

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



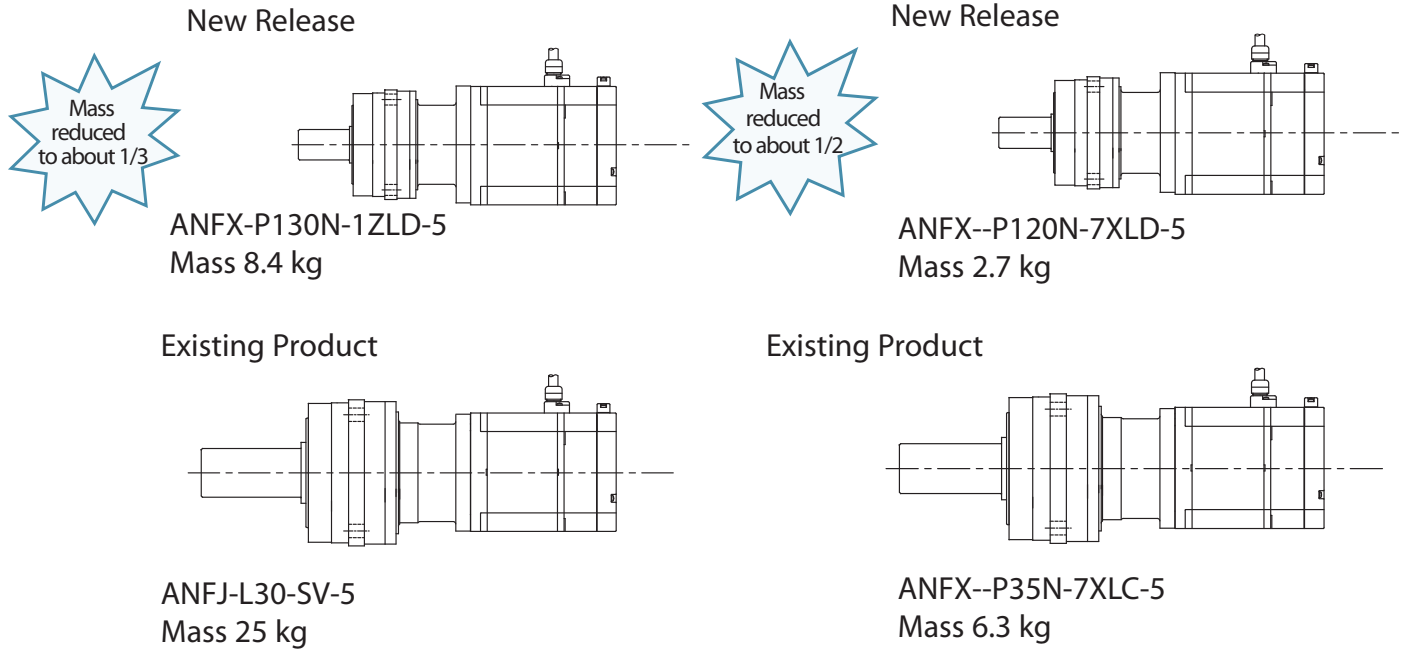
Flange shaft type



Solid shaft type with keyway

## The most compact available today

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



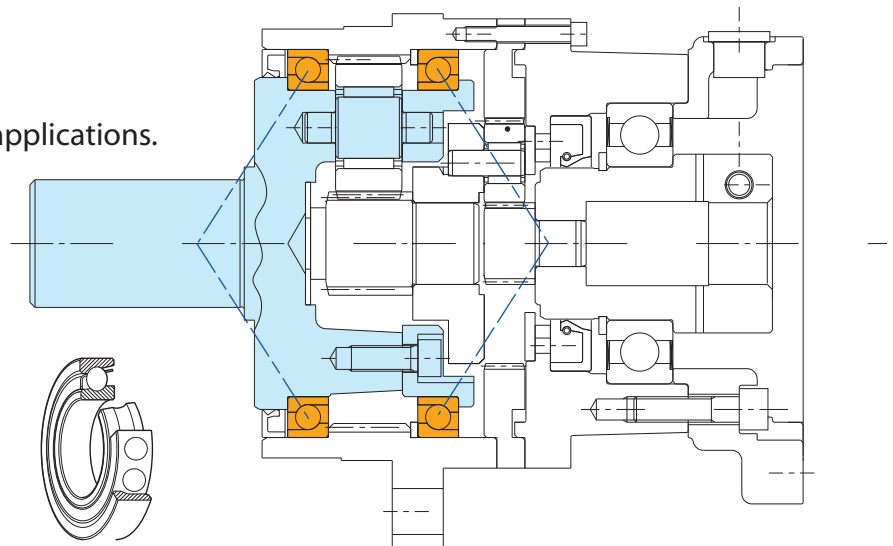
## High Moment Capacity: Large Diameter Angular Bearing Adopted

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.

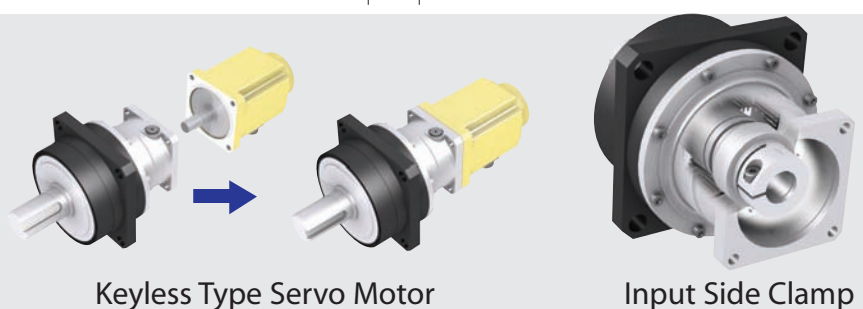
This bearings allow both radial and axial load.

It bears higher axial load compared to general ball bearings.

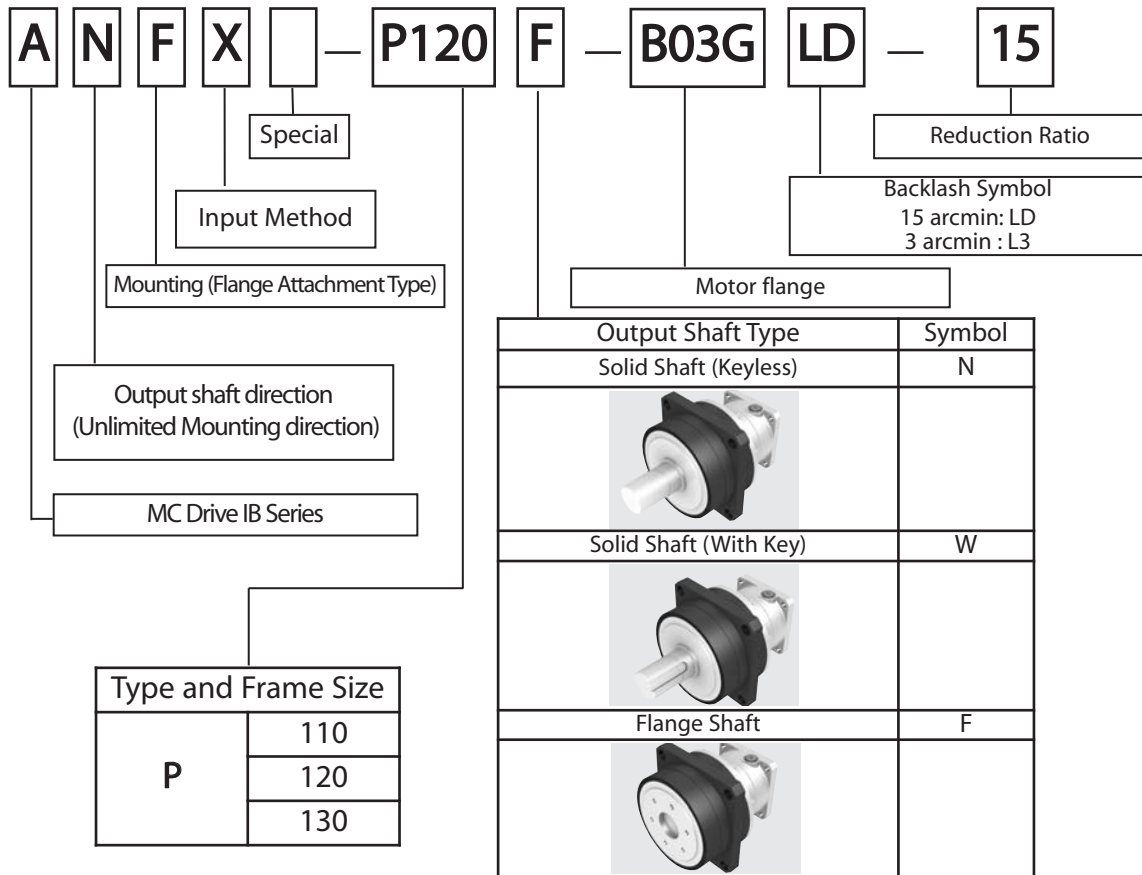


## Assembly

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

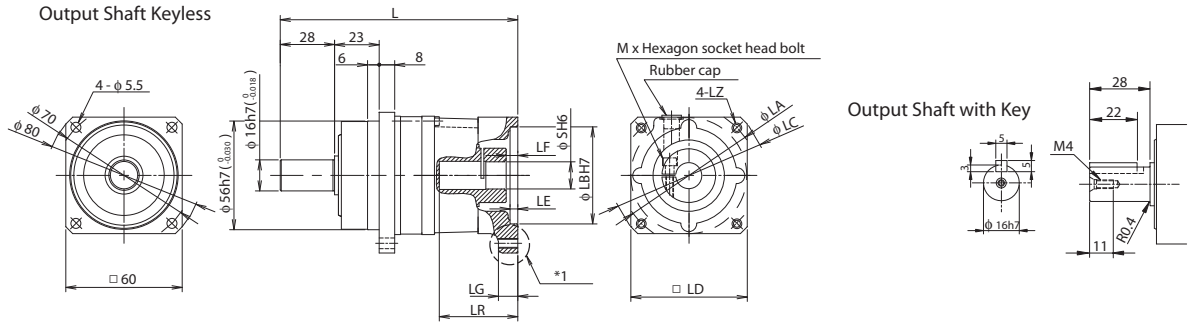


Model	Ratio	Rated torque at input speed 3000r/min (Nm)	Allowable Torque		Allowable max. input speed (r/min)	Backlash (arc-min.)	Radial load at input speed 2000	*1: Typical value	
			max. acceleration or deceleration torque	Peak torque for emergency stop (Nm)				Moment of inertia equivalent on input shaft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

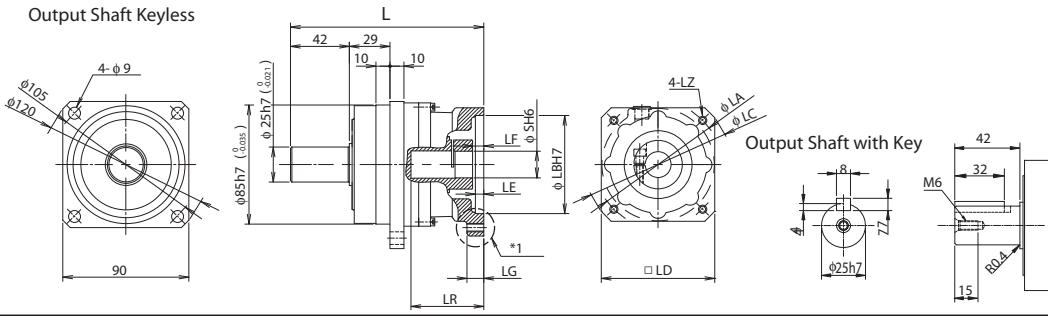
# IB Series P1 Type

## Dimensions Solid Output Shaft

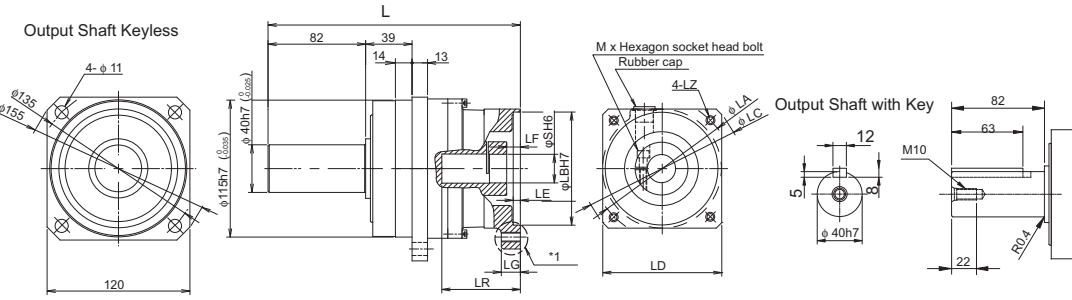
### Size P110



### Size P120

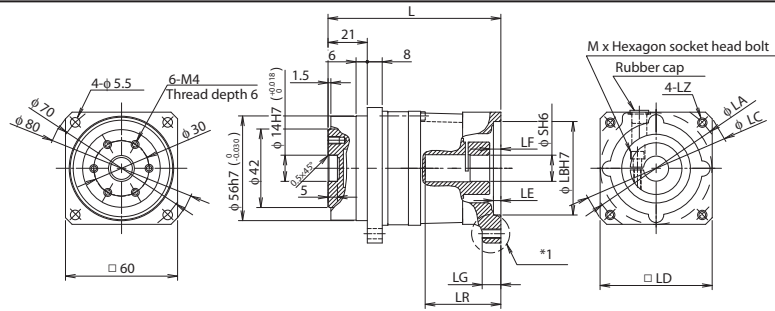


### Size P130

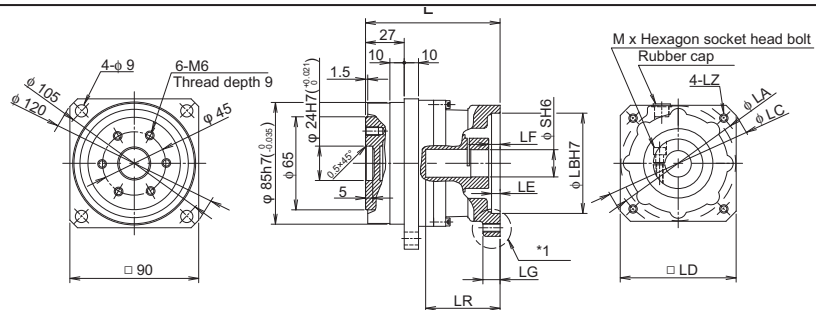


## Dimensions Flange Output Shaft

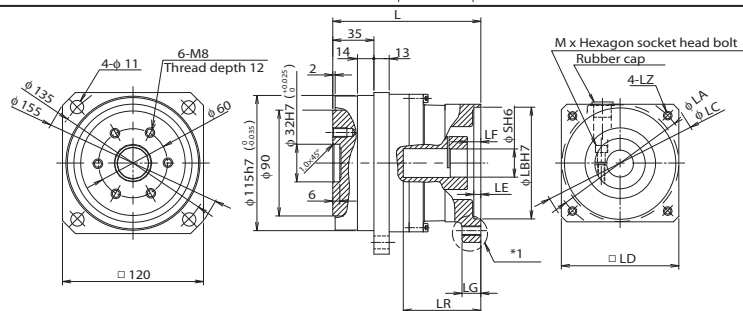
### Size P110



### 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)					
<b>B03G</b>	P110 (all ratios)	P120 (double stage)	n.a.	8	51	32	M4	44/Q
<b>C06G</b>	P110 (all ratios)	P120 (double stage)	P130 (double stage)	9	63	40	M4	54/Q
<b>C08G</b>	P110 (all ratios)	P120 (double stage)	P130 (double stage)	9	63	40	M5	55/Q
<b>E11G</b>	P110 (all ratios)	P120 (double stage)	P130 (double stage)	11	75	60	M5	70/Q
<b>E30G</b>	P110 (all ratios)	P120 (double stage)	P130 (double stage)	11	100	80	M6	92/Q
<b>H10G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	70	50	M4	60/Q
<b>H07G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	65	50	M5	82/Q
<b>H11G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	75	60	M5	72/Q
<b>H13G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	85	70	M6	82/Q
<b>H20G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	95	50	M6	82/Q
<b>H30G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	100	80	M6	92/Q
<b>H35G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	115	95	M8	100/Q
<b>H50G</b>	P110 (all ratios)	P120 (all ratios)	P130 (double stage)	14	130	110	M8	115/Q
<b>J12G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	75	60	M8	70/Q
<b>J17G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	90	70	M5	82/Q
<b>J30G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	100	80	M6	92/Q
<b>J35G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	115	95	M8	100/Q
<b>J45G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	130	95	M8	115/Q
<b>J50G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	130	110	M8	115/Q
<b>J60G</b>	P110 (single stage)	P120 (all ratios)	P130 (double stage)	16	145	110	M8	120/Q
<b>M17G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	90	70	M5	82/Q
<b>M30G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	100	80	M6	92/Q
<b>M35G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	115	95	M8	105/Q
<b>M45G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	130	95	M8	115/Q
<b>M50G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	130	110	M8	115/Q
<b>M71G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	165	130	M8	115/Q
<b>M70G</b>	P110 (single stage)	P120 (all ratios)	P130 (all ratios)	19	165	130	M10	155/Q
<b>N35G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	22	115	95	M8	105/Q
<b>N60G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	22	145	110	M8	120/Q
<b>Z35G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	115	95	M8	105/Q
<b>Z50G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	130	110	M8	115/Q
<b>Z60G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	145	110	M8	130/Q
<b>Z64G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	165	110	M10	140/Q
<b>Z71G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	165	130	M8	155/Q
<b>Z70G</b>	n.a.	P120 (all ratios)	P130 (all ratios)	24	165	130	M10	142/Q
<b>Q70G</b>	n.a.	P120 (single stage)	P130 (all ratios)	28	165	130	M10	155/Q
<b>Q80G</b>	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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