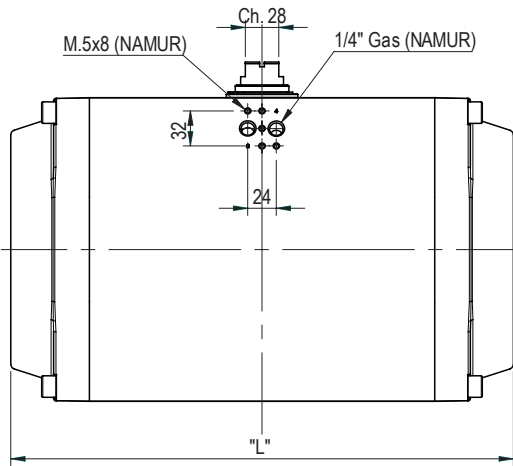
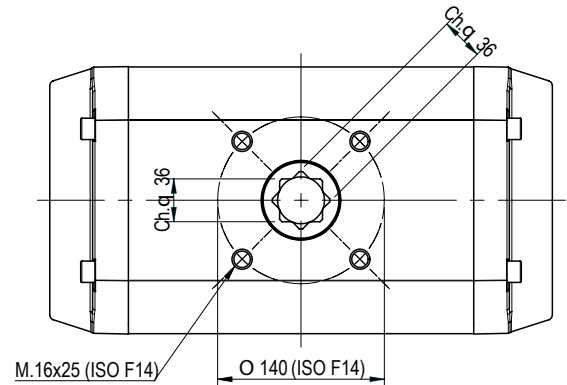
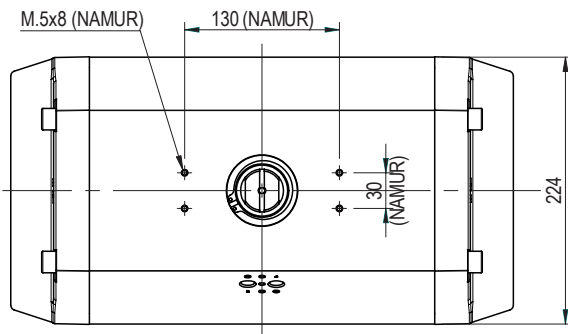
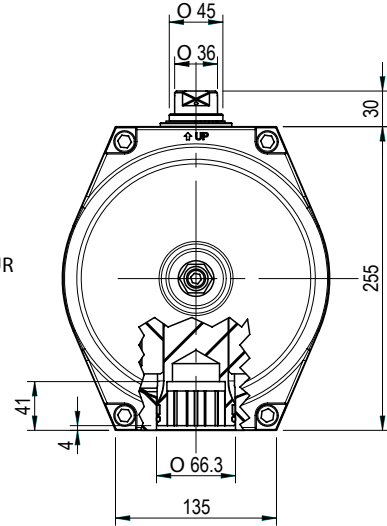


Pneumatischer Antrieb mit beidseitig einstellbaren Endlagen
Pneumatic actuator with double limit stop

GTW.190



Luftanschluss nach NAMUR
NAMUR standard ports



| LÄNGE [mm] LENGHT [mm] | | | LUFTVERBRAUCH [N.lt] AIR CONSUMPTION [N.lt] | | | | GEWICHT (2) [kg] WEIGHT (2) [kg] | | | |
|---------------------------|------|------|--|------|------|---------|-------------------------------------|------|------|---------|
| 90° | 120° | 180° | 90° | 120° | 180° | 90° (1) | 90° | 120° | 180° | 90° (1) |
| 422 | | | 12,5 | | | 6,50 | 27,95 | | | 37,75 |

- (1) Einfachwirkender Antrieb mit 12 Federn
Spring return whit 8 spring cartridges
(2) Gewichtsangaben für Antriebe mit Ritzelhöhe = 30mm
Weights referred to protrusion shafts 30mm

DREHMOMENT [Nm] - DOPPELTWIRKENDE STELLANTRIEBE / TORQUE [Nm] - DOUBLE ACTING ACTUATORS

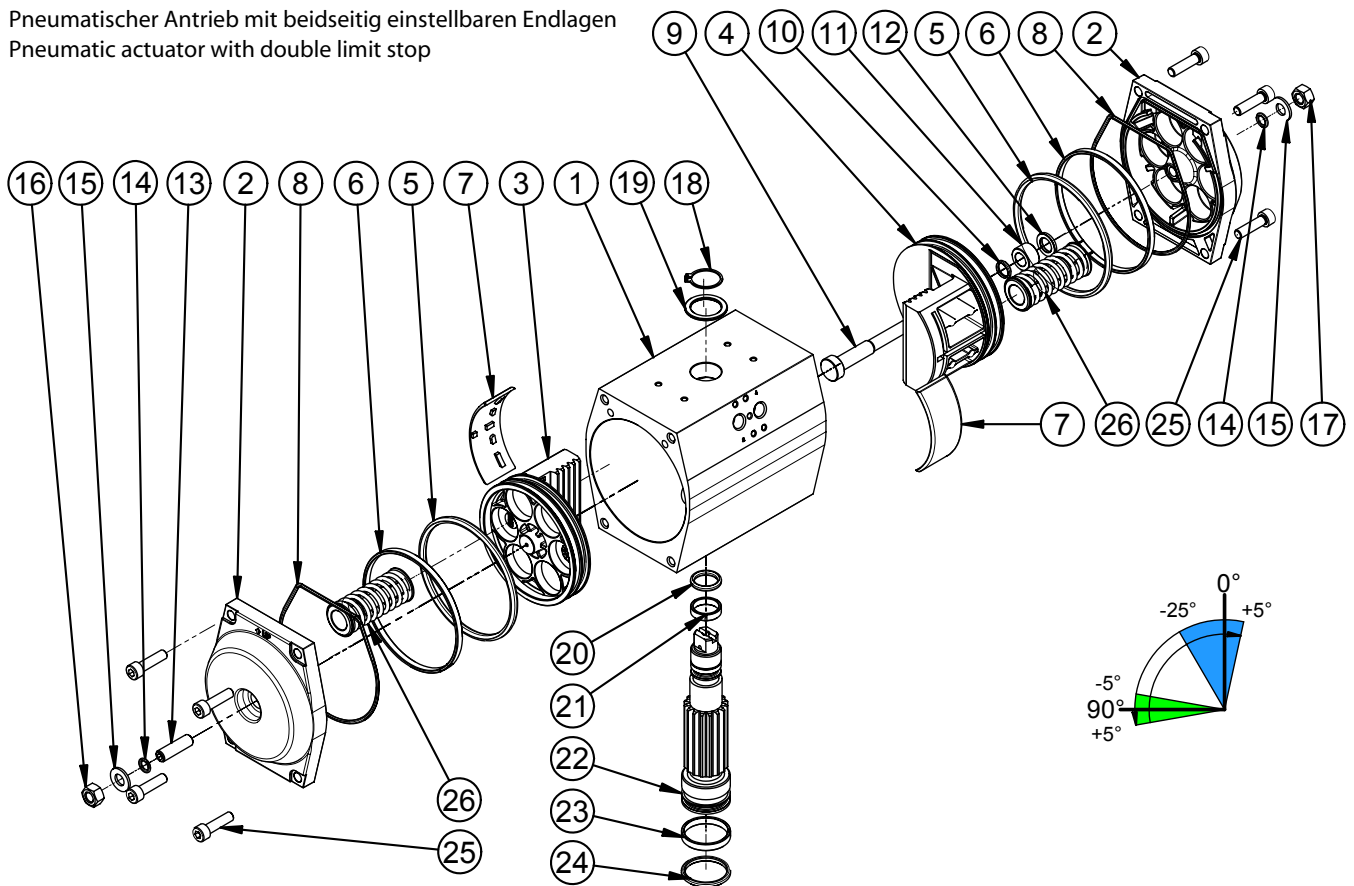
| Pneumatisches Drehmoment [Nm] / Pneumatic torque [Nm] | | | | | | | | | | | | | |
|---|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|-------|-------|--------|
| 2 bar | 2,5 bar | 3 bar | 3,5 bar | 4 bar | 4,5 bar | 5 bar | 5,6 bar | 6 bar | 6,5 bar | 7 bar | 8 bar | 9 bar | 10 bar |
| 400,0 | 500,0 | 600,0 | 700,0 | 800,0 | 900 | 1000 | 1220 | 1200 | 1300 | 1400 | 1600 | 1800 | 2000 |

DREHMOMENT [Nm] - EINFACHWIRKENDE STELLANTRIEBE / TORQUE [Nm] - SINGLE ACTING ACTUATORS

| Federn Springs | Federmoment Spring torque | | Pneumatisches Drehmoment Pneumatic torque | | | | | | | | | | | | | | | | | | | |
|-------------------|------------------------------|-------|--|-------|-------|-------|-------|-------|-------|-------|--------------------|-------|-------------------|-------|-------|-------|-------|-------|--------|-------|------|------|
| | Spring torque | | 2 bar | | 3 bar | | 4 bar | | 5 bar | | 80 PSIG 5,6 bar | | 100 PSIG 7 bar | | 8 bar | | 9 bar | | 10 bar | | | |
| | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | 0° | 90° | | |
| 1 | 53,1 | 66,9 | 345,3 | 331,1 | 545,3 | 531,1 | 745,3 | 731,1 | 945,3 | 931,1 | 1065 | 1051 | 1145 | 1131 | 1345 | 1331 | 1545 | 1531 | 1745 | 1731 | 1945 | 1931 |
| 2 | 106,2 | 133,9 | 290,6 | 262,1 | 490,6 | 462,1 | 690,6 | 662,1 | 890,6 | 862,1 | 1011 | 982,1 | 1091 | 1062 | 1291 | 1262 | 1491 | 1462 | 1691 | 1662 | 1891 | 1862 |
| 3 | 159,3 | 200,8 | 235,9 | 193,2 | 435,9 | 393,2 | 635,9 | 593,2 | 835,9 | 793,2 | 955,9 | 913,2 | 1036 | 993,2 | 1236 | 1193 | 1436 | 1393 | 1636 | 1593 | 1836 | 1793 |
| 4 | 212,5 | 267,8 | 181,2 | 124,2 | 381,2 | 324,2 | 581,2 | 524,2 | 781,2 | 724,2 | 901,2 | 844,2 | 981,2 | 924,2 | 1181 | 1124 | 1381 | 1324 | 1581 | 1524 | 1781 | 1724 |
| 5 | 265,6 | 334,7 | 126,5 | 55,2 | 326,5 | 255,3 | 526,5 | 455,3 | 726,5 | 655,3 | 846,5 | 775,3 | 926,5 | 855,3 | 1127 | 1055 | 1327 | 1255 | 1527 | 1455 | 1727 | 1655 |
| 6 | 318,7 | 401,7 | | | 271,8 | 186,3 | 471,8 | 386,3 | 671,8 | 586,3 | 791,8 | 706,3 | 871,8 | 786,3 | 1072 | 986,3 | 1272 | 1186 | 1472 | 1386 | 1672 | 1586 |
| 7 | 371,8 | 468,6 | | | 217,1 | 117,3 | 417,1 | 317,3 | 617,1 | 517,4 | 737,1 | 637,4 | 817,1 | 717,4 | 1017 | 917,4 | 1217 | 1117 | 1417 | 1317 | 1617 | 1517 |
| 8 | 424,9 | 535,6 | | | 162,4 | 48,4 | 362,4 | 248,4 | 562,4 | 448,4 | 682,4 | 568,4 | 762,4 | 648,4 | 962,4 | 848,4 | 1162 | 1048 | 1362 | 1248 | 1562 | 1448 |
| 9 | 478,0 | 602,5 | | | | | 307,7 | 179,4 | 507,7 | 379,4 | 627,7 | 499,5 | 707,7 | 579,5 | 907,7 | 779,5 | 1108 | 979,5 | 1308 | 1179 | 1508 | 1379 |
| 10 | 531,2 | 669,5 | | | | | 253,0 | 110,5 | 453,0 | 310,5 | 573,0 | 430,5 | 653,0 | 510,5 | 853,0 | 710,5 | 1053 | 910,5 | 1253 | 1111 | 1453 | 1311 |
| 11 | 584,3 | 736,4 | | | | | | | 398,3 | 241,5 | 518,3 | 461,5 | 598,3 | 441,5 | 798,3 | 641,6 | 998,0 | 841,6 | 1198 | 1042 | 1398 | 1242 |
| 12 | 637,4 | 803,4 | | | | | | | 343,5 | 172,6 | 463,6 | 292,6 | 543,6 | 372,6 | 743,6 | 572,6 | 943,6 | 772,6 | 1144 | 972,6 | 1344 | 1173 |

GTW.190

Pneumatischer Antrieb mit beidseitig einstellbaren Endlagen
Pneumatic actuator with double limit stop



ERSATZTEILLISTE / SPARE PARTS LIST

| Pos. | Beschreibung | Description | Menge Q.ty | Ersatzteilset / Spare parts set | | | | | | | |
|------|---|---|---------------|---------------------------------|-------|-------|-------|-------|-------|-------|--|
| | | | | Set 1,5 | Set 2 | Set 3 | Set 4 | Set 6 | Set 7 | Set 8 | |
| 1 | Gehäuse | Actuator body | 1 | - | - | - | - | - | - | - | |
| 2 | Seitendeckel | Actuator end cap | 2 | 1 | - | - | - | - | - | - | |
| 3 | Kolben ohne Durchgangsbohrung | Blind piston | 1 | - | 1 | - | - | - | - | - | |
| 4 | Kolben mit Durchgangsbohrung | Drilled piston | 1 | - | - | 1 | - | - | - | - | |
| 5 | O-Ring-Kolben | Piston sealing O-Ring | 2 | - | 1 | 1 | - | - | 2 | - | |
| 6 | Führungsring-Kolben | Piston guide ring | 2 | - | 1 | 1 | - | - | - | 2 | |
| 7 | Gleitelement-Kolben | Piston guide skate | 2 | - | 7 | 1 | - | - | - | 2 | |
| 8 | O-Ring-Gehäusedeckel | End cap sealing O-Ring | 2 | 1 | - | - | - | - | 2 | - | |
| 9 | Innere Hubeinstellschraube | Internal travel stop rod | 1 | - | - | - | - | - | - | - | |
| 10 | O-Ring für innere Hubeinstellschraube | Internal travel stop rod sealing O-Ring | 1 | - | - | 1 | - | - | - | - | |
| 11 | Gleithülse für innere Hubeinstellschraube | Internal stop rod guide bush | 1 | - | - | 1 | - | - | - | - | |
| 12 | Scheibe-Hubeinstellschraube-Innen | Rod guide bush stop washer | 1 | - | - | - | - | - | - | - | |
| 13 | Äussere Hubeinstellschraube | External travel stop nut | 1 | - | - | - | - | 1 | - | - | |
| 14 | O-Ring für äussere Hubeinstellschraube | Stop sealing O-Ring | 2 | - | - | - | - | 1 | 2 | - | |
| 15 | O-Ring-Scheibe | O-Ring stop washer | 2 | - | - | - | - | 1 | - | - | |
| 16 | Kontermutter-Hubeinstellschraube aussen | External stop nut | 1 | - | - | - | - | 1 | - | - | |
| 17 | Kontermutter-Hubeinstellschraube innen | Internal stop nut (yellow) | 1 | - | - | - | - | - | - | - | |
| 18 | Seegering | Pinion stop circlips | 1 | - | - | - | 1 | - | - | - | |
| 19 | Anlaufscheibe | Upper pinion washer | 1 | - | - | - | 1 | - | - | - | |
| 20 | O-Ring-Ritzel-oben | Upper pinion O-Ring sealing | 1 | - | - | - | 1 | - | 1 | - | |
| 21 | Führungsring-Ritzel-oben | Upper pinion guide ring | 1 | - | - | - | 1 | - | - | 1 | |
| 22 | Ritzel | Pinion | 1 | - | - | - | 1 | - | - | - | |
| 23 | Führungsring-Ritzel-unten | Lower pinion guide ring | 1 | - | - | - | 1 | - | - | 1 | |
| 24 | O-Ring-Ritzel-unten | Lower pinion O-Ring sealing | 1 | - | - | - | 1 | - | 24 | - | |
| 25 | Schrauben-Seitendeckel | End cap screws | 8 | 4 | - | - | - | - | - | - | |
| 26 | Rückstellfedern | Spring cartridges | 0-12 | - | - | - | - | - | - | - | |

Set 1,4 = Seitendeckel, komplett / Cap, complete
 Set 2 = Kolben ohne Durchgangsbohrung, komplett / Blind piston, complete
 Set 3 = Kolben mit Durchgangsbohrung, komplett / Drilled piston kit, complete
 Set 4 = Ritzel, komplett / Shaft complete
 Set 6 = Innere Hubeinstellschraube, komplett / External stop kit, complete
 Set 7 = Dichtungssatz / Seal kit
 Set 8 = Verschleißteilsatz / Guide kit