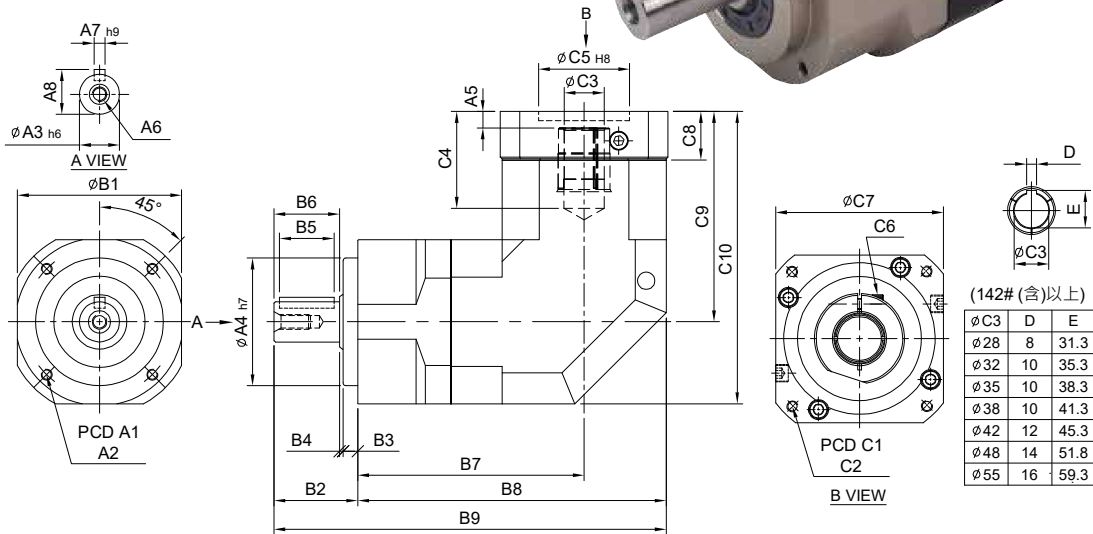


SERVOBOX Planetary Reducers

MODEL : SEL

單段 1-Stage

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



unit: mm

| Model Code | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
|-------------|--------------|-------------------|----------------------|-----------------|-------------------|------------------------|-------------------|
| A A1 | 44 | 62 | 82 | 110 | 140 | 184 | 218 |
| A2 | M4 x P0.7 | M5 x P0.8 | M6 x P1.0 | M8 x P1.25 | M10 x P1.5 | M12 x P1.75 | M16 x P2.0 |
| A3 | 13 | 16 | 22 | 32 | 40 | 55 | 75 |
| A4 | 35 | 50 | 70 | 90 | 120 | 160 | 180 |
| A5 | 6 | 6 | 9 · 23.5 | 10 · 20 | 10 | 12.5 · 14.5 | 12.5 · 14.5 |
| A6 | M4 x P0.7 | 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 | 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 | 46 | 65 | 92 | 106 | 139 |
| B3 | 5 | 7 | 8 | 12 | 15 | 20 | 30 |
| B4 | 1 | 1 | 2 | 3 | 3 | 4 | 5 |
| B5 | 15 | 20 | 30 | 40 | 65 | 70 | 90 |
| B6 | 20 | 28 | 36 | 50 | 74 | 82 | 104 |
| 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 · 110 · 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 · 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 · 58 · 67.5 | 67 · 77 | 67 · 84 | 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 x P0.7 | M5 x P0.8 | M6 x P1.0 | M8 x P1.25 | M10 x P1.5 | M10 x P1.5 | M10 x P1.5 |
| C7 | 46 · 55 | 64 · 70 · 80 | 92 · 110 · 130 | 122 · 130 · 150 | 146 · 180 · 190 | 182 · 200 · 250 | 222 · 250 · 265 |
| C8 | 16 | 21.5 | 26.5 · 41 | 35.5 · 45.5 | 35.5 | 45.5 · 47.5 | 45.5 · 47.5 |
| C9 | 61 | 77 · 85 | 115.3 · 129.8 | 141 · 151 | 165.7 | 235 · 237 | 235 · 237 |
| C10 | 83 | 108 · 116 | 160.3 · 174.8 | 201 · 211 | 236.7 | 325 · 327 | 345 · 347 |

High Precision Planetary Reducer

| 規格 Model No. | 代號 | 單位 Unit | 速比 Ratio | 44 | 62 | 90 | 120 | 142 | 180 | 220 |
|---|------------|------------|-------------|---|-------|-------|-------|-------|--------|--------|
| 額定輸出扭矩 Rated Output Torque (Nominal output torque) | T_{2N} | Nm | 3 | 19 | 59 | 165 | 335 | 625 | 1,206 | 2 |
| | | | 4 | 16 | 51 | 146 | 300 | 555 | 1,069 | 1,8 |
| | | | 5 | 16 | 48 | 160 | 333 | 618 | 1,189 | 2,010 |
| | | | 6 | 15 | 45 | 151 | 311 | 583 | 1,118 | 1,911 |
| | | | 7 | 15 | 45 | 149 | 309 | 573 | 1,108 | 1,870 |
| | | | 8 | 14 | 43 | 143 | 298 | 553 | 1,070 | 1,824 |
| | | | 9 | 13 | 44 | 145 | 278 | 516 | 993 | 1,6 |
| | | | 10 | 14 | 43 | 141 | 294 | 549 | 1,059 | 1,779 |
| | | | 12 | 15 | 45 | 151 | 311 | 583 | 1,118 | 1,911 |
| | | | 14 | 15 | 45 | 149 | 309 | 573 | 1,108 | 1,870 |
| | | | 16 | 14 | 43 | 143 | 298 | 553 | 1,070 | 1,824 |
| 18 | 13 | 44 | 145 | 278 | 516 | 993 | 1,694 | | | |
| 20 | 14 | 43 | 141 | 294 | 549 | 1,059 | 1,779 | | | |
| 最大加速扭矩 Max. Acceleration Torque | T_{2B} | Nm | 3 ~ 20 | 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 急停扭矩 Emergency Stop Torque | T_{2NOT} | Nm | 3 ~ 20 | 3 倍額定輸出力矩 3 Times of Rated Output Torque | | | | | | |
| 額定輸入轉速 Rated Input Speed | n_{1N} | rpm | 3 ~ 20 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 |
| 最大輸入轉速 Max. Input Speed | n_{1B} | rpm | 3 ~ 20 | 6,000 | 6,000 | 6,000 | 5,000 | 5,000 | 4,000 | 3,000 |
| 背隙 Backlash Ps | | arcmin | 3 ~ 20 | - | - | ≤ 2 | ≤ 2 | ≤ 2 | ≤ 2 | ≤ 2 |
| 背隙 Backlash P0 | | arcmin | 3 ~ 20 | ≤ 4 | ≤ 4 | ≤ 4 | ≤ 4 | ≤ 4 | ≤ 4 | ≤ 4 |
| 背隙 Backlash P1 | | arcmin | 3 ~ 20 | ≤ 6 | ≤ 6 | ≤ 6 | ≤ 6 | ≤ 6 | ≤ 6 | ≤ 6 |
| 背隙 Backlash P2 | | arcmin | 3 ~ 20 | ≤ 8 | ≤ 8 | ≤ 8 | ≤ 8 | ≤ 8 | ≤ 8 | ≤ 8 |
| 扭轉剛性 Torsional Rigidity | | Nm/arcmin | 3 ~ 20 | 3 | 6 | 14 | 27 | 60 | 140 | 240 |
| 容許徑向力 Max. Radial Force | F_{2rB} | N | 3 ~ 20 | 380 | 1,180 | 3,200 | 6,800 | 9,300 | 15,600 | 51,000 |
| 容許軸向力 Max. Axial Force | F_{2aB} | N | 3 ~ 20 | 190 | 590 | 1,600 | 3,400 | 4,650 | 7,800 | 25,500 |
| 使用壽命 Service Life | L_H | hr | 3 ~ 20 | 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 | % | 3 ~ 20 | ≥ 95% | | | | | | |
| 使用溫度 Operating Temperature | | °C | 3 ~ 20 | - 25 °C ~ + 90 °C | | | | | | |
| 潤滑 Lubrication | | | 3 ~ 20 | 全合成潤滑油脂 Synthetic Grease | | | | | | |
| 防護等級 Protection Class | | | 3 ~ 20 | IP65 | | | | | | |
| 安裝方向 Mounting Position | | | 3 ~ 20 | 任意方向 Any | | | | | | |
| 噪音值 Noise Level | | dB | 3 ~ 20 | ≤ 65 | ≤ 68 | ≤ 70 | ≤ 72 | ≤ 74 | ≤ 76 | ≤ 78 |
| 重量 Weight ±3% | | Kg | 3 ~ 20 | 0.8 | 2.8 | 6.3 | 9.2 | 22.5 | 52.3 | 75 |

■ 轉動慣量 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 | | |
| 4 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | | |
| 5 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135 |
| 6 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135 |
| 7 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | |
| 8 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135 |
| 9 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | |
| 10 | 0.09 | 0.36 | 2.28 | 6.85 | 23.5 | 68.2 | 135 |
| 12 | 0.03 | 0.08 | 1.88 | 6.2 | 21.8 | 65.5 | 119.2 |
| 14 | 0.03 | 0.08 | 1.88 | 6.2 | 21.8 | 65.5 | 119.2 |
| 16 | 0.03 | 0.08 | 1.88 | 6.2 | 21.8 | 65.5 | 119.2 |
| 18 | 0.03 | 0.08 | 1.88 | 6.2 | 21.8 | 65.5 | 119.2 |
| 20 | 0.03 | 0.08 | 1.88 | 6.2 | 21.8 | 65.5 | 119.2 |