

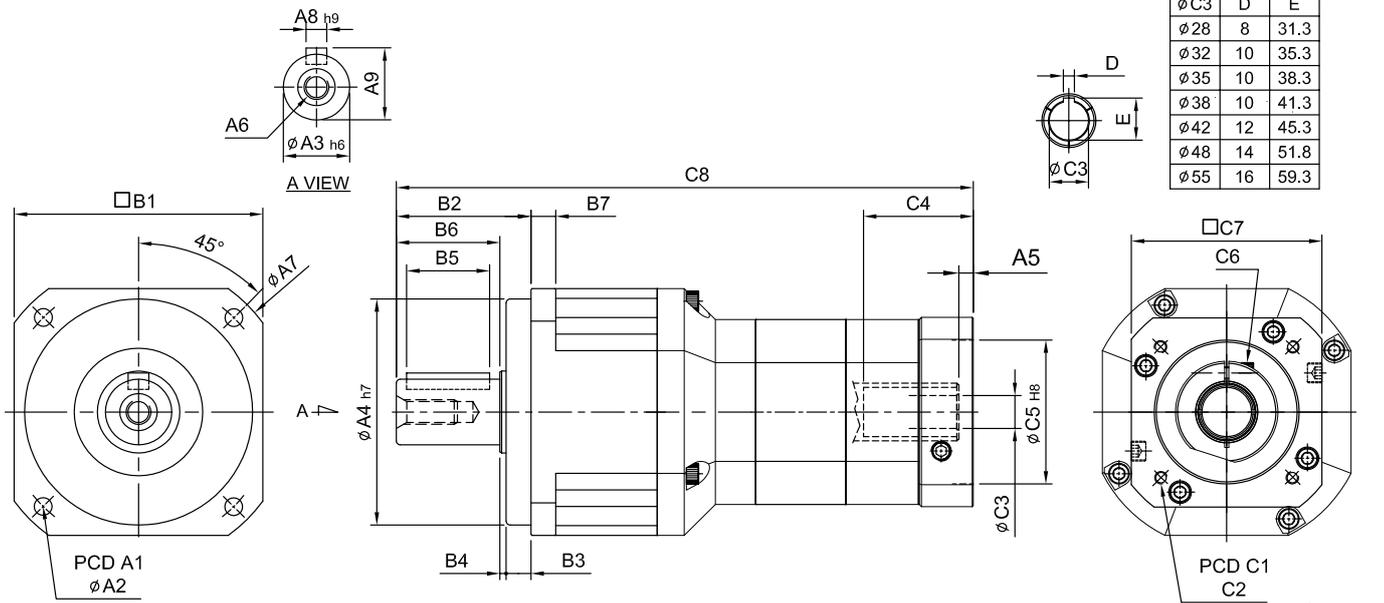
SERVOBOX Planetary Reducers



MODEL : SB-A

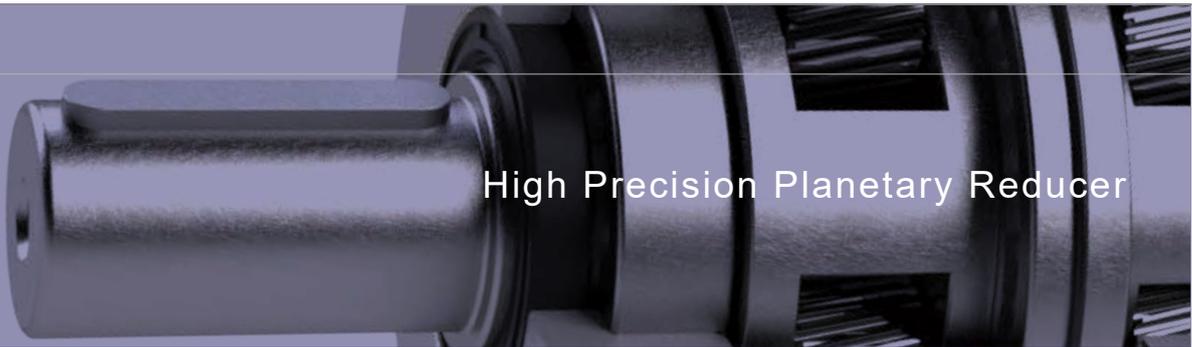
三段 3-Stage

RATIO : 125, 150, 175, 200, 250, 300, 350,
400, 450, 500, 600, 700, 800, 900, 1000



unit: mm

| Model Code | 62A | 90A | 120A | 142A | 180A | 220A |
|------------|-----------|-------------|----------------|-------------|-------------|----------------|
| 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 | 5 | 6 | 9・23.5 | 10・20 | 10 | 11.5・13.5 |
| A6 | M5 x P0.8 | M8 x P1.25 | M10 x P1.5 | M12 x P1.75 | M14 x P2.0 | M16 x P2.0 |
| A7 | 80 | 116 | 148 | 186 | 238 | 288 |
| A8 | 5 | 6 | 10 | 12 | 16 | 20 |
| A9 | 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 | 1 | 2 | 3 | 3 | 4 | 5 |
| B5 | 20 | 30 | 40 | 65 | 70 | 90 |
| B6 | 28 | 36 | 50 | 74 | 82 | 104 |
| B7 | 8 | 10 | 12 | 15 | 16 | 20 |
| C | | | | | | |
| C1 | 46・63・60 | 70・75・90 | 90・100・115・145 | 115・145・165 | 145・165・215 | 200・215・265 |
| C2 | M3・M4・M5 | M4・M5・M6 | M5・M6・M8 | M6・M8・M10 | M8・M10・M12 | M10・M12 |
| C3 | 8・9・11 | 11・14・16・19 | 16・19・22・24 | 22・24・28・32 | 28・32・35・38 | 35・38・42・48・55 |
| C4 | 26・30.5 | 33.5・41.5 | 59・73.5 | 67・77 | 84.5 | 114.5・116.5 |
| C5 | 30・40・50 | 50・60・70 | 70・80・95・110 | 95・110・130 | 110・130・180 | 114.3・180・230 |
| C6 | M4 x P0.7 | M5 x P0.8 | M6 x P1.0 | M8 x P1.25 | M10 x P1.5 | M10 x P1.5 |
| C7 | 46・55 | 64・70・80 | 92・110・130 | 122・130・150 | 146・150・190 | 182・200・250 |
| C8 | 165.5 | 206.3・214.3 | 284.5・299 | 354.5・364.5 | 425 | 527.5 |



High Precision Planetary Reducer

| 規格 Parameter | 代號 | 單位 Unit | 速比 Ratio | 62A | 90A | 120A | 142A | 180A | 220A |
|---|------------|------------|-------------|---|-------|-------|-------|--------|--------|
| 額定輸出扭矩 Rated Output Torque (Nominal output torque) | T_{2N} | Nm | 125 | 48 | 160 | 333 | 618 | 1,189 | 2,010 |
| | | | 150 | 59 | 165 | 335 | 583 | 1,206 | 2,030 |
| | | | 175 | 45 | 149 | 309 | 573 | 1,108 | 1,870 |
| | | | 200 | 51 | 146 | 300 | 555 | 1,069 | 1,804 |
| | | | 250 | 48 | 160 | 333 | 618 | 1,189 | 2,010 |
| | | | 300 | 45 | 151 | 311 | 583 | 1,118 | 1,911 |
| | | | 350 | 45 | 149 | 309 | 573 | 1,108 | 1,870 |
| | | | 400 | 43 | 143 | 298 | 553 | 1,070 | 1,824 |
| | | | 450 | 44 | 145 | 278 | 516 | 993 | 1,694 |
| | | | 500 | 48 | 160 | 333 | 618 | 1,189 | 2,010 |
| | | | 600 | 45 | 151 | 311 | 583 | 1,118 | 1,911 |
| | | | 700 | 45 | 149 | 309 | 573 | 1,108 | 1,870 |
| 800 | 43 | 143 | 298 | 553 | 1,070 | 1,824 | | | |
| 900 | 44 | 145 | 278 | 516 | 993 | 1,694 | | | |
| 1000 | 43 | 141 | 294 | 549 | 1,059 | 1,779 | | | |
| 最大加速扭矩 Max. Acceleration Torque | T_{2B} | Nm | 125 ~ 1000 | 1.8 倍額定輸出力矩 1.8 Times of Rated Output Torque | | | | | |
| 最大輸出扭矩 Max. Output Torque | T_{2NOT} | Nm | 125 ~ 1000 | 3 倍額定輸出力矩 3 Times of Rated Output Torque | | | | | |
| 急停扭矩 Emergency Stop Torque | | | | | | | | | |
| 額定輸入轉速 Rated Input Speed | n_{IN} | rpm | 125 ~ 1000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 |
| 最大輸入轉速 Max. Input Speed | n_{IB} | rpm | 125 ~ 1000 | 6,000 | 6,000 | 5,000 | 5,000 | 4,000 | 3,000 |
| 背隙 Backlash Ps | | arcmin | 125 ~ 1000 | - | - | ≤ 5 | ≤ 5 | ≤ 5 | ≤ 5 |
| 背隙 Backlash P0 | | arcmin | 125 ~ 1000 | ≤ 7 | ≤ 7 | ≤ 7 | ≤ 7 | ≤ 7 | ≤ 7 |
| 背隙 Backlash P1 | | arcmin | 125 ~ 1000 | ≤ 9 | ≤ 9 | ≤ 9 | ≤ 9 | ≤ 9 | ≤ 9 |
| 背隙 Backlash P2 | | arcmin | 125 ~ 1000 | ≤ 11 | ≤ 11 | ≤ 11 | ≤ 11 | ≤ 11 | ≤ 11 |
| 扭轉剛性 Torsional Rigidity | | Nm/arcmin | 125 ~ 1000 | 6 | 14 | 27 | 60 | 140 | 240 |
| 容許徑向力 Max. Radial Force | F_{2rB} | N | 125 ~ 1000 | 1,180 | 3,200 | 6,800 | 9,300 | 15,600 | 51,000 |
| 容許軸向力 Max. Axial Force | F_{2aB} | N | 125 ~ 1000 | 590 | 1,600 | 3,400 | 4,650 | 7,800 | 25,500 |
| 使用壽命 Service Life | L_H | hr | 125 ~ 1000 | S5 周期運轉 : >30,000 (S1 連續運轉 : >15,000 hrs) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs) | | | | | |
| 效率 Efficiency | η | % | 125 ~ 1000 | ≥ 90% | | | | | |
| 使用溫度 Operating Temperature | | °C | 125 ~ 1000 | -25° C ~ +90° C | | | | | |
| 潤滑 Lubrication | | | 125 ~ 1000 | 全合成潤滑油脂 Synthetic Grease | | | | | |
| 防護等級 Protection Class | | | 125 ~ 1000 | IP65 | | | | | |
| 安裝方向 Mounting Position | | | 125 ~ 1000 | 任意方向 Any | | | | | |
| 噪音值 Noise Level | | dB | 125 ~ 1000 | ≤ 58 | ≤ 60 | ≤ 63 | ≤ 65 | ≤ 67 | ≤ 70 |
| 重量 Weight ±3% | | Kg | 125 ~ 1000 | 4 | 6.5 | 13 | 30 | 57 | 87 |

■ 轉動慣量 Mass Moments of Inertia (kg.cm²)

| Ratio | 62A | 90A | 120A | 142A | 180A | 220A |
|-------|------|------|------|------|------|------|
| 125 | 0.01 | 0.01 | 0.04 | 0.71 | 1.42 | 3.29 |
| 150 | 0.01 | 0.01 | 0.04 | 0.51 | 0.92 | 2.15 |
| 175 | 0.01 | 0.01 | 0.04 | 0.40 | 0.83 | 1.26 |
| 200 | 0.01 | 0.01 | 0.04 | 0.21 | 0.65 | 0.98 |
| 250 | 0.01 | 0.01 | 0.04 | 0.11 | 0.52 | 0.82 |
| 300 | 0.01 | 0.01 | 0.04 | 0.09 | 0.21 | 0.82 |
| 350 | 0.01 | 0.01 | 0.04 | 0.09 | 0.21 | 0.82 |
| 400 | 0.01 | 0.01 | 0.04 | 0.09 | 0.21 | 0.82 |
| 450 | 0.01 | 0.01 | 0.04 | 0.09 | 0.21 | 0.51 |
| 500 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.51 |
| 600 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.25 |
| 700 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.25 |
| 800 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.25 |
| 900 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.25 |
| 1000 | 0.01 | 0.01 | 0.04 | 0.08 | 0.12 | 0.25 |