

RBI Flexible Coupling

[Brochure](#)

RENOLD | Couplings

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Innovation Everyday

Renold have been driving industry forward through innovation since 1879. Renold Couplings drives industry the world over, from marine, cranes and hoists to manufacture, mass transportation and the pulp and paper industry. Our couplings connect machines to machines through stock solutions and bespoke-crafted connections, all manufactured in our high-tech engineering factories.

Engineering capability

A team of in-house design engineers work to continuously improve the existing product range, introduce new products and deliver innovative new solutions to our customers challenges.

British manufacturer

Since 1946 Renold Couplings have manufactured a full range of couplings and clutches.

Based in Cardiff, UK, we control the full design and manufacture process, bringing class leading quality and complete customer peace of mind.

Worldwide support

With manufacturing facilities in 4 continents and support offices in over 30 countries Renold Couplings can offer service that understands the requirements and challenges of your particular market.

Availability

Renold Couplings holds significant stock of standard items and component parts both in our UK facility and with our partners around the world.

Controlling the full manufacturing process, Renold Couplings can deliver responsive lead times for manufactured parts.



RBI Flexible Coupling

The RBI Coupling is a general purpose coupling manufactured in SG iron for torques up to 60 kN.m. It needs no lubrication or adjustment and protects and potentially extends the life of the entire driveline, resulting in the lowest lifetime costs for a coupling.

Coupling capacity

- Up to 62.5kNm torque
- Maximum 5,250rpm
- Up to 210mm bore

Applications

- Pumps
- Table roller drives
- Cranes and hoists
- Conveyors
- Fans
- Mixers
- Extruders
- Screens

Range options

- Shaft to shaft
- Shaft to shaft with increased shaft engagement

Construction details

- Spheroidal graphite to BS 2789 Grade 420/12
- Separate rubber elements with SM80 shore hardness as standard. CM80 electrical insulation rubber blocks also available
- Rubber elements which are totally enclosed and loaded in compression general purpose, cost effective range, which is manufactured in SG iron for torques up to 62.5kNm

Features and benefits

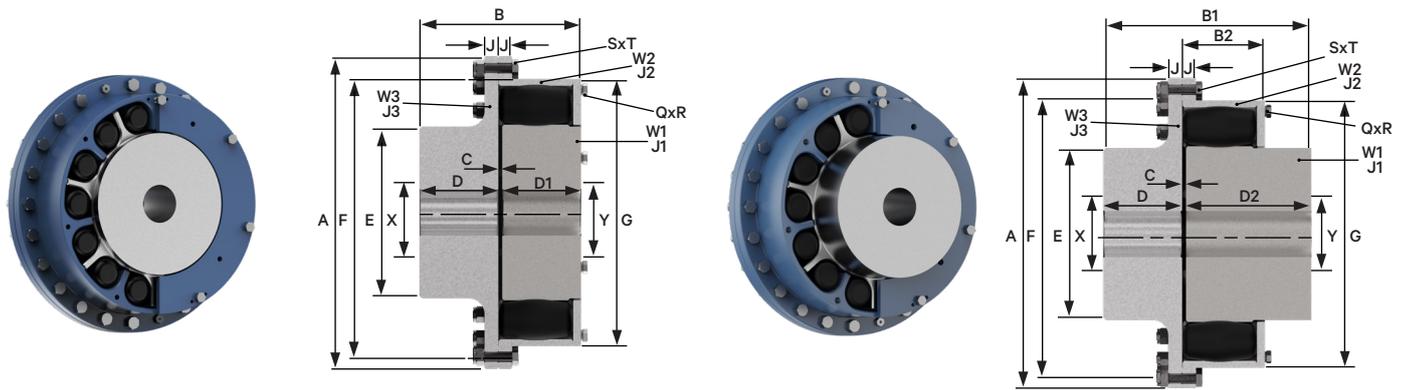
- Torque-dense design reduces the coupling package size, weight and cost
- Low maintenance, lubrication-free solution requires minimal operational intervention, vastly reducing total cost of ownership
- Fail-safe design ensures continued operation in the unlikely event of rubber damage
- Torsional damping reduces vibratory driveline loads
- Severe shock load protection avoids driveline failure in transient over-torque events
- Compensates for axial and radial misalignment between driven and driving equipment
- Pre-compressed rubber blocks provide zero backlash and reduced torque amplifications



RBI Shaft to Shaft

RBI 1.4 - 60 standard

RBI 1.4 - 60 long boss inner member



Dimensions, weight, inertia and alignment

Coupling size		1.4	2.1	2.6	4	8	12	23	40	60	
Dimensions (mm)	A	200.0	222.2	238.1	260.3	308.0	358.8	466.7	508.0	571.5	
	B	104.8	111.2	123.8	136.5	174.6	193.7	233.4	260.4	285.8	
	C	3.2	3.2	3.2	3.2	3.2	3.2	4.8	6.4	6.4	
	D	50.8	54.0	60.3	66.7	85.7	95.2	114.3	127.0	139.7	
	D1	50.8	54.0	60.3	66.7	85.7	95.2	114.3	127.0	139.7	
	E	79.4	95.2	101.6	120.6	152.4	184.1	222.2	279.4	330.2	
	F	177.8	200.0	212.7	235.0	279.4	323.8	438.15	469.9	542.92	
	G	156.5	178	186.5	210	251	295	362	435	501.5	
	J	12.7	14.3	15.9	17.5	19.0	19.0	19.0	22.2	25.4	
	Q	5	6	6	6	6	6	6	7	8	
	R	M8	M8	M8	M10	M10	M12	M12	M12	M12	M12
	S	6	10	6	8	8	18	16	22	22	
	T	M8	M8	M10	M10	M12	M12	M12	M16	M16	
	MAX.X	50	60	65	80	95	115	140	170	210	
MAX.Y	55	70	75	85	95	115	140	170	210		
Rubber elements	MIN. X & Y	30	35	40	40	55	55	70	80	90	
	Per cavity	1	1	1	1	1	1	1	1	1	
	Per coupling	10	12	12	12	12	12	12	14	16	
Maximum Speed ¹ [rpm]		5250	4725	4410	4035	3410	2925	2250	2070	1820	
Allowable misalignment ³											
	Radial (mm)	0.75	0.75	0.75	0.75	1.0	1.5	1.5	1.5	1.5	
	Axial (mm)	1.5	1.5	1.5	1.5	1.5	1.5	2.0	3.0	3.0	
	Conical (degree)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

¹ For operation above 80% of the declared maximum coupling speed, it is recommended that the coupling is dynamically balanced.

² Weights and inertias are based on the minimum bore size.

³ Installations should be initially aligned as accurately as possible. In order to allow for deterioration in alignment over time it is recommended that initial alignment should not exceed 25% of the above noted data. The forces on the driving and driven machinery should be calculated to ensure that these do not exceed the manufacturers allowances.

RBI Shaft to Shaft

Rubber grade	Temp _{max} °C	S _t	Dynamic Magnifier (M ₃₀)	Relative Damping ψ ₃₀
SM80	100	5 _t 100 0.58	4	1.57

Dimensions, weight, inertia and alignment

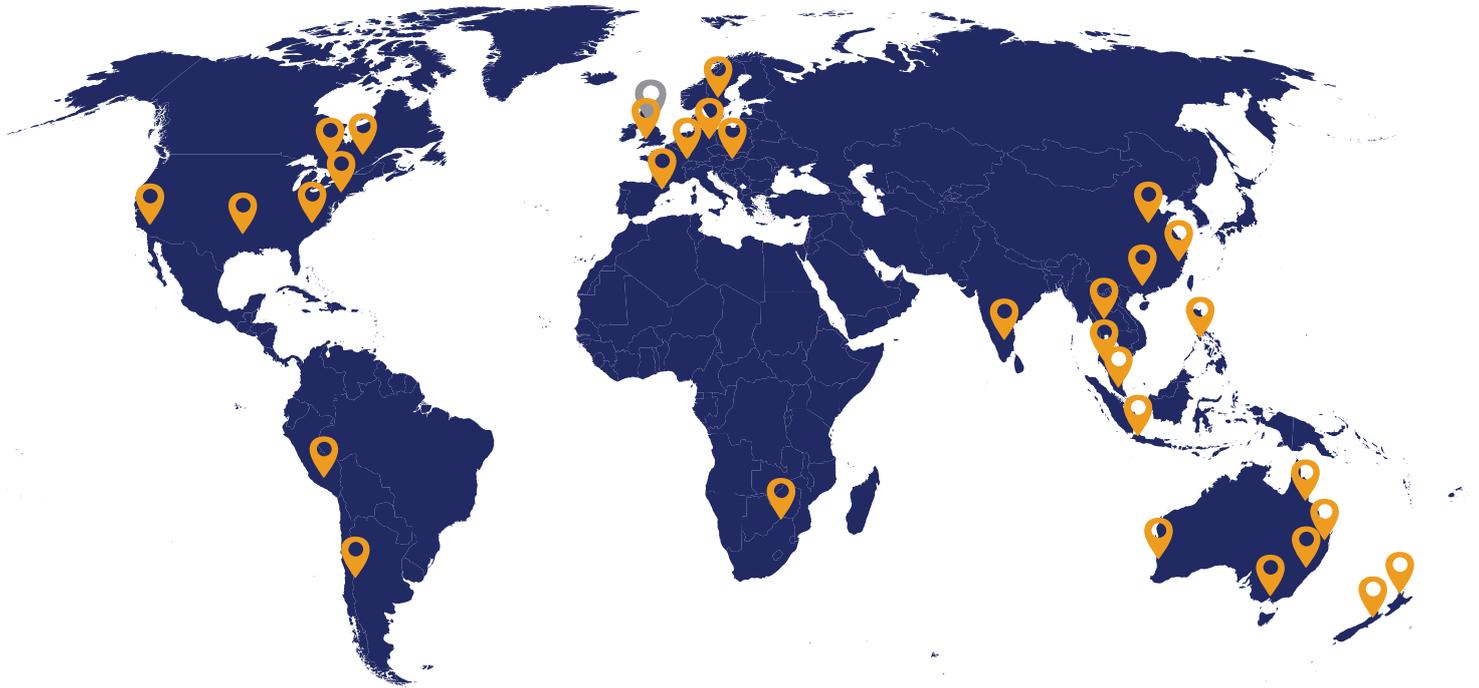
Coupling size		1.4	2.1	2.6	4	8	12	23	40	60
Nominal Torque Tkn (kN.m)		0.471	0.725	0.855	1.319	2.595	4.097	7.673	13.739	19.575
Maximum Torque Tkn (kN.m)		1.39	2.14	2.58	3.95	8.03	12.15	22.95	41.10	61.50
Vibratory Torque Tkn (kN.m)		0.183	0.282	0.333	0.513	1.008	1.593	2.984	5.342	7.613
Allowable dissipated heat at ambient temperature of 30°C Pkw (Watts)		100	138	154	173	228	250	302	410	520
Dynamic Torsional Stiffness CT _{dyn} (MNm/rad)	At 0.10 Tkn	0.010	0.013	0.016	0.025	0.050	0.076	0.143	0.220	0.499
	At 0.25 Tkn	0.014	0.018	0.021	0.034	0.068	0.102	0.193	0.297	0.673
	At 0.50 Tkn	0.029	0.03	0.045	0.070	0.141	0.214	0.405	0.621	1.326
	At 0.75 Tkn	0.062	0.080	0.096	0.148	0.301	0.456	0.861	1.320	2.533
	At 1.00 Tkn	0.107	0.137	0.166	0.254	0.517	0.782	1.477	2.268	4.153
Radial Stiffness - No Load (N/mm)		2136	2209	2504	2800	3680	4050	5008	5600	6170
Radial Stiffness - @ Tkn (N/mm)		6768	8365	9523	10577	14300	15340	19045	24800	31400
Axial Stiffness - No Load (N/mm)		177	198	245	258	319	342	413	516	683
Max. Axial Force - @ Tkn (N)		3250	4000	4400	4500	6500	7250	8750	11500	14500
Weight ² (kg)	W1	2.82	4.04	5.29	7.49	12.82	23.39	35.88	62.81	102.09
	W2	4.00	5.05	6.38	8.14	13.29	18.41	33.98	43.87	59.00
	W3	4.06	5.82	7.42	10.44	18.03	27.37	47.43	75.39	113.32
	W4	4.21	6.42	8.67	11.85	19.43	35.27	53.8	95.50	162.79
Inertia ² (kgm)	J1	0.0044	0.0084	0.0131	0.0233	0.0563	0.1399	0.3227	0.8489	1.9633
	J2	0.0232	0.0375	0.0546	0.0887	0.2000	0.2862	1.1035	1.9161	3.4391
	J3	0.0153	0.0270	0.0396	0.0644	0.1475	0.1896	0.7998	1.5120	2.9796
	J4	0.0059	0.0121	0.0193	0.0326	0.0770	0.1896	0.4347	1.1833	2.8953

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Global services



 **Head office**  **Renold locations**



Internal support

Sales team embedded in the manufacturing site with unrivalled product knowledge



Large engineering team

Our team can design a quality coupling to match your exact requirements



Manufacturing facility

Designed and manufactured in house by Renold; giving ultimate control on our solutions



History and Longevity

Manufacturing in the UK for over 100 years and commitment in our facilities for the long term, we are here to stay



Excellent Communication

From an accessible sales team, weekly order updates and a global sales network we make it easy to communicate



Record investment

Heavy investment in our business; spending millions of pounds upgrading CNC equipment, metrology arms and the newest software and test rigs

Get in touch

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