

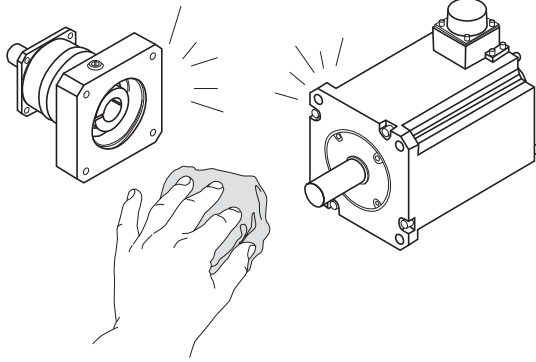
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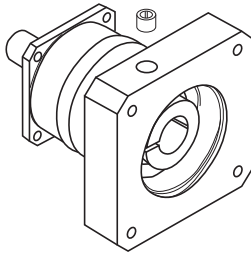


Installation Instructions

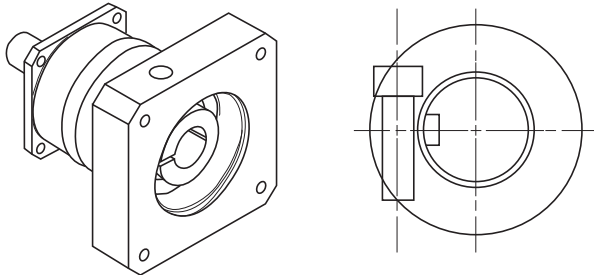
Mounting Procedure to Motor



1. Wipe off anti-rust agent and oil on the motor shaft.



2. Remove the plug.



3. Turn the input shaft until the cap screw is seen. Make sure the cap screw is loosened. Place reducer vertically on the flat surface so the motor mounting part faces up.

NOTE: In case the bushing has been attached, see reducer drawing example below to fix.

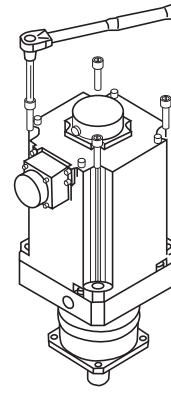
Table 1

Bolt Size	Motor Installing Bolts		Clamping Bolts	
	Nm	kgfm	Nm	kgfm
M3	1.1	0.11	1.9	0.18
M4	2.5	0.26	4.3	0.44
M5	5.1	0.52	8.7	0.89
M6	8.7	0.89	15	1.5
M8	21	2.1	36	3.7
M10	42	4.3	71	7.2
M12	72	7.3	125	13
M16	134	14	--	--

Table 2

Bolt Size	Tightening Torque	
	Nm	kgfm
M3	1.9	0.18
M4	4.3	0.44
M5	8.7	0.89
M6	15	1.5
M8	36	3.7
M10	71	7.2
M12	125	13
M16	310	32
M20	603	62

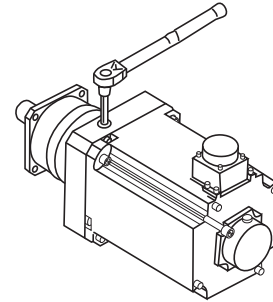
* Recommended bolt: Strength 12.9



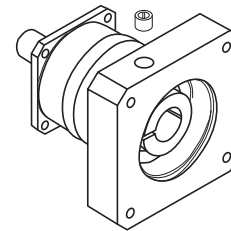
4. Carefully and gently insert the motor shaft into the input shaft. Make sure the motor flange is perfectly fit to the reducer's flange. Tighten the motor by installing and tightening bolts to the proper torque. (See table 1)

Reducer Installation

After confirming the installation surface is flat and clean, tighten the bolt using a torque wrench to the proper torque. (See table 2)



5. Tighten the clamping bolt of the input shaft with torque wrench to the proper torque. (See table 1)



6. Reinstall the plug. The procedure is complete.

Cautions for Operation

- When the reducer is delivered to you, confirm that you received the exact model that you ordered.
Please wipe out the input and output shaft of the reducer which is covered by anti-corrosive oil.
 - * Remove rubber cap on the input shaft before you wipe the shafts.
 - * Lubricant (grease) is already filled in the reducer. The reducer is ready for operation out of the box.

Fixation and Installation

- Avoid use in places where rain or water drops directly, unless special wash down design.
 - In case of use outdoors or in a places where dust and water drops directly, consult SHIMPO in advance.
- Install at 0°~40°C of surrounding temperature.
 - In case of use at temperature out of the mentioned (0°~40°C) range, consult SHIMPO in advance.
- Firmly fix with a bolt onto a solid stand without vibration.
- Install in a convenient location for future repair and inspection.

Cautions Prior to Starting the Operation

- Reducer can be used on arrival, since it has already been filled with lubrication.
- At initial operation, check the rotating direction of the output shaft and then gradually apply load.

Cautions During Operation

- Avoid overload.
- Ensure that input speed shall not exceed the number of maximum revolutions per minute specified.
- In the event the following occurs, stop the operation and check the following points:
 - If temperature sharply increases
 - If an abnormal noise appears sharply
 - If the number of revolutions becomes unstable sharply
- In the event the following occurs, respond immediately to the issue or contact us as soon as possible.
 - Is it under overload condition?
 - Is lubricant insufficient or deteriorated, or was another lubricant applied?
 - Is the axis, gear, and/or motor input damaged?
 - Are any connections unstable?

Disassembly

- ABLE REDUCER is designed to not be disassembled.

Lubricant Use

- The ABLE REDUCER is of grease-seal type in all models.
A specified amount of grease is filled at factory release so you can use as soon as it is delivered to you.
- It is impossible to exchange grease.
- In case of use outside of the recommended temperature range, consult SHIMPO in advance.

Daily Check Points

- Is the reducer case temperature excessively high during operation? (Up to + 50°C is not significant.)
- Is there an abnormal noise in the bearing, gear, etc?
- Is there an abnormal vibration in the reducer?
 - * Upon an abnormal phenomenon, immediately stop the operation and contact us.
- Is there a lubricant leak?

Periodic Check Points

- Are there overload and abnormal rotation?
- Are free, sprocket, and reducer assembling bolts loose?
- Is there an abnormal condition in the electric system?
- Checkup and repair of major parts
 - * Upon an abnormal condition, immediately stop the operation and contact us.
- Oil leak
 - * Upon an oil leak, contact us.

Scrapping

Whenever scrapping the ABLE REDUCER, classify the parts by material into industrial wastes as specified in the laws and regulations of your local government. Materials of construction can be divided into the following four categories:

1. Rubber parts: Oil seal, seat packing, rubber cap, seal used for bearing on the motor flange, etc.
2. Aluminum parts: Motor flange, output shaft holder
3. Grease: Wipe off the grease from the individual parts with dry cloth and scrap into oils.
4. Iron parts: Parts other than those mentioned in the above

Adapter Flange Codes

Adapter Flange Codes

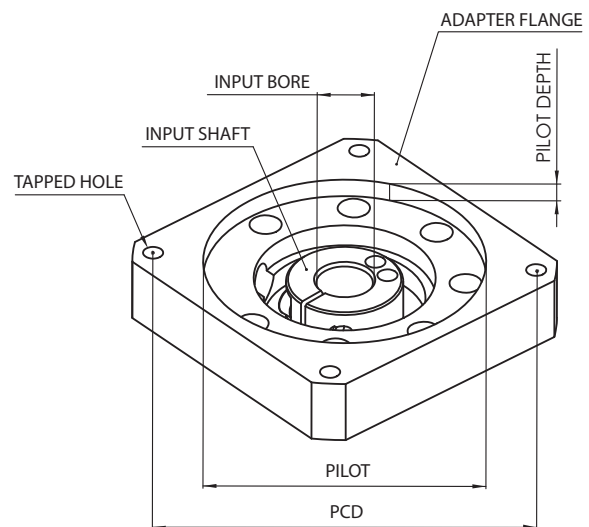
These tables provide an explanation for the adapter codes. The tables start with Input Bore measurement and the Part # Code, which are indicated at the end of every model code. For each Part # Code, the Pilot, PCD, Tapped Hole, and Pilot Depth, are explained.

Please note that even though the Part# Code may have the same letters (i.e. DC, FB, HA, etc), the Pilot and PCD dimensions may not be the same if a different input bore diameter. Locate the table by input bore diameter first, and then find the appropriate adapter Part# Code to check the dimensions. If you have any questions, contact NIDEC-SHIMPO for support.

Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
65	MA	114.3	200	M12	8
65	MB	200	235	M12	8
65	MC	180	215	M12	8
65	MD	180	265	M12	8
65	NA	230	265	M12	8
65	NB	230	265	M12	18
65	NC	230	290	M12	8
65	ND	230	265	M20	18
65	PA	250	300	M16	8
65	PB	250	320	M16	18
65	QA	300	350	M16	8
65	QB	280	325	M16	8

Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
48	KA	114.3	200	M12	8
48	KB	110	130	8.8	8
48	KC	130	215	M12	8
48	LA	180	215	M12	8
48	MA	180	265	M12	8
48	MB	200	235	M12	8
48	NA	230	265	M12	8
48	PA	250	300	M16	8

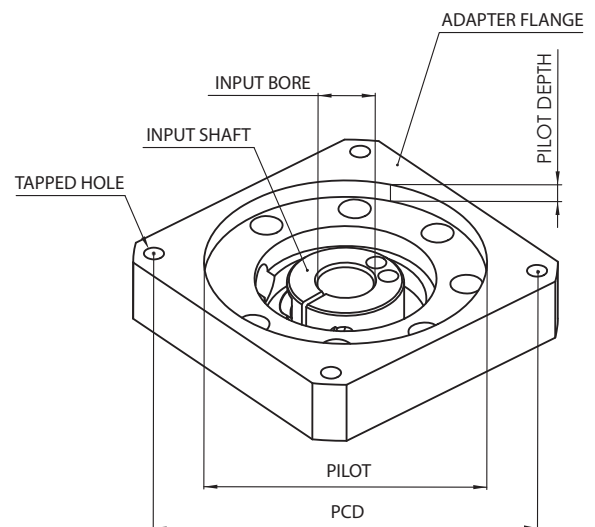
Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
38	HA	110	130	8.8	8
38	HB	110	145	M8	8
38	HE	110	130	M8	8
38	JA	130	165	M10	8
38	KA	114.3	200	M12	8
38	KB	130	215	M10	8
38	KC	130	215	M12	8
38	KD	95	200	M10	18
38	KE	114.3	200	M12	18
38	LA	180	215	M12	8
38	LB	180	215	M12	18
38	MA	180	265	M12	8
38	MB	200	235	M12	8
38	MC	215.9	184.15	13.7	5.5
38	MD	200	250	M8	18
38	NA	230	265	M12	8



Adapter Flange Codes

Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
28	FA	80	100	M6	8
28	FB	95	115	M6	8
28	FC	95	115	M8	8
28	FD	95	115	M6	8
28	FE	95	115	M8	8
28	GA	55.563	125.73	M6	8
28	GB	63.5	127	M6	8
28	GC	95	130	M8	8
28	GD	110	130	M8	8
28	GE	110	130	M10	8
28	GF	110	130	8.8	8
28	GG	110	135	M8	8
28	GH	95	135	M8	8
28	HA	110	145	M8	8
28	HB	110	145	M8	18
28	HC	110	145	10.5	8
28	HD	114.3	149.23	10.5	8
28	HE	95	145	M8	18
28	HF	110	145	M8	8
28	JA	110	165	M8	8
28	JB	110	165	M10	8
28	JC	130	165	M10	8
28	JD	130	174	M10	28
28	JE	130	165	M10	18
28	JF	114.3	160	M10	8
28	KA	114.3	200	M12	8
28	KB	130	215	M10	8
28	KD	114.3	200	M12	18
28	KE	150	185	M10	8
28	LA	180	215	M12	8
28	LB	180	220	M12	18
28	MA	200	235	M12	8
28	MB	200	250	M8	18

Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
19	DA	60	90	M5	6
19	DB	70	90	M5	6
19	DC	70	90	M6	6
19	DD	70	90	M6	16
19	DE	70	90	M5	11
19	EA	73.025	98.43	M5	11
19	EB	80	100	M6	6
19	EC	80	100	M6	16
19	ED	60	98.99	M6	6
19	FA	95	115	M8	6
19	FB	95	115	M8	16
19	GA	55.563	125.73	M6	11
19	GB	95	130	M8	6
19	GC	110	130	M8	11
19	GD	110	130	8.8	6
19	GE	95	130	M8	16
19	GF	100	125	M8	16
19	GH	95	135	M8	11
19	HA	110	145	M8	6
19	HB	110	145	M8	21
19	HC	110	145	10.5	11
19	HD	114.3	149.23	M8	11
19	HE	114.3	149.23	10.5	11
19	JA	130	165	M10	16
19	JB	115	165	M8	21



Adapter Flange Codes

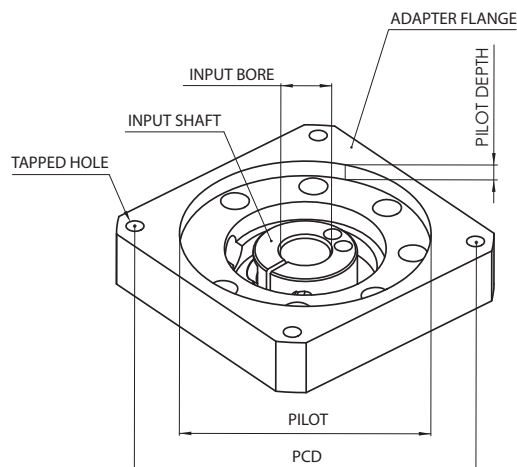
Adapter Flange Codes

These tables provide an explanation for the adapter codes. The tables start with Input Bore measurement and the Part # Code, which are indicated at the end of every model code. For each Part # Code, the Pilot, PCD, Tapped Hole, and Pilot Depth, are explained.

Please note that even though the Part# Code may have the same letters (i.e. DC, FB, HA, etc), the Pilot and PCD dimensions may not be the same if a different input bore diameter. Locate the table by input bore diameter first, and then find the appropriate adapter Part# Code to check the dimensions. If you have any questions, contact NIDEC-SHIMPO for support.

Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
14	BA	38.1	66.68	M4	5
14	BB	38.1	66.68	M5	5
14	BC	38.1	66.68	M5	10
14	BD	40	63	M4	5
14	BE	40	63	M5	5
14	BF	40	65	M5	5
14	BG	40	70	M4	5
14	BH	50	60	M4	10
14	BJ	50	70	M4	5
14	BK	50	70	M5	5
14	BL	50	70	M5	15
14	BM	50	70	M5	10
14	BN	50	70	M4	10
14	BP	36	70.71	M4	5
14	CA	60	75	M5	5
14	CB	60	75	M6	10
14	CC	60	80	M4	5
14	DA	50	95	M6	5
14	DB	60	85	M5	5
14	DC	60	90	M5	5
14	DD	70	85	6.5	5
14	DE	70	90	M5	10
14	DF	70	90	M6	5

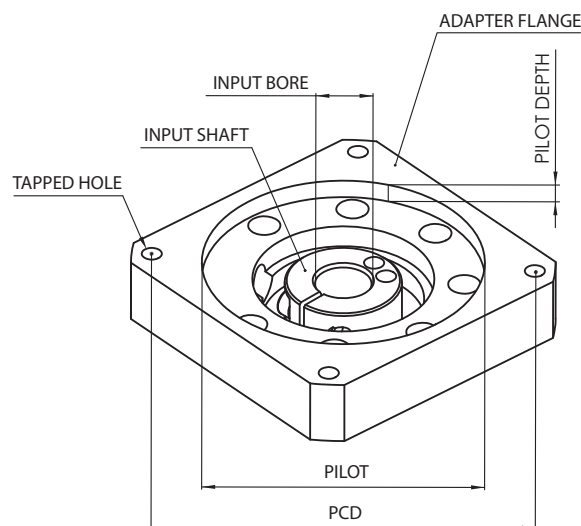
Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
14	DG	70	90	M6	15
14	DH	70	95	M6	5
14	DJ	60	95	M5	5
14	DK	36.8	82.024	M6	15
14	DL	62	91.924	M5	10
14	EA	50	100	M6	5
14	EB	73.025	98.43	M5	5
14	EC	80	100	M6	5
14	ED	80	100	M6	15
14	EE	73.025	98.43	M6	15
14	EF	50	98.43	M5	5
14	EG	60	98.995	M5	5
14	EH	80	105	M6	15
14	EJ	60	98.995	M6	10
14	EK	73.025	98.43	M6	5
14	EL	73	94	M6	5
14	EM	83	104	M8	10
14	FA	60	115	M6	5
14	FB	95	115	M8	15
14	GA	80	139.7	M6	5
14	GB	80	130	M5	20
14	GC	94	120	M8	10
14	JA	115	165	M8	10



Adapter Flange Codes

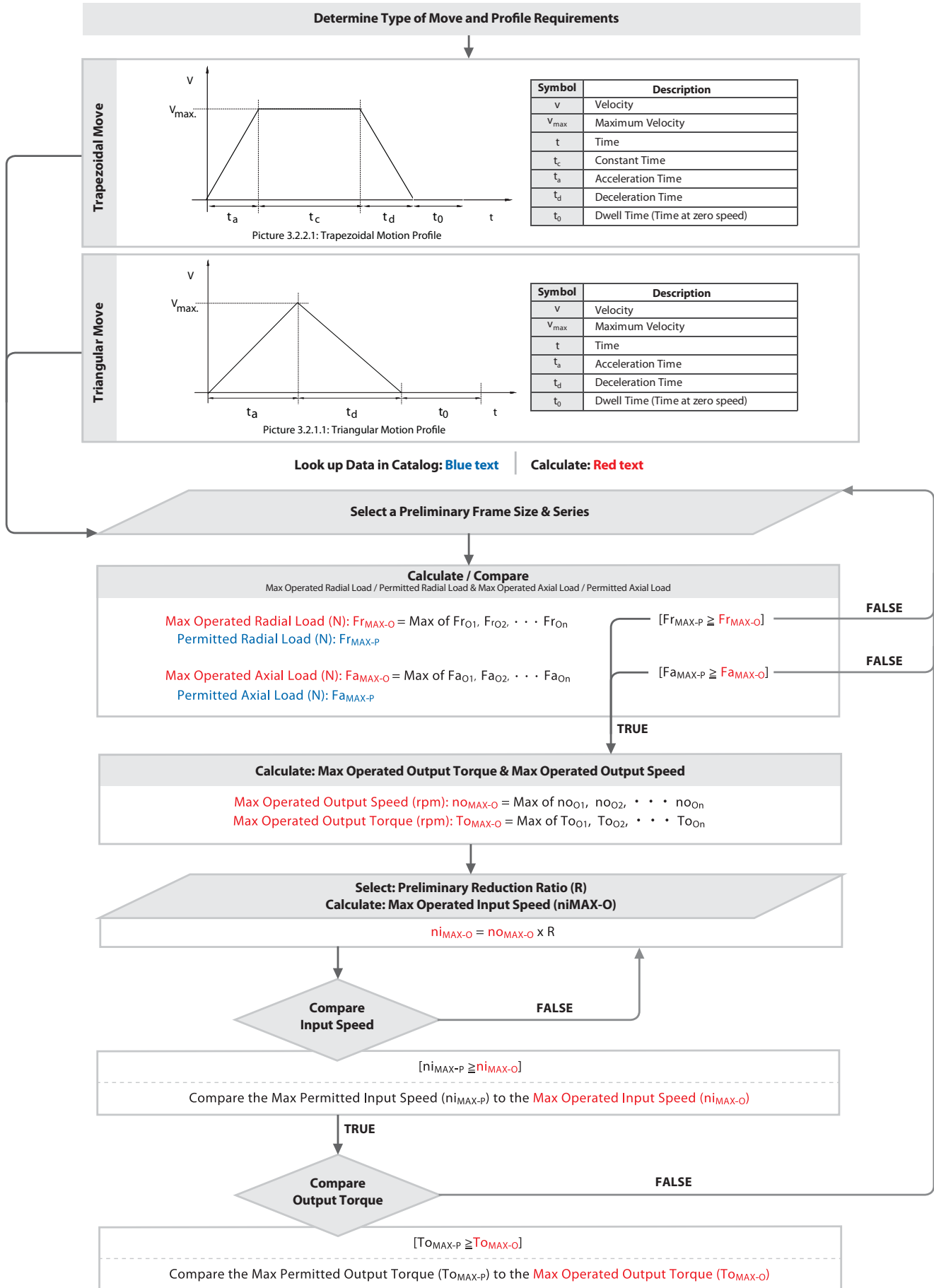
Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
8	AA	20.02	46.69	M3	5
8	AB	22	43.82	4.7	10
8	AC	22	48	M3	5
8	AD	22.22	50.8	M3	5
8	AE	25.4	38.89	4	10
8	AF	30	45	M3	5
8	AG	30	46	M4	5
8	AH	30	46	M4	10
8	AJ	30	46	3.5	10
8	AK	34	48	M3	10
8	AL	30	48	M3	5
8	AM	22	43.82	3.5	5
8	AN	40	50	M4	5
8	AQ	37.6	48	M3	5
8	BA	38.1	66.68	M4	5
8	BB	38.1	66.68	M5	5
8	BC	50	60	M4	10
8	BD	50	70	M4	5
8	BE	50	70	M5	5
8	BF	50	70	M5	10
8	BG	36	70.71	M4	5
8	BH	54	70	M4	5
8	BJ	50	58	M3	5
8	CA	50	80	M4	10

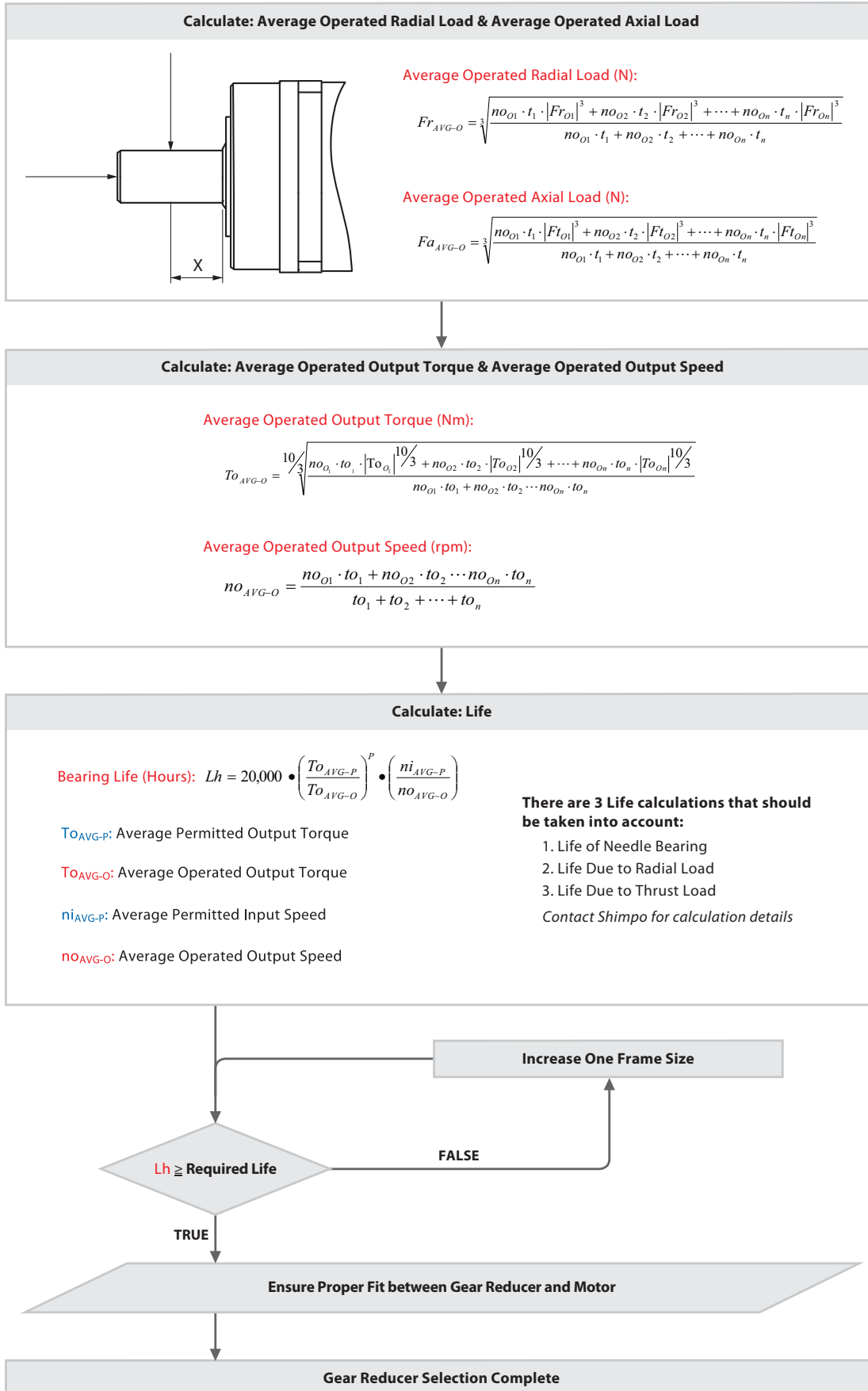
Input Bore (mm)	Part# Code	Pilot (mm)	PCD (mm)	Tapped Hole	Pilot Depth (mm)
S8	ZA	20.02	46.69	M3	5
S8	ZB	22	43.82	4.7	10
S8	ZC	22	48	M3	5
S8	ZD	22.22	50.8	M3	5
S8	ZE	25.4	38.89	4	10
S8	ZF	30	45	M3	5
S8	ZG	30	46	M4	5
S8	ZH	30	46	M4	10
S8	ZJ	30	46	3.5	10
S8	ZK	34	48	M3	10
S8	ZL	30	48	M3	5
S8	ZM	22	43.82	3.5	5
S8	ZN	40	50	M4	5
S8	ZQ	37.6	48	M3	5
S8	BA	38.1	66.68	M4	5
S8	BB	38.1	66.68	M5	5
S8	BC	50	60	M4	10
S8	BD	50	70	M4	5
S8	BE	50	70	M5	5
S8	BF	50	70	M5	10
S8	BG	36	70.71	M4	5
S8	BH	54	70	M4	5
S8	BJ	50	58	M3	5



Selection Flow Charts

Procedure for Gear Reducer Selection

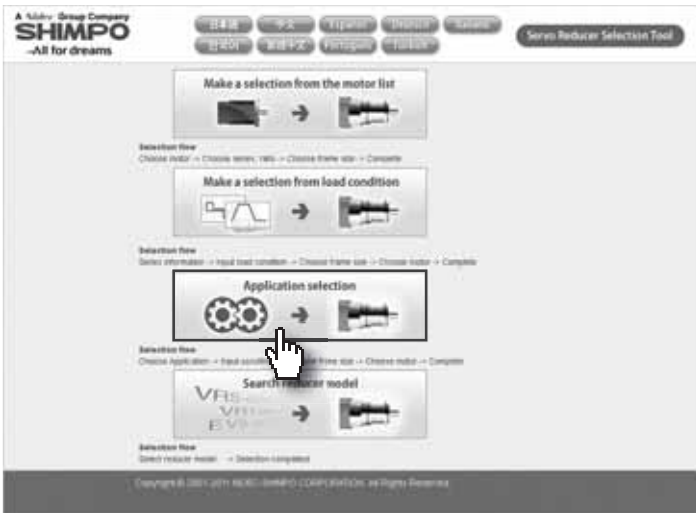




Online Sizing and Selection Tool

SHIMPO's online Selection Tool offers additional information that exceeds this catalog. The online Selection Tool has an extensive list of Servo Motor Specifications, Requirements and Application Specifications. See the Selection Tool example screens below to guide, support and help you with your application needs.

Selection Tool Screen Example 1



- Selection based on the Servo Motor Specifications
- Selection based on the Servo Motor Movement profile requirements
- Selection based on the Application Specifications includes all the above

Selection Tool Screen Example 2



- Select a application template based on your criteria

Selection Tool Screen Example 3

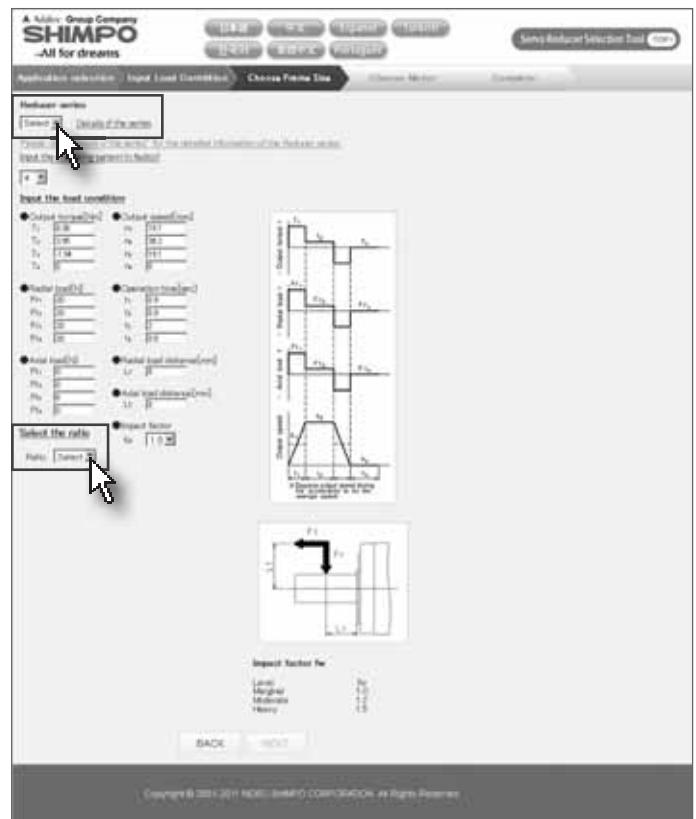


- Fill in all the information for your application

Load condition		
Delivery weight	Ww	10 (kg)
Belt weight	Wc	1 (kg)

- Including the velocity, forces, mass, and move profile

Selection Tool Screen Example 4



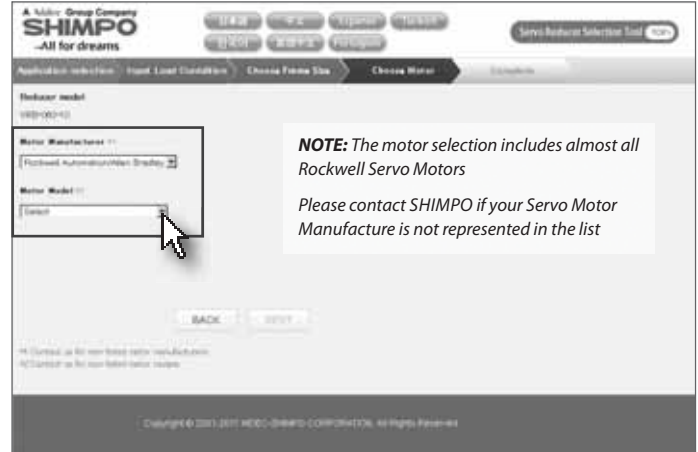
- Select a SHIMPO Reducer Series
- Select a Ratio that would put you near the rpm range for your application

Selection Tool Screen Example 5



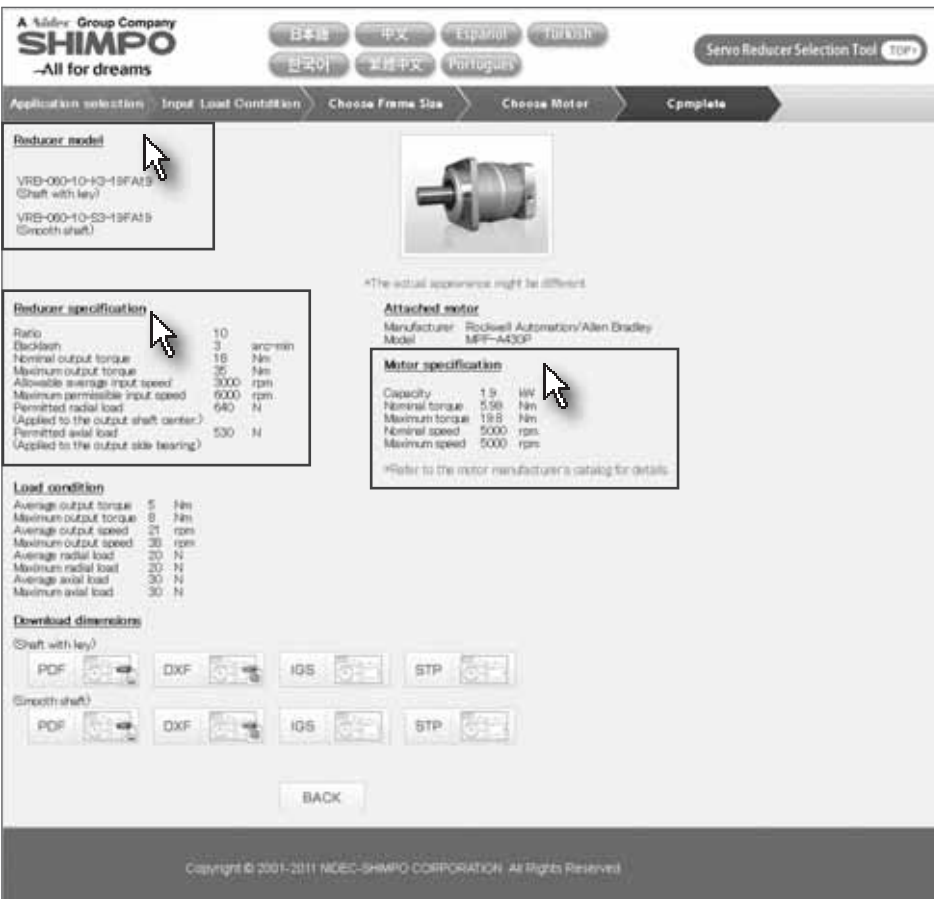
- The proper SHIMPO reducer frame size has been selected based on your application's criteria

Selection Tool Screen Example 6



- Select the Motor Manufacturer for your application from the list
- Select the appropriate motor via the "Motor Model drop down box"
- The manufacture Motor Model list includes new and former servo motors
- The sizing program does not select the servo motor drive

Selection Tool Screen Example 7



The resulting Load Condition can be helpful for sizing other related machine components

The Load Condition includes:

- Output Torque (Nm) and Output Velocity (rpm) of the Gearmotor

Load condition		
Average output torque	5	Nm
Maximum output torque	8	Nm
Average output speed	21	rpm
Maximum output speed	38	rpm
Average radial load	20	N
Maximum radial load	20	N
Average axial load	30	N
Maximum axial load	30	N

- These drawing formats can be downloaded: PDF, DXF, IGS, STP

