

Permanent Magnet Coupling

This two piece rare-earth permanent magnet coupling is for contact-free torque transmission through any non-ferrous wall, with the benefit of slipping when the maximum torque is exceeded, protecting mechanical components in the drive line from damage.



Ideally suited to:

- Marine applications removing the need for shaft seals
- Laboratory mixers and vessel agitators
- Driving submerged pumps or compressors
- Driving across vessels where contents must be isolated
- Food processing
- Pharmaceutical industry
- Where a safety slip mechanism is required
- Solar / low power applications requiring extremely efficient torque transmissions
- Rotary indication through barriers

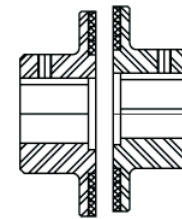
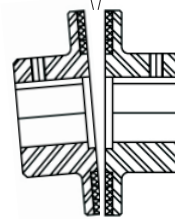


How Disc Couplings Work

Disc couplings consist of opposing discs with powerful rare earth magnets. The torque applied to one disc is transferred through an air gap to the other disc. Because of the simple flat design, you can have angular misalignment of up to 3° or a parallel misalignment of up to 6mm and still transmit nearly full rotational torque. Easily isolate drive side components from clean or contained processes.

This is our simplest and most versatile coupling.

Angular Misalignment
3° Max.



Parallel Misalignment
1/4" Max.

Advantages of Disc type Couplings:

- No wearing parts - wear free transmission of torque
- Synchronous design
- No slip at any speed - protecting mechanical components in the drive-line from damage
- No physical contact between driving and driven parts
- Simplifies containment barrier
- Custom designs available
- Overload protection up to 110%
- Electrical, mechanical and chemical isolation

Technical Data:

Material - 400 Series stainless steel

Magnet (Nickel-Plated) NdFeB*

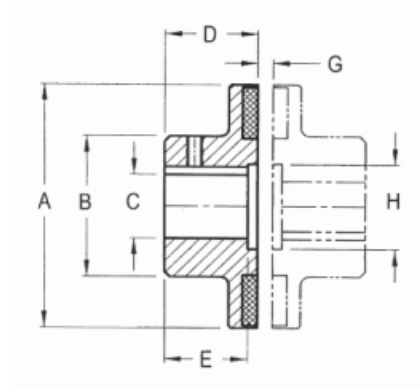
Operating temperature - 140°C

*Also available with SmCo magnets rated up to 280°C

Note: Couplings are delivered with an integrated stainless steel cover to protect magnets and allow for clean operation and easy maintenance. The above images show exposed magnets for illustration only.

All dimensions are subject to change without notice.

Permanent Magnet Coupling



P/N	HP @ 1750 rpm	KW @ 1750 rpm	Max Speed	*Weight per hub Kg.	Torque Normal Nm	Torque Peak Nm	A mm	B mm	C Max mm	D mm	E mm	G mm	H mm
PMK20	0.03	0.02	42500	0.05	0.11	0.16	28.0	20.6		16.0	16.0	3.5	N/A
PMK40	0.08	0.06	26000	0.10	0.45	0.56	43.7	20.6	see chart	15.0	15.0	4.9	N/A
PMK50	0.17	0.13	23000	0.15	0.68	0.90	50.3	28.5	below	15.0	15.0	4.9	N/A
PMK60	0.25	0.19	19000	0.26	1.02	1.36	60.0	38.1		19.1	19.0	4.9	N/A
PMK70	0.45	0.34	15500	0.58	1.69	2.26	72.7	50.8		25.4	25.4	4.9	N/A
PMK91	1.2	0.90	11000	1.10	4.97	5.42	97.6	69.9	35.0	25.4	25.4	4.9	N/A
PMK110	2	1.49	10500	1.16	8.13	9.04	106.7	69.9	35.0	25.4	25.4	6.4	N/A
PMK130	3	2.24	9000	1.99	12.20	13.56	129.6	76.2	42.0	38.1	31.8	6.4	52.4
PMK150	5	3.73	9200	2.17	20.34	22.60	125.0	69.9	42.0	38.1	31.8	6.4	52.4
PMK170	7.5	5.59	9200	3.14	30.51	33.90	125.0	108.0	55.0	47.5	41.4	6.4	68.4
PMK190	10	7.46	7800	4.07	40.67	45.19	147.1	108.0	65.0	52.6	46.0	6.4	77.8
PMK200	13	9.69	7800	3.23	53.10	61.01	147.1	60.2	38.0	41.7	31.8	6.4	47.8

Notes:

*Weight per hub includes magnets.

Hubs sold separately.

Please refer to recommended bore sizes in the table below, see **Notes** and then **How to Order**.

Bore Code	0000	0125	0188	0197	0236	0250	0313	0315	0375	0394	0433	0472	0500	0551	0625	0709	0748	0750	0875	1000
Bore Size	Solid	1/8"	3/16"	5mm	6mm	1/4"	5/16"	8mm	3/8"	10mm	11mm	12mm	1/2"	14mm	5/8"	18mm	19mm	3/4"	7/8"	1"
P/N																				
PMK20		X	X	X	X	X	X	X												
PMK40	X		X	X	X	X	X	X	X	X										
PMK50	X				X	X	X	X	X	X	X	X	X							
PMK60	X								X		X	X	X	X	X	X	X	X		
PMK70	X										X	X	X	X	X	X	X	X	X	X

Notes:

PMK20 has one set screw (grub screw), PMK40 and PMK50 have two set screws.

PMK60 and PMK70 have one set screw and keyway (for bores 11mm and larger.)

Keyways start with bores 11mm and larger.

All larger sizes of Permanent Magnet Couplings are supplied as solid bores, with additional costing for boring & keyway machining.

PMK150-PMK200 are manufactured to order. Minimum order quantity 2 hubs (different bores accepted).

How to Order:

P/N for 1 hub + bore code + P/N for the other hub + bore code EG: 1 off PMK20-0000(solid) + 1 off PMK20-0236 (6mm bore)

Please contact TEA Transmissions - email: sales@tea.net.au for price and delivery.

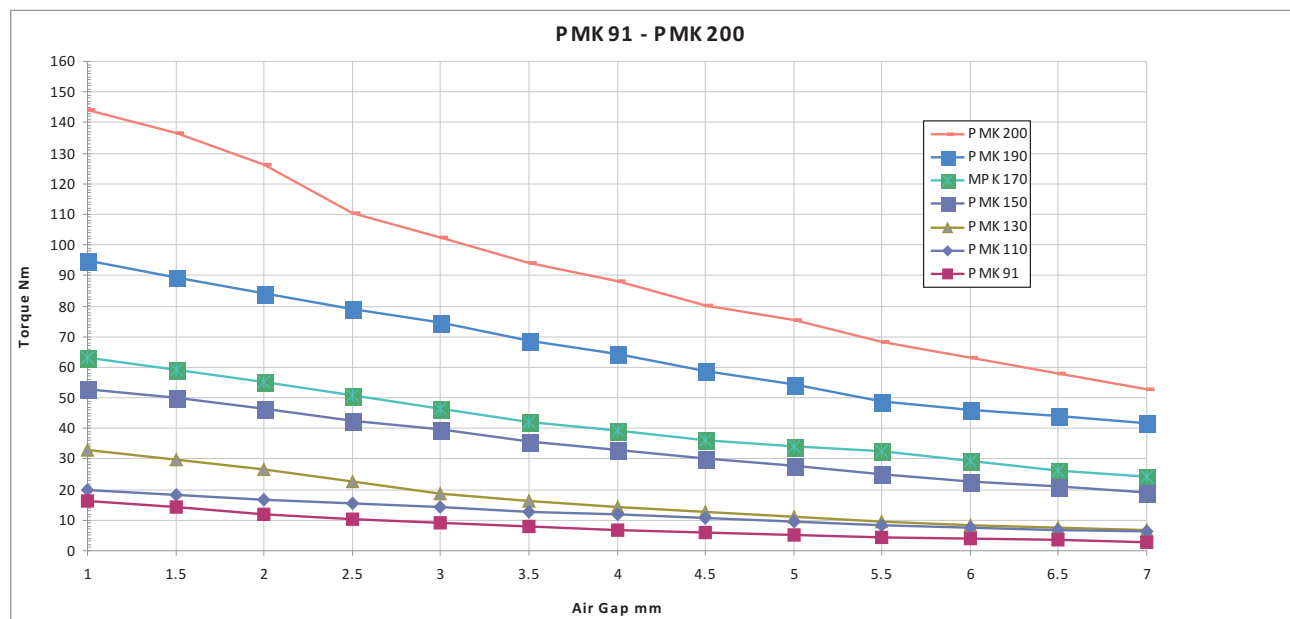
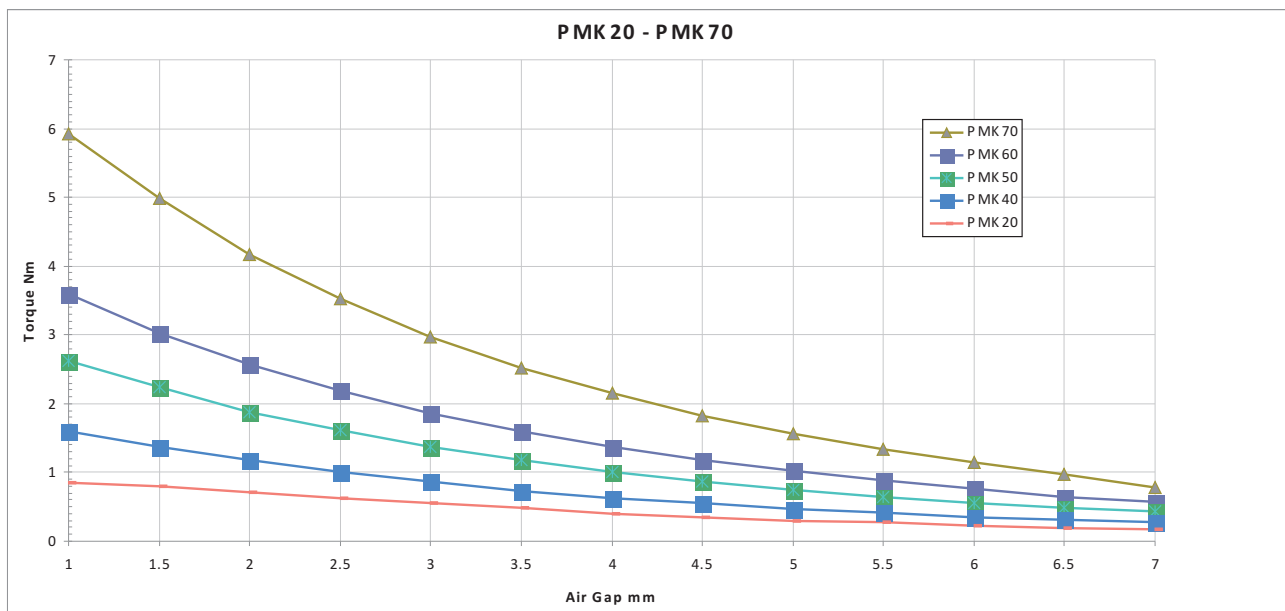
CAD files available via our website: www.tea.net.au

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Permanent Magnetic Coupling

Torque Vs. Air Gap Data & Charts

Coupling Model & Torque (Nm)												
Air Gap (mm)	PMK 20	PMK 40	PMK 50	PMK 60	PMK 70	PMK 91	PMK 110	PMK 130	PMK 150	MPK 170	PMK 190	PMK 200
1	0.85	1.59	2.63	3.59	5.93	16.45	19.69	33	52.9	63	94.7	144.1
1.5	0.8	1.37	2.24	3.02	4.98	14.1	18.09	29.92	50.2	59.1	89.2	136.7
2	0.71	1.18	1.88	2.57	4.17	12.05	16.72	26.49	46.5	55.2	84.3	126.2
2.5	0.62	1	1.61	2.18	3.52	10.42	15.43	22.56	42.6	50.8	79.2	110.5
3	0.55	0.86	1.37	1.86	2.97	8.95	14.1	18.64	39.9	46.3	74.6	102.3
3.5	0.49	0.73	1.18	1.59	2.52	7.9	12.9	16.38	35.9	42	68.5	94.2
4	0.4	0.63	1	1.37	2.16	6.83	11.8	14.32	33.1	39.3	64.4	88.3
4.5	0.35	0.55	0.86	1.18	1.83	6.04	10.6	12.56	30.2	36.2	58.9	80.1
5	0.3	0.47	0.75	1.02	1.57	5.25	9.6	11.09	27.7	34.1	54.2	75.6
5.5	0.27	0.41	0.65	0.88	1.34	4.45	8.5	9.71	25.2	32.5	48.9	68.2
6	0.22	0.35	0.55	0.77	1.15	3.98	7.54	8.53	22.8	29.2	46.1	63.2
6.5	0.19	0.31	0.49	0.65	0.98	3.4	6.8	7.5	20.9	26.3	44	57.8
7	0.17	0.27	0.43	0.57	0.79	2.85	6.38	6.62	19	24.1	41.8	52.7



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**Thank you! For viewing product information on the T.E.A.
range of engineering components.**

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