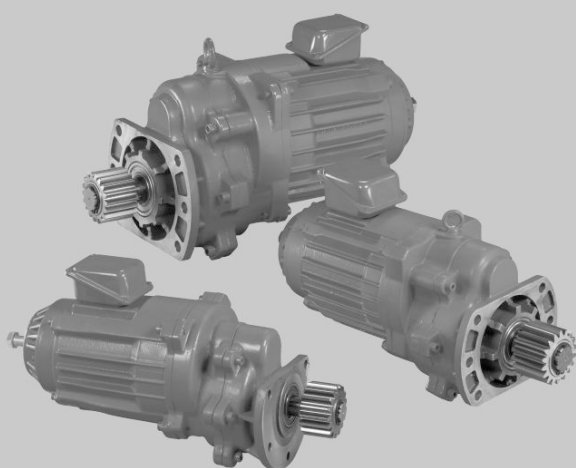




Soft Start/Stop Reduction Gear Motor

Operation Manual & Parts List



Series:

- | | |
|---------------------------------|---------------------------------|
| ☐ 0.4kW | ☐ 0.75kW |
| ☐ 1.1kW | ☐ 1.5kW |
| ☐ 2.2kW | ☐ 3.0kW |
| ☐ 3.75kW | |



CHENG DAY MACHINERY WORKS CO., LTD.

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1. Introduction

This manual provides important information for personnel involved with installation, operation and maintenance of this product. Although you may be familiar with this or similar equipment, it is highly recommended you read this manual before installing, operating, or maintaining this product.

When ordering parts, please provide the following information

(1) Model

(2) Serial Number

(3) Part number

If you have any questions, please contact Cheng Day Machinery



2. Specifications

2.1 Table of motor characteristics

Table 2.1: General characteristics

Item	Detail
Temperature (°C)	-5 ~+40
Humidity (%)	85 or below
IP Protection	IP 22
Power	3 Phase, 220V~600V, 50/60 Hz
Noise Level (dB)	70

Note: (1) If environmental temperature and humidity exceed the values shown above, please contact your distributor for more information.

(2) Motor is designed for stationary use only. Not designed for use as hoisting motor.

(3) Noise level is measured from a meter away from machine.

2.2 Operational Life of Soft Start Reduction Gear Motor

Life of Soft Start Reduction Gear Motor is warranted based on the motor operation guide shown below.

Soft Start Reduction Gear Motor meets 2m of FEM Standards

Table: 2-2 Motor Operation Guide

Group		Intermittent Service			Short-Time service
F.E.M	ISO	Cycles/h	F.E.M	ISO	Cycles/h
1Dm	M1	15	90	15	7.5
1Cm	M2	20	120	20	7.5
1Bm	M3	25	250	25	15
1Am	M4	30	180	30	15
2m	M5	40	240	40	30
3m	M6	50	300	50	30
4m	M7	60	360	60	60
5m	M8	60	360	60	>60

Note: This table is for single speed motor only

Table: 2-3 Motor Operation Guide for Two Speed

	Low speed	High speed
Frequency of starts	2/3	1/3
Operating period	1/3	2/3

2.3 Safety

Electromagnetic brake is a unique design which will engage automatically when power is removed.

3. Inspection

- (1) Please check soft start/stop reduction motor's model has correct information when motor is received.
- (2) Please check if there are any damages to the motor, or wires.
- (3) Please contact distributor if motor information is not correct.

4. Handling and Installing

- (1) When unpacking soft start/stop reduction motor, take care not to lift by the electrical wires.
- (2) Take precautions to protect protruding motor shaft during installation.
- (3) Standard motor is designed for clean indoor environment.
- (4) Store motor in a clean dry area.
- (5) If motor is to be stored longer than 6 months, anti-corrosion protection should be applied to motor shaft.
- (6) Only qualified personnel should perform maintenance on the motor.
- (7) Do not remove anything from the motor, it may cause damage.

5. Maintenance

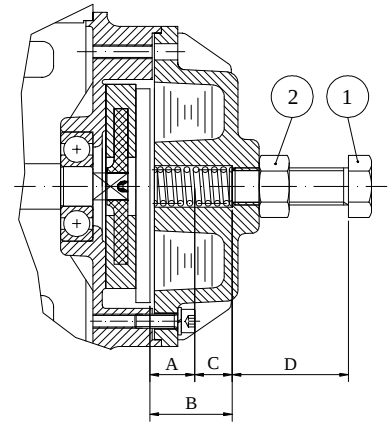
- (1) Disconnect power and lock out control panel while performing periodic maintenance.
- (2) Every 500 hours of operation, check and add gear lubricant, if required.

Note: Equivalent or higher level of Hi Tem Grease PT lubricant is recommended

- (3) Do not exceed duty cycle of motor
- (4) Provide a cover if motor is installed outdoors.

6. Brake Adjustment

1. Loosen a nut ② , then tighten a bolt ① until spring Is Fully compressed.
2. Turn bolt counterclockwise. The number of turning Shown in the table below based on motor.
3. Tighten a nut ②.



spring Motor	Free Length (mm)	Fully Press (A) (mm)	Working High (B) (mm)	Adjust(C) (mm)	Bolt Length (D) (mm)	Number of turns (N)	Adjustment Bolt
0.4kW	25	11.2	13.8	2.6	35	1.5	M12×1.75
0.4DkW	35	18.2	25.7	7.5	50	5	M16×1.5
0.75kW	35	18.2	25.7	7.5	50	5	M16×1.5
1.1kW	35	18.2	21.2	3	50	2	M16×1.5
1.5kW	35	18.2	21.2	3	50	2	M16×1.5
2.2kW	30	17.5	26.3	8.8	60	3.5	M20×2.5
3.0kW	30	17.5	23.8	6.3	60	2.5	M20×2.5
3.75kW	30	17.5	23.8	6.3	60	2.5	M20×2.5

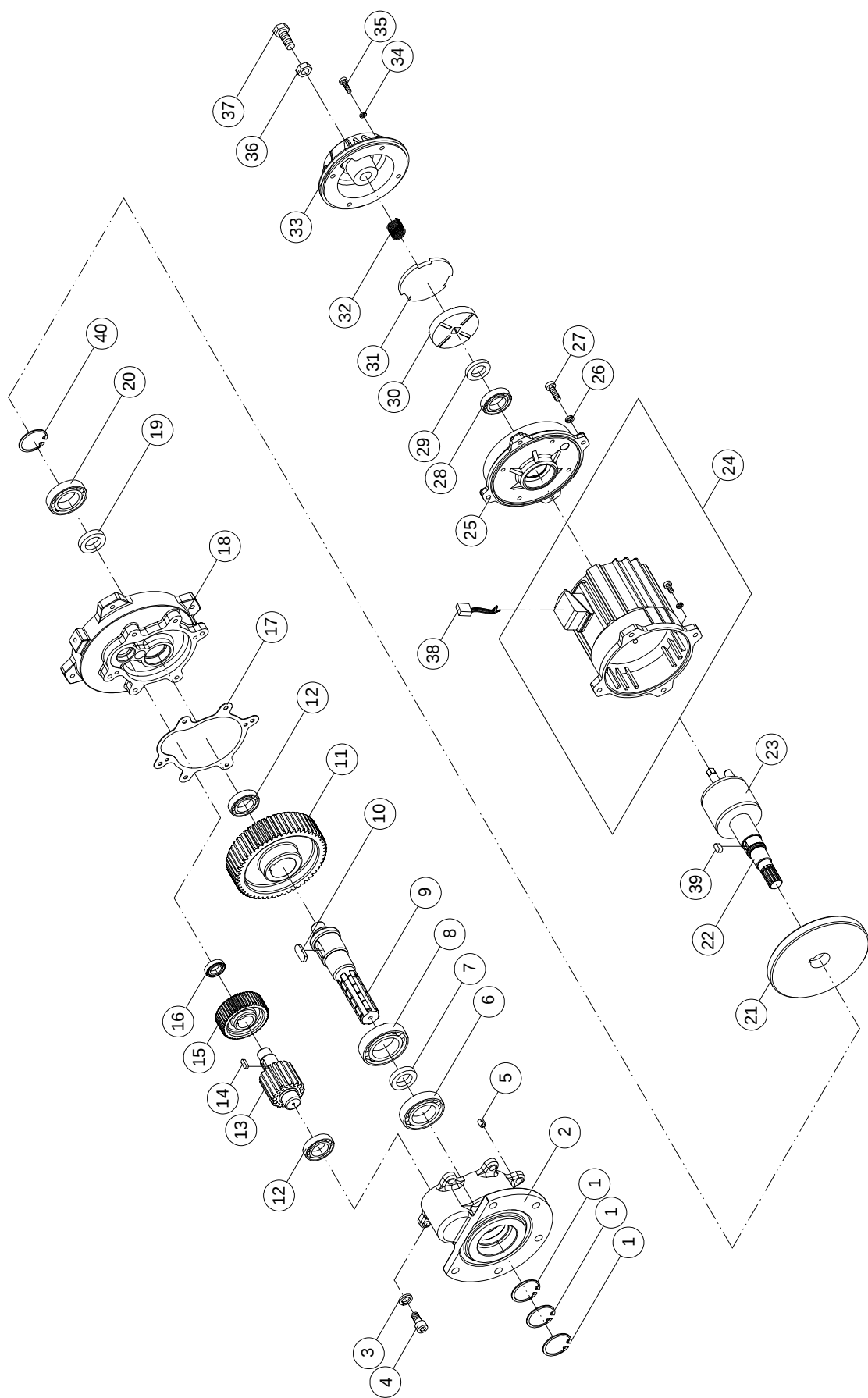
7. Solid pinion

Power (kW)	Module	Teeth
0.4~0.75kW	3.0	16T
		18T
		20T
		21T
		22T
		23T
		25T
	3.5	15T
		16T
		18T
		20T
		21T
		22T
		23T
		24T
		25T
	4.0	14T
		15T
		16T
		17T
		18T
		20T
		21T
		22T
		23T
	5.0	11T

Power (kW)	Module	Teeth
1.1~3.75kW	3.5	20T
		23T
		26T
	4	18T
		20T
		22T
		24T
		26T
	6	12T
		13T
		14T
		15T
		16T

8. Drawing and Parts List

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(3) 1.1kW~1.5kW Soft Start/Stop Reduction Motor Parts List	14
(4) 2.2kW~3.75kW Soft Start/Stop Reduction Motor Parts List	17



Soft Start/Stop Reduction Motor Drawings

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
1	400193	Retaining Ring <S-30>	3	3	3	3
2	268091	Gear Case Cover A	1	1D	1	1
	219992			1		
3	400095	Spring Washer <M8>	6	6	6	6
4	408409	Hex. Recess Bolt <M8×1.25×22L>	6	6	6	6
5	400224	Spring Pin <Ø8×10L>	2	2D	2	2
	407477	Spring Pin <Ø6×10L>		2		
6	400817	Bearing <6206 Z>	1	1	1	1
7	400177	Oil Seal <Ø35×Ø55×11t>	1	1D	1	1
	400934	Oil Seal <Ø30×Ø50×8t>		1		
8	407758	Bearing <6207>	1	1D	1	1
	407757	Bearing <6206>		1		
9	216777	Drum Shaft	1	1D	1	1
	201990			1		
10	405908	Key <12×8×30L>	1	1D	1	1
	400379	Key <10×10×24L>		1		
11	216780	Drum Gear (4th Gear) <M2×53T>	1		1	
	201991	Drum Gear (4th Gear) <M1.5×60T>		1		
	216776	Drum Gear (4th Gear) <M2×60T>		1D		1
12	407734	Bearing <6204>	2	2D	2	2
	407732	Bearing <6203>		2		
13	216779	Load Brake Gear Shaft (3rd Gear) <M2×19T>	1		1	
	201988	Load Brake Gear Shaft (3rd Gear) <M1.5×12T>		1		
	216775	Load Brake Gear Shaft (3rd Gear) <M2×12T>		1D		1
14	400963	Key <6×6×15L>	1	1D	1	1
	400958	Key <5×5×10L>		1		
15	216774	Load Brake Gear (2nd Gear) <M1.25×36T>	1	1D	1	1
	201987	Load Brake Gear (2nd Gear) <M1×36T>		1		
16	400125	Bearing <6003>	1	1D	1	1
	405630	Bearing <6001>		1		
17	402654	Gasket	1	1D	1	1
	402647			1		
18	268178	Gear Case Cover B	1	1D	1	1
	219993			1		

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
19	400183	Oil Seal <Ø25×Ø40×8t>	1	1D	1	1
	400186	Oil Seal <Ø20×Ø35×8t>		1		
20	400815	Bearing <6205 2RS>	1	1D	1	1
	405577	Bearing <6204 2RS>		1		
21	107004	Flywheel	1	1D		
	107336			1		
	107012				1	1
22	106364	Motor Shaft	1			
	107335			1		
	106379		1D	1D		
	100528				1	1
	100544		1		1D	1D
23	106367	Motor Rotor	1			
	107334			1		
	100527		1D	1D		
	100529				1	1
	100543				1D	1D
24	A	Motor Stator Ass'y	1	1		
	B		1D	1D		
	C				1	1
	D				1D	1D
25	100587	Motor End Cover	1	1		
	100589		1D	1D	1	1
26	400094	Spring Washer <M6>	4	4	4	4
27	400008	Hex. Recess Bolt <M6×1.0×25L>	4D	4D	4	4
	400007	Hex. Recess Bolt <M6×1.0×20L>	4	4		
28	407702	Bearing <6303 2RS>		1D	1	1
	407701	Bearing <6202 2RS>	1	1		
29	400181	Oil Seal <Ø17×Ø28×6t>		1D	1	1
	400932	Oil Seal <Ø15×Ø30×7t>	1	1		
30	100806	Brake Lining	1D	1D	1	1
	100805		1	1		

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
31	100808	Brake Plate	1D	1D	1	1
	100807		1	1		
32	400239	Brake Spring	1	1		
	400314		1D	1D	1	1
33	100509	Brake Drum Ass'y	1D	1D	1	1
	100508		1	1		
34	400094	Spring Washer <M6>	4	4	4	4
35	400008	Hex. Recess Bolt <M6×1.0×25L>	4	4	4	4
36	400085	Nut <M16×1.5>	1D	1D	1	1
	400084	Nut <M12×1.75>	1	1		
37	400468	Hex. Bolt <M16×1.5×50L>	1D	1D	1	1
	400464	Hex. Bolt <M12×1.75×35L>	1	1		
38	300152	Rectifier	1	1	1	1
39	405922	Key <8×8×15L>	1	1		
	400974	Key <8×8×20L>			1	1
40	400193	Retaining Ring <S-30>	1	1D	1	1
	400905	Retaining Ring <S-22>		1		

Soft Start/Stop Reduction Motor Parts List

NO.	PART NUMBER		DESCRIPTION	Ø - Hz- V	
26	A	133061	Motor Stator Ass'y <0.4kW>	3Ø 60Hz	220 / 380V
		133062			220 / 440V
		133064			230 / 460V
		133066		3Ø 50Hz	220 / 380V
		133067			415V
	B	132101		3Ø 60Hz	220V
		132111			380V
		132115			440V
		132112			230V
		132113			460V
		132114		3Ø 50Hz	220V
		132117			380V
		132116			415V
	C	133071	Motor Stator Ass'y <0.75kW>	3Ø 60Hz	220 / 380V
		133072			220 / 440V
		133078			230 / 460V
		133076		3Ø 50Hz	220 / 380V
		133077			415V
	D	106908		3Ø 60Hz	220V
		132118			380V
		132119			230V
		132120			460V
		132121		3Ø 50Hz	220V
		106915			380V
		132122			415V

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.			
			1.1kW		1.5kW	
			1/12	1/20	1/12	1/20
1	400195	Retaining Ring <S-40>	3	3	3	3
2	219994	Gear Case Cover A	1	1	1	1
3	400095	Spring Washer <M8>	6	6	6	6
4	400017	Hex. Recess Bolt <M8×1.25×35L>	6	6	6	6
5	400224	Spring Pin< Ø8 ×10L>	2	2	2	2
6	407857	Bearing <6208 ZZ>	1	1	1	1
7	400938	Oil Seal <Ø40 ×Ø62 ×12t>	1	1	1	1
8	407759	Bearing <6208 >	1	1	1	1
9	216778	Drum Shaft (4th Gear)	1	1	1	1
10	405942	Key <12×8×35L>	1	1	1	1
11	216785	Drum Gear (4th Gear)<M2.5×54T>	1		1	
	216783	Drum Gear (4th Gear)<M2.5×60T>		1		1
12	407807	Bearing < 6205 ZZ>	2	2	2	2
13	216784	Load Brake Gear Shaft (3rd Gear) <M2.5×18T>	1		1	
	216782	Load Brake Gear Shaft (3rd Gear) <M2.5×12T>		1		1
14	405939	Key <8×7×25L>	1	1	1	1
15	216781	Load Brake Gear (2nd Gear) <M1.5×48T>	1	1	1	1
16	407843	Bearing <6204 ZZ>	1	1	1	1
17	402656	Gasket	1	1	1	1
18	219995	Gear Case B	1	1	1	1
19	400934	Oil Seal <Ø30×Ø50×8t>	1	1	1	1
20	400151	Bearing <6306 2RU>	1	1	1	1
21	100812	Flywheel	1	1	1	1
22	100827	Motor Shaft	1	1		
	100823		1D	1D	1D	1D
	100825				1	1
23	100826	Motor Rotor	1	1		
	100819		1D	1D		
	100824				1	1
	100818				1D	1D
24	A	Motor Stator Ass'y	1	1		
	B		1D	1D		
	C				1	1
	D				1D	1D

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.			
			1.1kW		1.5kW	
			1/12	1/20	1/12	1/20
25	100589	Motor End Cover	1	1		
	100593		1D	1D	1	1
26	400094	Spring Washer<M6>	4	4	4	4
27	400008	Hex. Recess Bolt<M6×1.0×25L	4	4	4	4
28	407702	Bearing<6303 2RS>	1	1		
	407703	Bearing<6305 2RS>	1D	1D	1	1
29	400181	Oil Seal<Ø17×Ø28×6t>	1	1		
	400943	Oil Seal<Ø25×Ø35×5t>	1D	1D	1	1
30	100806	Brake Lining	1	1		
	100756		1D	1D	1	1
31	100808	Brake Plate	1	1		
	100459		1D	1D	1	1
32	400314	Spring	1	1	1	1
33	100509	Brake Drum Ass'y	1	1		
	100505		1D	1D	1	1
34	400095	Spring Washer<M8>	4D	4D	4	4
	400094	Spring Washer<M6>	4	4		
35	400014	Hex. Recess Bolt<M8×1.25×30L>	4D	4D	4	4
	400008	Hex. Recess Bolt<M6×1.0×25L>	4	4		
36	400085	Nut<M16>	1	1	1	1
37	400468	Hex. Bolt <M16×1.5×50L>	1	1	1	1
38	300152	Rectifier	1	1	1	1
39	405963	Key <10×8×20L>	1	1	1	1

Soft Start/Stop Reduction Motor Parts List

NO.	PART NUMBER		DESCRIPTION	Ø - Hz- V	
26	A	132123	Motor Stator Ass'y <1.1kW>	3Ø 60Hz	220 / 380V
		132124			220 / 440V
		132125			230 / 460V
		132126		3Ø 50Hz	220 / 380V
		132127			415V
	B	106909		3Ø 60Hz	220V
		132128			380V
		132134			440V
		132129			230V
		132130			460V
		132131		3Ø 50Hz	220V
		132132			380V
		132133			415V
	C	133121	Motor Stator Ass'y <1.5kW>	3Ø 60Hz	220 / 380V
		133122			220 / 440V
		133134			230 / 460V
		133126		3Ø 50Hz	220 / 380V
		133127			415V
	D	132104		3Ø 60Hz	220V
		133135			380V
		107037			230V
		107038			460V
		132136		3Ø 50Hz	220V
		108628			380V
		132137			415V

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.					
			2.2kW		3.0kW		3.75kW	
			1/12	1/20	1/12	1/20	1/12	1/20
1	400195	Retaining Ring <S-40>	3	3	3	3	3	3
2	230308	Gear Case Cover A	1	1	1	1	1	1
3	400096	Spring Washer <M10>	6	6	6	6	6	6
4	400018	Hex. Recess Bolt <M10×1.5×40L>	6	6	6	6	6	6
5	400224	Spring Pin <Ø8 × 10L>	2	2	2	2	2	2
6	407819	Bearing <6308 ZZ>	1	1	1	1	1	1
7	400938	Oil Seal <Ø40×Ø62 ×12t>	1	1	1	1	1	1
8	407750	Bearing <6308>	1	1	1	1	1	1
9	216791	Drum Shaft (4th Gear)	1	1	1	1	1	1
10	400991	Key <16×10×35L>	1	1	1	1	1	1
11	216790	Drum Gear (4th Gear) <M3×54T>	1		1		1	
	216788	Drum Gear (4th Gear) <M3×60T>		1		1		1
12	407861	Bearing <6206 ZZ>	2	2	2	2	2	2
13	216789	Load Brake Gear Shaft (3 rd Gear)<M3×18T>	1		1		1	
	216787	Load Brake Gear Shaft (3 rd Gear)<M3×12T>		1		1		1
14	405941	Key<10×8×30L>	1	1	1	1	1	1
15	216786	Load Brake Gear (2 nd Gear)<M1.5×56T>	1	1	1	1	1	1
16	407807	Bearing <6205 ZZ>	1	1	1	1	1	1
17	402619	Gasket	1	1	1	1	1	1
18	230309	Gear Case B	1	1	1	1	1	1
19	400187	Oil Seal <Ø35×Ø50×8t>	1	1	1	1	1	1
20	400801	Bearing <6307 2RU>	1	1	1	1	1	1
21	100526	Flywheel	1	1	1	1	1	1
22	100565	Motor Shaft	1	1	1	1		
	100567		1D	1D	1D	1D		
	100575						1	1
	100577						1D	1D
23	100564	Motor Rotor	1	1				
	100566		1D	1D				
	100568				1	1		
	100569				1D	1D		
	100573						1	1
	100576						1D	1D

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PART NUMBER	DESCRIPTION	QTY.					
			2.2kW		3.0kW		3.75kW	
			1/12	1/20	1/12	1/20	1/12	1/20
24	A	Motor Stator Ass'y	1	1				
	B		1D	1D				
	C				1	1		
	D				1D	1D		
	E						1	1
	F						1D	1D
25	100595	Motor End Cover	1	1	1	1		
	100596						1	1
26	400096	Spring Washer <M10>	4	4	4	4	4	4
27	400431	Hex. Recess Bolt <M10×1.5×30L>	4	4	4	4	4	4
28	407703	Bearing <6305 2RS>	1	1	1	1	1	1
29	400943	Oil Seal <Ø25×Ø35×5t>	1	1	1	1	1	1
30	100794	Brake Lining	1	1	1	1	1	1
31	100461	Brake Plate	1	1	1	1	1	1
32	400328	Brake Spring	1	1	1	1	1	1
33	100510	Brake Drum Ass'y	1	1	1	1	1	1
34	400096	Spring Washer <M10>	4	4	4	4	4	4
35	400450	Hex. Recess Bolt <M10×1.5×35L>	4	4	4	4	4	4
36	400640	Nut <M20×2.5>	1	1	1	1	1	1
37	400469	Hex. Bolt <M20×2.5×60L>	1	1	1	1	1	1
38	300152	Rectifier	1	1	1	1	1	1

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Soft Start/Stop Reduction Motor Parts List

NO.	PART NUMBER		DESCRIPTION	Ø - Hz- V	
26	A	133101	Motor Stator Ass'y <2.2kW>	3Ø 60Hz	220 / 380V
		133102			220 / 440V
		133105			230 / 460V
		133106		3Ø 50Hz	220 / 380V
		133107			415V
	B	132105		3Ø 60Hz	220V
		132138			380V
		132141			440V
		132139			230V
		132140			460V
		132142		3Ø 50Hz	220V
		132143			380V
		132144			415V
	C	133111	Motor Stator Ass'y <3.0kW>	3Ø 60Hz	220 / 380V
		133112			220 / 440V
		133114			230 / 460V
		133116		3Ø 50Hz	220 / 380V
		133117			415V
	D	132106		3Ø 60Hz	220V
		107023			380V
		132146			440V
		107020			230V
		107021			460V
		107022		3Ø 50Hz	220V
		105144			380V
		132145			415V
	E	133141	Motor Stator Ass'y <3.75kW>	3Ø 60Hz	220 / 380V
		133142			220 / 440V
		133143			230 / 460V
		133146		3Ø 50Hz	220 / 380V
		133147			415V
	F	132107		3Ø 60Hz	220V
		107026			380V
		132149			440V
		107027			230V
		107028			460V
		107029		3Ø 50Hz	220V
		132147			380V
		132148			415V