

PBL series

■ 1-Stage Backlash ≤ 10 arcmin

■ 2-Stage Backlash ≤ 12 arcmin



Indication of Model Numbers

| | | | | | | |
|------------|--|---|--|---|---|--------------|
| PBL | 90 | - | 10 | □ | - | MOTOR |
| Type | Model | | Ratio | Output Shaft Keyway | | Motor Type |
| PBL | 44 62 90 120 142 180 220 | | 1-Stage 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20 2-Stage 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200 | □ Standard (Keyway) N: Solid Output Shaft (No Keyway) | | |

Quiet operation

Grinding spiral bevel gear & Helical gears contribute to reduce vibration and noise.

High Rigidity & High Torque

High rigidity & high torque are achieved by integrant needle roller bearings and one-piece constructed.

High Efficiency

Efficiency for 1-stage model exceeds 95%; 2-stage model exceeds 92%.

PBL
SB
SBL
SBT
SE
SEL
SD
SDL
SDD
SR
SDH
SF
SFL
SA
PB
PBL
PBT
FA
SN
SNL
FB
FE
AD
PE

Features of PBL Series

PBL



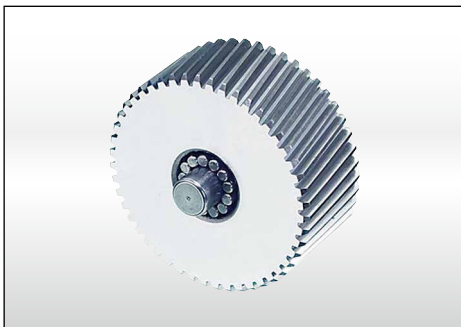
Spiral Bevel Gear

Grinding spiral bevel gear is excellent in transmission efficiency, stability, durability, large arc overlapping factor, heavy loading, compact structure, wear-resisting and long service life.



Integrated Planetary Arm Bracket

The planetary arm bracket and the output shaft are one-piece constructed to increase torsional rigidity and accuracy.



Full Needle Roller Bearings Design

The planetary gear transmission employs full needle roller bearings without retainer to increase the contact surface, which greatly upgrades structural rigidity and service life.



Collet Locking Mechanism

The input-end and the motor are coupled through a collet locking mechanism. It has passed dynamical balance analysis to assure concentricity and balance on the connection and no backlash for power transmission while running at high speed.



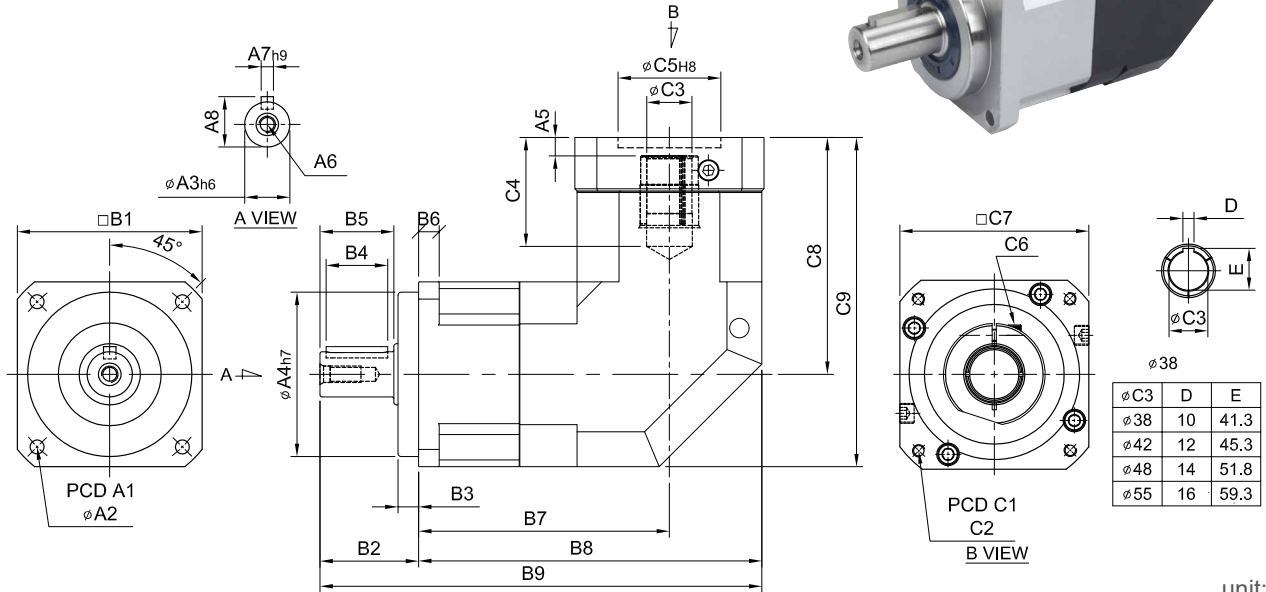
One-piece Helical Gear Box

The gear box and internal ring gear are one-piece constructed. The speed reduction mechanism employs helical gears, which provides two times meshing rate of teeth when comparing with regular spur gears. In addition, it also has features of extremely smooth running, low noise, high output torque and low backlash.

MODEL : PBL

1-Stage

RATIO : 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20



unit: mm

| Code | Model | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
|------|-------|--------------|-------------------|----------------------|-----------------|-------------------|------------------------|-------------------|
| A | A1 | 50 | 70 | 100 | 130 | 165 | 215 | 250 |
| | A2 | 4.5 | 5.5 | 6.8 | 9 | 11 | 13 | 17 |
| | A3 | 13 | 16 | 22 | 32 | 40 | 55 | 75 |
| | A4 | 35 | 50 | 80 | 110 | 130 | 160 | 180 |
| | A5 | 6 | 6 | 9 · 23.5 | 10 · 20 | 10 | 12.5 · 14.5 | 12.5 · 14.5 |
| | A6 | M4 × P0.7 | M5 × P0.8 | M8 × P1.25 | M10 × P1.5 | M12 × P1.75 | M14 × P2.0 | M16 × P2.0 |
| | A7 | 5 | 5 | 6 | 10 | 12 | 16 | 20 |
| | A8 | 15 | 18 | 24.5 | 35 | 43 | 59 | 79.5 |
| B | B1 | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
| | B2 | 26 | 36 | 48 | 65 | 92 | 106 | 139 |
| | B3 | 5 | 7 | 10 | 12 | 15 | 20 | 30 |
| | B4 | 15 | 20 | 30 | 40 | 65 | 70 | 90 |
| | B5 | 20 | 28 | 36 | 50 | 74 | 82 | 104 |
| | B6 | 5 | 8 | 10 | 12 | 15 | 16 | 20 |
| | B7 | 76 | 84.5 | 122.1 | 148 | 165.5 | 223.6 | 231.6 |
| | B8 | 98 | 115.5 | 167.1 | 208 | 236.5 | 313.6 | 341.6 |
| | B9 | 124 | 151.5 | 215.1 | 273 | 328.5 | 419.6 | 480.6 |
| C | C1 | 46 · 60 · 63 | 70 · 75 · 90 | 90 · 100 · 115 · 145 | 115 · 145 · 165 | 145 · 165 · 215 | 200 · 215 · 265 | 200 · 265 · 300 |
| | C2 | M3 · M4 · M5 | M4 · M5 · M6 | M5 · M6 · M8 | M6 · M8 · M10 | M8 · M10 · M12 | M10 · M12 · M16 | M12 · M16 |
| | C3 | 8 · 9 · 11 | 11 · 14 · 16 · 19 | 16 · 19 · 22 · 24 | 24 · 28 · 32 | 28 · 32 · 35 · 38 | 35 · 38 · 42 · 48 · 55 | 38 · 42 · 48 · 55 |
| | C4 | 27 | 33.5 · 42 | 53 · 67.5 | 67 · 77 | 85 | 117 · 119 | 117 · 119 |
| | C5 | 30 · 40 · 50 | 50 · 60 · 70 | 70 · 80 · 95 · 110 | 95 · 110 · 130 | 110 · 130 · 180 | 114.3 · 180 · 230 | 114.3 · 230 · 250 |
| | C6 | M4 × P0.7 | M5 × P0.8 | M6 × P1.0 | M8 × P1.25 | M10 × P1.5 | M10 × P1.5 | M10 × P1.5 |
| | C7 | 46 · 55 | 64 · 70 · 80 | 92 · 110 · 130 | 122 · 130 · 150 | 146 · 150 · 190 | 182 · 200 · 250 | 222 · 250 · 265 |
| | C8 | 61 | 77 · 85 | 115.3 · 129.8 | 141 · 151 | 165.7 | 235 · 237 | 235 · 237 |
| | C9 | 83 | 108 · 116 | 160.3 · 174.8 | 201 · 211 | 236.7 | 325 · 327 | 345 · 347 |

Characteristic of PBL 1-Stage PBL

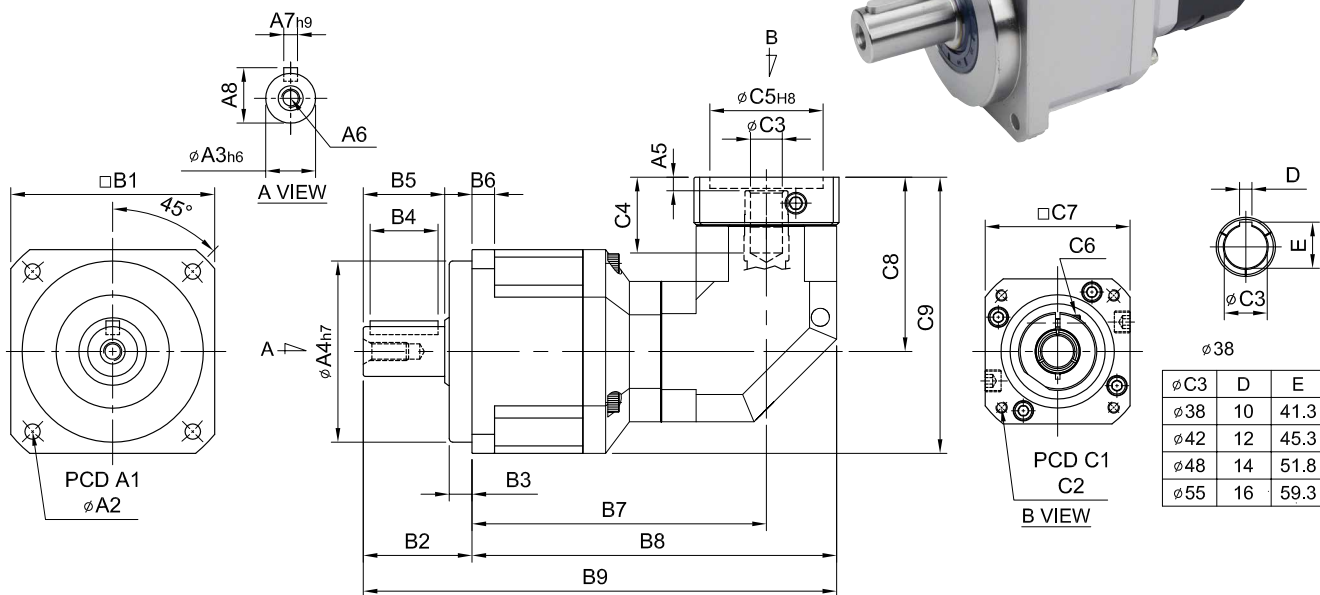
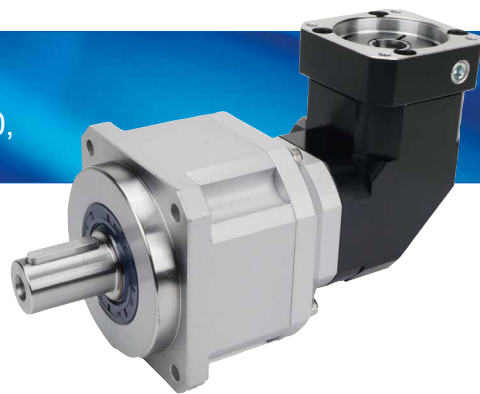
| Model No. | | Unit | Ratio | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
|--|------------|-----------|-------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| / Rated Output Torque (Nominal output torque) | T_{2N} | Nm | 3 | 17 | 54 | 145 | 301 | 553 | 1,067 | 1,786 |
| | | | 4 | 15 | 48 | 128 | 269 | 491 | 940 | 1,587 |
| | | | 5 | 14 | 45 | 132 | 278 | 510 | 1,050 | 1,770 |
| | | | 6 | 13 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 7 | 13 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 8 | 12 | 39 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 9 | 11 | 40 | 120 | 227 | 412 | 875 | 1,490 |
| | | | 10 | 12 | 40 | 116 | 246 | 452 | 930 | 1,565 |
| | | | 12 | 13 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 14 | 13 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 16 | 12 | 39 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 18 | 11 | 40 | 120 | 227 | 412 | 875 | 1,490 |
| 20 | 12 | 40 | 116 | 246 | 452 | 930 | 1,565 | | | |
| / Max. Acceleration Torque | T_{2B} | Nm | 3~20 | 1.8 Times of Rated Output Torque | | | | | | |
| / Max. Output Torque / Emergency Stop Torque | T_{2NOT} | Nm | 3~20 | 3 Times of Rated Output Torque | | | | | | |
| / Rated Input Speed | n_{1N} | rpm | 3~20 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 |
| / Max. Input Speed | n_{1B} | rpm | 3~20 | 6,000 | 6,000 | 6,000 | 5,000 | 5,000 | 4,000 | 3,000 |
| / Torsional Rigidity | | Nm/arcmin | 3~20 | 3 | 6 | 14 | 27 | 60 | 140 | 240 |
| / Max. Radial Force | F_{2rB} | N | 3~20 | 360 | 1,120 | 3,040 | 6,460 | 8,830 | 14,820 | 48,450 |
| / Max. Axial Force | F_{2aB} | N | 3~20 | 180 | 560 | 1,520 | 3,230 | 4,410 | 7,410 | 24,225 |
| / Service Life | L_H | hr | 3~20 | S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs) | | | | | | |
| / Efficiency | η | % | 3~20 | $\geq 95\%$ | | | | | | |
| / Operating Temperature | | °C | 3~20 | -25° C ~ +90° C | | | | | | |
| / Lubrication | | | 3~20 | Synthetic Grease | | | | | | |
| / Protection Class | | | 3~20 | IP65 | | | | | | |
| / Mounting Position | | | 3~20 | Any | | | | | | |
| / Noise Level | | dB | 3~20 | ≤ 65 | ≤ 68 | ≤ 70 | ≤ 72 | ≤ 74 | ≤ 76 | ≤ 78 |
| / Weight $\pm 3\%$ | | Kg | 3~20 | 0.99 | 2.1 | 6.88 | 12.5 | 23.16 | 51 | 75.2 |

■ Mass Moments of Inertia (kg.cm²)

| Ratio | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
|-------|------|------|------|------|------|------|-------|
| 3 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 4 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 5 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 6 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 7 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 8 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 9 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 10 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135.0 |
| 12 | 0.03 | 0.08 | 1.88 | 6.20 | 21.8 | 65.5 | 119.2 |
| 14 | 0.03 | 0.08 | 1.88 | 6.20 | 21.8 | 65.5 | 119.2 |
| 16 | 0.03 | 0.08 | 1.88 | 6.20 | 21.8 | 65.5 | 119.2 |
| 18 | 0.03 | 0.08 | 1.88 | 6.20 | 21.8 | 65.5 | 119.2 |
| 20 | 0.03 | 0.08 | 1.88 | 6.20 | 21.8 | 65.5 | 119.2 |

MODEL : PBL

RATIO : 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200 (2-Stage)



unit: mm

| Code | Model | 62 | 90 | 120 | 142 | 180 | 220 |
|------|-------|--------------|-------------------|----------------------|---------------------|-------------------|------------------------|
| A | A1 | 70 | 100 | 130 | 165 | 215 | 250 |
| | A2 | 5.5 | 6.8 | 9 | 11 | 13 | 17 |
| | A3 | 16 | 22 | 32 | 40 | 55 | 75 |
| | A4 | 50 | 80 | 110 | 130 | 160 | 180 |
| | A5 | 6 | 6 | 9 · 23.5 | 10 · 20 | 10 | 12.5 · 14.5 |
| | A6 | M5 × P0.8 | M8 × P1.25 | M10 × P1.5 | M12 × P1.75 | M14 × P2.0 | M16 × P2.0 |
| | A7 | 5 | 6 | 10 | 12 | 16 | 20 |
| | A8 | 18 | 24.5 | 35 | 43 | 59 | 79.5 |
| B | B1 | 62 | 90 | 120 | 142 | 180 | 220 |
| | B2 | 36 | 48 | 65 | 92 | 106 | 139 |
| | B3 | 7 | 10 | 12 | 15 | 20 | 30 |
| | B4 | 20 | 30 | 40 | 65 | 70 | 90 |
| | B5 | 28 | 36 | 50 | 74 | 82 | 104 |
| | B6 | 8 | 10 | 12 | 15 | 16 | 20 |
| | B7 | 110.5 | 130 | 181.6 | 214.5 | 249.5 | 313.6 |
| | B8 | 132.5 | 161 | 266.6 | 274.5 | 320.5 | 403.6 |
| | B9 | 168.5 | 209 | 291.6 | 366.5 | 426.5 | 542.6 |
| C | C1 | 46 · 60 · 63 | 70 · 75 · 90 | 90 · 110 · 115 · 145 | 115 · 145 · 165 | 145 · 165 · 215 | 200 · 215 · 265 |
| | C2 | M3 · M4 · M5 | M4 · M5 · M6 | M5 · M6 · M8 · M10 | M6 · M8 · M10 | M8 · M10 · M12 | M10 · M12 · M16 |
| | C3 | 8 · 9 · 11 | 11 · 14 · 16 · 19 | 16 · 19 · 22 · 24 | 24 · 28 · 32 | 28 · 32 · 35 · 38 | 35 · 38 · 42 · 48 · 55 |
| | C4 | 27 | 33.5 · 42 | 53 · 67.5 | 67 · 77 | 85 | 117 · 119 |
| | C5 | 30 · 40 · 50 | 50 · 60 · 70 | 70 · 80 · 95 · 110 | 70 · 95 · 110 · 130 | 110 · 130 · 180 | 114.3 · 180 · 230 |
| | C6 | M4 × P0.7 | M5 × P0.8 | M6 × P1.0 | M8 × P1.25 | M10 × P1.5 | M10 × P1.5 |
| | C7 | 46 · 55 | 64 · 70 · 80 | 92 · 110 · 130 | 122 · 130 · 150 | 146 · 150 · 190 | 182 · 200 · 250 |
| | C8 | 61 | 77 · 85 | 115.3 · 129.8 | 141 · 151 | 165.7 | 235 · 237 |
| | C9 | 92 | 122 · 130 | 175.3 · 189.8 | 212 · 222 | 255.7 | 345 · 347 |

Characteristic of PBL 2-Stage PBL

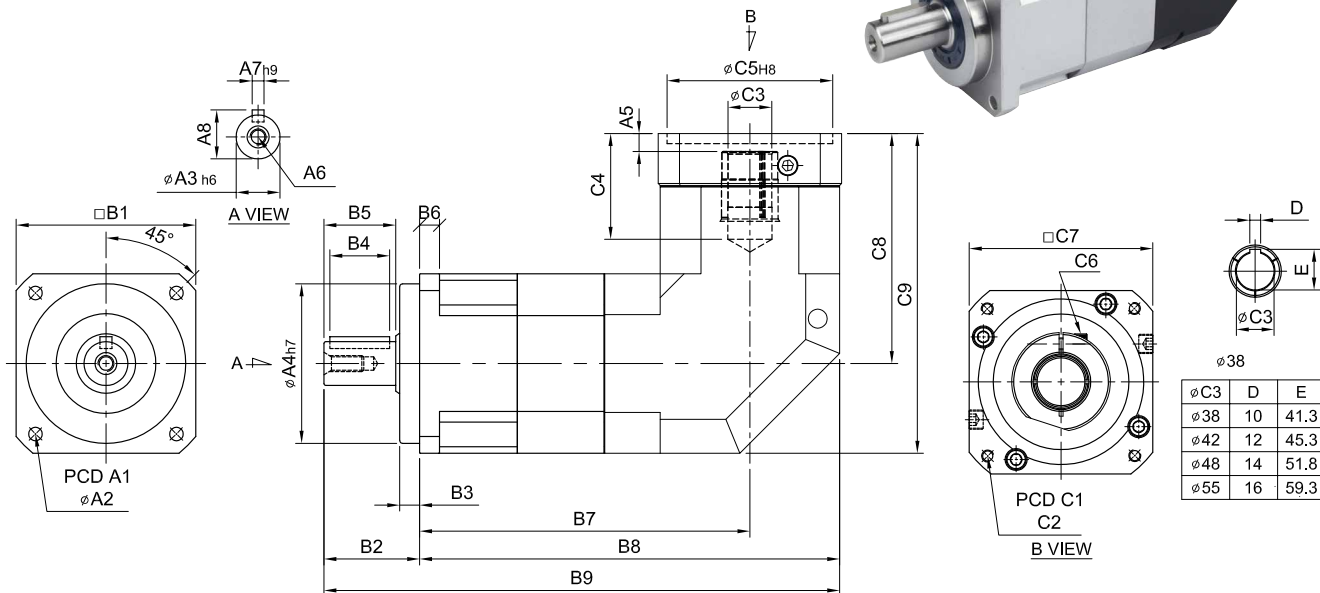
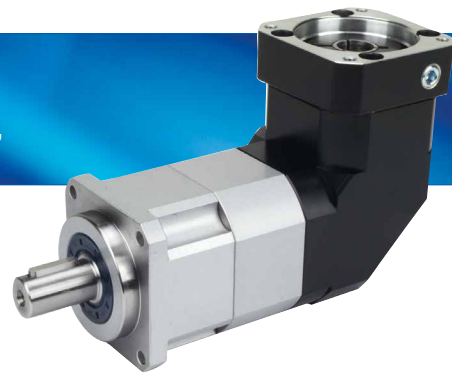
| Model No. | | Unit | Ratio | 62 | 90 | 120 | 142 | 180 | 220 |
|--|------------|-----------|--------|--|-----------|-----------|-----------|-----------|-----------|
| / Rated Output Torque (Nominal output torque) | T_{2N} | Nm | 15 | 54 | 145 | 301 | 553 | 1,067 | 1,786 |
| | | | 20 | 48 | 128 | 269 | 491 | 940 | 1,587 |
| | | | 25 | 45 | 132 | 278 | 510 | 1,050 | 1,770 |
| | | | 30 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 35 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 40 | 39 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 50 | 45 | 132 | 278 | 510 | 1,050 | 1,770 |
| | | | 60 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 70 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 80 | 40 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 90 | 40 | 120 | 227 | 412 | 875 | 1,490 |
| | | | 100 | 40 | 116 | 246 | 452 | 930 | 1,565 |
| | | | 120 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 140 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 160 | 40 | 115 | 241 | 442 | 942 | 1,605 |
| 180 | 40 | 120 | 227 | 412 | 875 | 1,490 | | | |
| 200 | 40 | 116 | 246 | 452 | 930 | 1,565 | | | |
| / Max. Acceleration Torque | T_{2B} | Nm | 15~200 | 1.8 Times of Rated Output Torque | | | | | |
| / Max. Output Torque / Emergency Stop Torque | T_{2NOT} | Nm | 15~200 | 3 Times of Rated Output Torque | | | | | |
| / Rated Input Speed | n_{1N} | rpm | 15~200 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 |
| / Max. Input Speed | n_{1B} | rpm | 15~200 | 6,000 | 6,000 | 5,000 | 5,000 | 4,000 | 3,000 |
| / Torsional Rigidity | | Nm/arcmin | 15~200 | 6 | 14 | 27 | 60 | 140 | 240 |
| / Max. Radial Force | F_{2rB} | N | 15~200 | 1,120 | 3,040 | 6,460 | 8,830 | 14,820 | 48,450 |
| / Max. Axial Force | F_{2aB} | N | 15~200 | 560 | 1,520 | 3,230 | 4,410 | 7,410 | 24,225 |
| / Service Life | L_{11} | hr | 15~200 | S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs) | | | | | |
| / Efficiency | η | % | 15~200 | $\geq 92\%$ | | | | | |
| / Operating Temperature | | °C | 15~200 | -25° C ~ +90° C | | | | | |
| / Lubrication | | | 15~200 | Synthetic Grease | | | | | |
| / Protection Class | | | 15~200 | IP65 | | | | | |
| / Mounting Position | | | 15~200 | Any | | | | | |
| / Noise Level | | dB | 15~200 | ≤ 68 | ≤ 70 | ≤ 72 | ≤ 74 | ≤ 76 | ≤ 78 |
| / Weight $\pm 3\%$ | | Kg | 15~200 | 2 | 6.1 | 12.5 | 23.2 | 41.4 | 73 |

■ Mass Moments of Inertia (kg.cm²)

| Ratio | 62 | 90 | 120 | 142 | 180 | 220 |
|-------|------|------|------|------|------|------|
| 15 | 0.09 | 0.36 | 2.28 | 6.85 | 26.2 | 70.1 |
| 20 | 0.09 | 0.36 | 2.28 | 6.85 | 26.2 | 70.1 |
| 25 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 30 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 35 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 40 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 50 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 60 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 70 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 80 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 90 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 100 | 0.09 | 0.36 | 2.28 | 6.85 | 23.1 | 68.2 |
| 120 | 0.03 | 0.10 | 1.88 | 6.20 | 21.2 | 65.1 |
| 140 | 0.03 | 0.10 | 1.88 | 6.20 | 21.2 | 65.1 |
| 160 | 0.03 | 0.10 | 1.88 | 6.20 | 21.2 | 65.1 |
| 180 | 0.03 | 0.10 | 1.88 | 6.20 | 21.2 | 65.1 |
| 200 | 0.03 | 0.10 | 1.88 | 6.20 | 21.2 | 65.1 |

MODEL : PBL-A

RATIO : 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 180, 200 (2-Stage)



unit: mm

| Code | Model | 44A | 62A | 90A | 120A | 142A | 180A | 220A |
|------|-------|--------------|-------------------|----------------------|-----------------|-------------------|------------------------|-------------------|
| A | A1 | 50 | 70 | 100 | 130 | 165 | 215 | 250 |
| | A2 | 4.5 | 5.5 | 6.8 | 9 | 11 | 13 | 17 |
| | A3 | 13 | 16 | 22 | 32 | 40 | 55 | 75 |
| | A4 | 35 | 50 | 80 | 110 | 130 | 160 | 180 |
| | A5 | 6 | 6 | 9 · 23.5 | 10 · 20 | 10 | 12.5 · 14.5 | 12.5 · 14.5 |
| | A6 | M4 × P0.7 | M5 × P0.8 | M8 × P1.25 | M10 × P1.5 | M12 × P1.75 | M14 × P2.0 | M16 · P2.0 |
| | A7 | 5 | 5 | 6 | 10 | 12 | 16 | 20 |
| | A8 | 15 | 18 | 24.5 | 35 | 43 | 59 | 79.5 |
| B | B1 | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
| | B2 | 26 | 36 | 48 | 65 | 92 | 106 | 139 |
| | B3 | 5 | 7 | 10 | 12 | 15 | 20 | 30 |
| | B4 | 15 | 20 | 30 | 40 | 65 | 70 | 90 |
| | B5 | 20 | 28 | 36 | 50 | 74 | 82 | 104 |
| | B6 | 5 | 8 | 10 | 12 | 15 | 16 | 20 |
| | B7 | 102 | 118.3 | 165.6 | 204 | 232 | 304.6 | 324.6 |
| | B8 | 124 | 149.3 | 210.6 | 264 | 303 | 394.6 | 434.6 |
| C | B9 | 150 | 185.3 | 258.6 | 329 | 395 | 500.6 | 573.6 |
| | C1 | 46 · 60 · 63 | 70 · 75 · 90 | 90 · 100 · 115 · 145 | 115 · 145 · 165 | 145 · 165 · 215 | 200 · 215 · 265 | 200 · 265 · 300 |
| | C2 | M3 · M4 · M5 | M4 · M5 · M6 | M5 · M6 · M8 | M6 · M8 · M10 | M8 · M10 · M12 | M10 · M12 · M16 | M12 · M16 |
| | C3 | 8 · 9 · 11 | 11 · 14 · 16 · 19 | 16 · 19 · 22 · 24 | 24 · 28 · 32 | 28 · 32 · 35 · 38 | 35 · 38 · 42 · 48 · 55 | 38 · 42 · 48 · 55 |
| | C4 | 27 | 33.5 · 42 | 53 · 67.5 | 67 · 77 | 85 | 117 · 119 | 117 · 119 |
| | C5 | 30 · 40 · 50 | 50 · 60 · 70 | 70 · 80 · 95 · 110 | 95 · 110 · 130 | 110 · 130 · 180 | 114.3 · 180 · 230 | 114.3 · 230 · 250 |
| | C6 | M4 × P0.7 | M5 × P0.8 | M6 × P1.0 | M8 × P1.25 | M10 × P1.5 | M10 × P1.5 | M10 · P1.5 |
| | C7 | 46 · 55 | 64 · 70 · 80 | 92 · 110 · 130 | 122 · 130 · 150 | 146 · 150 · 190 | 182 · 200 · 250 | 220 · 250 · 265 |
| | C8 | 61 | 77 · 85 | 115.3 · 129.8 | 141 · 151 | 165.7 | 235 · 237 | 235 · 237 |
| C9 | 83 | 108 · 116 | 160.3 · 174.8 | 201 · 211 | 236.7 | 325 · 327 | 345 · 347 | |

Characteristic of PBL-A 2-Stage

PBL-A

| Model No. | | Unit | Ratio | 44A | 62A | 90A | 120A | 142A | 180A | 220A |
|--|------------|-----------|--------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| / Rated Output Torque (Nominal output torque) | T_{2N} | Nm | 15 | 17 | 54 | 145 | 301 | 553 | 1,067 | 1,786 |
| | | | 20 | 15 | 48 | 128 | 269 | 491 | 940 | 1,587 |
| | | | 25 | 14 | 45 | 132 | 278 | 510 | 1,050 | 1,770 |
| | | | 30 | 13 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 35 | 13 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 40 | 12 | 39 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 50 | 11 | 45 | 132 | 278 | 510 | 1,050 | 1,770 |
| | | | 60 | 12 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 70 | 13 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 80 | 13 | 40 | 115 | 241 | 442 | 942 | 1,605 |
| | | | 90 | 12 | 40 | 120 | 227 | 412 | 875 | 1,490 |
| | | | 100 | 11 | 40 | 116 | 246 | 452 | 930 | 1,565 |
| | | | 120 | 12 | 41 | 125 | 252 | 466 | 985 | 1,680 |
| | | | 140 | 13 | 41 | 123 | 258 | 473 | 975 | 1,645 |
| | | | 160 | 13 | 39 | 115 | 241 | 442 | 942 | 1,605 |
| 180 | 12 | 40 | 120 | 227 | 412 | 875 | 1,490 | | | |
| 200 | 11 | 40 | 116 | 246 | 452 | 930 | 1,565 | | | |
| / Max. Acceleration Torque | T_{2B} | Nm | 15~200 | 1.8 Times of Rated Output Torque | | | | | | |
| / Max. Output Torque / Emergency Stop Torque | T_{2NOT} | Nm | 15~200 | 3 Times of Rated Output Torque | | | | | | |
| / Rated Input Speed | n_{1N} | rpm | 15~200 | | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 |
| / Max. Input Speed | n_{1B} | rpm | 15~200 | | 6,000 | 6,000 | 5,000 | 5,000 | 4,000 | 3,000 |
| / Torsional Rigidity | | Nm/arcmin | 15~200 | | 6 | 14 | 27 | 60 | 140 | 240 |
| / Max. Radial Force | F_{2rB} | N | 15~200 | | 1,120 | 3,040 | 6,460 | 8,830 | 14,820 | 48,450 |
| / Max. Axial Force | F_{2aB} | N | 15~200 | | 560 | 1,520 | 3,230 | 4,410 | 7,410 | 24,225 |
| / Service Life | L_{H1} | hr | 15~200 | S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs) | | | | | | |
| / Efficiency | η | % | 15~200 | $\geq 92\%$ | | | | | | |
| / Operating Temperature | | °C | 15~200 | -25° C ~ +90° C | | | | | | |
| / Lubrication | | | 15~200 | Synthetic Grease | | | | | | |
| / Protection Class | | | 15~200 | IP65 | | | | | | |
| / Mounting Position | | | 15~200 | Any | | | | | | |
| / Noise Level | | dB | 15~200 | ≤ 65 | ≤ 68 | ≤ 70 | ≤ 72 | ≤ 74 | ≤ 76 | ≤ 78 |
| / Weight $\pm 3\%$ | | Kg | 15~200 | 1.5 | 3 | 8.15 | 13.9 | 29.4 | 52.4 | 94.5 |

■ Mass Moments of Inertia (kg.cm²)

| Ratio | 44A | 62A | 90A | 120A | 142A | 180A | 220A |
|-------|------|------|------|------|-------|------|------|
| 15 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 55.2 | 80.2 |
| 20 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 55.2 | 80.2 |
| 25 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 30 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 35 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 40 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 50 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 60 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 70 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 80 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 90 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 100 | 0.09 | 0.36 | 2.28 | 6.85 | 23.50 | 50.4 | 76.5 |
| 120 | 0.03 | 0.08 | 1.88 | 6.20 | 21.80 | 48.7 | 74.2 |
| 140 | 0.03 | 0.08 | 1.88 | 6.20 | 21.80 | 48.7 | 74.2 |
| 160 | 0.03 | 0.08 | 1.88 | 6.20 | 21.80 | 48.7 | 74.2 |
| 180 | 0.03 | 0.08 | 1.88 | 6.20 | 21.80 | 48.7 | 74.2 |
| 200 | 0.03 | 0.08 | 1.88 | 6.20 | 21.80 | 48.7 | 74.2 |