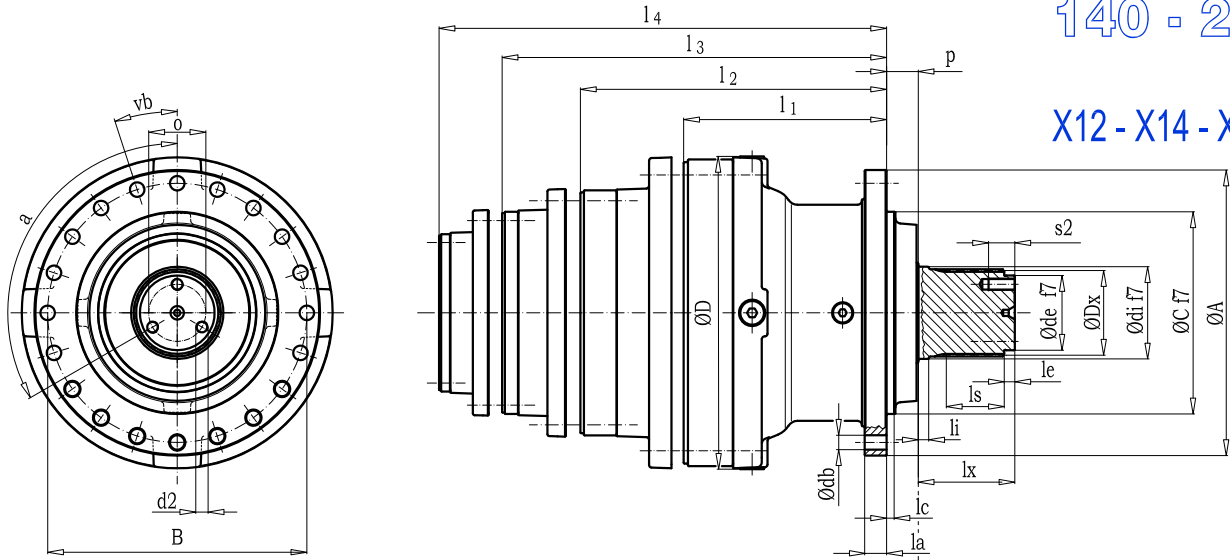
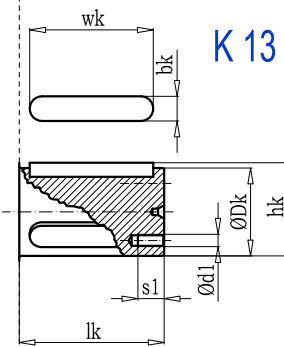


140 - 260

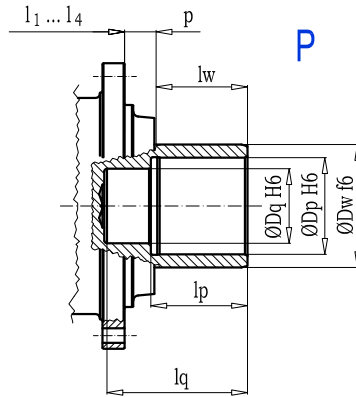
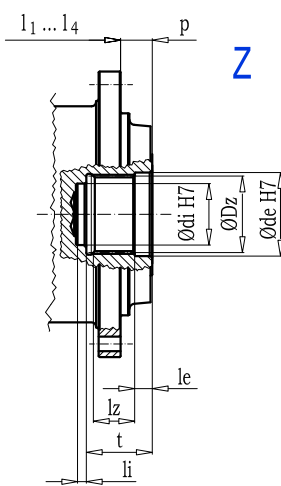
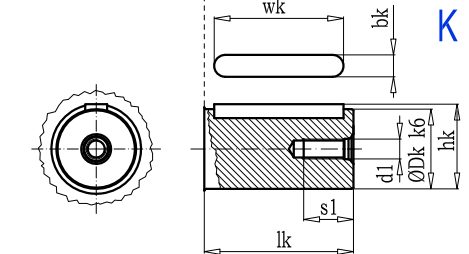
X12 - X14 - X16



K 13 - K15



K 11



P - shaft version for shrink disc:
For minimum length of torque reaction arm refer to the relevant data table, value "L_{min}"

Data and dimensions are not binding and may be modified without prior notice

| Dimensions, solid shafts | | | | | | | | | | | | | Keyed | | | | | DIN Splined | | | | | | | | | | | | | | | |
|--------------------------|-----|----|-----|------|--------|-----|----|-----|----|----------------|----------------|----------------|----------------|-----|-----|----|-----|-------------|---------|----|------|--------|-----|----|-----|----|----|----|-----|----|--------|----|------|
| Model | A | la | B | db | vb | C | lc | D | p | l ₁ | l ₂ | l ₃ | l ₄ | Dk | lk | bk | hk | wk | d1 | s1 | code | Dx | lx | ls | di | li | de | le | d2 | s2 | a | o | code |
| 140 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 291 | 345 | 395 | 90 | 170 | 25 | 95 | 150 | M20 | 50 | K 11 | 80x74 | 90 | 50 | 85 | 10 | 70 | 10 | M12 | 25 | 3x120° | 45 | X 12 |
| 170 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 291 | 345 | 395 | 90 | 170 | 25 | 95 | 150 | M20 | 50 | K 11 | 80x74 | 90 | 50 | 85 | 10 | 70 | 10 | M12 | 25 | 3x120° | 45 | X 12 |
| 200 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 290 | 359 | 413 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K 13 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X 14 |
| 220 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 226 | 310 | 379 | 433 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K 13 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X 14 |
| 260 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 226 | 325 | 394 | 448 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K 13 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X 14 |

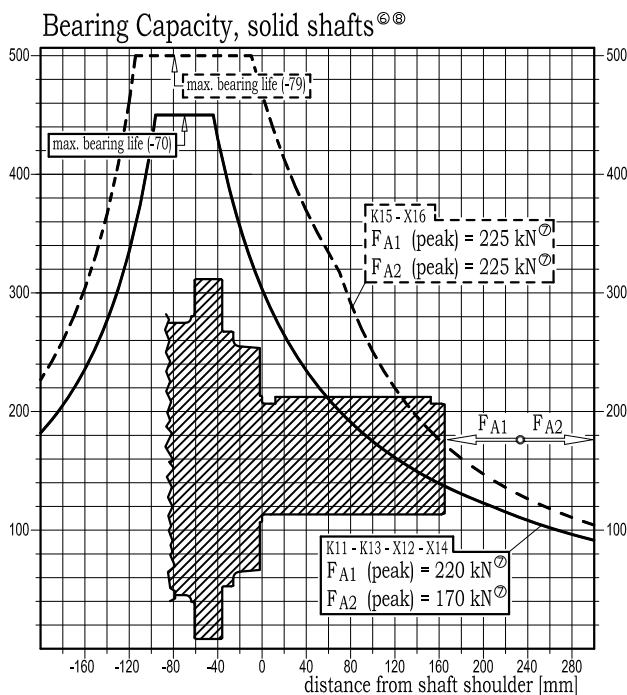
| Dimensions, reinforced, solid shafts | | | | | | | | | | | | | Keyed | | | | | DIN Splined | | | | | | | | | | | | | | | |
|--------------------------------------|-----|----|-----|------|--------|-----|----|-----|----|----------------|----------------|----------------|----------------|-----|-----|----|-----|-------------|---------|----|------|--------|-----|----|-----|----|----|----|-----|----|--------|----|------|
| Model | A | la | B | db | vb | C | lc | D | p | l ₁ | l ₂ | l ₃ | l ₄ | Dk | lk | bk | hk | wk | d1 | s1 | code | Dx | lx | ls | di | li | de | le | d2 | s2 | a | o | code |
| 140 | 325 | 25 | 295 | 16.5 | 20x18° | 250 | 20 | 360 | 57 | 206 | 291 | 345 | 395 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K15 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X16 |
| 170 | 325 | 25 | 295 | 16.5 | 20x18° | 250 | 20 | 360 | 57 | 206 | 291 | 345 | 395 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K15 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X16 |
| 200 | 325 | 25 | 295 | 16.5 | 20x18° | 250 | 20 | 360 | 57 | 206 | 290 | 359 | 413 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K15 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X16 |
| 220 | 325 | 25 | 295 | 16.5 | 20x18° | 250 | 20 | 360 | 57 | 226 | 310 | 379 | 433 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K15 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X16 |
| 260 | 325 | 25 | 295 | 16.5 | 20x18° | 250 | 20 | 360 | 57 | 226 | 325 | 394 | 448 | 100 | 165 | 28 | 106 | 140 | M14 (3) | 30 | K15 | 100x94 | 110 | 66 | 105 | 12 | 85 | 12 | M14 | 30 | 3x120° | 65 | X16 |

| Dimensions, hollow shafts | | | | | | | | | | | | | Hollow for Shrink Disc | | | | | | | Hollow Splined | | | | | | | | | |
|---------------------------|-----|----|-----|------|--------|-----|----|-----|----|----------------|----------------|----------------|------------------------|-----|-----|----|-----|-----|-----|----------------|----------------------|-------|----|----|----|----|----|----|------|
| Model | A | la | B | db | vb | C | lc | D | p | l ₁ | l ₂ | l ₃ | l ₄ | Dp | lp | Dq | lq | Dw | lw | code | L min. of torque arm | Dz | lz | de | le | di | li | t | code |
| 140 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 291 | 345 | 395 | 110 | 110 | 85 | 160 | 140 | 104 | P 24 | 400 | 80x74 | 47 | 85 | 20 | 70 | 10 | 75 | Z 21 |
| 170 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 291 | 345 | 395 | 110 | 110 | 85 | 160 | 140 | 104 | P 24 | 400 | 80x74 | 47 | 85 | 20 | 70 | 10 | 75 | Z 21 |
| 200 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 206 | 290 | 359 | 413 | 110 | 110 | 85 | 160 | 140 | 104 | P 24 | 500 | 90x84 | 48 | 95 | 20 | 70 | 10 | 75 | Z 23 |
| 220 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 226 | 310 | 379 | 433 | 110 | 110 | 85 | 160 | 140 | 104 | P 24 | 500 | 90x84 | 48 | 95 | 20 | 70 | 10 | 75 | Z 23 |
| 260 | 325 | 25 | 295 | 16.5 | 20x18° | 230 | 10 | 360 | 36 | 226 | 325 | 394 | 448 | 110 | 110 | 85 | 160 | 140 | 104 | P 24 | 500 | 90x84 | 48 | 95 | 20 | 70 | 10 | 75 | Z 23 |

DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED

| Model | 140 | | 170 | | 200 | | 220 | | 260 | |
|--|--|----------|---|----------|--|----------|---|----------|---|----------|
| Torque Rating ^① | 14000 Nm | | 17000 Nm | | 20000 Nm | | 22000 Nm | | 26000 Nm | |
| L1 | RATIO (ACT. RATING) 3.3 (B)* 5.0 (B) 6.9 (C) 3.8 (A) 6.1 (B) * on request | | RATIO (ACT. RATING) 3.3 (B)* 5.1 (B) 4.3 (A) * on request | | RATIO (ACT. RATING) 3.7 (A) 4.4 (A) | | RATIO (ACT. RATING) 3.7 (A) 5.8 (C) 5.0 (B) 6.9 (D) | | RATIO (ACT. RATING) 4.3 (A) 5.1 (B) | |
| n ₁ nom./max. | 2000 rpm | 3000 rpm | 2000 rpm | 3000 rpm | 2000 rpm | 3000 rpm | 1800 rpm | 2500 rpm | 1800 rpm | 2500 rpm |
| P th./ P mech. | 30 kW | 200 kW | 30 kW | 210 kW | 30 kW | 220 kW | 37 kW | 240 kW | 37 kW | 265 kW |
| L2 | NOM. RATIO ^② (ACT. RATING) 12 (B)* 30 (B) 14 (A) 36 (B) 19 (A) 42 (B) 22 (A) 48 (C) 26 (A) * on request | | NOM. RATIO ^② (ACT. RATING) 12 (B)* 30 (A) 16 (A) 35 (B) 19 (B) 22 (A) 25 (A) * on request | | NOM. RATIO ^② (ACT. RATING) 12 (A) 26 (A) 14 (A) 30 (A) 16 (A) 19 (A) 22 (A) | | NOM. RATIO ^② (ACT. RATING) 12 (A) 26 (A) 48 (D) 14 (A) 30 (B) 16 (B) 35 (B) 19 (A) 40 (C) 22 (A) 42 (D) | | NOM. RATIO ^② (ACT. RATING) 16 (A) 35 (B) 19 (B) 22 (A) 25 (A) 30 (A) | |
| n ₁ nom./max. | 2800 rpm | 3800 rpm | 2800 rpm | 3800 rpm | 2800 rpm | 3800 rpm | 2800 rpm | 3800 rpm | 2000 rpm | 3000 rpm |
| P th./ P mech. | 18.5 kW | 90 kW | 18.5 kW | 95 kW | 18.5 kW | 100 kW | 22 kW | 132 kW | 22 kW | 150 kW |
| L3 | NOM. RATIO ^② (ACT. RATING) 48 (A) 130 (A) 260 (B) 53 (A) 150 (A) 300 (B) 63 (A) 160 (A) 340 (C) 71 (A) 180 (A) 80 (A) 200 (B) 95 (A) 220 (B) 110 (A) 240 (B) | | NOM. RATIO ^② (ACT. RATING) 53 (A) 110 (A) 60 (A) 130 (A) 71 (B) 150 (A) 75 (A) 170 (A) 85 (A) 180 (A) 95 (A) 210 (A) 100 (A) 240 (B) | | NOM. RATIO ^② (ACT. RATING) 42 (A) 110 (A) 48 (A) 130 (A) 53 (A) 140 (A) 60 (A) 150 (A) 71 (A) 160 (A) 80 (A) 180 (A) 95 (A) 210 (A) | | NOM. RATIO ^② (ACT. RATING) 42 (A) 120 (A) 300 (D) 48 (A) 140 (A) 340 (D) 53 (A) 160 (A) 63 (A) 180 (A) 71 (A) 210 (B) 85 (A) 240 (B) 100 (A) 280 (C) | | NOM. RATIO ^② (ACT. RATING) 53 (A) 150 (A) 60 (A) 170 (A) 71 (B) 180 (A) 80 (A) 210 (A) 95 (A) 240 (B) 110 (A) 130 (A) | |
| n ₁ nom./max. | 3000 rpm | 4000 rpm | 3000 rpm | 4000 rpm | 2800 rpm | 3800 rpm | 2800 rpm | 3800 rpm | 2800 rpm | 3800 rpm |
| P th./ P mech. | 11.5 kW | 30 kW | 11.5 kW | 32 kW | 11.5 kW | 35 kW | 15 kW | 60 kW | 15 kW | 65 kW |
| L4 | NOM. RATIO ^② (ACT. RATING) 200 (A) 560 (A) 1100 (A) 240 (A) 600 (A) 1250 (A) 260 (A) 670 (A) 1400 (B) 300 (A) 710 (A) 1500 (B) 320 (A) 750 (A) 1700 (B) 360 (A) 800 (A) 1800 (B) 420 (A) 900 (A) 2000 (B) 480 (A) 1050 (A) 2300 (C) | | NOM. RATIO ^② (ACT. RATING) 220 (A) 710 (A) 1400 (A) 260 (B) 750 (A) 1500 (B) 300 (A) 800 (A) 1700 (B) 360 (A) 900 (A) 420 (A) 950 (A) 480 (A) 1050 (A) 560 (A) 1200 (A) 630 (A) 1300 (A) | | NOM. RATIO ^② (ACT. RATING) 220 (A) 670 (A) 260 (A) 710 (A) 300 (A) 800 (A) 360 (A) 900 (A) 420 (A) 1050 (A) 480 (A) 1250 (A) 560 (A) 1400 (A) 600 (A) | | NOM. RATIO ^② (ACT. RATING) 200 (A) 500 (A) 1250 (A) 240 (A) 600 (A) 1500 (B) 260 (A) 670 (A) 1700 (B) 280 (A) 710 (A) 1900 (C) 320 (A) 800 (A) 2000 (D) 360 (A) 900 (A) 2300 (D) 400 (A) 1000 (A) 450 (A) 1100 (A) | | NOM. RATIO ^② (ACT. RATING) 220 (A) 670 (A) 1400 (A) 260 (B) 750 (A) 1500 (B) 300 (A) 850 (A) 1700 (B) 360 (A) 900 (A) 420 (A) 950 (A) 480 (A) 1050 (A) 560 (A) 1200 (A) 600 (A) 1300 (A) | |
| n ₁ nom./max. | 3000 rpm | 4000 rpm | 3000 rpm | 4000 rpm | 3000 rpm | 4000 rpm | 3000 rpm | 4000 rpm | 3000 rpm | 4000 rpm |
| P th./ P mech. | 9 kW | 22 kW | 9 kW | 23 kW | 9 kW | 24 kW | 10 kW | 25 kW | 10 kW | 26.5 kW |
| Actual Torque Rating [Nm] ^③ | (A) 18000 (B) 15000 (C) 13000 | | (A) 20500 (B) 18000 | | (A) 24000 | | (A) 29000 (B) 23000 (C) 21000 (D) 19000 | | (A) 32000 (B) 29000 | |
| Peak Torque ^④ | 22000 Nm | | 26000 Nm | | 30000 Nm | | 33000 Nm | | 35000 Nm | |

Data and dimensions are not binding and may be modified without prior notice



- ① Harmonized nominal value referring to Preferred Numbers R'40. Actual transmissible torque may vary depending on ratio, speed, application.
- ② Harmonized nominal value referring to Preferred Numbers R'40. For actual ratios see Annex C.
- ③ Thermal power limit. For actual figures based on speed, temperature and duty see Section B4, Specifications, Paragraph 8.
- ④ Mean value at rated conditions. For actual figures based on speed, service life and application/duty see Section B4, Specifications, Paragraph 6.
- ⑤ Restrictions may apply for hollow shaft for shrink disc, see Section G, Output Accessories. Customer to verify the mating shaft is capable of loads actually transmitted.
- ⑥ Mean values at rated conditions. For actual admissible loads based on speed, service life and application/duty see Section B4, Specifications, Paragraph 9.
- ⑦ Max. peak values, which must never be exceeded. Combined thrust and radial shaft loads might reduce bearing life. Please contact Plan-Star Engineering for accurate life calculation of your specific application.
- ⑧ Combination of high torque and heavy radial shaft load might require verification of the output shaft. If the following condition is not fulfilled, contact Plan-Star Engineering for accurate verification of your specific application:

$$\frac{\text{Radial Load (applied)}}{\text{Radial Load (admissible)}} \times \frac{\text{Torque (applied)}}{\text{Torque (nominal)}} < 0.5$$