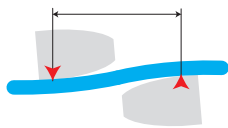
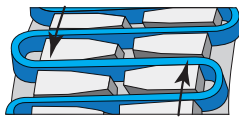


Martin Blue-Flex® Grid Couplings are the best option where both high torque levels and dampening requirements exist. Unlike other metallic couplings, *Martin* Blue-Flex® Grid

Couplings have the ability to reduce vibration and cushion shock loads to driven and driving power transmitting equipment components.

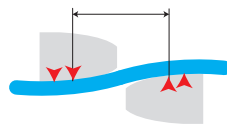
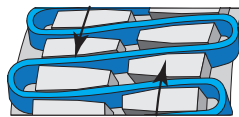
Progressive contact between the curved profile of the hub teeth and the flexible grid makes it possible to absorb impact energy by spreading it out, reducing the magnitude of the peak loads.

Martin Blue-Flex® Grid Couplings follow the same *Martin* Product/Service Standards that make *Martin* the One Industries Rely On for Quality, Availability, Service and Response Time that is second to none.



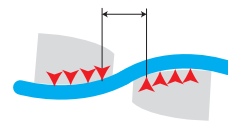
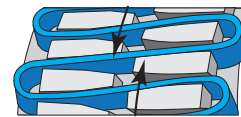
Light Load

The grid bears the stress near the outer edge of the hub teeth. The long span between the point of contact remains free to flex under load variations.



Normal Load

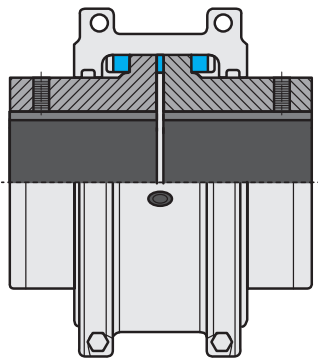
As the load increases, the distance between contact points on the hub teeth is shortened, but a free span still remains to cushion shock loads.



Shock Load

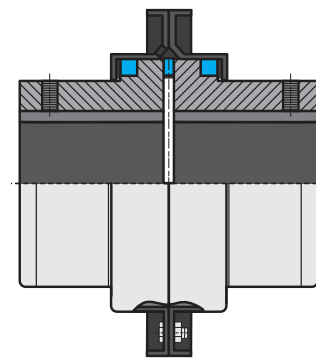
The coupling is flexible within its rated capacity. Under extreme overloads, the grid bears the stress fully on the hub teeth and transmits full load directly.

Available in 2 Close-Coupled Styles



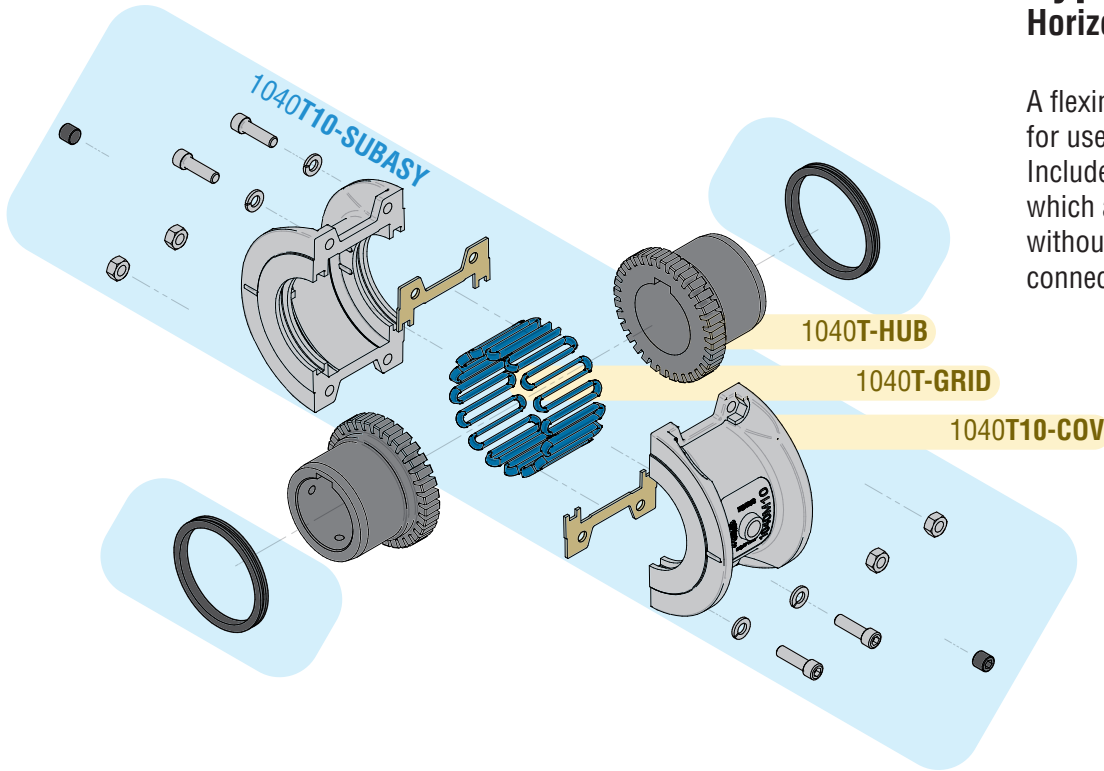
T10

A flexing, close-coupled design for use in four-bearing systems. Includes a horizontally split cover which allows for grid replacement without disturbance of the connected equipment.



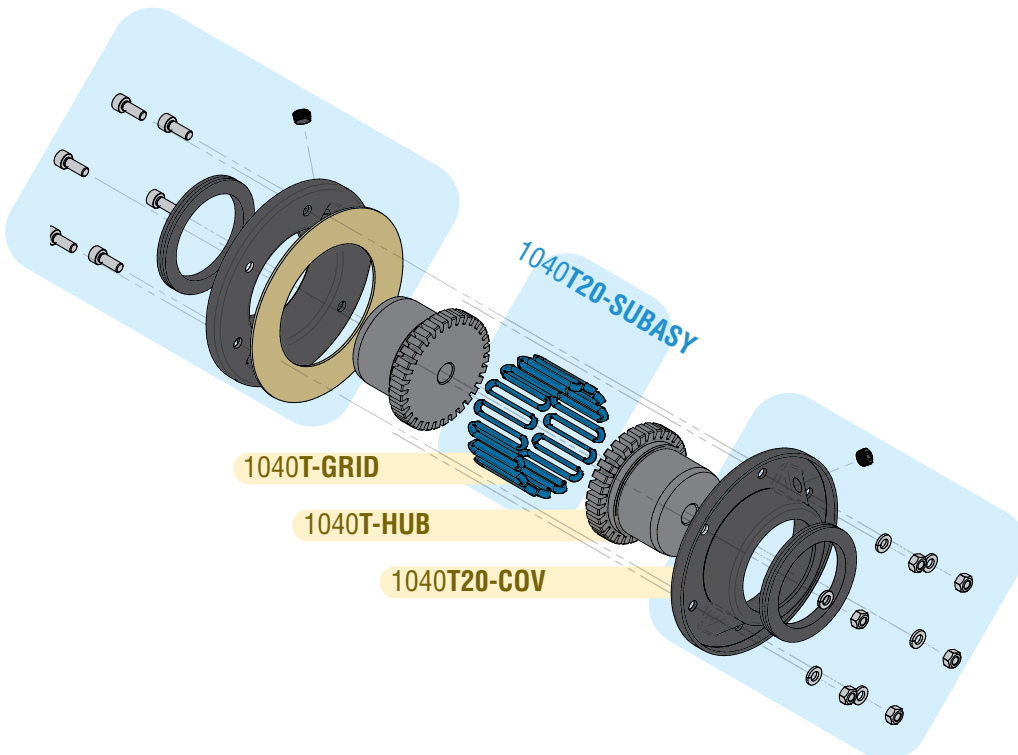
T20

A flexing design featuring a vertically-split steel cover. Ideal for higher running speeds and higher torque capacity.



Type T10 Horizontal Cover Design

A flexing, close-coupled design for use in four-bearing systems. Includes a horizontally split cover which allows for grid replacement without disturbance of the connected equipment.

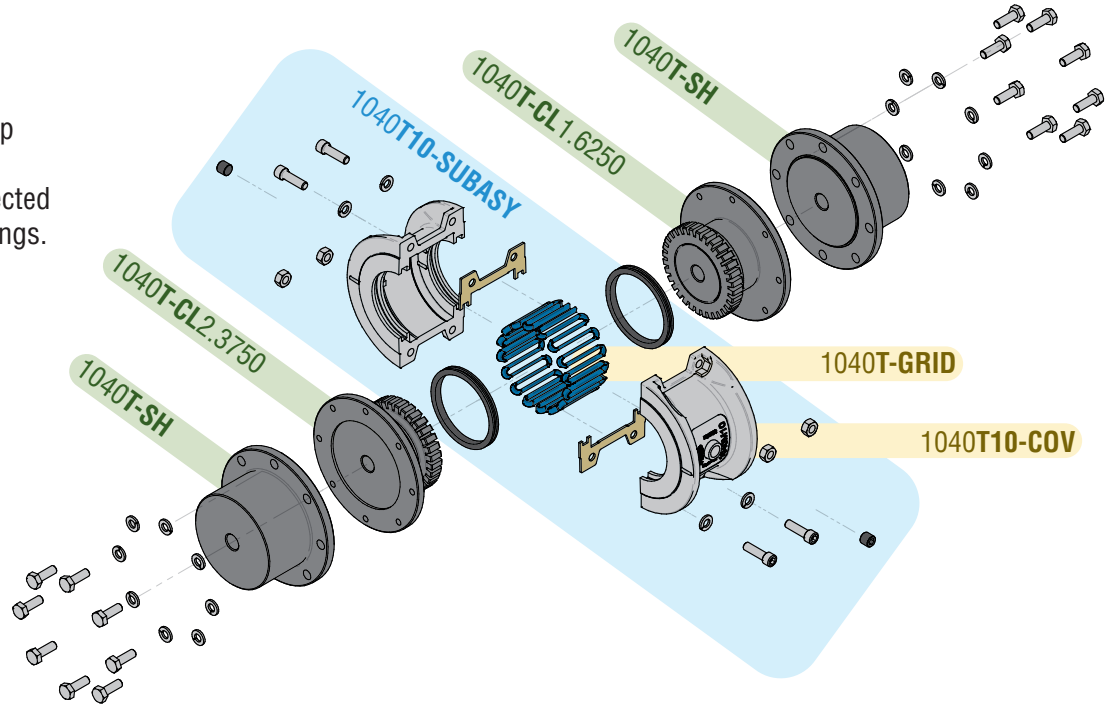


Type T20 Vertical Cover Design

A flexing design featuring a vertically-split steel cover. Ideal for higher running speeds and higher torque capacity.

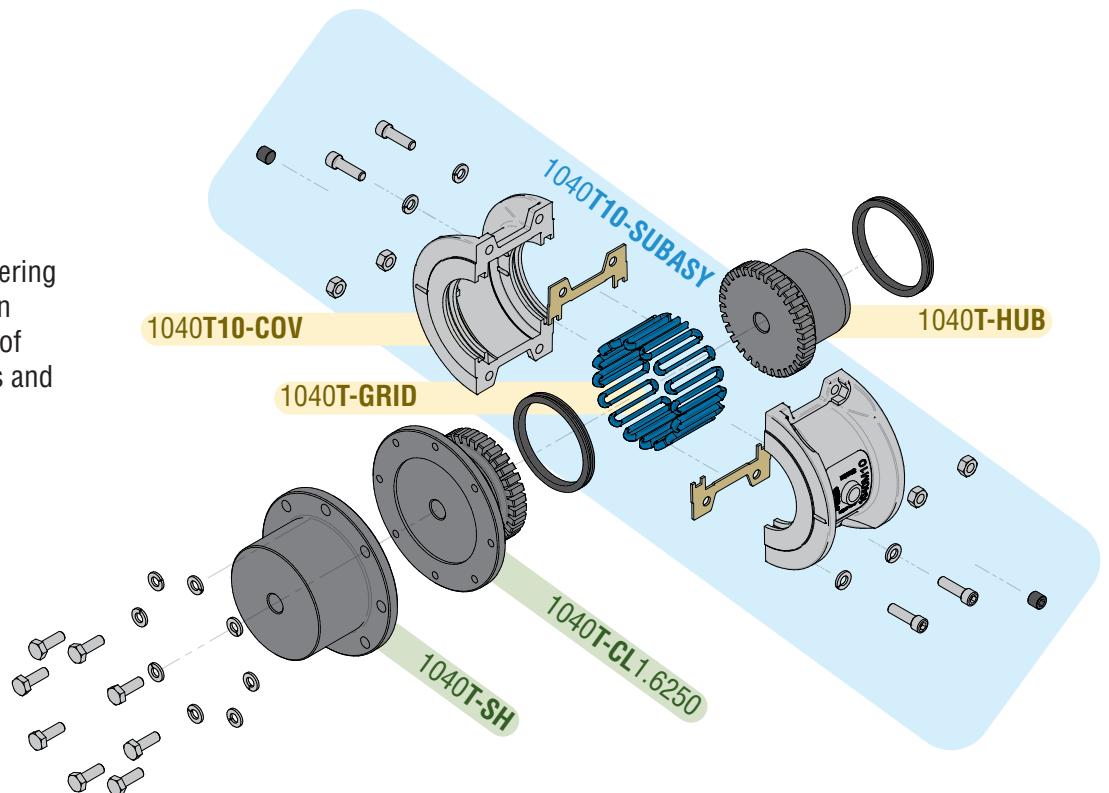
Type T31 Spacer Design

A complete Full Spacer drop out center section allowing easy maintenance of connected equipment, seals and bearings.



Type T35 Half Spacer Design

An economical solution, offering Half Spacer drop out section allowing easy maintenance of connected equipment, seals and bearings.



Standard Selection Method

The standard selection method can be used for most motor, turbine or engine-driven applications. The following information is required to select a flexible coupling:

- Horsepower or torque
- Running RPM
- Application or type of equipment to be connected
- Shaft diameters
- Shaft gaps
- Physical space limitations
- Special bore or finish, and type of fit

Step 1. Rating: Determine system torque. If torque is not given, calculate as shown below:

$$\text{Torque (lb-in)} = \frac{\text{HP} \times 63,000}{\text{RPM}}$$

Where horsepower is the actual or transmitted power required by the application (if unknown, use the motor or turbine nameplate rating) and rpm is the actual speed the coupling is rotating. Applications that require rapid changes in direction or torque reversals should be referred to *Martin* Engineering.

Step 2. Service Factor: Determine appropriate service factor from C-40.

Step 3. Required Minimum Coupling Rating: Determine the required minimum coupling rating as shown below:

$$\text{Min. Coupling Rating} = \text{S.F. (Service Factor)} \times \text{Torque (lb-in)}$$

Step 4. Type: Refer to pages C-34 and C-35 and select the appropriate coupling type.

Step 5. Size: Turn to appropriate pages for the coupling type chosen and trace down the torque column to a value that is equal or greater than that determined in Step 3 above. The coupling size is shown in the first column.

Step 6. Check: Speed (RPM), bore, gap and dimensions.

Example: A Field Engineer wants to use a Grid Coupling to connect a 60 horsepower electric motor running at 1750 RPM to a rotary lobe compressor. The shaft diameter of both the motor and compressor is 1 3/4". Motor shaft extension is 3" and compressor shaft extension is 2 1/2". Gap between shaft ends is 1/8".

1. Determine Required Rating:

$$\text{Torque (lb-in)} = \frac{60 \times 63,000}{1750 \text{ RPM}} = 2160 \text{ lb-in}$$

2. Service Factor: From C-38 = 1.25

3. Required Min. Coupling Rating:

$$1.25 \times 2160 \text{ lb-in} = 2700 \text{ lb-in}$$

4. Size: From page C-42 a size 1050T10 is the proper selection based on a torque rating of 3850 lb-in exceeding the required min. coupling rating of 2700 lb-in.

5. Check: Allowable speed capacity of 4500 (T10) exceeds the required speed of 1750 rpm. Maximum bore capacity of 1 7/8" exceeds the actual shaft diameters.

Formula Selection Method

The Standard Selection Method will work when selecting most couplings. The Formula Selection Method should be used for:

- High Peak Loads
- High Braking Torques

Providing system peak torque and frequency, duty cycle and brake torque rating will allow for a more refined selection using the Formula Selection Method.

1. High Peak Loads: Use one of the following formulas for applications using motors with torque characteristics that are higher than normal; applications with intermittent operations, shock loading, inertia effects due to starting and stopping and/or system-induced repetitive high peak torques. System Peak Torque is the maximum torque that can exist in the system. Select a coupling with a torque rating equal to or greater than selection torque calculated below.

a. Non-Reversing High Peak Torque

Selection Torque (lb-in) = System Peak Torque
or

$$\text{System Torque (lb-in)} = \frac{\text{System Peak HP} \times 63,000}{\text{RPM}}$$

b. Reversing High Peak Torque

Selection Torque (lb-in) = 2 x System Peak Torque
or

$$\text{System Torque (lb-in)} = \frac{2 \times \text{Peak HP} \times 63,000}{\text{RPM}}$$

c. Occasional Peak Torques (Non-reversing) If a system peak torque occurs less than 1000 times during the expected coupling life, use the following formula:

Selection Torque (lb-in) = 0.5 x System Peak Torque
or

$$\text{System Torque (lb-in)} = \frac{0.5 \times \text{Peak HP} \times 63,000}{\text{RPM}}$$

2. High Braking Torques: If the torque rating of the braking exceeds the motor torque, use the braking rating as follows:

Selection Torque (lb-in) = Braking Torque Rating x S.F.

Example: A Maintenance Engineer needs a Grid Coupling to connect an electric motor to a reversing runout mill table roll. The system peak torque is estimated to be 118,000 lb-in with the motor running at 80 RPM. The motor shaft diameter is 7" and the driven shaft diameter is 8". The motor and driven shaft extensions are both 8 1/2". Distance between shaft ends is 8.00".

1. Type: Refer to pages C-34 and C-35 and select the appropriate.

2. Required Minimum Coupling Rating:

Use the Reversing High Peak Torque formula.
2 x 118,000 = 236,000 = Selection Torque

3. Size: From page C-46 a size 1140T10 with a torque rating of 253,000 exceeds the selection torque of 236,000 lb-in.

4. Check: The 1140T35 has a maximum BE dimension of 8.06"; maximum bore of 8" with one rectangular key (Table 3, page C-37); and the allowable speed of 1650 rpm and the dimensions on page C-46, meet the requirements.

Table 3 – Coupling Ratings & Allowable Speeds

Coupling Size	HP per 100 RPM	Torque Rating (lb-in)	Allowable Speeds – RPM ★		
			T10	T20	T31, T35, T10/82
1020T	0.73	460	4,500	6,000	3,600
1030T	2.09	1,320	4,500	6,000	3,600
1040T	3.49	2,200	4,500	6,000	3,600
1050T	6.11	3,850	4,500	6,000	3,600
1060T	9.60	6,050	4,350	6,000	3,600
1070T	14.0	8,800	4,125	5,500	3,600
1080T	28.8	18,150	3,600	4,750	3,600
1090T	52.4	33,000	3,600	4,000	3,600
1100T	88.1	55,550	2,440	3,250	2,440
1110T	131	82,500	2,250	3,000	2,250
1120T	192	121,000	2,025	2,700	2,025
1130T	279	176,000	1,800	2,400	1,800
1140T	401	253,000	1,650	2,200	1,650
1150T	559	352,000	1,500	2,000	1,500
1160T	785	495,000	1,350	1,750	1,350
1170T	1047	660,000	1,225	1,600	1,225
1180T	1452	915,200	1,100	1,400	1,100
1190T	1920	1,210,000	1,050	1,300	1,050
1200T	2618	1,650,000	900	1,200	900

★ Consult *Martin* for higher speeds.

Blue-Flex[®] Selection Procedure



Quick Selection Method

Step 1. Select Coupling Type. Refer to pages C-34 and C-35 and select the type of coupling to suit your application. If an application requires a special purpose coupling, refer application details to your local *Martin* representative.

Step 2. Determine Service Factor. Refer to Table 6 and Table 7.

A. Refer to the Formula Selection Method if your application has high braking torques or high peak loads.

Step 3. Determine Equivalent Horsepower. Refer to Table 4 – Under the actual HP required and tracing horizontally from the service factor determined in Step 2, read the equivalent HP.

Step 4. Determine Coupling Size.

- Refer to Table 5 – Trace horizontally from the required speed to a hp value equal to or larger than the hp determined in Step 3. Read the coupling size at top of column.
- Check shaft diameters on coupling maximum bores shown on pages for the type of coupling selected. If a larger bore is required, select a larger coupling.
- Check the required speed against the allowable speed shown in Table 3 page C-37 for the type of coupling selected. If a higher speed is required, refer to *Martin* Engineering.
- Check application dimension requirements against catalog page for the type of coupling selected.

Example: A 400 horsepower electric motor rated for 1200 RPM needs a Grid Coupling to drive a tire shredder. The shaft gap is 0.1" to 0.2". The motor shaft diameter is 3" and the driven shaft diameter is 3 1/4". The motor and driven shaft extensions are both 5".

- Select Coupling Type:** To connect close-coupled shafts (0.1" to 0.2" gap), a Type T10 or T20 coupling is the proper selection. Type T10 is selected.
- Determine Service Factor:** From Table 6, the service factor is 1.5.
- Determine Equivalent HP:** From Table 4, the equivalent HP is 600.
- Select Coupling Size:** (A) From Table 5, the coupling size is 1090T10. (B) From Table 8, the maximum bore with square key is 3.500". (C) From Table 3, the allowable speed of a 1090T10 is 3600 RPM. (D) Dimensions for the 1090T10 coupling shown on page C-42 satisfies the application requirements.

Table 4 – Equivalent Horsepower = (Actual HP x Service Factor)

Service Factor •	Actual HP																									
	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60	75	100	125	150	200	250	300	350	400	450	500
1.00	0.75	1.0	1.5	2.0	3.0	5.0	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	300	350	400	450	500
1.25	0.94	1.25	1.9	2.5	3.8	6.3	9.4	12.5	19	25	31	38	50	63	75	94	125	156	188	250	312	375	438	500	563	625
1.50	1.1	1.5	2.3	3.0	4.5	7.5	11.3	15	23	30	38	45	60	75	90	113	150	188	225	300	375	450	525	600	675	750
1.75	1.3	1.8	2.6	3.5	5.3	8.8	13.1	18	26	35	44	53	70	88	105	131	175	219	262	350	438	525	613	700	787	875
2.00	1.5	2.0	3.0	4.0	6.0	10.0	15.0	20	30	40	50	60	80	100	120	150	200	250	300	400	500	600	700	800	900	1000
2.50	1.9	2.5	3.8	5.0	7.5	12.5	18.8	25	38	50	63	75	100	125	150	187	250	312	375	500	625	750	875	1000	1125	1250
3.00	2.3	3.0	4.5	6.0	9.0	15.0	22.5	30	45	60	75	90	120	150	180	225	300	375	450	600	750	900	1050	1200	1350	1500
3.50	2.6	3.5	5.3	7.0	10.5	17.5	26.2	35	52	70	87	105	140	175	210	262	350	437	525	700	875	1050	1225	1400	1575	1750

• For service factor not listed, Equivalent HP = Actual HP x Service Factor.



Blue-Flex® Selection Procedure

Table 5 – Coupling Selection Based on Equivalent HP Ratings

Coupling Size	1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T	1100T	1110T	1120T	1130T	1140T	1150T	1160T	1170T	1180T	1190T	1200T
Max Bore (in)	1.125	1.375	1.625	1.875	2.125	2.500	3.000	3.500	4.000	4.500	5.000	6.000	7.250	8.000	9.000	10.000	11.000	12.000	13.000
Max Speed T10 RPM	4500	4500	4500	4500	4350	4125	3600	3600	2440	2250	2025	1800	1650	1500	1350	1225	1100	1050	900
Max Speed T20 RPM	6000	6000	6000	6000	6000	5500	4750	4000	3250	3000	2700	2400	2200	2000	1750	1600	1400	1300	1100
Torque (lb-in)	460	1320	2200	3850	6050	8800	18,150	33,000	55,550	82,500	121,000	176,000	253,000	352,000	495,000	660,000	915,200	1,210,000	1,650,000
HP/100 RPM	0.73	2.09	3.49	6.11	9.60	14.0	28.8	52.4	88.1	131	192	279	401	559	785	1047	1452	1920	2618
HP Ratings																			
RPM	4500	32.8	94.2	157	275	432	628	1296	—	—	—	—	—	—	—	—	—	—	—
	3600	26.3	75.4	126	220	346	503	1037	—	—	—	—	—	—	—	—	—	—	—
	3000	21.9	62.8	105	183	288	419	864	2644	3927	—	—	—	—	—	—	—	—	—
	2500	18.2	52.4	87	153	240	349	720	2203	3273	3456	—	—	—	—	—	—	—	—
	2100	15.3	44.0	73.3	128	202	293	605	1851	2749	3456	5864	8430	—	—	—	—	—	—
	1800	13.1	37.7	62.8	110	173	251	518	1587	2356	3456	5027	7226	10053	—	—	—	—	—
	1750	12.8	36.7	61.1	107	168	244	504	1542	2291	3360	4887	7025	9774	13745	—	—	—	—
	1450	10.6	30.4	50.6	89	139	202	418	1278	1898	2784	4049	5821	8098	11388	15184	—	—	—
	1170	8.5	24.5	40.8	71.5	112	163	337	1031	1532	2246	3267	4697	6535	9189	12252	—	—	—
	1000	7.3	20.9	34.9	61.1	96	140	288	881	1309	1920	2793	4014	5585	7854	10472	14521	19199	—
	870	6.3	18.2	30.4	53.1	84	121	251	767	1139	1670	2430	3492	4859	6833	9111	12633	16703	22777
	720	5.3	15.1	25.1	44.0	69	101	207	635	942	1382	2011	2890	4021	5655	7540	10455	13823	18850
	650	4.7	13.6	22.7	39.7	62.4	91	187	573	851	1248	1815	2609	3630	5105	6807	9439	12479	17017
	580	4.2	12.1	20.2	35.4	55.7	81	167	504	759	1114	1620	2328	3239	4555	6074	8422	11135	15184
	520	3.8	10.9	18.2	31.8	49.9	73	150	458	681	998	1452	2087	2904	4084	5445	7551	9983	13614
	420	3.1	8.8	14.7	25.7	40.3	59	121	370	550	806	1173	1686	2346	3299	4398	6099	8063	10996
	350	2.6	7.3	12.2	21.4	33.6	49	101	308	458	672	977	1405	1955	2749	3665	5082	6720	9163
	280	2.0	5.9	9.8	17.1	26.9	39.1	81	247	367	538	782	1124	1564	2199	2932	4066	5376	7330
	230	1.7	4.8	8.0	14.0	22.1	32.1	66	203	301	442	642	923	1285	1806	2409	3340	4416	6021
	190	1.4	4.0	6.6	11.6	18.2	26.5	55	167	249	365	531	763	1061	1492	1990	2759	3648	4974
	155	1.1	3.2	5.4	9.5	14.9	21.6	44.6	137	203	298	433	622	866	1217	1623	2251	2976	4058
	125	0.9	2.6	4.4	7.6	12.0	17.5	36.0	110	164	240	349	502	698	982	1309	1815	2400	3273
	100	0.73	2.1	3.5	6.1	9.6	14.0	28.8	88	131	192	279	401	559	785	1047	1452	1920	2618
	84	0.61	1.8	2.9	5.1	8.1	11.7	24.2	74	110	161	235	337	469	660	880	1220	1613	2199
	68	0.50	1.4	2.4	4.2	6.5	9.5	19.6	60	89	131	190	273	380	534	712	987	1306	1780
	56	0.41	1.17	2.0	3.4	5.4	7.8	16.1	49	73	108	156	225	313	440	586	813	1075	1466
	45	0.33	0.94	1.6	2.7	4.3	6.3	13.0	39.7	59	86	126	181	251	353	471	653	864	1178
	37	0.27	0.77	1.3	2.3	3.6	5.2	10.7	32.6	48.4	71	103	149	207	291	387	537	710	969
	30	0.22	0.63	1.0	1.8	2.9	4.2	8.6	26.4	39.3	58	84	120	168	236	314	436	576	785
	25	0.18	0.52	0.9	1.5	2.4	3.5	7.2	22.0	32.7	48.0	70	100	140	196	262	363	480	655
	20	0.15	0.42	0.70	1.2	1.9	2.8	5.8	17.6	26.2	38.4	56	80	112	157	209	290	384	524
	16.5	0.12	0.35	0.58	1.0	1.6	2.3	4.8	14.5	21.6	31.7	46.1	66	92	130	173	240	317	432
	13	0.095	0.27	0.45	0.79	1.2	1.8	3.7	11.5	17.0	25.0	36.3	54	75	106	141	196	259	353
	11	0.080	0.23	0.38	0.67	1.1	1.5	3.2	9.7	14.4	21.1	30.7	44.2	61	86	115	160	211	288
	9	0.066	0.19	0.31	0.55	0.86	1.3	2.6	7.9	11.8	17.3	25.1	36.1	50	71	94	131	173	236
	7.5	0.055	0.16	0.26	0.46	0.72	1.0	2.2	6.6	9.8	14.4	20.9	30.1	42	59	79	109	144	196
	5	0.036	0.10	0.17	0.31	0.48	0.7	1.4	4.4	6.5	9.6	14.0	20.1	27.9	39	52	73	96	131

◇ Ratings apply to Type T20 only.

Blue-Flex® Selection Procedure



Table 6 – Flexible Coupling Service Factors • Service factors listed are typical values based on normal operation of the drive systems.

Application	Service Factor	Application	Service Factor	Application	Service Factor	Application	Service Factor
AERATOR	2.0	Live Roll, Shaker and Reciprocating	3.0	Welder Load	2.0	Centrifugal — Constant Speed	1.0
AGITATORS		CRANES AND HOIST		HAMMERMILL	1.75	Frequent Speed Changes under Load	1.25
Vertical and Horizontal Screw, Propeller, Paddle	1.0	Main Hoist	1.7	LAUNDRY WASHER OR TUMBLER	2.0	Descaling, with accumulators	1.25
BARGE HAUL PULLER	1.5	Skip Hoist	1.75	LINE SHAFTS		Gear, Rotary, or Vane	1.25
BLOWERS		Slope	1.5	Any Processing Machinery	1.5	Reciprocating, Plunger Piston	
Centrifugal	1.0	Bridge, Travel or Trolley	1.75	MACHINE TOOLS		1 cyl., single or double act	3.0
Lobe or Vane	1.25	DYNAMOMETER	1.0	Auxiliary and Traverse Drive	1.0	2 cyl., single acting	2.0
CAR DUMPERS	2.5	ELEVATORS		Bending Roll, Notching Press, Punch Press, Planer, Plate Reversing	1.75	2 cyl., double acting	1.75
CAR PULLERS	1.5	Bucket, Centrifugal Discharge	1.25	Main Drive	1.5	3 or more cylinders	1.5
CLARIFIER OR CLASSIFIER	1.0	Freight or Passenger	∅	Gravity Discharge	∅	Screw Pump, Progressing Cavity	1.25
COMPRESSORS		ESCALATORS	∅	MAN LIFTS		Vacuum Pump	1.25
Centrifugal	1.0	EXCITER, GENERATOR	1.0	METAL FORMING MACHINES		SCREENS	
Rotary, Lobe or Vane	1.25	EXTRUDER, PLASTIC	1.5	Continuous Caster	1.75	Air Washing	1.0
Rotary, Screw	1.0	FANS		Draw Bench Carriage and Main Drive	2.0	Grizzly	2.0
Reciprocating Direct Connected	•	Centrifugal	1.0	Extruder	2.0	Rotary Coal or Sand	1.5
Without Flywheel	•	Cooling Tower	2.0	Farming Machine and Forming Mills	2.0	Vibrating	2.5
With Flywheel and Gear between Compressor and Prime Mover		Forced Draft — Across the Line start	1.5	Slitters	1.0	Water	1.0
1 cylinder, single acting	3.0	Forced Draft Motor driven thru fluid or electric slip clutch	1.0	Wire Drawing or Flattening	1.75	SKI TOWS & LIFTS	∅
2 cylinders, single acting	3.0	Gas Recirculating	1.5	Wire Winder	1.5	STEERING GEAR	1.0
3 cylinders, single acting	3.0	Induced Draft with damper control or blade cleaner	1.25	Coilers and Uncoilers	1.5	STOKER	1.0
3 cylinders, double acting	2.0	Induced Draft without controls	2.0	MIXERS (see Agitators)		TIRE SHREDDER	1.50
4 or more cyl., single act	1.75	FEEDERS		Concrete	1.75	TUMBLING BARREL	1.75
4 or more cyl., double act	1.75	Apron, Belt, Disc, Screw	1.0	Muller	1.5	WINCH, MANEUVERING	
CONVEYORS		Reciprocating	2.5	PRESS, PRINTING	1.5	Dredge, Marine	1.5
Apron, Assembly, Belt, Chain, Flight, Screw	1.0	GENERATORS		PUG MILL	1.75	WINDLASS	1.5
Bucket	1.25	Even Load	1.0	PULVERIZERS		WOODWORKING MACHINERY	1.0
		Hoist or Railway Service	1.5	Hammermill and Hog	1.75	WORK LIFT PLATFORMS	∅
				Roller	1.5		
				PUMPS			
				Boiler Feed	1.5		

Industry	Service Factor	Industry	Service Factor	Industry	Service Factor	Industry	Service Factor
AGGREGATE, CEMENT, MINING		Rolls, Non-Reversing	1.25	Shear, Croppers	•	Constant Speed	1.0
KILNS; TUBE, ROD AND BALL MILLS		Rolls, Reversing	2.0	Sideguards	3.0	Frequent Speed Changes Under Load	1.25
Direct or on L.S. shaft of Reducer, with final drive Machined Spur Gears	2.0	Sawdust Conveyor	1.25	Skelp Mills	•	Suction Roll	1.75
Single Helical or Herringbone Gears	1.75	Slab Conveyor	1.75	Slitters, Steel Mill only	1.75	Vacuum Pumps	1.25
Conveyors, Feeders, Screens, Elevators	★	Sorting Table	1.5	Soaking Pit Cover Drives —		RU BBER INDUSTRY	
Crushers, Ore or Stone	2.5	Trimmer	1.75	Lift	1.0	Calender	2.0
Dryer, Rotary	1.75	METAL ROLLING MILLS		Travel	2.0	Cracker, Plasticator	2.5
Grizzly	2.0	Coilers (Up or Down) Cold Mills only	1.5	Straighteners	2.0	Extruder	1.75
Hammermill or Hog	1.75	Coilers (Up or Down) Hot Mills only	2.0	Unscramblers (Billet Bundle Busters)	2.0	Intensive or Banbury Mixer	2.5
Tumbling Mill or Barrel	1.75	Coke Plants		Wire Drawing Machinery	1.75	Mixing Mill, Refiner or Sheeter	
BREWING AND DISTILLING		Pusher Ram Drive	2.5	OIL INDUSTRY		One or two in line	2.5
Bottle and Can Filling Machines	1.0	Door Opener	2.0	Chiller	1.25	Three or four in line	2.0
Brew Kettle	1.0	Pusher or Larry Car Traction Drive	3.0	Oilwell Pumping	2.0	Five or more in line	1.75
Cookers, Continuous Duty	1.25	Continuous Caster	1.75	(not over 150% peak torque)		Tire Building Machine	2.5
Lauter Tub	1.5	Cold Mills — Strip Mills	•	Paraffin Filter Press	1.5	Tire & Tube Press Opener (Peak Torque)	1.0
Mash Tub	1.25	Temper Mills	•	Rotary Kiln	2.0	Tuber, Strainer, Pelletizer	1.75
Scale Hopper, Frequent Peaks	1.75	Cooling Beds	1.5	PAPER MILLS		Warming Mill	
CLAY WORKING INDUSTRY		Drawbench	2.0	Barker Auxiliary, Hydraulic	2.0	One or two Mills in line	2.0
Brick Press, Briquette Machine, Clay Working		Feed Rolls - Blooming Mills	3.0	Barker, Mechanical	2.0	Three or more Mills in line	1.75
Machine, Pug Mill	1.75	Furnace Pushers	2.0	Barking Drum		Washer	2.5
DREDGES		Hot and Cold Saws	2.0	L.S. shaft of reducer with final drive - Helical		SEWAGE DISPOSAL EQUIPMENT	
Cable Reel	1.75	Hot Mills —		or Herringbone Gear	2.0	Bar Screen, Chemical Feeders, Collectors, Dewatering Screen, Grit Collector	1.0
Conveyors	1.25	Strip or Sheet Mills	•	Machined Spur Gear	2.5	SUGAR INDUSTRY	
Cutter head, Jig Drive	2.0	Reversing Blooming	•	Cast Tooth Spur Gear	3.0	Cane Carrier & Leveler	1.75
Maneuvering Winch	1.5	Slabbing Mills	•	Beater & Pulper	1.75	Cane Knife & Crusher	2.0
Pumps (uniform load)	1.5	Edger Drives	•	Bleachers, Coaters	1.0	Mill Stands, Turbine Driver with all Helical or Herringbone gears	1.5
Screen Drive, Stacker	1.75	Ingot Cars	2.0	Calender & Super Calender	1.75	Electric Drive or Steam Engine Drive with Helical, Herringbone, or Spur Gears with any Prime Mover	1.75
Utility Winch	1.5	Manipulators	3.0	Chipper	2.5	TEXTILE INDUSTRY	
FOOD INDUSTRY		Merchant Mills	•	Converting Machine	1.25	Batcher	1.25
Beet Slicer	1.75	Mill Tables		Couch	1.75	Calender, Card Machine	1.5
Bottling, Can Filling Machine	1.0	Roughing Breakdown Mills	3.0	Cutter, Felt Whipper	2.0	Cloth Finishing Machine	1.5
Cereal Cooker	1.25	Hot Bed or Transfer, non-reversing	1.5	Cylinder	1.75	Dry Can, Loom	1.5
Dough Mixer, Meat Grinder	1.75	Runout, reversing	3.0	Dryer	1.75	Dyeing Machinery	1.25
LUMBER		Runout, non-reversing, non-plugging	2.0	Felt Stretcher	1.25	Knitting Machine	•
Band Resaw	1.5	Reel Drives	1.75	Fourdrinier	1.75	Mangle, Napper, Soaper	1.25
Circular Resaw, Cut-off	1.75	Rod Mills	•	Jordan	2.0	Spinner, Tenter Frame, Winder	1.5
Edger, Head Rig, Hog	2.0	Screwdown	2.0	Log Haul	2.0		
Gang Saw (Reciprocating)	•	Seamless Tube Mills		Line Shaft	1.5		
Log Haul	2.0	Piercer	3.0	Press	1.75		
Planer	1.75	Thrust Block	2.0	Pulp Grinder	1.75		
		Tube Conveyor Rolls	2.0	Reel, Rewinder, Winder	1.5		
		Reeler	2.0	Stock Chest, Washer, Thickener	1.5		
		Kick Out	2.0	Stock Pumps, Centrifugal			

Table 7 – Engine Drive Service Factors

Service Factors (S. F.) for engine drives are those required for applications where good flywheel regulation prevents torque fluctuations greater than ±20%. For drives where torque fluctuations are greater or where the operation is near a serious critical or torsional vibration, a mass elastic study is necessary.

No. of Cylinders	4 or 5					6 or more				
	Table 6 S.F.	1.0	1.25	1.5	1.75	2.0	1.0	1.25	1.5	1.75
Engine S.F.	2.0	2.25	2.5	2.75	3.0	1.5	1.75	2.0	2.25	2.5

To use Table 7, first determine application service factor from Table 6. Use that factor to determine Engine Service Factor from Table 7. When service factor from Table 6 is greater than 2.0, or where 1, 2 or 3 cylinder engines are involved, refer complete application details to *Martin* Engineering.

• Refer to Factory

∅ Not Approved

★ See Application Listing

• For engine drives, refer to Table 7. Electric motors, generators, engines, compressors and other machines fitted with sleeves or straight roller bearings usually require limited end float couplings. If in doubt, provide axial clearances and centering forces to the Factory for a recommendation.

How to Order

To ensure your exact specifications are met the following information is required for a quote or order.

Step 1. Application: Driver & Driven

Step 2. Power: Normal hp, Maximum hp or Torque (lb-in)

Step 3. Speed (RPM)

Step 4. Quantity

Step 5 Coupling Size and Type

Step 6. Shaft Gap or distance between shaft ends (BE Dimension)

Step 7. Bore Sizes: Must specify clearance or interference fit, or fit will be furnished per Table 14, page C-54. Bore sizes will be furnished as per Table 16 on page C-55 or Table 17 on pages C-56 and C-57 unless specified differently

Step 8. Shaft Dimensions as follows:

For Straight Shafts:

Driving Shaft		Driven Shaft	
Diameter	_____	Diameter	_____
Tolerance	_____	Tolerance	_____
Length	_____	Length	_____
Keyway	_____	Keyway	_____

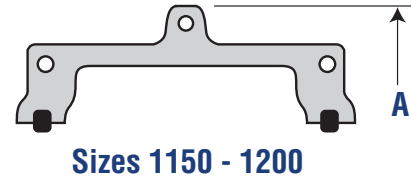
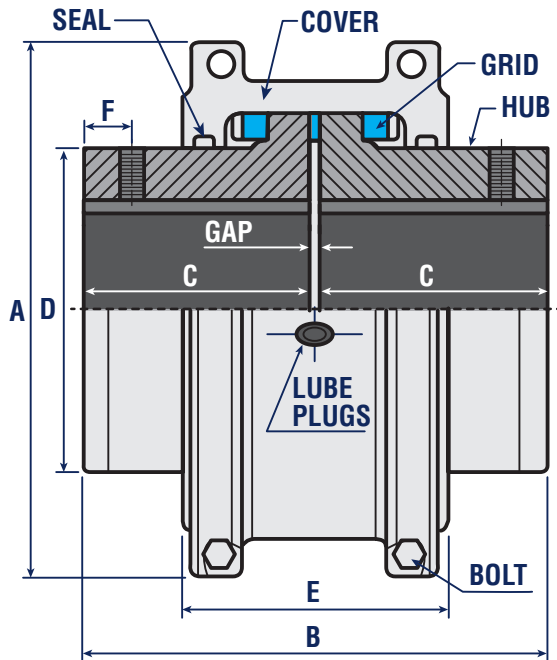
NOTE: Provide shaft tolerances if different than those shown in Table 15 through Table 17, pages C-46 to C-48. Unless otherwise specified, keyway sizes in inch shafts will be furnished based on key sizes listed in Table 14, page C-45, to *Martin* tolerances; metric keyways will be furnished for keys listed in Table 14, page C-45 per ISO/R773-1969 (ANSI/AGMA 9112) and JS9 width tolerances. For other shaft/bore requirements, consult *Martin*.

Service Factors

Are a guide, based on experience, of the ratio between coupling catalog rating and system characteristics. The system characteristics are best measured with a torque meter.

Torque Demands Driven Machine	Typical applications for electric motor or turbine driven equipment	Typical Service Factor
	Constant torque such as Centrifugal Pumps, Blowers and Compressors.	1.0
	Continuous duty with some torque variations including Plastic Extruders, Forced Draft Fans.	1.5
	Light shock loads from Metal Extruders, Cooling Towers, Cane Knife, Log Haul.	2.0
	Moderate shock loading as expected from a Car Dumper, Stone Crusher, Vibrating Screen.	2.5
	Heavy shock load with some negative torques from Roughing Mills, Reciprocating Pumps, Compressors, Reversing Runout Tables.	3.0
	Applications like Reciprocating Compressors with frequent torque reversals, which do not necessarily cause reverse rotations.	Refer to Factory

Stock T10 Cover Design

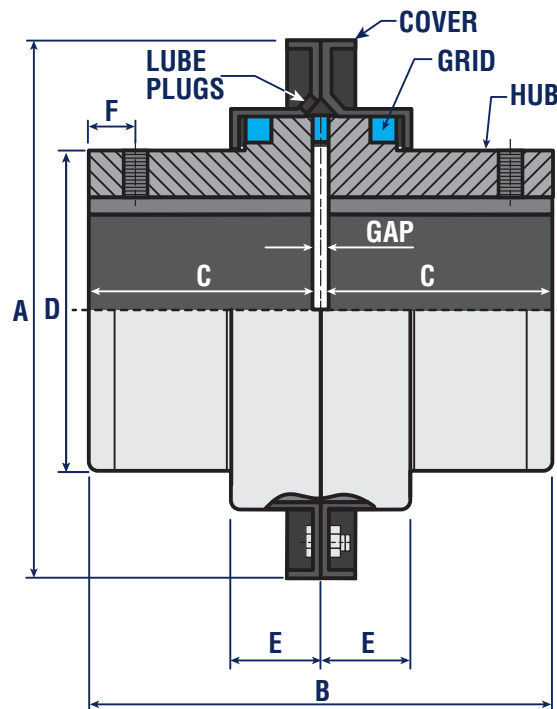


Martin Blue-Flex® Grid Coupling – T10 Style

Coupling Size	HP per 100 RPM	Max Speed (RPM)	Basic Torque (lb-in)	Bore Dia.		Dimensions (in)						Gap (in) Normal	Complete Weight (lb)	Lub. Wt. (lb)
				Max.	Min.	A	B	C	D	E	F			
1020T10	0.68	4,500	460	1.12	0.50	4.00	3.86	1.87	1.56	2.62	0.31	0.12	4.2	0.1
1030T10	1.93	4,500	1,320	1.37	0.50	4.37	3.86	1.87	1.94	2.69	0.31	0.12	5.7	0.1
1040T10	3.22	4,500	2,200	1.62	0.50	4.63	4.12	2.00	2.25	2.76	0.31	0.12	7.5	0.1
1050T10	5.63	4,500	3,850	1.87	0.50	5.43	4.87	2.37	2.63	3.13	0.31	0.12	11.9	0.1
1060T10	8.85	4,350	6,050	2.12	0.75	5.93	5.12	2.50	3.00	3.62	0.31	0.12	16.1	0.2
1070T10	13	4,125	8,800	2.50	0.75	6.37	6.12	3.00	3.44	3.74	0.50	0.12	22.0	0.2
1080T10	27	3,600	18,150	3.00	1.06	7.64	7.12	3.50	4.13	4.57	0.50	0.12	39.7	0.4
1090T10	48	3,600	33,000	3.50	1.06	8.39	7.87	3.87	4.87	4.80	0.63	0.12	55.1	0.6
1100T10	81	2,400	55,550	4.00	1.63	9.84	9.67	4.75	5.59	6.12	0.63	0.18	92.6	0.9
1110T10	121	2,250	82,500	4.50	1.63	10.63	10.18	5.00	6.31	6.36	0.75	0.18	119.0	1.1
1120T10	177	2,025	121,000	5.00	2.37	12.13	11.98	5.87	7.06	7.54	0.75	0.25	178.6	1.6
1130T10	257	1,800	176,000	6.00	2.63	13.62	12.98	6.37	8.56	7.68	1.19	0.25	266.8	2.0
1140T10	370	1,650	253,000	7.25	2.63	15.12	14.63	7.20	10.00	7.91	1.19	0.25	392.4	2.5
1150T10	515	1,500	352,000	8.00	4.25	17.84	14.64	7.20	10.60	10.68	1.19	0.25	515.9	4.3
1160T10	724	1,350	495,000	9.00	4.75	19.74	15.83	7.80	12.00	10.98	1.19	0.25	698.9	6.2
1170T10	965	1,225	660,000	10.00	5.25	22.30	17.24	8.50	14.00	11.98	1.19	0.25	987.7	7.7
1180T10	1338	1,100	915,000	11.00	6.00	24.80	19.05	9.40	15.50	12.64	1.50	0.25	1364.7	8.3
1190T10	1770	1,050	1,210,000	12.00	6.00	26.60	20.64	10.20	17.20	12.80	1.50	0.25	1710.8	9.7
1200T10	2413	900	1,650,000	13.00	7.00	29.80	22.24	11.00	19.60	14.00	1.50	0.25	2330.3	12.4

Consult *Martin* for higher speeds.

Max. bores listed fit standard recommended keys per ANSI B17.1



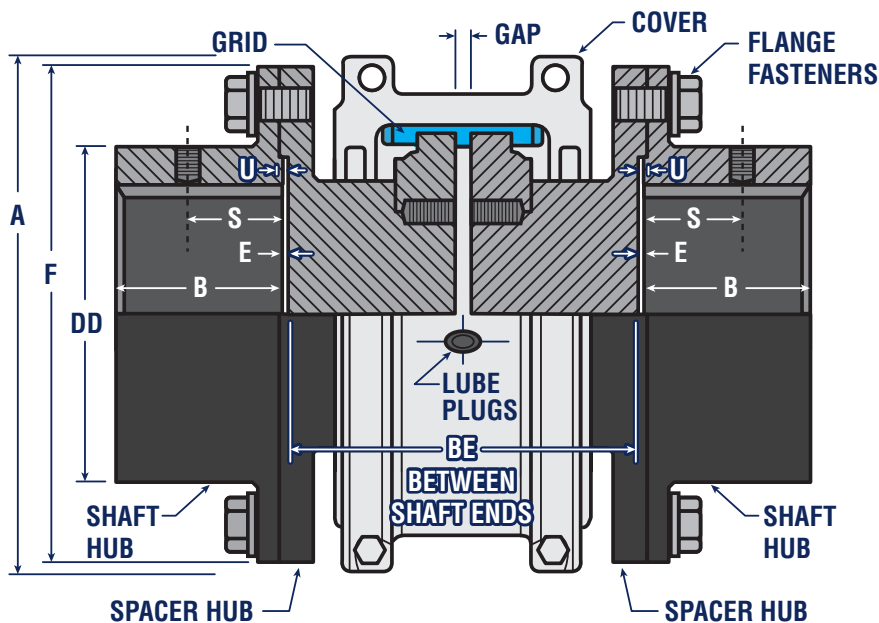
Martin Blue-Flex® Grid Coupling – T20 Style

Coupling Size	HP per 100 RPM	Max Speed (RPM)	Basic Torque (lb-in)	Bore Dia.		Dimensions (in)						Gap (in) Normal	Complete Weight (lb)	Lub. Wt. (lb)
				Max.	Min.	A	B	C	D	E	F			
1020T20	0.68	6000	460	1.12	0.50	4.37	3.86	1.87	1.56	0.95	0.31	0.12	4.4	0.1
1030T20	1.93	6000	1,320	1.37	0.50	4.75	3.86	1.87	1.94	0.98	0.31	0.12	5.7	0.1
1040T20	3.22	6000	2,200	1.62	0.50	5.06	4.12	2.00	2.25	1.01	0.31	0.12	7.5	0.1
1050T20	5.63	6000	3,850	1.87	0.50	5.81	4.87	2.37	2.63	1.23	0.31	0.12	11.9	0.1
1060T20	8.85	6000	6,050	2.12	0.75	6.40	5.12	2.50	3.00	1.27	0.31	0.12	16.1	0.2
1070T20	13	5500	8,800	2.50	0.75	6.81	6.12	3.00	3.44	1.33	0.50	0.12	22.9	0.2
1080T20	27	4750	18,150	3.00	1.06	7.87	7.12	3.50	4.13	1.74	0.50	0.12	39.0	0.4
1090T20	48	4000	33,000	3.50	1.06	8.42	7.87	3.87	4.87	1.88	0.63	0.12	56.0	0.6
1100T20	81	3250	55,550	4.00	1.63	10.50	9.67	4.75	5.59	2.36	0.63	0.18	93.0	0.9
1110T20	121	3000	82,500	4.50	1.63	11.25	10.18	5.00	6.31	2.53	0.75	0.18	119.9	1.1
1120T20	177	2700	121,000	5.00	2.37	12.56	11.98	5.87	7.06	2.89	0.75	0.25	179.9	1.6
1130T20	257	2400	176,000	6.00	2.63	14.87	12.98	6.37	8.56	2.96	1.19	0.25	270.1	2.0
1140T20	370	2200	253,000	7.25	2.63	16.38	14.63	7.20	10.00	3.08	1.19	0.25	397.1	2.5
1150T20	515	2000	352,000	8.00	4.25	18.75	14.64	7.20	10.60	4.21	1.19	0.25	507.1	4.3
1160T20	724	1750	495,000	9.00	4.75	21.00	15.83	7.80	12.00	4.50	1.19	0.25	707.9	6.2
1170T20	965	1600	660,000	10.00	5.25	23.00	17.24	8.50	14.00	4.70	1.19	0.25	988.1	7.7
1180T20	1,338	1400	915,000	11.00	6.00	24.80	19.04	9.40	15.50	5.12	1.50	0.25	1302.9	8.3
1190T20	1,770	1300	1,210,000	12.00	6.00	26.97	20.64	10.20	17.20	5.31	1.50	0.25	1677.7	9.7
1200T20	2,413	1100	1,650,000	13.00	7.00	29.02	22.24	11.00	19.60	5.71	1.50	0.25	2250.9	12.4

Consult *Martin* for higher speeds.

Max. bores listed fit standard recommended keys per ANSI B17.1

Stock T31 Spacer Design



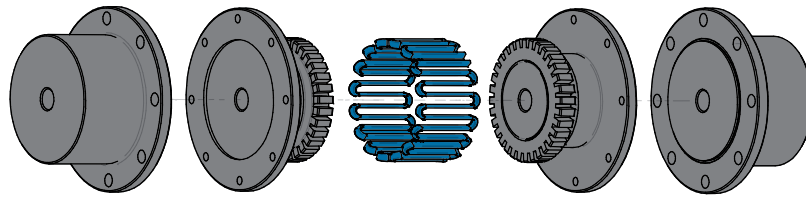
Martin Blue-Flex® Grid Coupling – T31 Style

Coupling Size	Torque Rating (in-lb)*	Allow Speed RPM**	Bore		A	B	BE		E	F	S	U	GAP	Flange Fasteners		Wt Without Bore & Min BE (lb)	Wt Added per inch of BE over Min (lb)	Lube Wt (lb)
			Max	Min ***			Min	Max						No. per Flange & Grade	Dia (in)			
1020T	460	3,600	1.38	0.5	3.82	1.38	3.5	8	0.03	3.38	1.08	0.08	0.19	4, GR 8	0.25	8.5	0.57	0.06
1030T	1,320	3,600	1.63	0.5	4.16	1.62	3.5	8.5	0.03	3.69	1.24	0.08	0.19	8, GR 8	0.25	11.5	0.87	0.09
1040T	2,200	3,600	2.13	0.5	4.5	2.12	3.5	8.5	0.03	4.44	1.08	0.08	0.19	8, GR 8	0.25	18.6	1.17	0.12
1050T	3,850	3,600	2.38	0.5	5.32	2.38	4.37	8.5	0.03	4.94	1.6	0.08	0.19	8, GR 8	0.31	28.2	1.58	0.15
1060T	6,050	3,600	2.88	0.75	5.82	2.88	4.81	13	0.06	5.69	1.7	0.11	0.19	8, GR 8	0.38	45.1	2.06	0.19
1070T	8,800	3,600	3.13	0.75	6.25	3.12	5	13	0.06	6	1.84	0.11	0.19	12, Gr 8	0.38	54.6	2.69	0.25
1080T	18,150	3,600	3.50	1.06	7.5	3.5	6.12	16	0.06	7	1.96	0.11	0.19	12, Gr 8	0.5	88.1	3.86	0.38
1090T	33,000	3,600	4	1.06	8.31	4	6.44	16	0.06	8.25	2.24	0.11	0.19	12, Gr 8	0.63	132	5.37	0.56
1100T	55,550	2,440	4.75	1.5	9.88	3.56	8	16	0.06	9.88	-	0.12	0.25	12, Gr 8	0.75	199	6.95	0.94
1110T	82,500	2,250	5.50	2	10.62	4.1	8.25	16	0.06	10.88	-	0.12	0.25	12, Gr 8	0.75	261	8.98	1.12
1120T	121,000	2,025	6.25	2.5	12.12	4.7	9.69	16	0.06	12.56	-	0.16	0.38	12, Gr 8	0.88	392	11.2	1.62
1130T	176,000	1,800	7	3	13.62	5.3	10.12	16	0.06	13.62	-	0.16	0.38	12, Gr 8	1	522	16.5	2
1140T	253,000	1,650	8	3.5	15.12	6	10.5	16	0.06	15.19	-	0.16	0.38	12, Gr 8	1.13	720	22.4	2.5

* Peak torque capacity is two times the published rating. Torque ratings for hubs with bushings differ from those shown, refer to Table 9, page C48.

** Consult *Martin* for higher speeds..

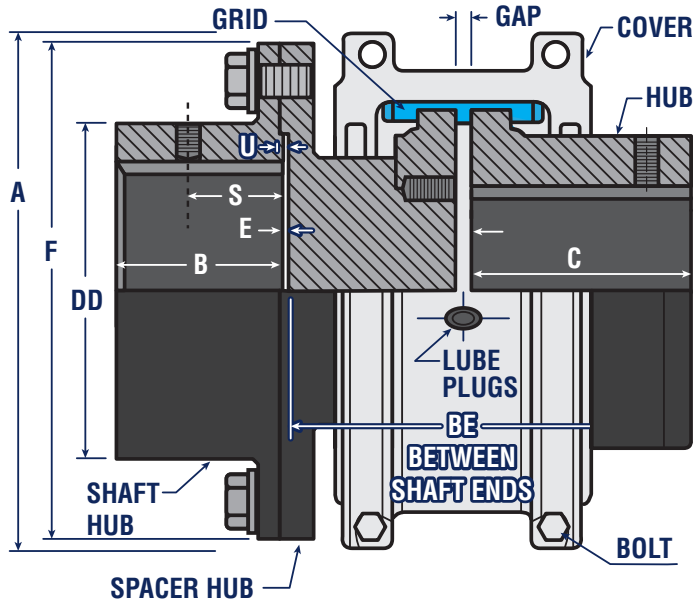
*** Minimum bore is the smallest bore to which a Rough Stock Bore (RSB) hub can be bored. Depending upon coupling size, RSB hubs may have only a blind centering hole or a through hole that will permit remachining of the hubs to the minimum bores specified.



Full Spacer Type T31 Application Shaft Separation – DBSE (Distance Between Shaft Ends)

DBSE	Spacer Hubs	1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T	1100T	1110T
3.500	Hub 1	1.625	1.625	1.625							
	Hub 2	1.625	1.625	1.625							
3.938	Hub 1	1.625	1.625	1.625							
	Hub 2	2.062	2.062	2.062							
4.250	Hub 1	1.625	1.625	1.625							
	Hub 2	2.375	2.375	2.375							
4.375	Hub 1	2.062	2.062	2.062	2.062						
	Hub 2	2.062	2.062	2.062	2.062						
4.688	Hub 1	2.062	2.062	2.062	2.062						
	Hub 2	2.375	2.375	2.375	2.375						
5.000	Hub 1	2.375	2.375	2.375	2.375	2.344	2.344				
	Hub 2	2.375	2.375	2.375	2.375	2.344	2.344				
5.219	Hub 1			1.625							
	Hub 2			3.344							
5.375	Hub 1		1.625	1.625							
	Hub 2		3.500	3.500							
5.510	Hub 1	2.631	2.631	2.631	2.631	2.600	2.600				
	Hub 2	2.631	2.631	2.631	2.631	2.600	2.600				
5.656	Hub 1		2.062	2.062	2.062						
	Hub 2		3.344	3.344	3.344						
5.813	Hub 1		2.062	2.062	2.062						
	Hub 2		3.500	3.500	3.500						
5.969	Hub 1		2.375	2.375	2.375						
	Hub 2		3.344	3.344	3.344						
6.125	Hub 1		2.375	2.375	2.375	2.344	2.344				
	Hub 2		3.500	3.500	3.500	3.469	3.469				
6.938	Hub 1	3.344	3.344	3.344	3.344	3.312					
	Hub 2	3.344	3.344	3.344	3.344	3.312					
7.000	Hub 1						3.344	3.344			
	Hub 2						3.344	3.344			
7.094	Hub 1			3.344	3.344		3.387	3.387	3.387		
	Hub 2			3.500	3.500		3.387	3.387	3.387		
7.250	Hub 1		3.500	3.500	3.500	3.469	3.469	3.469	3.469		
	Hub 2		3.500	3.500	3.500	3.469	3.469	3.469	3.469		
8.000	Hub 1									3.812	
	Hub 2									3.812	
8.593	Hub 1							3.469			
	Hub 2							4.812			
8.625	Hub 1					2.344	2.344				
	Hub 2					5.696	5.696				
8.875	Hub 1									3.812	
	Hub 2									4.688	
9.750	Hub 1					3.469	3.469	3.469	3.469	4.688	4.688
	Hub 2					5.969	5.969	5.969	5.969	4.688	4.688
9.938	Hub 1							4.812		4.733	4.733
	Hub 2							4.812		4.733	4.733
11.093	Hub 1							4.812			
	Hub 2							5.969			
12.250	Hub 1					5.969	5.969	5.969	5.969	5.938	
	Hub 2					5.969	5.969	5.969	5.969	5.938	
14.049	Hub 1										6.837
	Hub 2										6.837

Stock T35 Spacer Design



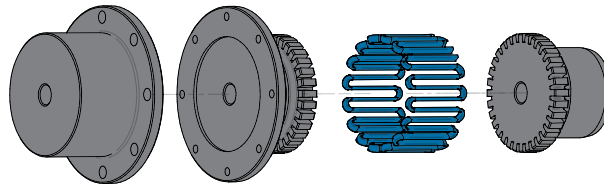
Martin Blue-Flex® Grid Coupling – T35 Style

Coupling Size	Torque Rating (in-lb)*	Allow Speed RPM**	Max Bore		Min Bore ***	A	B	BE		E	F	S	U	GAP	Flange Fasteners		Wt Without Bore & Min BE (lb)	Wt Added per inch of BE over Min (lb)	Lube Wt (lb)
			Shaft Hub	Hub				Min	Max						No. per Flange & Grade	Dia (in)			
1020T	460	3,600	1.38	1.13	0.5	3.82	1.38	1.78	4.03	0.03	3.38	1.08	0.08	0.19	4, GR 8	0.25	8.5	0.57	0.06
1030T	1,320	3,600	1.63	1.38	0.5	4.16	1.62	1.78	4.28	0.03	3.69	1.24	0.08	0.19	8, GR 8	0.25	11.5	0.87	0.09
1040T	2,200	3,600	2.13	1.63	0.5	4.5	2.12	1.78	4.28	0.03	4.44	1.08	0.08	0.19	8, GR 8	0.25	18.6	1.17	0.12
1050T	3,850	3,600	2.38	1.88	0.5	5.32	2.38	2.22	4.28	0.03	4.94	1.6	0.08	0.19	8, GR 8	0.31	28.2	1.58	0.15
1060T	6,050	3,600	2.88	2.13	0.75	5.82	2.88	2.44	6.53	0.06	5.69	1.7	0.11	0.19	8, GR 8	0.38	45.1	2.06	0.19
1070T	8,800	3,600	3.13	2.5	0.75	6.25	3.12	2.53	6.53	0.06	6	1.84	0.11	0.19	12, Gr 8	0.38	54.6	2.69	0.25
1080T	18,150	3,600	3.5	3	1.06	7.5	3.5	3.09	8.03	0.06	7	1.96	0.11	0.19	12, Gr 8	0.5	88.1	3.86	0.38
1090T	33,000	3,600	4	3.5	1.06	8.31	4	3.25	8.03	0.06	8.25	2.24	0.11	0.19	12, Gr 8	0.63	132	5.37	0.56
1100T	55,550	2,440	4.75	4	1.63	9.88	3.56	4.06	8.06	0.06	9.88	–	0.12	0.25	12, Gr 8	0.75	199	6.95	0.94
1110T	82,500	2,250	5.5	4.5	1.63	10.62	4.1	4.19	8.06	0.06	10.88	–	0.12	0.25	12, Gr 8	0.75	261	8.98	1.12
1120T	121,000	2,025	6.25	5	2.38	12.12	4.7	4.91	8.06	0.06	12.56	–	0.16	0.38	12, Gr 8	0.88	392	11.2	1.62
1130T	176,000	1,800	7	6	2.63	13.62	5.3	5.12	8.06	0.06	13.62	–	0.16	0.38	12, Gr 8	1	522	16.5	2
1140T	253,000	1,650	8	7.25	2.63	15.12	6	5.31	8.06	0.06	15.19	–	0.16	0.38	12, Gr 8	1.13	720	22.4	2.5

* Peak torque capacity is two times the published rating. Torque ratings for hubs with bushings differ from those shown, refer to Table 9, page C48.

** Consult Martin for higher speeds..

*** Minimum bore is the smallest bore to which a Rough Stock Bore (RSB) hub can be bored. Depending upon coupling size, RSB hubs may have only a blind centering hole or a through hole that will permit remachining of the hubs to the minimum bores specified.



Half Spacer Type T35 Application Shaft Separation – DBSE (Distance Between Shaft Ends)

DBSE	Spacer Hub 1 side only	Half Spacer type T35 Application Shaft Separation DBSE (Distance Between Shaft Ends)									
		1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T	1100T	1110T
1.781	Hub 1	1.625	1.625	1.625							
	Hub 2	STD	STD	STD							
2.219	Hub 1	2.062	2.062	2.062	2.062						
	Hub 2	STD	STD	STD	STD						
2.531	Hub 1	2.375	2.375	2.375	2.375	2.344	2.344				
	Hub 2	STD	STD	STD	STD	STD	STD				
3.500	Hub 1	3.344	3.344	3.344	3.344	3.312					
	Hub 2	STD	STD	STD	STD	STD					
3.531	Hub 1						3.344	3.344			
	Hub 2						STD	STD			
3.656	Hub 1			3.500	3.500	3.469	3.469	3.469	3.469		
	Hub 2			STD	STD	STD	STD	STD	STD		
4.062	Hub 1									3.812	
	Hub 2									STD	
4.938	Hub 1									4.688	4.688
	Hub 2									STD	STD
5.000	Hub 1							4.812		4.733	4.733
	Hub 2							STD		STD	STD
6.156	Hub 1					5.969	5.969	5.969	5.969		
	Hub 2					STD	STD	STD	STD		
6.188	Hub 1									5.938	
	Hub 2									STD	
7.090	Hub 1										6.837
	Hub 2										STD

Bore-To-Size Hubs

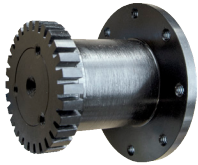


Blue-Flex® Bored-To-Size Hubs with Finished Bore, Keyway, and 2 Set Screw

Bore Size	Keyway (Inches)	Part Number by Coupling Size							
		1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T
Plain Bore		1020T-HUB	1030T-HUB	1040T-HUB	1050T-HUB	1060T-HUB	1070T-HUB	1080T-HUB	1090T-HUB
Inches									
1/2	1/8 x 1/16	1020T-HUB1/2	—	—	—	—	—	—	—
5/8	3/16 x 3/32	1020T-HUB5/8	1030T-HUB5/8	1040T-HUB5/8	—	—	—	—	—
3/4	3/16 x 3/32	1020T-HUB3/4	1030T-HUB3/4	1040T-HUB3/4	1050T-HUB3/4	1060T-HUB3/4	—	—	—
7/8	3/16 x 3/32	1020T-HUB7/8	1030T-HUB7/8	1040T-HUB7/8	1050T-HUB7/8	1060T-HUB7/8	—	—	—
15/16	1/4 x 1/8	1020T-HUB15/16	1030T-HUB15/16	1040T-HUB15/16	1050T-HUB15/16	1060T-HUB15/16	—	—	—
1	1/4 x 1/8	1020T-HUB1	1030T-HUB1	1040T-HUB1	1050T-HUB1	1060T-HUB1	1070T-HUB1	—	—
1 1/8	1/4 x 1/8	1020T-HUB1 1/8	1030T-HUB1 1/8	1040T-HUB1 1/8	1050T-HUB1 1/8	1060T-HUB1 1/8	1070T-HUB1 1/8	1080T-HUB1 1/8	—
1 3/16	1/4 x 1/8	—	1030T-HUB1 3/16	1040T-HUB1 3/16	1050T-HUB1 3/16	1060T-HUB1 3/16	1070T-HUB1 3/16	—	—
1 1/4	1/4 x 1/8	—	1030T-HUB1 1/4	1040T-HUB1 1/4	1050T-HUB1 1/4	1060T-HUB1 1/4	1070T-HUB1 1/4	1080T-HUB1 1/4	—
1 3/8	5/16 x 5/32	—	1030T-HUB1 3/8	1040T-HUB1 3/8	1050T-HUB1 3/8	1060T-HUB1 3/8	1070T-HUB1 3/8	1080T-HUB1 3/8	1090T-HUB1 3/8
1 7/16	3/8 x 3/16	—	—	1040T-HUB1 7/16	1050T-HUB1 7/16	1060T-HUB1 7/16	1070T-HUB1 7/16	1080T-HUB1 7/16	1090T-HUB1 7/16
1 1/2	3/8 x 3/16	—	—	1040T-HUB1 1/2	1050T-HUB1 1/2	1060T-HUB1 1/2	1070T-HUB1 1/2	1080T-HUB1 1/2	1090T-HUB1 1/2
1 9/16	3/8 x 3/16	—	—	1040T-HUB1 9/16	1050T-HUB1 9/16	1060T-HUB1 9/16	1070T-HUB1 9/16	1080T-HUB1 9/16	—
1 5/8	3/8 x 3/16	—	—	1040T-HUB1 5/8	1050T-HUB1 5/8	1060T-HUB1 5/8	1070T-HUB1 5/8	1080T-HUB1 5/8	1090T-HUB1 5/8
1 11/16	3/8 x 3/16	—	—	—	1050T-HUB1 11/16	1060T-HUB1 11/16	1070T-HUB1 11/16	1080T-HUB1 11/16	1090T-HUB1 11/16
1 3/4	3/8 x 3/16	—	—	—	1050T-HUB1 3/4	1060T-HUB1 3/4	1070T-HUB1 3/4	1080T-HUB1 3/4	1090T-HUB1 3/4
1 13/16	1/2 x 1/4	—	—	—	1050T-HUB1 13/16	1060T-HUB1 13/16	1070T-HUB1 13/16	1080T-HUB1 13/16	1090T-HUB1 13/16
1 7/8	1/2 x 1/4	—	—	—	1050T-HUB1 7/8	1060T-HUB1 7/8	1070T-HUB1 7/8	1080T-HUB1 7/8	1090T-HUB1 7/8
1 15/16	1/2 x 1/4	—	—	—	—	1060T-HUB1 15/16	1070T-HUB1 15/16	1080T-HUB1 15/16	1090T-HUB1 15/16
2	1/2 x 1/4	—	—	—	—	1060T-HUB2	1070T-HUB2	1080T-HUB2	1090T-HUB2
2 1/8	1/2 x 1/4	—	—	—	—	1060T-HUB2 1/8	1070T-HUB2 1/8	1080T-HUB2 1/8	1090T-HUB2 1/8
2 3/16	1/2 x 1/4	—	—	—	—	—	1070T-HUB2 3/16	1080T-HUB2 3/16	1090T-HUB2 3/16
2 1/4	1/2 x 1/4	—	—	—	—	—	1070T-HUB2 1/4	1080T-HUB2 1/4	1090T-HUB2 1/4
2 3/8	5/8 x 5/16	—	—	—	—	—	1070T-HUB2 3/8	1080T-HUB2 3/8	1090T-HUB2 3/8
2 7/16	5/8 x 5/16	—	—	—	—	—	1070T-HUB2 7/16	1080T-HUB2 7/16	1090T-HUB2 7/16
2 1/2	5/8 x 5/16	—	—	—	—	—	1070T-HUB2 1/2	1080T-HUB2 1/2	1090T-HUB2 1/2
2 5/8	5/8 x 5/16	—	—	—	—	—	—	1080T-HUB2 5/8	1090T-HUB2 5/8
2 11/16	5/8 x 5/16	—	—	—	—	—	—	1080T-HUB2 11/16	1090T-HUB2 11/16
2 3/4	5/8 x 5/16	—	—	—	—	—	—	1080T-HUB2 3/4	1090T-HUB2 3/4
2 7/8	3/4 x 3/8	—	—	—	—	—	—	1080T-HUB2 7/8	1090T-HUB2 7/8
2 15/16	3/4 x 3/8	—	—	—	—	—	—	1080T-HUB2 15/16	1090T-HUB2 15/16
3	3/4 x 3/8	—	—	—	—	—	—	1080T-HUB3	1090T-HUB3
3 1/8	3/4 x 3/8	—	—	—	—	—	—	—	1090T-HUB3 1/8
3 1/4	3/4 x 3/8	—	—	—	—	—	—	—	1090T-HUB3 1/4
3 3/8	7/8 x 7/16	—	—	—	—	—	—	—	1090T-HUB3 3/8
3 7/16	7/8 x 7/16	—	—	—	—	—	—	—	1090T-HUB3 7/16
3 1/2	7/8 x 7/16	—	—	—	—	—	—	—	1090T-HUB3 1/2
Taper Bushed		—	1030T-HUB1108	1040T-HUB1108	1050T-HUB1215	1060T-HUB1615	1070T-HUB2012	1080T-HUB2525	1090T-HUB3030
Metric									
14	5 x 2.3	1020T-HUB14MM	—	—	—	—	—	—	—
15	5 x 2.3	1020T-HUB15MM	—	—	—	—	—	—	—
16	5 x 2.3	1020T-HUB16MM	—	—	—	—	—	—	—
19	6 x 2.8	1020T-HUB19MM	1030T-HUB19MM	—	—	—	—	—	—
20	6 x 2.8	1020T-HUB20MM	1030T-HUB20MM	—	—	—	—	—	—
22	6 x 2.8	1020T-HUB22MM	1030T-HUB22MM	—	—	—	—	—	—
24	8 x 3.3	1020T-HUB24MM	1030T-HUB24MM	1040T-HUB24MM	—	—	—	—	—
25	8 x 3.3	1020T-HUB25MM	1030T-HUB25MM	1040T-HUB25MM	—	—	—	—	—
28	8 x 3.3	—	1030T-HUB28MM	1040T-HUB28MM	1050T-HUB28MM	—	—	—	—
30	8 x 3.3	—	1030T-HUB30MM	1040T-HUB30MM	1050T-HUB30MM	—	—	—	—
32	10 x 3.3	—	1030T-HUB32MM	1040T-HUB32MM	1050T-HUB32MM	1060T-HUB32MM	—	—	—
35	10 x 3.3	—	1030T-HUB35MM	1040T-HUB35MM	1050T-HUB35MM	1060T-HUB35MM	1070T-HUB35MM	—	—
38	10 x 3.3	—	—	1040T-HUB38MM	1050T-HUB38MM	1060T-HUB38MM	1070T-HUB38MM	1080T-HUB38MM	—
40	12 x 3.3	—	—	—	—	1060T-HUB40MM	1070T-HUB40MM	—	—
42	12 x 3.3	—	—	1040T-HUB42MM	1050T-HUB42MM	1060T-HUB42MM	1070T-HUB42MM	1080T-HUB42MM	1090T-HUB42MM
45	14 x 3.8	—	—	—	—	1060T-HUB45MM	1070T-HUB45MM	—	—
48	14 x 3.8	—	—	—	1050T-HUB48MM	1060T-HUB48MM	1070T-HUB48MM	1080T-HUB48MM	1090T-HUB48MM
50	14 x 3.8	—	—	—	—	1060T-HUB50MM	—	—	—
55	16 x 4.3	—	—	—	—	1060T-HUB55MM	1070T-HUB55MM	1080T-HUB55MM	1090T-HUB55MM
60	18 x 4.4	—	—	—	—	—	—	1080T-HUB60MM	—
65	18 x 4.4	—	—	—	—	—	—	—	1090T-HUB65MM
70	20 x 4.9	—	—	—	—	—	—	1080T-HUB70MM	1090T-HUB70MM
80	22 x 5.4	—	—	—	—	—	—	1080T-HUB80MM	1090T-HUB80MM
85	22 x 5.4	—	—	—	—	—	—	—	1090T-HUB85MM



Spacer and Shaft Hubs



Spacer Hubs



Shaft Hubs
Plain Bore and Finished Bore with Keyway,
and 2 Set Screws Taper Bushed Available

Spacer Length	Part Number by Coupling Size									
	1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T	1100T	1110T
1.625	1020T-CL1.6250	1030T-CL1.6250	1040T-CL1.6250							
2.0620	1020T-CL2.0620	1030T-CL2.0620	1040T-CL2.0620	1050T-CL2.0620						
2.3440					1060T-CL2.3440	1070T-CL2.3440	1080T-CL3.3440			
2.3750	1020T-CL2.3750	1030T-CL2.3750	1040T-CL2.3750	1050T-CL2.3750						
2.6000					1060T-CL2.6000	1070T-CL2.6000				
2.6310	1020T-CL2.6310	1030T-CL2.6310	1040T-CL2.6310	1050T-CL2.6310						
3.3120					1060T-CL3.3120					
3.3440	1020T-CL3.3440	1030T-CL3.3440	1040T-CL3.3440	1050T-CL3.3440		1070T-CL3.3440				
3.3870						1070T-CL3.3870	1080T-CL3.3870	1090T-CL3.3870		
3.4690					1060T-CL3.4690	1070T-CL3.4690	1080T-CL3.4690	1090T-CL3.4690		
3.5000		1030T-CL3.5000	1040T-CL3.5000	1050T-CL3.5000						
3.8120									1100T-CL3.8120	
4.6880									1100T-CL4.6880	1110T-CL4.6880
4.7330									1100T-CL4.7330	1110T-CL4.7330
4.8120							1080T-CL4.8120			
5.2620									1100T-CL5.2620	
5.3250							1080T-CL5.3250	1090T-CL5.3250		
5.9375									1100T-CL5.9375	
5.9690					1060T-CL5.9690	1070T-CL5.9690	1080T-CL5.9690	1090T-CL5.9690		
6.8370										1110T-CL6.8370
6.9000								1090T-CL6.9000		

Blue-Flex® Shaft Hubs with Plain Bore and Finished Bore (with Keyway, and 2 Set Screws)

Bore Size	Keyway (Inches)	Part Number by Coupling Size									
		1020T	1030T	1040T	1050T	1060T	1070T	1080T	1090T	1100T	1110T
Plain Bore		1020T-SH	1030T-SH	1040T-SH	1050T-SH	1060T-SH	1070T-SH	1080T-SH	1090T-SH	1100T-SH	1110T-SH
1/2	1/8 x 1/16	1020T-SH1/2									
5/8	3/16 x 3/32	1020T-SH5/8	1030T-SH5/8								
3/4	3/16 x 3/32	1020T-SH3/4	1030T-SH3/4	1040T-SH3/4							
7/8	3/16 x 3/32	1020T-SH7/8	1030T-SH7/8	1040T-SH7/8							
1	1/4 x 1/8	1020T-SH1	1030T-SH1	1040T-SH1	1050T-SH1						
1 1/8	1/4 x 1/8	1020T-SH1 1/8	1030T-SH1 1/8	1040T-SH1 1/8	1050T-SH1 1/8	1060T-SH1 1/8					
1 1/4	1/4 x 1/8	1020T-SH1 1/4	1030T-SH1 1/4	1040T-SH1 1/4	1050T-SH1 1/4	1060T-SH1 1/4					
1 3/8	5/16 x 5/32	1020T-SH1 3/8	1030T-SH1 3/8	1040T-SH1 3/8	1050T-SH1 3/8	1060T-SH1 3/8	1070T-SH1 3/8				
1 1/2	3/8 x 3/16		1030T-SH1 1/2	1040T-SH1 1/2	1050T-SH1 1/2	1060T-SH1 1/2	1070T-SH1 1/2				
1 5/8	3/8 x 3/16		1030T-SH1 5/8	1040T-SH1 5/8	1050T-SH1 5/8	1060T-SH1 5/8	1070T-SH1 5/8	1080T-SH1 5/8		1100T-SH1 5/8	
1 3/4	3/8 x 3/16			1040T-SH1 3/4	1050T-SH1 3/4	1060T-SH1 3/4	1070T-SH1 3/4	1080T-SH1 3/4			
1 7/8	1/2 x 1/4			1040T-SH1 7/8	1050T-SH1 7/8	1060T-SH1 7/8	1070T-SH1 7/8	1080T-SH1 7/8	1090T-SH1 7/8		
2	1/2 x 1/4			1040T-SH2	1050T-SH2	1060T-SH2	1070T-SH2	1080T-SH2	1090T-SH2		
2 1/8	1/2 x 1/4			1040T-SH2 1/8	1050T-SH2 1/8	1060T-SH2 1/8	1070T-SH2 1/8	1080T-SH2 1/8	1090T-SH2 1/8		
2 1/4	1/2 x 1/4				1050T-SH2 1/4	1060T-SH2 1/4	1070T-SH2 1/4	1080T-SH2 1/4	1090T-SH2 1/4		
2 3/8	5/8 x 5/16				1050T-SH2 3/8	1060T-SH2 3/8	1070T-SH2 3/8	1080T-SH2 3/8	1090T-SH2 3/8		
2 1/2	5/8 x 5/16					1060T-SH2 1/2	1070T-SH2 1/2	1080T-SH2 1/2	1090T-SH2 1/2		
2 5/8	5/8 x 5/16					1060T-SH2 5/8	1070T-SH2 5/8	1080T-SH2 5/8	1090T-SH2 5/8		
2 7/8	3/4 x 3/8					1060T-SH2 7/8	1070T-SH2 7/8	1080T-SH2 7/8	1090T-SH2 7/8		
3	3/4 x 3/8						1070T-SH3	1080T-SH3	1090T-SH3	1100T-SH3	1110T-SH3
3 1/8	3/4 x 3/8							1080T-SH3 1/8	1090T-SH3 1/8		
3 1/4	3/4 x 3/8							1080T-SH3 1/4	1090T-SH3 1/4		
3 3/8	7/8 x 7/16							1080T-SH3 3/8	1090T-SH3 3/8	1100T-SH3 3/8	
3 1/2	7/8 x 7/16								1090T-SH3 1/2		
3 5/8	7/8 x 7/16								1090T-SH3 5/8		
3 7/8	1 x 1/2								1090T-SH3 7/8		
4	1 x 1/2								1090T-SH4	1100T-SH4	

Components



Plain Bore Hubs
1-Day Rebore Available



Bored-To-Size Hubs
Finished Bore, Keyway, and 2 Set Screws
Taper Bushed Available



Blue-Flex® Grid

Coupling Size	Part Number
1020T	1020T-GRID
1030T	1030T-GRID
1040T	1040T-GRID
1050T	1050T-GRID
1060T	1060T-GRID
1070T	1070T-GRID
1080T	1080T-GRID
1090T	1090T-GRID
1100T	1100T-GRID
1110T	1110T-GRID
1120T	1120T-GRID
1130T	1130T-GRID
1140T	1140T-GRID
1150T	1150T-GRID
1160T	1160T-GRID
1170T	1170T-GRID
1180T	1180T-GRID
1190T	1190T-GRID
1200T	1200T-GRID



T10 Cover



T20 Cover



Fastener Sets



Seal & Gasket Kits

Blue-Flex® Parts and Kits

Coupling Size	T10 Cover Horizontal Split				T20 Cover Vertical Split for Higher RPM			
	Cover (Cover, Seals, Gaskets & Fasteners)	Cover Fastener Set	Seal Kit (Seal & Gasket)	Cover Grid Assemblies (Cover, Grid, Seals, Gaskets & Fasteners) *Includes Grease	Cover (Cover, Seals, Gaskets & Fasteners)	Cover Fastener Set	Seal Kit (Seal & Gasket)	Cover Grid Assemblies (Cover, Grid, Seals, Gaskets & Fasteners) *Includes Grease
1020T	1020T10-COV	1020T10-FAS	1020T10-SEAL	1020T10-SUBASY*	1020T20-COV	1020T20-FAS	1020T20-SEAL	1020T20-SUBASY*
1030T	1030T10-COV	1030T10-FAS	1030T10-SEAL	1030T10-SUBASY*	1030T20-COV	1030T20-FAS	1030T20-SEAL	1030T20-SUBASY*
1040T	1040T10-COV	1040T10-FAS	1040T10-SEAL	1040T10-SUBASY*	1040T20-COV	1040T20-FAS	1040T20-SEAL	1040T20-SUBASY*
1050T	1050T10-COV	1050T10-FAS	1050T10-SEAL	1050T10-SUBASY*	1050T20-COV	1050T20-FAS	1050T20-SEAL	1050T20-SUBASY*
1060T	1060T10-COV	1060T10-FAS	1060T10-SEAL	1060T10-SUBASY*	1060T20-COV	1060T20-FAS	1060T20-SEAL	1060T20-SUBASY*
1070T	1070T10-COV	1070T10-FAS	1070T10-SEAL	1070T10-SUBASY*	1070T20-COV	1070T20-FAS	1070T20-SEAL	1070T20-SUBASY*
1080T	1080T10-COV	1080T10-FAS	1080T10-SEAL	1080T10-SUBASY*	1080T20-COV	1080T20-FAS	1080T20-SEAL	1080T20-SUBASY*
1090T	1090T10-COV	1090T10-FAS	1090T10-SEAL	1090T10-SUBASY*	1090T20-COV	1090T20-FAS	1090T20-SEAL	1090T20-SUBASY*
1100T	1100T10-COV	1100T10-FAS	1100T10-SEAL	1100T10-SUBASY	1100T20-COV	1100T20-FAS	1100T20-SEAL	1100T20-SUBASY
1110T	1110T10-COV	1110T10-FAS	1110T10-SEAL	1110T10-SUBASY	1110T20-COV	1120T20-FAS	1110T20-SEAL	1110T20-SUBASY
1120T	1120T10-COV	1120T10-FAS	1120T10-SEAL	1120T10-SUBASY	1120T20-COV	1120T20-FAS	1120T20-SEAL	1120T20-SUBASY
1130T	1130T10-COV	1130T10-FAS	1130T10-SEAL	1130T10-SUBASY	1130T20-COV	1130T20-FAS	1130T20-SEAL	1130T20-SUBASY
1140T	1140T10-COV	1140T10-FAS	1140T10-SEAL	1140T10-SUBASY	1140T20-COV	1140T20-FAS	1140T20-SEAL	1140T20-SUBASY
1150T	1150T10-COV	1150T10-FAS	1150T10-SEAL	1150T10-SUBASY	1150T20-COV	1150T20-FAS	1150T20-SEAL	1150T20-SUBASY
1160T	1160T10-COV	1160T10-FAS	1160T10-SEAL	1160T10-SUBASY	1160T20-COV	1160T20-FAS	1160T20-SEAL	1160T20-SUBASY
1170T	1170T10-COV	1170T10-FAS	1170T10-SEAL	1170T10-SUBASY	1170T20-COV	1170T20-FAS	1170T20-SEAL	1170T20-SUBASY
1180T	1180T10-COV	1180T10-FAS	1180T10-SEAL	1180T10-SUBASY	1180T20-COV	1180T20-FAS	1180T20-SEAL	1180T20-SUBASY
1190T	1190T10-COV	1190T10-FAS	1190T10-SEAL	1190T10-SUBASY	1190T20-COV	1190T20-FAS	1190T20-SEAL	1190T20-SUBASY
1200T	1200T10-COV	1200T10-FAS	1200T10-SEAL	1200T10-SUBASY	1200T20-COV	1200T20-FAS	1200T20-SEAL	1200T20-SUBASY

Note: All Covers include Seal Kits

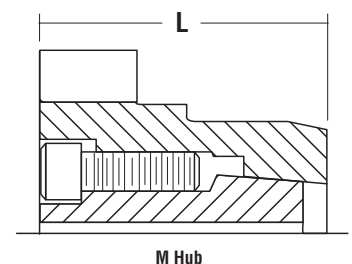
Table 8 – Type T Hub Bore Ranges with Square & Rectangular Keys

Size	Inches																Millimeters			
	Min Bore	For One Square Key				For One Rectangular Key						For Two Square Keys			For Two Rectangular Keys			Min Bore	Max Bore	
		Max Bore	Y=X		Max Bore	Y=X		Max Bore	Y=W/2		Max Bore	Y=X		Max Bore	Y=X		Std Bore Fits per Table 16		Int Fit per Table 16 w/Setscrew Over Keyway	
			W	X		W	X		W	X		W	X		W	X				
1020T	0.500	1.125	0.250	0.125	1.187	0.250	0.093	1.250	0.250	0.062	-	-	-	-	-	-	13	28	24	
1030T	0.500	1.375	0.312	0.156	1.437	0.375	0.125	1.562	0.375	0.062	-	-	-	-	-	-	13	35	30	
1040T	0.500	1.625	0.375	0.187	1.750	0.375	0.125	1.750	0.375	0.062	-	-	-	-	-	-	13	43	38	
1050T	0.500	1.875	0.500	0.250	2.000	0.500	0.187	2.125	0.500	0.125	-	-	-	-	-	-	13	50	45	
1060T	0.750	2.125	0.500	0.250	2.250	0.500	0.187	2.375	0.625	0.125	-	-	-	-	-	-	20	56	50	
1070T	0.750	2.500	0.625	0.312	2.687	0.625	0.218	2.875	0.750	0.125	-	-	-	-	-	-	20	67	60	
1080T	1.062	3.000	0.750	0.375	3.250	0.750	0.250	3.375	0.875	0.187	-	-	-	-	-	-	27	80	75	
1090T	1.062	3.500	0.875	0.437	3.750	0.875	0.312	3.875	1.000	0.250	-	-	-	-	-	-	27	95	90	
1100T	1.625	4.000	1.000	0.500	4.250	1.000	0.375	4.500	1.000	0.250	-	-	-	-	-	-	42	110	100	
1110T	1.625	4.500	1.000	0.500	4.625	1.250	0.437	5.000	1.250	0.250	-	-	-	-	-	-	42	120	110	
1120T	2.375	5.000	1.250	0.625	5.375	1.250	0.437	5.750	1.500	0.250	-	-	-	-	-	-	61	140	120	
1130T	2.625	6.000	1.500	0.750	6.500	1.500	0.500	6.500	1.500	0.250	-	-	-	-	-	-	67	170	150	
1140T	2.625	7.000	1.750	0.875	7.250	1.750	0.750	7.750	2.000	0.500	-	-	-	-	-	-	67	200	180	
1150T	4.250	7.500	1.750	0.875	8.000	2.000	0.750	-	-	-	-	-	-	-	-	-	108	215	190	
1160T	4.750	8.500	2.000	1.000	9.000	2.000	0.750	-	-	-	-	-	-	-	-	-	121	240	215	
1170T	5.250	9.750	2.500	1.250	10.000	2.500	0.875	-	-	-	10.750	1.750	0.875	11.000	1.750	0.750	134	280	240	
1180T	6.000	10.750	2.500	1.250	11.000	2.500	0.875	-	-	-	12.000	1.750	0.875	12.250	2.000	0.750	153	300	260	
1190T	6.000	11.750	3.000	1.500	12.000	3.000	1.000	-	-	-	13.000	2.000	1.000	13.250	2.000	0.750	153	336	290	
1200T	7.000	12.750	3.000	1.500	13.000	3.000	1.000	-	-	-	14.000	2.500	1.250	14.250	2.500	0.875	178	360	320	

Y = Shaft keyway depth; X = Hub keyway depth; W = Keyway width
 • Maximum bores using standard recommended keys on Table 13.
 ◊ Consult *Martin*.

Table 9 – Taper Bushings for Type T Hubs

Coupling Size	M Hub			
	Taper Bushing			L (in)
	Catalog Part No.	Bore Range (in)	Torque (lb-in)	
1020T	-	-	-	-
1030T	1108	0.500 to 1.125	1,300	1.62
1040T	1108	0.500 to 1.125	1,300	1.62
1050T	1215	0.500 to 1.250	3,550	1.88
1060T	1615	0.500 to 1.625	4,300	2.12
1070T	2012	0.500 to 2.000	7,150	2.12
1080T	2525	0.750 to 2.500	11,300	2.62
1090T	3030	0.938 to 3.000	24,000	3.12
1100T	3030	0.938 to 3.000	24,000	3.50
1110T	3535	1.188 to 3.500	44,800	3.62
1120T	4040	1.438 to 4.000	77,300	4.38
1130T	4545	1.938 to 4.500	110,000	4.62
1140T	5050	2.438 to 5.000	126,000	5.12
1150T	5050	2.438 to 5.000	126,000	7.20
1160T	5050	2.438 to 5.000	126,000	7.80
1170T	7060	3.938 to 7.000	416,000	8.50
1180T	8065	4.438 to 8.000	456,000	9.40
1190T	8065	4.438 to 8.000	456,000	10.20
1200T	10085	7.000 to 10.000	869,000	11.00



Bushings require shaft keyways as calculated in Table 13.
 Taper bores not recommended for shock load, reverse load, or 1.75+ coupling service factor applications.

Table 10 – WR² Values (lb-in²)

WR2 values are based on hubs with no bore; seals, lube plugs and gaskets are not considered.

Coupling Size	Coupling Type					
	T10	T20	T31		T35	
			WR ² (Min DBSE)	WR ² Added per inch of DBSE	WR ² (Min DBSE)	WR ² Added per inch of DBSE
1020T	4.83	5.32	9.8	0.18	7.3	0.18
1030T	7.61	7.99	15.3	0.42	11.5	0.42
1040T	11.19	11.99	31.8	0.76	21.5	0.76
1050T	24.85	25.76	62	1.4	43.4	1.4
1060T	40.66	41.16	132	2.38	86.4	2.38
1070T	63.18	61.68	175	4.06	119	4.06
1080T	154	148	396	8.37	275	8.37
1090T	269	272	805	16.2	537	16.2
1100T	609	608	1756	27.2	1183	27.2
1110T	923	930	2726	45.4	1825	45.4
1120T	1755	1611	5341	70.9	3548	70.9
1130T	3378	3568	8563	153	5970	153
1140T	6306	6431	14871	283	10588	283
1150T	11922	11243	–	–	–	–
1160T	19876	20597	–	–	–	–
1170T	35621	35625	–	–	–	–
1180T	62553	63343	–	–	–	–
1190T	89359	90487	–	–	–	–
1200T	148676	150553	–	–	–	–

Table 11 – Type T Coupling Puller Bolt Holes (in)

Coupling Size	Coupling Type	
	B.C.	Tap Size (UNC)
1020T	1.531	#6-32 x 0.38
1030T	1.875	#6-32 x 0.38
1040T	2.125	#10-24 x 0.38
1050T	2.500	#10-24 x 0.38
1060T	2.875	0.250-20 x 0.38
1070T	3.312	0.250-20 x 0.38
1080T	3.937	0.250-20 x 0.38
1090T	4.562	0.3125-18 x 0.44
1100T	5.250	0.375-16 x 0.50
1110T	5.875	0.4375-14 x 0.62
1120T	6.625	0.4375-14 x 0.62
1130T	7.750	0.625-11 x 0.82
1140T	9.125	0.625-11 x 0.82
1150T	10.375	0.750-10 x 0.94
1160T	11.750	0.875-9 x 1.06
1170T	13.250	1.125-7 x 1.25
1180T	14.875	1.250-7 x 1.50
1190T	16.250	1.500-6 x 1.75
1200T	17.937	1.500-6 x 1.75

Table 12 – Reduced Max Bores Interference Fit & Setscrew Over Keyway — All Type M Couplings

Size	Bore
1020T	1.000
1030T	1.250
1040T	1.375
1050T	1.750
1060T	1.875
1070T	2.250
1080T	2.750
1090T	3.250
1100T	3.500
1110T	4.000

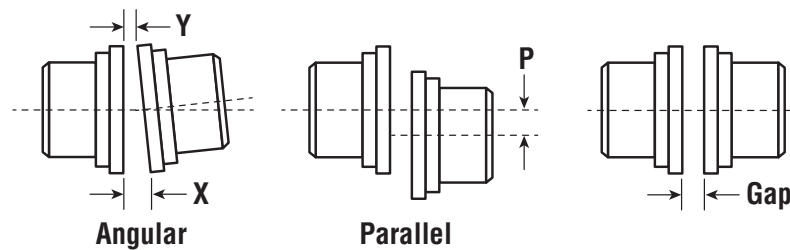
Size	Bore
1120T	4.500
1130T	5.500
1140T	6.500
1150T	7.000
1160T	8.000
1170T	9.000
1180T	9.750
1190T	10.750
1200T	11.750

Table 13 – Misalignment Capability (in)

Maximum life and minimum maintenance for the coupling and connected machinery will result if couplings are accurately aligned. Coupling life expectancy between initial alignment and maximum operating limits is a function of load, speed and lubrication. For applications requiring greater misalignment, refer application details to *Martin*.

Angular misalignment is expressed in degrees and as the difference between the value of X minus Y, as illustrated.

Parallel misalignment is the distance P between shaft center lines as shown.



Coupling Size	Recommended Installation Maximum		Maximum Operating		Normal GAP +/- 10%	
	Parallel Offset -P	Angular (1/16°) X Minus Y	Parallel Offset -P	Angular (1/16°) X Minus Y	T10, T20, T35	T31
	T10, T20, T31, T35		T10, T20, T31, T35			
1020T	0.006	0.002	0.012	0.009	0.125	0.188
1030T	0.006	0.003	0.012	0.010	0.125	0.188
1040T	0.006	0.003	0.012	0.013	0.125	0.188
1050T	0.008	0.004	0.016	0.016	0.125	0.188
1060T	0.008	0.004	0.016	0.018	0.125	0.188
1070T	0.008	0.005	0.016	0.020	0.125	0.188
1080T	0.008	0.006	0.016	0.024	0.125	0.188
1090T	0.008	0.007	0.016	0.028	0.125	0.188
1100T	0.010	0.008	0.020	0.032	0.188	0.250
1110T	0.010	0.009	0.020	0.035	0.188	0.250
1120T	0.011	0.010	0.022	0.040	0.250	0.375
1130T	0.011	0.012	0.022	0.047	0.250	0.375
1140T	0.011	0.013	0.022	0.053	0.250	0.375
1150T	0.012	0.015	0.024	0.061	0.250	0.375
1160T	0.012	0.017	0.024	0.070	0.250	0.375
1170T	0.012	0.020	0.024	0.079	0.250	0.375
1180T	0.015	0.022	0.030	0.089	0.250	0.375
1190T	0.015	0.024	0.030	0.096	0.250	0.375
1200T	0.015	0.027	0.030	0.107	0.250	0.375

Table 14 – Recommended Commercial Keys for Bores with One Key (in/mm)

Inches (Per ANSI B17.1 Standard)											
Shaft Dia.		Key	Shaft Dia.		Key	Shaft Dia.		Key	Shaft Dia.		Key
Over	Through		Over	Through		Over	Through		Over	Through	
0.438	0.562	0.125 x 0.125	1.750	2.250	0.500 x 0.500	4.500	5.500	1.250 x 1.250	11.000	13.000	3.000 x 2.000
0.562	0.875	0.188 x 0.188	2.250	2.750	0.625 x 0.625	5.500	6.500	1.500 x 1.500	13.000	15.000	3.500 x 2.500
0.875	1.250	0.250 x 0.250	2.750	3.250	0.750 x 0.750	6.500	7.500	1.750 x 1.500	15.000	18.000	4.000 x 3.000
1.250	1.375	0.312 x 0.312	3.250	3.750	0.875 x 0.875	7.500	9.000	2.000 x 1.500	18.000	20.000	5.000 x 3.500
1.375	1.750	0.375 x 0.375	3.750	4.500	1.000 x 1.000	9.000	11.000	2.500 x 1.750	–	–	–
Millimeters (Per ISO R773 Standard)											
6	8	2 x 2	38	44	12 x 8	95	110	28 x 16	260	290	63 x 32
8	10	3 x 3	44	50	14 x 9	110	130	32 x 18	290	330	70 x 36
10	12	4 x 4	50	58	16 x 10	130	150	36 x 20	330	380	80 x 40
12	17	5 x 5	58	65	18 x 11	150	170	40 x 22	380	440	90 x 45
17	22	6 x 6	65	75	20 x 12	170	200	45 x 25	440	500	100 x 50
22	30	8 x 7	75	85	22 x 14	200	230	50 x 28	–	–	–
30	38	10 x 8	85	95	25 x 14	230	260	56 x 32	–	–	–

Table 15 – Standard Bore Fits — Unless Otherwise Specified

Model	Coupling Size	Coupling Type	Bore Fit
Blue-Flex® Grid Couplings	1020 - 1090	T10, T20	Clearance
	1100 and Larger	T10, T20	Interference

Table 16 – Recommended Bores for Steel Hubs (in)

Shaft Dia.	Clearance Fit		Interference Fit		Shaft Dia.	Clearance Fit		Interference Fit		Shaft Dia.	Interference Fit	
	Hub Bore	Clearance	Hub Bore	Interference		Hub Bore	Clearance	Hub Bore	Interference		Hub Bore	Interference
+.0000 -.0005	+.0010 -.0000	.0000 .0015	+.0005 -.0000	.0000 .0010	+.0000 -.0010	+.0015 -.0000	.0000 .0025	+.0010 -.0000	.0005 .0025	0000 -.0010	+.0015 -.0000	.0015 .0040
0.5000	0.5000	↓	0.4990	↓	3.0625	3.0625	↓	3.0600	↓	6.7500	6.7460	↓
0.5625	0.5625		0.5615		3.1250	3.1250		3.1225		7.0000	6.9960	
0.6250	0.6250		0.6240		3.1875	3.1875		3.1850		+.0000	+.0020	.0020
0.6875	0.6875		0.6865		3.2500	3.2500		3.2475		-.0010	-.0000	.0050
0.7500	0.7500		0.7490		3.3125	3.3125		3.3100		7.250	7.2450	↓
0.8125	0.8125		0.8115		3.3750	3.3750		3.3725		7.500	7.4950	
0.8750	0.8750		0.8740		3.4375	3.4375		3.4350		7.750	7.7450	↓
0.9375	0.9375		0.9365		3.5000	3.5000		3.4975		8.000	7.9950	
1.0000	1.0000		0.9990		3.5625	3.5625		3.5600		8.250	8.2445	.0025
1.0625	1.0625		1.0615		3.6250	3.6250		3.6225		8.500	8.4945	.0055
1.1250	1.1250		1.1240		3.6875	3.6875		3.6850		8.750	8.7445	↓
1.1875	1.1875		1.1865		3.7500	3.7500		3.7475		9.000	8.9945	
1.2500	1.2500		1.2490		3.8125	3.8125		3.8100		9.250	9.2440	.0030
1.3125	1.3125		1.3115		3.8750	3.8750		3.8725		9.500	9.4940	.0060
1.3750	1.3750		1.3740		3.9375	3.9375		3.9350		9.750	9.7440	↓
1.4375	1.4375	1.4365	4.0000	4.0000	3.9975	10.000	9.9940					
1.5000	1.5000	1.4990	+.0000	+.0015	.0000	+.0015	.0010	.0035				
+.0000 -.0010	+.0010 -.0000	.0000 .0020	+.0005 -.0000	.0000 .0015	-.0010 -.0000	.0025 .0035	+.0015 -.0000	.0035 .0035	10.250	10.2435	.0035	↓
1.5625	1.5625	1.5610	4.0625	4.0625	4.0590	10.500	10.4935	.0065				
1.6250	1.6250	1.6235	4.1250	4.1250	4.1215	10.750	10.7435	↓				
1.6875	1.6875	1.6860	4.1875	4.1875	4.1840	11.000	10.9935					
1.7500	1.7500	1.7485	4.2500	4.2500	4.2465	11.250	11.2430	.0040				
1.8125	1.8125	1.8110	4.3125	4.3125	4.3090	11.500	11.4930	.0070				
1.8750	1.8750	1.8735	4.3750	4.3750	4.3715	11.750	11.7430	↓				
1.9375	1.9375	1.9360	4.4375	4.4375	4.4340	12.000	11.9930					
2.0000	2.0000	1.9985	4.5000	4.5000	4.4965	12.500	12.4925	.0045				
+.0000 -.0010	+.0015 -.0000	.0000 .0025	+.0005 -.0000	.0000 .0015	4.5625	4.5625	4.5590	4.5590	13.000	12.9925	.0075	↓
2.0625	2.0625	2.0610	4.6250	4.6250	4.6215	4.6250	4.6215	13.500	13.4920	.0050		
2.1250	2.1250	2.1235	4.6875	4.6875	4.6840	4.7500	4.7465	14.000	13.9920	.0080	↓	
2.1875	2.1875	2.1860	4.7500	4.7500	4.7465	4.8125	4.8090	14.500	14.4915	.0055		
+.0000 -.0010	+.0015 -.0000	.0000 .0025	+.0010 -.0000	.0000 .0020	4.8750	4.8750	4.8715	4.8715	15.000	14.9915	.0085	↓
2.2500	2.2500	2.2480	4.9375	4.9375	4.9340	4.9375	4.9340	+.000	+.0025	.0055		
3.3125	2.3125	2.3105	5.0000	5.0000	4.9965	5.0000	4.9965	-.001	-.0000	.0090		
2.3750	2.3750	2.3730	5.0625	5.0625	5.0585	5.0625	5.0585	15.500	15.4910	↓		
2.4375	2.4375	2.4355	5.1250	5.1250	5.1210	5.1250	5.1210	16.000	15.9910			
2.5000	2.5000	2.4980	5.1875	5.1875	5.1835	5.1875	5.1835	16.500	16.4905	.0060		
2.5625	2.5625	2.5605	5.2500	5.2500	5.2460	5.2500	5.2460	17.000	16.9905	.0095	↓	
2.6250	2.6250	2.6230	5.3125	5.3125	5.3085	5.3125	5.3085	17.500	17.4895			
2.6875	2.6875	2.6855	5.3750	5.3750	5.3710	5.3750	5.3710	18.000	17.9895	.0105		
2.7500	2.7500	2.7480	5.4375	5.4375	5.4335	5.4375	5.4335	18.500	18.4890	.0075	↓	
2.8125	2.8125	2.8105	5.5000	5.5000	5.4960	5.5000	5.4960	19.000	18.9890			
2.8750	2.8750	2.8730	5.5625	5.5625	5.5585	5.5625	5.5585	19.500	19.4880	.0085		
2.9375	2.9375	2.9355	5.6250	5.6250	5.6210	5.6250	5.6210	20.000	19.9880	.0120		
3.0000	3.0000	2.9980	5.6875	5.6875	5.6835	5.6875	5.6835					
			5.7500	5.7500	5.7460	5.7500	5.7460					
			5.8125	5.8125	5.8085	5.8125	5.8085					
			5.8750	5.8750	5.8710	5.8750	5.8710					
			5.9375	5.9375	5.9335	5.9375	5.9335					
			6.0000	6.0000	5.9960	6.0000	5.9960					
			6.2500	6.2500	6.2460	6.2500	6.2460					
			6.5000	6.5000	6.4960	6.5000	6.4960					

For shaft diameters larger than 20.000", use an average interference fit of 0.0005" per inch of shaft diameter within the following bore tolerances:

- + .003, - .000 for over 20 to 30 dia. incl.
- + .004, - .000 for over 30 to 40 dia. incl.

Tolerances and fits comply with, or are within, AGMA 9002 standard (Class 1 clearance fit).

Table 17 – Recommended Bores for Metric Shafts per ISO/R775–1969 (ANSI/AGMA 9112)

	Shaft Diameter	Clearance Fit		Transitional Fit		Interference Fit	
		Hub Bore	Fit*	Hub Bore	Fit*	Hub Bore	Fit*
MM	j6	F7	+0.008	H7	-0.008	M6	-0.023
	+0.008 / -0.003	+0.016 / +0.034	+0.037	+0.000 / +0.018	+0.021	-0.015 / -0.004	-0.001
12	0.4727 / 0.4724	0.4731 / 0.4737	+0.0003	0.4725 / 0.4731	-0.0003	0.4718 / 0.4723	-0.0009
14	0.5515 / 0.5511	0.5518 / 0.5525	+0.0015	0.5512 / 0.5519	+0.0008	0.5506 / 0.5511	+0.0000
16	0.6302 / 0.6298	0.6306 / 0.6312		0.6300 / 0.6306		0.6293 / 0.6298	
18	0.7089 / 0.7086	0.7093 / 0.7100	↓	0.7087 / 0.7093	↓	0.7080 / 0.7085	↓
MM	j6	F7	+0.011	H7	-0.009	M6	-0.026
	+0.009 / -0.004	+0.020 / +0.041	+0.045	+0.000 / +0.021	+0.025	-0.017 / -0.004	-0.000
19	0.7483 / 0.7479	0.7488 / 0.7496	+0.0004	0.7481 / 0.7488	-0.0004	0.7473 / 0.7479	-0.0010
20	0.7877 / 0.7873	0.7882 / 0.7890	+0.0018	0.7874 / 0.7882	+0.0010	0.7867 / 0.7873	+0.0000
22	0.8665 / 0.8660	0.8670 / 0.8677		0.8662 / 0.8669		0.8654 / 0.8660	
24	0.9452 / 0.9448	0.9457 / 0.9465	↓	0.9449 / 0.9457	↓	0.9442 / 0.9448	↓
25	0.9846 / 0.9841	0.9851 / 0.9858		0.9843 / 0.9850		0.9835 / 0.9841	
28	1.1027 / 1.1022	1.1032 / 1.1039	↓	1.1024 / 1.1032	↓	1.1017 / 1.1022	↓
30	1.1814 / 1.1810	1.1819 / 1.1827	↓	1.1811 / 1.1819	↓	1.1804 / 1.1810	↓
>30	k6	F7	+0.007	H7	-0.018	K6	-0.031
MM	+0.018 / +0.002	+0.025 / +0.050	+0.048	+0.000 / +0.025	+0.023	-0.013 / +0.003	+0.001
32	1.2605 / 1.2600	1.2609 / 1.2618	+0.0003	1.2599 / 1.2608	-0.0007	1.2593 / 1.2600	-0.0012
35	1.3786 / 1.3781	1.3790 / 1.3799	+0.0019	1.3780 / 1.3789	+0.0009	1.3774 / 1.3781	+0.0000
38	1.4967 / 1.4962	1.4971 / 1.4980		1.4961 / 1.4970		1.4955 / 1.4962	
40	1.5755 / 1.5750	1.5758 / 1.5767	↓	1.5748 / 1.5758	↓	1.5743 / 1.5750	↓
42	1.6542 / 1.6537	1.6546 / 1.6555		1.6536 / 1.6545		1.6530 / 1.6537	
45	1.7723 / 1.7718	1.7727 / 1.7736	↓	1.7717 / 1.7726	↓	1.7711 / 1.7718	↓
48	1.8904 / 1.8899	1.8908 / 1.8917	↓	1.8898 / 1.8907	↓	1.8892 / 1.8899	↓
50	1.9692 / 1.9686	1.9695 / 1.9704	↓	1.9685 / 1.9695	↓	1.9680 / 1.9687	↓
>50	m6	F7	+0.000	H7	-0.030	K6	-0.051
MM	+0.030 / +0.011	+0.030 / +0.060	+0.049	+0.000 / +0.030	+0.019	-0.021 / +0.009	+0.002
55	2.1665 / 2.1658	2.1666 / 2.1677	+0.0000	2.1654 / 2.1665	-0.0012	2.1645 / 2.1657	-0.0020
56	2.2059 / 2.2052	2.2059 / 2.2071	+0.0019	2.2047 / 2.2059	+0.0007	2.2039 / 2.2051	-0.0001
60	2.3634 / 2.3627	2.3634 / 2.3645		2.3622 / 2.3634		2.3614 / 2.3626	
63	2.4815 / 2.4808	2.4815 / 2.4827	↓	2.4803 / 2.4815	↓	2.4795 / 2.4807	↓
65	2.5602 / 2.5595	2.5603 / 2.5614		2.5591 / 2.5602		2.5582 / 2.5594	
70	2.7571 / 2.7564	2.7571 / 2.7582	↓	2.7559 / 2.7571	↓	2.7551 / 2.7563	↓
71	2.7964 / 2.7957	2.7965 / 2.7976		2.7953 / 2.7964		2.7944 / 2.7957	
75	2.9539 / 2.9532	2.9540 / 2.9551	↓	2.9528 / 2.9539	↓	2.9519 / 2.9531	↓
80	3.1508 / 3.1501	3.1508 / 3.1519	↓	3.1496 / 3.1508	↓	3.1488 / 3.1500	↓
>80	m6	F7	+0.001	H7	-0.035	M7	-0.070
MM	+0.035 / +0.013	+0.036 / +0.071	+0.058	+0.000 / +0.035	+0.022	-0.035 / +0.000	-0.013
85	3.3478 / 3.3470	3.3479 / 3.3492	+0.0000	3.3465 / 3.3478	-0.0014	3.3451 / 3.3465	-0.0028
90	3.5447 / 3.5438	3.5447 / 3.5461	+0.0023	3.5433 / 3.5447	+0.0009	3.5419 / 3.5433	-0.0005
95	3.7415 / 3.7407	3.7416 / 3.7429		3.7402 / 3.7415		3.7388 / 3.7402	
100	3.9384 / 3.9375	3.9384 / 3.9398	↓	3.9370 / 3.9384	↓	3.9356 / 3.9370	↓
>100	m6	F7		H7		P7	-0.094
MM	+0.035 / +0.013	+0.036 / +0.071		+0.000 / +0.035		-0.059 / -0.024	-0.037
110	4.3321 / 4.3312	4.3321 / 4.3335	↓	4.3307 / 4.3321	↓	4.3284 / 4.3298	-0.0037
120	4.7258 / 4.7249	4.7258 / 4.7272	↓	4.7244 / 4.7258	↓	4.7221 / 4.7235	-0.0015
>120	m6	F7	+0.003	H7	-0.040	P7	-0.108
MM	+0.040 / +0.015	+0.043 / +0.083	+0.068	+0.000 / +0.040	+0.025	-0.068 / -0.028	-0.043
125	4.9228 / 4.9219	4.9230 / 4.9245	+0.0001	4.9213 / 4.9228	-0.0016	4.9186 / 4.9202	-0.0043
130	5.1197 / 5.1187	5.1198 / 5.1214	+0.0027	5.1181 / 5.1197	+0.0010	5.1154 / 5.1170	-0.0017
140	5.5134 / 5.5124	5.5135 / 5.5151		5.5118 / 5.5134		5.5091 / 5.5107	
150	5.9071 / 5.9061	5.9072 / 5.9088	↓	5.9055 / 5.9071	↓	5.9028 / 5.9044	↓
160	6.3008 / 6.2998	6.3009 / 6.3025		6.2992 / 6.3008		6.2965 / 6.2981	
170	6.6945 / 6.6935	6.6946 / 6.6962	↓	6.6929 / 6.6945	↓	6.6902 / 6.6918	↓
180	7.0882 / 7.0872	7.0883 / 7.0899	↓	7.0866 / 7.0882	↓	7.0839 / 7.0855	↓
>180	m6	F7	+0.004	H7	-0.046	P7	-0.125
MM	+0.046 / +0.017	+0.050 / +0.096	+0.079	+0.000 / +0.046	+0.029	-0.079 / -0.033	-0.050
190	7.4821 / 7.4810	7.4823 / 7.4841	+0.0002	7.4803 / 7.4821	-0.0018	7.4772 / 7.4790	-0.0049
200	7.8758 / 7.8747	7.8760 / 7.8778	+0.0031	7.8740 / 7.8758	+0.0011	7.8709 / 7.8727	-0.0020

Dimensions in **BOLD** are in millimeters, rest is in inches.

* Positive values are clearance, negative values are interference. For reference only.

Continued on Continued on Page C-48.

Table 17 – Recommended Bores for Metric Shafts per ISO/R775–1969 (ANSI/AGMA 9112)

	Shaft Diameter	Clearance Fit		Transitional Fit		Interference Fit	
		Hub Bore	Fit*	Hub Bore	Fit*	Hub Bore	Fit*
>200	m6	F7	↓	H7	↓	R7	-.155
MM	+.046 / +.017	+.050 / +.096		+.000 / +.046		-109 / -.063	-.080
210	8.2695 / 8.2684	8.2697 / 8.2715		8.2677 / 8.2695		8.2634 / 8.2652	-0.061
220	8.6632 / 8.6621	8.6634 / 8.6652		8.6614 / 8.6632		8.6571 / 8.6589	-0.031
225	8.8601 / 8.8589	8.8602 / 8.8620		8.8583 / 8.8601		8.8540 / 8.8558	↓
>225	m6	F7		H7		R7	-.159
MM	+.046 / +.017	+.050 / +.096		+.000 / +.046		-.113 / -.067	-.084
230	9.0569 / 9.0558	9.0571 / 9.0589		9.0551 / 9.0569		9.0507 / 9.0525	-0.063
240	9.4506 / 9.4495	9.4508 / 9.4526		9.4488 / 9.4506		9.4444 / 9.4462	-0.033
250	9.8443 / 9.8432	9.8445 / 9.8463		9.8425 / 9.8443		9.8381 / 9.8399	↓
>250	m6	F7	H7	R7	-.178		
MM	+.052 / +.020	+.056 / +.108	+.000 / +.052	-.126 / -.074	-.094		
260	10.2383 / 10.2370	10.2384 / 10.2405	10.2362 / 10.2383	10.2313 / 10.2333	-0.070		
270	10.6320 / 10.6307	10.6321 / 10.6342	10.6299 / 10.6320	10.6250 / 10.6270	-0.037		
280	11.0257 / 11.0244	11.0258 / 11.0279	11.0236 / 11.0257	11.0187 / 11.0207	↓		
>280	m6	F7	H7	R7	-.182		
MM	+.052 / +.020	+.056 / +.108	+.000 / +.052	-.130 / -.078	-.098		
290	11.4194 / 11.4181	11.4195 / 11.4216	11.4173 / 11.4194	11.4122 / 11.4143	-0.072		
300	11.8131 / 11.8118	11.8132 / 11.8153	11.8110 / 11.8131	11.8059 / 11.8080	-0.039		
310	12.2068 / 12.2055	12.2069 / 12.2090	12.2047 / 12.2068	12.1996 / 12.2017	↓		
315	12.4036 / 12.4024	12.4038 / 12.4058	12.4016 / 12.4036	12.3965 / 12.3985	↓		
>315	m6	F7	H7	R7	-.201		
MM	+.057 / +.021	+.062 / +.119	+.000 / +.057	-.144 / -.087	-.108		
320	12.6007 / 12.5993	12.6009 / 12.6031	12.5984 / 12.6007	12.5928 / 12.5950	-0.079		
330	12.9944 / 12.9930	12.9946 / 12.9968	12.9921 / 12.9944	12.9865 / 12.9887	-0.043		
340	13.3881 / 13.3867	13.3883 / 13.3905	13.3858 / 13.3881	13.3802 / 13.3824	↓		
350	13.7818 / 13.7804	13.7820 / 13.7842	13.7795 / 13.7818	13.7739 / 13.7761	↓		
355	13.9786 / 13.9772	13.9788 / 13.9811	13.9764 / 13.9786	13.9707 / 13.9730	↓		
>355	m6	F7	H7	R8	-.260		
MM	+.057 / +.021	+.062 / +.119	+.000 / +.057	-.203 / -.114	-.135		
360	14.1755 / 14.1741	14.1757 / 14.1779	14.1732 / 14.1755	14.1652 / 14.1687	-0.102		
370	14.5692 / 14.5678	14.5694 / 14.5716	14.5669 / 14.5692	14.5589 / 14.5624	-0.053		
380	14.9629 / 14.9615	14.9631 / 14.9653	14.9606 / 14.9629	14.9526 / 14.9561	↓		
390	15.3566 / 15.3552	15.3568 / 15.3590	15.3543 / 15.3566	15.3463 / 15.3498	↓		
400	15.7503 / 15.7489	15.7505 / 15.7527	15.7480 / 15.7503	15.7400 / 15.7435	↓		
>400	m6	F7	H7	R8	-.286		
MM	+.063 / +.023	+.068 / +.131	+.000 / +.063	-.223 / -.126	-.149		
410	16.1442 / 16.1426	16.1444 / 16.1469	16.1417 / 16.1442	16.1330 / 16.1368	-0.113		
420	16.5379 / 16.5363	16.5381 / 16.5406	16.5354 / 16.5379	16.5267 / 16.5305	-0.059		
430	16.9316 / 16.9300	16.9318 / 16.9343	16.9291 / 16.9316	16.9204 / 16.9242	↓		
440	17.3253 / 17.3237	17.3255 / 17.3280	17.3228 / 17.3253	17.3141 / 17.3179	↓		
450	17.7190 / 17.7174	17.7192 / 17.7217	17.7165 / 17.7190	17.7078 / 17.7116	↓		
>450	m6	F7	H7	R8	-.292		
MM	+.063 / +.023	+.068 / +.131	+.000 / +.063	-.229 / -.132	-.155		
460	18.1127 / 18.1111	18.1129 / 18.1154	18.1102 / 18.1127	18.1012 / 18.1050	-0.115		
470	18.5064 / 18.5048	18.5066 / 18.5091	18.5039 / 18.5064	18.4949 / 18.4987	-0.061		
480	18.9001 / 18.8985	18.9003 / 18.9028	18.8976 / 18.9001	18.8886 / 18.8924	↓		
490	19.2938 / 19.2922	19.2940 / 19.2965	19.2913 / 19.2938	19.2823 / 19.2861	↓		
500	19.6875 / 19.6859	19.6877 / 19.6902	19.6850 / 19.6875	19.6760 / 19.6798	↓		

Dimensions in **BOLD** are in millimeters, rest is in inches.

* Positive values are clearance, negative values are interference. For reference only.