

## Cylinders to AFNOR NF E49-001 (ex CNOMO) standard

# series CX-CXL

### DESCRIPTION

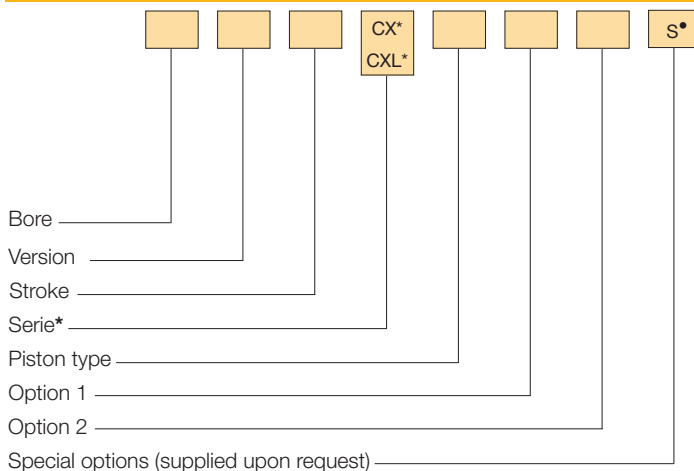
Cylinders series "CX" from  $\varnothing 32 \div 100$  and series CXL from  $\varnothing 125 \div 200$  comply with AFNOR NF E49-001 (ex CNOMO) standard and so they result interchangeable. Cylinders series "CX" with magnetic piston type can be supplied with magnetic sensors.

### TECHNICAL DATA

|                                 |  |
|---------------------------------|--|
| Operating pressure              | 1 $\div$ 10 bar  |
| Working temperature             | 0 $\div$ +80 °C (-20 °C with dry air)<br>0 $\div$ +150 °C with seals for high temperatures<br>(-20 °C with dry air)  |
| Fluid                           | Filtered, unlubricated, continuous lubricated<br>or dry compressed air   |
| Versions                        | Double acting, Single acting front spring,<br>Single acting rear spring, Through rod,<br>Double push tandem, Double stroke tandem,<br>Opposed tandem             |
| Bore                            | $\varnothing 32, 40, 50, 63, 80, 100, 125, 160, 200$   |
| Port size                       | $\varnothing 32$ = G 1/8<br>$\varnothing 40 - 50$ = G 1/4<br>$\varnothing 63 - 80$ = G 3/8<br>$\varnothing 100 - 125$ = G 1/2<br>$\varnothing 160 - 200$ = G 3/4 |
| Standard strokes (mm)*          | 25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400,<br>500, 600, 700, 800, 900, 1000   |
| Decelerators length             | $\varnothing 32$ 40 50 63 80 100 125 160 200<br>mm 25 30 30 35 35 40 40 50 50  |
| Maximum strokes (mm)            | $\varnothing 32 \div 200 = 3000$ ; version T, P, V = 1000  |
| Max. strokes single acting (mm) | $\varnothing 32 \div 100 = 50$   |

Cylinders, with strokes shorter than the decelerators lengths, are NOT cushioned as standard.

### ORDER KEY



\* Series CX from  $\varnothing 32 \div 100$ ; series CXL from  $\varnothing 125 \div 200$ .

• See Chapter 1, page 1.1.

### ORDER EXAMPLES

Cylinder  $\varnothing 50$ , double acting, 100 mm stroke, non-magnetic piston type:  
**50/100 CX**

Cylinder  $\varnothing 160$ , through rod, 150 mm stroke, magnetic piston type,  
stainless steel piston rod: **160R150 CXL/FM1**

Cylinder  $\varnothing 80$ , double push tandem, 50 mm stroke,  
magnetic piston type: **80T50 CX/FM**

Cylinder  $\varnothing 80$ , double stroke tandem, 50 mm stroke 1 + 100 mm stroke 2,  
magnetic piston type: **80P50+100 CX/FM**

Cylinder  $\varnothing 80$ , opposed tandem, 50 mm stroke 1 + 50 mm stroke 2,  
magnetic piston type, brass cylinder barrel: **80V50+50 CX/FM4**



### MATERIALS

|                            |   |
|----------------------------|---|
| End caps                   | Anodized aluminium alloy  |
| Cylinder barrel            | Extruded tube, anodized aluminium alloy   |
| Tie rods, tie and rod nuts | Steel<br>Stainless steel (supplied upon request for tie rods and tie nuts)                                      |
| Piston rod                 | C45 chromium-plated steel<br>AISI 303 rolled stainless steel  |
| Piston rod bearing         | Bronze-iron 20%, sintered, self-lubricating   |
| Decelerators ogives        | Aluminium alloy   |
| Piston                     | NBR rubber block (supplied with and without magnet)<br>FKM (Viton®) supplied only with non-magnetic piston type |
| Seals                      | NBR rubber<br>FKM (Viton®)  |
| Spring                     | Springs steel   |

### VERSION

|                                     |                               |
|-------------------------------------|-------------------------------|
| / Double acting                     | <b>T</b> Double push tandem   |
| <b>S</b> Single acting front spring | <b>P</b> Double stroke tandem |
| <b>Y</b> Single acting rear spring  | <b>V</b> Opposed tandem       |
| <b>R</b> Through rod                |                               |

### PISTON TYPE

Non-magnetic /FM Magnetic\*

### OPTION 1

|   |   |
|---|---|
| <b>1</b> Stainless steel piston rod and rod nut | <b>3</b> Stainless steel piston rod and rod nut and seals for high temperatures |
| <b>2</b> Seals for high temperatures            |   |

### OPTION 2

|                                  |  |
|----------------------------------|--|
| <b>4</b> Brass cylinder barrel** | <b>6</b> Inner chromium-plated steel cylinder barrel** |
|----------------------------------|--|

\* Available even with "FKM" (Viton®) seals but just for applications where is needed a chemical compatibility; not available for high temperatures

\*\* Supplied from  $\varnothing 50 \div 100$

### SPARE PARTS

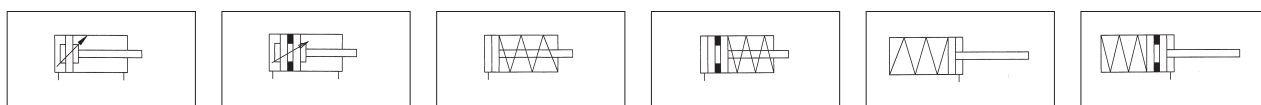
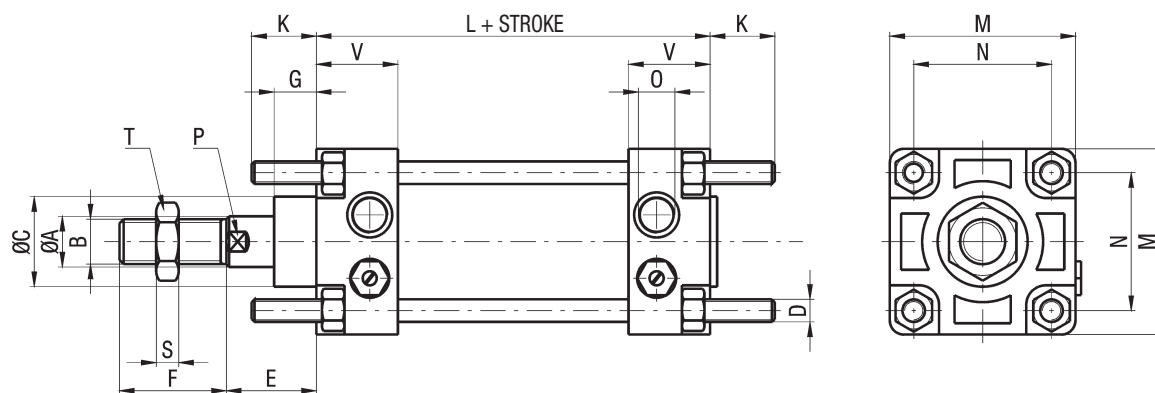
#### SEALS KIT

|                          |   |   |
|--------------------------|---|---|
| Non-magnetic piston type | NBR $\varnothing 32 \div 100$                               | <b><math>\varnothing</math>/SG/CX</b>       |
|                          | NBR $\varnothing 125 \div 200$                              | <b><math>\varnothing</math>/SG/CXL</b>      |
|                          | Through rod NBR $\varnothing 32 \div 100$                   | <b><math>\varnothing</math>/SG/R/CX</b>     |
|                          | Through rod NBR $\varnothing 125 \div 200$                  | <b><math>\varnothing</math>/SG/R/CXL</b>    |
|                          | For high temperature $\varnothing 32 \div 100$              | <b><math>\varnothing</math>/SG/CX2</b>      |
|                          | For high temperature $\varnothing 125 \div 200$             | <b><math>\varnothing</math>/SG/CXL2</b>     |
| Magnetic piston type     | Through rod for high temperature $\varnothing 32 \div 100$  | <b><math>\varnothing</math>/SG/R/CX2</b>    |
|                          | Through rod for high temperature $\varnothing 125 \div 200$ | <b><math>\varnothing</math>/SG/R/CXL2</b>   |
|                          | NBR $\varnothing 32 \div 100$                               | <b><math>\varnothing</math>/SG/CX/FM</b>    |
|                          | NBR $\varnothing 125 \div 200$                              | <b><math>\varnothing</math>/SG/CXL/FM</b>   |
|                          | Through rod NBR $\varnothing 32 \div 100$                   | <b><math>\varnothing</math>/SG/R/CX/FM</b>  |
|                          | Through rod NBR $\varnothing 125 \div 200$                  | <b><math>\varnothing</math>/SG/R/CXL/FM</b> |

# series CX-CXL

Cylinders  
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## CX - CXL BASIC CYLINDER



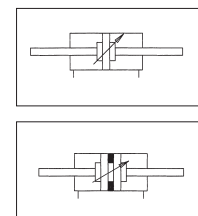
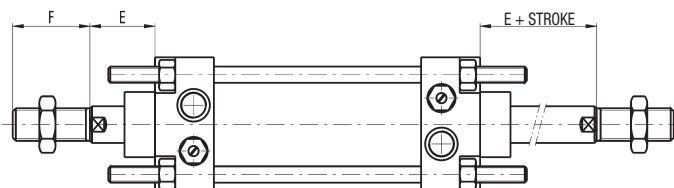
P.S.: Rod nut supplied as standard

## DIMENSIONS AND WEIGHTS BASIC CYLINDER

| Ø   | A  | B       | C  | D   | E  | F  | G  | H   | K  | L*  | M   | N   | O     | P  | R  | S    | T  | V  | WEIGHT (g) | INCREMENT (g) every 10 mm |
|-----|----|---------|----|-----|----|----|----|-----|----|-----|-----|-----|-------|----|----|------|----|----|------------|---------------------------|
| 32  | 12 | M10     | 25 | M6  | 25 | 20 | 15 | 134 | 17 | 86  | 45  | 33  | G 1/8 | 10 | 7  | 5    | 17 | 26 | 482        | 23                        |
| 40  | 18 | M16x1,5 | 32 | M6  | 34 | 36 | 15 | 191 | 17 | 110 | 52  | 40  | G 1/4 | 16 | 7  | 8    | 24 | 29 | 907        | 35                        |
| 50  | 18 | M16x1,5 | 32 | M8  | 34 | 36 | 15 | 191 | 23 | 110 | 65  | 49  | G 1/4 | 16 | 7  | 8    | 24 | 29 | 1170       | 46                        |
| 63  | 22 | M20x1,5 | 45 | M8  | 39 | 46 | 20 | 216 | 23 | 125 | 75  | 59  | G 3/8 | 20 | 9  | 10   | 30 | 34 | 1817       | 59                        |
| 80  | 22 | M20x1,5 | 45 | M10 | 39 | 46 | 20 | 215 | 28 | 125 | 95  | 75  | G 3/8 | 20 | 9  | 10   | 30 | 35 | 2680       | 66                        |
| 100 | 30 | M27x2   | 55 | M10 | 47 | 63 | 20 | 251 | 28 | 153 | 115 | 90  | G 1/2 | 27 | 9  | 13,5 | 41 | 39 | 4422       | 93                        |
| 125 | 30 | M27x2   | 55 | M12 | 47 | 63 | 20 | 248 | 34 | 145 | 140 | 110 | G 1/2 | 27 | 9  | 13,5 | 41 | 42 | 6630       | 110                       |
| 160 | 40 | M36x2   | 65 | M16 | 50 | 85 | 25 | 310 | 42 | 180 | 180 | 140 | G 3/4 | 36 | 13 | 18   | 55 | 50 | 13820      | 210                       |
| 200 | 40 | M36x2   | 65 | M16 | 50 | 85 | 25 | 310 | 42 | 180 | 220 | 175 | G 3/4 | 36 | 13 | 18   | 55 | 50 | 18840      | 290                       |

\*Dimension "L" in the "Through rod cylinder" is NOT to standard.

## THROUGH ROD

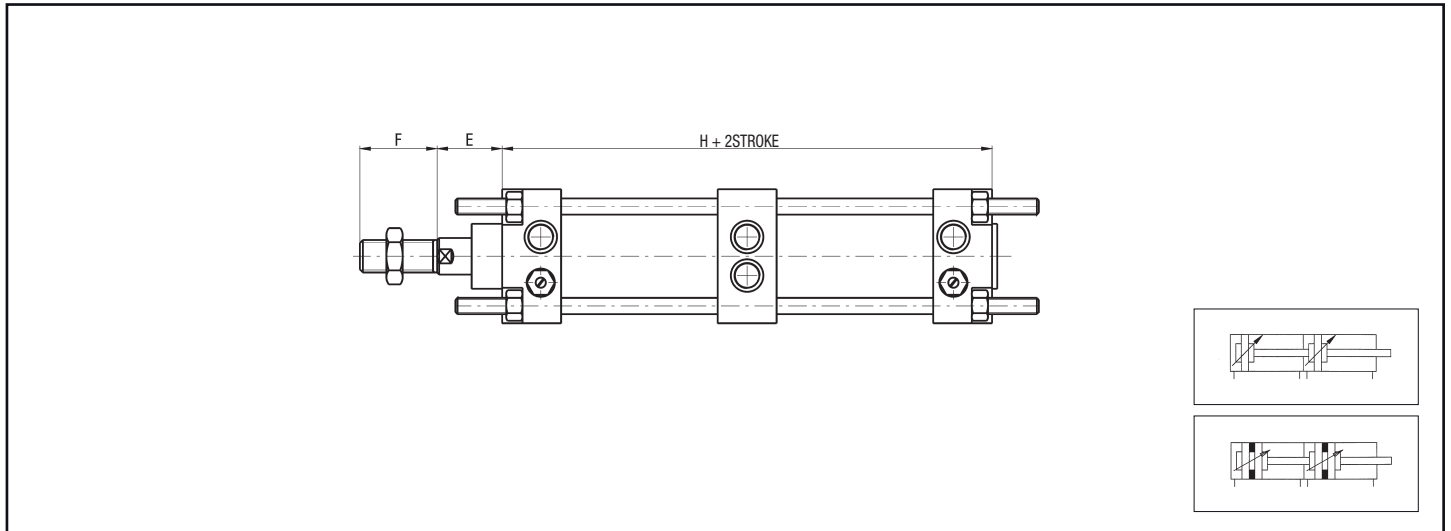


P.S.: Rod nut supplied as standard

Cylinders  
to AFNOR NF E49-001  
(ex CNOMO) standard

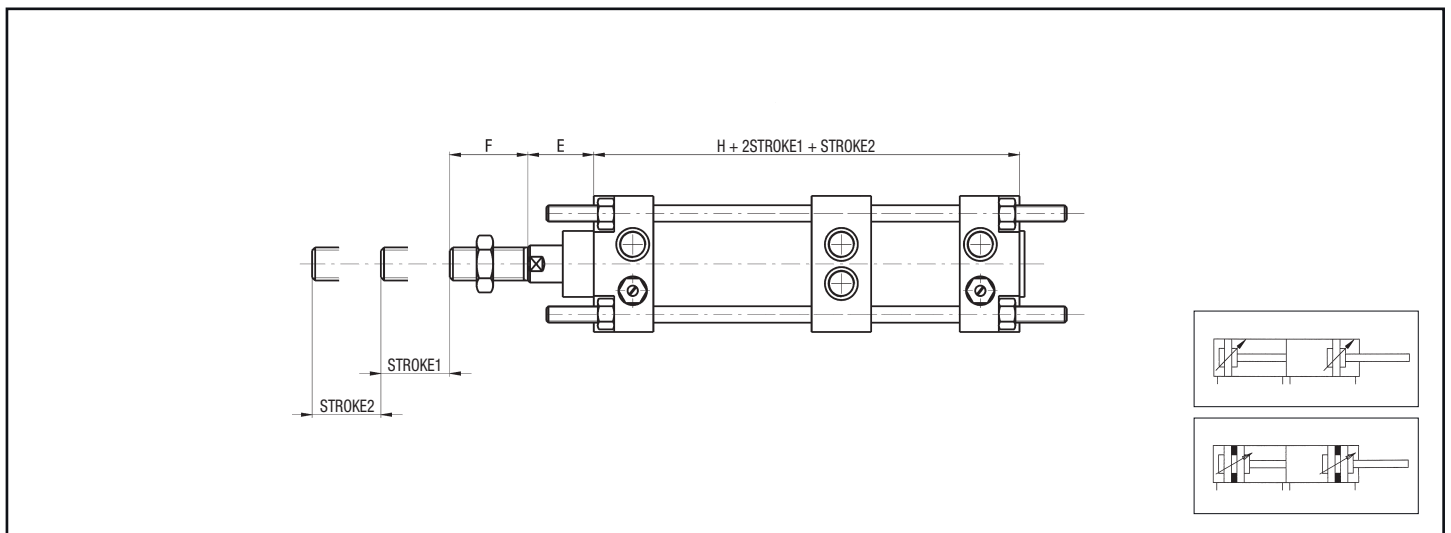
# series CX-CXL

## DOUBLE PUSH TANDEM



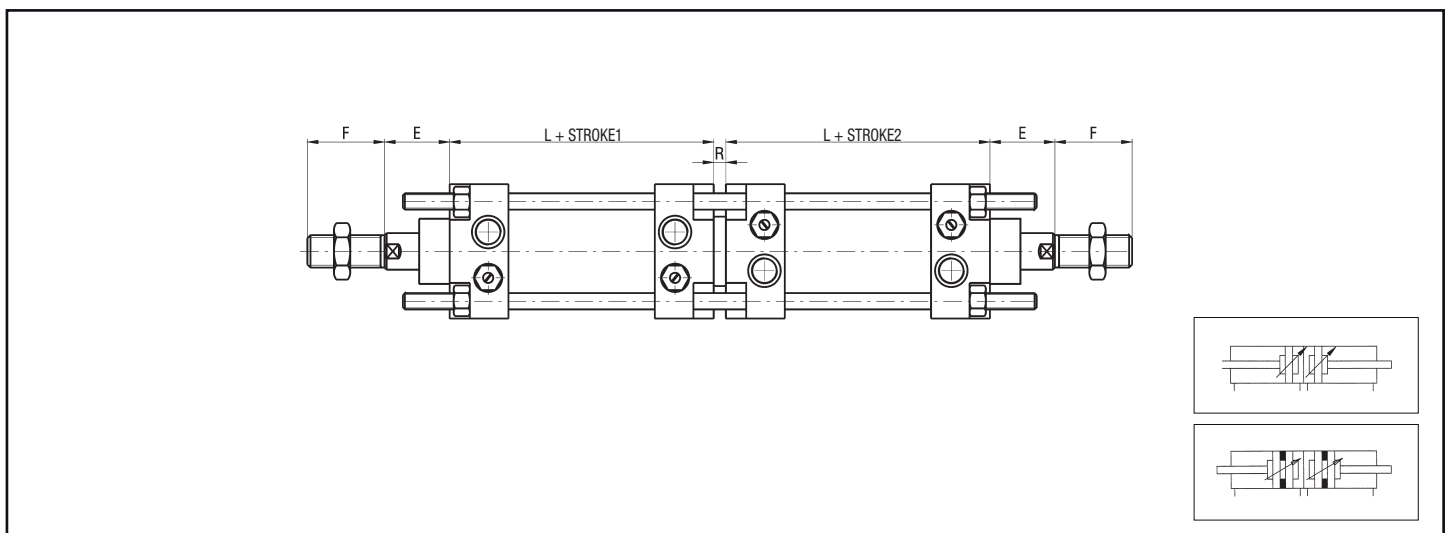
P.S.: Rod nut supplied as standard

## DOUBLE STROKE TANDEM



P.S.: Rod nut supplied as standard

## OPPOSED TANDEM



P.S.: Rod nut supplied as standard

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# series CX-CXL

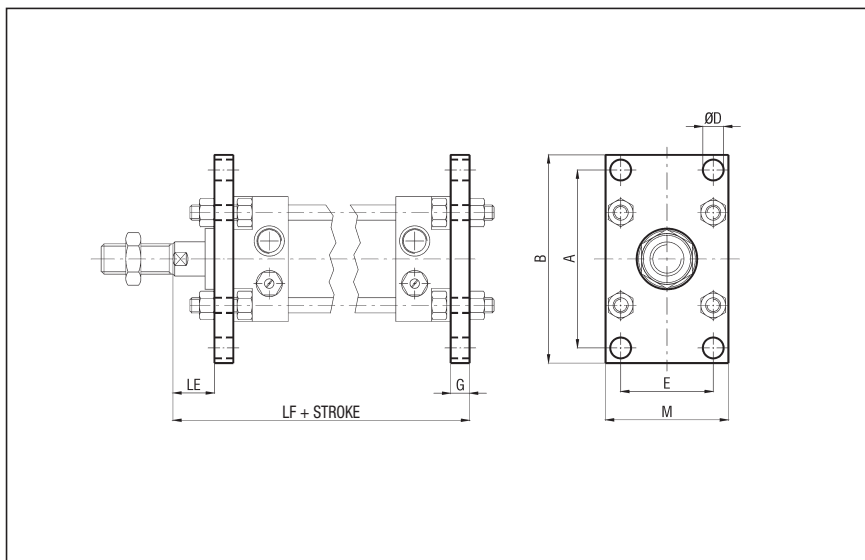
Accessories Fixings for cylinders to AFNOR NF E49-001 (ex CNOMO) standard

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### FLANGE - STEEL - CX/F Ø

| Ø   | A   | B   | D<br>H13 | E   | G  | LE | LF  |
|-----|-----|-----|----------|-----|----|----|-----|
| 32  | 68  | 80  | 9        | 33  | 8  | 17 | 113 |
| 40  | 78  | 90  | 9        | 40  | 8  | 26 | 152 |
| 50  | 94  | 110 | 11       | 49  | 10 | 24 | 154 |
| 63  | 104 | 120 | 11       | 59  | 10 | 29 | 174 |
| 80  | 130 | 150 | 14       | 75  | 12 | 27 | 176 |
| 100 | 150 | 170 | 14       | 90  | 12 | 35 | 204 |
| 125 | 180 | 205 | 18       | 110 | 16 | 31 | 208 |
| 160 | 228 | 260 | 22       | 140 | 20 | 30 | 250 |
| 200 | 268 | 300 | 22       | 170 | 20 | 30 | 250 |

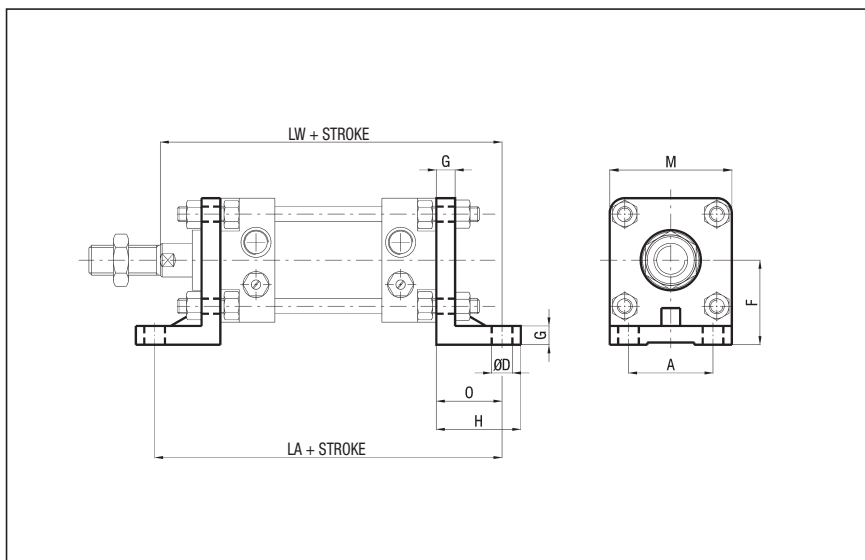
| Ø   | M   | WEIGHT<br>(g) |
|-----|-----|---------------|
| 32  | 45  | 158           |
| 40  | 52  | 206           |
| 50  | 65  | 424           |
| 63  | 75  | 504           |
| 80  | 95  | 1046          |
| 100 | 115 | 1480          |
| 125 | 140 | 3000          |
| 160 | 180 | 6300          |
| 200 | 220 | 9300          |



### HIGH FOOT - ALUMINIUM - CX/P Ø

| Ø   | A   | D<br>H13 | F   | G  | H  | LA  | LW  |
|-----|-----|----------|-----|----|----|-----|-----|
| 32  | 28  | 9        | 32  | 8  | 35 | 134 | 132 |
| 40  | 36  | 9        | 36  | 8  | 35 | 164 | 171 |
| 50  | 45  | 11       | 45  | 10 | 45 | 180 | 179 |
| 63  | 55  | 11       | 50  | 10 | 45 | 195 | 199 |
| 80  | 70  | 14       | 63  | 12 | 55 | 211 | 207 |
| 100 | 90  | 14       | 73  | 12 | 55 | 231 | 235 |
| 125 | 100 | 18       | 91  | 16 | 68 | 249 | 244 |
| 160 | 130 | 22       | 115 | 20 | 82 | 304 | 292 |
| 200 | 170 | 22       | 135 | 20 | 92 | 304 | 292 |

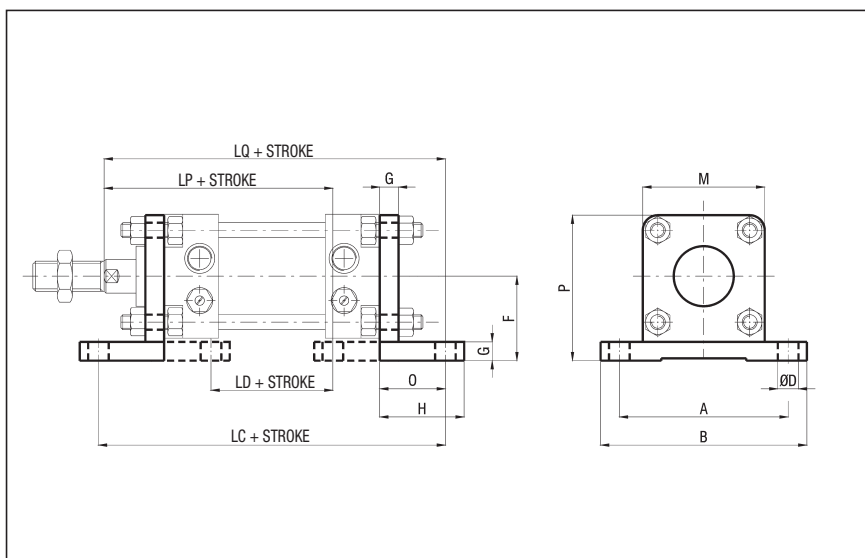
| Ø   | M   | O  | WEIGHT<br>(g) |
|-----|-----|----|---------------|
| 32  | 45  | 27 | 54            |
| 40  | 52  | 27 | 70            |
| 50  | 65  | 35 | 150           |
| 63  | 75  | 35 | 170           |
| 80  | 95  | 43 | 354           |
| 100 | 115 | 43 | 470           |
| 125 | 140 | 52 | 918           |
| 160 | 180 | 62 | 2300          |
| 200 | 220 | 62 | 3450          |



### LARGE HIGH FOOT - ALUMINIUM - CX/PL Ø

| Ø   | A   | B   | D<br>H13 | F   | G  | H    | LC  |
|-----|-----|-----|----------|-----|----|------|-----|
| 32  | 65  | 82  | 9        | 32  | 8  | 35   | 116 |
| 40  | 72  | 90  | 9        | 36  | 8  | 35   | 146 |
| 50  | 90  | 110 | 11       | 45  | 10 | 45   | 154 |
| 63  | 100 | 120 | 11       | 50  | 10 | 45   | 169 |
| 80  | 126 | 154 | 14       | 63  | 12 | 55   | 181 |
| 100 | 148 | 180 | 14       | 73  | 12 | 55   | 201 |
| 125 | 180 | 216 | 18       | 91  | 16 | 67,5 | 209 |
| 160 | 230 | 275 | 22       | 115 | 20 | 80   | 260 |
| 200 | 270 | 318 | 22       | 135 | 20 | 80   | 260 |

| Ø   | LD  | LP  | LQ  | M   | O  | P    | WEIGHT<br>(g) |
|-----|-----|-----|-----|-----|----|------|---------------|
| 32  | 60  | 95  | 123 | 45  | 18 | 54,5 | 76            |
| 40  | 90  | 134 | 162 | 52  | 18 | 62   | 90            |
| 50  | 86  | 132 | 166 | 65  | 22 | 77,5 | 188           |
| 63  | 101 | 152 | 186 | 75  | 22 | 87,5 | 206           |
| 80  | 93  | 148 | 192 | 95  | 28 | 110  | 410           |
| 100 | 113 | 176 | 220 | 115 | 28 | 130  | 576           |
| 125 | 113 | 176 | 224 | 140 | 32 | 161  | 1058          |
| 160 | 140 | 210 | 270 | 180 | 40 | 206  | 2350          |
| 200 | 140 | 210 | 270 | 220 | 40 | 246  | 3100          |



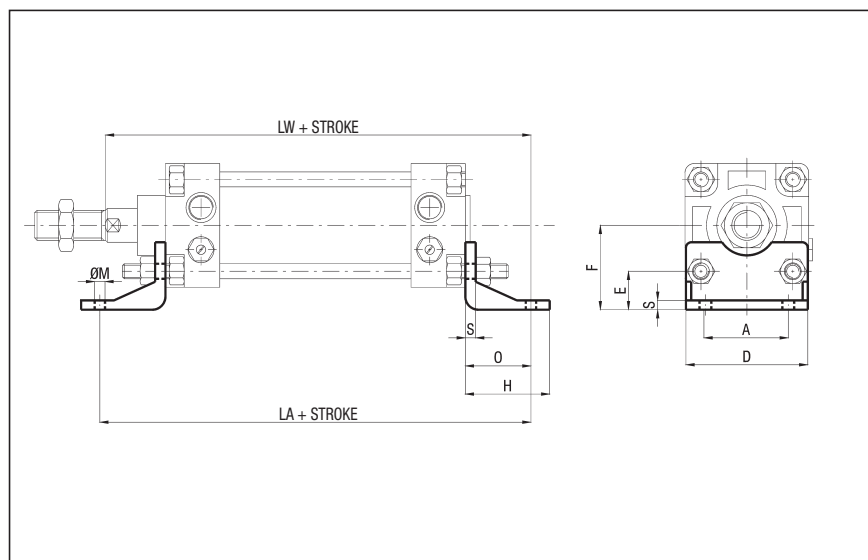
Accessories Fixings for cylinders to AFNOR NF E49-001 (ex CNOMO) standard

series **CX-CXL**

LOW FOOT - STEEL - CX/PB Ø

| Ø   | A   | D   | E    | F   | H   | LA  | LW  |
|-----|-----|-----|------|-----|-----|-----|-----|
| 32  | 28  | 45  | 15,5 | 32  | 35  | 134 | 132 |
| 40  | 36  | 52  | 16   | 36  | 36  | 164 | 171 |
| 50  | 45  | 65  | 20,5 | 45  | 45  | 180 | 179 |
| 63  | 55  | 75  | 20,5 | 50  | 45  | 195 | 199 |
| 80  | 70  | 95  | 25,5 | 63  | 55  | 211 | 207 |
| 100 | 90  | 115 | 27   | 73  | 56  | 231 | 235 |
| 125 | 100 | 140 | 36   | 91  | 70  | 249 | 244 |
| 160 | 130 | 180 | 45   | 115 | 75  | 304 | 292 |
| 200 | 170 | 220 | 47   | 135 | 100 | 304 | 292 |

| Ø   | M<br>H13 | O  | S  | WEIGHT<br>(g) |
|-----|----------|----|----|---------------|
| 32  | 4,5      | 27 | 4  | 66            |
| 40  | 4,5      | 27 | 4  | 78            |
| 50  | 5,5      | 35 | 5  | 168           |
| 63  | 5,5      | 35 | 5  | 190           |
| 80  | 7        | 43 | 6  | 382           |
| 100 | 7        | 43 | 6  | 452           |
| 125 | 9        | 52 | 8  | 1090          |
| 160 | 11       | 62 | 10 | 1180          |
| 200 | 11       | 62 | 12 | 3450          |

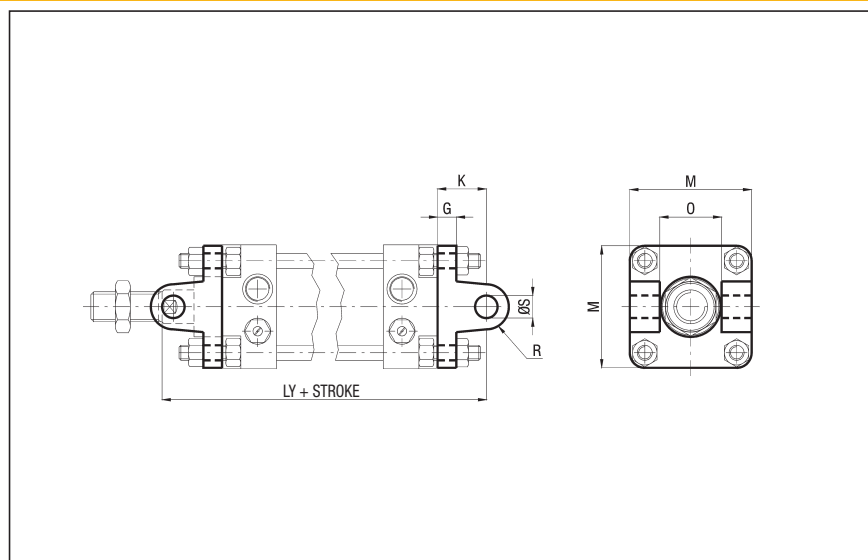


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FEMALE HINGE - ALUMINIUM - CX/CF Ø

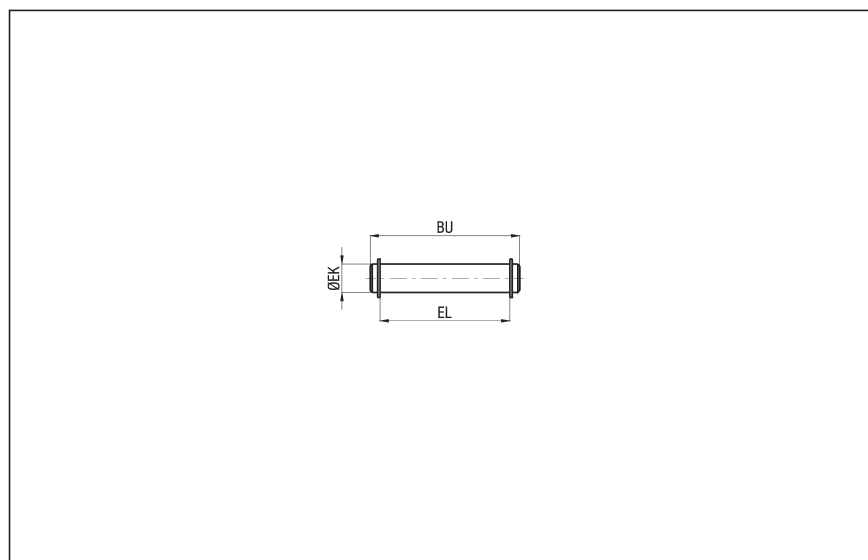
| Ø   | G  | K  | LY  | M   | O  | R  | S<br>H9 |
|-----|----|----|-----|-----|----|----|---------|
| 32  | 8  | 18 | 123 | 45  | 26 | 8  | 8       |
| 40  | 8  | 24 | 168 | 52  | 33 | 12 | 12      |
| 50  | 10 | 26 | 170 | 65  | 33 | 12 | 12      |
| 63  | 10 | 30 | 194 | 75  | 47 | 16 | 16      |
| 80  | 12 | 32 | 196 | 95  | 47 | 16 | 16      |
| 100 | 12 | 37 | 229 | 115 | 57 | 20 | 20      |
| 125 | 16 | 41 | 233 | 140 | 57 | 21 | 20      |
| 160 | 20 | 55 | 285 | 180 | 72 | 25 | 25      |
| 200 | 20 | 55 | 285 | 220 | 72 | 25 | 25      |

| Ø   | WEIGHT<br>(g) |
|-----|---------------|
| 32  | 38            |
| 40  | 58            |
| 50  | 118           |
| 63  | 146           |
| 80  | 324           |
| 100 | 492           |
| 125 | 978           |
| 160 | 1872          |
| 200 | 2800          |



PIVOT FOR REAR FEMALE HINGE - ZINC-PLATED STEEL - CX/SEC Ø

| Ø   | EK<br>f7 | EL  | BU  | WEIGHT<br>(g) |
|-----|----------|-----|-----|---------------|
| 32  | 8        | 46  | 53  | 21            |
| 40  | 12       | 53  | 60  | 52            |
| 50  | 12       | 66  | 73  | 64            |
| 63  | 16       | 76  | 83  | 130           |
| 80  | 16       | 96  | 103 | 160           |
| 100 | 20       | 117 | 124 | 304           |
| 125 | 20       | 142 | 149 | 364           |
| 160 | 25       | 182 | 189 | 720           |
| 200 | 25       | 222 | 229 | 872           |



# series CX-CXL

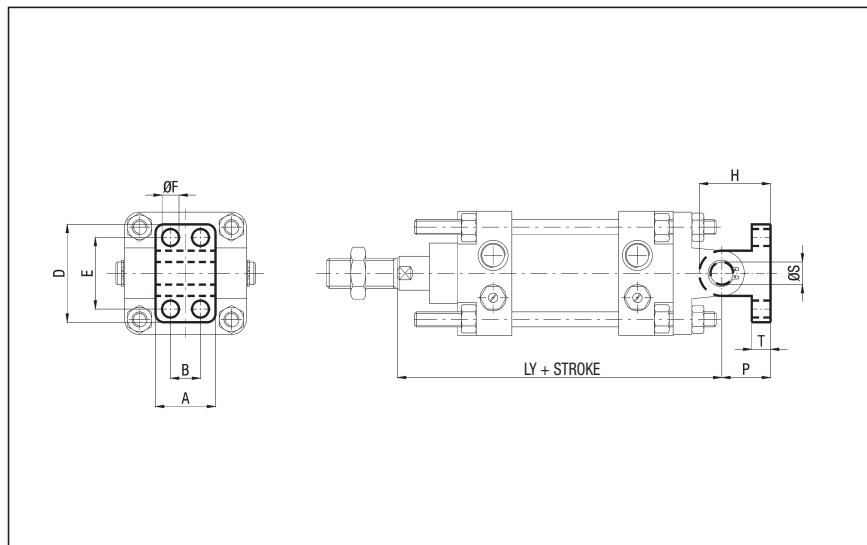
Accessories Fixings for cylinders to AFNOR NF E49-001 (ex CNOMO) standard

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## NORMAL ARTICULATED JOINT - ALUMINIUM - CX/AN Ø

| Ø   | A  | B  | D   | E   | F  | H  | LY  |
|-----|----|----|-----|-----|----|----|-----|
| 32  | 25 | 0  | 40  | 28  | 7  | 26 | 123 |
| 40  | 32 | 16 | 52  | 38  | 9  | 38 | 168 |
| 50  | 32 | 16 | 52  | 38  | 9  | 38 | 170 |
| 63  | 46 | 25 | 75  | 54  | 11 | 52 | 194 |
| 80  | 46 | 25 | 75  | 54  | 11 | 52 | 196 |
| 100 | 56 | 32 | 115 | 90  | 14 | 61 | 229 |
| 125 | 56 | 32 | 115 | 90  | 14 | 61 | 233 |
| 160 | 71 | 43 | 180 | 150 | 18 | 80 | 285 |
| 200 | 71 | 43 | 180 | 150 | 18 | 80 | 285 |

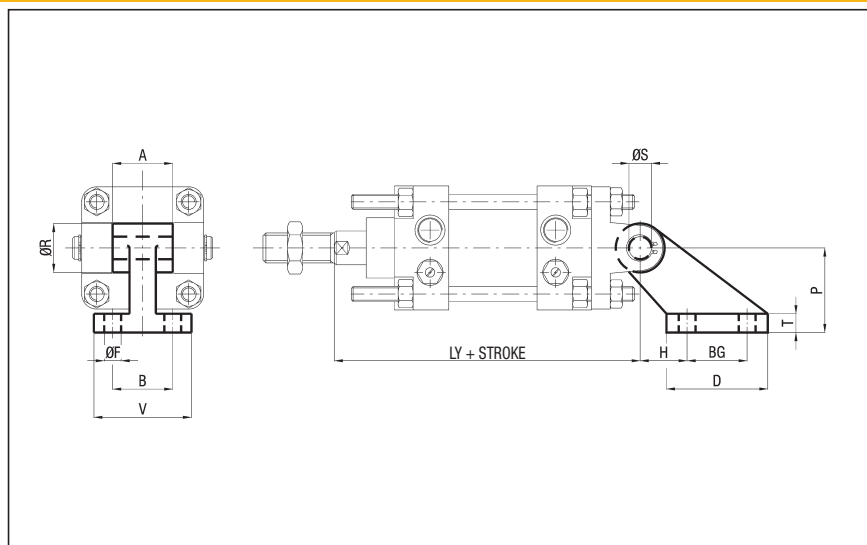
| Ø   | P  | S<br>H9 | T  | WEIGHT<br>(g) |
|-----|----|---------|----|---------------|
| 32  | 18 | 8       | 8  | 26            |
| 40  | 26 | 12      | 10 | 56            |
| 50  | 26 | 12      | 10 | 56            |
| 63  | 34 | 16      | 12 | 176           |
| 80  | 34 | 16      | 12 | 176           |
| 100 | 41 | 20      | 16 | 376           |
| 125 | 41 | 20      | 16 | 376           |
| 160 | 55 | 25      | 20 | 924           |
| 200 | 55 | 25      | 20 | 924           |



## SQUARE JOINT - ALUMINIUM- CX/AS Ø/SQ

| Ø   | A  | B  | BG  | D   | F<br>H13 | H  | LY  |
|-----|----|----|-----|-----|----------|----|-----|
| 32  | 25 | 25 | 20  | 37  | 7        | 18 | 123 |
| 40  | 32 | 32 | 32  | 54  | 9        | 25 | 168 |
| 50  | 32 | 32 | 32  | 54  | 9        | 25 | 170 |
| 63  | 46 | 40 | 50  | 75  | 11       | 32 | 194 |
| 80  | 46 | 40 | 50  | 75  | 11       | 32 | 196 |
| 100 | 56 | 50 | 70  | 103 | 14       | 40 | 229 |
| 125 | 56 | 50 | 70  | 103 | 14       | 40 | 233 |
| 160 | 70 | 63 | 110 | 154 | 18       | 50 | 285 |
| 200 | 70 | 63 | 110 | 154 | 18       | 50 | 285 |

| Ø   | P   | R    | S<br>H9 | T  | V   | WEIGHT<br>(g) |
|-----|-----|------|---------|----|-----|---------------|
| 32  | 32  | 19,5 | 8       | 8  | 41  | 58            |
| 40  | 45  | 26   | 12      | 10 | 52  | 144           |
| 50  | 45  | 26   | 12      | 10 | 52  | 144           |
| 63  | 63  | 32   | 16      | 13 | 63  | 300           |
| 80  | 63  | 32   | 16      | 13 | 63  | 300           |
| 100 | 90  | 42   | 20      | 17 | 80  | 649           |
| 125 | 90  | 42   | 20      | 17 | 80  | 649           |
| 160 | 140 | 54   | 25      | 20 | 111 | 1922          |
| 200 | 140 | 54   | 25      | 20 | 111 | 1922          |



## INTERMEDIATE HINGE - STEEL - CX/CPU/CT - Ø 32 ÷ 100 (Supplied with dowels) - STEEL - CX/CPUI/CT - Ø 125 ÷ 200

| Ø   | A   | B<br>h14 | D<br>e9 | E<br>h14 | G  | M     | Q<br>min |
|-----|-----|----------|---------|----------|----|-------|----------|
| 32  | 46  | 50       | 12      | 12       | 15 | 6,25  | 58,5     |
| 40  | 59  | 63       | 16      | 16       | 20 | 6,25  | 73       |
| 50  | 69  | 73       | 16      | 16       | 20 | 8,25  | 73       |
| 63  | 84  | 90       | 20      | 20       | 25 | 8,25  | 85,5     |
| 80  | 102 | 108      | 20      | 20       | 25 | 10,25 | 86,5     |
| 100 | 125 | 131      | 25      | 25       | 30 | 10,25 | 101      |
| 125 | 155 | 160      | 25      | 25       | 32 | 12,25 | 105      |
| 160 | 190 | 200      | 32      | 32       | 40 | 16,25 | 120      |
| 200 | 240 | 250      | 32      | 32       | 40 | 16,25 | 120      |

| Ø   | Q<br>max | WEIGHT<br>(g) |
|-----|----------|---------------|
| 32  | 71,5     | 110           |
| 40  | 105      | 290           |
| 50  | 105      | 330           |
| 63  | 117,5    | 650           |
| 80  | 116,5    | 830           |
| 100 | 138      | 1560          |
| 125 | 134      | 2450          |
| 160 | 160      | 4150          |
| 200 | 160      | 7300          |

PS.: - ADJUSTABLE POSITION (fixing through dowels)  
**ASSEMBLY:**  
 CX/CPU/CT Ø + cylinder CX type M/CX/CPU/CT Ø  
 - FIXED POSITION  
 (specify dimension "Q"; fixed on cylinder with completed threaded and galvanized tie rods type "S6")  
 Ø32 ÷ 63 require stainless steel tube.  
 Please contact our sales offices.  
**ASSEMBLY:**  
 CX/CPU/CT Ø or CX/CPUI/CT Ø  
 + cylinder CX S6 type MF/CX/CPUI/CT Ø

