

Sumitomo Drive Technologies
Always on the Move

Motion Control Drives IB Series P1 Type



991109 - Oct 2006

Motion Control Drive IB Series P1 Type

- The most compact available today
- 38% of our models reduced in size
- Motor Capacity Expanded from 50W-1500W, new sizes include 2000-5000W
- Reduction Ratio Expanded 1/5, 1/9, 1/15, 1/21, 1/33, 1/45, new 1/81
- Higher variety of adaptable Servo Motors
- Increased number of Servo Motor Adapters

Features

- Current highest torque capacity in market
- Low backlash: 15arcmin (3 arcmin optional)
- Low noise
- High efficiency: 90% and greater
- All reduction ratios are exact
- Input speed: Capable of 6000r/min
- Compatible with major servo motor flanges
- Solid shaft and flange mounted available



Flange shaft type

Applications

- Transfer robots
- Peripheral equipment for robots
- FA equipment related
- Semi-conductor production machine
- Machine tools
- Loader drive and shaft motion
- Wrapping machines (bag making and pillow wrapping)
- Wood-working machine
- Medical equipment
- Monitoring camera
- Vending machine
- Analyzing machine
- Measuring equipment



Compactness enabled by housing with internal gear

Three variations are available to match customers' needs. Optimal selection possible for your application.



Keyless solid shaft type



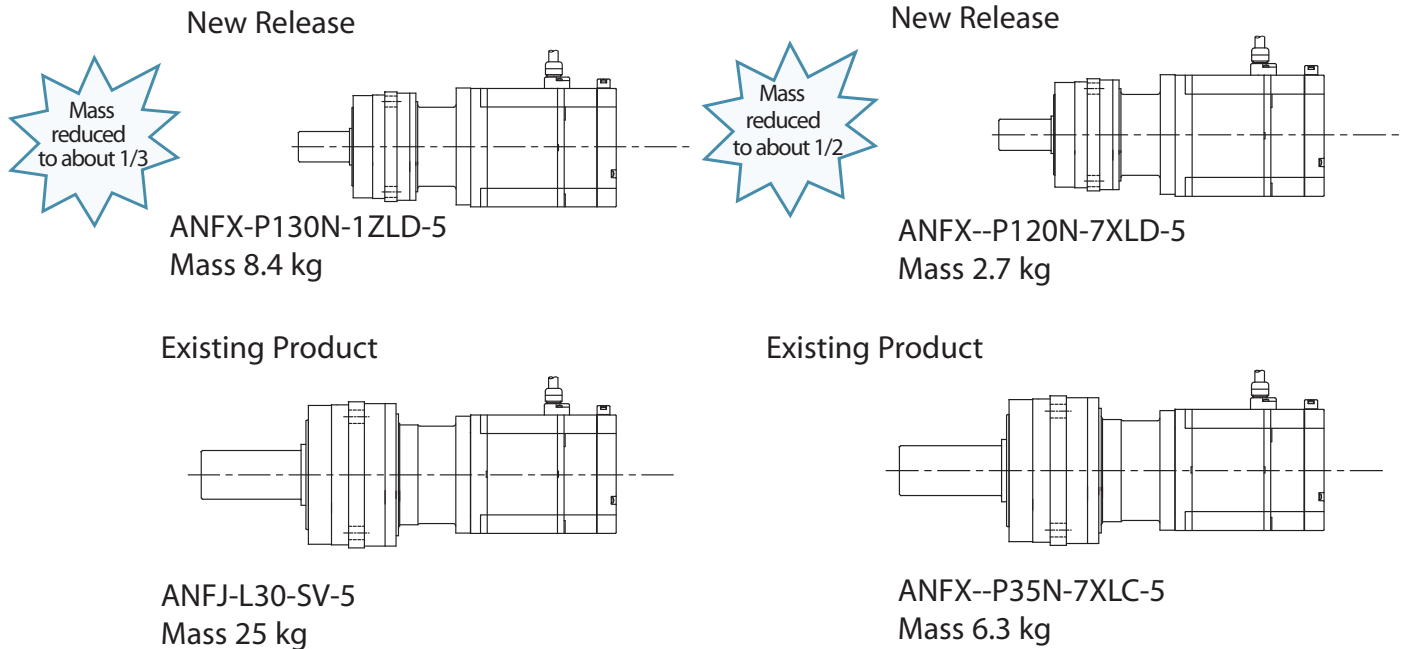
Flange shaft type



Solid shaft type with keyway

The most compact available today

Significant size and mass reduction in low reduction ratio and medium capacity range



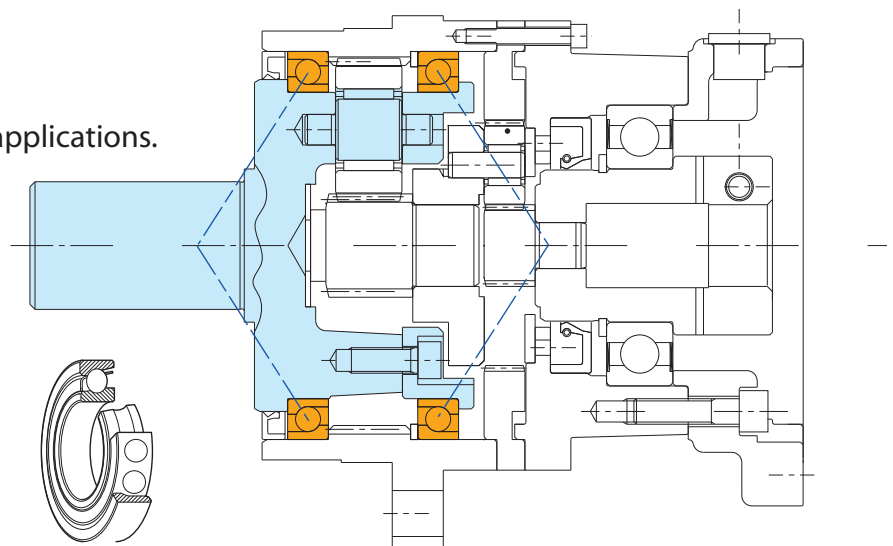
High Moment Capacity: Large Diameter Angular Bearing Adopted

A large diameter precision angular ball bearing supports the output shaft, allowing large radial loads with a compact casing.

Angular Contact Ball Bearings are a high precision bearing used for machine tools and similar applications.

This bearings allow both radial and axial load.

It bears higher axial load compared to general ball bearings.

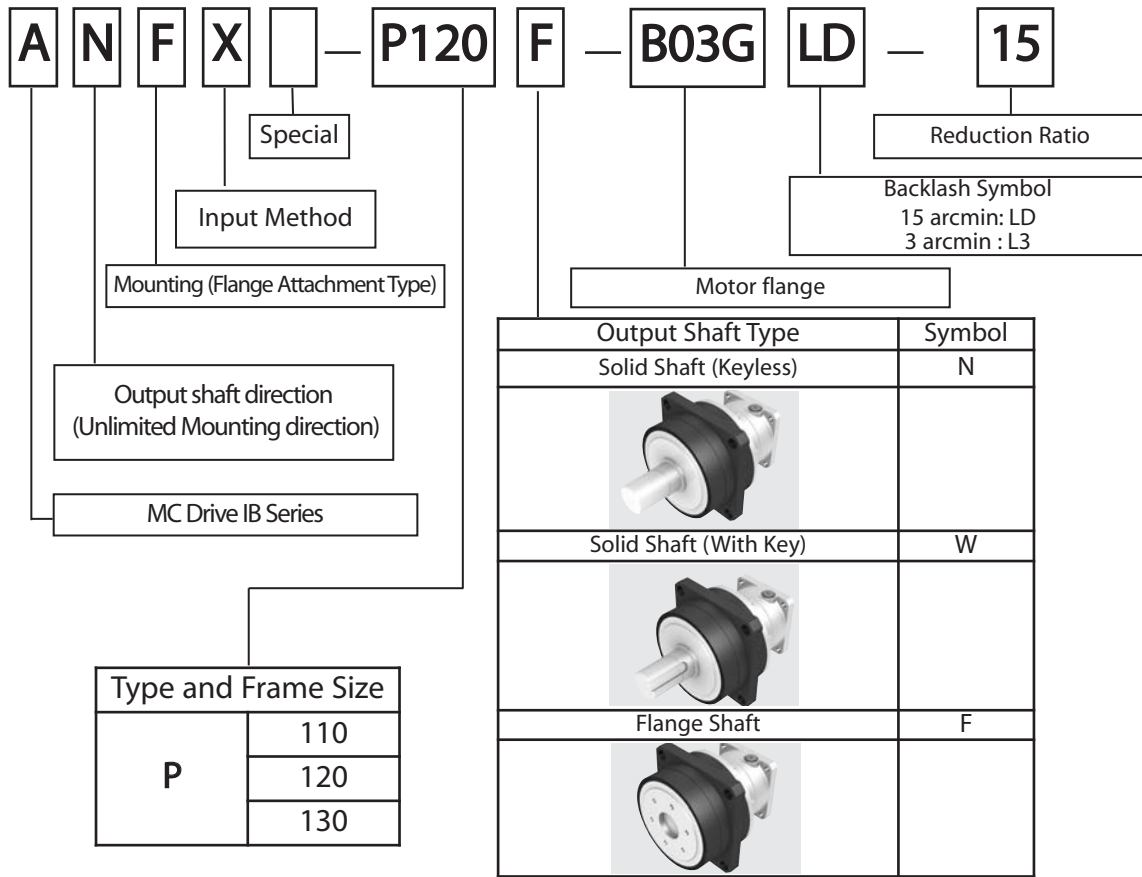


Assembly

Simple assembly. directly connect the servo motor and reducer with bolts (provided by customer). Tighten motor shaft with hexagon wrench. Reday for immediate use.



IB Series P1 Type

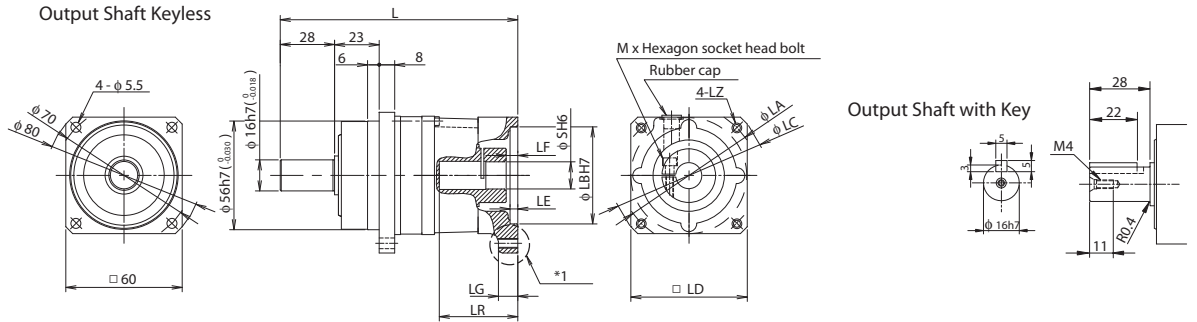


| Model | Ratio | Rated torque at input speed 3000r/min (Nm) | Allowable Torque | | Allowable max. input speed (r/min) | Backlash (arc-min.) | Radial load at input speed 2000 | *1: Typical value | |
|-------|-------|--|--|-------------------------------------|------------------------------------|---------------------|---------------------------------|---|------------------------|
| | | | max. acceleration or deceleration torque | Peak torque for emergency stop (Nm) | | | | Moment of inertia equivalent on input shaft (kgm ²) *1 | Weight (kg) *1 |
| P110 | 5 | 10,5 | 45 | 60 | 6000 | 15 (3) | 350 | 0,116X10 ⁻⁴ | 0,9 |
| | 9 | 11,5 | 35 | | | | 425 | 0,098X10 ⁻⁴ | |
| | 15 | 15,5 | 45 | | | | 505 | 0,137X10 ⁻⁴ | |
| | 21 | 17,5 | 45 | | | | 1,1 | 565 | 0,107X10 ⁻⁴ |
| | 33 | 19,0 | 45 | | | | | 655 | 0,092X10 ⁻⁴ |
| | 45 | 22,0 | 45 | | | | | 730 | 0,092X10 ⁻⁴ |
| | 81 | 11,5 | 35 | | | | | 890 | 0,092X10 ⁻⁴ |
| P120 | 5 | 44,5 | 190 | 250 | 6000 | 15 (3) | 1075 | 0,653X10 ⁻⁴ | 2,4 |
| | 9 | 42,5 | 140 | | | | 1310 | 0,504X10 ⁻⁴ | |
| | 15 | 46,5 | 190 | | | | 1550 | 0,483X10 ⁻⁴ | |
| | 21 | 49,5 | 190 | | | | 2,8 | 1735 | 0,432X10 ⁻⁴ |
| | 33 | 40,0 | 135 | | | | | 2020 | 0,403X10 ⁻⁴ |
| | 45 | 54,5 | 190 | | | | | 2240 | 0,401X10 ⁻⁴ |
| | 81 | 43,5 | 140 | | | | | 2725 | 0,406X10 ⁻⁴ |
| | | | 1440 | 2,823X10 ⁻⁴ | | | | | |
| P130 | 5 | 86,5 | 380 | 500 | 5000 | 15 (3) | 1750 | 1,820X10 ⁻⁴ | 6,7 |
| | 9 | 97,5 | 330 | | | | 2075 | 1,822X10 ⁻⁴ | |
| | 15 | 90,0 | 380 | | | | 7,0 | 2325 | 1,533X10 ⁻⁴ |
| | 21 | 96,0 | 380 | | | | | 2705 | 1,282X10 ⁻⁴ |
| | 33 | 82,0 | 370 | | | | | 3000 | 1,271X10 ⁻⁴ |
| | 45 | 112 | 380 | | | | | 3645 | 1,263X10 ⁻⁴ |
| | 81 | 101 | 330 | | | | | | |

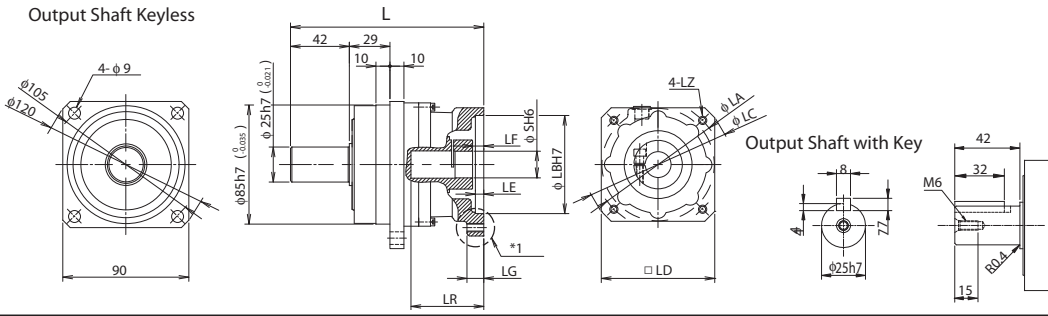
IB Series P1 Type

Dimensions Solid Output Shaft

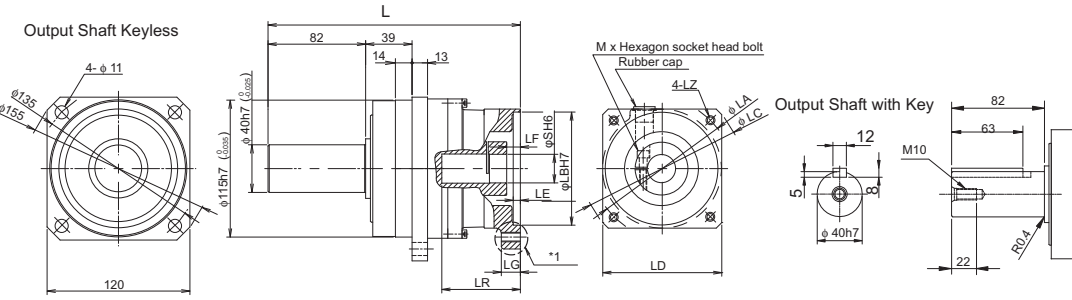
Size P110



Size P120

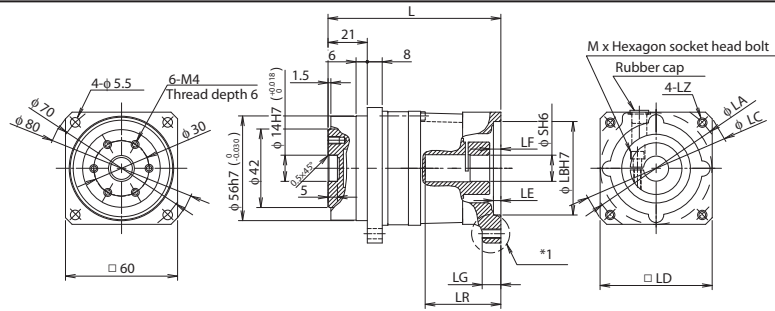


Size P130

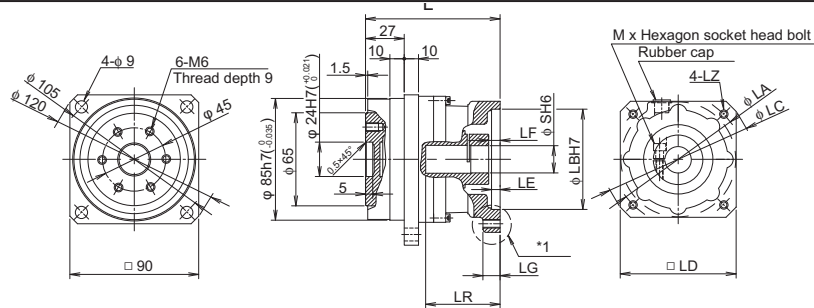


Dimensions Flange Output Shaft

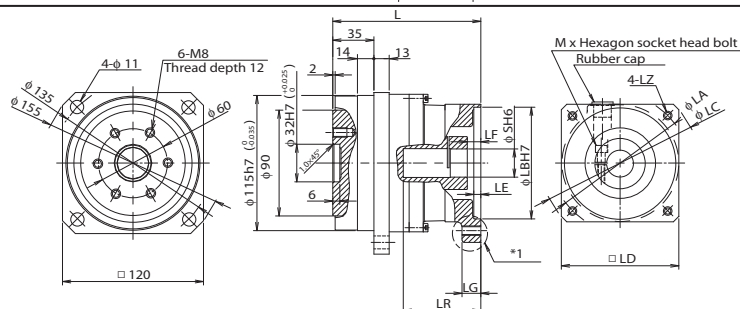
Size P110



Size P120



Size P130



IB Series P1 Type - Motor Flanges

| Flange Code | Availability of Flange for Gear Size | | | Input Shaft ØS H6 | Pitch Cycle ØLA | Spigot ØLB H7 | 4x... | External Dimension □LD |
|-------------|--------------------------------------|---------------------|---------------------|-------------------|-----------------|---------------|-------|------------------------|
| | P110 (all ratios) | P120 (double stage) | P130 (double stage) | | | | | |
| B03G | P110 (all ratios) | P120 (double stage) | n.a. | 8 | 51 | 32 | M4 | 44/Q |
| C06G | P110 (all ratios) | P120 (double stage) | P130 (double stage) | 9 | 63 | 40 | M4 | 54/Q |
| C08G | P110 (all ratios) | P120 (double stage) | P130 (double stage) | 9 | 63 | 40 | M5 | 55/Q |
| E11G | P110 (all ratios) | P120 (double stage) | P130 (double stage) | 11 | 75 | 60 | M5 | 70/Q |
| E30G | P110 (all ratios) | P120 (double stage) | P130 (double stage) | 11 | 100 | 80 | M6 | 92/Q |
| H10G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 70 | 50 | M4 | 60/Q |
| H07G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 65 | 50 | M5 | 82/Q |
| H11G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 75 | 60 | M5 | 72/Q |
| H13G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 85 | 70 | M6 | 82/Q |
| H20G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 95 | 50 | M6 | 82/Q |
| H30G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 100 | 80 | M6 | 92/Q |
| H35G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 115 | 95 | M8 | 100/Q |
| H50G | P110 (all ratios) | P120 (all ratios) | P130 (double stage) | 14 | 130 | 110 | M8 | 115/Q |
| J12G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 75 | 60 | M8 | 70/Q |
| J17G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 90 | 70 | M5 | 82/Q |
| J30G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 100 | 80 | M6 | 92/Q |
| J35G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 115 | 95 | M8 | 100/Q |
| J45G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 130 | 95 | M8 | 115/Q |
| J50G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 130 | 110 | M8 | 115/Q |
| J60G | P110 (single stage) | P120 (all ratios) | P130 (double stage) | 16 | 145 | 110 | M8 | 120/Q |
| M17G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 90 | 70 | M5 | 82/Q |
| M30G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 100 | 80 | M6 | 92/Q |
| M35G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 115 | 95 | M8 | 105/Q |
| M45G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 130 | 95 | M8 | 115/Q |
| M50G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 130 | 110 | M8 | 115/Q |
| M71G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 165 | 130 | M8 | 115/Q |
| M70G | P110 (single stage) | P120 (all ratios) | P130 (all ratios) | 19 | 165 | 130 | M10 | 155/Q |
| N35G | n.a. | P120 (all ratios) | P130 (all ratios) | 22 | 115 | 95 | M8 | 105/Q |
| N60G | n.a. | P120 (all ratios) | P130 (all ratios) | 22 | 145 | 110 | M8 | 120/Q |
| Z35G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 115 | 95 | M8 | 105/Q |
| Z50G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 130 | 110 | M8 | 115/Q |
| Z60G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 145 | 110 | M8 | 130/Q |
| Z64G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 165 | 110 | M10 | 140/Q |
| Z71G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 165 | 130 | M8 | 155/Q |
| Z70G | n.a. | P120 (all ratios) | P130 (all ratios) | 24 | 165 | 130 | M10 | 142/Q |
| Q70G | n.a. | P120 (single stage) | P130 (all ratios) | 28 | 165 | 130 | M10 | 155/Q |
| Q80G | n.a. | P120 (single stage) | P130 (all ratios) | 28 | 215 | 180 | M12 | 192/Q |

Single stage reducers: ratio 5, 9

Double stage reducers: ratio 15, 21, 33, 45, 81

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