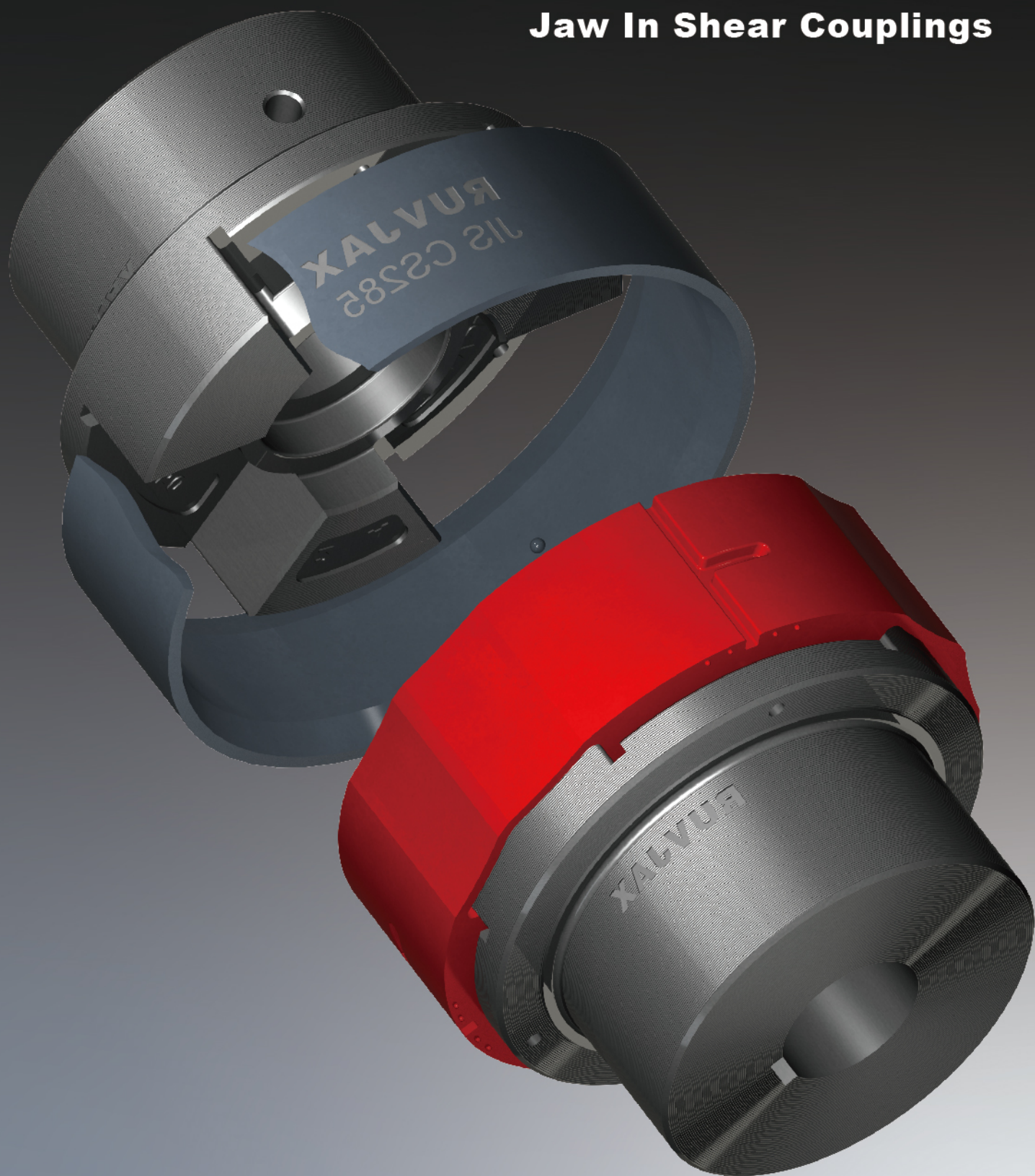


Jaw In Shear Couplings



JIS Series

Jaw In Shear Couplings

Torsional elastomer couplings, are from the United States, with compact structure, light mass, small moment of inertia and large transfer torque. Polyurethane is used as the elastomer with a variety of hardness to meet the needs of various applications.

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JIS Series coupling currently has 11 sizes, the maximum torque is up to 2120N.m, the maximum bore diameter is up to 102mm, small size of the hub is from powder metal, medium size is for cast iron, the hub also can be provided with other materials on request. Elastomer can be replaced without moving the drive and driven equipment, easy maintenance. JIS Series couplings are suitable for stable and unstable operation of various equipments, such as pumps, fans, compressors, reducers and various small and medium-sized equipment.

JIS Series couplings are composed of shaft hub, elastomer, positioning rings and screws, etc., with a large angular compensation capacity and shear type design, so that JIS Series couplings have a very good ability to alleviate torque vibration and impact.

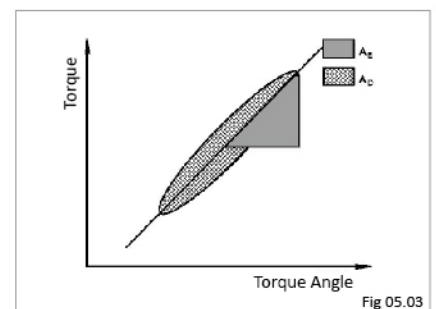
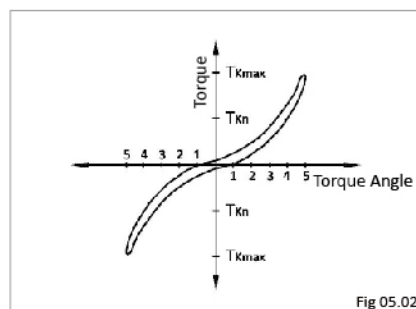
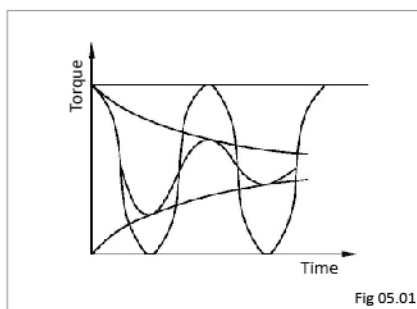
JIS Series couplings use a wrap elastomer with maximum torsion Angle up to 5 degrees, whose elastomer can be replaced without moving the drive and driven device, making maintenance simple and quick.

Elastomers transmit torque and provide damping, and they are available in 3 hardness options, small hardness has better damping characteristics, while large hardness has greater torque capacity.



Design Feature

- Torsion elasticity.
- Compact structure, light mass, small moment of inertia.
- Superior cushioning and damping performance.
- Maintenance-free, no lubrication required.
- Oil and chemical resistance.
- Good dynamic properties.
- Angular deflection up to 2°



Type Selection

The selection of coupling is very important for its operating performance and service life, so it must be paid great attention.

Design and production are the necessary conditions for the quality assurance of the coupling, only the correct selection and installation can ensure the high performance and long service life of the coupling.

We have done our best to ensure the accuracy and integrity of this information, but it is inevitable that there will be something need to improve and update, please provide valuable suggestions later. We apologize for any inconvenience caused to your selection due to the lack of sufficient information.

The selection in this data adopts utilize working condition coefficient method. The operating coefficient is determined based on AGMA922 and experiences, which is suitable for some common general equipment. It is not recommended that the operating coefficient exceed the specified values in Table 05.02 when selecting the model. The larger size coupling will not perform better or last longer, but it will be more expensive and cause the system to consume more energy.

Catalogue

Type Selection.....	4
Performance Paramters.....	5
Standard Type.....	6
Intermediate Spacer Decoupling Type.....	7

Symbol Illustration

05.01

Symbol	Note
T_N	System Rate Torque Nm
P	Driver Power kw
n	Rated Speed rpm
T_D	Design Torque Nm
K	Application Factor

Type Selection

Before selection, please provide the following information necessary to ensure the accuracy of selection. For other connections, please specify separately.

- Power (Kw) : _____
- Drive equipment: _____
- Driven Equipment: _____
- Shaft end spacing(mm) : _____
- Speed (rpm) : _____
- Shaft diameter (mm) : _____
- Shaft diameter (mm): _____
- Maximum axial deviation(mm) : _____
- Ambient temperature (°C) : _____
- Width in keyway(mm): _____
- Width in keyway (mm): _____
- Maximum angular deviation (degree) : _____
- Number of starts per hour (/hour): _____
- Shaft extension length (mm) : _____
- Shaft extension length (mm) : _____
- Maximum radial deviation(mm) : _____

Type Selection

Step 1. Calculate the rated torque T_N of the device by using the following formula

$$T_N = \frac{9550 \times P}{n}$$

Step 2. Use the safety factor table (5.02, 5.03, 5.04) to determine the most suitable safety factor for your application, and then use the following formula to calculate the selection safety factor.

$$S = S_K \times S_n \times S_Z$$

Step 3. Refer to the elastomer table (Table 5.05, Table 5.06, Table 5.07) to select the appropriate elastomer hardness, and then refer to the elastomer performance table (Table 5.06-Table 5.07) to select the appropriate size, so that the rated torque of the elastomer is greater than or equal to the maximum calculated torque T_{max}

$$T_{KN} \geq T_{max} \quad T_{max} = T_N \times S$$

Step 4. Determine that the maximum torque of the coupling is greater than or equal to the equipment peak torque (T_s) multiplied by the temperature coefficient (S_t).

$$T_{Kmax} \geq T_s \times S_t$$

Step 5. Refer to the elastomer performance table (Table 5.05, Table 5.06, and Table 5.07) to ensure that the device speed is less than the maximum speed of the coupling.

Step 6. Refer to the coupling shaft compensation capacity to determine that the allowable deviation of the coupling can meet the requirements of the equipment application.

Step 7. According to the selected coupling and shaft hub type, determine whether the bore of the coupling meets the requirements of the equipment application, and determine whether the structure size meets the application requirements.

Take an example

The coupling connects a 1500rpm, 15kw motor to the rotor pump. The shaft diameter of the motor is 35mm and the shaft diameter of the pump is 45mm. There are no special environmental conditions, the operating temperature is room temperature 23°C. Angular misalignment less than 1 degree.

Step 1. Determine the rated torque

$$T_N = \frac{15 \times 9550}{1500} = 95.5 \text{Nm}$$

Step 2. According to Table 05.02, the working factor K of the rotor pump driven by the standard torque motor is determined to be 1.25.

Step 3. Calculate the coefficient of design torque

$$T_D = T_N \times K = 95.5 \times 1.25 = 119.4 \text{Nm}$$

Step 4. According to Table 05.05, since there is no special environmental condition, the operating temperature is 23 °C, and the angular misalignment does not exceed 1 degree, TPU elastomer material is selected.

Step 5. According to Table 05.05, select a coupling size larger than the design torque. Select L150, whose rated torque is 140Nm, greater than the design torque of 119.4Nm. Then according to Table 05.06, the maximum speed is 5000rpm and the operating speed is more than 1500rpm.

Step 6. According to Table 05.05, the maximum bore of the L150 checked is 48mm, which cannot meet the requirement of the motor shaft diameter of 35mm. Then choose a large size L190 is selected, and its maximum opening is 55mm, which meets the requirements. Finally, L190 and TPU elastomers are selected.

Working Condition Coefficient | S_K

05.02

Application	Standard Torque	High Torque
a)Hydraulic pump, centrifugal fan, small generator, blower, fan, leather/screw conveyorCedar rolling machine, woodworking machinery, binding machine, textile machinerv. mixer.	1.0	1.4
b)Converter, printing machine, generator, shredder, winding machine, spinning machine, viscous fluid pump	1.4	1.8
c)Concrete mixer, pile driver, cable car, paper selection machine, compressor, circulating pump, rope coiler, centrifuge	1.7	2.0
d)Excavators, hammer crushers, plunger pumps, presses, boring machines, shearing machines, forging machines, hot stamping printing machines	2.0	2.2
e)Plunger type compressors and pumps without speed changes, heavy-duty cold bending	2.2	2.4
f)machines, welding machines, brick making machines, and stone crushers	2.3	2.8

Running Time Coefficient

05.03

Sh	Factor
8 Hours/Day	1.00
8-16 Hours/Day	1.10
16-24 Hours/Day	1.15

Starting Coefficient

05.04

	Operation,Per Table Sk	
	a-c	d-f
10 Times/Hour	1.0	1.0
10-40 Times/Hour	1.4	1.5
40-125 Times/Hour	1.8	2.0
125-250 Times/Hour	2.2	2.5

48ShD TPU Color Red					
Size	Max Bore Diameter	Rated Torque	Max Torque	Mass	Max Speed
-	mm	Nm	Nm	kg	RPM
LS090	25	38	76	0.68	9200
LS095	28	38	76	0.68	9200
LS099	30	63	126	1.18	7700
LS100	35	63	126	1.32	7700
LS110	42	123	246	2.68	5900
LS150	48	205	410	3.90	5200
LS190	55	330	660	6.63	4300
LS225	65	475	950	7.72	3900
LS276	73	843	1686	17.12	3100
CS280	76	1503	3006	24.29	2600
CS285	102	2120	4240	36.59	2300

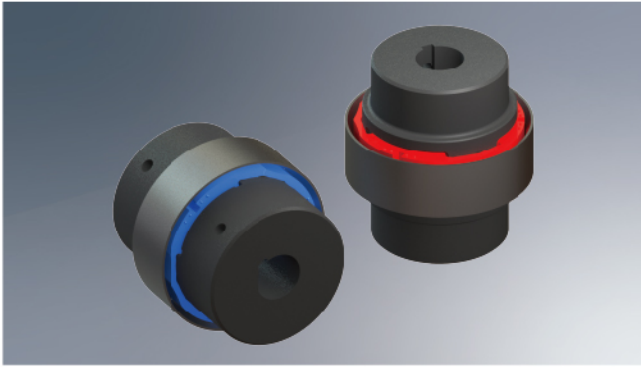
05.06

60ShD TPU Color Blue					
Size	Max Bore Diameter	Rated Torque	Max Torque	Mass	Max Speed
-	mm	Nm	Nm	kg	RPM
LS090	25	76	152	0.69	9200
LS095	28	76	152	0.69	9200
LS099	30	126	252	1.20	7700
LS100	35	126	252	1.35	7700
LS110	42	246	492	2.73	5900
LS150	48	410	820	3.98	5200
LS190	55	660	1320	0.76	4300
LS225	65	950	1900	7.87	3900
LS276	73	1686	3372	17.46	3100
CS280	76	3006	6012	24.78	2600
CS285	102	4240	8480	37.32	2300

05.07

68ShD TPU Color Black					
Size	Max Bore Diameter	Rated Torque	Max Torque	Mass	Max Speed
-	mm	Nm	Nm	kg	RPM
LS090	25	114	228	0.7	9200
LS095	28	114	228	0.7	9200
LS099	30	189	378	1.22	7700
LS100	35	189	378	1.36	7700
LS110	42	369	738	2.76	5900
LS150	48	615	1230	4.02	5200
LS190	55	990	1980	6.83	4300
LS225	65	1425	2850	7.95	3900
LS276	73	2529	5058	17.63	3100
CS280	76	4509	9018	25.02	2600
CS285	102	6360	12720	37.69	2300

Note: Please contact RUVJAX for larger size



- Wrap elastomer, elastomer can be replaced without moving the drive and the driven device
- Torsional flexibility, maintenance-free
- Light mass, small moment of inertia
- Damp impact and vibration
- Axial plug-in, fail-safety
- Good dynamic properties
- The maximum torque of the elastomer is twice the rated torque
- Refer to document No. 05.101 for installation, operation and maintenance instructions.

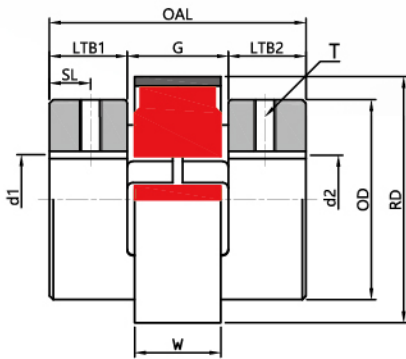


Fig 05.04

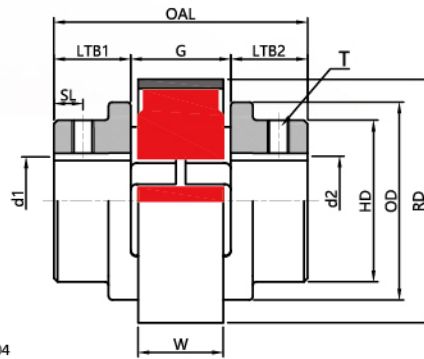
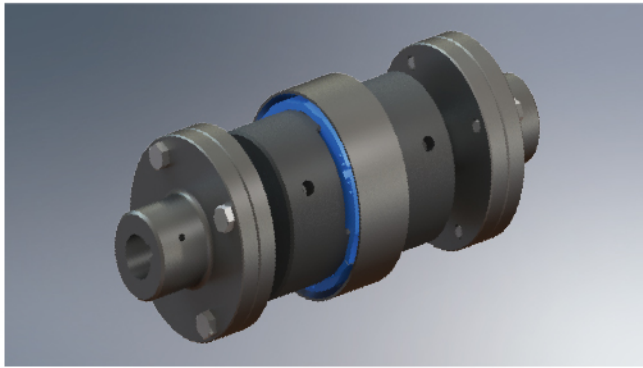


Fig 05.05



05.08

Size	Type	OAL	LTB1-LTB2	SL	G	T	d1-d2		W	RD	OD	HD
							Min Bore Diameter	Max Bore Diameter				
-	-	mm	mm	mm	mm	-	mm	mm	mm	mm	mm	mm
LS090	1	67.1	20.8	11.2	25.4	M6	6	25	21.1	69.9	53.6	53.6
LS095	1	76.2	25.4	11.2	25.4	M8	11	29	21.1	69.9	53.6	53.6
LS099	1	89.4	26.9	11.2	35.6	M8	11	30	30.7	81.0	64.5	64.5
LS100	1	105.7	35.1	11.2	35.6	M8	11	35	30.7	81.0	64.5	64.5
LS110	1	127.0	42.7	19.1	41.7	M10	16	41	36.8	101.6	84.3	84.3
LS150	1	138.2	44.5	19.1	49.3	M10	16	48	43.4	119.1	95.3	95.3
LS190	2	147.8	49.3	22.4	49.3	M12	19	54	43.4	139.7	114.3	101.6
LS225	2	160.0	55.4	25.4	19.3	M12	19	67	43.4	155.7	127.0	108.0
LS276	2	239.5	79.2	39.6	81.0	M12	22	73	75.4	188.2	157.0	127.0
CS280	2	239.5	79.2	39.6	81.0	M12	32	76	75.4	227.1	190.5	139.7
CS285	2	271.5	95.3	44.5	81.0	M16	32	102	75.4	254.0	215.9	165.1



- Suitable for centrifugal pumps and similar applications
- Elastomer can be replaced without moving the drive and the driven device
- Torsional flexibility, maintenance-free
- Light mass, small moment of inertia
- Damp impact and vibration
- Axial plug-in, fail-safety
- Good dynamic properties
- The maximum torque of the elastomer is twice the rated torque
- Refer to document No. 05.101 for installation, operation and maintenance instructions.

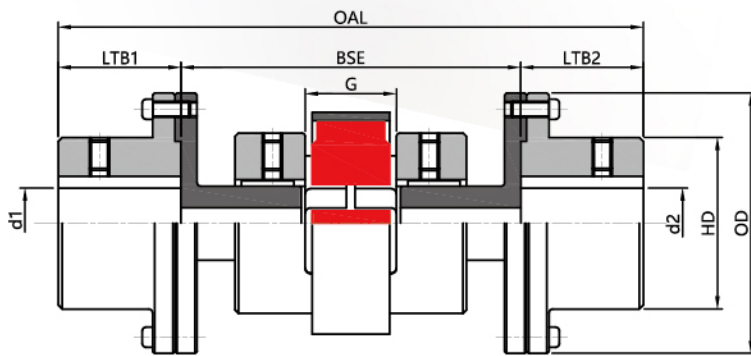
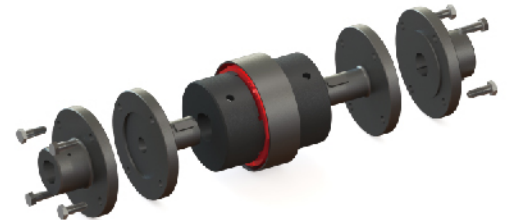


Fig 05.06



05.09

Size	OAL	LTB1-LTB2	G	d1-d2		BSE	OD	HD
				Min Bore Diameter	Max Bore Diameter			
	mm	mm	mm	mm	mm	mm	mm	mm
LS090	159.0	34.9	25.4	12.7	35	88.9	101.6	52.3
	197.1	34.9	25.4	12.7	35	127.0	101.6	52.3
	247.9	34.9	25.4	12.7	35	177.8	101.6	52.3
	298.7	34.9	25.4	12.7	35	228.6	101.6	52.3
LS095	159.0	34.9	25.4	12.7	35	88.9	101.6	52.3
	197.1	34.9	25.4	12.7	35	127.0	101.6	52.3
	247.9	34.9	25.4	12.7	35	177.8	101.6	52.3
	298.7	34.9	25.4	12.7	35	228.6	101.6	52.3
LS099	159.0	34.9	35.6	12.7	35	88.9	101.6	52.3
	197.1	34.9	35.6	12.7	35	127.0	101.6	52.3
	247.9	34.9	35.6	12.7	35	177.8	101.6	52.3
	298.7	34.9	35.6	12.7	35	228.6	101.6	52.3
LS100	158.8	34.9	35.6	12.7	35	88.9	101.6	52.3
	196.9	34.9	35.6	12.7	35	127.0	101.6	52.3
	247.7	34.9	35.6	12.7	35	177.8	101.6	52.3
	298.5	34.9	35.6	12.7	35	228.6	101.6	52.3
LS110	209.6	41.3	41.7	12.7	41	127.0	111.3	59.4
	260.4	41.3	41.7	12.7	41	177.8	111.3	59.4
	310.9	41.3	41.7	12.7	41	228.6	111.3	59.4
LS150	235.2	54.0	49.3	12.7	54	127.0	117.3	78.5
	285.8	54.0	49.3	12.7	54	177.8	117.3	78.5
	336.6	54.0	49.3	12.7	54	228.6	117.3	78.5
LS190	298.5	60.3	49.3	12.7	60	177.8	138.2	60.5
	349.3	60.3	49.3	12.7	60	228.6	138.2	60.5
LS225	323.9	73.0	49.3	19.1	73	177.8	150.9	73.2
	374.7	73.0	49.3	19.1	73	228.6	150.9	73.2
LS276	552.7	79.4	81.0	19.1	79	228.6	162.1	109.5
CS280	615.7	88.9	81.0	27.0	89	228.6	193.5	122.2
CS285	406.4	88.9	81.0	27.0	89	228.6	193.5	122.2

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乐兆传动

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