



NEUMÁTICA  
del SUR<sub>C.A.</sub>

MCFI



[www.lys-group.com](http://www.lys-group.com)

# MCFI serie

## ISO-6432 CILINDRO EN MINIATURA / CILINDRO EN MINIATURA TIPO SIN PIVOTE

### Características

#### ■ Sin lubricación

La carcasa especial y el casquillo permiten la lubricación automática del vástago.

#### ■ Larga vida útil de gran calidad

• Los tubos del cilindro de acero inox. anodizado duro ofrecen una alta resistencia a la corrosión y baja fricción interna.

#### ■ Montajes de cilindros

Disponibles con una amplia gama de accesorios para montaje rígido o flexible.

#### ■ ISO-6432 estándar (ø8~ø25)

Permite intercambiabilidad mundial.

#### ■ Tipo de rosca Rc. NPT. también disponible.

#### ■ Magnético como estándar



### Tabla para carrera estándar

|               | D.I. Tubo           | Carrera (mm)  |
|---------------|---------------------|---|
| Simple efecto | ø16                 | 15,25,50,75,100   |
|               | ø20,25              | 15,25,50,75,100,125,150                                 |
| Doble efecto  | ø8,10               | 10,25,40,50,80,100                                      |
|               | ø12                 | 10,25,40,50,80,100,125,160,200                          |
|               | ø16,20,25<br>ø32,40 | 15,25,50,75,100,125,150,200,250,<br>300,350,400,450,500 |

### PAR de apriete

| D.I. Tubo | Rosca vástago | PAR de apriete (kgf·cm) |
|-----------|---------------|-------------------------|
| ø8        | M4×0.7        | 11.8                    |
| ø10       | M4×0.7        | 11.8                    |
| ø12       | M6×1.0        | 41                      |
| ø16       | M6×1.0        | 41                      |
| ø20       | M8×1.25       | 170                     |
| ø25       | M10×1.25      | 340                     |
| ø32       | M10×1.5       | 340                     |
| ø40       | M12×1.75      | 590                     |

### Especificaciones

| Modelo                               |                         | MCFI                          |      |      |      |      |      |      |      |
|--------------------------------------|-------------------------|-------------------------------|------|------|------|------|------|------|------|
| D.I. Tubo. (mm)                      |                         | 8                             | 10   | 12   | 16   | 20   | 25   | 32   | 40   |
| Tamaño del puerto                    |                         | M5×0.8                        |      |      |      | G1/8 |      |      | G1/4 |
| Medio                                |                         | Neumática                     |      |      |      |      |      |      |      |
| Presión de funcionamiento máx        |                         | 0.7 MPa                       |      |      |      |      |      |      |      |
| Presión de funcionamiento mín. (MPa) | Doble efecto            | 0.1                           | 0.08 | 0.06 |      |      |      |      |      |
|                                      | Simpl e efecto          | —                             |      | 0.23 |      |      | —    |      |      |
|                                      | Retraído                | —                             |      | 0.18 |      |      | —    |      |      |
| Presión de prueba                    |                         | 1 MPa                         |      |      |      |      |      |      |      |
| Lubricador                           |                         | No requerido                  |      |      |      |      |      |      |      |
| Temperatura ambiente                 |                         | -5~+60°C (Sin congelación)    |      |      |      |      |      |      |      |
| Rango de velocidad disponible        |                         | 50~750 mm/seg.                |      |      |      |      |      |      |      |
| Energía cinética máx. admisible (J)  | Amortiguación elástica  | 0.02                          | 0.03 | 0.04 | 0.09 | 0.27 | 0.45 | 0.65 | 1.2  |
|                                      | Amortiguación neumática | —                             | —    | —    | 0.4  | 0.66 | 0.97 | 1.27 | 2.35 |
| Sensor final de carrera              |                         | RCM (Consulte la página 8-15) |      |      |      |      |      |      |      |
| Sensor final de carrera (banda)      |                         | BM8                           | BM10 | BM12 | BM16 | BM20 | BM25 | BM32 | BM40 |

# MCFI Ejemplo de pedido

## ISO-6432 CILINDRO EN MINIATURA / CILINDRO EN MINIATURA TIPO SIN PIVOTE

### Ejemplo de pedido

# MCFI – 11 – 16 – 100 – A – NC

MODELO

1: Vástago simple  
2: Doble vástago

D.I. TUBO

CARRERA

En blanco: Amortiguación elástica (No regulable)  
A: Amortiguación neumática (regulable) (\*)

TIPO TAPA

TIPO

| Código | Símbolo | Descripción   | D.I. Tubo |
|--------|---------|---|-----------|
| 1 1    |         | Doble efecto / Rosca macho  | ø8~ø40    |
| 1 3    |         | Simple efecto / vástago extendido / rosca macho   | ø16~ø25   |
| 1 5    |         | Simple efecto / vástago retraído / rosca macho  |           |
| 2 1    |         | Doble vástago / Rosca macho   |           |
| 2 7    |         | Doble vástago / Rosca macho regulable Por favor, marque "distancia ajustable (mm)" en la lista de pedidos |           |

| Código | Símbolo | Descripción            | D.I. Tubo |
|--------|---------|------------------------|-----------|
| -      |         | Tipo estándar          | ø8~ø25    |
| N      |         | Tipo sin pivote        | ø32~ø40   |
|        |         | Tipo sin pivote        |           |
| R      |         | Horquilla de vástago   |           |
| H      |         | Horquilla de culata    |           |
| F      |         | Tipo de culata redonda |           |

### POSICIÓN PUERTO

| Código | Símbolo | Descripción   | D.I. Tubo | Adecuado tapa |
|--------|---------|---------------|-----------|---------------|
| -      |         | Tipo estándar | ø8~ø40    | Toda la tapa  |
| C      |         | Puerto axial  | ø32~ø40   | N, R          |

# LB – MCFI – 16

MODELO

D.I. TUBO

TIPO DE MONTAJE

|  |               |
|--|---------------|
|  | LB            |
|  | FA            |
|  | FB            |
|  | SDB           |
|  | Y             |
|  | I             |
|  | (Y+PIN grapa) |

### Precaución

Para (A) Amortiguación neumática (regulable)

1. Para ajustar el tornillo de amortiguación, gire la válvula de aguja del estado completamente cerrado hacia el estado requerido estados cuyos giros deben estar dentro de 2.5 etapas.
2. Si la válvula de aguja se afloja excesivamente, el tope no puede surtir efecto y la vida útil del cilindro puede acortarse.



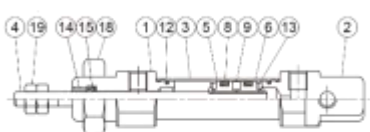
# MCFI Estructura interna y Lista de piezas – amortiguación elástica

## ISO 6432 CILINDRO EN MINIATURA

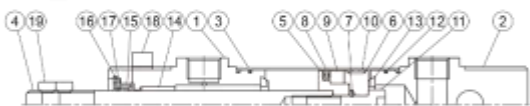
ø8, ø12



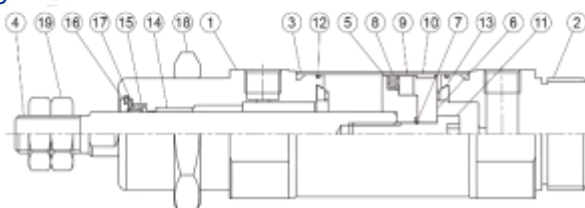
ø10



ø16~ø20



ø32, ø40



ø8~ø40



Tipo  
N

ø32, ø40



Tipo  
R/H



Tipo  
C

**Ejemplo de pedido**

### Material

| Núm. | Nombre de la pieza     | 8                    | 10 | 12               | 16 | 20               | 25 | 32 | 40 | Cant.   |         | Componentes (incluidos) |         |   |   |
|------|------------------------|----------------------|----|------------------|----|------------------|----|----|----|---------|---------|-------------------------|---------|---|---|
|      |                        |                      |    |                  |    |                  |    |    |    | Tipo 11 | Tipo 21 | tipo 11                 | tipo 21 |   |   |
| 1    | Culata del vástago     | Aleación de aluminio |    |                  |    |                  |    |    |    | 1       | 2       | •                       | •       |   |   |
| 2    | Culata trasera         | Aleación de aluminio |    |                  |    |                  |    |    |    | 1       | —       | •                       |         |   |   |
| 3    | Tubo                   | Acero inoxidable     |    |                  |    |                  |    |    |    | 1       | 1       |                         |         |   |   |
| 4    | Vástago                | Acero inoxidable     |    |                  |    | Acero al carbono |    |    |    | 1       | 1       |                         |         |   |   |
| 5    | Pistón R               | Aleación de aluminio |    |                  |    |                  |    |    |    | 1       | 1       | •                       | •       |   |   |
| 6    | Pistón H               | Aleación de aluminio |    |                  |    |                  |    |    |    | 1       | 1       | •                       | •       |   |   |
| 7    | Junta del pistón       | —                    |    | NBR              |    |                  |    |    |    |         |         | 1                       | 1       | • | • |
| 8    | Juntas del pistón      | NBR                  |    |                  |    |                  |    |    |    | 1*1     | 1*1     | •                       | •       |   |   |
| 9    | Anillo magnético       | Material magnético   |    |                  |    |                  |    |    |    | 1       | 1       | •                       | •       |   |   |
| 10   | Anillo de desgaste     | —                    |    | Resina           |    |                  |    |    |    |         |         | 1                       | 1       | • | • |
| 11   | Tornillo del pistón    | —                    |    | SCM              |    |                  |    |    |    |         |         | 1                       | —       | • |   |
| 12   | Tórica                 | NBR                  |    |                  |    |                  |    |    |    | 2       | 2       | •                       | •       |   |   |
| 13   | Junta de amortiguación | NBR                  |    |                  |    |                  |    |    |    | 2       | 2       | •                       | •       |   |   |
| 14   | Casquillo de vástago   | Aleación de cojinete |    |                  |    |                  |    |    |    | 1       | 2       | •                       | •       |   |   |
| 15   | Juntas del vástago *2  | NBR                  |    |                  |    |                  |    |    |    | 1       | 2       | •                       | •       |   |   |
| 16   | Anillo elástico        | —                    |    | Muelle de acero  |    |                  |    |    |    |         |         | 1                       | 2       | • | • |
| 17   | Arandela               | —                    |    | Acero al carbono |    |                  |    |    |    |         |         | 1                       | 2       | • | • |
| 18   | Tuerca fijación        | Acero al carbono     |    |                  |    |                  |    |    |    | 1       | 2       | •                       | •       |   |   |
| 19   | Tuerca vástago front.  | Acero al carbono     |    |                  |    |                  |    |    |    | 2       | 2       | •                       | •       |   |   |

### Componentes

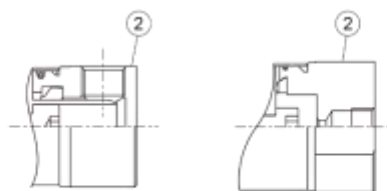
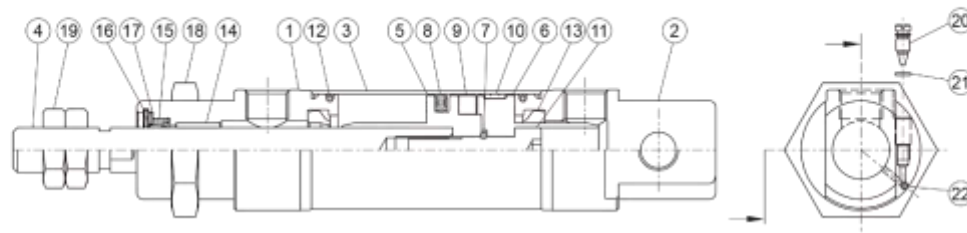
| Tubo D.I. | Componentes |
|-----------|-------------|
| ø8        | CP-MCFI-8   |
| ø10       | CP-MCFI-10  |
| ø12       | CP-MCFI-12  |
| ø16       | CP-MCFI-16  |
| ø20       | CP-MCFI-20  |
| ø25       | CP-MCFI-25  |

### Tipo sin pivote

| Tubo D.I. | Componentes | N  | R  | H  | F  |
|-----------|-------------|----|----|----|----|
| ø8        | CP-MCFI-8   |    |    |    |    |
| ø10       | CP-MCFI-10  | -N |    |    |    |
| ø12       | CP-MCFI-12  | -N |    |    |    |
| ø16       | CP-MCFI-16  | -N |    |    |    |
| ø20       | CP-MCFI-20  | -N |    |    |    |
| ø25       | CP-MCFI-25  | -N |    |    |    |
| ø32       | CP-MCFI-32  | -N | -R | -H | -F |
| ø40       | CP-MCFI-40  | -N | -R | -H | -F |

# MCFI Estructura interna y lista de piezas – amortiguación neumática

## ISO-6432 CILINDRO EN MINIATURA



Tipo N:  $\varnothing 16 \sim \varnothing 40$  Tipo C:  $\varnothing 32 \sim \varnothing 40$

### Material

\* Diám. cilindro  $\varnothing 8 \sim 12$  no aplicable

| Núm. | Nombre de la pieza      | 16                   | 20 | 25 | 32 | 40         | Cant.   |         | Componentes (incluidos) |         |
|------|-------------------------|----------------------|----|----|----|------------|---------|---------|-------------------------|---------|
|      |                         |                      |    |    |    |            | Tipo 11 | Tipo 21 | tipo 11                 | tipo 21 |
| 1    | Culata del vástago      | Aleación de aluminio |    |    |    |            | 1       | 2       | •                       | •       |
| 2    | Culata trasera          | Aleación de aluminio |    |    |    |            | 1       | —       | •                       |         |
| 3    | Tubo                    | Acero inoxidable     |    |    |    |            | 1       | 1       |                         |         |
| 4    | Vástago                 | 1*                   |    |    |    | al carbono | 1       | 1       |                         |         |
| 5    | Pistón R                | Aleación de aluminio |    |    |    |            | 1       | 1       | •                       | •       |
| 6    | Pistón H                | Aleación de aluminio |    |    |    |            | 1       | 1       | •                       | •       |
| 7    | Junta del pistón        | NBR                  |    |    |    |            | 1       | 1       | •                       | •       |
| 8    | Juntas del pistón       | NBR                  |    |    |    |            | 1*1     | 1*1     | •                       | •       |
| 9    | Anillo magnético        | Material magnético   |    |    |    |            | 1       | 1       | •                       | •       |
| 10   | Anillo de desgaste      | Resina               |    |    |    |            | 1       | 1       | •                       | •       |
| 11   | Tornillo del pistón     | SCM                  |    |    |    |            | 1       | —       | •                       |         |
| 12   | Tórica                  | NBR                  |    |    |    |            | 2       | 2       | •                       | •       |
| 13   | Junta de amortiguación  | NBR                  |    |    |    |            | 2       | 2       | •                       | •       |
| 14   | Casquillo de vástago    | Aleación de cojinete |    |    |    |            | 1       | 2       | •                       | •       |
| 15   | Juntas del vástago *3   | NBR                  |    |    |    |            | 1       | 2       | •                       | •       |
| 16   | Anillo elástico         | Muelle de acero      |    |    |    |            | 1       | 2       | •                       | •       |
| 17   | Arandela                | Acero al carbono     |    |    |    |            | 1       | 2       | •                       | •       |
| 18   | Tuerca fijación         | Acero al carbono     |    |    |    |            | 1       | 2       | •                       | •       |
| 19   | Tuerca vástago front.   | Acero al carbono     |    |    |    |            | 2       | 2       | •                       | •       |
| 20   | Válvula de aguja        | Acero inoxidable     |    |    |    |            | 2       | 2       |                         |         |
| 21   | Juntas válvula de aguja | NBR                  |    |    |    |            | 2       | 2       | •                       | •       |
| 22   | Bola de acero           | Acero inoxidable     |    |    |    |            | 2       | 2       | •                       | •       |

\*1. Acero inoxidable

\*2.  $\varnothing 8 \sim \varnothing 12$  (Cant.: 2 piezas)

\*3. Sólo el retén vástago es reparable, por favor contacte con nuestro departamento de ventas si es necesario.

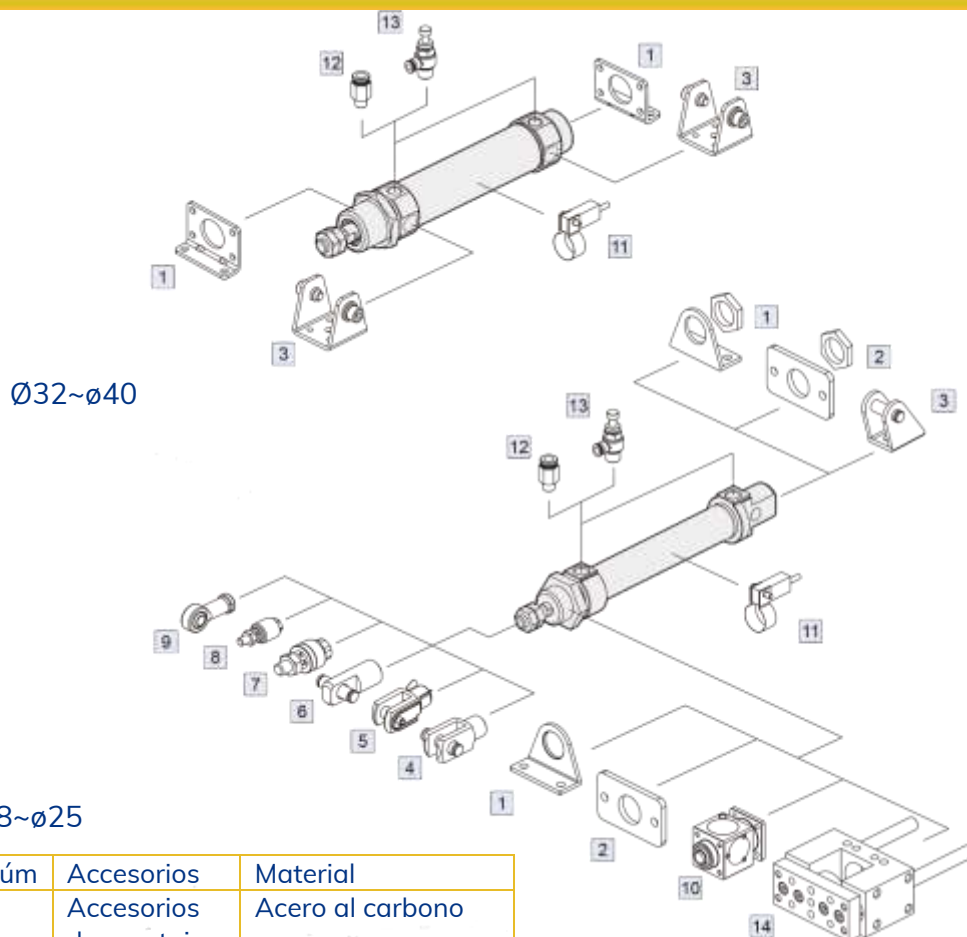
### Ejemplo de pedido

### Componentes

| Tubo D.I.        | Componentes |
|------------------|-------------|
| $\varnothing 16$ | CP-MCFI-16A |
| $\varnothing 20$ | CP-MCFI-20A |
| $\varnothing 25$ | CP-MCFI-25A |

### Tipo sin pivote

| Tubo D.I.        | Componentes | N  | R  | H  | F  |
|------------------|-------------|----|----|----|----|
| $\varnothing 20$ | CP-MCFI-20  | -N |    |    |    |
| $\varnothing 25$ | CP-MCFI-25A | -N |    |    |    |
| $\varnothing 32$ | CP-MCFI-32A | -N | -R | -H | -F |
| $\varnothing 40$ | CP-MCFI-40A | -N | -R | -H | -F |



Ø32~Ø40

Ø8~Ø25

| Núm | Accesorios                    | Material         | Núm | Accesorios                        | Material         |
|-----|-------------------------------|------------------|-----|-----------------------------------|------------------|
| 1   | Accesorios de montaje LB      | Acero al carbono | 9   | Rótula PHS                        | Acero al carbono |
| 2   | Accesorios de montaje FA/FB   | Acero al carbono | 10  | Unidad de bloqueo MCBMI           | (*)              |
| 3   | Accesorios de montaje SDB+PIN | Acero al carbono | 11  | Sensor final de carrera RCM+BM**  | -                |
| 4   | Accesorios Y+ PIN             | Acero al carbono | 12  | Racor PC                          | -                |
| 5   | Accesorios YS (Y+PIN grapa)   | Acero al carbono | 13  | Racor JSC                         | -                |
| 6   | Accesorios I+PIN              | Acero al carbono | 14  | Cilindro de doble guía MGTB/TK/TU | -                |
| 7   | Junta flotante MFC            | Acero al carbono |     |                                   |                  |
| 8   | Junta flotante MFCS           | Acero al carbono |     |                                   |                  |

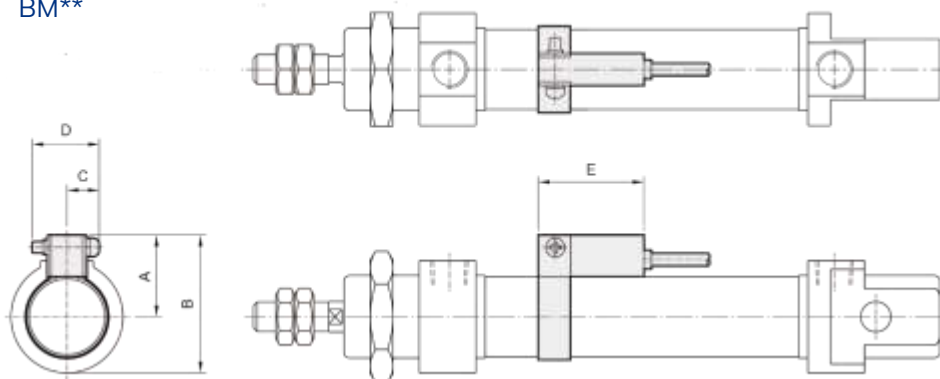
\* Aleación de aluminio + aleación de cobre

### Instalación de un sensor final de carrera

Sensor final de carrera: RCM

Abrazadera del sensor final de carrera:

BM\*\*



| Código<br>D.I.<br>Tubo | A  | B    | C  | D  | E  |
|------------------------|----|------|----|----|----|
| 8                      | 16 | 23.5 | 10 | 16 | 28 |
| 10                     | 17 | 24.5 | 10 | 16 | 28 |
| 12                     | 18 | 28   | 10 | 16 | 28 |
| 16                     | 20 | 30   | 10 | 16 | 28 |
| 20                     | 22 | 35.5 | 10 | 16 | 28 |
| 25                     | 25 | 38.5 | 10 | 16 | 28 |
| 32                     | 28 | 45.5 | 10 | 16 | 28 |
| 40                     | 32 | 54   | 10 | 16 | 28 |

### Peso del cilindro y accesorios

Peso del cilindro

Unidad:g

| Modelo           | Peso básico<br>MCFI-11   | Peso básico<br>MCFI-11-A   | Carrera 25<br>mm<br>MCFI-11   | Peso básico<br>MCFI-11-N           | Peso básico<br>MCFI-11-A-<br>N   | Carrera 25 mm<br>MCFI-11-* |
|------------------|--------------------------|----------------------------|-------------------------------|------------------------------------|----------------------------------|----------------------------|
| D.I.<br>Tubo     |                          |                            |                               |                                    |                                  |                            |
| $\varnothing 8$  | 36                       | -                          | 6                             | 32                                 | -                                | 6                          |
| $\varnothing 10$ | 38                       | -                          | 8                             | 35                                 | -                                | 8                          |
| $\varnothing 12$ | 78                       | -                          | 11                            | 69                                 | -                                | 11                         |
| $\varnothing 16$ | 95                       | 93                         | 13                            | 88                                 | 85                               | 13                         |
| $\varnothing 20$ | 162                      | 190                        | 18                            | 151                                | 179                              | 18                         |
| $\varnothing 25$ | 206                      | 229                        | 28                            | 191                                | 214                              | 28                         |
| Modelo           | Peso básico<br>MCFI-11-F | Peso básico<br>MCFI-11-A-F | Carrera 25<br>mm<br>MCFI-11-F | Peso básico<br>MCFI-11-<br>N/C/R/H | Peso básico<br>MCFI-11-A-<br>N/C | Carrera 25 mm<br>MCFI-11-* |
| D.I.<br>Tubo     |                          |                            |                               |                                    |                                  |                            |
| $\varnothing 32$ | 334                      | 402                        | 39                            | 307                                | 375                              | 39                         |
| $\varnothing 40$ | 591                      | 601                        | 60                            | 639                                | 649                              | 60                         |

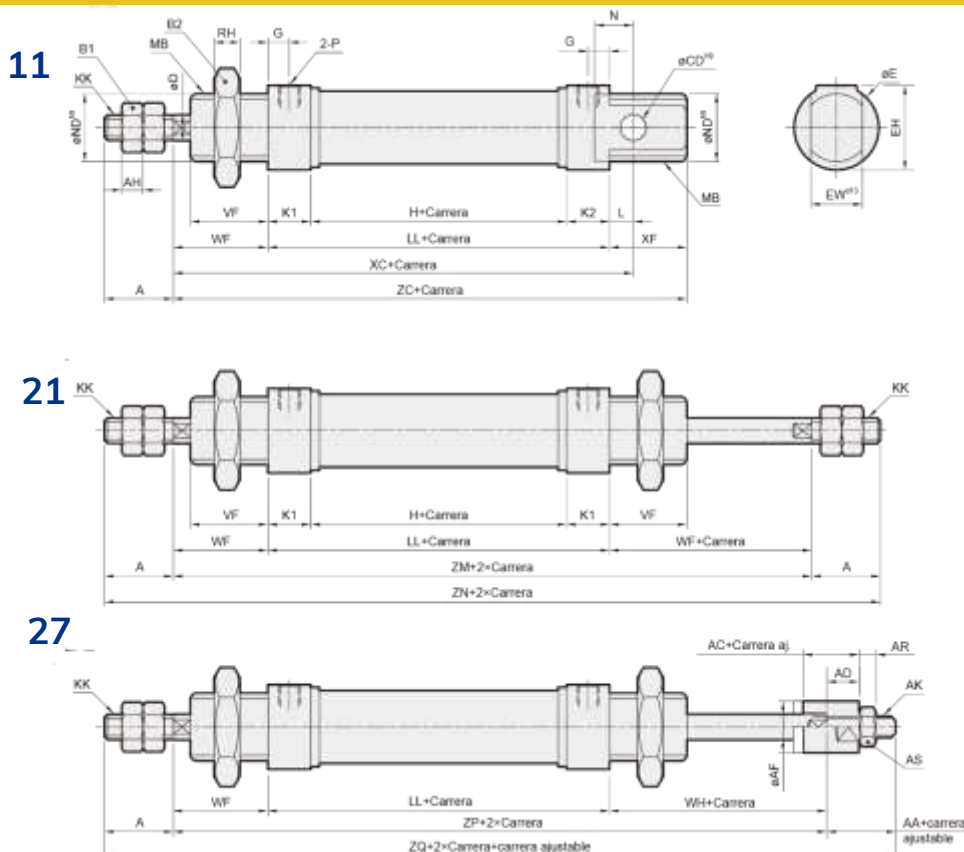
Peso de los accesorios

Unidad: g

| Modelo           | LB  | FA/FB | SDB | Y  | I  | Pasador | Tuerca del<br>vástago | Tuerca<br>tapa |
|------------------|-----|-------|-----|----|----|---------|-----------------------|----------------|
| D.I.<br>Tubo     |     |       |     |    |    |         |                       |                |
| $\varnothing 8$  | 42  | 16    | 16  | 4  | -  | 2       | 1                     | 8              |
| $\varnothing 10$ | 42  | 16    | 16  | 4  | -  | 2       | 1                     | 8              |
| $\varnothing 12$ | 65  | 25    | 24  | 13 | 15 | 4       | 2                     | 16             |
| $\varnothing 16$ | 65  | 25    | 24  | 13 | 15 | 5       | 2                     | 11             |
| $\varnothing 20$ | 103 | 67    | 103 | 40 | 42 | 10      | 4                     | 20             |
| $\varnothing 25$ | 103 | 67    | 103 | 72 | 82 | 19      | 8                     | 20             |
| $\varnothing 32$ | 160 | -     | 111 | -  | -  | -       | 8                     | 28             |
| $\varnothing 40$ | 246 | -     | 164 | -  | -  | -       | 10                    | 41             |

# MCFI Dimensiones – Doble efecto ø8~ø25

## ISO-6432 CILINDRO EN MINIATURA

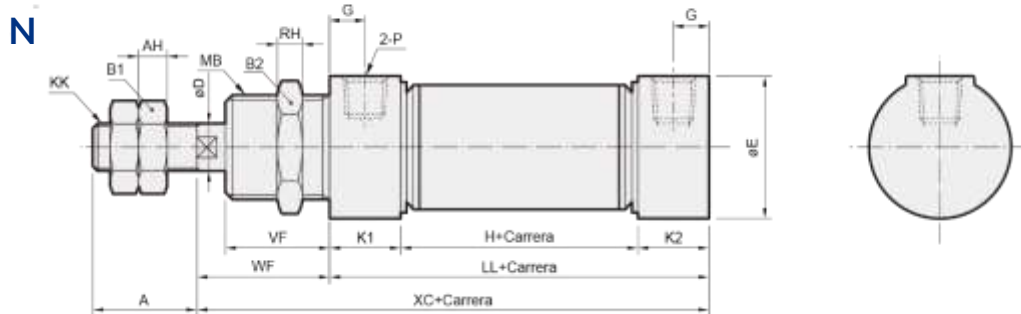


| Código D.l. Tubo | A  | AA | AC | AD  | AF | AH  | AK      | AR | AS | B1 | B2 | CD | D  | E  | EH | EW | G   | H    | KK       | K1 | K2 | L   | LL   |
|------------------|----|----|----|-----|----|-----|---------|----|----|----|----|----|----|----|----|----|-----|------|----------|----|----|-----|------|
| 8                | 12 | -  | -  | -   | -  | 3.2 | -       | -  | -  | 7  | 19 | 4  | 4  | 15 | 15 | 8  | 6   | 24   | M4×0.7   | 11 | 11 | 2   | 46   |
| 10               | 12 | -  | -  | -   | -  | 3.2 | -       | -  | -  | 7  | 19 | 4  | 4  | 15 | 15 | 8  | 6   | 24   | M4×0.7   | 11 | 11 | 2   | 46   |
| 12               | 16 | -  | -  | -   | -  | 5   | -       | -  | -  | 10 | 24 | 6  | 6  | 20 | 20 | 12 | 6   | 28   | M6×1.0   | 11 | 11 | 3   | 50   |
| 16               | 16 | 16 | 13 | 7.5 | 12 | 5   | M5×0.8  | 4  | 8  | 10 | 22 | 6  | 6  | 20 | 20 | 12 | 5   | 34.5 | M6×1.0   | 10 | 10 | 5.5 | 54.5 |
| 20               | 20 | 19 | 15 | 9.5 | 16 | 5   | M8×1.25 | 5  | 13 | 13 | 30 | 8  | 8  | 27 | 27 | 16 | 8   | 38   | M8×1.25  | 15 | 15 | 3   | 68   |
| 25               | 22 | 19 | 15 | 9.5 | 16 | 6   | M8×1.25 | 5  | 13 | 17 | 30 | 8  | 10 | 27 | 27 | 16 | 7.5 | 37   | M10×1.25 | 15 | 15 | 9   | 67   |

| Código D.l. Tubo | MB       | N  | ND | P      | RH | VF | WF | WH   | XC  | XF | ZC   | ZM   | ZN    | ZP    | ZQ    |
|------------------|----------|----|----|--------|----|----|----|------|-----|----|------|------|-------|-------|-------|
| 8                | M12×1.25 | 6  | 12 | M5×0.8 | 6  | 12 | 16 | -    | 64  | 12 | 74   | -    | -     | -     | -     |
| 10               | M12×1.25 | 6  | 12 | M5×0.8 | 6  | 12 | 16 | -    | 64  | 12 | 74   | -    | -     | -     | -     |
| 12               | M16×1.5  | 9  | 16 | M5×0.8 | 8  | 17 | 22 | -    | 75  | 17 | 89   | -    | -     | -     | -     |
| 16               | M16×1.5  | 9  | 16 | M5×0.8 | 6  | 18 | 22 | 25.5 | 82  | 18 | 94.5 | 98.5 | 130,5 | 102   | 134   |
| 20               | M22×1.5  | 12 | 22 | G1/8   | 6  | 20 | 24 | 27   | 95  | 20 | 112  | 116  | 156   | 119   | 158   |
| 25               | M22×1.5  | 12 | 22 | G1/8   | 6  | 22 | 28 | 29.5 | 104 | 22 | 117  | 123  | 167   | 124.5 | 165.5 |



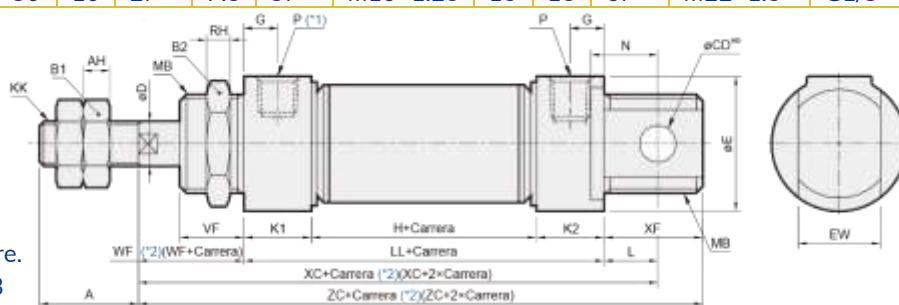
# MCFI Dimensiones – Doble / Simple efecto $\varnothing 8\sim\varnothing 25$ ISO-6432 CILINDRO EN MINIATURA



| Código D.l. Tubo | A  | AH  | B1 | B2 | D  | E    | G   | H    | KK       | K1 | K2 | LL   | MB       | P      | RH | VF | WF | XC   |
|------------------|----|-----|----|----|----|------|-----|------|----------|----|----|------|----------|--------|----|----|----|------|
| 8                | 12 | 3.2 | 7  | 19 | 4  | 16.7 | 6   | 24   | M4×0.7   | 11 | 11 | 46   | M12×1.25 | M5×0.8 | 6  | 12 | 16 | 62   |
| 10               | 12 | 3.2 | 7  | 19 | 4  | 16.7 | 6   | 24   | M4×0.7   | 11 | 11 | 46   | M12×1.25 | M5×0.8 | 6  | 12 | 16 | 62   |
| 12               | 16 | 5   | 10 | 24 | 6  | 19.7 | 6   | 28   | M6×1.0   | 11 | 11 | 50   | M16×1.5  | M5×0.8 | 8  | 17 | 22 | 72   |
| 16               | 16 | 5   | 10 | 22 | 6  | 20   | 5   | 34.5 | M6×1.0   | 10 | 10 | 54.5 | M16×1.5  | M5×0.8 | 6  | 18 | 22 | 76.5 |
| 20               | 20 | 5   | 13 | 30 | 8  | 27   | 8   | 38   | M8×1.25  | 15 | 15 | 68   | M22×1.5  | G1/8   | 6  | 20 | 24 | 92   |
| 25               | 22 | 6   | 17 | 30 | 10 | 27   | 7.5 | 37   | M10×1.25 | 15 | 15 | 67   | M22×1.5  | G1/8   | 6  | 22 | 28 | 95   |

13

15



- \*1. 15 tipo  $\varnothing 16$  sin puerto de aire.
- \*2. ( ) Dimensiones para tipo 13

| Código D.l. Tubo | A  | AH | B1 | B2 | CD | D  | E  | EW                  | G   | KK       | K1 | K2 | L   | LA   | MB      | N  | P      | RH | VF | WF | XF | ZM   | ZN    | ZP    | ZQ    |
|------------------|----|----|----|----|----|----|----|---------------------|-----|----------|----|----|-----|------|---------|----|--------|----|----|----|----|------|-------|-------|-------|
| 16               | 16 | 5  | 10 | 22 | 6  | 6  | 20 | 12<br>-0.05         | 5   | M6×1.0   | 10 | 10 | 5.5 | 54.5 | M16×1.5 | 9  | M5×0.8 | 6  | 18 | 22 | 18 | 98.5 | 130.5 | 96    | 134   |
| 20               | 20 | 5  | 13 | 30 | 8  | 8  | 27 | 16<br>-0.05         | 8   | M8×1.25  | 15 | 15 | 3   | 68   | M22×1.5 | 12 | G1/8   | 6  | 20 | 24 | 20 | 116  | 156   | 119   | 158   |
| 25               | 22 | 6  | 17 | 30 | 8  | 10 | 27 | 16<br>-0.05<br>-0.4 | 7.5 | M10×1.25 | 15 | 15 | 9   | 67   | M22×1.5 | 12 | G1/8   | 6  | 22 | 28 | 22 | 123  | 167   | 124.5 | 165.5 |

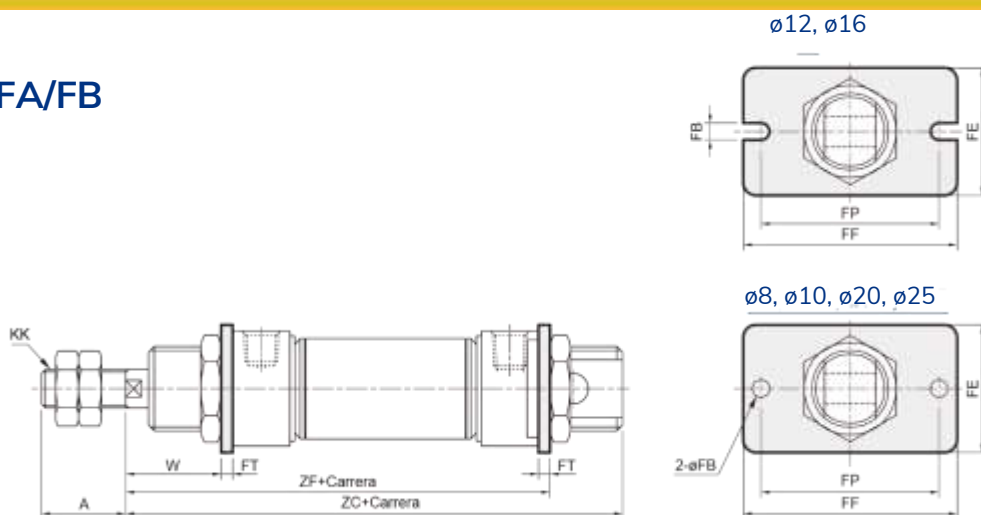
## MCFI-13

| Código Carrera | H    |        |         | LL   |        |         | XC    |        |         | ZC    |        |         |
|----------------|------|--------|---------|------|--------|---------|-------|--------|---------|-------|--------|---------|
| D.l. Tubo      | 1~50 | 51~100 | 101~150 | 1~50 | 51~100 | 101~150 | 1~50  | 51~100 | 101~150 | 1~50  | 51~100 | 101~150 |
| 16             | 53.5 | 79.5   | 105.5   | 73.5 | 99.5   | 125.5   | 101   | 127    | 153     | 113.5 | 139.5  | 165.5   |
| 20             | 63   | 88     | 113     | 93   | 118    | 143     | 120   | 145    | 170     | 137   | 162    | 187     |
| 25             | 60.5 | 85.5   | 110.5   | 90.5 | 115.5  | 140.5   | 127.5 | 152.5  | 177.5   | 140.5 | 165.5  | 190.5   |

## MCFI-15

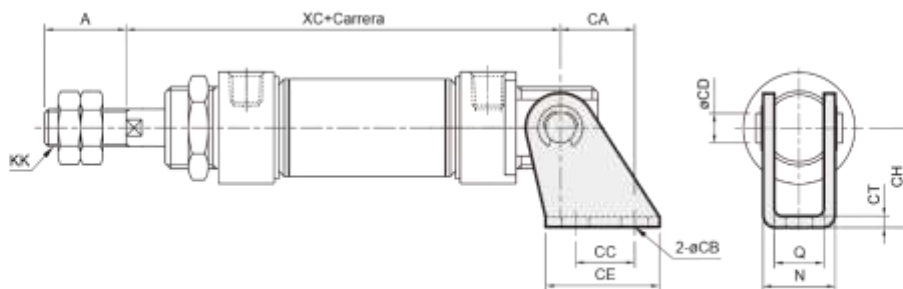
| Código Carrera | H    |        |         | LL   |        |         | XC   |        |         | ZC   |        |         |
|----------------|------|--------|---------|------|--------|---------|------|--------|---------|------|--------|---------|
| D.l. Tubo      | 1~50 | 51~100 | 101~150 | 1~50 | 51~100 | 101~150 | 1~50 | 51~100 | 101~150 | 1~50 | 51~100 | 101~150 |
| 16             | 34.5 | 50     | 65.5    | 54.5 | 70     | 85.5    | 82   | 97.5   | 113     | 94.5 | 110    | 125.5   |
| 20             | 38   | 88     | 113     | 68   | 118    | 143     | 85   | 145    | 170     | 112  | 162    | 187     |
| 25             | 37   | 85.5   | 110.5   | 67   | 115.5  | 140.5   | 104  | 152.5  | 177.5   | 117  | 165.5  | 190.5   |

**FA/FB**



| Código<br>D.l. Tubo | A  | FB  | FE | FF | FP | FT  | KK       | W    | ZC   | ZF   |
|---------------------|----|-----|----|----|----|-----|----------|------|------|------|
| 8                   | 12 | 4.5 | 22 | 40 | 30 | 3.2 | M4×0.7   | 12.8 | 74   | 65.2 |
| 10                  | 12 | 4.5 | 22 | 40 | 30 | 3.2 | M4×0.7   | 12.8 | 74   | 65.2 |
| 12                  | 16 | 5.5 | 26 | 52 | 40 | 3.2 | M6×1.0   | 18.8 | 89   | 75.2 |
| 16                  | 16 | 5.5 | 26 | 52 | 40 | 3.2 | M6×1.0   | 18.8 | 94.5 | 79.7 |
| 20                  | 20 | 6.6 | 38 | 64 | 50 | 4.5 | M8×1.25  | 19.5 | 112  | 96.5 |
| 25                  | 22 | 6.6 | 38 | 64 | 50 | 4.5 | M10×1.25 | 23.5 | 117  | 99.5 |

**SDB**

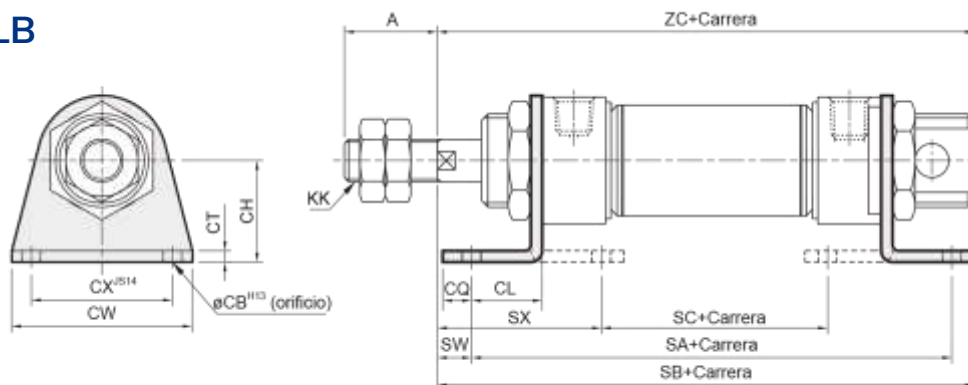


| Código<br>D.l. Tubo | A  | CA | CB  | CC   | CD | CE | CH | CT  | KK       | N    | Q    | XC  |
|---------------------|----|----|-----|------|----|----|----|-----|----------|------|------|-----|
| 8                   | 12 | 11 | 4.5 | 12.5 | 4  | 20 | 24 | 2.5 | M4×0.7   | 13.1 | 8.1  | 64  |
| 10                  | 12 | 11 | 4.5 | 12.5 | 4  | 20 | 24 | 2.5 | M4×0.7   | 13.1 | 8.1  | 64  |
| 12                  | 16 | 13 | 5.5 | 15   | 6  | 25 | 27 | 3.2 | M6×1.0   | 18.5 | 12.1 | 75  |
| 16                  | 16 | 13 | 5.5 | 15   | 6  | 25 | 27 | 3.2 | M6×1.0   | 18.5 | 12.1 | 82  |
| 20                  | 20 | 16 | 6.6 | 20   | 8  | 32 | 30 | 3.2 | M8×1.25  | 22.5 | 16.1 | 95  |
| 25                  | 22 | 16 | 6.6 | 20   | 8  | 32 | 30 | 3.2 | M10×1.25 | 22.5 | 16.1 | 104 |

# MCFI Dimensiones – Doble efecto $\varnothing 8\sim\varnothing 25$

## ISO-6432 CILINDRO EN MINIATURA

### LB

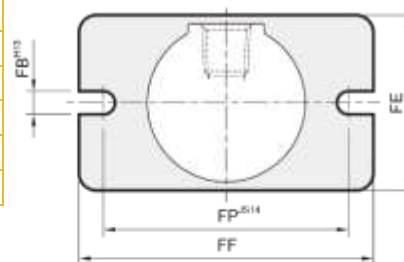


| Código    | A  | CB  | CH | CL | CQ | CT  | CW | CX | KK       | SA   | SB   | SC   | SW | SX   | ZC   |
|-----------|----|-----|----|----|----|-----|----|----|----------|------|------|------|----|------|------|
| D.I. Tubo |    |     |    |    |    |     |    |    |          |      |      |      |    |      |      |
| 8         | 12 | 4.5 | 16 | 11 | 5  | 3.2 | 35 | 25 | M4x0.7   | 68   | 78   | 30.4 | 5  | 23.8 | 74   |
| 10        | 12 | 4.5 | 16 | 11 | 5  | 3.2 | 35 | 25 | M4x0.7   | 68   | 78   | 30.4 | 5  | 23.8 | 74   |
| 12        | 16 | 5.5 | 20 | 14 | 6  | 4   | 42 | 32 | M6x1.0   | 78   | 92   | 30   | 8  | 32   | 89   |
| 16        | 16 | 5.5 | 20 | 14 | 6  | 4   | 42 | 32 | M6x1.0   | 82.5 | 96.5 | 34.5 | 8  | 32   | 94.5 |
| 20        | 20 | 6.6 | 25 | 15 | 8  | 3.2 | 54 | 40 | M8x1.25  | 98   | 115  | 44.4 | 9  | 35.8 | 112  |
| 25        | 22 | 6.6 | 25 | 15 | 8  | 3.2 | 54 | 40 | M10x1.25 | 97   | 118  | 43.4 | 13 | 39.8 | 117  |

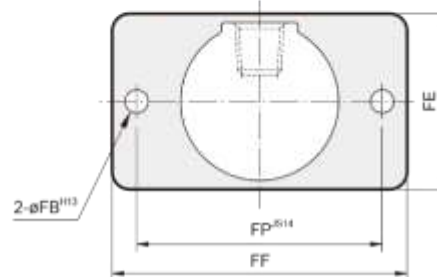
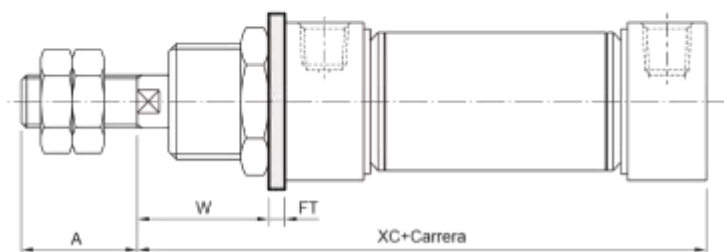
### FA N Tipo sin pivote

| Código   | A  | FB  | FE | FF | FP | FT  | W    | XC   |
|----------|----|-----|----|----|----|-----|------|------|
| D-I Tube |    |     |    |    |    |     |      |      |
| 8        | 12 | 4.5 | 22 | 40 | 30 | 3.2 | 12.8 | 62   |
| 10       | 12 | 4.5 | 22 | 40 | 30 | 3.2 | 12.8 | 62   |
| 12       | 16 | 5.5 | 26 | 52 | 40 | 3.2 | 18.8 | 72   |
| 16       | 16 | 5.5 | 26 | 52 | 40 | 3.2 | 18.8 | 76.5 |
| 20       | 20 | 6.6 | 38 | 64 | 50 | 4.5 | 19.5 | 92   |
| 25       | 22 | 6.6 | 38 | 64 | 50 | 4.5 | 23.5 | 96   |

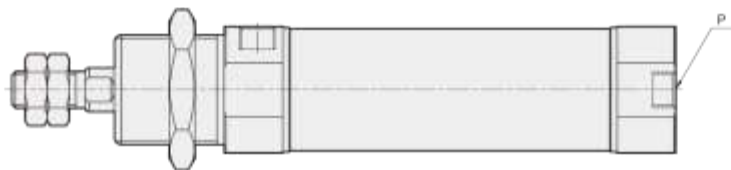
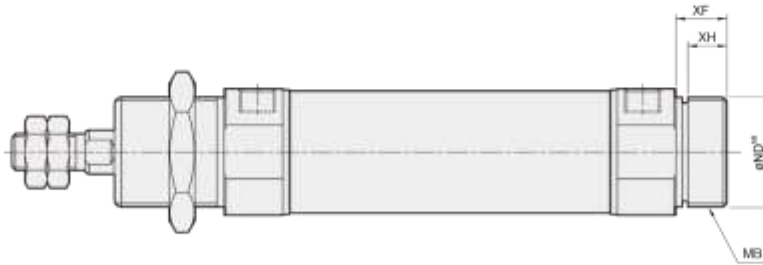
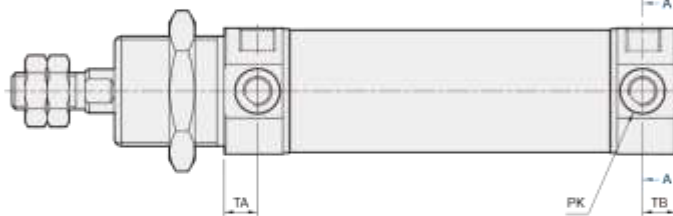
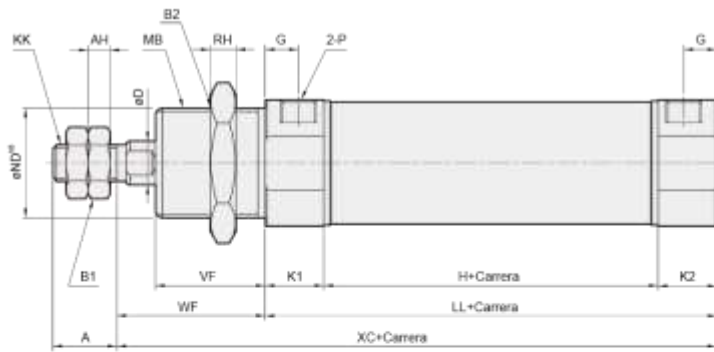
$\varnothing 12, \varnothing 16$



$\varnothing 8, \varnothing 10, \varnothing 20, \varnothing 25$

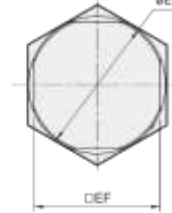


11



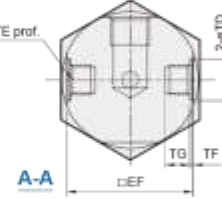
**N**

Tipo sin pivote



**RH**

Tipo de horquilla de vástago / cabeza



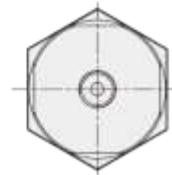
**F**

Tipo de culata redonda



**C**

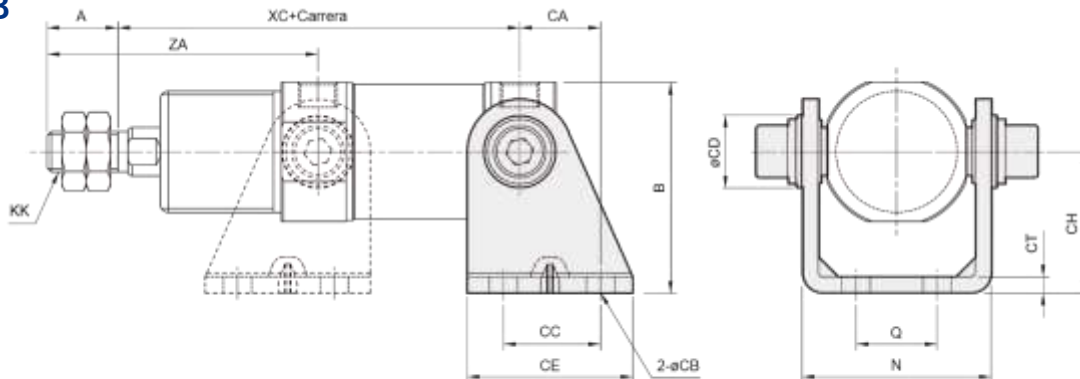
Puerto del eje



| Código D.I. Tubo | A    | AH | B1 | B2 | D  | E    | EF   | G  | H  | KK       | K1 | K2 | LL | MB      | XC    | XF | XH   |
|------------------|------|----|----|----|----|------|------|----|----|----------|----|----|----|---------|-------|----|------|
| 32               | 17.5 | 6  | 17 | 38 | 12 | 37.5 | 34.5 | 9  | 36 | M10×1.5  | 16 | 16 | 68 | M30×1.5 | 108.5 | 14 | 10.7 |
| 40               | 21   | 7  | 19 | 46 | 14 | 46.5 | 42.5 | 12 | 45 | M12×1.75 | 22 | 22 | 69 | M38×1.5 | 137   | 16 | 12.2 |

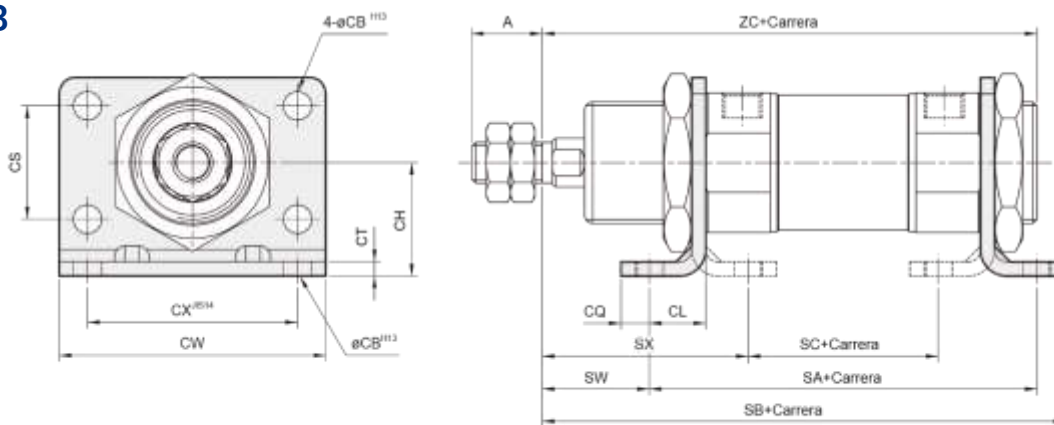
| ND | P    | PK    | RH | TA | TB | TC    | TD | TE  | VF | WF   |
|----|------|-------|----|----|----|-------|----|-----|----|------|
| 30 | G1/8 | M8×1  | 7  | 9  | 22 | M8×1  | 12 | 6.5 | 30 | 40.5 |
| 38 | G1/4 | M10×1 | 8  | 12 | 24 | M10×1 | 14 | 8   | 35 | 48   |

**SDB**



| Código    | A    | B    | CA | CB | CC | CD | CE | CH | CT | KK       | N    | Q  | XC   | ZA |
|-----------|------|------|----|----|----|----|----|----|----|----------|------|----|------|----|
| D.I. Tubo |      |      |    |    |    |    |    |    |    |          |      |    |      |    |
| 32        | 17.5 | 52.3 | 20 | 7  | 24 | 18 | 41 | 35 | 4  | M10×1.5  | 46.8 | 20 | 99.5 | 67 |
| 40        | 21   | 61.3 | 27 | 9  | 30 | 22 | 52 | 40 | 4  | M12×1.75 | 58.2 | 28 | 125  | 81 |

**LB**



| Código    | A    | CB | CH | CL | CQ | CT  | CW | CX | CS  | KK       | SA  | SB    | SC | SW   | SX   | ZC    |
|-----------|------|----|----|----|----|-----|----|----|-----|----------|-----|-------|----|------|------|-------|
| D.I. Tubo |      |    |    |    |    |     |    |    |     |          |     |       |    |      |      |       |
| 32        | 17.5 | 7  | 28 | 14 | 7  | 3.5 | 66 | 52 | 28  | M10×1.5  | 96  | 129.5 | 47 | 26.5 | 51   | 122.5 |
| 40        | 21   | 9  | 33 | 20 | 10 | 3.5 | 80 | 60 | 430 | M12×1.75 | 129 | 167   | 56 | 28   | 64.5 | 153   |