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Product Catalogue



Five major technical breakthrough

01

High torque

02

Smaller size and lighter weight

03

High efficiency and near zero backlash

04

Long life



•

Unmatched stability at low speed

Company 7 Information

Prius engaged in high precision reducer business since 2003, a high-tech enterprises specializes in the development, production and sale of harmonious speed reducer with world-class production and inspection line.

We produced and sold over 10,000 harmonious reducers in 2017, occupying over 10% domestic robot market shares. Besides, we have sold products overseas including Europe and America, Japan and Korea, etc.

The principle of harmonious drive device was invented by American inventor C. Walt Musser in the middle of 1950s

Composition of Harmonious Drive device

Harmonious drive device mainly consists of three basic components, wave generator, flexible spline and rigid spline.

Wave generator

Small ball bearings are built into the outer circumference of its elliptical cam, and the bearings' innerfaces are fixed to the carn. The outer faces are subjected to elastic deformation as the bearings move. It is attached to the input shaft.

Flexspline

The flex spline is a thin cup-shaped component made of flexible metal that has external teeth around the circumference of its mouth opening. When the wave generator is inserted into the flex spline's mouth opening, the flex spline becomes deformed into an elliptical shape. It is attached to the output shaft. Circular spline

The circular spline is a rigid ring-shaped component with teeth along its inner circumference. The number of teeth is usually two more than the accompanying flex spline has. It is usually secured to the machine's casing.



Principle of harmonious speed reducer

As a reducer, harmonious waves are generally driven by wave generator with fixed rigid spline and output by flexible spline. When wave generator is installed inside the inner ring of flexible spline, flexible spline is forced to go through elastic transformation and becomes an elliptical shape; the flexible spline teeth of long shaft insert into the gear groove of rigid spline to realize complete engagement; the gear teeth of the two splines of the short shaft are not contacted at all but disengaged. Between engagement to disengagement, gear teeth are in engaging-out or engaging-in status. When the wave generator rotates continuously, the flexible spline is forced to deform constantly, and the gear teeth of the two gears change their working status repeatedly in the engaging-in, engagement, engaging-out and disengagement, generating the so-called staggered teeth motion and realizing the motion transmission between active wave generator and flexible spline.



Traditionally, the design of a rig d gear sold on the market is based on the the Con ugate eshing Theor Williss Theorem . owever researchers have discovered that strain wave gearing meshing is more comple than that Instead, strain wave gearing meshing can be more accurately described by the Geometric apping Theory of Curves. y incorporating this theory into the design this patented technology has g eatly improved the meshing of strain wave gearing diferentiating the product fr m competitors. The design can also be further e tended to high ratio rigid reducers for better precision and ntrol

The P-type Tooth Profile



The unique P-type profile has distinctive advantages over a typical profile:

- 1. Lower profile reduces bending stress at the base to improve torque capacity.
- 2. Wide tooth base and streamlined profile transition reduces core stress concentration.
- 3. Lower profile reduces displacement and strain in the flexspine, leading to longer flexspline life.
- 4.20 -30% of tooth surface is in meshing contact to reduce surface contact pressure.



Our harmonious reducers are all lubricated with lubrication grease

Harmonious reducers with a hallow shaft (Type III) and harmonious reducers with a solid shaft (Type IV) are sealed with lubrication grease inside, and therefore there is no need to inject otherwise. As for other models, lubrication grease has been sealed inside their internal hidden parts; however, lubrication grease still needs to be injected and applied when wave generator is assembled.

Categories of lubrication grease

LD super N0.096: Developed specially for harmonious reducers, it has longer endurance and better efficiency compared with the common lubrication grease sold in market. LD super N0.098: Developed specially for small harmonic reducers, it can liquefy extreme-pressure additive, so as to obtain excellent lubrication effects when wave transformer rotates. LD super N0.099: It has flow characteristics that can adapt to long service life and can be used within a larger temperature range.

Characteristics of lubrication grease :

Grease model	Leakage of lubrication grease	Low temperature	Micro vibration and wear resistance	Endurance
NO.096	0	Ø	Ø	0
NO.098	\bigtriangleup	Ø	Ø	O
NO.099	Ø	O	0	0
* Superior:	O Apply: O Atte	ention should be p	paid to: Δ	

Specifications of lubrication grease:

Lubrication grease	96	98	99		
Base oil	Refined mineral oil	Synthetic hydrocarbon oil	Synthetic hydrocarbon oil		
Thickening agent	Special lithium base	Lithium based thickening agent	Lithium based thickening agent		
Addictive	Anti-wear addictive and extreme-pressure addictive	Anti-wear addictive and others	Anti-wear addictive and others		
Viscosity (25°C)	265 ~295	295~315	260C~280		
Temperature range of using conditions	-40°C~150°C	-40°C~120°C	-40°C~120°C		
Dropping point	198°C	180°C	180°C		
Appearance (color)	Yellow	Dark red	Red		
Storage life	5 years in sealed state	5 years in sealed state	5 years in sealed state		
Viscosity-temperature index	Base oil VI>120	Base oil VI>130	Base oil VI > 120		

Attention should be paid to: \triangle

Model Number Rules



14	35.6
17	43.2
20	50.8
25	63.5
32	81.3
40	102
50	127
58	147

Structure Code

Code	Structure
С	Complete type
Р	Component type
CL	Light weight of complete type



Between input end and carn of wave generator

Code	Туре
1	Standard type
	Cross slipper type coupling
ш	Hollow shaft type
IV	Shaft input type

L C D series



With a flexible gear in ultra-thin cup-shaped structure, **LCD** series are designed with an ultra-flat structure, with small volume and light weight, and are therefore can be used as the end joint of robot.

Parameter Table

Item Redu Rat	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	Kg	Hour
	50	3.5	11.4	4.6	23			≤20		9000
14	80	5.1	15	6.2	29	8000	3500	≤20	0.56	10000
	100	5.1	18	7.3	33		2,923	≤20		10000
	50	10.4	22	17	46			≤20		9000
17	80	14	29	21	54	7000	3500	≤20	0.48	10000
	100	15	35	26	67		020200	≤20		10000
	50	16	37	23	66			≤20	0.68	9000
20	80	23	49	28	78	6000	3500	≤20		10000
	100	27	54	32	90		100001000	≤20		10000
	50	26	66	36	121			≤20		9000
25	80	42	91	62	157	5500	3500	≤20	1.2	10000
23	100	45	104	71	175	0000	3500	≤20	1.5	10000
	120	45	111	71	187			≤20		10000
	50	50	143	71	255			≤20		9000
32	80	79	202	126	350	4500	3500	≤20	2.5	10000
100	100	91	221	144	399	4000	3500	≤20		10000
	120	91	235	144	423			≤20		10000
	50	91	267	130	456			≤20		9000
40*	100	176	378	247	665	4000	3000	≤20	3.8	10000
	160	196	430	300	727			≪20		10000

* Consult factory

LCD series

LCD-14-XXX-C-I



LCD-14-XXX-C-I-ST







LCD-17-XXX-C-I-ST

















For LCS-I series, the structure of flexible spline is standard cup-shaped. Their input shaft matches with the inner hole of wave transformer directly and are connected by flat key. In general, the series are used with the rigid gear end fixed and flexible gear outputting.



Rated Maximum Back Allowable Allowable Allowable Allowable Weight Design Life Item Torque at 2000r/min Peak Torque Average Maximum Input Average lash Speed Input Speed at Start Torque Momentary Reduction Ratio and Stop Torque Model No Nm r/min Arc sec Kg Hour 3.8 8.5 6.5 ≤20 5.1 17.1 6.6 ≤20 0.51 7.4 10.5 <10 7.4 10.5 ≤10 8.4 11.5 <20 15.2 ≤20 ≤10 0.68 ≤10 ≤10 ≤20 ≤20 ≤10 0.98 ≤10 ≤10 ≤10 ≤20 ≤20 ≤10 1.47 ≤10 ≤10 ≤10 ≤20 ≤20 ≤10 3.19 ≤10 ≤10 ≤10 ≤20 <10 ≤10 5.0 ≤10 ≤10 ≤20 ≤10 50* 9.6 ≤10 ≤10 ≤10

Parameter Table



* Consult factory

58*

≤10

≤10

≤10

≤10

14.8











LCS-25-XXX-C-I





LCS-32-XXX-C-I







For LCS-II series, their input shaft is connected with the inner hole of wave generator by double slider coupling.

LCS-II series



Parameter Table

Hem	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	nmin	r/min	Arc sec	Kg	Hour
	30	3.8	8.5	6.5	16			≤20		10000
14	50	5.1	17.1	6.6	33	8000	3500	≤20	0.52	10000
	80	7.4	22	10.5	44			≤20		15000
	100	7.4	26	10.5	51			≤20		15000
	30	8,4	15	11.5	28			≤20		10000
	50	15.2	32	25	66		10000	≤20		10000
17	80	21	41	26	83	7000	3500	≤20	0.69	15000
	100	23	51	37	103			≤20		15000
	120	23	51	37	82			≤20		15000
	30	14	26	19	48			≤20		10000
	50	24	53	32	93			≤20		10000
20	80	32	70	45	121	6000	2600	≤20	0.00	15000
20	100	38	78	47	140	0000	3300	≤20	Q. 17	15000
	120	38	83	47	140			≤20		15000
	160	38	87	47	140			≤20		15000
	30	26	48	36	90			≤20		10000
	50	37	93	52	177			≤20		10000
45	80	60	130	83	242	5500	3500	≤20	1, 48	15000
20	100	64	149	103	270	3300	3300	≤20		15000
	120	64	159	103	289			≤20		15000
	160	64	167	103	298			≤20 ≤20 ≤20	15000	
	30	51	95	71	190			≤20		10000
	50	72	205	103	363			≤20	3. 2	10000
222	80	112	289	159	540		0.000	≤20		15000
32	100	130	316	205	615	4500	3500	≤20		15000
	120	130	335	205	652			≤20	1	15000
	160	130	353	205	652			≤20		15000
1	50	130	382	186	652			≤20		10000
	80	196	493	270	931			≤20		15000
40	100	252	540	353	1026	4000	3000	≤20	5.0	15000
	120	279	586	429	1121	0.000	202816	≤20		15000
	160	279	615	429	1121		_	≤20	-	15000
	50	233	679	333	1358			≤20		10000
	80	353	894	493	1767			≤20		15000
50*	100	446	931	633	1957	3000	2500	≤20	9.0	15000
	120	503	1026	772	1957	3000		≤20		15000
	160	503	1121	801	2327			≤20		15000
	80	522	1406	732	2328			≤10		15000
1.200	100	441	1511	1007	3021		100000	≤10	and a	15000
58*	120	708	1634	1131	3164	3000	2200	≤10	14.8	15000
	160	1 705 1634 1131 3164 ≤10 11	15000							
-	100	108	1/48	1150	3234			~10		19000



* Consult factory













LCS-32-XXX-C-II







LCSG-I series

LCSG-I series are high-torque models which have the same structure, with LCS-I series. However, their torque bearing capacity is improved by 30% compared with LCS series.

LCSG-I series

Parameter Table

tem	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	r/min	rimin	Arc sec	Kg	Hour
	50	6.6	23	8.6	43			≤10		10000
14	80	9.6	29	13.5	57	8000	3500	≪10	0.51	15000
	100	9.6	34	13.5	66			≤10		15000
	50	19.8	42	32.5	86			≤10		10000
17	80	27.5	53	33.5	108	7000	3500	≤10	0.48	15000
1962	100	30	66	48.5	134	1000	5500	≪10	0.00	15000
	120	30	66	48.5	107			≤10		15000
	50	32	69	42	121			≤10		10000
	80	42	91	58	158			≤10		15000
20	100	50	102	61	182	6000	3500	≪10	0,98	15000
	120	50	108	61	182			≤10	_	15000
	160	50	113	61	182			≤10		15000
	50	48	121	68.5	230			≤10		10000
	80	78	169	107.5	315			≤10		15000
25	100	84	194	133	351	5500	3500	≪10	1.47	15000
	120	84	207	133	376			≤10		15000
	160	84	217	133	388			≪10		15000
	50	94	267	133	472			≤10		10000
	80	146	376	206	702			≤10		15000
32	100	169	411	267	800	4500	3500	≤10	3.19	15000
	120	169	436	267	848			≤10		15000
	160	169	459	267	848			≤10		15000
	50	169	497	242	847			≤10		10000
	80	255	641	351	1210			≤10		15000
40	100	328	702	460	1334	4000	3000	≤10	5.0	15000
	120	363	762	557	1458			≪10		15000
	160	363	800	557	1458			≤10		15000
	80	459	1163	642	2297			≤10		15000
50*	100	580	1211	823	2545	3000	2500	≤10	9.0	15000
Ser.	120	654	1334	1005	2545		2222	≤10		15000
	160	654	1458	1042	3025		1	≤10		15000
	80	678	1828	951	3026			≤10		15000
58*	100	860	1964	1309	3927	3000	2200	≤10	14.8	15000
	120	921	2124	1470	4113	3000	200 C	≤10		15000
	160	921	2272	1494	4236			≪10		15000



* Consult factory

LCSG-14-XXX-C-I







LCSG-20-XXX-C-I















LCSG-II series are high-torque models which have the same structure, with LCS-II series. However, their torque bearing capacity is improved by 30% compared with LCS series.



Parameter Table

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Terque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm .	Nm	Nm	nmin	r/min	Arc sec	ка	Hour
	50	6.6	23	8.6	43			≤20		10000
14	80	9.6	29	13.5	57	8000	3500	≤20	0.52	15000
	100	9.6	34	13.5	66			≤20	(Personal)	15000
	50	19.8	42	32.5	86			≤20		10000
17	80	27.5	53	33.5	108	10000	10000	≪20	1.000	15000
	100	30	66	48.5	134	7000	3500	≤20	0.69	15000
	120	30	66	48.5	107			≤20	1	15000
	50	32	69	42	121			≤20		10000
	80	42	91	58	158			≤20		15000
20	100	50	102	61	182	6000	3500	≤20	0. 99	15000
	120	50	108	61	182			≤20		15000
	160	50	113	61	182			≤20		15000
	50	48	121	68.5	230			≤20		10000
	80	78	169	107.5	315			≤20	1	15000
25	100	84	194	133	351	5500	3500	≤20	1.48	15000
	120	84	207	133	376			≤20		15000
	160	84	217	133	388			≤20		15000
	50	94	267	133	472			≤20		10000
	80	146	376	206	702			≪20		15000
32	100	169	411	267	800	4500	3500	≤20	3.2	15000
	120	169	436	267	848			≤20		15000
	160	169	459	267	848			≤20		15000
	50	169	497	242	847			≪20		10000
	80	255	641	351	1210			≪20		15000
40	100	328	702	460	1334	4000	3000	≤20	5.0	15000
	120	363	762	557	1458			≤20		15000
	160	363	800	557	1458			≤20		15000
	80	459	1163	642	2297			≤20		15000
204	100	580	1211	823	2545	3000	2500	≤20		15000
50*	120	654	1334	1005	2545	3000	2500 ≤20	≤20	4.0	15000
	160	654	1458	1042	3025			≪20		15000
	80	678	1828	951	3026			≤10		15000
604	100	860	1964	1309	3927	3927 3000 2200 4113	≤10	14.0	15000	
20*	120	921	2124	1470	4113		≤10	14.0	15000	
	160	921	2272	1494	4236			≤10		15000





LCSG-14-XXX-C-II



LCSG-20-XXX-C-II



LCSG-25-XXX-C-II





LCSG-32-XXX-C-II







With a flexible gear in ultra-thin hollow and flange structure, the LHD series are designed as flat as possible, and are therefore very suitable for the occasions where harsh thickness requirements for reducers are posed.

LHD series



Parameter Table

Item	Reduction Ratio	eduction Ratio	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	Ка	Hout
	50	3.5	11.4	4.6	23			≤20		9000
14	80	5.1	15	6.2	29	8000	3500	≤20	0.35	10000
	100	5.1	18	7.3	33			≤20		10000
	50	10.4	22	17	46			≤20		9000
17	80	14	29	21	54	7000	3500	≤20	0.45	10000
	100	15.2	35	26	67			≤20		10000
	50	16.1	37	23	66			≤20		9000
20	80	23	49	28	78	6000	3500	≤20	0.55	10000
	100	27	54	32	90			≤20		10000
	50	26	66	36	121			≤20		9000
25	80	42	91	62	157	6600	1500	≤20	0.05	10000
	100	45	105	71	175	3300	3300	≤20	0.75	10000
	120	45	111	71	187			≤20		10000
	50	50	143	71	255			≤20		9000
22	80	79	202	126	350	4500	3500	≤20	1.02	10000
-94	100	91	221	144	399	4000	3377	≤20	1.76	10000
	120	91	235	144	423			≤20		10000
	50	91	267	130	456			≤20 ≤20		9000
40	100	176	378	247	665	4000	000 3000	≤20	3.15	10000
	160	196	430	300	727			≤20		10000











LHD-20-XXX-C-I













For LHD-III series, there is a large-aperture hollow shaft hole in the middle of the carn of their wave generator with a flexible gear in ultra-thin hollow and flange structure, the LHD series are designed as flat as possible, and are therefore very suitable for the occasions where harsh thickness requirements for reducers are posed.

LHD-III series

Parameter Table

hen	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life			
Model No		Nm	Nm :	Nm)	Nm	c/min	r/min	Arc sec	Kg	Hour			
·	50	3.5	11.4	4.6	23			≤20		9000			
14	80	5.1	15	6.2	29	8000	3500	≤20	0.35	10000			
	100	5.1	18	7.3	33			≤20		10000			
	50	10.4	22	17	46			≤20		9000			
17	80	14	29	21	54	7000	3500	3500	3500	3500	≪20	0.45	10000
и	100	15.2	35	26	67			≤20		10000			
	50	16.1	37	23	66			≤20		9000			
20	80	23	49	28	78	6000	3500	≤20	0.55	10000			
	100	27	54	32	90			≤20		10000			
	50	26	66	36	121			≤20		9000			
36	80	42	91	62	157			≤20		10000			
20	100	45	105	71	175	5500	3500	≤20	0.95	10000			
	120	45	111	71	187			≤20		10000			
	50	50	143	71	255			≤20		9000			
37	80	79	202	126	350	4500	3500	≤20	1 02	10000			
36	100	91	221	144	399	399		≤20	1.74	10000			
	120	91	235	144	423			≤20	10000				
	50	91	267	130	456		1 22.02	≤20		9000			
40*	100	176	378	247	665	4000	3000	≤20 3.1	3.15	10000			
	160	196	430	300	727			≤20		10000			

* Consult factory



LHD-14-XXX-C-III

LHD-17-XXX-C-III





LHD-20-XXX-C-III







LHD-32-XXX-C-III

LHS-I series

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Desig Life
Model No		Nm	Nm	Nm	Nm	e/min	c/min	Arc sec	Kg	Hour
	30	3.8	8.6	7.8	16	-		≤20		1000
14	50	5.1	17	6.6	33	8000	35.02	≪20	0.28	1000
14	80	7.4	22	10.5	45	0000	3500	≪10	V. 30	1500
	100	7.4	27	10, 5	51			≤10		1500
	30	8,4	15.2	11.5	29			≤20		1000
	50	15.2	32	25	66			≤20		1000
17	80	21	41	26	83	7000	3500	≤10	0.56	1500
	100	23	51	37	104			≪10		1500
	120	23	51	37	82			≤10		1500
	30	14	26	19	48			≤20		1000
	50	24	53	32	93			≤20		1000
20	80	32	70	45	121	4000	3600	≤10	0.76	1500
20	100	38	78	47	140	0000	3300	≤10	0.70	1500
	120	38	83	47	140]	≤10		1500
	160	38	87	47	140			≪10		1500
	30	26	48	36	90			≤20		1000
	50	37	93	52	177			≤20		1000
36	80	60	130	83	242	6600	2500	≪10	1.24	1500
23	100	64	149	103	270	3500	3300	≪10	1.29	1500
	120	64	159	103	289			≤10		1500
	160	64	167	103	298		-	≤10		1500
	30	51	95	71	190			≤20		1000
	50	72	205	103	363			≤20		1000
22	80	112	289	159	540			≪10		1500
32	100	130	316	205	615	4500	3500	≤10	2.0	1500
	120	130	335	205	652			≤10		1500
	160	130	353	205	652			≤10		1500
	50	130	382	186	652			≤20		1000
	80	196	493	270	931			≤10		1500
40	100	252	540	353	1026	4000	3000	≤10	5.0	1500
	120	279	586	428	1121	- 000000		≪10	1.11.11	1500
	160	279	615	428	1121			≤10	-	1500
	50	233	679	333	1358	-		≤20		1000
	80	353	894	493	1767			≤10		1500
50*	100	446	931	633	1957	3000	2500	≤10	9.5	1500
	120	502	1026	772	1957			≤10		1500
	160	502	1121	801	2328		1	≤10		1500
	80	522	1406	732	2328			≤10		1500
anne i	100	661	1511	1007	3021	52/107	13223	≤10	193245	1500
58*	120	708	1634	1131	3164	3000	2200	≤10	13.6	1500
	160	708	1748	1150	3250	1		<10	-	1500

LHS-I series



LHS-I series, which have a standard hollow and flange-shaped tube structure, are tight in structure Their input shaft matches with the inner hole of wave transformer directly and are connected by flat key. Alternatively, they can be used with the rigid gear end fixed and the flexible gear end outputting, or with the flexible gear end fixed and the rigid gear end outputting.

Parameter Table

LHS-14-XXX-C-I







LHS-20-XXX-C-I



LHS-25-XXX-C-I








Parameter Table

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	(r/min)	c/min	Arc sec	Kg	Hour
	30	3.8	8.6	7.8	16			≤20		10000
14	50	5, 1	17	6.6	33	8000	3500	≤20	0.38	10000
	80	7.4	22	10.5	45	0000	0000	≤20	0.00	15000
	100	7.4	27	10.5	51			≤20	Weight Kg 0.38 0.56 0.76 1.24 2.6 5.0	15000
	30	8.4	15.2	11.5	29			≤20	Weight Kg 0.38 0.56 0.76 1.24 2.6 5.0 9.5	10000
	50	15.2	32	25	66			≤20		10000
17	80	21	41	26	83	7000	3500	≤20	0.56	15000
	100	23	51	37	104			≤20		15000
	120	23	51	37	82			≤20	1	15000
	30	14	26	19	48			≤20		10000
	50	24	53	32	93	1		≤20	1	10000
	80	32	70	45	121	1 333		≤20		15000
20	100	38	78	47	140	6000	3500	≤20	0.76	15000
	120	38	83	47	140			≤20		15000
	160	38	87	47	140	1 I		≤20	1	15000
	30	26	48	36	90			≤20	Weight Kg 0.38 0.56 0.76 1.24 2.6 5.0 5.0 9.5	10000
	50	37	93	52	177			≤20		10000
	80	60	130	83	242	1		≤20		15000
25	100	64	149	103	270	5500	3500	≤20		15000
	120	64	159	103	289			≤20		15000
	160	64	167	103	298			≤20		15000
	30	51	95	71	190			≤20		10000
	50	72	205	103	363		1	≤20	0.38 0.56 0.76 1.24 2.6 5.0 9.5	10000
	80	112	289	159	540		0000000	≤20	-7.8400	15000
32	100	130	316	205	A15	4500	3500	≤20	2.6	15000
-	120	130	225	205	452			≤20		15000
-	140	130	355	200	465			≤20		15000
	60	130	393	194	452			<20		10000
-	90	104	302	270	032			<20		16000
40	100	190	493	2/0	1024	4000	2000	<20	5.0	15000
40	100	202	540	303	1020	4000	3000	<20		15000
	120	279	380	420	1121			< 20		15000
	100	2/9	010	428	1121			< 20	-	10000
	50	233	0/9	333	1356			<20		10000
50+	80	353	894	493	1/6/	3000	2500	= 20		15000
30*	100	640	931	033	1957	3000	2000	<20	9.5	15000
	120	502	1026	//2	1957			<20	Weight Kg 0.38 0.56 0.76 1.24 2.6 5.0 9.5 13.6	15000
-	160	502	1121	801	2328			>20		15000
	80	522	1406	732	2328			≤10 		15000
58*	100	661	1511	1007	3021	3000	2200	≤10	13.6	15000
	120	708	1634	1131	3164	100000	_	≤10	1000	15000
	160	708	1748	1150	3259			≤10		15000

Consult factory

LHS-II series





For LHS-II series, their input shaft is connected with the inner hole of wave transformer through a double slider coupling.

1 110 11	1.	1.50
LHS-II	ser	les
	_	







LHS-17-XXX-C-II







LHS-25-XXX-C-II

LHS-32-XXX-C-II





LHS-40-XXX-C-II

Parameter Table

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowabie Average Input Speed	Back lash	With Maximum Tension	Weight	Design Life	
Model No		Nm	Nm	Nm	Nm	: r/min	r/min	Arc sec	N	Kgia	Hour	
	30	3.8	8.6	7.8	16			≤20			10000	
14	50	5.1	17	6.6	33	8000	3500	≤20	≤77	0.72	10000	
1250	80	7.4	22	10, 5	45	100000	100000	≤10	1.200	1000	15000	
	100	7.4	27	10.5	51			≤10		Weight Kg 0, 72 1, 0 1, 38 2, 15 4, 3 7, 8 14, 5 20, 0	15000	
	30	8.4	15.2	11.5	29			≤20		Weight Kg 0.72 1.0 1.38 2.15 4.3 7.8 7.8 14.5	10000	
	50	15.2	32	25	66			≤20		Weight Kg 0.72 1.0 1.38 2.15 4.3 7.8 7.8	10000	
17	80	21	41	26	83	7000	3500	≤10	≪92	1.0	15000	
	100	23	51	37	104	1.1110-0		≪10			15000	
	120	23	51	37	82			≤10			15000	
	30	14	26	19	48			≤20			10000	
	50	24	53	32	93			≤20]		10000	
20	80	32	70	45	121		2500	≪10	~101	1 20	15000	
20	100	38	78	47	140	0000	3500	≤10	≤136	1.38	15000	
	120	38	83	47	140	1.		≤10			15000	
	160	38	87	47	140	1		≤10			15000	
	30	26	48	36	90			≤20				10000
	50	37	93	52	177	1		≤20	1	Weight Kg 0.72 1.0 1.38 2.15 4.3 7.8 7.8 7.8	10000	
	80	60	130	83	242		25.00	≤10			15000	
25	100	64	149	103	270	5500	3500	≤10	\$147		15000	
	120	64	159	103	289			≤10	1		15000	
	160	64	167	103	298	1		≤10	-		15000	
-	30	51	95	71	190			≤20			10000	
	50	72	205	103	363	1		≤20	1	Weight Kg 0, 72 1, 0 1, 38 2, 15 4, 3 7, 8 7, 8	10000	
	80	112	289	159	540	1000000		≤10			15000	
32	100	130	316	205	615	4500	3500	≤10	≤154	4, 3	15000	
	120	130	335	205	652			≤10	1		15000	
	140	130	353	205	452			≤10			15000	
-	50	130	382	186	652			≤20			10000	
	80	194	493	220	031			≤10	1		15000	
40	100	262	540	363	1026	4000	3000	510	≤294	7.8	15000	
	120	270	RPA .	428	1121			S10			15000	
	140	270	615	420	1121			≤10	1		15000	
-	50	222	670	333	1369			<20			10000	
	80	151	804	403	1767			510			15000	
50+	100	444	021	473	1057	3000	1600	<10	≤373	14.5	15000	
	100	600	1004	775	1957	3000	2500	~10		K9 0, 72 1, 0 1, 0 1, 38 2, 15 4, 3 7, 8 14, 5 20, 0	15000	
	120	502	1026	112	1757			= 10			15000	
	160	502	1121	801	2328			≤10			15000	
	08	6/8	1828	901	3026			≥10			15000	
58*	100	860	1964	1309	5927	3000	2200	\$10	≤1300	20.0	15000	
	120	921	2124	1470	4113	3000		\$10	-		15000	
	160	921	2272	1494	4236	1		≤10			15000	

* Consult factory

LHS-III series



For LHS-III series, there is a large-aperture hollow shaft hole in the middle of the cam of their wave generator, and a supporting bearing designed inside reducer. Characterized by full-sealing structure and easy installation, the series are very suitable for the occasions where threading needs running through the center of reducer.

LHS-III series





















LHS-40-XXX-C-III



Parameter Table

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	With Maximum Tension	Weight	Design Life						
Model No		Nm	Nm	Nm	Nm	rimin	r/min	Arc sec	N	Kg	Hour						
	30	3.8	8.6	7.8	16			≤20			10000						
14	50	5.1	17	6.6	33	8000	3500	≪20	≤77	0.56	10000						
440	80	7.4	22	10.5	45		0.0460	≤10		0.00	15000						
	100	7.4	27	10.5	51	_		≤10		Weight Kg 0.56 0.80 1.09 1.70 3.50 6.35 12.0	15000						
	30	8.4	15.2	11.5	29			≤20			10000						
227	50	15.2	32	25	66			≤20			10000						
17	80	21	41	26	83	7000	3500	≤10	€92	0.80	15000						
	100	23	51	37	104			≤10			15000						
_	120	23	51	37	82			≤10			15000						
	30	14	26	19	48			\$20			10000						
	50	24	53	32	93			<20			10000						
20	80	32	70	40	121	6000	3500	<10	≤136	1.09	15000						
	100	38	/8	4/	140			<10	10000000		15000						
	140	30	03	47	140			<10			15000						
	30	26	48	4/	00			≤20			-	-					10000
	50	37	03	52	177	2		≤20		1.70	10000						
	80	60	130	83	242			≤10	2502008-07		15000						
25	100	64	149	103	270	5500	3500	≤10	≤147		15000						
	120	64	159	103	289			≤10			15000						
	160	64	167	103	298	·		≤10		Weight Kg 0.56 0.80 1.09 1.70 3.50 6.35 12.0	15000						
	30	51	95	71	190			≤20		K0 0.56 0.80 1.09 1.70 3.50 6.35 12.0	10000						
	50	72	205	103	363			≤20	1.		10000						
	80	112	289	159	540	1 222		≤10	~1E4		15000						
32	100	130	316	205	615	4500	3500	≤10	S(1)4	3.50	15000						
	120	130	335	205	652			≤10]		15000						
	160	130	353	205	652			≤10			15000						
	50	130	382	186	652			≤20			10000						
	80	196	493	270	931			≤10			15000						
40	100	252	540	353	1026	4000	3000	≤10	≤294	6.35	15000						
	120	279	586	428	1121	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		≤10			15000						
	160	279	615	428	1121			≤10			15000						
	50	233	679	333	1358			≤20			10000						
	80	353	894	493	1767	335251.0		≤10	1 STATES		15000						
50*	100	446	931	633	1957	3000	2500	≤10	≤373	12.0	15000						
	120	502	1026	772	1957			≤10			15000						
	160	502	1121	801	2328			≤10			15000						
	80	678	1828	951	3026			≤10			15000						
58*	100	860	1964	1309	3927	3000	2200	≤10	≤1300	16.5	15000						
Contra 1	120	921	2124	1470	4113	0.22220		≤10	0.000000000		15000						
	160	921	2272	1494	4236			≤10			15000						

* Consult factory

LHS-CL-III series



For LHS-CL-III series, there is a large-aperture hollow shaft hole in the middle of the cam of their wave generator, and a supporting bearing designed inside reducer. Characterized by full-sealing structure and easy installation, the series are very suitable for the occasions where threading needs running through the center of reducer. LHS-CL-III series

LHS-14-XXX-CL-III





LHS-17-XXX-CL-III

LHS-20-XXX-CL-III



LHS-25-XXX-CL-III







LHS-40-XXX-CL-III

LHS-IV series



Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back Iash	With Maximum Tension	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	N	Kg	Hour
	30	3.8	8.6	7.8	16			≤20			10000
14	50	5.1	17	6.6	33	8000	3500	≤20	<26	0.45	10000
100	80	7.4	22	10.5	45			≤10		0.00	15000
	100	7.4	27	10.5	51			≤10			15000
	30	8.4	15.2	11.5	29			≤20			10000
	50	15.2	32	25	66			≤20	11111		10000
17	80	21	41	26	83	7000	3500	≤10	≤32	0.92	15000
	100	23	51	37	104			≤10			15000
	120	23	51	37	82			≤10			15000
	30	14	26	19	48			≤20			10000
	50	24	53	32	93			≤20			10000
	80	32	70	45	121	6000		≤10		1.76	15000
20	100	38	78	47	140		3500	≤10	>56	1, 30	15000
	120	38	83	47	140			≤10		Weight Kg 0.65 0.92 1.36 2.05 4.35 6.45	15000
	160	38	87	47	140			≤10			15000
	30	26	48	36	90			≤20			10000
	50	37	93	52	177			≤20			10000
	80	60	130	83	242	6500	2600	≤10	~~	2.05	15000
23	100	64	149	103	270	5500	3300	≪10	@/I	2.05	15000
	120	64	159	103	289			≤10			15000
	160	64	167	103	298			≤10			15000
	30	51	95	71	190			≤20			10000
	50	72	205	103	363			≤20			10000
	80	112	289	159	540	Sources		≤10	~~~	4.95	15000
32	100	130	316	205	615	4500	3500	≤10	≈114	4, 35	15000
	120	130	335	205	652			≤10			15000
	160	130	353	205	652			≤10			15000
	50	130	382	186	652			≤20			10000
	80	196	493	270	931			≤10			15000
40	100	252	540	353	1026	4000	3000	≤10	≤294	6.45	15000
	120	279	586	428	1121			≤10			15000
	160	279	615	428	1121			≤10			15000



For LHS-IV series, the cam of their wave generator is provided with an input shaft; therefore, the series are very suitable for occasions where bevel gear or synchronous belt drive is needed at the input end.

LHS-IV series

























Parameter Table

LHSG-I series



LHSG-I series are high-torque models which have the same structure, with LHS-I series. However, their torque bearing capacity is improved by 30% compared with LHS series.

Item	Reduction	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	e/min	r/min	Arc sec	Kg	Hour
	50	6.6	23	8.6	43			≤10		10000
14	80	9.6	29	13.5	57	8000	3500	≤10	0.38	15000
	100	9.6	34	13.5	66	-		≤10		15000
	50	19.8	42	32	86			≤10		10000
17	80	27.5	53	33	108	7000	3500	≤10	1 10000	15000
20	100	30	66	49	134	7000	3000	≤10	0.56	15000
	120	30	66	49	107			≤10		15000
	50	32	69	42	121			≤10		10000
	80	42	91	58	158			≤10	1	15000
20	100	50	102	ó1	182	6000	3500	≤10	0.76	15000
	120	50	108	61	182			≤10		15000
	160	50	113	61	182			≤10		15000
	50	48	121	68.5	230			≪10		10000
	80	78	169	107	315			≤10	1.24	15000
25	100	84	194	133	351	5500	3500	≤10		15000
	120	84	207	133	376			≤10		15000
	160	84	217	133	388			≤10	1	15000
	50	94	267	133	472			≤10		10000
	80	146	376	206	702			≤10		15000
32	100	169	411	267	800	4500	3500	≤10	2.6	15000
	120	169	436	267	848			≤10	1	15000
	160	169	459	267	848			≪10		15000
	50	169	497	242	847			≤10		10000
	80	255	641	351	1210			≤10		15000
40	100	328	702	460	1334	4000	3000	≤10	5.0	15000
	120	363	762	557	1458			≪10		15000
	160	363	800	557	1458			≤10		15000
	80	459	1163	642	2297			≤10		15000
50.0	100	580	1211	823	2545		0500	≤10	0.5	15000
50*	120	654	1334	1005	2545	3000	2500	≤10	9.9	15000
	160	654	1458	1042	3025			≤10		15000
	80	678	1828	951	3026			≤10		15000
60+	100	860	1964	1309	3927		0000	≤10		15000
00*	120	921	2124	1470	4113	3000	2200	≪10	13.0	15000
	160	921	2722	1494	4236			≤10		15000

* Consult factory

LHSG-I series





LHSG-17-XXX-C-I







LHSG-25-XXX-C-I







LHSG-40-XXX-C-I

LHSG-II series



LHSG-II series are high-torque models which have the same structure, with LHS-II series. However, their torque bearing capacity is improved by 30% compared with LHS series.

Parameter Table

ttem	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	n/min	e/min	Arc sec	Kg	Hour
	50	6.6	23	8.6	43			≤20		10000
14	80	9.6	29	13.5	57	8000	3500	≤20	0.38	15000
	100	9.6	34	13.5	66	ADDIGUTE		≤20		15000
	50	19.8	42	32	86			≤20		10000
17	80	27.5	53	33	108	2000	3500	≤20	0.64	15000
	100	30	66	49	134	1000	3300	≤20	0.56	15000
_	120	30	66	49	107			≤20		15000
	50	32	69	42	121			≤20		10000
	80	42	91	58	158			≤20		15000
20	100	50	102	61	182	6000	3500	≤20	0.76	15000
	120	50	108	61	182			≤20		15000
	160	50	113	61	182			≤20		15000
	50	48	121	68.5	230			≤20		10000
	80	78	169	107	315			≤20		15000
25	100	84	194	133	351	5500	3500	≤20	1.24	15000
	120	84	207	133	376			≤20		15000
	160	84	217	133	388			≤20		15000
	50	94	267	133	472			≤20 ≤20 ≤20		10000
	80	146	376	206	702			≤20	1	15000
32	100	169	411	267	800	4500	3500	≤20	2.6	15000
	120	169	436	267	848	n - 17485au		≤20	1 3.0.3	15000
-	160	169	459	267	848			≤20		15000
	50	169	497	242	847			≤20		10000
	80	255	641	351	1210			≤20		15000
40	100	328	702	460	1334	4000	3000	≤20	5.0	15000
- 1	120	363	762	557	1458			≤20		15000
	160	363	800	557	1458			≤20		15000
	80	459	1163	642	2297			≤10		15000
1250	100	580	1211	823	2545	1000		≤10		15000
50*	120	654	1334	1005	2545	3000	2500	≤10	7.5	15000
	160	654	1458	1042	3025			≤10		15000
	80	678	1828	951	3026			≤10		15000
600	100	860	1964	1309	3927	2000		≤10	17.1	15000
26*	120	921	2124	1470	4113	3 3000	2200	≤10	13.6	15000
	160	921	2722	1494	4236			≤10	1	15000

* Consult factory

LHSG-II series







LHSG-17-XXX-C-II





LHSG-25-XXX-C-II

Parameter Table

Item	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	With Maximum Tension	Weight	Design Life
Model No		Nm	Nm	Nm	Nm	r/min	r/min	Arc sec	Ň	Kg	Hour
	50	6.6	23	8.6	43			≤20			10000
14	80	9.6	29	13.5	57	8000	3500	≤10	≤77	0,72	15000
	100	9.6	34	13.5	66			≤10		Weight Kg 0, 72 1, 0 1, 38 2, 15 4, 3 7, 8 7, 8 14, 5 20, 0	15000
	50	19.8	42	32	86			≤20			10000
17	80	27.5	53	33	108	7000	3500	≤10	≪92	1.0	15000
0.0	100	30	66	49	134			≤10			15000
	120	30	66	49	107			≤10			15000
	50	32	69	42	121			≤20			10000
	80	42	91	58	158			≤10			15000
20	100	50	102	61	182	6000	3500	≤10	≤136	1,38	15000
	120	50	108	61	182			≤10			15000
	160	50	113	61	182			≤10			15000
	50	48	121	68.5	230			≤20			10000
	80	78	169	107	315			≤10			15000
25	100	84	194	133	351	5500	3500	≤10	≤147	2. 15	15000
	120	84	207	133	376		28.225	≤10			15000
	160	84	217	133	388			≪10			15000
	50	94	267	133	472			≤20			10000
	80	146	376	206	702			≤10			15000
32	100	169	411	267	800	4500	3500	≤10	≤154	4.3	15000
	120	169	436	267	848		- 33	≤10	100000		15000
	160	169	459	267	848			≤10			15000
	50	169	497	242	847			≤10			10000
	80	255	641	351	1210			≤10			15000
40	100	328	702	460	1334	4000	3000	≤10	≤294	7.8	15000
	120	363	762	557	1458		0.0000000 0	≤10			15000
	160	363	800	557	1458			≤10			15000
	80	459	1163	641	2297			≤10			15000
604	100	580	1211	823	2545	3000	2500	≤10	\$ 373	14.5	15000
201	120	654	1334	1004	2545		2000	≤10		14.0	15000
	160	654	1458	1041	3025			≤10			15000
	80	678	1828	951	3026			≤10			15000
5.04	100	860	1964	1309	3927	3555	2200	≤10	<1000	20.0	15000
00*	120	921	2124	1470	4113	3000	2200	≤10	41300	20.0	15000
	160	921	2272	1494	4236			≤10			15000

LHSG-III series

LHSG-III series are high-torque models which have the same structure, with LHS-III series. However, their torque bearing capacity is improved by 30% compared with LHS series.

* Consult factory

LHSG-III series

LHSG-17-XXX-C-III

LHSG-25-XXX-C-III

LHSG-40-XXX-C-III

LHSG-CL-III series

LHSG-CL-III series are high-torque models which have the same structure, with LHS-CL-III series. However, their torque bearing capacity is improved by 30% compared with LHS series.

Parameter Table

Rem	Reduction Ratio	Rated Torque at 2000r/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	With Maximum Tension	Weight	Design Life	
Model No		Nm	Nm	Nm	Nm	rimin	r/min	Arc sec	N	Кg	Hour	
	50	6.6	23	8.6	43			≤10			10000	
14	80	9.6	29	13.5	57	8000	3500	≤10	≤77	0.56	15000	
	100	9.6	34	13.5	66			≤10		Weight Kg 0.56 0.80 1.09 1.70 3.50 6.35 12.0	15000	
	50	19.8	42	32	86			≤10			10000	
17	80	27.5	53	33	108	7000	3500	≤10	5.97	0.80	15000	
<u>.</u>	100	30	66	49	134	1000	3300	≤10	~74	0.00	15000	
	120	30	66	49	107			≤10			15000	
	50	32	69	42	121			≪10				10000
	80	42	91	58	158			≤10			15000	
20	100	50	102	61	182	6000	3500	≤10	≤136	1.09	15000	
	120	50	108	61	182			≤10			15000	
	160	50	113	61	182			≤10			15000	
	50	48	121	68.5	230			≤10		1.70	10000	
	80	78	169	107	315			≤10			15000	
25	100	84	194	133	351	5500	3500	≤10	≤147		15000	
	120	84	207	133	376			≤10			15000	
	160	84	217	133	388			≤10			15000	
	50	94	267	133	472		≤10 ≤10 ≤10			10000		
	80	146	376	206	702			≤10	1		15000	
32	100	169	411	267	800	4500	3500	≤10	≤154	3.50	15000	
	120	169	436	267	848			≪10			15000	
	160	169	459	267	848			≤10			15000	
	50	169	497	242	847			≤10			10000	
	80	255	641	351	1210			≤10			15000	
40	100	328	702	460	1334	4000	3000	≪10	≤294	6.35	15000	
	120	363	762	557	1458			≤10			15000	
	160	363	800	557	1458	-		≤10			15000	
	80	459	1163	641	2297			≤10			15000	
	100	580	1211	823	2545	3000	2500	≤10	≤373	12.0	15000	
50*	120	654	1334	1004	2545	3000	2500	≤10		12.0	15000	
	160	654	1458	1041	3025	-		≤10			15000	
	80	678	1828	951	3026			≤10			15000	
604	100	860	1964	1309	3927	3000	2200	≤10	≤1300	16.5	15000	
20*	120	921	2124	1470	4113	3000		<pre>\$\lefter 10 \$\lefter 10 \$</pre>			15000	
	160	921	2272	1494	4236			≤10			15000	

* Consult factory

LHSG-CL-III series

LHSG-14-XXX-CL-III

LHSG-17-XXX-CL-III

LHSG-20-XXX-CL-III

LHSG-25-XXX-CL-III

LHSG-IV series

LHSG-IV series are high-torque models which have the same structure, with LHS-IV series. However, their torque bearing capacity is improved by 30% compared with LHS series.

Parameter Table

Item	Reduction Ratio	Rated Torque at 2000v/min	Allowable Peak Torque at Start and Stop	Allowable Average Torque	Allowable Maximum Momentary Torque	Maximum Input Speed	Allowable Average Input Speed	Back lash	With Maximum Tension	Weight	Design Life			
Model No		Nm	Nm	Nm	Nm	rimin	r/min	Arc sec	N	Ка	Hour			
	50	6.6	23	8.6	43			≤10			10000			
14	80	9.6	29	13.5	57	8000	3500	≤10	≪26	0.65	15000			
	100	9.6	34	13.5	66			≤10			15000			
1	50	19.8	42	32	86			≤10			10000			
17	80	27.5	53	33	108	7000	2500	≤10	€ 32	0.92	15000			
	100	30	66	49	134		3300	≤10	-32	1.12	15000			
	120	30	66	49	107			≤10		_	15000			
	50	32	69	42	121			≤10						10000
	80	42	91	58	158			≤10			15000			
20	100	50	102	61	182	6000	3500	≤10	≤58	1.36	15000			
	120	50	108	61	182			≤10		0.92 1.36 2.05	15000			
	160	50	113	61	182	-		≤10			15000			
	50	48	121	68.5	230			≤10			10000			
	80	78	169	107	315			≤10			15000			
25	100	84	194	133	351	5500	3500	≤10	≪71	2.05	15000			
	120	84	207	133	376			≤10			15000			
	160	84	217	133	388			≤10			15000			
	50	94	267	133	472			≤10			10000			
	80	146	376	206	702			≤10	_		15000			
32	100	169	411	267	800	4500	3500	≤10	≤114	4.35	15000			
	120	169	436	267	848			≤10			15000			
	160	169	459	267	848			≤10			15000			
1	50	169	497	242	847			≤10			10000			
	80	255	641	351	1210			≤10			15000			
40	100	328	702	460	1334	4000	3000	≤10	≤294	7.9	15000			
	120	363	762	557	1458			≤10			15000			
	160	363	800	557	1458			≤10	≤71 ≤114		15000			

LHSG-IV series

LHSG-17-XXX-C-IV

LHSG-25-XXX-C-IV
LHSG-32-XXX-C-IV





LHSG-40-XXX-C-IV