



# HIGH PRESSURE HYDRAULIC EQUIPMENT

**CATALOGUE**



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## Larzep manufactures and markets high pressure hydraulic equipment

Larzep was founded in 1940 and since then, we have been making constant improvements, in order to offer you a better and wider service.

Located in Northern Spain, an area with a long experience and traditionally associated with engineering, we have modern facilities and machinery for fast and reliable production.

As a leading manufacturer of hydraulic tools, we are trustworthy, safe, reliable, quick, efficient and flexible to adapt to each of our customers needs and requirements. We have a worldwide reputation that is supported by an extensive network of Distributors and Technical Service Centres ensuring we have the support and coverage for our customers worldwide.

### **ENERPAC** **TOOL GROUP**

Larzep is wholly owned by the Enerpac Tool Group (ETG), a diversified industrial company serving customers from operations in more than 30 countries.

The ETG businesses are leaders in a broad array of niche markets including branded hydraulic tools and solutions, specialized products and services for energy markets, and highly engineered position and motion control systems.

The company was founded in 1910 and is headquartered in Menomonee Falls, Wisconsin, USA. ETG trades on the NYSE under the symbol EPAC.



For further information on ETG and its businesses, visit the Company's website at [www.enerpactoolgroup.com](http://www.enerpactoolgroup.com)

# INTRODUCTION



## The most advanced technology

Our products are specifically designed to cover multiple industrial applications, and to solve in a simple and economical way the problems encountered when moving heavy loads. We use the most advanced technology in our Technical Department to make sure customers problems are solved in a timely manner utilizing our special products and tools.

## Quality

For each customer, with the best design and best manufacturing techniques and control, we test each product to guarantee its safety and reliability.

This process is supported by the Registered Firm Certificate ER-0404/1995 of UNE-EN ISO 9001 standard and the application of several European and International standards which we apply for each product range. Our Quality Management System is certified since 1995.



## HYDRAULIC CYLINDERS

**LARZEP** cylinders are manufactured using the highest quality materials. Our ranges of products are able to perform all kinds of industrial applications such as: lifting, pushing, pulling, bending, holding, etc. The Quality System UNE-EN ISO 9001 since 1995 and the standard ANSI-B30.1 / EN1494 guarantees the design, manufacturing, supply and aftersales service.

All of our products are tested individually in order to maximize their quality and the safety.

- ✓ Fully compliant with ANSI-B30.1 / EN1494 \*.
- ✓ All units load tested under 125% of the nominal capacity.
- ✓ Mechanical end of stroke gland avoids over travel at full pressure \*.
- ✓ Cylinder bodies manufactured using solid high strength alloy steel.
- ✓ Hard chrome plated or nickel plated pistons.
- ✓ Wiper seal reduces contamination and allows longer life \*.
- ✓ Wear rings for long service life and high absorption of side-loads \*.
- ✓ Hardened grooved saddles as standard, optional tilting saddles improve side-load resistance.
- ✓ Heavy cylinders include carrying handles or eye bolts.
- ✓ Female coupling AZ3140 with rubber dust cap included in all cylinders.
- ✓ LARZEP designs and manufactures special cylinders and fixing systems.
- ✓ Bottle jacks from 3 to 50 ton.

\* On most models.



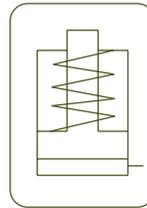
# CYLINDERS

| Models         | Cylinder Type   | Capacity ton (kN)                      | Stroke mm |    | Page      |
|----------------|---|--|-----------|---|-----------|
| <b>SSM</b>     | Single Acting Spring Return Cylinders<br>Attachments for SSM and D cylinders (P.10) | <b>5 - 100</b><br>(49 - 911)           | 25 - 362  |    | <b>6</b>  |
| <b>SAM</b>     | Aluminium Single Acting Cylinders,<br>Spring Return                                 | <b>30 - 140</b><br>(303 - 1.380)       | 50 - 300  |    | <b>12</b> |
| <b>SSH</b>     | Single Acting Hollow Piston Cylinders,<br>Spring Return                             | <b>12 - 100</b><br>(121 - 1.018)       | 40 - 150  |    | <b>16</b> |
| <b>SAH</b>     | Aluminium Single Acting Cylinders,<br>Hollow Piston, Spring Return                  | <b>22 - 100</b><br>(217 - 1.019)       | 50 - 150  |    | <b>18</b> |
| <b>SSP</b>     | Single Acting Low Height Cylinders,<br>Load or Spring Return                        | <b>10 - 100</b><br>(109 - 911)         | 40 - 150  |    | <b>22</b> |
| <b>SSX</b>     | Single Acting Low Profile Cylinders,<br>Load or Spring Return                       | <b>4 - 150</b><br>(44 - 1.450)         | 6 - 16    |    | <b>24</b> |
| <b>STC</b>     | Single Acting Locknut Cylinders, Load Return  | <b>30 - 1.085</b><br>(303 - 10.644)    | 50 - 300  |    | <b>26</b> |
| <b>STX</b>     | Single Acting Pancake Cylinders, Locknut<br>Tilting Saddle, Load Return             | <b>50 - 500</b><br>(496 - 5.114)       | 45 - 50   |  | <b>32</b> |
| <b>SSC</b>     | Single Acting High Tonnage Cylinders,<br>Load Return                                | <b>144 - 1.085</b><br>(1.407 - 10.644) | 50 - 300  |  | <b>34</b> |
| <b>TE - TD</b> | Pull Cylinders, Spring Return or Double Acting                                      | <b>10 - 50</b><br>(109 - 483)          | 150       |  | <b>38</b> |
| <b>D</b>       | Double Acting Cylinders   | <b>10 - 550</b><br>(109 - 5.519)       | 50 - 320  |  | <b>40</b> |
| <b>DDC</b>     | Double Acting High Tonnage Cylinders  | <b>51 - 1.085</b><br>(496 - 10.644)    | 50 - 300  |  | <b>44</b> |
| <b>DDA</b>     | Aluminium Double Acting Cylinders   | <b>50 - 100</b><br>(487 - 911)         | 50 - 300  |  | <b>48</b> |
| <b>DDH</b>     | Double Acting Hollow Piston Cylinders   | <b>30 - 150</b><br>(302 - 1.407)       | 38 - 258  |  | <b>52</b> |
| <b>DAH</b>     | Aluminium Double Acting Cylinders,<br>Hollow Piston                                 | <b>30 - 100</b><br>(302 - 1.018)       | 50 - 250  |  | <b>54</b> |
| <b>DM</b>      | Double Acting Production Cylinders and<br>Mounting Accessories                      | <b>4 - 23</b><br>(34 - 228)            | 28 - 260  |  | <b>56</b> |
| <b>J</b>       | Cylinder-Pump Sets, Single Acting   | <b>5 - 100</b><br>(49 - 1.018)         | 40 - 362  |  | <b>60</b> |
| <b>A</b>       | Bottle Jacks  | <b>3 - 50</b><br>(33 - 483)            | 105 - 150 |  | <b>62</b> |

## SINGLE ACTING SPRING RETURN CYLINDERS



- ✓ Capacity from 5 to 95 ton, stroke up to 362 mm.
- ✓ Industrial general purpose hydraulic cylinders rated for 700 bar.
- ✓ Strong spring for quick retraction, can be used in all positions.
- ✓ Collar threads, piston end threads and base holes, for accessory mounting.
- ✓ Nickel plated piston with wiper seal to extend cylinder life.
- ✓ Heavy cylinders have carrying handles or eye bolts as standard.
- ✓ Body made of solid steel.
- ✓ Stop ring can withstand full capacity of the cylinder.
- ✓ Golden ring to improve resistance against side loads.
- ✓ In case of operation under side loads, Larzep can supply tilting saddles



**S/A SPRING RETURN CYLINDERS**



|               |             |
|---------------|-------------|
| Type          | <b>SSM</b>  |
| Capacity      | 5 - 95 ton  |
| Stroke        | 25 - 362 mm |
| Max. pressure | 700 bar     |

SSM CYLINDERS



In case of operation under side loads, Larzep can supply tilting saddles.

**CATS**  
Optional Tilting Saddles



P.90

**SSM & D**  
Special attachments for SSM and D models



P.10

**AZ3**  
Coupler 3/8" - 18 NPT included



P.86

**SAM**  
Lightweight Aluminium Cylinders



P.12

**D**  
Double Acting Cylinders



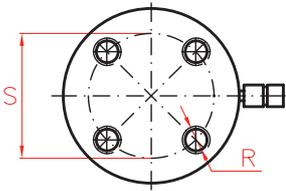
P.40

**J**  
Cylinder and pump sets

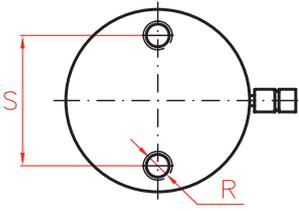


P.60

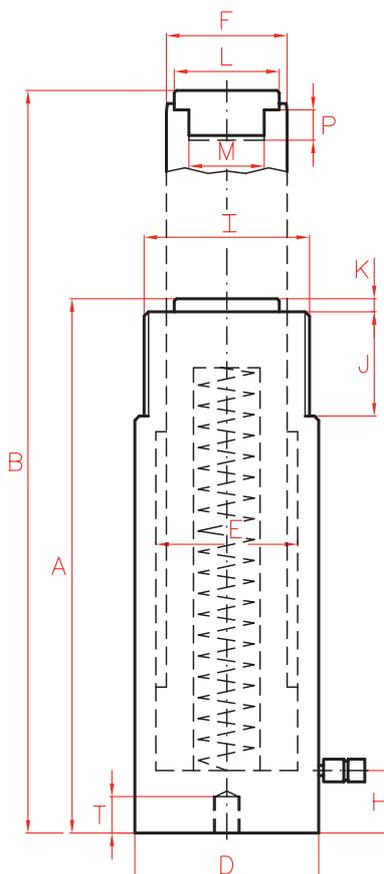
**Models from 75 to 95 ton**



**Models from 5 to 50 ton**



| Capacity |     | Stroke | Model    | Oil Cap.        | A   | B   | D   | E     | F     | H  | I       |         |
|----------|-----|--------|----------|-----------------|-----|-----|-----|-------|-------|----|---------|---------|
| ton      | kN  | mm     | LARZEP   | cm <sup>3</sup> | mm  | mm  | mm  | mm    | mm    | mm | mm      | UN      |
| 5        | 45  | 25     | SSM00502 | 16              | 110 | 135 | 38  | 28,6  | 25,4  | 19 | 1 1/2"  | - 16 UN |
|          |     | 79     | SSM00508 | 50              | 165 | 244 | 38  | 28,6  | 25,4  | 19 | 1 1/2"  | - 16 UN |
|          |     | 127    | SSM00513 | 83              | 216 | 343 | 38  | 28,6  | 25,4  | 19 | 1 1/2"  | - 16 UN |
|          |     | 177    | SSM00518 | 115             | 273 | 450 | 38  | 28,6  | 25,4  | 19 | 1 1/2"  | - 16 UN |
|          |     | 232    | SSM00523 | 151             | 324 | 556 | 38  | 28,6  | 25,4  | 19 | 1 1/2"  | - 16 UN |
| 10       | 101 | 26     | SSM01002 | 38              | 90  | 116 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 54     | SSM01005 | 78              | 121 | 175 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 105    | SSM01010 | 152             | 171 | 276 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 156    | SSM01015 | 226             | 248 | 404 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 203    | SSM01020 | 294             | 298 | 501 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 257    | SSM01025 | 373             | 349 | 606 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 304    | SSM01030 | 441             | 400 | 704 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
|          |     | 356    | SSM01035 | 516             | 451 | 807 | 57  | 42,8  | 38,1  | 19 | 2 1/4"  | - 14 UN |
| 15       | 142 | 25     | SSM01502 | 51              | 124 | 149 | 70  | 50,8  | 41,3  | 19 | 2 3/4"  | - 16 UN |
|          |     | 51     | SSM01505 | 104             | 149 | 200 | 70  | 50,8  | 41,3  | 19 | 2 3/4"  | - 16 UN |
|          |     | 101    | SSM01510 | 205             | 200 | 301 | 70  | 50,8  | 41,3  | 19 | 2 3/4"  | - 16 UN |
|          |     | 152    | SSM01515 | 308             | 271 | 423 | 70  | 50,8  | 41,3  | 25 | 2 3/4"  | - 16 UN |
|          |     | 203    | SSM01520 | 411             | 322 | 525 | 70  | 50,8  | 41,3  | 25 | 2 3/4"  | - 16 UN |
|          |     | 254    | SSM01525 | 516             | 373 | 627 | 70  | 50,8  | 41,3  | 25 | 2 3/4"  | - 16 UN |
|          |     | 305    | SSM01530 | 619             | 424 | 729 | 70  | 50,8  | 41,3  | 25 | 2 3/4"  | - 16 UN |
|          |     | 356    | SSM01535 | 723             | 475 | 831 | 70  | 50,8  | 41,3  | 25 | 2 3/4"  | - 16 UN |
| 23       | 232 | 26     | SSM02302 | 86              | 140 | 166 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 50     | SSM02305 | 166             | 165 | 215 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 102    | SSM02310 | 339             | 216 | 318 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 158    | SSM02315 | 525             | 273 | 431 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 210    | SSM02321 | 697             | 324 | 534 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 261    | SSM02326 | 867             | 375 | 636 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 311    | SSM02331 | 1033            | 425 | 736 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
|          |     | 362    | SSM02336 | 1202            | 476 | 838 | 86  | 65,1  | 57,2  | 25 | 3 5/16" | - 12 UN |
| 30       | 295 | 209    | SSM03021 | 880             | 387 | 596 | 102 | 73,0  | 57,2  | 29 | 3 5/16" | - 12 UN |
| 50       | 498 | 51     | SSM05006 | 362             | 176 | 227 | 127 | 95,2  | 79,4  | 33 | 5"      | - 12 UN |
|          |     | 101    | SSM05010 | 719             | 227 | 328 | 127 | 95,2  | 79,4  | 33 | 5"      | - 12 UN |
|          |     | 159    | SSM05016 | 1131            | 283 | 442 | 127 | 95,2  | 79,4  | 35 | 5"      | - 12 UN |
|          |     | 260    | SSM05025 | 1855            | 384 | 644 | 127 | 95,2  | 79,4  | 35 | 5"      | - 12 UN |
|          |     | 337    | SSM05034 | 2399            | 460 | 797 | 127 | 95,2  | 79,4  | 35 | 5"      | - 12 UN |
| 75       | 718 | 156    | SSM07516 | 1601            | 286 | 442 | 146 | 114,3 | 95,3  | 30 | 5 3/4"  | - 12 UN |
|          |     | 333    | SSM07533 | 3417            | 492 | 825 | 146 | 114,3 | 95,3  | 30 | 5 3/4"  | - 12 UN |
| 95       | 933 | 51     | SSM10006 | 676             | 219 | 270 | 178 | 130,2 | 104,8 | 41 | 6 7/8"  | - 12 UN |
|          |     | 168    | SSM10015 | 2239            | 357 | 525 | 178 | 130,2 | 104,8 | 41 | 6 7/8"  | - 12 UN |
|          |     | 260    | SSM10026 | 3466            | 449 | 709 | 178 | 130,2 | 104,8 | 41 | 6 7/8"  | - 12 UN |



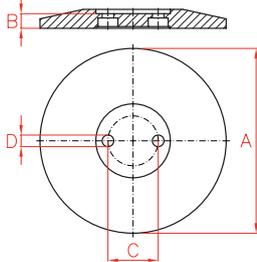
\*SSM01002 plunger top has 2 holes  
\*10-24UNC separated 19mm and does not include removable saddle



|  | J  | K  | L  | M           | P  | R             | S   | T  | Area            | Weight | Model    | With tilting saddle |         |
|--|----|----|----|-------------|----|---------------|-----|----|-----------------|--------|----------|---------------------|---------|
|  | mm | mm | mm | UN          | mm | UN            | mm  | mm | cm <sup>2</sup> | kg     | LARZEP   | A                   | Model   |
|  | 28 | 6  | 25 | 3/4" - 16   | 14 | 1/4" - 20     | 25  | 14 | 6,4             | 1,0    | SSM00502 | -                   | -       |
|  | 28 | 6  | 25 | 3/4" - 16   | 14 | 1/4" - 20     | 25  | 14 | 6,4             | 1,5    | SSM00508 | -                   | -       |
|  | 28 | 6  | 25 | 3/4" - 16   | 14 | 1/4" - 20     | 25  | 14 | 6,4             | 1,9    | SSM00513 | -                   | -       |
|  | 28 | 6  | 25 | 3/4" - 16   | 16 | 1/4" - 20     | 25  | 14 | 6,4             | 2,4    | SSM00518 | -                   | -       |
|  | 28 | 6  | 25 | 3/4" - 16   | 16 | 1/4" - 20     | 25  | 14 | 6,4             | 2,8    | SSM00523 | -                   | -       |
|  | 27 | -  | -  | #10 - 24    | 6  | 5/16" - 18    | 40  | 12 | 14,4            | 1,8    | SSM01002 | -                   | -       |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 2,3    | SSM01005 | 136                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 3,3    | SSM01010 | 186                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 4,4    | SSM01015 | 263                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 5,4    | SSM01020 | 313                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 6,4    | SSM01025 | 364                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 6,8    | SSM01030 | 415                 | CATS12  |
|  | 27 | 6  | 35 | 1" - 8      | 19 | 5/16" - 18    | 40  | 12 | 14,4            | 8,2    | SSM01035 | 466                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 3,3    | SSM01502 | 135                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 4,1    | SSM01505 | 160                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 5,0    | SSM01510 | 211                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 6,8    | SSM01516 | 282                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 8,2    | SSM01520 | 333                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 9,5    | SSM01525 | 384                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 10,9   | SSM01530 | 435                 | CATS12  |
|  | 30 | 9  | 38 | 1" - 8      | 25 | 3/8" - 16     | 48  | 12 | 20,3            | 11,8   | SSM01535 | 486                 | CATS12  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 5,9    | SSM02302 | 155                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 6,4    | SSM02305 | 180                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 8,2    | SSM02310 | 231                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 10,0   | SSM02315 | 288                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 12,2   | SSM02321 | 339                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 14,1   | SSM02326 | 390                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 16,3   | SSM02331 | 440                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 19 | 33,3            | 17,7   | SSM02336 | 491                 | CATS52  |
|  | 49 | 10 | 51 | 1 1/2" - 16 | 25 | 1/2" - 13     | 59  | 16 | 42,9            | 18,1   | SSM03021 | 402                 | CATS52  |
|  | 55 | 2  | 71 | —           | —  | 1/2" - 13     | 95  | 19 | 71,3            | 15,0   | SSM05006 | 191                 | CATS100 |
|  | 55 | 2  | 71 | —           | —  | 1/2" - 13     | 95  | 19 | 71,3            | 19,1   | SSM05010 | 242                 | CATS100 |
|  | 55 | 2  | 71 | —           | —  | 1/2" - 13     | 95  | 19 | 71,3            | 23,1   | SSM05016 | 298                 | CATS100 |
|  | 55 | 2  | 71 | —           | —  | 1/2" - 13     | 95  | 19 | 71,3            | 31,8   | SSM05025 | 399                 | CATS100 |
|  | 55 | 2  | 71 | —           | —  | 1/2" - 13     | 95  | 19 | 71,3            | 37,6   | SSM05034 | 475                 | CATS100 |
|  | 44 | 2  | 71 | —           | —  | 5/8" - 13     | 114 | 16 | 102,6           | 29,5   | SSM07516 | 302                 | CATS100 |
|  | 44 | 2  | 71 | —           | —  | 5/8" - 13     | 114 | 16 | 102,6           | 59,0   | SSM07533 | 508                 | CATS100 |
|  | 44 | 2  | 71 | —           | —  | 3/4" - 10 UNC | 140 | 25 | 133,1           | 36,7   | SSM10006 | 235                 | CATS100 |
|  | 44 | 2  | 71 | —           | —  | 3/4" - 10 UNC | 140 | 25 | 133,1           | 59,0   | SSM10015 | 373                 | CATS100 |
|  | 44 | 2  | 71 | —           | —  | 3/4" - 10 UNC | 140 | 25 | 133,1           | 72,6   | SSM10026 | 465                 | CATS100 |

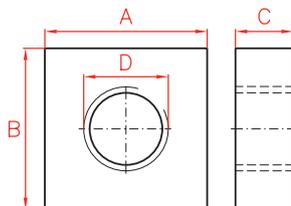
## ATTACHMENTS FOR SSM AND D MODELS

### Base Plate



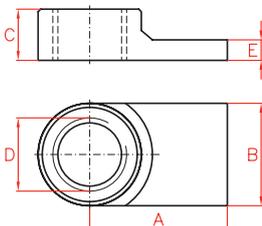
| Capacity (ton) |    | Model  | A   | B  | C  | D    | Weight |
|----------------|----|--------|-----|----|----|------|--------|
| SSM            | D  | LARZEP | mm  | mm | mm | mm   | kg     |
| 10             | 10 | SM010P | 180 | 15 | 39 | 8,5  | 2,7    |
| 15             | -  | SM015P | 180 | 15 | 47 | 10,0 | 2,7    |
| 23             | 20 | SM023P | 215 | 17 | 58 | 13,5 | 4,9    |
| 30             | 30 | SM030P | 215 | 17 | 66 | 13,5 | 4,9    |

### Mounting Block



| Capacity (ton) |    | Model  | A   | B   | C  | D            |
|----------------|----|--------|-----|-----|----|--------------|
| SSM            | D  | LARZEP | mm  | mm  | mm | UN           |
| 5              | -  | RB5    | 88  | 76  | 25 | 1 1/2"-16 UN |
| 10             | 10 | RB10   | 114 | 88  | 25 | 2 1/4"-14 UN |
| 15             | -  | RB15   | 114 | 101 | 38 | 2 3/4"-16 UN |
| 23             | -  | RB25   | 165 | 127 | 50 | 3 5/16"-12UN |

### Collar Toe



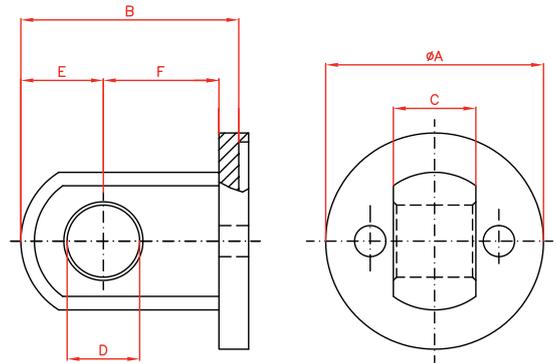
### WARNING

When using this accessory do not exceed 350 bar.

| Capacity (ton) |    | Model  | A   | B  | C  | D            | E  |
|----------------|----|--------|-----|----|----|--------------|----|
| SSM            | D  | LARZEP | mm  | mm | mm | UN           | mm |
| 5              | -  | A1034  | 59  | 32 | 50 | 1 1/2"-16UN  | 11 |
| 10             | 10 | A20    | 79  | 57 | 57 | 2 1/4"-14UN  | 14 |
| 23             | -  | A595   | 103 | 80 | 51 | 3 5/16"-12UN | 40 |

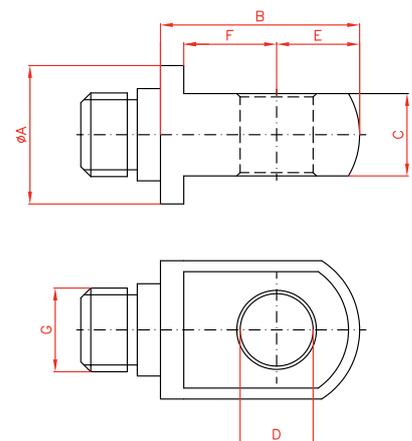


Clevis Eye Body



| Capacity (ton) |    | Model  | A  | B  | C  | D  | E  | F  |
|----------------|----|--------|----|----|----|----|----|----|
| SSM            | D  | LARZEP | mm | mm | mm | mm | mm | mm |
| 5              | -  | REB5   | 44 | 47 | 14 | 16 | 16 | 25 |
| 10             | -  | REB10  | 63 | 66 | 25 | 22 | 25 | 35 |
| 15             | -  | REB15  | 76 | 66 | 25 | 22 | 25 | 35 |
| 23             | 20 | REB25  | 95 | 79 | 38 | 31 | 31 | 41 |

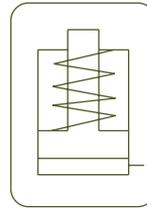
Clevis Eye Piston



| Capacity (ton) |       | Model  | A  | B  | C  | D  | E  | F  | G           |
|----------------|-------|--------|----|----|----|----|----|----|-------------|
| SSM            | D     | LARZEP | mm | UN | mm | mm | mm | mm | UN          |
| 5              | -     | REP5   | 28 | 45 | 14 | 16 | 16 | 19 | 3/4"-16 UN  |
| 10-15          | 10-20 | REP10  | 42 | 61 | 25 | 22 | 25 | 28 | 1"-8UN      |
| 23             | 30    | REP25  | 57 | 71 | 38 | 31 | 31 | 35 | 1 1/2"-16UN |

**ALUMINIUM SINGLE ACTING CYLINDERS, SPRING RETURN**

- ✓ Lightweight, general purpose cylinders from 30 to 140 ton, stroke up to 300 mm.
- ✓ Made from high strength aluminium alloy.
- ✓ Solid piston, spring return.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ 40% weight reduction when compared with steel equivalent.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ Not suitable for high-cycle applications.



The body, stop ring and piston of the cylinder are hard anodized to strengthen the working area and extend its working life.

The lighter weight of aluminium makes them especially suitable for use in sites of difficult access.

It is highly recommended to place the cylinder on a flat area to avoid any damage to the base.

**S/A ALUMINIUM CYLINDERS**



|               |                     |
|---------------|---------------------|
| Type          | <b>SAM</b>          |
| Capacity      | <b>30 - 140 ton</b> |
| Stroke        | <b>50 - 300 mm</b>  |
| Max. pressure | <b>700 bar</b>      |

SAM CYLINDERS

**SAH**  
Lightweight Aluminium  
Hollow Piston Cylinders



P.18

**DDA**  
Double Acting Aluminium Cylinders

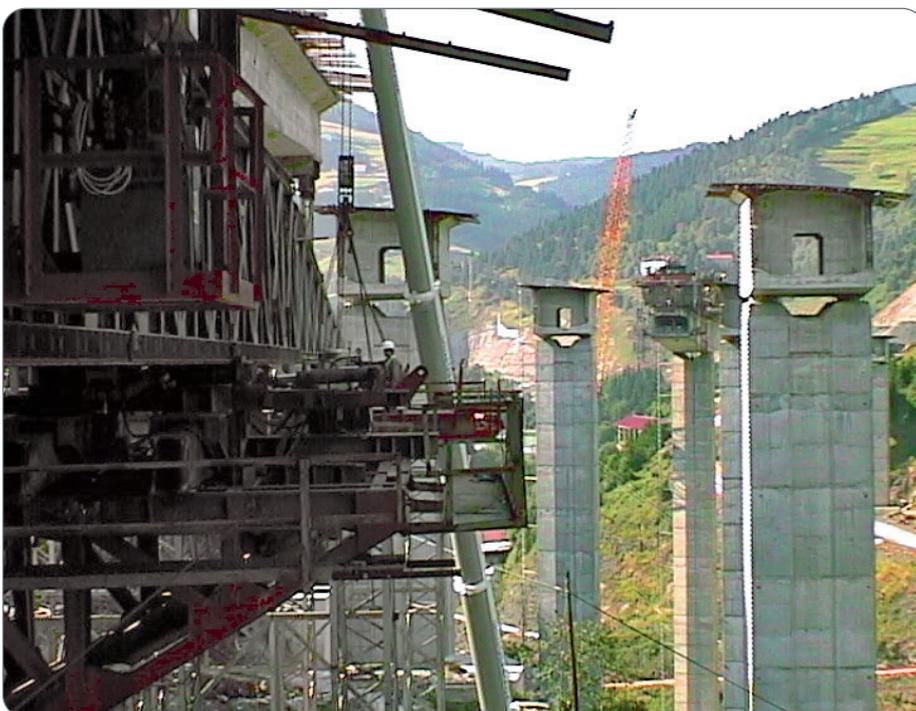


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**WA**  
Aluminium Hand Pumps



P.68



**HBM / HBE**  
Powerpacks



P.72

**Z12107**  
Air Hydraulic Pumps

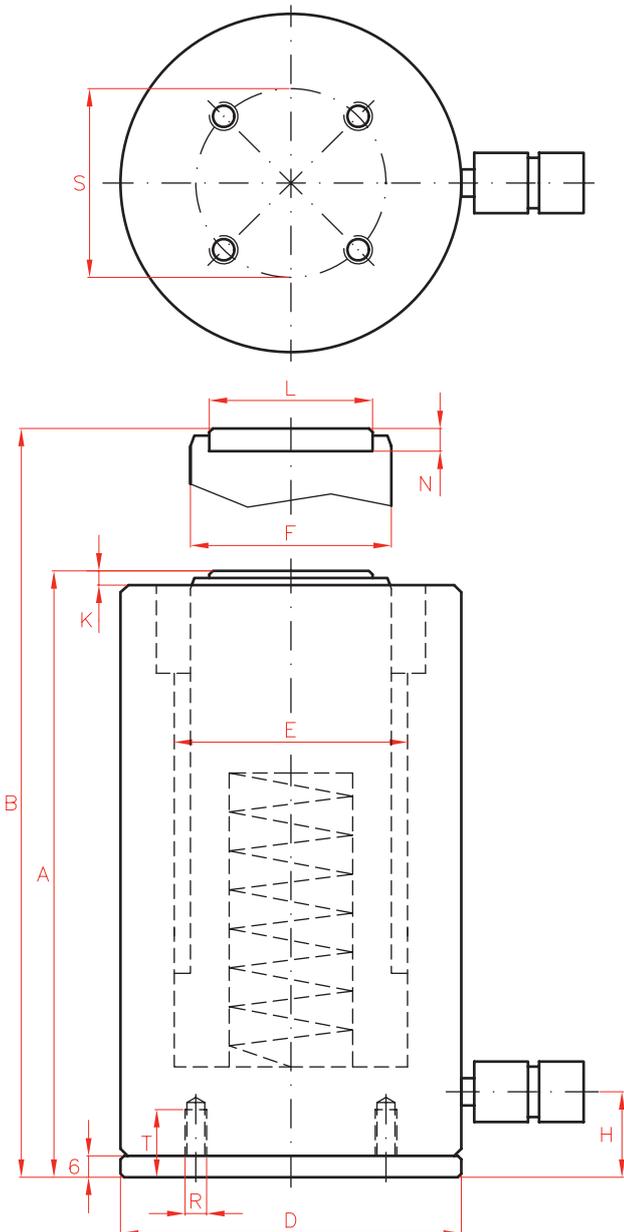


P.70

**W**  
Single Acting Hand Pumps



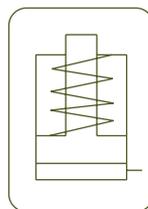
P.66



| Capacity |       | Stroke | Model    | Oil Cap.        | A   |
|----------|-------|--------|----------|-----------------|-----|
| ton      | kN    | mm     | LARZEP   | cm <sup>3</sup> | mm  |
| 30       | 303   | 50     | SAM03005 | 221             | 172 |
|          |       | 100    | SAM03010 | 442             | 222 |
|          |       | 150    | SAM03015 | 663             | 272 |
|          |       | 200    | SAM03020 | 883             | 322 |
|          |       | 250    | SAM03025 | 1.104           | 372 |
|          |       | 300    | SAM03030 | 1.325           | 422 |
| 50       | 487   | 50     | SAM05005 | 354             | 180 |
|          |       | 100    | SAM05010 | 709             | 230 |
|          |       | 150    | SAM05015 | 1.063           | 280 |
|          |       | 200    | SAM05020 | 1.417           | 330 |
|          |       | 250    | SAM05025 | 1.772           | 380 |
|          |       | 300    | SAM05030 | 2.126           | 430 |
| 100      | 911   | 50     | SAM10005 | 663             | 210 |
|          |       | 100    | SAM10010 | 1.326           | 260 |
|          |       | 150    | SAM10015 | 1.989           | 310 |
|          |       | 200    | SAM10020 | 2.652           | 360 |
|          |       | 250    | SAM10025 | 3.315           | 410 |
|          |       | 300    | SAM10030 | 3.982           | 460 |
| 140      | 1.380 | 50     | SAM14005 | 1.005           | 225 |
|          |       | 100    | SAM14010 | 2.010           | 275 |
|          |       | 150    | SAM14015 | 3.016           | 325 |
|          |       | 200    | SAM14020 | 4.021           | 375 |
|          |       | 250    | SAM14025 | 5.026           | 425 |



S/A ALUMINIUM CYLINDERS



Type **SAM**

Capacity **30 - 140 ton**

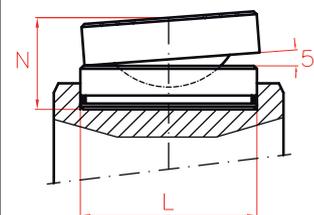
Stroke **50 - 300 mm**

Max. pressure **700 bar**

SAM CYLINDERS

OPTIONAL TILTING SADDLES

| Model         | L  | N  | Weight |
|---------------|----|----|--------|
| LARZEP        | mm | mm | kg     |
| <b>AZ0401</b> | 45 | 36 | 0,4    |
| <b>AZ0402</b> | 61 | 39 | 0,8    |
| <b>AZ0404</b> | 88 | 47 | 2,2    |



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|  | B   | D   | E   | F   | H  | K  | L  | N  | R  | S   | T  | Area            | Weight | Model           | With tilting saddle |        |
|--|-----|-----|-----|-----|----|----|----|----|----|-----|----|-----------------|--------|-----------------|---------------------|--------|
|  | mm  | mm  | mm  | mm  | mm | mm | mm | mm |    | mm  | mm | cm <sup>2</sup> | kg     | LARZEP          | A                   | Model  |
|  | 222 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 4,8    | <b>SAM03005</b> | 197                 | AZ0401 |
|  | 322 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 5,4    | <b>SAM03010</b> | 247                 | AZ0401 |
|  | 422 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 6,4    | <b>SAM03015</b> | 297                 | AZ0401 |
|  | 522 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 7,4    | <b>SAM03020</b> | 347                 | AZ0401 |
|  | 622 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 8,4    | <b>SAM03025</b> | 397                 | AZ0401 |
|  | 722 | 105 | 75  | 60  | 24 | 6  | 45 | 11 | M6 | 85  | 19 | 44              | 9,3    | <b>SAM03030</b> | 447                 | AZ0401 |
|  | 230 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 8,0    | <b>SAM05005</b> | 207                 | AZ0402 |
|  | 330 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 9,5    | <b>SAM05010</b> | 257                 | AZ0402 |
|  | 430 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 11,0   | <b>SAM05015</b> | 307                 | AZ0402 |
|  | 530 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 11,5   | <b>SAM05020</b> | 357                 | AZ0402 |
|  | 630 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 13,0   | <b>SAM05025</b> | 407                 | AZ0402 |
|  | 730 | 135 | 95  | 80  | 26 | 7  | 61 | 12 | M6 | 115 | 19 | 71              | 14,5   | <b>SAM05030</b> | 457                 | AZ0402 |
|  | 260 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 16,0   | <b>SAM10005</b> | 243                 | AZ0404 |
|  | 360 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 19,0   | <b>SAM10010</b> | 293                 | AZ0404 |
|  | 460 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 22,0   | <b>SAM10015</b> | 343                 | AZ0404 |
|  | 560 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 25,0   | <b>SAM10020</b> | 393                 | AZ0404 |
|  | 660 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 28,0   | <b>SAM10025</b> | 443                 | AZ0404 |
|  | 760 | 180 | 130 | 110 | 32 | 5  | 88 | 14 | M6 | 160 | 19 | 133             | 31,0   | <b>SAM10030</b> | 493                 | AZ0404 |
|  | 275 | 225 | 160 | 140 | 43 | 6  | 88 | 14 | M6 | 200 | 19 | 201             | 24,0   | <b>SAM14005</b> | 258                 | AZ0404 |
|  | 375 | 225 | 160 | 140 | 43 | 6  | 88 | 14 | M6 | 200 | 19 | 201             | 29,0   | <b>SAM14010</b> | 308                 | AZ0404 |
|  | 475 | 225 | 160 | 140 | 43 | 6  | 88 | 14 | M6 | 200 | 19 | 201             | 34,0   | <b>SAM14015</b> | 358                 | AZ0404 |
|  | 575 | 225 | 160 | 140 | 43 | 6  | 88 | 14 | M6 | 200 | 19 | 201             | 39,0   | <b>SAM14020</b> | 408                 | AZ0404 |
|  | 675 | 225 | 160 | 140 | 43 | 6  | 88 | 14 | M6 | 200 | 19 | 201             | 44,0   | <b>SAM14025</b> | 458                 | AZ0404 |

**SINGLE ACTING HOLLOW PISTON CYLINDERS, SPRING RETURN**



- ✓ Capacity from 12 to 95 ton, stroke up to 150 mm.
- ✓ Spring return, hollow piston hydraulic cylinders rated for 700 bar.
- ✓ For push and pull applications: Tensioning cables and bolts, pulling sleeves and bearings.
- ✓ Hollow nickel plated piston.
- ✓ Collar threads, piston end thread and base holes for easy fixing.
- ✓ Compatible with our complete puller range.
- ✓ Hollow plain saddle as standard on most models.
- ✓ Optional solid or threaded saddles available.
- ✓ Hollow cylinders also available in double acting DDH and aluminium single and double acting SAH and DAH.

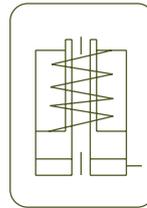
**AZ04 & AZ05**  
Optional Saddles available  
Tilting or hollow



P.90

| Capacity |     | Stroke<br>mm | Model<br>LARZEP | Oil Cap.<br>cm <sup>3</sup> | A<br>mm | B<br>mm | C<br>mm |  |
|----------|-----|--------------|-----------------|-----------------------------|---------|---------|---------|--|
| ton      | kN  |              |                 |                             |         |         |         |  |
| 12       | 125 | 42           | SSH01204        | 75                          | 120     | 162     | 19,5    |  |
|          |     | 42           | SSH01204P       | 75                          | 82      | 104     | 19,5    |  |
|          |     | 42           | SSH01204T       | 75                          | 120     | 162     | 19,5    |  |
|          |     | 76           | SSH01208        | 136                         | 184     | 260     | 19,5    |  |
| 20       | 215 | 49           | SSH02205        | 150                         | 162     | 211     | 26,9    |  |
|          |     | 155          | SSH02215        | 476                         | 306     | 461     | 26,9    |  |
| 30       | 326 | 64           | SSH03006        | 298                         | 178     | 242     | 33,3    |  |
|          |     | 155          | SSH03015        | 722                         | 330     | 485     | 33,3    |  |
| 60       | 576 | 76           | SSH06008        | 626                         | 247     | 323     | 53,8    |  |
|          |     | 153          | SSH06015        | 1.259                       | 323     | 476     | 53,8    |  |
| 95       | 931 | 76           | SSH10008        | 1011                        | 254     | 330     | 79,0    |  |





**HOLLOW PISTON CYLINDERS**



|               |             |
|---------------|-------------|
| Type          | <b>SSH</b>  |
| Capacity      | 12 - 95 ton |
| Stroke        | 42 - 155 mm |
| Max. pressure | 700 bar     |

SSH CYLINDERS

**SAH**  
Lightweight Aluminium  
Hollow Piston Cylinders

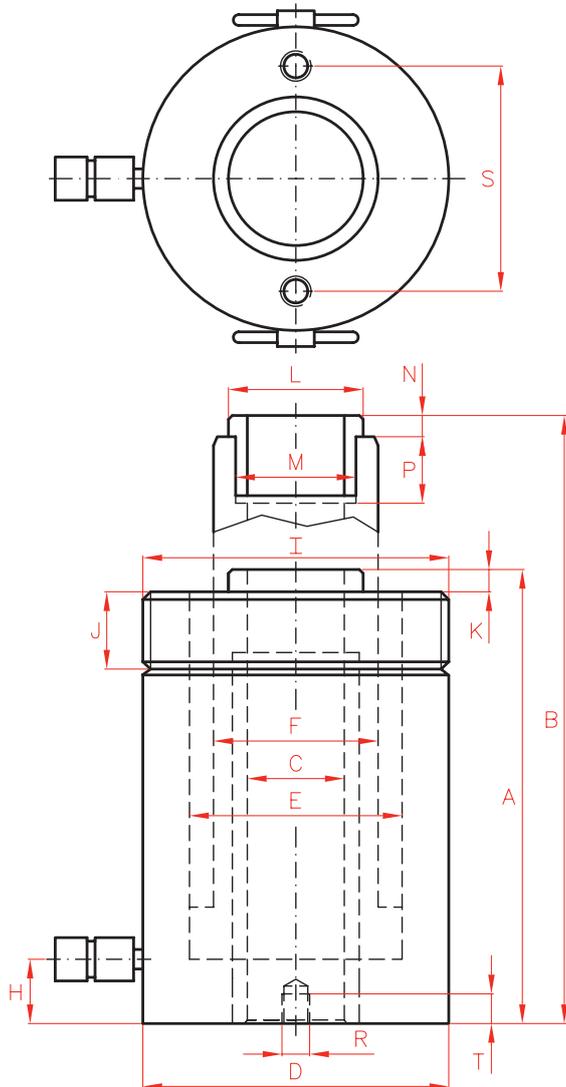


P.18

**DDH**  
Double Acting Hollow Piston Cylinders



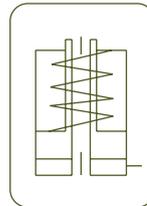
P.52



| D   | E     | F     | H  | I         | J  | K    | L   | M           | P  | R        | S     | T    | Area            | Weight | Model     |
|-----|-------|-------|----|-----------|----|------|-----|-------------|----|----------|-------|------|-----------------|--------|-----------|
| mm  | mm    | mm    | mm | UN        | mm | mm   | mm  | UN          | mm | UN       | mm    | mm   | cm <sup>2</sup> | kg     | LARZEP    |
| 70  | 54,1  | 35,1  | 25 | 2¾"- 16   | 30 | -    | -   | -           | -  | -        | -     | -    | 18              | 2,8    | SSH01204  |
| 70  | 54,1  | 35,1  | 14 | 2¾"- 16   | 30 | -    | -   | ¾"- 16      | 16 | 5/16"-18 | 50,8  | 6,3  | 18              | 2,8    | SSH01204P |
| 70  | 54,1  | 35,1  | 25 | 2¾"- 16   | 30 | -    | -   | ¾"- 16      | 16 | -        | -     | -    | 18              | 2,8    | SSH01204T |
| 70  | 54,1  | 35,1  | 25 | 2¾"- 16   | 30 | -    | -   | -           | -  | 5/16"-18 | 50,8  | 12,7 | 32              | 4,4    | SSH01208  |
| 98  | 73,1  | 54,1  | 19 | 37/8"- 12 | 38 | 9,7  | 54  | 19/16"- 16  | 19 | 3/8"-16  | 82,6  | 9,4  | 32              | 7,7    | SSH02205  |
| 98  | 73,1  | 54,1  | 25 | 37/8"- 12 | 38 | 9,7  | 54  | 19/16"- 16  | 19 | 3/8"-16  | 82,6  | 9,4  | 44              | 14,1   | SSH02215  |
| 114 | 88,9  | 63,5  | 21 | 4½"- 12   | 42 | 9,0  | 63  | 113/16"- 16 | 22 | 3/8"-16  | 92,2  | 14,0 | 44              | 10,9   | SSH03006  |
| 114 | 88,9  | 63,5  | 25 | 4½"- 12   | 42 | 9,0  | 63  | 113/16"- 16 | 22 | 3/8"-16  | 92,2  | 14,0 | 84              | 21,8   | SSH03015  |
| 159 | 123,9 | 91,9  | 31 | 6¼"- 12   | 48 | 12,0 | 91  | 2¾"- 16     | 19 | ½"-13    | 130,3 | 14,0 | 84              | 28,1   | SSH06008  |
| 159 | 123,9 | 91,9  | 31 | 6¼"- 12   | 48 | 12,0 | 91  | 2¾"- 16     | 19 | ½"-13    | 130,3 | 14,0 | 148             | 35,4   | SSH06015  |
| 212 | 165,1 | 127,0 | 38 | 83/8"- 12 | 60 | 12,0 | 126 | 4"- 16      | 25 | 5/8"-11  | 177,8 | 19,0 |                 | 63,0   | SSH10008  |

**ALUMINIUM SINGLE ACTING CYLINDERS, HOLLOW PISTON, SPRING RETURN**

- ✓ Lightweight hollow cylinders with capacities from 22 to 100 ton and up to 150 mm stroke.
- ✓ Made from high strength aluminium alloy.
- ✓ Hollow piston, spring return.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ 40% weight reduction when compared with steel equivalent.
- ✓ Hollow plain saddle as standard.
- ✓ Not suitable for high-cycle applications.



**HOLLOW PISTON ALUM. CYLINDERS**



Type **SAH**

Capacity **22 - 100 ton**

Stroke **50 - 150 mm**

Max. pressure **700 bar**

SAH CYLINDERS



**AZ04 & AZ05**

Optional Saddles available  
Plain, threaded or solid



P.90

**W**

Single Acting Hand Pumps



P.66

**DAH**

Aluminium Double Acting  
Hollow Piston Cylinders



P.54

**WA**

Aluminium Hand Pumps



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**HBM / HBE**  
Powerpacks



P.72

**Z12107**  
Air Hydraulic Pumps

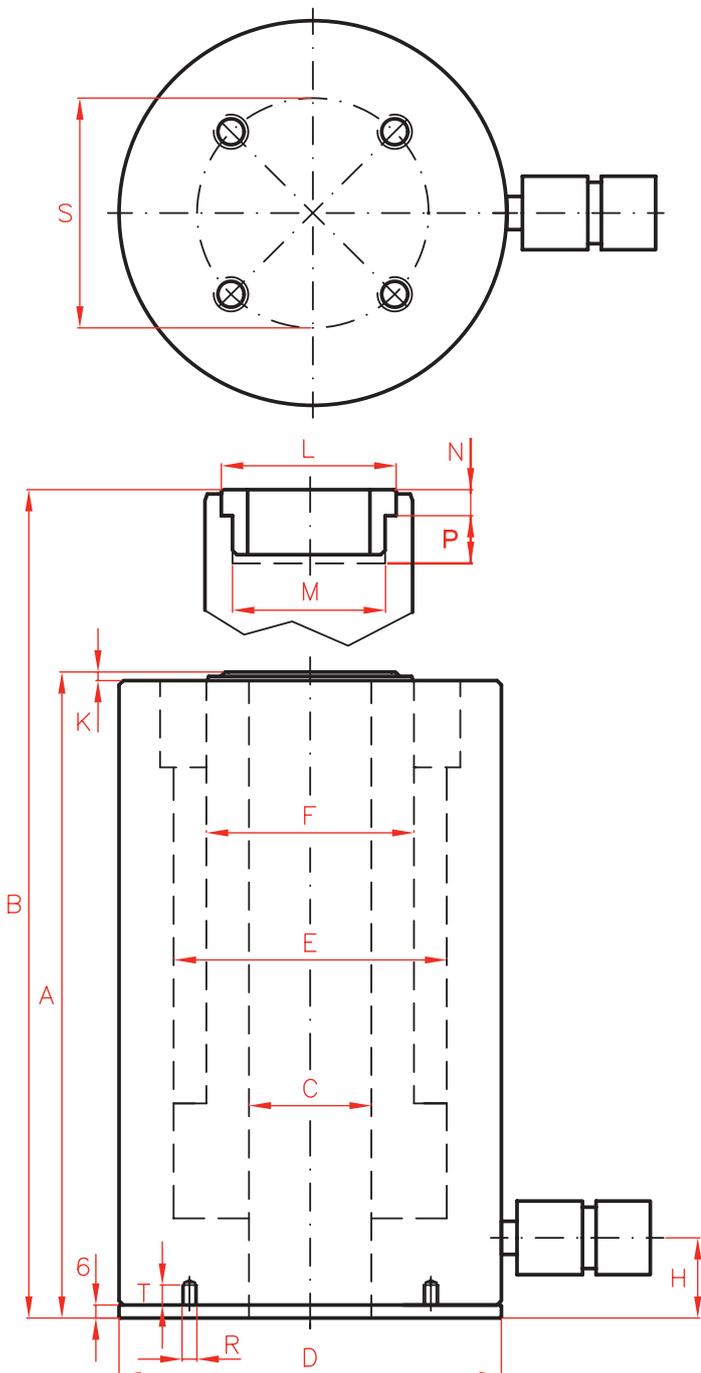


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**W**  
Single Acting Hand Pumps



P.66



| Capacity |       | Stroke | Model    | Oil Cap.        | A   |
|----------|-------|--------|----------|-----------------|-----|
| ton      | kN    | mm     | LARZEP   | cm <sup>3</sup> | mm  |
| 22       | 217   | 50     | SAH02205 | 158             | 183 |
|          |       | 100    | SAH02210 | 316             | 253 |
|          |       | 150    | SAH02215 | 474             | 323 |
| 30       | 302   | 50     | SAH03005 | 220             | 210 |
|          |       | 100    | SAH03010 | 440             | 278 |
|          |       | 150    | SAH03015 | 660             | 350 |
| 60       | 578   | 50     | SAH06005 | 421             | 243 |
|          |       | 100    | SAH06010 | 842             | 298 |
|          |       | 150    | SAH06015 | 1.263           | 363 |
| 100      | 1.018 | 50     | SAH10005 | 742             | 260 |
|          |       | 100    | SAH10010 | 1.484           | 327 |
|          |       | 150    | SAH10015 | 2.226           | 397 |

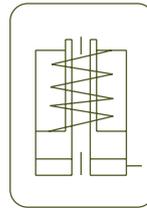


**AZ04 & AZ05**

Optional Saddles available  
Plain, threaded or solid



P.90



**HOLLOW PISTON ALUM. CYLINDERS**



Type

**SAH**

Capacity

**22 - 100 ton**

Stroke

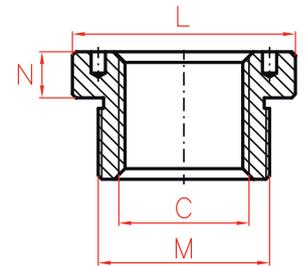
**50 - 250 mm**

Max. pressure

**700 bar**

**OPTIONAL THREADED SADDLES**

| Cylinder Model | Model         | C            | L   | M           | N  |
|----------------|---------------|--------------|-----|-------------|----|
| LARZEP         | LARZEP        | UN           | mm  | UN          | mm |
| SAH022         | <b>AZ0552</b> | 1"-8         | 48  | 1 9/16"-16  | 8  |
| SAH030         | <b>AZ0553</b> | 1 1/4"-7     | 55  | 1 13/16"-16 | 9  |
| SAH060         | <b>AZ0556</b> | 1 5/8"-5 1/2 | 80  | 2 3/4"-16   | 12 |
| SAH100         | <b>AZ0560</b> | 2 1/2"-8     | 116 | 4"-16       | 13 |



P.90

|  | B   | C  | D   | E   | F   | H  | K  | L   | M           | N  | P  | R  | S   | T  | Area            | Weight | Model           |
|--|-----|----|-----|-----|-----|----|----|-----|-------------|----|----|----|-----|----|-----------------|--------|-----------------|
|  | mm  | mm | mm  | mm  | mm  | mm | mm | mm  | UN          | mm | mm |    | mm  | mm | cm <sup>2</sup> | kg     | LARZEP          |
|  | 233 | 27 | 100 | 75  | 56  | 26 | 3  | 48  | 1 9/16"-16  | 8  | 20 | M6 | 85  | 19 | 32              | 4,5    | <b>SAH02205</b> |
|  | 353 | 27 | 100 | 75  | 56  | 26 | 3  | 48  | 1 9/16"-16  | 8  | 20 | M6 | 85  | 19 | 32              | 5,8    | <b>SAH02210</b> |
|  | 473 | 27 | 100 | 75  | 56  | 26 | 3  | 48  | 1 9/16"-16  | 8  | 20 | M6 | 85  | 19 | 32              | 7,0    | <b>SAH02215</b> |
|  | 260 | 34 | 130 | 90  | 68  | 32 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 7,5    | <b>SAH03005</b> |
|  | 378 | 34 | 130 | 90  | 68  | 32 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 10,0   | <b>SAH03010</b> |
|  | 500 | 34 | 130 | 90  | 68  | 32 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 11,5   | <b>SAH03015</b> |
|  | 293 | 56 | 175 | 125 | 95  | 37 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 16,3   | <b>SAH06005</b> |
|  | 398 | 56 | 175 | 125 | 95  | 37 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 19,5   | <b>SAH06010</b> |
|  | 513 | 56 | 175 | 125 | 95  | 37 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 23,4   | <b>SAH06015</b> |
|  | 310 | 81 | 235 | 170 | 130 | 40 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 31,0   | <b>SAH10005</b> |
|  | 427 | 81 | 235 | 170 | 130 | 40 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 38,0   | <b>SAH10010</b> |
|  | 547 | 81 | 235 | 170 | 130 | 40 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 45,0   | <b>SAH10015</b> |

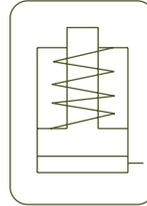
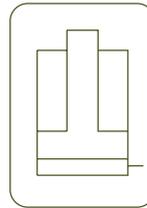
**SINGLE ACTING LOW HEIGHT CYLINDERS, SPRING RETURN**



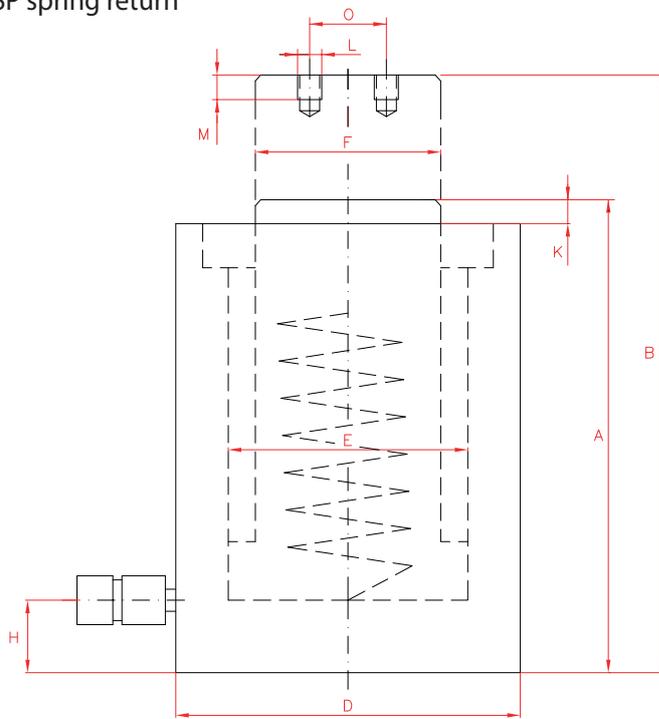
- ✓ Low height hydraulic cylinders with a capacity from 10 to 90 ton, stroke up to 62 mm, rated for 700 bar.
- ✓ Low profile for use in confined spaces: machinery positioning, tool fastening, load tests.
- ✓ Nickel plated piston with wiper seal to extend cylinder life.
- ✓ Optional tilt saddles available.
- ✓ Strong spring for improved retraction time.

| Capacity |     | Stroke | Model    | Oil Cap.        | A   | B   | D   | E     | F    | H  | K  |
|----------|-----|--------|----------|-----------------|-----|-----|-----|-------|------|----|----|
| ton      | kN  | mm     | LARZEP   | cm <sup>3</sup> | mm  | mm  | mm  | mm    | mm   | mm | mm |
| 10       | 101 | 38     | SSP01004 | 55              | 88  | 126 | 69  | 42,9  | 38,1 | 17 | 5  |
| 20       | 201 | 45     | SSP02004 | 129             | 98  | 143 | 92  | 60,5  | 50,8 | 17 | 3  |
| 30       | 295 | 62     | SSP03006 | 261             | 117 | 179 | 101 | 73,2  | 66,5 | 19 | 3  |
| 45       | 435 | 60     | SSP05006 | 373             | 122 | 182 | 124 | 88,9  | 69,8 | 23 | 2  |
| 90       | 887 | 57     | SSP10006 | 722             | 141 | 198 | 165 | 127,0 | 92,2 | 31 | 1  |





SSP spring return



**SINGLE ACTING CYLINDERS**



|               |             |
|---------------|-------------|
| Type          | <b>SSP</b>  |
| Capacity      | 10 - 90 ton |
| Stroke        | 38-62 mm    |
| Max. pressure | 700 bar     |

SSP CYLINDERS

**J**  
Cylinder and pump sets



P.60

**SSX**  
Single Acting Low Profile Cylinders



P.24

**AZ3**  
Coupler inclined 10°



P.86

**CATS**  
Optional Tilting Saddles



P.90

|  | L  | M  | O  | Area            | Weight | Model           | With tilting saddle |         |
|--|----|----|----|-----------------|--------|-----------------|---------------------|---------|
|  | mm | mm | mm | cm <sup>2</sup> | kg     | LARZEP          | A                   | Model   |
|  | M4 | 8  | 26 | 14,5            | 2,7    | <b>SSP01004</b> | 108                 | CATS13  |
|  | M5 | 8  | 40 | 28,7            | 5,0    | <b>SSP02004</b> | 124                 | CATS53  |
|  | M5 | 8  | 40 | 42,1            | 6,8    | <b>SSP03006</b> | 143                 | CATS53  |
|  | M5 | 8  | 40 | 62,1            | 10,0   | <b>SSP05006</b> | 148                 | CATS53  |
|  | M8 | 10 | 55 | 126,7           | 20,7   | <b>SSP10006</b> | 176                 | CATS103 |

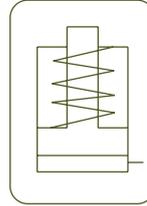
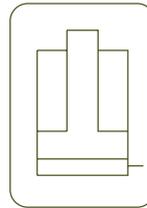
**SINGLE ACTING LOW PROFILE CYLINDERS, SPRING RETURN**

- ✓ Low height hydraulic cylinders with a capacity from 4 to 145 ton, stroke up to 16 mm, rated for 700 bar.
- ✓ For use in confined spaces: machinery positioning, tool fastening.
- ✓ With two parallel faces for horizontal operation.
- ✓ Mounting bolt holes for easy fixing.
- ✓ Nickel plated piston with wiper seal to extend cylinder life.
- ✓ Strong spring to improve retraction time.

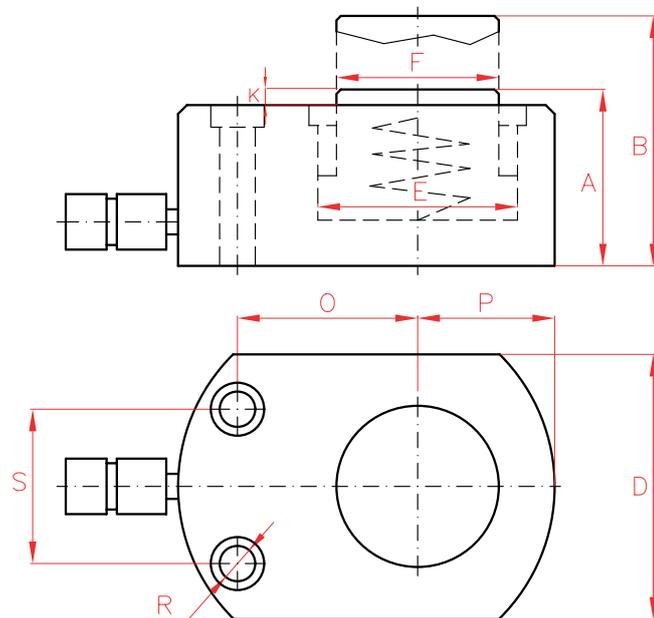
**W**  
Single Acting Hand Pumps

P.66





SSX spring return



**SINGLE ACTING CYLINDERS**



Type **SSX**

Capacity **4 - 145 ton**

Stroke **6 - 16 mm**

Max. pressure **700 bar**

SSX CYLINDERS

**SSP**  
Low Height Single Acting Cylinders



P.22

**STX**  
Single Acting Pancake Locknut Cylinders

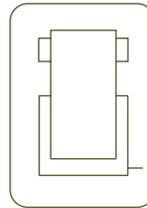


P.32

| Capacity   |              | Stroke | Model           | Oil Cap.        | A   | B   | D         | E     | F     | H  | K  | O  | P  | R    | S     | Area            | Weight |
|------------|--------------|--------|-----------------|-----------------|-----|-----|-----------|-------|-------|----|----|----|----|------|-------|-----------------|--------|
| ton        | kN           | mm     | LARZEP          | cm <sup>3</sup> | mm  | mm  | mm        | mm    | mm    | mm | mm | mm | mm | mm   | mm    | cm <sup>2</sup> | kg     |
| <b>5</b>   | <b>45</b>    | 6      | <b>SSX00406</b> | 4               | 32  | 38  | 58 x 41   | 28,7  | 25,4  | 16 | 1  | 22 | 20 | 5,5  | 28,5  | 6,5             | 1,0    |
|            |              | 16     | <b>SSX00416</b> | 10              | 41  | 57  | 58 x 41   | 28,7  | 25,4  | 19 | 1  | 22 | 20 | 5,5  | 28,5  | 6,5             | 1,0    |
| <b>10</b>  | <b>101</b>   | 11     | <b>SSX01011</b> | 18              | 43  | 54  | 82 x 55   | 42,9  | 38,1  | 19 | 1  | 34 | 27 | 7,1  | 36,6  | 14,5            | 1,4    |
| <b>20</b>  | <b>201</b>   | 11     | <b>SSX02211</b> | 32              | 51  | 62  | 101 x 76  | 60,5  | 50,8  | 19 | 1  | 39 | 39 | 10,0 | 49,3  | 28,7            | 3,1    |
| <b>30</b>  | <b>295</b>   | 13     | <b>SSX03013</b> | 55              | 58  | 71  | 117 x 95  | 73,2  | 63,4  | 19 | 2  | 44 | 47 | 10,0 | 52,3  | 42,1            | 4,5    |
| <b>45</b>  | <b>435</b>   | 16     | <b>SSX05016</b> | 99              | 66  | 82  | 140 x 114 | 88,9  | 69,8  | 19 | 2  | 53 | 57 | 11,0 | 66,5  | 62,1            | 6,8    |
| <b>75</b>  | <b>718</b>   | 16     | <b>SSX07516</b> | 164             | 79  | 95  | 165 x 139 | 114,3 | 82,6  | 19 | 2  | 66 | 69 | 13,5 | 76,2  | 102,6           | 11,3   |
| <b>90</b>  | <b>887</b>   | 16     | <b>SSX10016</b> | 203             | 85  | 101 | 178 x 153 | 127,0 | 92,2  | 19 | 2  | 74 | 76 | 13,5 | 76,2  | 126,7           | 14,5   |
| <b>150</b> | <b>1.386</b> | 16     | <b>SSX15016</b> | 317             | 100 | 116 | 215 x 190 | 158,8 | 114,3 | 23 | 2  | 82 | 95 | 13,5 | 117,3 | 198,1           | 26,3   |

**SINGLE ACTING LOCKNUT CYLINDERS, LOAD RETURN**

- ✓ Capacities from 30 to 1.085 ton, strokes up to 300 mm.
- ✓ The locknut holds the load mechanically for extended periods of time.
- ✓ Locknut tested under 50% overload.
- ✓ Hydraulic end of stroke overflow port. Red band warning.
- ✓ Body, locknut and saddle black nitrided to improve corrosion and wear resistance.
- ✓ Used for foundation supporting, bridge construction and shipbuilding.
- ✓ For confined spaces, use **STX** models.



**S/A LOCKNUT CYLINDERS**



|               |                       |
|---------------|-----------------------|
| Type          | <b>STC</b>            |
| Capacity      | <b>30 - 1.085 ton</b> |
| Stroke        | <b>50 - 300 mm</b>    |
| Max. pressure | <b>700 bar</b>        |

STC CYLINDERS



**CATS**  
Optional Tilting Saddles available



P.90

**STX**  
Single Acting Pancake Locknut Cylinders



P.32



**AZ3**

Coupler 3/8"-18 NPT included



P.86

**AP2**

Hoses



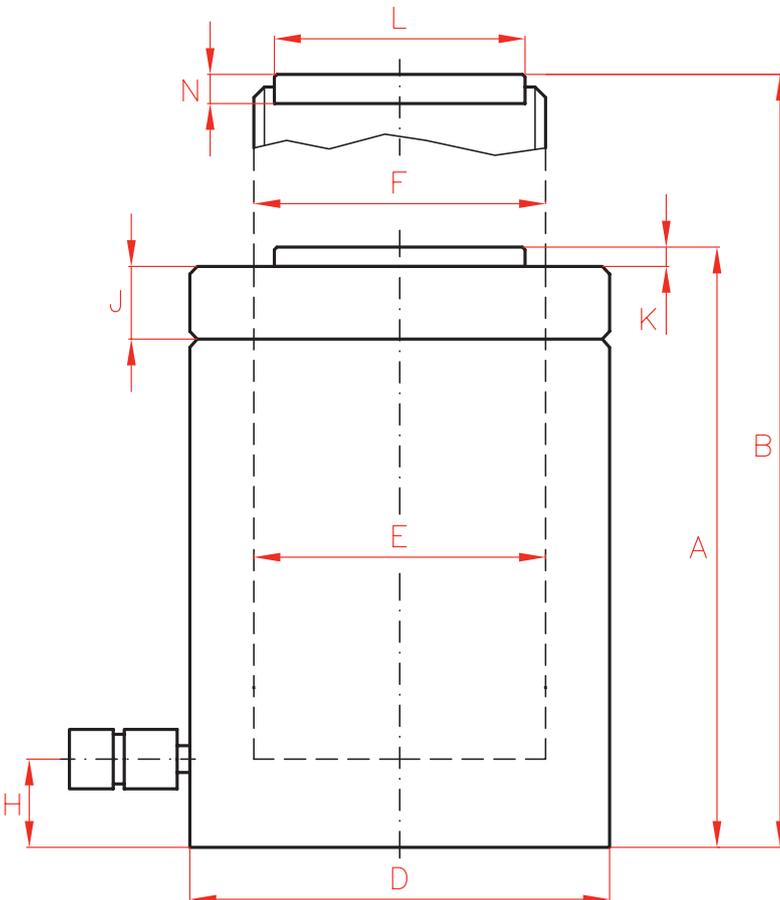
P.84

**AV - AY - AVD**

Pressure Gauges



P.94



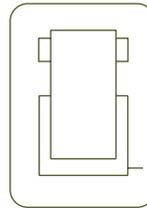
| Capacity |       | Stroke | Model    | Oil Cap.        | A   |
|----------|-------|--------|----------|-----------------|-----|
| ton      | kN    | mm     | LARZEP   | cm <sup>3</sup> | mm  |
| 30       | 303   | 50     | STC03005 | 221             | 141 |
|          |       | 100    | STC03010 | 442             | 191 |
|          |       | 150    | STC03015 | 663             | 246 |
|          |       | 200    | STC03020 | 884             | 296 |
|          |       | 250    | STC03025 | 1.104           | 355 |
|          |       | 300    | STC03030 | 1.325           | 405 |
| 51       | 496   | 50     | STC05005 | 354             | 153 |
|          |       | 100    | STC05010 | 709             | 203 |
|          |       | 150    | STC05015 | 1.063           | 261 |
|          |       | 200    | STC05020 | 1.418           | 311 |
|          |       | 250    | STC05025 | 1.772           | 366 |
|          |       | 300    | STC05030 | 2.126           | 416 |
| 95       | 929   | 50     | STC10005 | 664             | 180 |
|          |       | 100    | STC10010 | 1.327           | 230 |
|          |       | 150    | STC10015 | 1.991           | 285 |
|          |       | 200    | STC10020 | 2.655           | 335 |
|          |       | 250    | STC10025 | 3.318           | 391 |
|          |       | 300    | STC10030 | 3.982           | 441 |
| 144      | 1.470 | 50     | STC14005 | 1.005           | 195 |
|          |       | 100    | STC14010 | 2.011           | 245 |
|          |       | 150    | STC14015 | 3.016           | 309 |
|          |       | 200    | STC14020 | 4.021           | 359 |
|          |       | 250    | STC14025 | 5.027           | 415 |
|          |       | 300    | STC14030 | 6.032           | 465 |



**W**  
Single Acting Hand Pumps



P.66



**S/A LOCKNUT CYLINDERS**



Type **STC**

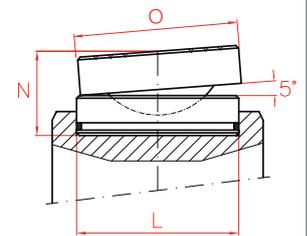
Capacity **30 - 1.085 ton**

Stroke **50 - 300 mm**

STC CYLINDERS

**OPTIONAL TILTING SADDLES**

| Model          | L  | N    | O  | Weight |
|----------------|----|------|----|--------|
| LARZEP         | mm | mm   | mm | kg     |
| <b>CATS50</b>  | 50 | 34,0 | 71 | 1,0    |
| <b>CATS100</b> | 71 | 30,0 | 71 | 1,5    |
| <b>CATS150</b> | 94 | 39,2 | 97 | 3,0    |



P.90

|  | B   | D   | E   | F        | H  | J  | K  | L    | N  | Area            | Weight | Model           | With tilting saddle |         |
|--|-----|-----|-----|----------|----|----|----|------|----|-----------------|--------|-----------------|---------------------|---------|
|  | mm  | mm  | mm  | mm       | mm | mm | mm | mm   | mm | cm <sup>2</sup> | kg     | LARZEP          | A                   | Model   |
|  | 191 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 9      | <b>STC03005</b> | 155                 | CATS50  |
|  | 291 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 12     | <b>STC03010</b> | 205                 | CATS50  |
|  | 396 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 15     | <b>STC03015</b> | 260                 | CATS50  |
|  | 496 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 18     | <b>STC03020</b> | 310                 | CATS50  |
|  | 605 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 22     | <b>STC03025</b> | 369                 | CATS50  |
|  | 705 | 100 | 75  | Tr 75x4  | 20 | 20 | 3  | 50   | 20 | 44,2            | 25     | <b>STC03030</b> | 419                 | CATS50  |
|  | 203 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 14     | <b>STC05005</b> | 167                 | CATS50  |
|  | 303 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 19     | <b>STC05010</b> | 217                 | CATS50  |
|  | 411 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 25     | <b>STC05015</b> | 275                 | CATS50  |
|  | 511 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 30     | <b>STC05020</b> | 325                 | CATS50  |
|  | 616 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 35     | <b>STC05025</b> | 380                 | CATS50  |
|  | 716 | 125 | 95  | Tr 95x4  | 25 | 21 | 3  | 50   | 20 | 70,9            | 40     | <b>STC05030</b> | 430                 | CATS50  |
|  | 230 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 31     | <b>STC10005</b> | 190                 | CATS100 |
|  | 330 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 40     | <b>STC10010</b> | 240                 | CATS100 |
|  | 435 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 50     | <b>STC10015</b> | 295                 | CATS100 |
|  | 535 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 59     | <b>STC10020</b> | 345                 | CATS100 |
|  | 641 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 69     | <b>STC10025</b> | 401                 | CATS100 |
|  | 741 | 170 | 130 | Tr 130x6 | 30 | 31 | 3  | 71,5 | 20 | 132,7           | 78     | <b>STC10030</b> | 451                 | CATS100 |
|  | 245 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 52     | <b>STC14005</b> | 214                 | CATS150 |
|  | 345 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 65     | <b>STC14010</b> | 264                 | CATS150 |
|  | 459 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 83     | <b>STC14015</b> | 328                 | CATS150 |
|  | 559 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 96     | <b>STC14020</b> | 378                 | CATS150 |
|  | 665 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 111    | <b>STC14025</b> | 434                 | CATS150 |
|  | 765 | 210 | 160 | Tr 160x6 | 40 | 38 | 3  | 94   | 20 | 201,1           | 125    | <b>STC14030</b> | 484                 | CATS150 |

**Z12107**  
Air Hydraulic Pump



P.70

**HBM / HBE**  
Powerpack

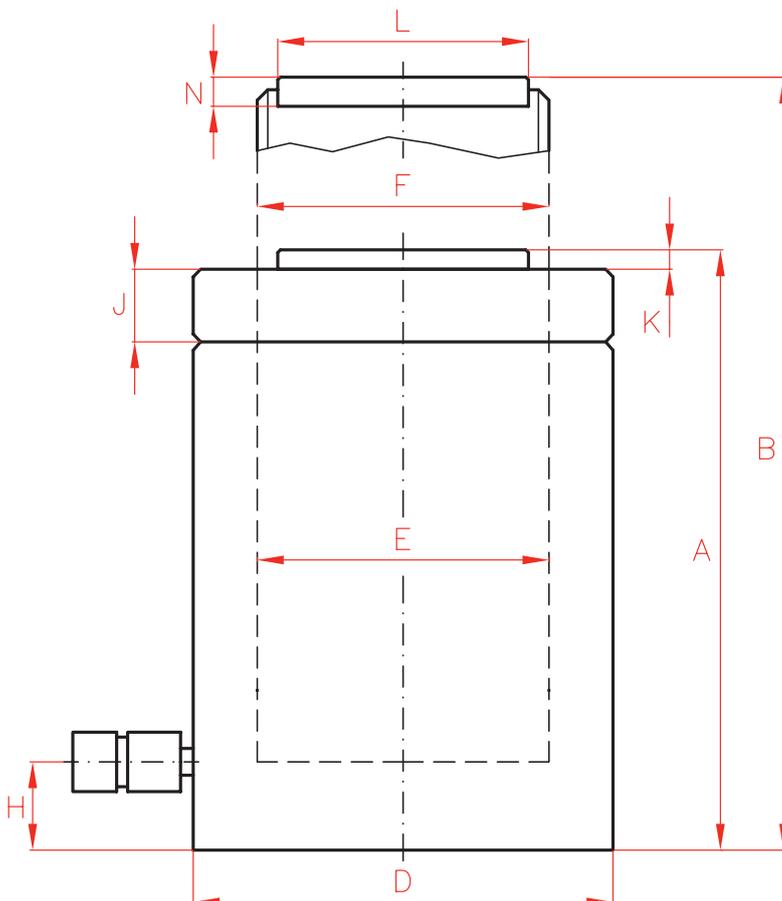


P.72

**AP2**  
Hoses

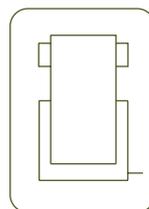


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| Capacity |        | Stroke | Model     | Oil Cap.        | A   |
|----------|--------|--------|-----------|-----------------|-----|
| ton      | kN     | mm     | LARZEP    | cm <sup>3</sup> | mm  |
| 224      | 2.199  | 150    | STC22015  | 4.712           | 328 |
|          |        | 300    | STC22030  | 9.425           | 488 |
| 310      | 3.036  | 150    | STC30015  | 6.506           | 351 |
|          |        | 300    | STC30030  | 13.012          | 511 |
| 409      | 4.008  | 150    | STC40015  | 8.588           | 370 |
|          |        | 300    | STC40030  | 17.177          | 530 |
| 552      | 5.114  | 150    | STC50015  | 10.959          | 395 |
|          |        | 300    | STC50030  | 21.918          | 555 |
| 611      | 5.987  | 50     | STC60005  | 4.276           | 311 |
|          |        | 150    | STC60015  | 12.829          | 421 |
|          |        | 300    | STC60030  | 25.659          | 581 |
| 831      | 8.149  | 50     | STC80005  | 5.821           | 348 |
|          |        | 150    | STC80015  | 17.462          | 458 |
|          |        | 300    | STC80030  | 34.925          | 618 |
| 1.085    | 10.644 | 50     | STC100005 | 7.603           | 392 |
|          |        | 150    | STC100015 | 22.808          | 502 |
|          |        | 300    | STC100030 | 45.616          | 673 |





Type **STC**

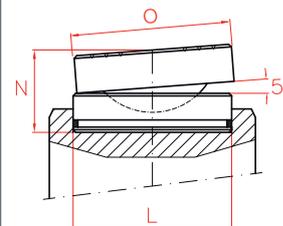
Capacity **30 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

OPTIONAL TILTING SADDLES

| Model    | L   | N     | O   | Weight |
|----------|-----|-------|-----|--------|
| LARZEP   | mm  | mm    | mm  | kg     |
| CATS200  | 113 | 43,0  | 126 | 4,4    |
| CATS300  | 140 | 68,5  | 175 | 10,3   |
| CATS400  | 159 | 78,0  | 210 | 17,0   |
| CATS500  | 179 | 77,0  | 230 | 20,0   |
| CATS600  | 194 | 81,5  | 250 | 24,0   |
| CATS800  | 224 | 86,5  | 275 | 32,0   |
| CATS1000 | 249 | 105,5 | 300 | 46,0   |



P.90

|  | B   | D   | E   | F          | H   | J   | K  | L   | N  | Area            | Weight | Model     | With tilting saddle |          |
|--|-----|-----|-----|------------|-----|-----|----|-----|----|-----------------|--------|-----------|---------------------|----------|
|  | mm  | mm  | mm  | mm         | mm  | mm  | mm | mm  | mm | cm <sup>2</sup> | kg     | LARZEP    | A                   | Model    |
|  | 478 | 260 | 200 | Tr 200 x 6 | 50  | 40  | 3  | 113 | 25 | 314,2           | 134    | STC22015  | 346                 | CATS200  |
|  | 788 | 260 | 200 | Tr 200 x 6 | 50  | 40  | 3  | 113 | 25 | 314,2           | 201    | STC22030  | 506                 | CATS200  |
|  | 501 | 305 | 235 | Tr 235 x 6 | 55  | 45  | 5  | 140 | 30 | 433,7           | 197    | STC30015  | 390                 | CATS300  |
|  | 811 | 305 | 235 | Tr 235 x 6 | 55  | 45  | 5  | 140 | 30 | 433,7           | 289    | STC30030  | 550                 | CATS300  |
|  | 520 | 350 | 270 | Tr 270 x 6 | 65  | 50  | 5  | 159 | 30 | 572,6           | 274    | STC40015  | 418                 | CATS400  |
|  | 830 | 350 | 270 | Tr 270 x 6 | 65  | 50  | 5  | 159 | 30 | 572,6           | 395    | STC40030  | 578                 | CATS400  |
|  | 545 | 400 | 305 | Tr 305 x 6 | 75  | 60  | 5  | 179 | 30 | 730,6           | 383    | STC50015  | 442                 | CATS500  |
|  | 855 | 400 | 305 | Tr 305 x 6 | 75  | 60  | 5  | 179 | 30 | 730,6           | 540    | STC50030  | 602                 | CATS500  |
|  | 361 | 430 | 330 | Tr 330 x 6 | 80  | 80  | 5  | 194 | 30 | 855,3           | 347    | STC60005  | 363                 | CATS600  |
|  | 571 | 430 | 330 | Tr 330 x 6 | 80  | 80  | 5  | 194 | 30 | 855,3           | 472    | STC60015  | 473                 | CATS600  |
|  | 881 | 430 | 330 | Tr 330 x 6 | 80  | 80  | 5  | 194 | 30 | 855,3           | 654    | STC60030  | 633                 | CATS600  |
|  | 398 | 505 | 385 | Tr 385 x 6 | 95  | 90  | 5  | 224 | 30 | 1.164,2         | 537    | STC80005  | 405                 | CATS800  |
|  | 608 | 505 | 385 | Tr 385 x 6 | 95  | 90  | 5  | 224 | 30 | 1.164,2         | 709    | STC80015  | 515                 | CATS800  |
|  | 918 | 505 | 385 | Tr 385 x 6 | 95  | 90  | 5  | 224 | 30 | 1.164,2         | 959    | STC80030  | 675                 | CATS800  |
|  | 442 | 570 | 440 | Tr 440 x 6 | 105 | 105 | 5  | 249 | 30 | 1.520,5         | 772    | STC100005 | 468                 | CATS1000 |
|  | 652 | 570 | 440 | Tr 440 x 6 | 105 | 105 | 5  | 249 | 30 | 1.520,5         | 991    | STC100015 | 578                 | CATS1000 |
|  | 973 | 570 | 440 | Tr 440 x 6 | 105 | 105 | 5  | 249 | 30 | 1.520,5         | 1.332  | STC100030 | 749                 | CATS1000 |

**SINGLE ACTING PANCAKE CYLINDERS, LOCKNUT, TILTING SADDLE, LOAD RETURN**

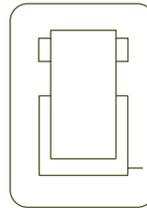
- ✓ Capacities from 50 to 500 ton, strokes up to 50 mm.
- ✓ Load return. Locknut tested under 50% overload.
- ✓ The locknut holds the load mechanically for extended periods of time.
- ✓ Hydraulic end of stroke overflow port. Without stop ring. Red band warning.
- ✓ Built-in tilting saddle to improve side-load resistance.
- ✓ Body, nut and saddle black nitrided to improve corrosion and wear resistance.
- ✓ Used in confined spaces.



**STC**  
Single Acting Locknut Cylinders



P.26



**S/A LOCKNUT CYLINDERS**



Type **STX**

Capacity **50 - 500 ton**

Stroke **45 - 50 mm**

Max. pressure **700 bar**

**STX**  
Built-in Tilting Saddle

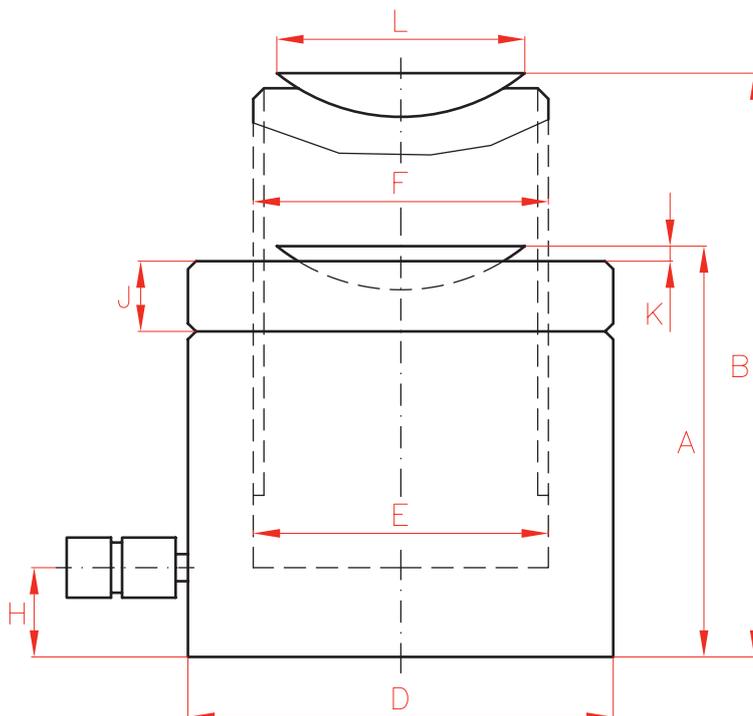


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**SSX**  
Single Acting Low Profile Cylinders,  
Spring Return



P.24



| Capacity |       | Stroke | Model    | Oil Cap.        | A   | B   | D   | E   | F        | H  | J  | K  | L   | Area            | Weight |
|----------|-------|--------|----------|-----------------|-----|-----|-----|-----|----------|----|----|----|-----|-----------------|--------|
| ton      | kN    | mm     | LARZEP   | cm <sup>3</sup> | mm  | mm  | mm  | mm  | mm       | mm | mm | mm | mm  | cm <sup>2</sup> | kg     |
| 50       | 496   | 50     | STX05004 | 355             | 125 | 175 | 125 | 95  | Tr 95x4  | 20 | 21 | 6  | 85  | 71              | 11     |
| 100      | 929   | 45     | STX10004 | 597             | 137 | 182 | 165 | 130 | Tr 130x5 | 23 | 31 | 8  | 117 | 133             | 22     |
| 150      | 1.407 | 45     | STX15004 | 905             | 148 | 193 | 205 | 160 | Tr 160x6 | 28 | 38 | 9  | 143 | 201             | 39     |
| 230      | 2.199 | 45     | STX23004 | 1.413           | 155 | 200 | 255 | 200 | Tr 200x6 | 32 | 40 | 10 | 150 | 314             | 62     |
| 300      | 3.036 | 45     | STX30004 | 1.952           | 173 | 218 | 310 | 235 | Tr 235x6 | 38 | 45 | 11 | 209 | 433             | 97     |
| 400      | 4.008 | 45     | STX40004 | 2.577           | 180 | 225 | 350 | 270 | Tr 270x6 | 44 | 50 | 10 | 258 | 572             | 130    |
| 500      | 5.114 | 45     | STX50004 | 3.388           | 195 | 240 | 400 | 305 | Tr 305x6 | 50 | 60 | 10 | 285 | 730             | 184    |

**SINGLE ACTING HIGH TONNAGE CYLINDERS, LOAD RETURN**



- ✓ Capacities from 144 to 1.085 ton, strokes up to 300 mm.
- ✓ Load return. For weighing, lifting and positioning applications in Civil Engineering.
- ✓ Hydraulic end of stroke overflow port. Without stop ring. Red band warning.  
For mechanical stop ring see **DDC** double acting models.
- ✓ Black nitrided body, up to 224 ton.

**SSX**  
Single Acting Low Profile Cylinders



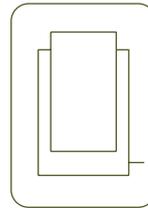
P.24

**SSP**  
Low Height Single Acting Cylinders



P.22





S/A LOAD RETURN CYLINDERS



|               |                 |
|---------------|-----------------|
| Type          | <b>SSC</b>      |
| Capacity      | 144 - 1.085 ton |
| Stroke        | 50 - 300 mm     |
| Max. pressure | 700 bar         |

SSC CYLINDERS



**DDC**  
Double Acting High Tonnage Cylinders



P.44

**HBM / HBE**  
Powerpacks



P.72



**HBM / HBE**  
Powerpacks



P.72

**Z22107**  
Air Hydraulic Pumps

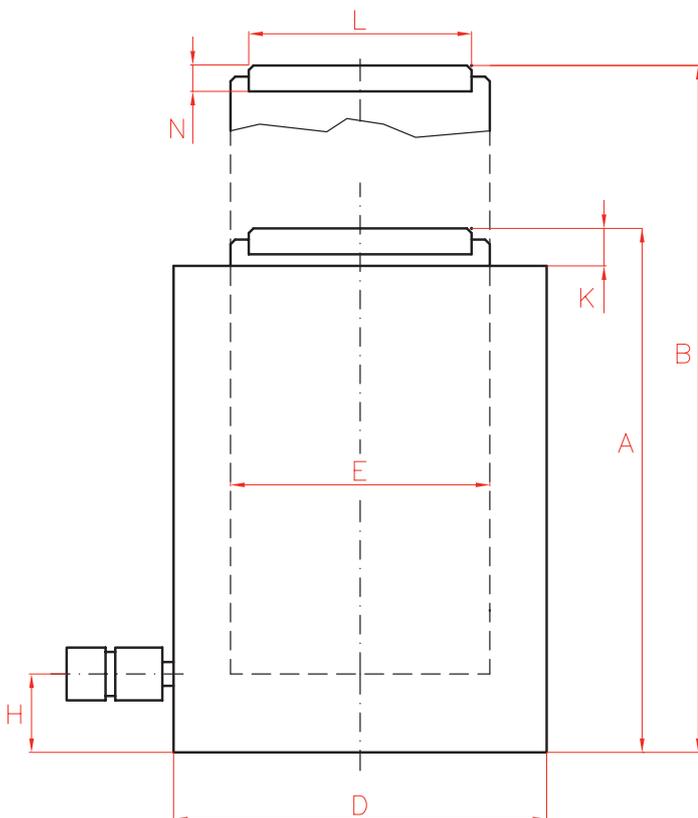


P.70

**W**  
Single Acting Hand Pumps



P.66

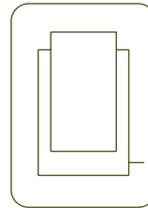
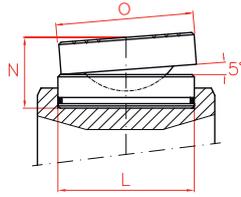


| Capacity |        | Stroke<br>mm | Model<br>LARZEP | Oil Cap.<br>cm <sup>3</sup> | A<br>mm |
|----------|--------|--------------|-----------------|-----------------------------|---------|
| ton      | kN     |              |                 |                             |         |
| 144      | 1.407  | 50           | SSC14005        | 1.005                       | 159     |
|          |        | 150          | SSC14015        | 3.016                       | 275     |
|          |        | 300          | SSC14030        | 6.032                       | 430     |
| 224      | 2.199  | 50           | SSC22005        | 1.571                       | 180     |
|          |        | 150          | SSC22015        | 4.712                       | 291     |
|          |        | 300          | SSC22030        | 9.425                       | 451     |
| 310      | 3.036  | 50           | SSC30005        | 2.169                       | 193     |
|          |        | 150          | SSC30015        | 6.506                       | 309     |
|          |        | 300          | SSC30030        | 13.012                      | 469     |
| 409      | 4.008  | 50           | SSC40005        | 2.863                       | 215     |
|          |        | 150          | SSC40015        | 8.588                       | 325     |
|          |        | 300          | SSC40030        | 17.177                      | 485     |
| 522      | 5.114  | 50           | SSC50005        | 3.653                       | 225     |
|          |        | 150          | SSC50015        | 10.959                      | 335     |
|          |        | 300          | SSC50030        | 21.918                      | 495     |
| 611      | 5.987  | 50           | SSC60005        | 4.276                       | 236     |
|          |        | 150          | SSC60015        | 12.829                      | 346     |
|          |        | 300          | SSC60030        | 25.659                      | 506     |
| 831      | 8.149  | 50           | SSC80005        | 5.821                       | 263     |
|          |        | 150          | SSC80015        | 17.462                      | 373     |
|          |        | 300          | SSC80030        | 34.925                      | 533     |
| 1.085    | 10.644 | 50           | SSC100005       | 7.603                       | 292     |
|          |        | 150          | SSC100015       | 22.808                      | 402     |
|          |        | 300          | SSC100030       | 45.616                      | 573     |



OPTIONAL TILTING SADDLES

| Model    | L   | N     | O   | Weight |
|----------|-----|-------|-----|--------|
| LARZEP   | mm  | mm    | mm  | kg     |
| CATS150  | 94  | 39,2  | 97  | 3,0    |
| CATS200  | 113 | 43,0  | 126 | 4,4    |
| CATS300  | 140 | 68,5  | 175 | 10,3   |
| CATS400  | 159 | 78,0  | 210 | 17,0   |
| CATS500  | 179 | 77,0  | 230 | 20,0   |
| CATS600  | 194 | 81,5  | 250 | 24,0   |
| CATS800  | 224 | 86,5  | 275 | 32,0   |
| CATS1000 | 249 | 105,5 | 300 | 46,0   |



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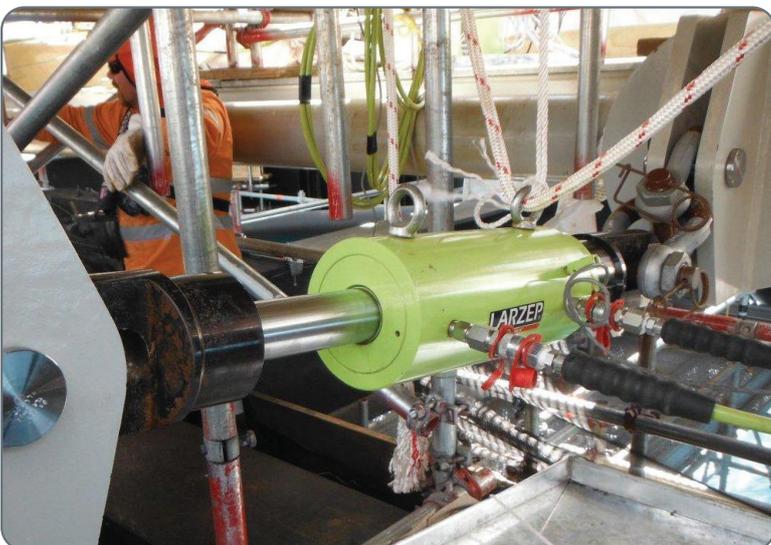
|               |                        |
|---------------|------------------------|
| Type          | <b>SSC</b>             |
| Capacity      | <b>144 - 1.085 ton</b> |
| Stroke        | <b>50 - 300 mm</b>     |
| Max. pressure | <b>700 bar</b>         |

|  | B   | D   | E   | H   | K  | L   | N  | Area            | Weight | Model            | With tilting saddle |          |
|--|-----|-----|-----|-----|----|-----|----|-----------------|--------|------------------|---------------------|----------|
|  | mm  | mm  | mm  | mm  | mm | mm  | mm | cm <sup>2</sup> | kg     | LARZEP           | A                   | Model    |
|  | 209 | 210 | 160 | 40  | 6  | 94  | 20 | 201,1           | 43     | <b>SSC14005</b>  | 178                 | CATS150  |
|  | 425 | 210 | 160 | 40  | 6  | 94  | 20 | 201,1           | 74     | <b>SSC14015</b>  | 294                 | CATS150  |
|  | 730 | 210 | 160 | 40  | 6  | 94  | 20 | 201,1           | 116    | <b>SSC14030</b>  | 449                 | CATS150  |
|  | 230 | 260 | 200 | 50  | 6  | 113 | 20 | 314,2           | 75     | <b>SSC22005</b>  | 203                 | CATS200  |
|  | 441 | 260 | 200 | 50  | 6  | 113 | 20 | 314,2           | 120    | <b>SSC22015</b>  | 314                 | CATS200  |
|  | 751 | 260 | 200 | 50  | 6  | 113 | 20 | 314,2           | 187    | <b>SSC22030</b>  | 474                 | CATS200  |
|  | 243 | 305 | 235 | 55  | 8  | 140 | 30 | 433,7           | 110    | <b>SSC30005</b>  | 232                 | CATS300  |
|  | 459 | 305 | 235 | 55  | 8  | 140 | 30 | 433,7           | 176    | <b>SSC30015</b>  | 348                 | CATS300  |
|  | 769 | 305 | 235 | 55  | 8  | 140 | 30 | 433,7           | 267    | <b>SSC30030</b>  | 508                 | CATS300  |
|  | 265 | 350 | 270 | 65  | 10 | 159 | 30 | 572,6           | 161    | <b>SSC40005</b>  | 263                 | CATS400  |
|  | 475 | 350 | 270 | 65  | 10 | 159 | 30 | 572,6           | 244    | <b>SSC40015</b>  | 373                 | CATS400  |
|  | 785 | 350 | 270 | 65  | 10 | 159 | 30 | 572,6           | 364    | <b>SSC40030</b>  | 533                 | CATS400  |
|  | 275 | 400 | 305 | 70  | 10 | 179 | 30 | 730,6           | 221    | <b>SSC50005</b>  | 272                 | CATS500  |
|  | 485 | 400 | 305 | 70  | 10 | 179 | 30 | 730,6           | 329    | <b>SSC50015</b>  | 382                 | CATS500  |
|  | 795 | 400 | 305 | 70  | 10 | 179 | 30 | 730,6           | 486    | <b>SSC50030</b>  | 542                 | CATS500  |
|  | 286 | 430 | 330 | 80  | 10 | 194 | 30 | 855,3           | 268    | <b>SSC60005</b>  | 288                 | CATS600  |
|  | 496 | 430 | 330 | 80  | 10 | 194 | 30 | 855,3           | 393    | <b>SSC60015</b>  | 398                 | CATS600  |
|  | 806 | 430 | 330 | 80  | 10 | 194 | 30 | 855,3           | 574    | <b>SSC60030</b>  | 558                 | CATS600  |
|  | 313 | 505 | 385 | 95  | 10 | 224 | 30 | 1.164,2         | 411    | <b>SSC80005</b>  | 320                 | CATS800  |
|  | 523 | 505 | 385 | 95  | 10 | 224 | 30 | 1.164,2         | 583    | <b>SSC80015</b>  | 430                 | CATS800  |
|  | 833 | 505 | 385 | 95  | 10 | 224 | 30 | 1.164,2         | 834    | <b>SSC80030</b>  | 590                 | CATS800  |
|  | 342 | 570 | 440 | 105 | 10 | 249 | 30 | 1.520,5         | 582    | <b>SSC100005</b> | 368                 | CATS1000 |
|  | 552 | 570 | 440 | 105 | 10 | 249 | 30 | 1.520,5         | 801    | <b>SSC100015</b> | 478                 | CATS1000 |
|  | 873 | 570 | 440 | 105 | 10 | 249 | 30 | 1.520,5         | 1.142  | <b>SSC100030</b> | 649                 | CATS1000 |

**PULL CYLINDERS**



- ✓ Capacities from 10 to 50 ton, and 150 mm stroke.
- ✓ TE models are Spring Return.
- ✓ TD models are Double Acting.
- ✓ For pulling applications: to hook and join plates for welding, tensioning cables, etc.



| Capacity |     | Stroke | Model   | Oil Cap.        | A   |
|----------|-----|--------|---------|-----------------|-----|
| ton      | kN  | mm     | LARZEP  | cm <sup>3</sup> | mm  |
| 10       | 93  | 150    | TE01015 | 204             | 559 |
|          |     | 150    | TD01015 | 356             | 559 |
| 30       | 302 | 150    | TE03015 | 660             | 723 |
|          |     | 150    | TD03015 | 954             | 723 |
| 50       | 483 | 150    | TE05015 | 1.056           | 757 |
|          |     | 150    | TD05015 | 1.425           | 757 |

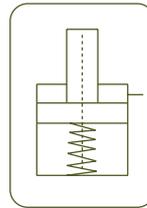


W - X

Single and Double Acting Hand Pumps



P.66



PULL CYLINDERS



Type

TE - TD

Capacity

10 - 50 ton

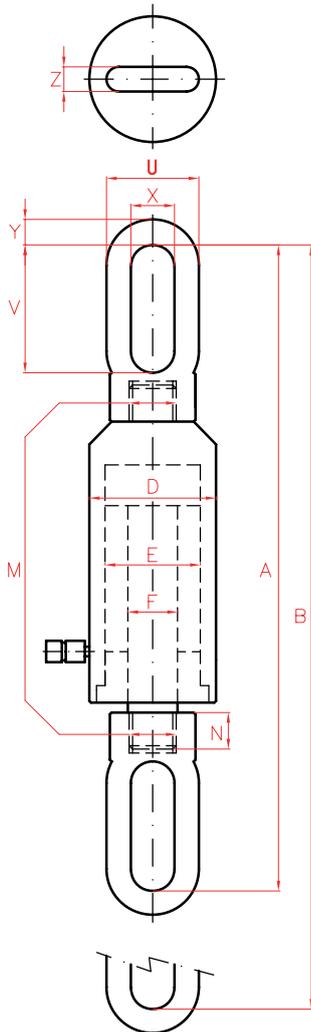
Stroke

150 mm

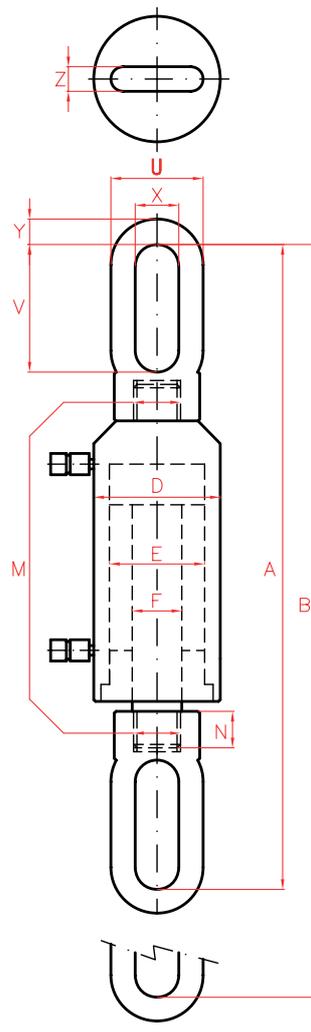
Max. pressure

700 bar

TE - TD CYLINDERS



TE



TD

AP2

Hoses



P.84

AV

Pressure Gauges

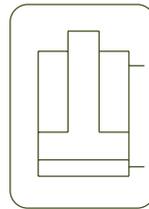


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|  | B   | D   | E   | F  | M         | N  | U   | V   | X  | Y  | Z  | Area            | Weight | Model   |
|--|-----|-----|-----|----|-----------|----|-----|-----|----|----|----|-----------------|--------|---------|
|  | mm  | mm  | mm  | mm | mm        | mm | mm  | mm  | mm | mm | mm | cm <sup>2</sup> | kg     | LARZEP  |
|  | 709 | 86  | 55  | 36 | M30x2     | 25 | 64  | 119 | 34 | 32 | 22 | 13,5            | 14,9   | TE01015 |
|  | 709 | 86  | 55  | 36 | M30x2     | 25 | 64  | 119 | 34 | 32 | 22 | 13,5            | 14,9   | TD01015 |
|  | 873 | 125 | 90  | 50 | 1.25-7 UN | 35 | 114 | 155 | 40 | 57 | 35 | 43,9            | 32,0   | TE03015 |
|  | 873 | 125 | 90  | 50 | 1.25-7 UN | 35 | 114 | 155 | 40 | 57 | 35 | 43,9            | 32,0   | TD03015 |
|  | 907 | 148 | 110 | 56 | M52x2     | 60 | 130 | 150 | 50 | 70 | 39 | 70,3            | 60,0   | TE05015 |
|  | 907 | 148 | 110 | 56 | M52x2     | 60 | 130 | 150 | 50 | 70 | 39 | 70,3            | 60,0   | TD05015 |

**DOUBLE ACTING CYLINDERS**

- ✓ Capacities from 10 to 550 ton, strokes up to 320 mm as standard.
- ✓ For push and pull applications.
- ✓ For heavy-duty applications, high precision and involving high-cycle life.
- ✓ Guide and sealing system of highest quality.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Collar threads, piston end threads and base mounting holes for easy fixing and pull operations.
- ✓ Compatible with SSM accessories.
- ✓ Longer stroke models up to 1.500 mm upon request.



**DOUBLE ACTING CYLINDERS**



|               |              |
|---------------|--------------|
| Type          | <b>D</b>     |
| Capacity      | 10 - 550 ton |
| Stroke        | 50 - 320 mm  |
| Max. pressure | 700 bar      |

**SSM & D**  
Special attachments for SSM and D models



P.10

**DDA**  
Double Acting Aluminium Cylinders



P.48

**DDC**  
Double Acting High Tonnage Cylinders



P.44

**AZ04**  
Optional Tilting Saddles available



P.90

**HBM / HBE**  
Powerpack



P.72

**Z22107**  
Air Hydraulic Pump



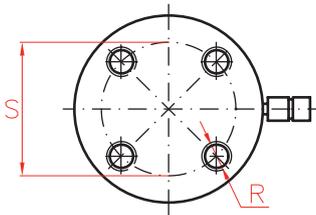
P.70

**X**  
Double Acting Hand Pumps

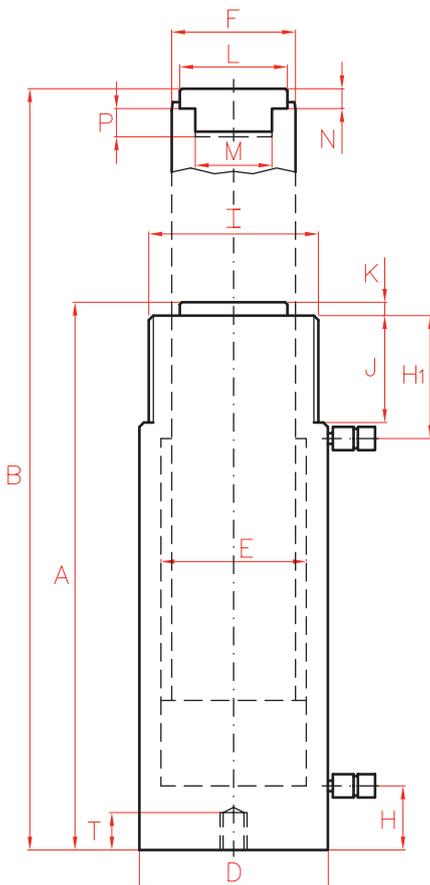
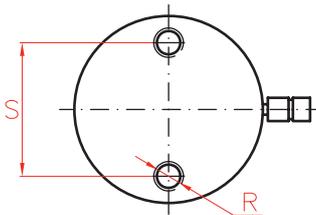


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**Models from 50 to 550 ton**



**Models up to 30 ton**

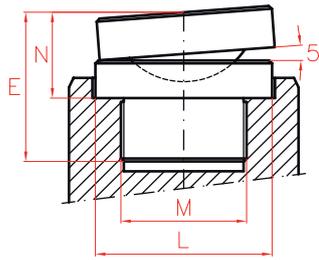


| Capacity<br>ton | Stroke<br>mm | Model<br>LARZEP | Capacity (kN) |       | Oil Cap.<br>cm <sup>3</sup> | A<br>mm | B<br>mm | D<br>mm | E<br>mm | F<br>mm |
|-----------------|--------------|-----------------|---------------|-------|-----------------------------|---------|---------|---------|---------|---------|
|                 |              |                 | Push          | Pull  |                             |         |         |         |         |         |
| 10              | 160          | D01016          | 109           | 20    | 255                         | 310     | 470     | 60      | 45      | 36      |
|                 | 250          | D01025          | 109           | 20    | 398                         | 400     | 650     | 60      | 45      | 36      |
|                 | 320          | D01032          | 109           | 20    | 509                         | 470     | 790     | 60      | 45      | 36      |
| 20              | 160          | D02016          | 214           | 53    | 499                         | 320     | 480     | 83      | 63      | 45      |
|                 | 250          | D02025          | 214           | 53    | 779                         | 410     | 660     | 83      | 63      | 45      |
|                 | 320          | D02032          | 214           | 53    | 997                         | 480     | 800     | 83      | 63      | 45      |
| 30              | 160          | D03016          | 303           | 68    | 707                         | 335     | 495     | 100     | 75      | 56      |
|                 | 320          | D03032          | 303           | 68    | 1.413                       | 495     | 815     | 100     | 75      | 56      |
| 50              | 160          | D05016          | 486           | 72    | 1.134                       | 335     | 495     | 127     | 95      | 80      |
|                 | 320          | D05032          | 486           | 72    | 2.267                       | 510     | 830     | 127     | 95      | 80      |
| 75              | 160          | D07516          | 712           | 140   | 1.661                       | 338     | 498     | 150     | 115     | 90      |
|                 | 320          | D07532          | 712           | 140   | 3.322                       | 512     | 832     | 150     | 115     | 90      |
| 100             | 160          | D10016          | 911           | 189   | 2.123                       | 339     | 499     | 177     | 130     | 100     |
|                 | 320          | D10032          | 911           | 189   | 4.245                       | 509     | 829     | 177     | 130     | 100     |
| 150             | 50           | D15005          | 1.380         | 370   | 1.005                       | 258     | 308     | 215     | 160     | 110     |
|                 | 150          | D15015          | 1.380         | 370   | 3.015                       | 378     | 528     | 215     | 160     | 110     |
|                 | 300          | D15030          | 1.380         | 370   | 6.029                       | 528     | 828     | 215     | 160     | 110     |
| 200             | 50           | D20005          | 2.156         | 560   | 1.570                       | 274     | 324     | 265     | 200     | 140     |
|                 | 150          | D20015          | 2.156         | 560   | 4.710                       | 394     | 544     | 265     | 200     | 140     |
|                 | 300          | D20030          | 2.156         | 560   | 9.420                       | 544     | 844     | 265     | 200     | 140     |
| 350             | 50           | D35005          | 3.368         | 1.014 | 2.454                       | 299     | 349     | 330     | 250     | 160     |
|                 | 150          | D35015          | 3.368         | 1.014 | 7.359                       | 419     | 569     | 330     | 250     | 160     |
|                 | 300          | D35030          | 3.368         | 1.014 | 14.718                      | 569     | 869     | 330     | 250     | 160     |
| 550             | 50           | D55005          | 5.519         | 1.714 | 4.020                       | 383     | 433     | 430     | 320     | 200     |
|                 | 150          | D55015          | 5.519         | 1.714 | 12.058                      | 518     | 668     | 430     | 320     | 200     |
|                 | 300          | D55030          | 5.519         | 1.714 | 24.116                      | 668     | 968     | 430     | 320     | 200     |



OPTIONAL TILTING SADDLES

| Model  | L   | M         | N  | E   | Weight |
|--------|-----|-----------|----|-----|--------|
| LARZEP | mm  | UN        | mm | mm  | kg     |
| AZ0420 | 28  | 1"-8      | 29 | 43  | 0,2    |
| AZ0423 | 35  | 1"-8      | 29 | 49  | 0,3    |
| AZ0421 | 45  | 1 1/2"-16 | 28 | 50  | 0,4    |
| AZ0422 | 61  | 1 3/4"-12 | 38 | 58  | 0,7    |
| AZ0424 | 88  | 2 1/2"-12 | 47 | 82  | 2,5    |
| AZ0425 | 111 | 2 1/2"-12 | 52 | 107 | 4,5    |



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DOUBLE ACTING CYLINDERS



| Type          | D            |
|---------------|--------------|
| Capacity      | 10 - 550 ton |
| Stroke        | 50 - 320 mm  |
| Max. pressure | 700 bar      |

D CYLINDERS

| H   | H1   | I          | J  | K  | L   | M         | N  | P  | R        | S   | T  | Area            | Weight | Model  | With tilting saddle |        |
|-----|------|------------|----|----|-----|-----------|----|----|----------|-----|----|-----------------|--------|--------|---------------------|--------|
| mm  | mm   | UN         | mm | mm | mm  | UN        | mm | mm | UN       | mm  | mm | cm <sup>2</sup> | kg     | LARZEP | A                   | Model  |
| 20  | 53,5 | 2 1/4"-14  | 32 | 7  | 28  | 1"-8      | 10 | 24 | 5/16"-18 | 39  | 12 | 16              | 6,4    | D01016 | 329                 | AZ0420 |
| 20  | 53,5 | 2 1/4"-14  | 32 | 7  | 28  | 1"-8      | 10 | 24 | 5/16"-18 | 39  | 12 | 16              | 8,0    | D01025 | 419                 | AZ0420 |
| 20  | 53,5 | 2 1/4"-14  | 32 | 7  | 28  | 1"-8      | 10 | 24 | 5/16"-18 | 39  | 12 | 16              | 9,5    | D01032 | 489                 | AZ0420 |
| 20  | 60   | 3 1/4"-12  | 40 | 8  | 35  | 1"-8      | 8  | 24 | 1/2"-13  | 58  | 15 | 31              | 11,7   | D02016 | 341                 | AZ0423 |
| 20  | 60   | 3 1/4"-12  | 40 | 8  | 35  | 1"-8      | 8  | 24 | 1/2"-13  | 58  | 15 | 31              | 14,5   | D02025 | 431                 | AZ0423 |
| 20  | 60   | 3 1/4"-12  | 40 | 8  | 35  | 1"-8      | 8  | 24 | 1/2"-13  | 58  | 15 | 31              | 16,8   | D02032 | 501                 | AZ0423 |
| 26  | 77   | 3 7/8"-12  | 48 | 10 | 45  | 1 1/2"-16 | 10 | 25 | 1/2"-13  | 66  | 15 | 44              | 18,9   | D03016 | 353                 | AZ0421 |
| 26  | 77   | 3 7/8"-12  | 48 | 10 | 45  | 1 1/2"-16 | 10 | 25 | 1/2"-13  | 66  | 15 | 44              | 26,6   | D03032 | 513                 | AZ0421 |
| 28  | 70   | 5"-12      | 50 | 10 | 61  | 1 3/4"-12 | 10 | 25 | 1/2"-13  | 95  | 15 | 71              | 30,8   | D05016 | 363                 | AZ0422 |
| 28  | 85   | 5"-12      | 50 | 10 | 61  | 1 3/4"-12 | 10 | 25 | 1/2"-13  | 95  | 15 | 71              | 44,8   | D05032 | 538                 | AZ0422 |
| 30  | 70   | 5 3/4"-12  | 50 | 10 | 61  | 1 3/4"-12 | 10 | 25 | 1/2"-13  | 100 | 18 | 104             | 42,0   | D07516 | 366                 | AZ0422 |
| 30  | 80   | 5 3/4"-12  | 50 | 10 | 61  | 1 3/4"-12 | 10 | 25 | 1/2"-13  | 100 | 18 | 104             | 60,6   | D07532 | 540                 | AZ0422 |
| 38  | 70   | 6 7/8"-12  | 50 | 10 | 88  | 1 3/4"-12 | 16 | 30 | 3/4"-10  | 139 | 18 | 133             | 51,8   | D10016 | 361                 | AZ0422 |
| 38  | 84   | 6 7/8"-12  | 50 | 10 | 88  | 1 3/4"-12 | 16 | 30 | 3/4"-10  | 139 | 18 | 133             | 84,1   | D10032 | 531                 | AZ0422 |
| 49  | 85   | 8"-12      | 55 | 10 | 88  | 2 1/2"-12 | 15 | 40 | 3/4"-16  | 158 | 25 | 201             | 66,0   | D15005 | 279                 | AZ0424 |
| 49  | 85   | 8"-12      | 55 | 10 | 88  | 2 1/2"-12 | 15 | 40 | 3/4"-16  | 158 | 25 | 201             | 90,0   | D15015 | 410                 | AZ0424 |
| 49  | 85   | 8"-12      | 55 | 10 | 88  | 2 1/2"-12 | 15 | 40 | 3/4"-16  | 158 | 25 | 201             | 119,0  | D15030 | 560                 | AZ0424 |
| 65  | 85   | 9 3/4"-12  | 55 | 10 | 111 | 2 1/2"-12 | 19 | 60 | 1"-8     | 127 | 25 | 314             | 105,0  | D20005 | 307                 | AZ0425 |
| 65  | 85   | 9 3/4"-12  | 55 | 10 | 111 | 2 1/2"-12 | 19 | 60 | 1"-8     | 127 | 25 | 314             | 151,0  | D20015 | 427                 | AZ0425 |
| 65  | 85   | 9 3/4"-12  | 55 | 10 | 111 | 2 1/2"-12 | 19 | 60 | 1"-8     | 127 | 25 | 314             | 191,0  | D20030 | 577                 | AZ0425 |
| 85  | 90   | 12 1/4"-12 | 60 | 10 | 131 | 3"-12     | 15 | 70 | 1 1/4"-7 | 158 | 40 | 491             | 189,0  | D35005 | -                   | -      |
| 85  | 90   | 12 1/4"-12 | 60 | 10 | 131 | 3"-12     | 15 | 70 | 1 1/4"-7 | 158 | 40 | 491             | 247,0  | D35015 | -                   | -      |
| 85  | 90   | 12 1/4"-12 | 60 | 10 | 131 | 3"-12     | 15 | 70 | 1 1/4"-7 | 158 | 40 | 491             | 346,0  | D35030 | -                   | -      |
| 110 | 120  | 15 5/8"-8  | 80 | 15 | 178 | 4"-12     | 26 | 85 | 1 3/4"-5 | 203 | 55 | 804             | 396,0  | D55005 | -                   | -      |
| 110 | 120  | 15 5/8"-8  | 80 | 15 | 178 | 4"-12     | 26 | 85 | 1 3/4"-5 | 203 | 55 | 804             | 504,0  | D55015 | -                   | -      |
| 110 | 120  | 15 5/8"-8  | 80 | 15 | 178 | 4"-12     | 26 | 85 | 1 3/4"-5 | 203 | 55 | 804             | 625,0  | D55030 | -                   | -      |

**DOUBLE ACTING HIGH TONNAGE CYLINDERS**



- ✓ Capacities from 51 to 1.085 ton, strokes up to 300 mm.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Wear bands to improve side-load capacity.

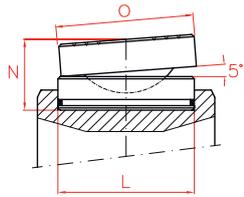


| Capacity |       | Stroke | Model    | Oil Cap.        | A   |
|----------|-------|--------|----------|-----------------|-----|
| ton      | kN    | mm     | LARZEP   | cm <sup>3</sup> | mm  |
| 51       | 496   | 50     | DDC05005 | 354             | 206 |
|          |       | 150    | DDC05015 | 1.063           | 306 |
|          |       | 300    | DDC05030 | 2.126           | 461 |
| 95       | 929   | 50     | DDC10005 | 664             | 196 |
|          |       | 150    | DDC10015 | 1.991           | 296 |
|          |       | 300    | DDC10030 | 3.982           | 451 |
| 144      | 1.407 | 50     | DDC14005 | 1.005           | 213 |
|          |       | 150    | DDC14015 | 3.016           | 318 |
|          |       | 300    | DDC14030 | 6.032           | 478 |
| 224      | 2.199 | 50     | DDC22005 | 1.571           | 233 |
|          |       | 150    | DDC22015 | 4.712           | 336 |
|          |       | 300    | DDC22030 | 9.425           | 498 |
| 310      | 3.036 | 50     | DDC30005 | 2.169           | 251 |
|          |       | 150    | DDC30015 | 6.506           | 357 |
|          |       | 300    | DDC30030 | 13.012          | 512 |

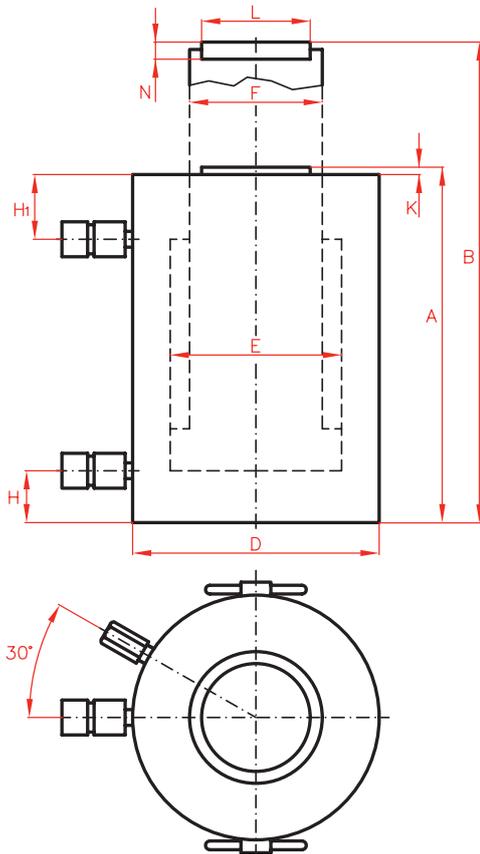
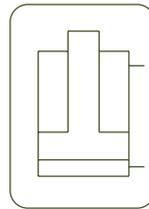


OPTIONAL TILTING SADDLES

| Model   | L   | N    | O   | Weight |
|---------|-----|------|-----|--------|
| LARZEP  | mm  | mm   | mm  | kg     |
| CATS150 | 94  | 39,2 | 97  | 3,0    |
| CATS200 | 113 | 43,0 | 126 | 4,4    |
| CATS300 | 140 | 68,5 | 175 | 10,3   |



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Type **DDC**

Capacity **51 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

**DDA**  
Aluminium Double Acting Cylinders

P.48

**HBM / HBE**  
Powerpacks

P.72

| B   | D   | E   | F   | H  | H1 | K  | L   | N  | Area            | Weight | Model           | With tilting saddle |         |
|-----|-----|-----|-----|----|----|----|-----|----|-----------------|--------|-----------------|---------------------|---------|
| mm  | mm  | mm  | mm  | mm | mm | mm | mm  | mm | cm <sup>2</sup> | kg     | LARZEP          | A                   | Model   |
| 256 | 125 | 95  | 75  | 25 | 75 | 6  | 50  | 20 | 70,9            | 19     | <b>DDC05005</b> | 270                 | CATS50  |
| 456 | 125 | 95  | 75  | 25 | 75 | 6  | 50  | 20 | 70,9            | 26     | <b>DDC05015</b> | 470                 | CATS50  |
| 761 | 125 | 95  | 75  | 25 | 80 | 6  | 50  | 20 | 70,9            | 38     | <b>DDC05030</b> | 775                 | CATS50  |
| 246 | 170 | 130 | 100 | 30 | 60 | 6  | 75  | 20 | 132,7           | 33     | <b>DDC10005</b> | 256                 | CATS100 |
| 446 | 170 | 130 | 100 | 30 | 60 | 6  | 75  | 20 | 132,7           | 46     | <b>DDC10015</b> | 456                 | CATS100 |
| 751 | 170 | 130 | 100 | 30 | 65 | 6  | 75  | 20 | 132,7           | 67     | <b>DDC10030</b> | 761                 | CATS100 |
| 263 | 210 | 160 | 110 | 40 | 65 | 6  | 94  | 20 | 201,1           | 53     | <b>DDC14005</b> | 282                 | CATS150 |
| 468 | 210 | 160 | 110 | 40 | 70 | 6  | 94  | 20 | 201,1           | 74     | <b>DDC14015</b> | 487                 | CATS150 |
| 778 | 210 | 160 | 110 | 40 | 80 | 6  | 94  | 20 | 201,1           | 104    | <b>DDC14030</b> | 797                 | CATS150 |
| 283 | 260 | 200 | 140 | 50 | 75 | 6  | 113 | 25 | 314,2           | 90     | <b>DDC22005</b> | 251                 | CATS200 |
| 486 | 260 | 200 | 140 | 50 | 75 | 6  | 113 | 25 | 314,2           | 120    | <b>DDC22015</b> | 354                 | CATS200 |
| 798 | 260 | 200 | 140 | 50 | 85 | 6  | 113 | 25 | 314,2           | 169    | <b>DDC22030</b> | 516                 | CATS200 |
| 301 | 305 | 235 | 200 | 55 | 85 | 8  | 140 | 30 | 433,7           | 137    | <b>DDC30005</b> | 290                 | CATS300 |
| 507 | 305 | 235 | 200 | 55 | 85 | 8  | 140 | 30 | 433,7           | 189    | <b>DDC30015</b> | 396                 | CATS300 |
| 812 | 305 | 235 | 200 | 55 | 85 | 8  | 140 | 30 | 433,7           | 263    | <b>DDC30030</b> | 551                 | CATS300 |

**HBM / HBE**  
Powerpacks



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**AV - AY - AVD**  
Pressure Gauges



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**AP2**  
Hoses

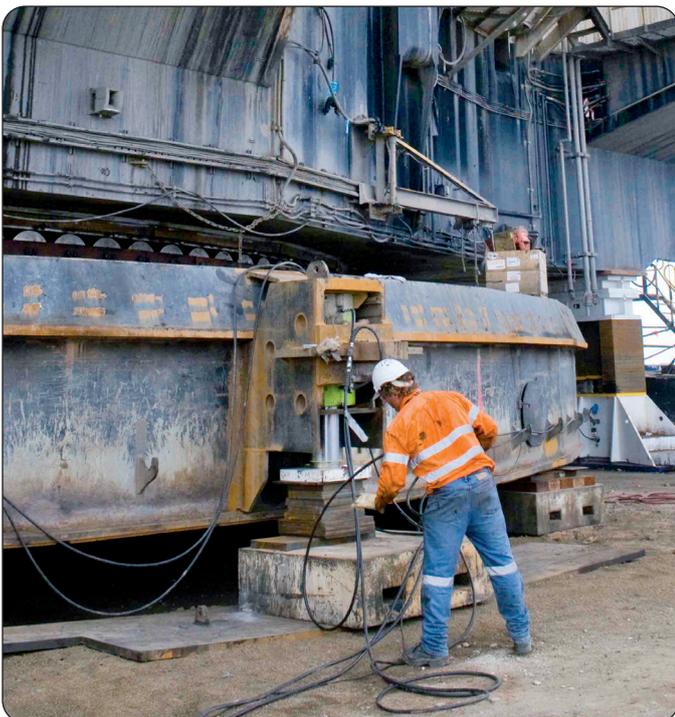


P.84

**AZ3140**  
Coupler 3/8" - 18 NPT included

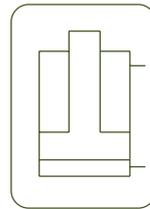


P.86

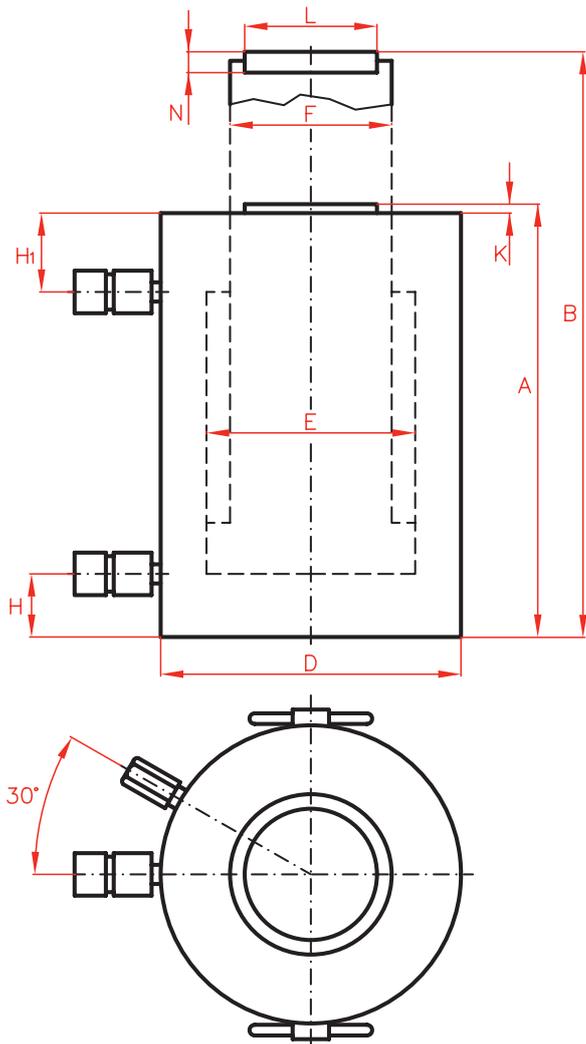


| Capacity |        | Stroke<br>mm | Model<br>LARZEP | Oil Cap.<br>cm <sup>3</sup> | A<br>mm |
|----------|--------|--------------|-----------------|-----------------------------|---------|
| ton      | kN     |              |                 |                             |         |
| 409      | 4.008  | 50           | DDC40005        | 2.863                       | 275     |
|          |        | 150          | DDC40015        | 8.588                       | 382     |
|          |        | 300          | DDC40030        | 17.177                      | 538     |
| 522      | 5.114  | 50           | DDC50005        | 3.653                       | 305     |
|          |        | 150          | DDC50015        | 10.959                      | 410     |
|          |        | 300          | DDC50030        | 21.918                      | 566     |
| 611      | 5.987  | 50           | DDC60005        | 4.276                       | 315     |
|          |        | 150          | DDC60015        | 12.829                      | 420     |
|          |        | 300          | DDC60030        | 25.659                      | 576     |
| 831      | 8.149  | 50           | DDC80005        | 5.821                       | 335     |
|          |        | 150          | DDC80015        | 17.462                      | 446     |
|          |        | 300          | DDC80030        | 34.925                      | 606     |
| 1.085    | 10.644 | 50           | DDC100005       | 7.603                       | 365     |
|          |        | 150          | DDC100015       | 22.808                      | 476     |
|          |        | 300          | DDC100030       | 45.616                      | 636     |



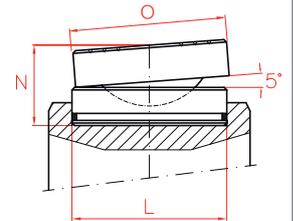


|               |                       |
|---------------|-----------------------|
| Type          | <b>DDC</b>            |
| Capacity      | <b>51 - 1.085 ton</b> |
| Stroke        | <b>50 - 300 mm</b>    |
| Max. pressure | <b>700 bar</b>        |



OPTIONAL TILTING SADDLES

| Model    | L   | N     | O   | Weight |
|----------|-----|-------|-----|--------|
| LARZEP   | mm  | mm    | mm  | kg     |
| CATS400  | 159 | 78,0  | 210 | 17,0   |
| CATS500  | 179 | 77,0  | 230 | 20,0   |
| CATS600  | 194 | 81,5  | 250 | 24,0   |
| CATS800  | 224 | 86,5  | 275 | 32,0   |
| CATS1000 | 249 | 105,5 | 300 | 46,0   |



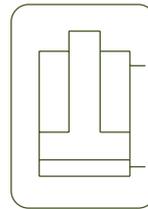
P.90

| B   | D   | E   | F   | H   | H1  | K  | L     | N  | Area            | Weight | Model     | With tilting saddle |          |
|-----|-----|-----|-----|-----|-----|----|-------|----|-----------------|--------|-----------|---------------------|----------|
| mm  | mm  | mm  | mm  | mm  | mm  | mm | mm    | mm | cm <sup>2</sup> | kg     | LARZEP    | A                   | Model    |
| 325 | 350 | 270 | 220 | 65  | 95  | 10 | 159,5 | 30 | 572,6           | 197    | DDC40005  | 323                 | CATS400  |
| 532 | 350 | 270 | 220 | 65  | 95  | 10 | 159,5 | 30 | 572,6           | 262    | DDC40015  | 430                 | CATS400  |
| 838 | 350 | 270 | 220 | 65  | 95  | 10 | 159,5 | 30 | 572,6           | 357    | DDC40030  | 586                 | CATS400  |
| 355 | 400 | 305 | 250 | 75  | 110 | 10 | 179,5 | 30 | 730,6           | 287    | DDC50005  | 352                 | CATS500  |
| 560 | 400 | 305 | 250 | 75  | 110 | 10 | 179,5 | 30 | 730,6           | 371    | DDC50015  | 457                 | CATS500  |
| 866 | 400 | 305 | 250 | 75  | 110 | 10 | 179,5 | 30 | 730,6           | 496    | DDC50030  | 613                 | CATS500  |
| 365 | 430 | 330 | 270 | 80  | 115 | 10 | 195   | 30 | 855,3           | 342    | DDC60005  | 367                 | CATS600  |
| 570 | 430 | 330 | 270 | 80  | 115 | 10 | 195   | 30 | 855,3           | 440    | DDC60015  | 472                 | CATS600  |
| 876 | 430 | 330 | 270 | 80  | 115 | 10 | 195   | 30 | 855,3           | 583    | DDC60030  | 628                 | CATS600  |
| 385 | 505 | 385 | 320 | 95  | 120 | 10 | 225   | 30 | 1.164,2         | 504    | DDC80005  | 392                 | CATS800  |
| 596 | 505 | 385 | 320 | 95  | 120 | 10 | 225   | 30 | 1.164,2         | 649    | DDC80015  | 503                 | CATS800  |
| 906 | 505 | 385 | 320 | 95  | 120 | 10 | 225   | 30 | 1.164,2         | 858    | DDC80030  | 663                 | CATS800  |
| 415 | 570 | 440 | 340 | 105 | 130 | 10 | 250   | 30 | 1.520,5         | 696    | DDC100005 | 441                 | CATS1000 |
| 626 | 570 | 440 | 340 | 105 | 130 | 10 | 250   | 30 | 1.520,5         | 869    | DDC100015 | 552                 | CATS1000 |
| 936 | 570 | 440 | 340 | 105 | 130 | 10 | 250   | 30 | 1.520,5         | 1.116  | DDC100030 | 712                 | CATS1000 |

## ALUMINIUM DOUBLE ACTING CYLINDERS



- ✓ Capacities from 50 and 100 ton, strokes up to 300 mm.
- ✓ Made from high strength aluminium alloy.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Lightweight. Over 40% weight reduction when compared with steel equivalent.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ Internal safety valve to prevent accidental over-pressure.
- ✓ Not suitable for high-cycle applications.



**ALUM. DOUBLE ACTING CYLINDERS**



|               |                     |
|---------------|---------------------|
| Type          | <b>DDA</b>          |
| Capacity      | <b>50 - 100 ton</b> |
| Stroke        | <b>50 - 300 mm</b>  |
| Max. pressure | <b>700 bar</b>      |

DDA CYLINDERS



Step by step aluminium cylinders. Stage lifting.



**DDC**  
Double Acting High Tonnage Cylinders



P.44

**D**  
Double Acting Cylinders



P.42

**DAH**  
Aluminium Double Acting  
Hollow Piston Cylinders



P.54

**AZ04**  
Optional Tilting Saddles available



P.90

**HBM / HBE**  
Powerpacks



P.72

**Z22107**  
Air Hydraulic Pumps



P.70

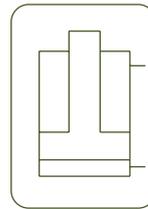
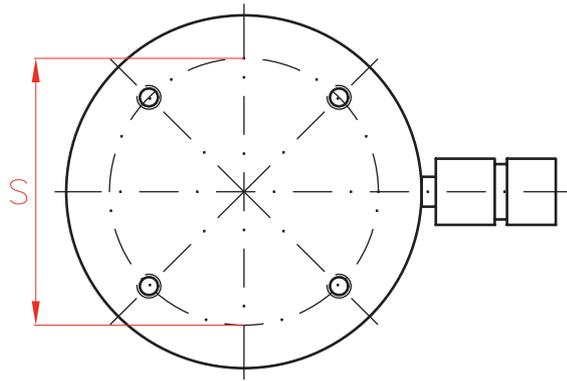
**X**  
Double Acting Hand Pumps



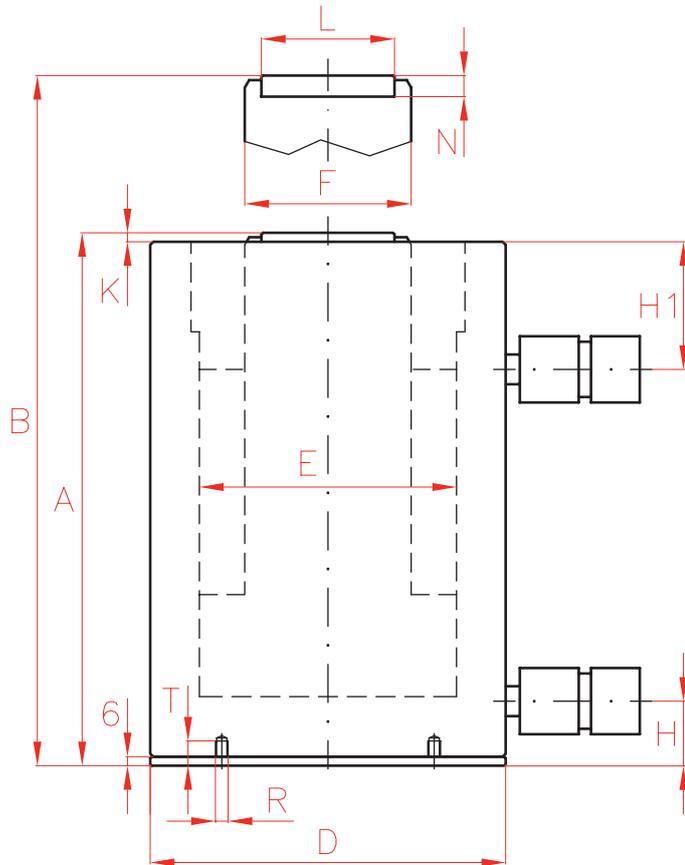
P.66

| Capacity   | Stroke | Model           | Capacity (kN) | Oil Cap.        | A   |  |
|------------|--------|-----------------|---------------|-----------------|-----|--|
| ton        | mm     | LARZEP          | Push          | cm <sup>3</sup> | mm  |  |
| <b>50</b>  | 50     | <b>DDA05005</b> | 487           | 354             | 198 |  |
|            | 100    | <b>DDA05010</b> | 487           | 709             | 248 |  |
|            | 150    | <b>DDA05015</b> | 487           | 1.063           | 298 |  |
|            | 200    | <b>DDA05020</b> | 487           | 1.418           | 348 |  |
|            | 250    | <b>DDA05025</b> | 487           | 1.772           | 398 |  |
|            | 300    | <b>DDA05030</b> | 487           | 2.126           | 448 |  |
| <b>100</b> | 50     | <b>DDA10005</b> | 911           | 664             | 230 |  |
|            | 100    | <b>DDA10010</b> | 911           | 1.327           | 280 |  |
|            | 150    | <b>DDA10015</b> | 911           | 1.991           | 330 |  |
|            | 200    | <b>DDA10020</b> | 911           | 2.655           | 380 |  |
|            | 250    | <b>DDA10025</b> | 911           | 3.318           | 430 |  |
|            | 300    | <b>DDA10030</b> | 911           | 3.982           | 480 |  |



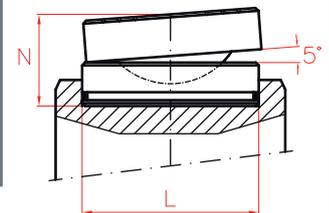


|               |                     |
|---------------|---------------------|
| Type          | <b>DDA</b>          |
| Capacity      | <b>50 - 100 ton</b> |
| Stroke        | <b>50 - 300 mm</b>  |
| Max. pressure | <b>700 bar</b>      |



OPTIONAL TILTING SADDLES

| Model         | L  | N  | Weight |
|---------------|----|----|--------|
| LARZEP        | mm | mm | kg     |
| <b>AZ0402</b> | 61 | 39 | 0,8    |
| <b>AZ0404</b> | 88 | 47 | 2,2    |



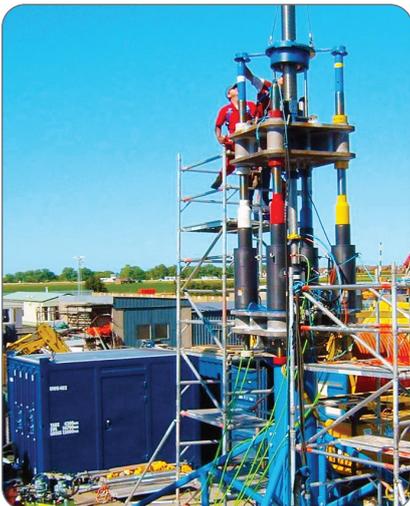
P.90

| B   | D   | E   | F   | H  | H1 | K | L  | N  | S   | R  | T  | Area            | Weight | Model           | With tilting saddle |        |
|-----|-----|-----|-----|----|----|---|----|----|-----|----|----|-----------------|--------|-----------------|---------------------|--------|
| mm  | mm  | mm  | mm  | mm | mm |   | mm | mm | mm  |    | mm | cm <sup>2</sup> | kg     | LARZEP          | A                   | Model  |
| 248 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 8,0    | <b>DDA05005</b> | 225                 | AZ0402 |
| 348 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 9,7    | <b>DDA05010</b> | 275                 | AZ0402 |
| 448 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 11,3   | <b>DDA05015</b> | 325                 | AZ0402 |
| 548 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 12,9   | <b>DDA05020</b> | 375                 | AZ0402 |
| 648 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 14,6   | <b>DDA05025</b> | 425                 | AZ0402 |
| 748 | 135 | 95  | 75  | 26 | 60 | 7 | 61 | 12 | 115 | M6 | 19 | 71              | 16,2   | <b>DDA05030</b> | 475                 | AZ0402 |
| 280 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 16,1   | <b>DDA10005</b> | 263                 | AZ0404 |
| 380 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 19,2   | <b>DDA10010</b> | 313                 | AZ0404 |
| 480 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 22,2   | <b>DDA10015</b> | 363                 | AZ0404 |
| 580 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 25,3   | <b>DDA10020</b> | 413                 | AZ0404 |
| 680 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 28,3   | <b>DDA10025</b> | 463                 | AZ0404 |
| 780 | 180 | 130 | 110 | 32 | 70 | 5 | 88 | 14 | 160 | M6 | 19 | 133             | 31,3   | <b>DDA10030</b> | 513                 | AZ0404 |

**DOUBLE ACTING HOLLOW PISTON CYLINDERS**



- ✓ Double acting hollow piston hydraulic cylinders with a capacity from 30 to 145 ton, stroke up to 258 mm, rated for 700 bar.
- ✓ For push and pull operations: Tensioning cables and bolts, pulling sleeves and bearings.
- ✓ Collar thread, piston end thread and base holes for easy fixing.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Hollow plain saddle as standard. Optional solid or threaded saddles available.
- ✓ Hollow nickel plated piston.



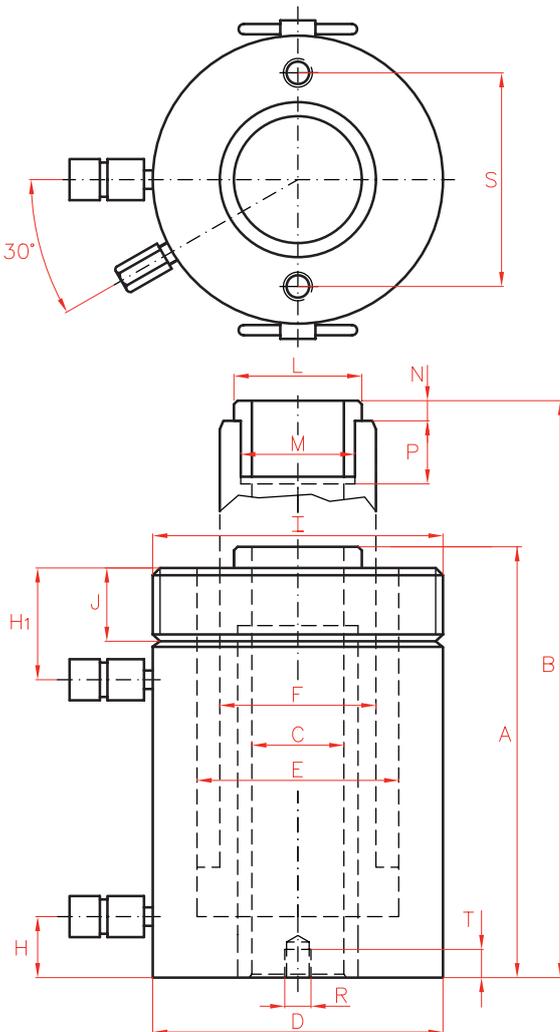
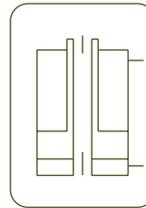
| Capacity | Stroke | Model           | Capacity (kN) |      | Oil Cap.        | A   | B   | C    | D   |  |
|----------|--------|-----------------|---------------|------|-----------------|-----|-----|------|-----|--|
|          |        |                 | Push          | Pull |                 |     |     |      |     |  |
| ton      | mm     | LARZEP          |               |      | cm <sup>3</sup> | mm  | mm  | mm   | mm  |  |
| 30       | 178    | <b>DDH03015</b> | 326           | 213  | 829             | 330 | 508 | 33,3 | 114 |  |
|          | 258    | <b>DDH03025</b> | 326           | 213  | 1.202           | 431 | 689 | 33,3 | 114 |  |
| 60       | 89     | <b>DDH06008</b> | 576           | 380  | 733             | 247 | 336 | 53,8 | 159 |  |
|          | 166    | <b>DDH06015</b> | 576           | 380  | 1.366           | 323 | 489 | 53,8 | 159 |  |
|          | 257    | <b>DDH06025</b> | 576           | 380  | 2.115           | 438 | 695 | 53,8 | 159 |  |
| 95       | 38     | <b>DDH10004</b> | 931           | 612  | 505             | 165 | 203 | 79,2 | 212 |  |
|          | 76     | <b>DDH10008</b> | 931           | 612  | 1011            | 254 | 330 | 79,2 | 212 |  |
|          | 153    | <b>DDH10015</b> | 931           | 612  | 2.035           | 342 | 495 | 79,2 | 212 |  |
|          | 257    | <b>DDH10025</b> | 931           | 612  | 3.420           | 460 | 717 | 79,2 | 212 |  |
| 145      | 203    | <b>DDH15020</b> | 1.429         | 718  | 4.144           | 349 | 552 | 79,2 | 247 |  |



**AZ05**  
Hollow Saddles



P.90



Type **DDH**

Capacity **30 - 145 ton**

Stroke **38 - 258 mm**

Max. pressure **700 bar**

**DAH**  
Aluminium Double Acting  
Hollow Piston Cylinders



P.54



|  | E     | F     | H  | H1 | I         | J  | L   | M           | N  | P  | R        | S     | T    | Area            | Weight | Model           |
|--|-------|-------|----|----|-----------|----|-----|-------------|----|----|----------|-------|------|-----------------|--------|-----------------|
|  | mm    | mm    | mm | mm | UN        | mm | mm  | UN          | mm | mm | UN       | mm    | mm   | cm <sup>2</sup> | kg     | LARZEP          |
|  | 88,9  | 63,5  | 25 | 60 | 4½"- 12   | 42 | 63  | 1 13/16"-16 | 9  | 22 | ¾"- 16   | 92,2  | 15,7 | 46,6            | 21     | <b>DDH03015</b> |
|  | 88,9  | 63,5  | 25 | 60 | 4½"- 12   | 42 | 63  | 1 13/16"-16 | 9  | 22 | ¾"- 16   | 92,2  | 15,7 | 46,6            | 27     | <b>DDH03025</b> |
|  | 123,9 | 91,9  | 31 | 66 | 6¼"- 12   | 48 | 91  | 2 3/4"-16   | 12 | 19 | ½"- 13   | 130,0 | 14,0 | 82,3            | 28     | <b>DDH06008</b> |
|  | 123,9 | 91,9  | 31 | 66 | 6¼"- 12   | 48 | 91  | 2 3/4"-16   | 12 | 19 | ½"- 13   | 130,0 | 14,0 | 82,3            | 35     | <b>DDH06015</b> |
|  | 123,9 | 91,9  | 31 | 66 | 6¼"- 12   | 48 | 91  | 2 3/4"-16   | 12 | 19 | ½"- 13   | 130,0 | 14,0 | 82,3            | 45     | <b>DDH06025</b> |
|  | 165,1 | 127,0 | 38 | 44 | -         | -  | 126 | 4"-16       | 12 | 25 | 5/8"- 16 | 177,8 | 19,0 | 133,0           | 33     | <b>DDH10004</b> |
|  | 165,1 | 127,0 | 38 | 85 | 83/8"- 12 | 60 | 126 | 4"-16       | 12 | 25 | 5/8"- 16 | 177,8 | 19,0 | 133,0           | 61     | <b>DDH10008</b> |
|  | 165,1 | 127,0 | 38 | 85 | 83/8"- 12 | 60 | 126 | 4"-16       | 12 | 25 | 5/8"- 16 | 177,8 | 19,0 | 133,0           | 79     | <b>DDH10015</b> |
|  | 165,1 | 127,0 | 38 | 85 | 83/8"- 12 | 60 | 126 | 4"-16       | 12 | 25 | 5/8"- 16 | 177,8 | 19,0 | 133,0           | 106    | <b>DDH10025</b> |
|  | 190,5 | 152,4 | 38 | 60 | -         | -  | 127 | 4 1/4"-12   | 4  | 25 | 5/8"- 16 | 213,4 | 23,0 | 204,1           | 111    | <b>DDH15020</b> |

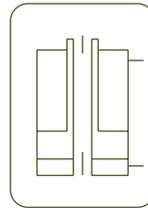
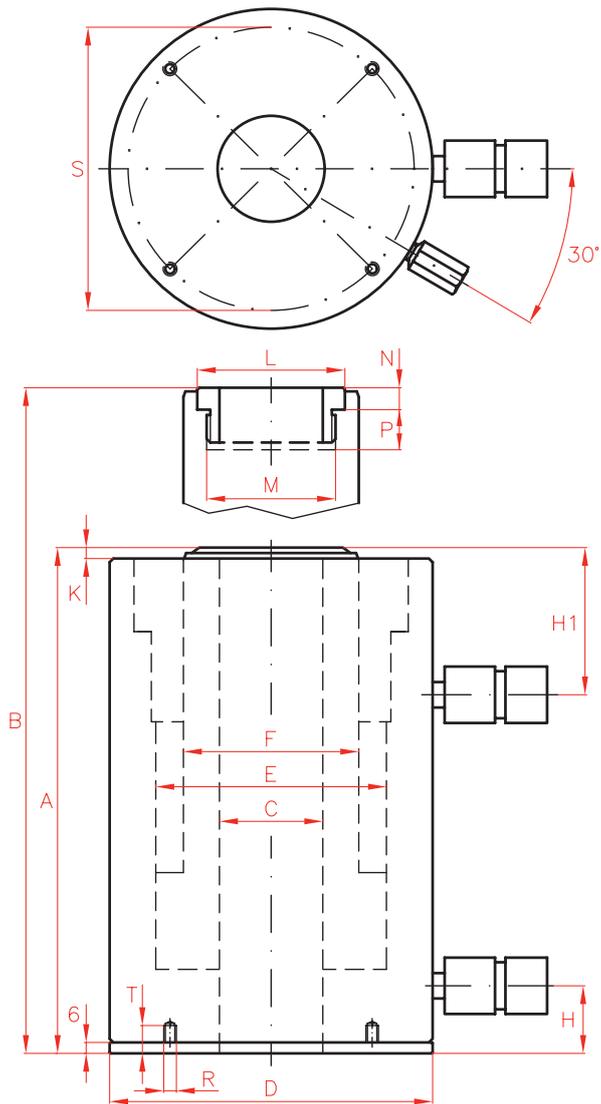
**ALUMINIUM DOUBLE ACTING, HOLLOW PISTON CYLINDERS**



- ✓ Capacities from 30 to 100 ton, strokes up to 250 mm.
- ✓ For push and pull operations: Tensioning cable and bolts, pulling sleeves and bearings.
- ✓ Made from high-strength aluminium alloy.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Lightweight. Over 40% weight reduction when compared with steel equivalent.
- ✓ Lighter and shorter than single acting SAH equivalent.
- ✓ Fitted with steel base plate for wear resistance.
- ✓ Safety valve to prevent accidental over-pressure.
- ✓ Hollow plain saddle as standard. Optional solid or threaded saddles available. See page 90.
- ✓ Not suitable for high-cycle applications.

| Capacity<br>ton | Stroke<br>mm | Model<br>LARZEP | Capacity (kN) |      | Oil Cap.<br>cm <sup>3</sup> |
|-----------------|--------------|-----------------|---------------|------|-----------------------------|
|                 |              |                 | Push          | Pull |                             |
| 30              | 50           | DAH03005        | 302           | 173  | 220                         |
|                 | 100          | DAH03010        | 302           | 173  | 440                         |
|                 | 150          | DAH03015        | 302           | 173  | 660                         |
|                 | 200          | DAH03020        | 302           | 173  | 880                         |
|                 | 250          | DAH03025        | 302           | 173  | 1.100                       |
| 60              | 50           | DAH06005        | 578           | 356  | 421                         |
|                 | 100          | DAH06010        | 578           | 356  | 842                         |
|                 | 150          | DAH06015        | 578           | 356  | 1.263                       |
|                 | 200          | DAH06020        | 578           | 356  | 1.684                       |
|                 | 250          | DAH06025        | 578           | 356  | 2.105                       |
| 100             | 50           | DAH10005        | 1.018         | 647  | 742                         |
|                 | 100          | DAH10010        | 1.018         | 647  | 1.484                       |
|                 | 150          | DAH10015        | 1.018         | 647  | 2.226                       |
|                 | 200          | DAH10020        | 1.018         | 647  | 2.968                       |
|                 | 250          | DAH10025        | 1.018         | 647  | 3.710                       |





ALUMINIUM D/A HOLLOW CYLINDERS



|               |              |
|---------------|--------------|
| Type          | <b>DAH</b>   |
| Capacity      | 30 - 100 ton |
| Stroke        | 50 - 250 mm  |
| Max. pressure | 700 bar      |

DAH CYLINDERS

**DDH**  
Double Acting Hollow Piston Cylinders



P.52

**AZ04**  
Optional Saddles available



P.90

|  | A   | B   | C  | D   | E   | F   | H  | H1 | K  | L   | M           | N  | P  | R  | S   | T  | Area            | Weight | Model           |
|--|-----|-----|----|-----|-----|-----|----|----|----|-----|-------------|----|----|----|-----|----|-----------------|--------|-----------------|
|  | mm  | mm  | mm | mm  | mm  | mm  | mm | mm | mm | mm  | UN          | mm | mm |    | mm  | mm | cm <sup>2</sup> | kg     | LARZEP          |
|  | 217 | 267 | 34 | 130 | 90  | 70  | 32 | 61 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 7      | <b>DAH03005</b> |
|  | 267 | 367 | 34 | 130 | 90  | 70  | 32 | 61 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 9      | <b>DAH03010</b> |
|  | 317 | 467 | 34 | 130 | 90  | 70  | 32 | 61 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 12     | <b>DAH03015</b> |
|  | 367 | 567 | 34 | 130 | 90  | 70  | 32 | 61 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 13     | <b>DAH03020</b> |
|  | 417 | 667 | 34 | 130 | 90  | 70  | 32 | 61 | 4  | 55  | 1 11/13"-16 | 9  | 22 | M6 | 110 | 19 | 44              | 15     | <b>DAH03025</b> |
|  | 225 | 275 | 56 | 175 | 125 | 95  | 37 | 66 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 13     | <b>DAH06005</b> |
|  | 275 | 375 | 56 | 175 | 125 | 95  | 37 | 66 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 16     | <b>DAH06010</b> |
|  | 325 | 475 | 56 | 175 | 125 | 95  | 37 | 66 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 19     | <b>DAH06015</b> |
|  | 375 | 575 | 56 | 175 | 125 | 95  | 37 | 66 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 22     | <b>DAH06020</b> |
|  | 425 | 675 | 56 | 175 | 125 | 95  | 37 | 66 | 4  | 80  | 2 3/4"-16   | 12 | 22 | M6 | 155 | 19 | 84              | 25     | <b>DAH06025</b> |
|  | 256 | 306 | 81 | 235 | 170 | 130 | 40 | 80 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 27     | <b>DAH10005</b> |
|  | 306 | 406 | 81 | 235 | 170 | 130 | 40 | 80 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 33     | <b>DAH10010</b> |
|  | 356 | 506 | 81 | 235 | 170 | 130 | 40 | 80 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 38     | <b>DAH10015</b> |
|  | 406 | 606 | 81 | 235 | 170 | 130 | 40 | 80 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 43     | <b>DAH10020</b> |
|  | 456 | 706 | 81 | 235 | 170 | 130 | 40 | 80 | 6  | 116 | 4"-16       | 13 | 25 | M6 | 215 | 19 | 148             | 49     | <b>DAH10025</b> |

**DOUBLE ACTING PRODUCTION CYLINDERS**



- ✓ Capacities from 4 to 23 ton, strokes up to 260 mm.
- ✓ For carrying out push and pull operations.
- ✓ Black nitrided to improve corrosion resistance.
- ✓ Designed for long life in production applications.
- ✓ Large range of mounting accessories: flanges, mounting blocks, nuts and clevis eyes.

| Capacity<br>ton | Stroke<br>mm | Model<br>LARZEP | Capacity (kN) |      | Area (cm <sup>2</sup> ) |      | Oil Cap.<br>cm <sup>3</sup> | A<br>mm |
|-----------------|--------------|-----------------|---------------|------|-------------------------|------|-----------------------------|---------|
|                 |              |                 | Push          | Pull | Push                    | Pull |                             |         |
| 4               | 28           | DM00403         | 34            | 12   | 5                       | 2    | 14                          | 186     |
|                 | 79           | DM00408         | 34            | 12   | 5                       | 2    | 39                          | 237     |
|                 | 155          | DM00416         | 34            | 12   | 5                       | 2    | 76                          | 313     |
| 8               | 28           | DM00803         | 86            | 44   | 13                      | 6    | 35                          | 223     |
|                 | 79           | DM00808         | 86            | 44   | 13                      | 6    | 99                          | 274     |
|                 | 155          | DM00816         | 86            | 44   | 13                      | 6    | 195                         | 350     |
|                 | 257          | DM00826         | 86            | 44   | 13                      | 6    | 323                         | 452     |
| 15              | 159          | DM01516         | 139           | 73   | 20                      | 11   | 323                         | 389     |
|                 | 260          | DM01526         | 139           | 73   | 20                      | 11   | 527                         | 490     |
| 23              | 159          | DM02316         | 228           | 93   | 33                      | 14   | 527                         | 425     |
|                 | 260          | DM02326         | 228           | 93   | 33                      | 14   | 863                         | 526     |



**HBM / HBE**  
Powerpacks



P.72

**Z12107**  
Air Hydraulic Pumps



P.70

**D/A PRODUCTION CYLINDERS**



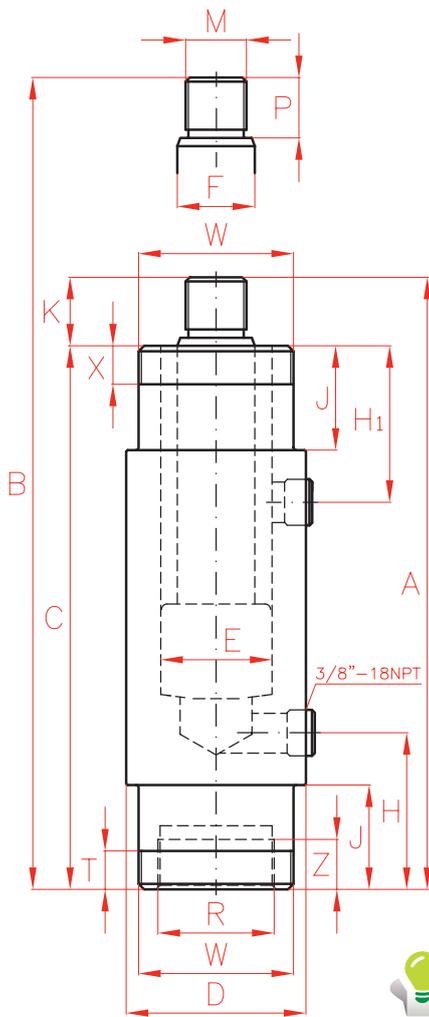
Type **DM**

Capacity **4 - 23 ton**

Stroke **28 - 260 mm**

Max. pressure **700 bar**

DM CYLINDERS



**WARNING**

**DM cylinders are not equipped with safety valve to prevent accidental over-pressure.**



NOTE: 4 ton cylinders have 1/4" BSP thread for the couplers.

**DM-RB, DM-RP, DM-RC, DM-RS**  
Mounting Accessories for DM cylinders



P.58

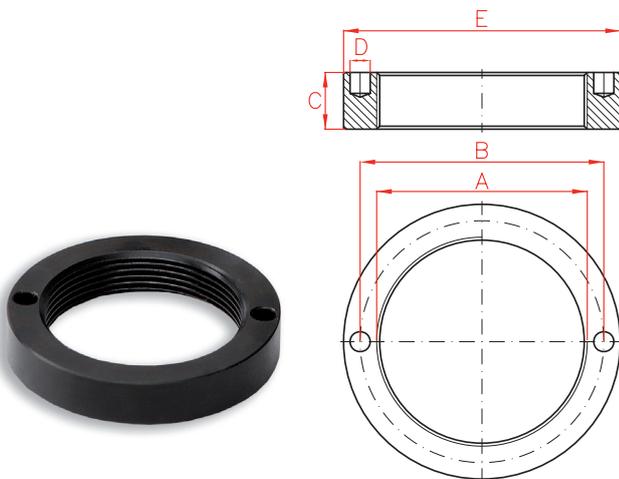
**AV - AY - AVD**  
Pressure Gauges



P.94

|  | B   | C   | D  | E  | F  | H  | H1  | K  | J  | M         | P  | R         | W         | X  | Z  | Weight | Model   |
|--|-----|-----|----|----|----|----|-----|----|----|-----------|----|-----------|-----------|----|----|--------|---------|
|  | mm  | mm  | mm | mm | mm | mm | mm  | mm | mm | mm        | mm | mm        | mm        | mm | mm | kg     | LARZEP  |
|  | 214 | 162 | 51 | 25 | 20 | 47 | 61  | 24 | 29 | M16 x 1,5 | 19 | M30 x 1,5 | M42 x 1,5 | 11 | 9  | 2,0    | DM00403 |
|  | 316 | 213 | 51 | 25 | 20 | 47 | 61  | 24 | 29 | M16 x 1,5 | 19 | M30 x 1,5 | M42 x 1,5 | 11 | 9  | 2,9    | DM00408 |
|  | 468 | 289 | 51 | 25 | 20 | 47 | 61  | 24 | 29 | M16 x 1,5 | 19 | M30 x 1,5 | M42 x 1,5 | 11 | 9  | 3,9    | DM00416 |
|  | 251 | 198 | 65 | 40 | 28 | 75 | 57  | 25 | 38 | M22 x 1,5 | 22 | M42 x 1,5 | M56 x 2   | 14 | 14 | 4,2    | DM00803 |
|  | 353 | 249 | 65 | 40 | 28 | 75 | 57  | 25 | 38 | M22 x 1,5 | 22 | M42 x 1,5 | M56 x 2   | 14 | 14 | 5,3    | DM00808 |
|  | 505 | 325 | 65 | 40 | 28 | 75 | 57  | 25 | 38 | M22 x 1,5 | 22 | M42 x 1,5 | M56 x 2   | 14 | 14 | 6,8    | DM00816 |
|  | 709 | 427 | 65 | 40 | 28 | 75 | 57  | 25 | 38 | M22 x 1,5 | 22 | M42 x 1,5 | M56 x 2   | 14 | 14 | 9,0    | DM00826 |
|  | 548 | 359 | 80 | 51 | 35 | 73 | 95  | 30 | 54 | M30 x 1,5 | 28 | M56 x 2   | M70 x 2   | 22 | 24 | 9,0    | DM01516 |
|  | 750 | 460 | 80 | 51 | 35 | 73 | 95  | 30 | 54 | M30 x 1,5 | 28 | M56 x 2   | M70 x 2   | 22 | 24 | 11,7   | DM01526 |
|  | 584 | 398 | 92 | 65 | 50 | 89 | 110 | 27 | 70 | M42 x 1,5 | 25 | M70 x 2   | M85 x 2   | 29 | 26 | 17,0   | DM02316 |
|  | 786 | 499 | 92 | 65 | 50 | 89 | 110 | 27 | 70 | M42 x 1,5 | 25 | M70 x 2   | M85 x 2   | 29 | 26 | 21,0   | DM02326 |

## ATTACHMENTS FOR DM CYLINDERS



### Nuts

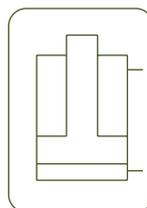
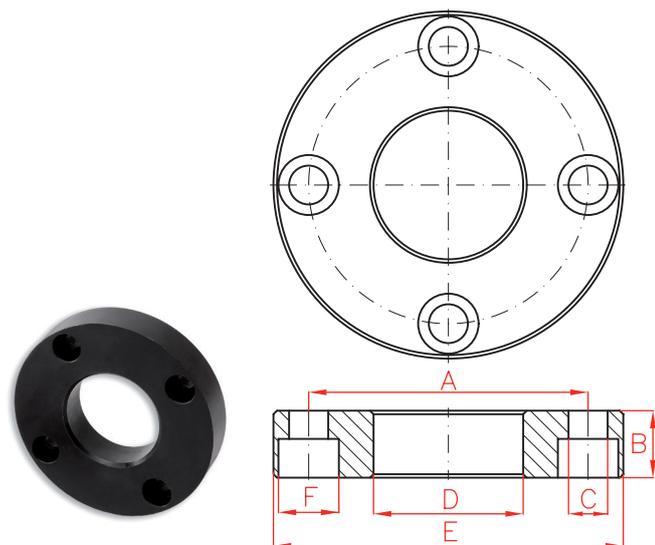
| Model          | A         | B    | C    | D   | E   | Weight |
|----------------|-----------|------|------|-----|-----|--------|
| LARZEP         | mm        | mm   | mm   | mm  | mm  | kg     |
| <b>DM004RB</b> | M42 x 1,5 | 49,5 | 9,5  | 6,3 | 57  | 0,1    |
| <b>DM008RB</b> | M56 x 2   | 65,5 | 12,7 | 6,7 | 75  | 0,1    |
| <b>DM015RB</b> | M70 x 2   | 81,0 | 19,0 | 6,7 | 92  | 0,4    |
| <b>DM023RB</b> | M85 x 2   | 96,5 | 25,4 | 6,7 | 108 | 0,7    |



### Clevis Eyes

| Model          | A  | B         | C    | D     | E  | F    | G    | H    | I    | J         | Weight |
|----------------|----|-----------|------|-------|----|------|------|------|------|-----------|--------|
| LARZEP         | mm | mm        | mm   | mm    | mm | mm   | mm   | mm   | mm   | mm        | kg     |
| <b>DM004RP</b> | 30 | M30 x 1,5 | 19,1 | 67,4  | 16 | 15,9 | 52,4 | 32,4 | 23,8 | M16 x 1,5 | 0,2    |
| <b>DM008RP</b> | 42 | M42 x 1,5 | 25,4 | 78,1  | 20 | 25,4 | 57,1 | 37,1 | 23,8 | M22 x 1,5 | 0,6    |
| <b>DM015RP</b> | 56 | M56 x 2   | 25,4 | 105,8 | 25 | 31,9 | 77,8 | 52,8 | 30,2 | M30 x 1,5 | 1,3    |
| <b>DM023RP</b> | 70 | M70 x 2   | 25,4 | 112,8 | 32 | 38,2 | 77,8 | 50,3 | 27,0 | M42 x 1,5 | 2,1    |





To use these attachments the nut DM\_RB is required.

**Flanges**

| Model   | A     | B    | C    | D    | E     | F  | Weight |
|---------|-------|------|------|------|-------|----|--------|
| LARZEP  | mm    | mm   | mm   | mm   | mm    | mm | kg     |
| DM004RS | 78,6  | 19,0 | 11,0 | 42,1 | 98,4  | 17 | 1,0    |
| DM008RS | 98,4  | 25,4 | 11,0 | 56,1 | 120,5 | 17 | 2,1    |
| DM015RS | 115,9 | 35,0 | 13,4 | 70,1 | 143,0 | 18 | 3,8    |
| DM023RS | 135,7 | 44,5 | 17,0 | 85,1 | 165,0 | 22 | 6,0    |

**DM**

Type **DM**

Capacity **4 - 23 ton**

Stroke **28 - 260 mm**

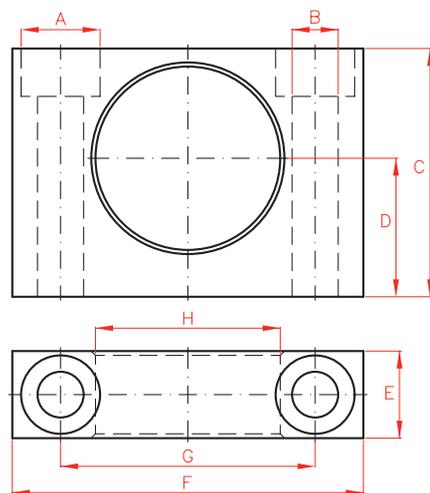
Max. pressure **700 bar**

**AZ3**  
Coupler 3/8"-18 NPT

P.86

**AP2**  
Hoses

P.84



To use these attachments the nut DM\_RB is required.

**Mounting Blocks**

| Model   | A  | B    | C     | D    | E  | F   | G     | H    | Weight |
|---------|----|------|-------|------|----|-----|-------|------|--------|
| LARZEP  | mm | mm   | mm    | mm   | mm | mm  | mm    | mm   | kg     |
| DM004RC | 18 | 10,5 | 57,0  | 31,8 | 20 | 80  | 58,0  | 42,1 | 0,4    |
| DM008RC | 21 | 13,5 | 82,5  | 44,5 | 25 | 105 | 78,0  | 56,1 | 1,2    |
| DM015RC | 28 | 20,0 | 100,0 | 52,4 | 35 | 127 | 95,2  | 70,1 | 2,9    |
| DM023RC | 36 | 26,5 | 125,0 | 63,5 | 45 | 159 | 117,5 | 85,1 | 4,5    |

**CYLINDER - PUMP SETS**



- ✓ All sets include 2 m hose (AP2020), male coupler (AZ3120), pressure gauge (AV10007) and gauge adaptor (AZ1502).
- ✓ Available with hand pump or air hydraulic pump.
- ✓ Cylinder pump set available without pressure gauge or gauge adaptor. Add 'G' to the reference.

**SINGLE ACTING, HOLLOW PISTON CYLINDER**

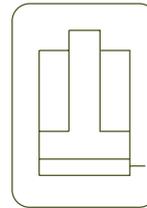
| Capacity |       | Stroke | Closed Height | Cylinder  | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 2 Stage | Hand Pump 2 Stage | Air Hydraulic Pump |
|----------|-------|--------|---------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| ton      | kN    | mm     | mm            | LARZEP    | W20307            | W10607            | W20807            | W21807            | W22607            | Z12107             |
| 12       | 121   | 42     | 120           | SSH01204P | JH01204           |                   |                   |                   |                   | JHZ01204           |
| 22       | 217   | 49     | 162           | SSH02205  |                   | JH02205           |                   |                   |                   | JHZ02205           |
| 30       | 302   | 64     | 178           | SSH03006  |                   |                   | JH03006           |                   |                   | JHZ03006           |
| 60       | 578   | 76     | 247           | SSH06008  |                   |                   |                   | JH06008           |                   | JHZ06008           |
| 100      | 1.018 | 76     | 254           | SSH10008  |                   |                   |                   |                   | JH10008           | JHZ10008           |



**W**  
Single Acting Hand Pumps.



P.66



**SINGLE ACTING CYLINDERS**



|               |             |
|---------------|-------------|
| Type          | <b>J</b>    |
| Capacity      | 5 - 100 ton |
| Stroke        | 40 - 362 mm |
| Max. pressure | 700 bar     |

J CYLINDERS

**Z12107**  
Air Hydraulic Pumps



P.70

**SINGLE ACTING, SPRING RETURN CYLINDER**

| Capacity |     | Stroke | Closed Height | Cylinder | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 2 Stage | Hand Pump 2 Stage | Air Hydraulic Pump |
|----------|-----|--------|---------------|----------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| ton      | kN  | mm     | mm            | LARZEP   | W20307            | W10607            | W20807            | W21807            | W22607            | Z12107             |
| 5        | 49  | 78     | 165           | SSM00508 | JM00508           |                   |                   |                   |                   | JMZ00508           |
|          |     | 129    | 216           | SSM00513 | JM00513           |                   |                   |                   |                   | JMZ00513           |
| 10       | 109 | 51     | 122           | SSM01005 | JM01005           |                   |                   |                   |                   | JMZ01005           |
|          |     | 154    | 248           | SSM01015 |                   | JM01015           |                   |                   |                   | JMZ01015           |
|          |     | 255    | 350           | SSM01025 |                   |                   | JM01025           |                   |                   | JMZ01025           |
| 15       | 163 | 103    | 201           | SSM01510 |                   | JM01510           |                   |                   |                   | JMZ01510           |
|          |     | 155    | 271           | SSM01515 |                   |                   | JM01515           |                   |                   | JMZ01515           |
| 23       | 228 | 56     | 165           | SSM02305 |                   | JM02305           |                   |                   |                   | JMZ02305           |
|          |     | 108    | 216           | SSM02310 |                   | JM02310           |                   |                   |                   | JMZ02310           |
|          |     | 162    | 273           | SSM02315 |                   |                   | JM02315           |                   |                   | JMZ02315           |
|          |     | 264    | 375           | SSM02326 |                   |                   |                   | JM02326           |                   | JMZ02326           |
|          |     | 365    | 475           | SSM02336 |                   |                   |                   |                   | JM02336           | JMZ02336           |
| 30       | 303 | 217    | 387           | SSM03021 |                   |                   |                   | JM03021           | JMZ03021          |                    |
| 50       | 487 | 156    | 283           | SSM05016 |                   |                   |                   | JM05016           | JMZ05016          |                    |
| 100      | 911 | 169    | 357           | SSM10015 |                   |                   |                   | JM10015           | JMZ10015          |                    |

**LOW HEIGHT, SINGLE ACTING, SPRING RETURN CYLINDER**

| Capacity |     | Stroke | Closed Height | Cylinder | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 1 Stage | Hand Pump 2 Stage | Hand Pump 2 Stage | Air Hydraulic Pump |
|----------|-----|--------|---------------|----------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| ton      | kN  | mm     | mm            | LARZEP   | W20307            | W10607            | W20807            | W21807            | W22607            | Z12107             |
| 10       | 109 | 38     | 88            | SSP01004 | JP01004           |                   |                   |                   |                   | JPZ01004           |
| 20       | 214 | 45     | 98            | SSP02004 |                   | JP02004           |                   |                   |                   | JPZ02004           |
| 30       | 303 | 62     | 117           | SSP03006 |                   |                   | JP03006           |                   |                   | JPZ03006           |
| 50       | 486 | 60     | 122           | SSP05006 |                   |                   | JP05006           |                   |                   | JPZ05006           |
| 100      | 911 | 57     | 141           | SSP10006 |                   |                   |                   | JP10006           |                   | JPZ10006           |

**BOTTLE JACKS**

- ✓ Capacities from 3 to 50 ton.
- ✓ Up to 30 ton models are single stage with screw extension.
- ✓ All models include safety relief valve.
- ✓ Supplied with zinc plated handle.
- ✓ Bottle jacks will operate horizontally, provided that the pump element is at the lowest point.





Bottle jack with lock nut



50 ton, 2 speed, long stroke bottle jack

**BOTTLE JACKS**



|               |                     |
|---------------|---------------------|
| Type          | <b>A</b>            |
| Capacity      | <b>3 - 50 ton</b>   |
| Stroke        | <b>105 - 150 mm</b> |
| Max. pressure | <b>700 bar</b>      |

A BOTTLE JACKS

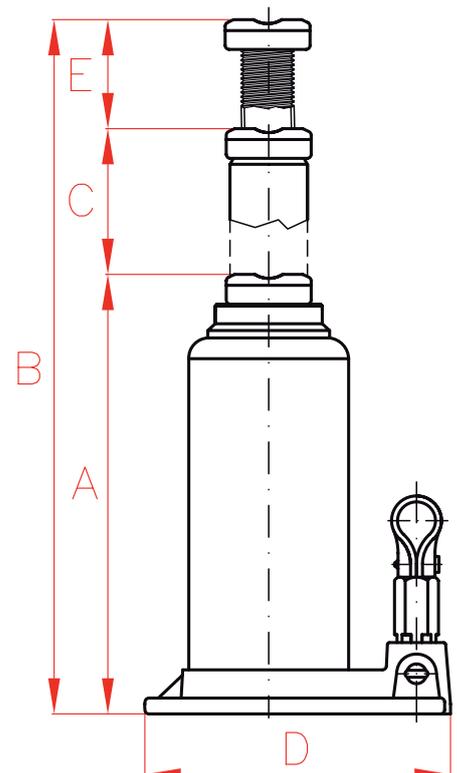
**J**  
Cylinder - pump sets



P.60

**BOTTLE JACKS**

| Capacity<br>ton | Model<br>LARZEP | A<br>mm | B<br>mm | C<br>mm | D<br>mm   | Screw E<br>mm | Weight<br>kg |
|-----------------|-----------------|---------|---------|---------|-----------|---------------|--------------|
| 3               | A10310          | 168     | 338     | 105     | 118 x 75  | 65            | 3,7          |
| 5               | A10515          | 212     | 437     | 150     | 125 x 75  | 75            | 4,5          |
| 10              | A11015          | 219     | 444     | 150     | 145 x 90  | 75            | 6,4          |
| 15              | A11515          | 228     | 453     | 150     | 165 x 110 | 75            | 8,8          |
| 20              | A12015          | 234     | 459     | 150     | 173 x 122 | 75            | 10,6         |
| 30              | A13015          | 242     | 467     | 150     | 196 x 142 | 75            | 15,5         |
| 50              | A15014          | 260     | 400     | 140     | 214 x 164 | -             | 26,9         |



## HYDRAULIC PUMPS

**LARZEP** Pumps are available in a wide range of models: Hand Pumps, Air Hydraulic Pumps, Modular Pumps, Manual, Electric and Air Hydraulic Powerpacks, Hydrotest Hand Pumps and Air Pumps.

- ✓ 700 bar pumps as standard.
- ✓ Air and hand operated hydrotest pumps.
- ✓ Wide range of reservoirs, from 280 cm<sup>3</sup> in hand pumps up to 25 litres in standard powerpacks.



# PUMPS



| Models           | Pump type                                    | Max. Oil Capacity<br>litres | Max. Flow Rate<br>l/min         |   | Page |
|------------------|--|-----------------------------|---------------------------------|---|------|
| <b>W</b>         | Hydraulic Single Acting Hand Pumps           | 6,5                         | 4,9<br>cm <sup>3</sup> /stroke  |  | 66   |
| <b>X</b>         | Hydraulic Double Acting Hand Pumps           | 6,5                         | 4,9<br>cm <sup>3</sup> /stroke  |  | 66   |
| <b>WA</b>        | Hydraulic Aluminium Hand Pumps               | 0,8                         | 3,1<br>cm <sup>3</sup> /stroke  |  | 68   |
| <b>Z - ZR</b>    | Air Hydraulic Pumps 700 bar                  | 10                          | 0,14                            |  | 70   |
| <b>HBM</b>       | Hydraulic Electric Powerpacks Manual Valve   | 25                          | 3,28                            |  | 72   |
| <b>HBE</b>       | Hydraulic Electric Powerpacks Solenoid Valve | 25                          | 3,28                            |  | 74   |
| <b>WI</b>        | Modular Hand Pumps                           | –                           | 36                              |  | 76   |
| <b>HAP</b>       | Air Driven Hydrotest Pumps                   | 7                           | 16,2<br>cm <sup>3</sup> /stroke |  | 78   |
| <b>WAP - WIP</b> | Hydrotest Hand Pumps                         | 100                         | 20<br>cm <sup>3</sup> /stroke   |  | 80   |

**HYDRAULIC HAND PUMPS**



**W** Single acting



**X** Double acting

- ✓ **W** series pumps are for use with **Single Acting** cylinders.
- ✓ **X** series pumps are fitted with 4-way 3 position valve for use with **Double Acting** cylinders.
- ✓ The pump range includes single and two speed models.
- ✓ Two speed models provide rapid cylinder advance until contact is made with the load.
- ✓ Hydraulic port on all models is 3/8"-NPTF female.
- ✓ W and X series pumps are fitted with internal safety valves to prevent overpressure.
- ✓ W26507 and X26507 have a rectangular tank.
- ✓ WP21007 and XP21007 models are foot pedal operated.



WP21007 pump, foot pedal operated.



W26507, X26507 pumps.



HYDRAULIC HAND PUMPS

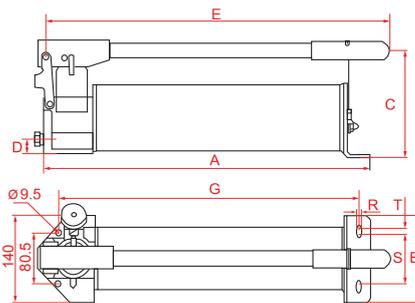
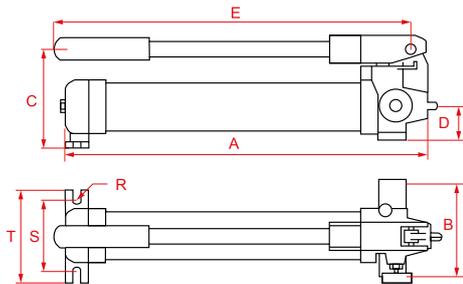


|               |                   |
|---------------|-------------------|
| Type          | <b>W - X</b>      |
| Capacity      | 0,28 - 6,5 litres |
| Max. pressure | 700 bar           |

**SINGLE ACTING W**

W20307 / W10607 / W20807 / W11407 / W21907

W22607 / W24507

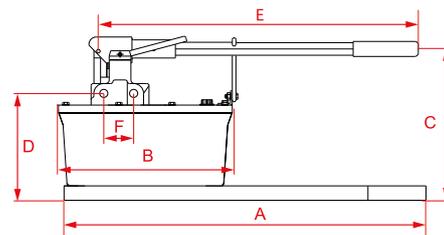
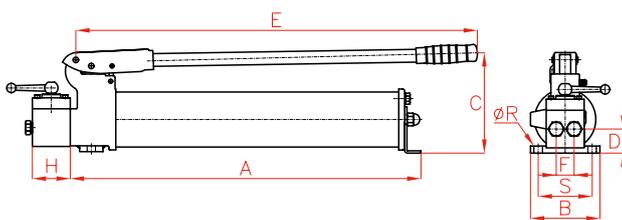


**DOUBLE ACTING X**

X22607 / X24507

**SINGLE / DOUBLE ACTING W - X**

W26507 / X26507



**SINGLE ACTING**

| Model   | Speeds | Usable oil      | Handle effort | Oil displacement / stroke (cm <sup>3</sup> ) |                       | Pressure rating (bar) |                       | A   | B   | C    | D   | E   | G   | R    | S     | T   | Weight | Model   |
|---------|--------|-----------------|---------------|--|-----------------------|-----------------------|-----------------------|-----|-----|------|-----|-----|-----|------|-------|-----|--------|---------|
|         |        |                 |               | 1 <sup>st</sup> Stage                        | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage |     |     |      |     |     |     |      |       |     |        |         |
| LARZEP  | No.    | cm <sup>3</sup> | kg            | 1 <sup>st</sup> Stage                        | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage | mm  | mm  | mm   | mm  | mm  | mm  | mm   | mm    | mm  | kg     | LARZEP  |
| W20307  | 2      | 280             | 40            | 7  | 1,0                   | 20                    | 700                   | 331 | 138 | 124  | 44  | 380 | -   | 7    | 38    | 66  | 5,5    | W20307  |
| W10607  | 1      | 640             | 43            | -  | 3,2                   | -                     | 700                   | 557 | 137 | 144  | 55  | 608 | -   | -    | -     | 90  | 7,3    | W10607  |
| W20807  | 2      | 640             | 45            | 13   | 2,8                   | 17                    | 700                   | 563 | 137 | 144  | 55  | 608 | -   | -    | -     | 90  | 8,2    | W20807  |
| WP21007 | 2      | 1.000           | 43            | 12   | 2,0                   | 50                    | 700                   | 550 | 176 | 445* | 52  | 540 | -   | 9,0  | 185,0 | 176 | 9,0    | WP21007 |
| W11407  | 1      | 1.400           | 43            | -  | 3,2                   | -                     | 700                   | 526 | 137 | 174  | 55  | 608 | -   | -    | -     | 106 | 10,9   | W11407  |
| W21907  | 2      | 1.800           | 49            | 13   | 2,8                   | 21                    | 700                   | 548 | 147 | 174  | 23  | 558 | -   | 10,5 | 82,0  | 140 | 11,0   | W21907  |
| W22607  | 2      | 2.600           | 41            | 46   | 4,0                   | 28                    | 700                   | 656 | 140 | 186  | 41  | 680 | 616 | 10,5 | 80,5  | 10  | 12,7   | W22607  |
| W24507  | 2      | 4.450           | 43            | 46   | 4,0                   | 28                    | 700                   | 574 | 146 | 189  | 41  | 643 | 528 | 10,5 | 80,5  | 10  | 18,1   | W24507  |
| W26507  | 2      | 6.500           | 37            | 126  | 4,9                   | 28                    | 700                   | 635 | 312 | 233  | 191 | 640 | -   | -    | -     | -   | 20,0   | W26507  |

**DOUBLE ACTING**

| Model   | Speeds | Usable oil      | Handle effort | Oil displacement / stroke (cm <sup>3</sup> ) |                       | Pressure rating (bar) |                       | A   | B   | C    | D   | E   | F   | H   | R    | S    | Weight | Model   |
|---------|--------|-----------------|---------------|--|-----------------------|-----------------------|-----------------------|-----|-----|------|-----|-----|-----|-----|------|------|--------|---------|
|         |        |                 |               | 1 <sup>st</sup> Stage                        | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage |     |     |      |     |     |     |     |      |      |        |         |
| LARZEP  | No.    | cm <sup>3</sup> | kg            | 1 <sup>st</sup> Stage                        | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage | mm  | mm  | mm   | mm  | mm  | mm  | mm  | mm   | mm   | kg     | LARZEP  |
| XP21007 | 2      | 1.000           | 43            | 12,0   | 2,0                   | 50                    | 700                   | 550 | 176 | 445* | 52  | 540 | -   | -   | 9,0  | 185  | 9,0    | XP21007 |
| X22607  | 2      | 2.600           | 41            | 46,0   | 4,0                   | 27                    | 700                   | 654 | 140 | 186  | 54  | 680 | -   | 125 | 9,5  | 80,5 | 14,3   | X22607  |
| X24507  | 2      | 4.450           | 43            | 46   | 4,0                   | 27                    | 700                   | 570 | 150 | 189  | 41  | 643 | 110 | 130 | 10,5 | 99,5 | 19,6   | X24507  |
| X26507  | 2      | 6.500           | 37            | 126,0  | 4,9                   | 28                    | 700                   | 635 | 312 | 233  | 193 | 644 | 70  | -   | -    | -    | 20,8   | X26507  |

\* with the pedal completely open.

**HYDRAULIC ALUMINIUM HAND PUMPS**



- ✓ WA series pumps are for use with Single Acting cylinders.
- ✓ Lightweight aluminium pumps, ideal for easy portability and handling.
- ✓ Two speed models to provide rapid cylinder advance until contact is made with the load.
- ✓ Hydraulic outlet port: 3/8"-NPT female.
- ✓ Fitted with safety valves to prevent overpressure.
- ✓ Fitted with handle clip for ease of carrying.

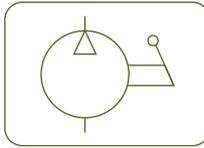
| Model          | Usable oil<br>cm <sup>3</sup> | Handle effort<br>kg | Oil displacement per stroke (cm <sup>3</sup> ) |                       | Pressure rating (bar) |                       | Weight<br>kg |
|----------------|-------------------------------|---------------------|--|-----------------------|-----------------------|-----------------------|--------------|
|                |                               |                     | 1 <sup>st</sup> Stage                          | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage |              |
| <b>LARZEP</b>  |                               |                     |  |                       |                       |                       |              |
| <b>WA20507</b> | 400                           | 29                  | 13,4   | 2,6                   | 20                    | 700                   | 3,7          |
| <b>WA21107</b> | 810                           | 43                  | 15,0   | 3,1                   | 20                    | 700                   | 5,0          |



**AZ3**  
Coupler 3/8"-18 NPT



P.86



**AV**  
Pressure Gauges



P.94

**HYDRAULIC ALUM. HAND PUMPS**



Type

**WA**

Capacity

**0,4 - 0,8 litre**

Max. pressure

**700 bar**

**W**  
Single Acting Hand Pumps



P.66

**X**  
Double Acting Hand Pumps

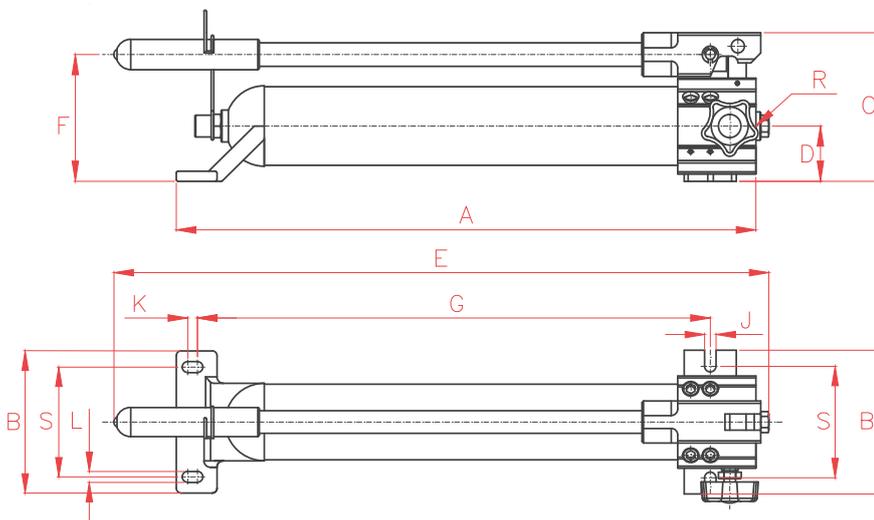


P.66

**AP2**  
Hoses



P.84

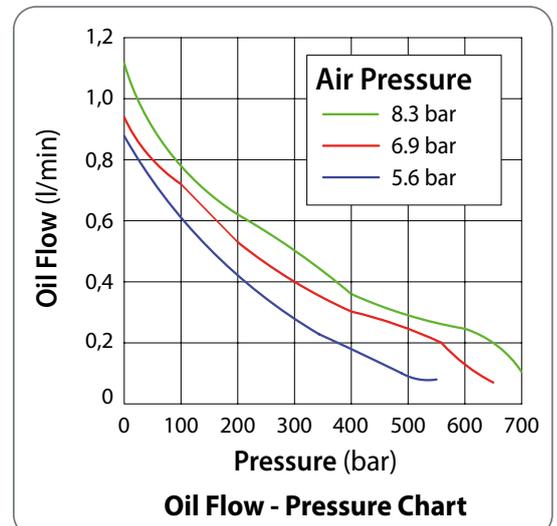


| A   | B   | C   | D  | E   | F   | G     | H   | J    | K  | L    | R        | Model          |
|-----|-----|-----|----|-----|-----|-------|-----|------|----|------|----------|----------------|
| mm  | mm  | mm  | mm | mm  | mm  | mm    | mm  | mm   | mm | mm   | NPT      | LARZEP         |
| 361 | 140 | 141 | 51 | 435 | 124 | 295,0 | 108 | 11,2 | 10 | 11,2 | 3/8"-NPT | <b>WA20507</b> |
| 556 | 140 | 141 | 51 | 625 | 124 | 489,5 | 108 | 11,2 | 10 | 11,2 | 3/8"-NPT | <b>WA21107</b> |

## AIR HYDRAULIC PUMPS

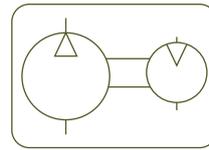
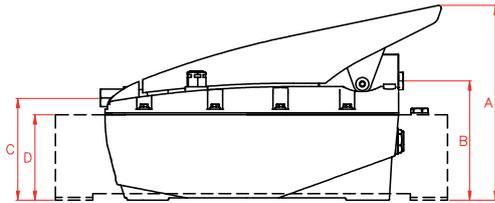


- ✓ On Z models for Single Acting cylinders, the pedal acts as the control valve, by controlling advance, hold and retract functions. In 'hold' mode, the pump maintains the output pressure.
- ✓ On ZR models, operation is controlled by a 3 metres remote pendant.
- ✓ Double Acting models are fitted with a manual 4-way 3 position control valve.
- ✓ The hydraulic port on all models is 3/8"-NPT female.
- ✓ Working pressure 700 bar.
- ✓ 4, 7 and 10 litres pumps are fitted with steel tanks.
- ✓ Optional steel base plate available for Z12107 part number.
- ✓ Air Inlet Port: 1/4" BSP female.
- ✓ Air Pressure: 2,8 - 10 bar.
- ✓ Air Consumption: 400 N l/min.
- ✓ 700 bar Flow Rate: 0,14 l/min.
- ✓ Sound level: 75 dBA



**Models:**

Z12107  
Z14007  
Z17007  
Z19107



Type

**Z - ZR**

Capacity

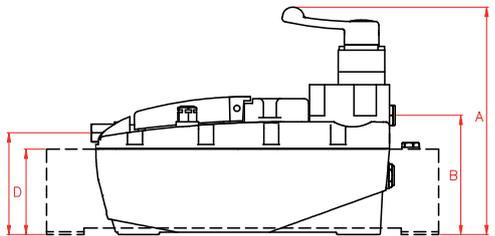
**2,1 - 10 litres**

Max. pressure

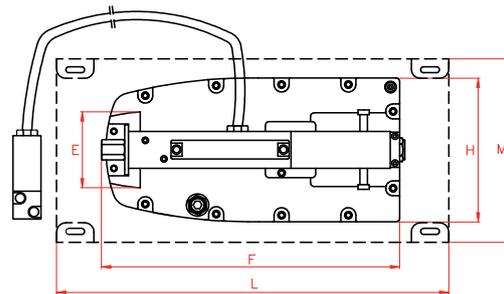
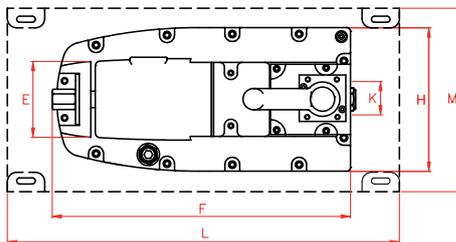
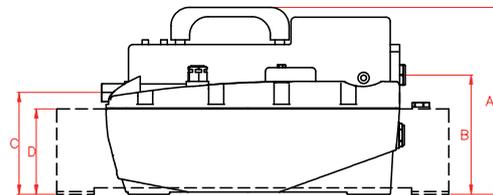
**700 bar**

**Models:**

Z22107  
Z24007  
Z27007



**Models:**  
ZR12107  
ZR14007



| Type          | Oil capacity | Model          | A   | B   | C   | D   | E  | F   | G   | H   | K  | L   | M   | Weight |
|---------------|--------------|----------------|-----|-----|-----|-----|----|-----|-----|-----|----|-----|-----|--------|
|               | litres       | LARZEP         | mm  | mm  | mm  | mm  | mm | mm  | mm  | mm  | mm | mm  | mm  | kg     |
| Single Acting | <b>2,1</b>   | <b>Z12107</b>  | 209 | 127 | 109 | -   | 82 | 320 | 364 | 155 | -  | -   | -   | 7,6    |
| Single Acting | <b>4,0</b>   | <b>Z14007</b>  | 256 | 173 | 154 | 137 | 82 | 320 | 364 | 155 | -  | 350 | 178 | 14,4   |
| Single Acting | <b>6,9</b>   | <b>Z17007</b>  | 256 | 173 | 154 | 137 | 82 | 320 | 364 | 155 | -  | 415 | 206 | 19,2   |
| Single Acting | <b>10,0</b>  | <b>Z19107</b>  | 278 | 198 | 180 | 162 | 82 | 320 | 364 | 155 | -  | 430 | 220 | 21,8   |
| Double Acting | <b>2,1</b>   | <b>Z22107</b>  | 245 | 131 | 110 | -   | 82 | 320 | -   | 155 | 36 | -   | -   | 8,4    |
| Double Acting | <b>4,0</b>   | <b>Z24007</b>  | 290 | 176 | 154 | 137 | 82 | 320 | -   | 155 | 36 | 350 | 178 | 15,2   |
| Double Acting | <b>6,9</b>   | <b>Z27007</b>  | 290 | 176 | 154 | 137 | 82 | 320 | -   | 155 | 36 | 415 | 206 | 20,4   |
| Single Acting | <b>2,1</b>   | <b>ZR12107</b> | 217 | 129 | 111 | -   | 82 | 316 | -   | 155 | -  | -   | -   | 8,6    |
| Single Acting | <b>4,0</b>   | <b>ZR14007</b> | 261 | 173 | 155 | 137 | 82 | 316 | -   | 155 | -  | 350 | 178 | 15,2   |

**HYDRAULIC ELECTRIC PUMPS (MANUAL VALVE)**

- ✓ Manual directional control valves.
- ✓ Also available HBE model, remote pendant controlled solenoid valves.
- ✓ The manual control valve is easily converted from double acting to single acting operation.
- ✓ Internal safety valve set at 700 bar to prevent overpressure.
- ✓ External adjustable pressure relief valve.
- ✓ For use with single acting or double acting cylinders for heavy lifting or production applications.

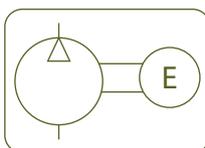
NOTE: Pressure gauge is not included.



**AZ89**  
Hydraulic Oil



P.85

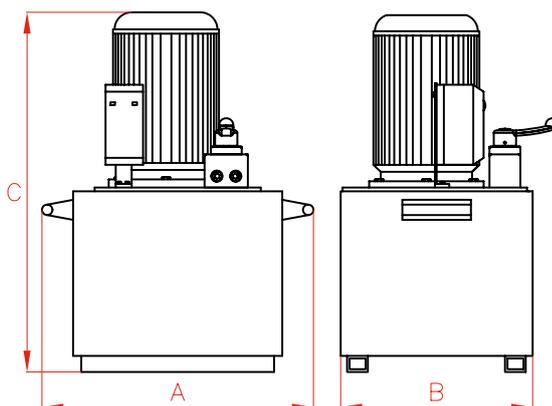


Type **HBM**

Capacity **5 - 25 litres**

Max. pressure **700 bar**

| Capacity | A   | B   | C   |
|----------|-----|-----|-----|
| litres   | mm  | mm  | mm  |
| 5        | 330 | 230 | 500 |
| 8,5      | 350 | 250 | 525 |
| 12,5     | 370 | 290 | 550 |
| 25       | 470 | 360 | 670 |



**ELECTRIC PUMPS (MANUAL VALVE)**

| Tank Size | Flow 700 bar | Flow 50 bar | 230V-1ph-50Hz | 400V-3ph-50/60Hz | Motor Power | Pump Weight |
|-----------|--------------|-------------|---------------|------------------|-------------|-------------|
|           |              |             | litres        | l/min            |             |             |
| 5         | 0,27         | 2,7         | HBM2241       | HBM2244          | 0,56        | 21          |
| 8,5       | 0,54         | 5,90        | HBM3341       | HBM3344          | 1,10        | 30          |
| 12,5      | 0,54         | 5,90        | HBM3441       | HBM3444          | 1,10        | 38          |
| 12,5      | 0,82         | 8,64        | HBM4441       | HBM4444          | 1,10        | 40          |
| 25        | 1,64         | 14,00       | HBM5541       | HBM5544          | 2,20        | 78          |

**PUMP ACCESSORIES**



**B Remote Pendant**

- ✓ With 3 metres long cable.
- ✓ For remote operation of motor in HBM series, 'ON' button starts motor and stops when button is released.



**C Roll Bar**

- ✓ Protects pump and components: motor, valves, etc
- ✓ For easy portability.
- ✓ Different sizes available.



**G Glycerine Pressure Gauge**

- ✓ ± 1,6 % full scale.
- ✓ Reliable pressure measurement.
- ✓ Pressure range: 0-1000 bar.

**HYDRAULIC ELECTRIC PUMPS (SOLENOID VALVE)**

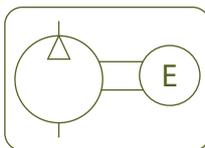
- ✓ Remote pendant controlled solenoid valves with up, down and emergency stop button.
- ✓ Internal safety valve set at 700 bar to prevent overpressure.
- ✓ External adjustable pressure relief valve.
- ✓ For use with single acting or double acting cylinders for heavy lifting or production applications.
- ✓ HBE series are supplied with the a 3 metres remote pendant as standard, with up, down and emergency stop button.

NOTE: Pressure gauge is not included.

**AZ89**  
Hydraulic Oil



P.85

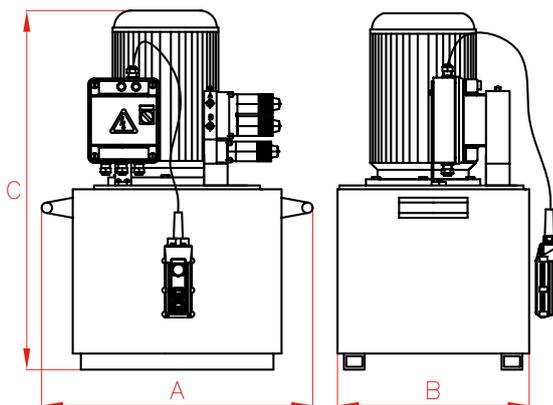


Type **HBE**

Capacity **5 - 25 litres**

Max. pressure **700 bar**

| Capacity<br>litres | A<br>mm | B<br>mm | C<br>mm |
|--------------------|---------|---------|---------|
| 5                  | 370     | 230     | 500     |
| 8,5                | 390     | 310     | 525     |
| 12,5               | 410     | 390     | 550     |
| 25                 | 470     | 360     | 670     |



**ELECTRIC PUMPS (SOLENOID VALVE)**

| Tank<br>Size<br>litres | Flow<br>700 bar<br>l/min | Flow<br>50 bar<br>l/min | 230V-1ph-50Hz  | 400V-3ph-50/60Hz | Motor<br>Power<br>kW | Pump<br>Weight<br>kg |
|------------------------|--------------------------|-------------------------|----------------|------------------|----------------------|----------------------|
|                        |                          |                         | 4/3<br>D/A     | 4/3<br>D/A       |                      |                      |
| 5                      | 0,27                     | 2,7                     | <b>HBE2271</b> | <b>HBE2274</b>   | 0,56                 | 27                   |
| 8,5                    | 0,54                     | 5,90                    | <b>HBE3371</b> | <b>HBE3374</b>   | 1,10                 | 35                   |
| 12,5                   | 0,54                     | 5,90                    | <b>HBE3471</b> | <b>HBE3474</b>   | 1,10                 | 43                   |
| 12,5                   | 0,82                     | 8,64                    | <b>HBE4471</b> | <b>HBE4474</b>   | 1,10                 | 45                   |
| 25                     | 1,64                     | 14,00                   | <b>HBE5571</b> | <b>HBE5574</b>   | 2,20                 | 83                   |

**PUMP ACCESSORIES**



**C Roll Bar**

- ✓ Protects pump and components: motor, valves, etc.
- ✓ For easy portability.
- ✓ Different sizes available.



**G Glycerine Pressure Gauge**

- ✓ ± 1,6 % full scale.
- ✓ Reliable pressure measurement.
- ✓ Pressure range: 0-1000 bar.

**MODULAR HAND PUMPS**

- ✓ Wide range with different working pressures.
- ✓ Lightweight with tapped holes in the base for easy mounting.
- ✓ All models are black nitrided.
- ✓ Designed for use with external reservoirs.
- ✓ Operating lever included.
- ✓ Tank is not included.

**AV**  
Pressure Gauges

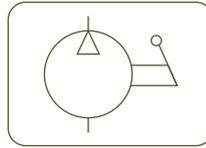
P.94



**AP2**  
Hoses



P.84



**MODULAR HAND PUMPS**



Type

**WI**

Capacity

-

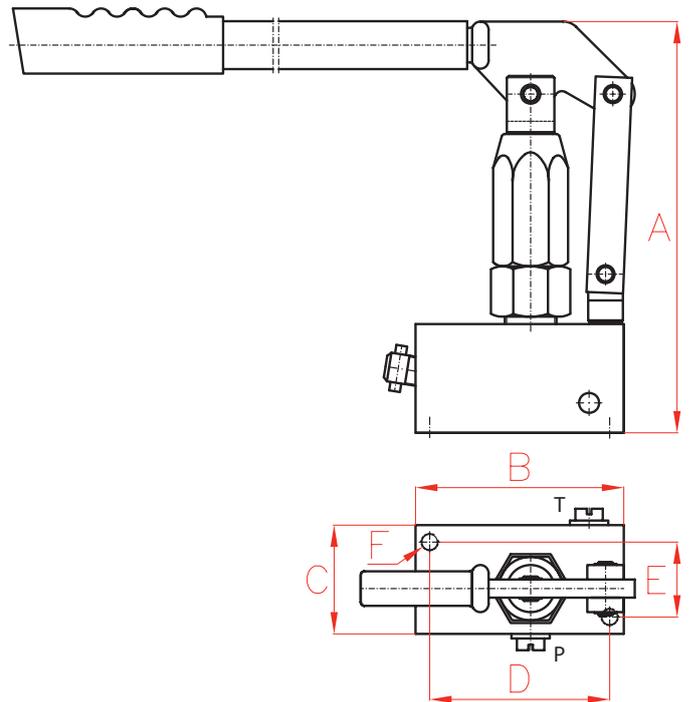
Max. pressure

**40 - 700 bar**

**AZ3**  
Coupler 3/8"-18 NPT



P.86



| Working Pressure | Model         | Max. Pressure | Piston ø | Oil per Stroke  | Port Size  | A   | B   | C  | D    | E    | F          | Weight |
|------------------|---------------|---------------|----------|-----------------|------------|-----|-----|----|------|------|------------|--------|
| bar              | LARZEP        | bar           | mm       | cm <sup>3</sup> | NPT        | mm  | mm  | mm | mm   | mm   | UNC        | kg     |
| 700              | <b>WI1400</b> | 1.400         | 10       | 3               | 3/8"-18NPT | 230 | 114 | 57 | 98,5 | 41,3 | 3/8"-16UNC | 5,3    |
| 400              | <b>WI700</b>  | 700           | 13       | 4               | 3/8"-18NPT | 230 | 114 | 57 | 98,5 | 41,3 | 3/8"-16UNC | 5,8    |
| 200              | <b>WI210</b>  | 300           | 19       | 10              | 3/8"-18NPT | 230 | 114 | 57 | 98,5 | 41,3 | 3/8"-16UNC | 5,3    |
| 100              | <b>WI100</b>  | 200           | 26       | 18              | 3/8"-18NPT | 230 | 114 | 57 | 98,5 | 41,3 | 3/8"-16UNC | 5,7    |
| 40               | <b>WI040</b>  | 80            | 38       | 36              | 3/8"-18NPT | 230 | 114 | 57 | 98,5 | 41,3 | 3/8"-16UNC | 7,0    |

## AIR DRIVEN HYDROTEST PUMPS



- ✓ 10 Models Available, from 70 bar to 2.900 bar.
- ✓ Engineered and designed for easy operation.
- ✓ Compact and lightweight steel frame for full protection and handling.
- ✓ Fully integrated, protected and calibrated pressure gauge.
- ✓ Clearly labelled controls for improved safety.
- ✓ Supplied with air inlet connector, air filter, air pressure regulator, air lubricator, air pressure gauge, air pressure limit valve, pump on/off control, oil pressure gauge.
- ✓ All pumps can work with water or oil.
- ✓ All pumps supplied complete with a full test certificate as standard.
- ✓ High pressure fittings and any length of high pressure hose available from stock.

Hydraulic Pressure Gauge: Dual scale bar/psi

Oil / Water Reservoir: 7 litres

Working Air Pressure: 1,7 to 6,9 bar

Air Inlet Port: 1/2" NPTF Female

Air Consumption: 0,79 m<sup>3</sup>/min

Sound Level: 90 dBA

Weight: 30 kg



HYDROTEST AIR PUMPS

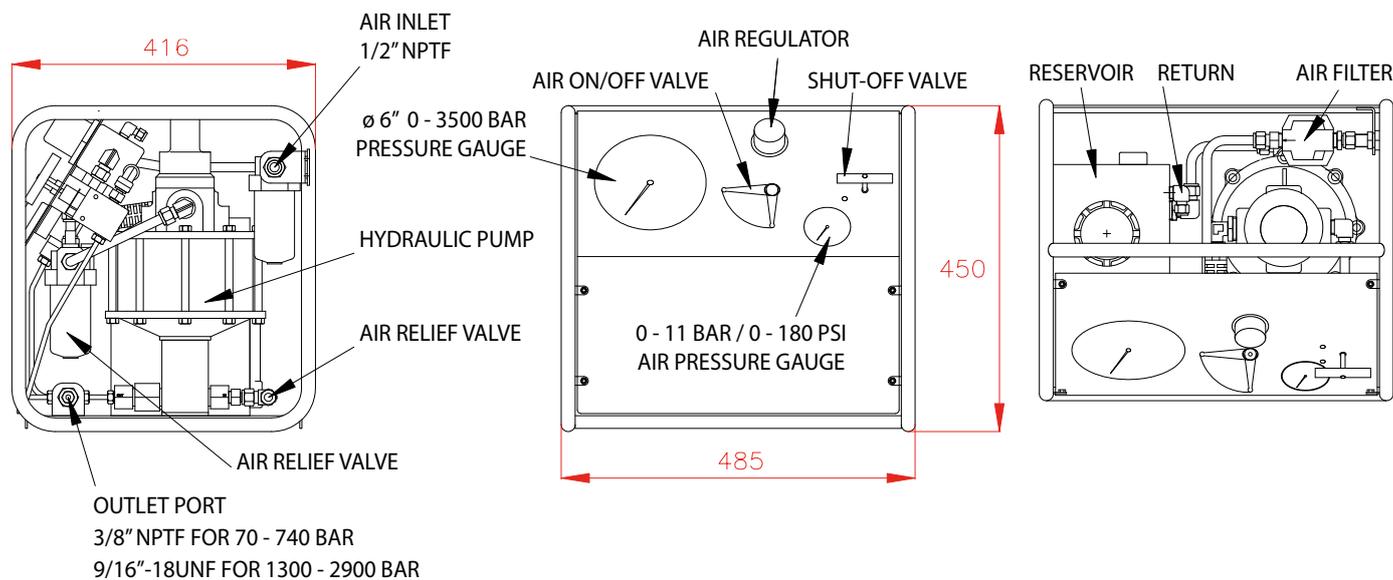


Type **HAP**

Capacity **7 litres**

Max. pressure **70 - 2.900 bar**

HAP PUMPS



HYDROTEST PUMPS

| Hydrotest Pump | Maximum Hydraulic Pressure (bar) |             |             | Flow (l/min) |            |            | Outlet Port |
|----------------|----------------------------------|-------------|-------------|--------------|------------|------------|-------------|
|                | Air 6.9 bar                      | Air 5.1 bar | Air 4.1 bar | 20% Max. P   | 50% Max. P | 80% Max. P |             |
| LARZEP         |                                  |             |             |              |            |            | Female      |
| HAP0070        | 70                               | 55          | 40          | 16,2         | 11,0       | 3,7        | 3/8" NPT    |
| HAP0130        | 130                              | 100         | 80          | 8,5          | 6,0        | 3,9        | 3/8" NPT    |
| HAP0180        | 180                              | 150         | 100         | 6,1          | 4,7        | 2,6        | 3/8" NPT    |
| HAP0250        | 250                              | 200         | 150         | 4,1          | 3,1        | 2,0        | 3/8" NPT    |
| HAP0400        | 400                              | 320         | 240         | 2,6          | 1,8        | 1,2        | 3/8" NPT    |
| HAP0740        | 740                              | 600         | 440         | 1,2          | 0,9        | 0,6        | 3/8" NPT    |
| HAP1300        | 1.300                            | 1.000       | 770         | 0,65         | 0,5        | 0,3        | 9/16"-18UNF |
| HAP1900        | 1.900                            | 1.500       | 1.100       | 0,4          | 0,3        | 0,2        | 9/16"-18UNF |
| HAP2900        | 2.900                            | 2.300       | 1.800       | 0,25         | 0,2        | 0,1        | 9/16"-18UNF |

## HYDROTEST HAND PUMPS



- ✓ Tanks from 12 to 100 litres.
- ✓ 13 models available, from 25 bar to 1.300 bar.
- ✓ Engineered and designed for easy operation.
- ✓ WAP models with cast iron or mild steel frame.
- ✓ WIP models with stainless steel frame. Used by the Chemical industry or when aggressive liquids are used.
- ✓ Supplied with pressure gauge and control valve.
- ✓ All pumps can work with water and oil.
- ✓ Pressure gauge: Dual scale bar / psi. / Class 1.6 up to 200 bar and Class 1.0 from 300 to 1.300 bar.

### WAP0025, WAP0035, WAP0045, WAP0050, WAP0100

- ✓ Manufactured in cast iron for heavy duty and professional uses.
- ✓ Supplied with pressure gauge ø60 mm and double control valve, except model WAP0035 that is supplied with single control valve.

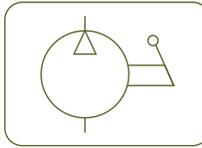


### WAP0300, WAP0500, WAP1000, WAP1300

- ✓ Hand pumps used for high pressure hydrostatic tests.
- ✓ 2 stage pumps with 100 litres tank manufactured in mild steel.
- ✓ Supplied with pressure gauge ø100 mm and control valve.



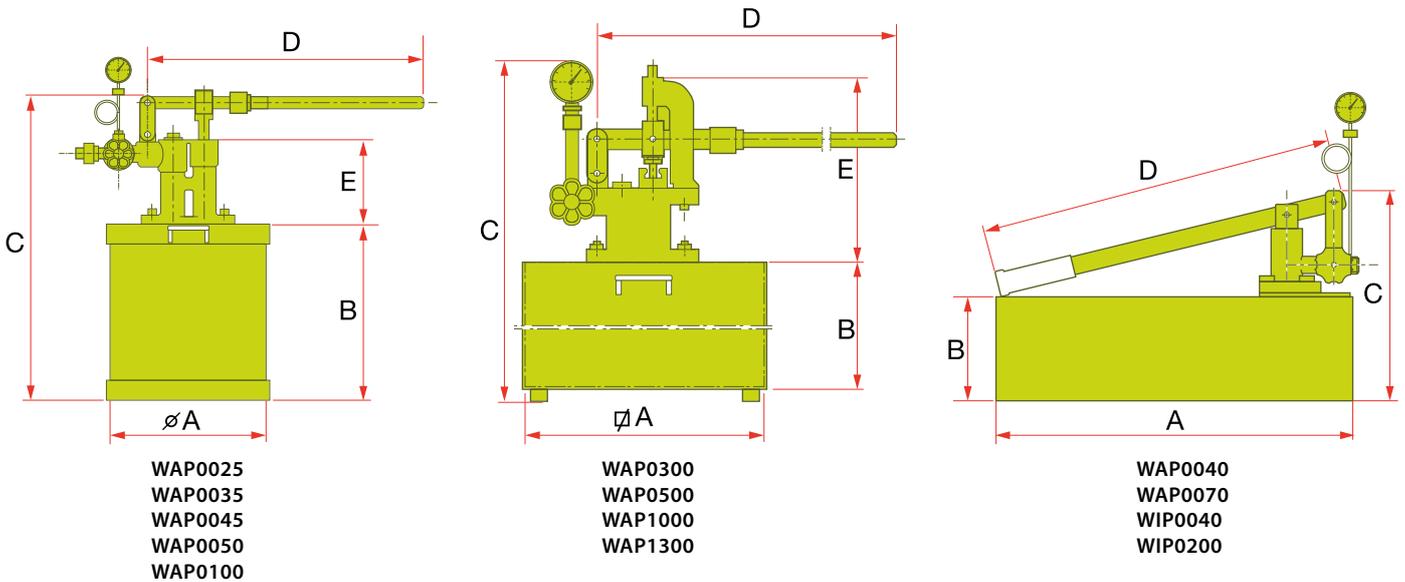
**WAP0040, WAP0070, WIP0040, WIP0200**



- ✓ Lightweight hand pumps manufactured in mild steel (WAP) and stainless steel (WIP) for use on bench in workshop hydrostatic tests.
- ✓ Supplied with pressure gauge ø60 mm, control valve and 13 litre tank.
- ✓ WIP0040 and WIP0200 models have stainless steel tanks. Used by the Chemical industry or when aggressive liquids are used.
- ✓ WAP0040 and WIP0040 pumps are supplied with 1.5 metre hose. These pumps are normally used on plumbing for heating plant testing.



|               |                        |
|---------------|------------------------|
| Type          | <b>WAP - WIP</b>       |
| Capacity      | <b>12 - 100 litres</b> |
| Max. pressure | <b>25 - 1.300 bar</b>  |



**CAST IRON AND MILD STEEL PUMPS - WAP**

| Hydrotest Pump | Max. Pressure | Oil Capacity | Flow / stroke | Material   | Outlet Port | A         | B   | C   | D     | E   | Weight |
|----------------|---------------|--------------|---------------|------------|-------------|-----------|-----|-----|-------|-----|--------|
| LARZEP         | bar           | litres       | cc            |            | BSP         | mm        | mm  | mm  | mm    | mm  | kg     |
| WAP0025        | 25            | 12           | 11            | Cast iron  | 3/8" Male   | ø255      | 272 | 450 | 420   | 120 | 10     |
| WAP0035        | 35            | 12           | 14            | Cast iron  | 1/2" Female | ø255      | 272 | 430 | 350   | 100 | 8      |
| WAP0045        | 45            | 21           | 14            | Cast iron  | 3/8" Male   | ø260      | 397 | 558 | 420   | 150 | 12     |
| WAP0050        | 50            | 38           | 20            | Cast iron  | 3/8" Male   | ø390      | 397 | 558 | 683   | 150 | 22     |
| WAP0100        | 100           | 38           | 20            | Cast iron  | 3/8" Male   | ø390      | 397 | 558 | 683   | 150 | 22     |
| WAP0040        | 40            | 13           | 18            | Mild steel | 1/2" Male   | 500 x 190 | 140 | 280 | 500   | -   | 8      |
| WAP0070        | 70            | 13           | 11            | Mild steel | 1/2" Female | 500 x 190 | 140 | 295 | 700   | -   | 9      |
| WAP0300        | 300           | 100          | 18 / 3,5      | Mild steel | 1/2" Female | 500 x 500 | 400 | 800 | 800   | 400 | 54     |
| WAP0500        | 500           | 100          | 18 / 3,5      | Mild steel | 1/2" Female | 500 x 500 | 400 | 800 | 800   | 400 | 54     |
| WAP1000        | 1.000         | 100          | 18 / 3,5      | Mild steel | 1/2" Female | 500 x 500 | 400 | 800 | 1.000 | 400 | 60     |
| WAP1300        | 1.300         | 100          | 18 / 3,5      | Mild steel | 1/2" Female | 500 x 500 | 400 | 800 | 1.000 | 400 | 60     |

**STAINLESS STEEL PUMPS - WIP**

| Hydrotest Pump | Max. Pressure | Oil Capacity | Flow / stroke | Material    | Outlet Port | A         | B   | C   | D   | Weight |
|----------------|---------------|--------------|---------------|-------------|-------------|-----------|-----|-----|-----|--------|
| LARZEP         | bar           | litres       | cc            |             | BSP         | mm        | mm  | mm  | mm  | kg     |
| WIP0040        | 40            | 13           | 18            | Bronze & SS | 1/2" Male   | 500 x 190 | 140 | 280 | 500 | 8      |
| WIP0200        | 200           | 13           | 18            | SS          | 1/2" Female | 500 x 190 | 140 | 295 | 700 | 14     |

## ACCESSORIES

**LARZEP** offers a wide range of accessories to optimize our products performance: Hoses, Couplers, Tilting Saddles, Hollow Saddles, Flow Control Valves, Fittings, Manifolds and Pressure Gauges are available as standard.

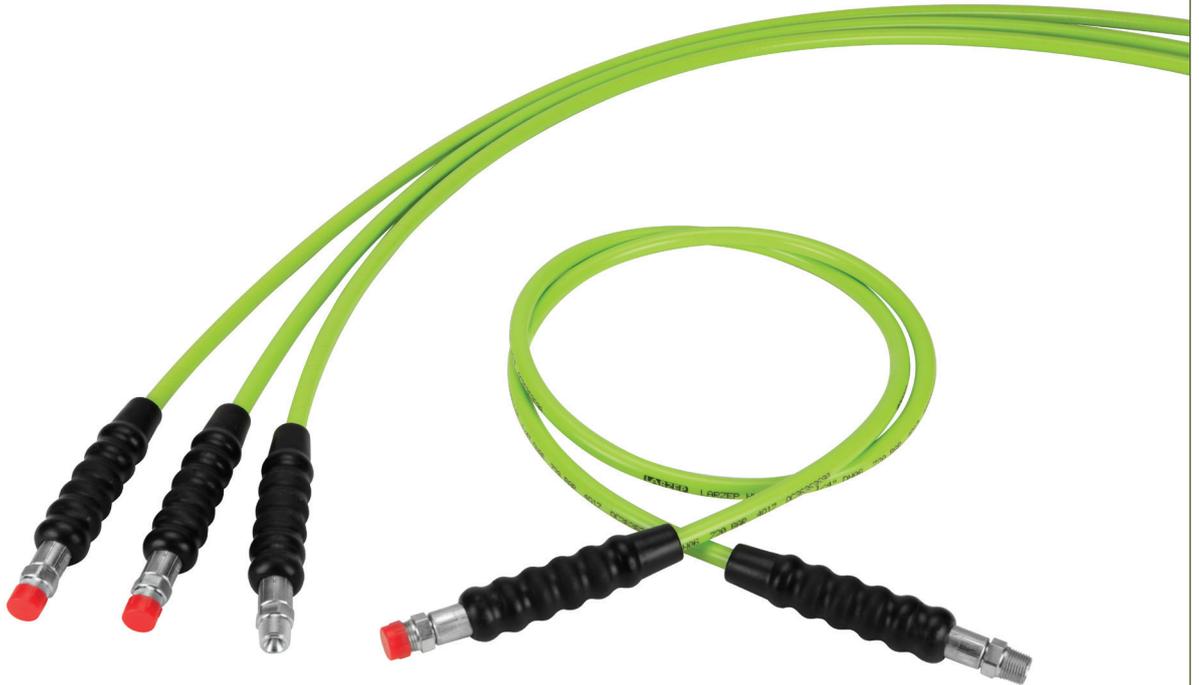
- ✓ Wide range of standard hoses up to 10 metres and 700 bar working pressure.
- ✓ High flow couplers available as standard. 700 bar working pressure.
- ✓ Wide range of flow control valves: snubber valves, flow regulating valves with 2 or 4 outlets, manually operated check valve, single way flow regulating valve, check valve, pressure relief valve and pilot operated check valve.
- ✓ Tilting saddles highly recommended for side load application.  
Hollow saddles used in hollow piston cylinders specially in pulling and tensioning operations.
- ✓ Wide range of fittings and manifolds for multiple applications.
- ✓ Glycerine filled pressure gauges for monitoring working pressure and force.



# ACCESSORIES



| Models              | Accessories type       |   | Page |
|---------------------|------------------------|---|------|
| AP                  | Hydraulic Hoses        |  | 84   |
| AZ89                | Hydraulic Oil          |  | 85   |
| AZ3                 | Hydraulic Couplers     |  | 86   |
| AZ5                 | Flow Control Valves    |  | 88   |
| AZ04 - AZ05<br>CATS | Saddles                |  | 90   |
| AZ1                 | Fittings and Manifolds |  | 92   |
| AV - AY             | Pressure Gauges        |  | 94   |

**HYDRAULIC HOSES**

- ✓ 4:1 safety factor.
- ✓ Wide range of standard hoses. Hoses can be supplied in any length on request.
- ✓ Rubber guard on both ends.
- ✓ 3/8"-NPT thread on each end.
- ✓ Internal diameter 6,4 mm. Oil capacity: 35 cm<sup>3</sup> per metre.
- ✓ Minimum bending radius: 115 mm.

**WARNING**

**Never disconnect the hose when the system is pressurized.  
Never exceed the maximum working pressure of the hose.**



Apply 2 rounds of Teflon around all 3/8" NPT threads of the system, in the thread direction, leaving the first thread uncovered to prevent the tape breaking and entering the hydraulic system. Torque: 80 Nm.



**AZ3**

Coupler 3/8"-18 NPT



P.86

**HYDRAULIC HOSES and OIL**



Type

**AP - AZ**

Capacity

**0,8 - 10 m length**

Max. pressure

**700 bar**

**MAXIMUM WORKING PRESSURE 700 BAR**

| Int. ø | End      |          | Pressure | Length |        |        |        |        |        |
|--------|----------|----------|----------|--------|--------|--------|--------|--------|--------|
|        | 1        | 2        |          | 0,8 m  | 1,5 m  | 2 m    | 3 m    | 6 m    | 10 m   |
| 6,4    | 3/8"-NPT | 3/8"-NPT | 700      | AP2008 | AP2015 | AP2020 | AP2030 | AP2060 | AP2100 |



- ✓ Highly refined quality oil.
- ✓ Additives to enhance film strength.
- ✓ Anti-wear properties.
- ✓ Anti-corrosion characteristics.
- ✓ Extreme pressure characteristics.
- ✓ Better conservation of the hydraulic circuits.

**HYDRAULIC OIL**

| Model  | Capacity (l) | For use with             |
|--------|--------------|--------------------------|
| AZ8901 | 5            | Hand Pumps, Bottle Jacks |
| AZ8902 | 5            | Powerpacks               |

## HYDRAULIC COUPLERS



- ✓ High flow couplers, 40 litres/min.
- ✓ Working pressure: 700 bar. With 3/8"-18 NPTF thread.
- ✓ Male and female couplers can be supplied separately.
- ✓ Steel dust cup available for AZ3140 and AZ3141 couplers.
- ✓ AZ3120, AZ3140 and AZ3141: standard high-flow couplers.
- ✓ All standard cylinders are supplied with AZ3140 female coupler.



### WARNING

**Never disconnect the hose when the system is pressurized.  
Never exceed the maximum working pressure of the hose.**

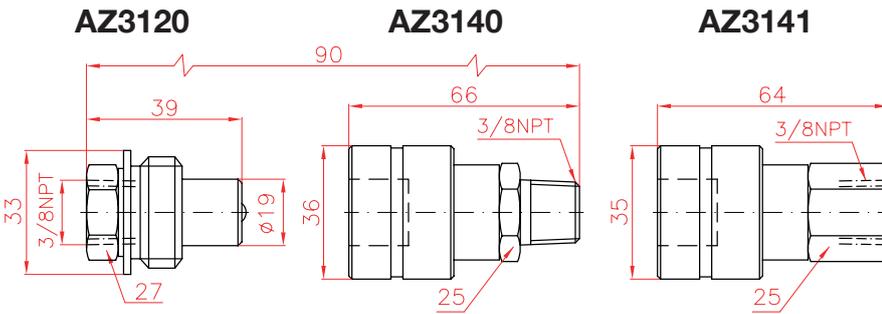


Apply 2 rounds of Teflon around all 3/8" NPTF threads of the system, in the thread direction, leaving the first thread uncovered to prevent the tape breaking and entering the hydraulic system. Torque: 80 Nm.



HYDRAULIC COUPLERS

HIGH-FLOW COUPLERS 700 BAR



| Flow  | Coupling | Model  | Thread      | Pressure |
|-------|----------|--------|-------------|----------|
| l/min |          | LARZEP | NPTF        | bar      |
| 40    | Male     | AZ3120 | Female 3/8" | 700      |
|       | Female   | AZ3140 | Male 3/8"   | 700      |
|       | Female   | AZ3141 | Female 3/8" | 700      |

|               |            |
|---------------|------------|
| Type          | <b>AZ3</b> |
| Capacity      | 40 l/min   |
| Max. pressure | 700 bar    |

Steel dust cap available:  
AZ3144 for female couplers AZ3140 and AZ3141



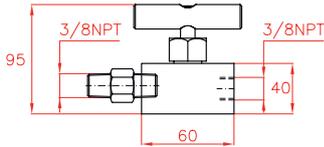
Rubber dust cap AZ3145 available  
to suit AZ3120, AZ3140 and AZ3141 couplers



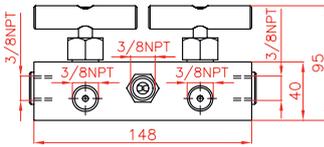
**FLOW CONTROL VALVES**



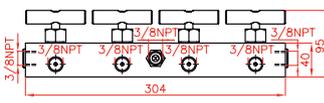
| Model  | SNUBBER VALVE   | Symbol |  |
|--------|---|--------|--|
| AZ5121 | Used for flow control and load holding when closed. Also suitable for use as a gauge snubber. |        |  |



| Model  | MANIFOLD WITH FLOW REGULATING VALVE, 2 OUTLETS                 | Symbol |  |
|--------|--|--------|--|
| AZ5122 | Used for flow control of two outlets from one pressure source. |        |  |



| Model  | MANIFOLD WITH FLOW REGULATING VALVE, 4 OUTLETS                  | Symbol |  |
|--------|---|--------|--|
| AZ5124 | Used for flow control of four outlets from one pressure source. |        |  |



- ✓ All flow and pressure control valves are designed for 700 bar working pressure.
- ✓ All valves have 3/8"-NPTF pressure ports to prevent leakage.



Type **AZ5**

Capacity -

Max. pressure **700 bar**

| Model  | MANUALLY OPERATED CHECK VALVE   | Symbol |  |
|--------|---|--------|--|
| AZ5200 | <p>When open, allows oil flow in both directions.</p> <p>When closed, allows oil flow in one direction only, holding the load in the other one.</p> |        |  |

| Model  | SINGLE WAY FLOW REGULATING VALVE  | Symbol |  |
|--------|---|--------|--|
| AZ5255 | <p>Similar to AZ5200, allows free oil flow in one direction and in the other, flow can be regulated or completely closed.</p> |        |  |

| Model  | PILOT OPERATED CHECK VALVE  | Symbol |  |
|--------|---|--------|--|
| AZ5700 | <p>Load holding valve used with double-acting cylinders which is released by pilot pressure from the return line.</p> |        |  |

**SADDLES**



**TILTING SADDLES AZ04 - CATS**

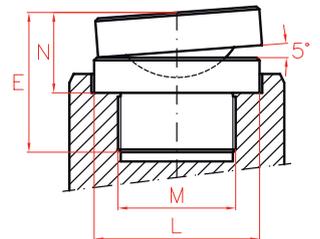
- ✓ Recommended for high side-load applications.
- ✓ These saddles allow up to 5° tilt angle.
- ✓ Push-in or threaded to suit different cylinder models.

**HOLLOW SADDLES AZ05**

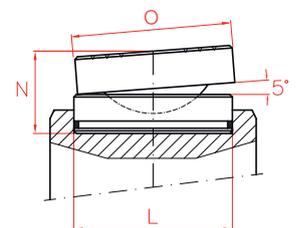
- ✓ Used in hollow piston cylinders.
- ✓ Specially used in pulling operations and as support.
- ✓ These saddles can be plain, threaded or solid.



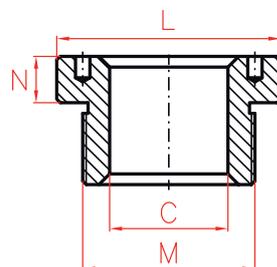
**AZ04 THREADED TILTING SADDLES**



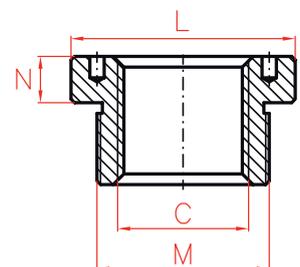
**AZ04 - CATS TILTING SADDLES**



**AZ05 HOLLOW SADDLES**



Standard Plain



Optional Internal Thread





Type **AZ04-05, CATS**

Capacity -

Max. pressure **700 bar**

### AZ04 - THREADED TILTING SADDLES

| Model  | L   | M           | N  | E   | Weight | Cylinder Model              |
|--------|-----|-------------|----|-----|--------|-----------------------------|
| LARZEP | mm  |             | mm | mm  | kg     |                             |
| AZ0420 | 28  | 1"-8        | 29 | 43  | 0,2    | D010                        |
| AZ0423 | 35  | 1"-8        | 29 | 49  | 0,3    | D020                        |
| AZ0421 | 45  | 1 1/2"-16   | 28 | 50  | 0,4    | D030                        |
| AZ0422 | 61  | 1 3/4"-12   | 38 | 58  | 0,7    | D050-D075-D100              |
| AZ0424 | 88  | 2 1/2"-12   | 47 | 82  | 2,5    | D150                        |
| AZ0425 | 111 | 2 1/2"-12   | 52 | 107 | 4,5    | D200                        |
| AZ0431 | 34  | M28 x 1,5   | 29 | 44  | 0,3    | SSH012                      |
| AZ0432 | 48  | 1 9/16"-16  | 29 | 46  | 0,5    | SSH022                      |
| AZ0433 | 55  | 1 13/16"-16 | 37 | 57  | 0,6    | SSH030-SAH030-DDH030-DAH030 |
| AZ0434 | 80  | 2 3/4"-16   | 47 | 67  | 2,3    | SSH060-SAH060-DDH060-DAH060 |
| AZ0435 | 116 | 2 1/2"-12   | 52 | 76  | 5,5    | SSH100-SAH100-DDH100-DAH100 |

### AZ04 - CATS - TILTING SADDLES

| Model    | L   | N     | O   | Weight | Cylinder Model                     |
|----------|-----|-------|-----|--------|------------------------------------|
| LARZEP   | mm  | mm    | mm  | kg     |                                    |
| AZ0401   | 45  | 36    | 45  | 0,4    | SAM030                             |
| AZ0402   | 61  | 39    | 61  | 0,8    | SAM050-DDA050                      |
| AZ0404   | 88  | 47    | 88  | 2,2    | SAM100-SAM140-DDA100               |
| CATS12   | 35  | 14    | 35  | 2,1    | SSM010-SSM015                      |
| CATS13   | 35  | 20    | 35  | 1,3    | SSP010                             |
| CATS50   | 50  | 34,0  | 71  | 1,0    | STC030-STC050-DDC050               |
| CATS52   | 50  | 15    | 50  | 0,6    | SSM023-SSM030                      |
| CATS53   | 50  | 25    | 50  | 1,8    | SSP020-SSP030-SSP050               |
| CATS100  | 71  | 30,0  | 71  | 1,5    | SSM050-SSM075-SSM100-STC100-DDC100 |
| CATS103  | 71  | 35    | 71  | 1,8    | SSP100                             |
| CATS150  | 94  | 39,2  | 97  | 3,0    | STC140-SSC140-DDC140               |
| CATS200  | 113 | 43,0  | 126 | 4,4    | STC220-SSC220-DDC220               |
| CATS300  | 140 | 68,5  | 175 | 10,3   | STC300-SSC300-DDC300               |
| CATS400  | 159 | 78,0  | 210 | 17,0   | STC400-SSC400-DDC400               |
| CATS500  | 179 | 77,0  | 230 | 20,0   | STC500-SSC500-DDC500               |
| CATS600  | 194 | 81,5  | 250 | 24,0   | STC600-SSC600-DDC600               |
| CATS800  | 224 | 86,5  | 275 | 32,0   | STC800-SSC800-DDC800               |
| CATS1000 | 249 | 105,5 | 300 | 46,0   | STC1000-SSC1000-DDC1000            |

### AZ05 - HOLLOW SADDLES

| Standard Plain |      |     |             |    | Cylinder Model              |
|----------------|------|-----|-------------|----|-----------------------------|
| Model          | C    | L   | M           | N  |                             |
| LARZEP         | mm   | mm  |             | mm |                             |
| AZ0531         | 19,5 | 34  | M28 x 1,5   | 7  | SSH012                      |
| AZ0532         | 27,0 | 48  | 1 9/16"-16  | 8  | SSH022-SAH022               |
| AZ0533         | 33,4 | 55  | 1 13/16"-16 | 9  | SSH030-SAH030-DDH030-DAH030 |
| AZ0536         | 56,0 | 80  | 2 3/4"-16   | 12 | SSH060-SAH060-DDH060-DAH060 |
| AZ0540         | 81,0 | 116 | 4"-16       | 13 | SSH100-SAH100-DDH100-DAH100 |
| AZ0545         | 81,0 | 135 | 4 1/4"-16   | 20 | DDH150                      |

**FITTINGS AND MANIFOLDS**

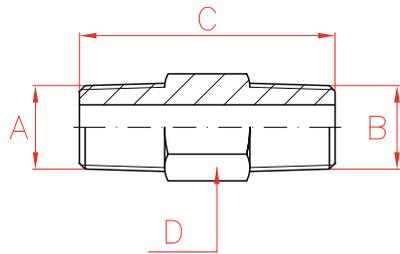


✓ Wide range of fittings and manifolds for multiple applications.

**HEXAGON NIPPLE**



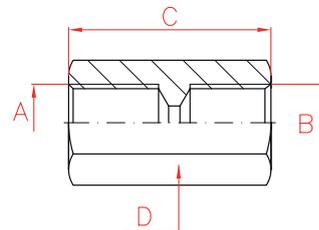
| Model         | A        | B        | C  | D  |
|---------------|----------|----------|----|----|
| LARZEP        |          |          | mm | mm |
| <b>AZ1102</b> | 3/8"-NPT | 3/8"-NPT | 45 | 19 |



**COUPLING**



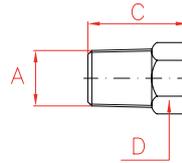
| Model         | A        | B        | C  | D  |
|---------------|----------|----------|----|----|
| LARZEP        |          |          | mm | mm |
| <b>AZ1143</b> | 3/8"-NPT | 3/8"-NPT | 45 | 27 |



PLUG



| Model         | A        | C  | D  |
|---------------|----------|----|----|
| LARZEP        |          | mm | mm |
| <b>AZ1182</b> | 3/8"-NPT | 24 | 18 |



Type

**AZ1**

Capacity

-

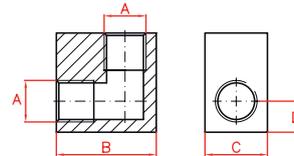
Max. pressure

**700 bar**

ELBOW



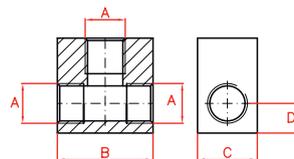
| Model         | A        | B  | C  | D    |
|---------------|----------|----|----|------|
| LARZEP        |          | mm | mm | mm   |
| <b>AZ1202</b> | 3/8"-NPT | 40 | 25 | 12,5 |



TEE



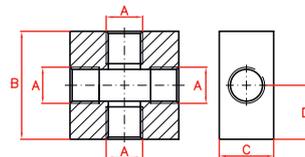
| Model         | A        | B  | C  | D    |
|---------------|----------|----|----|------|
| LARZEP        |          | mm | mm | mm   |
| <b>AZ1242</b> | 3/8"-NPT | 40 | 25 | 12,5 |



CROSS



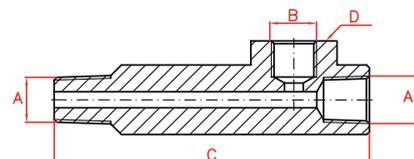
| Model         | A        | B  | C  | D  |
|---------------|----------|----|----|----|
| LARZEP        |          | mm | mm | mm |
| <b>AZ1282</b> | 3/8"-NPT | 50 | 25 | 24 |



GAUGE ADAPTOR



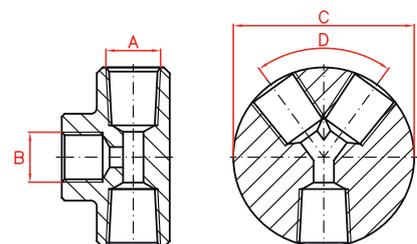
| Model         | A        | B        | C   | D  |
|---------------|----------|----------|-----|----|
| LARZEP        |          |          | mm  | mm |
| <b>AZ1502</b> | 3/8"-NPT | 1/4"-NPT | 98  | 35 |
| <b>AZ1504</b> | 3/8"-NPT | 1/2"-NPT | 117 | 35 |



MANIFOLDS



| Model         | A        | B        | C   | D   | Ports |
|---------------|----------|----------|-----|-----|-------|
| LARZEP        |          |          | mm  | °   | No.   |
| <b>AZ1604</b> | 3/8"-NPT | 1/2"-NPT | 82  | 60° | 4     |
| <b>AZ1606</b> | 3/8"-NPT | 1/2"-NPT | 102 | 48° | 6     |



## PRESSURE GAUGES



- ✓ High accuracy gauges,  $\pm 1,6$  % full scale.
- ✓ Essential for monitoring working pressure or force.
- ✓ Glycerine filled gauges.
- ✓ Available as system pressure gauges or as dual scale gauges to measure load on specific cylinders.



**AZ1**  
FITTINGS AND MANIFOLDS



P.92

**AP2**  
Hoses



P.84

**PRESSURE GAUGES**



Type

**AV - AY**

Capacity

**10 - 60 ton**

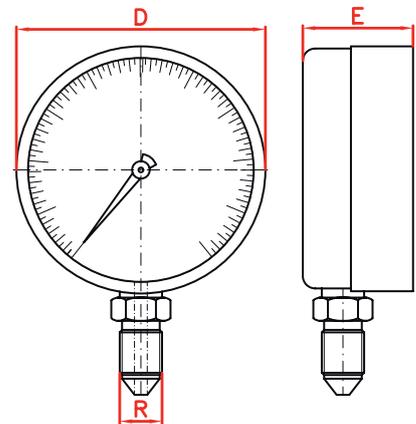
Max. pressure

**0 - 1.000 bar**



**WARNING**

Do not exceed the 70% of the nominal capacity of the gauge.



| Used with     | Model          | End of Scale |       |        | Scale            | D   | E  | R        | Gauge Adaptor |
|---------------|----------------|--------------|-------|--------|------------------|-----|----|----------|---------------|
|               |                | ton          | bar   | psi    |                  |     |    |          |               |
| All Cylinders | <b>AV10007</b> | -            | 1.000 | 14.500 | 50 bar / 500 psi | 63  | 31 | 1/4"-NPT | AZ1502        |
|               | <b>AV10011</b> | -            | 1.000 | 14.500 | 20 bar / 200 psi | 80  | 35 | 1/2"-NPT | AZ1504        |
| Press 10 ton  | <b>AY01008</b> | 10           | -     | -      | 0,5              | 80  | 35 | 3/8"-BSP | AZ1501        |
| Press 20 ton  | <b>AY02008</b> | 20           | -     | -      | 0,5              | 80  | 35 | 3/8"-BSP | AZ1501        |
| Press 30 ton  | <b>AY03008</b> | 30           | -     | -      | 2                | 80  | 35 | 3/8"-BSP | AZ1501        |
| Press 60 ton  | <b>AY06010</b> | 60           | -     | -      | 2                | 100 | 35 | 3/8"-BSP | AZ1501        |

## HYDRAULIC TOOLS

**LARZEP** offers a wide range of tools for different applications: Pullers, Presses and Spread Cylinders.

- ✓ Wide range of pullers from 5 to 50 ton to cover most pulling applications.  
Available in 2 and 3 Jaws puller, cross bearing puller, bearing cup puller and bearing puller.
- ✓ Presses from 10 to 60 ton with extremely sturdy frames.  
10 and 20 ton models for bench mount.
- ✓ Spread cylinders are used for many tasks in confined access situations.



# TOOLS



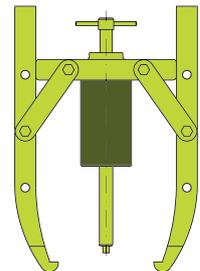
| Models       | Tool type         | Capacity<br>ton (kN)  |   | Page |
|--------------|-------------------|-----------------------|---|------|
| FU - FV      | Hydraulic Pullers | 5 - 50                |  | 98   |
| EE - EM - EZ | Presses           | 30 - 60               |  | 101  |
| CY           | Spread Cylinders  | 0,8 - 15<br>(8 - 150) |  | 104  |

**HYDRAULIC PULLERS**

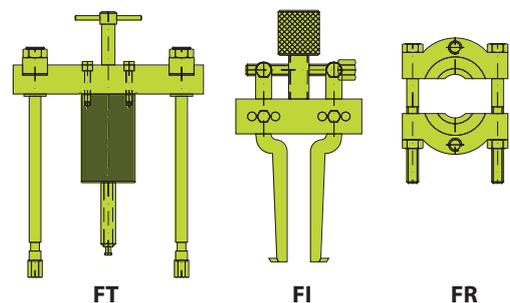


- ✓ Wide range of models from 5 to 50 ton capacity suitable for most maintenance pulling applications.
- ✓ All pullers are delivered in a strong wooden box for ease of transport and storage.
- ✓ Manufactured in high quality forged steel, includes hydraulic and all mechanical components.
- ✓ All pullers are supplied with: cylinder, pump, hose, pressure gauge, gauge adaptor, male coupling and hollow saddle.
- ✓ FU Universal puller includes 2 and 3 jaws, cross bearing, long and short extensions, Bearing and bearing cup pullers.
- ✓ FV Jaw pullers only include 2 and 3 jaws configuration.

**FV Jaws puller**



**FZ Cross bearing pullers**



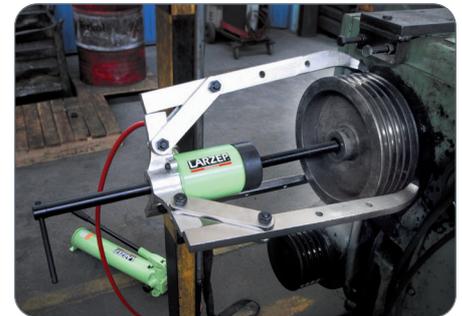
**HYDRAULIC PULLERS**



Type **FU - FV - FZ**

Capacity **5 - 50 ton**

Max. pressure **700 bar**



**HYDRAULIC PULLER SETS - FU**

(Include hydraulic and mechanic part)

| Capacity (ton)     | 5        | 10        | 20       | 30       | 50       |
|--------------------|----------|-----------|----------|----------|----------|
| Model              | FU05     | FU10      | FU20     | FU30     | FU50     |
| Weight (kg)        | 7        | 8         | 16       | 21       | 34       |
| Cylinder           | SSM00518 | SSH01204P | SSH02205 | SSH03006 | SSH06008 |
| Pump               | W20307   | W20307    | W10607   | W20807   | W21907   |
| Hose               | AP2015   | AP2015    | AP2015   | AP2015   | AP2020   |
| Gauge adaptor      | AZ1502   | AZ1502    | AZ1502   | AZ1502   | AZ1502   |
| Pressure gauge     | AV10007  | AV10007   | AV10007  | AV10007  | AV10007  |
| Male half coupling | AZ3120   | AZ3120    | AZ3120   | AZ3120   | AZ3120   |
| Hollow saddle      | -        | AZ0551    | AZ0552   | AZ0553   | AZ0556   |

**PULLER MECHANICAL PARTS**

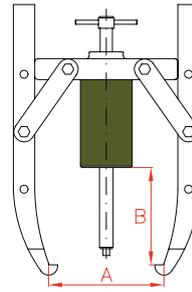
| Capacity (ton)         | 5       | 10      | 20      | 30      | 50      | FV |
|------------------------|---------|---------|---------|---------|---------|----|
| Model                  | FU05    | FU10    | FU20    | FU30    | FU50    |    |
| Jaw                    | FU0507  | FU1007  | FU2007  | FU3007  | FU5007  | 3  |
| 3 Jaws crosshead       | -       | -       | FU2008  | FU3008  | FU5008  | ✓  |
| 2 Jaws crosshead       | -       | -       | FU2009  | FU3009  | FU5009  | ✓  |
| 2 and 3 Jaws crosshead | FU0508  | FU1008  | -       | -       | -       | ✓  |
| Arms                   | FU0510  | FU1010  | FU2010  | FU3010  | FU5010  | 6  |
| Jaws bolts + Nuts      | FU0511  | FU1011  | FU2011  | FU3011  | FU5011  | 6  |
| Slinde + Handle        | -       | FU1012  | FU2012  | FU3012  | FU5012  | ✓  |
| Short bolts (2)        | -       | 14A0330 | 14A0074 | 14A0075 | 14A0076 | ✓  |
| Bearing puller         | FR1000  | FR1000  | FR2000  | FR3000  | FR5000  | -  |
| Gross crosshead        | FU0517  | FU1017  | FU2017  | FU3017  | FU5017  | -  |
| Blank nuts (2)         | FU1018  | FU1018  | FU2018  | FU3018  | FU5018  | -  |
| Washer (2)             | FU1019  | FU1019  | FU2019  | FU3019  | FU5019  | -  |
| Slides (2)             | FU0520  | FU1020  | FU2020  | FU3020  | FU5020  | -  |
| Fixing nuts (2)        | FU0521  | FU1021  | FU2021  | FU3021  | FU5021  | -  |
| Large extenders (2)    | FU0522  | FU1022  | FU2022  | FU3022  | FU5022  | -  |
| Short extenders (2)    | FU0523  | FU1023  | FU2023  | FU3023  | FU5023  | -  |
| Bearing cup puller     | -       | FI1000  | FI2000  | FI3000  | FI5000  | -  |
| Point protector        | FU0525  | FU1025  | FU2025  | FU5025  | FU5025  | ✓  |
| Connection nuts (2)    | 14B0050 | 14B0051 | 14B0029 | 14B0030 | 14B0031 | -  |
| Long bolts (2)         | -       | 14A0331 | 14A0098 | 14A0099 | 14A0100 | -  |

✓ Included - Not available

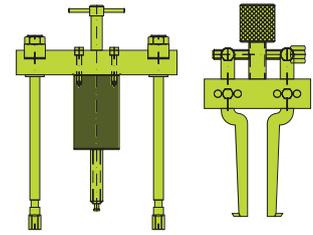
**JAWS PULLER FV**

| Capacity | 2 and 3 jaws |        |        |         |
|----------|--------------|--------|--------|---------|
|          | Model        | A max. | B max. | Weight* |
| ton      | LARZEP       | mm     | mm     | kg      |
| 5        | FV05         | 240    | 225    | 7       |
| 10       | FV10         | 350    | 320    | 20      |
| 20       | FV20         | 480    | 320    | 39      |
| 30       | FV30         | 680    | 390    | 61      |
| 50       | FV50         | 980    | 710    | 131     |

\*Total weight of all components



FV

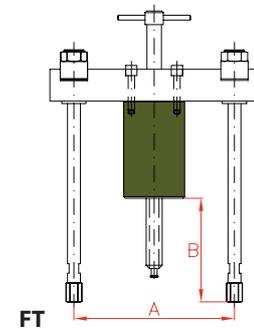


FT

FI

**SIMPLE CROSS BEARING PULLER**

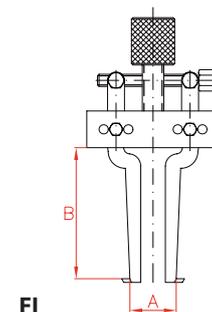
| Capacity | A min. | A max. | B max. | Weight |
|----------|--------|--------|--------|--------|
| ton      | mm     | mm     | mm     | kg     |
| 5        | 40     | 185    | 170    | 7      |
| 10       | 115    | 260    | 300    | 8      |
| 20       | 170    | 345    | 265    | 19     |
| 30       | 185    | 440    | 284    | 37     |
| 50       | 220    | 580    | 447    | 71     |



FT

**BEARING CUP PULLER**

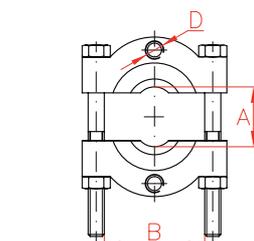
| Capacity | A min. | A max. | B   | Weight |
|----------|--------|--------|-----|--------|
| ton      | mm     | mm     | mm  | kg     |
| 10       | 40     | 145    | 115 | 2,2    |
| 20       | 40     | 145    | 115 | 2,4    |
| 30       | 60     | 240    | 150 | 6,0    |
| 50       | 60     | 240    | 150 | 6,4    |



FI

**BEARING PULLER**

| Capacity | A min. | A max. | B   | D             |
|----------|--------|--------|-----|---------------|
| ton      | mm     | mm     | mm  | UN            |
| 5 - 10   | 10     | 110    | 130 | 5/8" UNF-18   |
| 20       | 12     | 134    | 155 | 5/8" UNF-18   |
| 30       | 17     | 250    | 260 | 1" UNF-14     |
| 50       | 35     | 300    | 300 | 1 1/4" UNF-12 |



FR



PRESSES

PRESSES



Type **EE - EM - EZ**

Capacity **10 - 60 ton**

Max. pressure **700 bar**



- ✓ Extremely sturdy frames, made from welded steel profiles, available as bench mount and floor mounted H-Frame models.
- ✓ Models are available powered by hand pump, air/hydraulic pump or electric/hydraulic pump. CE versions are fitted with remote motor control.
- ✓ Table height is adjustable on floor mounted models, manually on 30 ton, winch on 60 ton.
- ✓ V-blocks and a pressure gauge reading in tons are supplied as standard on all models.
- ✓ The hydraulic cylinder on the EM and EZ bench presses can be easily removed and used in other applications.
- ✓ The EM models incorporate a two-speed hand pump for quick approach of the piston to the work piece.



V-blocks and pressure gauge reading in tons are supplied as standard on all models.

EE-EM-EZ TOOLS

| Capacity | Frame       |             | E   | H max. | Stroke | Model      | Pump Type |          |     |          |
|----------|-------------|-------------|-----|--------|--------|------------|-----------|----------|-----|----------|
| ton      | Bench Mount | Floor Mount | mm  | mm     | mm     | LARZEP     | Hand      | Electric | Air | Model    |
| 10       | *           | -           | 350 | 376    | 155    | EM01115    | *         | -        | -   | W10607   |
|          | *           | -           | 350 | 376    | 155    | EZ01115    | -         | -        | *   | Z12107   |
| 20       | *           | -           | 500 | 376    | 159    | EM02015    | *         | -        | -   | W10607   |
|          | *           | -           | 500 | 376    | 159    | EZ02015    | -         | -        | *   | Z12107   |
| 30       | -           | *           | 500 | 930    | 210    | EM03021    | *         | -        | -   | W21907   |
|          | -           | *           | 500 | 930    | 210    | EZ03021    | -         | -        | *   | Z12107   |
|          | -           | *           | 500 | 930    | 160    | EE03116    | -         | *        | -   | HBM2244  |
|          | -           | *           | 500 | 930    | 160    | EE03116-CE | -         | *        | -   | HBM2244B |
| 60       | -           | *           | 860 | 940    | 180    | EM06018    | *         | -        | -   | W21907   |
|          | -           | *           | 860 | 940    | 180    | EZ06018    | -         | -        | *   | Z12107   |
|          | -           | *           | 860 | 940    | 180    | EE06018    | -         | *        | -   | HBM2244  |
|          | -           | *           | 860 | 940    | 180    | EE06018-CE | -         | *        | -   | HBM2244B |

| Model      | A     | B     | C   | D   | E   | F   | H min. | H max. | I   | K   | M   | N   | O  |
|------------|-------|-------|-----|-----|-----|-----|--------|--------|-----|-----|-----|-----|----|
| LARZEP     | mm    | mm    | mm  | mm  | mm  | mm  | mm     | mm     | mm  | mm  | mm  | mm  | mm |
| EM01115    | 819   | 440   | 220 | 80  | 350 | 170 | -      | 376    | 80  | -   | 400 | 198 | 12 |
| EZ01115    | 819   | 440   | 220 | 80  | 350 | 170 | -      | 376    | 80  | -   | 400 | 198 | 12 |
| EM02015    | 903   | 610   | 325 | 120 | 500 | 240 | -      | 376    | 140 | -   | 570 | 285 | 12 |
| EZ02015    | 903   | 610   | 325 | 120 | 500 | 240 | -      | 376    | 140 | -   | 570 | 285 | 12 |
| EM03021    | 1.780 | 698   | 650 | 125 | 500 | 245 | 73     | 930    | 140 | 120 | 280 | 150 | 27 |
| EZ03021    | 1.780 | 698   | 650 | 125 | 500 | 245 | 73     | 930    | 140 | -   | 280 | 150 | 27 |
| EE03116    | 1.780 | 698   | 650 | 125 | 500 | 245 | 73     | 930    | 140 | 275 | 280 | 150 | 27 |
| EE03116-CE | 1.780 | 698   | 650 | 125 | 500 | 245 | 73     | 930    | 140 | 275 | 280 | 150 | 27 |
| EM06018    | 1.960 | 1.150 | 800 | 205 | 860 | 385 | 110    | 940    | 260 | 150 | 237 | 165 | 41 |
| EZ06018    | 1.960 | 1.150 | 800 | 205 | 860 | 385 | 110    | 940    | 260 | -   | 237 | 165 | 41 |
| EE06018    | 1.960 | 1.150 | 800 | 205 | 860 | 385 | 110    | 940    | 260 | 275 | 237 | 165 | 41 |
| EE06018-CE | 1.960 | 1.150 | 800 | 205 | 860 | 385 | 110    | 940    | 260 | 275 | 237 | 165 | 41 |





Type **EE - EM - EZ**

Capacity **10 - 60 ton**

Max. pressure **700 bar**

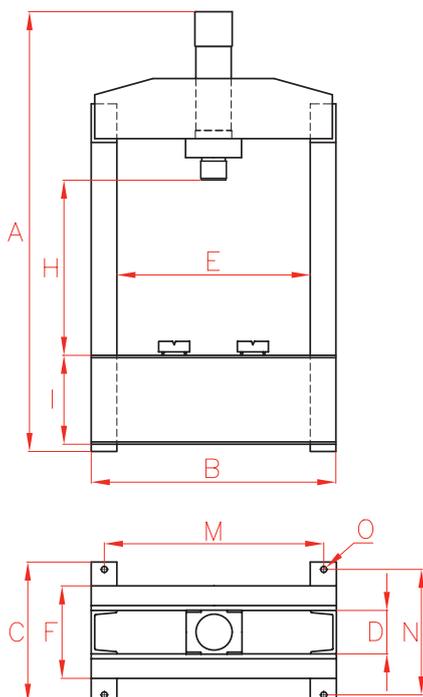
\*\*Advance speed  
 \*\* Hand Pump (mm/stroke)  
 \*\* Electric Pump (mm/sec.)  
 \*\* Air Pump (mm/sec.)

| Cylinder type |     |          | Oil Cap.        | Advance speed ** |      | Weight | Model             |
|---------------|-----|----------|-----------------|------------------|------|--------|-------------------|
| S/A           | D/A | Model    | cm <sup>3</sup> | Fast             | Slow | kg     | LARZEP            |
| *             | -   | SSM01015 | 247             | -                | 1,7  | 41     | <b>EM01115</b>    |
| *             | -   | SSM01015 | 247             | -                | 1,8  | 42     | <b>EZ01115</b>    |
| *             | -   | SSM02315 | 528             | 5,5              | 0,9  | 85     | <b>EM02015</b>    |
| *             | -   | SSM02315 | 528             | -                | 1,2  | 90     | <b>EZ02015</b>    |
| *             | -   | SSM03021 | 880             | 2,9              | 0,6  | 120    | <b>EM03021</b>    |
| *             | -   | SSM03021 | 663             | -                | 0,6  | 121    | <b>EZ03021</b>    |
| -             | *   | D03016   | 707             | 11,3             | 2,1  | 135    | <b>EE03116</b>    |
| -             | *   | D03016   | 707             | 11,3             | 2,1  | 140    | <b>EE03116-CE</b> |
| *             | -   | SM06018  | 1.558           | 1,5              | 0,2  | 455    | <b>EZ06018</b>    |
| *             | -   | SM06018  | 1.558           | -                | 0,4  | 456    | <b>EZ06018</b>    |
| -             | *   | D06018   | 1.558           | 5,7              | 1,0  | 480    | <b>EE06018</b>    |
| -             | *   | D06018   | 1.558           | 5,7              | 1,0  | 485    | <b>EE06018-CE</b> |

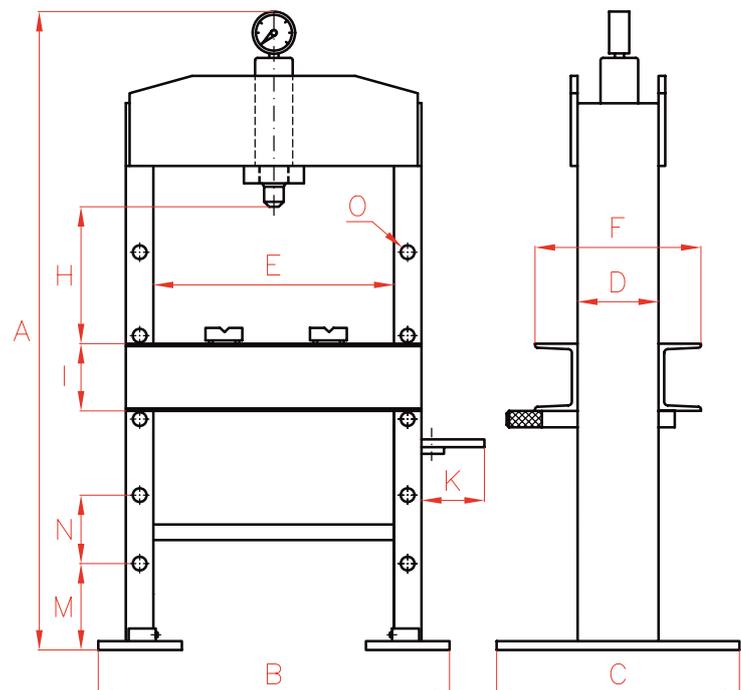


V-blocks and pressure gauge reading in tons are supplied as standard on all models.

10 and 20 ton Presses



30 and 60 ton Presses



**WEDGE SPREADER**



**WEDGE SPREADER**

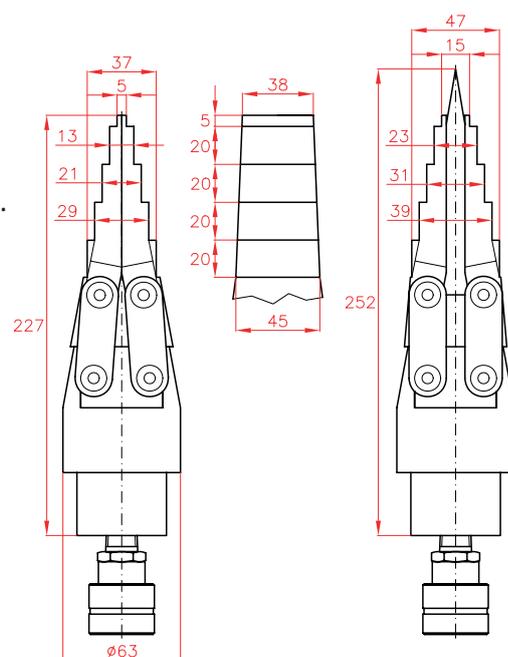
Type **CY**

Capacity **15 ton**

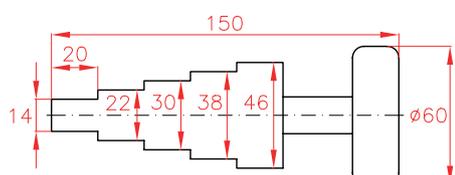
Max. pressure **700 bar**



- ✓ 15 ton capacity wedge spreader.
- ✓ Lightweight and ergonomic tool. Easy and quick maintenance.
- ✓ Specially designed for pipe and flange repair and maintenance.  
Can be used also for seal replacement, removing elbows or heavy equipment maintenance.
- ✓ Required access gap of only 5 mm.
- ✓ Suitable for harsh offshore environment due to corrosion protection.
- ✓ Recommended to be used in pairs.
- ✓ Options: Aluminium Safety block **CY15B**; Handle **CY15H**; Kit **CY1501S**, with pump and 2 wedge spreaders and accessories.



Aluminium Safety Block **CY15B** as option.



| Capacity | Model  | Oil Capacity    | Access Gap | Max. open width | Weight |
|----------|--------|-----------------|------------|-----------------|--------|
| ton      | LARZEP | cm <sup>3</sup> | mm         | mm              | kg     |
| 15       | CY1501 | 16              | 5          | 47              | 3,2    |



Always read the safety instructions.

SPREAD CYLINDERS

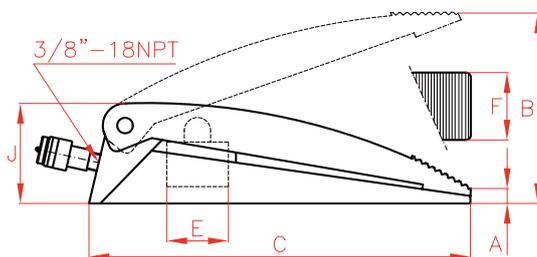


|               |                    |
|---------------|--------------------|
| Type          | <b>CY</b>          |
| Capacity      | <b>0,8 - 1 ton</b> |
| Max. pressure | <b>700 bar</b>     |

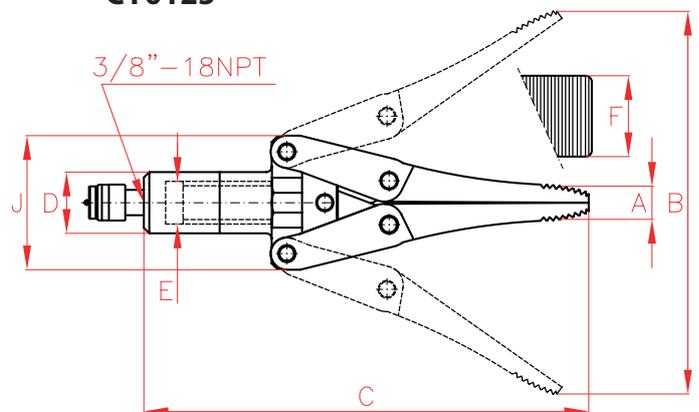


- ✓ CY series spreaders are used for many tasks in confined access situations.
- ✓ CY0110 is used for very confined situations and CY0125 is used for greater spreading distance.
- ✓ CY0110 and CY0125 models are supplied with AZ3140 high-flow female couplers.

**CY0110**



**CY0125**



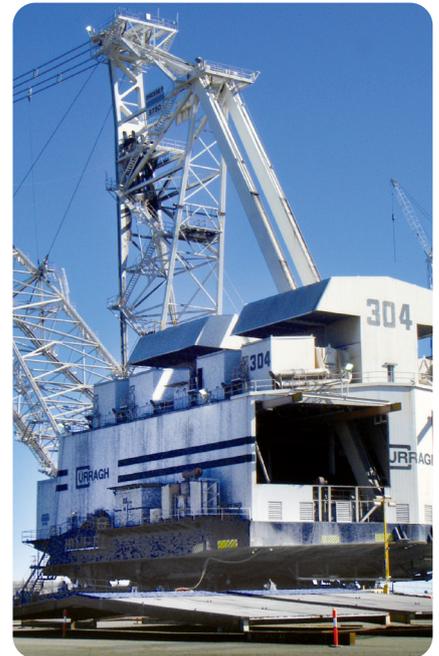
| Capacity |    | Stroke | Model         | Oil Cap.        | Area            | A  | B   | C   | D  | E  | F  | J   | Weight |
|----------|----|--------|---------------|-----------------|-----------------|----|-----|-----|----|----|----|-----|--------|
| ton      | kN | mm     | LARZEP        | cm <sup>3</sup> | cm <sup>2</sup> | mm | mm  | mm  | mm | mm | mm | mm  | kg     |
| 1        | 9  | 75     | <b>CY0110</b> | 10              | 6,5             | 15 | 90  | 168 | -  | 28 | 55 | 54  | 2      |
| 0,6      | 6  | 255    | <b>CY0125</b> | 64              | 14,5            | 35 | 290 | 487 | 58 | 42 | 53 | 158 | 11     |



### OIL RIG RETRIEVAL

A hanger retrieval system developed with LARZEP products, for a major Oil & Gas operator in the North Sea.

The system consists of 4 double acting 215 ton Hollow Bore Cylinders with 460 mm stroke, completely black nitrided to avoid rust in the North Sea environment and 2 pneumatic powered hydraulic pumps with safety double circuit each.



### LIFTING SYSTEM FOR MAINTENANCE

Larzep supplied seven 500 ton lifting cylinders for the tub lift-and-split, and twenty-two 100 ton cylinders to work on the 6400 ton Marion dragline. Also supplied was an electric power pack incorporating electronically controlled valving via a PLC - all controlled by a laptop.

The purpose of the job was to remove the Marion 8750 Series B's tub, weighing 942 ton to allow maintenance to take place. This was considered a world-first for the mining industry. Two jacking frames, each with 1.000 ton working load limit were used for the procedure. Each jacking frame housed two 500 ton Larzep cylinders.

# SAFETY



## SAFETY INSTRUCTIONS

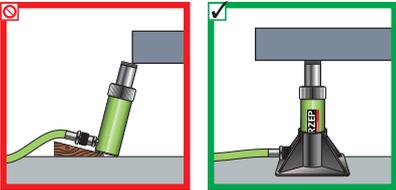
When used correctly, hydraulic power is one of the safest methods of applying force to your work. To that end we offer some **DO's and DON'Ts**, simple common sense points which apply to practically all Larzep hydraulic products.

The illustrations and application photos of Larzep products throughout this catalogue are used to portray how some of our customers have used hydraulics in industry. In designing similar systems, care must be taken to select the proper components that provide safe operation and fit your needs.

Check to see if all safety measures have been adopted to avoid the risk of injury and property damage from your application or system. Larzep cannot be held responsible for damage or injury caused by unsafe use, maintenance or application of its products. Please contact the Larzep office or a representative for guidance when you are in doubt as to the proper safety precautions to be taken in designing and setting up your particular system.

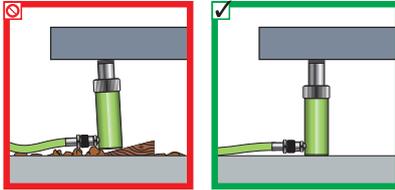
In addition to these tips, every Larzep product comes with specific safety information and instructions. **Please read them carefully.**

### CYLINDERS



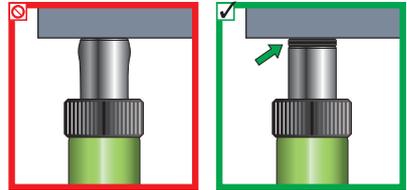
Provide a solid support for the entire cylinder base area. Use cylinder base attachment for more stability.

### CYLINDERS



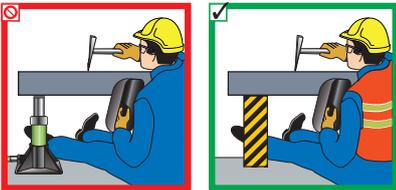
The entire cylinder saddle must be in contact with the load. Movement of the cylinder must be parallel with the movement of the load.

### CYLINDERS



Do not use cylinder without saddle. This will cause plunger to "mushroom". Saddles distribute load evenly on the plunger.

### CYLINDERS



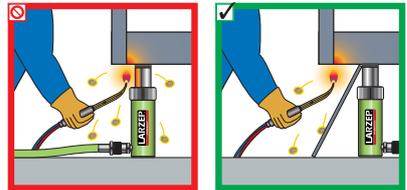
Never place any part of your body under the load. Load must be on cribbing before venturing under.

### CYLINDERS



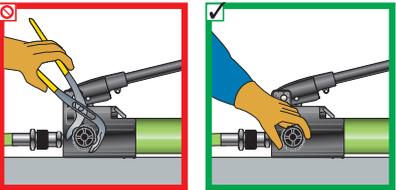
Always protect cylinder threads for use with attachments.

### CYLINDERS



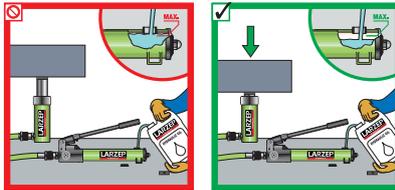
Keep hydraulic equipment away from open fire and temperatures above 65 °C.

### PUMPS



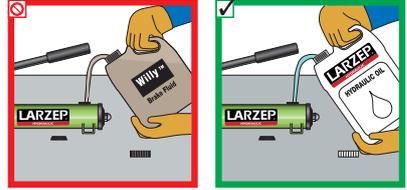
Close release valve hand tight. Using tools will ruin the valve.

### PUMPS



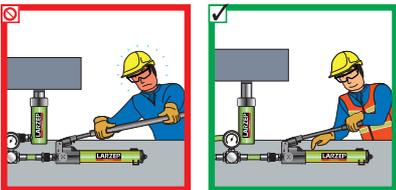
Fill pump only to recommended level. Fill only when connected cylinder is fully retracted.

### PUMPS



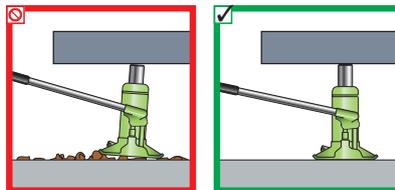
Always use genuine Larzep hydraulic oil.

### PUMPS



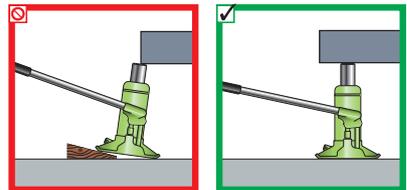
Don't use handle extenders. Hand pumps should be easy to operate when used correctly.

### JACKS



Provide a leveled and solid support for the entire jack base area.

### JACKS



The entire jack saddle must be in contact with the load. Movement of the load must be in the same direction as jack plunger.

For your application, choose the most suitable model from the wide range available, and make sure that it will **not exceed 80%** of its nominal capacity and stroke during normal operation.

The correct union of a pump to a cylinder via a hydraulic hose constitutes a machine designed for lifting, pulling, folding and retaining operations, etc., that, due to its high thrust capacity requires safe use in order to avoid accident risk.

Use protective goggles for eye protection. Use safety shoes for feet protection. Use protective gloves for hand protection.

Do not modify the device (welded parts, lengthening drive levers, etc.).

Do not use the hoses for transporting the device. Use the handles on the cylinders (when appropriate) and set the pump lever to the transport position.

When filling the pump with oil, use always LARZEP hydraulic oil. Fill only to the indicated level and remember that the cylinder piston should be retracted.

Before using a pump from other manufacturer, contact LARZEP's Technical Department. Otherwise, LARZEP will not be liable for any damage that may arise.

Before starting operation, check that the installation is correct, the operator position is safe and the working zone is out of bounds to all personnel.

In all cases, the operator should have received adequate training regarding the handling of the device and logical safety criteria associated with the movement of heavy loads.

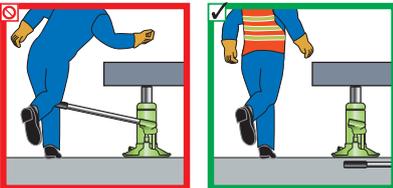
Never exceed the maximum working pressure of the cylinder. Ensure that all the equipment and accessories are suitable for the maximum working pressure.



*Always read the safety instructions.*

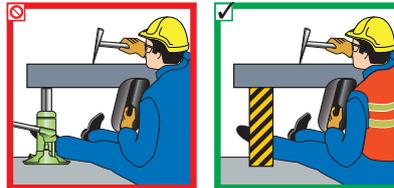


## JACKS

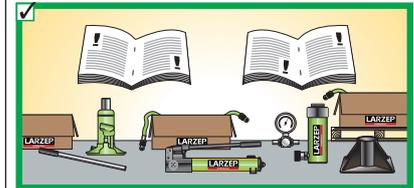


Remove the jack handle when it is not being used.

## JACKS

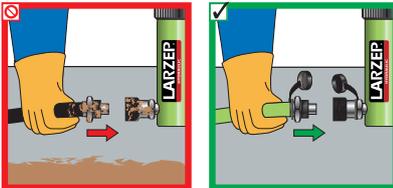


Never place any part of your body under the load. Ensure the load is on a solid support before venturing under.



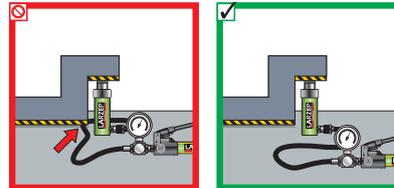
Always read instructions and safety warnings that come with your Larzep hydraulic equipment.

## HOSES AND COUPLERS



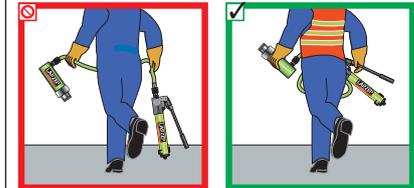
Clean both coupler parts before connecting. Use dust caps when coupler parts are not connected.

## HOSES AND COUPLERS



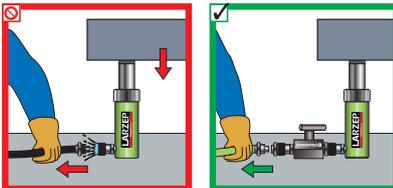
Keep hoses away from the area beneath loads.

## HOSES AND COUPLERS



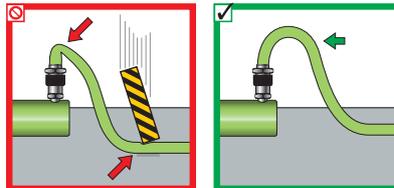
Don't lift hydraulic equipment by the hoses.

## HOSES AND COUPLERS



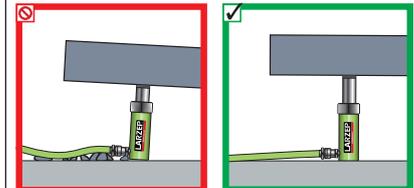
Detach cylinder only when fully retracted or use shut-off valves or safety valves to lock cylinder pressure.

## HOSES AND COUPLERS



Don't kink hoses. Bending radius should be at least 115 mm. Don't drive over or drop heavy objects on hoses.

## HOSES AND COUPLERS



Never allow the cylinder to be lifted off of the ground through the couplers.

# SELECTION TABLES

## PUMP SELECTION

In order to select the right pump according to your needs, please answer these questions:

### HAND PUMPS

Single or Double acting: \_\_\_\_\_  
 Number of cylinders required: \_\_\_\_\_  
 Cylinder capacity: \_\_\_\_\_ ton  
 Cylinder stroke: \_\_\_\_\_ millimetres  
 Total hose length: \_\_\_\_\_ metres



### POWERPACKS

Single or Double acting: \_\_\_\_\_  
 Number of cylinders required: \_\_\_\_\_  
 Cylinder capacity: \_\_\_\_\_ ton  
 Cylinder stroke: \_\_\_\_\_ millimetres  
 Total hose length: \_\_\_\_\_ metres  
 Manual or Solenoid valve: \_\_\_\_\_  
 Load holding is required? \_\_\_\_\_  
 Single or Three phase: \_\_\_\_\_  
 Voltage: \_\_\_\_\_ V  
 Frequency: \_\_\_\_\_ Hz  
 Remote pendant (for HBM) is required? \_\_\_\_\_  
 Roll bar or Pressure gauge are required? \_\_\_\_\_

1. Select the right cylinder, keeping in mind the recommended use of **80%** of its nominal rating of both, load and stroke.
2. Select the pump according to the oil volume and the number of cylinders in operation.

Use the table below as guideline. It is supposed the use of only one cylinder. For several cylinders, add oil capacities.

| Capacity | Stroke (mm) |        |        |        |        |        |        |        |        |        |        |        |        |
|----------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|          | 25          | 50     | 75     | 100    | 125    | 150    | 175    | 200    | 225    | 250    | 300    | 325    | 350    |
| 5        | Blue        | Blue   | Blue   | Blue   | Blue   | Blue   | Blue   | Blue   | Blue   | Red    | Red    | Red    | Red    |
| 10       | Blue        | Blue   | Blue   | Blue   | Blue   | Red    | Red    | Red    | Red    | Red    | Red    | Green  | Green  |
| 15       | Blue        | Blue   | Red    | Green  | Green  | Green  |
| 23       | Red         | Red    | Red    | Red    | Red    | Red    | Red    | Green  | Green  | Green  | Green  | Yellow | Yellow |
| 30       | Red         | Red    | Red    | Red    | Green  | Green  | Green  | Green  | Green  | Green  | Yellow | Yellow | Yellow |
| 50       | Red         | Red    | Green  | Green  | Green  | Yellow | Yellow | Yellow | Yellow | Yellow | Blue   | Blue   | Blue   |
| 75       | Red         | Green  | Green  | Yellow | Yellow | Yellow | Yellow | Blue   | Blue   | Blue   | Blue   | Blue   | Blue   |
| 100      | Red         | Green  | Green  | Yellow | Yellow | Yellow | Blue   | Blue   | Blue   | Blue   | Blue   | Purple | Purple |
| 140      | Green       | Yellow | Yellow | Blue   | Blue   | Blue   | Blue   | Purple | Purple | Purple | Purple | Purple | Purple |
| 220      | Green       | Yellow | Blue   | Blue   | Blue   | Purple |

- Blue: Single Acting W20307, Double Acting X22607
- Red: Single Acting W10607 - W20807, Double Acting X22607
- Green: Single Acting W11407 - W21907, Double Acting X22607
- Yellow: Single Acting W22607, Double Acting X22607
- Cyan: Single Acting W24507, Double Acting X24507
- Purple: Single Acting W26507, Double Acting X26507
- Pink: Single Acting HBM, HBE, Double Acting HBM, HBE

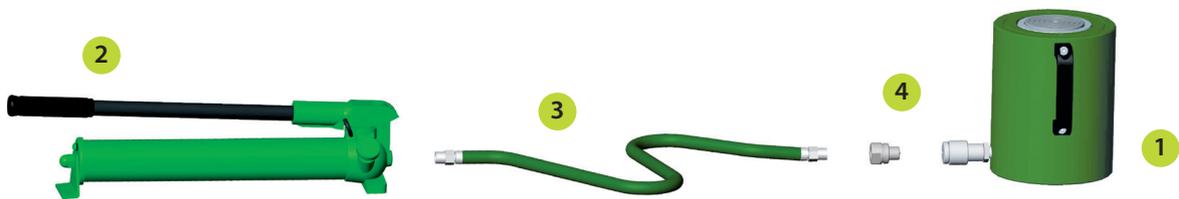
**NOTE:** Add 35cc of oil per metre of hose used when the internal diameter of the hose is 6,4 mm.

Visit our website [www.larzep.com](http://www.larzep.com) for the online Cylinder or Pump Selection application.

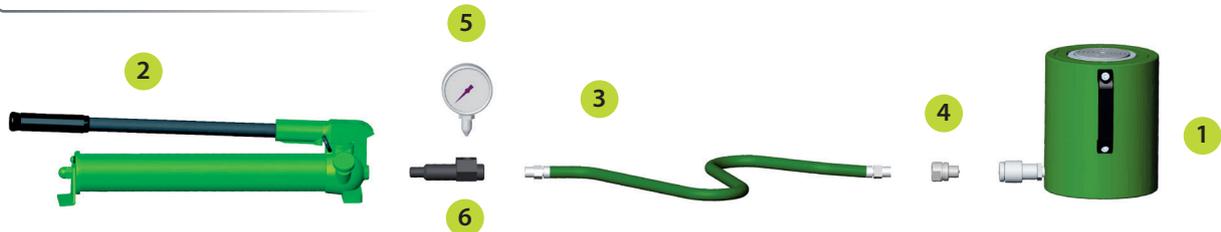
## SINGLE ACTING ASSEMBLIES

- 1 Cylinder
  - 2 Pump / Powerpack
  - 3 Hose
  - 4 Male Coupler
  - 5 Pressure Gauge
  - 6 Gauge Adaptor
  - 7 Flow Regulating Valve
  - 8 Check Valve
  - 9 Female Coupler
  - 10 Snubber Valve
  - 11 Pilot Operated Check Valve
  - 12 Tee
- \* Optional
  - + Female coupler included in the cylinder

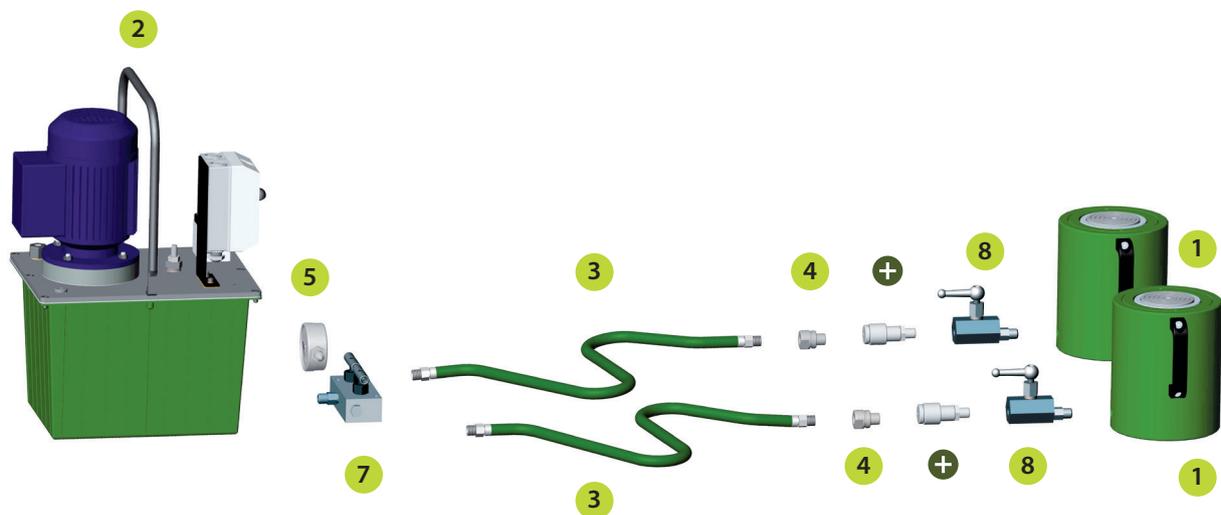
### BASIC SYSTEM SETUP



### COMPLETE SYSTEM



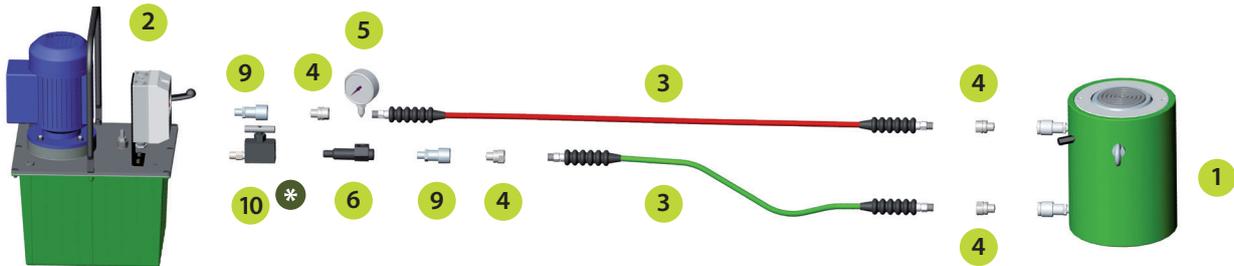
### COMPLETE SYSTEM WITH SEVERAL CYLINDERS



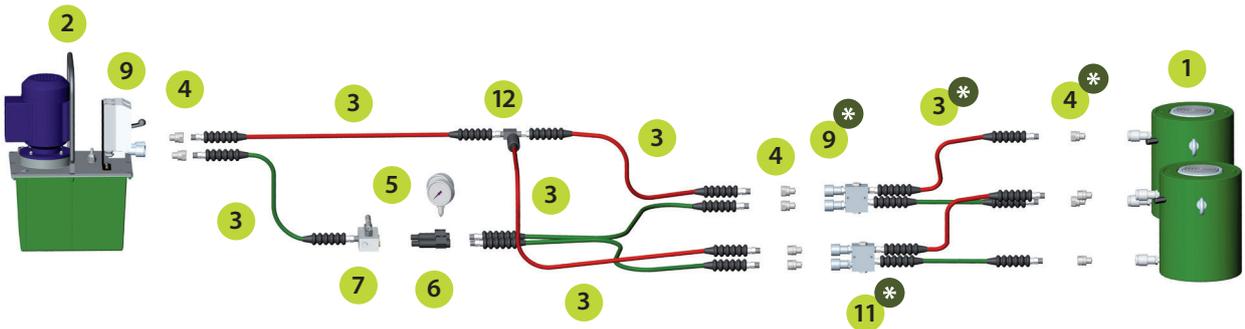
# SYSTEM ASSEMBLIES

## DOUBLE ACTING ASSEMBLIES

### BASIC SYSTEM



### COMPLETE SYSTEM WITH SEVERAL CYLINDERS





# INFORMATION

## UNIT CONVERTER

| LENGTH |            |
|--------|------------|
| 1 mm   | = 0,039 in |
| 1 cm   | = 0,393 in |
| 1 m    | = 3,28 ft  |
| 1 in   | = 25,4 mm  |
| 1 in   | = 0,083 ft |
| 1 ft   | = 4 in     |
| 1 ft   | = 0,305 m  |

| MASS           |                   |
|----------------|-------------------|
| 1 kg           | = 2,205 lb        |
| 1 kg           | = 35,27 oz        |
| 1 ton (metric) | = 1000 kg         |
| 1 ton (metric) | = 2205 lb         |
| 1 ton (metric) | = 1,1 ton (short) |
| 1 lb           | = 0,453 kg        |
| 1 ton (short)  | = 907,18 kg       |
| 1 ton (short)  | = 0,907 t         |
| 1 ton (short)  | = 2000 lb         |

| FORCE |             |
|-------|-------------|
| 1 kg  | = 9,8 N     |
| 1 N   | = 0,1019 kg |
| 1 N   | = 0,225 lb  |
| 1 kN  | = 0,1019 t  |
| 1 kN  | = 224,8 lb  |
| 1 lb  | = 4,448 N   |

| AREA              |                         |
|-------------------|-------------------------|
| 1 cm <sup>2</sup> | = 0,155 in <sup>2</sup> |
| 1 m <sup>2</sup>  | = 10,76 ft <sup>2</sup> |
| 1 in <sup>2</sup> | = 6,45 cm <sup>2</sup>  |
| 1 in <sup>2</sup> | = 645 mm <sup>2</sup>   |

| PRESSURE             |                             |
|----------------------|-----------------------------|
| 1 bar                | = 0,1 MPa                   |
| 1 bar                | = 10 N/cm <sup>2</sup>      |
| 1 bar                | = 1,0197 kg/cm <sup>2</sup> |
| 1 bar                | = 14.5 psi                  |
| 1 Pa                 | = 1 N/m <sup>2</sup>        |
| 1 kPa                | = 0,145 psi                 |
| 1 MPa                | = 10 bar                    |
| 1 N/cm <sup>2</sup>  | = 0,1 bar                   |
| 1 kg/cm <sup>2</sup> | = 0,98 bar                  |
| 1 psi                | = 0,069 bar                 |
| 1 psi                | = 1 lb/in <sup>2</sup>      |

| POWER |            |
|-------|------------|
| 1 kW  | = 1.359 hp |
| 1 hp  | = 0,735 kW |
| 1 w   | = 1 J/s    |

| TEMPERATURE     |      |
|-----------------|------|
| (°C x 1,8) + 32 | = °F |
| (°F - 32) / 1,8 | = °C |

| VOLUME            |                          |
|-------------------|--------------------------|
| 1 cm <sup>3</sup> | = 0,061 in <sup>3</sup>  |
| 1 m <sup>3</sup>  | = 1000 l                 |
| 1 m <sup>3</sup>  | = 1,3 yard <sup>3</sup>  |
| 1 ml              | = 1 cm <sup>3</sup>      |
| 1 ml              | = 0,035 oz-liq           |
| 1 l               | = 1000 cm <sup>3</sup>   |
| 1 l               | = 0,264 gal (US)         |
| 1 l               | = 0,219 gal (UK)         |
| 1 l               | = 61,023 in <sup>3</sup> |
| 1 l               | = 0,035 ft <sup>3</sup>  |
| 1 l               | = 1,056 quart            |
| 1 in <sup>3</sup> | = 16,387 cm <sup>3</sup> |
| 1 in <sup>3</sup> | = 0,016 l                |
| 1 in <sup>3</sup> | = 0,576 oz-liq           |
| 1 in <sup>3</sup> | = 0,017 quart            |
| 1 gal (UK)        | = 4,546 l                |
| 1 gal (US)        | = 3,785 l                |
| 1 gal (US)        | = 3785 cm <sup>3</sup>   |
| 1 gal (US)        | = 231 in <sup>3</sup>    |
| 1 gal (US)        | = 0,133 ft <sup>3</sup>  |
| 1 quart           | = 0,946 l                |

| FLOW                   |                             |
|------------------------|-----------------------------|
| 1 l/min                | = 1000 cm <sup>3</sup> /min |
| 1 l/min                | = 0,264 gal/min (US)        |
| 1 l/min                | = 0,22 gal/min (UK)         |
| 1 cm <sup>3</sup> /min | = 0,61 in <sup>3</sup> /min |
| 1 in <sup>3</sup> /min | = 16,4 cm <sup>3</sup> /min |
| 1 gal/min (US)         | = 3,785 l/min               |

Visit our website [www.larzep.com](http://www.larzep.com) and use the unit converter application.



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**ENERPAC Spain, S.L.**

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**Performance under Pressure**

**www.larzep.com**