



2 PORT SLIP-IN CARTRIDGE VALVES (ISO 7368) CV

ENGINEERING

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Ref. No. P03426
Release 06/2004

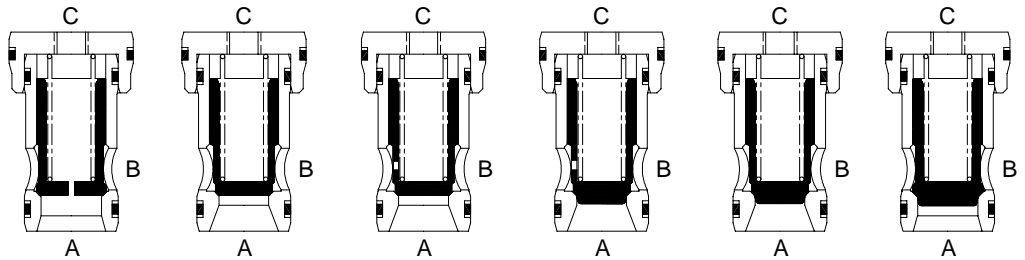
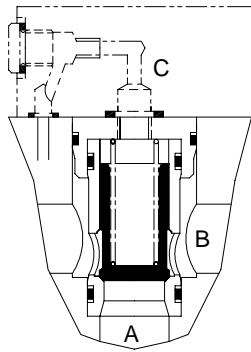
Description

These cartridge valves are used to control oil pressure flow rate or direction and are designed for insertion into cavities machined as per ISO 7368. These cartridges are available in two area ratios, four cracking pressures and seven poppet styles. The covers are available for different functions like directional control, pressure control, unloading, flow control etc.

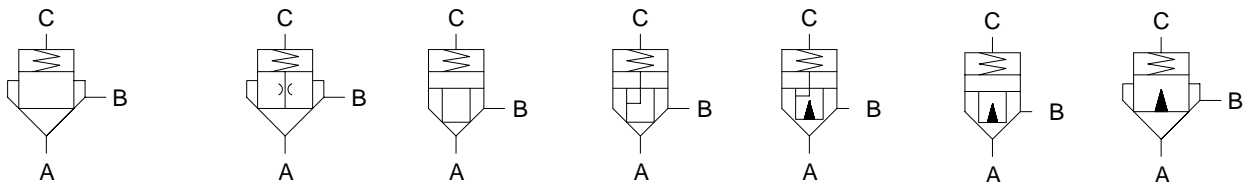


Section

AA = Area of poppet exposed to port 'A'
CA = Area of poppet exposed to control pressure
AA : CA = Area Ratio



Hydraulic Symbol



Standard cartridge
Area ratio
1:1

Relief cartridge
(with orifice)
Area ratio
1:1

Standard cartridge
Area ratio
1:1.5

Check cartridge
Area ratio
1:1.5

Check Cartridge
with Cushion nose
Area ratio
1:1.5

Cartridge with
Cushion nose
Area ratio
1:1.5

Cartridge with
Cushion nose
Area ratio
1:1

Relief Cartridge orifice		
Size	Tap	Orifice Size (mm)
NG 16	1/16" NPT	0.8
NG 25	1/16" NPT	0.8
NG 32	1/16" NPT	0.8
NG 40	1/8" NPT	0.8

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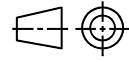
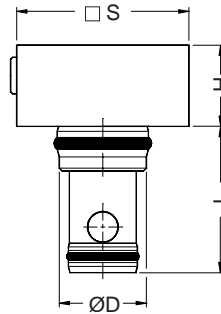
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Unit Dimensions

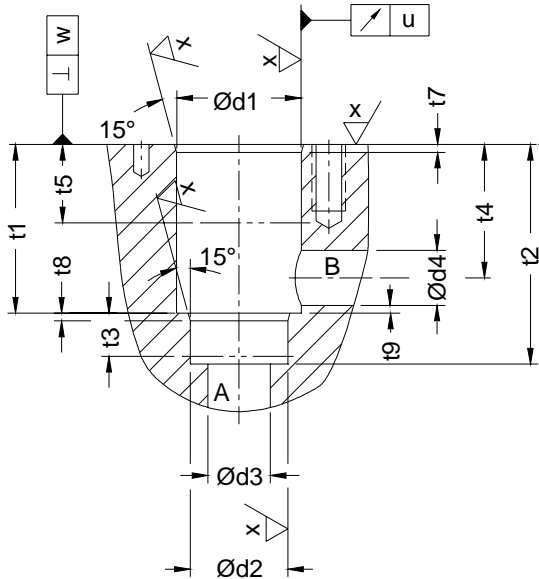
Cartridge and cover

Dimensions in mm.

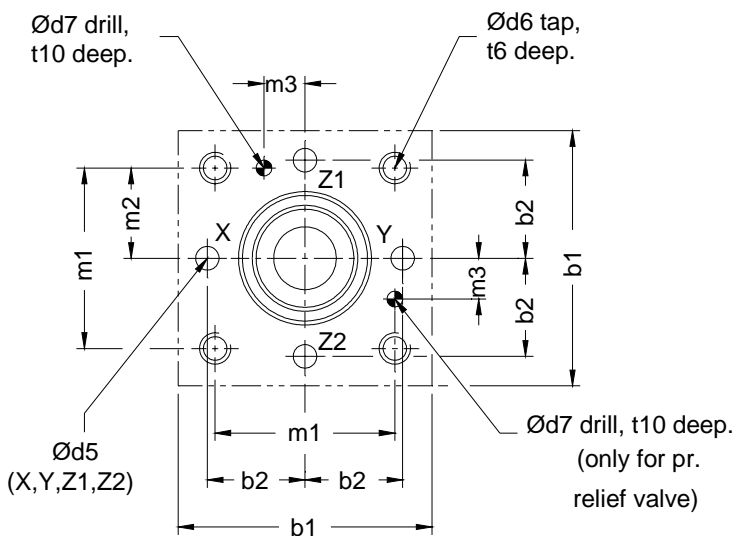
Size	16	25	32	40
H	35	40	50	60
L	56	72	85	105
ØD	32	45	60	75
□S	65	85	102	125



Cavity machining details



Designation	Size 16	Size 25	Size 32	Size 40
b1	65	85	102	125
b2	±0.2	25	33	41
Ød1	H8	32	45	60
Ød2	H8	25	34	45
Ød3	16	25	32	40
Ød4	min. 16	25	32	40
	max. 25	32	40	50
Ød5	max. 4	6	8	10
Ød6	M8	M12	M16	M20
Ød7	H13	4	6	6
m1	±0.2	46	58	70
m2	±0.2	23	29	35
m3	±0.2	10.5	16	17
t1	± 0.1	43	58	70
	0.0			
t2	± 0.1	56	72	85
	0.0			
t3	11	12	13	15
t4	(for Ød4) min. 34	44	52	64
	max. 29.5	40.5	48	59
t5	20	30	30	30
t6	20	25	35	45
t7	2	2.5	2.5	3
t8	2	2.5	2.5	3
t9	min. 0.5	1	1.5	2.5
t10	10	10	10	10
u	0.03	0.03	0.03	0.05
w	0.05	0.05	0.1	0.1
x	Ra 1.6	1.6	1.6	1.6





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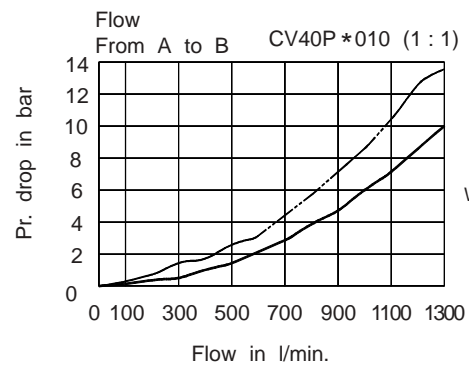
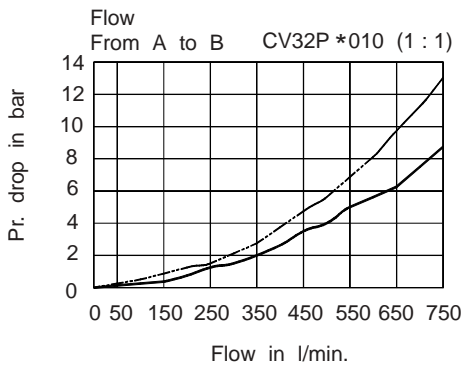
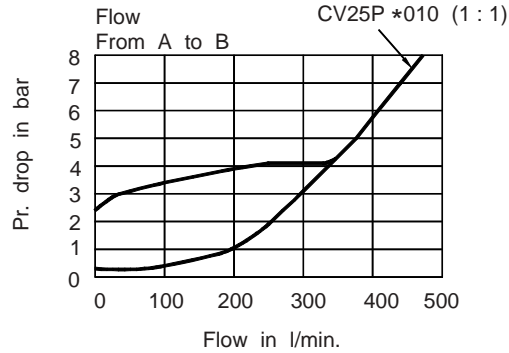
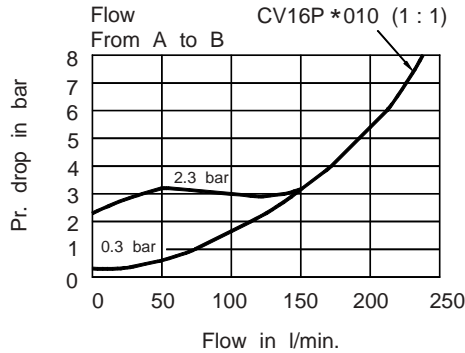
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Performance Curve

Oil used : ISO VG 68, Viscosity : 68 cSt @ 40 °C, temp @ test : 50 °C.



With cushioning shoulder.

Without cushioning shoulder.

Ordering Code

CV 16 P B C 10

Cartridge valve

Size 16, 25, 32 & 40.

Area ratio and special function

1 : 1	Standard function	P
	Relief function	R
1 : 1.5	Standard function	K
	Check valve function	C

Design code subject to change. Installation dimensions remain same. for design code 10 thru 19.

Poppet construction

O	Without cushion shoulder
C	With cushion shoulder

Note : Cover to be ordered separately.
Cushion shoulder construction poppet is available only for 1 : 1.5 area ratio for all the sizes.

Spring type	1:1		1:1.5	
	A to B	A to B	B to A	B to A
	Cracking pressure in bar			
X	0	0	0	0
A	0.3	0.45	0.9	0.9
B	0.6	0.9	1.8	1.8
C	1.2	1.8	3.6	3.6
D	2.3	3.5	7.1	7.1



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Cartridge cover details

Symbol function	Size 16	Size 25	Size 32	Size 40
	Standard Cover			
	Brief Code and Reference Sheet No.			
	CVC16*** P03417	CVC25*** P03420	CVC32*** P03420	CVC40*** P03420
	Relief Cover			
	Brief Code and Reference Sheet No.			
	CVC16R*** P03418	CVC25R*** P03421	CVC32R*** P03418	CVC40R*** P03418
	Relief Cover with provision of solenoid unloading			
	Brief Code and Reference Sheet No.			
	CVC16RA** P03418	CVC25RA** P03418	CVC32RA** P03418	CVC40RA** P03418
	Cover for 2 manual pressure setting, electrically selectable.			
	Brief Code and Reference Sheet No.			
	CVC16RSA** P07032	CVC25RSA** P07032	CVC32RSA** P07032	CVC40RSA** P07032
	Relief cum unloader, unloading by pilot pressure.			
	Brief Code and Reference Sheet No.			
	CVC16U*** P03419	CVC25U*** P03419	CVC32U*** P03419	CVC40U*** --

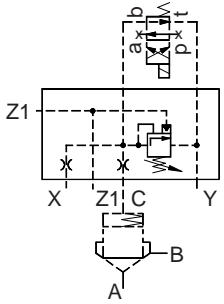
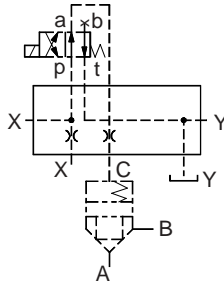
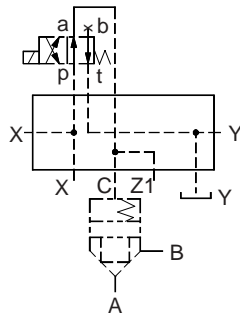
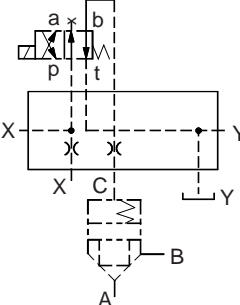
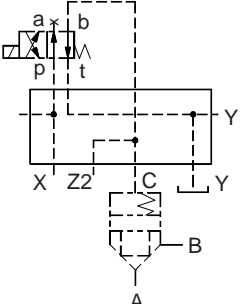


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Symbol function	Size 16	Size 25	Size 32	Size 40
 <p>Relief cum unloading cover, unloading by pilot pressure with provision for additional solenoid unloading.</p> <p>Brief Code and Reference Sheet No.</p>	CVC16UA***	CVC25UA***	CVC32UA***	CVC40UA***
	P03419	P03419	P03419	P03419
 <p>Cover with provision for spool type D.C.V. solenoid operated control port normally connected to A.</p> <p>Brief Code and Reference Sheet No.</p>	CVC16DEA***	CVC25DEA***	CVC32DEA***	CVC40DEA***
	P03428	P03428	--	P03428
 <p>Cover with provision for spool type D.C.V. solenoid operated control port normally connected to A, with parallel connection available at Z1.</p> <p>Brief Code and Reference Sheet No.</p>	CVC16DEAZ1*	CVC25DEAZ1*	CVC32DEAZ1*	CVC40DEAZ1*
	P03428	P03428	--	P03428
 <p>Cover with provision for spool type D.C.V. solenoid operated control port normally connected to B.</p> <p>Brief Code and Reference Sheet No.</p>	CVC16DEB***	CVC25DEB***	CVC32DEB***	CVC40DEsB***
	P03428	P03428	--	P03428
 <p>Cover with provision for spool type D.C.V. solenoid operated control port normally connected to B, with parallel connection available at Z2.</p> <p>Brief Code and Reference Sheet No.</p>	CVC16DEBZ2*	CVC25DEBZ2*	CVC32DEBZ2*	CVC40DEBZ2*
	P03428	P03428	--	P03428



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Symbol function	Size 16	Size 25	Size 32	Size 40
	Cover with provision for spool type D.C.V. solenoid operated control port normally connected to port A and port B, is available at Z2.			
	Brief Code and Reference Sheet No.			
	CVC16DEABZ2*	CVC25DEABZ2*	CVC32DEABZ2*	CVC40DEABZ2*
	P03428	P03428	--	P03428
	Cover with provision for spool type D.C.V. solenoid operated control port normally connected to port A, with parallel connection available at Z1 and port B is available at Z2.			
	Brief Code and Reference Sheet No.			
	CVC16DEAZ1BZ2*	CVC25DEAZ1BZ2*	CVC32DEAZ1BZ2*	CVC40DEAZ1BZ2*
	P03428	P03428	--	P03428
	Cover with provision for spool type D.C.V. solenoid operated control port normally connected to port B and port A is available at Z1.			
	Brief Code and Reference Sheet No.			
	CVC16DEBAZ1*	CVC25DEBAZ1*	CVC32DEBAZ1*	CVC40DEBAZ1*
	P03428	P03428	--	P03428
	Cover with provision for spool type D.C.V. solenoid operated control port normally connected to port B, with parallel connection available at Z2 and port A is available at Z1.			
	Brief Code and Reference Sheet No.			
	CVC16DEBZ2AZ1*	CVC25DEBZ2AZ1*	CVC32DEBZ2AZ1*	CVC40DEBZ2AZ1*
	P03428	P03428	--	P03428
	Cover with built in change over valve.			
	Brief Code and Reference Sheet No.			
	CVC16S*	CVC25S*	CVC32S*	CVC40S*
	P03424	P03424	--	--



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Symbol function	Size 16	Size 25	Size 32	Size 40
	Cover with built in change over valve with provision for fitting a directional spool valve, control port normally connected to port A.			
	Brief Code and Reference Sheet No.			
	CVC16SDEA***	CVC25SDEA***	CVC32SDEA***	CVC40SDEA***
	--	P03477	--	--
	Cover with built in change over valve with provision for fitting a directional spool valve, control port normally connected to port B.			
	Brief Code and Reference Sheet No.			
	CVC16SDEB***	CVC25SDEB***	CVC32SDEB***	CVC40SDEB***
	--	P03477	--	--
	Cover with built in change over valve with provision for fitting a directional spool valve, port A of shuttle valve is connected to port A of D.C.V.			
	Brief Code and Reference Sheet No.			
	CVC16SDEAA**	CVC25SDEAA**	CVC32SDEAA**	CVC40SDEAA**
	P03495	P03495	P03495	P03495
	Cover with built in change over valve with provision for fitting a directional spool valve, port A of shuttle valve is connected to port B of D.C.V.			
	Brief Code and Reference Sheet No.			
	CVC16SDEAB**	CVC25SDEAB**	CVC32SDEAB**	CVC40SDEAB**
	P03495	P03495	P03495	P03495
	Cover with stroke limiter			
	Brief Code and Reference Sheet No.			
	CVC16T***	CVC25T***	CVC32T***	CVC40T***
	P03438	P03482	--	--



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Symbol function	Size 16	Size 25	Size 32	Size 40
	Cover with check valve mounting.			
	Brief Code and Reference Sheet No.			
	CVC16CY*** P03430	CVC25CY*** P03471	CVC32CY*** --	CVC40CY*** --
	Cover with built in pilot operated check and stroke limiter.			
	Brief Code and Reference Sheet No.			
	--	--	CVC32*PCT* --	--
	Cover with built in change over and pressure switch.			
	Brief Code and Reference Sheet No.			
	CVC16S*Z1 P03432	CVC25S*Z1 P03470	--	--
	Cover for proportional relief valve.			
	Brief Code and Reference Sheet No.			
	CVC16PR** --	--	--	--
	High pressure cracking cover.			
	Brief Code and Reference Sheet No.			
	CVC16AC*** --	CVC25AC*** --	CVC32AC*** --	CVC40AC*** --



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