

X SERIES



THONG FATT JAYA MACHINERY HARDWARE SDN. BHD.

同發機械五金有限公司 (176024-V)

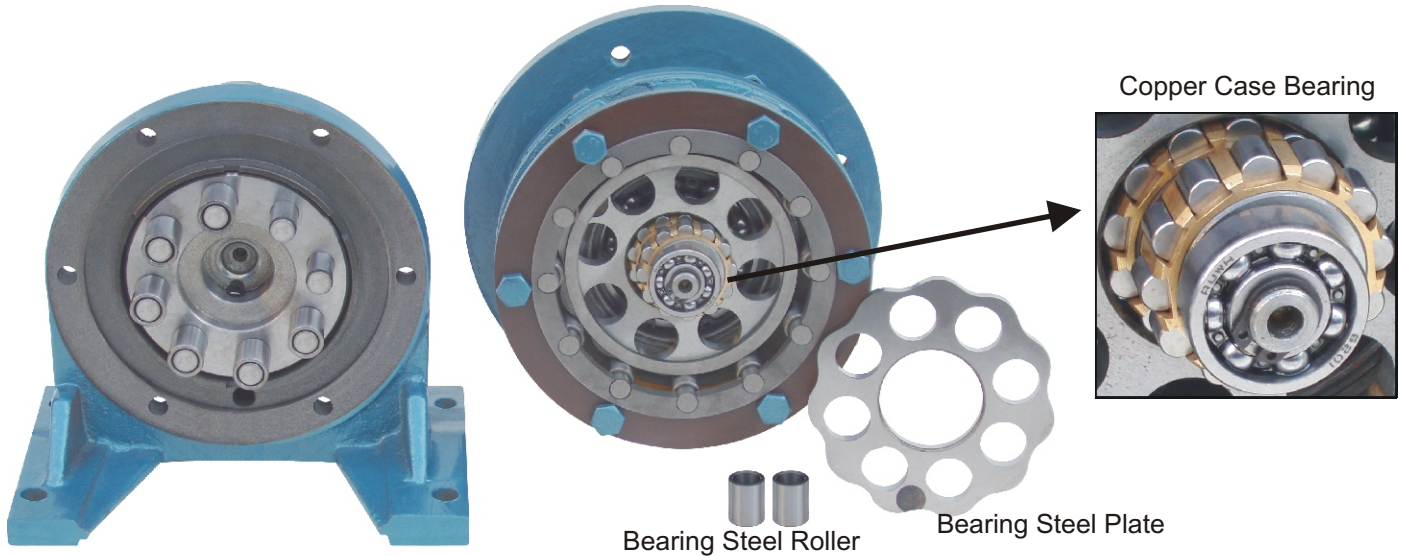
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C.N.: SHANLI-E Section C01 / 220420051

CYCLOIDAL REDUCER

SHANLI®



STRUCTURE FEATURES

1. High strength and high reliability.
2. The material of main parts is bearing steel. It is high intensity and long life.
3. Litter inertia suitable for continually starting or inverting.
4. High efficiency: The efficiency of single stage reducer can be reached 92% upward.
5. Compact structure: Input and output shaft are at the same axis.
6. Low noise.

WORKING CONDITIONS

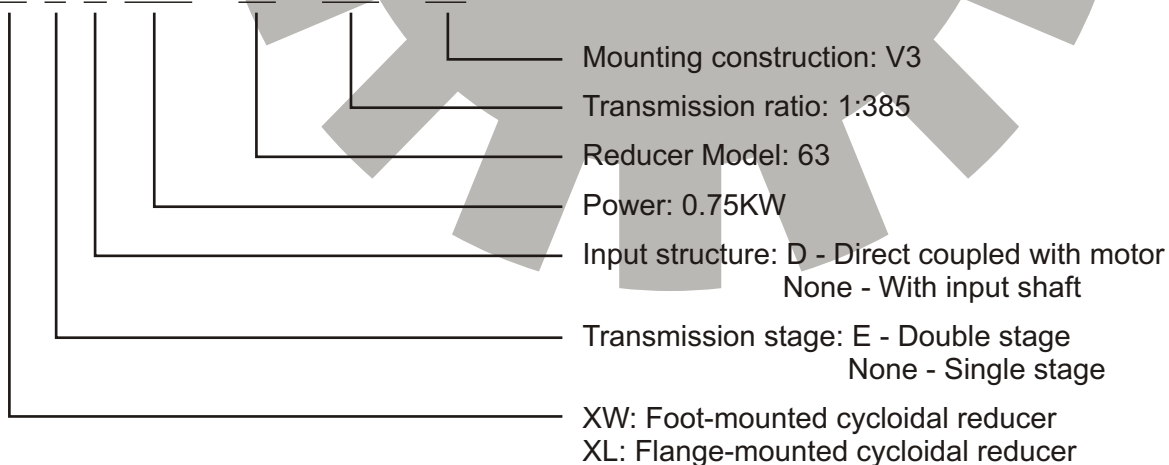
1. Ambient temperature range: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
2. Working temperature: $<80^{\circ}\text{C}$
3. Adopts extreme pressure gear lubricant.

MOTOR

1. This series reducer is connected with electric motor or brake motor directly. Standard IEC flange is adapted for the IEC Standard flange-mounted motor. (please see page 10).

PUMP KEY

XL E D 0.75 - 63 - 385 - V3



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STRUCTURE DESIGN

X Series cycloidal reducers are available in the following structure designs:

<p>XW (see pg.6)</p>			<ul style="list-style-type: none"> * Foot-mounted. * With input shaft.
<p>XWD (see pg.6)</p>			<ul style="list-style-type: none"> * Foot-mounted. * Direct coupled with motor.
<p>XL (see pg.8)</p>			<ul style="list-style-type: none"> * Flange-mounted. * With input shaft.
<p>XLD (see pg.8)</p>			<ul style="list-style-type: none"> * Flange-mounted. * Direct coupled with motor.
<p>XW (see pg.10)</p>			<ul style="list-style-type: none"> * Foot-mounted. * With flange for mounting IEC Standard motor.
<p>XL (see pg.10)</p>			<ul style="list-style-type: none"> * Flange-mounted. * With flange for mounting IEC Standard motor.



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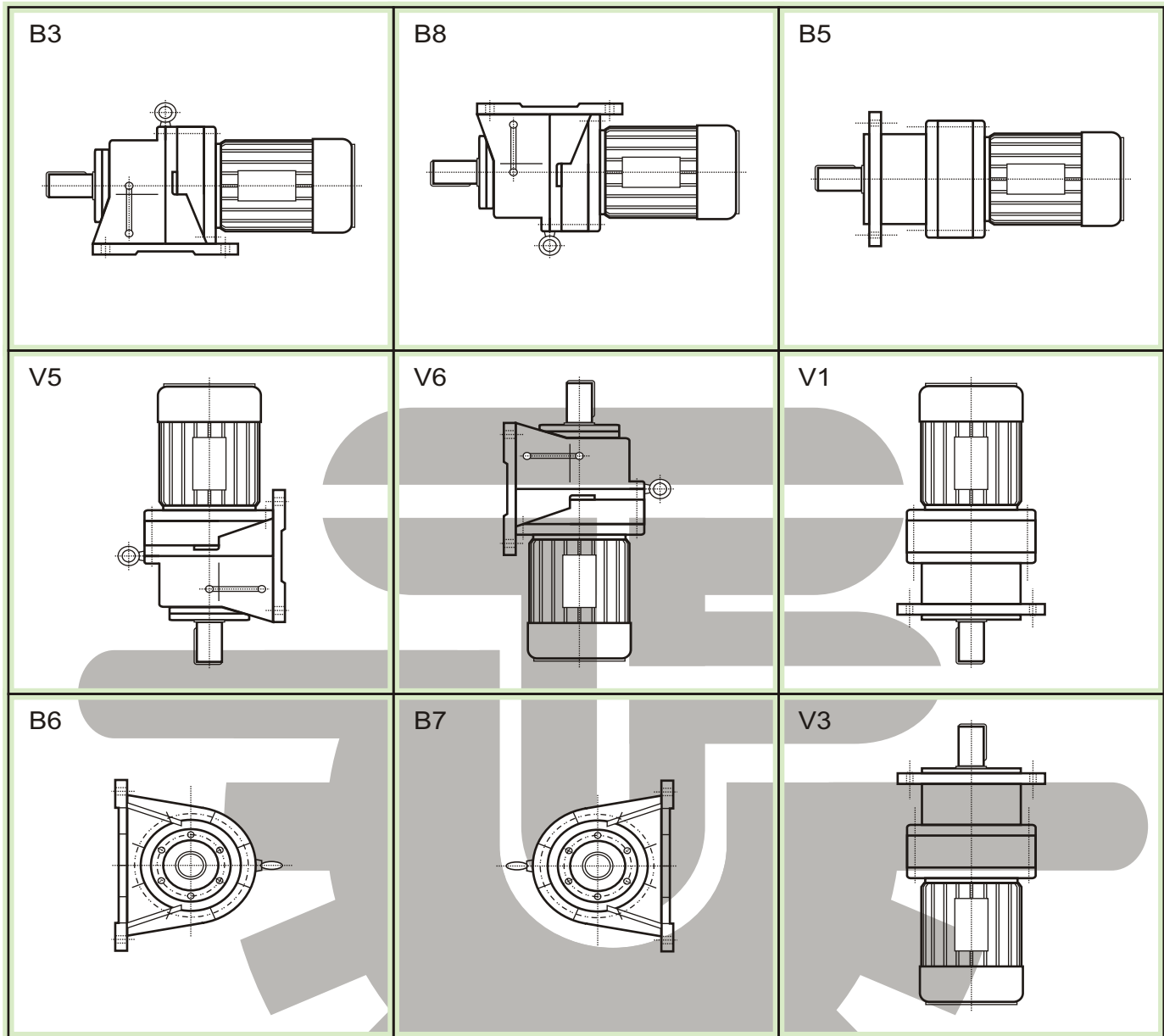
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CYCLOIDAL REDUCER

SHANLI®

MOUNTING CONSTRUCTION



WIRE BOX POSITION



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SELECTION GUIDE

Model selection should be satisfied the following formula:

KA x Ma g [M]

KA: Service factor

Ma: Output torque

[M]: Permitted output torque

WORKING SERVICE FACTOR~KA

Prime Mover	Working Hours/Day	KA Working Service Factor		
		Slight Impact Load	Middle Impact Load	Strong Impact Load
Electric Motor	<0.5	0.8 (0.9)	0.9 (1.0)	1.0 (1.25)
	0.5~2	0.9 (1.0)	1.0 (1.25)	1.25 (1.5)
	2~10	1.0 (1.25)	1.25 (1.5)	1.5 (1.75)
	10~24	1.25 (1.5)	1.5 (1.75)	1.75 (2.0)

* Note: When turn on / turn off the reducer more than 10 times per hour, please use the KA data in the brackets.

SPECIFICATION DATA 1

Model	X	1	2	3	4	5	6	7	8	9	10	11
Permitted Max. Output Torque (N.m.)	Output Shaft Speed (r.p.m.)	70	150	250	500	1000	2000	2700	4500	9000	12000	20000
		Input Power (kw)										
Ratio	4P (1500rpm)											
	6P (1000rpm)											
9	4P	167	0.75	1.5	2.2	4	11	15	-----	-----	-----	-----
	6P	111	0.55	1.1	1.5	3	7.5	11	-----	-----	-----	-----
11	4P	136	0.55	1.5	2.2	4	7.5	11	15	-----	-----	-----
	6P	91	0.37	1.1	1.5	3	5.5	7.5	11	15	18.5	37
17	4P	88	0.55	0.75	1.5	4	7.5	11	15	-----	-----	-----
	6P	59	0.37	0.55	1.1	3	5.5	7.5	11	15	18.5	37
23	4P	60	0.37	0.75	1.5	2.2	5.5	11	11	-----	-----	-----
	6P	40	0.25	0.55	1.1	1.5	4	7.5	7.5	15	15	37
29	4P	52	0.25	0.55	1.1	2.2	5.5	11	11	15	-----	-----
	6P	35	0.25	0.37	0.75	1.5	4	7.5	7.5	11	15	22
35	4P	43	0.25	0.55	1.1	1.5	4	7.5	11	15	-----	-----
	6P	29	0.25	0.37	0.75	1.1	3	5.5	7.5	11	15	18.5
43	4P	35	0.25	0.25	0.55	1.5	3	5.5	7.5	11	15	-----
	6P	23	0.25	0.25	0.55	1.1	2.2	4	5.5	7.5	11	18.5
59	4P	25	0.25	0.25	0.55	1.1	2.2	4	5.5	7.5	11	15
	6P	17	0.25	0.25	0.55	0.75	1.5	3	4	5.5	7.5	11
71	4P	21	0.25	0.25	0.55	0.75	1.5	3	5.5	5.5	7.5	15
	6P	14	0.25	0.25	0.55	0.75	1.5	2.2	4	4	5.5	11
87	4P	17	0.25	0.25	0.55	0.75	1.5	2.2	4	5.5	5.5	11
	6P	12	0.25	0.25	0.55	0.75	1.5	2.2	3	4	4	11



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CYCLOIDAL REDUCER



SPECIFICATION DATA 2

Model	X	31	42	53	63	74	84	85	95	106	116	117
Permitted Max. Output Torque (N.m.) Output Shaft Speed (r.p.m.)	Ratio	250	500	1000	2000	2700	4500	4500	9000	12000	20000	20000
		Input Power (kw)										
4P (1500rpm)												
12.4	121	0.37 0.25	1.1 0.75	1.5 1.1	1.5 11	3 2.2	3 2.2	5.5 4	5.5 4	11 7.5	11 7.5	11 7.5
8	187	0.37 0.25	0.75 0.55	1.1 0.75	1.5 11	3 2.2	3 2.2	4 3	5.5 4	7.5 5.5	11 7.5	11 7.5
5.2	289	0.18 0.12	0.55 0.37	0.75 0.55	1.1 0.75	2.2 1.5	2.2 1.5	3 2.2	4 3	7.5 5.5	7.5 5.5	7.5 5.5
4.7	319	-----	0.37 0.37	0.75 0.55	1.1 0.75	1.5 1.1	2.2 1.5	3 2.2	4 3	7.5 5.5	7.5 5.5	7.5 5.5
3.2	473	-----	0.25 0.25	0.55 0.37	0.75 0.55	1.1 0.75	1.5 1.1	2.2 1.5	3 2.2	5.5 4	5.5 4	5.5 4
2.5	595	-----	0.25 0.25	0.55 0.37	0.55 0.37	0.75 0.55	1.5 1.1	1.5 1.1	2.2 1.5	4 3	5.5 4	5.5 4
2	731	-----	0.25 0.25	0.37 0.37	0.55 0.37	0.75 0.55	1.1 0.75	1.5 1.1	2.2 1.5	4 3	4 3	4 3
1.8	841	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	1.1 0.75	1.1 1.1	1.5 1.1	3 2.2	4 3	4 3
1.5	1003	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.5 1.1	2.2 1.5	3 3	3 3
1.2	1225	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	2.2 1.5	3 3	3 3
1	1505	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3
0.8	1849	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3
0.7	2065	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3
0.6	2537	-----	0.25 0.25	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3
0.4	3481	-----	-----	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3
0.3	5133	-----	-----	0.37 0.37	0.37 0.37	0.55 0.55	0.75 0.75	1.1 1.1	1.1 1.1	1.5 1.5	3 3	3 3

Note: It is possible to select a small power motor if the KA service factor is high.



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CYCLOIDAL REDUCER

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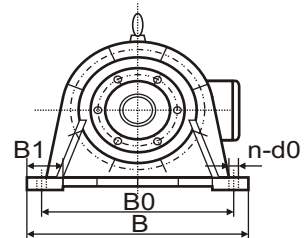
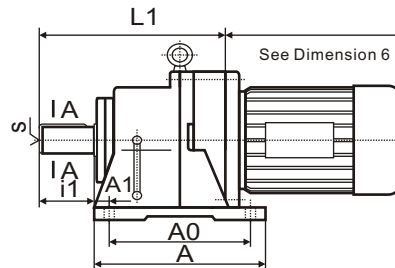
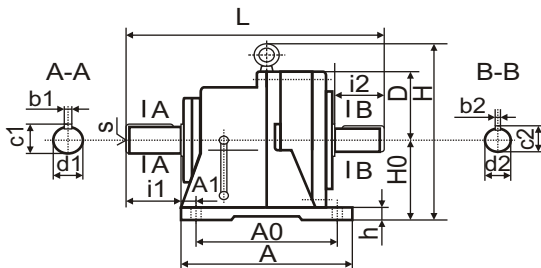
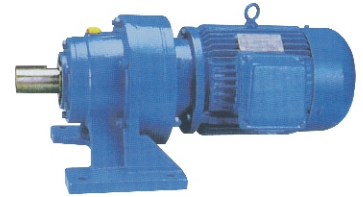
INSTALLATION DIMENSION 1

XW

- * Foot-mounted.
- * Single stage.
- * With input shaft.

XWD

- * Foot-mounted.
- * Single stage.
- * Direct coupled with motor.



Model	Mounting Dimensions (mm)									Shaft Dimension (mm)								Overall Dimensions (mm)					Weight (kg)	
										A-A Output Shaft				B-B Input Shaft										
	H0	A1	A0	B1	B0	h	s	n	d0	d1	b1	c1	i1	d2	b2	c2	i2	A	B	H	D	L		L1
1	100	25	90	40	150	12	M8	4	12	25	8	28	35	15	5	17	25	120	180	175	150	202	141	8
2	100	53	90	45	180	15	M8	4	12	25	8	28	34	15	5	17	25	120	210	175	168	218	155	14
3	140	95	100	55	250	20	M8	4	16	35	10	38	57	18	6	20.5	35	150	290	240	200	269	191	29
4	150	94	145	65	290	22	M10	4	16	45	14	48.5	75	22	6	24.5	40	195	330	275	240	340	255	45
5	160	115	150	75	370	25	M12	4	16	55	16	59	91	30	8	33	45	260	420	356	300	399	302	92
6	200	35	275	75	380	30	M12	4	18	65	18	69	89	35	10	38	54	335	430	425	340	470	358	131
7	220	35	320	85	420	30	M12	4	22	80	22	85	111	40	12	43	65	380	470	460	360	522	397	165
8	250	35	380	120	480	35	M16	4	22	90	25	95	120	45	14	48.5	70	440	530	529	430	581	440	245
9	290	46	480	120	560	40	M20	4	26	100	28	106	140	50	14	53.5	80	560	620	614	500	598	529	390
10	325	80	*1 500 (250 x2)	120	630	45	M24	6	30	110	28	116	150	55	16	59	100	600	690	706	580	806	608	564
11	420	122	*2 660 (330 x2)	160	800	50	*3 2x M20	6	32	130	32	137	202	70	20	74.5	120	810	880	883	710	1022	811	1160

Note:

- *1. Model 10: Dimension "A0" is 500mm. There is a "d0" hole at the centre of the length at 250mm.
- *2. Model 11: Dimension "A0" is 660mm. There is a "d0" hole at the centre of the length at 330mm.
- *3. There are two M20 thread holes at the shaft end.



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CYCLOIDAL REDUCER

INSTALLATION DIMENSION 3

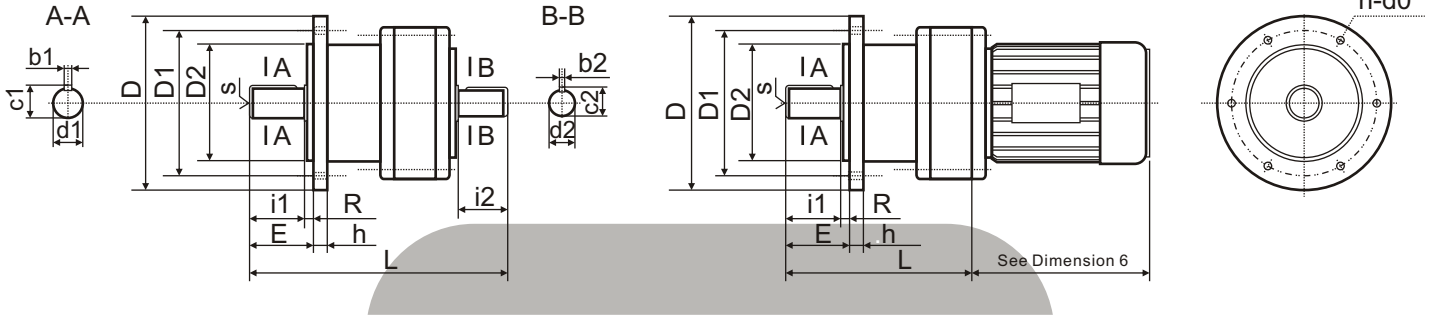
XL

- * Flange-mounted.
- * Single stage.
- * With input shaft.



XLD

- * Flange-mounted.
- * Single stage.
- * Direct coupled with motor.



Model	Mounting Dimensions (mm)								Shaft Dimension (mm)								Overall Dimensions (mm)			Weight (kg)
									A-A Output Shaft				B-B Input Shaft							
	D1	D2	E	h	R	s	n	d0	d1	b1	c1	i1	d2	b2	c2	i2	D	L	L1	
1	134	100	48	9	3	M8	4	12	25	8	28	25	15	5	17	25	160	202	141	8
2	160	130	42	12	3	M8	6	12	25	8	28	34	15	5	17	25	180	218	155	13
3	200	170	50	15	4	M8	6	12	35	10	38	45	18	6	20.5	35	230	269	191	26
4	230	200	79	15	4	M10	6	12	45	14	48.5	63	22	6	24.5	40	260	340	255	38
5	310	270	93	20	4	M12	6	12	55	16	59	79	30	8	33	45	340	399	302	93
6	360	316	94	22	5	M12	8	16	65	18	69	80	35	10	38	54	400	470	358	138
7	390	345	114	22	5	M12	8	18	80	22	85	98	40	12	43	65	430	522	397	160
8	450	400	112	30	6	M16	12	18	90	25	95	110	45	14	48.5	70	490	581	440	240
9	520	455	170	35	8	M20	12	22	100	28	103	129	50	14	53.5	80	580	698	529	370
10	590	520	174	40	10	M24	12	22	110	28	116	140	55	16	59	100	650	806	608	622
11	800	680	210	45	10	*1 2xM20	12	38	130	32	137	184	70	20	74.5	120	880	1042	811	1210

Note:

*1. There are two M20 thread holes at the shaft end.



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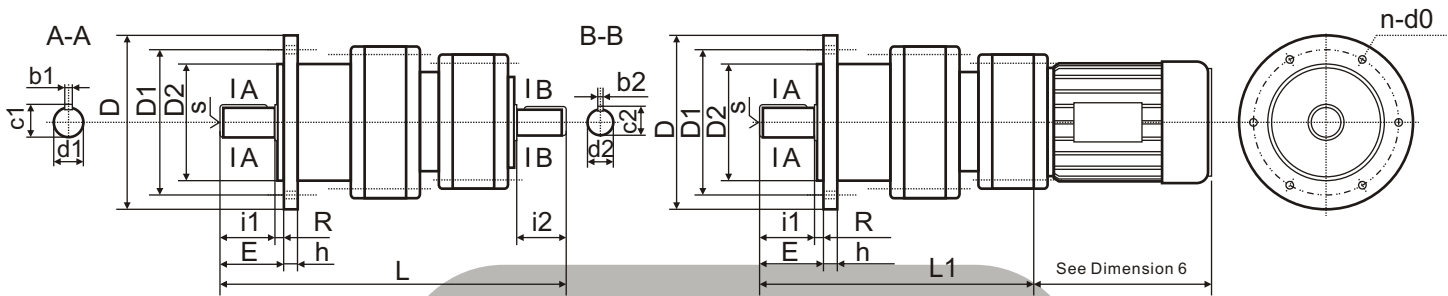
INSTALLATION DIMENSION 4

XLE

- * Flange-mounted.
- * Double stage.
- * With input shaft.

XLED

- * Flange-mounted.
- * Double stage.
- * Direct coupled with motor.



Model	Mounting Dimensions (mm)								Shaft Dimension (mm)								Overall Dimensions (mm)			Weight (kg)
									A-A Output Shaft				B-B Input Shaft							
	D1	D2	E	h	R	s	n	d0	d1	b1	c1	i1	d2	b2	c2	i2	D	L	L1	
31	200	170	50	15	4	M8	6	12	35	10	38	45	15	5	17	25	230	310	258	35
42	230	200	79	15	4	M10	6	12	45	14	48.5	64	15	5	17	25	260	384	326	75
53	310	270	92	20	4	M12	6	12	55	16	59	79	18	6	20.5	35	340	457	383	94
63	360	316	92	22	5	M12	8	16	65	18	69	80	18	6	20.5	35	400	519	447	149
74	390	345	114	22	5	M12	8	18	80	22	85	98	22	6	24.5	40	430	589	508	193
84	450	400	112	30	6	M16	12	18	90	25	95	110	22	6	24.5	40	490	633	552	280
85	450	400	112	30	6	M16	12	18	90	25	95	110	30	8	33	45	490	656	566	310
95	520	455	170	35	8	M20	12	22	100	28	106	129	30	8	33	45	580	745	656	495
106	590	520	175	40	10	M20	12	22	110	28	116	140	35	10	38	54	650	855	754	667
116	800	680	210	45	10	*1 2xM20	12	38	130	32	137	184	35	10	38	54	880	1066	958	1232
117	800	680	210	45	10	*1 2xM20	12	38	130	32	137	184	40	12	43	65	880	1081	963	1290

Note:

*1. There are two M20 thread holes at the shaft end.



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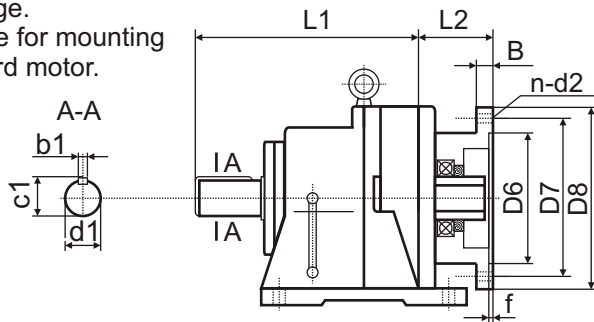
CYCLOIDAL REDUCER

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INSTALLATION DIMENSION 5

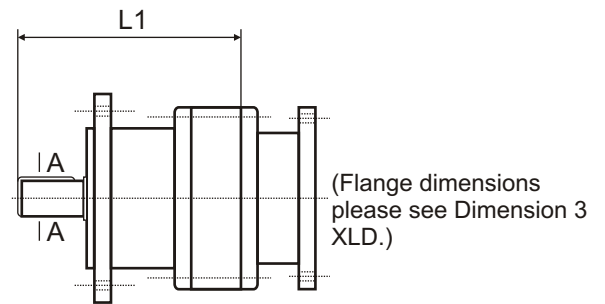
XW

- * Foot-mounted.
- * Single stage.
- * With flange for mounting IEC Standard motor.



XL

- * Flange-mounted.
- * Single stage.
- * With flange for mounting IEC Standard motor.



Model	Motor Frame	Poles	Motor Power (kw)	A-A Output Shaft (mm)			Mounting Dimensions (mm)								
				d1	b1	c1	D6	D7	D8	f	B	n	d2	L1	L2
1	711	4P	0.25	14	5	16.3	110	130	160	4	12	4	10	141	68
	712	4P	0.37												
	712	6P	0.25												
	801	4P	0.55												
	801	6P	0.37												
	802	4P	0.75												
2	802	6P	0.55	19	6	21.8	130	165	200	4	12	4	12	141	78
	711	4P	0.25												
	712	6P	0.25												
	801	4P	0.55												
	801	6P	0.37												
	802	4P	0.75												
3	802	6P	0.55	24	8	27.3	130	165	200	4	12	4	12	155	77
	711	4P	0.25												
	712	6P	0.25												
	801	4P	0.55												
	801	6P	0.37												
	802	4P	0.75												
4	802	6P	0.55	28	8	31.3	180	215	250	5	15	4	15	191	88
	90L	4P	1.5												
	90L	6P	1.1												
	100L1	4P	2.2												
	100L	6P	1.5												
	801	4P	0.55												
5	801	6P	0.75	38	10	41.3	230	265	300	5	17	4	15	255	112
	90S	4P	1.1												
	90S	6P	0.75												
	90L	4P	1.5												
	90L	6P	1.1												
	100L1	4P	2.2												
5	100L	6P	1.5	42	12	45.3	250	300	350	5	20	4	19	302	185
	112M	4P	4												
	112M	6P	2.2												
	132S	4P	5.5												
	132S	6P	3												
	132M	4P	7.5												
	132M1	6P	4												
	132M2	6P	5.5												
	160M	4P	11												
	160M	6P	7.5												



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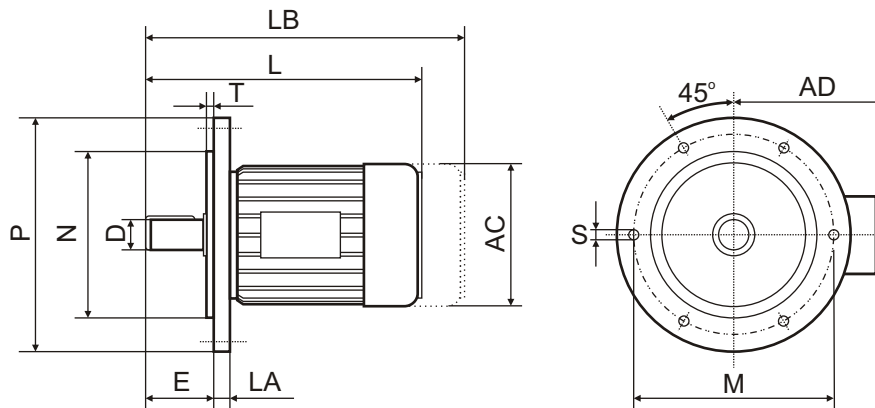
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CYCLOIDAL REDUCER

INSTALLATION DIMENSION 6

Direct coupled with motor



Motor Frame	Poles	Mounting Dimensions (mm)											
		AC	AD	D	E	L	*LB	LA	M	N	P	S	T
63	4	144	134	11	23	209	301	9	115	95	140	8	3.5
71	2~6	145	110	14	30	255	347	9	130	110	160	10	3.5
80	2~6	166	145	19	40	285	372	10	165	130	200	12	3.5
90S	2~6	180	150	24	50	310	439	10	165	130	200	12	3.5
90L	2~6	180	150	24	50	335	464	10	165	130	200	15	3.5
100L	2~8	175	175	28	60	385	498	11	215	180	250	15	4
112M	2~8	185	185	28	60	400	520	11	215	180	250	15	4
132S	2~8	205	205	38	80	465	665	12	265	230	300	15	4
132M	2~8	205	205	38	80	505	705	12	265	230	300	15	4
160M	2~8	255	255	42	110	600	850	15	300	250	350	19	5
160L	2~8	255	255	42	110	645	----	15	300	250	350	19	5
180M	2~8	275	275	48	110	670	----	18	300	250	350	19	5
180L	2~8	275	275	48	110	710	----	18	300	250	350	19	5
200L	2~8	305	305	55	110	775	----	20	350	300	400	19	5
225S	4~8	325	325	60	140	820	----	20	400	350	450	19	5
225M	4~8	325	325	60	140	845	----	20	400	350	450	19	5
250M	4~8	380	380	65	140	930	----	22	500	450	550	19	5
280S	4~8	410	410	75	140	975	----	22	500	450	550	19	5
280M	4~8	410	410	75	140	1025	----	22	500	450	550	19	5

Note: * LB is a dimension of brake motor.



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CYCLOIDAL REDUCER



Model	Motor Frame	Poles	Motor Power (kw)	A-A Output Shaft (mm)			Mounting Dimensions (mm)								
				d1	b1	c1	D6	D7	D8	f	B	n	d2	L1	L2
6	100L1	4P	2.2	28	8	31.3	180	215	250	5	17	4	15	358	113
	100L2	4P	3												
	112M	4P	4												
	112M	6P	2.2	28	8	31.3	180	215	250	5	17	4	15	358	117
	132S	4P	5.5												
	132S	6P	3												
	132M	4P	7.5	38	10	41.3	230	265	300	5	17	4	15	358	142
	132M1	6P	4												
	132M2	6P	5.5												
	160M	4P	11	42	12	45.3	250	300	350	5	20	4	19	358	185
	160M	6P	7.5												
	160L	4P	15												
160L	6P	11													
160L	6P	11													
7	112M	4P	4	28	8	31.3	180	215	250	5	15	4	15	397	120
	132S	4P	5.5												
	132S	6P	3												
	132M	4P	7.5	38	10	41.3	230	265	300	5	17	4	15	397	143
	132M1	6P	4												
	132M2	6P	5.5												
	160M	4P	11	42	12	45.3	250	300	350	6	20	4	19	397	185
	160M	6P	7.5												
	160L	4P	15												
160L	6P	11													
160L	6P	11													
8	132S	4P	5.5	38	10	41.3	230	265	300	5	17	4	15	440	142
	132M	4P	7.5												
	132M1	6P	4												
	132M2	6P	5.5												
	160M	4P	11	42	12	45.3	250	300	350	6	20	4	19	440	193
	160M	6P	7.5												
	160L	4P	15												
	160L	6P	11												
180L	6P	15	48	16	52.3	250	300	350	6	25	4	19	440	182	
9	132S	4P	5.5	38	10	41.3	230	265	300	5	17	4	15	529	162
	132M	4P	7.5												
	132M1	6P	4												
	132M2	6P	5.5												
	160M	4P	11	42	12	45.3	250	300	350	6	20	4	19	529	187
	160M	6P	7.5												
	160L	4P	15												
	160L	6P	11												
	180L	6P	15												
200L1	6P	18.5	55	16	59.3	300	350	400	6	25	4	19	529	200	
10	160M	4P	11	42	12	45.3	250	300	350	6	25	4	19	608	187
	160L	4P	15												
	160L	6P	11												
	200L1	6P	18.5	55	16	59.3	300	350	400	6	25	4	19	608	200
	200L2	6P	22												
	250M	6P	37												
11	180L	6P	15	65	18	69.4	450	500	550	6	25	4	19	811	280
	200L1	6P	18.5	55	16	59.3	300	350	400	6	25	4	19	811	256
	200L2	6P	22												
	225M	6P	30												
	250M	6P	37	65	18	69.4	450	500	550	6	25	4	19	811	280
	280S	6P	45	75	20	79.9	450	500	550	6	25	4	19	811	280



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