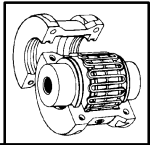


SPECIFICATION/HOW TO ORDER/NOMENCLATURE



GRID-LIGN

SPECIFICATION

GRID-LIGN Couplings are tapered grid style with hubs, grids and covers which are interchangeable with other industry standard tapered grid couplings. Grid hubs are machined steel, protected with an anti-rust coating. Hubs have optional methods of attachment to the shaft including but not limited to: clearance fit, interference fit or TAPER-LOCK bushings. Clearance fits and interference fits are supplied with an industry standard keyway. Clearance fits are supplied with two set screws, one over the key and one at 65°. The grid element is made of high strength spring steel, heat treated and shot peened to enhance strength and durability.

The coupling is designed and manufactured such that the grid member can be replaced without disturbing the connected equipment and without the requirement for realignment. All GRID-LIGN Couplings are fitted with covers to retain lubrication and prevent the entry of abrasives and contaminants. Covers are of a two piece design to facilitate installation and are available as axial split or radial split. DODGE will provide recommendations for types and amounts of lubricant suitable for operation in ambient temperatures from -35°F to +210°F.

Spacer Couplings consist of two shaft hubs and a center assembly consisting of two spacer hubs, one grid and cover. The center assembly is readily removable to facilitate maintenance on pumps or other connected equipment. The center assembly must be replaceable without disturbing the coupled equipment and without realignment.

HOW TO ORDER

Standard couplings consist of:

- (2) Shaft Hubs
- (1) T10 (or T20) Grid & Cover Assembly

Spacer Couplings consist of:

- T31 Spacer
- (2) "T" Shaft Hubs
- (2) Spacer Hubs
- (1) T10 Grid & Cover Assembly
- T35 Half Spacer
- (1) Shaft Hub
- (1) Spacer Hub
- (1) "T" Shaft Hub
- (1) T10 Grid & Cover Assembly

NOMENCLATURE

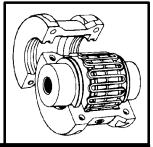


Size 1020 T10

Coupling Type _____

T10=Horizontal Split Cover
T20=Vertical Split Cover
T31=Full Spacer
T35=Half Spacer

EASY SELECTION



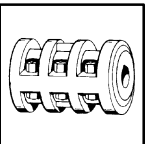
GRID-LIGN

DODGE PRESELECTED GRID-LIGN COUPLINGS FOR ELECTRIC MOTORS @ 1800 RPM

MOTOR			GRID-LIGN STRAIGHT BORE TYPES T10 & T20			GRID-LIGN TAPER-LOCK TYPES T10 & T20			GRID-LIGN STRAIGHT BORE TYPES T31 & T35			GRID-LIGN STRAIGHT BORE TYPES T31 & T35		
H.P.	FRAME	SHAFT DIA.	SERVICE FACTOR			SERVICE FACTOR			SERVICE FACTOR			SERVICE FACTOR		
			LIGHT 1.0	MEDIUM 1.5	HEAVY 2.0	LIGHT 1.0	MEDIUM 1.5	HEAVY 2.0	LIGHT 1.0	MEDIUM 1.5	HEAVY 2.0	LIGHT 1.0	MEDIUM 1.5	HEAVY 2.0
1	143T	0.875	1020T	1020T	1020T	1030T	1030T	1030T	1020T	1020T	1020T	1020T	1020T	1020T
1.5	145T	0.875	1020T	1020T	1020T	1030T	1030T	1030T	1020T	1020T	1020T	1020T	1020T	1020T
2	145T	0.875	1020T	1020T	1020T	1030T	1030T	1030T	1020T	1020T	1020T	1020T	1020T	1020T
3	182T	1.125	1020T	1020T	1020T	1030T	1030T	1030T	1020T	1020T	1020T	1020T	1020T	1020T
5	184T	1.125	1020T	1020T	1020T	1030T	1030T	1030T	1020T	1020T	1020T	1020T	1020T	1020T
7.5	213T	1.375	1030T	1030T	1030T	1040T	1040T	1040T	1020T	1020T	1030T	1040T	1040T	1040T
10	215T	1.375	1030T	1030T	1030T	1040T	1040T	1040T	1020T	1030T	1030T	1040T	1040T	1040T
15	254T	1.625	1040T	1040T	1040T	1060T	1060T	1060T	1030T	1030T	1030T	1050T	1050T	1050T
20	256T	1.625	1040T	1040T	1040T	1060T	1060T	1060T	1030T	1030T	1040T	1050T	1050T	1050T
25	284T	1.875	1050T	1050T	1050T	1070T	1070T	1070T	1040T	1040T	1040T	1060T	1060T	1060T
30	326T	1.875	1050T	1050T	1050T	1070T	1070T	1070T	1040T	1040T	1050T	1060T	1060T	1060T
	286TS	1.625	1040T	1040T	1040T	1060T	1060T	1060T	1040T	1040T	1050T	1050T	1050T	1050T
40	324T	2.125	1060T	1060T	1060T	1070T	1070T	1070T	1040T	1050T	1050T	1060T	1060T	1060T
	324TS	1.875	1050T	1050T	1050T	1070T	1070T	1070T	1040T	1050T	1050T	1060T	1060T	1060T
50	326T	2.125	1060T	1060T	1060T	1070T	1070T	1070T	1040T	1050T	1050T	1060T	1060T	1060T
	326TS	1.875	1050T	1050T	1050T	1070T	1070T	1070T	1040T	1050T	1050T	1060T	1060T	1060T
60	364T	2.375	1070T	1070T	1070T	1080T	1080T	1080T	1050T	1050T	1060T	1070T	1070T	1070T
	364TS	1.875	1050T	1050T	1050T	1070T	1070T	1070T	1050T	1050T	1060T	1060T	1060T	1060T
75	365T	2.375	1070T	1070T	1070T	1080T	1080T	1080T	1050T	1060T	1060T	1070T	1070T	1070T
	365TS	1.875	1060T	1060T	1060T	1070T	1070T	1070T	1050T	1060T	1060T	1060T	1060T	1060T
100	404T	2.875	1080T	1080T	1080T	1090T	1090T	1090T	1060T	1060T	1070T	1090T	1090T	1090T
	404TS	2.125	1060T	1060T	1060T	1070T	1070T	1070T	1050T	1060T	1070T	1060T	1060T	1070T
125	405T	2.875	1080T	1080T	1080T	1090T	1090T	1090T	1060T	1070T	1080T	1090T	1090T	1090T
	405TS	2.125	1060T	1070T	1080T	1070T	1070T	1080T	1060T	1070T	1080T	1060T	1070T	1080T
	444T	3.375	1090T	1090T	1090T	1110T	1110T	1110T	1080T	1080T	1080T	1100T	1100T	1100T
	444TS	2.375	1070T	1070T	1080T	1080T	1080T	1080T	1060T	1070T	1080T	1070T	1070T	1080T
150	444/5T	3.375	1090T	1090T	1090T	1110T	1110T	1110T	1080T	1080T	1080T	1100T	1100T	1100T
	444/5TS	2.375	1070T	1070T	1080T	1080T	1080T	1080T	1060T	1070T	1080T	1070T	1070T	1080T
200	444T	3.375	1090T	1090T	1090T	1110T	1110T	1110T	1080T	1080T	1080T	1100T	1100T	1100T
	444TS	2.375	1070T	1080T	1080T	1080T	1080T	1080T	1070T	1080T	1080T	1070T	1080T	1080T

FEATURES/BENEFITS PAGE PT1-38	SELECTION/DIMENSIONS PAGE PT1-42	MODIFICATIONS/ACCESSORIES PAGE PT1-64	ENGINEERING/TECHNICAL PAGE PT1-66
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SPECIFICATION/HOW TO ORDER/NOMENCLATURE



Other Couplings – POLY-DISC

SPECIFICATION

POLY-DISC Couplings are a pin type coupling using a molded polyurethane disc. The physical properties of the disc allow for the cushioning of shock loads and the resistance to most common chemicals such as acids, alkalis and petroleum products. The disc has an operating range of -90°F to +170°F.

The flexible disc is captured through metallic pins, utilizing a light press fit over the pins to prevent the accumulation of abrasive particles between the disc and pins. The pin holes are barreled to allow 2° angular misalignment and the flexible disc allows 1/32" parallel misalignment. The disc has spacer buttons to achieve automatic flange spacing which speeds up installation. Both flanges are machined all over and are taper bored to receive TAPER-LOCK bushings to permit quick and easy installation on shafts of equal or different diameters.

HOW TO ORDER

Consists of:
(2) TAPER-LOCK Flanges
(1) Disc

NOMENCLATURE

Size _____ $\frac{3-1/4}{}$ - $\frac{H}{}$
(O.D. of Coupling)
Type of T-L Flange _____
H-Bushing installs from hub side
F-Bushing installs from flange side

RIGID SPECIFICATION

Rigid Couplings provide a connection between two perfectly aligned shafts. Flanged Rigid Couplings consist of two flanges joined by bolts and taper bored for TAPER-LOCK bushings to connect shafts of the same or different diameters. Ribbed Rigid Couplings are axially split to clamp on shafts of the same diameter and held together by bolts. The coupling uses one key over the entire length and permits quick and easy installation and removal.

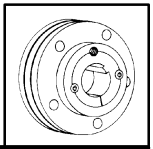
HOW TO ORDER

TAPER-LOCK consist of:
(1) Male Flange Assembly
(1) Female Flange

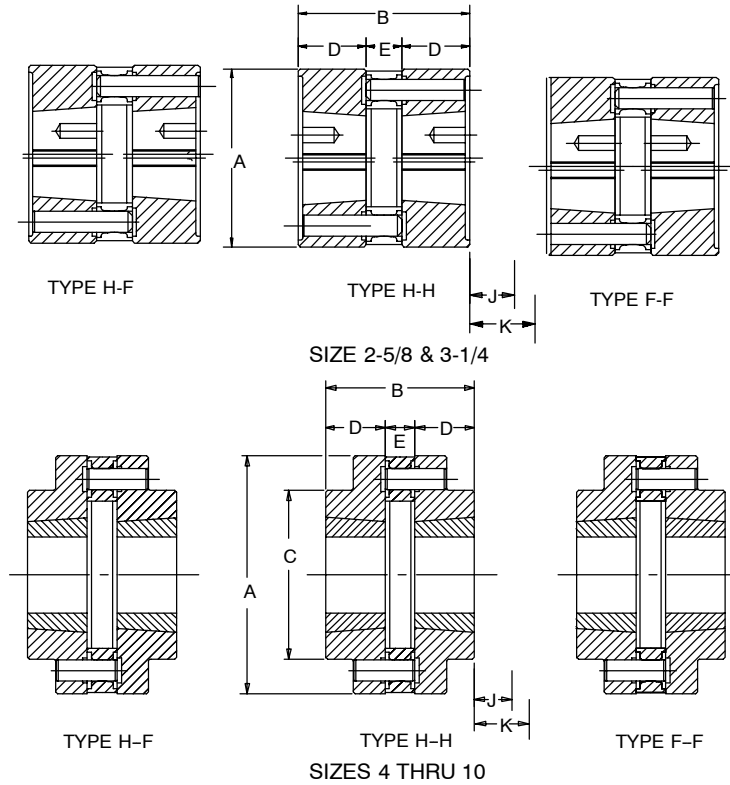
NOMENCLATURE

T-L Rigid _____ R $\frac{35}{}$ _____ Ribbed Rigid _____ $\frac{2-3/4}{}$
Size _____ Bore Size of Coupling _____
(Designated size of T-L Bushing)

SELECTION/DIMENSIONS



POLY-DISC



Coupling Size	Bushing Size	Min. Bore	Max. Bore	HP/100	Torque (In-Lb)	Max. RPM	A	B	C	D	E	J	K	Weight (Lbs.)	Inertia (Lb-Ft ²)
2-5/8	1008	1/2	1	0.29	180	3600	2.63	2.56	2.63	1.00	0.69	0.63	0.75	2.5	2.3
3-1/4	1210	1/2	1-1/4	0.57	360	3600	3.25	2.88	3.25	1.13	0.75	0.81	1.06	4.15	6.2
4	1215	1/2	1-1/4	0.95	600	3600	4.00	3.63	2.63	1.50	0.63	0.81	1.06	5.8	10
5-1/4	1615	1/2	1-11/16	2.29	1440	3600	5.25	3.75	3.25	1.50	0.75	0.81	1.06	12.1	34.4
7	2517	1/2	2-11/16	4.6	2900	3000	7.00	4.38	4.97	1.75	0.88	1.00	1.63	25.9	141.2
8	2517	1/2	2-11/16	10	6300	2400	8.00	4.63	5.00	1.75	1.13	1.00	1.63	34.1	246.7
10	3030	15/16	3-1/4	17.26	10900	2000	10.00	7.50	6.00	3.00	1.50	1.31	2.69	77.7	866

POLY-DISC Part Numbers



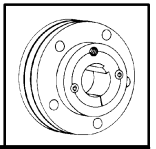
Coupling Size	Bushing Size	T-L Flanges (2) Req'd		Disc (1) Req'd
		Type H	Type F	
2-5/8	1008	008057	008058	008030
3-1/4	1210	008059	008060	008031
4	1215	008041	008040	008032
5-1/4	1615	008043	008042	008033
7	2517	008045	008044	008034
8	2517	008047	008046	008035
10	3030	008049	008048	008036

Complete coupling consists of:
(2) TAPER-LOCK Flanges (as selected), and
(1) POLY-DISC Element.

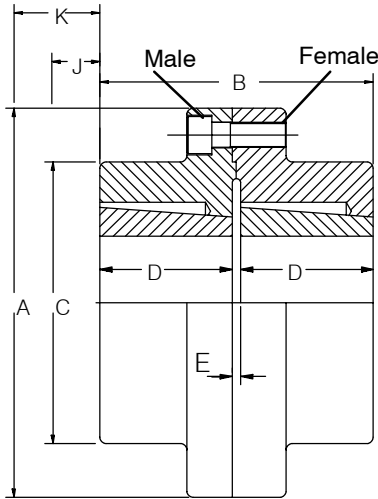
NOTE: TAPER-LOCK bushings ordered separately.

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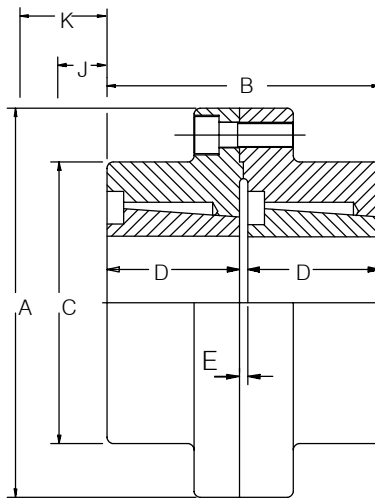
SELECTION/DIMENSIONS



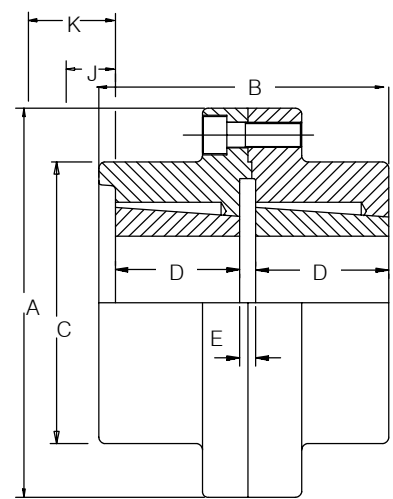
TAPER-LOCK Rigid



R16 TO R30



R35 TO R50



R60

Size	Bushing Size	Min. Bore	Max. Bore	HP/100	Torque (In-Lb)**	Max. RPM	A	B	C	D	E	J*	K†	Weight (Lbs.)
R16	1615	1/2	1-11/16	8.0	5,050	4965	5.00	3.25	3.25	1.50	0.25	0.81	1.06	8
R25	2517	1/2	2-11/16	29.2	18,400	3545	7.00	3.75	5.00	1.75	0.25	1.00	1.63	19.1
R30	3030	15/16	3-1/4	50.5	31,800	2920	8.50	6.25	5.75	3.00	0.25	1.19	2.06	38.1
R35	3535	1-3/16	3-15/16	80.0	50,500	2545	9.75	7.25	7.00	3.50	0.25	1.31	2.69	62.2
R40	4040	1-7/16	4-7/16	120	75,500	2115	11.75	8.25	8.50	4.00	0.25	1.63	3.38	105.6
R45	4545	1-15/16	4-15/16	170	107,000	1910	13.00	9.25	9.50	4.50	0.25	1.94	4.06	146.7
R50	5050	2-7/16	5-5/16	233	147,000	1740	14.25	10.25	10.50	5.00	0.25	2.31	4.81	194.4
R60	6050	3-7/16	6	404	254,500	1240	20.00	13.25	16.00	5.00	1.75	1.63	4.38	526.7

* Space required to tighten bushing with shortened hex key in bushings 1615 through 5050. 6050 uses standard wrench. Also space required to loosen screws to permit removal of hub by a puller

† Space required to loosen bushing using screws as jack screws—no puller required. Use shortened hex key for bushing 1615 through 5050. 6050 uses standard wrench

** Ratings are based on uniforming, non-reversing type loads. For more severe conditions, consult DODGE



TAPER-LOCK Rigid

TAPER-LOCK RIGID PART NUMBERS

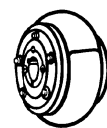
Coupling Size	Bushing Size	Male Flange Assy (1) Req'd	Female Flange (1) Req'd
R16	1615	003001	003002
R25	2517	003003	003004
R30	3030	003005	003006
R35	3535	003007	003008
R40	4040	003009	003010
R45	4545	003011	003012
R50	5050	003013	003014
R60	6050	003015	003016

Complete coupling consists of:
(1) Male Flange Assembly, and
(1) Female Flange.

NOTE: TAPER-LOCK bushings ordered separately.

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MODIFICATIONS/ ACCESSORIES



PARA-FLEX Elements – Part Numbers

Element Size	Standard	Neoprene	Cordless	Weight (Lbs)
	P/N	P/N	P/N	
PX40	011529	012455	012456	0.3
PX50	011105	011296	011285	0.7
PX60	011106	011297	011286	1.2
PX70	011107	011298	011287	1.6
PX80	011108	011299	011288	2.2
PX90	011109	011300	011289	2.6
PX100	011110	011301	011290	2.5
PX110	011111	011302	—	3.0
PX120	011112	011303	011292	4.8
PX140	011114	011304	—	5.6
PX160	011117	011305	—	9.1
PX200	011120	011306	—	20.8
PX240	011124	011312	—	27.0
PX280	011457	011313	—	45.0
PX320	011463	011315	—	80.0

High Speed/Flywheel Elements			
Element Size	Standard Part No.	Neoprene Part No.	Weight (lbs)
PH87	011227	011266	1.20
PH96	011228	011267	1.80
PH116	011230	011268	2.00
PH131	011231	011269	3.50
PH172	011234	011270	7.50
PH192	011236	011271	9.30
PH213	011239	011272	13.90
PH252	011242	011273	27.00

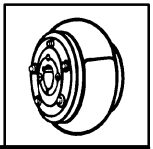
- (1) Neoprene element ratings are the same as the standard natural rubber element ratings. (Yellow Sticker)
- (2) Cordless elements have an average static torsional stiffness 25% of the standard element and approximately 25% of the torque rating.

D-FLEX Coupling Sleeves – Part Numbers

Coupling Size	EPDM			Neoprene			Hytrell	
	JE	JES	E	JN	JNS	N	H	HS
3	•004208	•004242		•004209	•004243			
4	•004210	•004244	•022190	•004211	•004245	•022211		
5	•004212	•004246	•022191	•004213	•004247	•022212		
6	•004214	•004248	•022192	•004215	•004249	•022213	•022183	•022232
7	•004216	•004250	•022193	•004217	•004251	•022214	•022184	•022233
8	•004218	•004252	•022194	•004219	•004253	•022215	•022185	•022234
9	•004220	•004254	•022195			•022216	•022186	•022235
10	•004222	•004256	•022196			•022217	•022187	•022236
11			•022197			•022218	•022188	•022237
12			•022198			•022219	•022189	•022238
13			•021990			•021993		
14			•021991			•021994		
16			•021992					

D-FLEX COUPLINGS PAGE PT1-2	PARA-FLEX COUPLINGS PAGE PT1-14	GRID-LIGN COUPLINGS PAGE PT1-38	CHAIN COUPLINGS PAGE PT1-57
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MODIFICATIONS/ ACCESSORIES



GRID-LIGN Replacement Grids, Covers, And Seals – Part Numbers

Coupling Size	Grid	T10 Cover Assembly	T10 Seal Kit	T20 Cover Assembly	T20 Seal Kit
1020T	006275	006250	006805	006260	006815
1030T	006276	006251	006806	006261	006816
1040T	006277	006252	006807	006262	006817
1050T	006278	006253	006808	006263	006818
1060T	006279	006254	006809	006264	006819
1070T	006280	006255	006810	006265	006820
1080T	006281	006256	006811	006266	006821
1090T	006282	006257	006812	006267	006822
1100T	006283	006258	006813	006268	006823
1110T	006284	006259	006814	006269	006824

Chain Coupling: Chain Assemblies And Covers – Part Numbers

Coupling Size	Chain Assembly	Chain Assembly Weight (Lbs.)	Cover Assembly (1)	Cover Assembly Weight (Lbs.)
4012	100480	.4	099026	1.0
4016	100490	.6	099026	1.0
5012	100489	.9	N/A	N/A
5016	100481	1.4	099027	1.3
5018	100491	1.4	099027	1.3
6018	100482	2.7	099028	2.6
6020	100492	2.7	099028	2.6
8018	100483	6.1	099029	5.1
8020	100493	6.1	099029	5.1
10020	100495	11.0	099024	12.2
12018	100497	20.0	N/A	N/A
12020	100496	20.0	099025	19.5

(1) Cover assemblies consist of cover halves, screws, seals, and cover gaskets.

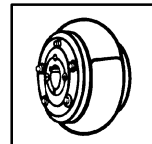
PARA-FLEX Nickel Plated Screws

Flange Assembly Size	Screw Size (2)	Part Number	Number per Flange (3)
PX70, PX80	5/16-18X1-1/2	411767	5, 6
PX90, PX100	3/8-16X1-3/4	411768	6
PX120	1/2-13X2	411770	6
PX140	1/2-13X2-1/4	411771	8

(2) Nickel plated Grade 8 hex head cap screws. Screws not available from stock for PX140 with iron flanges. For sizes not listed, contact DODGE.

(3) 5 required for PX70; 6 for PX80.

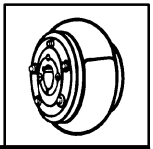
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Elastomer Compatibility

Ratings: 1- Minor Effect 2-Moderate Effect 3-Severe Effect nd-No Data

Substance	Nat. Rubber	Neo-prene	EPDM	Hytrel	Substance	Nat. Rubber	Neo-prene	EPDM	Hytrel
Acetic Acids	2	1	1	1	Hydrobromic Acid (40%)	1	2	1	nd
Acetic Anhydride	2	1	2	nd	Kerosene	3	2	3	nd
Alcohols, Monohydric	2	1	2	nd	Lacquers	3	3	3	2
Ammonia Anhydrous	3	1	1	nd	Lead Sulfamate	2	1	1	nd
ASTM A Oils	3	1	1	1	Mineral Oil	3	2	2	1
Animal Fats	3	2	2	nd	Naphtha	3	2	3	1
Benzene	3	3	3	2	Nickel Chloride	1	2	1	nd
Carbonic Acid	3	2	2	nd	Nitric Acid (10%)	1	2	2	2
Calcium Bisulfite	2	1	3	nd	Ozone	3	2	1	nd
Chloracetone	2	2	1	2	Petroleum (<250°F)	3	2	3	nd
Chloroacetic Acid	2	1	1	nd	Potassium Dichromate	2	1	1	nd
Copper Sulphate	2	1	1	1	Salt Water	1	2	1	1
Corn Oil	2	2	2	nd	Silicone Oils	1	1	1	1
Diesel Oil	3	2	3	1	Sulfuric Acid (Conc.)	3	3	3	3
Fuel Oil	3	2	3	1	Vinegar	2	1	1	nd
Gasoline	2	2	3	1	Zinc Sulfate	2	1	1	nd



Selection Methods:

D-FLEX, PARA-FLEX, GRID-LIGN, GEAR, POLY-DISC, & Rigid Couplings

HP/100 METHOD:

Step 1: Obtain required service factor from Service Factor Tables on pages PT1-68 and PT1-69.

Step 2: Determine the application HP per 100 RPM:

$$\text{HP/100 RPM} = \frac{\text{Motor HP} \times 100 \times \text{Service Factor}}{\text{Coupling RPM}}$$

Step 3: From Rating Tables, find a rating equal to or greater than the HP/100 RPM. Note coupling size from lefthand column.

Step 4: Check maximum RPM capability.

Step 5: Check maximum bore capacity. If maximum bore is exceeded, move to larger size with adequate bore—but be sure maximum RPM of coupling is not exceeded.

NOTE: If spring set motor brake is used, and brake HP is greater than prime mover, use brake HP in place of motor HP.

TORQUE METHOD:

Step 1: Obtain required service factor from Service Factor Tables on pages PT1-68 and PT1-69.

Step 2: Determine torque required for application.

$$\text{Torque (in - lbs.)} = \frac{63025 \times \text{HP} \times \text{SF}}{\text{Coupling RPM}}$$

Step 3: From Rating Tables, find a rating equal to or greater than the torque. Note coupling size from lefthand column.

Step 4: Check maximum RPM capability.

Step 5: Check maximum bore capacity. If maximum bore is exceeded, move to larger size with adequate bore—but be sure maximum RPM of coupling is not exceeded.

NOTE: If system peak torque is known and is non-reversing, start at Step 3. If system peak torque is known and reversing, multiply by 2.0 and start at Step 3.

CHAIN COUPLINGS

DESIGN HP METHOD:

Step 1: Obtain required service factor from Service Factor Tables on pages PT1-68 and PT1-69.

Step 2: Determine application HP:

$$\text{HP Design} = \text{HP} \times \text{SF}$$

Step 3: From rating tables, select appropriate coupling RPM column and find a rating equal to or greater than HP design. Note coupling size from left hand column.

Step 4: Check maximum RPM capability.

Step 5: Check maximum bore capacity. If maximum bore is exceeded, move to larger size with adequate bore—but be sure maximum RPM of coupling is not exceeded.