

GE Series Elastomeric Couplings



The GE series of flexible couplings consist of two machined metal hubs connected by an elastomeric gear ring. The couplings are equally suited to horizontal or vertical shaft applications, providing positive power transmission and absorbing torsional, vibration and impact loads. The standard elastomeric ring is a black thermoplastic rubber of 94 shore A hardness selected for its resistance to wear, oil, chemicals, ozone and hydrolysis, which makes it suitable for tropical climates. Standard couplings can work in environments with temperature range -40°C to +125°C and withstand +150°C for short periods. The teeth of the gear ring are of involute form to prevent high stress concentrations in reduced surfaces, and crowned to avoid edge pressure on the teeth. The circular apertures on each hub are precision-machined to provide positive torque transmission with minimum backlash.



For increased torsional rigidity two alternative gear rings are available, both of 96 Shore a hardness; a red thermoplastic rubber element, and a yellow polyurethane element recommended for the Aluminium Hubs.

GE Plain Bore Couplings are manufactured in two materials, Grade 250 Cast Iron for normal industrial applications, and aluminium where weight and inertias must be kept to a minimum. Two styles of hub are offered: 'A' style with hub diameter reduced below flange diameter to minimise weight; and 'B' style with hub diameter basically the same as the flange diameter to accommodate larger diameter shafts of electric motors and gear units. Different styles of hub can be mixed to accommodate differing shaft requirements. The hubs are identified by the maximum bore which can be accommodated, and hub style, i.e. GE24A is an 'A' type hub capable of max. bore size 24mm. Hubs of different styles can be combined in a coupling, and identified as in examples below.

GE24A-24A - Has two 'A' type hubs.

GE24A-32B - Has one 'A' and one 'B' type hub.

For aluminium couplings numbers are the same with addition of a suffix 'A' e.g. GE24AA-32BA

Coupling Capacities and Selection

For **GE Series Couplings** design torque may need correcting for elevated ambient temperature or frequent starting before comparison with the coupling nominal torque rating.

Coupling nominal torque $T_n \geq T_d \cdot f_1 \cdot f_2$ f_1 = temperature factor
 $T_n \geq 0.5 T_s \cdot f_1 \cdot f_2$ f_2 = start-up factor
 T_s = starting/max torque of motor

For applications with frequent torque changes or reversal, check capacity T_r
 Reversal Torque $T_r \geq T_v \cdot f_1$ T_v = actual torque variation

Factor f1-ambient temperature

Temperature °C	-30	31-40	41-60	61-80	81+
Factor f1	1.0	1.2	1.4	1.6	1.8

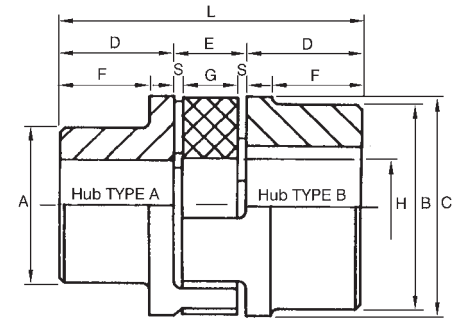
Factor f2-start-up

Start/hr	100	200	400	800
Factor f2	1.0	1.2	1.4	1.6

GE Plain Bore Couplings - Capacities and Dimensions (mm)

Technical Data

Coupling Size ⁽¹⁾	Max. Speed rpm	Nominal Torque T _n Nm	Reversal Torque T _r Nm	Torsional Stiffness kNm/Rad				Maximum Misalignment		
				1.0 T _n	0.75 T _n	0.5 T _n	0.25 T _n	Angular deg.	Radial mm	Axial mm
GE19A-24B	14000	10	2.6	0.68	0.57	0.44	0.28	1.2°	0.2	1.2
GE24A-32B	10600	35	9	2.19	1.82	1.40	0.90	0.9°	0.2	1.4
GE28A-38B	8500	95	25	5.20	4.31	3.32	2.12	0.9°	0.25	1.5
GE38A-45B	7100	190	49	10.00	8.30	6.39	4.08	1.0°	0.28	1.8
GE42A-55B	6000	265	69	17.00	14.11	10.68	6.94	1.0°	0.32	2.0
GE48A-60B	5600	310	81	20.00	16.59	12.77	8.16	1.1°	0.36	2.1
GE55A-70B	4750	375	98	21.99	18.25	14.05	8.98	1.1°	0.38	2.2
GE65A-75B	4250	425	111	28.20	23.39	18.01	11.51	1.2°	0.42	2.6
GE75A-90B	3550	975	254	67.99	56.41	43.44	27.75	1.2°	0.48	3.0
GE90A-100B	2800	2400	624	110.00	96.26	70.27	44.89	1.2°	0.50	3.4



Performance ratings for Aluminium Hubs are identical to equivalent steel size.

Dimensions

Coupling Size ⁽¹⁾	Bore Diameters - mm				A	B	C	D	E ⁽⁴⁾	F	G	H	L	Approx. Coupling Wt. kg ⁽⁵⁾			Coupling Inertia kg cm ⁽⁵⁾		
	Hub Type A		Hub Type B											Type A-A	Type A-B	Type B-B	Type A-A	Type A-B	Type B-B
	Min.	Max ⁽²⁾	Min.	Max ⁽²⁾															
GE19A-24B	-	19	-	24	30	40	40	25	16	19	12	18	66	0.27	0.30	0.33	0.7	0.8	0.8
GE24A-32B	-	24	-	32	40	55	55	30	18	24	14	27	78	0.61	0.78	0.96	2.5	3.0	3.5
GE28A-38B	-	28	-	38	48	65	65	35	20	27.5	15	30	90	0.97	1.29	1.61	6	7	8
GE38A-45B	-	38	-	45	66	78	80	45	24	36.5	18	38	114	2.08	2.37	2.66	17	20	23
GE42A-55B	-	42	-	55	75	94	95	50	26	40	20	46	126	3.21	3.61	4.01	40	50	60
GE48A-60B	-	48	-	60	85	104	105	56	28	45	21	51	140	4.41	4.97	5.53	60	80	100
GE55A-70B	-	55	-	70	98	118	120	65	30	52	22	60	160	6.64	7.37	8.11	120	160	200
GE65A-75B	-	65	-	75	115	134	135	75	35	61	26	68	185	10.13	10.89	11.65	250	310	370
GE75A-90B	-	75	-	90	135	158	160	85	40	69	30	80	210	16.03	17.73	19.43	540	680	820
GE90A-100B	38	90	38	100	160	180	200	100	45	81	34	100	245	28.45	30.25	32.10	1400	1590	1780
GE19AA-24BA	-	19	12	24	32	40	40	25	16	19	12	18	66	0.12	0.13	0.14	0.3	0.4	0.4
GE24AA-32BA	6	24	14	28	40	55	55	30	18	24	14	27	78	0.24	0.26	0.28	0.8	0.9	1.0
GE28AA-38BA	7	28	16	38	48	65	65	35	20	27.5	15	30	90	0.39	0.46	0.53	2.0	2.4	2.8
GE38AA-45BA	8	38	20	45	66	78	80	45	24	36.5	18	38	114	0.82	0.89	0.95	7.0	7.5	8.0

(1) Coupling ref is for mixed hubs.

(2) With Standard keyway.

(3) Angular deflection at Nominal Torque T_n is 3° and Max Torque T_m is 5° Max Torque is double Nominal Torque.

(4) With coupling correctly positioned on shafts.

(5) Weights and Inertias for couplings on max. bore.

All Couplings can be supplied with hubs finished bored, keyseated and with set screws on 48 hour re-work service. Also sizes 28A - 38B through to GE75A - 90B are available with Taper Bush fitting.

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