D-Series Pump End Kits Assembly Instructions

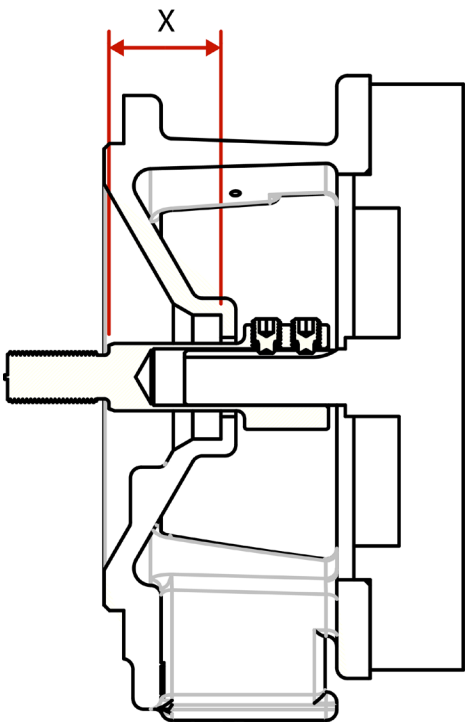
Franklin Electric

1/3 to 3 HP 56C Frame

1. Make sure all the components of the kit are clean, free of burrs and fit properly during the assembly process.
2. If applicable, remove the protective film from the motor shaft. Make sure that each motor has the slinger properly installed. This slinger is very important and it prevents water from entering the motor along the shaft.
3. Apply anti-seize on the inside of the shaft coupling and install it on the motor shaft. Make sure that the set screws are in line with the keyway and that their tips rest flat on the bottom of the keyway. Do not tighten the set screws.
4. Position the pump bracket with the nameplate area on the top. Install the bracket with four bolts.

   NOTICE Do not misalign or bind the bracket when you are tightening the bolts.

   Tighten the bolts in a diagonal pattern to the following torque specifications:
   - 3/8” bolts to 20 ft-lb,
   - 1/2” bolts to 45 ft-lb
   - 5/8” bolts to 93 ft-lb
5. Adjust the distance between the shoulder of the shaft coupling and the bottom of the mechanical seal pocket according to the table below the drawing. The adjusting distance (X in the drawing and table) insures that the spring of the mechanical seal has the proper tension.
6. Tighten the set screws at the shaft coupling to a torque of 108 in-lb.
7. Apply P80 lubricant emulsion or an equivalent on the mechanical seal o-ring cup and install it into the bracket. It is very important to keep the sealing surfaces as clean as possible. Therefore, avoid touching them and keep them clear from residue and debris.



Pump Size	Measurement (X)
DA1A	1.243 ± 0.031
DA1B	1.243 ± 0.031
DB1	1.153 ± 0.031
DB1-1/2	1.183 ± 0.031
DB2	1.243 ± 0.031

8. Apply P80 lubricant emulsion or an equivalent on the mechanical seal bellows and spring and install them on the motor shaft coupling. Again, the sealing surfaces should be kept as clean as possible. Therefore, avoid touching them and keep them clear from residue and debris.
9. Install the impeller on the shaft coupling. Use 242 Locktite or an equivalent locking compound on the threads. Make sure the impeller hub is tight against the shoulder of the shaft coupling. Make sure the spring retainer at the mechanical seal is in the proper position against the hub of the impeller.
10. If it is supplied, install the jam nut on the shaft coupling and tighten it against the impeller. Use 242 Loctite or an equivalent locking compound. Tighten the jam nut to a torque of 45 ft-lb.
11. Apply P80 lubricant emulsion or an equivalent on the large o-ring and then install it on the outside diameter of the bracket.
12. Carefully place the volute into position. With the discharge pointing in the desired position, install the required quantity of bolts.

    Tighten the bolts in a diagonal pattern to the following torque specifications:
    - 3/8” bolts to 20 ft-lb,
    - 1/2” bolts to 45 ft-lb

    NOTICE Do not misalign the volute when you are tightening the bolts. Align it carefully and take care not to pinch the o-ring.
13. Rotate the impeller by hand and make sure that it rotates freely. Tightness of the impeller implies a bind or a misalignment.

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5 to 50 HP JM Frame

1. Make sure all the components of the kit are clean, free of burrs and fit properly during the assembly process.
2. If applicable, remove the protective film from the motor shaft. Make sure that each motor has the slinger properly installed. On 50 HP (230/460 V) motors, remove the metal slinger and replace it with the slinger from the kit. This slinger is very important and it prevents water from entering the motor along the shaft.
3. Install the small square ring on the motor shaft. Apply P80 lubricant emulsion or an equivalent on the small o-ring and then slide it up against the square ring.
4. Apply anti-seize on the inside of the shaft sleeve and then slide it over the motor shaft with the stepped end against the motor shaft shoulder. The sleeve must slip over the lubricated rings and sit firmly against the motor shaft shoulder.
5. **For DC4 models only:** Install the compression hose connector in the bracket using a Teflon sealant or an equivalent.
6. Apply P80 lubricant emulsion or an equivalent on the mechanical seal o-ring cup and install it into the bracket. It is very important to keep the sealing surfaces as clean as possible. Therefore, avoid touching them and keep them clear from residue and debris.
7. Position the pump bracket with the nameplate area on the top. Install the bracket with four bolts.

   NOTICE Do not misalign or bind the bracket when you are tightening the bolts.

   Tighten the bolts in a diagonal pattern to the following torque specifications:
   - 3/8” bolts to 20 ft-lb,
   - 1/2” bolts to 45 ft-lb
   - 5/8” bolts to 93 ft-lb
8. Apply P80 lubricant emulsion or an equivalent on the mechanical seal bellows and spring and install them on the motor shaft sleeve. Again, the sealing surfaces should be kept as clean as possible. Therefore, avoid touching them and keep them clear from residue and debris.
9. **For DC4 models only:** Lubricate the inside of the bracket (hub) wear ring with petroleum jelly or an equivalent.
10. Place the square key into the shaft keyway and carefully slide the impeller over the motor shaft.

    For DC4 models only: Make sure the spring retainer at the mechanical seal is in the proper position against the hub of the impeller.

    For all the other models: Discard the spring retainer at the mechanical seal.
11. Push the impeller towards the bracket until it contacts the shaft sleeve. Install the impeller washer and the impeller bolt at the shaft end. Use 271 Loctite or an equivalent locking compound. Tighten the bolt to the following torque specifications:
    - 3/8” bolts to 21 ft-lb,
    - 1/2” bolts to 90 ft-lb
12. Apply P80 lubricant emulsion or an equivalent on the large o-ring and then install it on the outside diameter of the bracket.
13. **For DC4 models only:** Install the compression hose connector in the volute using a Teflon sealant or an equivalent.
14. **For DC3 and DC4 models only:** Lubricate the inside of the volute wear ring with petroleum jelly or an equivalent.
15. Carefully place the volute into position. With the discharge pointing in the desired position, install the required quantity of bolts.

    Tighten the bolts in a diagonal pattern to the following torque specifications:
    - 3/8” bolts to 20 ft-lb,
    - 1/2” bolts to 45 ft-lb

    NOTICE Do not misalign the volute when you are tightening the bolts. Align it carefully and take care not to pinch the o-ring.
16. Rotate the impeller by hand and make sure that it rotates freely. Tightness of the impeller implies a bind or a misalignment.
17. **For DC4 models only:** Install the polypropylene tubing into the compression hose connectors.

D-Series Pump End Kits — 3500 rot/min Pump End Kits and Impeller Trim Diameters

93167413	Model	HP	FRAME SIZE	IMPELLER		1/3 HP	1/2 HP	3/4 HP	1 HP	1-1/2 HP	2 HP	3 HP	5 HP	7-1/2 HP	10 HP	15 HP	20 HP	25 HP	30 HP	40 HP	50 HP
R011	FPDA1A-K1	1/3 - 1	56 C	177866	252	3.81	4.12	4.68	5.06												
R021	FPDA1B-K1	1/2 - 2		177761	252		3.75	4.00	4.25	4.69	5.06										
R032	FPDB1-K1	3/4 - 3	56 C	177771	206			4.25	4.75	5.19	5.50	6.12									
R053	FPDB1-K2	3 - 5	145 - 184 JM		253							6.12	6.44								
R072	FPDB1-12-K1	1 - 3	56 C	177767	205				3.94	4.31	4.59	5.12									
R083	FPDB1-1/2-K2	3 - 7-1/2	145 - 184 JM		251							5.12	5.75	6.44							
R093	FPDB1-1/2-K3	7-1/2	213 JM		251									6.44							
R133	FPDC1-1/2-K2	3 - 5	145 - 182 - 184 JM	177749	208							5.06	5.81								
R143	FPDC1-1/2-K2A	7-1/2	184 JM		206									6.62							
R163	FPDC1-1/2-K3A	7-1/2	213 JM		206									6.62							
R173	FPDC1-1/2-K3	10 - 15	213 - 215 JM		202										7.31	8.38					
R102	FPDB2-K1	1-1/2 - 3	56 C	177772	251					3.81	4.00	4.50									
R113	FPDB2-K2	3 - 7-1/2	145 - 184 JM		222							4.50	5.12	5.81							
R123	FPDB2-K3	7-1/2 - 10	213 - 215 JM		232									5.81	6.44						
R193	FPDC2-K3A	15	215 JM	177766	213											7.25					
R204	FPDC2-K4	20	254 JM		251												7.94				
R215	FPDB3-K2	5 - 7-1/2	182 - 184 JM	177765	202								4.50	4.94							
R225	FPDB3-K3	7-1/2 -15	213 - 215 JM		204									4.94	5.31	5.75					
R236	FPDB3-K4	20	254 JM		251												6.00				
R277	FPDC4-K4	20 - 25	254 - 256 JM	177770	205												7.03	7.47			
R288	FPDC4-K5	30 - 50	284 - 286 - 324 JM		201														7.88	8.44	9.03
R297	FPDC4-K4F	20 - 25	254 - 256 JM		205												7.03	7.47			
R308	FPDC4-K5F	30 - 50	284 - 286 - 324 JM		201														7.88	8.44	9.03

The pump end kits are supplied with the maximum outer diameter impeller. The impeller must be trimmed to the specific horsepower listed above. Balance the impeller after trimming

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