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# VB Hydraulic Clamp

Catalogue PDE2636TCUK May 2012





**Important !**

Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.



**NB !**

All technical data in this catalogue is typical only. The air quality is decisive for the valve life: see ISO 8573.



**WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

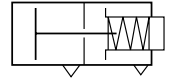
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# VB Hydraulic Clamp

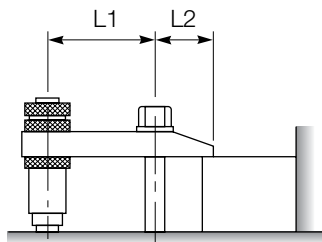
Clamp cylinders are single acting pneumatic cylinders with built-in oleo-pneumatic intensifiers. They can be used to solve most clamping, tightening etc problems.



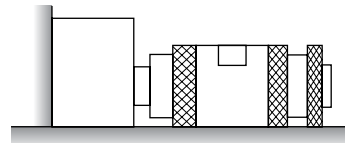
- Compact size for large forces (up to 2100 daN depending on the model and air pressure).
- Operated using a compressed air supply (no special installation required)
- Easy adjustment thanks to a fully threaded body
- Simple and rapid installation.



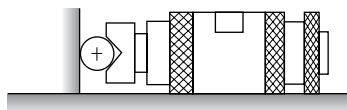
## Clamping examples



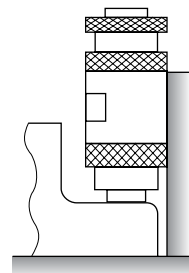
Clamping with intensified force  
 $L1/L2 < 2$



Horizontal clamping



Clamping of cylindrical component using V groove clamp end



Vertical clamping

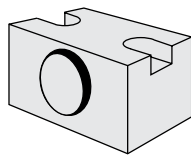
## VB Hydraulic Clamp

### Ordering references

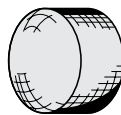
Order code	Max stroke (mm)	Ø external	Weight - g (lbs)
<b>VB363C</b>	3	36	570 (1.3)
<b>VB366C</b>	6	36	640 (1.4)
<b>VB369C</b>	9	36	890 (2.0)
<b>VB483C</b>	3	48	1050 (2.3)
<b>VB486C</b>	6	48	1350 (3.0)
<b>VB489C</b>	9	48	1152 (2.5)
<b>VB4812C</b>	12	48	1840 (4.0)
<b>VBH483C</b>	3	48	1240 (2.7)
<b>VB606C</b>	6	60	2360 (5.2)
<b>VB609C</b>	9	60	3120 (6.9)
<b>VB6012C</b>	12	60	3810 (8.4)
<b>VBH603C</b>	3	60	2360 (5.2)
<b>VBH606C</b>	6	60	3700 (8.1)

### Mounting accessories

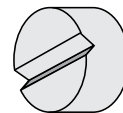
Mounting block



Rounded clamp piston end



V groove clamp piston end



Mounting for VB	Mounting block	Rounded end	V groove end
Ø 36	<b>FVA36-1</b>	<b>BVA36-16</b>	<b>BVA36-17</b>
Ø 48	<b>FVA48-1</b>	<b>BVA48-16</b>	<b>BVA48-17</b>
Ø 60	<b>FVA60-1</b>	<b>BVA60-16</b>	<b>BVA60-17</b>
Seal kit for	VB Ø 36	VBH Ø 48	VB Ø 60
Order code	<b>JJVB36</b>	<b>JJVB48</b>	<b>JJVB60</b>
		<b>JJVBH48</b>	<b>JJVBH60</b>

Oil container suitable for all types of cylinder (250 ml capacity)

Model No.: **BH680VB**

### Technical data

#### Material specification

Body	Nickel plated steel
Piston rod	Hardened steel
Locking rings	Zinc plated steel
End cap	Zinc plated steel
Seals	Nitrile

#### Operation

Temperature range	+5°C to +50°C (41°F to 122°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)
Pressure range	1 to 9 bar (15 to 130 psi) (except <b>VBH603</b> and <b>VBH606</b> : 7 bar (101psi max.))
Air condition	Filtered air 40µ lubricated or non lubricated

### Maintenance

For all operations see our maintenance instructions  
All safety requirements must be observed.

**Technical data****Cylinder force**

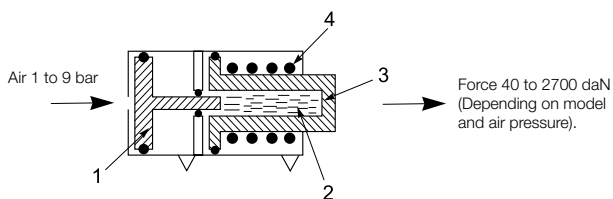
**Note:** The clamping time is given from the moment the clamp cylinder is pressurised to the time at when 90% of the clamping force is obtained, the cylinder completing a full stroke.

The release time is given from the moment the clamp cylinder starts to exhaust until the rod is fully retracted.

When the cylinder remains pressurised for more than 10 min. add 0,20 sec. to the release time.

These average times are given for information only. They will vary depending on the application and the cylinder inlet and exhaust circuits.

Order code	Max. stroke (mm)	Force at 6 bar daN (lbs)	Clamping time (s)	Release time (s)
<b>VB363C</b>	3	240 (540)	0,10	1,00
<b>VB366C</b>	6	240 (540)	0,15	1,30
<b>VB369C</b>	9	240 (540)	0,20	1,50
<b>VB483C</b>	3	530 (1190)	0,30	1,30
<b>VB486C</b>	6	530 (1190)	0,40	1,60
<b>VB489C</b>	9	530 (1190)	0,50	1,90
<b>VB4812C</b>	12	530 (1190)	0,60	2,20
<b>VBH483C</b>	3	1060 (2380)	0,50	0,70
<b>VB606C</b>	6	1140 (2560)	0,50	1,90
<b>VB609C</b>	9	1140 (2560)	0,60	2,30
<b>VB6012C</b>	12	1140 (2560)	0,70	2,50
<b>VBH603C</b>	3	1800 (4000)	0,50	0,70
<b>VBH606C</b>	6	1800 (4000)	0,60	1,05

**Principle of operation**

Air pressure applied to the pneumatic piston (1) causes the plunger to displace the enclosed oil in the hydraulic section of the cylinder (2). A high-pressure stroke results at the hydraulic piston (3) due to the differential areas of the two pistons.

The return of pistons (1) and (3) is caused by a return spring (4) when the air pressure is removed.

# VB Hydraulic Clamp

## Technical data

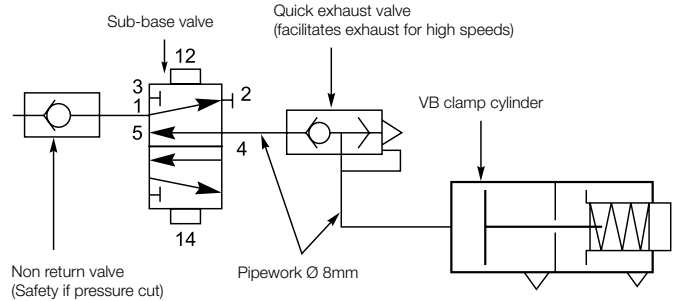
### Working conditions

Clamp cylinders must be installed so that the force is directed along the axis. (Take care that the exhaust ports are not blocked and that they are protected from swarf, cutting oil, dust, etc.)

Do not operate the cylinder at no-load. The clamp cylinder must always be operated in conjunction with a clamping fixture (clamp or block) to limit the stroke to within the maximum length specified in the ordering reference table.

We recommend an effective stroke equal to the max. length minus 1mm.

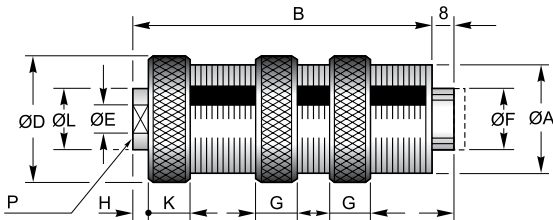
Please contact us for applications requiring force during part of the stroke (marking, crimping, punching, etc.) and high speeds.



### Pneumatic Circuit

For correct use of clamp cylinders, we recommend applications of the circuit diagram opposite:

### Dimensions (mm)



Order code	ØA	B	ØD	ØE	ØF	G	H	K	ØL	P
<b>VB363C</b>	M36 x 1,5	98,0	42	G1/8	22	12	4	13	22	17
<b>VB366C</b>	M36 x 1,5	127,5	42	G1/8	22	12	4	13	22	17
<b>VB369C</b>	M36 x 1,5	185,0	42	G1/8	22	12	4	13	22	17
<b>VB483C</b>	M48 x 1,5	111,0	56	G1/8	32	12	4	13	22	17
<b>VBH483C</b>	M48 x 1,5	148,0	56	G1/8	32	12	4	13	22	17
<b>VB486C</b>	M48 x 1,5	148,0	56	G1/8	32	12	4	13	22	17
<b>VB489C</b>	M48 x 1,5	188,0	56	G1/8	32	12	4	13	22	17
<b>VB4812C</b>	M48 x 1,5	234,0	56	G1/8	32	12	4	13	22	17
<b>VBH603C</b>	M60 x 2	175,0	70	G1/4	40	14	5	17	25	22
<b>VB606C</b>	M60 x 2	175,0	70	G1/4	40	14	5	17	25	22
<b>VBH606C</b>	M60 x 2	290,0	70	G1/4	40	14	5	17	25	22
<b>VB609C</b>	M60 x 2	249,0	70	G1/4	40	14	5	17	25	22
<b>VB6012C</b>	M60 x 2	314,0	70	G1/4	40	14	5	17	25	22

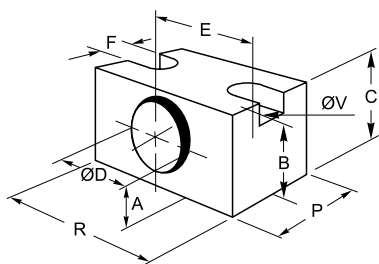
# VB Hydraulic Clamp

## Dimensions (mm)

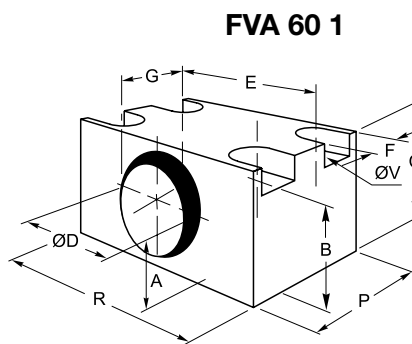
### Mounting accessories

#### Mounting block

For VB	Order code	A	B	C	ØD	E	F	G	P	R	ØV
Ø 36	<b>FVA36-1</b>	24,0	38,0	50,0	36,2	54,0	18,0	-	40,0	70,0	11,0
Ø 48	<b>FVA48-1</b>	30,0	47,0	60,0	48,2	70,0	20,0	-	50,0	90,0	13,5
Ø 60	<b>FVA60-1</b>	36,0	57,0	70,0	60,2	90,0	20,0	36,0	60,0	110,0	13,5

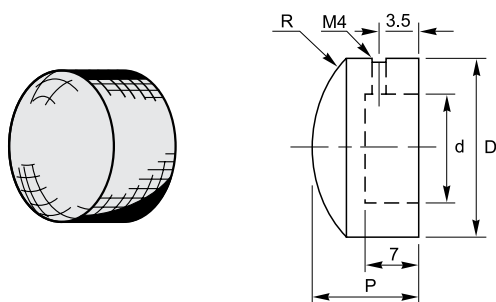


**FVA 36 1**  
**FVA 48 1**



**FVA 60 1**

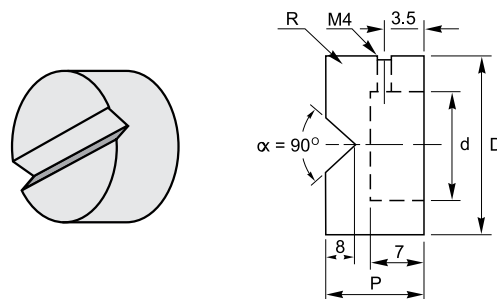
### Rounded clamp piston end



#### Dimensions (mm)

For VB	Order code	d	R	P	D
Ø 36	<b>BVA36-16</b>	22	25	15	30
Ø 48	<b>BVA48-16</b>	32	40	15	40
Ø 60	<b>BVA60-16</b>	40	50	18	50

### V groove clamp piston end



#### Dimensions (mm)

For VB	Order code	d	e	P	D
Ø 36	<b>BVA36-17</b>	22	5	15	30
Ø 48	<b>BVA48-17</b>	32	5	15	40
Ø 60	<b>BVA60-17</b>	40	8	18	50

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