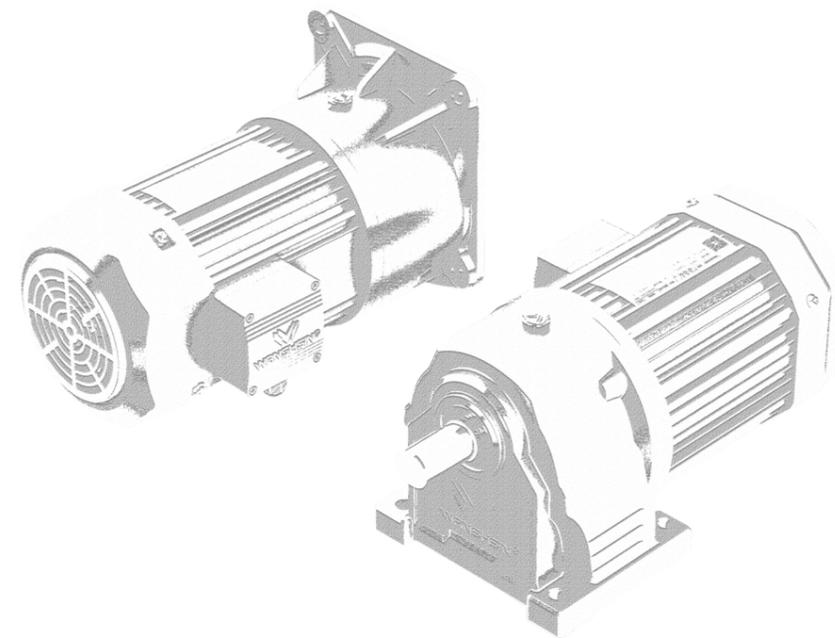




AC GEAR MOTOR CATALOG



WANSHSIN®

WANSHSIN SEIKOU (HUNAN) CO., LTD

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Committed To Building A World-class Intelligent Electromechanical Brand

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COMPANY INTRODUCTION



WANSHSIN was founded in 2009 in Dongguan, Guangdong, and moved its headquarters to Changsha Hunan in 2014.

WANSHSIN is a leading professional gearbox and gearmotor manufacturer and intelligent automation complete solution provider, integrating R&D, production, sales and service, products include gear reducer, gear motor and controller (servo driver, inverter, etc), which are widely used in lithium battery industry, automated production lines, robots, automobile manufacturing, engineering machinery, warehousing and logistics, metallurgy chemicals, ceramics, animal husbandry and other industries. WANSHSIN has gradually become a reliable long-term partner of those leading enterprises of relevant industries.

3

R&D Center

5

Production Base

40+

Countries

700+

Global Staff

800,000

Annual Quantities

CORE COMPETITIVENESS



Excellent Quality Control

We are the pioneer in introducing and launching the advanced automotive industry quality control standards pre-planning of product quality and have equipped with a large number of imported international advanced inspection/testing equipment to ensure product quality.

Advanced Manufacturing Capability

We have hundreds of domestic advanced processing equipment with a total value of more than USD25 million, and our capacity is in a leading position in China.

Fast Delivery

Self built warehouse system with sufficient inventory; Short delivery cycle, fast delivery of conventional and non-standard products; Configure with a number of domestic TOP-level logistics providers; Fast after-sales response.

AC GEAR MOTOR



SELECTION

MODEL NAME

GH22400W30SBG1LDHO

1 2 3 4 5 6 7 8 9

1 Model Code

GH	Horizontal Installation Gear Motor
GV	Vertical Installation Gear Motor
GHM	Horizontal Installation Straight Gear Motor
GVM	Vertical Installation Straight Gear Motor
GHD	Horizontal Installation Dual Axle Gear Motor
GVD	Vertical Installation Dual Axle Gear Motor

2 Output shaft

18、22、28、32.....

3 Power

100W-7500W

4 Ratio: 3、5、10、.....1800

5 Motor

S: 220V、380V/50、60HZ-three phase
A: 110V、220V/50、60HZ-Single phase

6 Brake unit

B: Brake unit
AB: With release brake unit
D: DC24V brake

7 Terminal box position view(from the output shaft direction)

G1: Left (STD) G2: Right
G3: Upper G4: Down

8 Wire inlet

T: Top B: Back D: Down
L: Left F: Forward R: Right

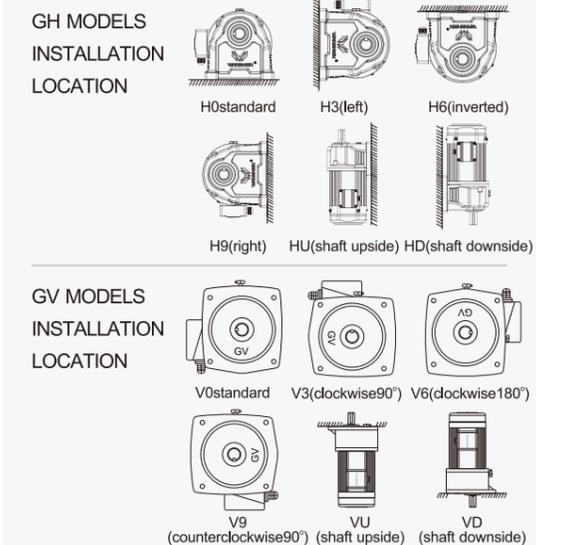
9 Breather plug position

GH MODEL INSTALLATION SITE		GV MODEL INSTALLATION SITE	
H0standard	H3(left)	V0standard	V3(clockwise90°)
H6(inverted)	H9(right)	V6(clockwise180°)	V9(counterclockwise90°)
HU(shaft upside) HD(shaft downside)		VU(shaft upside) VD(shaft downside)	

TERMINAL BOX DIRECTION

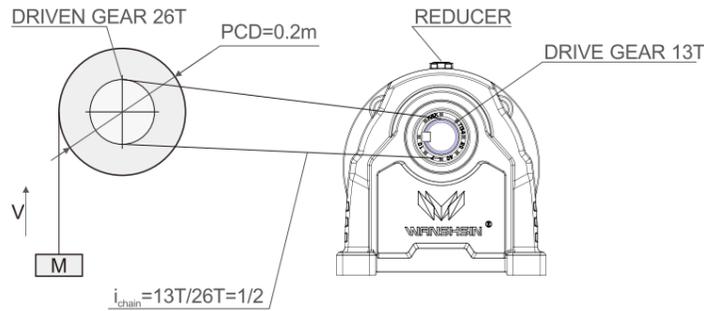
TYPE	G1- LEFT SIDE	G2- RIGHT SIDE	G3- UPPER SIDE	G4- LOWER SIDE
GH TYPE				
GV TYPE				
WIRE INLET DIRECTION				

REDUCER AND BREATHER PLUG INSTALLATION



Except HO installation site ,other installation site should be informed.

SELECTED EXAMPLES



Total weight of load: M=300KG

Speed: V=9.5m/min

Chain transmission efficiency: $\eta_1=1$

Reducer transmission efficiency: $\eta_2=0.9$

Operation time: 2h/d

Times of starting: 1 time/min, medium impact

Power: 3-phase 220V, 50HZ

	CAUTIONS	CALCULATION
REDUCTION RATIO	Reduction ratio should be decided by input shaft revolutions and output shaft revolutions. 1、 Find conveyor wheel revolutions(N1) $N1 = \text{speed} / (\text{PCD} \cdot \pi)$ 2、 Find reducer output shaft revolutions (N2) $N2 = N1 / i_{\text{chain}}$ 3、 Calculate reduction ratio of 3-phase motor with frequency of 60Hz $i = \text{Output shaft revolutions} / \text{input shaft revolutions} (\text{Motor revolutions})$	1、 $N1 = V / (\text{PCD} \cdot \pi)$ $= 9.5 / (0.2 \times 3.14) = 15 \text{r/min}$ 2、 $N2 = N1 / i_{\text{chain}}$ $= 15 / (1/2) = 30 \text{r/min}$ 3、 $i = \text{Output shaft revolutions} / \text{input shaft revolutions}$ $= 30 / 1500 = 1/50$
TORQUE	After reduction ratio is decided, torque of the reducers output shaft can be found according to mechanical conditions. 1、 Firstly find torque(T1)of conveyance wheel ratio $T1 = (M \cdot \text{PCD}) / 2$ 2、 Then find the torque(T2) of the output shaft of reducer $T2 = (T1 \cdot i_{\text{chain}}) / (\eta_1 \cdot \eta_2)$	1、 $T1 = M \cdot \text{PCD} / 2$ $= 300 \cdot 0.2 / 2$ $= 30 \text{kg} \cdot \text{m}$ 2、 $T2 = (T1 \cdot i_{\text{chain}}) / (\eta_1 \cdot \eta_2)$ $= (30 \cdot 0.5) / (1 \cdot 0.9)$ $= 16.7 \text{kg} \cdot \text{m}$
LOAD CONDITIONS	1、 Find the adjusted torque(T3) according to operation conditions $T3 = T2 \cdot K$ Coef.K(No impact K=1, The larger impact, The larger K value)	1、 $T3 = T2 \cdot K$ $= 16.7 \cdot 1$ $= 16.7 \text{kg} \cdot \text{m}$
HORSE POWER	1、 $Hp = (T3 \cdot N_2) / 716.2$	1、 $Hp = (T3 \cdot N_2) / 716.2$ $= (16.7 \cdot 30) / 716.2$ $= 0.7 \text{hp} \dots (3/4 \text{hp})$

In accordance with the parameter, the reduction ratio of the reducer is 1/50, torque is 16.7kg.m. By reference to the performance table, we can find the power for reducer selected is 550W.

FRICITION FACTOR

SPROCKET	1.00
GEAR	1.25
V BELT	1.50
FLAT BELT	2.50

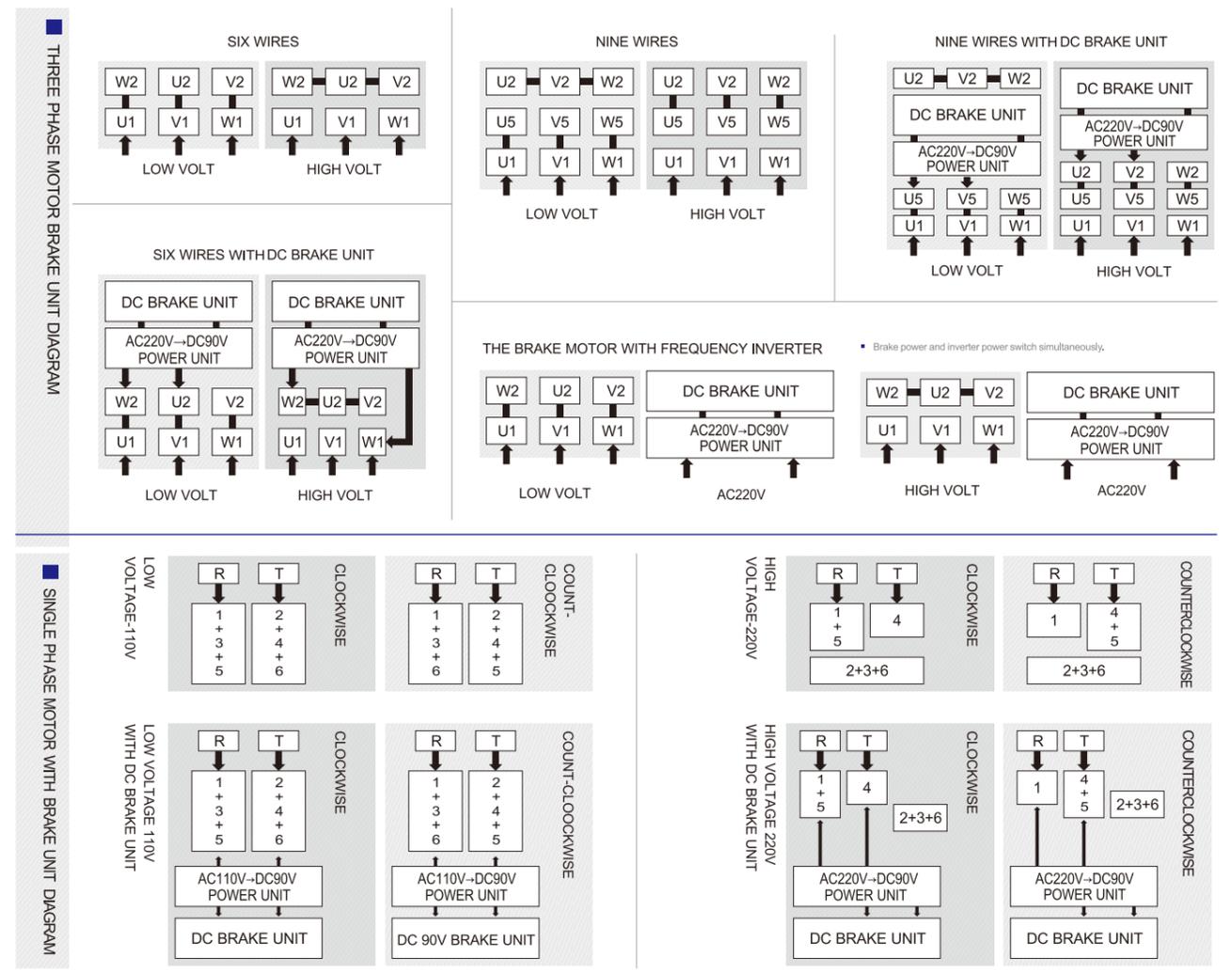
FREQUENTLY USED FORMULA

INTENDED CONDITIONS	KNOWN CONDITIONS	FORMULA
Torque	T1	$T = F \times R$ (kgf-m)
Torque	T2	force(F) Radius(R)/horsepower(Hp) no. of rotations(N)(r.p.m) $T = (716 \times \text{Hp}) / N$ (kgf-m)
Torque	T3	force(F) no.of rotations(N)(r.p.m)/torque(T) no. of rotations(N)(r.p.m) $T = (974 \times \text{Kw}) / N$ (kgf-m)
Horse Torque	Hp	torque(T) no. of rotations(N)(r.p.m)/force(F) speed(V)(m/sec) $Hp = (T \times N) / 716.2$ (Hp)
Power	Kw	$Kw = (T \times N) / 974$ (Kw)
Horse Torque	Hp	force(F) speed(V)(m/sec)/belt $Hp = (F \times V) / 75$ (Hp)
Power	Kw	diameter(D) no. of rotations(N)(r.p.m) $Kw = (F \times V) / 102$ (Kw)
Velocity	V	$V = (\pi \times D \times N) / 60$ (m/sec)
Reduction Ratio	i	input rotation no.(N1) output rotation no.(N2) $I = N1 / N2$

CODE DETAILS

V= Speed (M/MIN)	η = Efficiency (%)	1INCH=2.54CM
I= Ratio	N=出力轴转速(PRM)	1FOOT=12INCH
Ouput Torque (KG-M)	D= Roller Diameter (MM)	1KW=1000W 1KW=1.34HP
Connecting Factor	R= Roller Radius (MM)	1KG-M=7.233FT-LB 1KG-M=86.8IN-LB
Service Factor	KW1(HP1)= Input Capacity	1KG=2.2LB 1LB=0.4536KG
Load (KG)	KW2(HP2)= Output Capacity	1CM=10MM 1CM=0.39371NCH

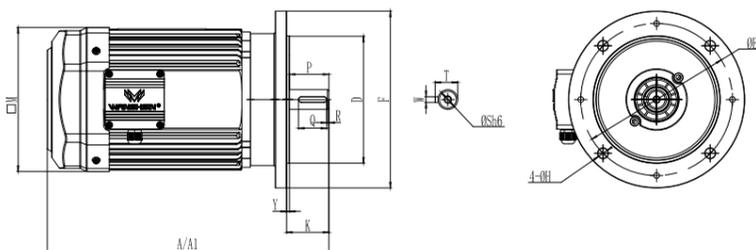
CONNECTION MODE



DIMENSIONS(MM)

1 VERTICAL THREE-PHASE STANDARD IEC ALUMINUM (BRAKE) MOTOR (B5)

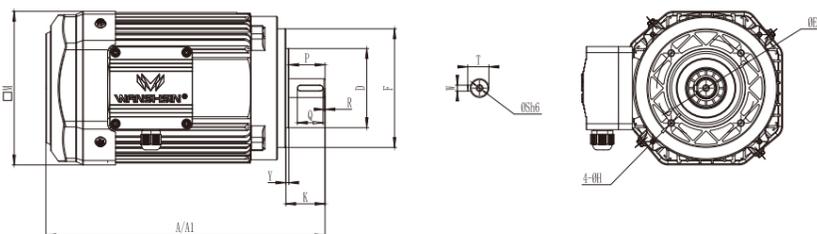
OUTPUT POWER	A	A1	D	E	F	H	K	M	P	Q	R	S	T	W	Y	KG
200W 1/4HP	232	236	95	115	140	10	23	128.8	20	10	2	11	12.5	4	3	5.5
400W 1/2HP	250	254	110	130	160	10	30	128.8	27	14	2	14	16	5	3	6.9
750W 1HP	297	297	130	165	200	12	40	155.4	39	25	2	19	21.5	6	3	10.6
1500W 2HP	350	370	130	165	200	12	50	179.2	50	32	3	24	27	8	3.5	16.5
2200W 3HP	384	410	180	215	250	14.5	60	203.6	60	40	3	28	31	8	4	28
3700W 5HP	400	426	180	215	250	14.5	60	203.6	60	40	3	28	31	8	4	34.5
5500W 7.5HP	471	471	230	265	300	15	80	250	80	60	4	38	41.5	10	4	45
7500W 10HP	511	511	230	265	300	15	80	250	80	60	4	38	41.5	10	4	55



- A1 is the size of the three-phase motor .
- A1 is the size of the three-phase motor with brake.

2 VERTICAL THREE-PHASE STANDARD IEC ALUMINUM (BRAKE) MOTOR (B14)

OUTPUT POWER	A	A1	D	E	F	H	K	M	P	Q	R	S	T	W	Y	KG
200W 1/4HP	230	233	60	75	90	M5	23	128.8	20	10	2	11	12.5	4	3	5.5
400W 1/2HP	250	254	70	85	105	M6	30	128.8	27	14	2	14	16	5	3	6.9
750W 1HP	287	299	80	100	120	M6	40	155.4	39	25	2	19	21.5	6	3	10.6
1500W 2HP	348	369	95	115	140	M8	50	179.2	50	32	3	24	27	8	3.5	16.5
2200W 3HP	383	409	110	130	160	M8	60	203.6	60	40	3	28	31	8	4	28
3700W 5HP	398.5	424.5	110	130	160	M8	60	203.6	60	40	3	28	31	8	4	34.5



- A1 is the size of the three-phase motor .
- A1 is the size of the three-phase motor with brake.

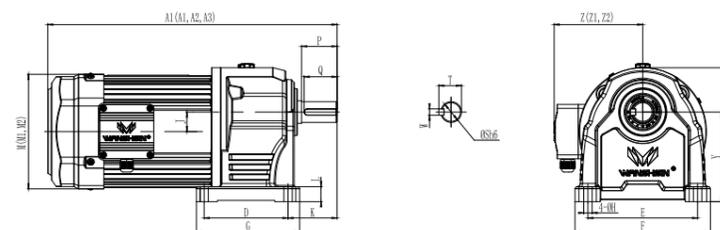
3 GH HORIZONTAL SINGLE-PHASE THREE-PHASE,ALUMINUM SHELL(BRAKE)GEAR MOTOR

HP-4P	RATIO CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	X	Y	Z1	Z2	KG	
100W 1/8HP	3-50	1#	18	253	273	257	40	110	135	65	9	10	16	45	128.8	128.8	132	88.5	116	116	5.3
	60-200	2#	22	287	307	291	65	130	163	90	11	15	18.2	56	128.8	128.8	152	97.5	116	116	6.9
200W 1/4HP	3-10	1#	18	273	293	277	40	110	135	65	9	10	16	45	128.8	128.8	132	88.5	116	116	6.7
	15-90	2#	22	307	327	311	65	130	163	90	11	15	18.2	56	128.8	128.8	152	97.5	116	116	8.6
	100-200	3#	28	333	353	337	90	140	180	122	11	15	20.8	65	128.8	128.8	180	116	116	116	11
400W 1/2HP	3-10	2#	22	327	346	331	65	130	163	90	11	15	18.2	56	128.8	155.4	152	97.5	116	133	11
	15-90	3#	28	353	372	357	90	140	180	122	11	15	20.8	65	128.8	155.4	180	116	116	133	14
	100-200	4#	32	388	407	392	130	170	215	160	13	25	30.2	76	128.8	155.4	210	138.5	116	133	19.6
750W 1HP	3-25	3#	28	382	415	382	90	140	180	122	11	15	20.8	65	155.4	179.2	180	116	133	145	15
	30-120	4#	32	417	449	417	130	170	215	160	13	25	30.2	76	155.4	179.2	210	138.5	133	145	21.6
	130-200	5#	40	444	476	444	150	210	260	185	15	25	42.2	80	155.4	179.2	248	160	133	145	42
1500W 2HP	4-25	4#	32	449	470	470	130	170	215	160	13	25	30.2	76	179.2		210	138.5	145		27.6
	30-120	5#	40	476	497	497	150	210	260	185	15	25	42.2	80	179.2		248	160	145		47
	130-200	6#	50	517	538	538	170	265	330	220	19	30	51.7	104	179.2		315	200	145		52
2200W 3HP	3-60	5#	40	482	508	508	150	210	260	185	15	25	42.2	80	203.6		248	160	153		48
	70-200	6#	50	523	549	549	170	265	330	220	19	30	51.7	104	203.6		315	200	153		55
3700W 5HP	3-10	5#	40	498	524	524	150	210	260	185	15	25	42.2	80	203.6		248	160	153		50
	15-180	6#	50	539	565	565	170	265	330	220	19	30	51.7	104	203.6		315	200	153		57
5500W 7.5HP	5-10	7#	45	545	585	585	200	250	310	235	15	30	42.2	93	250		265	175	178		78
	11-30	8#	50	579	619	619	170	265	330	220	19	30	51.7	104	250		315	200	178		88
	31-60	8#	50	579	619	619	170	265	330	220	19	30	51.7	104	250		315	200	178		90
	61-100	8#	60	589	629	629	170	265	330	220	19	30	51.7	115	250		315	200	178		93
7500W 10HP	5-10	8#	50	619	659	659	170	265	330	220	19	30	51.7	104	250		315	200	178		99
	11-30	8#	60	629	669	669	170	265	330	220	19	30	51.7	115	250		315	200	178		103
	31-60	8#	60	629	669	669	170	265	330	220	19	30	51.7	115	250		315	200	178		110

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30	5	20	25		5×5×25
Φ22	40	7	25	35		7×7×35
Φ28	45	7	31	40		7×7×40
Φ32	55	10	35.5	50		10×8×50
Φ40	65	10	43.5	60		10×8×60
Φ45	75	12	48.5	70		12×8×70
Φ50	80	14	54	75		14×9×75
Φ60	90	15	63.5	85		15×10×85



- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.
- A3 is the size of three-phase motors with brakes.



4 GV VERTICAL SINGLE-PHASE THREE-PHASE, ALUMINUM SHELL(BRAKE)GEAR MOTOR

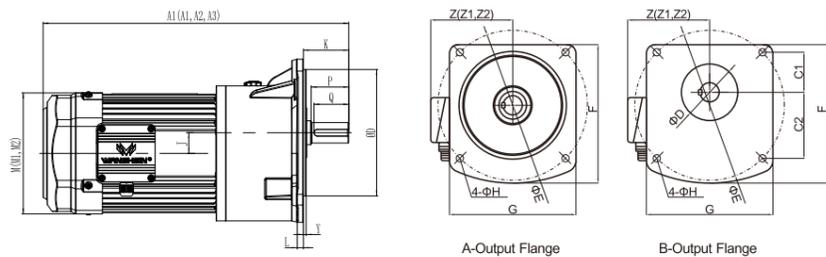
HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	Y	Z1	Z2	KG
100W 1/8HP	3-50	1#	*18	253	273	257	50	140	120	120	9	12	16	38	128.8	128.8	5	116	116	5.3
	60-200	2#	22	287	307	291	148	185	170	156	11	12	18.2	49	128.8	128.8	3.5	116	116	6.9
	60-200	2#	*22	287	307	291	55	170	146	146	11	12	18.2	49	128.8	128.8	3.5	116	116	6.7
200W 1/4HP	3-10	1#	*18	273	293	277	50	140	120	120	9	12	16	38	128.8	128.8	5	116	116	6.9
	15-90	2#	22	307	327	331	148	185	170	156	11	12	18.2	49	128.8	128.8	3.5	116	116	8.6
	15-90	2#	*22	307	327	311	55	170	146	146	11	12	18.2	49	128.8	128.8	3.5	116	116	8.6
	100-200	3#	28	333	353	337	170	220	195	180	11	15	20.8	57	128.8	128.8	4	116	116	11
400W 1/2HP	3-10	2#	22	327	346	331	148	185	170	156	11	12	18.2	49	128.8	155.4	3.5	116	133	11
	3-10	2#	*22	327	346	331	55	170	146	146	11	12	18.2	49	128.8	128.8	3.5	116	133	11
	15-90	3#	28	353	372	357	170	220	195	180	11	15	20.8	57	128.8	155.4	4	116	133	14
	100-200	4#	32	388	407	392	185	255	237	215	13	17	30.2	67	128.8	155.4	4	116	133	19.4
750W 1HP	3-25	3#	28	382	415	382	170	220	195	180	11	15	20.8	57	155.4	179.2	4	133	145	15
	30-120	4#	32	417	449	417	185	255	237	215	13	17	30.2	67	155.4	179.2	4	133	145	21.4
	130-200	5#	40	444	476	444	230	310	300	275	15	20	42.2	79	155.4	179.2	5	133	145	42
1500W 2HP	4-25	4#	32	449		470	185	255	237	215	13	17	30.2	67	179.2		4	145		27.4
	30-120	5#	40	476		497	230	310	300	275	15	20	42.2	79	179.2		5	145		47
	130-200	6#	50	517		538	280	390	360	330	19	20	51.7	90	179.2		5	145		52
2200W 3HP	3-60	5#	40	482		508	230	310	300	275	15	20	42.2	79	203.6		5	153		48
	70-200	6#	50	523		549	280	390	360	330	19	20	51.7	90	203.6		5	153		55
3700W 5HP	3-10	5#	40	498		524	230	310	300	275	15	20	42.2	79	203.6		5	153		50
	15-180	6#	50	539		565	280	390	360	330	19	20	51.7	90	203.6		5	153		57
5500W 7.5HP	3-10	7#	45	555		555	230	345	312	290	19	25	42.2	88.5	252		5	183		78

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30	5	20	25		5×5×25
Φ22	40	7	25	35		7×7×35
Φ28	45	7	31	40		7×7×40
Φ32	55	10	35.5	50		10×8×50
Φ40	65	10	43.5	60		10×8×60
Φ45	75	12	48.8	70		12×8×70
Φ50	80	14	54	75		14×9×75

- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.
- A3 is the size of three-phase motors with brakes.
- *Belong to B type output flange.



NOTE :
 1. GV18, C1 is 41.9 , C2 is 78.3
 2. GV22, C1 is 41.9 , C2 is 78.3



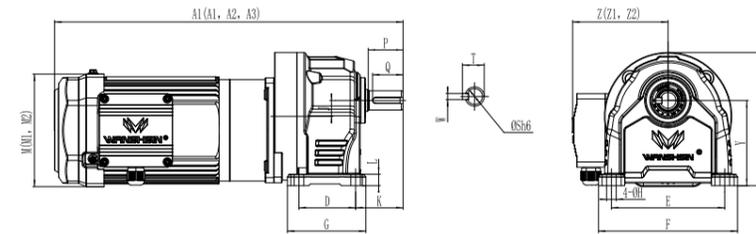
5 GH HORIZONTAL HIGH-SPEED RATIO SINGLE-PHASE THREE-PHASE,ALUMINUM SHELL(BRAKE)GEAR MOTOR

HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	X	Y	Z1	Z2	KG
100W 1/8HP	250-1800	1#+3#	28	390	410	394	90	140	180	120	11	15	20.8	65	128.8	128.8	180	116	116	116	13.2
200W 1/4HP	250-1800	2#+4#	32	471	491	475	130	170	215	160	13	20	30.2	76	128.8	128.8	210	138.5	116	116	23.2
400W 1/2HP	250-1800	3#+5#	40	532	551	536	150	210	260	185	15	23	42.2	80	128.8	155.4	248	160	116	133	49
750W 1HP	250-1800	3#+6#	50	602	635	602	170	265	330	220	19	25	51.7	104	155.4	179.2	315	200	133	145	59

OUTPUT SHAFT	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ28	45	7	31	40		7×7×40
Φ32	55	10	35.5	50		10×8×50
Φ40	65	10	43.5	60		10×8×60
Φ50	80	14	54	75		14×9×75



- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.



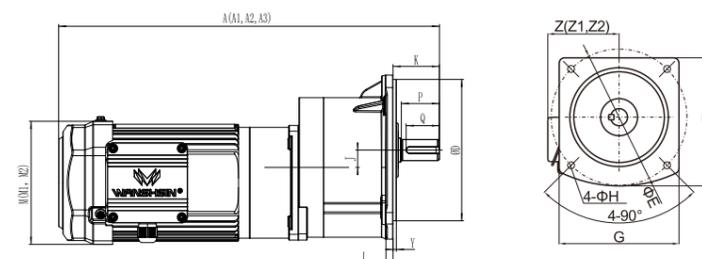
6 GV VERTICAL HIGH-SPEED RATIO SINGLE-PHASE THREE-PHASE,ALUMINUM SHELL(BRAKE)GEAR MOTOR

HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	Y	Z1	Z2	KG
100W 1/8HP	250-1800	1#+3#	28	390	410	394	170	220	195	180	11	15	20.8	57	128.8	128.8	4	116	116	13.2
200W 1/4HP	250-1800	2#+4#	32	471	491	475	185	255	237	215	13	15	30.2	67	128.8	128.8	4	116	116	23
400W 1/2HP	250-1800	3#+5#	40	532	551	536	230	310	300	275	15	20	42.2	79	128.8	155.4	5	116	133	49
750W 1HP	250-1800	3#+6#	50	602	635	602	280	390	360	330	19	20	51.7	90	155.4	179.2	5	133	145	59

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ28	30	7	31	40		7×7×40
Φ32	55	10	35.5	50		10×8×50
Φ40	65	10	43.5	60		10×8×60
Φ50	80	14	54	75		14×9×75



- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.



7 GH HORIZONTAL WITH SINGLE-PHASE THREE-PHASE,ALUMINUM SHELL(BRAKE)SHRINK BOX TYPE GEAR MOTOR

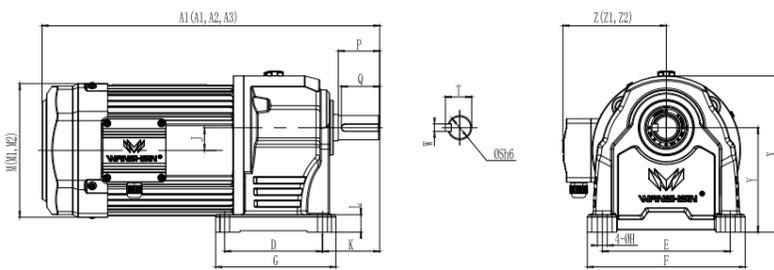
HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	X	Y	Z1	Z2	KG
100W 1/8HP	50-200	1#	18	253	273	257	40	110	135	65	9	10	16	45	128.8	128.8	132	88.5	116	116	5.3
	15-90	1#	18	273	293	277	40	110	135	65	9	10	16	45	128.8	128.8	132	88.5	116	116	5.3
	100-200	2#	22	307	327	311	65	130	163	90	11	15	18.2	56	128.8	128.8	152	97.5	116	116	6.9
200W 1/4HP	3-10	1#	18	293	310	297	40	110	135	65	9	10	16	45	128.8	155.4	132	88.5	116	133	6.7
	15-90	2#	22	327	346	331	65	130	163	90	11	15	18.2	56	128.8	155.4	152	97.5	116	133	8.6
	100-200	3#	28	353	372	357	90	140	180	122	11	15	20.8	65	128.8	155.4	180	116	116	133	11
400W 1/2HP	3-25	2#	22	356	390	356	65	130	163	90	11	15	18.2	56	155.4	179.2	152	97.5	133	145	11
	15-90	2#	22	327	346	331	65	130	163	90	11	15	18.2	56	128.8	155.4	152	97.5	116	133	8.6
	100-200	3#	28	353	372	357	90	140	180	122	11	15	20.8	65	128.8	155.4	180	116	116	133	11
750W 1HP	30-120	3#	28	382	414	382	90	140	180	122	11	15	20.8	65	155.4	179.2	180	116	133	145	14
	130-200	4#	32	417	449	417	130	170	215	160	13	25	30.2	76	155.4	179.2	210	138.5	133	145	19.6
	4-25	3#	28	415	436	415	90	140	180	122	11	15	20.8	65	179.2	180	116	145			15
1500W 2HP	30-120	4#	32	449	470	449	130	170	215	160	13	25	30.2	76	179.2	210	138.5	145			21.6
	130-200	5#	40	476	497	476	150	210	260	185	15	25	42.2	80	179.2	248	160	145			42
	3-60	4#	32	455	481	455	130	170	215	160	13	25	30.2	76	179.2	210	138.5	153			27.6
2200W 3HP	70-140	5#	40	482	508	482	150	210	260	185	15	25	42.2	80	203.6	248	160	153			47
	30-140	5#	40	498	524	498	150	210	260	185	15	25	42.2	80	203.6	248	160	153			52

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30	5	20	25	5×5×25	
Φ22	40	7	25	35	7×7×35	
Φ28	45	7	31	40	7×7×40	
Φ32	55	10	35.5	50	10×8×50	
Φ40	65	10	43.5	60	10×8×60	



- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.
- A3 is the size of three-phase motors with brakes.

▪ Please select standard frame gear motor,if for some particular application,you need to select the shrink box type.

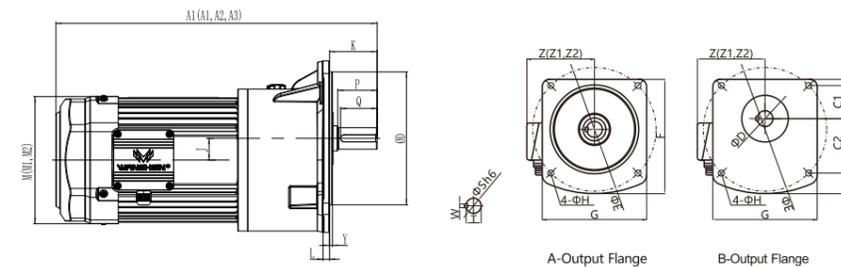


8 GV VERTICAL SINGLE-PHASE THREE-PHASE, ALUMINUM SHELL(BRAKE)SHRINKABLE GEAR MOTOR

HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	Y	Z1	Z2	KG
100W 1/8HP	50-200	1#	*18	253	273	257	50	140	120	120	9	12	16	38	128.8	128.8	5	116	116	5.3
200W 1/4HP	15-90	1#	*18	273	293	277	50	140	120	120	9	12	16	38	128.8	128.8	5	116	116	5.3
	100-200	2#	22	307	327	311	148	185	170	156	11	12	18.2	49	128.8	128.8	3.5	116	116	6.9
	100-200	2#	*22	307	327	311	55	170	146	146	11	12.8	18.2	49	128.8	128.8	3.5	116	116	6.9
400W 1/2HP	3-10	1#	*18	293	345	297	50	140	120	120	9	12.8	16	38	128.8	155.4	5	116	133	6.7
	15-90	2#	22	327	346	331	148	185	170	156	11	12.8	18.2	49	128.8	155.4	3.5	116	133	8.6
	15-90	2#	*22	327	346	331	55	170	146	146	11	12	18.2	49	128.8	128.8	3.5	116	133	8.0
750W 1HP	100-200	3#	28	353	372	357	170	220	195	180	11	15	20.8	57	128.8	155.4	4	116	133	11
	3-25	2#	22	355	395	355	148	185	170	156	11	12	18.2	49	155.4	179.2	3.5	133	145	11
	3-25	2#	*22	355	395	355	55	170	146	146	11	12	18.2	49	155.4	179.2	3.5	133	145	11
1500W 2HP	30-120	3#	28	382	415	382	170	220	195	180	11	15	20.8	57	155.4	179.2	4	133	145	14
	130-200	4#	32	417	449	417	185	255	237	215	13	17	30.2	67	155.4	179.2	4	133	145	19.4
	4-25	3#	28	415	436	415	170	220	195	180	11	15	20.8	57	179.2	4	145		15	
2200W 3HP	30-120	4#	32	449	470	449	185	255	237	215	13	17	30.2	67	179.2	4	145		21.4	
	130-200	5#	40	476	497	476	230	310	300	275	15	20	42.2	79	179.2	5	145		42	
	3-60	4#	32	455	481	455	185	255	237	215	13	17	30.2	67	179.2	4	153		27.4	
3700W 5HP	70-140	5#	40	482	508	482	230	310	300	275	15	20	42.2	79	203.6	5	153		47	
	30-140	5#	40	498	524	498	230	310	300	275	15	20	42.2	79	203.6	5	153		52	

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30	5	20	25	5×5×25	
Φ22	40	7	25	35	7×7×35	
Φ28	45	7	31	40	7×7×40	
Φ32	55	10	35.5	50	10×8×50	
Φ40	65	10	43.5	60	10×8×60	

- A1、M1、Z1 are the sizes of three-phase motors.
- A2、M2、Z2 are the sizes of single-phase motors.
- A3 is the size of three-phase motors with brakes.
- *Belong to B type output flange.
- Please select standard gear motor,for special cases, select shrinkable gear motor.



NOTE :
 1. GV18, C1 is 41.9 , C2 is 78.3
 2. GV22, C1 is 41.9 , C2 is 78.3

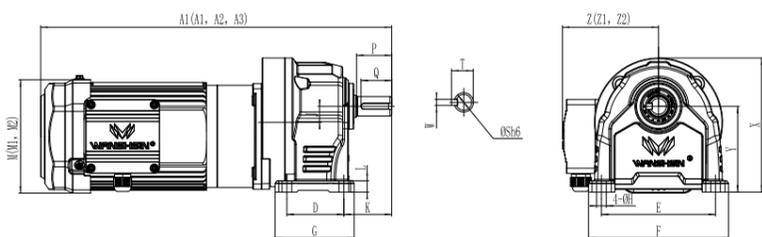
9 GH HORIZONTAL HIGH-SPEED RATIO SINGLE-PHASE THREE-PHASE ,ALUMINUM SHELL(BRAKE)SHRINKABLE GEAR MOTOR

HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	X	Y	Z1	Z2	KG
100W 1/8HP	250-1800	1#+2#	22	365	385	369	65	130	163	90	11	15	18.2	56	128.8	128.8	152	97.5	116	116	13.2
200W 1/4HP	250-1800	1#+3#	28	410	430	414	90	140	180	122	11	15	20.8	65	128.8	128.8	180	116	116	116	29.6
400W 1/2HP	250-1800	2#+4#	32	491	510	495	130	170	215	160	13	25	30.2	76	128.8	155.4	210	138.5	116	133	42.6
750W 1HP	250-1800	3#+5#	40	561	594	561	150	210	260	185	15	25	42.2	80	155.4	179.2	248	160	133	145	59

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
	Φ22	40	7	25	35	7×7×35
	Φ28	45	7	31	40	7×7×40
	Φ32	55	10	35.5	50	10×8×50
	Φ40	65	10	43.5	60	10×8×60



- A1, M1, Z1 are the sizes of three-phase motors.
- A2, M2, Z2 are the sizes of single-phase motors.
- Please select standard gear motor, for special cases, select shrinkable gear motor.



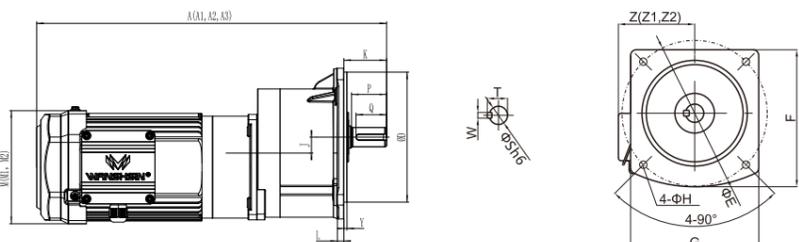
10 GV VERTICAL HIGH-SPEED RATIO SINGLE-PHASE THREE-PHASE ,ALUMINUM SHELL(BRAKE)SHRINKABLE GEAR MOTOR

HP-4P	RATIO	CODE	SHAFT DIAMETER	A1	A2	A3	D	E	F	G	H	L	J	K	M1	M2	Y	Z1	Z2	KG
100W 1/8HP	250-1800	1#+2#	22	364	384	368	148	185	170	156	11	12	18.2	49	128.8	128.8	3.5	116	116	13.2
200W 1/4HP	250-1800	1#+3#	28	410	430	414	170	220	195	180	11	15	20.8	57	128.8	128.8	4	116	116	29.6
400W 1/2HP	250-1800	2#+4#	32	491	510	495	185	255	237	215	13	17	30.2	67	128.8	155.4	4	116	133	42.4
750W 1HP	250-1800	3#+5#	40	561	594	561	230	310	300	275	15	20	42.2	79	155.4	179.2	4	133	145	59

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
	Φ22	40	7	25	35	7×7×35
	Φ28	45	7	31	40	7×7×40
	Φ32	55	10	35.5	50	10×8×50
	Φ40	65	10	43.5	60	10×8×60



- A1, M1, Z1 are the sizes of three-phase motors.
- A2, M2, Z2 are the sizes of single-phase motors.
- Please select standard gear motor, for special cases, select shrinkable gear motor.

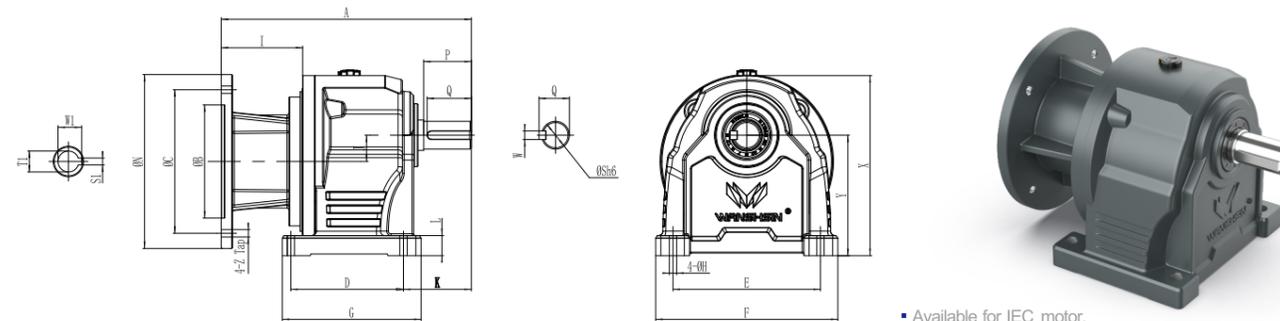


11 GHM HORIZONTAL STRAIGHT GEAR BOX

HP-4P	GEAR RATIO	TYPE	A	B	C	D	E	F	G	H	I	J	K	L	N	X	Y	Z	KG
200W 1/4HP	3-10	18	153	95	115	40	110	135	65	9	52.5	16	45	10	140	132	88.5	M8	4
	15-90	22	188	95	115	65	130	159	90	11	52.5	18.2	56	15	140	152	97.5	M8	6
	100-200	28	216	95	115	90	140	180	122	11	52.5	20.8	65	15	140	180	116	M8	8
400W 1/2HP	3-10	22	188	110	130	65	130	160	90	11	52.5	18.2	56	15	158	152	97.5	M8	6
	15-90	28	216	110	130	90	140	180	122	11	52.5	20.8	65	15	158	180	116	M8	8
	125-200	40	313	130	165	150	210	260	185	15	90.8	42.2	85	25	198	248	160	M10	38
750W 1HP	3-25	28	250	130	165	90	140	180	122	11	90.8	20.8	66	15	198	180	116	M10	11
	30-120	32	288	130	165	130	170	215	160	13	90.8	30.2	76	25	198	210	138.5	M10	19.6
	125-200	40	313	130	165	150	210	260	185	15	90.8	42.2	85	25	198	248	160	M10	38
1500W 2HP	3-25	32	288	130	165	130	170	215	160	13	90.8	30.2	76	25	198	210	138.5	M10	19.6
	30-120	40	313	130	165	150	210	260	185	15	90.8	42.2	85	25	198	248	160	M10	39
2200W 3HP	3-60	40	320	180	215	150	210	260	185	15	95	42.2	85	25	250	248	160	M12	40
	70-120	50	360	180	215	170	265	330	220	18	95	51.7	104	30	250	315	200	M12	45
3700W 5HP	3-25	40	320	180	215	150	210	260	185	15	95	42.2	85	25	250	248	160	M12	50
	30-80	50	360	180	215	170	265	330	220	18	95	51.7	104	30	250	315	200	M12	55

INPUT SHAFT SIZE	KW	SHAFT		KEYWAY	
		S1	W1	T1	
	1/4HP	Φ11	4	12.8	
	1/2HP	Φ14	5	16.3	
	1HP	Φ19	6	21.8	
	2HP	Φ24	8	27.3	
	3HP	Φ28	8	31.3	
	5HP	Φ28	8	31.3	

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
	Φ18	30	5	20	25	5×5×25
	Φ22	40	7	25	35	7×7×35
	Φ28	45	7	31	40	7×7×40
	Φ32	55	10	35.5	50	10×8×50
	Φ40	65	10	43.5	60	10×8×60
	Φ50	80	14	54	75	14×9×75



• Available for IEC motor.

12 GVM VERTICAL STRAIGHT GEAR BOX

HP-4P	GEAR RATIO	TYPE	A	B	C	D	E	F	G	H	I	J	K	L	N	Y	Z	KG
200W 1/4HP	3-10	*18	153	95	115	50	140	120	120	9	52.5	16	38	12	140	5	M8	4
	15-90	22	188	95	115	148	185	170	156	11	52.5	18.2	49	12	140	3.5	M8	6
	15-90	*22	188	95	115	55	170	146	146	11	52.5	18.2	49	12	140	3.5	M8	6
400W 1/2HP	100-200	28	216	95	115	170	220	195	180	11	52.5	20.8	57	15	140	4	M8	8
	3-10	22	188	110	130	148	185	170	156	11	52.5	18.2	49	12	158	3.5	M8	6
	3-10	*22	188	110	130	55	170	146	146	11	52.5	18.2	49	12	158	3.5	M8	6
750W 1HP	15-90	28	216	110	130	170	220	195	180	11	52.5	20.8	57	15	158	4	M8	8
	3-25	28	250	130	165	170	220	195	180	11	90.8	20.8	57	15	198	4	M10	11
	30-120	32	288	130	165	185	255	237	215	13	90.8	30.2	67	17	198	5	M10	19.6
1500W 2HP	125-200	40	313	130	165	230	310	300	275	15	90.8	42.2	79	20	198	4	M10	38
	3-25	32	288	130	165	185	255	237	215	13	90.8	30.2	67	17	198	5	M10	19.6
	30-120	40	313	130	165	230	310	300	275	15	90.8	42.2	79	20	198	5	M10	39
2200W 3HP	3-60	40	320	180	215	230	310	300	275	15	95	42.2	79	20	250	5	M12	39
	70-120	50	360	180	215	280	390	360	330	19	95	51.7	90	20	250	5	M12	44
3700W 5HP	3-25	40	320	180	215	230	310	300	275	15	95	42.2	79	20	250	5	M12	55
	30-80	50	360	180	215	280	390	360	330	19	95	51.7	90	20	250	5	M12	60

INPUT SHAFT SIZE	KW	SHAFT		KEYWAY	
		S1	W1	T1	
1/4HP		Φ11	4	12.8	
1/2HP		Φ14	5	16.3	
1HP		Φ19	6	21.8	
2HP		Φ24	8	27.3	
3HP		Φ28	8	31.3	
5HP		Φ28	8	31.3	

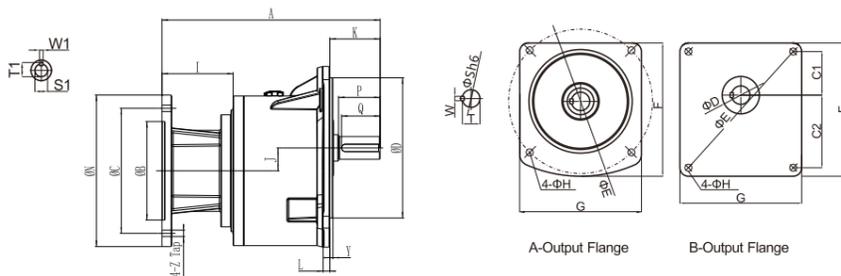
OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30		5	20	25	5×5×25
Φ22	40		7	25	35	7×7×35
Φ28	45		7	31	40	7×7×40
Φ32	55		10	35.5	50	10×8×50
Φ40	65		10	43.5	60	10×8×60
Φ50	80		14	54	75	14×9×75

• Available for IEC motor.

• *Belong to B type output flange.



NOTE :
 1. GV18, C1 is 41.9 , C2 is 78.3
 2. GV22, C1 is 41.9 , C2 is 78.3

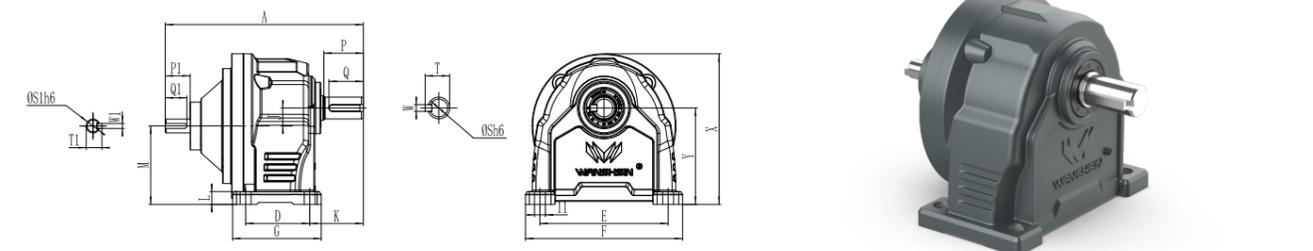


13 GHD HORIZONTAL TYPE DUAL AXIS GEAR BOX

HP-4P	RATIO	SHAFT DIAMETER	A	D	E	F	G	H	J	K	L	M	X	Y	KG
100W 1/8HP	3-50	18	168	40	110	135	65	9	16	45	10	72.5	132	88.5	3
	60-200	22	200	65	130	160	90	11	18.2	56	15	80	152	97.5	4
200W 1/4HP	3-10	18	168	40	110	135	65	9	16	45	10	72.5	132	88.5	3
	15-90	22	200	65	130	160	90	11	18.2	56	15	80	152	97.5	5
	100-200	28	258	90	140	180	120	11	20.8	65	15	95.2	180	116	7
400W 1/2HP	3-10	22	207	65	130	160	90	11	18.2	56	15	80	152	97.5	6
	15-90	28	263	90	140	180	120	11	20.8	65	15	95.2	180	116	7
	100-200	32	300	130	170	215	160	13	30.2	76	25	108.5	210	138.5	12.6
750W 1HP	3-25	28	269	90	140	180	120	11	20.8	65	15	95.2	180	116	7
	30-120	32	310	130	170	215	160	13	30.2	76	25	108.5	210	138.5	14.6
	125-200	40	336	150	210	260	185	15	42.2	80	25	117.8	248	160	35
1500W 2HP	3-25	32	320	130	170	215	160	13	30.2	76	25	108.5	210	138.5	14.6
	30-120	40	350	150	210	260	185	15	42.2	80	25	117.8	248	160	35
2200W 3HP	3-60	40	360	150	210	260	185	15	42.2	80	25	117.8	248	160	35
	70-120	50	410	170	265	330	220	19	51.7	104	30	148.6	315	200	43
3700W 5HP	3-25	40	360	150	210	260	185	15	42.2	80	25	117.8	248	160	35
	30-80	50	410	170	265	330	220	19	51.7	104	30	148.6	315	200	43

INPUT SHAFT SIZE	SHAFT			KEYWAY			KEY
	KW	S1h6	P1	W1	T1	Q1	SPEC
0.1/0.2		14	30	5	16	26	5×5×25
0.4		14	30	5	16	26	5×5×25
0.75		19	40	6	21.5	35	6×6×35
1.5		24	50	8	27	45	8×7×45
2.2		28	60	8	31	50	8×7×50
3.7		28	60	8	31	50	8×7×50

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30		5	20	25	5×5×25
Φ22	40		7	25	35	7×7×35
Φ28	45		7	31	40	7×7×40
Φ32	55		10	35.5	50	10×8×50
Φ40	65		10	43.5	60	10×8×60
Φ50	80		14	54	75	14×9×75



14 GVD VERTICAL DUAL AXIS GEAR BOX

HP-4P	RATIO	SHAFT DIAMETER	A	D	E	F	G	H	J	K	L	Y	KG
100W 1/8HP	3-50	*18	168	50	140	120	120	9	16	38	12	5	3
	60-200	22	200	148	185	170	156	11	18.2	49	12	3.5	4
	60-200	*22	200	55	170	146	146	11	18.2	49	12	3.5	4
200W 1/4HP	3-10	*18	168	50	140	120	120	9	16	38	12	5	3
	15-90	22	200	148	185	170	156	11	18.2	49	12	3.5	5
	15-90	*22	200	55	170	146	146	11	18.2	49	12	3.5	4
400W 1/2HP	3-10	22	207	148	185	170	156	11	18.2	49	12	3.5	6
	3-10	*22	200	55	170	146	146	11	18.2	49	12	3.5	4
	15-90	28	263	170	220	195	180	11	20.8	57	15	4	7
750W 1HP	3-25	28	268	170	220	195	180	11	20.8	57	15	4	7
	30-120	32	310	185	255	237	215	13	30.2	67	17	4	14.4
	125-200	40	336	230	310	300	275	15	20.8	79	20	5	35
1500W 2HP	3-25	32	320	185	255	237	215	13	30.2	67	17	4	14.4
	30-120	40	350	230	310	300	275	15	42.2	79	20	5	35
2200W 3HP	3-60	40	360	230	310	300	275	15	42.2	79	20	5	35
	70-120	50	400	280	390	360	330	19	51.7	90	20	5	43
3700W 5HP	3-25	40	360	230	310	300	275	15	42.2	79	20	5	35
	30-80	50	400	280	390	360	330	19	51.7	90	20	5	43

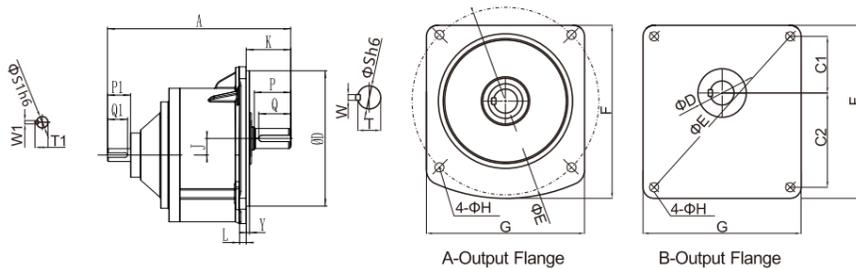
INPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	KW	S1h6	P1	W1	T1	Q1
0.1/0.2	14	30	5	16	26	5×5×25
0.4	14	30	5	16	26	5×5×25
0.75	19	40	6	21.5	35	6×6×35
1.5	24	50	8	27	45	8×7×45
2.2	28	55	8	31	50	8×7×50

OUTPUT SHAFT SIZE	SHAFT		KEYWAY			KEY
	Sh6	P	W	T	Q	SPEC
Φ18	30	5	20	25	5×5×25	
Φ22	40	7	25	35	7×7×35	
Φ28	45	7	31	40	7×7×40	
Φ32	55	10	35.5	50	10×8×50	
Φ40	65	10	43.5	60	10×8×60	
Φ50	80	14	54	75	14×9×75	

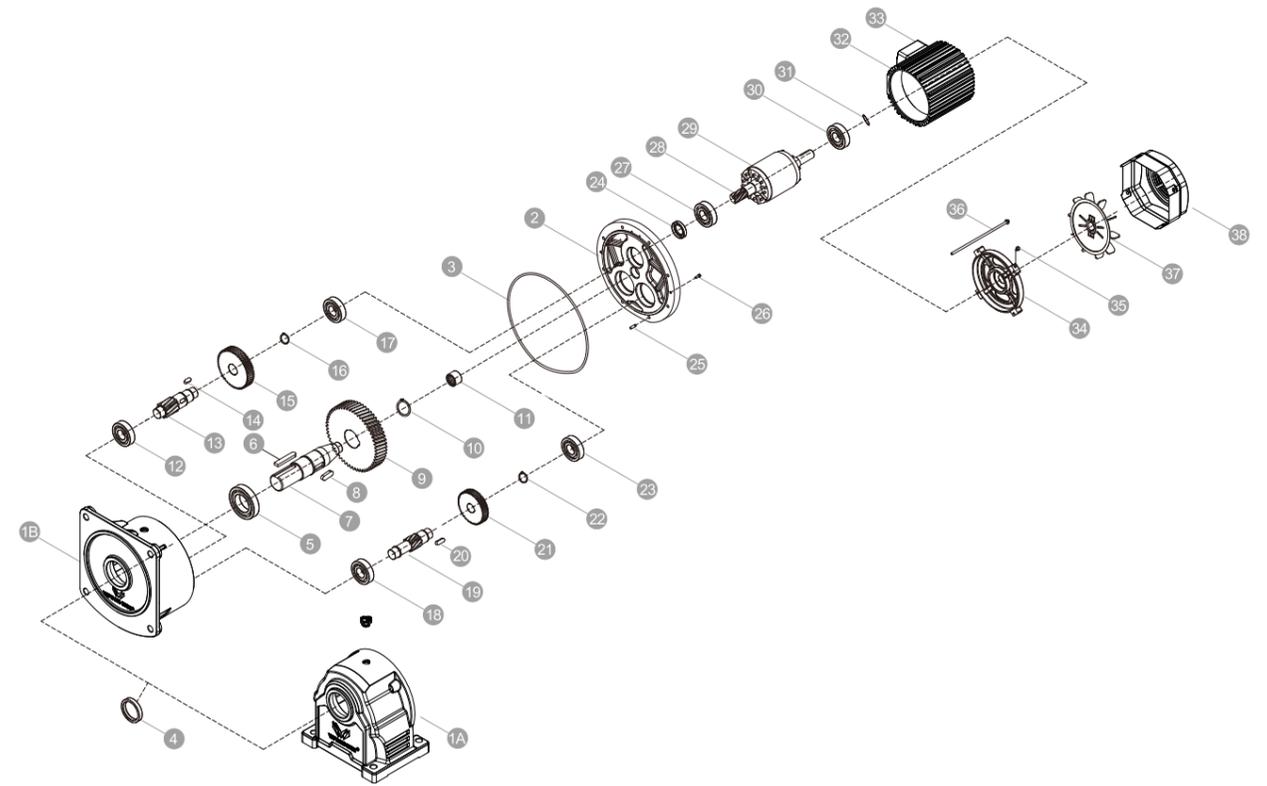
*Belong to B type output flange.



NOTE :
 1, GV18, C1 is 41.9 , C2 is 78.3
 2, GV22, C1 is 41.9 , C2 is 78.3



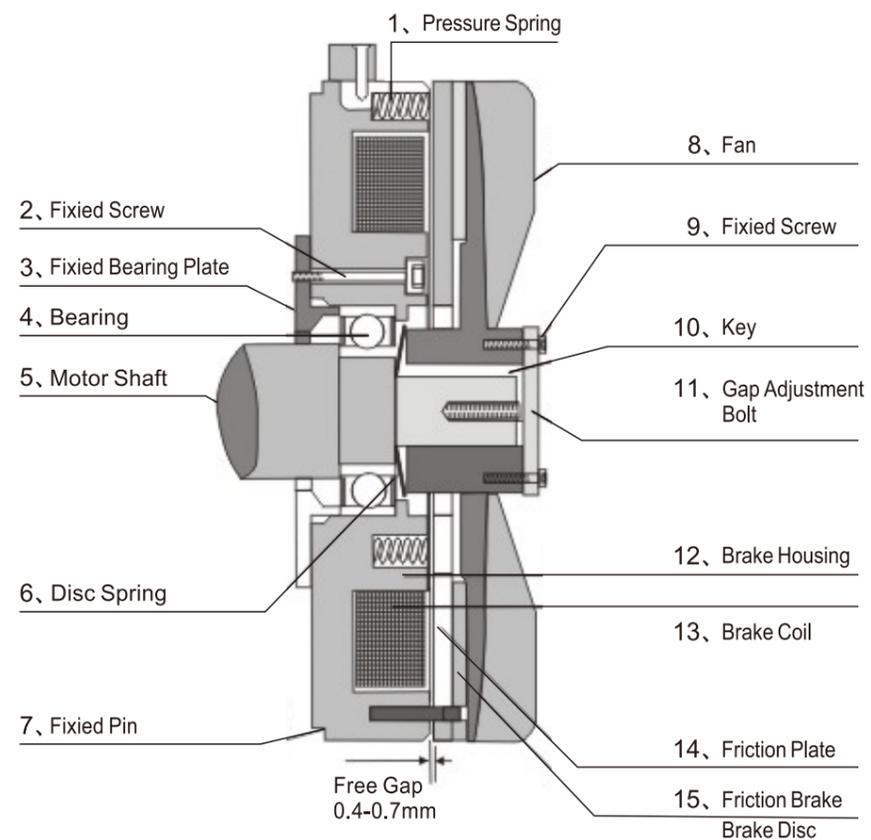
DETAIL SECTIONAL VIEW



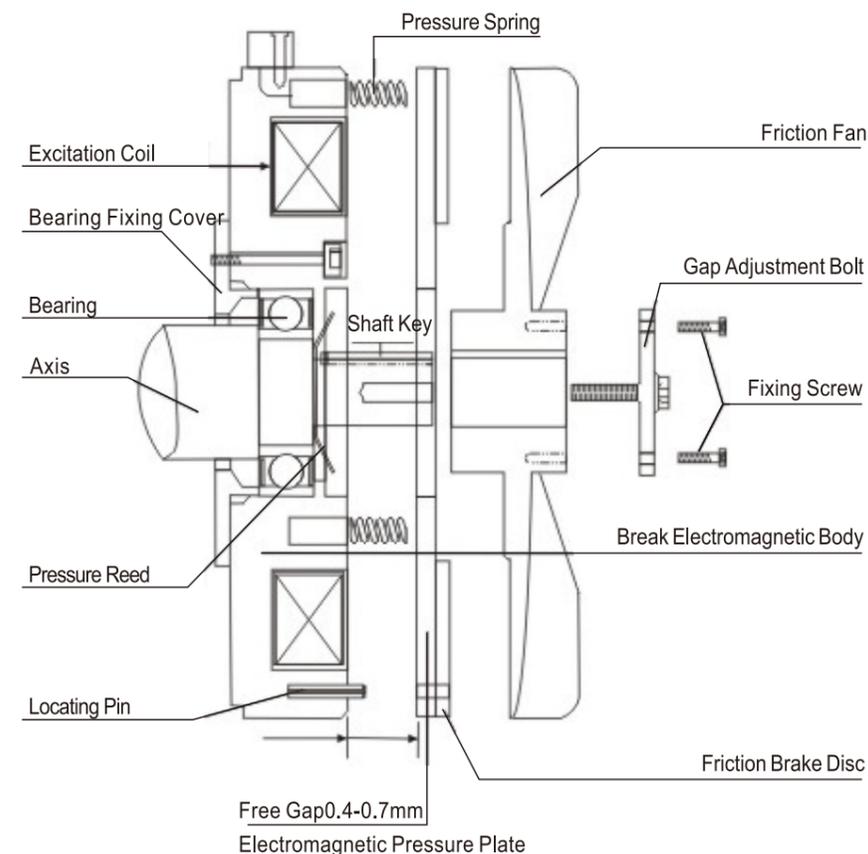
2 STAGES/3 STAGES SECTION D/A

- | | | | | | |
|----|---------------------------------|----|-------------------------|----|---------------------|
| 1A | HORIZONTAL BODY | 13 | PINION-2 STAGES | 26 | HEX-HEAD SCREW |
| 1B | VERTICAL BODY | 14 | KEY-2 STAGES | 27 | BEARING-MOTOR SHAFT |
| 2 | GEARBOX COVER | 15 | GEAR-2 STAGES | 28 | MOTOR SHAFT |
| 3 | O-RING | 16 | SNAP RING | 29 | ROTOR |
| 4 | OILSEAL-OUTPUT SHAFT | 17 | BEARING-2RDSTAGE PINION | 30 | BEARING-MOTOR SHAFT |
| 5 | BEARING-OUTRUT SHAFT | 18 | BEARING-1NDSTAGE PINION | 31 | WAVE SPRING |
| 6 | KEY-OUTPUT SHAFT | 19 | PINON-1 STAGES | 32 | COILASSEMBLY |
| 7 | OUTPUT SHAFT | 20 | KEY- 1 STAGES | 33 | WIRE BOX |
| 8 | KEY- 3 STAGES | 21 | GEAR-1 STAGES | 34 | REAR COVER-MOTOR |
| 9 | GEAR-3 STAGES | 22 | SNAP RING | 35 | SCREW-FAN COVER |
| 10 | SNAP RING | 23 | BEARING-1RDSTA | 36 | BOLT-MOTOR |
| 11 | THE OUTPUT SHAFT NEEDLE BEARING | 24 | OIL SEAL-MOTOR SHAFT | 37 | FAN |
| 12 | BEARING-2 STAGES | 25 | PIN | 38 | FAN COVER-MOTOR |

BRAKE UNIT SECTION DIAGRAM



SHORT SAFETY BRAKE



- 1 PRESSURE SPRING
- 2 FIXED SCREW
- 3 FIXED BEARING PLATE
- 4 BEARING
- 5 MOTOR SHAFT

- 6 DISC SPRING
- 7 FIXED PIN
- 8 FAN
- 9 FIXED SCREW
- 10 KEY

- 11 GAP ADJUSTMENT BOLT
- 12 BRAKE HOUSING
- 13 BRAKE COIL
- 14 FRICTION PLATE
- 15 FRICTION BRAKE BRAKE DISC

ADJUST BRAKE CLEARANCE



Front view of gap adjusting bolt

1. Please remove the fixing screw first.
2. Each space is adjusted to the right, and the spacing is reduced by 0.07-0.10mm.

TROUBLE SHOOTING

TROUBLE SHOOTING FOR DC BRAKE UNIT

DEFECTIVE REASON	POSSIBLE ANALYSIS	SOLUTIONS
NO ACTION OF BRAKE	NO POWER SUPPLY	SUPPLY POWER
	BRAKE DISC WORN OUT	USE NEW BRAKE DISC
	LARGE CLEARANCE	ADJUST CLEARANCE
	LOW VOLTA	USE CORRECT VOLTAGE
	POWER SUPPLY DAMAGE	USE NEW POWOR SUPPLY
	DIRTY INSIDE	CLEAN PARTS
	WRONG VOLTAGE	CORRECT VOLTAGE
	CONNECT WIRE LOST	RE-CONNECT WIRE
	BRAKE DISC LOCKED	CLEAN PARTS
	BRAKE COIL BURNED-OUT	USE NEW BRAKE COLL
OVER STOP OF BRAKE	BRAKE DISC WORN OUT	USE NEW BRAKE DISC
	LARGE CLEARANCE	ADJUST CLEARANCE
	SURFACE W/OIL	CLEAN BRAKE DISC
	OVER LOADING	RE-DESIGN BRAKE UNIT
	DISC SURFACE TWIST	USE NEW PARTS
	HUGE MOMENTUM	SYSTEM RE-DESIGN
	SELECT WRONG TYPE	RE-SELECT UNIT
	HIGH TEMPERATURE	ADJUST TEMPERATURE

GEAR MOTOR TROUBLE SHOOTING

DEFECTIVE REASON	POSSIBLE ANALYSIS	SOLUTIONS	
NOISE	KNOCKING	HURT GEAR SURFACE	REPLACE GEAR SFT
	CONTINUALLY	BAD BEARING	REPLACE BEARING
	PERIODICALLY	PARTICLE INSIDE	CHECK GEAR
	NEIGH	LACK OF LUBRICANT	FILL WITH LUB-OIL
	INTERMITTENTLY	DIRTY LUBRICANT	REPLACE LUBRICANT
VIBRATING	MOUNTING BASE M	BAD SURFACE MOUNTIN	E-ADJUST MOUNTING BASE
	OUTPUT SHAFT MOVING	BEARING BROKEN	REPLACE WOUNDED BRARING
	INSIDE GEAR PARTS MOVEMENT	GEAR WOUNDED	REPLACE WOUNDED BEARING
	HOUSING VIBRATING	BAD GEAR ASSEMBLY	RE-ADJUST GEAR SET
LEAKAGE	OIL SEAL LEAKAGE	OIL SEAL TOO HARDEN	REPLACE WOUNDED OIL SEAL
	HOUSING LEAKAGE	HOUSING HAD SAND HOLE	REPLACE SAND HOLE HOUSING
	CONNECT SURFAXE LEAKAGE	O-RINGBR	REPLACE WOUNDED O-RING
OVER-HEAHING	BAD OIL SEAL	OIL SEAL TOO TIGHT	REPLACE TIGHTEN OIL SEAL
	HOUSING TOO HEAT	OVER LOAD RUNNING	RE-CALAUATE LOADING
	LESS LUBRICANT	LACK OF LUBRICANT	FILL WITH LUBRICANT
	MOTOR TOO HEAT	DEFECTIVE MOTOR	REPLACE NEW MOTOR

INSTRUCTIONS

Welcome to choose Wanshsin series gear reducer motors (reducers). Please refer to these instructions before installation and using.

1 Before using

- 1、 Please check if the product type, motor power, motor rated voltage, installation, reduction ratio and size of output bearing meet your requirements; if not, please contact your dealer for timely processing.
- 2、 For the gear reducer motors (reducers) with plastic plugs in the gearboxes, pull out the yellow small plastic plugs, or else the oil may spill after long hours of running.

2 Environment of use

- 1、 Do not use the gear reducer motor in the environment with explosives, flammable gas, corrosion, or water leaks.
- 2、 Do not forcibly bend, pull or pinch the power supply, cables and motor wires.
- 3、 When the motor is installed, it must be grounded properly with a ground wire, which is located on the junction box.
- 4、 Installation, connection and inspection must be carried out by professional technicians.
- 5、 The installation environment must be dry and well ventilated, the ambient temperature should be $-5^{\circ}\text{C} \sim 40^{\circ}\text{C}$, and extreme
- 6、 The gear reducer motor should be installed on a flat and solid base.

3 Installation

- 1、 When the output bearing is connected with the coupler, it must be fixed and the two shafts must be parallel, the base should be installed with the bolts of appropriate aperture, and ensure that gear reducer motor is fixed tightly and securely.
- 2、 All the equipment installed on the output bearing must be installed lightly; do not knock the output bearing with a hammer or other blunt objects to prevent bearing damage caused by tight installation.
- 3、 The pulleys, sprockets and gears should be installed as close as possible to the output bearing to reduce bending stress. Connect to the output bearing through sprocket or belt pulley with a diameter no more than 6 times of the output bearing. Please use in combination with H7 tolerance to avoid noise and damage to the bearing surface.
- 4、 After installation, coated suitable anti-rust oil or paint on the surface of the output bearing to avoid rusting.
- 5、 Select the proper wiring method to connect the lead wire in the motor connecting junction box with ground wiring according to the power voltage. Wrong wiring of the box will lead to damage of the motor. According to the rated current on the nameplate of the motor, it is recommended to select the wire of proper size for power supply based on the current density of $5\text{A}/\text{mm}^2$.
- 6、 When the gear reducer motor with brake function is powered by frequency converter, the brake line (yellow) should be provided with AC 220V power supply separately, and the power supply should be synchronized with the gear reducer motor.
- 7、 The gearbox of the gear reducer motor has been filled with appropriate lubricating oil, and it is not required to add lubricating before use. After normal use for 10,000 hours, add 0# lubricating oil.
- 8、 After installation, check again if the mounting surface of gear reducer motor is flat, and ensure that no objects prop the motor, or else it will cause motor burn.

4 In use

- 1、 If the variation of the supply voltage in use exceeds 10%, the motor might be damaged, accompanied by reduced or abnormal output torque.
- 2、 The motor running overload may be burnt. Before running for the first time, test if the motor current is within the rated range.
- 3、 Even if the motor is in normal operation state, the surface temperature may also exceed 70°C . If it is possible to approach the motor when the motor is running, please affix a "HOT" mark on a conspicuous place on the motor.
- 4、 When the motor is running reversely, adjust single-phase motor according to the wiring diagram. For three-phase motors, just exchange two phases of the power cable.

5 Maintenance and inspection

Please pay attention to the following points during the general periodical inspection:

1、 Temperature rise

The gear motor of Grade F insulation, is a fully enclosed outer fan structure, it is normal that the temperature of the motor is about 50°C higher than the ambient temperature. When the temperature exceeds 50°C , the machine must be stopped for inspection. (factor: abnormal load of motor or transmission system)

2、 As the lining of the motor abrades due to long-term use, please adjust it according to the brake clearance.

3、 Abnormal vibration and noise

There is almost no noise in normal situations. If there is abnormal installation, it will vibrate with noise, so please pay attention to it. (It is tolerable when the idling noise level is below $70\text{dB}/1\text{M}$.)

4、 The dirt and dust always cumulate at the vent of the motor to obstruct the ventilation, so please clean the outer part of the motor to ensure its normal operation temperature.

5、 Please test the insulating resistance of the motor winding with 500V resistance in periodical inspection to ensure it reaches above $1\text{M}\Omega$ to prevent the leakage of electricity.

6 Troubleshooting and consultation

- 1、 Deal with the fault according to the Troubleshooting Table at first. If it cannot be tackled by yourself, please contact your local distributor for help.
- 2、 When changing parts or consulting about the malfunction of the machine, please confirm the parameters on the nameplate before contact: Type, Output, Ratio, No. etc.

7 Warranty

- 1、 The frame-shrinking gear reducer motor only has the warranty for its motor winding but not for the gear box. If the coil is partly burned due to the damage of the gear box, we shall claim the maintenance cost.
- 2、 The standard frame type gear reducer motor has one year warranty after leaving the factory. If it is damaged due to customer's disassembly or the load cause, we will claim the maintenance cost.

ADDITIONAL SELECTION CRITERIA



AC gearmotor Selection Summary Table for typical special working conditions

Code	Typical Working Conditions	Description of Key Features	Solution	If so, please tick ✓
SP-15°C	Low temperature environment	Environment temperature <-15°C	Use low-temperature special bearings and grease.	
SP+45°C	High temperature environment	Environment temperature 45°C~60°C	Using high temperature resistant materials and processes.	
SP+15h	Continuous operation without stopping	Working hour more than 15hours/day	Use special oil seals and bearings	
SP-ZD	Large vibration and impact environment	Vibrating table, crusher and other industries	Special materials, anti-loosening and impact-resistant bearings, etc.	
SP-FC	Dusty environment	Metal/non-metal particles	Special protective design	
SP-FS	Corrosive environment	Environment with pH value <5, >9	Adopting special anti-corrosion process flow	
SP15/min	Start and stop frequently	≥15 times/minute	Special motor and brake	
SP-CS	Moisture and rain wash	The ambient humidity is ≥85, or there is direct rainwater erosion, etc.	Use motors with high protection level above Ip55	
SP-YL	Playground Equipment	High and low frequency operation, anti-vibration, etc.	Special motor and high-load gearbox design	