

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.



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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. Mounting screws not included.



Flange mounting

Mounts onto cylinder collar thread. Retainer nut included. Mounting screws not included.



Retainer nut

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



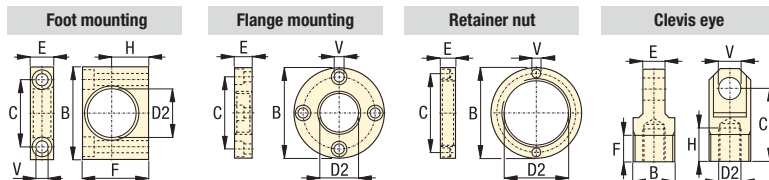
Clevis eye

Threads onto plunger or base.

Product selection

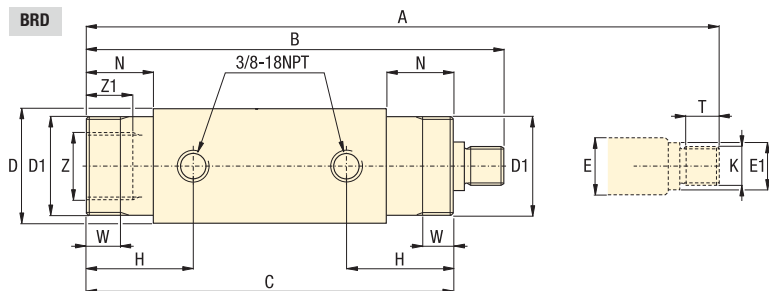
| Cylinder capacity at 350 bar | | Stroke mm | Model number | Effective area | | Oil capacity | |
|------------------------------|---------|-----------|--------------|----------------------|----------------------|----------------------|----------------------|
| push kN | pull kN | | | push cm ² | pull cm ² | push cm ³ | pull cm ³ |
| 17,4 | 7,7 | 28,2 | BRD-41 | 5,10 | 2,19 | 14,58 | 6,55 |
| 17,4 | 7,7 | 78,9 | BRD-43 | 5,10 | 2,19 | 40,48 | 18,03 |
| 17,4 | 7,7 | 155,2 | BRD-46 | 5,10 | 2,19 | 79,31 | 34,41 |
| 40,0 | 21,8 | 31,6 | BRD-91 | 11,42 | 6,32 | 32,77 | 18,03 |
| 40,0 | 21,8 | 82,3 | BRD-93 | 11,42 | 6,32 | 90,78 | 49,16 |
| 40,0 | 21,8 | 158,0 | BRD-96 | 11,42 | 6,32 | 178,29 | 98,32 |
| 40,0 | 21,8 | 260,2 | BRD-910 | 11,42 | 6,32 | 293,98 | 162,23 |
| 69,0 | 36,9 | 157,2 | BRD-166 | 20,32 | 10,71 | 322,33 | 170,42 |
| 69,0 | 36,9 | 258,8 | BRD-1610 | 20,32 | 10,71 | 528,64 | 278,58 |
| 109,0 | 47,8 | 159,7 | BRD-256 | 31,74 | 13,87 | 503,57 | 219,59 |
| 109,0 | 47,8 | 261,1 | BRD-2510 | 31,74 | 13,87 | 825,90 | 360,51 |

Dimensions & options BRD, BAD-series



Cylinder attachments in mm [± 0.1]

| Cylinder capacity | | D2 | Model number | B | C | E | F | H | V | kg |
|--------------------------------------------|------------|-----------|----------------|-----------|-------|------|-------|------|------|-----|
| at 350 bar | at 700 bar | | | | | | | | | |
| ▼ 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 | - | - | 14,0 | 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 | 26,9 | 25,0 | 1,3 |
| 109,0 | 218,0 | M42 x 1,5 | BAD-153 | M70 x 2 | 77,8 | 38,2 | 25,4 | 30,2 | 32,0 | 2,1 |



Product dimensions in mm [± 0.1]

| Model number | A | B | C | D | D1 | E | E1 | H | K | N | T | W | Z | Z1 | kg |
|-----------------|-------|-------|-------|------|-----------|------|------|------|-----------|------|------|------|-----------|------|------|
| BRD-41 | 213,7 | 185,5 | 162,3 | 50,8 | M42 x 1,5 | 19,0 | 17,5 | 47,0 | M16 x 1,5 | 29,0 | 19,3 | 11,0 | M30 x 1,5 | 12,0 | 2,2 |
| BRD-43 | 315,3 | 236,4 | 213,0 | 50,8 | M42 x 1,5 | 19,0 | 17,5 | 47,0 | M16 x 1,5 | 29,0 | 19,3 | 11,0 | M30 x 1,5 | 12,0 | 2,9 |
| BRD-46 | 467,7 | 312,5 | 289,3 | 50,8 | M42 x 1,5 | 19,0 | 17,5 | 47,0 | M16 x 1,5 | 29,0 | 19,3 | 11,0 | M30 x 1,5 | 12,0 | 4,1 |
| BRD-91 | 253,4 | 221,8 | 198,4 | 63,5 | M56 x 2 | 25,4 | 23,9 | 57,7 | M22 x 1,5 | 38,1 | 19,4 | 14,2 | M42 x 1,5 | 14,8 | 4,1 |
| BRD-93 | 355,0 | 272,7 | 249,2 | 63,5 | M56 x 2 | 25,4 | 23,9 | 57,7 | M22 x 1,5 | 38,1 | 19,4 | 14,2 | M42 x 1,5 | 14,8 | 5,0 |
| BRD-96 | 506,9 | 348,9 | 325,4 | 63,5 | M56 x 2 | 25,4 | 23,9 | 57,7 | M22 x 1,5 | 38,1 | 19,4 | 14,2 | M42 x 1,5 | 14,8 | 6,3 |
| BRD-910 | 710,6 | 450,4 | 427,0 | 63,5 | M56 x 2 | 25,4 | 23,9 | 57,7 | M22 x 1,5 | 38,1 | 19,4 | 14,2 | M42 x 1,5 | 14,8 | 8,6 |
| BRD-166 | 547,2 | 390,0 | 358,8 | 76,2 | M70 x 2 | 34,9 | 32,0 | 73,7 | M30 x 1,5 | 53,8 | 25,4 | 22,4 | M56 x 2 | 26,2 | 10,0 |
| BRD-1610 | 750,4 | 491,6 | 358,8 | 76,2 | M70 x 2 | 34,9 | 32,0 | 73,7 | M30 x 1,5 | 53,8 | 25,4 | 22,4 | M56 x 2 | 26,2 | 13,2 |
| BRD-256 | 583,7 | 424,0 | 397,0 | 95,0 | M85 x 2 | 47,6 | 45,0 | 89,0 | M42 x 1,5 | 70,0 | 22,3 | 28,5 | M70 x 2 | 25,2 | 16,3 |
| BRD-2510 | 786,2 | 525,1 | 397,0 | 95,0 | M85 x 2 | 47,6 | 45,0 | 89,0 | M42 x 1,5 | 70,0 | 22,3 | 28,5 | M70 x 2 | 25,2 | 20,9 |

Force: 17,4 - 109 kN

Stroke: 28,2 - 261,1 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.