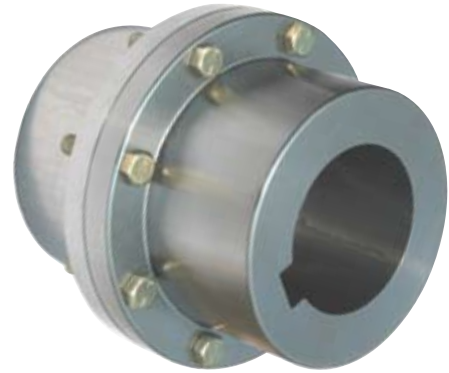


FARR Coupling

Overview and Performance Data

The FARR Coupling is used when a rigid connection is required between the low speed shaft of a gearbox and the head shaft of a conveyor, bucket elevator, mixer or any over-hung or suspended load. When sized properly, the FARR Coupling will carry the application torque, weight of gearbox, motor and swing plate. In the case of a mixer, it will carry the weight of the shaft and impeller, thrust forces and resulting bending moments.

Components of a FARR Coupling consist of male and female piloted hubs made from 4140 alloy steel. The hubs are extended to assure 80% hub to shaft contact. Keeper plates are included for safety. The two hubs are assembled with Grade 8 bolts and Grade "C" Prevailing Torque nuts. Standard coupling sizes have a nominal torque range from 11,300 to 2,138,000 in-lbs. Larger sizes are available depending on the application.



Features

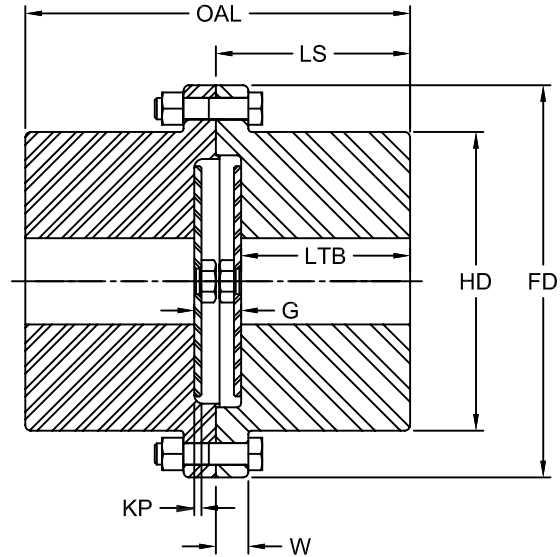
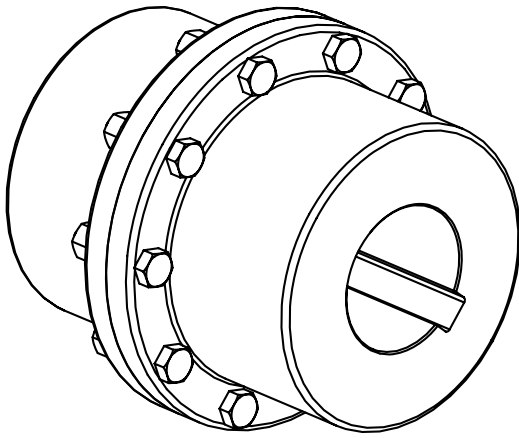
- Heat Treated 4140 alloy steel
- Male and Female pilots
- Increased Torque Capacity
- Grade 8 Bolts / Grade "C" Prevailing Torque Nuts
- Extended length through bore
- Keeper Plate design

FARR Performance Data

Size	Torque Capacity in-lb	Torque Capacity Nm	Max Speed Unbalanced RPM	Max Bore in	Bolts No & Size in	Bolt Circle Dia in	Tightening Torque ft-lb	Tightening Torque Nm
1	11,300	1 277	6,000	1.875	6 ¼-28	3.750	11	15
1.5	22,700	2 565	5,500	2.188	8 ⅜-24	4.812	35	48
2	39,000	4 407	5,000	2.688	6 ½-20	5.875	78	106
2.5	69,300	7 831	4,400	3.313	6 ⅝-18	7.125	146	198
3	118,000	13 333	4,000	3.875	8 ⅝-18	8.125	146	198
3.5	177,000	20 000	3,500	4.875	8 ¾-16	9.500	221	299
4	263,400	29 763	3,000	5.500	8 ¾-16	11.000	221	299
4.5	354,000	40 000	2,700	6.250	10 ¼-16	12.000	221	299
5	508,600	57 469	2,500	7.000	8 ⅞-14	13.500	304	412
5.5	670,700	75 785	2,200	7.750	14 ⅞-14	14.500	304	412
6	877,100	65 209	2,100	8.850	14 ⅞-14	15.750	304	412
7	1,179,300	133 254	2,000	10.000	16 1-14	18.250	404	548
8	1,548,500	174 972	1,900	11.000	16 1½-12	20.750	525	712
9	2,138,400	241 627	1,800	13.500	18 1¼-12	23.250	692	938

Note: ■ Larger sizes available - Please contact Lovejoy Application Engineering

FARR Coupling Dimensional Data



FARR Dimensional Data

Size	Max Bore in	Rough Stock Bore in	OAL in	LS in	LTB in	G in	KP in	W in	FD in	HD in	Weight lbs
1	1.875	Solid	5.88	2.94	2.38	1.12	0.25	0.56	4.56	3.06	15
1.5	2.188	Solid	6.64	3.32	2.50	1.64	0.25	0.75	6.00	3.94	29
2	2.688	Solid	7.21	3.67	2.85	1.51	0.25	0.75	7.00	4.91	31
2.5	3.313	Solid	8.77	4.45	3.63	1.51	0.25	0.88	8.38	5.91	80
3	3.875	Solid	9.44	4.72	4.03	1.63	0.25	0.88	9.44	6.91	114
3.5	4.875	Solid	10.63	5.38	4.50	1.63	0.25	1.13	11.00	7.91	171
4	5.500	Solid	11.87	6.00	5.12	1.63	0.25	1.13	12.50	9.25	252
4.5	6.250	Solid	13.37	6.75	5.87	1.63	0.25	1.13	13.63	10.38	346
5	7.000	4.50	14.87	7.50	6.62	1.63	0.25	1.50	15.31	11.50	487
5.5	7.750	4.50	16.37	8.25	7.37	1.63	0.25	1.50	16.75	12.81	657
6	8.500	5.50	17.87	9.00	8.12	1.63	0.25	1.00	18.00	14.00	815
7	10.000	5.50	20.89	10.51	9.00	2.88	0.50	1.13	20.75	15.75	1,184
8	11.000	8.25	24.48	12.31	10.80	2.88	0.50	1.31	23.25	18.50	1,902
9	13.500	9.75	26.49	13.31	11.80	2.88	0.50	1.50	26.00	20.38	2,529

- Notes: ■ Total Coupling Weight with Solid/Rough Stock Bore Hubs
 ■ Interference Bores are standard unless otherwise specified
 ■ Bore and Keyway Tolerances are to ANSI/AGMA 9002-B04

FARR Coupling Selection Guide

A. Obtain The Following Information:

- Application
- Horsepower & RPM
- Gearbox (Reducer) Ratio
- Output Speed
- All Shaft Sizes
- Overhang Load
- Lever Arm

(Distance from end of Gearbox output Shaft to Center-Line of Gearbox or Center Line of Gravity)

B. Calculate Application Torque:

$$T \text{ (in-lb)} = \frac{HP \times 63025}{RPM}$$

C. Calculate Design Torque by applying 2.0 Service Factor to application torque.

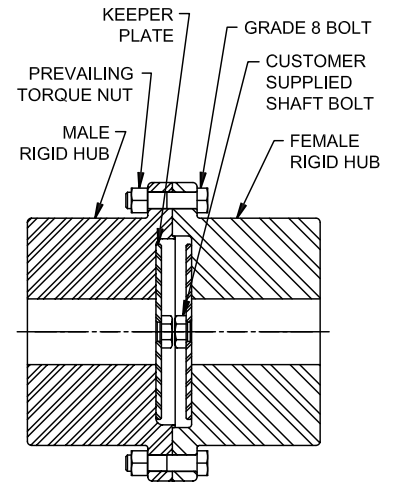
$$2.0 \times T \text{ (in-lb)} = \text{Design Torque}$$

D. Select coupling with a torque capacity equal to or greater than the Design Torque from the Performance Data table.

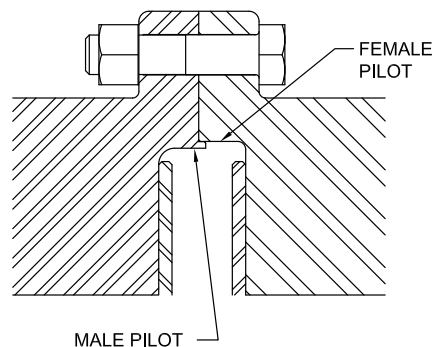
E. Verify that the Bore capacity of the coupling will meet the application shaft requirements.

F. The Male pilot hub to always be used on the Reducer (Gearbox or Driver) shaft and the Female pilot hub to always be used on the Head (Driven) shaft.

G. Drive System Analysis must be performed by Lovejoy Application Engineering to verify coupling selection.



Male Piloted Hub



Female Piloted Hub

FARR Coupling Selection Form

Please provide Lovejoy Application Engineering with the following Information

Application Engineering Fax: 800-446-0878

Customer: _____ Contact: _____

Location: _____

Phone: _____ Fax: _____ Email: _____

Application: _____

Motor HP: _____ Motor Speed (RPM): _____

Reducer Ratio: _____ Output Speed (RPM): _____

Reducer (Driver) Output Shaft Dia: _____

Head (Driven) Shaft Dia: _____

Lever Arm: _____ (Distance from End of Gearbox Output Shaft to Center-Line of Gearbox or Center-Line of Gravity)

Weight of Overhung Load: _____ (Gearbox, Motor & Mounting Plate)

