

# Universal cylinders - Double-acting *Application & selection*

Shown: BRD-2510, BRD-96, BRD-256, BRD-41, BRD-166



► Used when high cylinder forces with a powered return stroke is required in a confined area.

Cylinders can push or pull a workpiece into position and the threaded plunger allows adapting standard clevis attachments.

■ *Clamping application using Enerpac BRD cylinders (with clevis eye attachments on both ends) for their high pressure capability and mounting flexibility.*



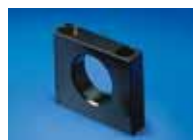
## Heavy duty cylinders

...provide push as well as pull forces

- High pressure design when additional force is required for push or pull applications
- Long strokes in a compact design are well suited for custom toggle style clamping
- Various features for mounting
- Threaded plunger allows a wide range of mounting adapter devices
- Chrome plated plunger provides a long cylinder life

## Optional cylinder attachments

For added cylinder flexibility, a selection of interchangeable mountings is available to fit plunger or cylinder threads.



### Foot mounting

Mounts onto cylinder collar thread. Retainer nut included.



### Flange mounting

Mounts onto cylinder collar thread. Retainer nut included.



### Retainer nut

Locking foot or flange mountings. Mounts onto cylinder base or collar threads. Included with foot and flange mountings.



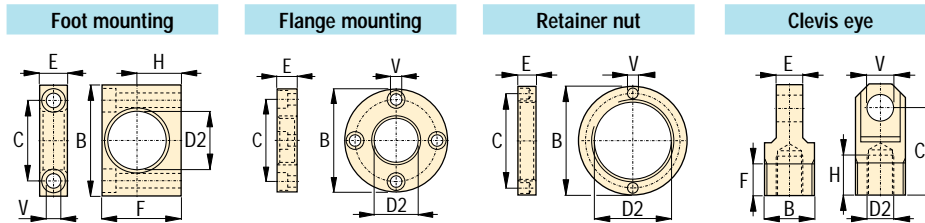
### Clevis eye

Threads onto plunger or base.

## Product selection

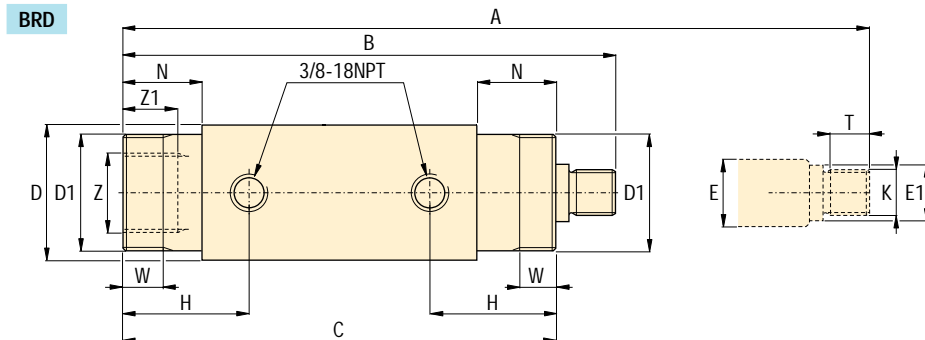
Cylinder capacity at 350 bar		Stroke mm	Model number	Effective area		Oil capacity	
push kN	pull kN			push cm <sup>2</sup>	pull cm <sup>2</sup>	push cm <sup>3</sup>	pull cm <sup>3</sup>
17,4	7,7	28,7	BRD-41	5,10	2,19	14,58	6,55
17,4	7,7	79,5	BRD-43	5,10	2,19	40,48	18,03
17,4	7,7	155,7	BRD-46	5,10	2,19	79,31	34,41
40,0	21,8	28,7	BRD-91	11,42	6,32	32,77	18,03
40,0	21,8	79,5	BRD-93	11,42	6,32	90,78	49,16
40,0	21,8	155,7	BRD-96	11,42	6,32	178,29	98,32
40,0	21,8	257,3	BRD-910	11,42	6,32	293,98	162,23
69,0	36,9	158,8	BRD-166	20,32	10,71	322,33	170,42
69,0	36,9	260,4	BRD-1610	20,32	10,71	528,64	278,58
109,0	47,8	158,8	BRD-256	31,74	13,87	503,57	219,59
109,0	47,8	260,4	BRD-2510	31,74	13,87	825,90	360,51

Call Enerpac to order models with imperial mounting threads.



## Cylinder attachments in mm [⌀]

Cylinder capacity at 350 bar kN		D2	Model number	B	C	E	F	H	V	kg
▼ Foot mounting with retainer nut										
17,4	34,8	42,1	BAD-141	80,0	58,0	20,0	57,0	31,8	10,5	0,4
40,0	80,0	56,1	BAD-171	105,0	78,0	25,0	82,5	44,5	13,5	1,2
69,0	138,0	70,1	BAD-181	127,0	95,2	35,0	100,0	52,4	20,0	2,9
109,0	218,0	85,1	BAD-191	159,0	117,5	45,0	125,0	63,5	26,5	4,5
▼ Flange mounting with retainer nut										
17,4	34,8	42,1	BAD-142	98,4	78,6	19,0	—	—	11,0	1,0
40,0	80,0	56,1	BAD-172	120,5	98,4	25,4	—	—	11,0	2,1
69,0	138,0	70,1	BAD-182	143,0	115,9	35,0	—	—	13,4	3,8
109,0	218,0	85,1	BAD-192	165,0	135,7	44,5	—	—	17,0	6,0
▼ Retainer nut										
17,4	34,8	M42 x 1,5	BAD-143	57,0	49,5	9,5	—	—	6,3	0,1
40,0	80,0	M56 x 2	BAD-173	75,0	63,5	12,7	—	—	6,7	0,3
69,0	138,0	M70 x 2	BAD-183	92,0	79,4	19,0	—	—	6,7	0,6
109,0	218,0	M85 x 2	BAD-193	108,0	95,2	25,4	—	—	6,7	0,8
▼ Clevis eye										
17,4	34,8	M16 x 1,5	BAD-150	M30 x 1,5	52,4	15,9	19,1	23,8	16,0	0,2
40,0	80,0	M22 x 1,5	BAD-151	M42 x 1,5	57,1	25,4	25,4	23,8	20,0	0,6
69,0	138,0	M30 x 1,5	BAD-152	M56 x 2	77,8	31,9	25,4	30,2	25,0	1,3
109,0	218,0	M42 x 1,5	BAD-153	M70 x 2	77,8	38,2	25,4	27,0	32,0	2,1



## Product dimensions in mm [⌀]

Model number	A	B	C	D	D1	E	E1	H	K	N	T	W	Z	Z1	kg
BRD-41	214,4	185,7	162,1	50,8	M42x1,5	19,1	17,5	46,7	M16x1,5	28,7	19,1	11,2	M30x1,5	8,9	2,2
BRD-43	316,0	236,5	212,9	50,8	M42x1,5	19,1	17,5	46,7	M16x1,5	28,7	19,1	11,2	M30x1,5	8,9	2,9
BRD-46	468,4	312,7	289,1	50,8	M42x1,5	19,1	17,5	46,7	M16x1,5	28,7	19,1	11,2	M30x1,5	8,9	4,1
BRD-91	251,0	222,3	198,1	63,5	M56x2	25,4	23,9	57,2	M22x1,5	38,1	19,1	14,2	M42x1,5	14,0	4,1
BRD-93	353,3	273,8	248,9	63,5	M56x2	25,4	23,9	57,2	M22x1,5	38,1	19,1	14,2	M42x1,5	14,0	5,0
BRD-96	505,7	350	325,1	63,5	M56x2	25,4	23,9	57,2	M22x1,5	38,1	19,1	14,2	M42x1,5	14,0	6,3
BRD-910	708,9	451,6	427,0	63,5	M56x2	25,4	23,9	57,2	M22x1,5	38,1	19,1	14,2	M42x1,5	14,0	8,6
BRD-166	547,6	388,9	358,9	76,2	M70x2	35,1	32,0	73,2	M30x1,5	54,1	25,4	22,4	M56x2	23,9	10,0
BRD-1610	750,8	490,5	460,0	76,2	M70x2	35,1	32,0	73,2	M30x1,5	54,1	25,4	22,4	M56x2	23,9	13,2
BRD-256	582,7	423,9	397,0	92,2	M85x2	47,8	45,0	88,9	M42x1,5	69,9	25,4	28,7	M70x2	25,9	16,3
BRD-2510	785,9	525,5	498,1	92,2	M85x2	47,8	45,0	88,9	M42x1,5	69,9	25,4	28,7	M70x2	25,9	20,9

Force: 17,4 - 109,0 kN

Stroke: 28,7 - 260,4 mm

Pressure: 35 - 700 bar

- (E) Cilindros universales
- (F) Vérins universels
- (D) Universelle Linearzylinder



## Options

Cylinder  
accessories

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## Important

Be certain that the mounting devices can handle forces in the push and pull direction.

BRD series cylinders are designed for a maximum operating pressure of 700 bar.

When applying 700 bar cylinder capacities double as well.