

## Series 1370 - 1371 - 1372 - 1373 - ECOFLAT

#### General

Profiled tube has two "T" slots on the side hosting sensors 1580. , MRS. , MHS. . without adaptors. Two additional connections are also available on rear cover for cylinder feeding.

| End caps        | aluminium anodised                   |
|-----------------|--------------------------------------|
| Rod             | C43 chromed steel or stainless steel |
| Barrel          | aluminium alloy anodised             |
| Piston          | acetal resin, aluminium on request   |
| Piston-seal     | PUR                                  |
| Rod-seal        | PUR (FPM upon request)               |
| Adjusting screw | zinc plated steel                    |
| Shock absorber  | NBR                                  |

# Opera

| Fluid                 | Filtered air.   |
|-----------------------|---|
|                       | No lubrication needed, if applied it shall be continuous. |
| Max. pressure         | 10 bar  |
| Operating temperature | -5°C - +70°C  |

Please follow the suggestions below to ensure a long life for these cylinders:

use clean and lubricated air

• correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod;

• avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device and aluminium piston);

• evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

## Please note: air must be dried for applications with lower temperature.

Use hydraulic oils H class (ISO VG32) for correct continued lubrication.

Our Technical Department will be glad to help.

#### Maximum standard strokes

| Size 25      | 200 mm |  |
|--------------|--------|--|
| Size 32 - 63 | 320 mm |  |

## Sections (cm<sup>2</sup>)

| Size                          | 25   | 32   | 40    | 50    | 63    |
|-------------------------------|------|------|-------|-------|-------|
| Out stroke (cm <sup>2</sup> ) | 5,28 | 8,09 | 13,09 | 20,28 | 32,68 |
| In stroke (cm <sup>2</sup> )  | 4,49 | 6,96 | 11,08 | 17,14 | 29,54 |

In order to calculate the theoretical force generated by the unit, both outstroke and instroke, it is necessary to use the following equation

**FORCE(Kg)** = Surface (cm<sup>2</sup>) x Pressure(bar)

It is also necessary to remember that the theoretical force must be reduced by 10-15% in order to account for the unit internal friction.

## Maximum rod radial movement (°)

| Size                | 25   | 32   | 40   | 50   | 63   |
|---------------------|------|------|------|------|------|
| Rod radial movement | ±0.8 | ±0.7 | ±0.6 | ±0.5 | ±0.4 |
|                     |      |      |      | ,    |      |

## Maximum torque applicable on the piston rod (Nm):

| Size           | 25  | 32 | 40  | 50  | 63  |
|----------------|-----|----|-----|-----|-----|
| Maximum torque | 0.8 | 1  | 1,3 | 1,8 | 2,1 |

The maximum torque values must also be accounted for while mounting accessories on the piston rod.

C+66 (0) 2384-6060

Flat profile cylinders Series 1370 - 1371 - 1372 - 1373 - ECOFLAT



PNEUMATIC ACTUATION

### Basic version "1" female rod

Ordering code

#### SIDE CONNECTION

1370.size.stroke.1 Magnetic chrome plated rod
1371.size.stroke.1 Magnetic stainless steel rod
1372.size.stroke.1 Non magnetic chrome plated rod
1373.size.stroke.1 Non magnetic stainless steel rod

#### REAR CONNECTION

1370.size.stroke.1.P Magnetic chrome plated rod 1371.size.stroke.1.P Magnetic stainless steel rod 1372.size.stroke.1.P Non magnetic chrome plated rod 1373.size.stroke.1.P Non magnetic stainless steel rod

### Basic version "2" male rod

Ordering code

#### SIDE CONNECTION

1370.size.stroke.2 Magnetic chrome plated rod 1371.size.stroke.2 Magnetic stainless steel rod 1372.size.stroke.2 Non magnetic chrome plated rod 1373.size.stroke.2 Non magnetic stainless steel rod

### REAR CONNECTION

1370.size.stroke.2.P Magnetic chrome plated rod 1371.size.stroke.2.P Magnetic stainless steel rod 1372.size.stroke.2.P Non magnetic chrome plated rod 1373.size.stroke.2.P Non magnetic stainless steel rod

## Female through rod cylinder version "3"

Ordering code

1370.size.stroke.3 Magnetic chrome plated rod 1371.size.stroke.3 Magnetic stainless steel rod 1372.size.stroke.3 Non magnetic chrome plated rod 1373.size.stroke.3 Non magnetic stainless steel rod







## Male through rod cylinder version "4"

Ordering code

1370.Size.stroke.4 Magnetic stelo cromato
1371.Size.stroke.4 Magnetic stelo inox
1372.Size.stroke.4 Non magnetico stelo cromato
1373.Size.stroke.4 Non magnetico stelo inox



### Variants

Ordering code

137\_.size.stroke.\_.K = Version with aluminium piston





## Table of dimensions

| 0.110    |          |      |          |          |          |          |         |         |
|----------|----------|------|----------|----------|----------|----------|---------|---------|
| Size     |          |      |          | 25       | 32       | 40       | 50      | 63      |
| AM       |          |      |          | 22       | 22       | 24       | 32      | 32      |
| AF       | AF       |      | 12       | 14       | 16       | 20       | 20      |         |
| Ø B (h9) |          |      |          | 16       | 20       | 25       | 30      | 30      |
| BG       |          |      |          | 8        | 9        | 9        | 12      | 14      |
| C1       |          |      |          | 7        | 7        | 7        | 7       | 7       |
| C2 (H9)  |          |      |          | 4        | 4        | 4        | 5       | 5       |
| Ø D1     |          |      | 27       | 8        | 10       | 10       | 11      | 15      |
| D2       |          |      |          | 4        | 4        | 5        | 6       | 6       |
| E        | 0.00     |      |          | 20       | 24       | 30       | 38      | 50      |
| EE       |          |      |          | M5       | G1/8"    | G1/8"    | G1/4"   | G1/4"   |
| G        |          |      |          | 12       | 17       | 17       | 21      | 21      |
| Н        |          |      |          | 56,5     | 65,5     | 82,5     | 102,5   | 127     |
| KF       |          |      |          | M5       | M6       | M8       | M10     | M10     |
| KK       |          |      |          | M10x1,25 | M10x1,25 | M12x1,25 | M16x1,5 | M16x1,5 |
| KP       |          |      |          | 2        | 2,5      | 3        | 4,5     | 4,5     |
| KV       |          |      |          | 17       | 17       | 19       | 24      | 24      |
| KW       |          |      |          | 6        | 6        | 7        | 8       | 8       |
| L1       |          |      |          | 6        | 7,5      | 7,5      | 16      | 19      |
| L3       |          |      |          | 10       | 14,5     | 14,5     | 16      | 21      |
| L8       |          |      |          | 62       | 72       | 76       | 82      | 82      |
| Ø MM     |          |      |          | 10       | 12       | 16       | 20      | 20      |
| PL       |          |      |          | 6,5      | 8,5      | 8,5      | 10,5    | 10,5    |
| RT       |          |      |          | M5       | M6       | M6       | M8      | M10     |
| SW (H13  | 5)       |      |          | 8        | 10       | 13       | 17      | 17      |
| TF       |          |      |          | 5        | 8,5      | 8,5      | 8,5     | 8,5     |
| TG       |          |      |          | 25       | 32       | 40       | 50      | 60      |
| TL       |          |      |          | 5        | 8,5      | 8,5      | 8,5     | 8,5     |
| TP       |          |      |          | 8        | 9        | 9        | 12      | 14      |
| V        |          |      |          | 2        | 2        | 2        | 2       | 2       |
| VG       |          |      |          | 30       | 30       | 33       | 42      | 42      |
| WH       | WH       |      | 8        | 8        | 9        | 10       | 10      |         |
| Z        | Z        |      | 51       | 60       | 77       | 97       | 1215    |         |
|          | Versions | 1    | stroke 0 | 180      | 285      | 482      | 848     | 1350    |
| Weight g | versions | 2    | stroke 0 | 203      | 309      | 520      | 929     | 1431    |
|          | every    | / 10 | mm       | 22       | 29       | 49       | 79      | 118     |
|          | Versions | 3    | stroke 0 | 195      | 314      | 534      | 959     | 1478    |
| Weight g | 10115    | 4    | stroke 0 | 242      | 362      | 610      | 1096    | 1615    |
| g        | ever     | y 10 | ) mm     | 28       | 38       | 65       | 103     | 143     |
|          |          |      |          |          |          |          |         |         |

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PNEUMATIC ACTUATION





FL

MF

R

SA

XA

steel with a rust proof protective treatment. Mounted to the cylinder end caps with bolts.



Rear male clevis
 Ordering code

## 1370.Size.09/1F





∢

в



| Size     | 25  | 32   | 40   | 50  | 63  |
|----------|-----|------|------|-----|-----|
| А        | 37  | 44   | 52   | 65  | 78  |
| В        | 9   | 10.5 | 10.5 | 20  | 25  |
| ØCD (H7) | 8   | 10   | 12   | 12  | 16  |
| FL       | 14  | 15   | 18   | 20  | 24  |
| Н        | 6   | 9    | 9    | 11  | 11  |
| L        | 8   | 6    | 9    | 9   | 13  |
| MR       | 7.5 | 10   | 13   | 13  | 17  |
| XD       | 84  | 95   | 103  | 112 | 116 |
|          |     |      |      |     |     |

This type of mounting allows anchorage of the cylinder either parallel or right angle to plane; the cylinder rod can oscillate and self-align as necessary when under load.

Rear clevis
Ordering code

1370.Size.09F



To be used in conjunction with 09/1 clevis. Similar to type 08 but includes a hinge pin. This type of mounting allows anchorage of the cylinder either parallel or right angle to plane; the cylinder rod can oscillate and selfalign as necessary when under load. Manufactured from sheet metal with rust proof protective treatment.



| Size | 25   | 32   | 40   | 50   | 63   |
|------|------|------|------|------|------|
| А    | 49   | 60   | 60   | 46   | 60   |
| AH   | 25.5 | 33   | 29.5 | 24   | 32   |
| В    | 9.1  | 10.6 | 10.6 | 20.1 | 25.1 |
| ØEK  | 8    | 10   | 12   | 12   | 16   |
| FL   | 35   | 42   | 51   | 55   | 68   |
| L    | 32   | 38   | 47   | 50   | 63   |
| MR   | 9.5  | 11   | 14   | 14   | 18   |
| TG   | 40   | 50   | 50   | 30   | 40   |
| ØV   | 5.5  | 6.6  | 6.6  | 9    | 11   |

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PNEUMATIC ACTUATION



Nut

Ordering code 1320.32.18F (for ø25 and ø32) 1320.40.18F (for ø40) 1320.50.18F (for ø50) 1320.63.18F (for ø63)





| Bore   |      | 25       | 32       | 40       | 50      | 63      |
|--------|------|----------|----------|----------|---------|---------|
| A      |      | 52       | 52       | 62       | 83      | 83      |
| В      |      | 20       | 20       | 24       | 32      | 32      |
| С      |      | 40       | 40       | 48       | 64      | 64      |
| E      |      | 20       | 20       | 24       | 32      | 32      |
| F(B12) |      | 10       | 10       | 12       | 16      | 16      |
| G      |      | 10       | 10       | 12       | 16      | 16      |
| S      |      | 17       | 17       | 19       | 24      | 24      |
| Т      |      | 6        | 6        | 7        | 8       | 8       |
| KK     |      | M10X1.25 | M10X1.25 | M12X1.25 | M16X1.5 | M16X1.5 |
| Weight | fork | 100      | 100      | 140      | 340     | 340     |
| g      | nut  | 15       | 15       | 20       | 20      | 20      |

## Fork:

Element that when screwed to the rod consents a regular functioning even when there are significant lateral forces as the connection point. Made of zinc-plated steel.

Nut:

Used to block the position of the fork.



Ball joint

Ordering code 1320.32.32F (for ø25 and ø32) 1320.40.32F (for ø40) 1320.50.32F (for ø50) 1320.63.32F (for ø63)







F

| Bore     | 25       | 32       | 40       | 50      | 63      |
|----------|----------|----------|----------|---------|---------|
| A        | 57       | 57       | 66       | 85      | 85      |
| В        | 20       | 20       | 22       | 28      | 28      |
| С        | 43       | 43       | 50       | 64      | 64      |
| D (-0,1) | 10.5     | 10.5     | 12       | 15      | 15      |
| E        | 28       | 28       | 32       | 42      | 42      |
| F        | 14       | 14       | 16       | 21      | 21      |
| G (H 7)  | 10       | 10       | 12       | 16      | 16      |
| KK       | M10x1.25 | M10x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| М        | 19       | 19       | 22       | 27      | 27      |
| S        | 17       | 17       | 19       | 22      | 22      |
| Т        | 6.5      | 6.5      | 6.5      | 8       | 8       |
| Weight g | 76       | 76       | 110      | 220     | 220     |

## Self-aligning joint

Ordering code

1320.32.33F (for ø25 and ø32) 1320.40.33F (for ø40) 1320.50.33F (for ø50) 1320.63.33F (for ø63)





| Bore     | 25       | 32       | 40       | 50      | 63      |
|----------|----------|----------|----------|---------|---------|
| A        | 71       | 71       | 75       | 103     | 103     |
| В        | 20       | 20       | 20       | 32      | 32      |
| С        | 46       | 46       | 46       | 63      | 63      |
| D        | 20       | 20       | 24       | 32      | 32      |
| E        | 32       | 32       | 32       | 45      | 45      |
| KK       | M10x1,25 | M10x1,25 | M12x1,25 | M16x1,5 | M16x1,5 |
| SW       | 12       | 12       | 12       | 20      | 20      |
| SW1      | 19       | 19       | 19       | 27      | 27      |
| SW2      | 17       | 17       | 19       | 24      | 24      |
| SW3      | 30       | 30       | 30       | 41      | 41      |
| Т        | 6        | 6        | 7        | 8       | 8       |
| Weight g | 220      | 220      | 230      | 660     | 660     |