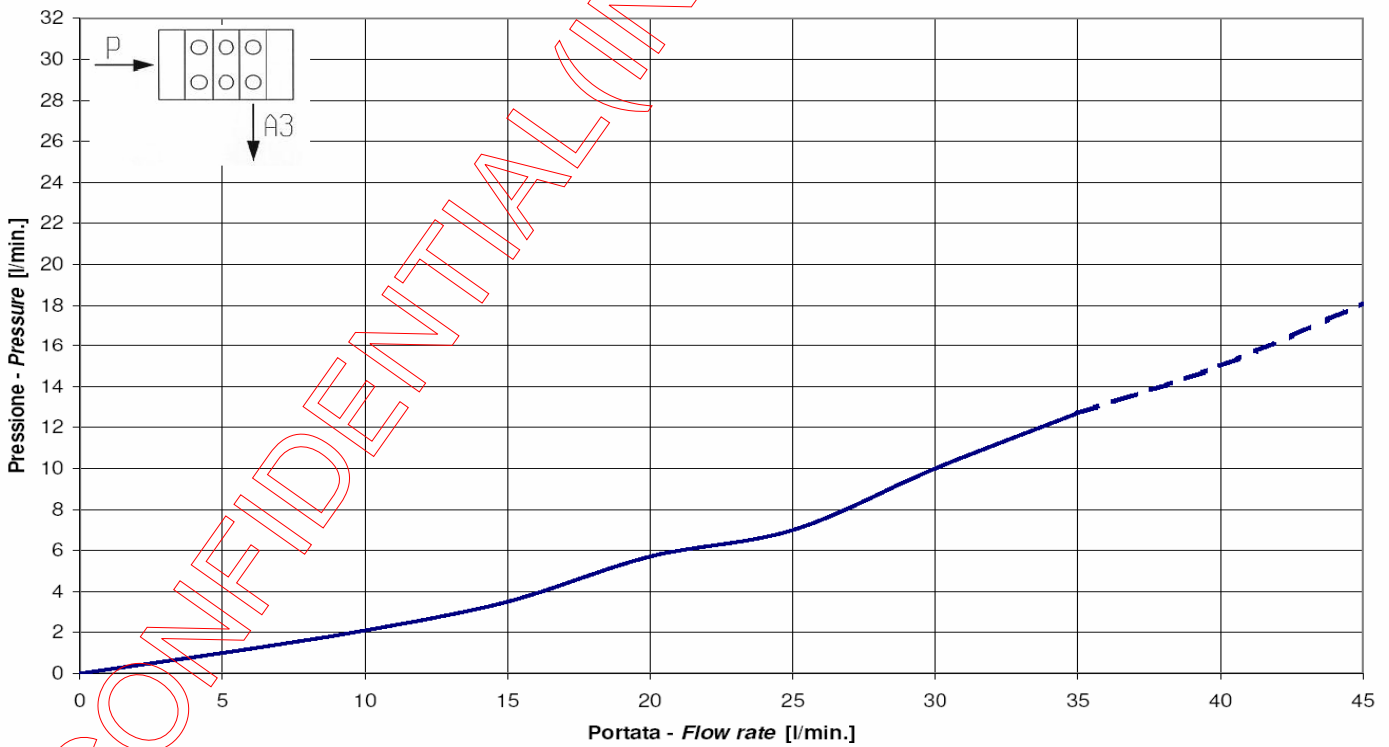




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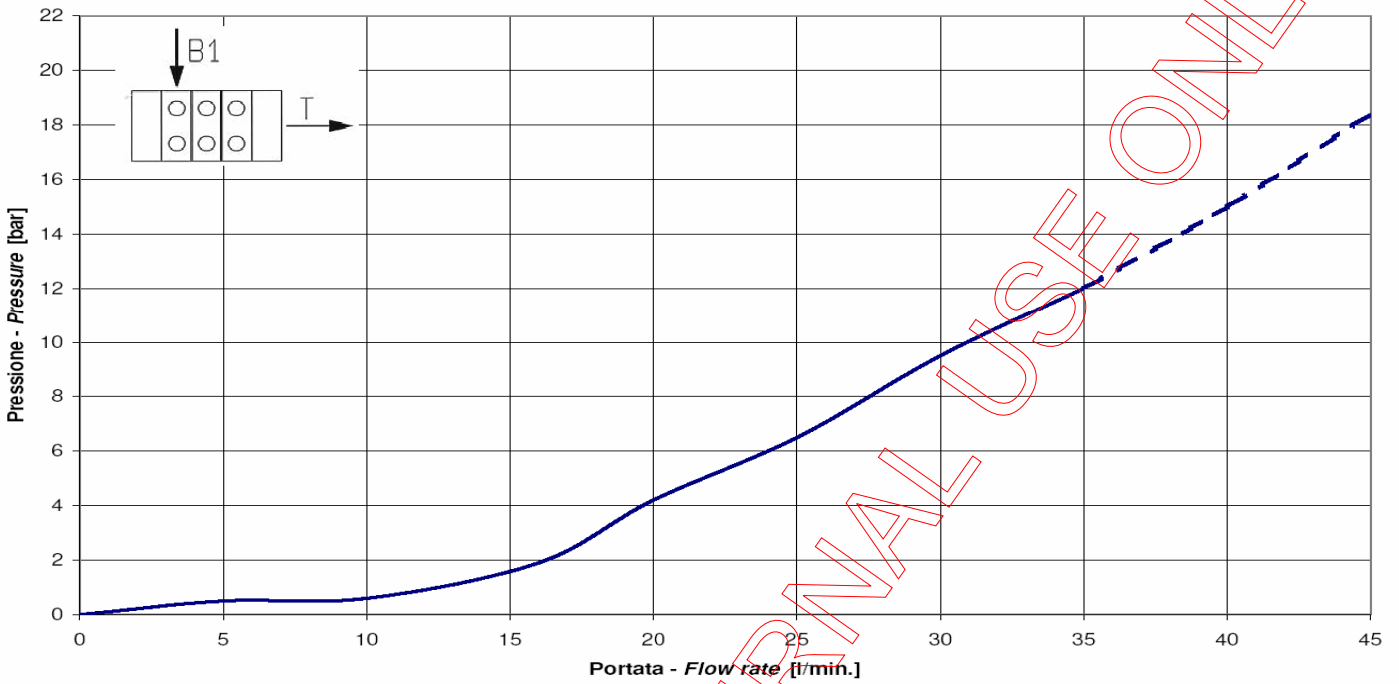


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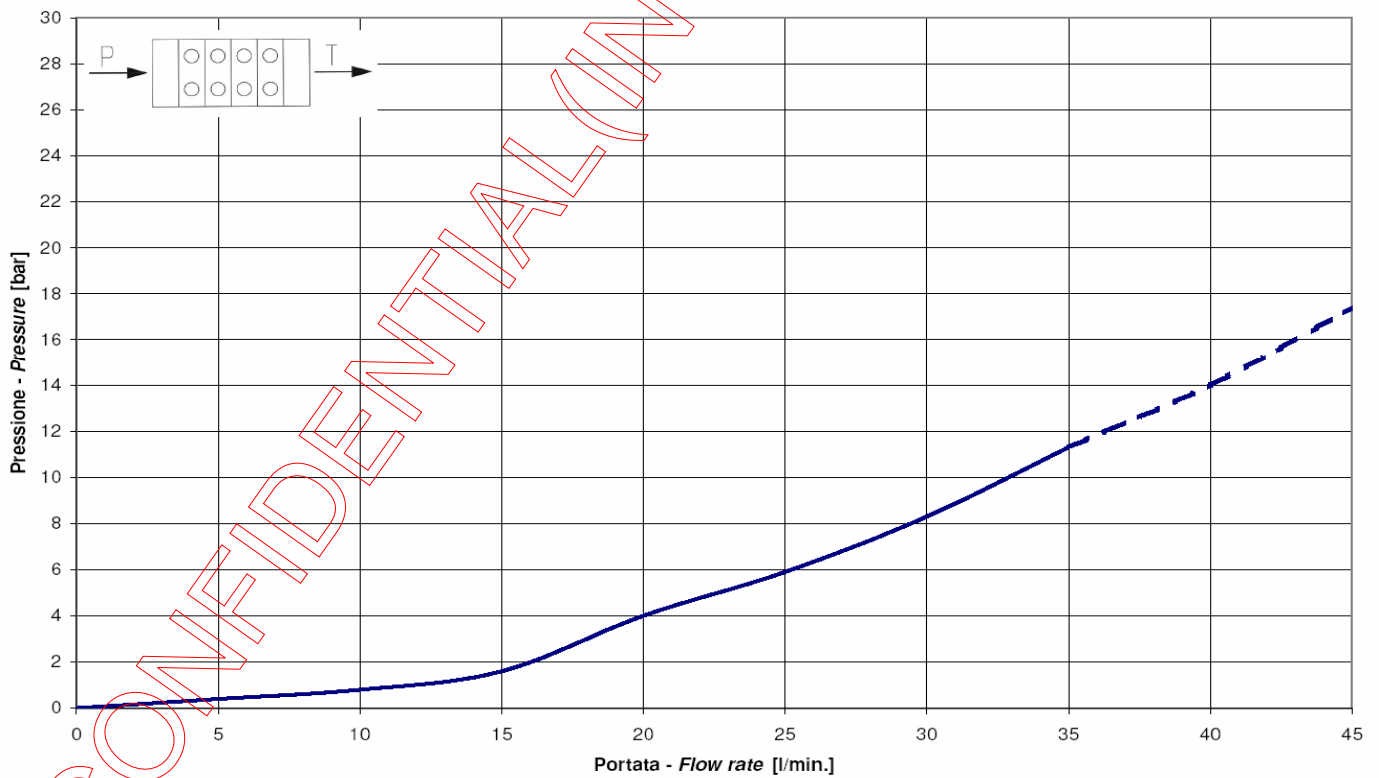




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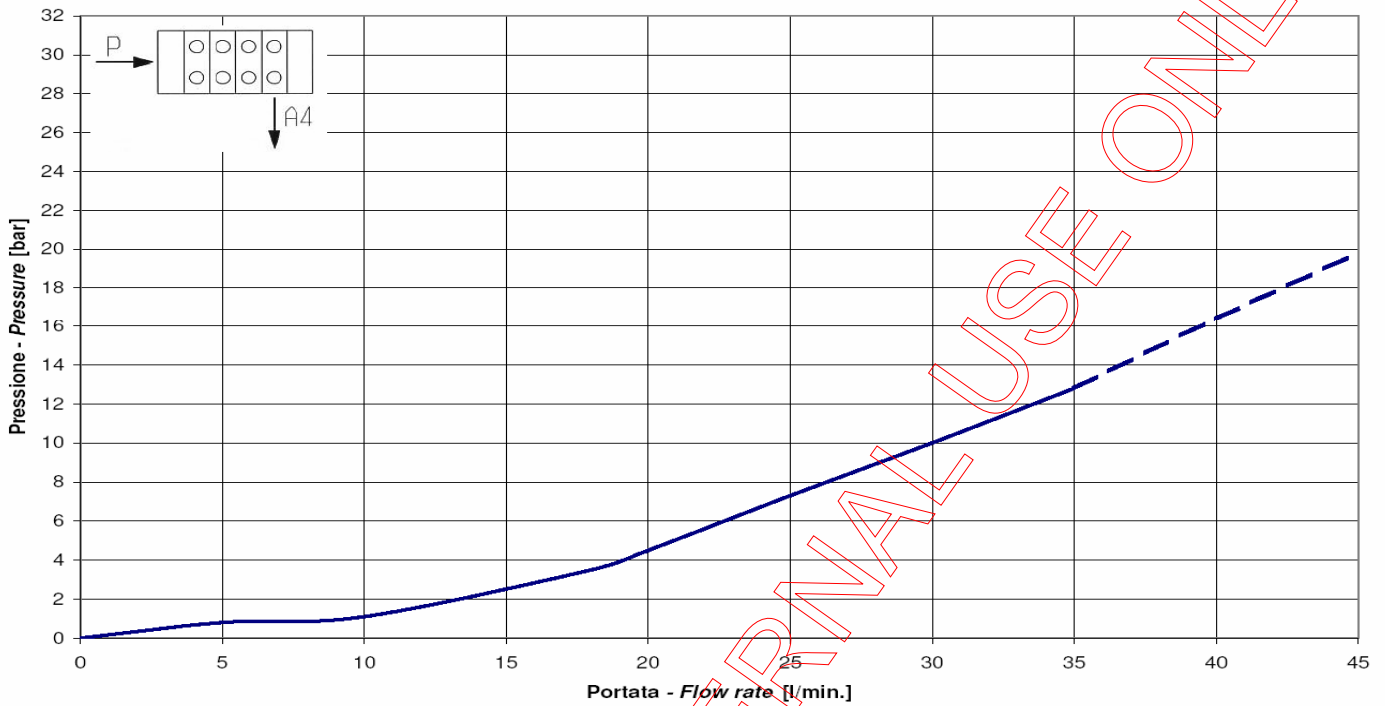


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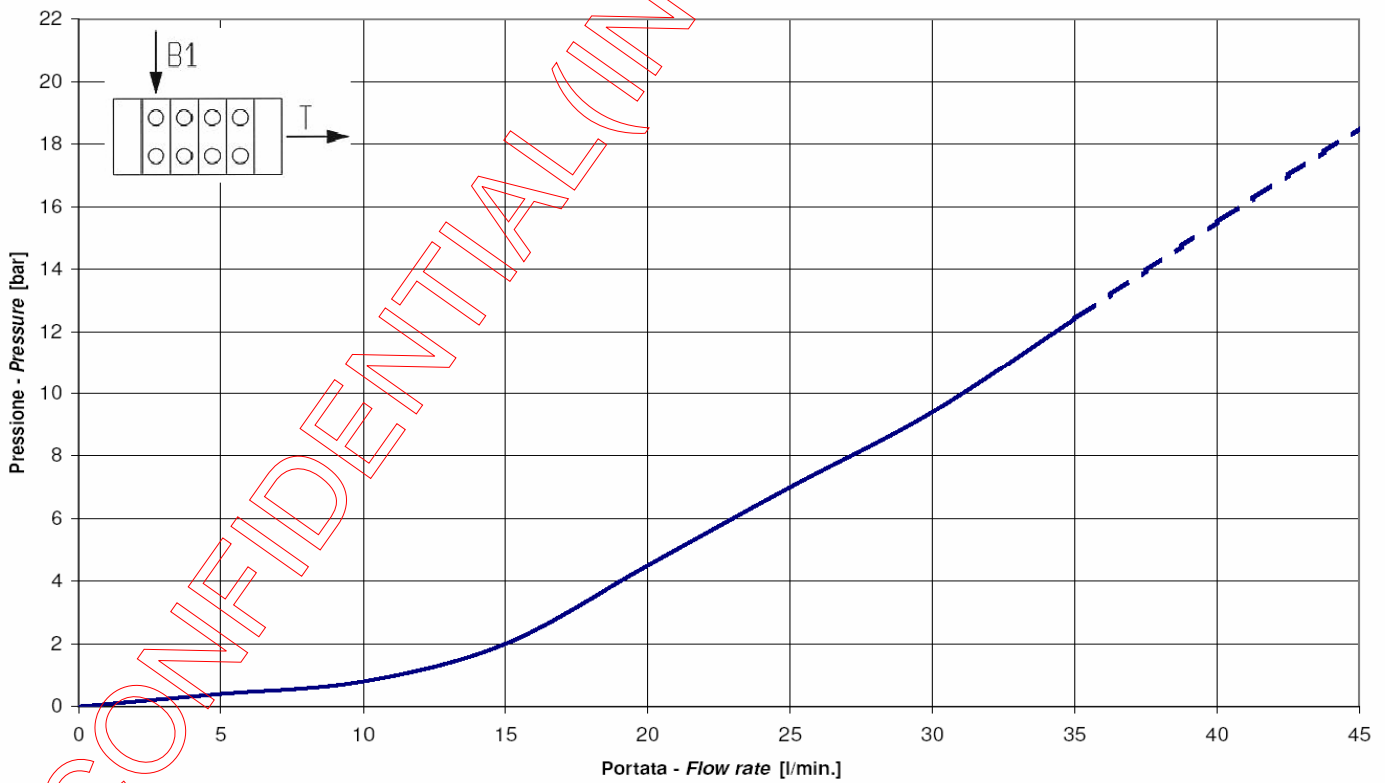




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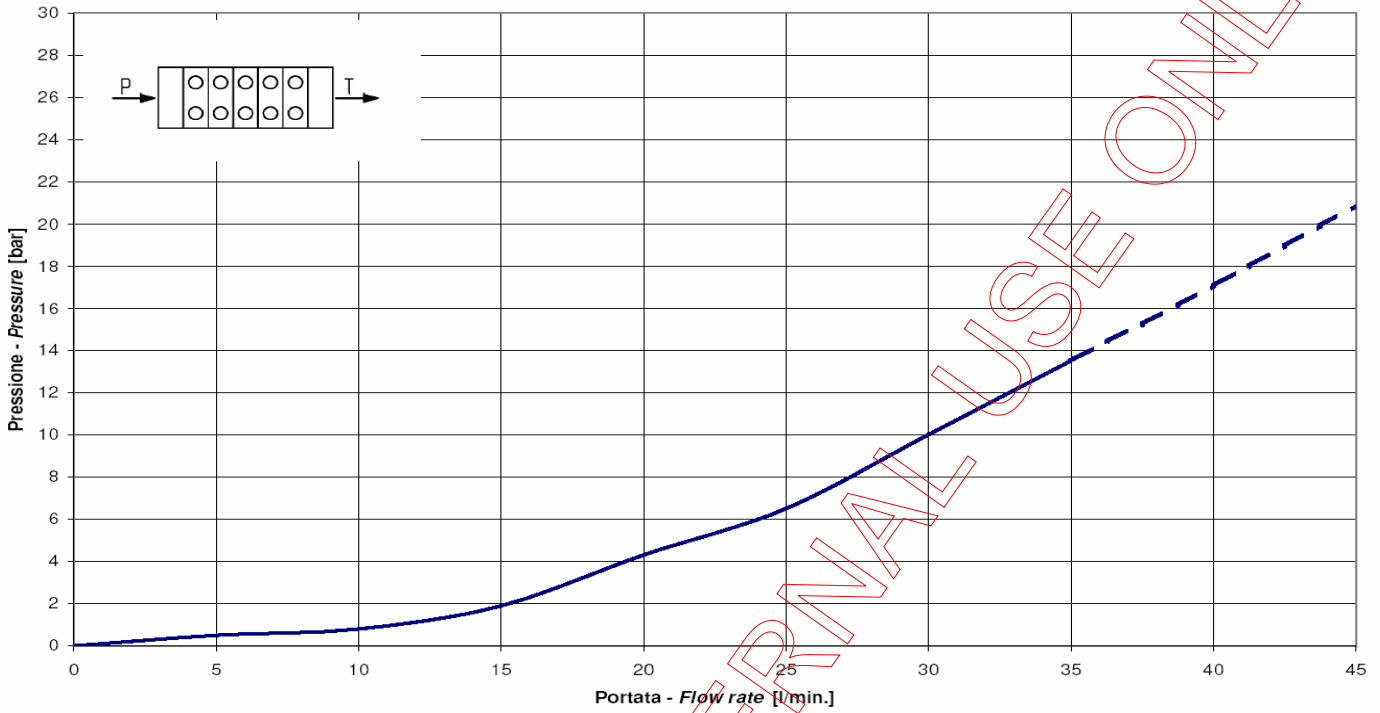


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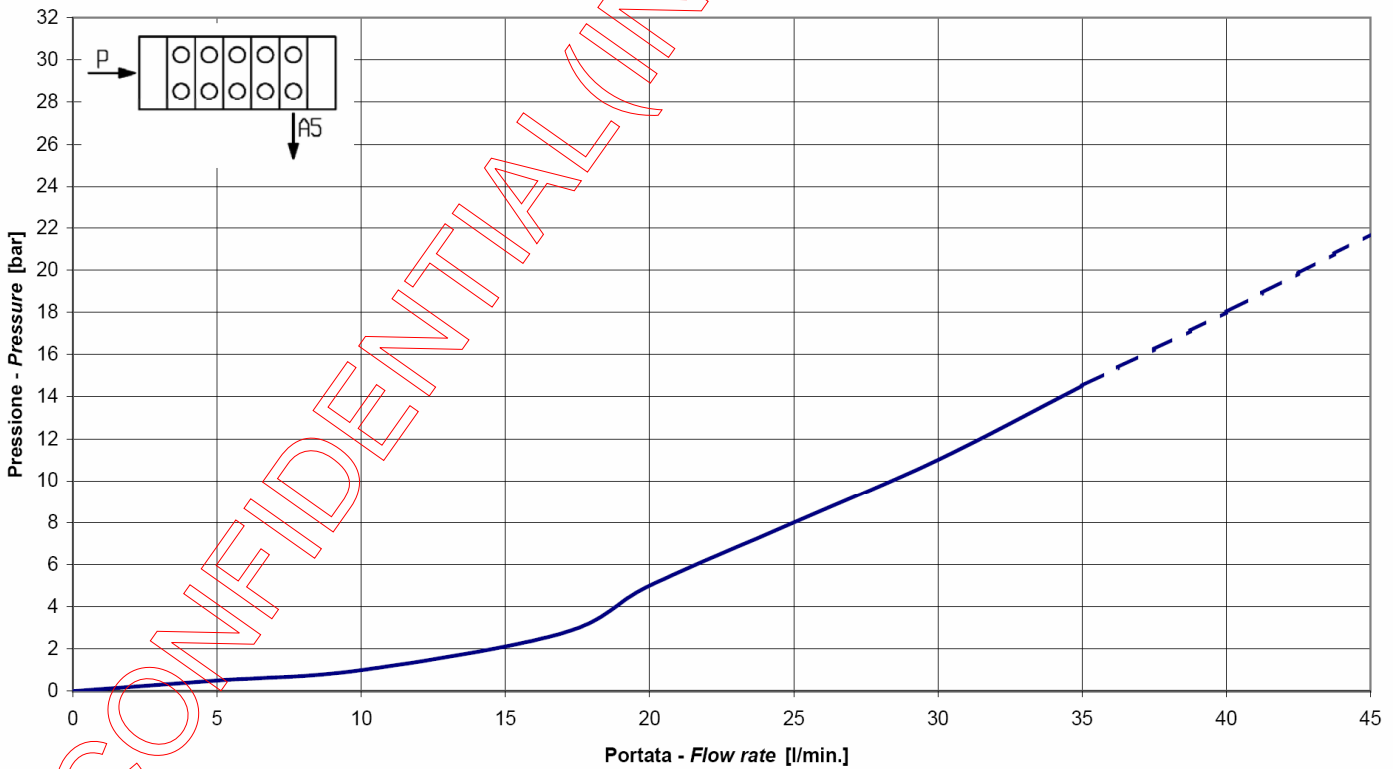




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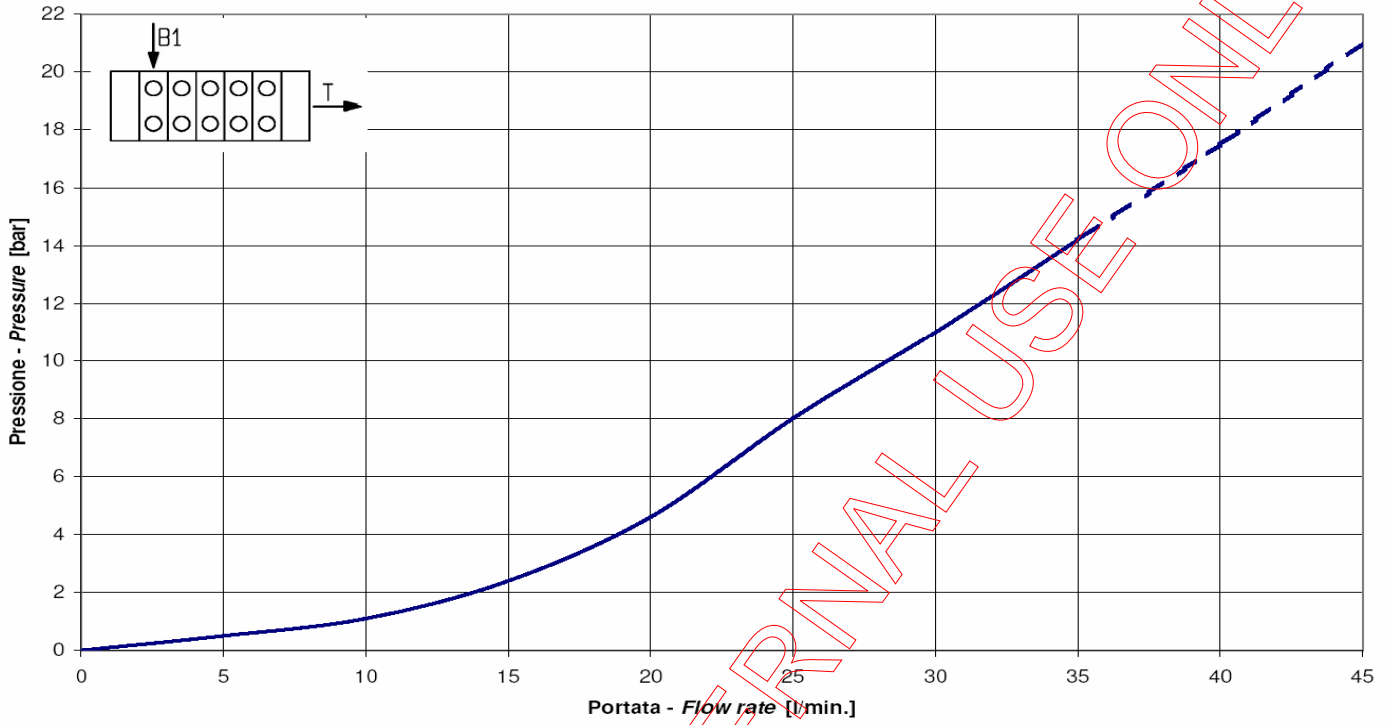


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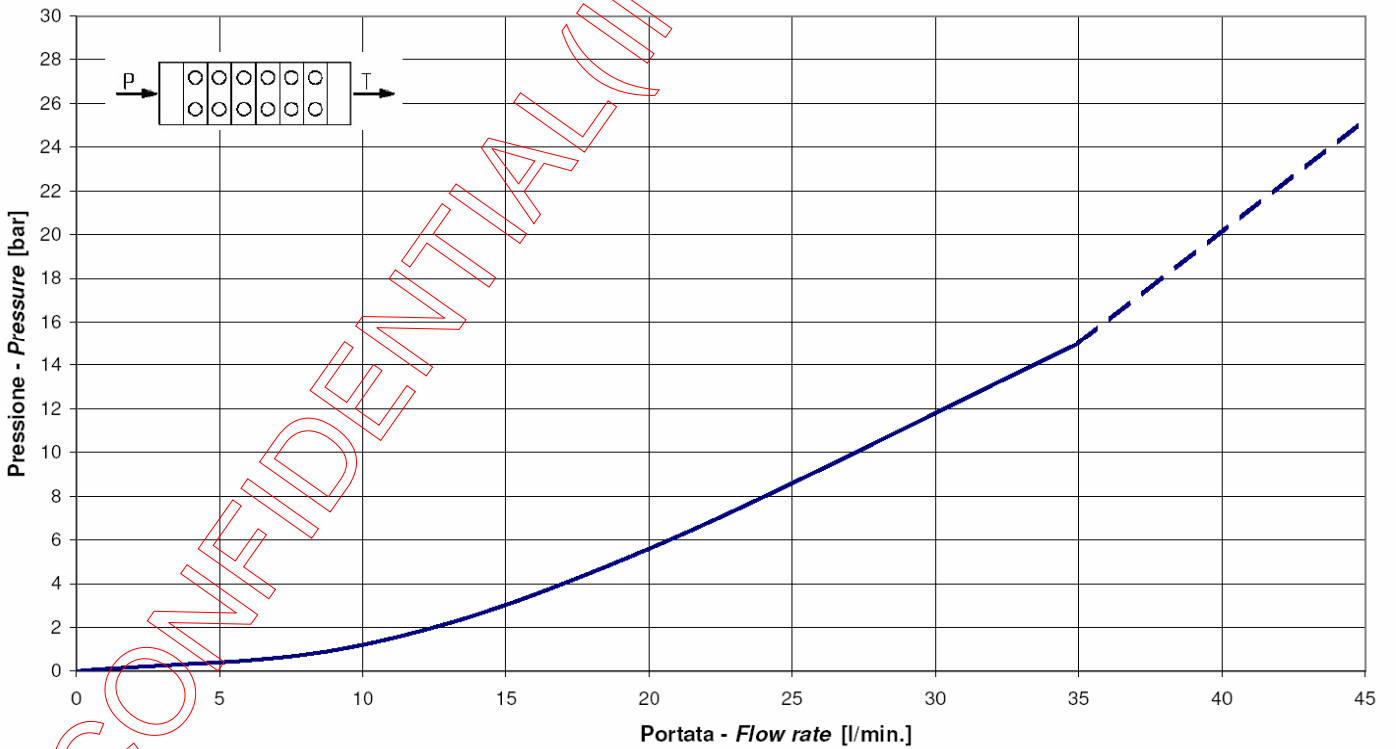




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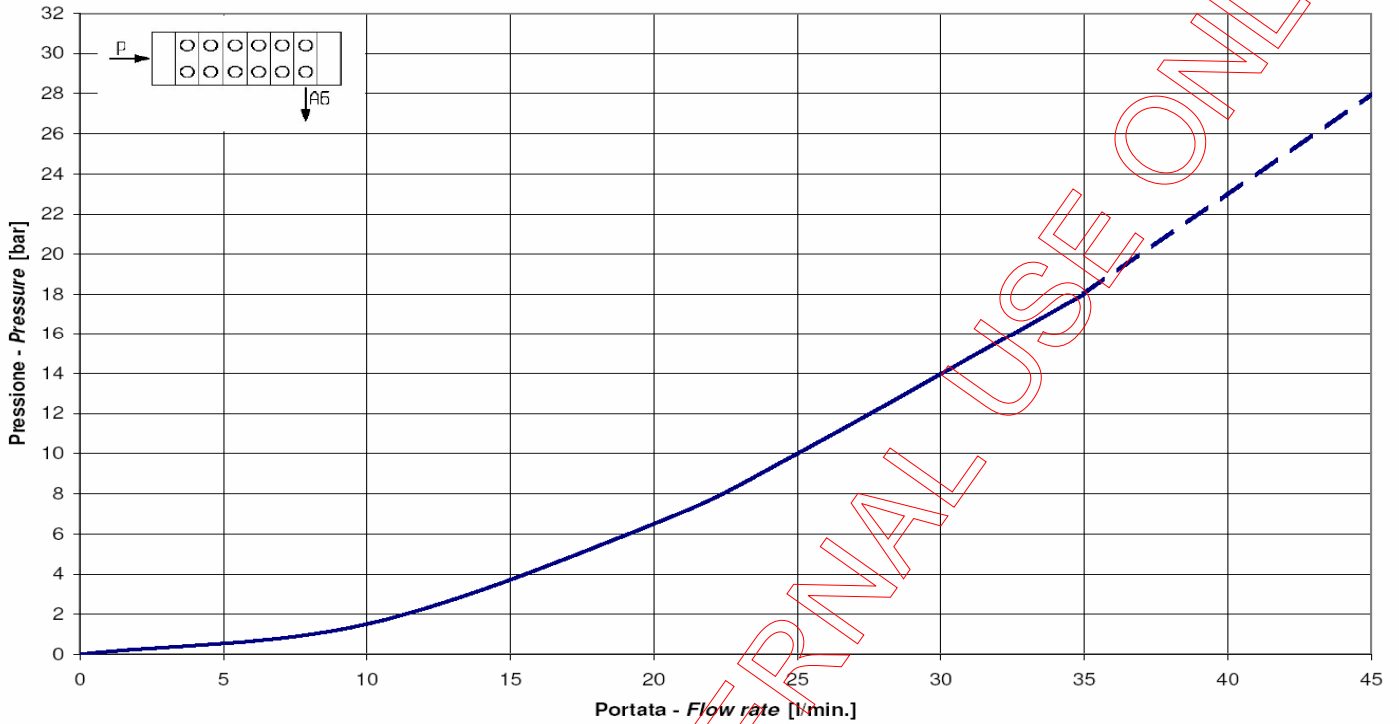


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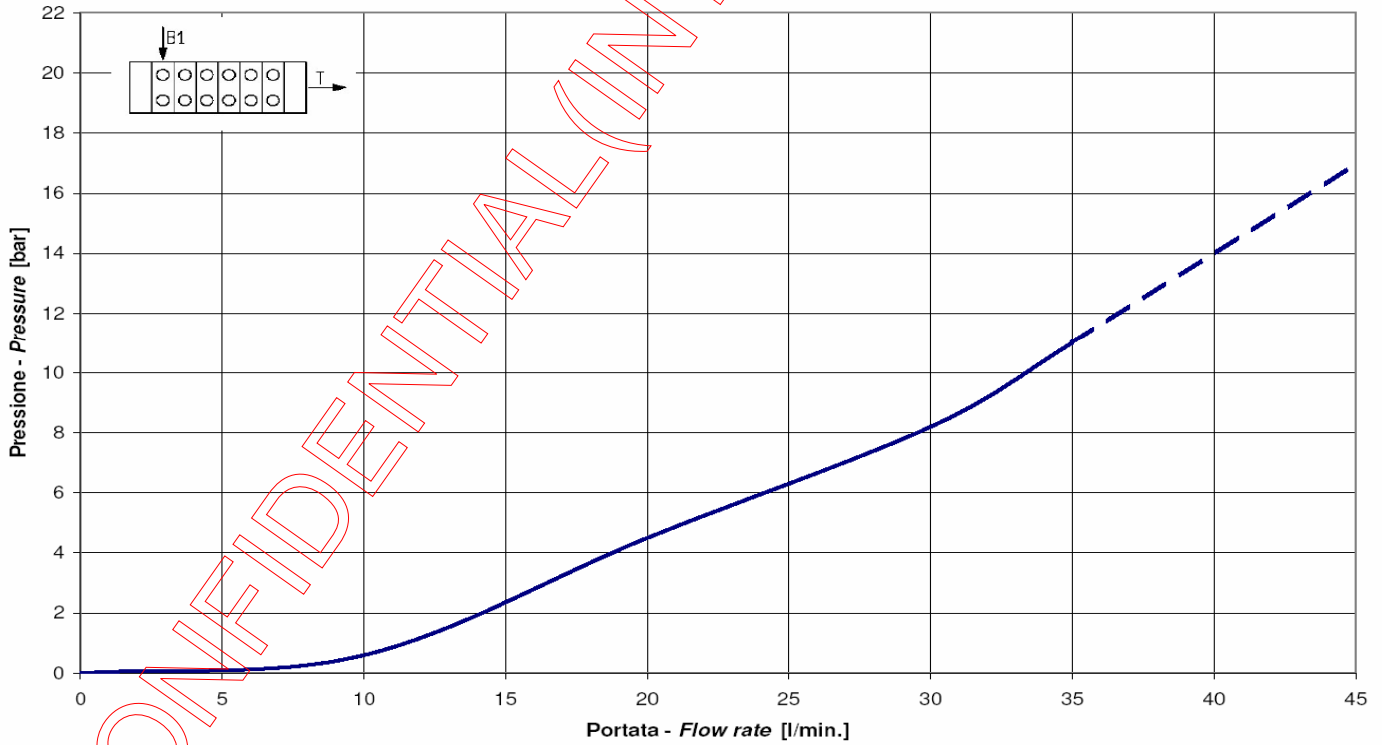




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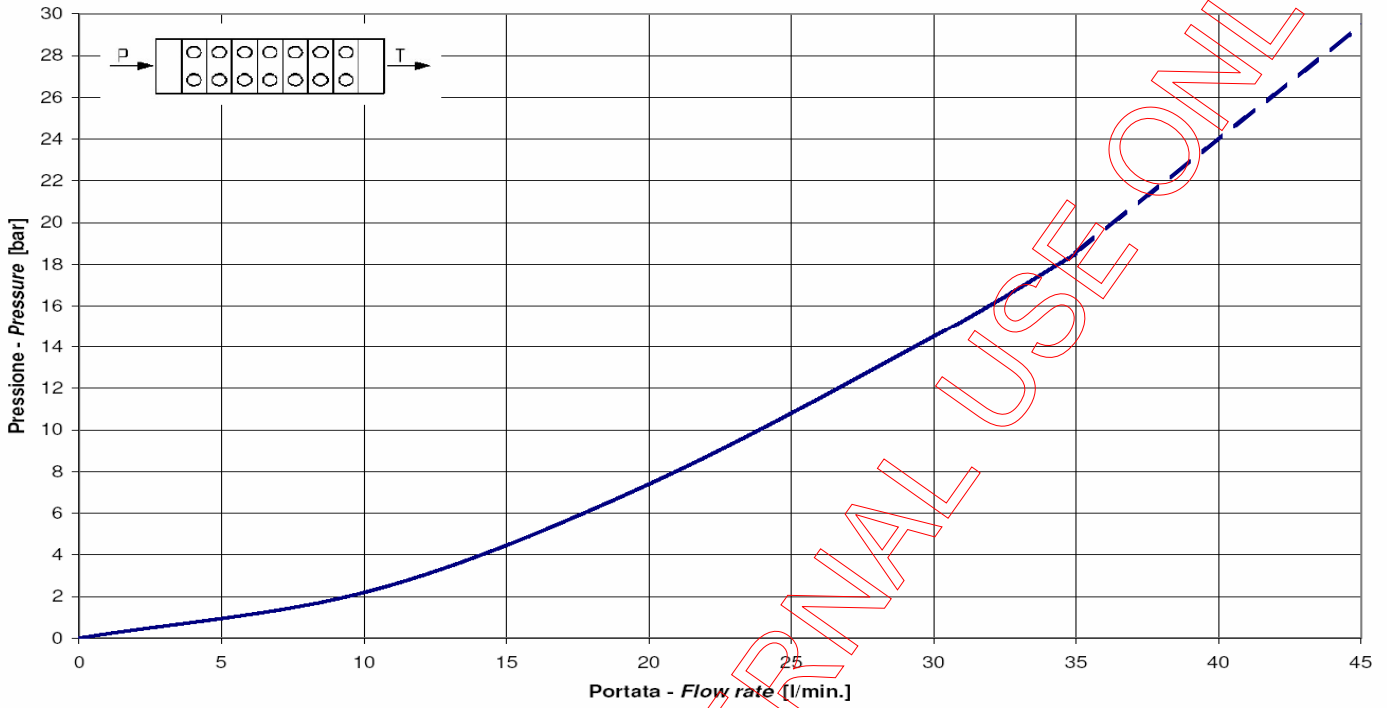


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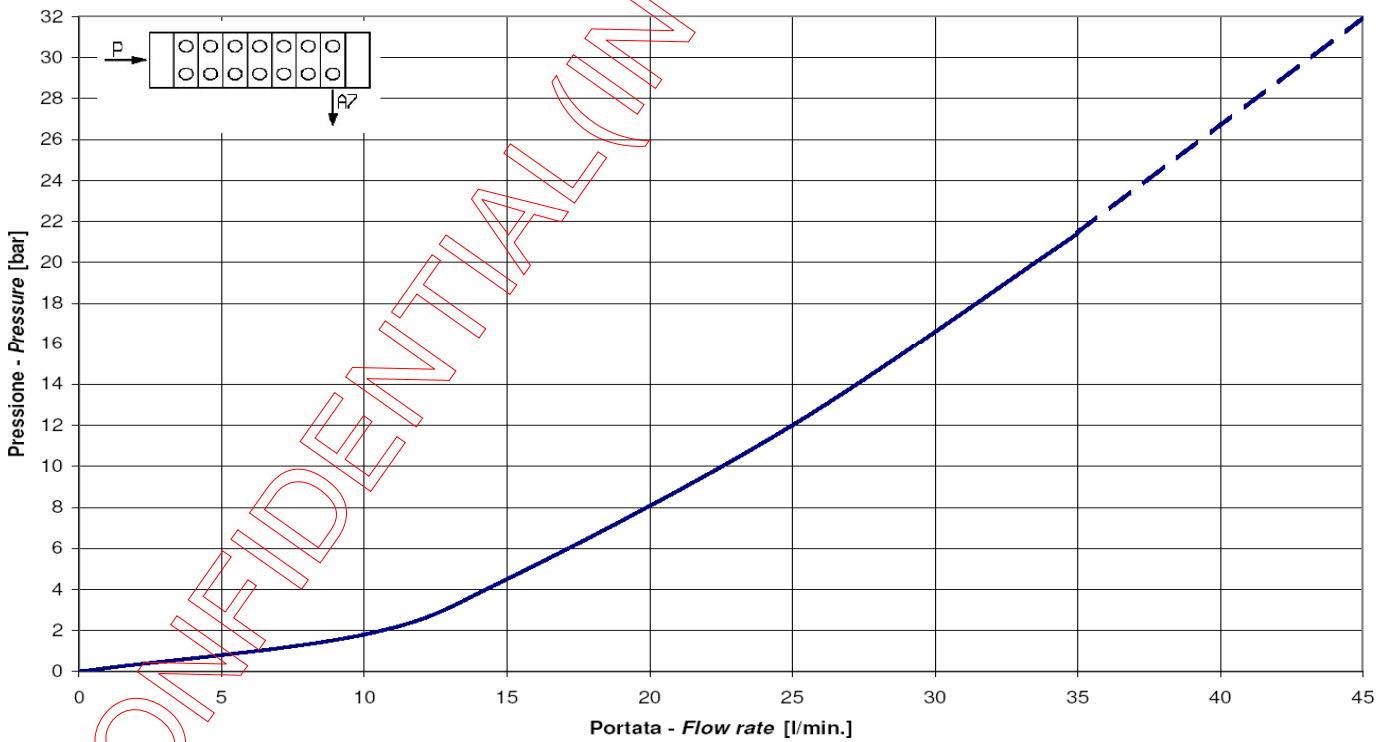




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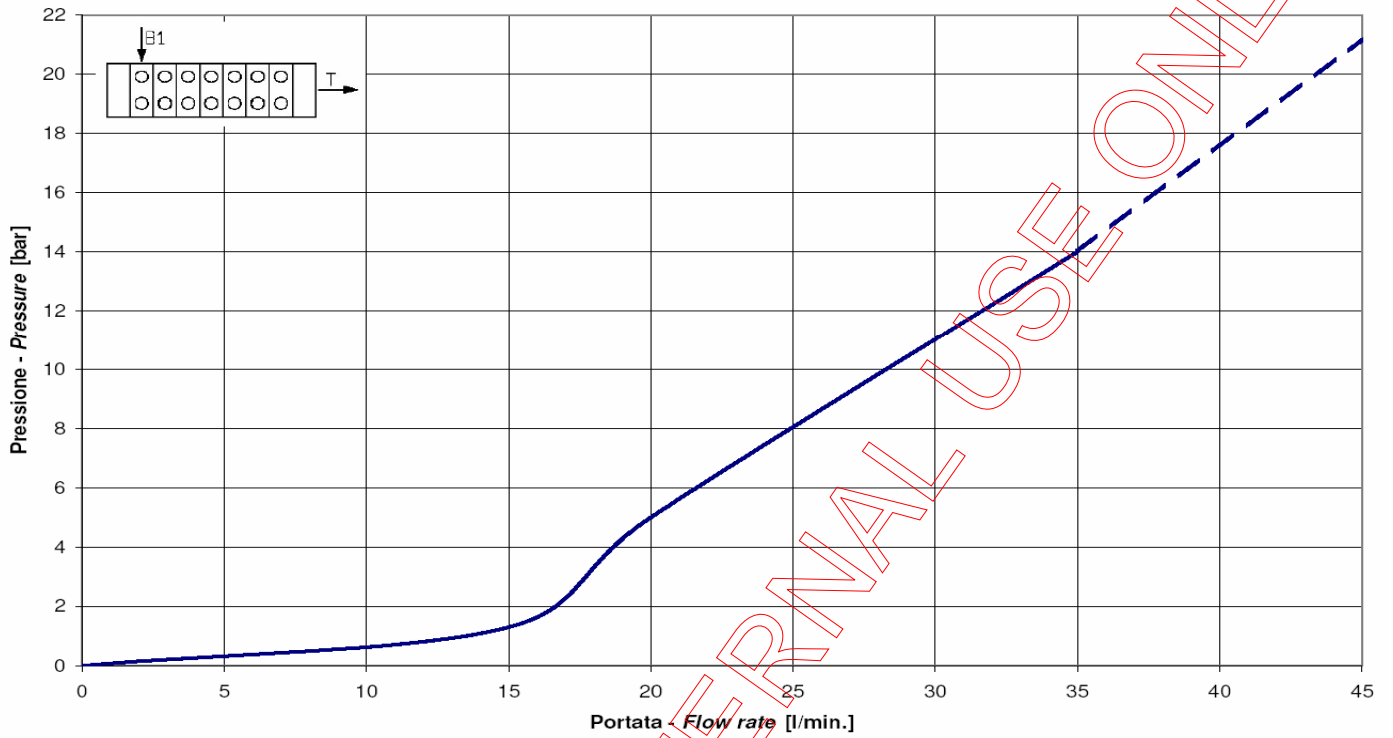


P-A ML/7 Spola - Spool 2921EE01000 21cSt





B-T ML/7 Spola - Spool 2921EE01000 21cSt



Ordering instructions

I	II	III	IV	V	VI	VII	VIII	IX	X	XI
---	----	-----	----	---	----	-----	------	----	---	----

I. Model / Number of sections	_____	page 18
II. Threads	_____	page 19
III. Main relief valve	_____	page 21
IV. Spool control	_____	page 23
V. Spools (circuits)	_____	page 30
VI. Actuators on lever side	_____	page 44
VII. Actuators on spool control side	_____	page 49
VIII. Port auxiliary valves	_____	page 50
IX. Following section	_____	page 51
X. Options on T	_____	page 52
XI. Type of inlet/outlet port	_____	page 55

IMPORTANT NOTE: grey colour codes are special configurations



I

Number of sections

Ordering instructions

ML2											
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	

Ordering code	Description
ML1	1 section
ML2	2 sections
ML3	3 sections
ML4	4 sections
ML5	5 sections
ML6	6 sections
ML7	7 sections



II

Threads

Ordering instructions

ML2	C									
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

Ports thread	Identification for code creation	P – P1 – T4(*)	A – B	T – T1
BSP ("A")	A	3/8 G	3/8 G	3/8 G
BSP ("L")	L	1/4 G	1/4 G	–
BSP ("B")	B	1/2 G (***)	–	1/2 G
Metric ("C")	C	M18x1.5	M18x1.5 (**)	M18x1.5
Metric ("T")	T	M16x1.5	M16x1.5	M16x1.5
Metric ("X")	X	M20x1.5	–	M20x1.5
Metric ISO 6149 ("I")	I	M16x1.5	M16x1.5	M16x1.5
Metric ISO 6149 ("W")	W	M18x1.5	M18x1.5 (**)	M18x1.5
SAE ("E")	E	3/4 -16 SAE	3/4 -16 SAE (**)	3/4 -16 SAE
SAE ("P")	P	9/16 -18 SAE	9/16 -18 SAE	–

(*) This port can't be machined if the last section is VL predisposed on port A.

(**) VL predispositions (LOE02002) and 4 holes machining (LOE02006) are not possible with these threads.

(***) With 1/2" BSP thread, max exercise pressure is reduced to 210 bar.

Note: combinations of metric, Gas and SAE threads are not available for P-P1-T4, A-B and T-T1 groups.

Recommended torques

Fittings

BSP thread	1/4" G	3/8" G	1/2" G
<i>Torque [Nm] ± 5%</i>	14	35	70
Metric thread	M16 x 1.5	M18 x 1.5	M22 x 1.5
<i>Torque [Nm] ± 5%</i>	24	40	78
Metric thread ISO 6149	M16 x 1.5	M18 x 1.5	-
<i>Torque [Nm] ± 5%</i>	24	40	
SAE thread	9/16-18 UNF	3/4-16 UNF	7/8-14 UNF
<i>Torque [Nm] ± 5%</i>	21	50	77

Note: Torque values are subjected to 50% increase with 35SMnPb10 (PR80) fittings.

Lever kit and spool controls screws

Metric thread	M6
<i>Torque [Nm] ± 1</i>	6

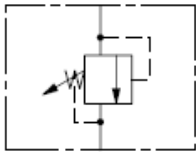
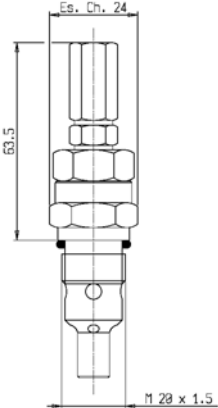
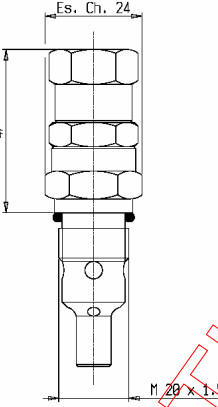
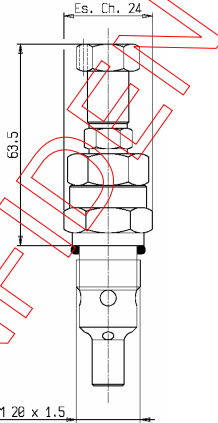
III

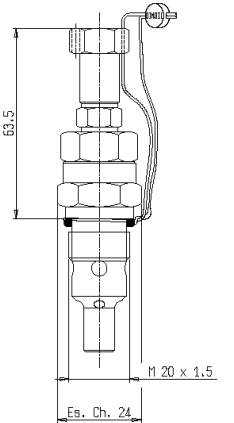
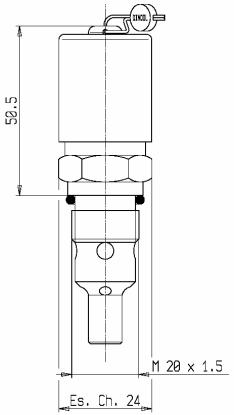
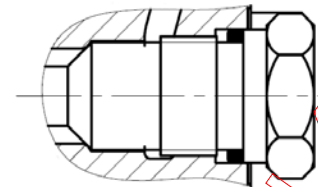
Main relief valve

Ordering instructions

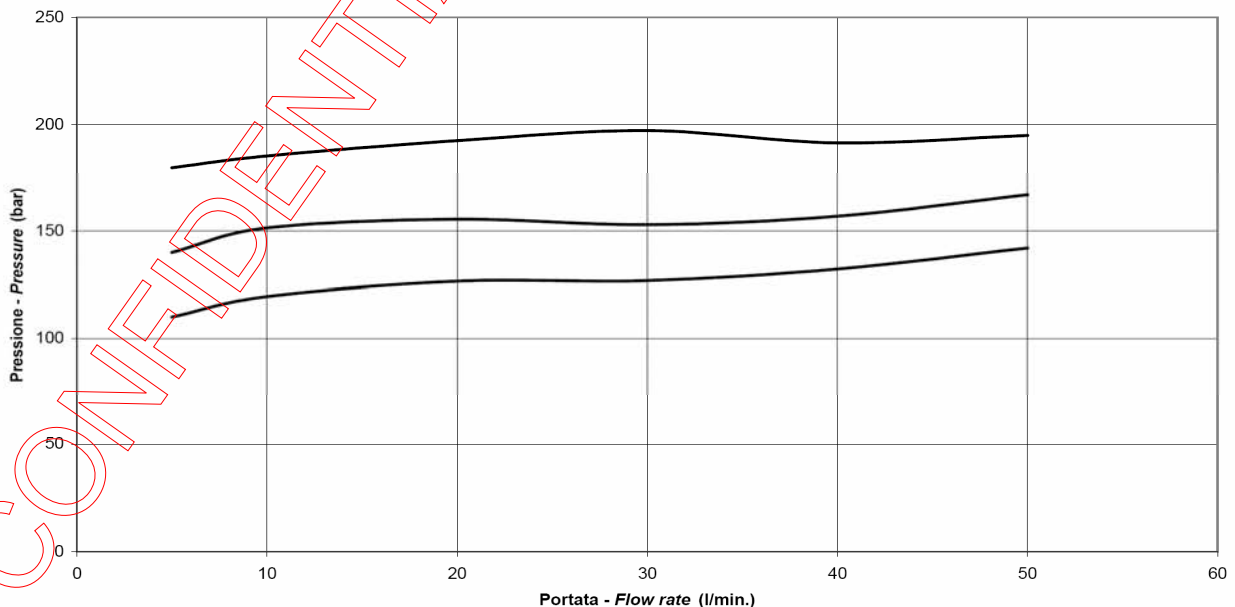
ML2	C	Z (180)								
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

Standard setting is referred to 4-5 l/min ±10% of flow rate, setting pressures are multiples of 10 bar

Type	Image	Ordering code		Operating pressure
		Valve type code	Pressure code	
DOWPD02M20 Main relief valve - grain 		02	X (80)	30–80 bar (standard setting 80 bar)
			Y (130)	90–130 bar (standard setting 130 bar)
			Z (180)	140–180 bar (standard setting 180 bar)
			K (210)	190–210 bar (standard setting 210 bar)
			H (250)	220–250 bar (standard setting 250 bar)
DOWPD00M20 Main relief valve - cap		00	X (80)	30–80 bar (standard setting 80 bar)
			Y (130)	90–130 bar (standard setting 130 bar)
			Z (180)	140–180 bar (standard setting 180 bar)
			K (210)	190–210 bar (standard setting 210 bar)
			H (250)	220–250 bar (standard setting 250 bar)
DOWPD08M20-- Main relief valve -lead predisposed		08	X (80)	30–80 bar (standard setting 80 bar)
			Y (130)	90–130 bar (standard setting 130 bar)
			Z (180)	140–180 bar (standard setting 180 bar)
			K (210)	190–210 bar (standard setting 210 bar)
			H (250)	220–250 bar (standard setting 250 bar)

<p>DOWPD10M20--</p> <p>Main relief valve – leaded grain</p>		<p>10</p>	<p>X (80)</p> <p>Y (130)</p> <p>Z (180)</p> <p>K (210)</p> <p>H (250)</p>	<p>30–80 bar (standard setting 80 bar)</p> <p>90–130 bar (standard setting 130 bar)</p> <p>140–180 bar (standard setting 180 bar)</p> <p>190–210 bar (standard setting 210 bar)</p> <p>220–250 bar (standard setting 250 bar)</p>
<p>DOWPD20M20--</p> <p>Main relief valve – leaded cap</p>		<p>20</p>	<p>X (80)</p> <p>Y (130)</p> <p>Z (180)</p> <p>K (210)</p> <p>H (250)</p>	<p>30–80 bar (standard setting 80 bar)</p> <p>90–130 bar (standard setting 130 bar)</p> <p>140–180 bar (standard setting 180 bar)</p> <p>190–210 bar (standard setting 210 bar)</p> <p>220–250 bar (standard setting 250 bar)</p>
<p>DO58802</p> <p>Replacement screw plug for main relief valve</p>				

Curva caratteristica valvole - Valves characteristic bend (21cSt)



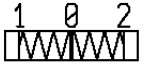
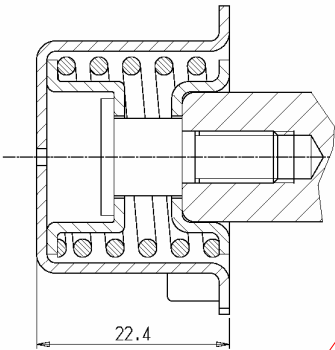
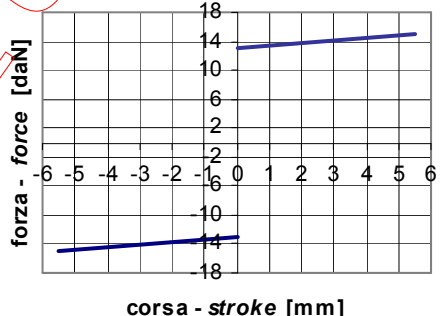
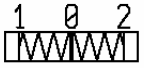
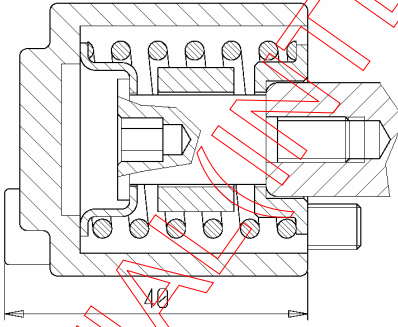
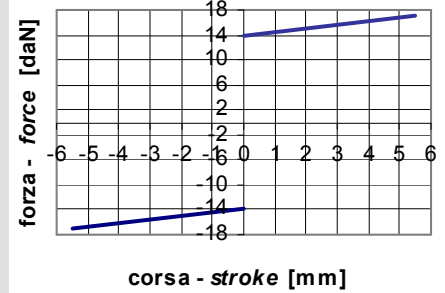

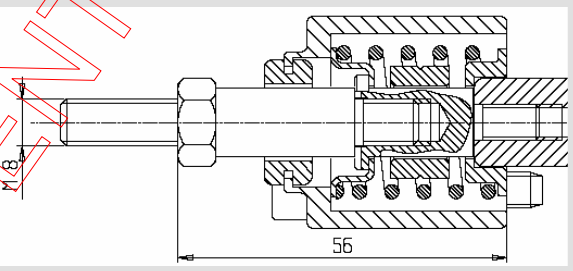
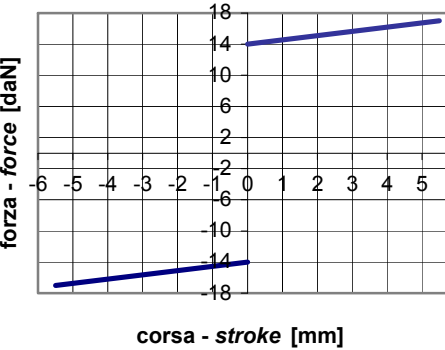
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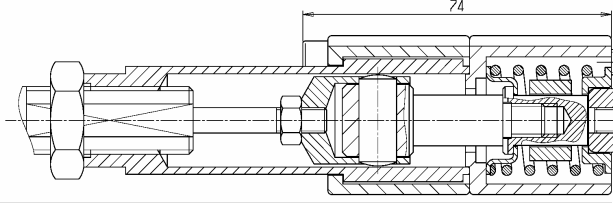
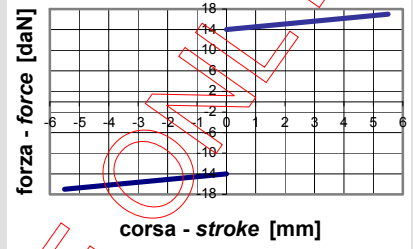
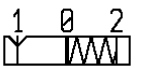
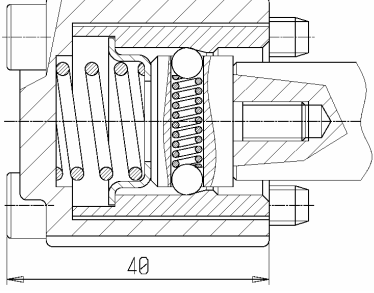
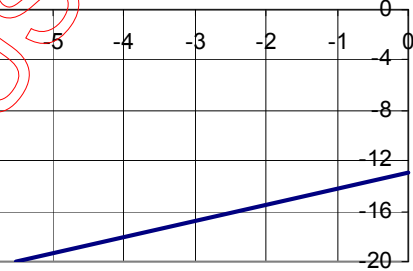
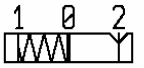
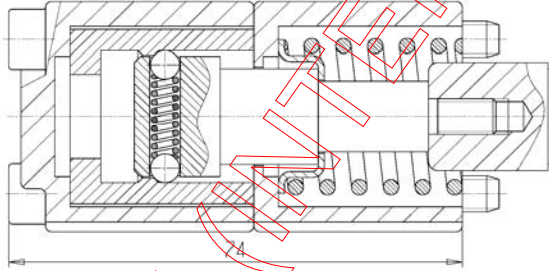
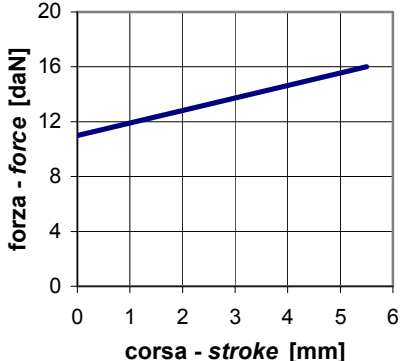
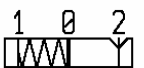
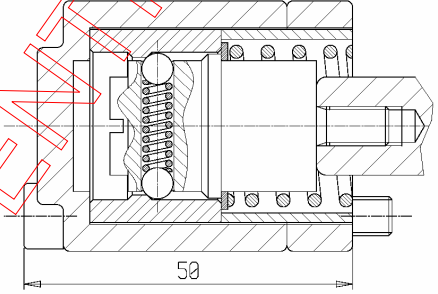
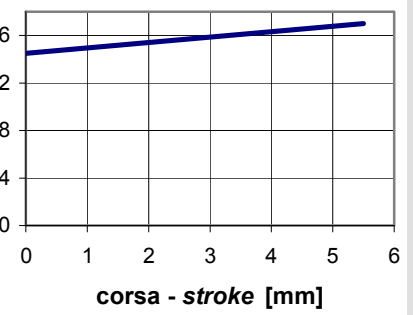
Spool control

Ordering instructions

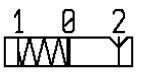
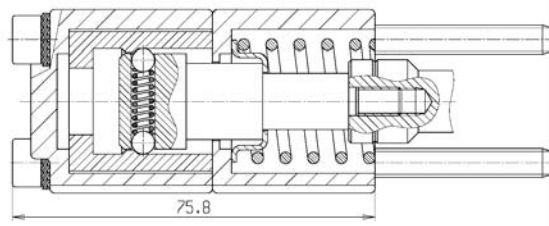
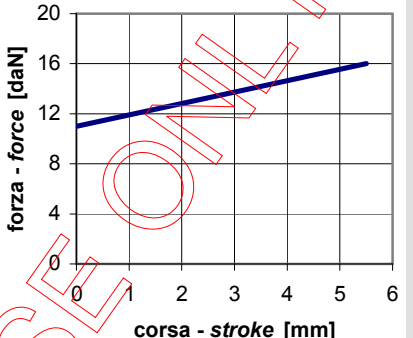
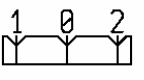
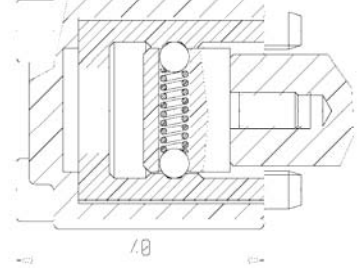
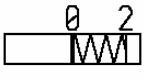
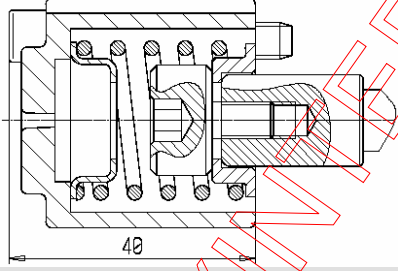
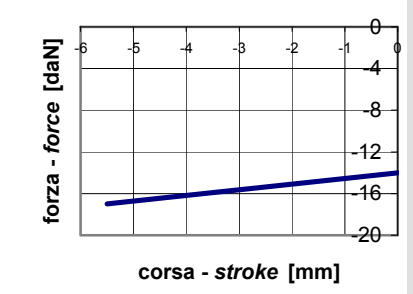
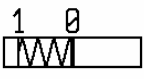
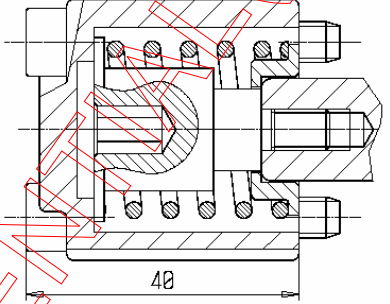
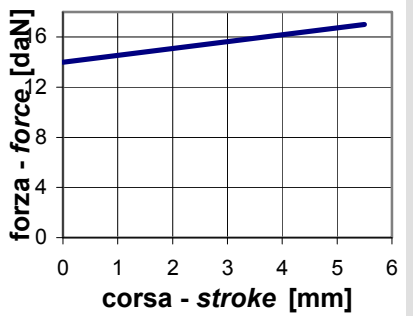
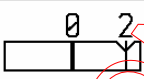
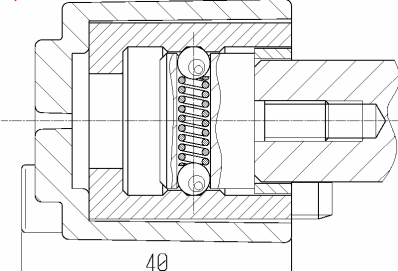
ML2	C	Z (180)	A							
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

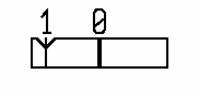
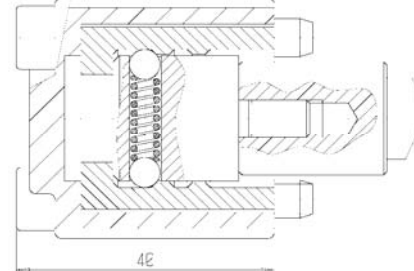

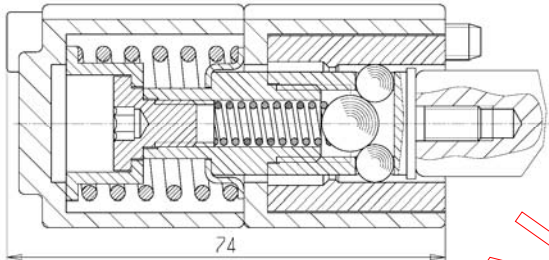
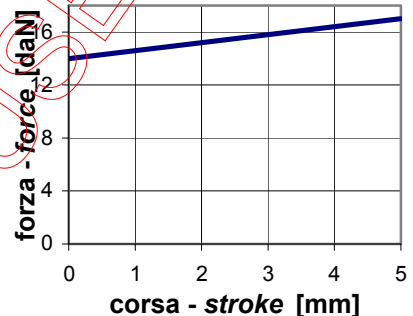
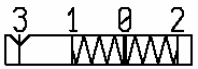
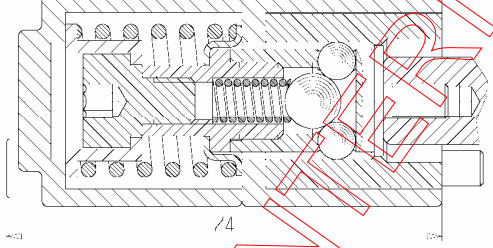
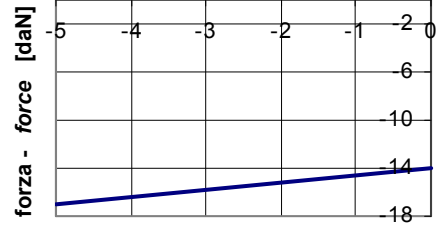
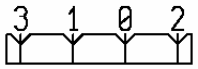
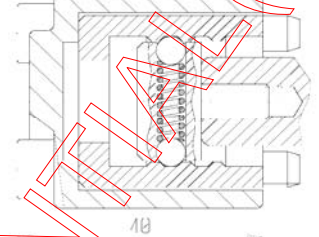

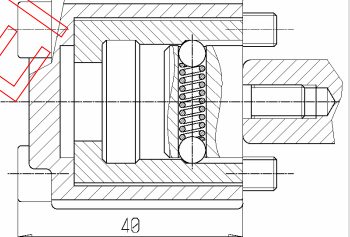
Actuator forces are measured on spool axis in working conditions, with no oil flow. Forces are inclusive of friction and have $\pm 10\%$ tolerance (Test norms ref. DVCIPS09).

Scheme	code	Section
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DO580550A40 	A	 
DO580550A58 	A	 

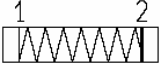
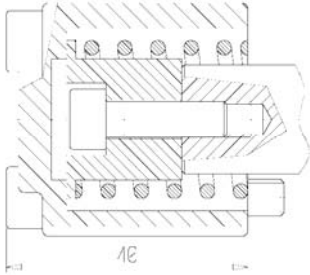
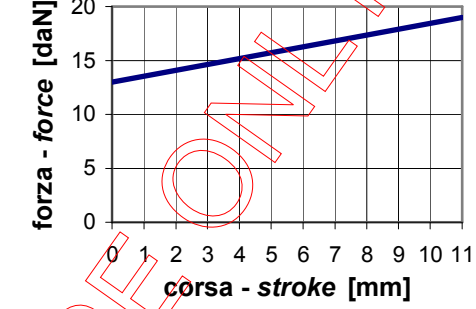
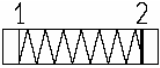
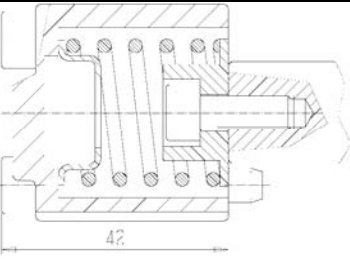
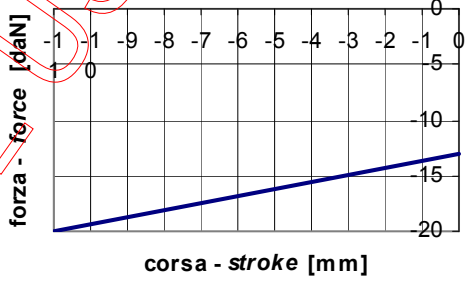

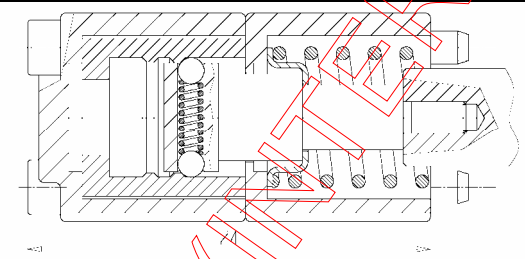
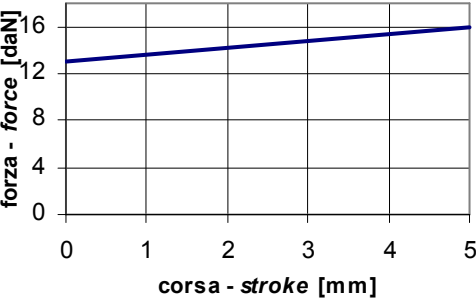
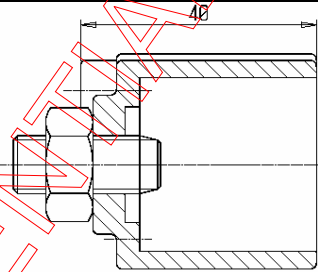
<p>DO580550A54</p> <p>For flexible cable control</p> 	<p>A</p>	 <p>Note: forces do not include cable contribution.</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>
<p>DO580550B07</p> 	<p>B</p>	 <p>Hooking force 22 daN Unhooking force 27 daN</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>
<p>DO580550C08</p> 	<p>C</p>	 <p>Hooking force 30 daN Unhooking force 20 daN</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>
<p>DO580550C03</p> 	<p>C</p>	 <p>Hooking force 30 daN Unhooking force 20 daN</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>



<p>DO580550C10</p> <p><i>For single section micro predisposition</i></p> 	<p>C</p>	 <p>Hooking force 30 daN Unhooking force 20 daN</p>	
<p>DO580550D01</p> 	<p>D</p>	 <p>Hooking force 27 daN Unhooking force 27 daN</p>	
<p>DO580550E05</p> 	<p>E</p>		
<p>DO580550F05</p> 	<p>F</p>		
<p>DO580550H02</p> 	<p>H</p>	 <p>Hooking force 27 daN Unhooking force 27 daN</p>	


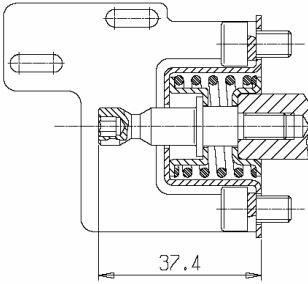

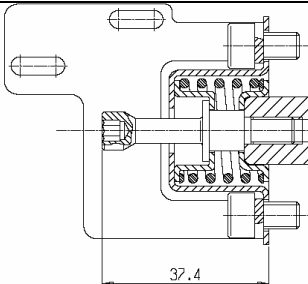
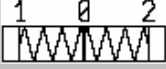
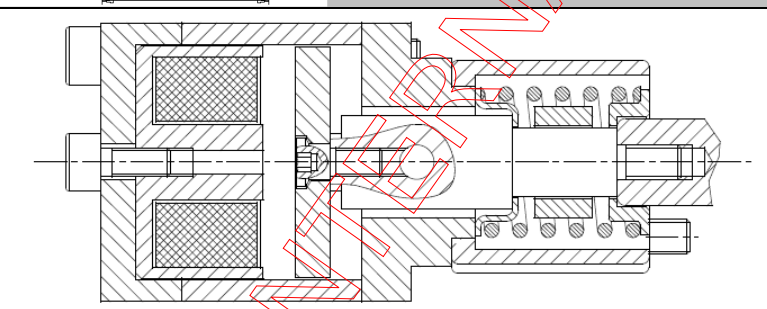
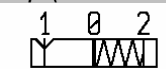
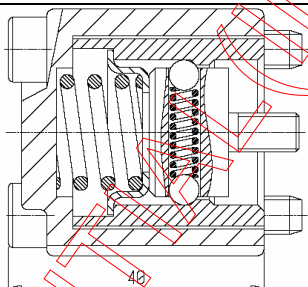
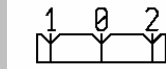
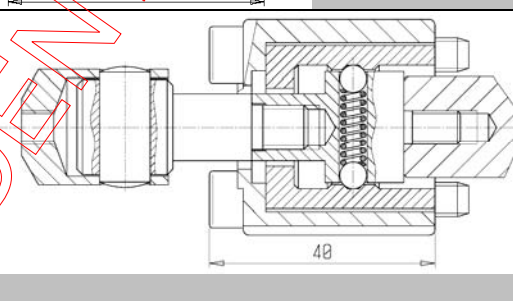
<p>DO580550L01</p> 	<p>L</p>	 <p>4E</p>	<p>Hooking force 27 daN Unhooking force 27 daN</p>
<p>DO580550N20</p> 	<p>NT</p>	 <p>74</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>
<p>DO580550N14</p> 	<p>NS</p>	 <p>74</p>	 <p>forza - force [daN]</p> <p>corsa - stroke [mm]</p>
<p>DO580550P01</p> 	<p>PS</p>	 <p>10</p>	<p>Hooking force 27 daN Unhooking force 27 daN</p>
<p>DO580550Q01</p> 	<p>Q</p>	 <p>40</p>	<p>Unhooking force 23 daN</p>



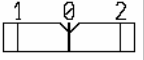
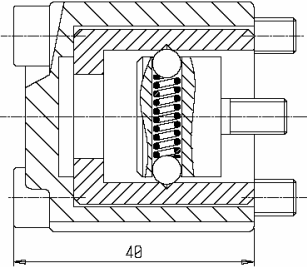
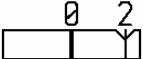
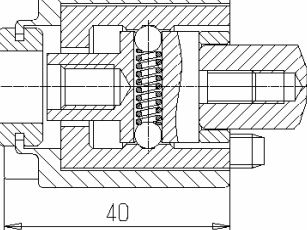
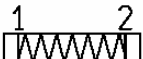
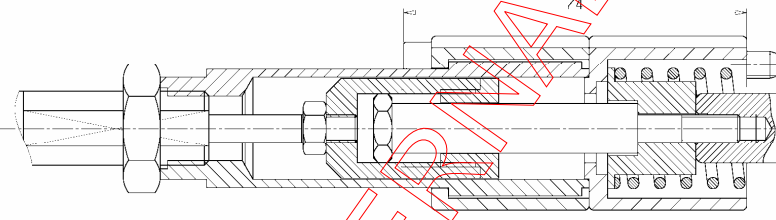

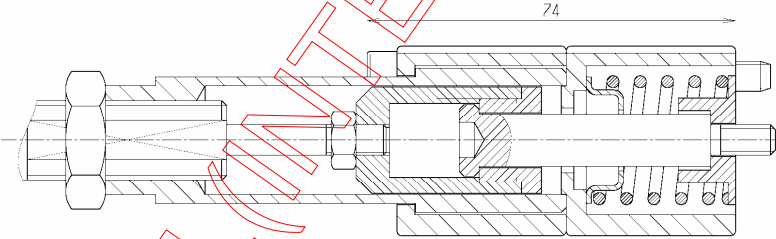
<p>DO580550R10</p> 	<p>R</p>		
<p>DO580550S10</p> 	<p>S</p>		
<p>DO58055CP02</p> 	<p>CPT</p>	 <p>Hooking force 40 daN Unhooking force 20 daN</p>	
<p>DO5753703</p> <p>Kit stroke limiter on spool control side</p>			

CONFIDENTIAL - INTERNAL USE ONLY

Special spool controls

<p>DO580550A49</p> <p><i>For D.A. micro predisposed (ICEM)</i></p> 	<p>A</p>		
<p>DO580550A50</p> <p><i>For D.A. in port B micro predisposed (ICEM)</i></p> 	<p>A</p>		
<p>DO580550A63</p> <p><i>With electromagnetic detent</i></p> 	<p>A</p>		
<p>DO580550B02</p> <p><i>For aluminum died casting spool control cap (CARRARO)</i></p> 	<p>B</p>		
<p>DO580550D08</p> <p><i>For flexible cable control</i></p> 	<p>D</p>		<p>Hooking force = 27 daN Unhooking force= 27 daN</p>



<p>DO58055DF01</p> <p><i>Frictioned spool control (BYPY IBERICA)</i></p> 	<p>DF</p>	 <p>48</p>	
<p>DO58055H07</p> <p><i>For double control (BYPY GMBH)</i></p> 	<p>H</p>	 <p>40</p>	
<p>DO580550R12</p> <p><i>For flexible cable control (AGROFER)</i></p> 	<p>R</p>	 <p>74</p>	
<p>DO580550S13</p> <p><i>For flexible cable control (CARRARO)</i></p> 	<p>S</p>	 <p>74</p>	



V

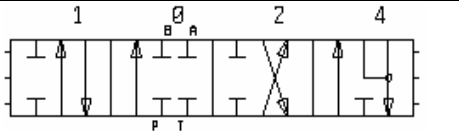
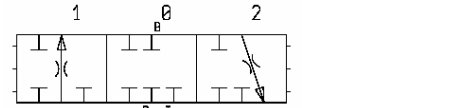
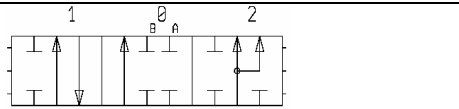
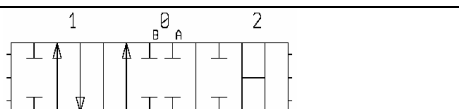
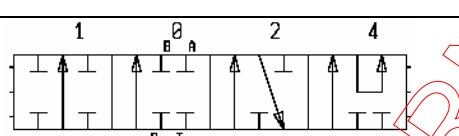
Circuit

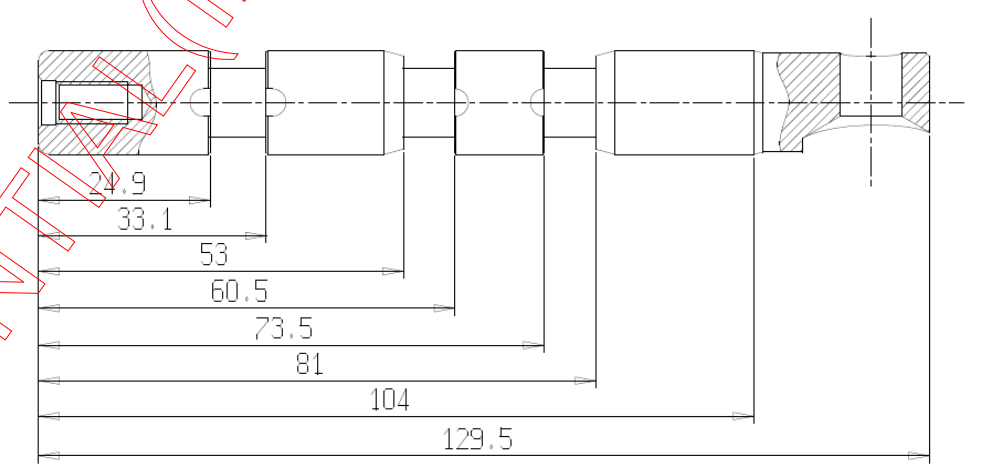
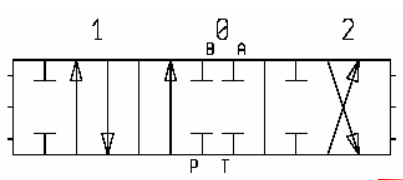
Ordering instructions

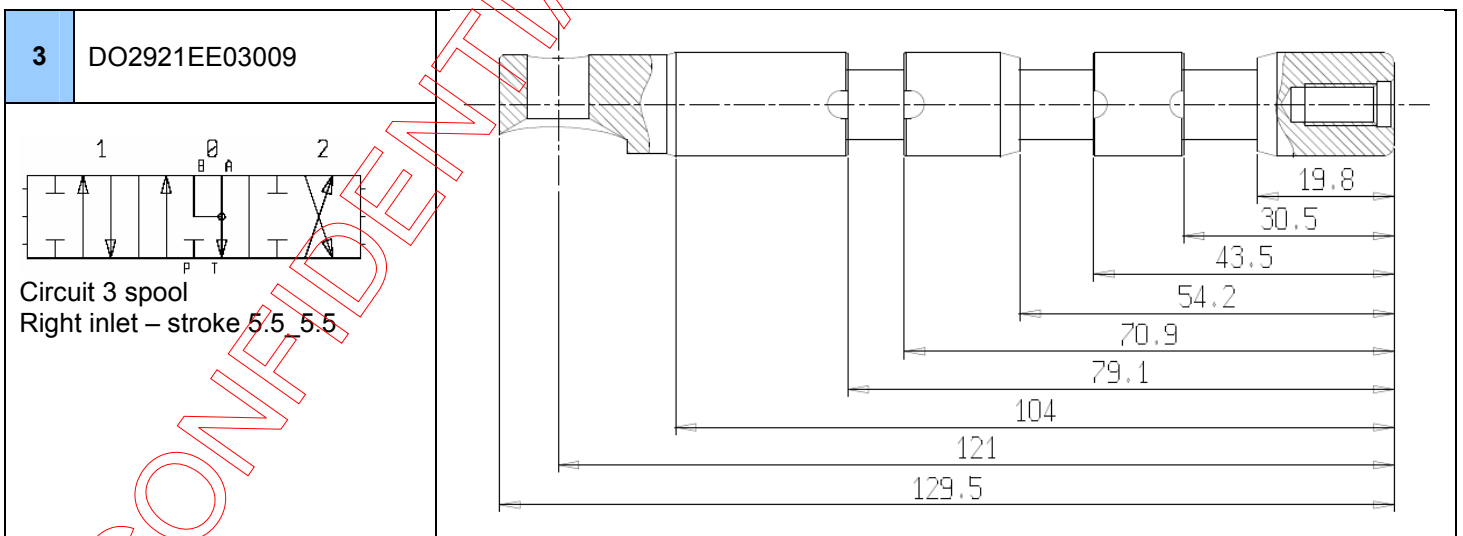
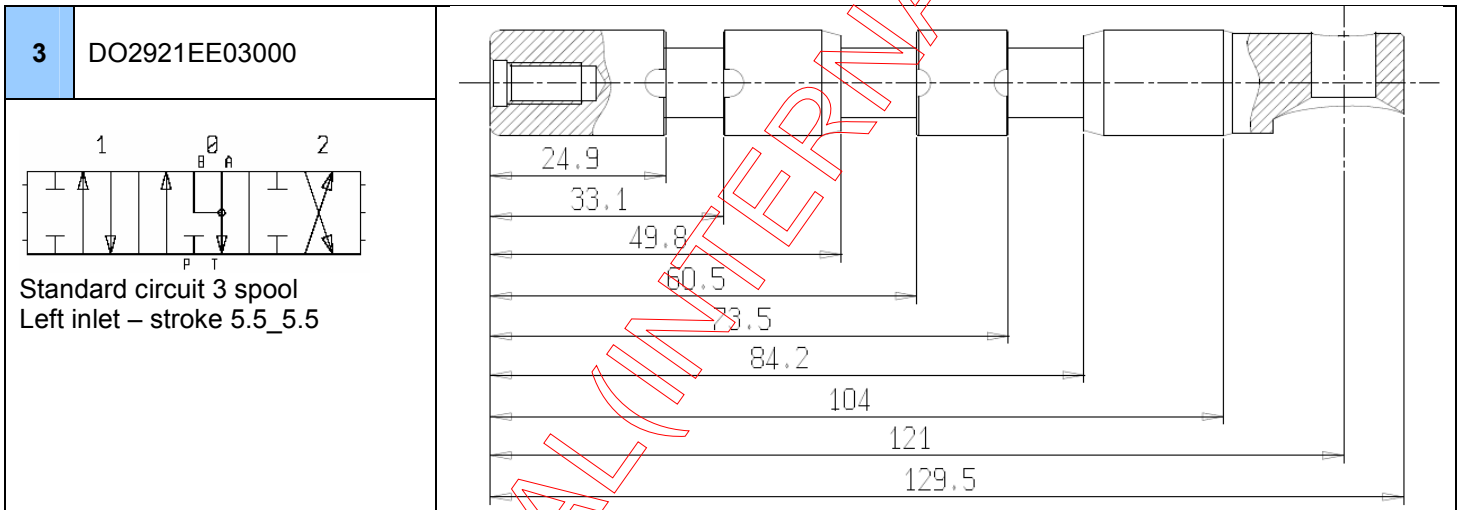
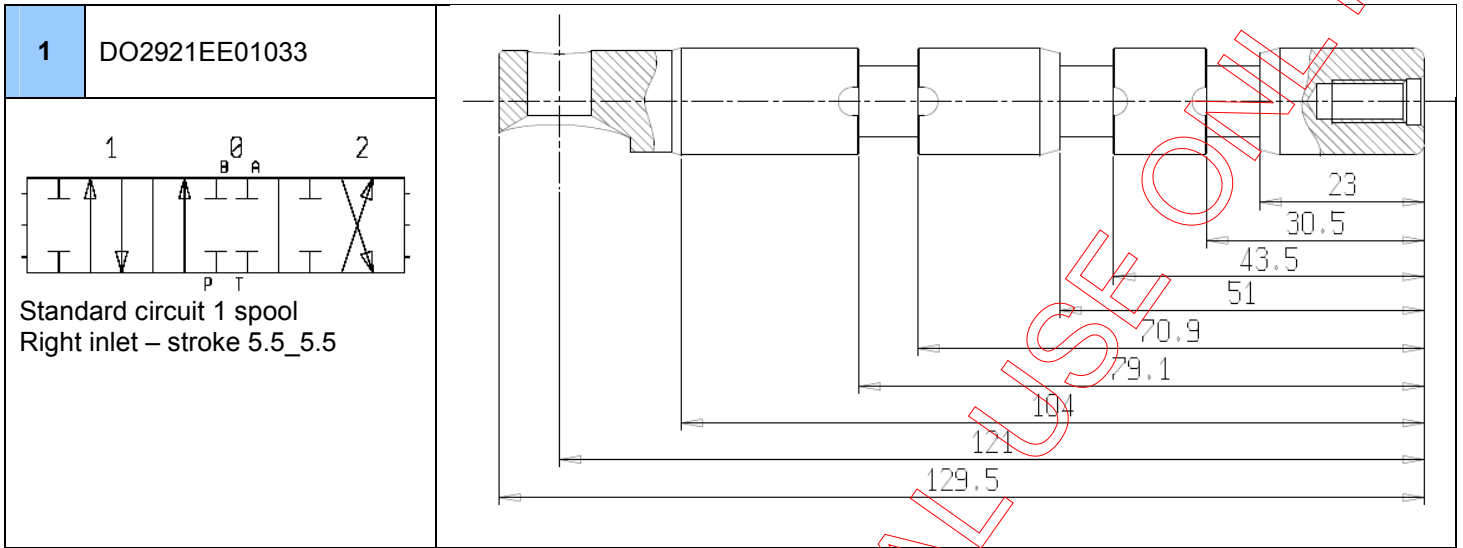
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I	II	III	IV	V	VI	VII	VIII	IX	X	XI

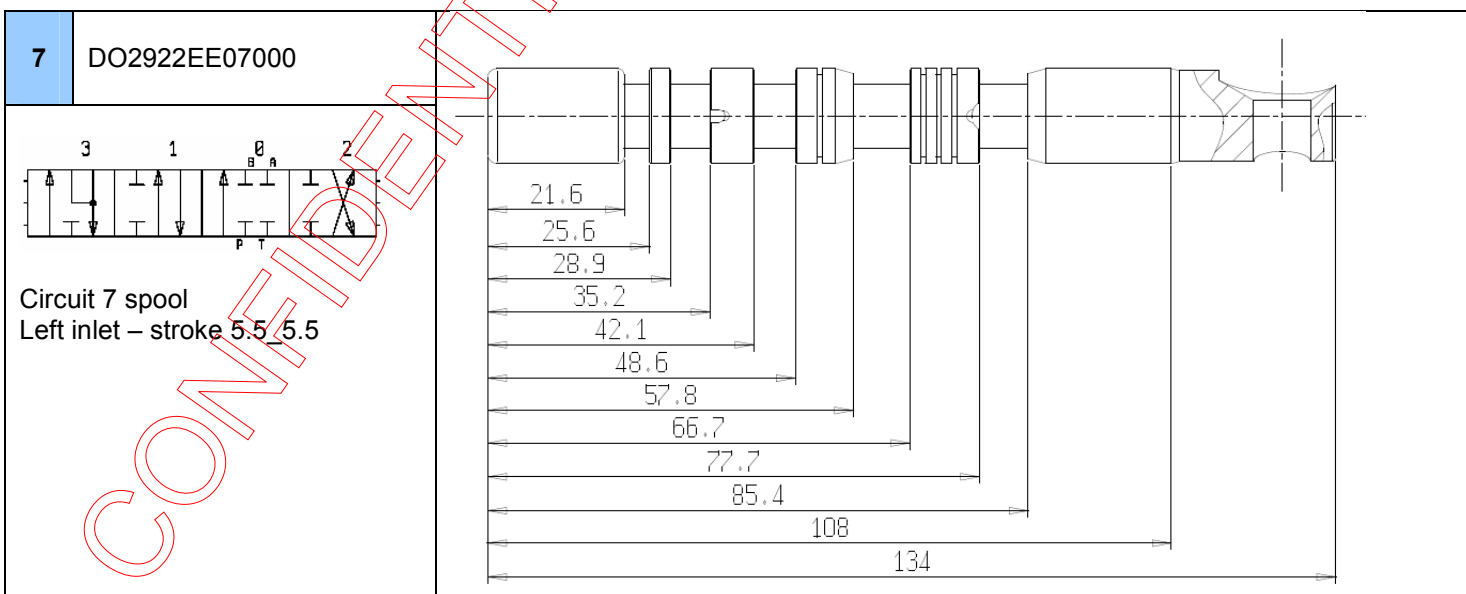
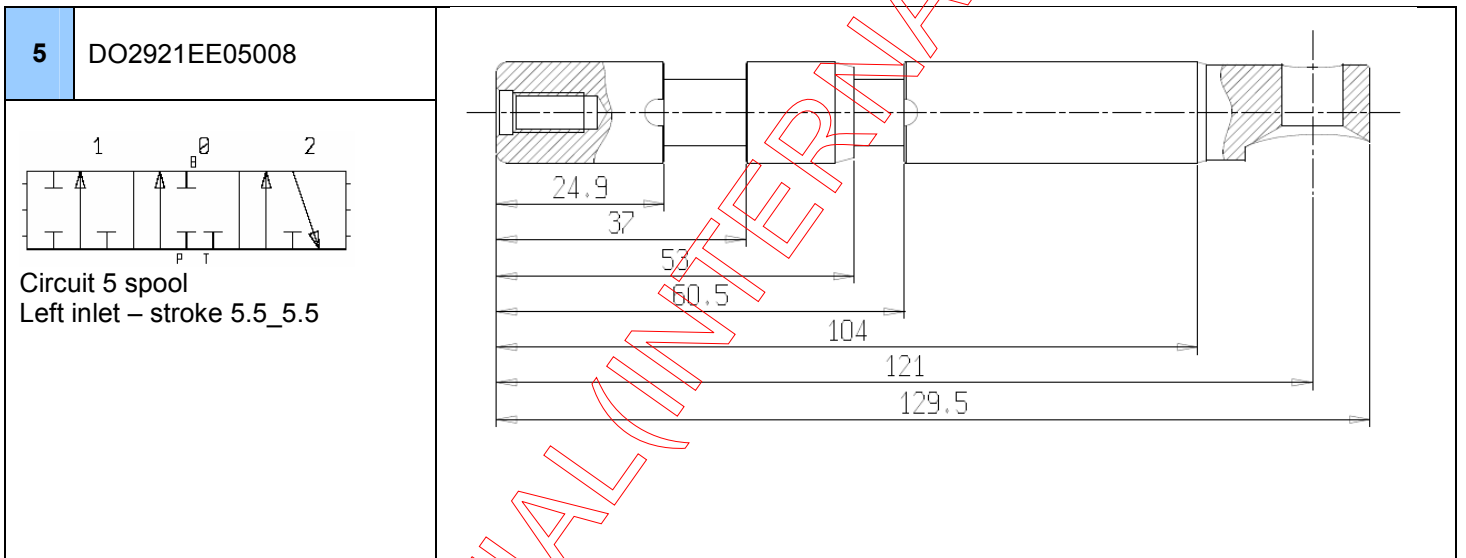
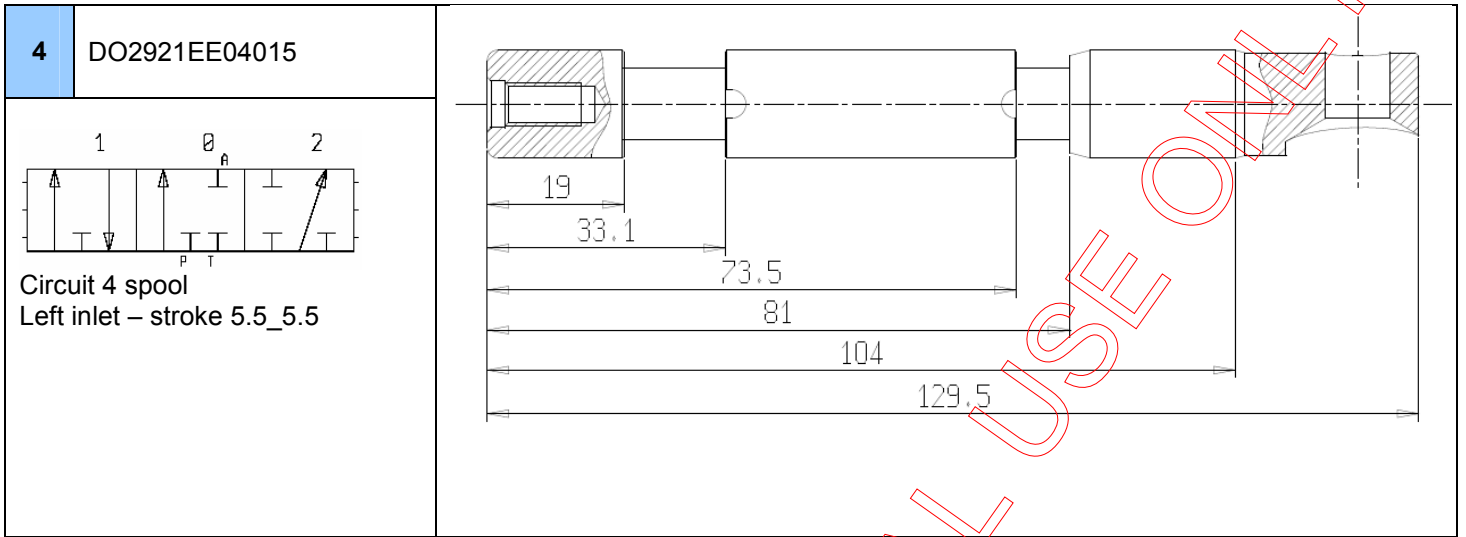
Available circuits

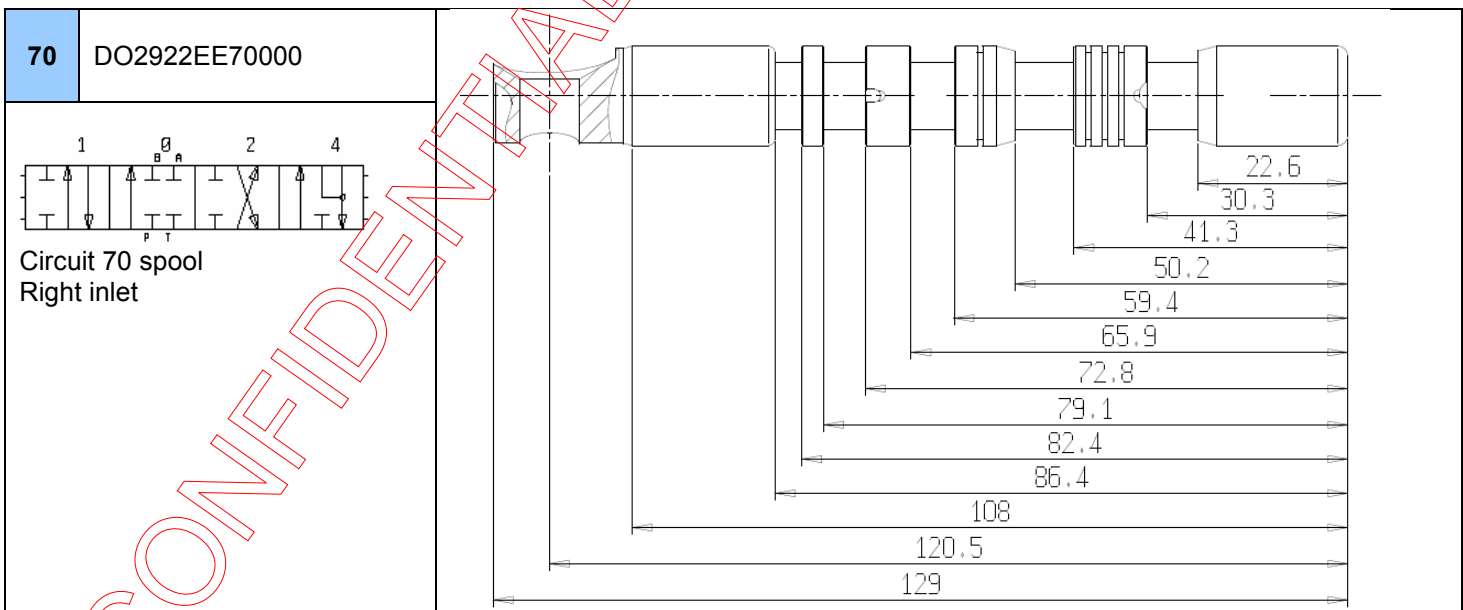
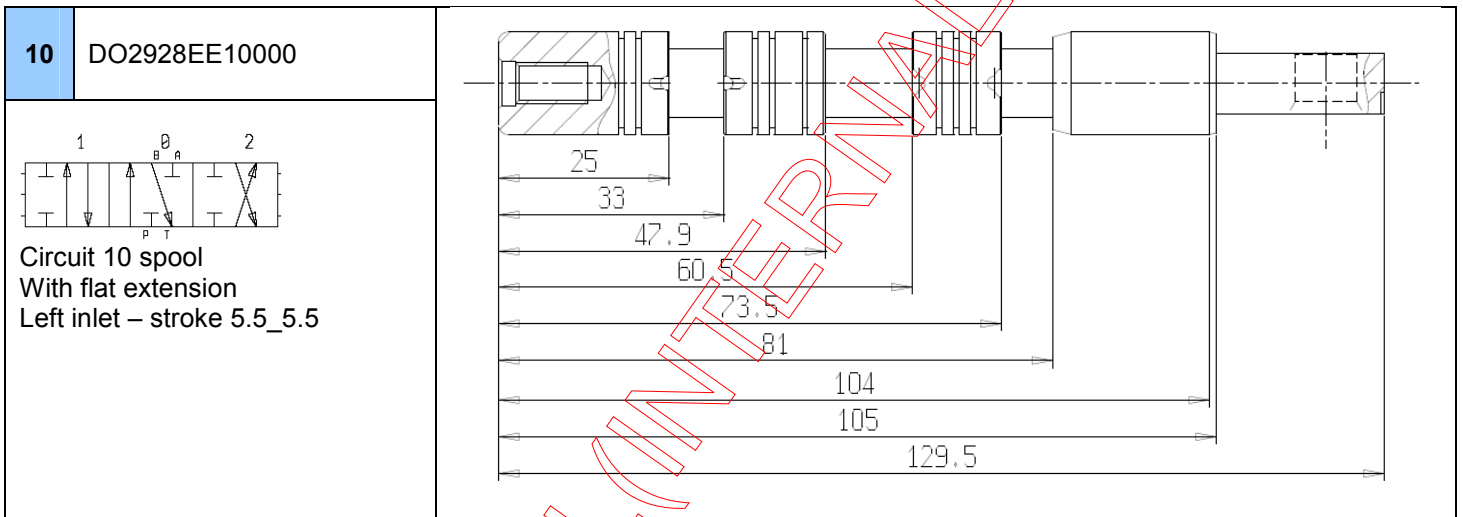
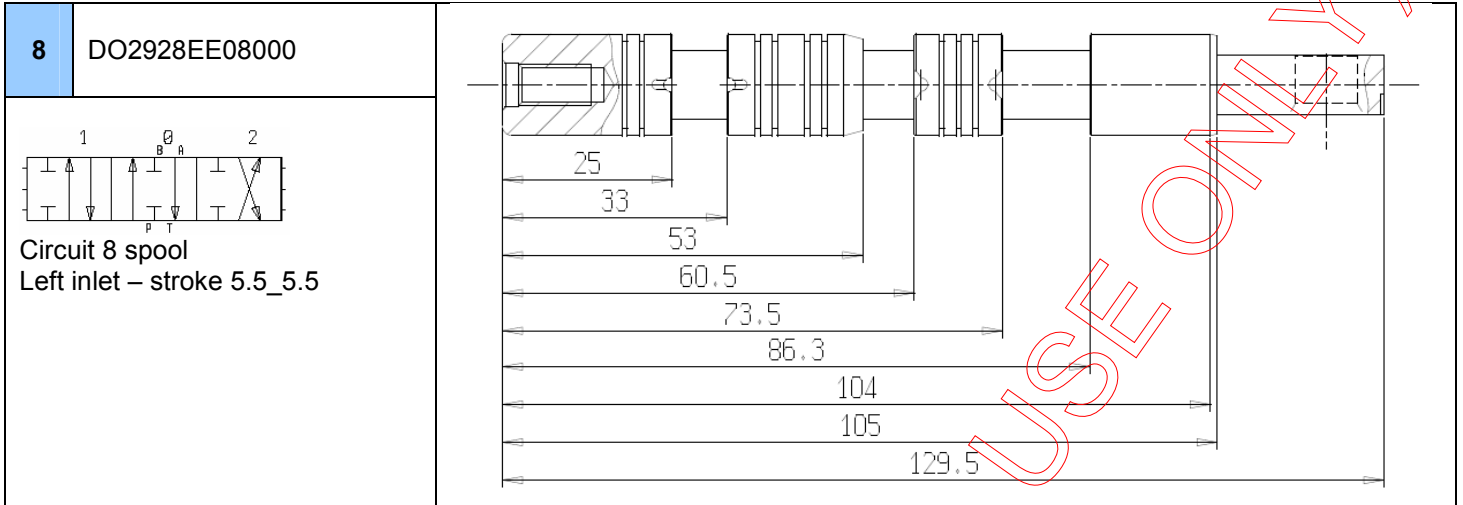
CIRCUIT 1		Double acting with 3 positions, A and B closed in central position.
CIRCUIT 3		Double acting with 3 positions, A and B connected to the tank in central position.
CIRCUIT 4		Simple acting in A and port B closed.
CIRCUIT 5		Simple acting in B and port A closed.
CIRCUIT 7		Double acting, with positions 1, central, 2 and 3; with A and B closed in central position and floating position in 3. (Pushing the lever)
CIRCUIT 8		Double acting with 3 positions, A connected to the tank in neutral position.
CIRCUIT 10		Double acting with 3 positions, B connected to the tank in neutral position.

<p>CIRCUIT 70</p>		<p>Double acting, with positions 1, central, 2 and 4; with A and B closed in central position and floating position in 4. (Pulling the lever)</p>
<p>CIRCUIT 15</p>		<p>Simple acting in B and port A closed. For closed center.</p>
<p>CIRCUIT 18</p>		<p>Double acting with 3 positions; P connected to A and B together in position 2 (regenerative).</p>
<p>CIRCUIT 19</p>		<p>Double acting with 3 positions, A and B closed in central position. P, T, A and B connected in position 2.</p>
<p>CIRCUIT 24</p>		<p>Simple acting in B, with extra-stroke where port A and B are connected and by-pass is opened.</p>

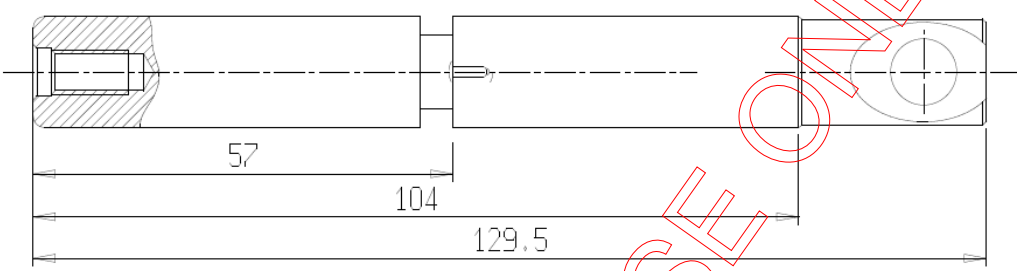
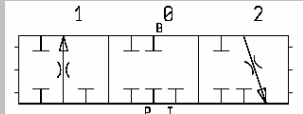
<p>1 DO2921EE01000</p>	
 <p>Standard circuit 1 spool Left inlet – stroke 5.5_5.5</p>	

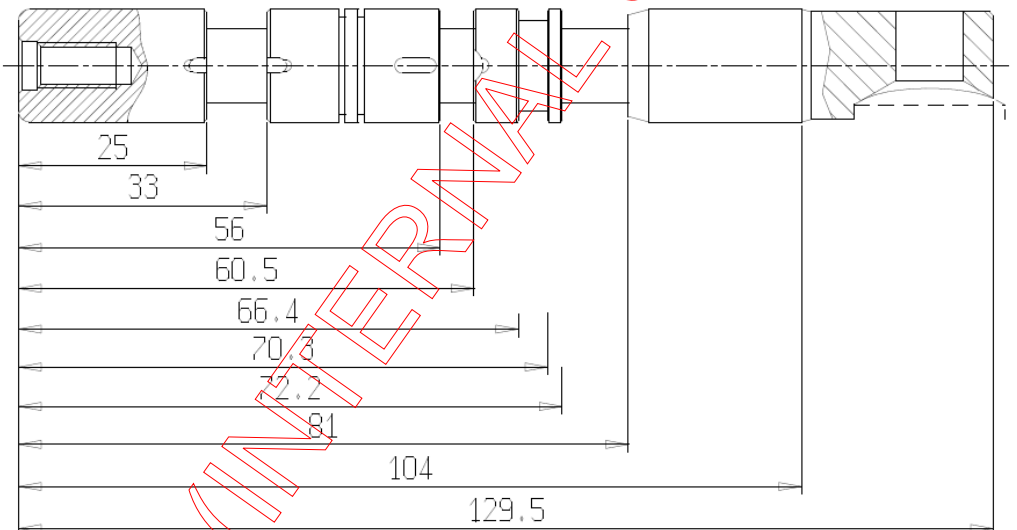
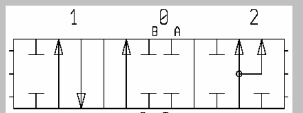


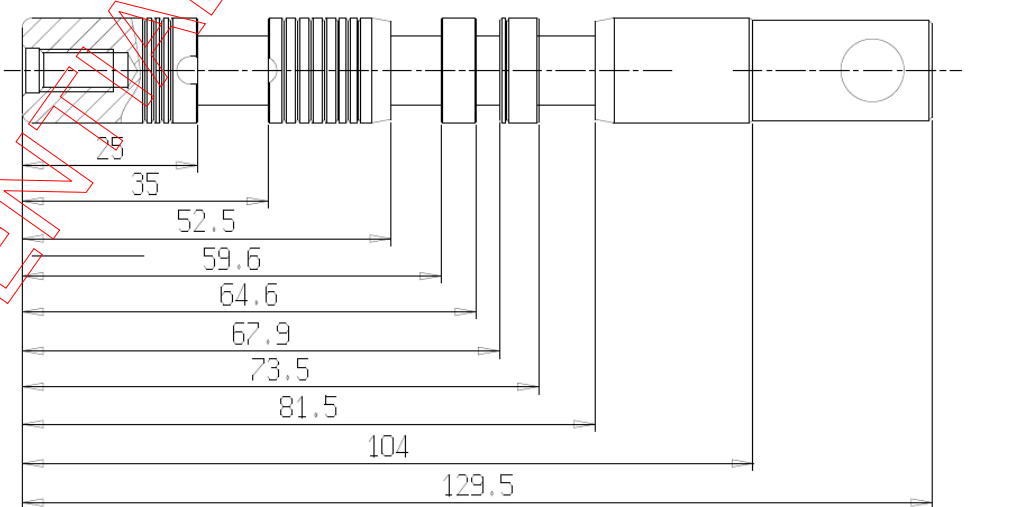
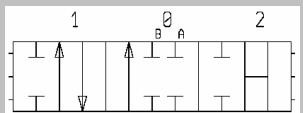


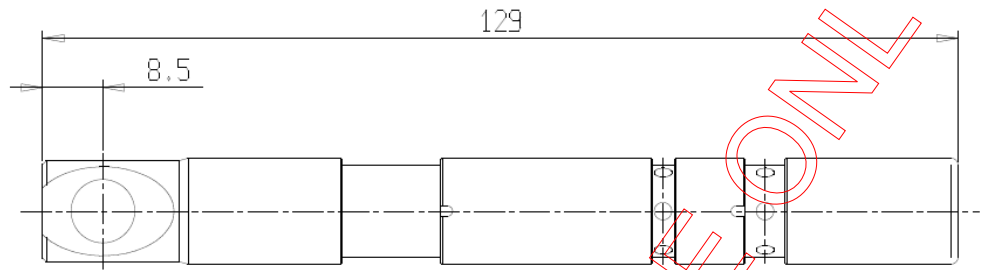
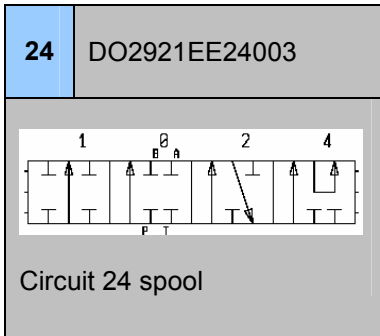


Special circuits

<p>15 DO2921EE15002</p>	
 <p>Circuit 15 spool</p>	

<p>18 DO2922EE18000</p>	
 <p>Circuit 18 spool</p>	

<p>19 DO2922EE19000</p>	
 <p>Circuit 19 spool</p>	



Spools

Circuit	Code	Inlet type	Type of extension	Flow rate
1	DO2921EE01000	Left	With extension	Standard
1	DO2921EE01033	Right	With extension	Standard
1	DO2922EE01000	Left	With extension	20-45 l/min.
1	DO2922EE01002	Right	With extension	20-45 l/min.
1	DO2922EE01003	Left	With extension	8-20 l/min.
1	DO2922EE01004	Right	With extension	8-20 l/min.
1	DO2922EE01008	Left	Without extension	20-45 l/min.
1	DO2928EE01001	Left	With flat extension - also for joystick	20-45 l/min.
1	DO2928EE01003	Right	With flat extension - also for joystick	20-45 l/min.
1	DO2928EE01010	Left	With flat extension - also for joystick	8-20 l/min.
3	DO2921EE03000	Left	With extension	Standard
3	DO2921EE03009	Right	With extension	Standard
3	DO2922EE03000	Left	With extension	20-45 l/min.
3	DO2922EE03004	Right	With extension	20-45 l/min.
3	DO2922EE03003	Left	With extension	8-20 l/min.
3	DO2922EE03005	Right	With extension	8-20 l/min.
3	DO2922EE03007	Left	Without extension	20-45 l/min.
3	DO2922EE03008	Right	Without extension	20-45 l/min.
3	DO2928EE03001	Left	With flat extension - also for joystick	20-45 l/min.
3	DO2928EE03002	Right	With flat extension - also for joystick	20-45 l/min.
3	DO2928EE03009	Left	With flat extension - also for joystick	8-20 l/min.
4	DO2921EE04015	Left	With extension	Standard

4	DO2921EE04016	Right	With extension	Standard
4	DO2922EE04000	Left	With extension	20-45 l/min.
4	DO2922EE04002	Right	With extension	20-45 l/min.
4	DO2922EE04001	Left	With extension	8-20 l/min.
4	DO2922EE04003	Right	With extension	8-20 l/min.
4	DO2922EE04007	Left	Without extension	20-45 l/min.
4	DO2922EE04008	Right	Without extension	20-45 l/min.
4	DO2928EE04009	Left	With flat extension - also for joystick	20-45 l/min.
4	DO2928EE04012	Right	With flat extension - also for joystick	20-45 l/min.
5	DO2921EE05008	Left	With extension	Standard
5	DO2921EE05010	Right	With extension	Standard
5	DO2922EE05000	Left	With extension	20-45 l/min.
5	DO2922EE05002	Right	With extension	20-45 l/min.
5	DO2922EE05001	Left	With extension	8-20 l/min.
5	DO2922EE05003	Right	With extension	8-20 l/min.
5	DO2922EE05005	Left	Without extension	20-45 l/min.
5	DO2922EE05006	Right	Without extension	20-45 l/min.
5	DO2928EE05007	Left	With flat extension- also for joystick	20-45 l/min.
5	DO2928EE05008	Right	With flat extension- also for joystick	20-45 l/min.
7	DO2922EE07000	Left	With extension	Standard
7	DO2926EE07003	Left	With flat extension - also for joystick	Standard
7	DO2928EE07003	Left	With flat extension- also for joystick	Standard
70	DO2922EE70000	Right	With extension	Standard
8	DO2928EE08000	Left	With flat extension - also for joystick	20-45 l/min.
10	DO2928EE10000	Left	With flat extension - also for joystick	20-45 l/min.
10	DO2922EE10003	Left	With extension	8-20 l/min
10	DO2922EE10004	Right	With extension	8-20 l/min
10	DO2921EE10005	Left	With extension	Standard

Special spools

Circuit	Code	Inlet type	Type of extension	Description
1	DO2921EE01036	Right	Without extension	For follower AGROFER
1	DO2921EE01009	Left	With fork	CARRARO
1	DO2926EE01012	Left	With extension	With 8 mm hole on extension - BYPY INC
1	DO2926EE01013	Left	With extension	8-20 l/min – extension hole 6.35 mm - CEPI
1	DO2922EE01014	Left	With extension	8-20 l/min with controlled tank – TURBOSOL
1	DO2922EE01015	Left	With extension	7-15 lpm - GHESA – BYPY SPAGNA
1	DO2922EE01016	Left	With no extension	7-15 l/min – BYPY DEUSCHLAND
1	DO2922EE01020	Left	With extension	Length 154.5 mm - ROLFO
1	DO2921EE01036	Right	With no extension	For follower- AGROFER
1	DO2921EE01054	Left	With extension	With controlled tank – CARRARO
1	DO2923EE01055	Left	With extension	Centre to tank, 0-leakage
1	DO2922EE01056	Left	With extension	20-45 l/min con drenaggio in bypass in mandata in A – BYPY SPAGNA AUSA
1	DO2928EE01057	Left	With flat extension	8-20 l/min with controlled tank – C.S.F.
3	DO2921EE03011	Left	With extension	With lately by-pass closing – KOJALTEK
3	DO2922EE03014	Left	With extension	7-15 l/min – BYPY SPAGNA GHESA/MATILSA
3	DO2922EE03015	Left	With extension	7-15 lpm - GHESA – BYPY SPAGNA
4	DO2922EE04004	Left	With extension	8-20 l/min - with controlled tank – CARRARO
4	DO2922EE04005	Right	With extension	8-20 l/min with controlled tank – CARRARO
4	DO2922EE04006	Left	With fork	With controlled tank
4	DO2926EE04006	Left	With fork	With controlled tank - CARRARO
4	DO2926EE04011	Left	With plate extension	With controlled tank – CARRARO
4	DO2928EE04011	Right	With flat extension	20-45 l/min
5	DO2922EE05010	Left	With fork	With controlled tank – CARRARO
5	DO2922EE05013	Left	With extension	Graduale. Tolerance on diameter +0.002/+0.004
7	DO2922EE07010	Left	With extension	With controlled tank - CARRARO
15	DO2921EE15002	Left	With extension	On P and T restricted - SAUER
18	DO2922EE18000	Left	With extension	Regenerative - MHS
19	DO2922EE19000	Left	With extension	BY PY GMBH
24	DO2921EE24002	Right	With extension	CARRARO
24	DO2921EE24003	Right	With extension	CARRARO

34	DO2921EE34000	Left	With extension	AHLSSELL OY
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Spool characteristics

Spools circuit 1, 3, 4, 5, 8 and 10 are metering optimized for flow ranges of 8-20 and 20-45 l/min. If spools with nominal flow of 8-20 l/min are used with higher flow values, main relief valve will open during exchange step. Opposite, using spools with nominal flow of 20-45 l/min with lower flow values, will compromise metering bend. NOTE: Because of design methods used to optimize metering bend, spools generate an increase of pressure during the exchange step. Pressure peak produced is approximately 120-130 bar at 20 l/min for an 8-20 l/min spool and at 45 l/min for a 20-45 l/min spool.

Note: circuit 3-4-5-8-10 spool characteristic curves are same as circuit 1 for equivalent flow ranges.

Spools circuit 1 and 3 differ for neutral position. In neutral position circuit 1 has user ports closed, while circuit 3 has user ports connected to the tank line.

Circuits 4 and 5, called "simple acting", work respectively only with port A (circ 4) and port B (circ 5).

In neutral position circuits 8 and 10 have respectively port A and port B connected to the tank line.

Circuits 70 and 7 have a fourth position where by-pass is opened and ports A and B are connected to the tank line. This position is obtained pulling the actuator lever with circuit 70 and pushing the lever with circuit 7.

Spools / spool controls compatibility chart

Circuit	A	B	C	D	E	F	H	L	NT	NS	PS	Q	R	S	CPT
1	■	■	■	■	□	□	□	□	x	x	x	■	■	■	x
3	■	■	■	■	■	■	■	■	x	x	x	□	■	■	x
4	■	■	□	■	□	□	□	□	x	x	x	□	□	□	x
5	■	□	■	■	□	□	□	□	x	x	x	□	□	□	x
7	x	x	x	x	x	x	x	x	x	■	■	x	x	x	x
70	x	x	x	x	x	x	x	x	■	x	x	x	x	x	■
8	■	■	■	■	■	x	■	x	x	x	x	□	□	□	x
10	■	■	■	■	x	■	x	■	x	x	x	□	□	□	x

Legend: ■ = available □ = not advised x = not available

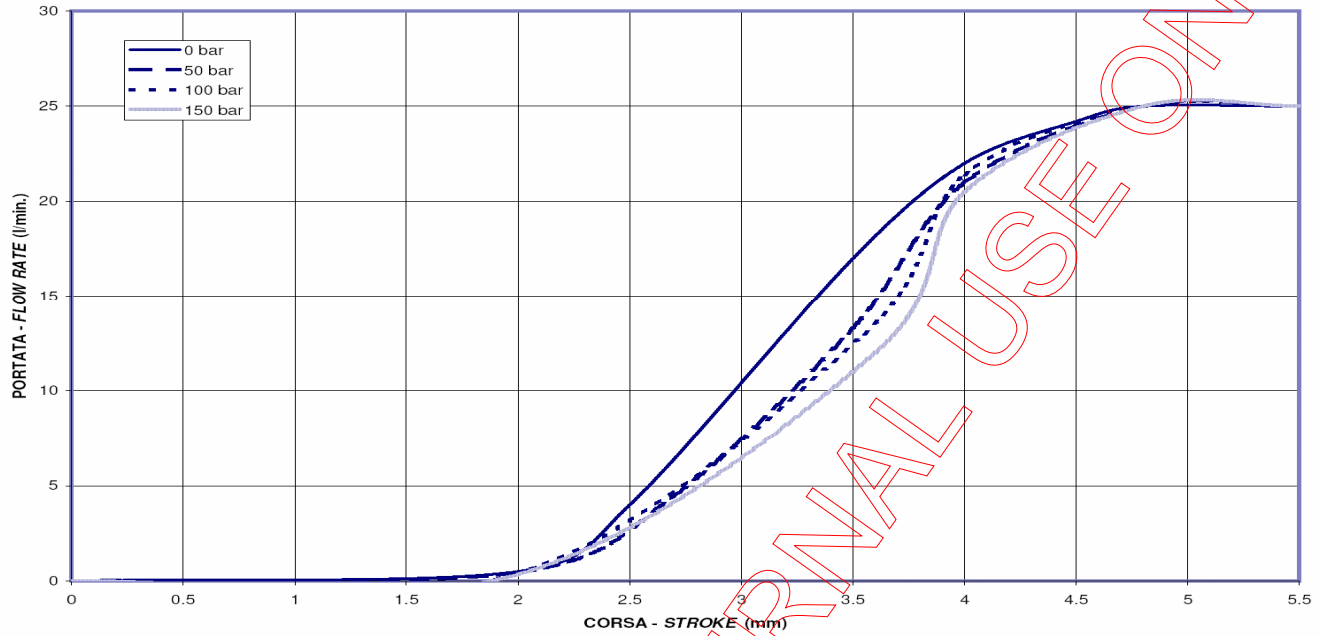
Special circuits / spool controls compatibility chart

Circuit	A	B	C	D	E	F	H	L	NT	NS	PS	Q	R	S	CPT
18	□	■	■	■	□	□	□	□	x	x	x	□	□	□	x
19	□	■	■	■	□	□	□	□	x	x	x	□	□	□	x
24	x	x	x	x	x	x	x	x	■	x	x	x	x	x	■

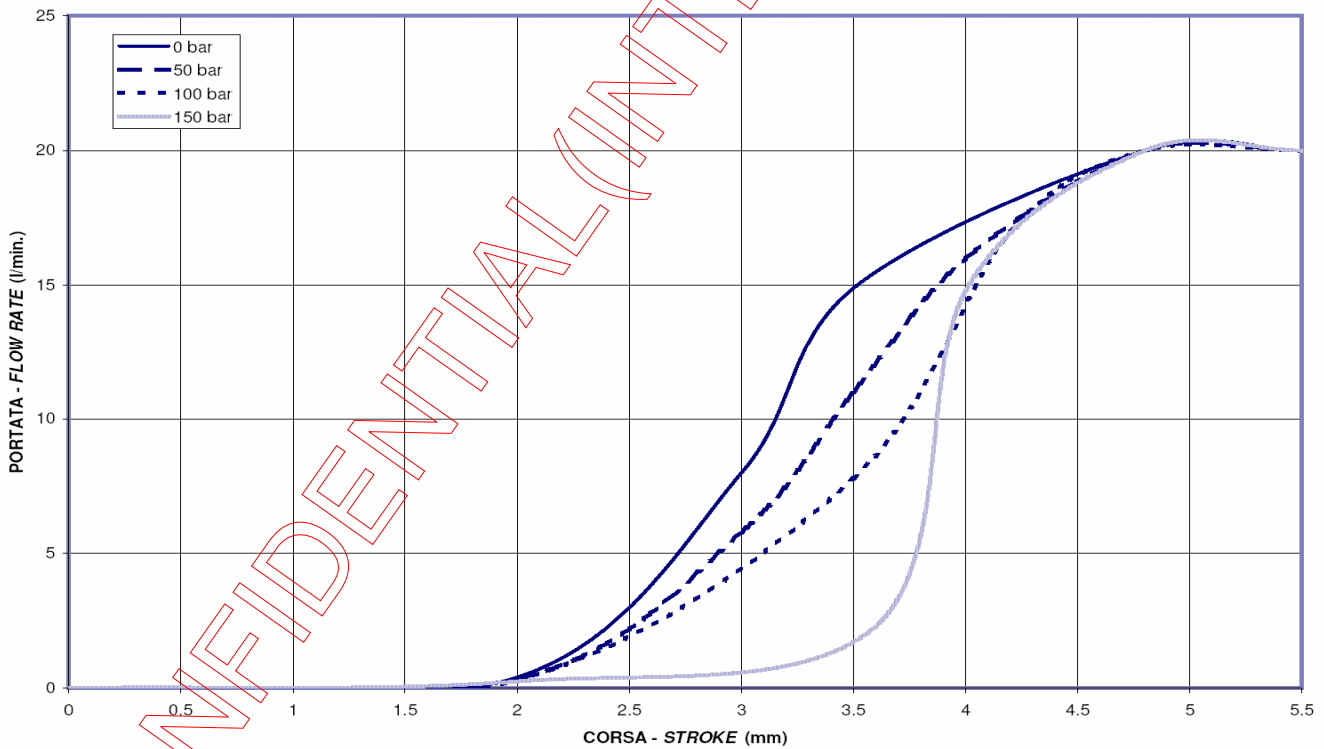


Spool features

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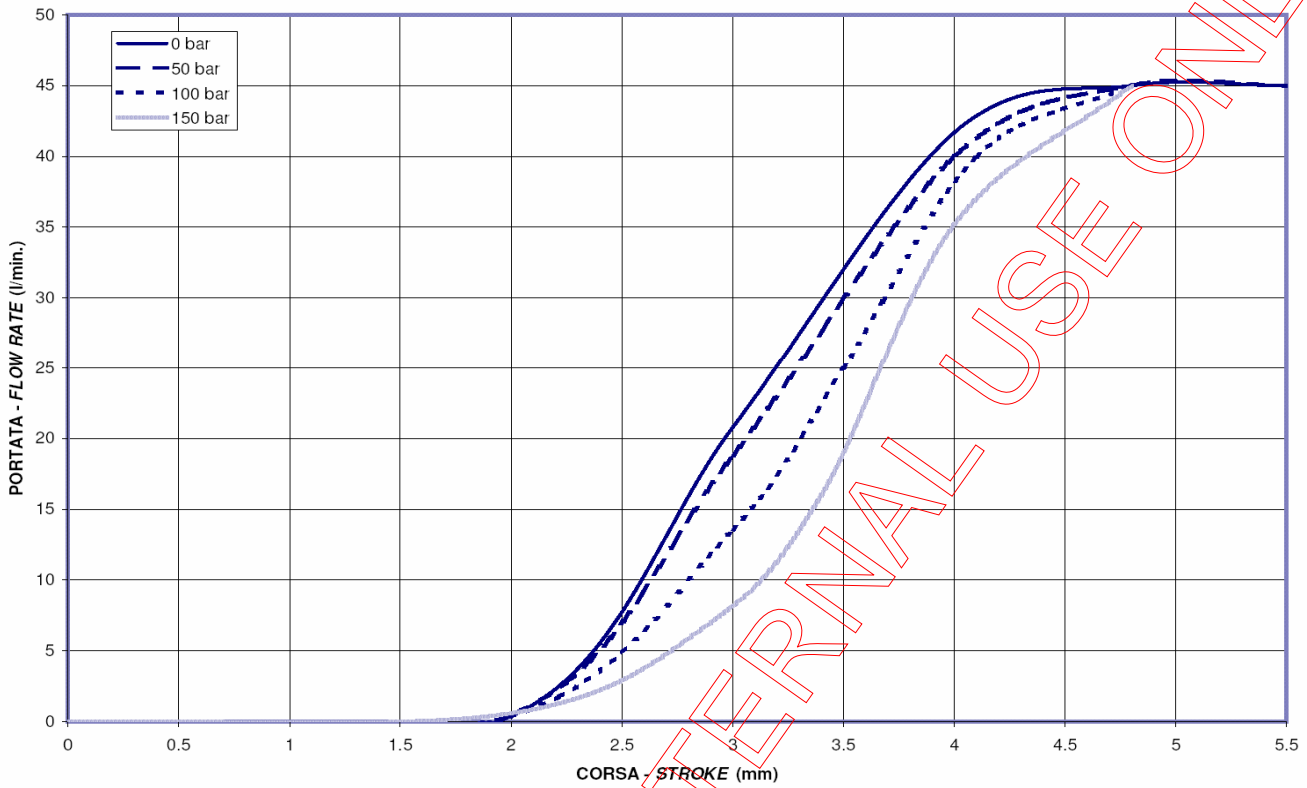


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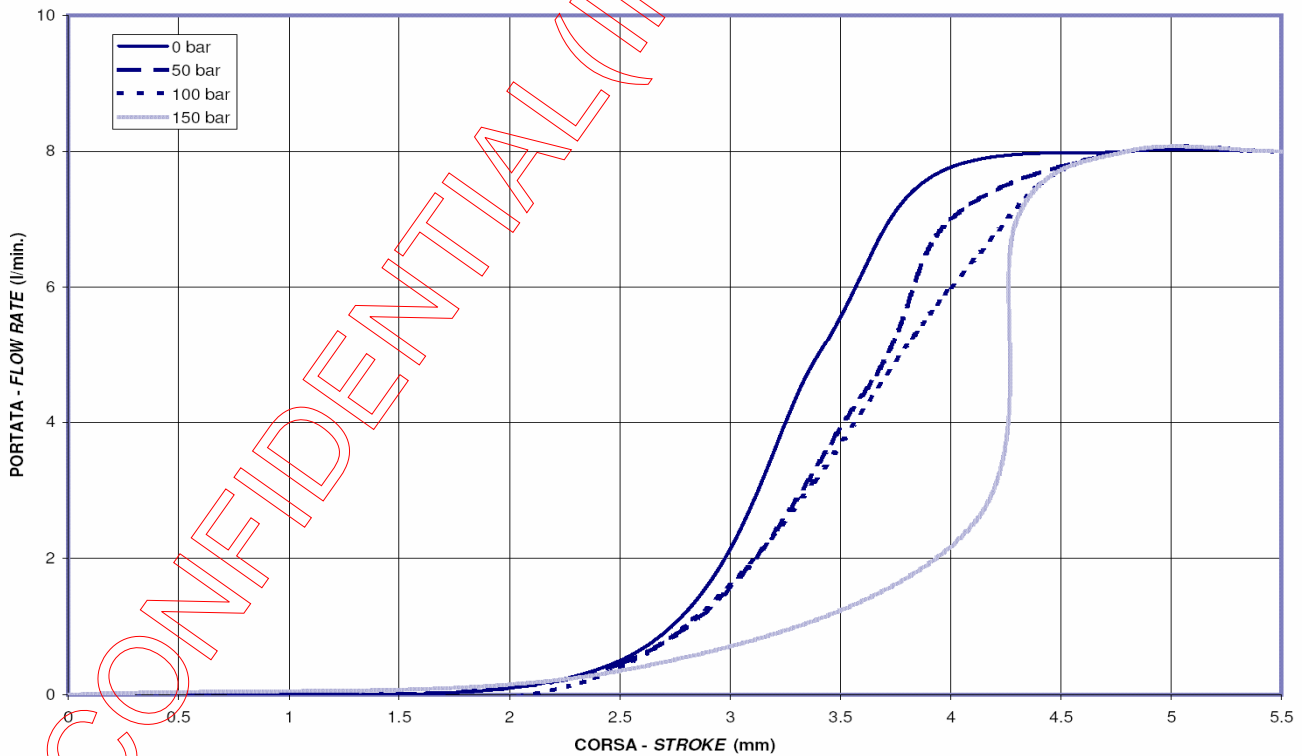




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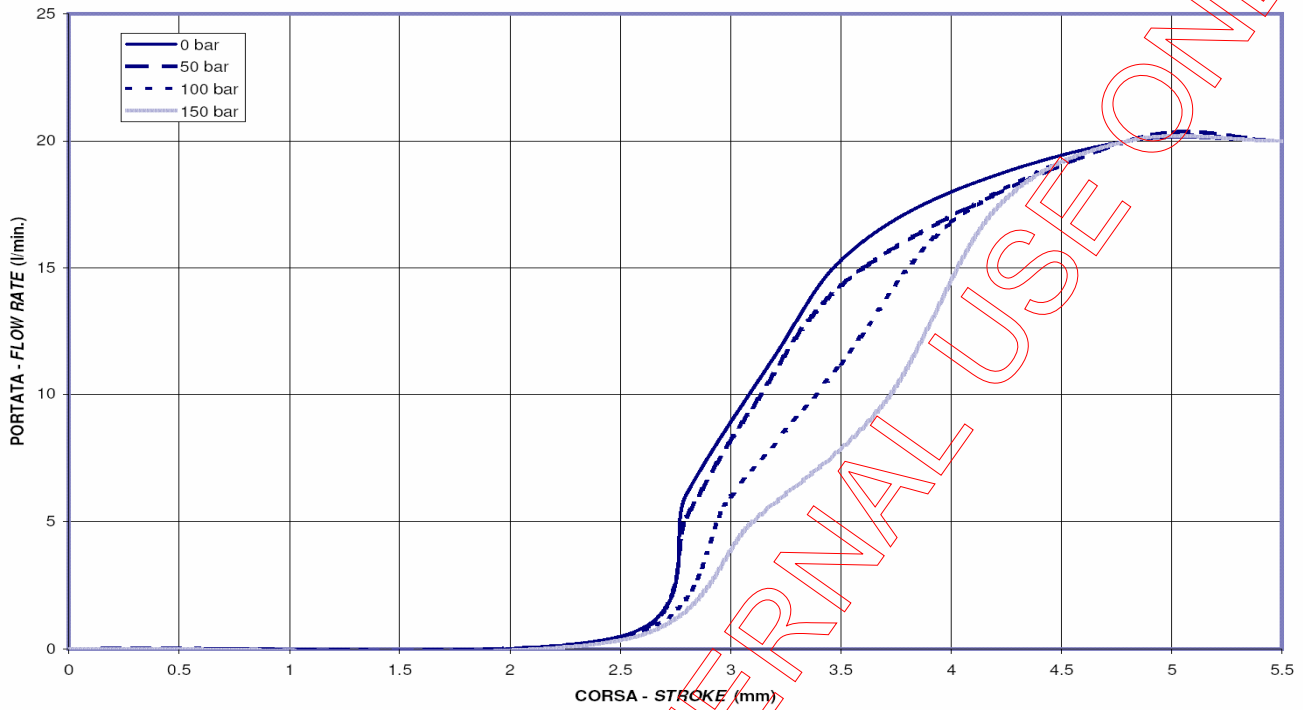


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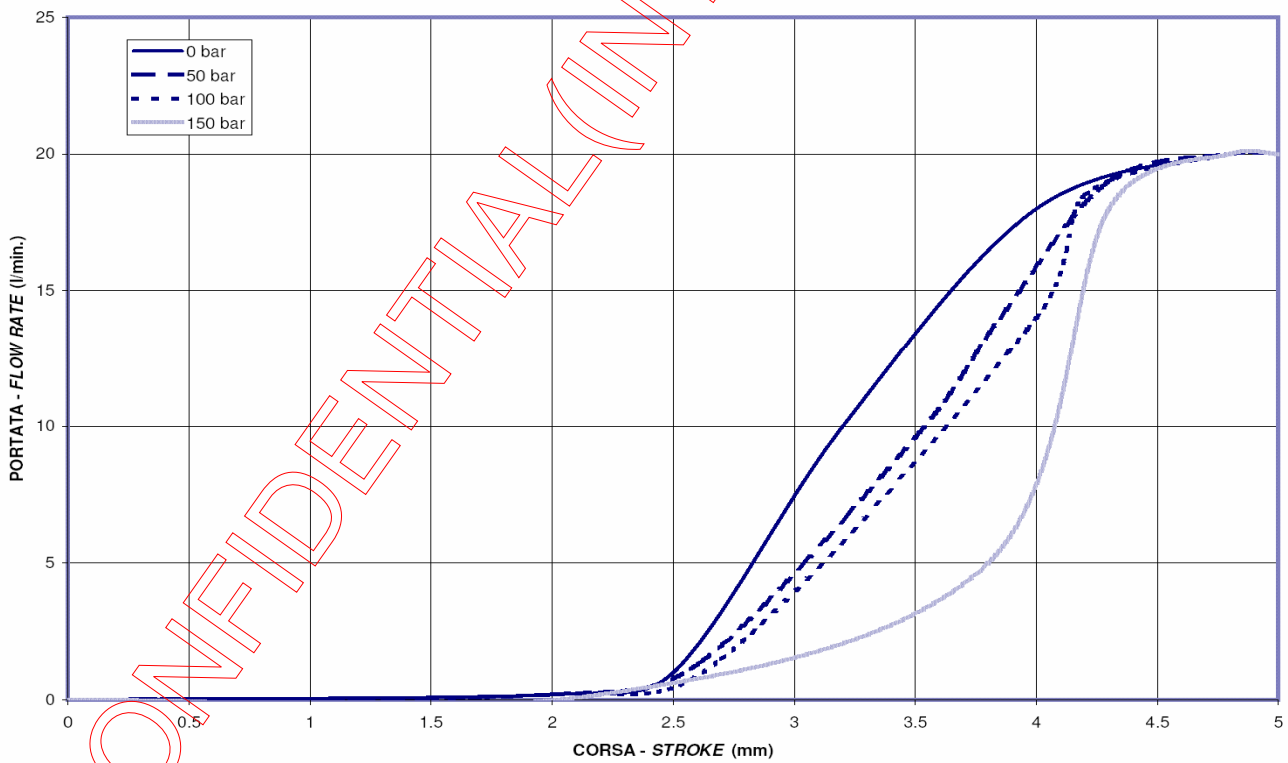




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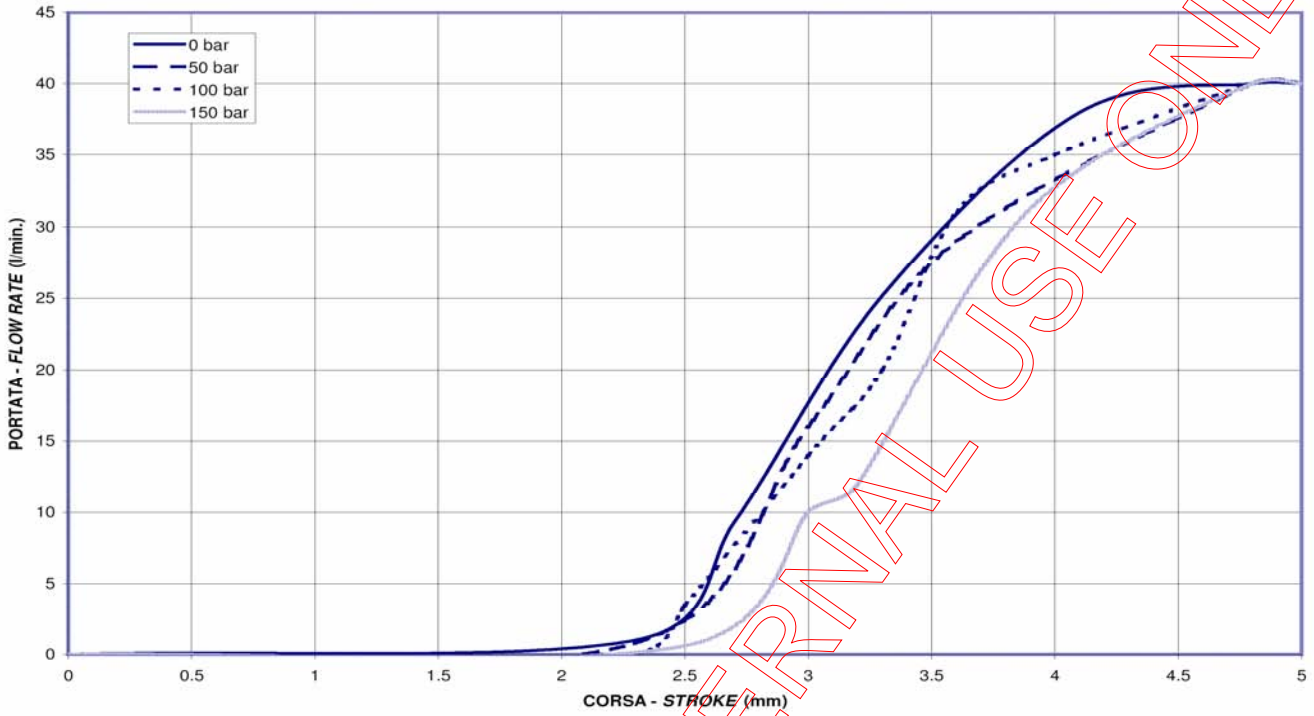


CORSA-PORTATA - STROKE-FLOW RATE (SPOLA-SPOOL 2922EE07000) - 21cSt





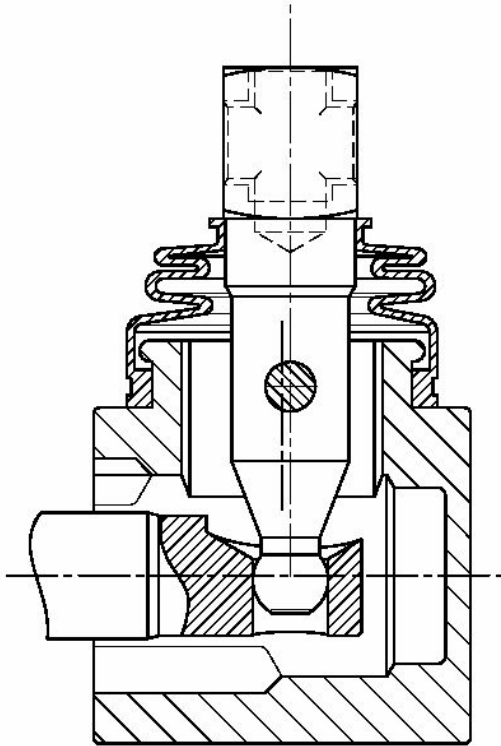
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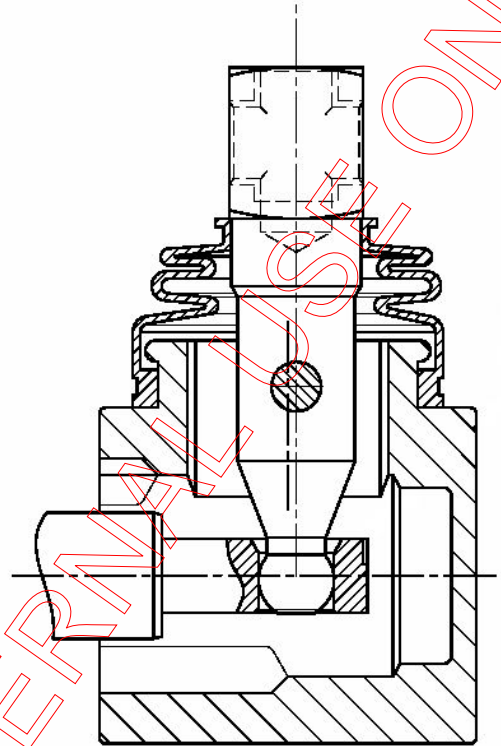
CONFIDENTIAL (INTERNAL USE ONLY)



Spool extensions



Eye type extension



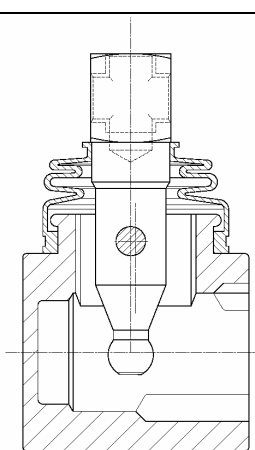
Flat extension

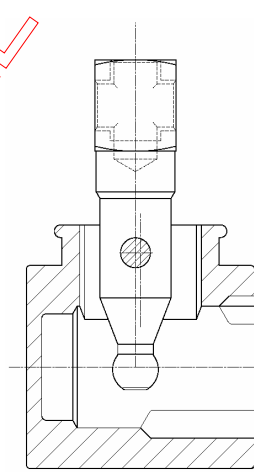
VI

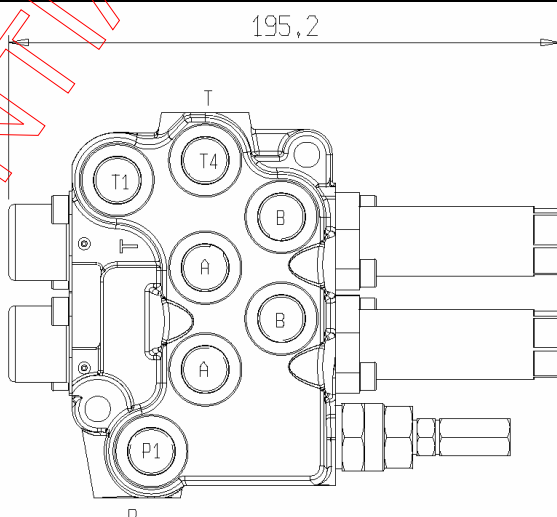
Actuators on lever side

Ordering instructions

ML2	C	Z (180)	A	1	L					
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

L	<p>DO57010817</p> <p><i>Standard lever kit</i></p>
	

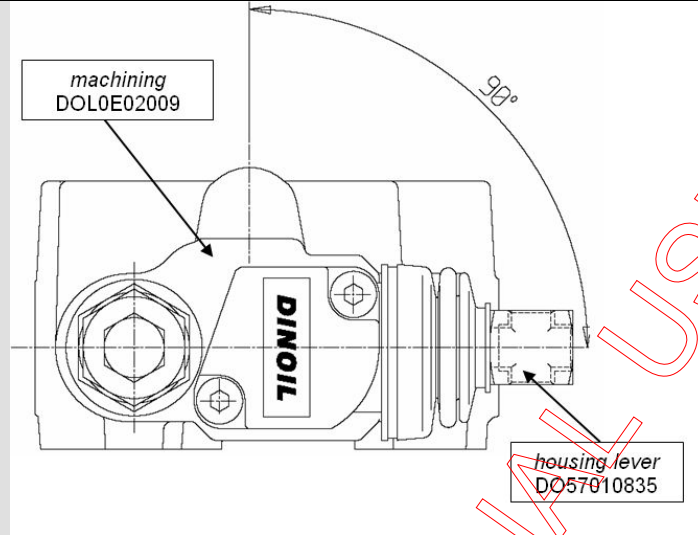
	<p>DO57013604</p> <p><i>Lever kit without rubber boot</i></p>
	

TCF	<p>DO74508212053</p> <p><i>Kit for cable control on lever side</i></p>
 <p style="text-align: center;">195,2</p>	



DO57010835

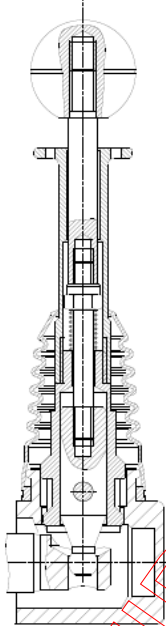
90° rotated lever



LI

DO54036002

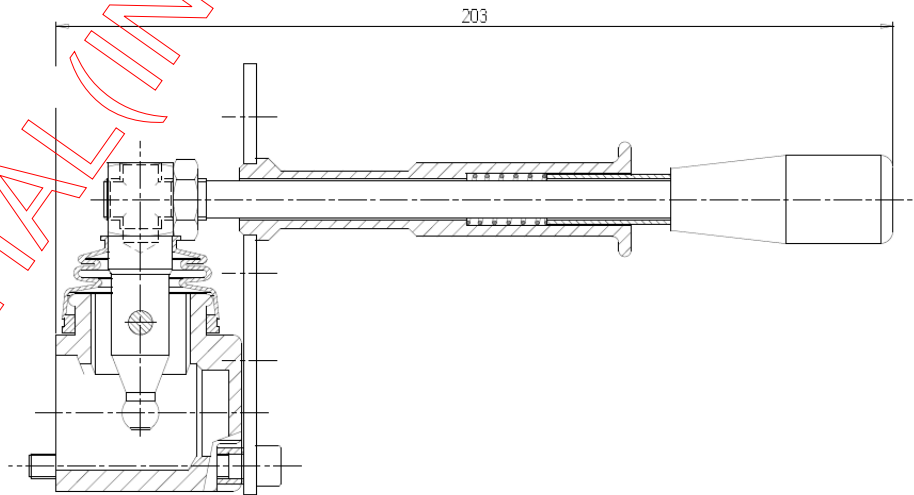
Vertical intentional lever



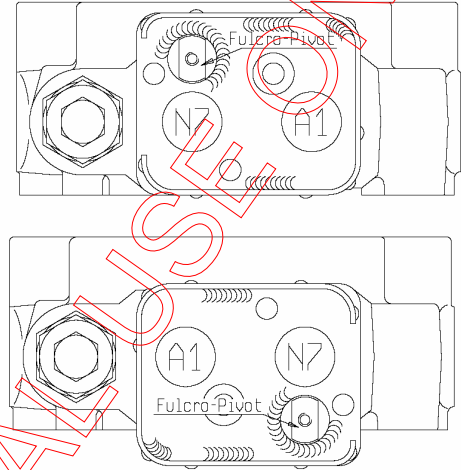
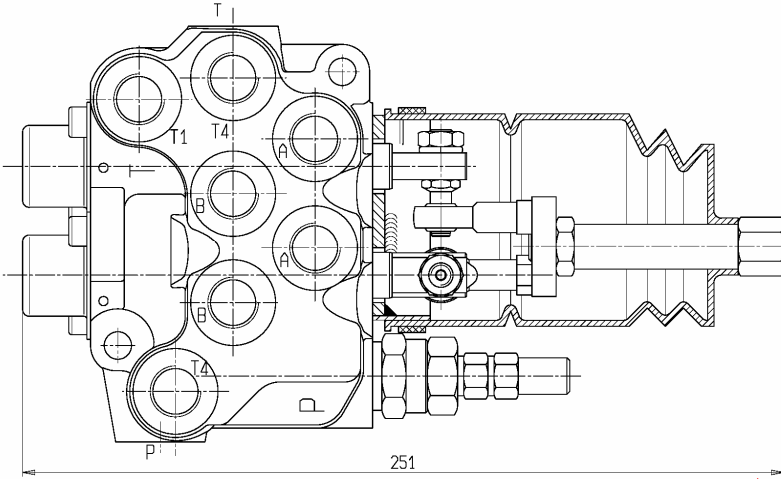
LIPO

DO54036006

Horizontal intentional lever

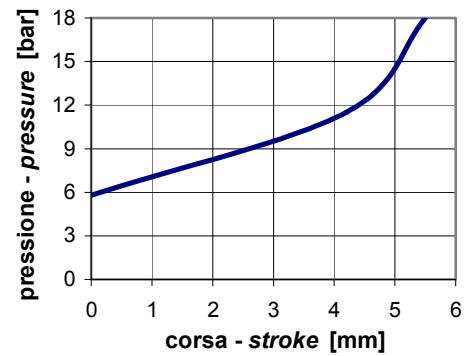
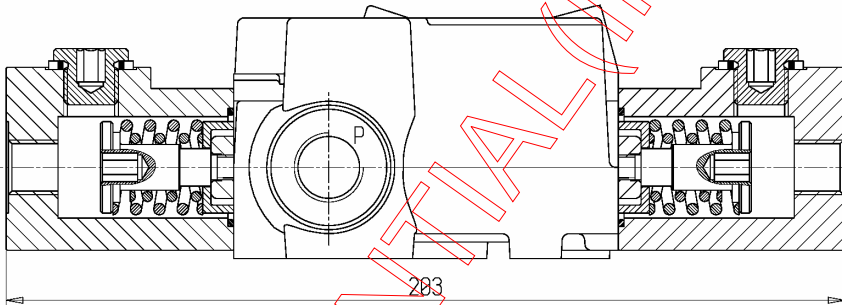


MAN (+)	<p>DO55513615</p> <p><i>Joystick (+)</i></p>
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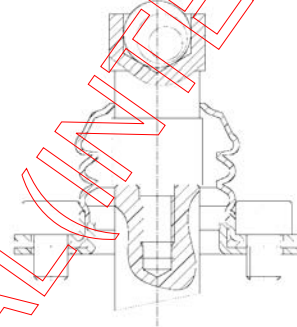
Note: Joystick “+” can move only one section at a time, moving the lever along the axis. It can be used with every available circuit, except for circuit 70 (right inlet). If VL and circuit 7 coexist, the only possible configuration is A1-N7.

K	<p>DO5XH15536003</p> <p><i>Hydraulic proportional control</i></p>
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Special actuators on lever side

Lever kit p.36 anonymous (AMA, Mafix)	DO57010820
Lever kit p.36with front extension (BY PY France)	DO57012303
Lever kit p.36 out of centre (VAPORMATIC)	DO57010821
Lever kit p. 40-42 out of centre (MHS)	DO57010223
Lever kit p.40-42 milled, 90° rotated (ICMA)	DO57010825
Lever kit p.36out of centre with ring on hood (MORESIL)	DO57010802
Lever kit for pneumatic actuator (DANITECH AS)	DO5XG55371003
Joystick with up-right fulcrum (THALER)	DO55513618
Joystick with up-right fulcrum (BYPY IBERICA)	DO55513619
Joystick without hood and column (AUSA)	DO55513614
Kit for spherical extension M8 (AGROFER)	DO5XA1055002
Kit for spherical extension M6 (DANI-TECH)	DO5XA1055008

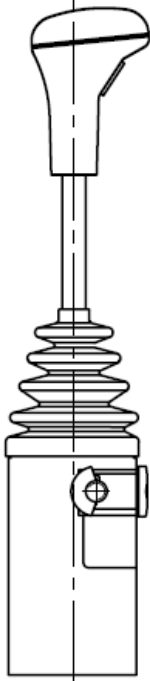


Kit for spherical extension

Actuators for cable control

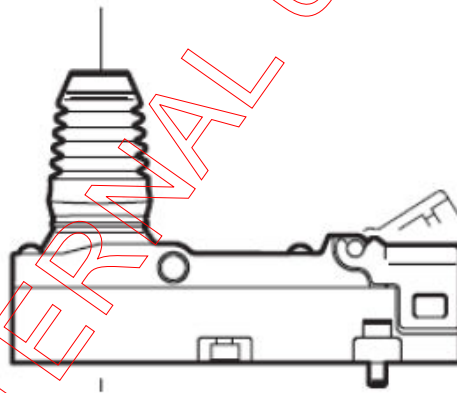
DO775---

Dual axis joystick for cable control



DO790---

Single axis joystick for cable control



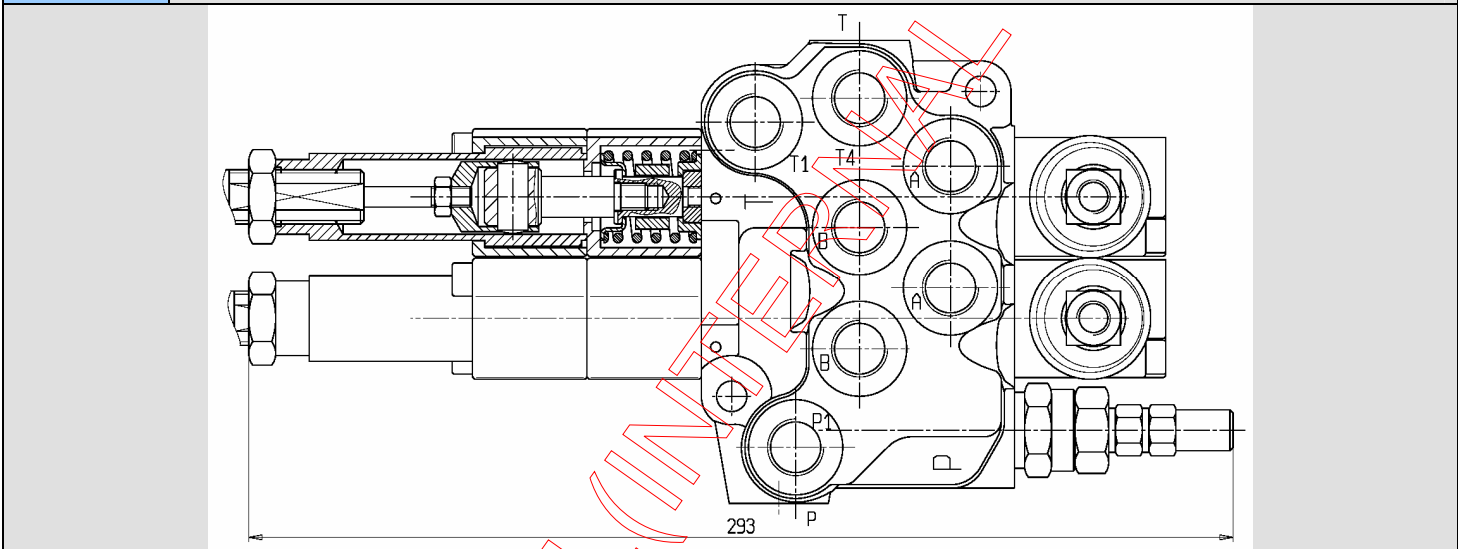
VII

Actuators on spool control side

Ordering instructions

ML2	C	Z (180)	A	1	L	TCF				
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

TCF	DO580550A54 <i>Kit for cable control on spool control side</i>
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Special actuators on spool control side

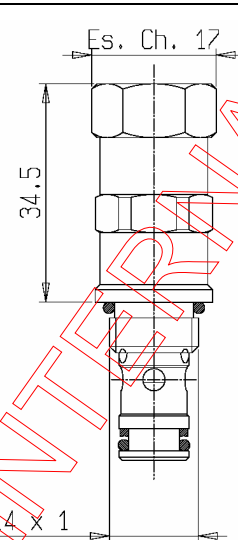
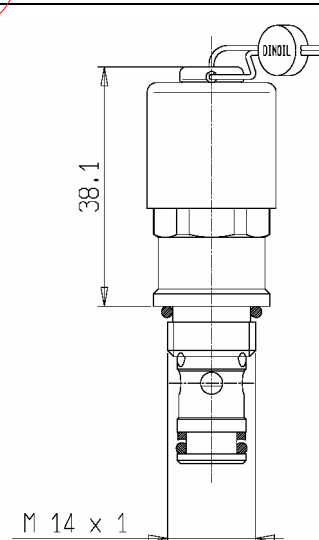
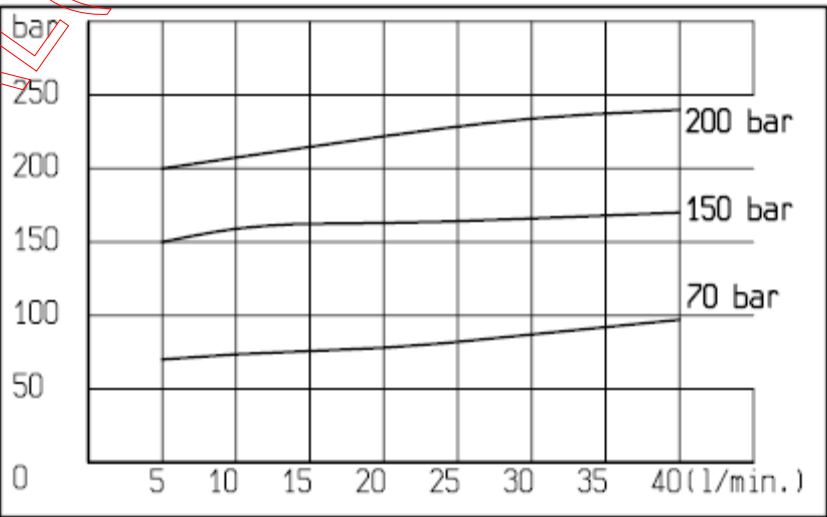
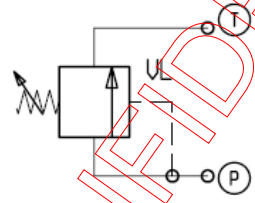
<i>Hydraulic proportional control</i>	DO5XH15536003
<i>Spool control kit for single effect pneumatic actuator(DANITECH AS)</i>	DO5XG55372002

VIII

Port auxiliary valves

Ordering instructions

ML2	C	Z (180)	A	1	L	TCF	VLA			
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

Ordering code		DOWLP02M14---	DOWLP20M14---
		<i>Limiter valve</i>	<i>Leaded limiter valve</i>
VL A (*)	(valve on port A) (*) = Setting pressure [bar]		
VL B (*)	(valve on port B) (*) = Setting pressure [bar]		
VLAB (*)	(valve on port AB) (*) = Setting pressure [bar]		
Settings pressure range			
20-50 bar			
60-160 bar			
160-220 bar			
			



IX

Following section

Ordering instructions

ML2	C	Z (180)	A	1	L	TCF	VLA	A1L		
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

Repeat ordering instructions IV, V and VI for each section.

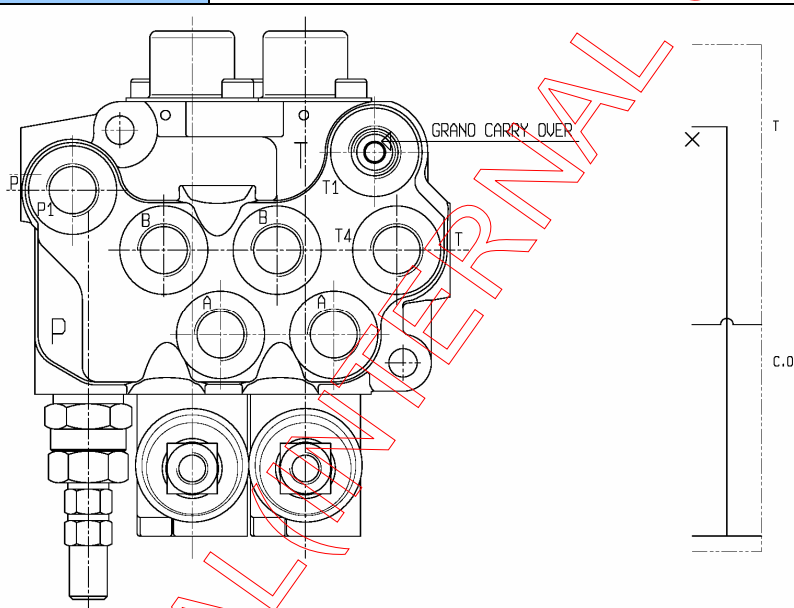
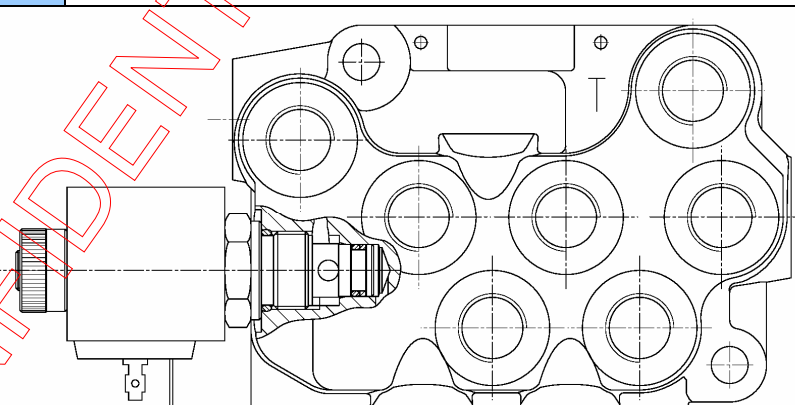
IV	V	VI
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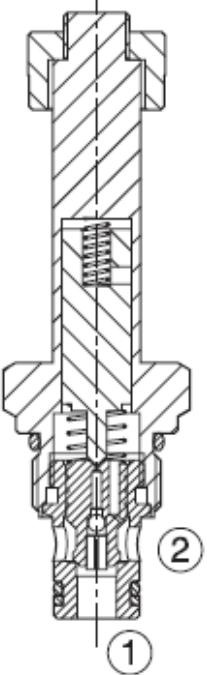
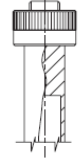
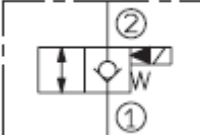
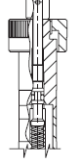

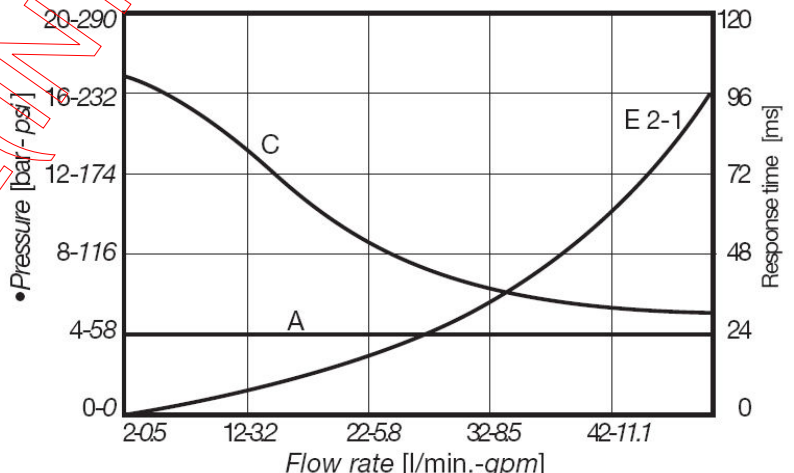
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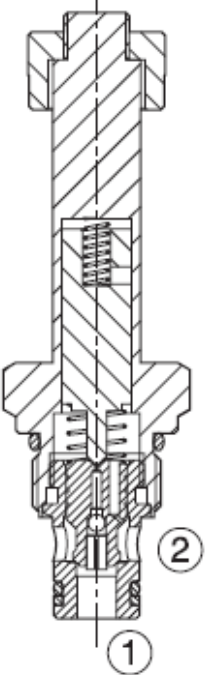
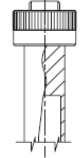
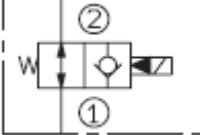
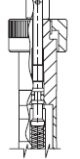

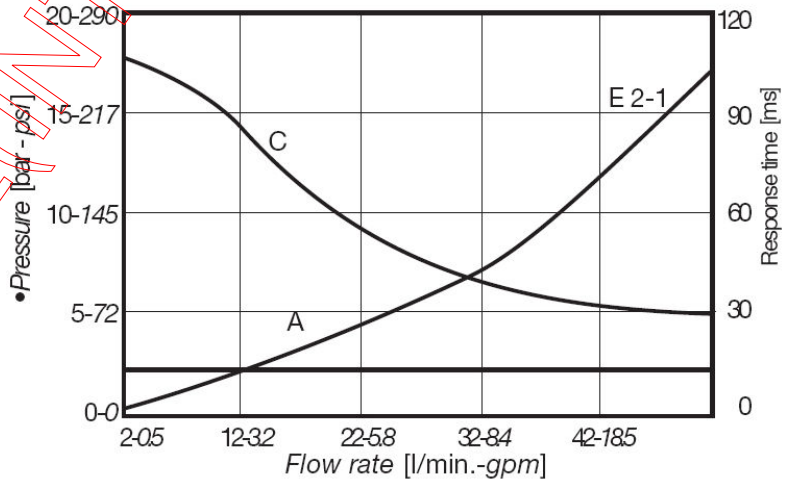

Options on T line

Ordering instructions

ML2	C	Z (180)	A	1	L	TCF	VLA	A1L	C.O.	
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

C.O.	DO3403001401 <i>Carry over (power beyond)</i>
	
Dump valve	DO5KSB08---02 + DO7120--DCD001
	

<p>DO5KSB08---01</p> <p>Solenoid operated directional valve-poppet type N.C.</p>	<p>Ordering code</p>		<p>Manual overrides for emergency use</p>	
	<p>Valve type code</p>	<p>Emerg. code</p>	<p>O</p> <p>Standard housing</p>	
 <p>Testing parameters: 50° C - 21cSt Coil C1 18W, 12VDC Current 0.94 A</p> <p>Keys 2-1 Flow direction Energized coil</p> <p>Response time A:Opening C:Closing</p>	<p>01</p>	<p>S</p> <p>Manual override with screw</p>	<p>M</p> <p>Manual override free-back</p>	
	<p>B</p> <p>Manual override with block</p>	<p>B</p> <p>Manual override with block</p>		
				

<p>DO5KSB08---02</p> <p>Solenoid operated directional valve-poppet type N.O.</p>	<p>Ordering code</p>		<p>Manual overrides for emergency use</p>	
	<p>Valve type code</p>	<p>Emerg. code</p>	<p>O</p> <p>Standard housing</p>	
 <p>Testing parameters: 50° C - 21cSt Coil C1 18W, 12VDC Current 0.94 A</p> <p>Keys 2-1 Flow direction Energized coil</p> <p>Response time A:Opening C:Closing</p>	<p>02</p>	<p>S</p> <p>Manual override with screw</p>	<p>M</p> <p>Manual override free-back</p>	
<p>•Pressure [bar - psi]</p>	<p>B</p> <p>Manual override with block</p>	<p>20-290</p> <p>15-217</p> <p>10-145</p> <p>5-72</p> <p>0-0</p>	<p>E 2-1</p>	
<p>Flow rate [l/min.-gpm]</p>	<p>2-05</p> <p>12-32</p> <p>22-58</p> <p>32-84</p> <p>42-185</p>	<p>Response time [ms]</p> <p>120</p> <p>90</p> <p>60</p> <p>30</p> <p>0</p>		



XI


Type of P – T


Ordering instructions


ML2	C	Z (180)	A	1	L	TCF	VLA	A1L	C.O.	PT
I	II	III	IV	V	VI	VII	VIII	IX	X	XI


PT	<i>Ports P and T open, ports P1T1T4 plugged</i>
P1T1T4	<i>Port P1, T1 and T4 open, ports P and T plugged</i>
PP1TT1T4	<i>Ports P, P1, T, T1 and T4 open</i>


Lever

DO5351--- <i>M10 Lever kit</i>		L (mm)	Lever code	254	535125002
		184	535118002	304	535130002
		84	535108002	354	535135002
		104	535110002	404	535140002
		109	535110502	454	535145002
		134	535113002	504	535150002
		154	535115002	604	535160002
		214	535121002	674	535167002

DO535199901	
<i>Ergonomic straight lever</i>	

DO535199912	
<i>Ergonomic 90° rotated straight lever</i>	

DO535199902	
<i>Ergonomic 15° bent lever</i>	

DO535199903	
<i>Ergonomic 30° bent lever</i>	

Special levers / Accessories

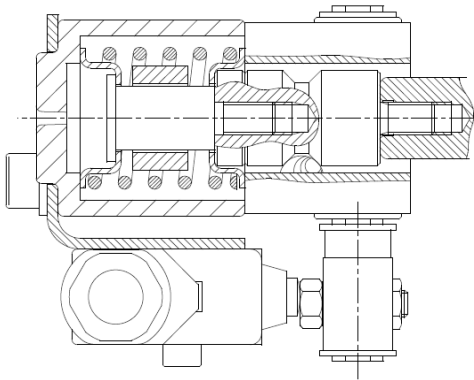
Lever kit M10x222mm, 45° bent at 55mm and 76.5 mm (BCS)	DO535125013
Lever kit M10x150mm, 17° bent at 32mm (ByPy Inc.)	DO535115006
Yellow galvanized lever kit M10x250mm, with orange Dinoil handgrip (AUSA)	DO535825001
Yellow galvanized lever kit M10x130mm, with orange Dinoil handgrip (AUSA)	DO535813001
Yellow galvanized lever kit M10x250mm, with orange Dinoil handgrip, 137° bent at 133mm (AUSA)	DO535825002
Lever kit M10x180mm, 45° bent at 38mm (ByPy Inc.)	DO535118026
Lever kit M10x180mm anonymous (Mafix)	DO535118022
Lever kit M10x180mm (vapormatic)	DO535418002
Lever kit M10x105mm (Sauer-Dani-tech AB)	DO535110502
Vertical intentional lever p. 36 (DIECI)	DO54036007
15° bent intentional lever (DIECI)	DO54036018
Check valve (VNR)	DOWUS00D13001

CONFIDENTIAL (INTERNAL USE ONLY)

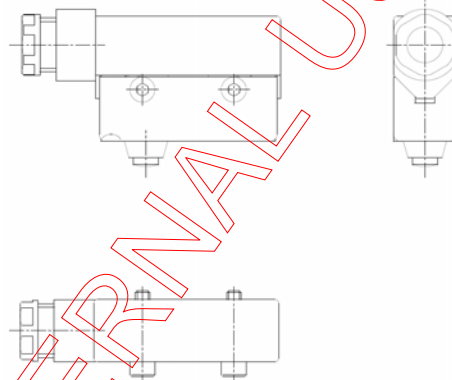


Centralized micro kit

<i>for one section</i>	5603601-- + 56102
<i>for two sections</i>	5603602-- + 56102
<i>for three sections</i>	5603603-- + 56102
<i>for four sections</i>	5603604-- + 56102
<i>for five sections</i>	5603605-- + 56102
<i>for six sections</i>	5603606-- + 56102



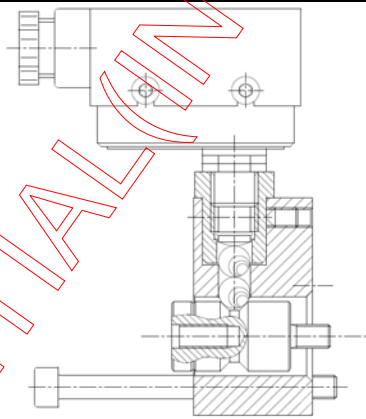
DO5603601--



DO56102

Single section micro kit, p. 36 mm , stroke 5,5 mm

561--01



Standard machining

Code	Description
L0E01001	Standard machining (circ. 1 - 3 - 8- 10 - 4 left inlet – 5 right inlet)
L0E01020	Machining for circuit 7/70 (circ. 7 left inlet – 70 right inlet)
L0E01011	Machining for circuit 5 (5 left inlet - 4 right inlet)
L0E02002 (***)	Machining for VL
L0E02005	Machining for dump valve
L0E02006 (*)	Machining for 4 holes
L0E02007 (*) (**)	Machining for 90° rotated lever housing on spool control side
L0E02009 (*) (**)	Machining for 90° rotated lever housing on VMP side
L0E02003	Machining for P3 and T3
L0E01008	Machining for planishing P and T
L0E02010	Machining for leakage of by-pass
L0E01016	Machining for circuit 19
L0E02008	Machining for holes to fix 10 mm (BYPY Inc)
L0E02004	Machining for M6 holes VMP side (Rousseau)
L0E01021	Machining for circuit 18 (MHS)
L0E01022	Machining for circuit 24 (CARRARO)

(*) With 4 holes machining, maximum working pressure is reduced to 180 bar for available threads.

(**) L0E02007 machining can be made only in first and last section.

(***) With VLB on a left inlet valve lever can not be perpendicular to the port plane.

INCOMPATIBLE ML MACHINING

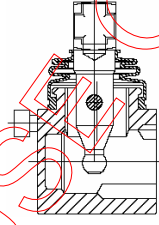
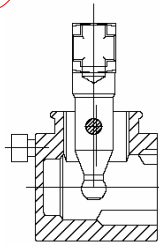
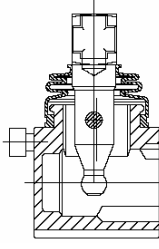

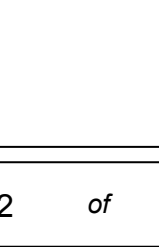




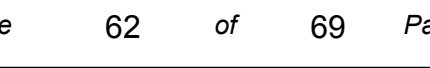
	L0E01001	L0E01020	L0E01011	L0E02002	L0E02005	L0E02006
L0E01001	-	x	x	■	■	■
L0E01020	x	-	x	■	■	■
L0E01011	x	x	-	■	■	■
L0E02002	■	■	■	-	■	■
L0E02005	■	■	■	■	-	■
L0E02006	■	■	■	■	■	-



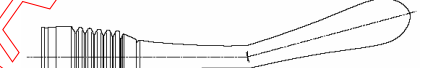

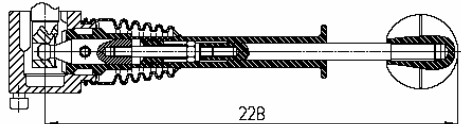
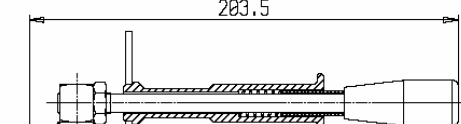
Legend: ■ = available x = not applicable Note: above incompatibilities are meant for each section.

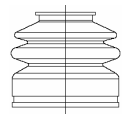
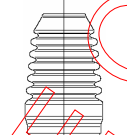
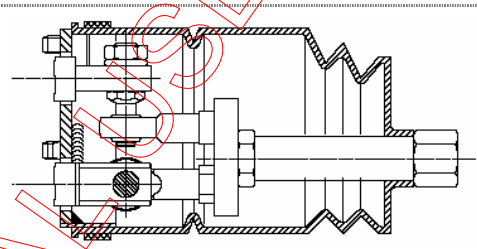
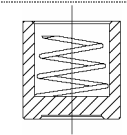
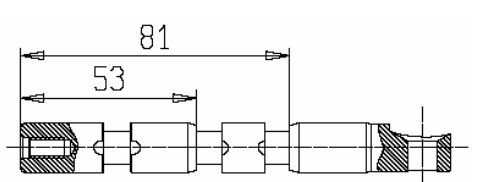
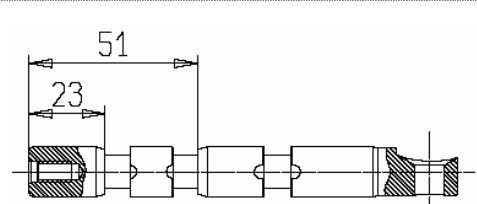
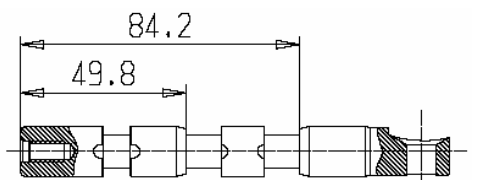
Semi-finished products

Code	Description
4°1---	Machined ML1
4°---	Machined ML 2-3-4-5-6
4°1AAAAAANN010	ML/1 G 3/8 for circuit 24
4°2AAAAAANN013	ML/2 G 3/8 for circuit 24 in 1° section
4E3LAAAAANN001	ML/3 G 3/8 with P ¼ G (BYPY FRANCE)
4°4LAAAAAWNN002	ML/4 G 3/8 with P ¼ G (BYPY FRANCE)
4°4LAAAAAWNN001	ML/4 G 3/8 with P ¼ G (BYPY FRANCE)
4°4LAAAAAWNN003	ML/4 G 3/8 with P ¼ G (BYPY FRANCE)
4°10AAAAANN001	ML/1 G 3/8 with planished P and T (NACCO)
4°4ABAABANN001	ML/4 G 3/8 with P1T1 G ½ (MHS)
4°7-----	ML/7
4°7AAAAAANN002	ML/7 G3/8 circ.18 on 4° (MHS)
4°5AAAAAANN007	ML/5 G3/8 circ.18 on 4° (MHS)
4°2EEPEEENNN001	ML/2 9/16-18 SAE PP1TT1T4 ¾-16 SAE (BYPY INC)
4°1AAAAAANN002	ML/1 G 3/8 PP1P3TT1T3T4 (General Fluidi)
4°1CCCCCANN005	ML/1 M18x1.5 for circuit 19 (BEIJING)
4°2AAAAAANN011	ML/2 G 3/8 PP1P3TT1T3T4 (General Fluidi)
4°3AAAAAANN016	ML/3 G 3/8 with T4 deep 51.5mm (BARBIERI)
4°5ABAABANN001	ML/2 G 3/8 P1T4 G ½ (MHS)
4°1CCCC0CWNN001	ML/1 M18x1.5 CON VL (ROLFO)
4°2CCCC0CWNN001	ML/2 M18x1.5 CON VL (ROLFO)
4°3CCCC0CWNN001	ML/3 M18x1.5 CON VL (ROLFO)
4°4CCCC0CWNN001	ML/4 M18x1.5 CON VL (ROLFO)
4°6CCCC0CWNN001	ML/6 M18x1.5 CON VL (ROLFO)
4°4AAAAAANN019	ML/4 G3/8 per c.4-5 CON VL (CARRARO)

Spare part list

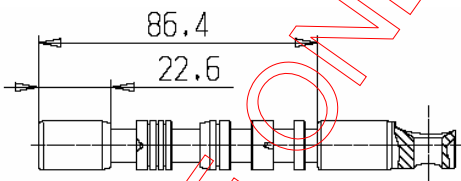
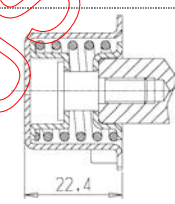
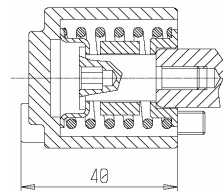
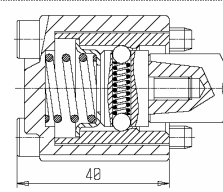
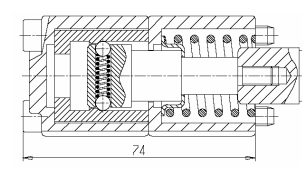
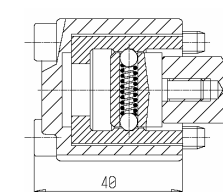
Codice Code	Descrizione Description	Disegno sezione Sectional view
DO57010817R	Kit N°1 Portaleva con viti cod. DO57010817 Kit N°1 Housing lever with screws cod. DO57010817	
DO57010817R10	Kit N°10 Portaleva con viti cod. DO57010817 Kit N°10 Housing lever with screws cod. DO57010817	
DO57013604R	Kit N°1 Portaleva per leve ergonomiche con viti cod. DO57013604 Kit N°1 Housing lever with screws for ergonomic levers cod. DO57013604	
DO57013604R10	Kit N°10 Portaleva per leve ergonomiche con viti cod. DO57013604 Kit N°10 Housing levers with screws for ergonomic levers cod. DO57013604	
DO57010835R	Kit N°1 Portaleva per leve ergonomiche ruotato di 90° con viti cod. DO57010835 Kit N°1 Housing lever with screws for ergonomic levers 90° rotated cod. DO57010835	
DO57010835R10	Kit N°10 Portaleva per ruotato di 90° con viti cod. DO57010835 Kit N°10 Housing lever with screws for ergonomic levers 90° rotated cod. DO57010835	
DO535118002R	N° 1 Leva M10 x 180 mm cod. DO535118002 N° 1 Lever M10 x 180 mm cod. DO535118002	
DO535118002R20	Kit N°20 Leve M10 x 180 mm cod. DO535118002 Kit N°20 Levers M10 x 180 mm cod. DO535118002	
DO535113002R	N° 1 Leva M10 x 130 mm cod. DO535113002 N° Lever M10 x 130 mm cod. DO535113002	
DO535113002R20	Kit N°20 Leve M10 x 130 mm cod. DO535113002 Kit N°20 Levers M10 x 130 mm cod. DO535113002	

DO535125002R	N° 1 Leva M10 x 250 mm cod. DO535125002 N° 1 Lever M10 x 250 mm cod. DO535125002	
DO535125002R20	Kit N°20 Leve M10 x 250 mm cod. DO535125002 Kit N°20 Levers M10 x 250 mm cod. DO535125002	
DO535199901R	N° 1 Leva erg. Dritta cod. DO535199901 N° 1 Erg. straight lever cod. DO535199901	
DO535199901R20	Kit N°20 Leve erg. Dritte cod. DO535199901 Kit N°20 Erg. straight levers cod. DO535199901	
DO535199902R	N° 1 Leva erg. Piegata 15° cod. DO535199902 N° 1 Erg. 15° bent lever cod. DO535199902	
DO535199902R20	Kit N°20 Leve erg. Piegata 15° cod. DO535199902 Kit N°20 Erg. 15° bent levers cod. DO535199902	
DO535199903R	N° 1 Leva erg. Piegata 30° cod. DO535199903 N° 1 Erg. 30° bent lever cod. DO535199903	
DO535199903R20	Kit N°20 Leve erg. Piegata 30° cod. DO535199903 Kit N°20 Erg. 30° bent levers cod. DO535199903	
DO54036002R	N° 1 Leva intenzionale con viti cod. DO54036002 N° 1 Intentional lever with screws cod. DO54036002	
DO54036002R10	Kit N°10 Leve intenzionali con viti cod. DO54036002 Kit N°10 Intentional levers with screws cod. DO54036002	
DO54036006R	N° 1 Leve intenzionali con piastra orizzontale cod. DO54036006 N° 1 Intentional levers with horizontal plate cod. DO54036006	
DO54036006R10	Kit N°10 Leve intenzionali con piastra orizzontale cod. DO54036006 Kit N°10 Intentional levers with horizontal plate cod. DO54036006	

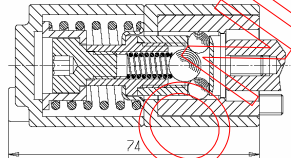
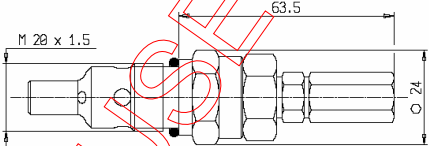
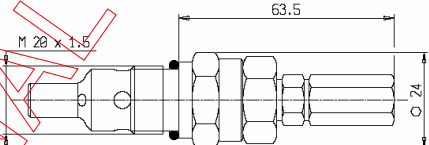
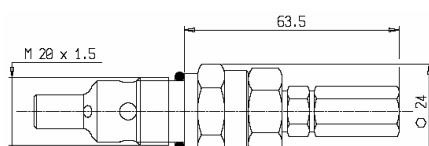
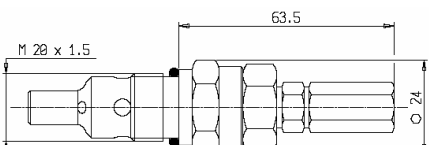
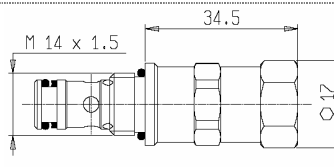
DO28602001R	N° 1 Soffietto per leva standard N° 1 Hood for standard lever	
DO28602001R20	Kit N° 20 Soffietti per leva standard Kit N° 20 Hoods for standard lever	
DO28602002R	N° 1 soffierto per leva ergonomia N° 1 Hood for ergonomic lever	
DO28602002R20	Kit N° 20 Soffietti per leva ergonomia Kit N° 20 Hoods for ergonomic lever	
DO55513615R	Kit N° 1 Manipolatore cod. DO55513615 (da montare) Kit N° 1 Joystick cod. DO55513615 (to assemble)	
DO55513615R05	Kit N°5 Manipolatori cod. DO55513615 (da montare) Kit N°5 Joysticks cod. DO55513615 (to assemble)	
DOWUS00D13001R	N°1 VNR cod. DOWUS00D13001	
DOWUS00D13001R10	Kit N°10 VNR cod. DOWUS00D13001	
DO2921EE01000R	N° 1 Spola d. 15 mm ML c.1 entr. sinistra N° 1 Spool d.15 mm ML c.1 left inlet	
DO2921EE01000R05	Kit N°5 Spole d. 15 mm ML c.1 entr. sinistra Kit N°5 Spools d. 15 mm ML c.1 left inlet	
DO2921EE01033R	N° 1 Spola d. 15 mm ML c.1 entr. destra N°1 Spool d. 15 mm ML c.1 right inlet	
DO2921EE01033R05	Kit N°5 Spole d. 15 mm ML c.1 entr. destra Kit N°5 Spools d. 15 mm ML c.1 right inlet	
DO2921EE03000R	N° 1 Spola d. 15 mm ML c.3 entr. sinistra N° 1 Spool d.15 mm ML c.3 left inlet	
DO2921EE03000R05	Kit N°5 Spole d. 15 mm ML c.3 entr. sinistra Kit N°5 Spools d.15 mm ML c.3 left inlet	



DO2921EE03009R	N° 1 Spola d. 15 mm ML c.3 entr. destra N° 1 Spool d.15 mm ML c.3 right inlet	
DO2921EE03009R05	Kit N°5 Spole d. 15 mm ML c.3 entr. destra Kit N°5 Spools d.15 mm ML c.3 right inlet	
DO2921EE04015R	N° 1 Spola d. 15 mm ML c.4 entr. sinistra N° 1 Spool d.15 mm ML c.4 left inlet	
DO2921EE04015R05	Kit N°5 Spole d. 15 mm ML c.4 entr. sinistra Kit N°5 Spools d.15 mm ML c.4 left inlet	
DO2921EE04016R	N° 1 Spola d. 15 mm ML c.4 entr. destra N° 1 Spool d.15 mm ML c.4 right inlet	
DO2921EE04016R05	Kit N°5 Spole d. 15 mm ML c.4 entr. destra Kit N°5 Spools d.15 mm ML c.4 right inlet	
DO2921EE05008R	N° 1 Spola d. 15 mm ML c.5 entr. sinistra N° 1 Spool d.15 mm ML c.5 left inlet	
DO2921EE05008R05	Kit N°5 Spole d. 15 mm ML c.5 entr. sinistra Kit N°5 Spools d.15 mm ML c.5 left inlet	
DO2921EE05010R	N° 1 Spola d. 15 mm ML c.5 entr. destra N° 1 Spool d.15 mm ML c.5 right inlet	
DO2921EE05010R05	Kit N°5 Spole d. 15 mm ML c.5 entr. destra Kit N°5 Spools d.15 mm ML c.5 right inlet	
DO2922EE07000R	N° 1 Spola d. 15 mm ML c.7 entr. sinistra 20-45 l/min. N° 1 Spool d.15 mm ML c.7 left inlet 20-45 l/min.	
DO2922EE07000R05	Kit N°5 Spole d. 15 mm ML c.7 entr. sinistra 20-45 l/min. Kit N°5 Spools d.15 mm ML c.7 left inlet 20-45 l/min.	

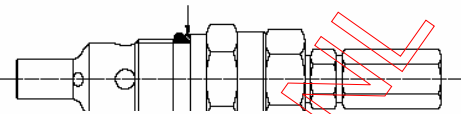
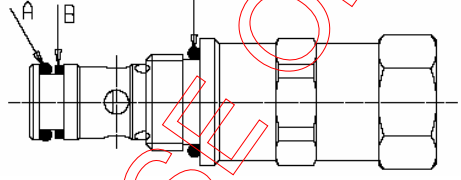
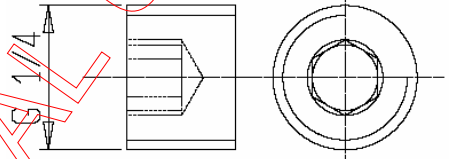
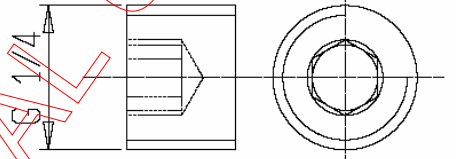
DO2922EE70000R	N° 1 Spola d. 15 mm ML c.70 entr. destra 20-45 l/min. N° 1 Spool d.15 mm ML c.70 right inlet 20-45 l/min.	
DO2922EE70000R05	Kit N°5 Spole d. 15 mm ML c.70 entr. destra 20-45 l/min. Kit N°5 Spools d.15 mm ML c.70 right inlet 20-45 l/min.	
DO580550A20R	N° 1 Posizionatore cod. DO580550A20 N° 1 Spool control cod. DO580550A20	
DO580550A20R10	Kit N°10 Posizionatori cod. DO580550A20 Kit N°10 Spool controls cod. DO580550A20	
DO580550A40R	N° 1 Posizionatore cod. DO580550A40 N° 1 Spool control cod. DO580550A40	
DO580550A40R10	Kit N°10 Posizionatori cod. DO580550A40 Kit N°10 Spool controls cod. DO580550A40	
DO580550B07R	N° 1 Posizionatore cod. DO580550B07 N° 1 Spool control cod. DO580550B07	
DO580550B07R10	Kit N°10 Posizionatori cod. DO580550B07 Kit N°10 Spool controls cod. DO580550B07	
DO580550C08R	N° 1 Posizionatore cod. DO580550C08 N° 1 Spool controls cod. DO580550C08	
DO580550C08R10	Kit N°10 Posizionatori cod. DO580550C08 Kit N°10 Spool controls cod. DO580550C08	
DO580550D01R	N° 1 Posizionatore cod. DO580550D01 N° 1 Spool control cod. DO580550D01	
DO580550D01R10	Kit N°10 Posizionatori cod. DO580550D01 Kit N°10 Spool controls cod. DO580550D01	



DO580550N14R10	N°1 Posizionatore cod. DO580550N14 N°1 Spool control cod. DO580550N14	
DO580550N14R10	Kit N°10 Posizionatori cod. DO580550N14 Kit N°10 Spool controls cod. DO580550N14	
DOWPD02M20080R	N° 1 Cartuccia VMP dir. A grano X 80 bar N° 1 Dir. Cartridge VMP grain X 80 bar	
DOWPD02M20080R05	Kit N°5 Cartucce VMP dir. A grano X 80 bar Kit N°5 Dir. Cartridge VMP grain X 80 bar	
DOWPD02M20130R	N° 1 Cartuccia VMP dir. A grano Y 130 bar N° 1 Dir. Cartridges VMP grain Y 130 bar	
DOWPD02M20130R05	Kit N°5 Cartucce VMP dir. A grano Y 130 bar Kit N°5 Dir. Cartridges VMP grain Y 130 bar	
DOWPD02M20180R05	Kit N°5 Cartucce VMP dir. A grano Z 180 bar Kit N°5 Dir. Cartridges VMP grain Z 180 bar	
DOWPD02M20180R	N° 1 Cartuccia VMP dir. A grano Z 180 bar N° 1 Dir. Cartridge VMP grain Z 180 bar	
DOWPD02M20210APR	N° 1 Cartuccia VMP dir. A grano K 210 bar N° 1 Dir. Cartridge VMP grain K 210 bar	
DOWPD02M20210APR05	Kit N°5 Cartucce VMP dir. A grano K 210 bar Kit N°5 Dir. Cartridges VMP grain K 210 bar	
DOWLPO2M14080R	N°1 Cartuccia VL ML con OR tar. 80 bar N° 1 Cartridge VL ML with OR set. 80 bar	
DOWLPO2M14080R10	Kit N°10 Cartucce VL ML con OR tar. 80 bar Kit N°10 Cartridges VL ML with OR set. 80 bar	



DOWLP02M14130R10	N° 1 Cartuccia VL ML con OR tar. 130 bar N° 1 Cartridge VL ML with OR set. 130 bar	
DOWLP02M14130R10	Kit N°10 Cartucce VL ML con OR tar. 130 bar Kit N°10 Cartridges VL ML with OR set. 130 bar	
DOWLP02M14180R	N° 1 Cartuccia VL ML con OR tar. 180 bar N° 1 Cartridge VL ML with OR set. 180 bar	
DOWLP02M14180R10	Kit N°10 Cartucce VL ML con OR tar. 180 bar Kit N°10 Cartridges VL ML with OR set. 180 bar	
DOWLP02M14210R	N° 1 Cartuccia VL ML con OR tar. 210 bar N° 1 Cartridge VL ML with OR set. 210 bar	
DOWLP02M14210R10	Kit N°10 Cartucce VL ML con OR tar. 210 bar Kit N°10 Cartridges VL ML with OR set. 210 bar	
DO56102R	N°1 Micro cod. DO56102	
DO56102R10	Kit N°10 Micro cod. DO56102	
DO56107R	N°1 Micro sing. Sez. Cod. DO56107 N°1 Micro single sect. Cod. DO56107	
DO56107R10	Kit N°10 Micro sing. Sez. Cod. DO56107 Kit N°10 Micro single sect. Cod. DO56107	
DO526A05NN001R	Kit N°50 OR cod. DO350B17086NBR90 per VMP Kit N°50 OR cod. DO350B17086NBR90 for VMP	

DO526B05NN001R	<p>Kit N°50 BR cod. DO315617 per VMP Kit N°50 BR cod. DO315617 for VMP</p>	
DO526C060E001R	<p>Kit N°50 OR cod. DO350A07065NBR70 (rif.A) + N°50 BR cod. DO3188011 (rif.B) + N°50 OR cod. DO350A12042NBR90 (rif.C) per VL per ML Kit N°50 OR cod. DO350A07065NBR70 (ref.A) + N°50 BR cod. DO3188011 (ref.B) + N°50 OR cod. DO350A12042NBR90 (ref.C) for VL for ML</p>	
DO3403001401R	<p>N°1 Kit C.O. DO3403001401 N°1 C.O. kit DO3403001401</p>	
DO3403001401R10	<p>Kit N°10 Kit C.O. DO3403001401 Kit N°10 C.O. kit DO3403001401</p>	
DO526A02NN001R	<p>Kit N°50 OR cod. DO350B15008NBR60 per spole D. 15 mm Kit N°50 OR cod. DO350B15008NBR60 for D. 15 mm spools</p>	<p style="text-align: center;">-</p>

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