Scan. Order. Done.
Details on page A1.

How to Determine Keyways and Spiders for Jaw Couplings

Spider Selection Procedure

1. Select a Service Factor (SF) based upon the load classification.
   - Uniform = SF of 1.00
   - Moderate Shock = SF of 1.75
   - Heavy Shock = SF of 2.50
2. Determine design load.
   - Design Torque = Application Torque (T) x SF or Design HP = Application HP x SF
   - T = [HP(63025)]/rpm
3. Select coupling size that has a HP rating equal to or greater than the design load.

Keyway Chart

Use the coupling's bore diameter to determine the required keyway.

Bore	Keyway	Bore	Keyway	Bore	Keyway
½"	⅛ x 1⁄16"	1¼"	¼ x ⅛"	2⅛"	½ x ¼"
⅝"	3⁄16 x 3⁄32"	1⅜"	5⁄16 x 5⁄32"	2¼"	½ x ¼"
¾"	3⁄16 x 3⁄32"	1½"	⅜ x 3⁄16"	2⅜"	⅝ x 5⁄16"
⅞"	3⁄16 x 3⁄32"	1⅝"	⅜ x 3⁄16"	2½"	⅝ x 5⁄16"
1"	¼ x ⅛"	1¾"	⅜ x 3⁄16"	2¾"	⅝ x 5⁄16"
1⅛"	¼ x ⅛"	1⅞"	½ x ¼"	2⅞"	¾ x ⅜"
—	—	2"	½ x ¼"	3⅜"	⅞ x 7⁄16"

Buna N Spider Insert

Jaw Coupling Hub

Jaw Couplings

TB Wood's Incorporated

Spiders have 0.015" max. parallel misalignment. Buna N and urethane spiders have 1° max. angular misalignment and Hytrel have ½".

Buna N Spider Inserts (Black Color)—Made of long-life material with excellent flexibility. Good resistance to oil, vibration, and temperature.
- Temp. range: -40° to 212°F (-40° to 100°C)

Urethane Spider Inserts (Blue Color)—Provide 1.5-times greater torque capability than Buna N but with less dampening. Good resistance to oil and chemicals.
- Temp. range: -30° to 160°F (-34° to 71°C)

Hytrel Spider Inserts (Tan Color)—Provide 2.5-times greater torque capability with excellent oil, chemical, and temperature resistance compared with Buna N and urethane.
- Temp. range: -60° to 250°F (-51° to 121°C)

Jaw Couplings—Models are 100% interchangeable with industry-standard L-jaw couplings. No lubrication required. Standard keyway on ⅝" and larger bore sizes; 4X177, 3KX86, and ¼" to ½" coupling hubs have no keyway (except where footnoted).

Coupling Size	Max. Speed (RPM)	Max. Torque (in-lb)	HP Rating @ Listed RPM 100	300	1200	1800	3600	Item No.
Spider Inserts								
Buna N (Black Color)								
L050	18,000	26	0.04	0.1	0.5	0.8	1.5	**1X409**
L070	14,000	43	0.07	0.2	0.8	1.2	2.5	**1X408**
L075	11,000	90	0.14	0.4	1.7	2.6	5.0	**2X814**
L090, L095	9,000	144	0.23	0.7/0.9	2.8/3.7	4.1/5.5	8.3/11	**1X407**
L099, L100	7,000	318	0.66	2.0	7.9	12	24	**1X406**
L110	5,000	792	1.3	3.8	15	23	46	**3X715**
L150	5,000	1,240	2.0	6.0	24	36	72	**1A413**
L190	5,000	1,726	2.7	8.1	32	49	98	**1A928**
L225	4,600	2,340	3.7	11	44	67	133	**3EMN9**
Urethane (Blue Color)								
L050	18,000	39	0.06	0.2	0.8	1.1	2.3	**3KZ67**
L070	14,000	65	0.10	0.3	1.3	1.8	3.7	**3KX87**
L075	11,000	135	0.21	0.6	2.5	3.9	7.7	**3KX92**
L090, L095	9,000	216	0.35	1.0/1.4	4.1/5.6	6.2/8.3	12/17	**3KZ03**
L099, L100	7,000	477	0.77	3.0	12	18	36	**3KZ04**
L110	5,000	1,188	2.0	5.7	23	35	69	**3KZ05**
L150	5,000	1,860	3.0	9.0	36	54	108	**3KZ06**
L190	5,000	2,589	4.1	12	49	74	147	**3KZ07**
L225	4,600	3,510	5.6	16	66	100	200	**3EMP1**
Hytrel (Tan Color)								
L070	14,000	114	0.18	0.5	2.1	3.3	6.5	**1A923**
L075	11,000	227	0.36	1.1	4.2	6.4	13	**1A924**
L090, L095	9,000	401	0.89	1.9/2.7	7.7/11	12/16	23/32	**1A925**
L099, L100	7,000	792	1.8	5.0	22	32	65	**1A416**
L110	5,000	2,268	3.6	11	43	65	130	**1A415**
L150	5,000	3,708	5.9	18	71	106	212	**1A414**
L190	5,000	4,680	7.4	20	89	134	266	**1A927**
L225	4,600	6,228	9.9	29	118	178	356	**3EMP2**

Coupling Size	Outside Dia. (in)	Overall Length (in)**	Bore Diameter ¼ in	5⁄16 in	⅜ in	7⁄16 in	½ in	⅝ in	¾ in	⅞ in	1 in	1 ⅛ in	1 ¼ in	1 ⅜ in	1 ½ in	1 ⅝ in	1 ¾ in	1 ⅞ in
Coupling Hubs (Complete Assembly Requires 2 Hubs and 1 Jaw-Coupling Spider Insert, Sold Separately)																		
Carbon Steel																		
L050	1 5⁄64	1 23⁄32	**4X236** ‡	**1A417** ‡	**4X175** ‡	**6X070** ‡	**4X176** ‡	**4X177** ‡	—	—	—	—	—	—	—	—	—	—
L070	1 23⁄64	2	—	—	—	**5X401** ‡	**4X178** ‡	**4X179**	**4X180**	—	—	—	—	—	—	—	—	—
L075	1 ¾	2 ⅛	—	—	—	**5X402** ‡	**4X181** ‡	**4X182**	**4X183**	**4X184**	—	—	—	—	—	—	—	—
L075	1 ¾	2 ⅛	—	—	—	**1A073** *	**5X447** *	—	—	—	—	—	—	—	—	—	—	—
L090	2 7⁄64	2 ⅛	—	—	—	**6JAW6** †	**4X185** ‡	**4X186**	**4X187**	**4X188**	—	—	—	—	—	—	—	—
L095	2 7⁄64	2 ½	—	—	—	**1A914** †	**6X071** ‡	**6X072**	**4X191**	**4X192**	**4X193**	**6X073**	—	—	—	—	—	—
L100	2 17⁄32	3 ½	—	—	—	—	—	—	**6X074**	**6X075**	**6X076**	**4X194**	**4X195**	**4X196**	—	—	—	—
L110	3 21⁄64	4 15⁄64	—	—	—	—	—	—	**1A418**	**3X708**	**3X709**	**3X710**	**3X711**	**3X712**	**3X713**	**3X714**	—	—
L150	3 ¾	4 ½	—	—	—	—	—	—	—	**1A405**	**6JAW7**	**1A406**	**1A407**	**1A408**	**1A409**	**1A410**	**1A411**	**1A412**
Cast Iron																		
L190	4 ½	4 ⅞	—	—	—	—	—	—	—	—	**1A916**	**1A917**	**1A918**	**1A919**	**1A920**	**1A921**	**6JAW8**	**1A922**
Aluminum																		
L050	1 5⁄64	1 23⁄32	**3KX82** ‡	**3KX83** ‡	**3KX84** ‡	—	**3KX85** ‡	**3KX86** ‡	—	—	—	—	—	—	—	—	—	—
L070	1 23⁄64	2	—	—	—	**3KX88** ‡	**3KX89** ‡	**3KX90**	**3KX91**	—	—	—	—	—	—	—	—	—
L075	1 ¾	2 ⅛	—	—	—	—	**3KX93** ‡	**3KX95**	**3KX96**	**3KX97**	—	—	—	—	—	—	—	—
L075	1 ¾	2 ⅛	—	—	—	—	**3KX94** *	—	—	—	—	—	—	—	—	—	—	—
L090	2 7⁄64	2 ⅛	—	—	—	—	**3KX98** ‡	**3KX99**	**3KZ01**	**3KZ02**	—	—	—	—	—	—	—	—
L095	2 7⁄64	2 ½	—	—	—	—	**3KZ10** ‡	**3KZ11**	**3KZ12**	**3KZ13**	**3KZ14**	**3KZ15**	—	—	—	—	—	—
L100	2 ½	3 ½	—	—	—	—	—	—	**3KZ16**	**3KZ17**	—	—	—	—	—	—	—	—
L100	2 17⁄32	3 ½	—	—	—	—	—	—	—	—	**3KZ18**	**3KZ19**	**3KZ20**	**3KZ21**	—	—	—	—
L110	3 21⁄64	4 15⁄64	—	—	—	—	—	—	—	—	**3KZ22**	**3KZ23**	**6JAW9**	**3KZ24**	**6JAX0**	**3KZ25**	—	—
L150	3 ¾	4 ½	—	—	—	—	—	—	—	—	—	**48VF26**	**48VF25**	**48VF27**	**48VF24**	**48VF28**	**48VF30**	**48VF29**
Stainless Steel																		
L075	1 ¾	2 ⅛	—	—	—	—	**3KA91** *	**3KA93**	**3KA95**	—	—	—	—	—	—	—	—	—
L095	2 7⁄64	2 ½	—	—	—	—	**3KA98** *	**3KA99**	**3KB10**	**3KB11**	**3KB12**	**3KB13**	—	—	—	—	—	—
L100	2 17⁄32	3 ½	—	—	—	—	—	—	**3KB14**	**3KB15**	**3KB16**	**3KB17**	—	**3KB18**	—	—	—	—
L110	3 21⁄64	4 15⁄64	—	—	—	—	—	—	—	—	—	—	—	**3KB21**	**3KB22**	—	—	—

Coupling Size	Outside Dia. (mm)	Overall Length (mm)**	Bore Diameter 9 mm	10 mm	11 mm	12 mm	14 mm	15 mm	16 mm	17 mm	18 mm	19 mm	20 mm	22 mm	24 mm	25 mm	28 mm	30 mm	32 mm	35 mm	38 mm	40 mm	42 mm	45 mm	48 mm
Metric Coupling Hubs (Complete Assembly Requires 2 Hubs and 1 Jaw-Coupling Spider Insert, Sold Separately)																									
Carbon Steel																									
L050	27	43.7	**1CXN8**	**1CXN9**	**1CXP1**	**1CXP2**	**1CXP3**	**1CXP4**	**1CXP5**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L070	35	50.8	—	**1CXP6**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L090	54	54	—	—	—	**1CXR1**	**1CXR2**	**1CXR3**	**1CXR4**	—	**1CXR5**	**1CXR6**	**1CXR7**	**1CXR8**	**1CXR9**	—	—	—	—	—	—	—	—	—	—
L095	54	64	—	—	—	—	**1CXT1**	**1CXT2**	**1CXT3**	**1CXT4**	**1CXT5**	**1CXT6**	**1CXT7**	**1CXT8**	**1CXT9**	**1CXU1**	**1CXU2**	—	—	—	—	—	—	—	—
L100	64	89	—	—	—	—	**1CXW4**	**1CXW5**	**1CXW6**	—	**1CXW7**	**1CXW8**	**1CXW9**	**1CXY1**	**1CXY2**	**1CXY3**	**1CXY4**	**1CXY5**	**1CXY6**	**1CXY7**	—	—	—	—	—
L099	64	73	—	—	—	—	—	—	**1CXU4**	—	**1CXU5**	**1CXU6**	**1CXU7**	**1CXU8**	**1CXU9**	**1CXW1**	**1CXW2**	**1CXW3**	—	—	—	—	—	—	—
L075	44	54	—	—	—	—	—	—	—	—	—	**1CXP7**	**1CXP8**	**1CXP9**	—	—	—	—	—	—	—	—	—	—	—
L110	85	107	—	—	—	—	—	—	—	—	—	**1CXY8**	**1CXY9**	**1CXZ1**	**1CXZ2**	**1CXZ3**	**1CXZ4**	**1CXZ5**	**1CXZ6**	**1CXZ7**	**1CXZ8**	**1CXZ9**	**1CYA1**	—	—
L150	95	114	—	—	—	—	—	—	—	—	—	—	—	—	**1CYA2**	**1CYA3**	—	**1CYA5**	—	**1CYA6**	**1CYA7**	**1CYA8**	**1CYA9**	**1CYB1**	**1CYB2**
Cast Iron																									
L190	114	124	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**1CYB7**	—	—

Coupling Size	Outside Dia. (mm)	Overall Length (mm)**	Bore Diameter 38 mm	40 mm	42 mm	45 mm	48 mm	50 mm	55 mm	60 mm
Metric Coupling Hubs (Complete Assembly Requires 2 Hubs and 1 Jaw-Coupling Spider Insert, Sold Separately)										
Cast Iron										
L225	127	137	**1CYB9**	**1CYC1**	**1CYC2**	**1CYC3**	**1CYC4**	**1CYC5**	**1CYC6**	**1CYC7**

** 1/8" x 1/16" keyway. † 3/32 x 3/64 keyway. ‡ No keyway. ** Total length of assembled coupling with jaws engaged to full depth (assembled coupling = 2 hubs + 1 spider).*