

25MPa Double acting hydraulic cylinders

DKB

Double Acting - Standard Type




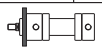
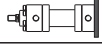




- DK series cylinder according to ISO 6022 (Monting styles FA, FB, TC, CG).
- Operating pressure under 25Mpa only.
- Heavy Duty Mill type.
- Design for high quality and durability.



Specification

| | | | | | | | | |
|-------------------------------|----------------------------|------|------|-------|-------|-------|-------|-------|
| Bore sizes of cylinder (mm) | φ 50 | φ 63 | φ 80 | φ 100 | φ 125 | φ 160 | φ 200 | φ 250 |
| The range of stroke (mm) | Stroke by request | | | | | | | |
| Power fluid | Filtered oil | | | | | | | |
| Material of cylinder barrel | Carbon steel STKM 13C | | | | | | | |
| The range of pressure (MPa) | 25(250Kg/cm ²) | | | | | | | |
| Proof pressure (MPa) | 35(350Kg/cm ²) | | | | | | | |
| The range of temperature (°C) | -10~+60 | | | | | | | |

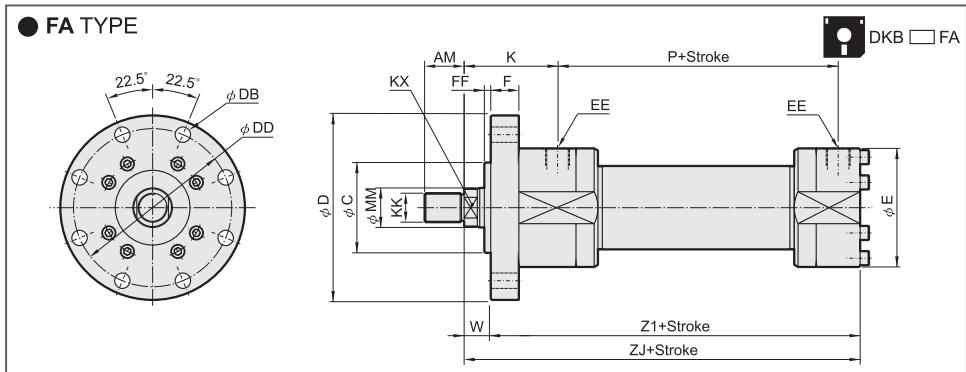
How to order

| A | 2 | DKB | 50 | N | 100 | CG - G |
|------------------------|---------------|---|--|---|---|---|
| Rod type | Seal material | Type | Bore | Cushion | Stroke | Accessory |
| A: A type B: B type | |  DKB | 50—φ 50mm 63—φ 63mm 80—φ 80mm 100—φ 100mm 125—φ 125mm 160—φ 160mm 200—φ 200mm 250—φ 250mm | R: Rod cover with cushion H: End cap with cushion B: Both end with cushion N: No cushion | 50—50mm 100—100mm 150—150mm 175—175mm 200—200mm 250—250mm 300—300mm 350—350mm 400—400mm 450—450mm 500—500mm |  FA  FB  LA  CG  TC  G |

| Symbol | Seal material | Kind of fluid | | | | |
|--------|---------------|-------------------------|----------------------|-------------------------|------------------------|------------------------|
| | | Petroleum - Based fluid | Water - Glycol fluid | Phosphate - Ester fluid | W/O Water in oil fluid | O/W Oil in water fluid |
| 1 | NBR | ○ | ○ | × | ○ | ○ |
| 2 | PU | ○ | × | × | △ | △ |
| 3 | VITON | ○ | × | ○ | ○ | ○ |

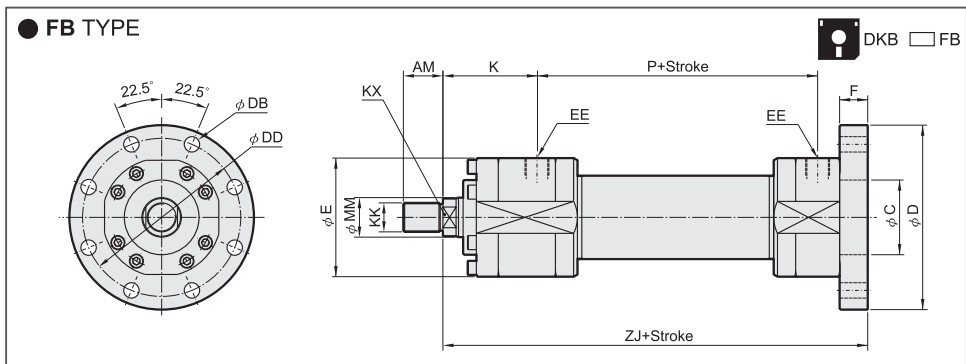
Note: ○: allowable ×: unallowable △: consult us

Dimensional features



Dimensional Table

| Bore | A Rod | | B Rod | | AM | C | D | DB | DD | E | EE | F | FF | K | KK | P | W | Z1 | ZJ |
|-------|-------|-----|-------|-----|-----|-----|-----|------|-----|-----|-----------|----|----|-----|----------|-----|----|-----|-----|
| | KX | MM | KX | MM | | | | | | | | | | | | | | | |
| φ 50 | 30 | 36 | 27 | 32 | 36 | 63 | 155 | 13.5 | 132 | 98 | G 1/2 | 25 | 4 | 80 | M27×2.0 | 137 | 22 | 218 | 240 |
| φ 63 | 36 | 45 | 32 | 40 | 45 | 75 | 175 | 13.5 | 150 | 115 | G 3/4 | 28 | 4 | 87 | M33×2.0 | 159 | 25 | 245 | 270 |
| φ 80 | 46 | 56 | 41 | 50 | 56 | 90 | 210 | 17.5 | 180 | 135 | G 3/4 | 32 | 4 | 104 | M42×2.0 | 171 | 28 | 272 | 300 |
| φ 100 | 62 | 70 | 50 | 63 | 63 | 110 | 250 | 22 | 212 | 165 | G 1 | 36 | 5 | 113 | M48×2.0 | 192 | 32 | 303 | 335 |
| φ 125 | 75 | 90 | 65 | 80 | 85 | 132 | 290 | 22 | 250 | 205 | G 1 | 40 | 5 | 131 | M64×3.0 | 229 | 36 | 354 | 390 |
| φ 160 | 95 | 110 | 85 | 100 | 95 | 160 | 360 | 26 | 315 | 255 | G 1 - 1/4 | 45 | 5 | 185 | M80×3.0 | 235 | 50 | 417 | 467 |
| φ 200 | 120 | 140 | 110 | 125 | 112 | 200 | 440 | 33 | 385 | 306 | G 1 - 1/4 | 56 | 5 | 220 | M100×3.0 | 278 | 45 | 505 | 550 |
| φ 250 | 160 | 180 | 140 | 160 | 125 | 250 | 540 | 39 | 475 | 395 | G 1 - 1/2 | 63 | 8 | 253 | M125×4.0 | 332 | 50 | 602 | 652 |



Dimensional Table

| Bore | A Rod | | B Rod | | AM | C | D | DB | DD | E | EE | F | K | KK | P | ZJ |
|-------|-------|-----|-------|-----|-----|-----|-----|------|-----|-----|-----------|----|-----|----------|-----|-----|
| | KX | MM | KX | MM | | | | | | | | | | | | |
| φ 50 | 30 | 36 | 27 | 32 | 36 | 63 | 155 | 13.5 | 132 | 98 | G 1/2 | 25 | 80 | M27×2.0 | 137 | 265 |
| φ 63 | 36 | 45 | 32 | 40 | 45 | 75 | 175 | 13.5 | 150 | 115 | G 3/4 | 28 | 87 | M33×2.0 | 159 | 298 |
| φ 80 | 46 | 56 | 41 | 50 | 56 | 90 | 210 | 17.5 | 180 | 135 | G 3/4 | 32 | 104 | M42×2.0 | 171 | 332 |
| φ 100 | 62 | 70 | 50 | 63 | 63 | 110 | 250 | 22 | 212 | 165 | G 1 | 36 | 113 | M48×2.0 | 192 | 371 |
| φ 125 | 75 | 90 | 65 | 80 | 85 | 132 | 290 | 22 | 250 | 205 | G 1 | 40 | 131 | M64×3.0 | 229 | 430 |
| φ 160 | 95 | 110 | 85 | 100 | 95 | 160 | 360 | 26 | 315 | 255 | G 1 - 1/4 | 45 | 185 | M80×3.0 | 235 | 505 |
| φ 200 | 120 | 140 | 110 | 125 | 112 | 200 | 440 | 33 | 385 | 306 | G 1 - 1/4 | 56 | 220 | M100×3.0 | 278 | 596 |
| φ 250 | 160 | 180 | 140 | 160 | 125 | 250 | 540 | 39 | 475 | 395 | G 1 - 1/2 | 63 | 253 | M125×4.0 | 332 | 703 |

TC

TS

RP

HC

HC_M

HCK

TH

DO

DX

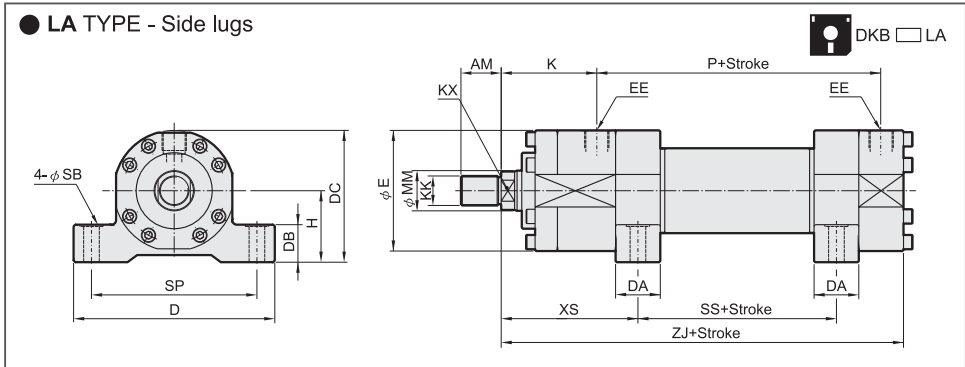
DW

DM

DH

DK

Dimensional features

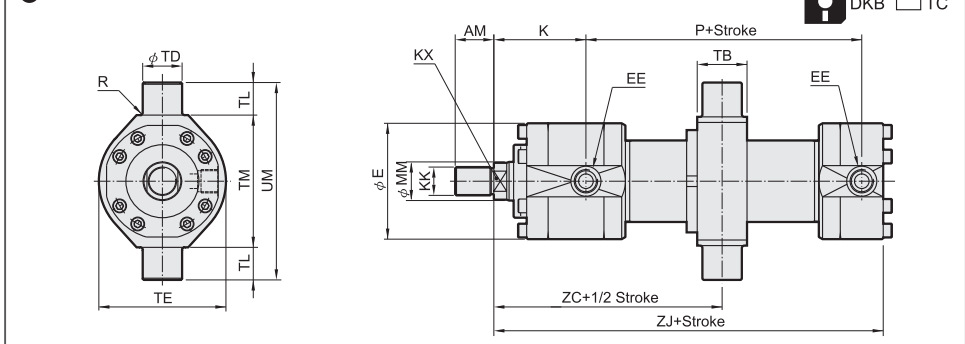


Dimensional Table

Dimension of the LA foot mounting is not accordant to the ISO standard.

| Bore | A Rod | | B Rod | | AM | D | DA | DB | DC | E | EE | H | K | KK | P | SB | SP | SS | XS | ZJ |
|------------|-------|-----|-------|-----|-----|-----|-----|-----|-------|-----|-----------|-----|-----|------------|-----|------|-----|-----|-------|-----|
| | KX | MM | KX | MM | | | | | | | | | | | | | | | | |
| $\phi 50$ | 30 | 36 | 27 | 32 | 36 | 160 | 30 | 32 | 109 | 98 | G 1/2 | 60 | 80 | M27 × 2.0 | 137 | 11 | 135 | 73 | 112 | 240 |
| $\phi 63$ | 36 | 45 | 32 | 40 | 45 | 185 | 35 | 37 | 125.5 | 115 | G 3/4 | 68 | 87 | M33 × 2.0 | 159 | 13.5 | 155 | 82 | 125.5 | 270 |
| $\phi 80$ | 46 | 56 | 41 | 50 | 56 | 225 | 45 | 42 | 147.5 | 135 | G 3/4 | 80 | 104 | M42 × 2.0 | 171 | 17.5 | 185 | 80 | 147.5 | 300 |
| $\phi 100$ | 62 | 70 | 50 | 63 | 63 | 265 | 55 | 52 | 177.5 | 165 | G 1 | 95 | 113 | M48 × 2.0 | 192 | 22 | 220 | 77 | 170.5 | 335 |
| $\phi 125$ | 75 | 90 | 65 | 80 | 85 | 325 | 60 | 62 | 217.5 | 205 | G 1 | 115 | 131 | M64 × 3.0 | 229 | 26 | 270 | 109 | 191 | 390 |
| $\phi 160$ | 95 | 110 | 85 | 100 | 95 | 405 | 75 | 77 | 272.5 | 255 | G 1 - 1/4 | 145 | 185 | M80 × 3.0 | 235 | 33 | 340 | 90 | 252.5 | 467 |
| $\phi 200$ | 120 | 140 | 110 | 125 | 112 | 480 | 90 | 87 | 323 | 306 | G 1 - 1/4 | 170 | 220 | M100 × 3.0 | 278 | 40 | 405 | 115 | 296 | 550 |
| $\phi 250$ | 160 | 180 | 140 | 160 | 125 | 620 | 100 | 112 | 412.5 | 395 | G 1 - 1/2 | 215 | 253 | M125 × 4.0 | 332 | 52 | 520 | 140 | 348 | 652 |

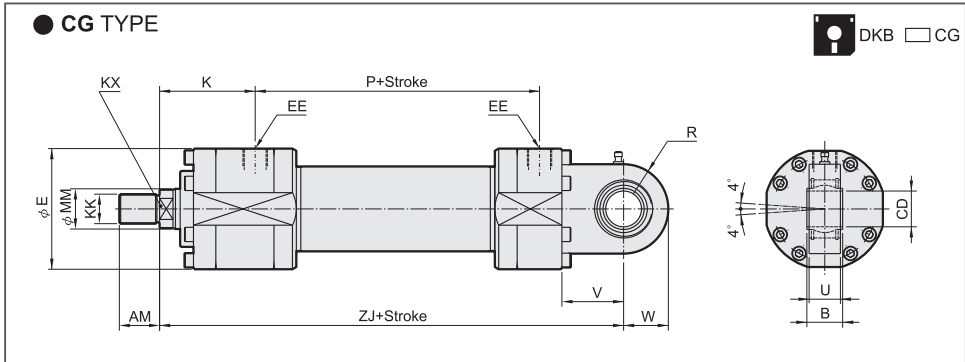
● **TC TYPE - Intermediate Pivot** DKB TC



Dimensional Table

| Bore | A Rod | | B Rod | | AM | E | EE | K | KK | P | TB | TD | TE | TL | TM | UM | ZC | ZJ |
|------------|-------|-----|-------|-----|-----|-----|-----------|-----|------------|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| | KX | MM | KX | MM | | | | | | | | | | | | | | |
| $\phi 50$ | 30 | 36 | 27 | 32 | 36 | 98 | G 1/2 | 80 | M27 × 2.0 | 137 | 38 | 32 | 105 | 25 | 112 | 162 | 157.5 | 240 |
| $\phi 63$ | 36 | 45 | 32 | 40 | 45 | 115 | G 3/4 | 87 | M33 × 2.0 | 159 | 48 | 40 | 120 | 32 | 125 | 189 | 175 | 270 |
| $\phi 80$ | 46 | 56 | 41 | 50 | 56 | 135 | G 3/4 | 104 | M42 × 2.0 | 171 | 58 | 50 | 140 | 40 | 150 | 230 | 198 | 300 |
| $\phi 100$ | 62 | 70 | 50 | 63 | 63 | 165 | G 1 | 113 | M48 × 2.0 | 192 | 73 | 63 | 170 | 50 | 180 | 280 | 220 | 335 |
| $\phi 125$ | 75 | 90 | 65 | 80 | 85 | 205 | G 1 | 131 | M64 × 3.0 | 229 | 88 | 80 | 210 | 63 | 224 | 350 | 260 | 390 |
| $\phi 160$ | 95 | 110 | 85 | 100 | 95 | 255 | G 1 - 1/4 | 185 | M80 × 3.0 | 235 | 108 | 100 | 265 | 80 | 280 | 440 | 305 | 467 |
| $\phi 200$ | 120 | 140 | 110 | 125 | 112 | 306 | G 1 - 1/4 | 220 | M100 × 3.0 | 278 | 133 | 125 | 320 | 100 | 335 | 535 | 360 | 550 |
| $\phi 250$ | 160 | 180 | 140 | 160 | 125 | 395 | G 1 - 1/2 | 253 | M125 × 4.0 | 332 | 180 | 160 | 410 | 125 | 425 | 675 | 420 | 652 |

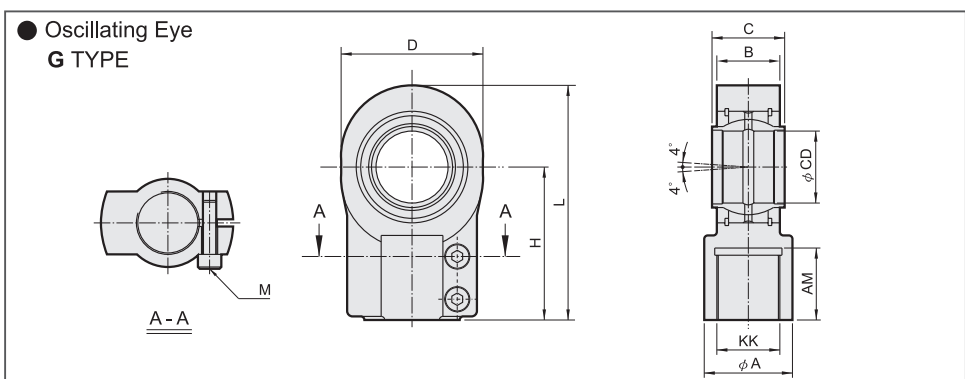
Dimensional features



Dimensional Table

| Bore | A Rod | | B Rod | | AM | B | CD | E | EE | K | KK | P | R | U | V | W | ZJ |
|-------|-------|-----|-------|-----|-----|-----|-----|-----|-----------|-----|------------|-----|------|-----|-----|------|-----|
| | KX | MM | KX | MM | | | | | | | | | | | | | |
| φ 50 | 30 | 36 | 27 | 32 | 36 | 32 | 32 | 98 | G 1/2 | 80 | M27 × 2.0 | 137 | 35 | 27 | 65 | 38 | 305 |
| φ 63 | 36 | 45 | 32 | 40 | 45 | 40 | 40 | 115 | G 3/4 | 87 | M33 × 2.0 | 159 | 50 | 35 | 69 | 50 | 348 |
| φ 80 | 46 | 56 | 41 | 50 | 56 | 50 | 50 | 135 | G 3/4 | 104 | M42 × 2.0 | 171 | 61.5 | 40 | 88 | 61.5 | 395 |
| φ 100 | 62 | 70 | 50 | 63 | 63 | 63 | 63 | 165 | G 1 | 113 | M48 × 2.0 | 192 | 66 | 52 | 107 | 71 | 442 |
| φ 125 | 75 | 90 | 65 | 80 | 85 | 80 | 80 | 205 | G 1 | 131 | M64 × 3.0 | 229 | 90 | 60 | 130 | 90 | 520 |
| φ 160 | 95 | 110 | 85 | 100 | 95 | 100 | 100 | 255 | G 1 - 1/4 | 185 | M80 × 3.0 | 235 | 125 | 70 | 150 | 125 | 617 |
| φ 200 | 120 | 140 | 110 | 125 | 112 | 125 | 125 | 306 | G 1 - 1/4 | 220 | M100 × 3.0 | 278 | 145 | 102 | 206 | 145 | 756 |
| φ 250 | 160 | 180 | 140 | 160 | 125 | 160 | 160 | 395 | G 1 - 1/2 | 253 | M125 × 4.0 | 332 | 178 | 130 | 251 | 178 | 903 |

Accessories



Dimensional Table

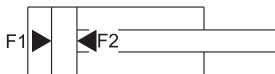
| Type | Bore | A | AM | B | C | CD | D | H | KK | L | M | Filename |
|----------------------|-------|-----|-----|-----|-----|-----|-----|-----|------------|-------|----------|----------|
| G-M27 × 2.0S | φ 50 | 38 | 37 | 27 | 32 | 32 | 70 | 80 | M27 × 2.0 | 118 | M8 × 20 | GM02720S |
| G-M33 × 2.0S | φ 63 | 47 | 46 | 32 | 40 | 40 | 89 | 97 | M33 × 2.0 | 145.5 | M8 × 25 | GM03320S |
| G-M42 × 2.0S | φ 80 | 58 | 57 | 40 | 50 | 50 | 108 | 120 | M42 × 2.0 | 179 | M10 × 30 | GM04220S |
| G-M48 × 2.0S | φ 100 | 70 | 64 | 52 | 63 | 63 | 132 | 140 | M48 × 2.0 | 211 | M12 × 40 | GM04820S |
| G-M64 × 3.0S | φ 125 | 90 | 86 | 66 | 80 | 80 | 168 | 180 | M64 × 3.0 | 270 | M16 × 50 | GM06430S |
| G-M80 × 3.0S | φ 160 | 110 | 96 | 84 | 100 | 100 | 210 | 210 | M80 × 3.0 | 322 | M20 × 60 | GM08030S |
| G-M100 × 3.0S | φ 200 | 135 | 106 | 103 | 125 | 125 | 264 | 260 | M100 × 3.0 | 405 | M20 × 70 | GM10030S |
| G-M125 × 4.0S | φ 250 | 165 | 126 | 130 | 160 | 160 | 326 | 310 | M125 × 4.0 | 488 | M24 × 80 | GM12540S |

Theoretic Force

Unit: KN

| Bore (mm) | Rod (mm) | | Pressure area (mm ²) | Operating pressure (MPa) | | | | | | | | | | | | | | | | |
|-----------|----------|-------|----------------------------------|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------|--|--------|--|--------|--|--------|--|
| | | | | 5 | 10 | 15 | 17 | 19 | 21 | 23 | 25 | | | | | | | | | |
| φ 50 | φ 32 | φ 36 | F1 | 1963 | 9.8 | | 19.6 | | 29.4 | | 33.3 | | 37.2 | | 41.2 | | 45.1 | | 49.1 | |
| | | | F2 | 1159 946 | 5.8 4.7 | 11.6 9.5 | 17.4 14.2 | 19.7 16.1 | 22 18 | 24.3 19.9 | 26.6 21.8 | 28.9 23.7 | | | | | | | | |
| φ 63 | φ 40 | φ 45 | F1 | 3116 | 15.5 | | 31.1 | | 46.6 | | 52.9 | | 59.2 | | 65.4 | | 71.6 | | 77.9 | |
| | | | F2 | 1860 1526 | 9.3 7.6 | 18.6 15.2 | 27.9 22.9 | 31.6 25.9 | 35.3 29 | 39.1 32 | 42.7 35.1 | 46.5 38.1 | | | | | | | | |
| φ 80 | φ 50 | φ 56 | F1 | 5024 | 25.1 | | 50.2 | | 75.3 | | 85.4 | | 95.4 | | 105.5 | | 115.5 | | 125.6 | |
| | | | F2 | 3061 2562 | 15.3 12.8 | 30.6 25.6 | 45.9 38.4 | 52 43.5 | 58.1 48.6 | 64.2 53.8 | 70.4 58.9 | 76.5 64.0 | | | | | | | | |
| φ 100 | φ 63 | φ 70 | F1 | 7850 | 39.2 | | 78.5 | | 117.7 | | 133.4 | | 149.1 | | 164.8 | | 180.5 | | 196.2 | |
| | | | F2 | 4734 4003 | 23.6 20.0 | 47.3 40 | 71 60 | 80.4 68 | 89.9 76 | 99.4 84 | 108.8 92 | 118.3 100 | | | | | | | | |
| φ 125 | φ 80 | φ 90 | F1 | 12266 | 61.3 | | 122.6 | | 184 | | 208.5 | | 233 | | 257.5 | | 282.1 | | 306.6 | |
| | | | F2 | 7242 5907 | 36.2 29.5 | 72.4 59.1 | 108.6 88.6 | 123.1 100.4 | 137.6 112.2 | 152.1 124 | 166.5 135.8 | 181 147.6 | | | | | | | | |
| φ 160 | φ 100 | φ 110 | F1 | 20096 | 100.5 | | 201 | | 301.4 | | 341.6 | | 381.8 | | 422 | | 462.2 | | 502.4 | |
| | | | F2 | 12246 10597 | 61.2 52.9 | 122.4 106 | 183.6 158.9 | 208.1 180.1 | 232.6 201.3 | 257.1 222.5 | 281.6 243.7 | 306.1 264.9 | | | | | | | | |
| φ 200 | φ 125 | φ 140 | F1 | 31400 | 157.0 | | 314 | | 471 | | 533.8 | | 596.6 | | 659.4 | | 722.2 | | 785 | |
| | | | F2 | 19134 16014 | 95.6 80.0 | 191.3 160.1 | 287 240.2 | 325.2 272.2 | 363.5 304.2 | 401.8 336.2 | 440 368.3 | 478.3 400.3 | | | | | | | | |
| φ 250 | φ 160 | φ 180 | F1 | 49063 | 245.3 | | 490.6 | | 735.9 | | 834.1 | | 932.2 | | 1030.3 | | 1128.4 | | 1226.5 | |
| | | | F2 | 28967 23629 | 144.8 118.1 | 289.6 236.3 | 434.5 354.4 | 492.4 401.6 | 550.3 448.9 | 608.3 496.2 | 666.2 543.4 | 724.1 590.7 | | | | | | | | |

The method of calculation (Hydraulic cylinders' force)



$$F = P \times A - f$$

F: Cylinders' force (N)

P: Operating pressure (MPa)

A: Piston area (mm²)

f: Friction drag (N)