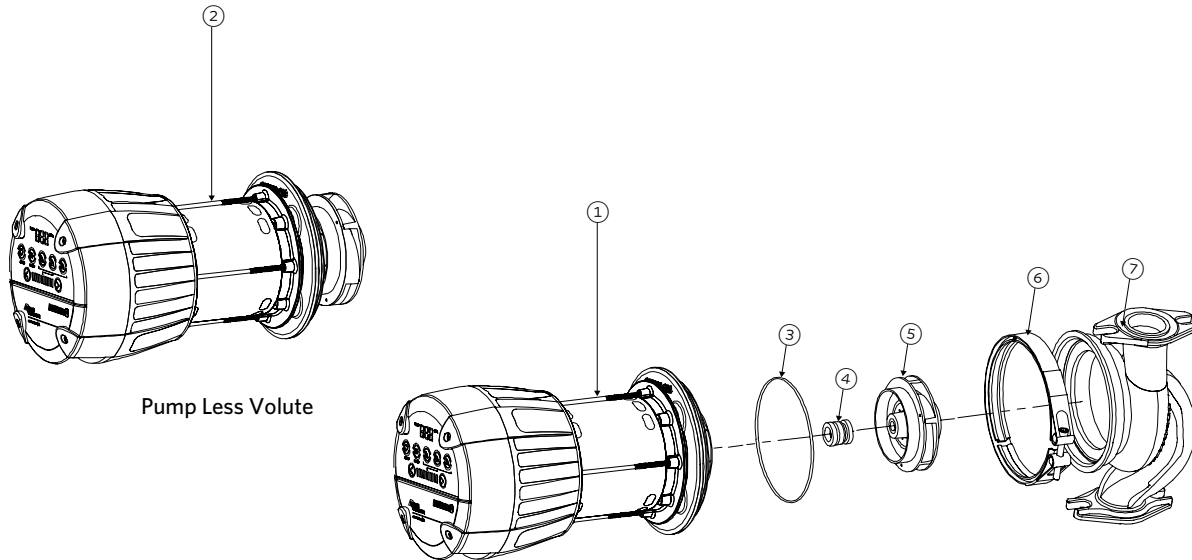


# COMPASS R DESIGN ENVELOPE HIGH-EFFICIENCY DRY-ROTOR CIRCULATORS | COMPLETE PARTS BREAKDOWN | INSTALLATION AND OPERATING INSTRUCTIONS

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## EXPLODED ASSEMBLY VIEW



KIT DESCRIPTION	KIT INCLUDES	R20-75	R20-35	R40-45	R25-140
		PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
Motor Kit (115V)	①	819031-200	819031-210	819031-210	819031-400
Motor Kit (230V)	①	819032-200	819032-210	819032-210	819032-400
Pump Less Volute Kit (115V)	②	119181-103	119981-103	119381-103	119281-103
Pump Less Volute Kit (230V)	②	119182-103	-	119382-103	119282-103
Seal Kit	③ and ④	816706-025K	816706-025K	816706-025K	816706-025K
Impeller Kit	③ and ⑤	819120-130K	819920-130K	819320-130K	819220-130K
V-Clamp Kit	⑥	819000-006	819000-006	819000-006	819000-007
Volute Kit (Cast Iron)	③ and ⑦	819110-113	119310-113	119310-113	119210-313
Volute Kit (Stainless Steel)	③ and ⑦	819110-173	119310-173	119310-173	119210-373

### NOTE:

For pricing and ordering please select on ADEPT.

## 1.0 START-UP

### 1.1 BEFORE START-UP

Fill the system with liquid and properly vent the system before starting the pump. The required minimum inlet pressure in relation to liquid temperature must be available at the pump inlet.

### 1.2 VENTING THE PUMP

Even with system vented, air may still be present in the pump. The air in the pump may cause noise but the noise should cease after a few minutes running.

The venting process can be shortened by setting the pump to run at max speed for a short period of time (60 seconds).

Once the pump is vented (the noise has ceased), set the pump mode according to the recommendations.

#### CAUTION



The pump must not run dry.

## 2.0 PUMP LESS VOLUTE

- 1 Turn off the pump leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Place a pan under the pump to collect the drain water
- 6 Bleed the water pressure from the pump
- 7 While holding the motor/pump assembly, loosen the V-Clamp
- 8 Remove the motor assembly straight out from the volute
- 9 Mount new O-Ring onto the new pump unit, apply O-Ring lubricant on adaptor
- 10 Install PLV into volute and tighten the V-Clamp

## 3.0 MOTOR KIT

- 1 Turn off the pump leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Place a pan under the pump to collect the drain water
- 6 Bleed the water pressure from the pump
- 7 While holding the the pump/motor, loosen the V-Clamp
- 8 Remove the motor assembly straight out from the volute being careful of the attached impeller from the plumbing system
- 9 Remove Impeller retaining nut and star washer
- 10 Remove Impeller
- 11 Remove seal using a flat head screw driver
- 12 Remove adapter plate retaining bolts (discard bolts and washers)
- 13 Remove adapter plate from Motor
- 14 Check the order of the assembly - Seal & Woodruff Key
- 15 Reverse the steps to reassemble
- 16 Use new bolts & seal washers to mount adapter plate to Motor
- 17 Replace original O-Ring with new O-Ring, apply O-Ring lubricant
- 18 Reinstall motor assembly into volute and tighten the V-Clamp

## 4.0 MECHANICAL SEAL AND IMPELLER REPLACEMENT

- 1 Turn off the pump power at panel, leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Place a pan under the pump to collect the drain water
- 6 Bleed the water pressure from the pump
- 7 While holding the pump/motor, loosen the V-Clamp

- 8 Remove the motor assembly straight out from the volute being careful of the attached impeller from the plumbing system
- 9 Remove Impeller Retaining Nut and lock washer
- 10 Remove Impeller
- 11 Remove Seal & Spring from the motor shaft with a flathead screw driver
- 12 Note the position of stationary seal (depth in adapter plate) and then pry out the original seal
- 13 Lubricate seal and shaft and replace stationary of new seal and spring into stationary section of new seal into adapter plate and check that seal is fully seated
- 14 Replace original O-Ring with new O-Ring, apply O-Ring lubricant
- 15 Reinstall the Impeller
- 16 Reinstall motor assembly into volute and tighten the V-Clamp

## 5.0 VOLUTE REPLACEMENT

- 1 Turn off the pump leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Bleed the water pressure from the pump
- 6 Place a pan under the pump to collect the drain water
- 7 Loosen the V-Clamp
- 8 While holding the plumbing system, remove pump motor from volute
- 9 Remove the old volute and gasket
- 10 Install the new volute and casing insert
- 11 Install new flange gasket into companion flanges
- 12 Refasten flanges using new nuts and bolts
- 13 Torque the bolts to a maximum of 10 ft.lbs
- 14 Replace original O-Ring on motor adapter flanges with new O-Ring, apply O-Ring lubricant
- 15 Reinstall pump drive into volute and tighten the V-Clamp

## 6.0 IMPELLER REPLACEMENT

- 1 Turn off the pump leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Place a pan under the pump to collect the drain water
- 6 Bleed the water pressure from the pump
- 7 While holding the plumbing system, loosen the V-Clamp
- 8 Remove the motor assembly straight out from the volute being careful of the attached impeller from the plumbing system
- 9 Remove Impeller retaining nut
- 10 Remove Impeller
- 11 Reinstall the new impeller and retaining nut
- 12 Replace original O-Ring with new O-Ring, apply O-Ring lubricant
- 13 Reinstall the casing and the V-Clamp

## 7.0 V-CLAMP

- 1 Turn off the pump leaving it installed in the line
- 2 Ensure electrical power is disconnected and locked out
- 3 Close the water supply at the points closest to the pump's inlet and outlet
- 4 For safety, allow water to cool to 100°F (40°C) before draining the system. It is best to leave the drain valve open while working on the system
- 5 Bleed the water pressure from the pump
- 6 Place a pan under the pump to collect the drain water
- 7 While holding the plumbing system, loosen the V-Clamp
- 8 Remove the motor assembly straight out from the volute being careful of the attached impeller from the plumbing system
- 9 Remove Impeller retaining nut
- 10 Remove Impeller
- 11 Reinstall the new impeller and retaining nut
- 12 Replace original O-Ring with new O-Ring, apply O-Ring lubricant
- 13 Reinstall the casing and the V-Clamp

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