

Gear Spindles Paper Machine Coupling



Misalignment Problem-Solving
PM Couplings,
with Alloy Steel Nitrided
Gear Teeth, are...
NOW IN STOCK



Index:

	Page
PM Series Data	208 - 209



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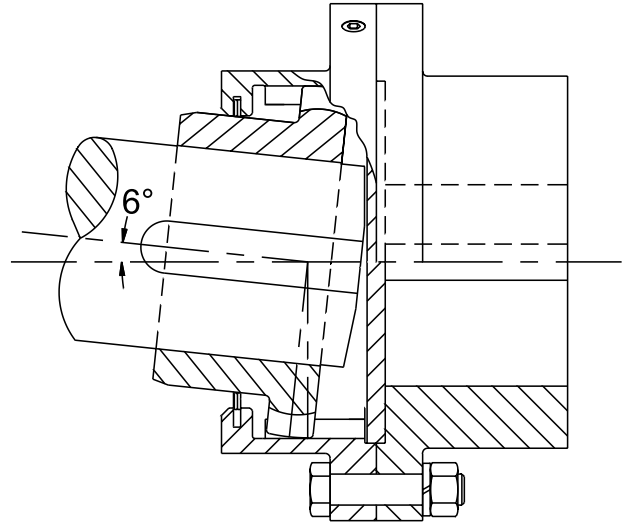
PM Series (Paper Machine)

The PM Series 6 degree (plus or minus) High Misalignment Paper Machine Coupling is designed for use on modern, high-speed paper machine roll drives. While maximum rolling torques are normally expected at shaft misalignments not exceeding 1 1/2 degrees per gear mesh, the maximum angle of 6 degrees is provided to facilitate machine maintenance, permitting raising of driven rolls during shutdown for wire or felt changes. Maximum coupling life will be obtained when shaft misalignment is kept to a minimum.

Hubs and sleeve are manufactured from heat-treated alloy steel with nitrided gear teeth.

The unique all-metal seal ring is designed to provide an effective lubricant seal for the life of the coupling. This patented device grasps the coupling hub and adjusts radially within the sleeve's seal ring groove, as illustrated. This provides a large volume of lubricant which is retained within the sleeve assembly, captured there by centrifugal force.

The recommended lubricant is WAVERLY* TORQUE LUBE 'A', available from KOP-FLEX® brand couplings, an extreme pressure grease compounded specifically to resist the high tooth pressures found in curved face gear type couplings.

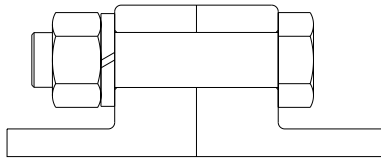


SEAL RING SHOWN AT MAXIMUM
SHAFT INCLINATION (6°)

The typical floating shaft arrangement may be designed with the standard shaft end protrusion as shown, or alternately with a shaft button. In either case, the coupling components required do not change.

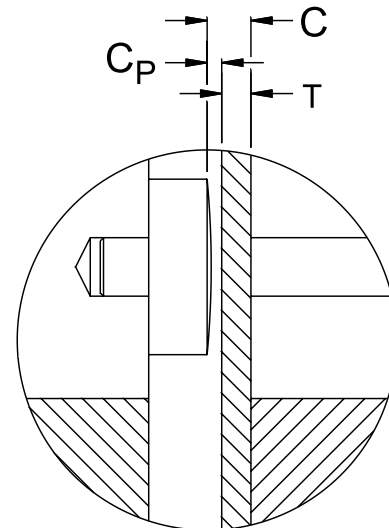
Coupling parts are normally supplied as Flex Half Couplings, Flex Rigid Couplings, or Flex Rigid Coupling with Stop Plate.

Coupling Size	Type EB Exposed Bolt		
	Qty.	Size & Length	Bolt Circle
1 1/2	8	3/8 x 2	4 13/16
2	6	1/2 x 2 1/4	5 7/8
2 1/2	6	5/8 x 2 3/4	7 1/8
3	8	5/8 x 2 3/4	8 1/8
3 1/2	8	3/4 x 3 3/8	9 1/2
4	8	3/4 x 3 3/8	11
4 1/2	10	3/4 x 3 3/8	12
5	8	7/8 x 4 1/4	13 1/2
5 1/2*	14	7/8 x 3 1/4	14 1/2
6*	14	7/8 x 3 1/4	15 3/4
7*	16	1 x 3 5/8	18 1/4



Type EB
Exposed Bolts

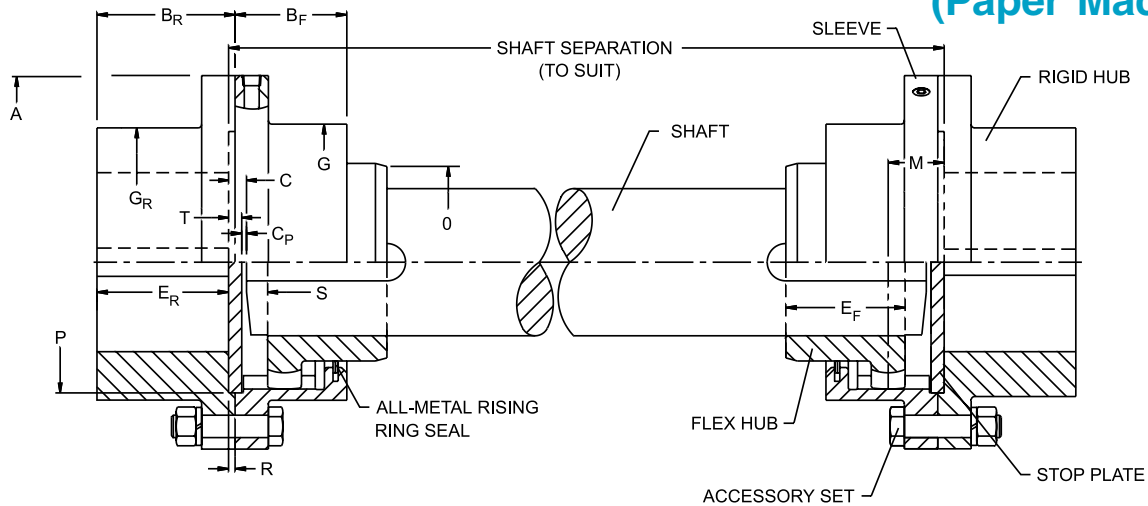
Exposed bolt configuration will be supplied as factory standard. Standard exposed flange bolt accessories are special Grade 5 with extremely tight bolt body tolerances. Customer supplied cap-screw assemblies, used for direct flange mounting on roll end, should be Grade 5 and drilled and lockwired at assembly.



ALTERNATE
SHAFT END CONFIGURATION
ARRANGEMENT 'A' (ALTERNATE)

*WAVERLY TORQUE LUBE 'A', is a trademark of Exxon Corporation & Witco Corporation, Bakerstown, PA.

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PM Ratings (refer to page 258 for selection procedure and service factors)

Size	Alloy AISI 4140 Nitrided Gearing							
	Normal Torque Capacity (lb-in) of spindle gearing for Misalignments Indicated							
	Tn 1 deg	Tn 1.5 deg	Tn 2 deg	Tn 3 deg	Tn 4 deg	Tn 5 deg	Tn 6 deg	Tms Shaft
1.5	26320	22400	18400	12800	10400	8000	5600	12000
2.0	52080	44000	36800	25600	20800	16000	10400	23900
2.5	87520	73600	61600	44000	35200	26400	17600	44600
3.0	149040	125600	104000	74400	59200	44800	29600	87000
3.5	241360	202400	168800	120800	96800	72800	48800	126600
4.0	350400	294400	244800	175200	140000	104800	70400	206000
4.5	492480	413600	344800	245600	196800	148000	99200	265400
5.0	659360	553600	461600	328800	263200	197600	132000	274600
5.5	878640	738400	615200	439200	351200	264000	176000	356500
6.0	1246720	1047200	872800	622400	498400	374400	250400	566300
7.0	1694800	1424000	1186400	845600	677600	508800	340000	845600

CAUTION Capacities are of gearing only. If selection torque exceeds Tms (limit of shafting) then an alloy shaft may be required. - Consult KOP-FLEX.

PM Dimensions (inches)

Coupling Size	Maximum Bore with Standard Keyway		Maximum Speed (RPM) (1)	Coupling Dimensions									Rigid Counterbore (2)	
	Flex	Rigid		A	B _R	B _F	C	C _P	E _R	O	S	T	P	R
1.5	2.00	2.63	2500	6.00	1.94	1.81	0.28	0.09	1.84	2.73	0.61	0.19	3.768	0.09
2.0	2.38	3.25	2060	7.00	2.38	2.36	0.28	0.09	2.28	3.40	0.72	0.19	4.568	0.09
2.5	2.88	4.00	1750	8.38	3.00	2.67	0.44	0.13	2.84	4.00	0.91	0.31	5.443	0.16
3.0	3.50	4.75	1460	9.44	3.56	2.97	0.44	0.13	3.41	4.89	0.95	0.31	6.443	0.16
3.5	4.00	5.50	1290	11.00	4.13	3.29	0.44	0.13	3.97	5.68	1.06	0.31	7.443	0.16
4.0	4.69	6.25	1090	12.50	4.63	3.75	0.56	0.13	4.41	6.62	1.31	0.44	8.756	0.22
4.5	5.38	7.25	970	13.63	5.25	4.25	0.56	0.13	5.03	7.57	1.42	0.44	9.756	0.22
5.0	5.75	8.50	875	15.31	5.88	4.44	0.63	0.19	5.66	8.37	1.55	0.44	10.750	0.22
5.5	6.50	8.00	795	16.75	7.16	5.00	0.63	0.19	6.94	9.24	1.70	0.44	12.132	0.25
6.0	7.00	8.75	730	18.00	7.66	5.39	0.75	0.25	7.41	10.08	1.75	0.50	13.320	0.25
7.0	8.38	10.00	625	20.75	9.00	5.84	0.88	0.25	8.69	11.84	1.73	0.63	15.390	0.31

- Notes:
- (1) Maximum Speed (RPM) is based on 1 1/2 degrees operating misalignment per gear mesh, and does not consider lateral critical speed considerations for floating shaft applications.
 - (2) Rigid counterbore dimensions shown are required to suit the stop plate. Standard EB rigids must be modified, counterbore diameter or depth or both, for all sizes except for size 2.
 - (3) Operating peak torque must be less than spindle rating.

Ordering Instructions: When ordering floating shaft couplings, be sure to include hp and rpm, shaft separation, and equipment shaft sizes. Applications with very large shaft separations and/or high speeds may require tubular floating shafts due to lateral critical speed concerns.

Important: Care must be exercised in proper selection of any shaft coupling. The Users must assure themselves that the design of the shaft to coupling hub connection is adequate for the duty intended.

We shipped a main mill drive coupling in less than 24 hours!



Surrounded by some of our extensive inventory, KOP-FLEX's operations manager readies a Size #26 for shipment to a customer

■ “Stock” couplings ready for immediate shipment

KOP-FLEX maintains a full inventory of rough bored main drive couplings from Sizes #1-30, to fit bores up to 40" (1,000mm.) in diameter. We can ship these immediately.

■ Finish bored and keywayed fast

The plant is open 24 hours a day, seven days a week. Call in your shaft information anytime, including weekends. KOP-FLEX will work around-the-clock to finish bore and keyway a coupling to your specifications.

■ Quick turnaround on custom applications

KOP-FLEX also stocks composite forgings for mill drive couplings. We can quickly machine these forgings to satisfy special requirements like flange boltings, non-standard hub lengths, etc.

■ Proven performers in the mill

KOP-FLEX has over 80 years of proven performance in mill duty couplings. Thousands of our heavy duty couplings are in service, many with over 50 years of continuous operation. Our engineering staff is second to none in the industry. Take advantage of their extensive coupling knowledge. We eagerly await an opportunity to work with you.



KOP-FLEX stocks a complete line of forgings, ready for custom machining.

For immediate service call 410-768-2000