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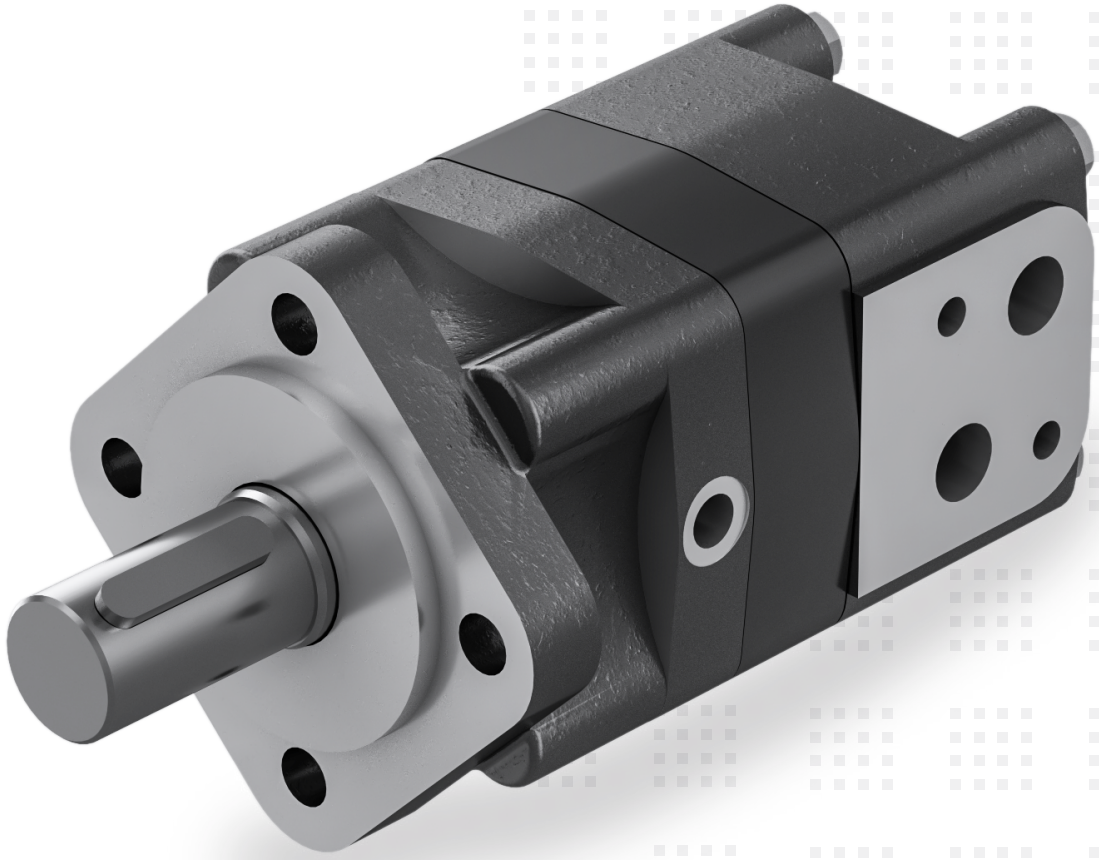
# Orbital motors

Geroller motors
Type MS



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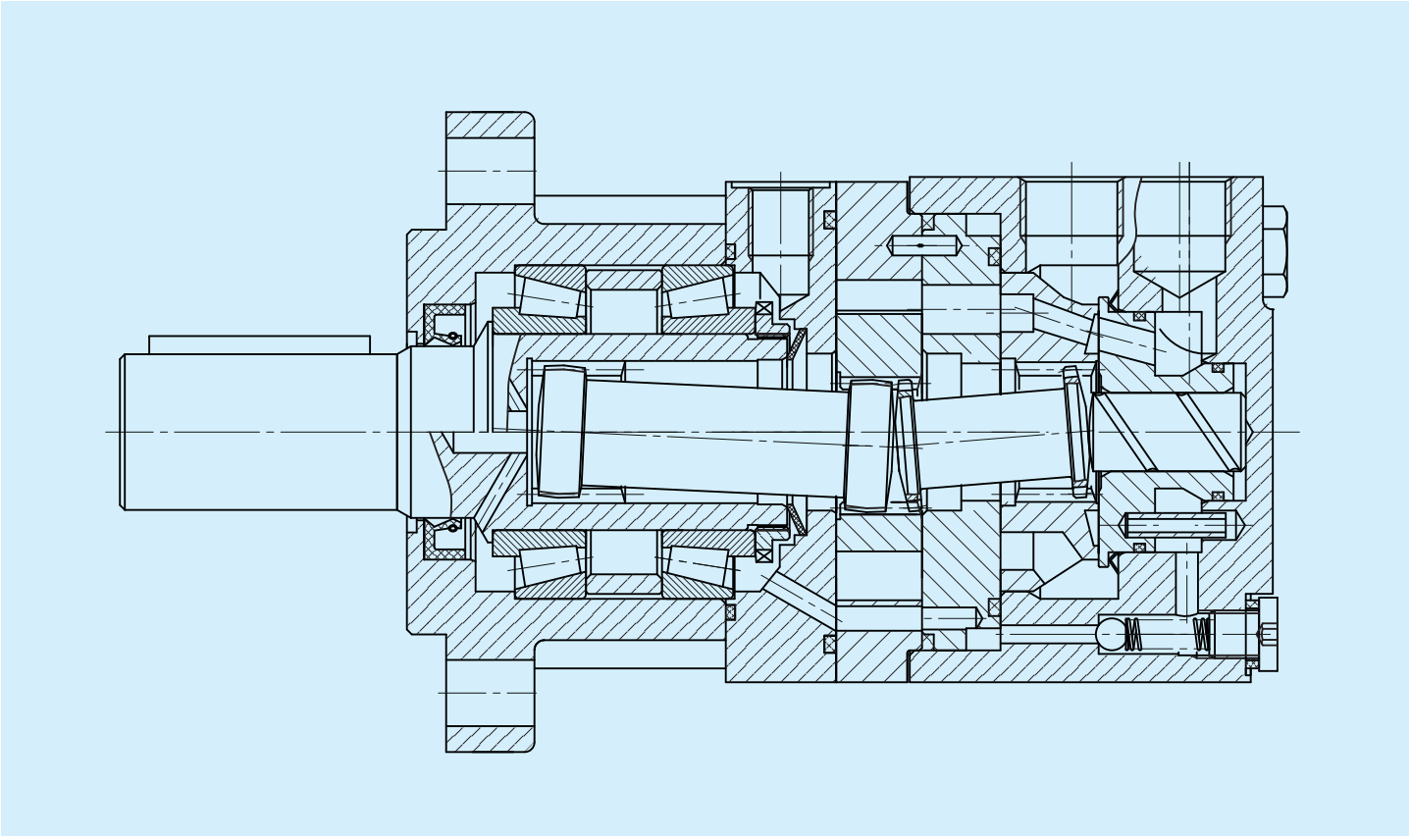
Before use, carefully read the
General instructions for use of orbital motors.

# Displacement



Roller motor with pressure-compensated disc valve distribution and tapered roller bearings, suitable for use where high radial and axial bearing capacities are required.

| | Displacement | Pressure | | | Torque | | | Rotational speed | Max. flow rate | Max. output power | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Continuous | Intermittent | Peak | Continuous | Intermittent | Peak | | | | |
| | $cm^3/rev$ | bar | bar | bar | Nm | Nm | Nm | min-1 | l/min | kW | kg |
| **080** | 80.5 | 200 | 225 | 250 | 220 | 240 | 259 | 801 | 65 | 16 | 9.8 |
| **100** | 100.5 | 200 | 225 | 250 | 275 | 300 | 325 | 740 | 75 | 18 | 10 |
| **125** | 126.3 | 200 | 225 | 250 | 345 | 377 | 408 | 589 | 75 | 18 | 10.3 |
| **160** | 160.8 | 200 | 225 | 250 | 439 | 479 | 516 | 463 | 75 | 18 | 10.7 |
| **200** | 200.9 | 200 | 225 | 250 | 549 | 599 | 648 | 370 | 75 | 18 | 11.1 |
| **250** | 252.6 | 180 | 200 | 220 | 606 | 666 | 713 | 295 | 75 | 18 | 11.6 |
| **315** | 321.5 | 160 | 180 | 200 | 668 | 747 | 826 | 231 | 75 | 14 | 12.3 |
| **400** | 401.9 | 140 | 160 | 180 | 710 | 836 | 939 | 185 | 75 | 11 | 13.2 |

Intermittent conditions must not last more than 10% of each minute.
Peak conditions must not last more than 1% of each minute.

# Performance

## 080 80.5 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 175 | 200 | 225 |
|---|---|---|---|---|---|---|---|
| 15 | 35 **181** | 75 **177** | 114 **170** | 150 **165** | 187 **158** | 213 **151** | 239 **141** |
| 30 | 35 **363** | 75 **355** | 115 **346** | 152 **340** | 190 **330** | 216 **322** | 240 **310** |
| 40 | 33 **485** | 75 **479** | 115 **464** | 155 **453** | 193 **444** | 220 **437** | 240 **415** |
| 50 | 30 **610** | 73 **602** | 113 **594** | 153 **580** | 190 **565** | 217 **556** | 237 **530** |
| 60 | 28 **735** | 70 **724** | 110 **714** | 150 **698** | 188 **680** | 214 **670** | 235 **642** |
| 65 | 27 **801** | 68 **790** | 108 **775** | 148 **760** | 186 **742** | 211 **727** | 233 **704** |
| 80 | 23 **988** | 66 **975** | 104 **955** | 140 **938** | 170 **915** | 193 **897** | 213 **870** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 100 100.5 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 175 | 200 | 225 |
|---|---|---|---|---|---|---|---|
| 15 | 44 **145** | 94 **142** | 142 **136** | 187 **132** | 233 **127** | 266 **121** | 298 **113** |
| 30 | 42 **291** | 93 **284** | 144 **277** | 190 **272** | 237 **264** | 270 **258** | 300 **248** |
| 40 | 41 **388** | 92 **384** | 144 **372** | 194 **363** | 241 **356** | 275 **350** | 300 **332** |
| 50 | 37 **489** | 91 **482** | 141 **476** | 191 **465** | 237 **453** | 271 **445** | 296 **425** |
| 60 | 35 **589** | 87 **580** | 137 **572** | 187 **559** | 235 **545** | 267 **537** | 293 **514** |
| 75 | 34 **740** | 85 **730** | 135 **716** | 185 **702** | 232 **686** | 263 **672** | 291 **651** |
| 90 | 29 **890** | 82 **879** | 130 **861** | 175 **845** | 212 **825** | 241 **808** | 266 **784** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 125 126.3 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 175 | 200 | 225 |
|---|---|---|---|---|---|---|---|
| 15 | 54 **115** | 117 **113** | 179 **108** | 235 **105** | 293 **101** | 334 **96** | 375 **90** |
| 30 | 55 **231** | 118 **226** | 180 **221** | 238 **217** | 298 **210** | 339 **205** | 377 **198** |
| 40 | 54 **309** | 120 **305** | 180 **296** | 243 **289** | 303 **283** | 345 **279** | 377 **265** |
| 50 | 51 **389** | 118 **384** | 177 **379** | 240 **370** | 298 **360** | 340 **354** | 372 **338** |
| 60 | 48 **468** | 114 **461** | 173 **455** | 235 **445** | 295 **433** | 336 **427** | 369 **409** |
| 75 | 42 **589** | 109 **581** | 169 **570** | 232 **559** | 292 **546** | 331 **535** | 366 **518** |
| 90 | 38 **708** | 103 **699** | 163 **685** | 220 **673** | 267 **656** | 301 **643** | 334 **624** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 160 160.8 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 175 | 200 | 225 |
|---|---|---|---|---|---|---|---|
| 15 | 70 **91** | 147 **89** | 228 **85** | 300 **83** | 374 **79** | 425 **76** | 477 **71** |
| 30 | 72 **182** | 150 **178** | 230 **173** | 304 **170** | 380 **165** | 431 **161** | 479 **155** |
| 40 | 74 **243** | 151 **240** | 230 **232** | 310 **227** | 386 **222** | 439 **219** | 479 **208** |
| 50 | 71 **305** | 147 **301** | 226 **297** | 306 **290** | 380 **283** | 433 **278** | 473 **265** |
| 60 | 68 **368** | 143 **362** | 220 **357** | 300 **349** | 376 **340** | 427 **335** | 469 **321** |
| 75 | 64 **463** | 138 **456** | 216 **448** | 296 **439** | 372 **429** | 421 **420** | 465 **407** |
| 90 | 60 **556** | 133 **549** | 208 **538** | 280 **528** | 340 **515** | 386 **505** | 425 **490** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 200 200.9 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 175 | 200 | 225 |
|---|---|---|---|---|---|---|---|
| 15 | 87 **73** | 184 **71** | 285 **68** | 374 **66** | 467 **63** | 532 **61** | 596 **56** |
| 30 | 89 **145** | 187 **142** | 287 **139** | 379 **136** | 474 **132** | 539 **129** | 599 **124** |
| 40 | 92 **194** | 187 **192** | 287 **186** | 387 **182** | 482 **178** | 549 **175** | 599 **166** |
| 50 | 88 **244** | 182 **241** | 282 **238** | 382 **232** | 474 **226** | 542 **223** | 591 **212** |
| 60 | 84 **295** | 175 **290** | 275 **286** | 374 **280** | 469 **272** | 534 **268** | 586 **257** |
| 75 | 77 **370** | 170 **365** | 270 **358** | 369 **351** | 464 **343** | 527 **336** | 581 **325** |
| 90 | 68 **445** | 165 **440** | 260 **430** | 349 **423** | 424 **412** | 482 **404** | 532 392 |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 250 252.6 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 180 | 200 |
|---|---|---|---|---|---|---|
| 15 | 114 **58** | 234 **56** | 358 **54** | 469 **53** | 601 **50** | 658 **48** |
| 30 | 115 **116** | 235 **113** | 361 **110** | 471 **108** | 603 **105** | 661 **103** |
| 40 | 115 **155** | 235 **153** | 355 **148** | 473 **144** | 605 **141** | 666 **139** |
| 50 | 114 **194** | 230 **192** | 355 **189** | 474 **185** | 606 **180** | 665 **177** |
| 60 | 112 **234** | 225 **231** | 352 **228** | 471 **222** | 603 **217** | 662 **214** |
| 75 | 109 **295** | 220 **290** | 349 **285** | 467 **279** | 599 **273** | 658 **267** |
| 90 | 103 **354** | 213 **350** | 343 **342** | 460 **336** | 590 **328** | 650 **322** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous | Pressure Intermittent

## 315 321.5 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 160 | 175 |
|---|---|---|---|---|---|---|
| 15 | 140 **45** | 284 **44** | 433 **43** | 583 **41** | 661 **40** | 719 **38** |
| 30 | 140 **91** | 288 **89** | 437 **87** | 586 **85** | 665 **83** | 723 **81** |
| 40 | 138 **121** | 290 **120** | 440 **116** | 588 **113** | 668 **111** | 726 **109** |
| 50 | 136 **153** | 291 **151** | 439 **149** | 587 **145** | 667 **141** | 725 **139** |
| 60 | 134 **184** | 286 **181** | 435 **179** | 583 **175** | 665 **170** | 723 **168** |
| 75 | 131 **231** | 280 **228** | 431 **224** | 580 **220** | 661 **214** | 720 **210** |
| 90 | 125 **278** | 272 **275** | 421 **269** | 575 **264** | 656 **258** | 713 **253** |

Torque Nm
**Rotational speed min⁻¹**

Pressure Continuous

Pressure Intermittent

## 400 401.9 cm³/rev

| Flow rate l/min | Pressure bar 35 | 70 | 105 | 140 | 160 |
|---|---|---|---|---|---|
| 15 | 172 **36** | 347 **35** | 522 **34** | 705 **33** | 830 **32** |
| 30 | 174 **73** | 350 **71** | 526 **69** | 708 **68** | 836 **66** |
| 40 | 173 **97** | 352 **96** | 529 **93** | 710 **91** | 833 **89** |
| 50 | 171 **122** | 350 **121** | 531 **119** | 710 **116** | 818 **113** |
| 60 | 168 **147** | 343 **145** | 522 **143** | 705 **140** | 803 **136** |
| 75 | 164 **185** | 339 **183** | 517 **179** | 700 **176** | 787 **171** |
| 90 | 160 **223** | 325 **220** | 503 **215** | 698 **211** | 770 **206** |

Torque Nm
**Rotational speed min⁻¹**

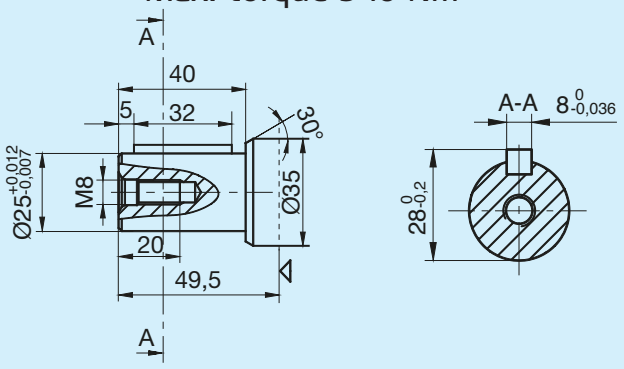
Pressure Continuous

Pressure Intermittent

# Shaft profile

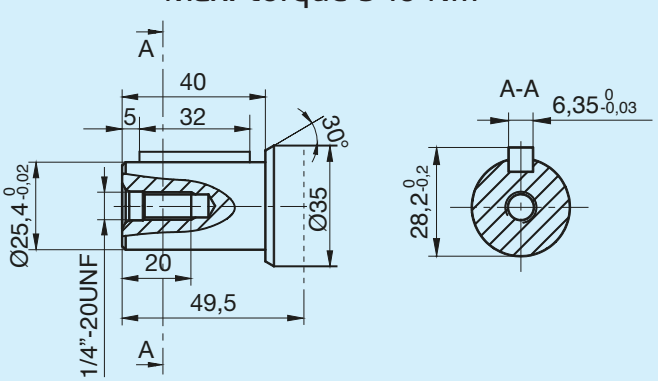
## Ø25 key DIN 6885 A 8x7x32 mm

Max. torque 340 Nm



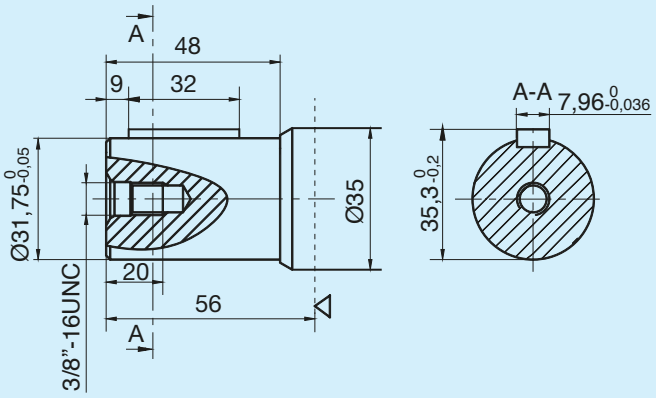

## 1" key BS46 ¼"x¼"x1 ¼"

Max. torque 340 Nm



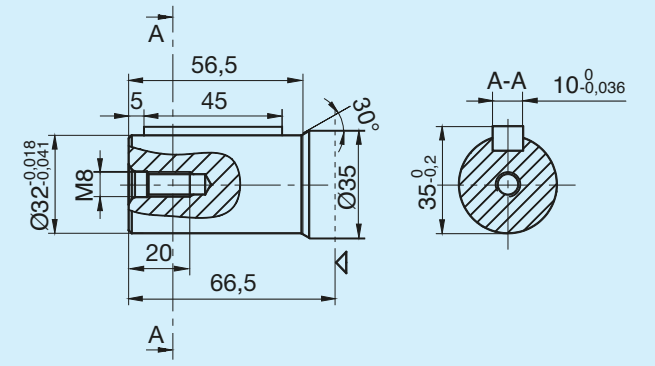

## 1 ¼" key SAE J744 5/16"x5/16"x1 ¼"

Max. torque 770 Nm



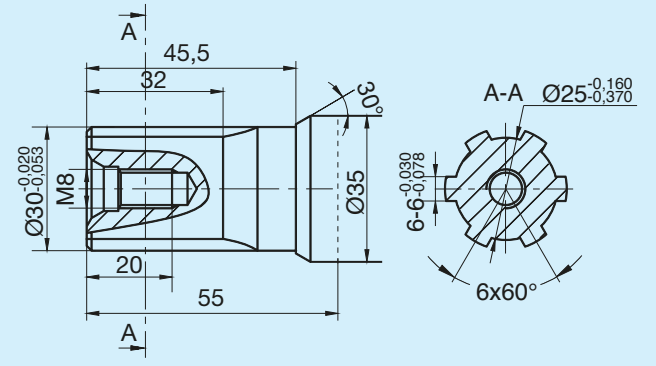

## Ø32 key DIN 6885 A 10x8x45 mm

Max. torque 770 Nm



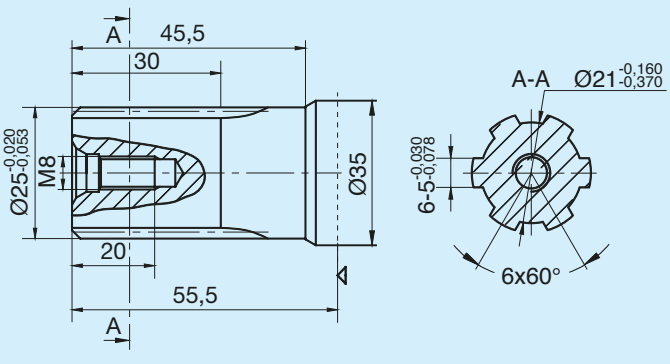

## UNI 8953 6x26x30 mm

Max. torque 770 Nm



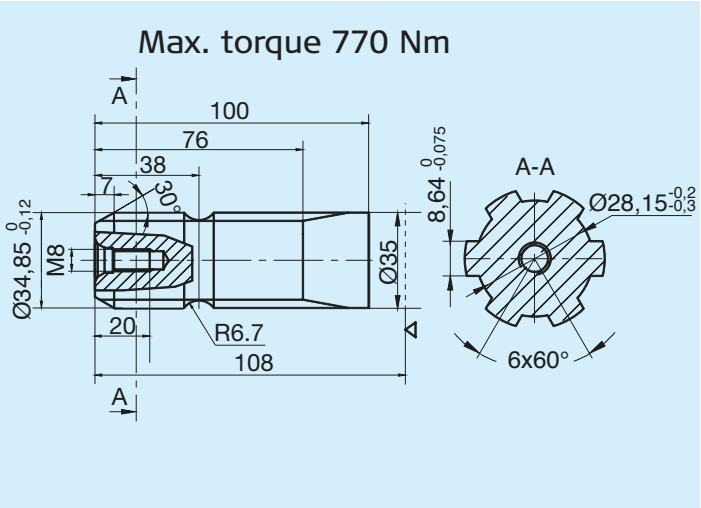

## UNI 8953 6x21x25 mm

Max. torque 340 Nm

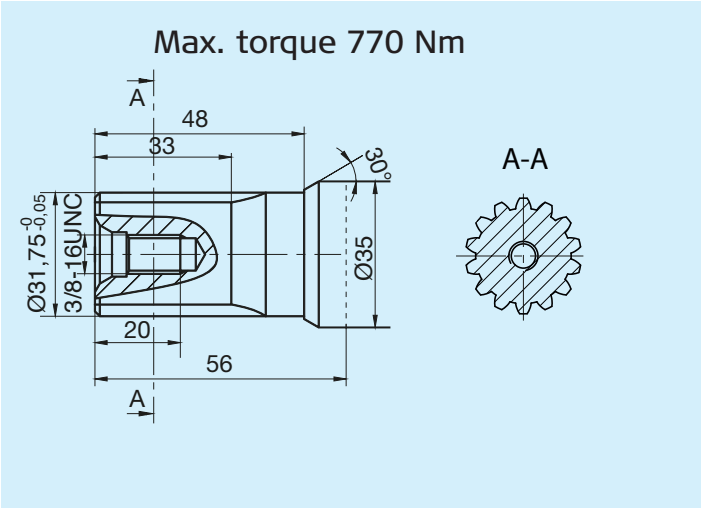



The shafts come with anti-corrosion treatment as standard.

## DIN 9611 1 ³/₈" Z6



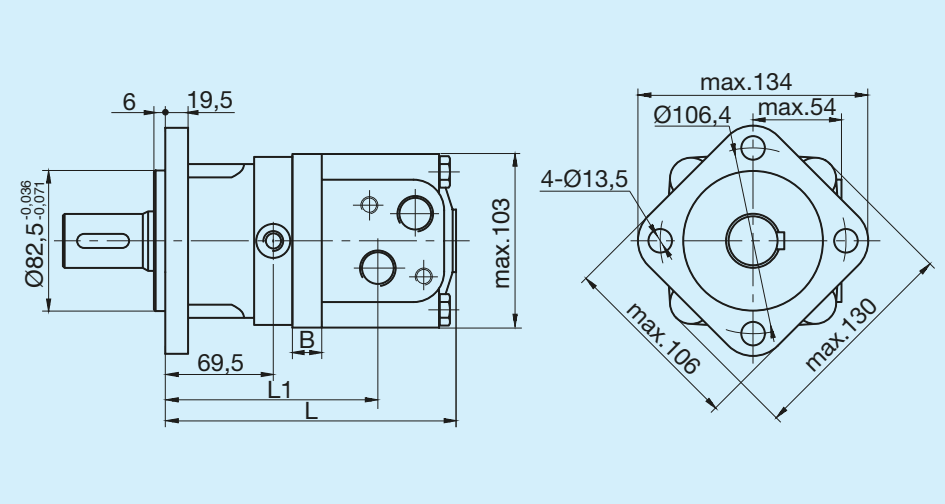

## ANSI-B92.1 DP12/24 30° Z14




The shafts come with anti-corrosion treatment as standard.

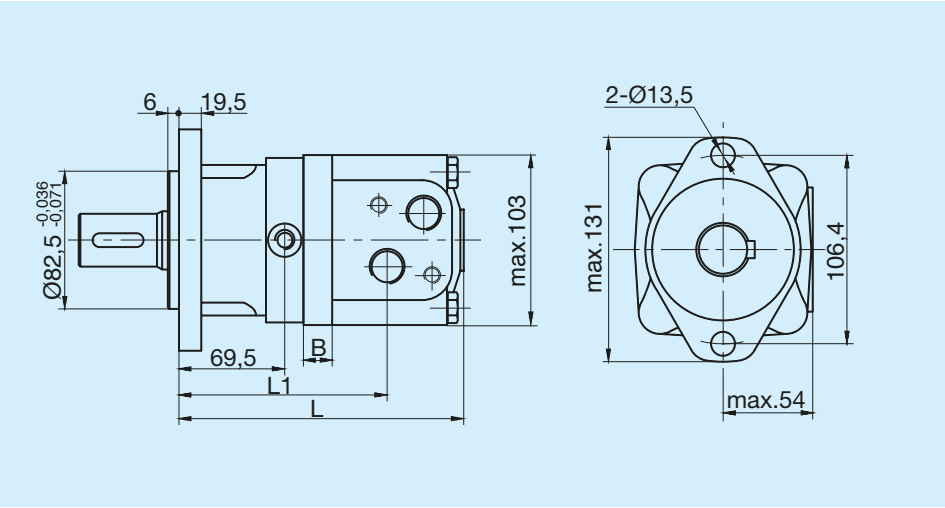
# Flanges

## SAE A 4-hole



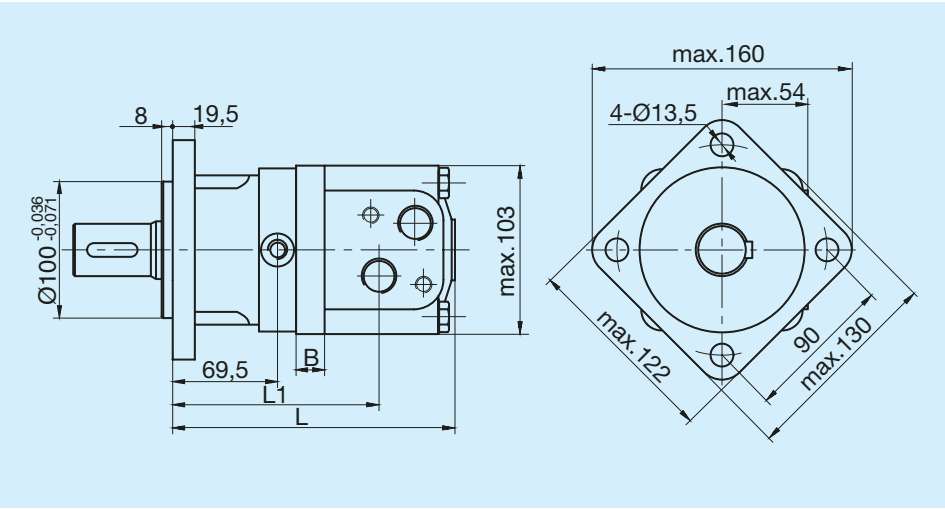

| Type | L | L1 | B |
|---|---|---|---|
| | mm | mm | mm |
| **080** | 170 | 126.5 | 11 |
| **100** | 173.5 | 130 | 14.5 |
| **125** | 178 | 134.5 | 19 |
| **160** | 184 | 140.5 | 25 |
| **200** | 191 | 147.5 | 32 |
| **250** | 200 | 156.5 | 41 |
| **315** | 212 | 168.5 | 53 |
| **400** | 226 | 182.5 | 67 |
| **500** | 239 | 195.5 | 80 |

## SAE A 2-hole




| Type | L | L1 | B |
|---|---|---|---|
| | mm | mm | mm |
| **080** | 170 | 126.5 | 11 |
| **100** | 173.5 | 130 | 14.5 |
| **125** | 178 | 134.5 | 19 |
| **160** | 184 | 140.5 | 25 |
| **200** | 191 | 147.5 | 32 |
| **250** | 200 | 156.5 | 41 |
| **315** | 212 | 168.5 | 53 |
| **400** | 226 | 182.5 | 67 |
| **500** | 239 | 195.5 | 80 |

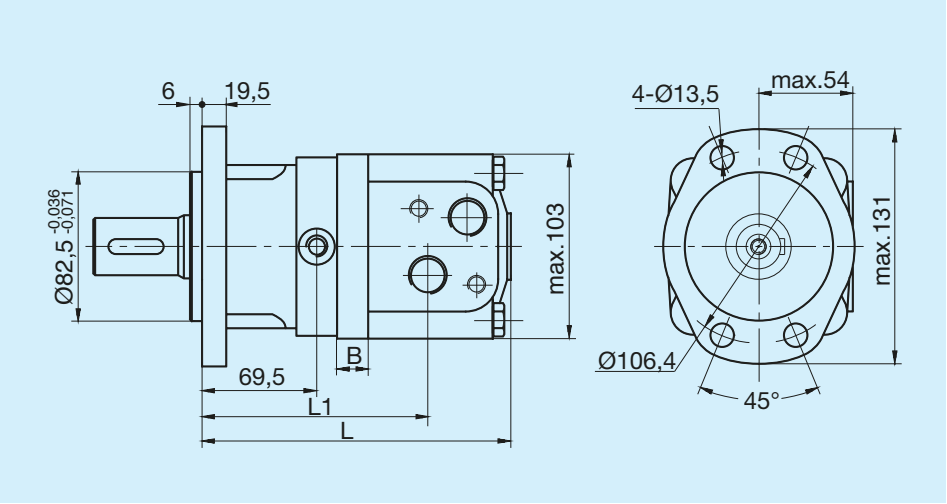
## ISO 3019 Ø100




| Type | L | L1 | B |
|---|---|---|---|
| | mm | mm | mm |
| 080 | 170 | 126.5 | 11 |
| 100 | 173.5 | 130 | 14.5 |
| 125 | 178 | 134.5 | 19 |
| 160 | 184 | 140.5 | 25 |
| 200 | 191 | 147.5 | 32 |
| 250 | 200 | 156.5 | 41 |
| 315 | 212 | 168.5 | 53 |
| 400 | 226 | 182.5 | 67 |
| 500 | 239 | 195.5 | 80 |

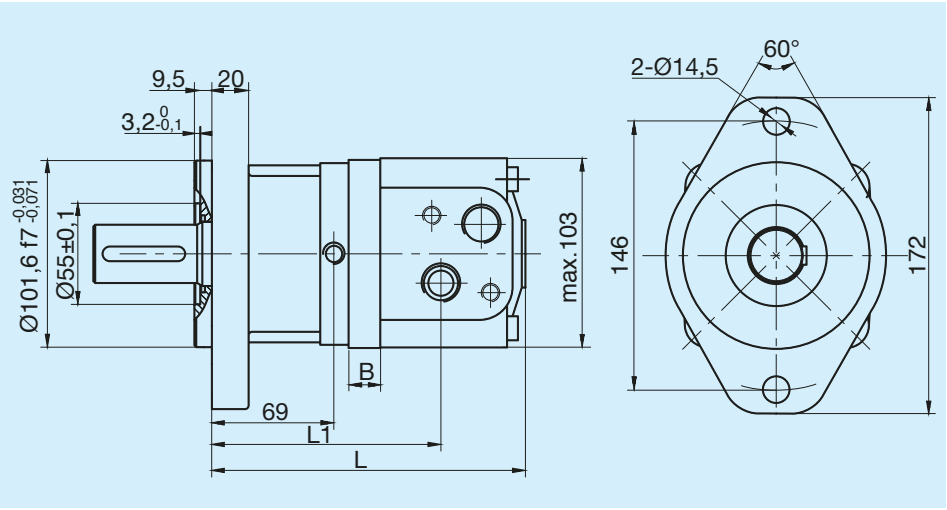
The flanges come with anti-corrosion treatment as standard.

## Magneto 4-hole




| Type | L | L1 | B |
|---|---|---|---|
| | mm | mm | mm |
| 080 | 170 | 126.5 | 11 |
| 100 | 173.5 | 130 | 14.5 |
| 125 | 178 | 134.5 | 19 |
| 160 | 184 | 140.5 | 25 |
| 200 | 191 | 147.5 | 32 |
| 250 | 200 | 156.5 | 41 |
| 315 | 212 | 168.5 | 53 |
| 400 | 226 | 182.5 | 67 |
| 500 | 239 | 195.5 | 80 |

## SAE B 2-hole

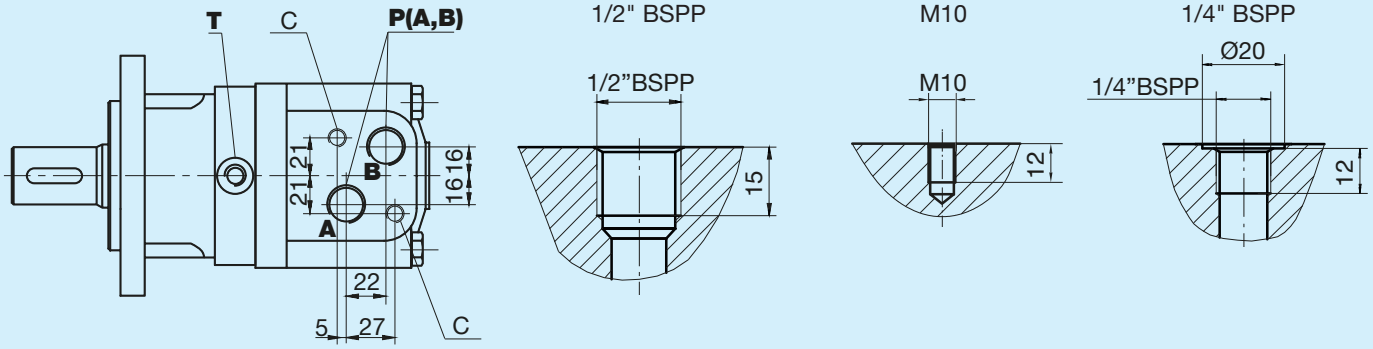



| Type | L | L1 | B |
|---|---|---|---|
| | mm | mm | mm |
| 080 | 170 | 126.5 | 11 |
| 100 | 173.5 | 130 | 14.5 |
| 125 | 178 | 134.5 | 19 |
| 160 | 184 | 140.5 | 25 |
| 200 | 191 | 147.5 | 32 |
| 250 | 200 | 156.5 | 41 |
| 315 | 212 | 168.5 | 53 |
| 400 | 226 | 182.5 | 67 |
| 500 | 239 | 195.5 | 80 |

The flanges come with anti-corrosion treatment as standard.

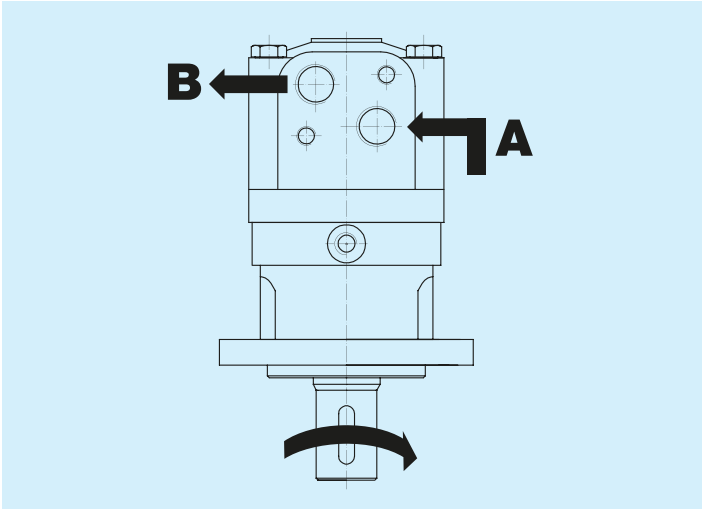
# Port combinations

## With lateral ports



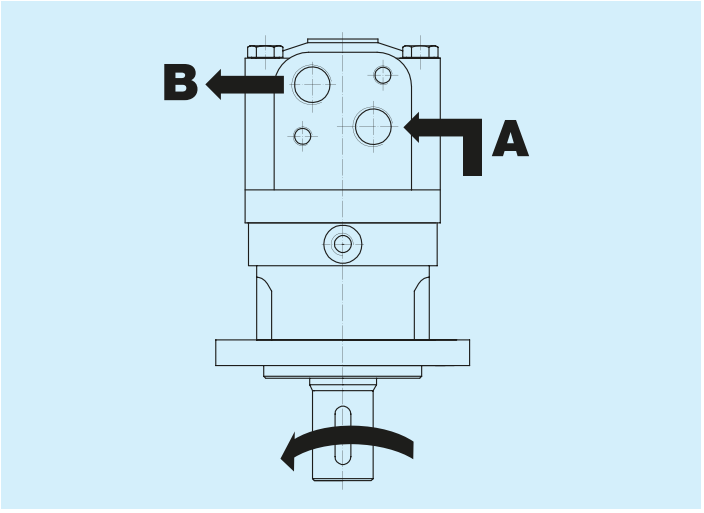
# Direction of rotation of shafts

## Standard




When facing the motor shaft, rotation is:
- Clockwise, when port A is pressurised.
- Counterclockwise, when port B is pressurised.

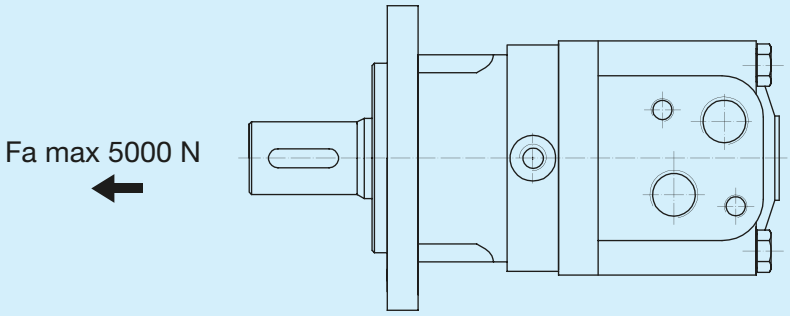
## Reverse



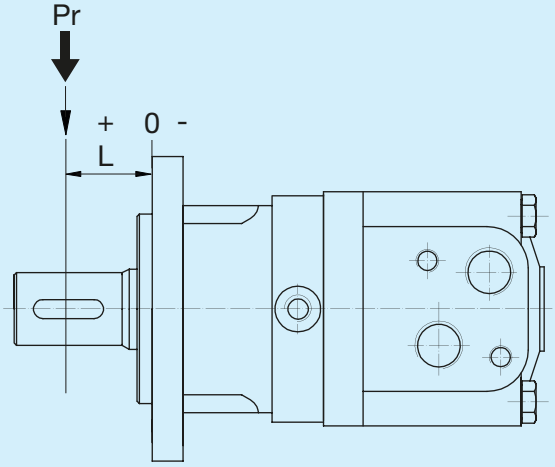

When facing the motor shaft, rotation is:
- Counterclockwise, when port A is pressurised.
- Clockwise, when port B is pressurised.

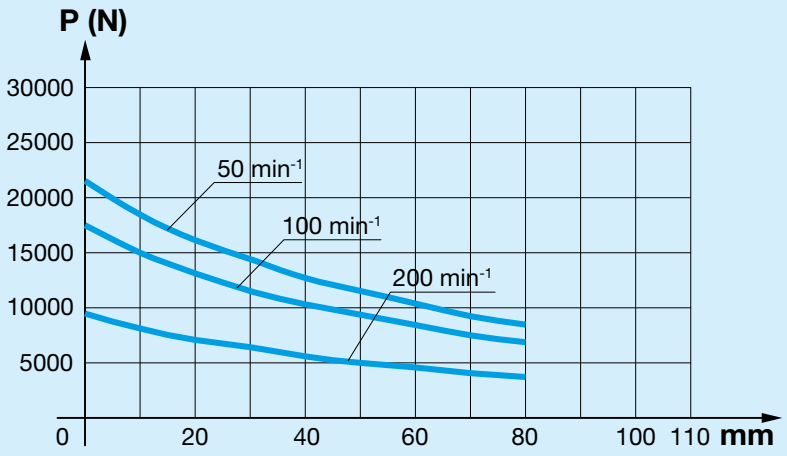
# Permitted loads

## Axial load




## Radial load



Headquarters

## Denmark

Bredholm 4
DK-6100 Haderslev
infodk@danitech.com
+45 76 34 23 00

## Netherlands

Energieweg 41A
NL-2382 NC Zoeterwoude
infonl@danitech.com
+31 (0) 715 417 704

## Germany

infode@danitech.com
+49 (0) 44 88 52 054 52
+49 (0) 151 53 60 09 79

## Sweden

infose@danitech.com
+46 (0) 46 23 30 60