QM Bearings

QUICK FLEX

Quick-Flex Double Ended Spacer Coupling Installation Guide

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

You should have the following pieces before starting the job:

2 Hubs
1 Spacer body
2 Inserts
2 Covers* 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.*

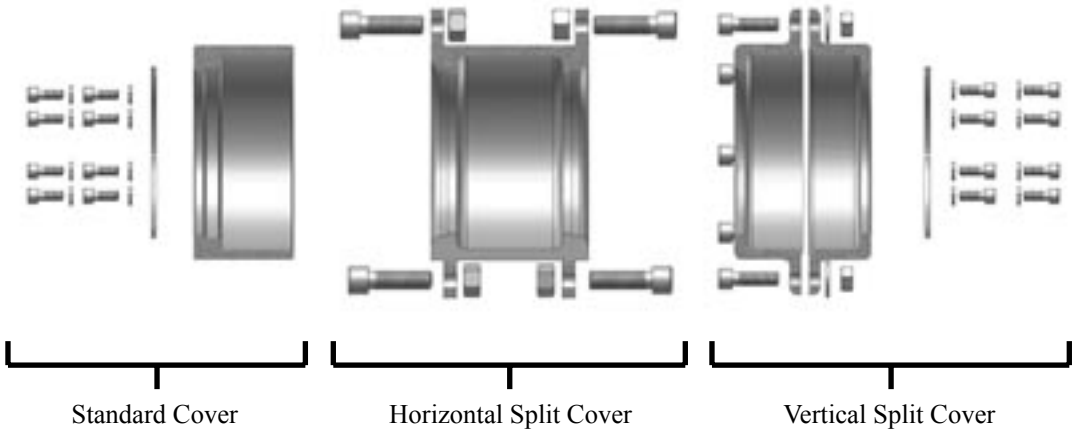
There are three types of covers (Figure 1):

- Standard cover: QF5 through QF175 use a 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: This cover will be sent from the factory in four pieces to fit over the spacer body. 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 the coupling 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 standard covers QF5 through QF175, slide one snap ring down each shaft, then slide one cover onto each shaft with the larger opening facing the shaft separation. For QF250 and larger slide one cover onto each shaft with the larger opening facing the shaft separation.
   b. If using horizontal split covers, leave covers aside and continue to Step 4.
   c. If using vertical split covers, QF50 through QF175 use snap rings to secure in place, QF250 and larger use bolts and washers. If cover uses a snap ring, slide one snap ring down each shaft and leave the four pieces of the cover aside.
4. Install the hubs. They should be mounted so that the end of the shaft is flush with surface "A" as shown in Figure 2.
   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 spacer body and inserts. Slide all three components (spacer body and two inserts) tight to one side and check the gap from the insert face to hub flange face shown as surface "A' in figure 2. This should not exceed $((2 \times G_{Max}) - (2 \times G_{Min}))$ using the appropriate minimum hub gap (G_{Min}) and the maximin hub gap (G_{Max}) from Table 1. If this gap exceeds your calculation, adjust one or both hubs to set within specs, paying attention not to have the shaft end extend past surface "B" as shown in Figure 2.
6. Tighten both hubs securely to the shafts using the set screws.
7. Check coupling for misalignment (Table 2) and align as necessary.
8. Install the cover:
   a. Standard cover: slide the cover over the coupling hub and insert until fully rested against the shoulder of the coupling hub. 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: match the four pieces into two complete cover halves using the flange face detail to distinguish the two halves. For QF250 and larger, make sure the cover half with the eight holes for mounting to the coupling hub is on the coupling hub side, not the spacer side. Bolt the four pieces together using the supplied hardware ensuring the splits in each half are rotated 90 degrees relative to each other. Install the snap ring or bolts to secure the cover to the coupling hub.

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 coupling hubs is the same length as the coupling hub. The set screws should also be changed to full length to fill the hole.

Figure 2. Proper shaft-to-hub alignment

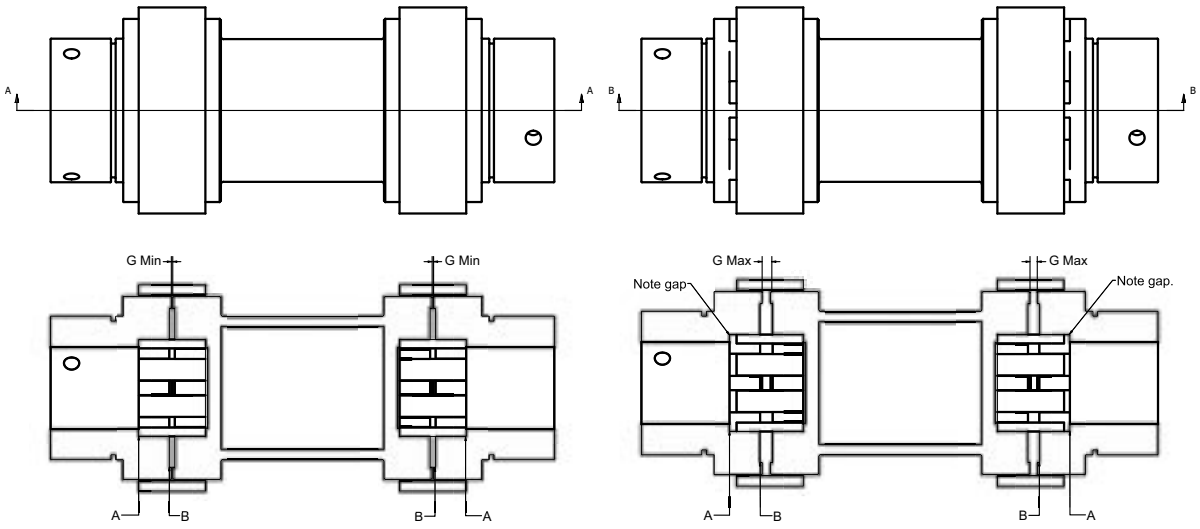


TABLE 1. Quick-Flex Coupling Hub Gap (G) Dimensions

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	0.04	0.07	4°
QF15	0.06	0.11	4°
QF25	0.06	0.11	4°
QF50	0.06	0.11	4°
QF100	0.10	0.15	4°
QF175	0.10	0.17	2.6°
QF250	0.10	0.23	2.6°
QF500	0.10	0.23	2°
QF1000	0.10	0.23	2°
QF1890	0.10	0.31	2°
QF3150	0.14	0.31	2°
QF10260	0.14	0.31	2°