

Couplings | Falk™ Torus® Elastomer Couplings  
(English-Inch)



# Standard coupling solutions for all your special applications

## Type WA21

### General Purpose Coupling

Use for most close coupled applications. Type WA21 is simple to install and easy to maintain. Just mount the hubs ... straight bored or bushed ... align,



and install the element/clamp ring assembly. This assembly pivots into position for easy installation and maintenance. See Pages 8 and 9.

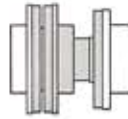


## Type WA37 — Half Spacer Coupling

Ideal for ANSI process pumps or for any application, horizontal or vertical,



where it is undesirable to move the connected equipment for servicing. The WA37 half spacer provides the smaller range of standard and special BE (between shaft ends) dimensions. The removable portion of the coupling is shown above. See Pages 10 and 11.

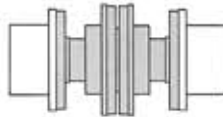


## Type WA33 — Full Spacer Coupling

Like the half spacer, the WA33 full



spacer coupling is ideal for pumps and other equipment that requires a large space between shaft ends for servicing. The full spacer Torus coupling allows for longer BE dimensions. The removable portions of this coupling is also shown above. See Pages 12 and 13.



## Type WA90

### Flywheel Adapter Coupling

Provides a compact coupling arrangement that helps to damp engine vibrations. The Torus flywheel adapter coupling consists of an adapter plate that is bolted to the engine flywheel. One side of the standard flexible element is fastened to the adapter plate and the other side to the standard hub on the driven shaft. See Pages 14 and 15.



## Quick selection method

### 1. Determine service factor

For electric motor or turbine driven applications select a service factor from Table 3 on Page 6. For engine driven applications use Tables 3 and 4 on Page 6. If you cannot find a service factor for your application contact Falk Engineering.

For BRAKING and HIGH PEAK LOAD applications use the Formula Selection Method on Page 7.

### 2. Determine equivalent horsepower

Refer to Table 1. Opposite the service factor selected in Step 1 and under the motor or prime mover HP, read the equivalent HP.

### 3. Select coupling size

Refer to Table 2. Trace across from the required speed to a value equal to or larger than the equivalent HP. Read the coupling size at the top of the

column. If the required speed is not shown, use the next lowest speed listed, or interpolate between those listed.

### 4. Select coupling type

Use Type WA21 for close-coupled applications, Types WA33 or WA37 for applications requiring a spacer coupling, or Type WA90 for flywheel or engine mount applications.

# WA21

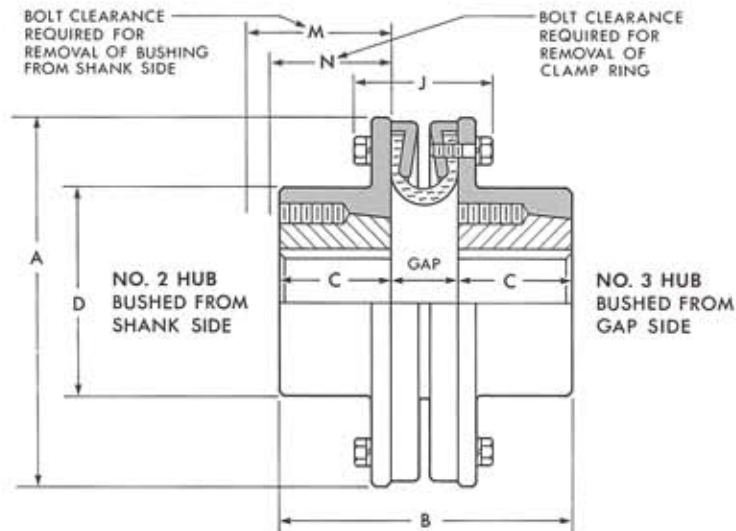
## General purpose coupling

For standard close coupled applications. Available with Taper-Lock® bushings, or with standard or long length hubs for straight or tapered bores.

### When ordering specify:

1. Coupling size
2. Type of hubs
3. Bore and keyway sizes

Unless otherwise specified, size 1020 through 1090 are furnished with clearance fit bores, and larger sizes are furnished with interference fit bores.



## WA21 Selection Data and Dimensions

Size	HP per 100 rpm	Torque Rating (lb-in.)	Allow. Speed rpm	Coupling Bores—Inches						Dimensions—Inches		
				No. 1 Hub		No. 2 or 3 Hubs with Taper-Lock® Bushing		No. 6 Hub	Bushings No.	A	B	
				Min	Max	Min	Max	Max				
1020	0.86	540	5000	500	1,500	500	1,625	2,125	1610	5.41	3.15	
1030	1.19	750	5000	500	1,625	500	1,625	2,500	1610	5.91	3.50	
1040	1.79	1,125	5000	500	1,875	500	2,000	2,750	2012	6.79	3.74	
1050	3.00	1,890	4500	625	2,500	500	2,500	3,125	2517	7.56	5.00	
1060	4.28	2,700	4000	625	2,625	500	2,500	3,625	2517	8.62	5.26	
1070	6.43	4,050	3600	875	3,000	875	3,000	4,000	3020	9.54	5.86	
1080	8.57	5,400	3000	875	3,250	875	3,000	4,500	3020	10.86	6.63	
1090	14.3	9,000	2800	875	3,500	875	3,000	5,000	3020	12.22	7.36	
1100	23.8	15,000	2400	1,125	4,750	1,188	3,938	5,750	3535	14.04	9.62	
1110	34.9	22,000	2200	1,500	5,500	1,438	4,438	6,250	4040	15.46	11.24	
1120	50.0	31,500	2000	1,500	6,000	1,938	4,938	6,375	4545	16.94	12.68	
1130	79.3	50,000	1850	1,500	6,500	1,938	4,938	6,750	4545	18.54	13.12	
1140	111.0	70,000	1600	1,750	7,000	1,938	4,938	7,000	4545	20.06	15.82	
1150	170.0	107,100	1500	1,875	7,500	2,438	5,000	7,500	5050	22.68	17.00	
1160	225.0	141,800	1400	2,000	8,000	2,438	5,000	8,000	5050	24.28	18.55	

## WA21 Component Part Weights and Inertias (WR<sup>2</sup>)

Size	Weight—lbs				Inertia (WR <sup>2</sup> )—lb-in <sup>2</sup>			
	Per Hub with Maximum Bore or Bushing with Maximum Bore			Clamp Ring Assembly (2 clamp rings, 1 flexible element, and 1 set of hardware)	Per Hub with Maximum Bore or Bushing with Maximum Bore			Clamp Ring Assembly (2 clamp rings, 1 flexible element, and 1 set of hardware)
	No. 1	No. 2 or 3	No. 6		No. 1	No. 2 or 3	No. 6	
1020	3.3	3.1	4.9	2.4	9.1	8.9	13.2	10.6
1030	4.3	4.2	6.8	2.4	13.7	13.6	21.5	15.6
1040	6.3	6.2	10.6	2.8	26.6	26.3	43.5	25.2
1050	9.2	9.2	14.6	5.5	46	46	73	56
1060	13.3	13.6	19.5	7.8	88	88	131	106
1070	18.8	18.5	24	8.9	167	165	210	128
1080	25	26	33	11.5	246	246	341	300
1090	39	40	56	19.6	490	490	740	535
1100	68	73	82	32	1,205	1,230	1,515	1,295
1110	76	85	89	46	1,575	1,630	1,865	2,030
1120	82	93	96	60	1,930	2,000	2,190	2,840
1130	96	113	120	72	2,810	2,950	3,310	4,110
1140	123	150	138	86	4,245	4,500	4,550	5,830
1150	160	196	168	146	7,190	7,560	7,400	12,680
1160	195	244	209	173	10,330	10,890	10,690	16,930

## WA21 Selection Data and Dimensions

- GAP is the required distance between hub faces, and normally, between shaft ends.

▲ Grade 8, zinc plated cap screws.

### WA21 Component Part Weights and Inertias (WR<sup>2</sup>)

Example: 1080WA21 with No. 1 hub on one side and No. 6 hub on other side.

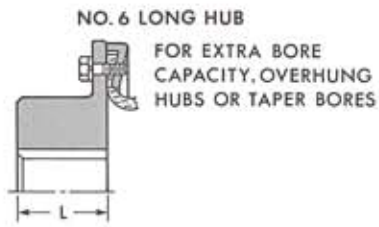
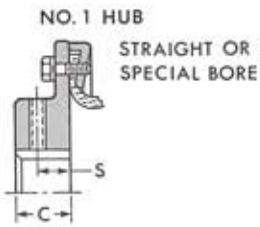
Weight = No. 1 hub + clamp ring assembly + No. 6 hub

$$= 25 + 11.5 + 33 = 69.5 \text{ lbs.}$$

$$\text{Inertia} = 246 + 300 + 341 = 887 \text{ lb-in}^2$$



## OPTIONAL HUBS



Size	Dimensions—Inches (cont.)								Clamp Ring Fastener Information ▲			
	C	D	J	L	M	N	S	GAP •	Bolt Circle Diameter (Inches)	Size (Inches)	Length (Inches)	No. per Flange
1020	1.06	3.38	2.04	2.54	2.68	1.30	.78	1.03	4.312	.25-20	.75	6
1030	1.22	3.69	2.07	3.38	2.84	1.30	1.00	1.06	4.814	.25-20	.75	6
1040	1.31	4.44	2.13	3.32	3.31	1.30	1.03	1.12	5.684	.25-20	.75	6
1050	1.81	4.94	2.48	3.94	3.68	1.40	1.31	1.38	6.220	.3125-18	.875	8
1060	1.88	5.69	2.68	3.94	3.75	1.60	1.48	1.50	7.158	.3125-18	1.00	8
1070	2.12	6.00	3.22	3.94	4.81	2.10	1.62	1.62	8.064	.3125-18	1.25	8
1080	2.44	7.00	2.81	4.50	5.13	1.60	1.62	1.75	9.140	.3125-18	1.00	10
1090	2.62	8.25	3.37	5.18	5.31	2.00	1.62	2.12	10.220	.375-16	1.25	10
1100	3.56	9.88	3.96	5.12	6.94	2.30	...	2.50	11.660	.438-14	1.50	10
1110	4.12	9.88	4.67	5.76	8.24	2.70	...	3.00	12.880	.500-13	1.75	12
1120	4.56	10.00	5.17	5.88	8.94	2.60	...	3.56	14.320	.500-13	1.75	12
1130	4.56	10.50	5.81	6.50	8.94	3.00	...	4.00	15.940	.500-13	2.00	14
1140	5.60	10.70	6.67	6.62	9.98	3.40	...	4.62	17.440	.500-13	2.25	16
1150	6.00	11.20	7.49	6.62	11.25	4.10	...	5.00	19.560	.625-11	2.75	16
1160	6.40	11.80	8.44	7.26	12.40	4.40	...	5.75	21.200	.625-11	3.00	18