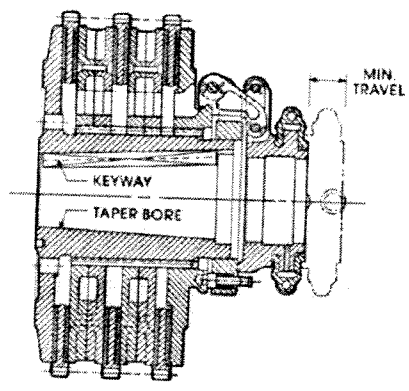


Appendix C

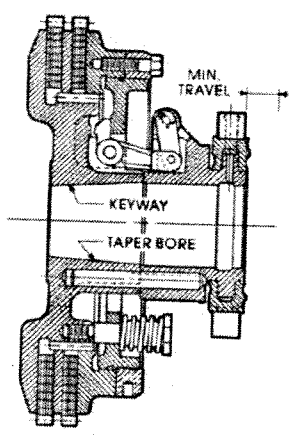
Twin Disc Clutch Information (SP-321P)

Dry Clutches

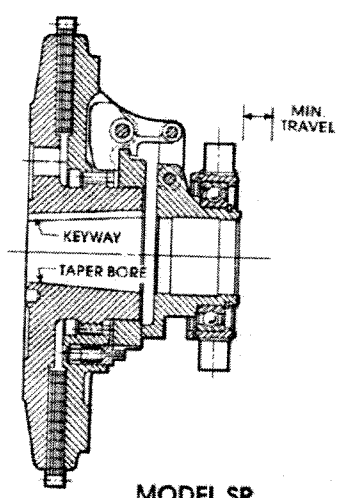
Capacity up to 1667 hp



**MODEL IBF
STANDARD COLLAR**



**MODEL SL
SPRING APPLY**



**MODEL SP
BALL-BEARING COLLAR**

Specifications

Clutch Model	Assembly No.		Application Duty Classification				Maximum Safe Operating Speed (RPM)			
			Max. Input Torque Lb.-ft.	Clutch Maximum HP Rating (See Note 2)			Solid Plates		Split Plates	
				Class I	Class II	Class III	Class IV	Cast Iron Dr. Ring	Nodular Iron Dr. Ring	Cast Iron Dr. Ring
C-106	XA5059	XA5059A	159	40	27	20	3600	3500	3500	3500
C-107	XA5060	XA5060A	175	54	36	27	3200	3200	3200	3200
C-108	XA5079	XA5079B	230	61	41	31	3100	3100	3050	3100
C-110	X7876	XA7876A	328	96	64	48	3100	3930	2650	3500
C-111	X7875	X7875A	387	124	82	62	2850	3600	2200	3200
SP-111	XA6527	XA6527F	455	124	82	62	2850	3600	2200	3200
SP-211	X9688	X9688B	909	247	165	124	2850	3500	2200	3160
SP-311 (3 1/2")		XA7569	1620	371	247	186	NA	3000	NA	NA
SP-114	X9644	X9644A	810	188	125	94	2400	3000	1950	2750
SP-214 (2 1/4")	X9586	X9586A	1620	376	251	188	2500	3000	1950	2750
SP-214 (3 1/4")	X9586B	X9586C	1620	376	251	188	2500	3000	1950	2750
SP-314	X9590	X9590A	2430	564	376	282	2500	3000	1920	2700
SP-218	XA7197	XA7197A	4000	622	415	311	1950	NA	1550	NA
SP-318	X9674	X9674A	6000	933	622	467	2050	2350	1500	2100
SP-321	X9697	NA	6730	1270	847	635	1800	—	1400	—
IBF-214	X9756	NA	1620	395	264	197	NR	2400	NA	NA
IBF-314	XA7160	NA	3040	741	494	371	NR	2400	NA	NR
IBF-318	X9934	NA	7500	1224	816	612	NR	2200	NA	NR
IBF-321	X9935	NA	8400	1667	1111	834	NR	2200	NA	NR
SL-111	X7937TAP	NA	350	124	82	62	2625	2625	2200	2625
SL-211	X8172E	NA	525	247	165	124	2750	2750	2200	2750
SL-214	X8180TP	NA	1000	376	251	188	1800	1800	1800	1800

NOTES: 1. NA (Not available), NR (Not recommended).
 2. Horsepower and torque ratings may be increased by specifying optional sintered iron type clutch plates. Available 8" through 21" sizes.

3. Sintered iron clutch plates with ventilated type center plates are standard in IBF-314, IBF-318 and IBF-321 units. These plates should not be used in applications where torsionals or vibrations are prevalent.

Consult Twin Disc General Products Application Department, Racine, WI 53403.

USE A CERTIFIED PRINT FOR INSTALLATION

Duty Service Classifications

Attention is called to the fact that other application factors must be considered in the selection process in addition to duty service, such as:

SPEED LIMITS · CLUTCH TORQUE LIMITS

The selections are usual dry clutch applications in which the clutch is engaged infrequently and after engagement, it is used in the engaged mode for a long time before disengagement. Generally, the prime mover speed is reduced below 50% of the operating speed for smoother clutch engagement, but this is not a requirement insofar as the clutch is concerned.

Duty Class I: The clutch is used for disconnecting the power from the load. When engaging, so little work is done that the clutch shows no temperature increase at the pressure plate outer surface. Use maximum input torque from the Class I Table, disregard horsepower. The mechanism is operated one (1) or more hours before disconnecting.

Examples: Engagement of clutches with the driven equipment having WR^2 less than that of the clutch and whose torque demand curve is similar to that of a centrifugal pump.

Duty Class II: The clutch is used primarily for disconnect, but does more work during engagement than in Duty Class I. The clutch will engage within two (2) seconds, never heat the pressure plate more than 50°F (27.8°C) above ambient, and once engaged is operated for one (1) or more hours before disconnecting. The maximum horsepower which the clutch can absorb is given in Class II Table.

Examples: Power shovel master clutch, generator, line shafts and similar light duty drives.

Duty Class III: The clutch will engage

within three (3) seconds, never heat the pressure plate more than 100°F (55.6°C) above ambient, and once engaged is operated for one (1) or more hours before disconnecting. The maximum horsepower which the clutch can absorb is given in Class III Table.

Examples: Clutches starting average loads, whose load is up to 1.4 times the running load. Blowers, fans, screw compressor, conveyors and similar normal duty drives.

Duty Class IV: The clutch will engage within four (4) seconds, never heat the pressure plate more than 150°F (83.3°C) above ambient, and once engaged is operated for one (1) or more hours before disconnecting. The maximum horsepower which the clutch can absorb is given in Class IV Table.

Examples: Clutches starting heavy loads, and large inertia machinery whose starting load is up to 1.8 times the running load typical of heavy duty drives.

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Model	Optional Extra Accessories				
	Cast Iron Driving Ring	Nodular or Steel Driving Ring	Operating Yoke	Hand Lever	Finger Spring
	Part Number	Part Number	Part Number	Part Number	
C-106	6939	NA	X1037	X3799	Avail.
C-107	6661	NA	X1037	X3799	Avail.
C-108	5805	5805A	X1037	X3799	Avail.
C-110	6187A	6187E	X1037	X3799	Avail.
C-111	6625A	6625D	X1037	X3799	Avail.
SP-111	6625A	6625D	X125A	X3799	NA
SP-211	6931	6931T	X3507	X3799	NA
SP-311	NA	6625N*	X5091	X7441A	NA
SP-114	5712	5712B	X5091	X7441A	NA
SP-214	5713	5713D	X5091	X7441A	NA
SP-314	A6518	A6518A	X5091	X7441A	NA
SP-218	6925	6925E	XA5486	X8215C	NA
SP-318	6926A	6926E	XA5486	X8215C	NA
SP-321	6875	6875A	XA5486	X8377B	NA
IBF-214	NA	A6518C	XA4650	X7441A	NA
IBF-314	NA	B5635	XA4650	X7441A	NA
IBF-318	NA	B5352	XB5363A	X8377B	NA
IBF-321	NA	9917	XB5363A	X8377B	NA
SL-111	6625A	6625D	X125B	X7441A	NA
SL-211	6931	6931T	X3507	X7441A	NA
SL-214	5713	5713D	XB5458	X8215B	NA

NOTE 4. SAE grade 8 attachment capscrews required.



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