

Selection Guide for Universal Joints

Step 1: Find the appropriate correction value for your application using the Correction Factor table. The table is based on "intermittent" application—more than 1 start/stop per hr., with sufficient time for cooling before starting. If your application is continuous—sustained operation with less than 1 stop/start per hr. for up to 8 hr. per day—multiply the value in the table by 2.

Step 2: Multiply your specific torque requirements by the correction value found in Step 1. (Be sure to use in.-lb.).

Step 3: Refer to the "Break Torque" column in the Universal Joints table to select a joint with the same or greater torque than the in.-lb. number you calculated in Step 2.

Operating RPM	Angle of Operation in Degrees							
	0°	3°	5°	7°	10°	15°	20°	25°
1800	9	20	34	45	—	—	—	—
1500	8	16	28	39	—	—	—	—
1200	7	13	22	32	40	—	—	—
900	6	11	16	23	34	—	—	—
600	5	8	11	15	22	34	40	—
300	4	5	7	8	11	16	22	28
100	3	4	4	5	6	8	9	11

Outside Dia. Part Number	Lovejoy Cross Reference	SOLID TYPE Manufacturer's Model				Alves	Apex
		Curtis Boston	Manufacturer's Model Browning	Alves	Apex		
1/2"	D-2	C-642	J-50	UJ-4S	S-500	300-8	
5/8"	D-3	C-643	J-62	UJ-5S	S-625	300-10	
3/4"	D-4	C-644	J-75	UJ-6S	S-750	300-12	
7/8"	D-5	C-645	J-87	UJ-7S	S-875	300-14	
1"	D-6	C-646	J-100	UJ-8S	S-1000	300-16	
1 1/8"	D-7	C-647	—	UJ-9S	S-1125	—	
1 1/4"	D-8	C-648	J-125	UJ-10S	S-1250	300-20	
1 1/2"	D-10	C-650	J-150	UJ-12S	S-1500	300-24	
1 3/4"	D-11	C-651	J-175	UJ-14S	S-1750	300-28	
2"	D-12	C-652	J-200	UJ-16S	S-2000	300-32	
2 1/2"	D-13	C-653	J-250	UJ-20S	S-2500	400-40	
3"	D-14	C-654	J-300	UJ-24S	S-3000	400-48	



Universal Joints & Joint Boots

UNIVERSAL JOINTS

Tapered yoke shape provides strength while allowing full free movement of joint.

Joint Type—Used to join the yoke ears of a universal joint. **Pin and Block** for high torque use; require lubrication. **Needle Bearing** for low torque, continuous duty, and high performance use.

Shaft Type—**Round** lock in place with set screws. **Keyed** have machined keyway for reliable torque transmission. **Machinable** allow end users to machine the required bore, keyway, and shaft lock passages for a precise fit.

High-Speed for Round Shafts are pre-lubricated; for use up to 6000 rpm.

High-Speed for Keyed Shafts operate at high RPM and include a protective boot to prevent contamination. **Heavy Duty** models are heat treated/machined to high tolerances for long life.

Material—Durable **Carbon Steel** resist wear in applications where corrosion is not a concern. **Alloy Steel** have high tensile strength; durable and resist wear. **Stainless Steel** resist corrosion in harsh/damp locations.

UNIVERSAL JOINT BOOTS

Keep dirt/debris from contaminating joint components. Boots and included tie wraps are sold in pkg. of 2.

Bore Dia. (in)	Coupling Size (in)	Length Through Bore (in)	Outside Dia. (in)	Yoke Length (in)	Overall Length (in)	Max. Operating Angle (°)	Max. Speed (RPM)	Break Torque (in-lb)	Item No.
General Purpose Universal Joints for Round Shafts, Pin & Block Joint Type									
Carbon Steel, Lovejoy									
1/4	D-2B	5/8	1/2	1	2	25°	1,750	378	1L742
5/16	D-3B	11/16	5/8	1 1/8	2 1/4	25°	1,750	540	1L743
3/8	D-4B	7/8	3/4	1 3/8	2 1/2	25°	1,750	768	1A929
7/16	D-5B	15/16	7/8	1 1/2	3	25°	1,750	1,176	1L744
1/2	D-6B	1	1	1 1/2	3 3/8	25°	1,750	1,560	1A930
9/16	D-7B	1 1/8	1 1/8	1 3/4	3 1/2	25°	1,750	2,880	1L745
5/8	D-8B	1 1/4	1 1/4	1 7/8	3 3/4	25°	1,750	5,220	1A931
3/4	D-10B	1 3/8	1 1/2	2 1/8	4 1/4	25°	1,750	7,920	1A932
7/8	D-11B	1 5/8	1 3/4	2 1/2	5	25°	1,750	10,680	1L746
1	D-12B	1 7/8	2	2 3/4	5 1/2	25°	1,750	15,600	1A933

Bore Dia. (mm)	Length Through Bore (mm)	Outside Dia. (mm)	Yoke Length (mm)	Overall Length (mm)	Max. Operating Angle (°)	Max. Torque (N-m)	Break Torque (N-m)	Item No.
Heavy Duty Universal Joints for Round Shafts, Pin & Block Joint Type								
Alloy Steel, Belden								
8	12.3	15.9	20	40	45°	15	76	55YE17
10	12.5	19.1	22.5	45	45°	28	141	55YE19
10	13.1	22.2	25	50	45°	39	197	55YE21
12	12.3	25.4	25	50	45°	50	254	55YE25
14	14	28.6	28	56	45°	73	367	55YE27
16	16.6	31.8	32.5	65	45°	117	587	55YE29
18	17.6	38.1	41	82	45°	226	1,129	55YE31
Stainless Steel, Belden								
8	20.9	15.9	28.6	57.2	45°	10	53	55YE51
10	28	19.1	38.1	76.2	45°	19	98	55YE53
10	26.2	22.2	38.1	76.2	45°	28	142	55YE55
12	26.2	22.2	38.1	76.2	45°	28	142	55YE57
12	30.2	25.4	42.9	85.7	45°	35	178	55YE59
14	30.4	28.6	44.5	88.9	45°	50	254	55YE61
16	31.8	31.8	47.6	95.3	45°	76	384	55YE63

Bore Dia. (in)	Coupling Size (in)	Length Through Bore (in)	Outside Dia. (in)	Yoke Length (in)	Overall Length (in)	Max. Operating Angle (°)	Max. Speed (RPM)	Max. Torque (in-lb)	Break Torque (in-lb)	Item No.
High-Speed Universal Joints for Round Shafts, Needle Bearing Joint Type										
Alloy Steel, Belden										
3/8	—	1 9/16	3/4	1 3/8	2 11/16	45°	6,000	30	—	41D805
1/2	—	1 3/8	1	1 11/16	3 3/8	45°	6,000	121	—	41D807
5/8	—	1 1/4	1 1/4	1 7/8	3 3/4	45°	6,000	260	—	41D809
3/4	—	1 3/8	1 1/2	2 1/8	4 1/4	45°	6,000	572	—	41D811
1	—	1 11/16	2	2 3/4	5 1/2	45°	6,000	1,269	—	41D813
Carbon Steel, Lovejoy										
1/2	NB-6B	1	1	1 11/16	3 3/8	25°	6,000	325	1,150	1CYR4
5/8	NB-8B	1 1/16	1 1/4	1 7/8	3 3/4	25°	6,000	550	2,500	1CYR5
3/4	NB-10B	1 3/16	1 1/2	2 1/8	4 1/4	25°	6,000	850	4,400	1CYR6
1	NB-12B	1 1/2	2	2 3/4	5 1/2	25°	6,000	1,450	10,500	1CYR7
Stainless Steel, Belden										
3/8	—	1 9/16	3/4	1 3/8	2 11/16	45°	6,000	30	—	41D806
1/2	—	1 3/8	1	1 11/16	3 3/8	45°	6,000	121	—	41D808
5/8	—	1 1/4	1 1/4	1 7/8	3 3/4	45°	6,000	260	—	41D810
3/4	—	1 3/8	1 1/2	2 1/8	4 1/4	45°	6,000	572	—	41D812
1	—	1 11/16	2	2 3/4	5 1/2	45°	6,000	1,269	—	41D814

Bore Dia. (in)	Coupling Size (in)	Keyway Through Bore (in)	Length Through Bore (in)	Outside Dia. (in)	Yoke Length (in)	Overall Length (in)	Max. Operating Angle (°)	Max. Speed (RPM)	Break Torque (in-lb)	Item No.
General Purpose Universal Joints for Keyed Shafts, Pin & Block Joint Type										
Stainless Steel, Lovejoy										
1/2	D-6B	1/8 x 1/16	1	1	1 11/16	3 3/8	25°	1,750	1,040	1CYP6
3/4	D-8B	3/16 x 3/32	1 1/16	1 1/4	1 7/8	3 3/4	25°	1,750	3,480	1CYR1
1	D-10B	1/4 x 1/8	1 1/2	1 3/2	2 1/8	4 1/4	25°	1,750	5,280	1CYR3
3/8	D-7B	3/16 x 3/32	1	1 3/8	1 3/4	3 1/2	25°	1,750	1,920	1CYP7
5/8	D-8B	3/16 x 3/32	1 1/16	1 1/4	1 7/8	3 3/4	25°	1,750	3,480	1CYP8

Bore Dia. (mm)	Keyway Size (mm)	Length Through Bore (mm)	Outside Dia. (mm)	Yoke Length (mm)	Overall Length (mm)	Max. Operating Angle (°)	Max. Torque (N-m)	Break Torque (N-m)	Item No.
Heavy Duty Universal Joints for Keyed Shafts, Pin & Block Joint Type									
Alloy Steel, Belden									
30	8 x 3.5	34.1	63.5	70	140	45°	723	3,615	55YE44
35	10 x 3.5	34.1	63.5	70	140	45°	723	3,615	55YE48
Stainless Steel, Belden									
12	4 x 1.9	26.2	22.2	38.1	76.2	45°	28	142	55YE58
22	6 x 2.9	40.8	44.5	63.5	127	45°	237	1,186	55YE70

Bore Dia. (in)	Keyway Size (in)	Length Through Bore (in)	Outside Dia. (in)	Yoke Length (in)	Overall Length (in)	Max. Operating Angle (°)	Max. Torque (in-lb)	Item No.
High-Speed Universal Joints with Boot for Keyed Shafts, Needle Bearing Joint Type								
Alloy Steel, Belden								
1/2	1/8 x 1/16	1 3/8	1 1/2	1 11/16	3 3/8	45°	121	41D817
3/4	3/16 x 3/32	1 3/8	2 1/4	2 1/8	4 1/4	45°	572	41D821
5/8	1/8 x 1/16	1 3/8	1 3/8	1 7/8	3 3/4	45°	260	41D815
3/8	3/16 x 3/32	1 1/4	1 1/8	1 3/8	3 3/4	45°	260	41D819
1	1/4 x 1/8	1 11/16	2 1/16	2 3/4	5 1/2	45°	1,269	41D823
Stainless Steel, Belden								
1/2	1/8 x 1/16	1 3/8	1 1/2	1 11/16	3 3/8	45°	121	41D818
3/4	3/16 x 3/32	1 3/8	2 1/4	2 1/8	4 1/4	45°	572	41D822
5/8	1/8 x 1/16	1 3/8	1 3/8	1 7/8	3 3/4	45°	260	41D816
3/8	3/16 x 3/32	1 1/4	1 1/8	1 3/8	3 3/4	45°	260	41D820
1	1/4 x 1/8	1 11/16	2 1/16	2 3/4	5 1/2	45°	1,269	41D824

Coupling Size (in)	Bore Dia. (in)	Outside Dia. (in)	Yoke Length (in)	Overall Length (in)	Max. Operating Angle (°)	Max. Speed (RPM)	Break Torque (in-lb)	Item No.
General Purpose Universal Joints for Machining, Pin & Block Joint Type								
Carbon Steel, Lovejoy								
D-2	3/8	1/2	1	2	25°	1,750	378	1L730
D-3	1/2	3/4	1 1/8	2 1/4	25°	1,750	540	1L731
D-4	5/8	3/4	1 3/8	2 1/2	25°	1,750	768	1L732
D-5	1 1/16	7/8	1 1/2	3	25°	1,750	1,176	1L733
D-6	3/4	1	1 11/16	3 3/8	25°	1,750	1,560	1L734
D-7	7/8	1 1/8	1 3/4	3 1/2	25°	1,750	2,880	1L735
D-8	1	1 1/4	1 7/8	3 3/4	25°	1,750	5,220	1L736
D-10	1 1/8	1 1/2	2 1/8	4 1/4	25°	1,750	7,920	1L737
D-11	1 1/4	1 3/4	2 1/2	5	25°	1,750	10,680	1L738
D-12	1 1/2	2	2 3/4	5 1/2	25°	1,750	15,600	1L739
Stainless Steel, Lovejoy								
D-4	5/8	3/4	1 3/8	2 1/2	25°	1,750	512	1CYR8
Universal Joint Boots								
Neoprene, Lovejoy								
D-3	Single	Single	5/8 in	1 1/8 in	0.94 in	1L750		
D-5	Single	Single	7/8 in	1 1/2 in	1.25 in	1L751		
D-7	Single	Single	1 1/8 in	2 1/8 in	1.5 in	1L752		
D-11	Triple	Triple	1 3/4 in	2 3/8 in				