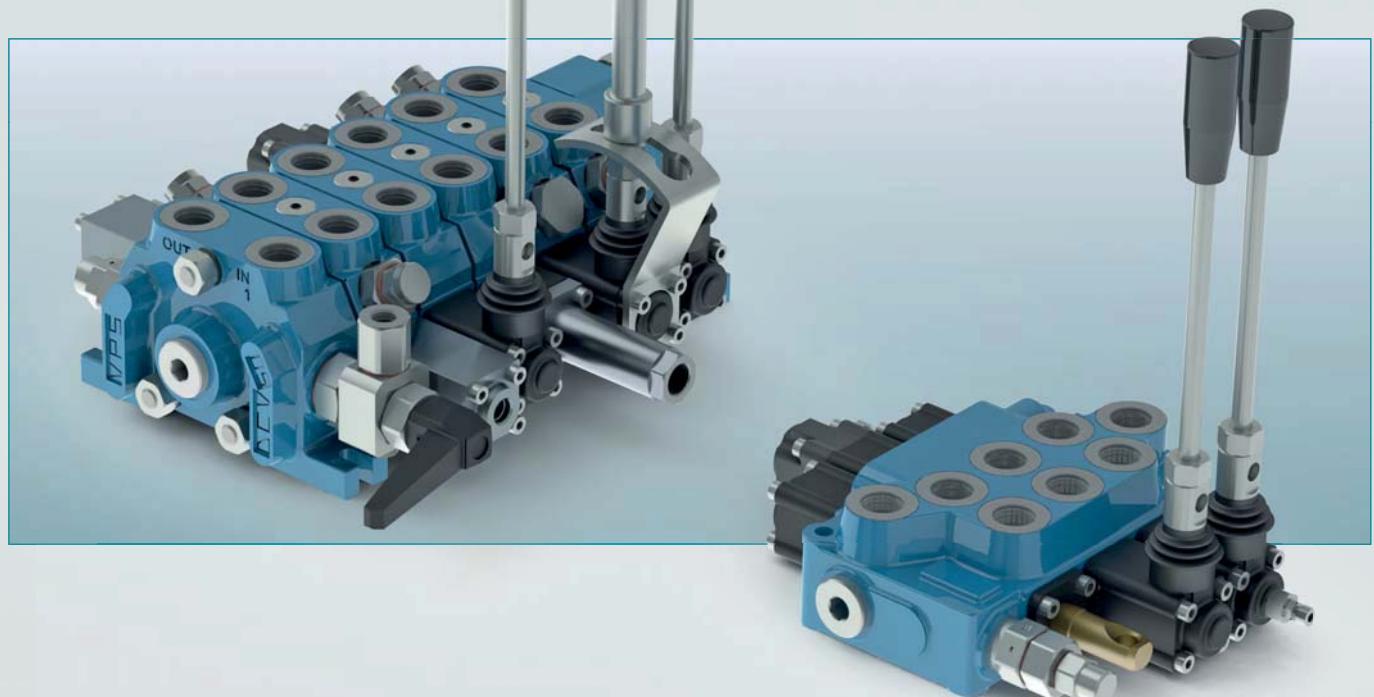




## DCV MONOBLOCK AND MODULAR VALVES

Technical Catalogue

July  
2016



# Technical information

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## INTRODUCTION

Read this instructions carefully before installation. All operations must be carried out by qualified personnel following the instructions.

The user must periodically inspect, based on the conditions of use and the substances used, the presence of corrosion, dirt, the state of wear and correct function of the valves.

## HYDRAULIC FLUID

Use only mineral oil (HL, HLP) according to DIN 51524. Use of other different fluids may damage the good operation of the valve.

## VISCOSITY

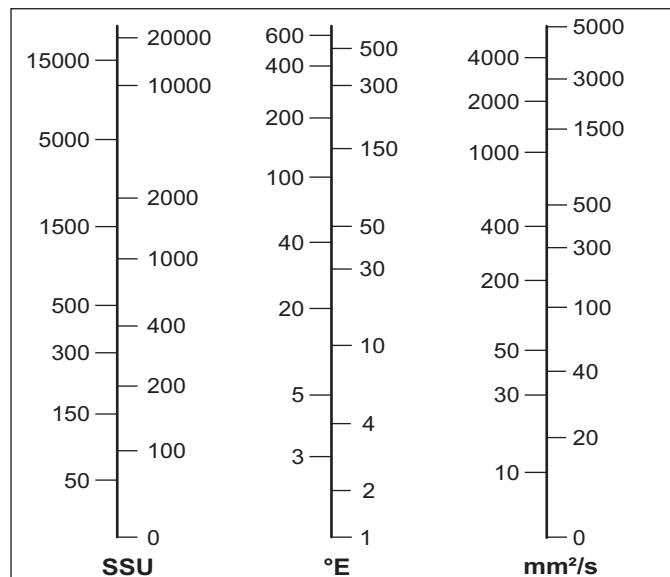
The oil viscosity must be in the range of 10 mm<sup>2</sup>/s to 500 mm<sup>2</sup>/s.  
Recommended oil viscosity 46 mm<sup>2</sup>/s (32 mm<sup>2</sup>/s for Cartridge valves)

Table 1: ISO viscosity grades

Viscosity grade	Average kinematic viscosity mm <sup>2</sup> /s @ 40°C	Kinematic-viscosity limits mm <sup>2</sup> /s @ 40°C	
		min.	max.
ISO VG 10	10	9.00	11.0
ISO VG 15	15	13.5	16.5
ISO VG 22	22	19.8	24.2
ISO VG 32	32	28.8	35.2
ISO VG 46	46	41.4	50.6
ISO VG 68	68	61.2	74.8
ISO VG 100	100	90.0	110

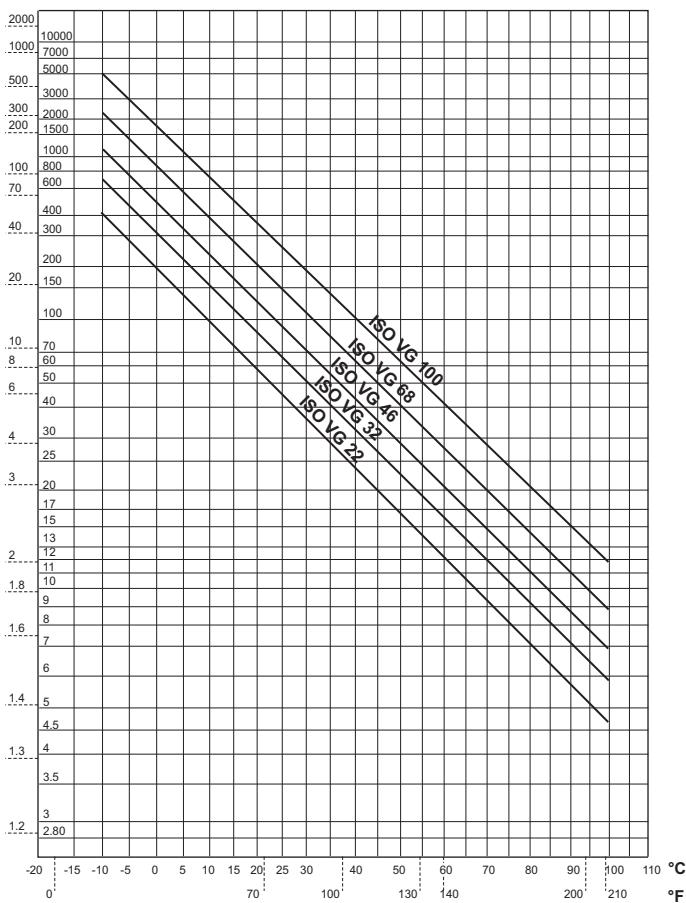
= Values used in the chart "Oil viscosity according to temperature"

## CONVERSION TABLE SSU / °E / mm<sup>2</sup>/s



## OIL VISCOSITY ACCORDING TO TEMPERATURE

°E mm<sup>2</sup>/s



## CONTAMINATION

Oil contamination is the main cause of faults and malfunction in hydraulic systems. Abrasive particles in the fluid erode or block moving parts, leading to system malfunction.

The valves we are offering do not require filtering characteristics any higher than those needed for usual hydraulic components such as pumps, motors, etc.

However, accurate filtering does guarantee reliability and a long life to all the system's hydraulic parts. Reliable performance and long working life for all oil-pressure parts is assured by maintaining the level of fluid contamination within the limits specified in the data sheet of the valve.

Hydraulic fluid must also be cleaned properly before filling the hydraulic circuit, especially when commissioning a new system, as this is when the oil contamination generally peaks due to its flushing effect on the components, and the running-in of the pump.

Maximum contamination level is required on datasheet of the valve according to ISO 4406:1999.

In the following table there is the correspondence between ISO 4406:1999 and old standard NAS 1638 for information purpose:

The standard ISO 4406:1999 defines the contamination level with three numbers that relate with the number of particles of average dimension equal or greater than 4 µm, 6 µm e 14 µm, in 1 ml of fluid.

In following table there is a reference to recommended contamination level and correspondence with old NAS 1638 standard.

# Technical information

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Table 2: Recommended contamination level.

Type of system Type of valve	Oil filtration recommendations		
	Cleanliness class recommended		Absolute filtration micron rating (**)
	ISO 4406 : 1999	NAS 1638 (*)	(**)
Systems or components operating at HIGH PRESSURE > 250 bar (3600 psi) HIGH DUTY CYCLE APPLICATIONS Systems or components with LOW dirt tolerance	18 / 16 / 13	7 - 8	5
Systems or components operating at MEDIUM / HIGH PRESSURE Systems and components with moderate dirt tolerance	19 / 17 / 14	9	10
Systems or components operating at LOW PRESSURE < 100 bar (1500 psi) LOW DUTY CYCLE APPLICATIONS Systems and components with GOOD dirt tolerance	20 / 18 / 15	10 - 11	20

\* Contamination class NAS 1638: it is determined by counting the total particles of different size ranges contained in 100 ml of fluid.

\*\* Absolute filtration: it is a characteristic of each filter, it refers the size (in micron) the largest spherical particle which may pass through the filter.

## WORKING TEMPERATURES

Ambient temperature range: -25°C to +60°C

Fluid temperature range (NBR seals): -25°C to +80°C

Thermal shocks can affect the performance and the expected life of the product, hence it is necessary to protect the product from these conditions.

## SEALS

O-rings made in Acrylonitrile Butadiene (NBR) are normally fitted on the valves. The backup rings that protect the O-rings are also made in NBR, or sometimes PTFE. Both the O-rings and the backup rings are suitable for the working temperatures mentioned above.

For different temperatures, contact our sales department.

## CONVERSION CHART

Type	SI units		Alternative units		Conversion factor
<b>Force</b>	Newton	(N) [kgm/s <sup>2</sup> ]	Kilogram force	(kgf)	1 kgf = 9.807 N
			pound force	(lbf) [lbf/s <sup>2</sup> ]	1 lbf = 4.448 N
<b>Length</b>	millimeter	(mm) [10 m]	inch	(in)	1 in = 25.4 mm
	meter	(km) [1000 m]	yard	(yd) [3ft]	1 m = 1.0936 yd
	kilometer	(km) [1000 m]	mile	(mile) [1760 yd]	1 mile = 1.609 km
<b>Torque</b>	Newton meter	(Nm)	pound force.feet	(lbf.ft)	1 lbf.ft = 1.356 Nm
<b>Power</b>	kiloWatt (kW)	[1000 Nm/s]	horsepower	(hp)	1 kW = 1.341 hp
			metric horsepower	(CV)	1 kW = 1.36 CV
<b>Pressure</b>	MegaPascal	(MPa) [ N/mm <sup>2</sup> ]	bar		1 MPa = 10 bar
			psi (lbf/in <sup>2</sup> )		1 MPa = 145 psi
			ton/f/in <sup>2</sup>		1 ton/f/in <sup>2</sup> = 15.45 MPa
<b>Flow rate</b>	liter/min	(l/min)	UK gal/min		1 UK gal/min = 4.546 l/min
			US gal/min		1 US gal/min = 3.785 l/min
<b>Temperature</b>	Celsius	(°C)	Fahrenheit	(°F)	1°F = 1.8 °C+32
	-40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210		70 80 90 100 110 120 130 140 150 160 170 180 190 200 210	100 °C	

# General specifications

## MAIN CHARACTERISTICS

All the production VPS Brevini want to be a high quality production. Infact the project of each single valve and the choice of the better materials, machined with the highest tecnologies and under the strongest controls in each process, allow highest characteristics and numerous applications described in the following pages. Furthermore:

1. all the casting are made in Shell-Moulding, in special graphite cast iron. This kind of cast iron is in higt resistance, and it allows to have, with the same external overall dimensions, bigger internal gallery, and lower pressure drops;
2. all spools are made in high resistance steel, nichel plated, radial balanced and with special notches in order to have a better sensibility;
3. all springs are made in high resistance steel. Pressure setting springs are pressed before testing;
4. max tolerance of spool housing is 2 micron;
5. internal leakage at 120 bar, 50° C and oil 30 cSt is beetwen 1 and 2 cm<sup>3</sup>/min, depending from the kind of spool and the kind of valve.

## GENERAL CONDITION OF WORK

Max working temperature	-25 °C ÷ +80 °C
Suggested working temperature	+30 °C ÷ +60 °C
Max back pressure	20 bar (290 PSI)
Max contamination level	NAS 1638 class 9 (19/16 ISO-4406)
Fluid oil	Mineral oil
Kinematic viscosity	10 ÷ 460 mm <sup>2</sup> /s
Filtration	β 12 ≥ 75

Spool are available with different metering, marine protected, Viton® seals, special spring, etc.

		MONOBLOCK VALVES		MODULAR VALVES			
		DCV 20	DCV 40	DCV 30	DCV 50	DCV 80	DCV MG
Features	Max section N.o	6	6	12	12	12	10
	I/min	40	70	40	70	120	230
	GPM	10.6	18.5	10.6	18.5	31.7	60.7
	BAR	400	400	350	350	350	350
Max pressure	psi	5800	5800	5075	5075	5075	5075
	Parallel	•	•	•	•	•	•
	Series			•	•	•	•
	Tandem			•	•	•	•
Main relief v.	Direct	•	•	•			
	Piloted				•	•	•
	Overload	•	•	•	•	•	•
	Anti cavitation			•	•	•	•
Port relief valves	Combined			•	•	•	•
	A-B	3/8"	1/2" 3/8" (1)	3/8"	1/2"	3/4" 1/2" (1)	1"
	BSP ISO 228/1	P	3/8"	1/2" 3/8" (1)	3/8"	1/2"	3/4" 1/2" (1)
	Cavity ISO 1179	T	3/8"	1/2" 3/8" (1)	3/8" (3) 1/2" (2)	1/2" (3) 3/4" (2)	3/4" (3) 1/2" (1)
Threads	T (4)	—	—	1/2"	3/4"	3/4"	1"
	A-B	9/16"-18UNF (SAE 6)	3/4"-16UNF (SAE 8) 7/8"-14UNF (SAE 10) (1)	9/16"-18UNF (SAE 6)	7/8"-14UNF (SAE 10)	1" 1/16-12UN (SAE 12) 7/8"-14UNF (SAE 10) (1)	1" 5/16-12UN (SAE 16)
	SAE ISO 263 Cavity	P	9/16"-18UNF (SAE 6)	3/4"-16UNF (SAE 8) 7/8"-14UNF (SAE 10) (1)	9/16"-18UNF (SAE 6)	7/8"-14UNF (SAE 10)	1" 1/16-12UN (SAE 12) 7/8"-14UNF (SAE 10) (1)
	T (Standard)	9/16"-18UNF (SAE 6)	3/4"-16UNF (SAE 8) 7/8"-14UNF (SAE 10) (1)	9/16"-18UNF (SAE 6) (3)	7/8"-14UNF (SAE 10) (3)	1" 1/16-12UN (SAE 12) (3) 7/8"-14UNF (SAE 12) (2)	1" 5/16-12UN (SAE 16)
	T (4)	—	—	3/4"-16UNF (SAE 8)	1" 1/16-12UN (SAE 12)	1" 1/16-12UN (SAE 12)	—
	A ÷ B	mm	± 5	± 5	± 5	± 7	± 8
		inch	± 0.20	± 0.20	± 0.20	± 0.28	± 0.31
	4th position	mm	- 3.5	- 5	- 3.5	- 5.5	- 5.5
Spool stroke		inch	- 0.14	- 0.20	- 0.14	- 0.22	- 0.22
	Series	mm	—	—	± 4.5	± 5.5	± 8
		inch	—	—	± 0.18	± 0.22	± 0.31

(1) threads availables on request

(3) inlet section with top output

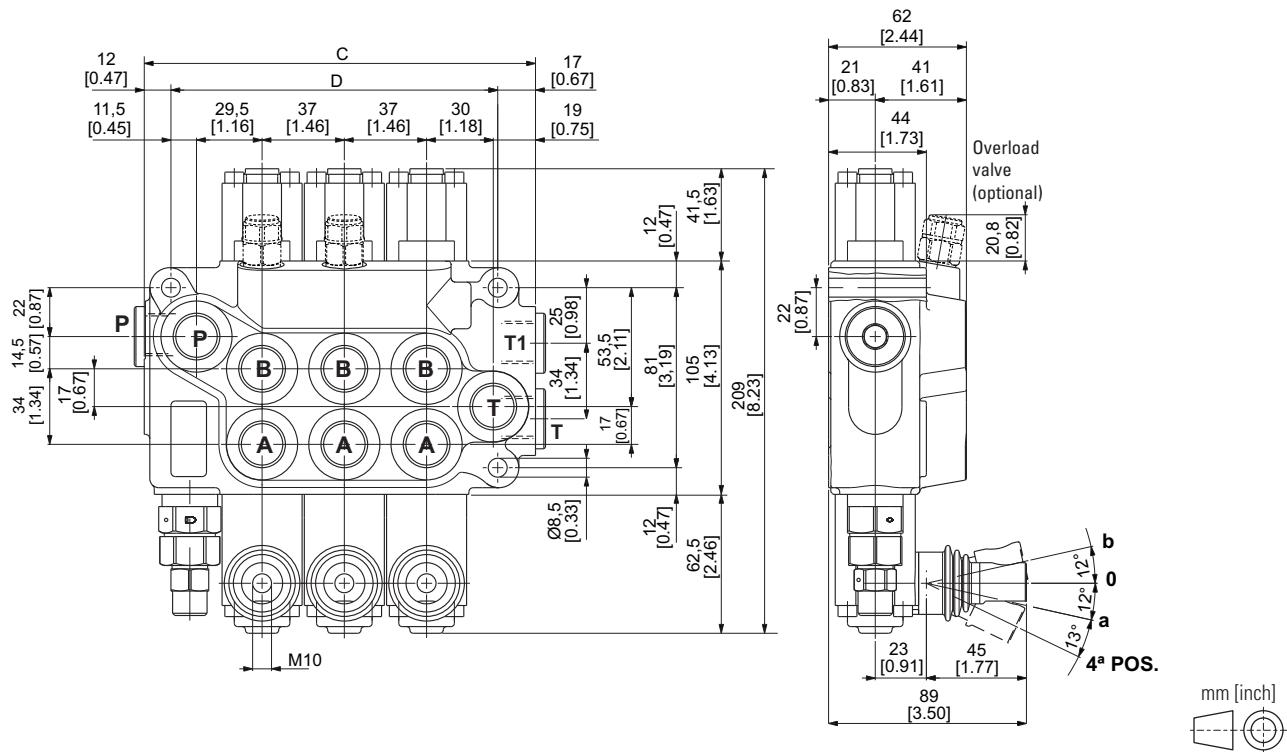
(2) threads availables on request solo only for outlet side

(4) output section with standard upper thread + carry over (see page 61)

# Mobile valves DCV40

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## OVERALL DIMENSIONS



Type	C mm [inch]	D mm [inch]	Weight kg [lb]	Max flow l/min [GPM]	Max pressure BAR [psi]
DCV 40/1	102 [4.02]	73 [2.87]	3.57 [7.85]		
DCV 40/2	139 [5.47]	110 [4.33]	5.45 [11.99]		
DCV 40/3	176 [6.93]	147 [5.79]	7.30 [16.06]		
DCV 40/4	213 [8.39]	184 [7.24]	9.15 [20.13]	70 [18.5]	400 [5800]
DCV 40/5	250 [9.84]	221 [8.70]	11.00 [24.20]		
DCV 40/6	287 [11.30]	258 [10.16]	12.85 [28.27]		

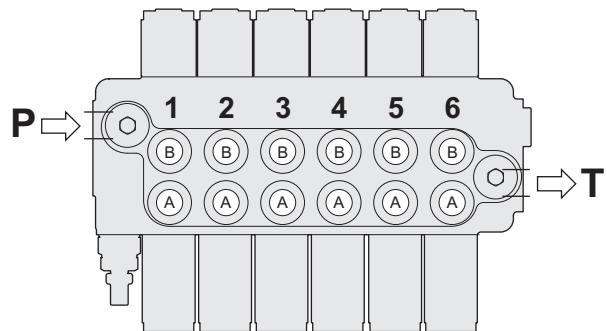
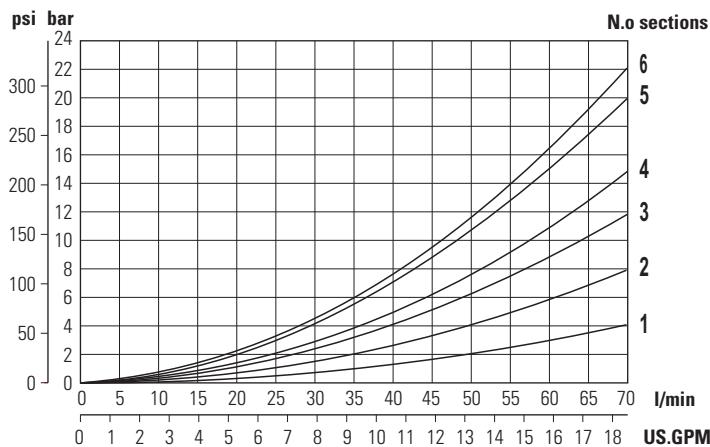
# Mobile valves DCV40

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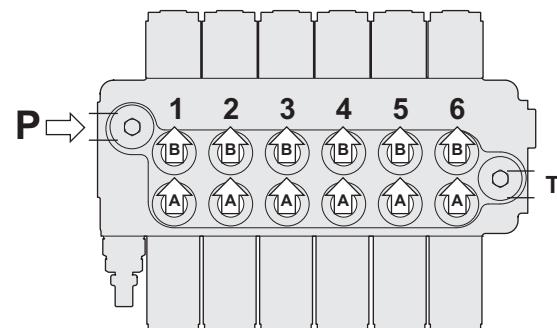
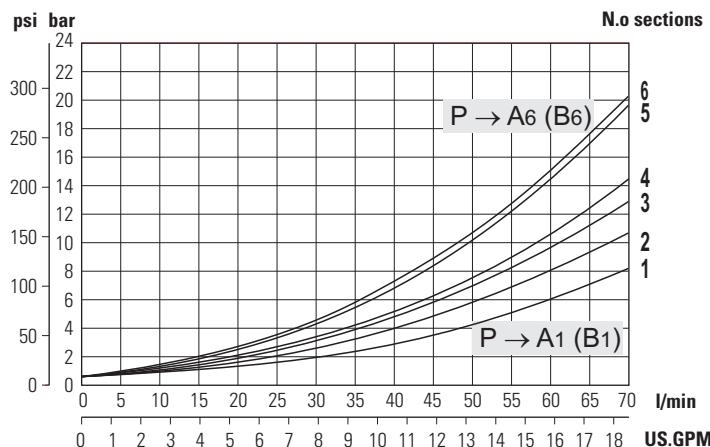
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## CHARACTERISTIC PRESSURE DROP FLOW CURVES

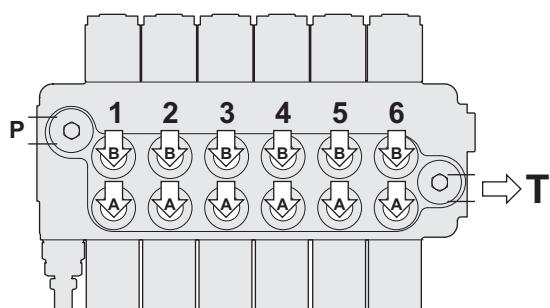
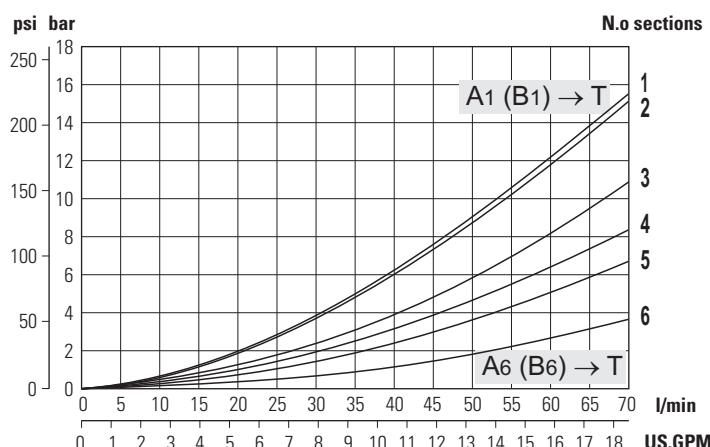
Inlet pressure drop between  $P \rightarrow T$   
spool in central position



Inlet pressure drop between  $P \rightarrow A$  (B)  
spool in working position



Inlet pressure drop between  $A$  (B)  $\rightarrow T$   
spool in working position



Metering curves are different for each type of spool. Therefore particular curves are supplied on request  
The curves are obtained using standard double acting spool (cod. ST1) with oil at 50°C and viscosity 36 mm<sup>2</sup> / s

# Ordering code

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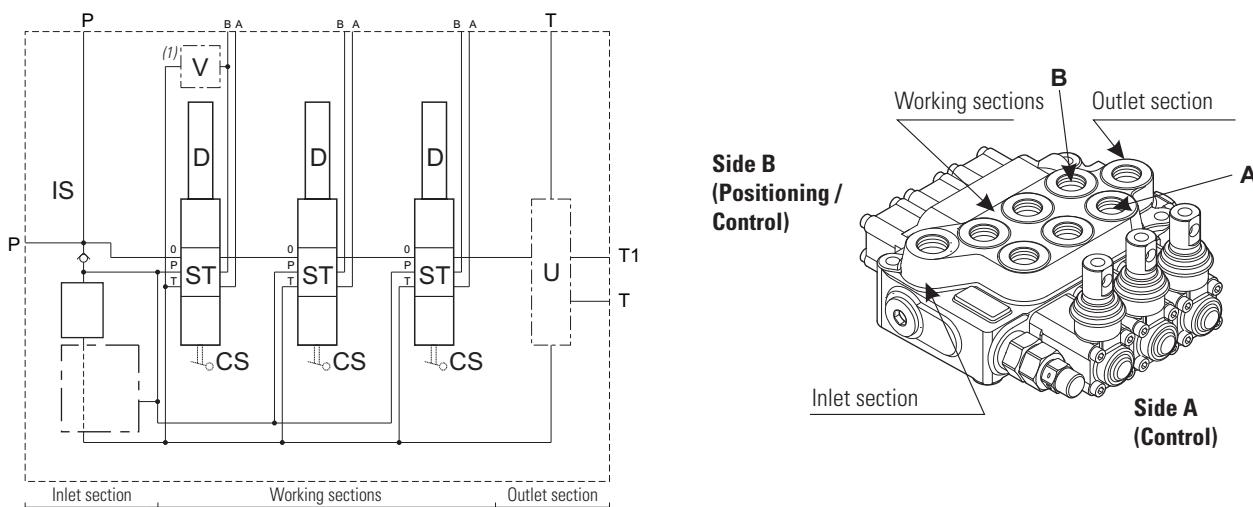
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Model	Inlet section			Working sections (repeat for any section)					Outlet section		Threads
	DCV ** / *	IS*	*** (***)	ST**	CS**	D**	V**(***)	W*	Xn	U*	F*
Description	Page										
Size: DCV20 DCV40	5-7										
N.o working sections											
Inlet type	11										
Valves arrangement	12										
Main relief valve setting (1)	12										
Spools	13										
Control side A	14										
Positioning / Control side B	19										
Service port valves (1) (2)	24										
Overload valve setting (1)	24										
Hand lever (1)	24										
Working section repeated for n. times	24										
Outlet	25										
Threads	25										

(1) ----- Optional fields. Not specify if not required.

(2) Service port valves optional, is required a special monoblock body.

## HYDRAULIC SCHEME

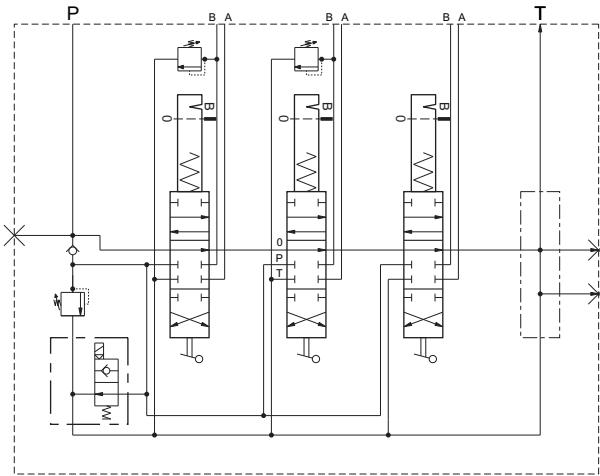


# Ordering code

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## ORDERING CODE EXAMPLE

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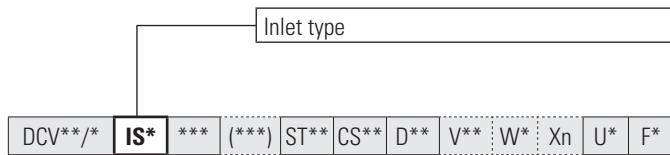


DCV40/3	IST	004	(200)	ST1	CS1	D4	VB1(150)	W2	X2	ST1	CS1	D4	W2	US	F4
---------	-----	-----	-------	-----	-----	----	----------	----	----	-----	-----	----	----	----	----

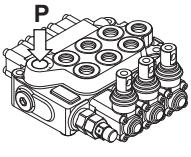
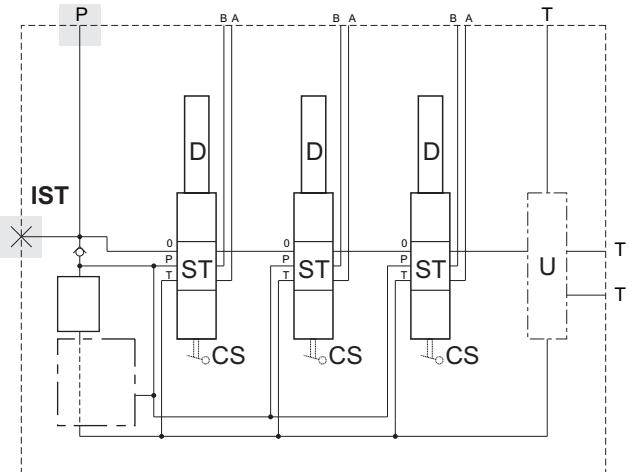
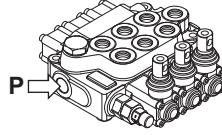
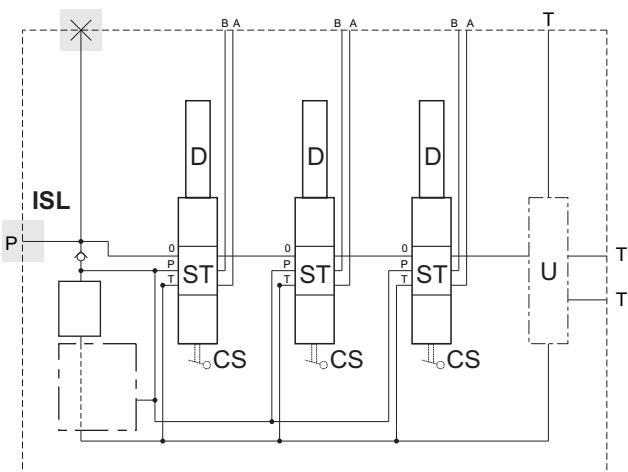
- DCV40/3** - DCV40 3 sections monoblock  
**IST** - Top inlet  
**004** - Direct main relief valve + Solenoid dump valve 24V N. Open  
**(200)** - Valve setting 200 BAR  
**ST1** - Spool, 3 position, double acting  
**CS1** - Spool control side A  
**D4** - Spool control side B, 3 pos. spring centred spool, detent in "b"  
**VB1(150)** - Overload valve in position "B" - Setting 150 bar  
**W2** - Standard handle lever  
**X2** - Working section repeated for n. 2 times  
**ST1** - Spool, 3 position, double acting  
**CS1** - Spool control side A  
**D4** - Spool control cap side, 3 pos. spring centred spool, detent in "b"  
**W2** - Standard handle lever  
**US** - Top outlet  
**F4** - 1/2" BSP threads

# Inlet sections

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## IS\* Inlet type

**	Description	Drawing
IST (1)	Top inlet (standard)	 
ISL (2)	Side inlet	 

(1) On request. RIGHT inlet section with top inlet (IDT). Contact our sales department.

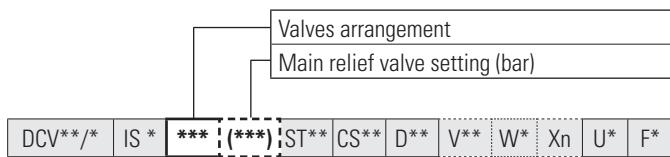
(2) On request. RIGHT inlet section with side inlet (IDL). Contact our sales department.

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# Inlet sections

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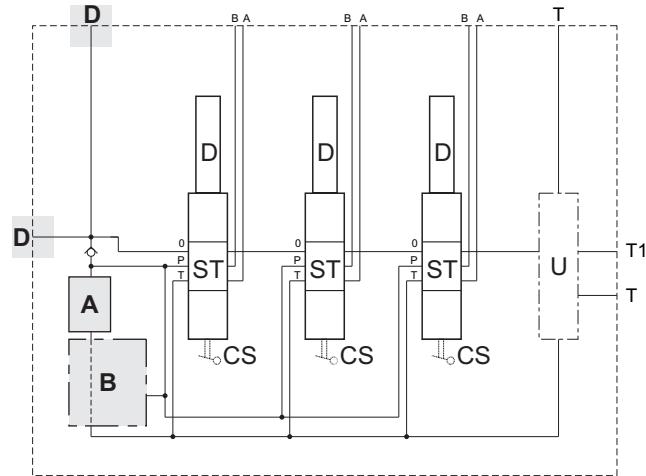
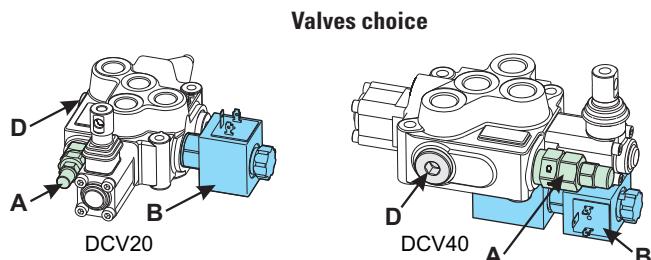
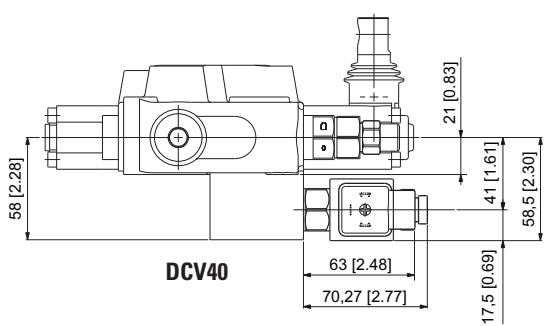
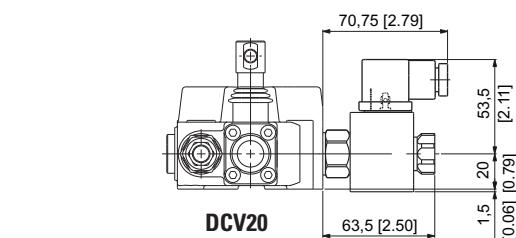
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\*\*\* | (\*\*\* ) **Valves arrangements and main relief valve setting**

***   (*** )	Arrangements		
	A*	B*	D*
001 (1)	A1	—	D0
002 (1)	A1	B6	D0
003 (1)	A1	B7	D0
004 (1)	A1	B8	D0
005 (1)	A1	B9	D0
006 (1)	A1	B10	D0
007 (1)	A1	B11	D0
008 (1)	A1	B12	D0
009 (1)	A1	B13	D0
010 (1)	A1	—	D15
011 —	A14	—	D0
012 —	A14	—	D15
013 —	A14	B6	D0
014 —	A14	B7	D0
015 —	A14	B8	D0
016 —	A14	B9	D0
017 —	A14	B10	D0
018 —	A14	B11	D0
019 —	A14	B12	D0
020 —	A14	B13	D0

(1) Specify pressure relief valve setting [from 20 to 400 bar]. In the order it is suggested specify the flow rate.



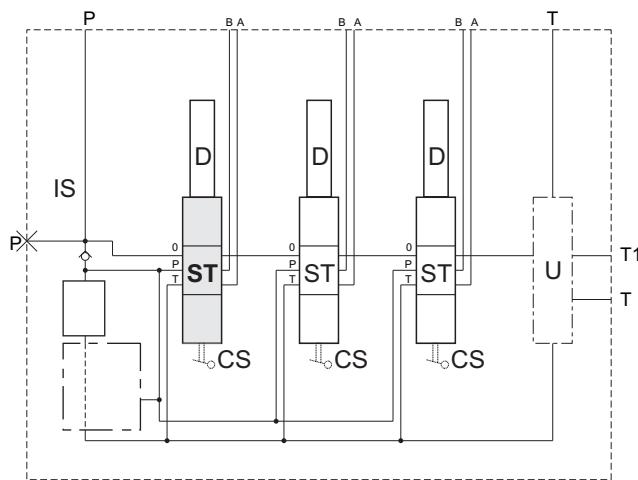
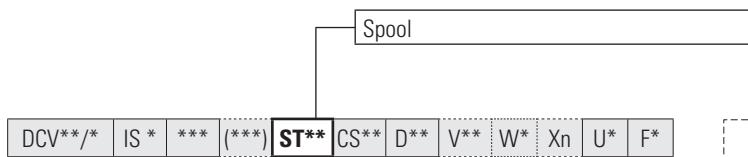
<b>A1</b>	Direct main relief valve	
<b>A14</b>	Valve seat with plug	
<b>B6</b> (2)	Solenoid dump valve 12V work NORMALLY OPEN	
<b>B8</b> (2)	Solenoid dump valve 24V work NORMALLY OPEN	
<b>B10</b> (2)	Solenoid dump valve 26V work NORMALLY OPEN	
<b>B12</b> (2)	Solenoid dump valve 30V work NORMALLY OPEN	
<b>B7</b> (2)	Solenoid dump valve 12V work NORMALLY CLOSED	
<b>B9</b> (2)	Solenoid dump valve 24V work NORMALLY CLOSED	
<b>B11</b> (2)	Solenoid dump valve 26V work NORMALLY CLOSED	
<b>B13</b> (2)	Solenoid dump valve 30V work NORMALLY CLOSED	
<b>D0</b>	Plug - Standard (position selected with IST or ISL)	
<b>D15</b>	Pressure gauge connection G 1/4" (replace the plug selected with IST or ISL)	

(2) Include block (DCV40) and special monoblock body

(3) Solenoid features	12 Vdc	24 Vdc	26 Vdc	30 Vdc
Nominal power	17 W	20 W	20 W	17 W
Connector			DIN 43650 ISO 4400	
Protection degree			IP65	
Ambient temperature			-30 +60 °C	

# Working sections

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**ST\*\* Spool**

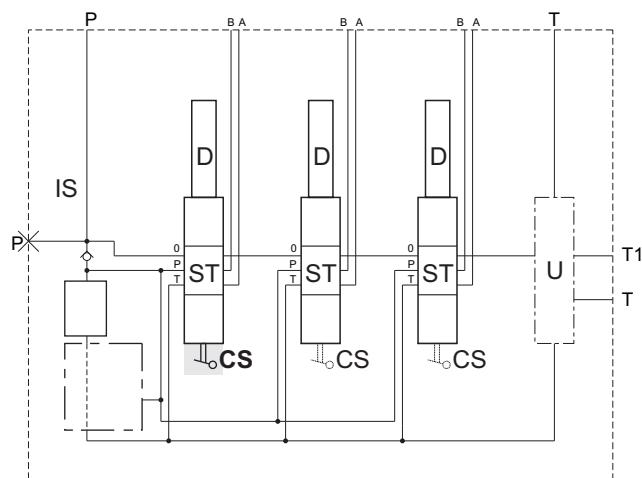
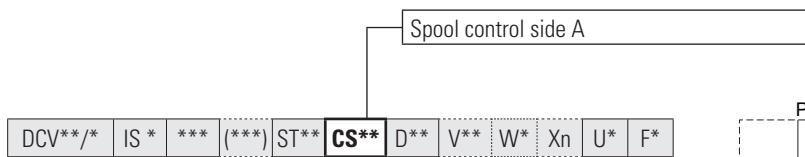
**	Description	Symbol
<b>ST1</b> <b>ST1G</b> (1)	3 position, double acting	
<b>ST2</b>	3 positions, double acting, - Lc blocked - A and B open	
<b>ST3</b>	3 positions, double acting, - Lc blocked - A and B blocked	
<b>ST4</b> <b>ST4G</b> (1)	3 positions, double acting, - A and B open	
<b>ST5</b> <b>ST5G</b> (1)	3 positions, double acting, - A open - B blocked	
<b>ST6</b> <b>ST6G</b> (1)	3 positions, double acting, - A blocked - B open	
<b>ST7</b>	3 positions, single acting in A	
<b>ST8</b>	3 positions, single acting in B	

**	Description	Symbol
<b>ST9</b>	3 positions, single acting in A - A open	
<b>ST10</b>	3 positions, single acting in B - B open	
<b>ST11</b>	3 positions, double acting regenerative in A (not standard)	
<b>ST36</b>	3 positions, double acting regenerative in B (not standard)	
<b>ST12</b>	4 positions, double acting with 4th float position	
<b>ST23</b>	2 positions with function dead man (unactivated) in "a" position ; working position in "0"	
<b>ST24</b>	2 positions with function dead man (unactivated) in "b" position ; working position in "0"	
<b>ST27</b>	2 positions with function dead man (unactivated) in "0" position ; working position in "b"	
<b>ST28</b>	2 positions with function dead man (unactivated) in "0" position ; working position in "a"	

(1) **STG** = Extra metering

# Working sections

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## CS\*\* Spool control side A

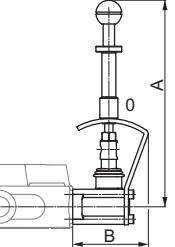
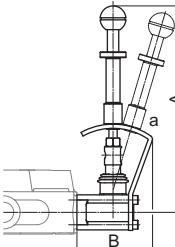
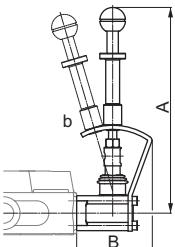
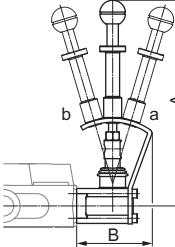
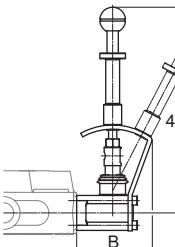
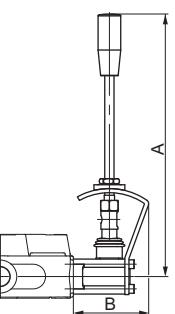
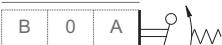
**	Description	Drawing																			
<b>CS1 CSA1 (1)</b>	Standard handle	<p>B   0   A</p>	<table border="1"> <thead> <tr> <th></th> <th>A mm   inch</th> <th>B mm   inch</th> <th>C mm   inch</th> <th>CS1 mm   inch</th> <th>CSA1 mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>64   2.52</td> <td>M8</td> <td>55   2.17</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5   2.46</td> <td>M10</td> <td>62.5   2.46</td> <td>67.5</td> <td>2.66</td> </tr> </tbody> </table>		A mm   inch	B mm   inch	C mm   inch	CS1 mm   inch	CSA1 mm   inch	<b>DCV 20</b>	64   2.52	M8	55   2.17	—	—	<b>DCV 40</b>	62.5   2.46	M10	62.5   2.46	67.5	2.66
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<b>DCV 40</b>	62.5   2.46	M10	62.5   2.46	67.5	2.66																
<b>CS2 CSA2 (1)</b>	Handle at 180°	<p>B   0   A</p>	<table border="1"> <thead> <tr> <th></th> <th>A mm   inch</th> <th>B mm   inch</th> <th>C mm   inch</th> <th>CS2 mm   inch</th> <th>CSA2 mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>64   2.52</td> <td>M8</td> <td>55   2.17</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5   2.46</td> <td>M10</td> <td>62.5   2.46</td> <td>67.5</td> <td>2.66</td> </tr> </tbody> </table>		A mm   inch	B mm   inch	C mm   inch	CS2 mm   inch	CSA2 mm   inch	<b>DCV 20</b>	64   2.52	M8	55   2.17	—	—	<b>DCV 40</b>	62.5   2.46	M10	62.5   2.46	67.5	2.66
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<b>DCV 40</b>	62.5   2.46	M10	62.5   2.46	67.5	2.66																
<b>CS3</b>	Without handle	<p>B   0   A</p>	<table border="1"> <thead> <tr> <th></th> <th>A mm   inch</th> <th>B mm   inch</th> <th>C mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>41   1.61</td> <td>12   0.47</td> <td>6   0.24</td> </tr> <tr> <td><b>DCV 40</b></td> <td>50   1.97</td> <td>17   0.67</td> <td>9   0.35</td> </tr> </tbody> </table>		A mm   inch	B mm   inch	C mm   inch	<b>DCV 20</b>	41   1.61	12   0.47	6   0.24	<b>DCV 40</b>	50   1.97	17   0.67	9   0.35						
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<b>DCV 40</b>	50   1.97	17   0.67	9   0.35																		
<b>CS4</b>	Hydraulic control - Max pilot pressure 35 bar 508 psi	<p>b   B   0   A   a</p>	<table border="1"> <thead> <tr> <th></th> <th>A mm   inch</th> <th>B mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>59   2.32</td> <td>1/4" BSP</td> </tr> <tr> <td><b>DCV 40</b></td> <td>68   2.68</td> <td>1/4" BSP</td> </tr> </tbody> </table>		A mm   inch	B mm   inch	<b>DCV 20</b>	59   2.32	1/4" BSP	<b>DCV 40</b>	68   2.68	1/4" BSP									
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<b>CS53</b>	Hydraulic lever control	<p>b   B   0   A   a</p>	<table border="1"> <thead> <tr> <th></th> <th>A mm   inch</th> <th>B mm   inch</th> <th>C mm   inch</th> <th>D mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>59   2.32</td> <td>109   4.29</td> <td>1/4" BSP</td> <td>64   2.52</td> </tr> </tbody> </table>		A mm   inch	B mm   inch	C mm   inch	D mm   inch	<b>DCV 20</b>	59   2.32	109   4.29	1/4" BSP	64   2.52								
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(1) CSA. = Aluminium version (only DCV40)

# Working sections

 brevini

## CS\*\* Spool control side A

**	Description	Drawing													
CS5 CSA5 (1)	Safety handle locked in neutral position	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>200 7.87</td> <td>73 2.87</td> </tr> <tr> <td><b>DCV 40</b></td> <td>220 8.66</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 20</b>	200 7.87	73 2.87	<b>DCV 40</b>	220 8.66	77 3.03
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<b>DCV 20</b>	200 7.87	73 2.87													
<b>DCV 40</b>	220 8.66	77 3.03													
CS6 CSA6 (1)	Safety handle locked in position "a"	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>200 7.87</td> <td>73 2.87</td> </tr> <tr> <td><b>DCV 40</b></td> <td>220 8.66</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 20</b>	200 7.87	73 2.87	<b>DCV 40</b>	220 8.66	77 3.03
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<b>DCV 20</b>	200 7.87	73 2.87													
<b>DCV 40</b>	220 8.66	77 3.03													
CS7 CSA7 (1)	Security handle locked in position "b"	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>200 7.87</td> <td>73 2.87</td> </tr> <tr> <td><b>DCV 40</b></td> <td>220 8.66</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 20</b>	200 7.87	73 2.87	<b>DCV 40</b>	220 8.66	77 3.03
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CS8 CSA8 (1)	Security handle locked in position "a" and "b"	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>200 7.87</td> <td>73 2.87</td> </tr> <tr> <td><b>DCV 40</b></td> <td>220 8.66</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 20</b>	200 7.87	73 2.87	<b>DCV 40</b>	220 8.66	77 3.03
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	mm inch	mm inch													
<b>DCV 20</b>	200 7.87	73 2.87													
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CS9 CSA9 (1)	Security handle locked in 4th position	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>200 7.87</td> <td>73 2.87</td> </tr> <tr> <td><b>DCV 40</b></td> <td>220 8.66</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 20</b>	200 7.87	73 2.87	<b>DCV 40</b>	220 8.66	77 3.03
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	mm inch	mm inch													
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<b>DCV 40</b>	220 8.66	77 3.03													
CS40 CSA40 (1)	Any positions detented lever	 	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm inch</th> <th>mm inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 40</b></td> <td>270 10.62</td> <td>77 3.03</td> </tr> </tbody> </table>		A	B		mm inch	mm inch	<b>DCV 40</b>	270 10.62	77 3.03			
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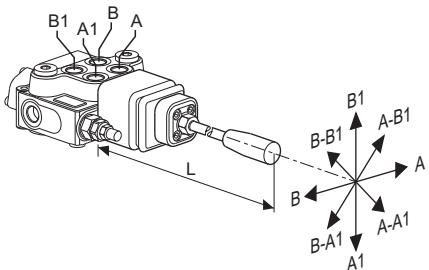
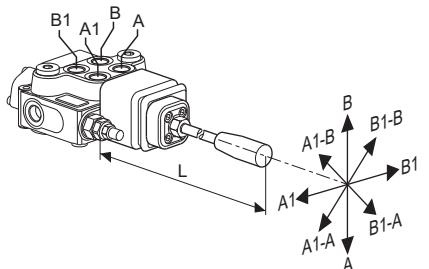
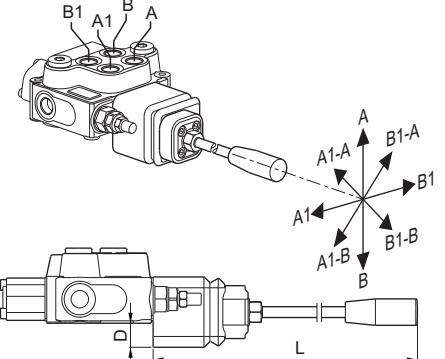
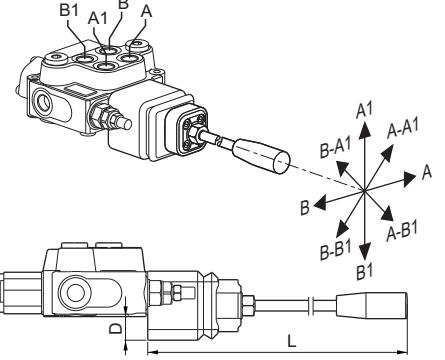
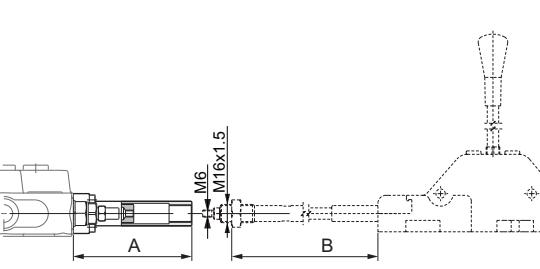
(1) CSA. = Aluminium version (only DCV40)

# Working sections

 brevini

MONOBLOCK

## CS\*\* Spool control side A

**	Description	Drawing																		
CS10 (CX) (1)	Cloche control with fulcrum on upstream section		<table border="1"> <thead> <tr> <th></th> <th>L</th> </tr> <tr> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>280</td> <td>11.02</td> </tr> <tr> <td><b>DCV 40</b></td> <td>285</td> <td>11.22</td> </tr> </tbody> </table>		L	mm	inch	<b>DCV 20</b>	280	11.02	<b>DCV 40</b>	285	11.22							
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<b>DCV 20</b>	280	11.02																		
<b>DCV 40</b>	285	11.22																		
CS11 (CX) (1)	Cloche control with fulcrum on downstream section		<table border="1"> <thead> <tr> <th></th> <th>L</th> </tr> <tr> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>280</td> <td>11.02</td> </tr> <tr> <td><b>DCV 40</b></td> <td>285</td> <td>11.22</td> </tr> </tbody> </table>		L	mm	inch	<b>DCV 20</b>	280	11.02	<b>DCV 40</b>	285	11.22							
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mm	inch																			
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<b>DCV 40</b>	285	11.22																		
CS12 (CX) (1)	Cloche control with fulcrum turned 180° on the downstream section		<table border="1"> <thead> <tr> <th></th> <th>L</th> <th>D</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>280</td> <td>11.02</td> <td>20</td> <td>0.79</td> </tr> <tr> <td><b>DCV 40</b></td> <td>285</td> <td>11.22</td> <td>20</td> <td>0.79</td> </tr> </tbody> </table>		L	D	mm	inch	mm	inch	<b>DCV 20</b>	280	11.02	20	0.79	<b>DCV 40</b>	285	11.22	20	0.79
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<b>DCV 40</b>	285	11.22	20	0.79																
CS13 (CX) (1)	Cloche control with fulcrum turned 180° on the upstream section		<table border="1"> <thead> <tr> <th></th> <th>L</th> <th>D</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>280</td> <td>11.02</td> <td>20</td> <td>0.79</td> </tr> <tr> <td><b>DCV 40</b></td> <td>285</td> <td>11.22</td> <td>20</td> <td>0.79</td> </tr> </tbody> </table>		L	D	mm	inch	mm	inch	<b>DCV 20</b>	280	11.02	20	0.79	<b>DCV 40</b>	285	11.22	20	0.79
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CS14 (2)	Flexible cable control (2)		<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>104</td> <td>4.09</td> <td>(2)</td> <td>(2)</td> </tr> <tr> <td><b>DCV 40</b></td> <td>106</td> <td>4.17</td> <td>(2)</td> <td>(2)</td> </tr> </tbody> </table>		A	B	mm	inch	mm	inch	<b>DCV 20</b>	104	4.09	(2)	(2)	<b>DCV 40</b>	106	4.17	(2)	(2)
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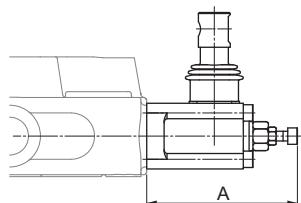
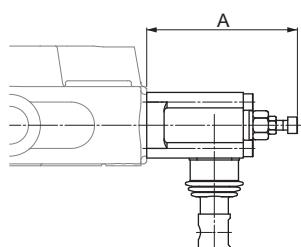
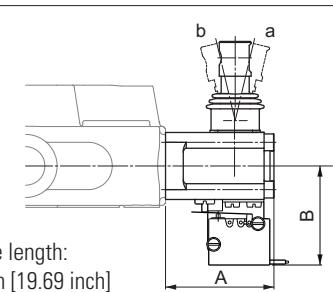
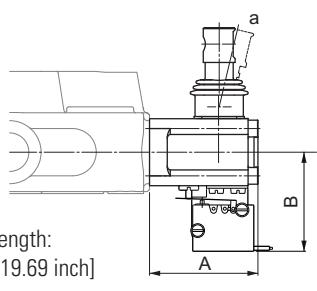
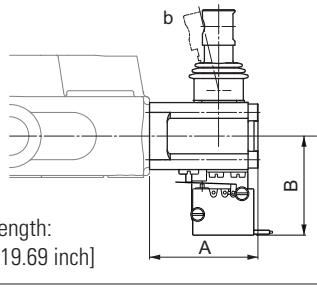
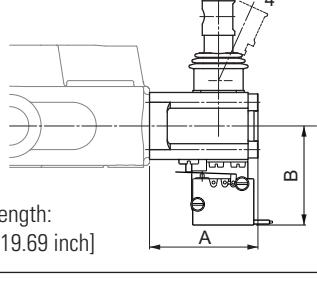
(1) (CX) code required to use on 2th section

(2) Cable supplied on request. Length cable and control, contact our commercial dept

# Working sections

 brevini

## CS\*\* Spool control side A

**	Description	Drawing																										
<b>CS15 CSA15 (1)</b>	Spool stroke adjustment in "b"		<table border="1"> <thead> <tr> <th></th> <th>A</th> </tr> <tr> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>78</td> <td>3.07</td> </tr> <tr> <td><b>DCV 40</b></td> <td>83.5</td> <td>3.28</td> </tr> </tbody> </table>		A	mm	inch	<b>DCV 20</b>	78	3.07	<b>DCV 40</b>	83.5	3.28															
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<b>CS16 CSA16 (1)</b>	Spool stroke adjustment in "b", handle at 180°		<table border="1"> <thead> <tr> <th></th> <th>A</th> </tr> <tr> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>78</td> <td>3.07</td> </tr> <tr> <td><b>DCV 40</b></td> <td>83.5</td> <td>3.28</td> </tr> </tbody> </table>		A	mm	inch	<b>DCV 20</b>	78	3.07	<b>DCV 40</b>	83.5	3.28															
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<b>CS17 CSA17 (1)</b>	Standard handle with microswitch in "a" and "b"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>CS17</th> <th>CSA17</th> <th>B</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5</td> <td>1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5</td> <td>2.03</td> </tr> </tbody> </table>		A	CS17	CSA17	B	mm	inch	mm	inch	mm	inch	<b>DCV 20</b>	55	2.17	—	—	50.5	1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5	2.03
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<b>CS18 CSA18 (1)</b>	Standard handle with microswitch in "a"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>CS18</th> <th>CSA18</th> <th>B</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5</td> <td>1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5</td> <td>2.03</td> </tr> </tbody> </table>		A	CS18	CSA18	B	mm	inch	mm	inch	mm	inch	<b>DCV 20</b>	55	2.17	—	—	50.5	1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5	2.03
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<b>DCV 20</b>	55	2.17	—	—	50.5	1.99																						
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<b>CS19 CSA19 (1)</b>	Standard handle with microswitch in "b"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>CS19</th> <th>CSA19</th> <th>B</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5</td> <td>1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5</td> <td>2.03</td> </tr> </tbody> </table>		A	CS19	CSA19	B	mm	inch	mm	inch	mm	inch	<b>DCV 20</b>	55	2.17	—	—	50.5	1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5	2.03
	A	CS19	CSA19	B																								
mm	inch	mm	inch	mm	inch																							
<b>DCV 20</b>	55	2.17	—	—	50.5	1.99																						
<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5	2.03																						
<b>CS20 CSA20 (1)</b>	Standard handle with microswitch in 4th position  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>CS20</th> <th>CSA20</th> <th>B</th> </tr> <tr> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5</td> <td>1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5</td> <td>2.03</td> </tr> </tbody> </table>		A	CS20	CSA20	B	mm	inch	mm	inch	mm	inch	<b>DCV 20</b>	55	2.17	—	—	50.5	1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5	2.03
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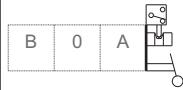
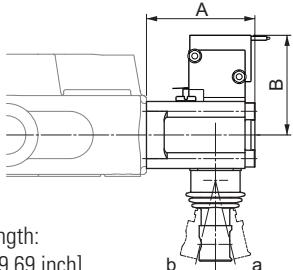
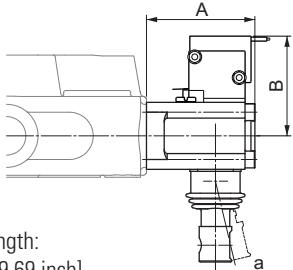
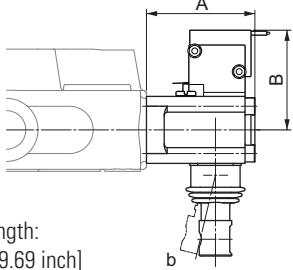
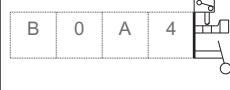
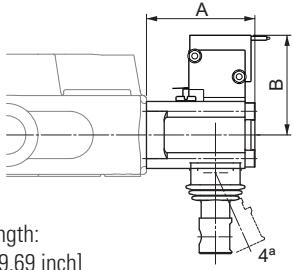
(1) CSA. = Aluminium version (only DCV40)

# Working sections

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## CS\*\* Spool control side A

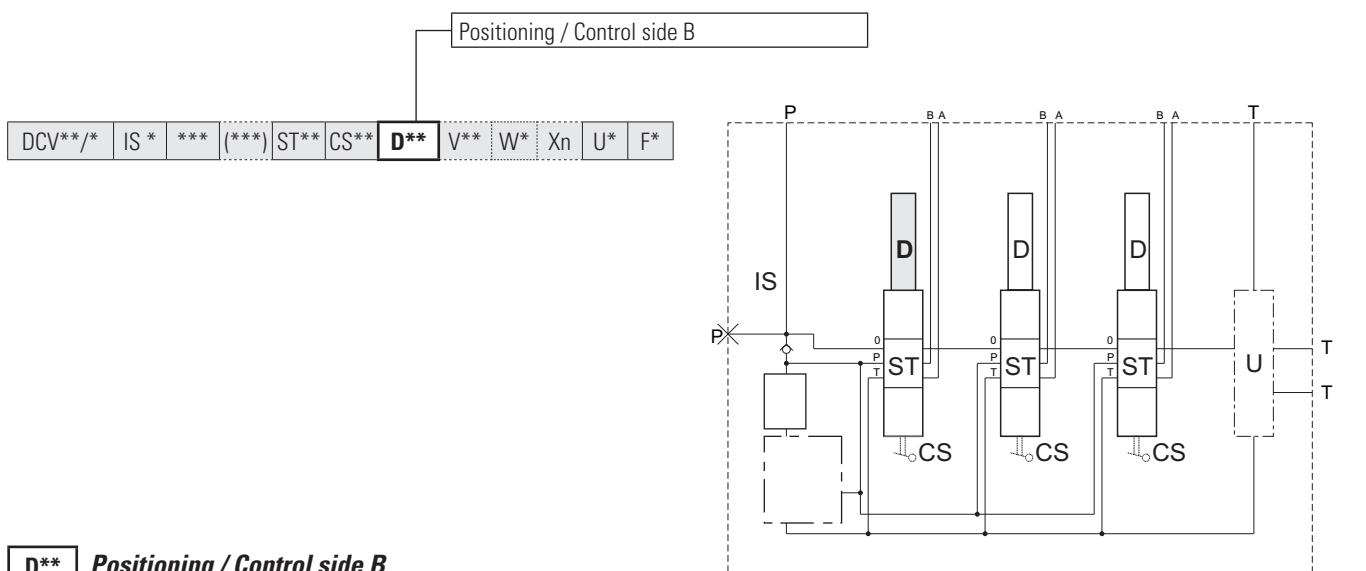
**	Description	Drawing																								
<b>CS21 CSA21 (1)</b>	Handle 180° with microswitch in "a" and "b"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C  	  Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th colspan="2">A</th> <th colspan="2">B</th> </tr> <tr> <th></th> <th>CS21</th> <th>mm inch</th> <th>CSA21</th> <th>mm inch</th> <th>B</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5 1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5 2.03</td> </tr> </tbody> </table>		A		B			CS21	mm inch	CSA21	mm inch	B	<b>DCV 20</b>	55	2.17	—	—	50.5 1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5 2.03
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<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5 2.03																					
<b>CS22 CSA22 (1)</b>	Handle 180° with microswitch in "a"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C  	  Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th colspan="2">A</th> <th colspan="2">B</th> </tr> <tr> <th></th> <th>CS22</th> <th>mm inch</th> <th>CSA22</th> <th>mm inch</th> <th>B</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5 1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5 2.03</td> </tr> </tbody> </table>		A		B			CS22	mm inch	CSA22	mm inch	B	<b>DCV 20</b>	55	2.17	—	—	50.5 1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5 2.03
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<b>CS23 CSA23 (1)</b>	Handle 180° with microswitch in "b"  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C  	  Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th colspan="2">A</th> <th colspan="2">B</th> </tr> <tr> <th></th> <th>CS23</th> <th>mm inch</th> <th>CSA23</th> <th>mm inch</th> <th>B</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5 1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5 2.03</td> </tr> </tbody> </table>		A		B			CS23	mm inch	CSA23	mm inch	B	<b>DCV 20</b>	55	2.17	—	—	50.5 1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5 2.03
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<b>CS24 CSA24 (1)</b>	Handle 180° with microswitch in 4th position  Protection degree: IP67 Nominal rating: 0.1 ÷ 10 A / 250VAC Minimum rating: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C  	  Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th colspan="2">A</th> <th colspan="2">B</th> </tr> <tr> <th></th> <th>CS24</th> <th>mm inch</th> <th>CSA24</th> <th>mm inch</th> <th>B</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>55</td> <td>2.17</td> <td>—</td> <td>—</td> <td>50.5 1.99</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62.5</td> <td>2.46</td> <td>67.5</td> <td>2.66</td> <td>51.5 2.03</td> </tr> </tbody> </table>		A		B			CS24	mm inch	CSA24	mm inch	B	<b>DCV 20</b>	55	2.17	—	—	50.5 1.99	<b>DCV 40</b>	62.5	2.46	67.5	2.66	51.5 2.03
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(1) CSA. = Aluminium version (only DCV40)

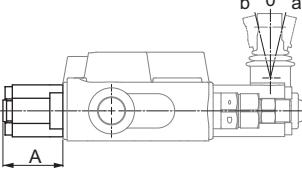
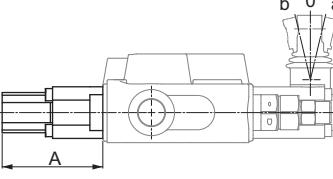
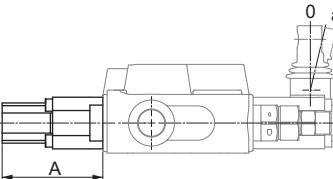
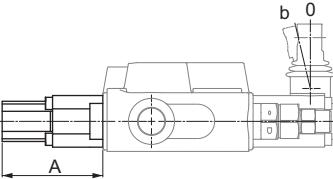
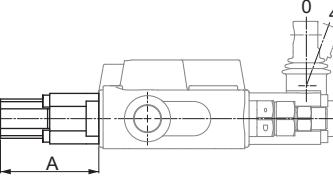
# Working sections

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## D\*\* Positioning / Control side B

**	Description	Drawing																				
<b>D1 DA1 (1)</b>	3 positions, spring centred spool		<table border="1"> <thead> <tr> <th></th> <th>D1</th> <th>A</th> <th>DA1</th> </tr> <tr> <th></th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>36.5</td> <td>1.03</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>41.5</td> <td>1.63</td> <td>42</td> <td>1.65</td> </tr> </tbody> </table>		D1	A	DA1		mm	inch	mm	inch	<b>DCV 20</b>	36.5	1.03	—	—	<b>DCV 40</b>	41.5	1.63	42	1.65
	D1	A	DA1																			
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<b>DCV 40</b>	41.5	1.63	42	1.65																		
<b>D2 DA2 (1)</b>	3 positions, spring centred spool, detent in "a" and "b"		<table border="1"> <thead> <tr> <th></th> <th>D2</th> <th>A</th> <th>DA2</th> </tr> <tr> <th></th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		D2	A	DA2		mm	inch	mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
	D2	A	DA2																			
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<b>DCV 20</b>	60	2.36	—	—																		
<b>DCV 40</b>	72.5	2.85	72.5	2.85																		
<b>D3 DA3 (1)</b>	3 positions, spring centred spool, detent in "a"		<table border="1"> <thead> <tr> <th></th> <th>D3</th> <th>A</th> <th>DA3</th> </tr> <tr> <th></th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		D3	A	DA3		mm	inch	mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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<b>D4 DA4 (1)</b>	3 positions, spring centred spool, detent in "b"		<table border="1"> <thead> <tr> <th></th> <th>D4</th> <th>A</th> <th>DA4</th> </tr> <tr> <th></th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		D4	A	DA4		mm	inch	mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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<b>DCV 20</b>	60	2.36	—	—																		
<b>DCV 40</b>	72.5	2.85	72.5	2.85																		
<b>D5 DA5 (1)</b>	4 positions, spring centred spool, detent in 4th position		<table border="1"> <thead> <tr> <th></th> <th>D5</th> <th>A</th> <th>DA5</th> </tr> <tr> <th></th> <th>mm</th> <th>inch</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		D5	A	DA5		mm	inch	mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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<b>DCV 20</b>	60	2.36	—	—																		
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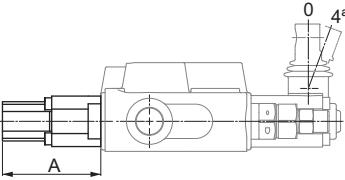
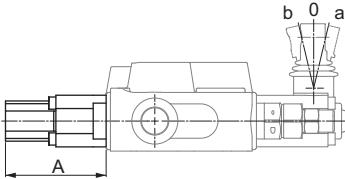
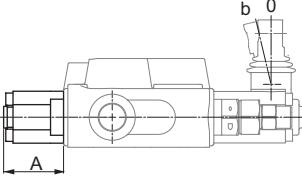
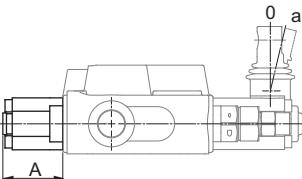
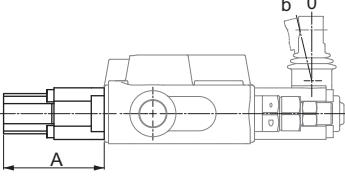
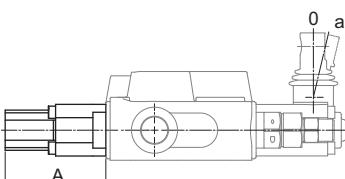
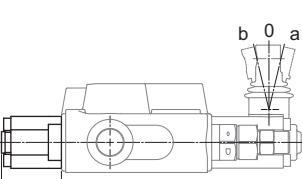
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# Working sections

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## D\*\* Positioning / Control side B

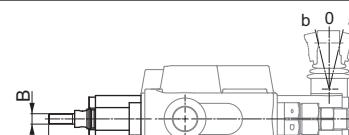
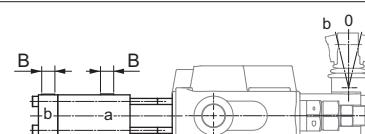
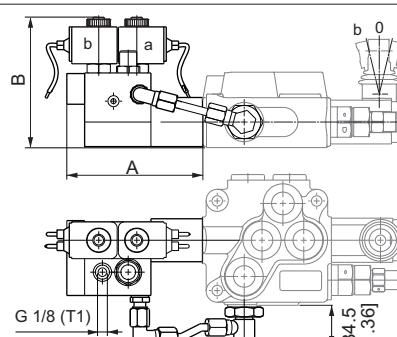
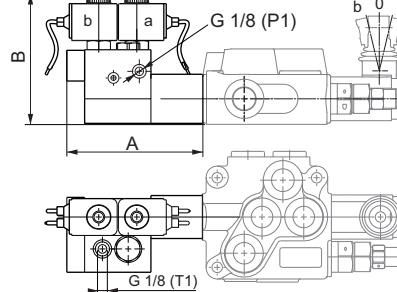
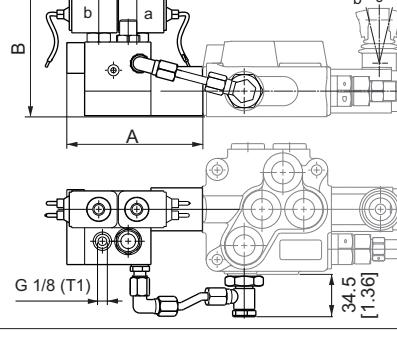
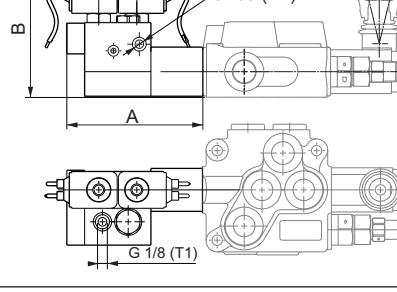
**	Description	Drawing																			
<b>D6 DA6 (1)</b>	4 positions, spring centred spool, sensitive 4th position, without detent		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D6 mm</th> <th>inch</th> <th>DA6 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		<b>A</b>			D6 mm	inch	DA6 mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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<b>D7 DA7 (1)</b>	3 positions, spring centred spool, detent in "a" - "0" - "b"		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D7 mm</th> <th>inch</th> <th>DA7 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		<b>A</b>			D7 mm	inch	DA7 mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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<b>DCV 20</b>	60	2.36	—	—																	
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<b>D8 DA8 (1)</b>	2 positions ("0" - "b"), spring centred spool		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D8 mm</th> <th>inch</th> <th>DA8 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>36.5</td> <td>1.03</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>41.5</td> <td>1.63</td> <td>42</td> <td>1.65</td> </tr> </tbody> </table>		<b>A</b>			D8 mm	inch	DA8 mm	inch	<b>DCV 20</b>	36.5	1.03	—	—	<b>DCV 40</b>	41.5	1.63	42	1.65
	<b>A</b>																				
	D8 mm	inch	DA8 mm	inch																	
<b>DCV 20</b>	36.5	1.03	—	—																	
<b>DCV 40</b>	41.5	1.63	42	1.65																	
<b>D9 DA9 (1)</b>	2 positions ("0" - "a"), spring centred spool		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D9 mm</th> <th>inch</th> <th>DA9 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>36.5</td> <td>1.03</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>41.5</td> <td>1.63</td> <td>42</td> <td>1.65</td> </tr> </tbody> </table>		<b>A</b>			D9 mm	inch	DA9 mm	inch	<b>DCV 20</b>	36.5	1.03	—	—	<b>DCV 40</b>	41.5	1.63	42	1.65
	<b>A</b>																				
	D9 mm	inch	DA9 mm	inch																	
<b>DCV 20</b>	36.5	1.03	—	—																	
<b>DCV 40</b>	41.5	1.63	42	1.65																	
<b>D10 DA10 (1)</b>	2 positions ("0" - "b"), spring centred spool, detent in "b"		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D10 mm</th> <th>inch</th> <th>DA10 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		<b>A</b>			D10 mm	inch	DA10 mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
	<b>A</b>																				
	D10 mm	inch	DA10 mm	inch																	
<b>DCV 20</b>	60	2.36	—	—																	
<b>DCV 40</b>	72.5	2.85	72.5	2.85																	
<b>D11 DA11 (1)</b>	2 positions ("0" - "a"), spring centred spool, detent in "a"		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D11 mm</th> <th>inch</th> <th>DA11 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>60</td> <td>2.36</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>72.5</td> <td>2.85</td> <td>72.5</td> <td>2.85</td> </tr> </tbody> </table>		<b>A</b>			D11 mm	inch	DA11 mm	inch	<b>DCV 20</b>	60	2.36	—	—	<b>DCV 40</b>	72.5	2.85	72.5	2.85
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	D11 mm	inch	DA11 mm	inch																	
<b>DCV 20</b>	60	2.36	—	—																	
<b>DCV 40</b>	72.5	2.85	72.5	2.85																	
<b>D12 DA12 (1)</b>	3 positions free (without spring)		<table border="1"> <thead> <tr> <th></th> <th colspan="2"><b>A</b></th> </tr> <tr> <th></th> <th>D12 mm</th> <th>inch</th> <th>DA12 mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>36.5</td> <td>1.03</td> <td>—</td> <td>—</td> </tr> <tr> <td><b>DCV 40</b></td> <td>41.5</td> <td>1.63</td> <td>42</td> <td>1.65</td> </tr> </tbody> </table>		<b>A</b>			D12 mm	inch	DA12 mm	inch	<b>DCV 20</b>	36.5	1.03	—	—	<b>DCV 40</b>	41.5	1.63	42	1.65
	<b>A</b>																				
	D12 mm	inch	DA12 mm	inch																	
<b>DCV 20</b>	36.5	1.03	—	—																	
<b>DCV 40</b>	41.5	1.63	42	1.65																	

(1) DA. = Aluminium version (only DCV40)

# Working sections

 brevini

## D\*\* Positioning / Control side B

**	Description	Drawing		A mm inch	B mm inch		
<b>D13</b> <b>DA13</b> (1)	Preearranged for double control		<b>DCV 20</b>	58	2.28	M6	
			<b>DCV 40</b>	71	2.80	M8	
<b>D14</b>	ON-OFF pneumatic control - Pilot pressure 5-10 bar 72.5-145 psi		<b>DCV 20</b>	111	4.37	1/8" BSP	
			<b>DCV 40</b>	119.5	4.70	1/8" BSP	
<b>D15</b> (2)	Electroiddraulic ON-OFF control. Voltage 12Vdc with pressure reducing valve - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91	3.58	104.5	4.11
			<b>DCV 40</b>	96	3.78	106.5	4.19
<b>D16</b> (2)	Electroiddraulic ON-OFF control. Voltage 12Vdc without pressure reducing valve - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91	3.58	104.5	4.11
			<b>DCV 40</b>	96	3.78	106.5	4.19
<b>D17</b> (2)	Electroiddraulic ON-OFF control. Voltage 24Vdc with pressure reducing valve - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91	3.58	104.5	4.11
			<b>DCV 40</b>	96	3.78	106.5	4.19
<b>D18</b> (2)	Electroiddraulic ON-OFF control. Voltage 24Vdc without pressure reducing valve - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91	3.58	104.5	4.11
			<b>DCV 40</b>	96	3.78	106.5	4.19

(1) DA = Aluminium version (only DCV40)

(2) Valid only for the first section with electroiddraulic control.

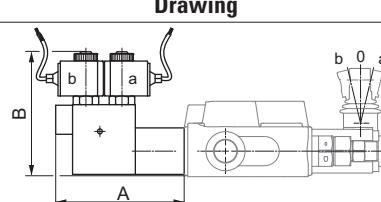
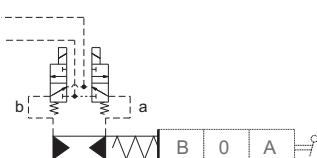
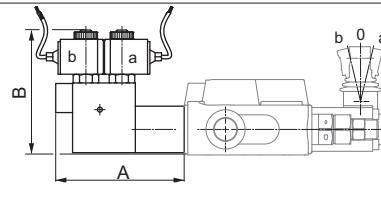
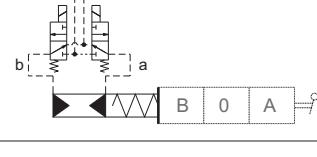
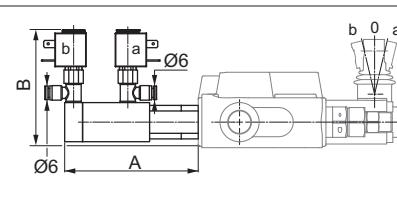
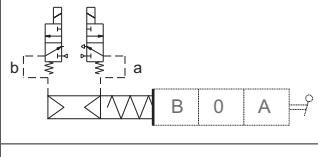
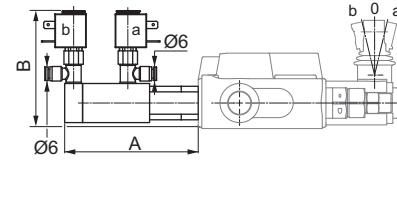
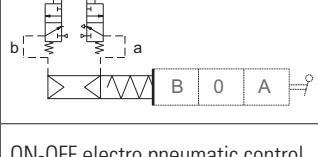
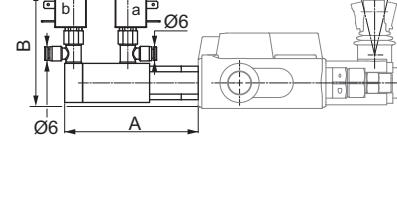
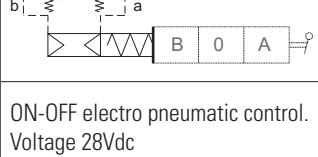
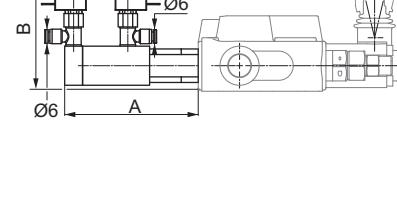
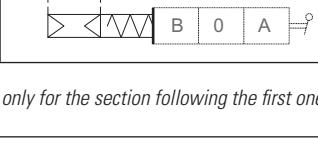
For proper operation it is required a pressure of 8 bar (116 psi) measured at the input P or P1.

# Working sections

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MONOBLOCK

## D\*\* Positioning / Control side B

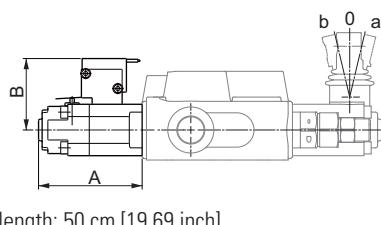
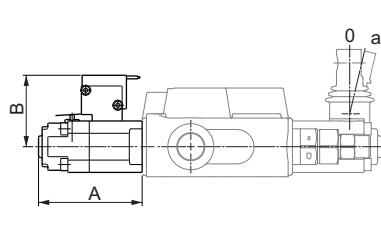
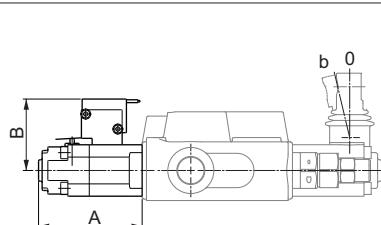
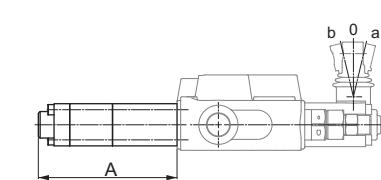
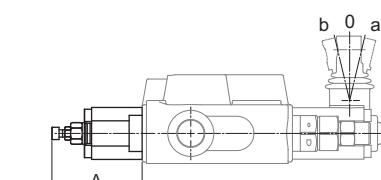
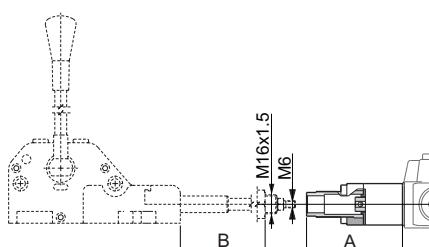
**	Description	Drawing		A mm      inch	B mm      inch
D19 (3)	Electrohydraulic ON-OFF control. Voltage 12Vdc - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91      3.58	104.5      4.11
			<b>DCV 40</b>	96      3.78	106.5      4.19
			Connector	wires 30 cm	
			Protection degree	IP65	
			Ambient temperature	-30 +60 °C	
			Nominal power	10 W	
D20 (3)	Electrohydraulic ON-OFF control. Voltage 24Vdc - Pilot pressure 20 bar 290 psi		<b>DCV 20</b>	91      3.58	104.5      4.11
			<b>DCV 40</b>	96      3.78	106.5      4.19
			Connector	wires 30 cm	
			Protection degree	IP65	
			Ambient temperature	-30 +60 °C	
			Nominal power	10 W	
D21	ON-OFF electro pneumatic control. Voltage 12Vdc - Pilot pressure 5-10 bar 72.5-145 psi		<b>DCV 20</b>	111      4.37	101.5      4.00
			<b>DCV 40</b>	119.5      4.70	103.5      4.07
			Connector	DIN 43650-B ISO6952	
			Protection degree	IP65	
			Ambient temperature	-20 +40 °C	
			Nominal power	8 W	
D22	ON-OFF electro pneumatic control. Voltage 24Vdc - Pilot pressure 5-10 bar 72.5-145 psi		<b>DCV 20</b>	111      4.37	101.5      4.00
			<b>DCV 40</b>	119.5      4.70	103.5      4.07
			Connector	DIN 43650-B ISO6952	
			Protection degree	IP65	
			Ambient temperature	-20 +40 °C	
			Nominal power	8 W	
D23	ON-OFF electro pneumatic control. Voltage 26Vdc - Pilot pressure 5-10 bar 72.5-145 psi		<b>DCV 20</b>	111      4.37	101.5      4.00
			<b>DCV 40</b>	119.5      4.70	103.5      4.07
			Connector	DIN 43650-B ISO6952	
			Protection degree	IP65	
			Ambient temperature	-20 +40 °C	
			Nominal power	8 W	
D24	ON-OFF electro pneumatic control. Voltage 28Vdc - Pilot pressure 5-10 bar 72.5-145 psi		<b>DCV 20</b>	111      4.37	101.5      4.00
			<b>DCV 40</b>	119.5      4.70	103.5      4.07
			Connector	DIN 43650-B ISO6952	
			Protection degree	IP65	
			Ambient temperature	-20 +40 °C	
			Nominal power	8 W	

(3) Valid only for the section following the first one

# Working sections

 brevini

## D\*\* Positioning / Control side B

**	Description	Drawing													
D25 DA25 (1)	Micro-switch in "a" and "b" Protection degree: IP67 Nominal power: 0.1 ÷ 10 A / 250VAC Minimum power: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm   inch</th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 40</b></td> <td>72.5   2.85</td> <td>50   1.97</td> </tr> </tbody> </table>		A	B		mm   inch	mm   inch	<b>DCV 40</b>	72.5   2.85	50   1.97			
	A	B													
	mm   inch	mm   inch													
<b>DCV 40</b>	72.5   2.85	50   1.97													
D26 DA26 (1)	Micro-switch in "a" Protection degree: IP67 Nominal power: 0.1 ÷ 10 A / 250VAC Minimum power: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm   inch</th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 40</b></td> <td>72.5   2.85</td> <td>50   1.97</td> </tr> </tbody> </table>		A	B		mm   inch	mm   inch	<b>DCV 40</b>	72.5   2.85	50   1.97			
	A	B													
	mm   inch	mm   inch													
<b>DCV 40</b>	72.5   2.85	50   1.97													
D27 DA27 (1)	Micro-switch in "b" Protection degree: IP67 Nominal power: 0.1 ÷ 10 A / 250VAC Minimum power: 1 mA / 4 VDC Operating temperature: -20 ÷ +85°C	 Cable length: 50 cm [19.69 inch]	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm   inch</th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 40</b></td> <td>72.5   2.85</td> <td>50   1.97</td> </tr> </tbody> </table>		A	B		mm   inch	mm   inch	<b>DCV 40</b>	72.5   2.85	50   1.97			
	A	B													
	mm   inch	mm   inch													
<b>DCV 40</b>	72.5   2.85	50   1.97													
D29	Detent with adjustable automatic hydraulic release in "a" and "b"		<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm   inch</th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 40</b></td> <td>70   2.76</td> <td>50   1.97</td> </tr> </tbody> </table>		A	B		mm   inch	mm   inch	<b>DCV 40</b>	70   2.76	50   1.97			
	A	B													
	mm   inch	mm   inch													
<b>DCV 40</b>	70   2.76	50   1.97													
D30 DA30 (1)	Spool stroke adjustment in "a"		<table border="1"> <thead> <tr> <th></th> <th>A</th> </tr> <tr> <th></th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>57   2.24</td> </tr> <tr> <td><b>DCV 40</b></td> <td>62   2.44</td> </tr> </tbody> </table>		A		mm   inch	<b>DCV 20</b>	57   2.24	<b>DCV 40</b>	62   2.44				
	A														
	mm   inch														
<b>DCV 20</b>	57   2.24														
<b>DCV 40</b>	62   2.44														
D40 (2)	Flexible cable control (2)		<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> </tr> <tr> <th></th> <th>mm   inch</th> <th>mm   inch</th> </tr> </thead> <tbody> <tr> <td><b>DCV 20</b></td> <td>81   3.19</td> <td>(2)   (2)</td> </tr> <tr> <td><b>DCV 40</b></td> <td>93   3.66</td> <td>(2)   (2)</td> </tr> </tbody> </table>		A	B		mm   inch	mm   inch	<b>DCV 20</b>	81   3.19	(2)   (2)	<b>DCV 40</b>	93   3.66	(2)   (2)
	A	B													
	mm   inch	mm   inch													
<b>DCV 20</b>	81   3.19	(2)   (2)													
<b>DCV 40</b>	93   3.66	(2)   (2)													

(1) **DA.** = Aluminium version (only DCV40)

(2) Cable supplied on request. Length cable and control, contact our commercial dept

# Working sections

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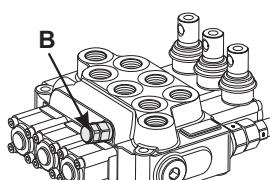
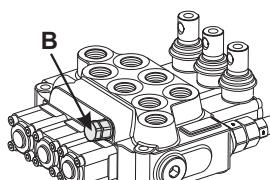
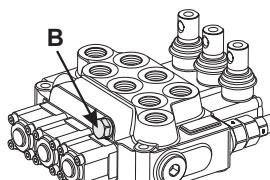
MONOBLOCK

Service port valves (optional field)

DCV\*\*/\* | IS \* | \*\*\* | (\*\*\*) ST\*\* | CS\*\* | D\*\* | V\*\* | W\* | Xn | U\* | F\*

Service port valves optional, is required a special monoblock body.  
Omit for standard version (without valves, without prearranged for valve)

## V\*\* Service port valves

**	Description	Drawing
VB1 (***) (1)(2)	Overload valve in position "B"	 
VB2 (2)(3)	Anti-cavitation valve in "B"	 
VB4 (2)	Preadrilled for auxiliary valve in "B" with plug	 

(1) Specify the relief valve setting (from 20 to 350 bar). During the order it is suggested to specify the flow rate.

(2) For service port valves or predrilled for port valve with plug in "A" and/or "B" port please contact our commercial department.

(3) Only for DCV20

Handle lever (optional field)

Working section repeated for n. times (optional field)

DCV\*\*/\* | IS \* | \*\*\* | (\*\*\*) ST\*\* | CS\*\* | D\*\* | V\*\* | W\* | Xn | U\* | F\*

## W\* Handle lever

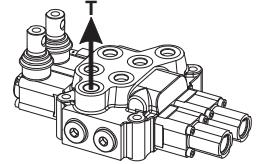
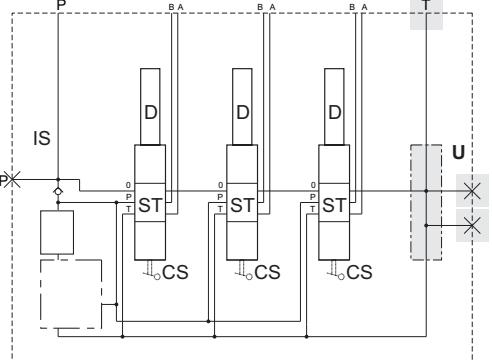
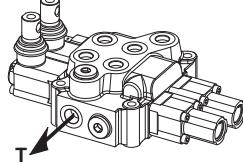
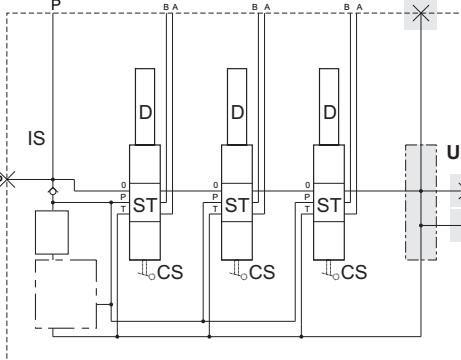
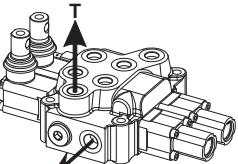
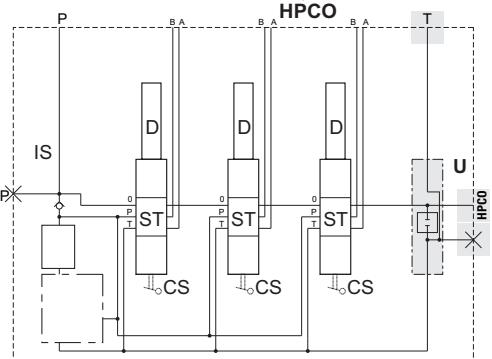
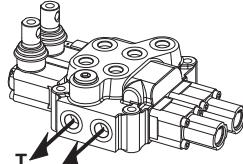
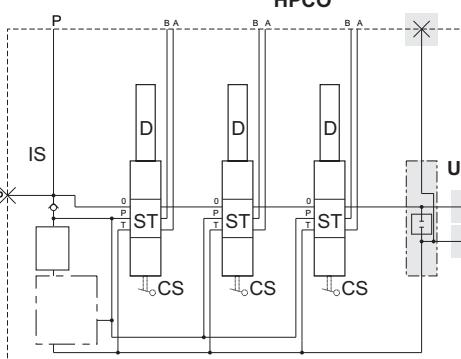
**	Description	Drawing
W1	Standard DCV 20 For cloche control use W2	
W2	Standard DCV 40	

# Outlet sections

 brevini

DCV\*\*/\* | IS \* | \*\*\* | (\*\*\*) ST\*\* | CS\*\* | D\*\* | V\*\* | W\* | Xn | **U\*** | F\*

## **U\*** Outlet

**	Top outlet	Side outlet
US	 	 
US2	 	 

DCV\*\*/\* | IS \* | \*\*\* | (\*\*\*) ST\*\* | CS\*\* | D\*\* | V\*\* | W\* | Xn | **U\*** | **F\***

## **F\*** Threads

**	Description	DCV20 P-A-B-T-HPCO	DCV40 P-A-B-T-HPCO
F3	3/8" BSP	•	• (1)
F4	1/2" BSP		•
F31	9/16" - 18UNF (SAE 6)	•	
F32	3/4" - 16UNF (SAE 8)		•
F33	7/8" - 14UNF (SAE 10)		• (1)

(1) Threads available on request



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