

## AIR CYLINDER

### Series A23, A24

Cat No A23, A24 - 01 - 02

### Double Acting Cylinder (Square type) Ø32 - 100 mm

As per ISO 6431 / CETOP RP43P / VDMA 24562 standards.

#### Features

- ❑ Adjustable cushioning at both ends with elastomer pads
- ❑ Wide varieties of mountings as per VDMA 24562 standards
- ❑ Magnetic and Non magnetic version
- ❑ Aluminium profile (square) cylinder barrel
- ❑ Magnetic sensor common for all sizes ( Refer Magnetic sensor catalogue )



#### Technical Specifications

|                           |  |   |   |                            |    |     |
|---------------------------|--|---|---|----------------------------|----|-----|
| Piston dia ( mm )         | 32   | 40                                      | 50                                      | 63                         | 80 | 100 |
| Cushion stroke ( mm )     | 21   | 23                                      | 23                                      | 23                         | 28 | 28  |
| Standard strokes * ( mm ) | 25 50 80 100 125 160 200 250 300 320 400 500           |   |   |                            |    |     |
| Medium                    | Compressed air - filtered - lubricated                 |   |   |                            |    |     |
| Working pressure          | 0.5 - 10 bar   |   |   |                            |    |     |
| Medium temperature        | 5° - 60° c   |   |   |                            |    |     |
| Materials of construction | Aluminium, Brass, Nitrile, Steel, Acetal, Polyurethane |   |   |                            |    |     |
| Mountings                 | Basic cylinder, Male clevis,                           | Foot mounting, Female clevis,           | Front flange, Front trunnion,           | Rear flange, Rear trunnion |    |     |
| Accessories               | Clevis foot bracket, Rod end fork,                     | Wall mounting bracket, Rod end aligner, | Trunnion bracket, Rod end spherical eye |                            |    |     |

\* For Non standard or longer stroke cylinders, contact your regional office, dealer or JANATICS

#### Output force ( force in N: 1N = 0.1 kgf)

| Bore dia in mm | Rod dia in mm |         | Working pressure in bar |      |      |      |      |      |      |      |      |
|----------------|---------------|---------|-------------------------|------|------|------|------|------|------|------|------|
|                |               |         | 2                       | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| 32             | 12            | Extend  | 145                     | 217  | 289  | 362  | 434  | 507  | 579  | 651  | 724  |
|                |               | Retract | 124                     | 187  | 249  | 311  | 373  | 435  | 498  | 559  | 621  |
| 40             | 16            | Extend  | 226                     | 339  | 452  | 565  | 678  | 792  | 905  | 1018 | 1130 |
|                |               | Retract | 190                     | 285  | 380  | 475  | 570  | 665  | 760  | 855  | 950  |
| 50             | 20            | Extend  | 353                     | 530  | 706  | 884  | 1060 | 1237 | 1414 | 1590 | 1767 |
|                |               | Retract | 297                     | 445  | 594  | 742  | 891  | 1039 | 1187 | 1336 | 1484 |
| 63             | 20            | Extend  | 561                     | 842  | 1122 | 1403 | 1683 | 1964 | 2244 | 2525 | 2805 |
|                |               | Retract | 505                     | 757  | 1009 | 1261 | 1514 | 1766 | 2018 | 2270 | 2523 |
| 80             | 25            | Extend  | 905                     | 1357 | 1809 | 2262 | 2714 | 3167 | 3619 | 4072 | 4524 |
|                |               | Retract | 816                     | 1225 | 1633 | 2041 | 2449 | 2857 | 3266 | 3674 | 4082 |
| 100            | 25            | Extend  | 1414                    | 2120 | 2828 | 3534 | 4241 | 4948 | 5655 | 6362 | 7069 |
|                |               | Retract | 1325                    | 1988 | 2650 | 3313 | 3976 | 4640 | 5300 | 5965 | 6625 |

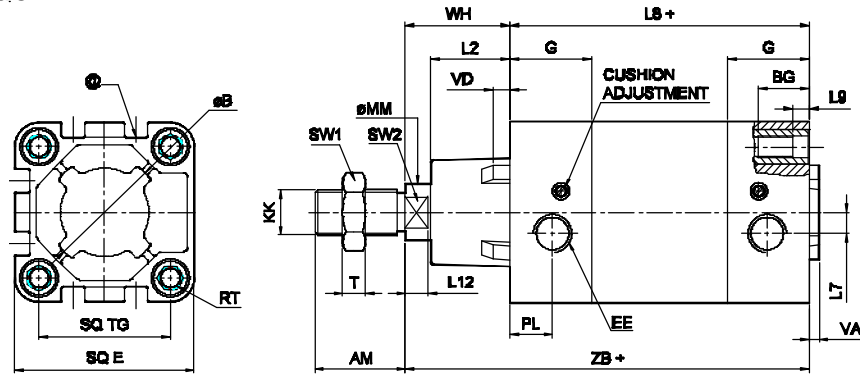
( Above values have been worked out taking frictional loss into consideration )

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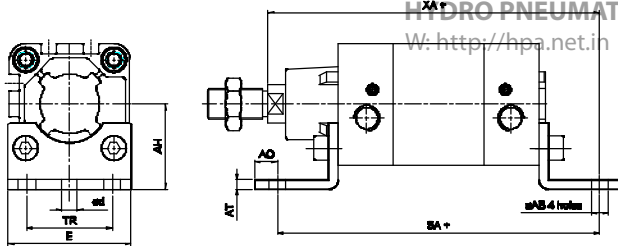
### Basic cylinder



| Bore dia | KK       | AM | MM | SW2 | L12 | SW1 | T  | B e11 | VD  | VA | L2   | E max | G    | TG   | RT  | BG min | EE   | PL   | L7  | WH       | TOL | ZB  | TOL   | L8        | TOL   | L9           | Stroke tol |
|----------|----------|----|----|-----|-----|-----|----|-------|-----|----|------|-------|------|------|-----|--------|------|------|-----|----------|-----|-----|-------|-----------|-------|--------------|------------|
| 32       | M10x1.25 | 22 | 12 | 10  | 6   | 17  | 5  | 30    | 6   | 4  | 18.5 | 45    | 25.5 | 32.5 | M6  | 16     | G1/8 | 13   | 5   | 26       |     | 120 |       | 94        |       | 5            |            |
| 40       | M12x1.25 | 24 | 16 | 13  | 6.5 | 19  | 7  | 35    | 6.5 | 4  | 20.5 | 51    | 29   | 38   | M6  | 16     | G1/4 | 14.5 | 5   | 30 ± 1.3 |     | 135 | ± 1   | 105       | ± 0.6 | 5            | + 2<br>+ 0 |
| 50       | M16x1.5  | 32 | 20 | 16  | 8   | 24  | 8  | 40    | 6.5 | 4  | 28   | 64    | 29   | 46.5 | M8  | 16     | G1/4 | 15   | 7.5 | 37       |     | 143 |       | 106 ± 0.7 | 6     |              |            |
| 63       | M16x1.5  | 32 | 20 | 16  | 8   | 24  | 8  | 45    | 6.5 | 4  | 27.5 | 74    | 35   | 56.5 | M8  | 16     | G3/8 | 17   | 10  | 37       |     | 158 |       | 121       |       | 6            |            |
| 80       | M20x1.5  | 40 | 25 | 21  | 10  | 30  | 10 | 45    | 6.5 | 4  | 34   | 94    | 36   | 72   | M10 | 16     | G3/8 | 18   | 14  | 46 ± 1.5 |     | 174 | ± 1.1 | 128 ± 0.8 | 6     | + 2.5<br>+ 0 |            |
| 100      | M20x1.5  | 40 | 25 | 21  | 10  | 30  | 10 | 55    | 6.5 | 4  | 35   | 111   | 40   | 89   | M10 | 16     | G1/2 | 18   | 10  | 51       |     | 189 |       | 138       | 6     |              |            |

@ - T Groove for magnetic sensor, Refer catalogue series AM4

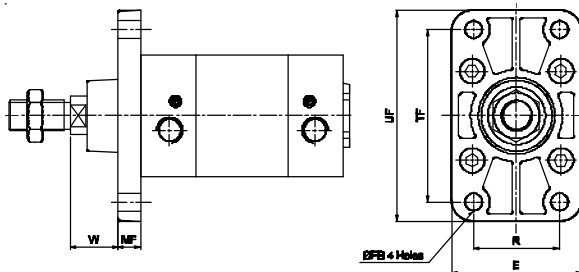
### Foot mounting



| Bore dia | TR ± 0.3 | AB H13 | AO Us15 max. | AT | E | d*  | SA   | TOL        | XA         | TOL | Recommended Bolt size |
|----------|----------|--------|--------------|----|---|-----|------|------------|------------|-----|-----------------------|
| 32       | 32       | 7      | 32           | 8  | 4 | 46  | 5.8  | 142        | 144        |     | M6                    |
| 40       | 36       | 9      | 36           | 10 | 4 | 52  | 7.8  | 161 ± 1.25 | 163 ± 1.25 |     | M8                    |
| 50       | 45       | 9      | 45           | 12 | 5 | 65  | 7.8  | 170        | 175        |     | M8                    |
| 63       | 50       | 9      | 50           | 12 | 5 | 75  | 7.8  | 185        | 190        |     | M8                    |
| 80       | 63       | 12     | 63           | 17 | 6 | 95  | 9.8  | 210 ± 1.6  | 215 ± 1.5  |     | M10                   |
| 100      | 75       | 14     | 71           | 19 | 6 | 115 | 11.8 | 220        | 230        |     | M12                   |

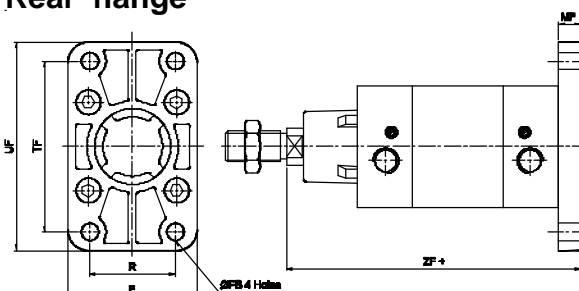
\* Suitable for reaming

### Front flange



| Bore dia | TF ± 0.3 | R ± 0.3 | FB H13 | MF | UF  | E   | W  | TOL   | Recommended Bolt size |
|----------|----------|---------|--------|----|-----|-----|----|-------|-----------------------|
| 32       | 64       | 32      | 7      | 10 | 80  | 50  | 16 |       | M6                    |
| 40       | 72       | 36      | 9      | 10 | 90  | 55  | 20 | ± 1.5 | M8                    |
| 50       | 90       | 45      | 9      | 12 | 110 | 68  | 25 |       | M8                    |
| 63       | 100      | 50      | 9      | 12 | 125 | 78  | 25 |       | M8                    |
| 80       | 126      | 63      | 12     | 16 | 155 | 100 | 30 | ± 1.8 | M10                   |
| 100      | 150      | 75      | 14     | 16 | 185 | 120 | 35 |       | M12                   |

### Rear flange



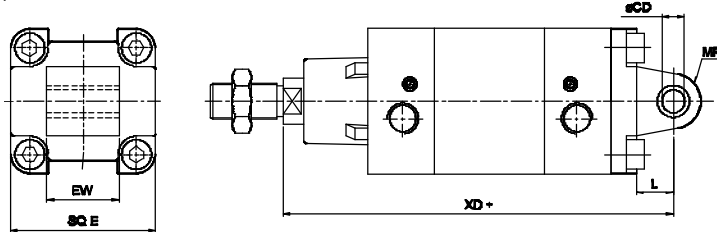
| Bore dia | TF ± 0.3 | R ± 0.3 | FB H13 | MF | UF  | E   | ZF  | TOL    | Recommended Bolt size |
|----------|----------|---------|--------|----|-----|-----|-----|--------|-----------------------|
| 32       | 64       | 32      | 7      | 10 | 80  | 50  | 130 |        | M6                    |
| 40       | 72       | 36      | 9      | 10 | 90  | 55  | 145 | ± 1.25 | M8                    |
| 50       | 90       | 45      | 9      | 12 | 110 | 68  | 155 |        | M8                    |
| 63       | 100      | 50      | 9      | 12 | 125 | 78  | 170 |        | M8                    |
| 80       | 126      | 63      | 12     | 16 | 155 | 100 | 190 | ± 1.5  | M10                   |
| 100      | 150      | 75      | 14     | 16 | 185 | 120 | 205 |        | M12                   |

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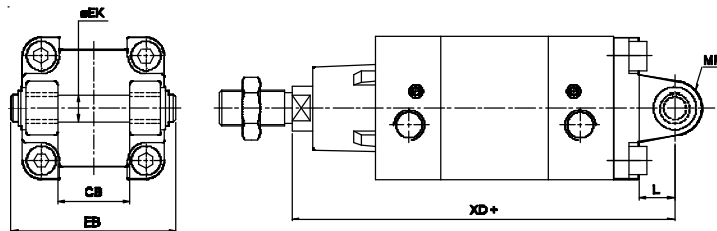
### Male clevis



+ Add stroke

| Bore dia | CD H9 | EW - 0.2 - 0.6 | L  | MR | E max. | XD  | TOL   |
|----------|-------|----------------|----|----|--------|-----|-------|
| 32       | 10    | 26             | 12 | 11 | 45     | 142 |       |
| 40       | 12    | 28             | 15 | 13 | 51     | 160 | ±1.25 |
| 50       | 12    | 32             | 15 | 13 | 64     | 170 |       |
| 63       | 16    | 40             | 20 | 17 | 74     | 190 |       |
| 80       | 16    | 50             | 20 | 17 | 94     | 210 | ±1.5  |
| 100      | 20    | 60             | 25 | 21 | 111    | 230 |       |

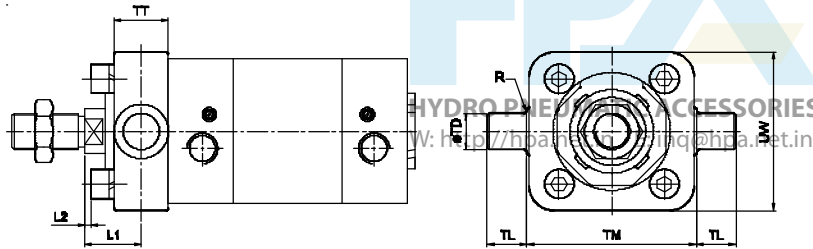
### Female clevis



+ Add stroke

| Bore dia | EK e8 | CB H14 | L  | MR | EB max. | XD  | TOL   |
|----------|-------|--------|----|----|---------|-----|-------|
| 32       | 10    | 26     | 12 | 11 | 56      | 142 |       |
| 40       | 12    | 28     | 15 | 13 | 65      | 160 | ±1.25 |
| 50       | 12    | 32     | 15 | 13 | 73      | 170 |       |
| 63       | 16    | 40     | 20 | 17 | 86      | 190 |       |
| 80       | 16    | 50     | 20 | 17 | 106     | 210 | ±1.5  |
| 100      | 20    | 60     | 25 | 21 | 129     | 230 |       |

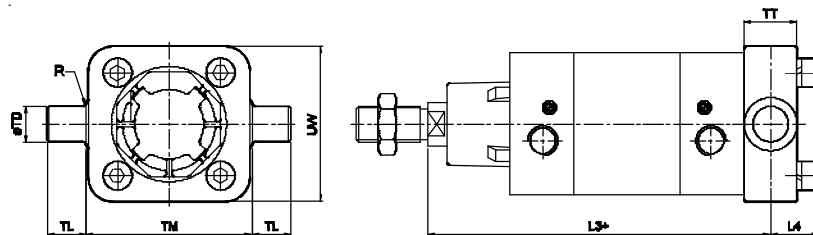
### Front trunnion



+ Add stroke

| Bore dia | TD e9 | TL h14 | TM h14 | UW  | TT | R   | L1 | tol  | L2 approx |
|----------|-------|--------|--------|-----|----|-----|----|------|-----------|
| 32       | 12    | 12     | 50     | 48  | 16 | 1   | 18 |      | 2         |
| 40       | 16    | 16     | 63     | 55  | 22 | 1.5 | 19 | ±1.5 | 0         |
| 50       | 16    | 16     | 75     | 70  | 24 | 1.6 | 25 |      | 3         |
| 63       | 20    | 20     | 90     | 86  | 28 | 1.6 | 23 |      | -1        |
| 80       | 20    | 20     | 110    | 110 | 32 | 1.6 | 30 | ±1.8 | 1.8       |
| 100      | 25    | 25     | 132    | 135 | 40 | 2   | 31 |      | -1.2      |

### Rear trunnion

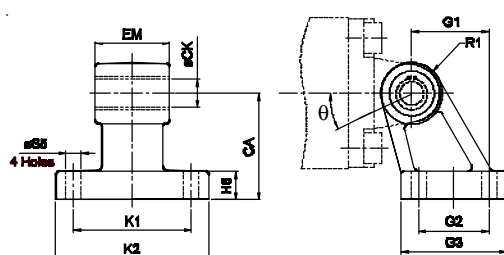


+ Add stroke

| Bore dia | TD e9 | TL h14 | TM h14 | UW  | TT | R   | L3  | tol  | L4 approx |
|----------|-------|--------|--------|-----|----|-----|-----|------|-----------|
| 32       | 12    | 12     | 50     | 48  | 16 | 1   | 128 |      | 16        |
| 40       | 16    | 16     | 63     | 55  | 22 | 1.5 | 146 | ±1.5 | 19        |
| 50       | 16    | 16     | 75     | 70  | 24 | 1.6 | 155 |      | 22        |
| 63       | 20    | 20     | 90     | 86  | 28 | 1.6 | 172 |      | 24        |
| 80       | 20    | 20     | 110    | 110 | 32 | 1.6 | 190 | ±1.8 | 29        |
| 100      | 25    | 25     | 132    | 135 | 40 | 2   | 209 |      | 33        |

## ACCESSORIES FOR AIR CYLINDER Series A23, A24

### Clevis foot bracket ( CETOP - RP 107 P )



| Bore dia | K1 Js14 | G2 Js14 | S5 H13 | CA Js15 | CK H9 | EM - 0.2 - 0.6 | G1 Js14 | H6 | R1 max. | K2 | G3 | q° | Recommended Bolt size | Ordering no. @ |
|----------|---------|---------|--------|---------|-------|----------------|---------|----|---------|----|----|----|-----------------------|----------------|
| 32       | 38      | 18      | 6.6    | 32      | 10    | 26             | 21      | 8  | 10      | 51 | 31 | 10 | M6                    | AA1032         |
| 40       | 41      | 22      | 6.6    | 36      | 12    | 28             | 24      | 10 | 11      | 54 | 35 | 15 | M6                    | AA1040         |
| 50       | 50      | 30      | 9      | 45      | 12    | 32             | 33      | 12 | 13      | 65 | 45 | 15 | M8                    | AA1050         |
| 63       | 52      | 35      | 9      | 50      | 16    | 40             | 37      | 12 | 15      | 67 | 50 | 15 | M8                    | AA1063         |
| 80       | 66      | 40      | 11     | 63      | 16    | 50             | 47      | 14 | 15      | 86 | 60 | 15 | M10                   | AA1080         |
| 100      | 76      | 50      | 11     | 71      | 20    | 60             | 55      | 15 | 19      | 96 | 70 | 15 | M10                   | AA1100         |

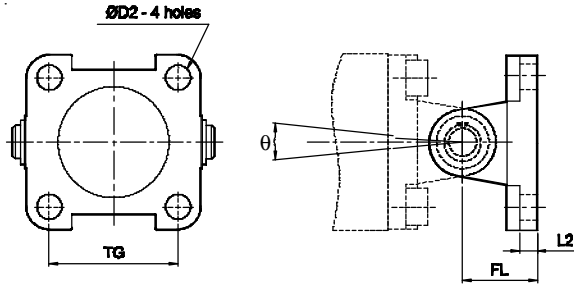
@ Adoptable to cylinder with female clevis

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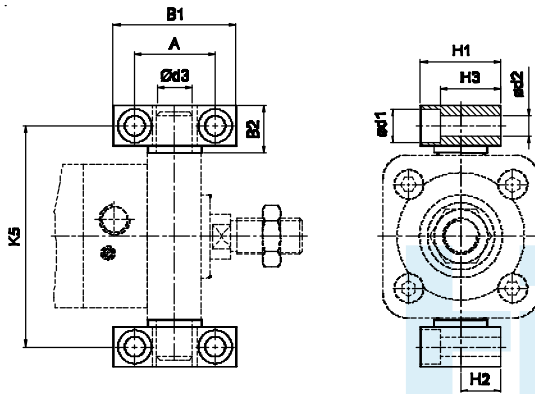
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## Wall mounting bracket



| Bore dia | TG   | D2  | L2  | FL | q° | Recommended Bolt size | Ordering no. @ | Ordering no. # |
|----------|------|-----|-----|----|----|-----------------------|----------------|----------------|
| 32       | 32.5 | 6.6 | 5.5 | 22 | 90 | M6                    | AV1032         | AW1032         |
| 40       | 38   | 6.6 | 5.5 | 25 | 90 | M6                    | AV1040         | AW1040         |
| 50       | 46.5 | 9   | 6.5 | 27 | 90 | M8                    | AV1050         | AW1050         |
| 63       | 56.5 | 9   | 6.5 | 32 | 90 | M8                    | AV1063         | AW1063         |
| 80       | 72   | 11  | 10  | 36 | 60 | M10                   | AV1080         | AW1080         |
| 100      | 89   | 11  | 10  | 41 | 60 | M10                   | AV1100         | AW1100         |

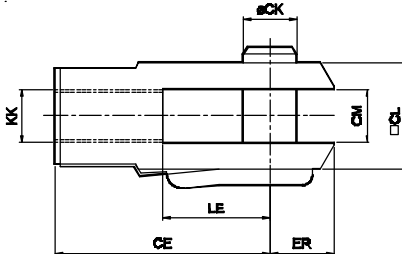
## Trunnion bracket



| Bore dia | B1 | B2   | A ± 0.2 | d1   | d2 H13 | d3 H9 | H1 | H2 ± 0.1 | H3 | K5 Js14 | Ordering no. |
|----------|----|------|---------|------|--------|-------|----|----------|----|---------|--------------|
| 32       | 46 | 18   | 32      | 11   | 6.6    | 12    | 30 | 15       | 23 | 71      | AT032        |
| 40       | 55 | 21   | 36      | 15   | 9      | 16    | 36 | 18       | 27 | 87      | AT040        |
| 50       | 55 | 21   | 36      | 15   | 9      | 16    | 36 | 18       | 27 | 99      | AT040        |
| 63       | 65 | 23   | 42      | 16.5 | 11     | 20    | 40 | 20       | 29 | 116     | AT063        |
| 80       | 65 | 23   | 42      | 16.5 | 11     | 20    | 40 | 20       | 29 | 136     | AT063        |
| 100      | 75 | 28.5 | 50      | 20   | 14     | 25    | 50 | 25       | 37 | 164     | AT100        |

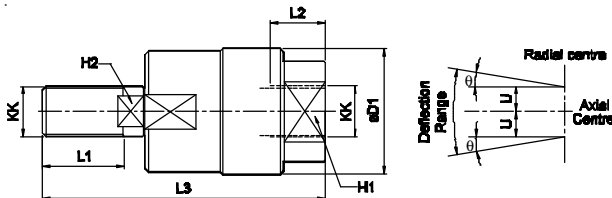
## Rod end Fork ( ISO 8140 )

HYDRO PNEUMATIC ACCESSORIES  
W: <http://hpa.net.in> E: [inq@hpa.net.in](mailto:inq@hpa.net.in)



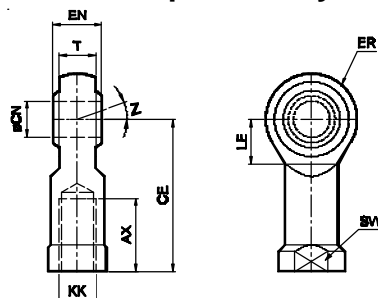
| Bore dia | KK       | CE | CK f8 | CM B12 | LE | ER max. | □CL | Ordering no. |
|----------|----------|----|-------|--------|----|---------|-----|--------------|
| 32       | M10x1.25 | 40 | 10    | 10     | 20 | 16      | 20  | AF010        |
| 40       | M12x1.25 | 48 | 12    | 12     | 24 | 19      | 24  | AF012        |
| 50 / 63  | M16x1.5  | 64 | 16    | 16     | 32 | 25      | 32  | AF016        |
| 80 / 100 | M20x1.5  | 80 | 20    | 20     | 40 | 32      | 40  | AF020        |

## Rod end Aligner



| Bore dia | KK       | L1 | L2 | L3  | H1 | H2 | D1 | U    | ± q° | Ordering no. |
|----------|----------|----|----|-----|----|----|----|------|------|--------------|
| 32       | M10x1.25 | 20 | 14 | 65  | 17 | 8  | 28 | 0.75 | 5    | AR010        |
| 40       | M12x1.25 | 22 | 18 | 75  | 19 | 10 | 32 | 1    | 5    | AR012        |
| 50 / 63  | M16x1.5  | 25 | 22 | 91  | 27 | 13 | 41 | 1    | 5    | AR016        |
| 80 / 100 | M20x1.5  | 30 | 28 | 112 | 32 | 16 | 50 | 1.5  | 5    | AR020        |

## Rod end spherical eye ( ISO 8139 )



| Bore dia | KK       | CN H9 | T    | EN h12 | CE | LE min | ER max | AX | SW | Z   | Ordering no. |
|----------|----------|-------|------|--------|----|--------|--------|----|----|-----|--------------|
| 32       | M10x1.25 | 10    | 10.5 | 14     | 43 | 15     | 14     | 20 | 17 | 13° | AP010        |
| 40       | M12x1.25 | 12    | 12   | 16     | 50 | 17     | 16     | 22 | 19 | 13° | AP012        |
| 50 / 63  | M16x1.5  | 16    | 15   | 21     | 64 | 22     | 21     | 28 | 22 | 15° | AP016        |
| 80 / 100 | M20x1.5  | 20    | 18   | 25     | 77 | 26     | 25     | 33 | 30 | 15° | AP020        |

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## How to order

A

| Model |                   | Piston Ø (mm) |         | Stroke (mm) |       | Mountings |                  |
|-------|-------------------|---------------|---------|-------------|-------|-----------|------------------|
| 23    | Magnetic cylinder | 032           | - Ø 32  | 025         | - 25  | O         | - Basic          |
| 24    | Standard cylinder | 040           | - Ø 40  | 050         | - 50  | L         | - Foot Mounting  |
|       |                   | 050           | - Ø 50  | 080         | - 80  | F         | - Front Flange   |
|       |                   | 063           | - Ø 63  | 100         | - 100 | R         | - Rear Flange    |
|       |                   | 080           | - Ø 80  | 125         | - 125 | S         | - Male Clevis    |
|       |                   | 100           | - Ø 100 | 160         | - 160 | D         | - Female Clevis  |
|       |                   |               |         | 200         | - 200 | M         | - Rear Trunnion  |
|       |                   |               |         | 250         | - 250 | N         | - Front Trunnion |
|       |                   |               |         | 300         | - 300 |           |                  |
|       |                   |               |         | 320         | - 320 |           |                  |
|       |                   |               |         | 400         | - 400 |           |                  |
|       |                   |               |         | 500         | - 500 |           |                  |

### Example:

Ordering no. for standard cylinder with 40 dia bore, 50 mm stroke with female clevis mounting : A24 040 050 D


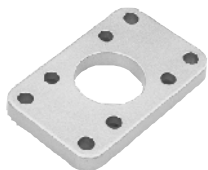



### Note:

If ordered as 40 dia, 50 mm stroke cylinder, Basic cylinder A24 040 050 O will be supplied.

For repeat order when the details are taken from cylinder nameplate mention the mounting style separately.

For ordering **Accessories** refer corresponding tables for part numbers.

For ordering individual **Mounting** kits ( If needed separately ) the order numbers are as below

| Piston Ø | Foot mounting *   | Front / Rear flange *   | Male clevis *   | Female clevis *   | Front / Rear trunnion *   |
|----------|---|---|---|---|---|
|          |  |  |  |  |  |
| 32       | ML1032  | MF1032  | MS1032  | MD1032  | MT1032  |
| 40       | ML1040  | MF1040  | MS1040  | MD1040  | MT1040  |
| 50       | ML1050  | MF1050  | MS1050  | MD1050  | MT1050  |
| 63       | ML1063  | MF1063  | MS1063  | MD1063  | MT1063  |
| 80       | ML1080  | MF1080  | MS1080  | MD1080  | MT0080  |
| 100      | ML1100  | MF1100  | MS1100  | MD1100  | MT0100  |

\* Supplied with 4nos. of screws

For your special requirements of cylinders or for further informations contact your regional office, dealer or JANATICS

Subject to change