

Jaw In-Shear Type



JIS



Jaw In-Shear 6pin

JIS

JIS 6 Pin Saves Great Amounts Of Time, Maintenance, And Inventory Costs

Lovejoy's commitment to continual product improvement is demonstrated in the next generation of the Jaw In-Shear (JIS) coupling—the new Jaw In-Shear 6 Pin. This new design features a unique 6 pin locking system that allows for even easier locking of the element. Lovejoy's L-Type and C-Type Jaw hubs are utilized with this design. No tools are needed, because the element is radially removable, neither hub (for the driver or driven equipment) has to be moved to replace the element.

Choose From 16 JIS 6 Pin Sizes and New Spacer Design

The Jaw In-Shear 6 Pin coupling is available in bore sizes up to 9 inches. The JIS 6 Pin Spacer coupling is designed specifically as a drop-in replacement for a grid spacer coupling. The adapter hubs allow a grid spacer design to be replaced with a non-lubricated JIS 6 Pin Spacer coupling. The JIS 6 Pin Spacer coupling is available in sizes LS090-CS350. These sizes cover B.S.E. (between shaft end measurement) of 3.5, 5, 7, and 9 inches, depending on coupling size.

JIS 6 Pin Stainless Steel Option

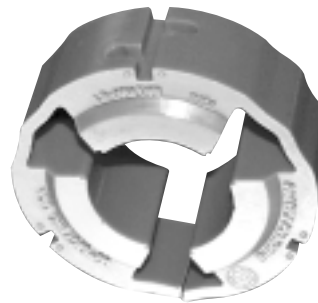
For highly corrosive, heavy washdown environments, the JIS 6 Pin design combined with Lovejoy's stainless steel jaw hubs creates a totally stainless steel coupling.

Benefits

- 2 degree angular misalignment capability
- .030"-.094" parallel misalignment capability
- Torsional wind-up of 5 degrees at full load
- 50D shore Urethane material—maximum temperature of 200 F (93 C)
- The retaining ring is made from #347 cast stainless steel
- Stainless steel hubs are available for sizes SS075-SS150 from stock. All other stainless steel hub sizes are available as made to order
- Can be used with AL-type aluminum jaw coupling hubs for AL090/095, AL099,100 and AL110
- The Original JIS locking ring is interchangeable with the new JIS 6 Pin elastomer



Jaw In-Shear 6 Pin Assembled
Shown With L-095 Straight Jaw Hubs



Jaw In-Shear 6 Pin Element
50D Shore Urethane Material



Jaw In-Shear 6 Pin Ring
Stainless Steel

Jaw In-Shear Type Coupling Selection Process

The selection process for determining the proper Jaw In-Shear coupling size requires using the charts shown in this section. There are four components to be selected, two hubs, one elastomer spider, and one ring.

Information necessary before a coupling can be selected:

- n HP (or KW) and RPM or Torque of Driver
- n Shaft sizes of Driver and Driven equipment and corresponding keyways
- n Application description, including operation details
- n Environmental conditions (temperature, space limitations, or corrosive/chemicals)

List of Charts provided for Selection:

- Service Factor K_1
- Service Factor K_2
- Service Factor K_3
- Jaw In-Shear Coupling Ratings (page JIS-4)

Steps in Selecting A Jaw In-Shear Coupling

Step 1: Determine the Nominal/Torque (Tkn) of your application:

$$\text{in-lbs} = \text{Tkn} = \frac{(\text{HP} \times 63025)}{\text{RPM}}$$

$$\text{Nm} = \text{Tkn} = \frac{(\text{KW} \times 9550)}{\text{RPM}}$$

Step 2: Calculate your Application Service Factor using charts on this page.

The total Service Factor (K) will be:

$$K = K_1 \times K_2 \times K_3$$

Step 3: Calculate the Design Torque (Tkmax) of your application.

Design Torque = Nominal Torque x Service Factor:

$$\text{Tkmax} = \text{Tkn} \times K$$

Step 4: Use the Torque Ratings chart on the next page. Scan down this chart to the first entry where **both** the Tkn **and** Tkmax torque values for the coupling size are greater than your application. Once this coupling size is determined, ensure that your application does not exceed the Maximum RPM or Maximum Bore Size for that hub.

Step 5: Using the Product Number Selection charts for hubs in the Jaw In-Shear Coupling Section find the appropriate bore and keyway sizes required along with the Spider and ring UPC number on page JIS-4 for ordering.

Application Service Factor (K1)

Driven machine examples	Prime Mover electric motor	
	std. torque	high torque
(a) Uniform operation, with small masses to be accelerated. Hydraulic and centrifugal pumps, light generators, blowers, fans, ventilators, belt/screw conveyors	1.0	1.4
(b) Uniform operation, with medium masses to be accelerated. Sheet metal bending machines, wood working machines, mills, textile machines, mixers	1.4	1.8
(c) Medium masses to be accelerated & irregular operation. Rotating ovens, printing presses, generators, shredders, winders, spinning machines, pumps for viscous fluids	1.7	2.0
(d) Medium masses to be accelerated, irregular operation & shocks. Concrete mixers, drop hammers, cable cars, paper mills, compression pumps, propeller pumps, rope winders, centrifuges	2.0	2.2
(e) Large masses to be accelerated, irregular operation & heavy shocks. Excavators, hammer mills, piston pumps, presses, rotary boring machines, shears, forge presses, stamping presses	2.2	2.4
(f) Very large masses to be accelerated, irregular operation & heavy shocks. Piston type compressors and pumps without speed variations, heavy roll sets, welding machines, brick presses, stone crushers	2.3	2.8

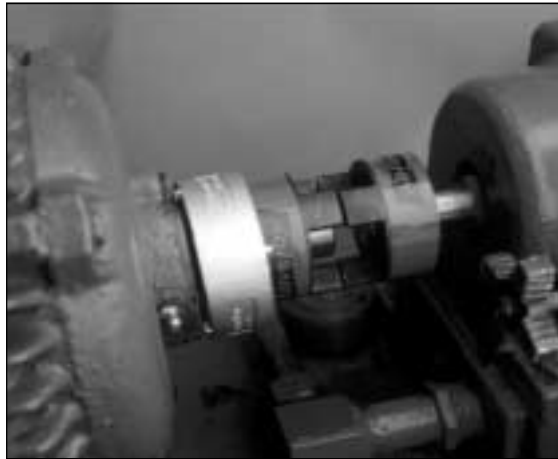
Service Factor (K2) for Operation Period

Uninterrupted time of operation	Factor
Up to 8 hours per day	1.0
More than 8 hours, up to 16 hours/day	1.1
More than 16, up to 24 hours/day	1.15

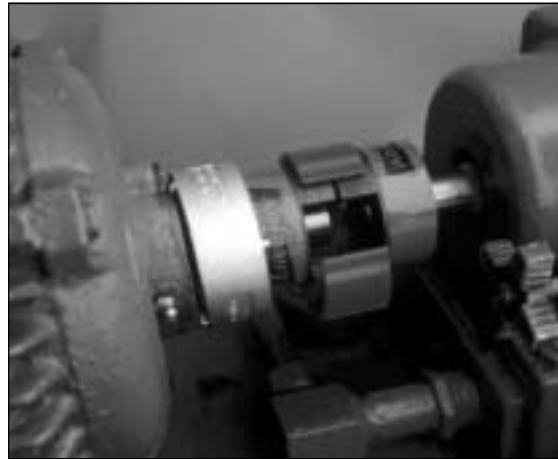
Service Factor (K3) for Starts per Hour

	operation, per table K1:	
	a-c	d-f
Up to 10 starts/stops per hour	1.0	1.0
More than 10, up to 40 per hour	1.4	1.5
More than 40, up to 125 per hour	1.8	2.0
More than 125, up to 250 per hour	2.2	2.5

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Step 1
Remove element and align hubs.



Step 2
Insert new element.



Step 3
Slide locking ring over element.



Step 4
Twist locking ring to secure.

Jaw In-Shear (JIS) Six Pin Coupling Ratings

Size	Max. Bore		Nom. Torque		Max. Torque		Coupling Weight lbs.	Max. speed RPM
	Inch	mm	in-lbs	Nm	in-lbs	Nm		
LS090	1.000	25	335	38	670	76	1.50	9,200
LS095	1.125	28	335	38	670	76	1.50	9,200
LS099	1.188	30	560	63	1,110	125	2.60	7,700
LS100	1.375	35	560	63	1,110	125	2.90	7,700
LS110	1.625	42	1,090	123	2,180	246	5.90	5,900
LS150	1.875	48	1,810	205	3,620	409	8.60	5,200
LS190	2.125	55	2,920	330	5,830	659	14.60	4,300
LS225	2.625	65	4,200	475	8,400	949	17.00	3,900
LS276	2.875	73	7,460	843	14,920	1,686	37.70	3,100
CS280	3.000	76	13,300	1,503	26,600	3,006	53.50	2,600
CS285	4.000	102	18,760	2,120	37,500	4,237	80.60	2,300
CS300	4.875	109	33,000	3,728	66,000	7,457	106.80	2,300
CS310	5.625	143	50,000	5,649	100,000	11,298	139.30	2,100
CS350	6.375	162	83,333	9,415	166,666	18,831	228.20	1,900
CS400	7.375	187	126,667	14,311	253,334	28,623	345.10	1,800
CS500	9.000	229	183,333	20,714	366,666	41,428	589.60	1,500

Jaw In-Shear Type



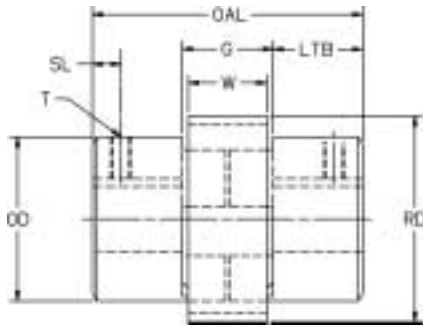
Dimensional Data

Jaw In-Shear Six Pin Coupling Dimensional Data—Inch

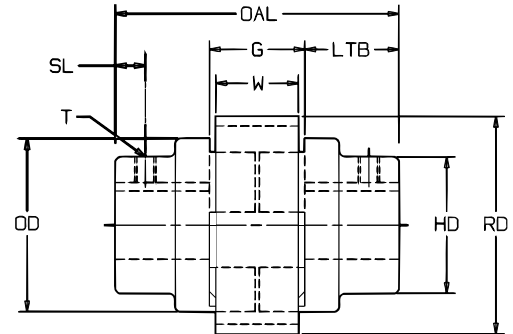
Size	Style	O.D.	O.A.L.	G	LTB	HD	SL	RD	W	T
LS090	1	2.11	2.64	1.00	0.82	2.11	0.44	2.75	0.83	1/4 - 20
LS095	1	2.11	3.00	1.00	1.00	2.11	0.44	2.75	0.83	5/16 - 18
LS099	1	2.54	3.52	1.40	1.06	2.54	0.44	3.19	1.21	5/16 - 18
LS100	1	2.54	4.16	1.40	1.38	2.54	0.44	3.19	1.21	5/16 - 18
LS110	1	3.32	5.00	1.64	1.68	3.32	0.75	4.00	1.45	3/8 - 16
LS150	1	3.75	5.44	1.94	1.75	3.75	0.75	4.69	1.71	3/8 - 16
LS190	2	4.50	5.82	1.94	1.94	4.00	0.88	5.50	1.71	1/2 - 13
LS225	2	5.00	6.30	1.94	2.18	4.25	1.00	6.13	1.71	1/2 - 13
LS276	2	6.18	9.43	3.19	3.12	5.00	1.56	7.41	2.97	1/2 - 13
CS280	2	7.50	9.43	3.19	3.12	5.50	1.56	8.94	2.97	1/2 - 13
CS285	2	8.50	10.69	3.19	3.75	6.50	1.75	10.00	2.97	5/8 - 11
CS300	2	10.00	12.25	4.25	4.00	7.25	2.00	11.07	5.10	CSL
CS310	2	11.00	13.25	4.25	4.50	8.25	2.25	12.07	5.10	CSL
CS350	2	12.50	9.00	4.88	6.38	9.25	3.19	13.57	5.70	CSL
CS400	2	14.25	10.25	5.38	7.38	10.75	3.69	15.33	6.20	CSL
CS500	2	16.50	12.38	6.38	9.00	13.25	4.50	17.57	7.20	CSL

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Style 1



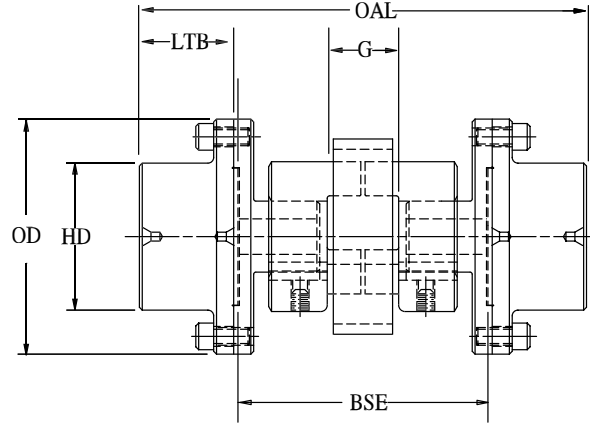
Style 2



Jaw In-Shear Type



JIS



JIS 6 Pin Spacer Coupling—Dimensional Data Chart—Inch

Spacer Coupling Size	O.D.	O.A.L.	G	B.S.E.	Grid Hub Size	LTB	H.D.	Max Bore Size
LS090	4.00	6.26	1.00	3.500	G2020	1.38	2.06	1.375
	4.00	7.76	1.00	5.000	G2020	1.38	2.06	1.375
	4.00	9.76	1.00	7.000	G2020	1.38	2.06	1.375
	4.00	11.76	1.00	9.000	G2020	1.38	2.06	1.375
LS095	4.00	6.26	1.00	3.500	G2020	1.38	2.06	1.375
	4.00	7.76	1.00	5.000	G2020	1.38	2.06	1.375
	4.00	9.76	1.00	7.000	G2020	1.38	2.06	1.375
	4.00	11.76	1.00	9.000	G2020	1.38	2.06	1.375
LS099	4.00	6.26	1.40	3.500	G2020	1.38	2.06	2.375
	4.00	7.76	1.40	5.000	G2020	1.38	2.06	1.375
	4.00	9.76	1.40	7.000	G2020	1.38	2.06	1.375
	4.00	11.76	1.40	9.000	G2020	1.38	2.06	1.375
LS100	4.00	6.25	1.40	3.500	G2020	1.375	2.06	1.375
	4.00	7.75	1.40	5.000	G2020	1.375	2.06	1.375
	4.00	9.75	1.40	7.000	G2020	1.375	2.06	1.375
	4.00	11.75	1.40	9.000	G2020	1.375	2.06	1.375
LS110	4.38	8.25	1.64	5.000	G2030	1.625	2.34	1.625
	4.38	10.25	1.64	7.000	G2030	1.625	2.34	1.625
	4.38	12.24	1.64	9.000	G2030	1.62	2.34	1.625
	4.62	11.25	1.94	7.000	G2040	2.125	3.09	2.12
LS150	4.62	13.25	1.94	9.000	G2040	2.125	3.09	2.12
	4.62	13.25	1.94	9.000	G2040	2.125	3.09	2.12
	5.44	9.75	1.94	5.000	G2050	2.375	2.38	2.38
LS190	5.44	11.75	1.94	7.000	G2050	2.375	2.38	2.38
	5.44	13.75	1.94	9.000	G2050	2.375	2.38	2.38
LS225	5.94	12.75	1.94	7.000	G2060	2.875	2.88	2.88
	5.94	14.75	1.94	9.000	G2060	2.875	2.88	2.88
LS276	6.38	21.76	3.19	9.000	G2070	3.12	4.31	3.12
CS280	7.62	24.24	3.19	9.000	G2080	3.50	4.81	3.50
CS285	7.62	16.00	3.19	9.000	G2080	3.500	4.81	3.50
CS300	11.070	17.00	4.25	9.000	G2090	4.000	5.62	4.00
CS310	12.070	16.12	4.898	9.000	G2100	3.560	6.75	4.75
CS350	13.570	17.20	5.38	9.000	G2110	4.100	7.75	5.50