QM Bearings

QUICK FLEX

Quick-Flex Standard Coupling Installation Guide

Please complete the following steps to install QM Quick-Flex couplings.

You should have the following pieces before starting the job:

2 Hubs
1 Insert
1 Cover* with included hardware
**Please note: It is critical to identify what style cover you are using, as this will change the hardware included as well as the installation procedure.*

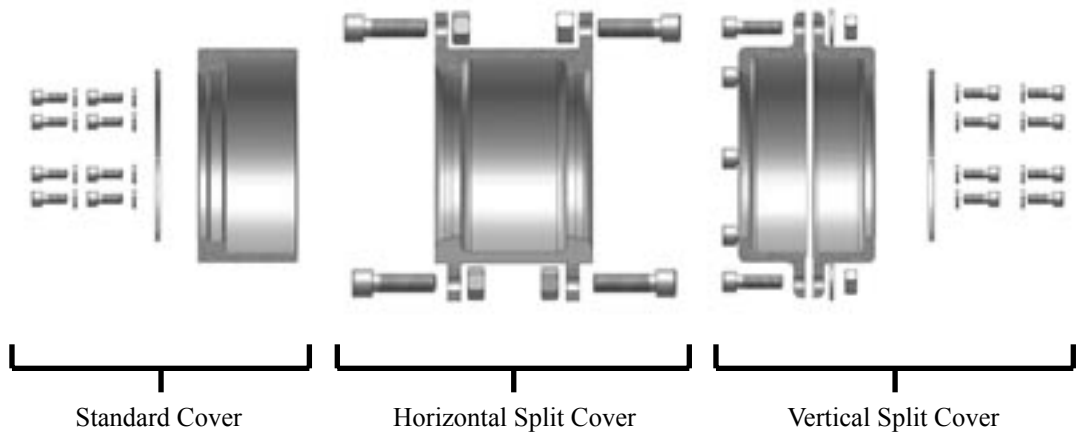
There are three types of covers (Figure 1):

- Standard cover: QF5 through QF175 use standard snap ring to secure cover in place. QF250 and larger use eight bolts with lock washers.

- Horizontal split cover: This cover is free floating, and all sizes come with four bolts for securing the two halves together around insert.

- Vertical split cover: QF15 through QF250 use eight bolts around the rim to secure the two halves together, QF500 through QF1890 use 16 bolts and QF3150 and larger use 20 bolts. QF15 through QF175 use standard snap rings to hold cover tight axially on one hub. QF250 and larger use eight bolts with lock washers.

Figure 1. Quick-Flex cover types and included hardware



Installation:

1. Check the bore size of the coupling halves and the shafts and ensure that they are the correct bore size to fit the application.
2. If necessary, clean and deburr the shafts.
3. Identify cover style:
   a. If using a standard cover, it should be placed on the driven shaft. If space does not permit then it can be mounted on the drive shaft. If cover uses a snap ring, slide the snap ring down the shaft, then slide the cover onto shaft with the larger opening facing the shaft separation.
   b. If using a horizontal split cover, leave cover aside and continue to Step 4.
   c. If using a vertical split cover, QF15 through QF175 use snap rings to secure in place, QF250 and larger use bolts and washers. If cover uses a snap ring, slide the snap ring down the shaft followed by one cover half. Slide the second half down the other shaft paying attention to both to leave the open end facing each other and the shaft opening.
4. Install the first hub. It should be mounted so that the end of the shaft is flush with surface "A" as shown in Figure 2. It is acceptable for the shaft to extend past "A" as long as it is not past the teeth shown as "B".
   Please note: Standard hubs are supplied with a clearance fit and should slide onto the shaft without excessive force. If the hubs have been ordered with interference fit then heat the coupling halves to approximately 572 F (300 C) before installing on shafts.
5. Install the second hub with the insert in place. This will set the hubs at the minimum hub gap (G_{Min}) dimension, ensuring proper clearance. For specific G_{Min} and G_{Max} dimensions see Table 1.
6. Tighten both hubs securely to the shafts.
7. Check coupling for misalignment (Table 2) and align as necessary.
8. Install the cover:
   a. Standard cover: slide the cover over the hub and insert until fully rested against the shoulder of the hub. QF5 through QF175 use standard snap rings to hold the cover in place. QF250 and larger couplings use eight bolts and washers. Use the included hardware to secure the cover.
   b. Horizontal split cover: place each half over the insert and secure using the four bolt/washer/nut hardware combinations supplied.
   c. Vertical split cover: slide the two cover halves over the hub and insert until faces meet. Install the radial outer bolts used to secure the two halves together. Install the snap ring or bolts to secure the cover to one hub.

Maximum RPM and Balance

The QM Quick-Flex coupling is machined on all surfaces and thus its dynamic balance is good. If the coupling is run at a high speed it is important that the key used to attach the hubs is the same length as the hub. The set screws should also be changed to full length to fill the hole. Please refer to Table 3 for maximum RPM ratings.

Figure 2. Proper shaft-to-hub alignment

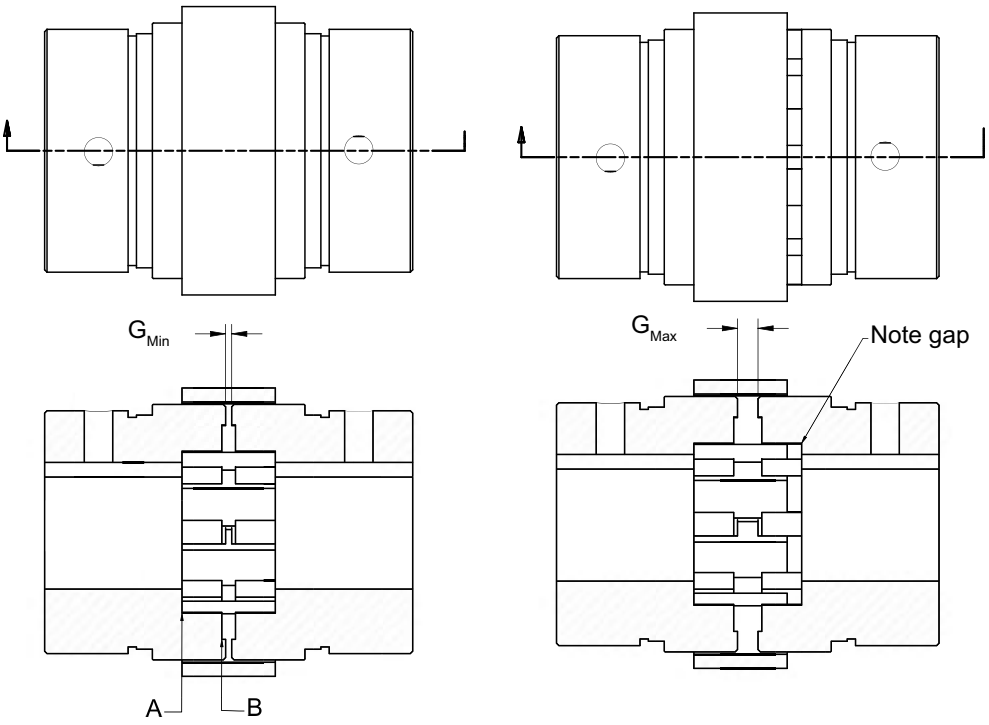


TABLE 1. Quick-Flex Hub Gap (G) Dimensions

Coupling Size	Standard Cover		Horizontal Split Cover		Vertical Split Cover	
	G_{Min} (in.)	G_{Max} (in.)	G_{Min} (in.)	G_{Max} (in.)	G_{Min} (in.)	G_{Max} (in.)
QF5	0.063	0.092	n/a	n/a	n/a	n/a
QF15	0.036	0.110	0.036	0.099	0.036	0.126
QF25	0.080	0.205	0.080	0.133	0.080	0.140
QF50	0.035	0.208	0.035	0.101	0.035	0.220
QF100	0.140	0.290	0.140	0.380	0.140	0.380
QF175	0.188	0.208	0.188	0.375	0.188	0.348
QF250	0.100	0.230	0.100	0.365	0.100	0.250
QF500	0.125	0.250	n/a	n/a	0.125	0.375
QF1000	0.160	0.388	n/a	n/a	0.160	0.410
QF1890	0.202	0.278	n/a	n/a	0.202	0.454
QF3150	0.070	0.305	n/a	n/a	0.070	0.455
QF10260	0.127	0.505	n/a	n/a	0.127	0.492

TABLE 2. Quick-Flex Misalignment Tolerances

Coupling Size	Radial Misalignment Tolerance (in.)	Axial Misalignment Tolerance (in.)	Angular Misalignment Tolerance (degrees)
QF5	0.02	0.07	2°
QF15	0.03	0.11	2°
QF25	0.03	0.11	2°
QF50	0.03	0.11	2°
QF100	0.05	0.15	2°
QF175	0.05	0.17	1.3°
QF250	0.05	0.23	1.3°
QF500	0.05	0.23	1°
QF1000	0.05	0.23	1°
QF1890	0.05	0.31	1°
QF3150	0.07	0.31	1°
QF10260	0.07	0.31	1°

TABLE 3. Quick-Flex Maximum RPM Ratings†

Coupling Size	Standard Cover	Horizontal Split Cover	Vertical Split Cover
QF5	12000	n/a	n/a
QF15	9000	2400	n/a
QF25	7000	2000	n/a
QF50	6000	2000	6000
QF100	4800	1800	4800
QF175	4200	1500	4200
QF250	3800	1200	3800
QF500	3400	n/a	3400
QF1000	3000	n/a	3000
QF1890	2400	n/a	2400
QF3150	2000	n/a	2000
QF10260	1200	n/a	1200

† *Please note: Maximum RPM ratings are for off-the-shelf Quick-Flex couplings. If your application requires higher RPM ratings, the couplings must be dynamically balanced in place.*