

# GFA and GFAS Gear Couplings



Coupling types GFA and GFAS are designed for heavy industrial applications, providing a torsionally stiff connection of shafts which can accommodate angular and parallel misalignment and axial movement.

The GFA coupling consists of two hardened steel hubs with external crowned and barrelled gear teeth, connected by a hardened steel sleeve with matching gear teeth. The hub teeth are positioned a maximum distance apart to minimise angular and parallel misalignment. The double articulation in the GFA series permits high misalignment.

The GFAS coupling has only one hub with external teeth, which connects to a sleeve with integral hub, to reduce weight and inertia. This series provides a stiffer connection, particularly suited to cardan shaft applications.

Hubs and sleeves are produced from high strength steel (800N/mm<sup>2</sup> tensile strength) with chemical surface-hardening to enhance wear and corrosion resistance, and avoid seizure. All teeth are to DIN 3992 Class 7 accuracy, with surface finish 1.4µm Ra. Lubrication is retained by sprung loaded seals which also prevent ingress of contaminants to ensure long operating life. Re-lubrication is via two grub screws positioned on the sleeve.



GFA Series

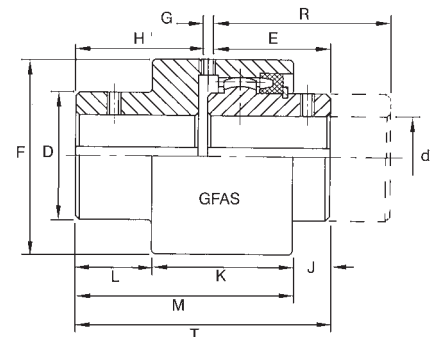
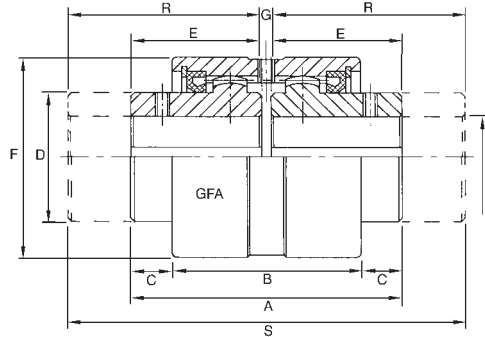


GFAS Series

Couplings are offered with two hub lengths; standard hub suitable for most applications, and long hub for shafts of standard series motors.

Hubs of different lengths can be combined in one coupling (GFA type) with refs. modified as below:-

- GFA - Has two std. hubs.
- GFAL - Has one long and std. hub.
- GFALL - Has two long hubs.
- GFAS - Has std. length hub.
- GFASL - Has long length hub.



## GFA and GFAS Series Couplings - Power Capacities and Technical Data

For coupling selection procedure refer page 13. Max. motor torque must never exceed max. torque rating of coupling.

Coupling Size	Power Capacity kW/rpm Normal	Torque Nm		Power Capacity in kW at selected shaft speeds				Shaft speed <sup>(2)</sup>		Radial Misalign Max. mm GFA only	Inertia kg-cm <sup>2</sup> GFA <sup>(1)</sup>	Inertia kg-cm <sup>2</sup> GFAS <sup>(1)</sup>	Weights kg <sup>(3)</sup>				
		Rated	Max.	500	1000	1500	3000	Normal Running Max-rpm	Absolute Max-rpm				GFA Sleeve	GFAS Sleeve	Standard Hub	Long Hub	
GFA-25 GFA-32 GFA-40	GFAS-25 GFAS-32 GFAS-40	0.063 0.104 0.130	600 1000 1250	1524 2520 3125	31 52 65	63 104 130	94 156 195	189 312 370	5000 4000 3000	6000 5000 4200	0.20 0.26 0.32	8.7 25.1 44.8	7.3 19.2 34.1	0.72 1.14 1.68	1.03 1.75 2.71	0.48 0.99 1.49	0.69 1.58 2.10
GFA-56 GFA-63 GFA-80	GFAS-56 GFAS-63 GFAS-80	0.261 0.419 0.785	2500 4000 7500	6200 9260 18000	130 209 392	261 419 785	391 628 -	- -	2200 1600 1200	3500 3000 2600	0.37 0.40 0.48	132.6 278.2 558.6	95.6 207.3 492.6	2.86 3.75 5.58	4.43 6.62 10.50	2.96 4.90 8.72	4.22 7.67 14.26
GFA-100 GFA-125 GFA-155	GFAS-100 - -	1.236 2.431 4.121	12000 23600 40000	28500 56250 90000	618 1215 2060	1236 2431 -	- -	- -	700 460 350	1400 950 700	0.65 0.70 0.80	1044.5 3650.0 9982.0	1064.5 -	6.63 17.70 28.30	28.20 -	15.76 32.60 65.50	25.40 49.50 91.40

(1) Moments of inertia refer to standard couplings bored to maximum bore size.

(2) For operating speeds in excess of 3,600 rpm couplings should be balanced in accordance with ISO 1940 to class G2.5.

(3) Weights are for unbored coupling hubs - total weight is the addition of two hubs plus sleeve (GFA), or sleeve plus hub (GFAS).

## GFA and GFAS Series Couplings - Dimensions in mm

Coupling Size		Finished Bore Sizes d <sup>(1)</sup>		Standard Length Hubs												Long Hubs		
GFA	GFAS	Normal Max.	Max.	A <sup>(2)</sup>	B	C	D	E	F	G <sup>(2)</sup>	H	J	K	L	M <sup>(2)</sup>	R	S <sup>(2)</sup>	T <sup>(2)</sup>
GFA-25 GFA-32 GFA-40	GFAS-25 GFAS-32 GFAS-40	25 32 40	28 38 48	85 100 115	61 73 82	12.0 13.5 16.5	42* 55 64	41.0 48.5 56.0	68* 85 95	3 3 3	41 48.5 56	13 16 18.5	43 49 54.5	29 35 42	85 100 115	60 80 80	123 163 163	104 131.5 139
GFA-56 GFA-63 GFA-80	GFAS-56 GFAS-63 GFAS-80	56 63 80	60 75 90	140 153 170	97 108 125	21.5 22.5 22.5	80 100 125	68.0 74.5 82.5	120 140 175	4 4 5	60 61.5 65.5	27 31 26	60 63 76	45 46 51	132 140 153	100 119.5 140	204 243 285	164 185 210.5
GFA-100 GFA-125 GFA-155	GFAS-100 - -	100 125 155	110 140 175	216 288 370	148 214 240	34 39 64	150 190 240	105 140 180	198 245 300	6 8 10	90 -	38 -	92 -	71 -	201 207.5 245	174.5 32.60 49.50	355 423 498	270.5 -

(1) Stock hubs are all unbored, but can be modified to customer's bore and keyway requirements, up to maximum bores indicated.

(2) Dimensions G, M, S, and T relate to couplings correctly positioned on shafts.

\* For GFAS 25 dimension D on hub only is 40mm, and dimension F is 70mm.

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