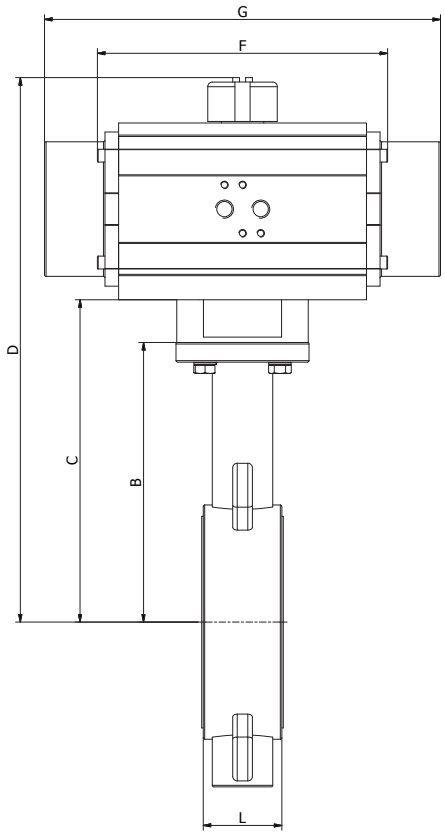
# BUTTERFLY VALVE - N1234 SERIES
## Pneumatic actuator - Actreg

**FIGURE:**
**AD:** Pneumatic actuator, double acting
**AS:** Pneumatic actuator, spring return






**DIMENSIONS:** (mm)

| DN | L | B | AD | | | | | AS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AD | C | D | F | Kg | AS | C | D | G | Kg |
| 32 | 33 | 140 | 20 | 140 | 236 | 145 | 3,6 | 40 | 140 | 255 | 195 | 4,5 |
| 40 | 33 | 140 | 20 | 140 | 236 | 145 | 3,6 | 40 | 140 | 255 | 195 | 4,5 |
| 50 | 43 | 156 | 20 | 156 | 252 | 145 | 5,1 | 40 | 156 | 271 | 195 | 6,0 |
| 65 | 46 | 161 | 40 | 161 | 276 | 158 | 6,8 | 80 | 161 | 298 | 217 | 8,3 |
| 80 | 46 | 169 | 40 | 169 | 284 | 158 | 7,3 | 80 | 169 | 306 | 217 | 8,7 |
| 100 | 52 | 187 | 80 | 187 | 324 | 177 | 9,7 | 130 | 187 | 334 | 258 | 11,5 |
| 125 | 56 | 206 | 130 | 206 | 353 | 196 | 12,0 | 300 | 206 | 388 | 348,5 | 19,0 |
| 150 | 56 | 215 | 200 | 215 | 380 | 225 | 16,4 | 500 | 275 | 474 | 397 | 26,2 |
| 200 | 60 | 255 | 300 | 255 | 437 | 273 | 25,3 | 850 | 315 | 536 | 473 | 38,5 |
| 250 | 68 | 248 | 500 | 308 | 507 | 304 | 34,5 | 1200 | 328 | 577 | 560 | 59,0 |
| 300 | 78 | 280 | 500 | 340 | 539 | 304 | 43,0 | 1750 | 360 | 640 | 601 | 79,6 |
| 350 | 78 | 300 | 850 | 380 | 601 | 372 | 58,7 | 2500 | 400 | 783 | 738 | 143,7 |
| 400 | 102 | 340 | 1750 | 420 | 700 | 461 | 86,8 | 2500 | 440 | 823 | 738 | 156,7 |

The pneumatic actuator is calculated for 6 bar air supply, safety factor of 30% and max. differential pressure of 16 bar up to DN300, 10 bar from DN350. For standard working conditions.

**OPTIONS:**
Solenoid valves, limit switches, manual override , pneumatic or electro-pneumatic positioner.

Subject to changes

# BUTTERFLY VALVE FIG. N1234EH
## General features

### GENERAL FEATURES:
Wafer type butterfly valve, DN32 - DN400
Body in Rilsan coated nodular iron (230µ ~ 300µ / C5M), disc in stainless steel, seat in EPDM
Face-to-face: ISO 5752
mounting between flanges: PN 10, PN 16 and ANSI 150
Mounting flange: ISO 5211

### WORKING CONDITIONS:
For pressure up to 16 bar (10 bar from DN 350)
and temperatures from -20 °C to 110 °C continuous, depending on working pressure (see PT diagram page 4)



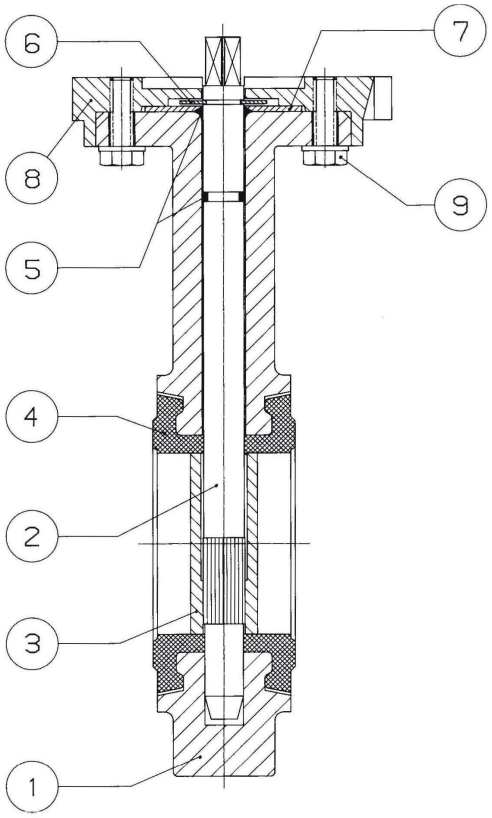
CE

ATEX

| DESIGN STANDARDS | |
|---|---|
| Butterfly valve | ISO 5752, API 609 |
| Compliance | DIN 3202, API 609, BS EN 558 |
| Actuator mounting flange | ISO 5211 |
| Marking | ISO 5209 |
| **TESTS AND CERTIFICATES** | |
| PED/CE | 2014/68/EU |
| Pressure test | EN 12266-1 |

Subject to changes

# BUTTERFLY VALVE FIG. N1234EH
## Materials



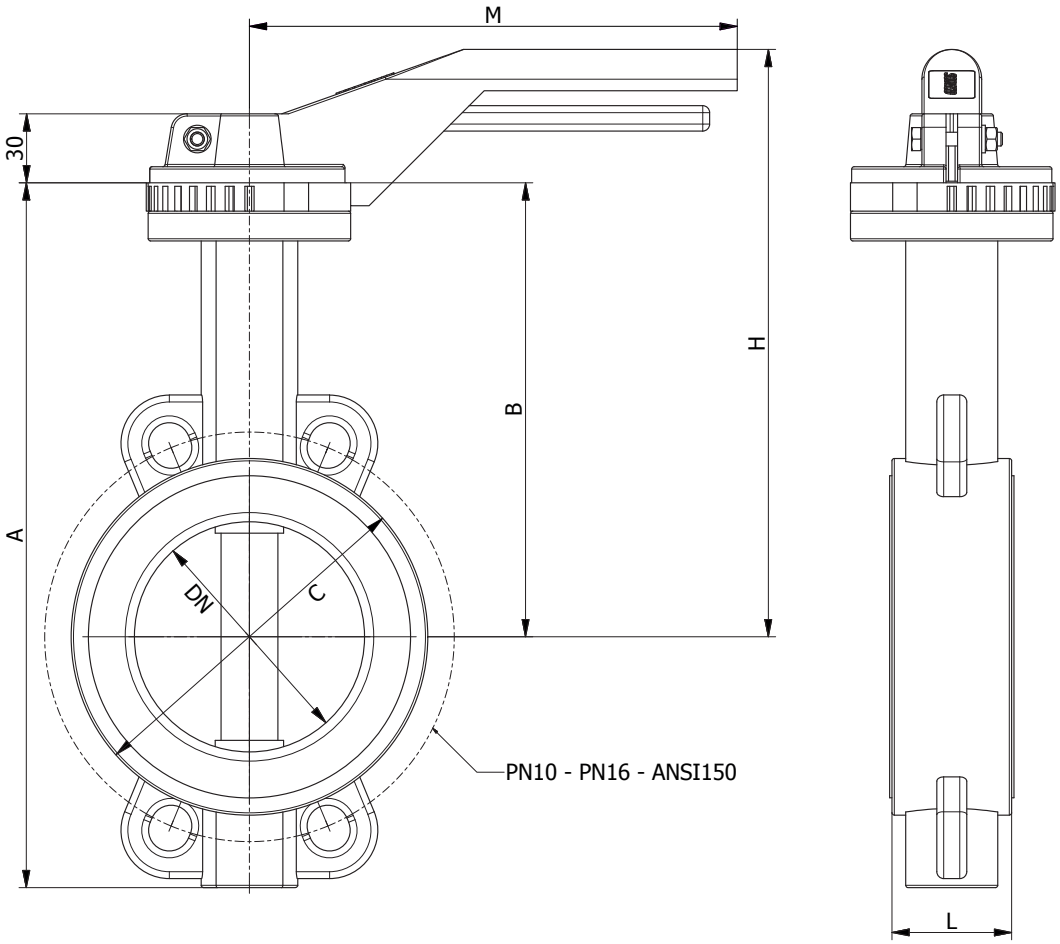



### MATERIALS:

| N° | Description | Material |
|---|---|---|
| 1 | Body | Nodular iron GJS-500-7 |
| 2 | Stem | Stainless steel AISI 420 |
| 3 | Disc | Stainless steel AISI 316 |
| 4 | Seat | EPDM |
| 5 | O-ring | Nitrile rubber |
| 6 | Circlip | Steel |
| 7 | Washer | Steel |
| 8 | Flange | Aluminium |
| 9 | Bolt | DIN 933 5.6 |
| 10 | Lever | Aluminium (DN32 - DN 200), bolt in DIN 933 5.6 |
| | | Cast steel (DN250 - DN300), bolt in DIN 933 5.6 |
| | | Free stem from DN350 |

Subject to changes

# BUTTERFLY VALVE FIG. N1234EH
## Dimensions

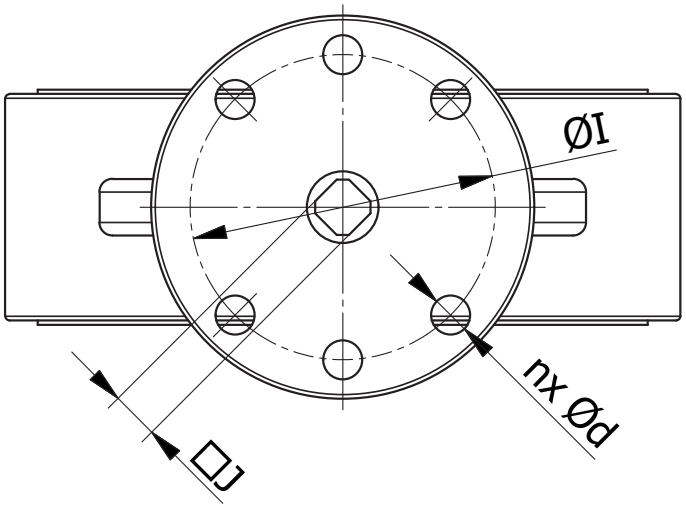



**DIMENSIONS:** (mm)

| DN | Ø | A | B | C | L | M | H | PN 10 | | PN 16 | | ANSI 150 | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | K | N x T | K | N x T | K | N x T | |
| 32 | 1 1/4" | 206 | 140 | 82 | 33 | 212 | 198 | 100 | 4x 18 | 100 | 4x 18 | 88,9 | 4x 16 | 2,0 |
| 40 | 1 1/2" | 206 | 140 | 82 | 33 | 212 | 198 | 110 | 4x 18 | 110 | 4x 18 | 98,5 | 4x 16 | 2,0 |
| 50 | 2" | 228 | 156 | 102 | 43 | 212 | 214 | 125 | 4x 18 | 125 | 4x 18 | 120,6 | 4x 19 | 3,5 |
| 65 | 2 1/2" | 248 | 161 | 119 | 46 | 212 | 219 | 145 | 4x 18 | 145 | 4x 18 | 139,7 | 4x 19 | 4,5 |
| 80 | 3" | 265 | 169 | 135 | 46 | 212 | 229 | 160 | 4x 18 | 160 | 4x 18 | 152,4 | 4x 19 | 5,0 |
| 100 | 4" | 298 | 187 | 155 | 52 | 212 | 241 | 180 | 4x 18 | 180 | 4x 18 | 190,5 | 4x 19 | 6,5 |
| 125 | 5" | 331 | 206 | 185 | 56 | 329 | 279 | 210 | 4x 18 | 210 | 4x 18 | 215,9 | 4x 23 | 8,0 |
| 150 | 6" | 349 | 215 | 208 | 56 | 329 | 287 | 240 | 4x 23 | 240 | 4x 23 | 241,3 | 4x 23 | 9,0 |
| 200 | 8" | 430 | 255 | 270 | 60 | 329 | 327 | 295 | 4x 23 | 295 | 4x 23 | 298,5 | 4x 23 | 15,0 |
| 250 | 10" | 461 | 248 | 328 | 68 | 610 | 290 | 350 | 4x 23 | 355 | 4x 27 | 362,0 | 4x 26 | 21,5 |
| 300 | 12" | 524 | 280 | 381 | 78 | 610 | 325 | 400 | 4x 23 | 410 | 4x 27 | 431,8 | 4x 26 | 30,0 |
| 350 | 14" | 570 | 300 | 437 | 78 | - | - | 460 | 4x 23 | 470 | 4x 27 | 476,3 | 4x 29 | 39,0 |
| 400 | 16" | 644 | 340 | 486 | 102 | - | - | 515 | 4x 27 | 525 | 4x 30 | 539,8 | 4x 29 | 52,0 |

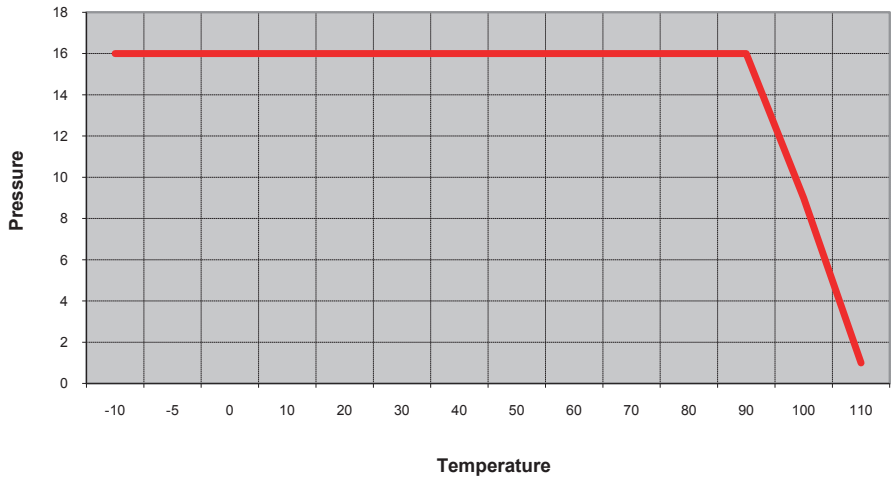
Subject to changes

# BUTTERFLY VALVE FIG. N1234EH
## Dimensions




| DN | Ø | ØI | nx Ød | J | ISO5211 |
|---|---|---|---|---|---|
| 32 | 1 1/4" | 70 | 4x 9 | 8 | F05 / F07 |
| 40 | 1 1/2" | 70 | 4x 9 | 8 | F05 / F07 |
| 50 | 2" | 70 | 4x 9 | 8 | F05 / F07 |
| 65 | 2 1/2" | 70 | 4x 9 | 9 | F05 / F07 |
| 80 | 3" | 70 | 4x 9 | 11 | F05 / F07 |
| 100 | 4" | 70 | 4x 9 | 11 | F05 / F07 |
| 125 | 5" | 70 | 4x 9 | 14 | F07 |
| 150 | 6" | 70 | 4x 9 | 14 | F07 |
| 200 | 8" | 70 | 4x 9 | 17 | F07 |
| 250 | 10" | 102 | 4x 11 | 19 | F10 |
| 300 | 12" | 102 | 4x 11 | 22 | F10 |
| 350 | 14" | 140 | 4x 18 | 22 | F14 |
| 400 | 16" | 140 | 4x 18 | 27 | F14 |

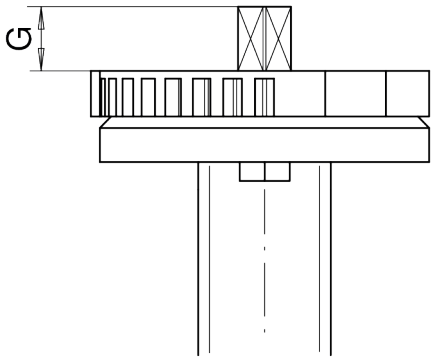
## PRESSURE - TEMPERATURE:




## Kv VALUES, BREAK AWAY TORQUE:

| DN | Ø | Kv (m³/h) | T (Nm) 16 bar |
|---|---|---|---|
| 32 | 1 1/4" | 70 | 9 |
| 40 | 1 1/2" | 70 | 9 |
| 50 | 2" | 111 | 11 |
| 65 | 2 1/2" | 201 | 20 |
| 80 | 3" | 335 | 29 |
| 100 | 4" | 552 | 47 |
| 125 | 5" | 901 | 82 |
| 150 | 6" | 1427 | 130 |
| 200 | 8" | 2392 | 210 |
| 250 | 10" | 3826 | 360 |
| 300 | 12" | 5660 | 475 |
| 350 | 14" | 8179 | 760 |
| 400 | 16" | 10660 | 1300 |

Indicated values are valid for water at room temperature




## HEIGHT FREE STEM:

| DN | G |
|---|---|
| 32 | 14 |
| 40 | 14 |
| 50 | 14 |
| 65 | 16 |
| 80 | 16 |
| 100 | 20 |
| 125 | 20 |
| 150 | 20 |
| 200 | 24 |
| 250 | 24 |
| 300 | 24 |
| 350 | 29 |
| 400 | 29 |

Subject to changes

# PNEUMATIC ACTUATOR
# FIG. ADA - ASR

## GENERAL FEATURES:
- Rack and pinion actuator
- Rotation angle 90° ±5°
- Travel stop adjustment ±5°
- Working temperature: -30 °C ~ 100 °C
- Working pressure: 3 ~ 8 bar
- Coupling according to ISO 5211 and DIN 3337 (octagonal drive)
- Mounting of solenoid valves according to Namur Std.
- Mounting of limit switches according to Namur

## FIGURE:
**ADA:** double acting
**ASR:** spring return, normally closed
**ASRO:** spring return, normally open

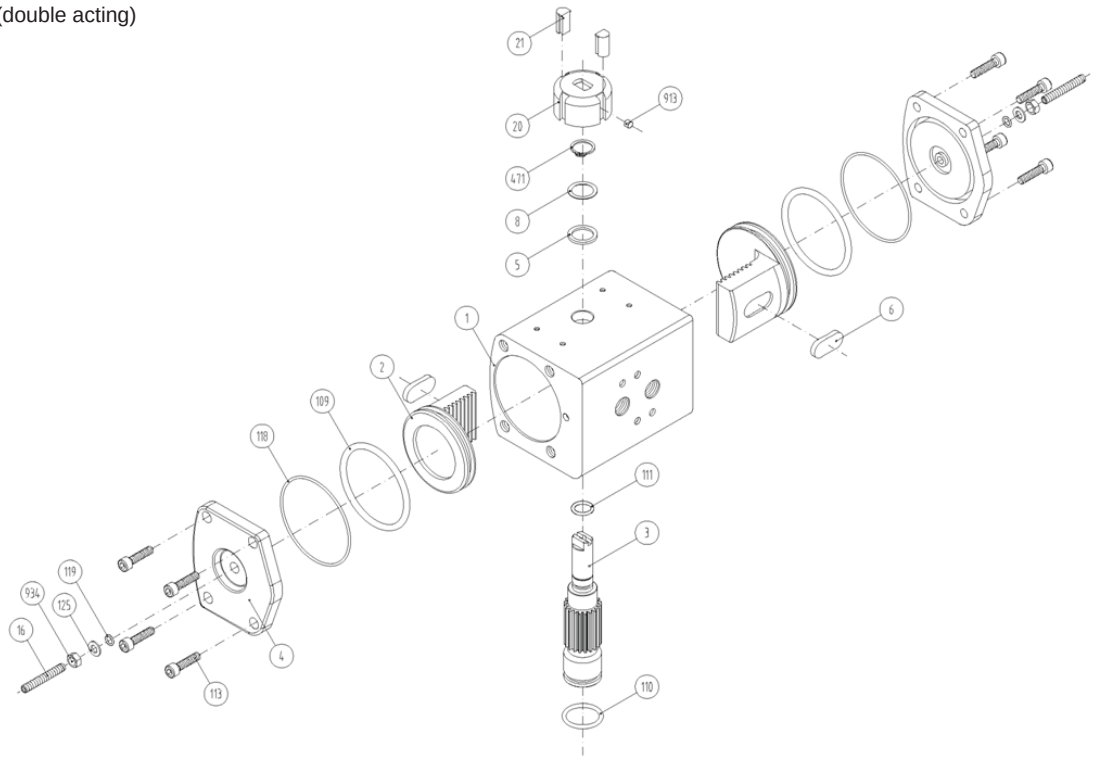



ATEX

| DESIGN STANDARDS | |
|---|---|
| Mounting of solenoid valves | NAMUR Std. |
| Mounting of devices | NAMUR VDI, NAMUR VDE 3845 Std. |
| Coupling according | ISO 5211, DIN 3337 |
| **TESTS AND CERTIFICATES** | |
| Safety | ATEX II 2 GD, SIL3 |
| Quality Assurance | CE/PED, ISO9001 |

Subject to changes

**TYPE 10:** (double acting)



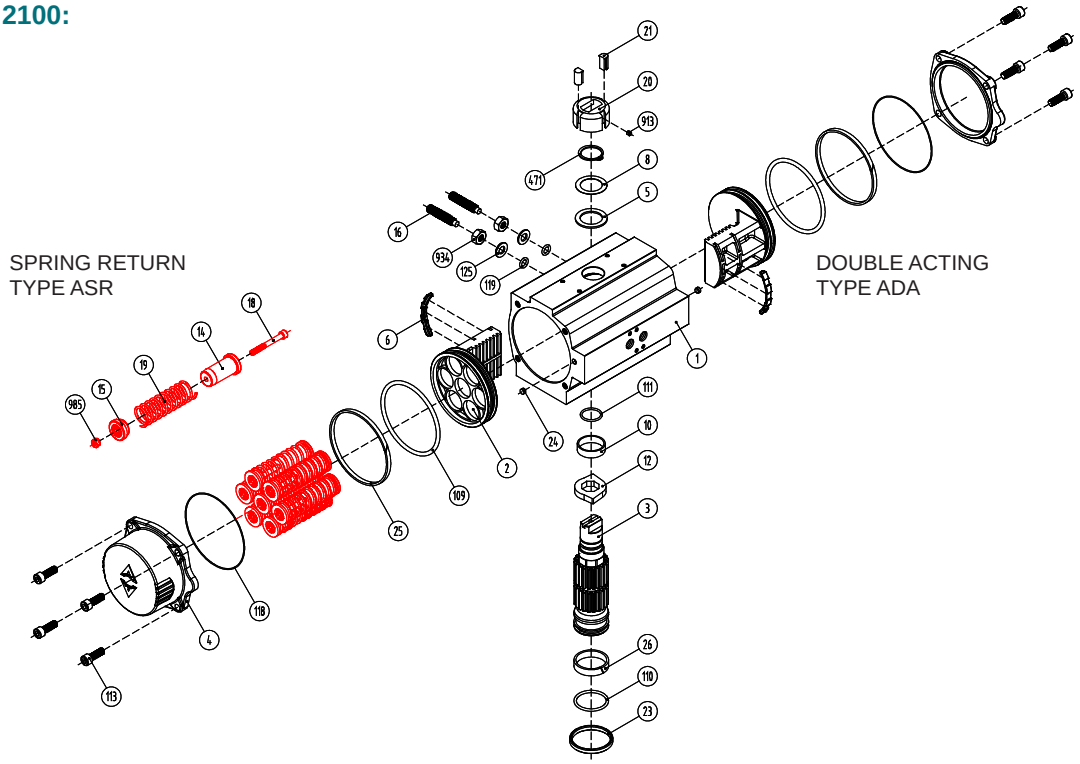

## MATERIALS:

| Item | Description | Material |
|---|---|---|
| 1 | Body | Aluminium hard anodized |
| 2 | Piston | Aluminium |
| 3 | Pinion | Nickel plated carbon steel |
| 4 | End caps | Aluminium Epoxy coated |
| 5 | Soft pinion washer | Polyamide PA 6.6 |
| 6 | Slide piston | Polyamide PA 6.6 + 30% G.F. |
| 8 | Pinion washer | Stainless steel |
| 16 | Leveling screw | Stainless steel |
| 20 | Position indicator | Polyamide |
| 21 | Cam | Polyamide |

| Item | Description | Material |
|---|---|---|
| 109 | O-Ring | NBR |
| 110 | O-Ring | NBR |
| 111 | O-Ring | NBR |
| 113 | Bolt | Stainless steel |
| 118 | O-Ring | NBR |
| 119 | O-Ring | NBR |
| 125 | Washer | Stainless steel |
| 913 | Set screw | Stainless steel |
| 471 | External circlip | Stainless steel |
| 934 | Nut | Stainless steel |

Subject to changes

## TYPE 20 - 2100:




## MATERIALS:

| Item | Description | Material |
|---|---|---|
| 1 | Body | Aluminium hard anodized |
| 2 | Piston | Aluminium |
| 3 | Pinion | Nickel plated carbon steel |
| 4 | End caps | Aluminium Epoxy coated |
| 5 | Soft pinion washer | Polyamide PA 6.6 |
| 6 | Slide piston | Polyamide PA 6.6 + 30% G.F. |
| 8 | Pinion washer | Stainless steel |
| 10 | Upper pinion bearing | PTFE + 25% GF (bronze: type 500 ~ 2100) |
| 12 | Stop | ASTM A 105 |
| 14 | (*) Spring's long support | Polyamide PA 6.6 |
| 15 | (*) Spring's short support | Polyamide PA 6.6 |
| 16 | Leveling screw | Stainless steel |
| 18 | (*) Bolt | Stainless steel |
| 19 | (*) Spring | DIN 2076 -D-5.6 |
| 20 | Position indicator | Polyamide |

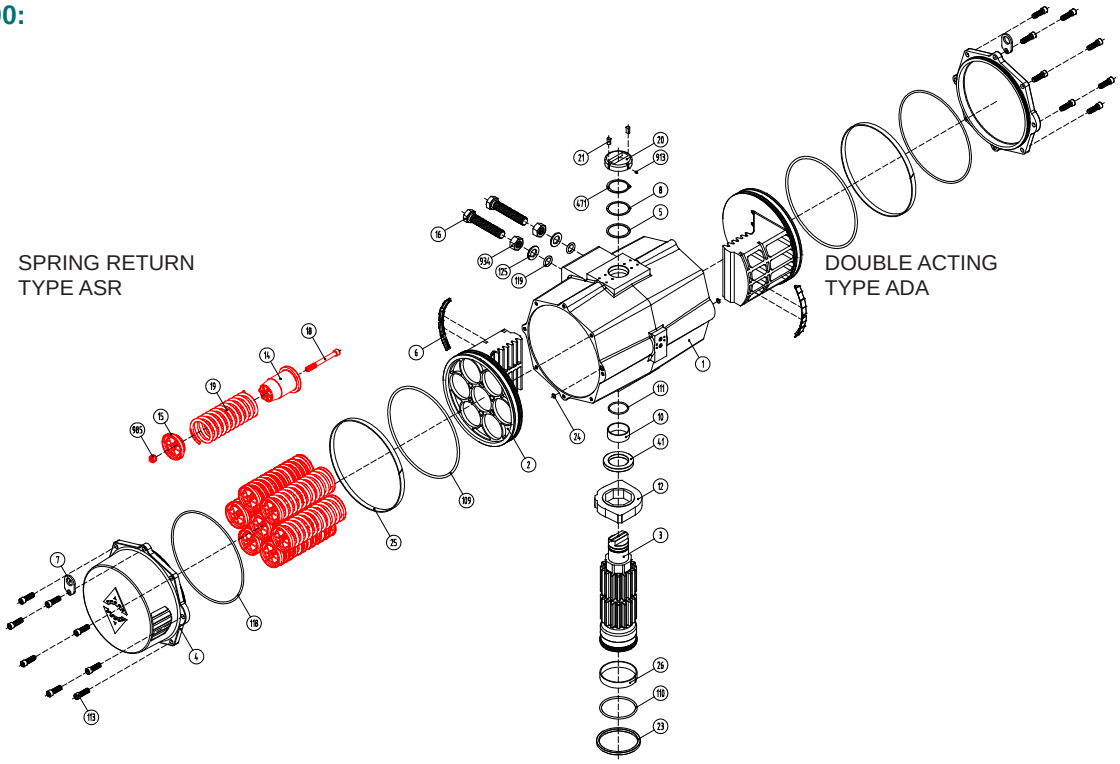
| Item | Description | Material |
|---|---|---|
| 21 | Cam | Polyamide |
| 23 | Centering ring | Nickel plated carbon steel |
| 24 | Plug air stop | NBR |
| 25 | Slide guide | Resin |
| 26 | Lower pinion bearing | PTFE + 25% GF |
| 109 | O-Ring | NBR |
| 110 | O-Ring | NBR |
| 111 | O-Ring | NBR |
| 113 | Bolt | Stainless steel |
| 118 | O-Ring | NBR |
| 119 | O-Ring | NBR |
| 125 | Washer | Stainless steel |
| 913 | Set screw | Stainless steel |
| 471 | External circlip | Stainless steel |
| 934 | Nut | Stainless steel |
| 985 | (*) Nut | Stainless steel |

* Only for ASR

** For type 20: Polyamide PA 6.6 + 30% G.F.

Subject to changes

## TYPE 2500:




## MATERIALS:

| Item | Description | Material |
|---|---|---|
| 1 | Body | Aluminium hard anodized |
| 2 | Piston | Aluminium |
| 3 | Pinion | Nickel plated carbon steel |
| 4 | End caps | Aluminium Epoxy coated |
| 5 | Soft pinion washer | Polyamide PA 6.6 |
| 6 | Slide piston | Polyamide PA 6.6 + 30% G.F. |
| 8 | Pinion washer | Stainless steel |
| 10 | Upper pinion bearing | PTFE + 25% GF<br>(bronze: type 500 ~ 2100) |
| 12 | Stop | ASTM A 105 |
| 14 | (*) Spring's long support | Polyamide PA 6.6 |
| 15 | (*) Spring's short support | Polyamide PA 6.6 |
| 16 | Leveling screw | Stainless steel |
| 18 | (*) Bolt | Stainless steel |
| 19 | (*) Spring | DIN 2076 -D-5.6 |
| 20 | Position indicator | Polyamide |

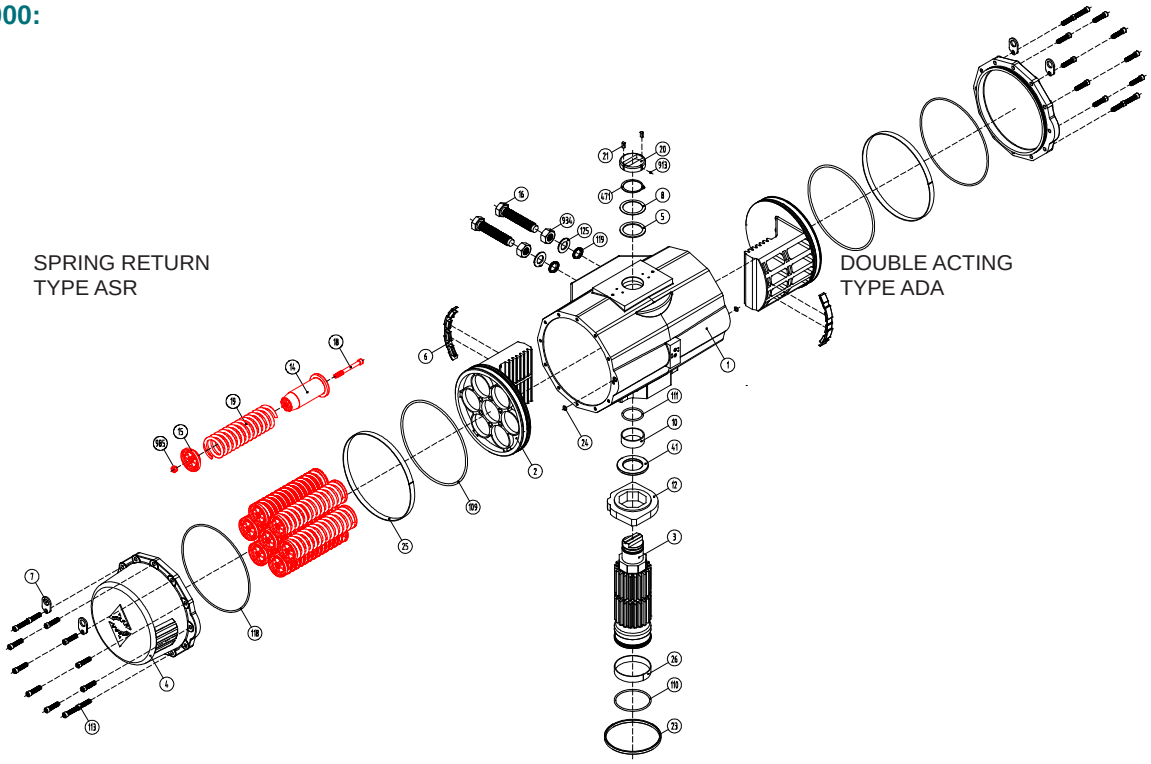
| Item | Description | Material |
|---|---|---|
| 21 | Cam | Polyamide |
| 23 | Centering ring | Nickel plated carbon steel |
| 24 | Plug air stop | NBR |
| 25 | Slide guide | Resin |
| 26 | Lower pinion bearing | PTFE + 25% GF |
| 109 | O-Ring | NBR |
| 110 | O-Ring | NBR |
| 111 | O-Ring | NBR |
| 113 | Bolt | Stainless steel |
| 118 | O-Ring | NBR |
| 119 | O-Ring | NBR |
| 125 | Washer | Stainless steel |
| 913 | Set screw | Stainless steel |
| 471 | External circlip | Stainless steel |
| 934 | Nut | Stainless steel |
| 985 | (*) Nut | Stainless steel |

* Only for ASR

** For type 20: Polyamide PA 6.6 + 30% G.F.

Subject to changes

## TYPE 4000:




## MATERIALS:

| Item | Description | Material |
|---|---|---|
| 1 | Body | Aluminium hard anodized |
| 2 | Piston | Aluminium |
| 3 | Pinion | Nickel plated carbon steel |
| 4 | End caps | Aluminium Epoxy coated |
| 5 | Soft pinion washer | Polyamide PA 6.6 |
| 6 | Slide piston | Polyamide PA 6.6 + 30% G.F. |
| 8 | Pinion washer | Stainless steel |
| 10 | Upper pinion bearing | PTFE + 25% GF (bronze: type 500 ~ 2100) |
| 12 | Stop | ASTM A 105 |
| 14 | (*) Spring's long support | Polyamide PA 6.6 |
| 15 | (*) Spring's short support | Polyamide PA 6.6 |
| 16 | Leveling screw | Stainless steel |
| 18 | (*) Bolt | Stainless steel |
| 19 | (*) Spring | DIN 2076 -D-5.6 |
| 20 | Position indicator | Polyamide |

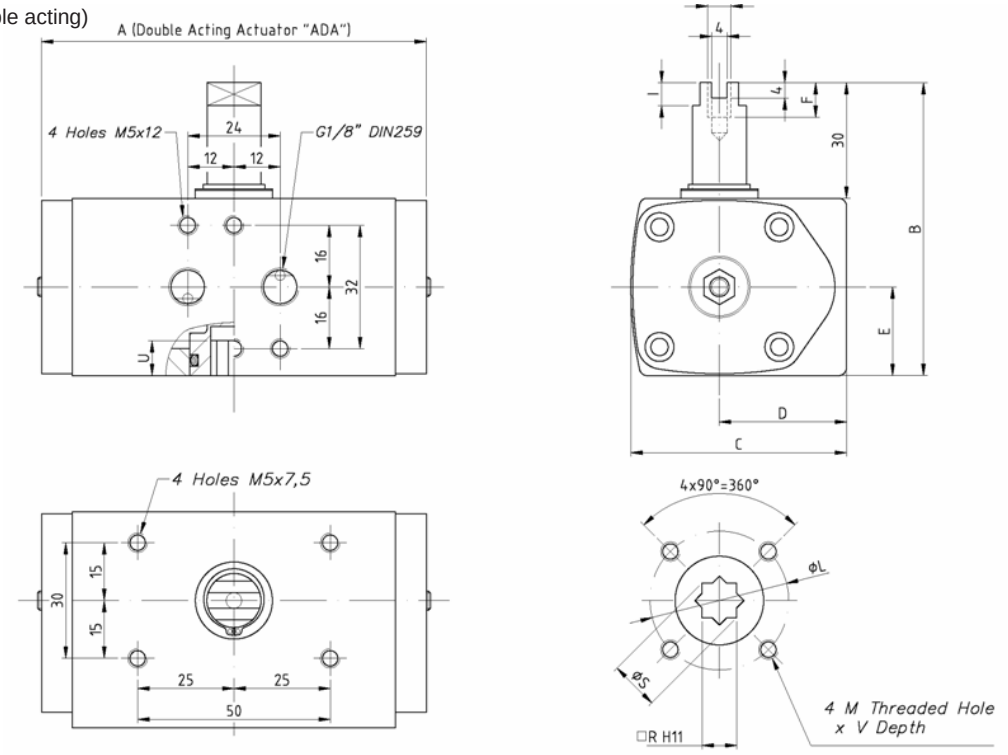
| Item | Description | Material |
|---|---|---|
| 21 | Cam | Polyamide |
| 23 | Centering ring | Nickel plated carbon steel |
| 24 | Plug air stop | NBR |
| 25 | Slide guide | Resin |
| 26 | Lower pinion bearing | PTFE + 25% GF |
| 109 | O-Ring | NBR |
| 110 | O-Ring | NBR |
| 111 | O-Ring | NBR |
| 113 | Bolt | Stainless steel |
| 118 | O-Ring | NBR |
| 119 | O-Ring | NBR |
| 125 | Washer | Stainless steel |
| 913 | Set screw | Stainless steel |
| 471 | External circlip | Stainless steel |
| 934 | Nut | Stainless steel |
| 985 | (*) Nut | Stainless steel |

* Only for ASR

** For type 20: Polyamide PA 6.6 + 30% G.F.

Subject to changes

**TYPE 10:** (double acting)

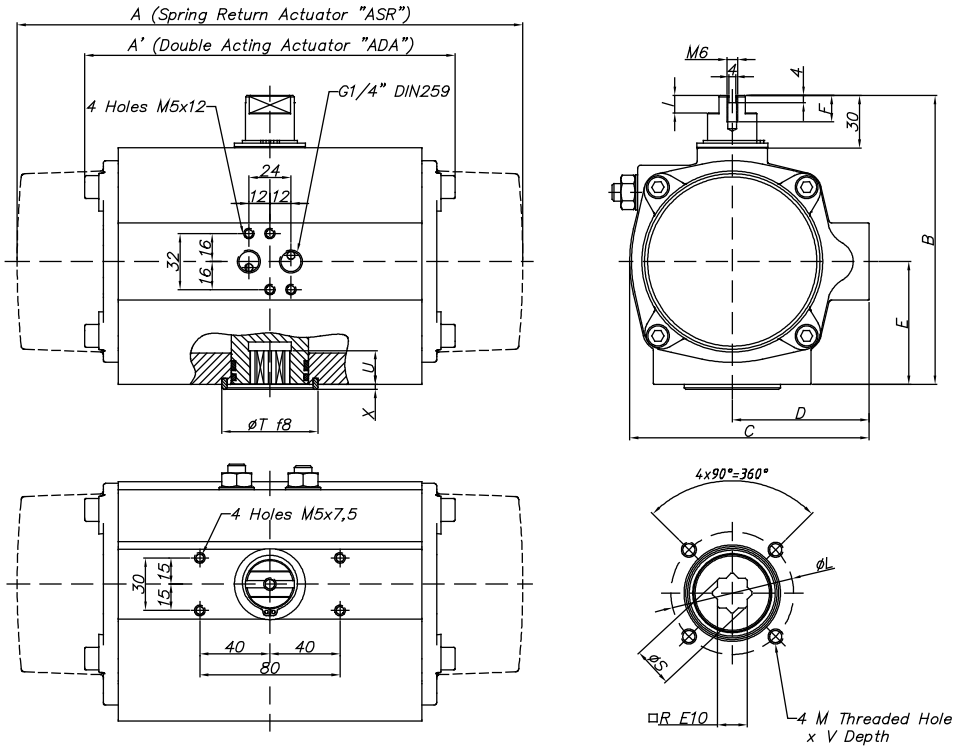



**DIMENSIONS:** (mm)

| TYPE | A | B | C | D | E | F | I | R | ØS | ISO 5211 | ØL | M x V | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 100 | 76 | 56 | 33 | 23 | 9 | 6 | 9 | 12,5 | F03 | 36 | M5x8 | 10 |

Subject to changes

## TYPE 20-1750:

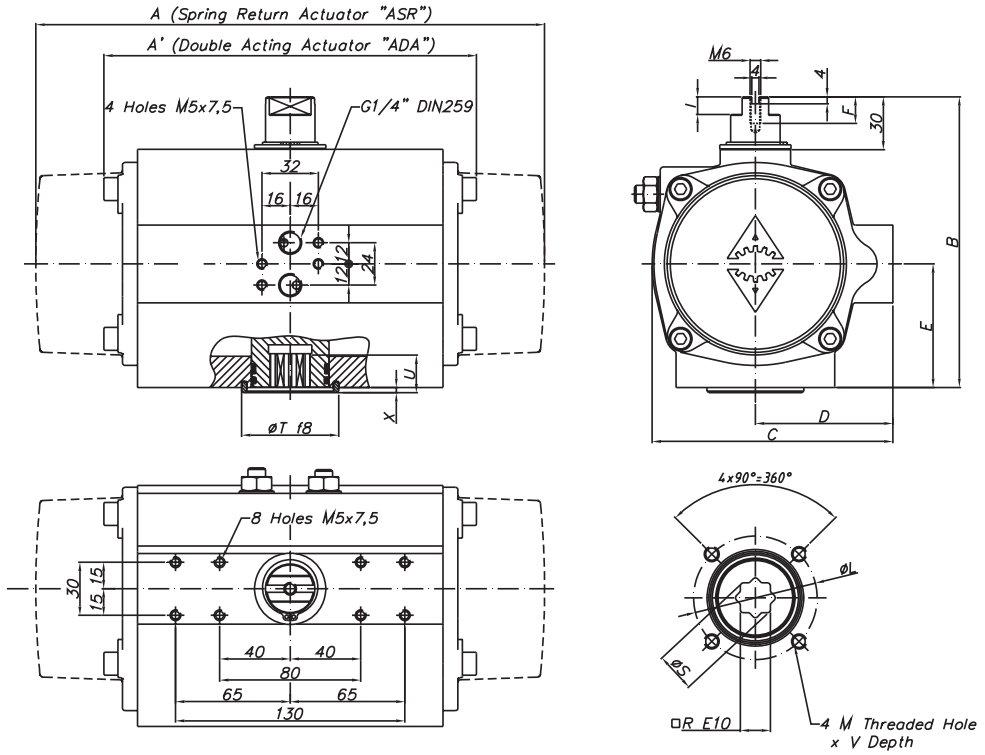



## DIMENSIONS: (mm)

| TYPE | A | A' | B | C | D | E | F | I | R | ØS | ISO 5211 | ØL/ ØL1 | M x V | ØT | X | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C20 | 163,0 | 145 | 96 | 76,0 | 48 | 34 | 9 | 6 | 14 | 18,1 | F04 | 42 | M5x10 | 35 | 3 | 12 |
| 20F05 | 163,0 | 145 | 96 | 76,0 | 48 | 34 | 9 | 6 | 14 | 18,1 | F05 | 50 | M6x10 | 35 | 3 | 12 |
| 20VK09 | 163,0 | 145 | 96 | 76,0 | 48 | 34 | 9 | 6 | 9 | 12,5 | F03 | 36 | M5x8 | 25 | 2 | 10 |
| | | | | | | | | | | | F05 | 50 | M6x10 | | | |
| 40 | 195,0 | 158 | 115 | 91,0 | 56 | 45 | 9 | 6 | 14 | 18,1 | F04 | 42 | M5x10 | 35 | 3 | 12 |
| 40F05 | 195,0 | 158 | 115 | 91,0 | 56 | 45 | 9 | 6 | 14 | 18,1 | F05 | 50 | M6x10 | 35 | 3 | 12 |
| 80 | 217,0 | 177 | 137 | 111,0 | 66 | 55 | 12 | 8 | 17 | 22,5 | F05 | 50 | M6x10 | 55 | 3 | 19 |
| | | | | | | | | | | | F07 | 70 | M8x16 | | | |
| 130 | 258,0 | 196 | 147 | 122,0 | 71 | 60 | 15 | 8 | 17 | 22,5 | F05 | 50 | M6x10 | 55 | 3 | 22 |
| | | | | | | | | | | | F07 | 70 | M8x16 | | | |
| 200 | 299,0 | 225 | 165 | 135,5 | 78 | 70 | 15 | 10 | 17 | 22,5 | F07 | 70 | M8x16 | 55 | 3 | 23 |
| | | | | | | | | | | | F10 | 102 | M10x16 | | | |
| 300 | 348,5 | 273 | 182 | 152,5 | 86 | 80 | 16 | 12 | 22 | 28,5 | F07 | 70 | M8x16 | 70 | 3 | 24 |
| | | | | | | | | | | | F10 | 102 | M10x16 | | | |
| 500 | 397,0 | 304 | 199 | 173,0 | 96 | 85 | 17 | 15 | 22 | 28,5 | F10 | 102 | M10x16 | 70 | 3 | 32 |
| 850 | 473,0 | 372 | 221 | 191,5 | 106 | 98 | 15 | 15 | 27 | 36,5 | F10 | 102 | M10x17 | 85 | 3 | 39 |
| | | | | | | | | | | | F12 | 125 | M12x20 | | | |
| 1200 | 560,0 | 439 | 249 | 212,5 | 116 | 114 | 16 | 15 | 36 | 48,5 | F10 | 102 | M10x17 | 100 | 4 | 48 |
| | | | | | | | | | | | F14 | 140 | M16x26 | | | |
| 1750 | 601,0 | 461 | 280 | 242,5 | 131 | 130 | 16 | 15 | 36 | 48,5 | F14 | 140 | M16x26 | 100 | 4 | 50 |

Subject to changes

## TYPE 2100:

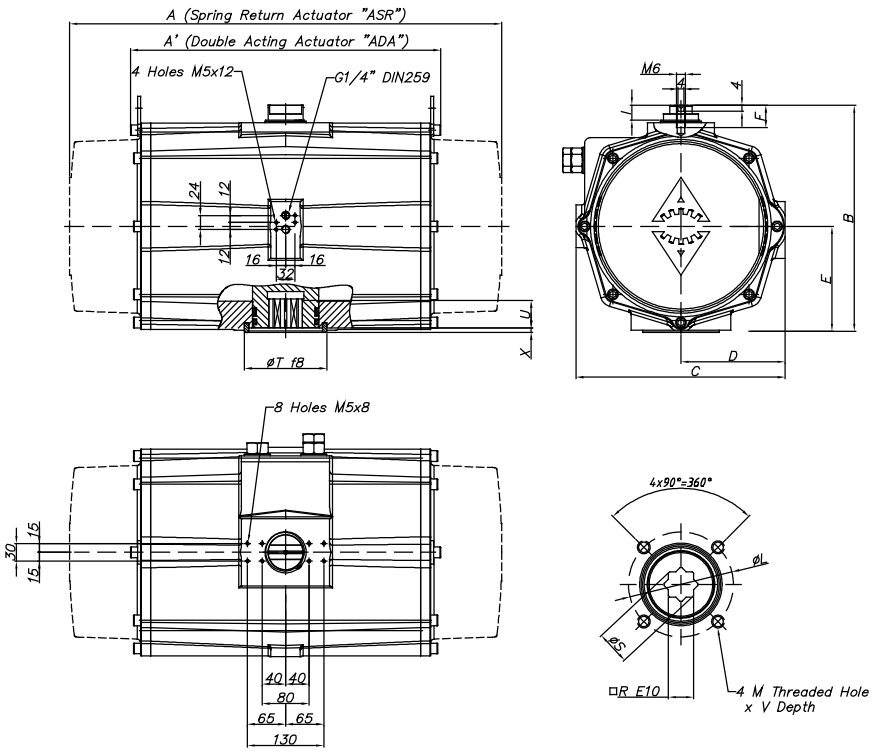



## DIMENSIONS: (mm)

| TYPE | A | A' | B | C | D | E | F | I | R | ØS | ISO 5211 | ØL/ ØL1 | M x V | ØT | X | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C2100 | 702,0 | 510 | 313 | 276,5 | 148 | 147 | 16 | 15 | 46 | 65,1 | F16 | 165 | M20x29 | 130 | 4 | 50 |

Subject to changes

## TYPE 2500:

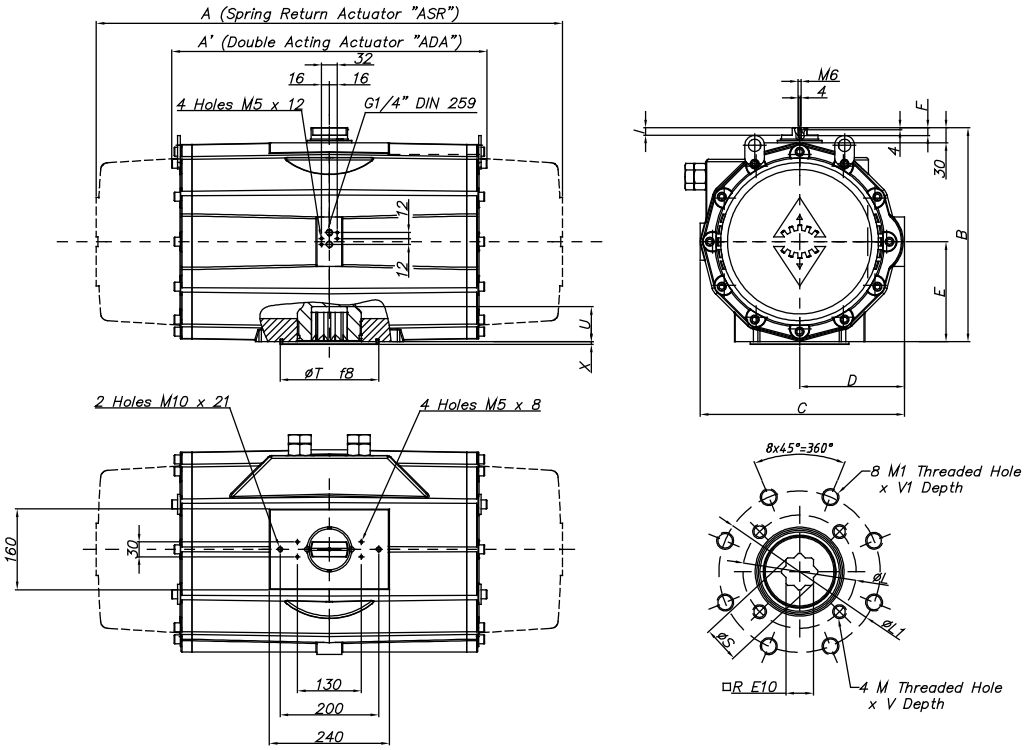



## DIMENSIONS: (mm)

| TYPE | A | A' | B | C | D | E | F | I | R | ØS | ISO 5211 | ØL/ ØL1 | M x V | ØT | X | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C2500 | 738,0 | 518 | 383 | 356,0 | 177,5 | 176,5 | 16 | 15 | 46 | 60,2 | F16 | 165 | M20x29 | 130 | 4 | 58 |

Subject to changes

## TYPE 4000:




## DIMENSIONS: (mm)

| TYPE | A | A' | B | C | D | E | F | I | R | ØS | ISO 5211 | ØL | M x V | ØT | X | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C4000 | 940,0 | 630 | 434 | 415,0 | 213 | 201 | 16 | 15 | 55 | 72,5 | F16 | 165 | M20x30 | 200 | 4 | 60 |
| | | | | | | | | | | | F25 | 254 | M16x30 | | | |

Subject to changes

# PNEUMATIC ACTUATOR
## Torque - FIG. ADA

| TYPE | Output Torque For Double Acting in Nm | | | | | | | | | | | | | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 bar | | 3,5 bar | | 4 bar | | 4,5 bar | | 5 bar | | 5,5 bar | | 6 bar | | 6,5 bar | | 7 bar | | 8 bar | | |
| | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | |
| 10 | 6 | | 8 | | 9 | | 10 | | 11 | | 11,5 | | 12 | | 12 | | 13 | | 14 | | 0,6 |
| 20 | 9,7 | | 11,4 | | 13 | | 14,6 | | 16,2 | | 17,8 | | 19,5 | | 21,1 | | 23 | | 26 | | 1,4 |
| 40 | 20,3 | | 23,7 | | 27,1 | | 30,5 | | 33,9 | | 37,3 | | 41 | | 44 | | 47 | | 54 | | 2,1 |
| 80 | 38,5 | | 44,9 | | 51,3 | | 57,7 | | 64,1 | | 70,5 | | 77 | | 83 | | 90 | | 103 | | 3,0 |
| 130 | 59,1 | | 68,9 | | 78,7 | | 88,6 | | 98,4 | | 108,3 | | 118 | | 128 | | 138 | | 157 | | 3,8 |
| 200 | 88 | | 102 | | 117 | | 131 | | 146 | | 161 | | 175 | | 190 | | 205 | | 234 | | 5,6 |
| 300 | 145 | | 170 | | 194 | | 218 | | 242 | | 267 | | 291 | | 315 | | 339 | | 388 | | 8,5 |
| 500 | 217 | | 253 | | 289 | | 325 | | 361 | | 397 | | 433 | | 469 | | 505 | | 577 | | 11,2 |
| 850 | 359 | | 419 | | 479 | | 538 | | 598 | | 658 | | 718 | | 778 | | 837 | | 957 | | 16,9 |
| 1200 | 519 | | 606 | | 692 | | 779 | | 865 | | 952 | | 1038 | | 1125 | | 1211 | | 1384 | | 25,8 |
| 1750 | 707 | | 824 | | 942 | | 1060 | | 1178 | | 1295 | | 1413 | | 1531 | | 1649 | | 1884 | | 32,5 |
| 2100 | 1086 | | 1267 | | 1448 | | 1629 | | 1810 | | 1991 | | 2172 | | 2353 | | 2534 | | 2896 | | 49,0 |
| 2500 | 1730 | | 2019 | | 2307 | | 2596 | | 2884 | | 3172 | | 3461 | | 3749 | | 4038 | | 4614 | | 69,6 |
| 4000 | 2408 | | 2809 | | 3210 | | 3612 | | 4013 | | 4414 | | 4816 | | 5217 | | 5618 | | 6421 | | 129,4 |

Subject to changes

# PNEUMATIC ACTUATOR
## Torque - FIG. ASR

| TYPE | Spring set | Output Torque For Spring Return in Nm | | | | | | | | | | | | | | | | | | | | Spring | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 bar | | 3,5 bar | | 4 bar | | 4,5 bar | | 5 bar | | 5,5 bar | | 6 bar (A) | | 6,5 bar | | 7 bar | | 8 bar | | stroke | | |
| | | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | END | START | |
| 20 | S04 | | | 8 | 5 | 9 | 7 | 11 | 8 | 13 | 10 | 14 | 12 | 16 | 13 | 17 | 15 | 19 | 17 | 22 | 20 | 4 | 7 | 1,5 |
| | S06 (A) | | | | | | | | | 11 | 7 | 12 | 9 | 14 | 10 | 15 | 12 | 17 | 13 | 20 | 17 | 7 | 11 | 1,5 |
| | S08 | | | | | | | | | | | 10 | 5 | 12 | 7 | 14 | 9 | 15 | 10 | 18 | 14 | 9 | 15 | 1,6 |
| 40 | S04 | 16 | 14 | 20 | 17 | 23 | 20 | 26 | 24 | 30 | 27 | 33 | 30 | 37 | 34 | 40 | 37 | 43 | 41 | 50 | 47 | 5 | 8 | 2,2 |
| | S06 | 14 | 10 | 18 | 14 | 21 | 17 | 24 | 20 | 28 | 24 | 31 | 27 | 34 | 30 | 38 | 34 | 41 | 37 | 48 | 44 | 7 | 12 | 2,2 |
| | S08 | | | 15 | 10 | 19 | 14 | 22 | 17 | 26 | 20 | 29 | 24 | 32 | 27 | 36 | 30 | 39 | 34 | 46 | 41 | 10 | 16 | 2,2 |
| | S10 | | | | | | | 20 | 14 | 24 | 17 | 27 | 20 | 30 | 24 | 34 | 27 | 37 | 30 | 44 | 37 | 12 | 20 | 2,3 |
| | S12 | | | | | | | | | 21 | 13 | 25 | 17 | 28 | 20 | 32 | 24 | 35 | 27 | 42 | 34 | 15 | 24 | 2,3 |
| | S14 (A) | | | | | | | | | | | 23 | 13 | 26 | 17 | 30 | 20 | 33 | 24 | 40 | 30 | 17 | 28 | 2,3 |
| 80 | S04 | 31 | 27 | 38 | 34 | 44 | 40 | 50 | 46 | 57 | 53 | 63 | 59 | 70 | 66 | 76 | 72 | 82 | 78 | 95 | 91 | 9 | 13 | 3,3 |
| | S06 | 27 | 21 | 34 | 28 | 40 | 34 | 47 | 41 | 53 | 47 | 59 | 53 | 66 | 60 | 72 | 66 | 79 | 73 | 92 | 86 | 13 | 20 | 3,4 |
| | S08 | | | | | 37 | 29 | 43 | 35 | 49 | 41 | 56 | 48 | 62 | 54 | 69 | 61 | 75 | 67 | 88 | 80 | 17 | 27 | 3,4 |
| | S10 | | | | | | | 39 | 29 | 46 | 36 | 52 | 42 | 59 | 49 | 65 | 55 | 71 | 61 | 84 | 74 | 22 | 33 | 3,5 |
| | S12 | | | | | | | | | 42 | 30 | 48 | 36 | 55 | 43 | 61 | 49 | 68 | 56 | 81 | 69 | 26 | 40 | 3,6 |
| | S14 (A) | | | | | | | | | | | 45 | 31 | 51 | 37 | 58 | 44 | 64 | 50 | 77 | 63 | 30 | 47 | 3,7 |
| 130 | S06 | 43 | 36 | 52 | 46 | 62 | 56 | 72 | 65 | 82 | 75 | 92 | 85 | 102 | 95 | 111 | 105 | 121 | 115 | 141 | 134 | 19 | 27 | 4,4 |
| | S08 | | | 47 | 38 | 57 | 48 | 67 | 58 | 76 | 68 | 86 | 77 | 96 | 87 | 106 | 97 | 116 | 107 | 135 | 127 | 26 | 36 | 4,5 |
| | S10 | | | | | 51 | 40 | 61 | 50 | 71 | 60 | 81 | 70 | 91 | 80 | 100 | 89 | 110 | 99 | 130 | 119 | 32 | 45 | 4,6 |
| | S12 | | | | | | | 56 | 42 | 65 | 52 | 75 | 62 | 85 | 72 | 95 | 82 | 105 | 92 | 124 | 111 | 39 | 54 | 4,7 |
| | S14 (A) | | | | | | | | | | | 70 | 54 | 80 | 64 | 89 | 74 | 99 | 84 | 119 | 103 | 45 | 64 | 4,8 |
| 200 | S06 | 61 | 49 | 76 | 63 | 90 | 78 | 105 | 92 | 119 | 107 | 134 | 122 | 149 | 136 | 163 | 151 | 178 | 166 | 207 | 195 | 31 | 46 | 6,5 |
| | S08 | | | 67 | 50 | 81 | 65 | 96 | 79 | 111 | 94 | 125 | 109 | 140 | 123 | 154 | 138 | 169 | 152 | 198 | 182 | 42 | 61 | 6,7 |
| | S10 | | | | | 72 | 52 | 87 | 66 | 102 | 81 | 116 | 96 | 131 | 110 | 146 | 125 | 160 | 139 | 189 | 169 | 52 | 77 | 6,9 |
| | S12 | | | | | | | 78 | 53 | 93 | 68 | 107 | 83 | 122 | 97 | 137 | 112 | 151 | 126 | 180 | 156 | 63 | 92 | 7,0 |
| | S14 (A) | | | | | | | | | | | 99 | 70 | 113 | 84 | 128 | 99 | 142 | 113 | 172 | 143 | 73 | 107 | 7,3 |
| 300 | S06 | 102 | 75 | 126 | 99 | 151 | 123 | 175 | 148 | 199 | 172 | 223 | 196 | 247 | 220 | 272 | 245 | 296 | 269 | 344 | 317 | 51 | 83 | 9,7 |
| | S08 | | | 112 | 76 | 136 | 100 | 160 | 124 | 185 | 148 | 209 | 173 | 233 | 197 | 257 | 221 | 281 | 245 | 330 | 294 | 68 | 111 | 9,9 |
| | S10 | | | | | 122 | 76 | 146 | 101 | 170 | 125 | 194 | 149 | 219 | 173 | 243 | 198 | 267 | 222 | 315 | 270 | 85 | 138 | 10,2 |
| | S12 | | | | | | | 131 | 77 | 156 | 101 | 180 | 126 | 204 | 150 | 228 | 174 | 253 | 198 | 301 | 247 | 102 | 166 | 10,5 |
| | S14 (A) | | | | | | | | | | | 165 | 102 | 190 | 126 | 214 | 151 | 238 | 175 | 287 | 223 | 119 | 193 | 10,8 |

(A) Standard

Subject to changes

# PNEUMATIC ACTUATOR
## Torque - FIG. ASR

| TYPE | Max. pressure | Output Torque For Spring Return in Nm | | | | | | | | | | | | | | | | | | | | Spring | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 bar | | 3,5 bar | | 4 bar | | 4,5 bar | | 5 bar | | 5,5 bar | | 6 bar (A) | | 6,5 bar | | 7 bar | | 8 bar | | stroke | | |
| | | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | END | START | |
| 500 | S06 | 152 | 119 | 188 | 155 | 224 | 191 | 260 | 227 | 296 | 263 | 333 | 299 | 369 | 335 | 405 | 371 | 441 | 407 | 513 | 480 | 76 | 115 | 13,3 |
| | S08 | 131 | 86 | 167 | 122 | 203 | 158 | 239 | 194 | 275 | 231 | 311 | 267 | 347 | 303 | 383 | 339 | 419 | 375 | 492 | 447 | 101 | 153 | 13,8 |
| | S10 | | | | | 181 | 126 | 217 | 162 | 254 | 198 | 290 | 234 | 326 | 270 | 362 | 306 | 398 | 342 | 470 | 414 | 126 | 192 | 14,4 |
| | S12 | | | | | | | 196 | 129 | 232 | 165 | 268 | 201 | 304 | 238 | 340 | 274 | 376 | 310 | 449 | 382 | 152 | 230 | 14,9 |
| | S14 (A) | | | | | | | | | | | 247 | 169 | 283 | 205 | 319 | 241 | 355 | 277 | 427 | 349 | 177 | 268 | 15,4 |
| 850 | S06 | 260 | 209 | 320 | 269 | 380 | 328 | 440 | 388 | 500 | 448 | 559 | 508 | 619 | 568 | 679 | 627 | 739 | 687 | 858 | 807 | 116 | 177 | 19,7 |
| | S08 | 227 | 159 | 287 | 218 | 347 | 278 | 407 | 338 | 467 | 398 | 526 | 458 | 586 | 518 | 646 | 577 | 706 | 637 | 826 | 757 | 155 | 236 | 20,3 |
| | S10 | | | 254 | 168 | 314 | 228 | 374 | 288 | 434 | 348 | 494 | 408 | 553 | 467 | 613 | 527 | 673 | 587 | 793 | 707 | 193 | 295 | 20,9 |
| | S12 | | | | | | | 341 | 238 | 401 | 298 | 461 | 358 | 521 | 417 | 580 | 477 | 640 | 537 | 760 | 657 | 232 | 353 | 21,6 |
| | S14 (A) | | | | | | | | | | | 428 | 307 | 488 | 367 | 547 | 427 | 607 | 487 | 727 | 607 | 271 | 412 | 22,2 |
| 1200 | S06 | 373 | 289 | 460 | 376 | 546 | 462 | 633 | 549 | 720 | 635 | 806 | 722 | 893 | 808 | 979 | 895 | 1066 | 981 | 1239 | 1154 | 171 | 271 | 30,1 |
| | S08 | 325 | 213 | 411 | 299 | 498 | 386 | 584 | 472 | 671 | 559 | 758 | 645 | 844 | 732 | 931 | 818 | 1017 | 905 | 1190 | 1078 | 229 | 361 | 31,1 |
| | S10 | 276 | 136 | 363 | 222 | 449 | 309 | 536 | 395 | 622 | 482 | 709 | 569 | 795 | 655 | 882 | 742 | 969 | 828 | 1142 | 1001 | 286 | 451 | 32,2 |
| | S12 | | | | | 401 | 232 | 487 | 319 | 574 | 405 | 660 | 492 | 747 | 578 | 833 | 665 | 920 | 751 | 1093 | 924 | 343 | 541 | 33,2 |
| | S14 (A) | | | | | | | | | 525 | 329 | 612 | 415 | 698 | 502 | 785 | 588 | 871 | 675 | 1044 | 848 | 400 | 631 | 34,3 |
| 1750 | S06 | 477 | 349 | 595 | 466 | 712 | 584 | 830 | 702 | 948 | 820 | 1066 | 937 | 1183 | 1055 | 1301 | 1173 | 1419 | 1291 | 1654 | 1526 | 270 | 421 | 39,3 |
| | S08 | 400 | 229 | 518 | 347 | 636 | 465 | 754 | 582 | 871 | 700 | 989 | 818 | 1107 | 936 | 1225 | 1053 | 1342 | 1171 | 1578 | 1407 | 360 | 562 | 41,0 |
| | S10 | | | 441 | 228 | 559 | 345 | 677 | 463 | 795 | 581 | 912 | 699 | 1030 | 816 | 1148 | 934 | 1266 | 1052 | 1501 | 1287 | 451 | 702 | 42,7 |
| | S12 | | | | | | | 600 | 344 | 718 | 461 | 836 | 579 | 954 | 697 | 1071 | 815 | 1189 | 933 | 1425 | 1168 | 541 | 843 | 44,4 |
| | S14 (A) | | | | | | | | | 642 | 342 | 759 | 460 | 877 | 578 | 995 | 695 | 1113 | 813 | 1348 | 1049 | 631 | 983 | 46,0 |
| 2100 | S06 | 702 | 509 | 883 | 690 | 1064 | 871 | 1245 | 1052 | 1426 | 1233 | 1607 | 1414 | 1788 | 1595 | 1969 | 1776 | 2150 | 1957 | 2512 | 2319 | 384 | 577 | 60,0 |
| | S08 | 574 | 316 | 755 | 497 | 936 | 678 | 1117 | 859 | 1298 | 1040 | 1479 | 1221 | 1660 | 1402 | 1841 | 1583 | 2022 | 1764 | 2384 | 2126 | 512 | 770 | 62,0 |
| | S10 | | | 627 | 305 | 808 | 486 | 989 | 667 | 1170 | 848 | 1351 | 1029 | 1532 | 1210 | 1713 | 1391 | 1894 | 1572 | 2256 | 1934 | 640 | 962 | 64,0 |
| | S12 | | | | | | | 861 | 474 | 1042 | 655 | 1223 | 836 | 1404 | 1017 | 1585 | 1198 | 1766 | 1379 | 2128 | 1741 | 768 | 1154 | 66,0 |
| | S14 (A) | | | | | | | | | 914 | 463 | 1095 | 644 | 1276 | 825 | 1457 | 1006 | 1638 | 1187 | 2000 | 1549 | 896 | 1347 | 68,0 |
| 2500 | S06 | 1299 | 1045 | 1587 | 1333 | 1876 | 1622 | 2164 | 1910 | 2453 | 2199 | 2741 | 2487 | 3029 | 2775 | 3318 | 3064 | 3606 | 3352 | 4183 | 3929 | 508 | 806 | 85,9 |
| | S08 | 1155 | 816 | 1444 | 1105 | 1732 | 1393 | 2020 | 1682 | 2309 | 1970 | 2597 | 2258 | 2886 | 2547 | 3174 | 2835 | 3462 | 3124 | 4039 | 3700 | 677 | 1075 | 89,4 |
| | S10 | | | 1300 | 876 | 1588 | 1165 | 1877 | 1453 | 2165 | 1742 | 2453 | 2030 | 2742 | 2318 | 3030 | 2607 | 3319 | 2895 | 3895 | 3472 | 846 | 1344 | 92,9 |
| | S12 | | | | | 1444 | 936 | 1733 | 1225 | 2021 | 1513 | 2310 | 1802 | 2598 | 2090 | 2886 | 2378 | 3175 | 2667 | 3752 | 3243 | 1015 | 1613 | 96,4 |
| | S14 (A) | | | | | | | 1589 | 996 | 1877 | 1285 | 2166 | 1573 | 2454 | 1861 | 2742 | 2150 | 3031 | 2438 | 3608 | 3015 | 1184 | 1882 | 99,9 |
| 4000 | S06 | 1763 | 1262 | 2165 | 1663 | 2566 | 2065 | 2967 | 2466 | 3369 | 2867 | 3770 | 3269 | | | | | | | | | 758 | 1348 | 158,7 |
| | S08 | 1549 | 880 | 1950 | 1282 | 2351 | 1683 | 2752 | 2084 | 3154 | 2485 | 3555 | 2887 | 3956 | 3288 | 4358 | 3689 | 4759 | 4091 | 5068 | 4399 | 1011 | 1797 | 164,7 |
| | S10 | | | | | 2136 | 1301 | 2538 | 1702 | 2939 | 2104 | 3340 | 2505 | 3742 | 2906 | 4143 | 3307 | 4544 | 3709 | 4853 | 4017 | 1264 | 2246 | 170,8 |
| | S12 | | | | | | | 2323 | 1320 | 2724 | 1722 | 3125 | 2123 | 3527 | 2524 | 3928 | 2926 | 4329 | 3327 | 4638 | 3636 | 1516 | 2696 | 176,9 |
| | S14 (A) | | | | | | | | | | | 2911 | 1741 | 3312 | 2142 | 3713 | 2544 | 4115 | 2945 | 4423 | 3254 | 1769 | 3145 | 182,9 |

(A) Standard

Subject to changes

# Operating conditions - FIG. ADA - ASR

| TYPE | Air volume (l) | | Time type ADA (s) | | Time type ASR (s) | |
|---|---|---|---|---|---|---|
| | Opening | Closing | Opening | Closing | Opening | Closing |
| 10 | 0,035 | 0,028 | 0,02 | 0,05 | - | - |
| 20 | 0,13 | 0,09 | 0,04 | 0,09 | 0,12 | 0,18 |
| 40 | 0,27 | 0,23 | 0,08 | 0,08 | 0,20 | 0,29 |
| 80 | 0,64 | 0,47 | 0,11 | 0,10 | 0,27 | 0,40 |
| 130 | 0,77 | 0,76 | 0,15 | 0,15 | 0,32 | 0,50 |
| 200 | 1,19 | 1,2 | 0,18 | 0,22 | 0,50 | 0,60 |
| 300 | 1,96 | 1,73 | 0,30 | 0,40 | 0,70 | 0,85 |
| 500 | 2,95 | 2,74 | 0,40 | 0,50 | 0,90 | 1,10 |
| 850 | 4,7 | 3,86 | 0,80 | 0,90 | 2,20 | 2,60 |
| 1200 | 6,95 | 4,64 | 1,20 | 1,50 | 2,30 | 2,80 |
| 1750 | 9,8 | 9,3 | 1,80 | 2,00 | 2,80 | 3,20 |
| 2100 | 11,6 | 10,2 | 2,30 | 2,60 | 3,30 | 3,70 |
| 2500 | 25 | 32 | 2,80 | 3,10 | 3,80 | 4,20 |
| 4000 | 33,2 | 27,5 | 3,00 | 3,50 | 4,30 | 5,00 |

**Without resistant torque, air pressure 6 bar, standard spring set**

**Air consumption is the actual free air volume at 1 atm**

Subject to changes