FA/FB SERIES GEARED MOTOR

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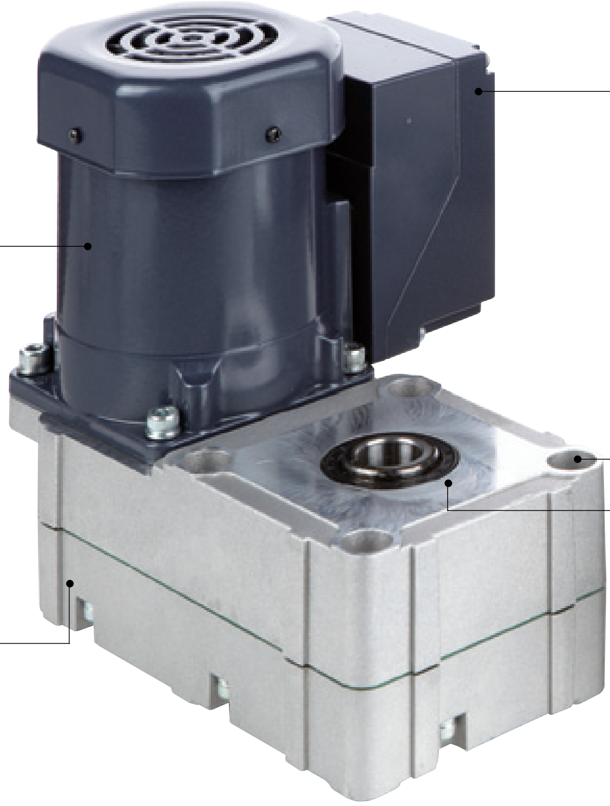
FLAT GEARED MOTOR
FA / FB SERIES

- ▶Large output and high strength
- ▶Protection class : IP54
- ▶Insulation class : B Class

■ FA / FB SERIES MERIT



■ STANDARD FEATURE

- It is possible to apply the large output and high strength.
  - Maxmum Permissible TORQUE is 50/100 Nm
  - All Ball Bearing.
  - Output gear and some gears are carburized.
- Industrial rip type seals on motor and output shaft.
- Protection class : IP 54
- Insulation class : B Class (130℃)
- Special gearse lubrication
- Ratio 1 : 43 to 905, other ratios on request
- Hollow shaft 17, 20 mm with key slot
- Capacitor is built in conduit box
- Thermally Protected Motor
- Option
  - Brake can be added
  - Insertion shaft left, right, or on both sides

FA / FB SERIES

■ FA / FB SERIES GEARED MOTOR CODING

FA	H	17	179	—	I	T	40	X	L

Series Name
FA
FB

Outshaft type	
H	Hollow
R	Soild Right
L	Solid left
B	Solid Both

Frame No.	
17	Hollow shaft inner dia.
20	Hollow shaft inner dia.
22	Solid shaft outer dia.

Ratio (Ex.)	
43	43 : 1
179	179 : 1
294	294 : 1

Motor type	
I	Induction motor
R	Reversible motor

MOTOR OPTION	
A	Lead wire Type
T	Terminal Box #2 Type

Motor Output	
25	25W
40	40W
60	60W
90	90W
120	120W
150	150W
180	180W

※FA : 25~90W
FB : 25~180W

Voltage & Frequency		
FA	X	1Ph. 220/240V 50Hz
FA	T	3Ph. 220/220V 50/60Hz
FB	B	1Ph. 230V 50Hz
FB	T	3Ph. 200/220V 50/60Hz 230V 60Hz

Cable gland posion	
L	Left
R	Right
B	Bottom

SPECIFICATION

MOTOR

No	Output	Voltage	Frequency	Duty	Rated			Starting Torque	Stall Torque	Capacitor
					Current	speed	Torque			
	W	V	Hz		A	r/min	Nm	Nm	Nm	uF
1	25	1Ph. 230	50	Cont.	0.27	1,300	0.26	0.15	0.32	1.5
2	40				0.32	1,300	0.31	0.19	0.41	2.0
3	60				0.48	1,300	0.49	0.34	0.66	3.5
4	90				0.70	1,300	0.74	0.53	0.98	5.0

GEARED MOTOR

No	Motor Design	Ratio	Stage	No Load		Rated			Permissible Torque	Starting Torque	Stall Torque
				Speed	Current	speed	Current	Torque			
		i		r/min	A	r/min	A	Nm	Nm	Nm	Nm
1	25W	43	3	34.3	0.12	30.2	0.27	8.2	50	4.7	10.1
2		61	3	24.1	0.12	21.2	0.27	11.6		6.7	14.3
3		86	3	17.1	0.12	15.0	0.27	16.4		9.4	20.2
4		107	3	13.8	0.12	12.2	0.27	20.3		11.7	24.9
5		132	3	11.2	0.12	9.8	0.27	25.0		14.4	30.8
6		179	3	8.2	0.12	7.2	0.27	34.0		19.6	41.9
7		217	4	6.8	0.12	6.0	0.27	37.0		21.4	45.6
8		*295	4	5.0	0.12	4.4	0.27	50.3		29.0	61.9
9		*324	4	4.6	0.12	4.0	0.27	55.3		31.9	68.1
10		*368	4	4.0	0.12	3.5	0.27	62.8		36.2	77.2
11		*432	4	3.4	0.12	3.0	0.27	73.8		42.6	90.8
12		*520	4	2.8	0.12	2.5	0.27	88.7		51.2	109.1
13		*651	4	2.3	0.12	2.0	0.27	111.1		64.1	136.7
14		*905	4	1.6	0.12	1.4	0.27	154.4		89.1	190.1
1	40W	43	3	34.3	0.15	30.2	0.32	9.7	50	6.0	12.9
2		61	3	24.1	0.15	21.2	0.32	13.9		8.5	18.4
3		86	3	17.1	0.15	15.0	0.32	19.5		12.0	25.8
4		107	3	13.8	0.15	12.2	0.32	24.2		14.8	32.0
5		132	3	11.2	0.15	9.8	0.32	29.9		18.3	39.5
6		179	3	8.2	0.15	7.2	0.32	40.5		24.8	53.6
7		217	4	6.8	0.15	6.0	0.32	44.1		27.1	58.4
8		*295	4	5.0	0.15	4.4	0.32	60.0		36.7	79.3
9		*324	4	4.6	0.15	4.0	0.32	66.0		40.4	87.2
10		*368	4	4.0	0.15	3.5	0.32	74.8		45.9	99.0
11		*432	4	3.4	0.15	3.0	0.32	87.9		53.9	116.3
1	60W	43	3	34.3	0.23	30.2	0.48	15.4	50	10.7	20.7
2		61	3	24.1	0.23	21.2	0.48	21.9		15.2	29.5
3		86	3	17.1	0.23	15.0	0.48	30.9		21.4	41.6
4		107	3	13.8	0.23	12.2	0.48	38.2		26.5	51.4
5		132	3	11.2	0.23	9.8	0.48	47.2		32.7	63.6
6		*179	3	8.2	0.23	7.2	0.48	64.1		44.5	86.3
7		*217	4	6.8	0.23	6.0	0.48	69.8		48.4	94.0
8		*295	4	5.0	0.23	4.4	0.48	94.8		65.8	127.7
1	90W	43	3	34.3	0.30	30.2	0.70	23.3	50	16.7	30.8
2		61	3	24.1	0.30	21.2	0.70	33.1		23.7	43.9
3		86	3	17.1	0.30	15.0	0.70	46.6		33.4	61.7
4		*107	3	13.8	0.30	12.2	0.70	57.7		41.3	76.4
5		*132	3	11.2	0.30	9.8	0.70	71.3		51.0	94.4
6		*179	3	8.2	0.30	7.2	0.70	96.8		69.3	128.2

※ NOTE : "*" limited permissible torque.

SPECIFICATION

MOTOR

No	Output	Voltage	Frequency	Duty	Rated			Starting Torque	Stall Torque	Capacitor
					Current	speed	Torque			
	W	V	Hz		A	r/min	Nm	Nm	Nm	uF
1	25	230	50	Cont.	0.27	1300	0.26	0.15	0.32	1.5
2	40	230	50		0.32	1300	0.31	0.19	0.41	2.0
3	60	230	50		0.48	1300	0.49	0.34	0.66	3.5
4	90	230	50		0.70	1300	0.74	0.53	0.98	5.0
5	180	230	50		1.29	1300	1.29	0.90	2.00	8.0

GEARED MOTOR

No	Motor Design	Ratio	Stage	No Load		Rated			Permissible Torque	Starting Torque	Stall Torque
				Speed	Current	speed	Current	Torque			
		i		r/min	A	r/min	A	Nm	Nm	Nm	Nm
1	25W	21	3	70.5	0.12	61.9	0.27	4.0	100	2.3	4.9
2		39	3	37.9	0.12	33.3	0.27	7.4		4.3	9.1
3		49	3	30.2	0.12	26.5	0.27	9.3		5.4	11.4
4		58	3	25.5	0.12	22.4	0.27	11.0		6.3	13.5
5		62	3	23.9	0.12	21.0	0.27	11.8		6.8	14.5
6		74	3	20.0	0.12	17.6	0.27	14.0		8.1	17.3
7		78	3	19.0	0.12	16.7	0.27	14.8		8.5	18.2
8		82	3	18.0	0.12	15.9	0.27	15.5		9.0	19.1
9		93	3	15.9	0.12	14.0	0.27	17.6		10.2	21.7
10		105	3	14.1	0.12	12.4	0.27	19.9		11.5	24.5
11		118	3	12.5	0.12	11.0	0.27	22.4		12.9	27.5
12		131	3	11.3	0.12	9.9	0.27	24.8		14.3	30.6
13		143	3	10.3	0.12	9.1	0.27	27.1		15.6	33.4
14		167	3	8.9	0.12	7.8	0.27	31.7		18.3	39.0
15		216	3	6.9	0.12	6.0	0.27	40.9		23.6	50.4
16		240	3	6.2	0.12	5.4	0.27	45.5		26.2	56.0
17		306	3	4.8	0.12	4.2	0.27	58.0		33.5	71.4
18	40W	21	3	70.5	0.15	61.9	0.32	4.7	100	2.9	6.3
19		39	3	37.9	0.15	33.3	0.32	8.8		5.4	11.7
20		49	3	30.2	0.15	26.5	0.32	11.1		6.8	14.6
21		58	3	25.5	0.15	22.4	0.32	13.1		8.0	17.3
22		62	3	23.9	0.15	21.0	0.32	14.0		8.6	18.5
23		74	3	20.0	0.15	17.6	0.32	16.7		10.2	22.1
24		78	3	19.0	0.15	16.7	0.32	17.6		10.8	23.3
25		82	3	18.0	0.15	15.9	0.32	18.5		11.4	24.5
26		93	3	15.9	0.15	14.0	0.32	21.0		12.9	27.8
27		105	3	14.1	0.15	12.4	0.32	23.7		14.5	31.4
28		118	3	12.5	0.15	11.0	0.32	26.7		16.3	35.3
29		131	3	11.3	0.15	9.9	0.32	29.6		18.1	39.2
30		143	3	10.3	0.15	9.1	0.32	32.3		19.8	42.7
31		167	3	8.9	0.15	7.8	0.32	37.7		23.1	49.9
32		216	3	6.9	0.15	6.0	0.32	48.8		29.9	64.6
33		240	3	6.2	0.15	5.4	0.32	54.2		33.2	71.7
34		306	3	4.8	0.15	4.2	0.32	69.2		42.4	91.5

※ NOTE : "*" limited permissible torque.

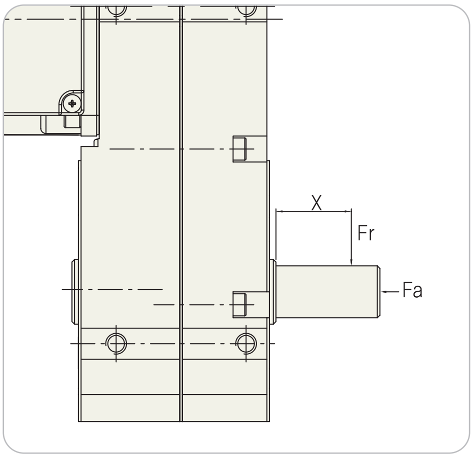
SPECIFICATION

GEARED MOTOR

No	Motor Design	Ratio	Stage	No Load		Rated			Permissible Torque	Starting Torque	Stall Torque
				Speed	Current	speed	Current	Torque			
		i		r/min	A	r/min	A	Nm	Nm	Nm	Nm
35		21	3	70.5	0.23	61.9	0.48	7.5		5.2	10.1
36		39	3	37.9	0.23	33.3	0.48	13.9		9.7	18.8
37		49	3	30.2	0.23	26.5	0.48	17.5		12.1	23.6
38		58	3	25.5	0.23	22.4	0.48	20.7		14.4	27.9
39		62	3	23.9	0.23	21.0	0.48	22.1		15.4	29.8
40		74	3	20.0	0.23	17.6	0.48	26.4		18.3	35.6
41		78	3	19.0	0.23	16.7	0.48	27.9		19.3	37.5
42		82	3	18.0	0.23	15.9	0.48	29.3		20.3	39.5
43	60W	93	3	15.9	0.23	14.0	0.48	33.2	100	23.1	44.7
44		105	3	14.1	0.23	12.4	0.48	37.5		26.0	50.5
45		118	3	12.5	0.23	11.0	0.48	42.2		29.2	56.8
46		131	3	11.3	0.23	9.9	0.48	46.8		32.5	63.0
47		143	3	10.3	0.23	9.1	0.48	51.1		35.4	68.8
48		167	3	8.9	0.23	7.8	0.48	59.7		41.4	80.4
49		216	3	6.9	0.23	6.0	0.48	77.2		53.5	103.9
50		240	3	6.2	0.23	5.4	0.48	85.7		59.5	115.5
51		*306	3	4.8	0.23	4.2	0.48	109.3		75.8	147.2
52		21	3	70.5	0.30	61.9	0.70	11.3		8.1	15.0
53		39	3	37.9	0.30	33.3	0.70	21.0		15.1	27.9
54		49	3	30.2	0.30	26.5	0.70	26.4		18.9	35.0
55		58	3	25.5	0.30	22.4	0.70	31.3		22.4	41.4
56		62	3	23.9	0.30	21.0	0.70	33.4		24.0	44.3
57		74	3	20.0	0.30	17.6	0.70	39.9		28.6	52.9
58		78	3	19.0	0.30	16.7	0.70	42.1		30.1	55.7
59		82	3	18.0	0.30	15.9	0.70	44.2		31.7	58.6
60	90W	93	3	15.9	0.30	14.0	0.70	50.2	100	35.9	66.4
61		105	3	14.1	0.30	12.4	0.70	56.6		40.6	75.0
62		118	3	12.5	0.30	11.0	0.70	63.7		45.6	84.3
63		131	3	11.3	0.30	9.9	0.70	70.7		50.6	93.6
64		143	3	10.3	0.30	9.1	0.70	77.1		55.3	102.2
65		167	3	8.9	0.30	7.8	0.70	90.1		64.5	119.3
66		*216	3	6.9	0.30	6.0	0.70	116.5		83.5	154.3
67		*240	3	6.2	0.30	5.4	0.70	129.5		92.7	171.5
68		*306	3	4.8	0.30	4.2	0.70	165.1		118.2	218.6
69		21	3	70.5	0.75	61.9	1.29	19.7		13.8	30.6
70		39	3	37.9	0.75	33.3	1.29	36.7		25.6	56.9
71		49	3	30.2	0.75	26.5	1.29	46.1		32.1	71.4
72		58	3	25.5	0.75	22.4	1.29	54.5		38.1	84.6
73		62	3	23.9	0.75	21.0	1.29	58.3		40.7	90.4
74		74	3	20.0	0.75	17.6	1.29	69.6		48.6	107.9
75		78	3	19.0	0.75	16.7	1.29	73.4		51.2	113.7
76		82	3	18.0	0.75	15.9	1.29	77.1		53.8	119.6
77	180W	93	3	15.9	0.75	14.0	1.29	87.5	100	61.0	135.6
78		105	3	14.1	0.75	12.4	1.29	98.7		68.9	153.1
79		*118	3	12.5	0.75	11.0	1.29	111.0		77.4	172.0
80		*131	3	11.3	0.75	9.9	1.29	123.2		85.9	191.0
81		*143	3	10.3	0.75	9.1	1.29	134.5		93.8	208.5
82		*167	3	8.9	0.75	7.8	1.29	157.0		109.6	243.5
83		*216	3	6.9	0.75	6.0	1.29	203.1		141.7	314.9
84		*240	3	6.2	0.75	5.4	1.29	225.7		157.5	349.9
85		*306	3	4.8	0.75	4.2	1.29	287.8		200.8	446.1

※ NOTE : "*" limited permissible torque.

■ PERMISSIBLE THE RADIAL FORCE (Fr) & AXIAL FORCE (Fa)



FA : Fr = 2,000N(at × = 20mm)
Fa = 500N
FB : Fr = 4,000N(at × = 20mm)
Fa = 1000N

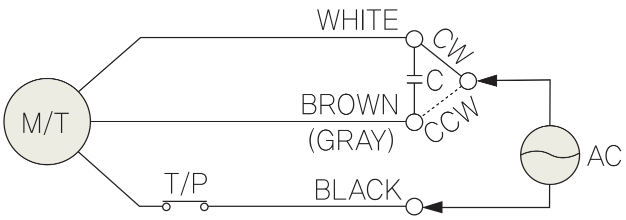
In addition to permissible radial and axial forces, if only axial forces and simultaneous radial and axial forces are present, please consult with SPG

■ CONNECTION DIAGRAM (MOTOR ONLY)

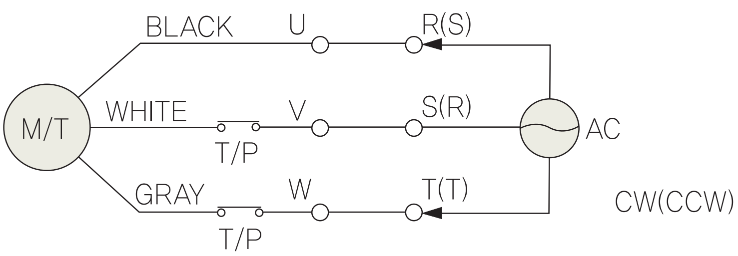
POWER : 230V 50Hz 1Ph. 200–220V 50/60Hz 3Ph.

LEADS : 1Ph. Type 'X' – BLACK, WHITE, BROWN
1Ph. Type 'B' – BLACK, WHITE, GRAY
3Ph. Type 'T' – BLACK, WHITE, GRAY

1Ph.



3Ph.



■ ROTATE DIRECTION & OPTION

■ Rotate direction [Geared Motor] (VIEW 'Z')

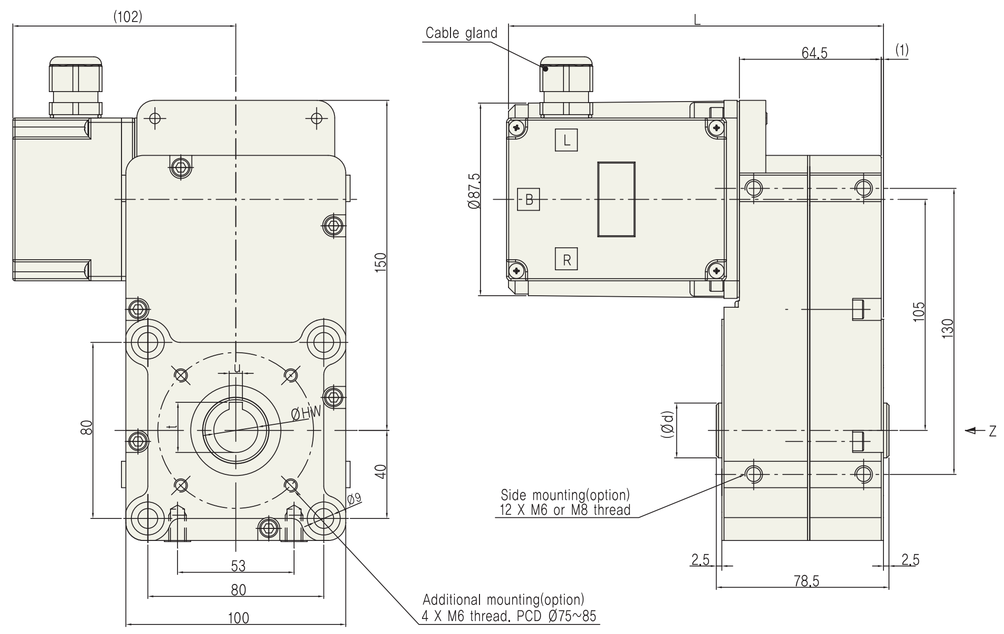
- Gear's stage even : Motor CW->Gear Head CW
- Gear's stage odd : Motor CW->Gear Head CCW

■ Special Option

- Possible to pick out the Thermal Protector (T/P) lead wires separately.
- Hall sensor or Tacho generator mounted

DIMENSIONS

FAH17(20)-□-IT25(40)XL(B, R)



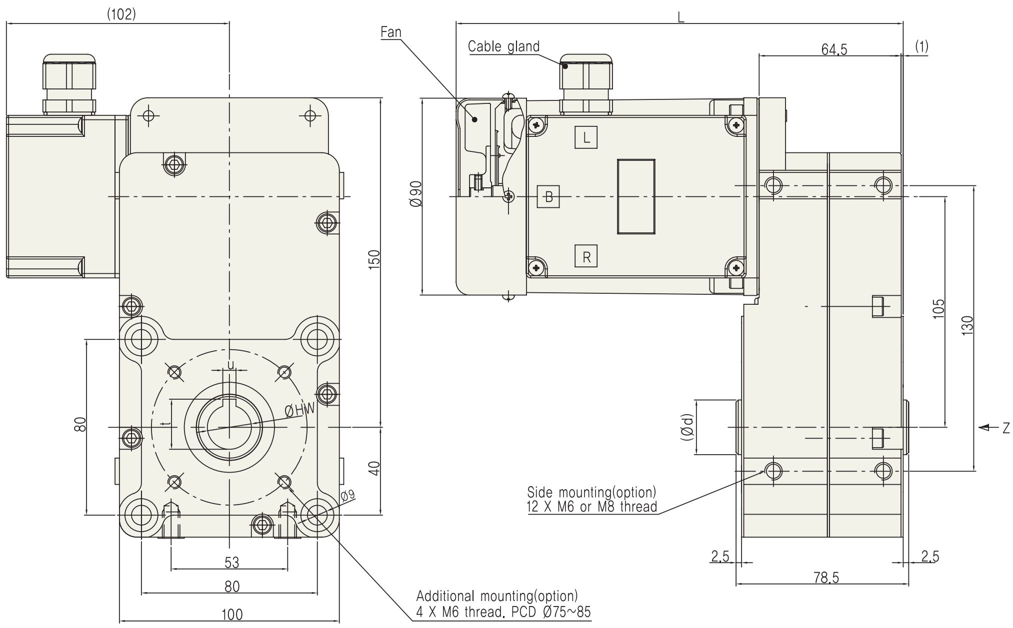
Output(W)	Weight(kg)	ØHW	t	u	Ød	L
25/40	5.3	17(20)	19.3(22.8)	5(6)	25(30)	170.5

※ NOTE

- ( ) are the dimensions at ØHW 20.
- Cable gland position change is possible

■ DIMENSIONS

■ FAH17(20)-□-IT60(90)XL(B, R)



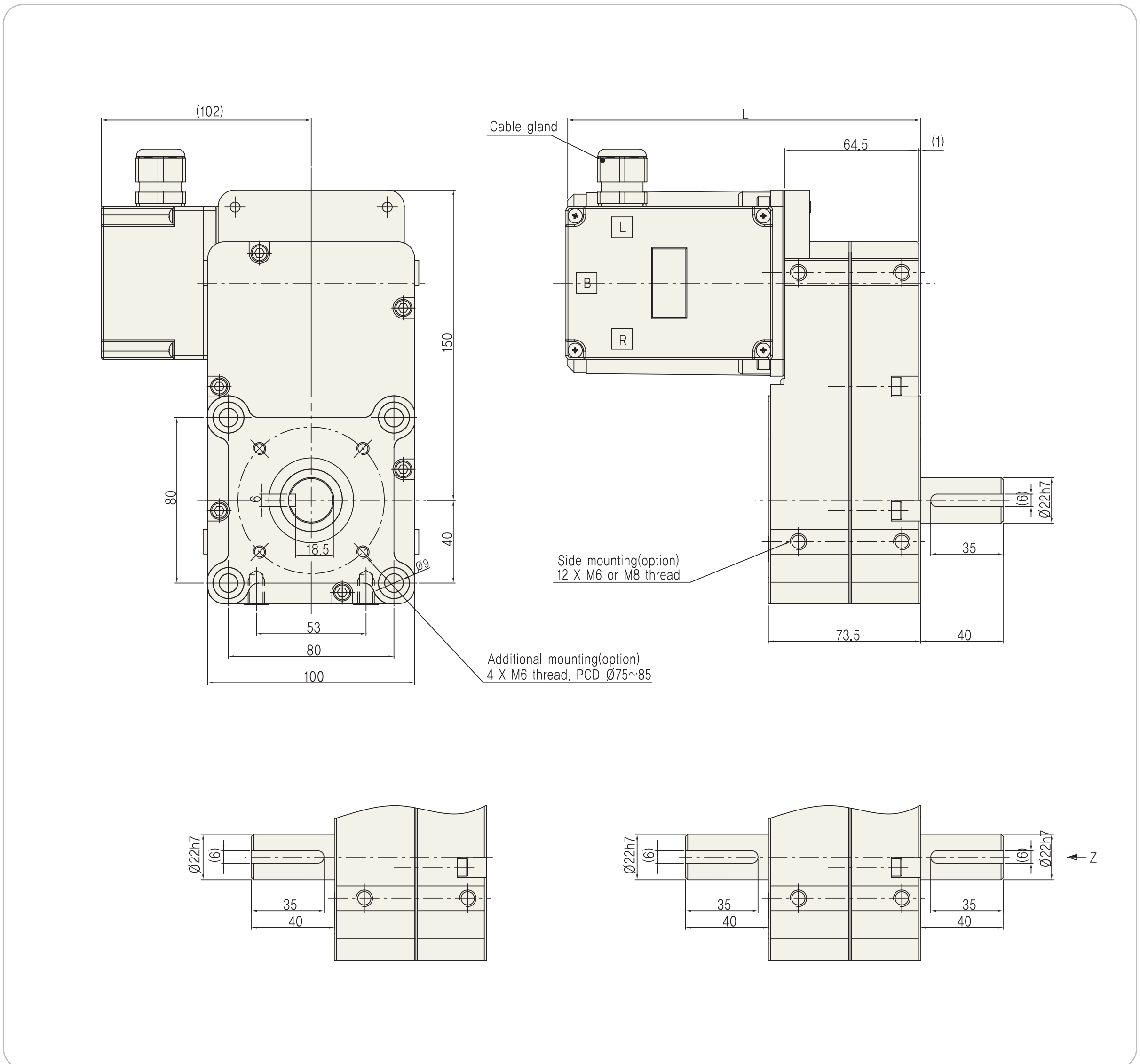
Output(W)	Weight(kg)	ØHW	t	u	Ød	L
60	5.5	17(20)	19.3(22.8)	5(6)	25(30)	188.3
90	5.8					203.3

※ NOTE

- ( ) are the dimensions at ØHW 20.
- Cable gland position change is possible

■ DIMENSIONS

■ FAR(L, B)22-□-IT□XL(B, R)



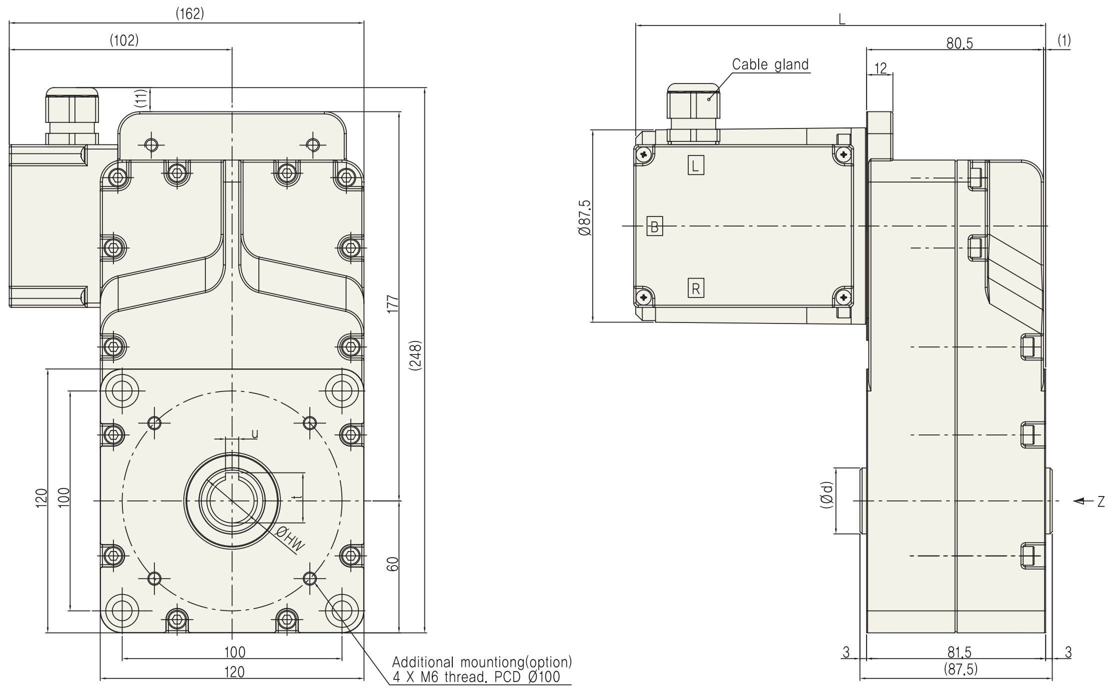
Output(W)	L
25/40	170.5
60	188.3
90	203.3

※ NOTE

- Cable gland position change is possible

DIMENSIONS

FBH20-□-IT25(40)XL(B, R)



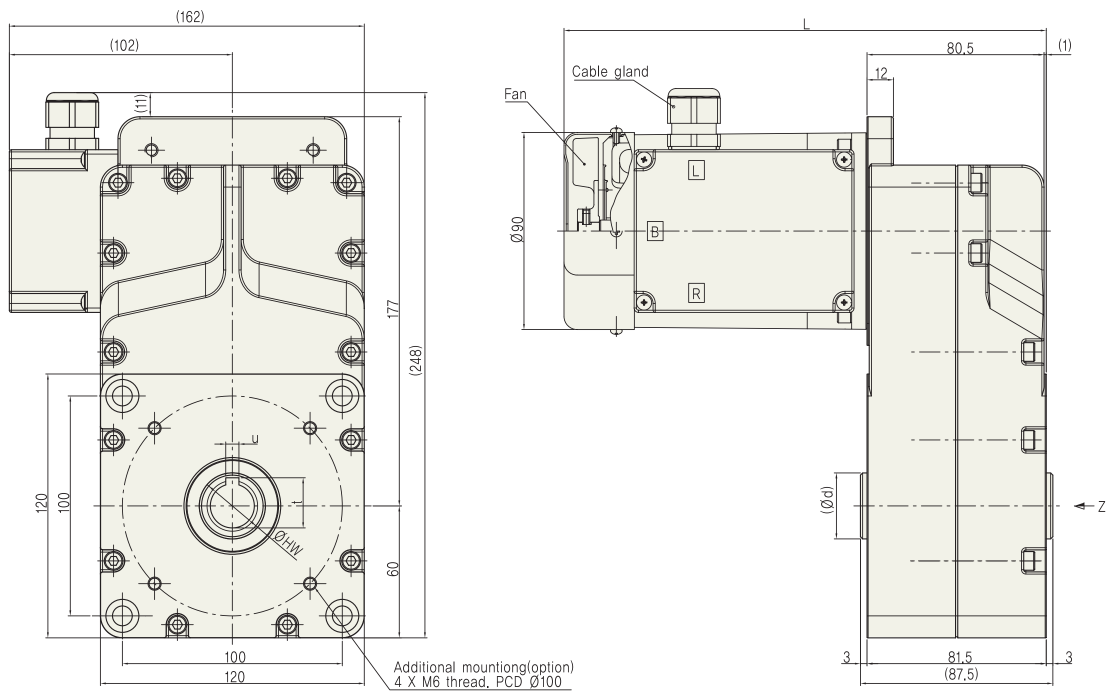
Output(W)	Weight(kg)	ØHW	t	u	Ød	L
25/40	7	20	22.8	6	30	186.5

※ NOTE

- Cable gland position change is possible

DIMENSIONS

FBH20-□-IT60(90)XL(B, R)



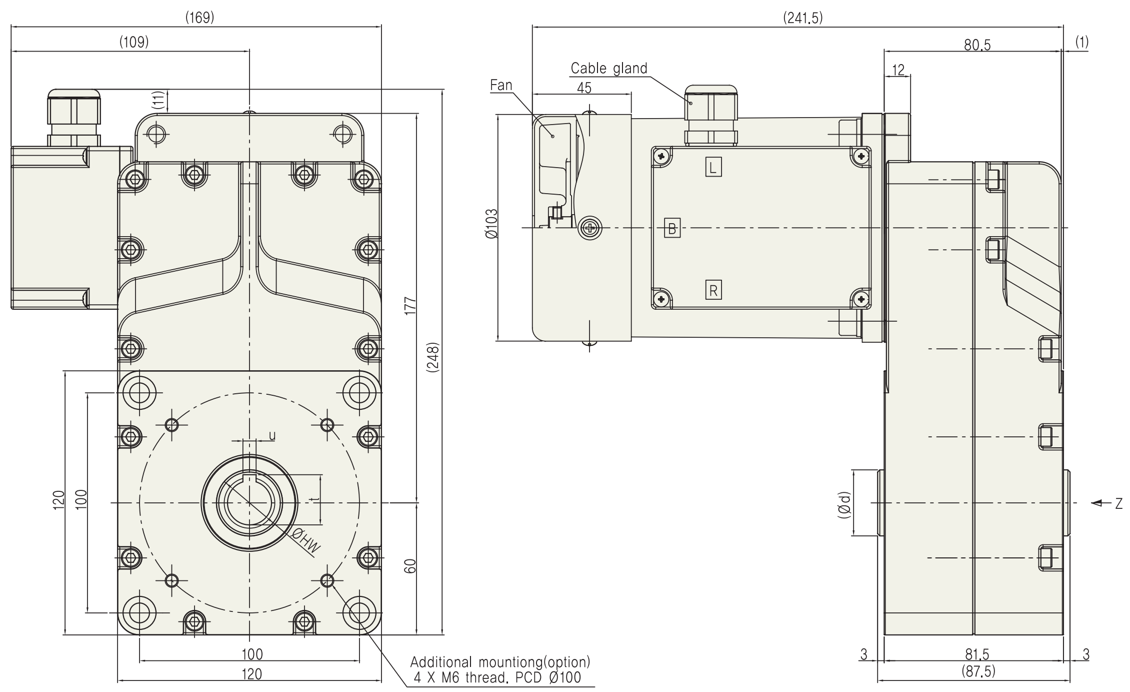
Output(W)	Weight(kg)	ØHW	t	u	Ød	L
60	7.2	20	22.8	6	30	204.3
90	7.6					219.3

※ NOTE

- Cable gland position change is possible

■ DIMENSIONS

■ FBH20-□-IT180XL(B, R)



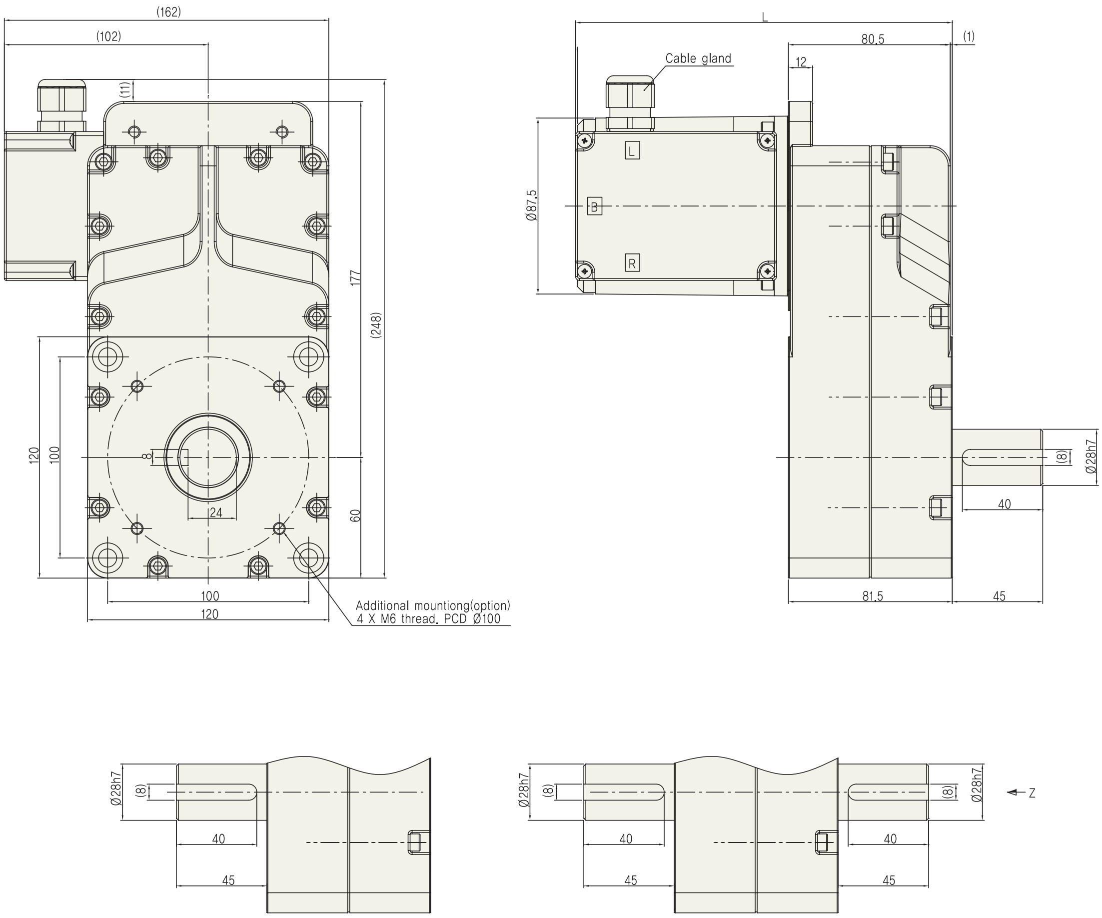
Output(W)	Weight(kg)	ØHW	t	u	Ød	L
120/150/180	9.2	20	22.8	6	30	241.5

※ NOTE

- Cable gland position change is possible

DIMENSIONS

FBR(L, B)28-□-IT□XL(B, R)



Output(W)	L
25/40	170.5
60	188.3
90	203.3
120/150/180	241.5

※ NOTE

– Cable gland position change is possible

Passion for only one, SPG Motor

SPG Co., Ltd.

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