



CRU Series Centrifugal Fire Pumps Installation Instructions

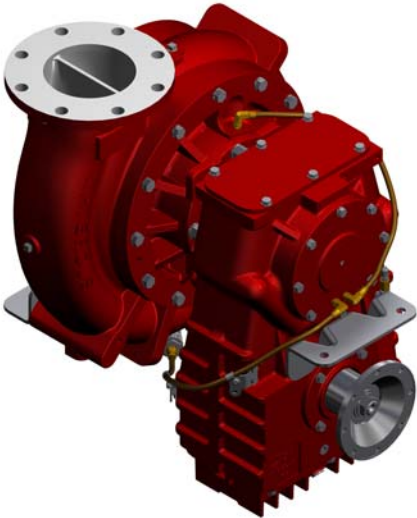


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Read through the safety information and overhaul instructions carefully before installing your Waterous CRU Series Fire Pump.

NOTE: Instructions subject to change without notice

F-1031, Section 3034 (2/1/19)

Safety Information



Read through and communicate safety information to the end user of this Waterous Fire Pump.

WARNING

Death or serious personal injury might occur if proper operating procedures are not followed. The pump operator, as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with these pump operating instructions as well as other operating instructions and manuals for the apparatus, water hydraulics and component limitation.

WARNING

Pressure Hazard. May result in personal injury.

Prior to connection or removal of hoses, caps or other closures with pump intake or pump discharge connections, relieve pressure by opening drains or bleeder valves. Bleeder valves should also be used while filling a hose connected to an intake with water.

WARNING

Scalding Water Hazard. May result in serious burns.

When operating the pump, be sure to open at least one discharge valve slightly to prevent the pump from overheating. If the pump runs for a few minutes completely closed, it may heat the water enough to scald someone when the valve is opened. Overheating can damage the packing, seals and other pump parts. If the apparatus builder has installed a by-pass system or other provision designed to prevent overheating, opening a discharge valve may be unnecessary.

WARNING

Rotating Parts Hazard or Unexpected Truck Movement. May result in serious personal injury or death.

Stop the engine, set parking brake and chock the wheels before going under the truck to adjust packing or to check packing gland temperature.

OEM Installation Warnings

WARNING

Unexpected Truck Movement. May result in serious personal injury or death.

Failure to properly install the pump shift control and pump shift indicator system in the apparatus or failure to incorporate in the Pump Operator's Panel Engine Speed Interlock System may result in unexpected truck movement which may result in serious personal injury or death.

WARNING

Inability to Pump Water. May result in serious personal injury or death.

Failure to properly install the pump shift control and pump shift indicator system in the apparatus or failure to incorporate in the Pump Operator's Panel Engine Speed Interlock System may result in the inability to pump water which may result in serious personal injury or death.

WARNING

Exceeding Power Train Torque Ratings. May result in inability to pump water causing serious personal injury or death.

This fire pump may have the capability under certain pumping conditions to exceed the torque rating of the power train.

A means to control the engine output to a torque level no greater than the power train's continuous-duty torque rating must be considered when specifying power train components and engine control system parameters.

Introduction

This instruction covers the installation of Waterous CRU Series single stage fire pumps. The CRU Series can be rated at 2650, 3000 and 3500 GPM.

Model	Intake	Discharge
CRU	8 in. ANSI Flange	5 in. Victaulic®
CRU-2	10 in. Victaulic®	6 in. ANSI Flange

The following installation instructions are available:

Instruction Name		Instruction Number
Monarch™ Intake Valve (BFV)		F-1031, Section 2318
Drain Valves		F-1031, Section 3008
Pressure Control System		F-1031, Section 3010
Overheat Protection Manager (OPM)		F-1031, Section 3015
Foam Manager™ Systems	Advantus® System	F-1031, Section 3026
	Aquis™ System	F-1031, Section 3031
Priming Systems		F-1031, Section 3023

Before proceeding with the installation of your pump, read the following instructions carefully. Check the appropriate dimensional drawings in the Engineering Manual as necessary.

Pump Mounting

CRU End Suction Pump with D Series Direct Drive

Mounting Brackets Attachment Points

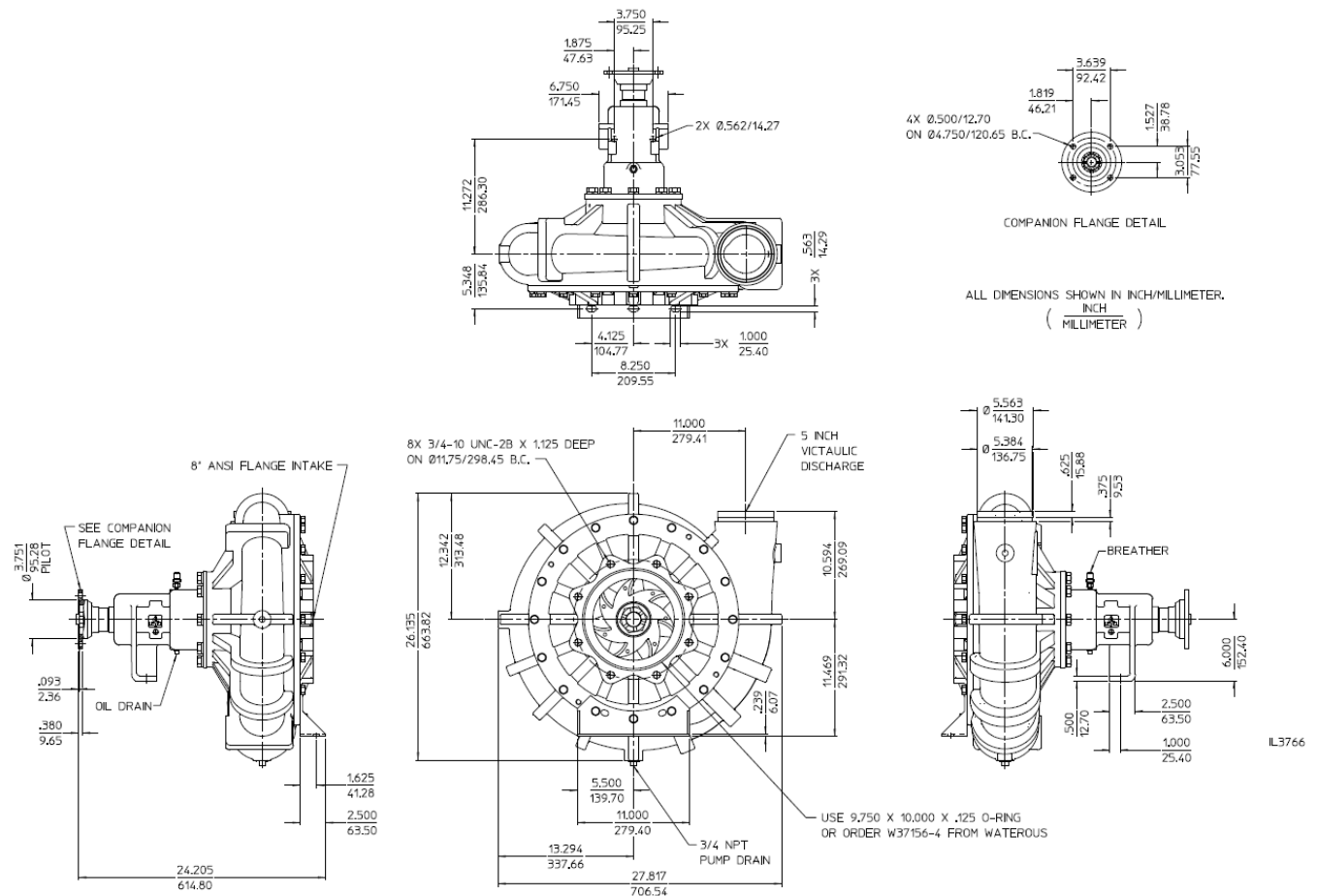
Figure 2 shows the mounting areas on the CRU pump. There are mounting holes on the bearing housing as well as the pump body under the intake adapter.

Attach brackets to the bearing housing and the intake adapter. Secure the pump and bearing housing to the vehicle.

NOTE: Tighten the mounting screws to standard torque specifications.

Anti-seize should be applied to the shaft threads before installing end yoke or companion flange. Do not reuse self-locking nuts, Torque to 275-325 lb-ft.

Figure 2. CRU Mounting



Pump Mounting

CRU-2 End Suction Pump with QC Transmission

Mounting Brackets Attachment Points

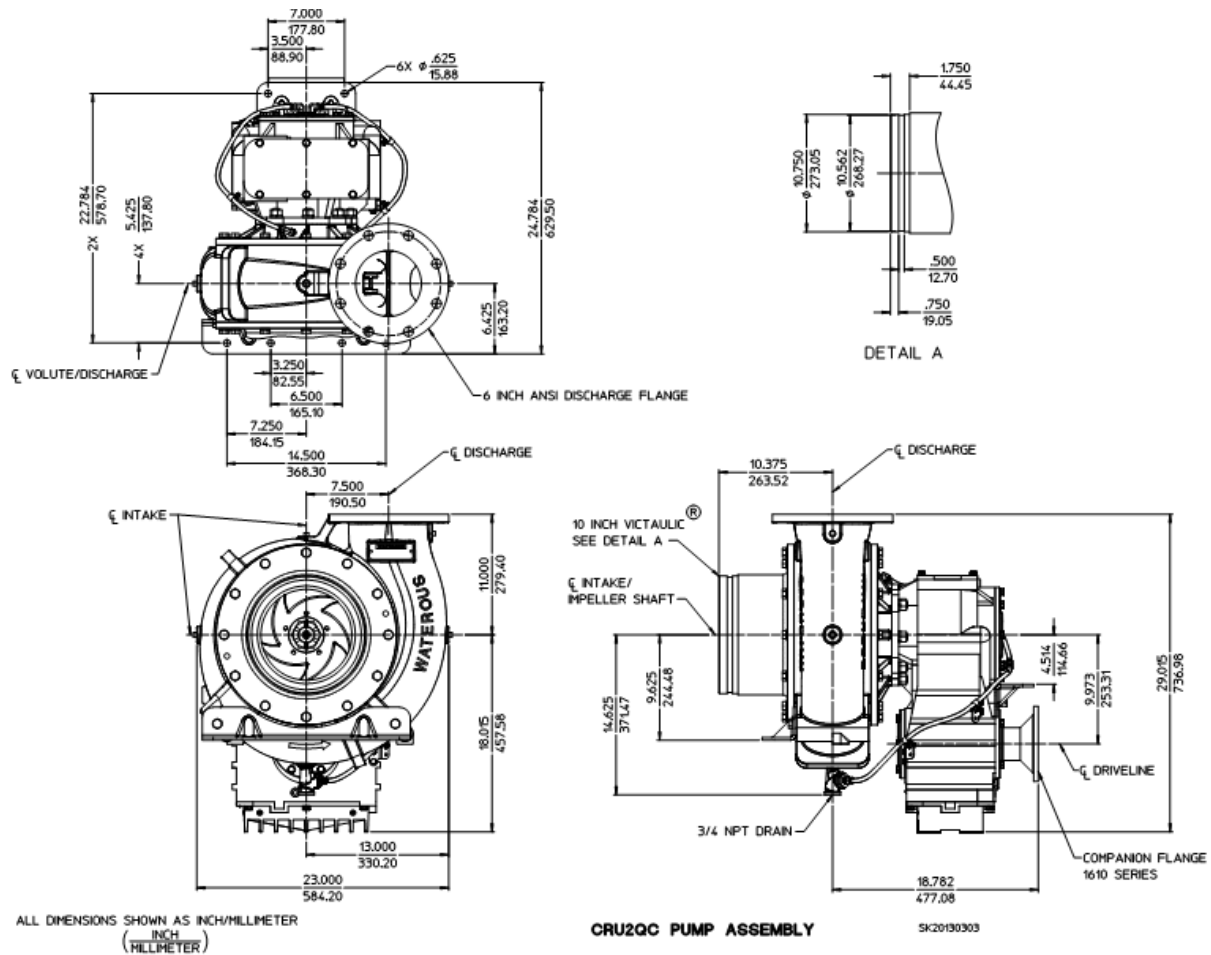
Figure 3. CRUQC-2 Mounting

Figure 3 shows the mounting areas on the CRU-2 pump. There are mounting holes on the transmission as well as the pump body under the intake adapter.

Attach brackets to the transmission and the intake adapter. Secure the pump and transmission to the vehicle.

NOTE: Tighten the mounting screws to standard torque specifications.

Anti-seize should be applied to the shaft threads before installing end yoke or companion flange. Do not reuse self-locking nuts, Torque to 275-325 lb-ft.



SK20130303

CRUQC PUMP ASSEMBLY

SK20130303

Final Checks

After the pump, accessories, piping and miscellaneous connections are completely installed, check the items listed below:

Lubrication

CAUTION

Failure to properly lubricate the pump and transmission may result in serious damage to the equipment.

CRU Bearing Housing

Add any type of automatic transmission fluid (ATF) or SAE 30 oil through the fluid level hole or by removing the breather. Approximately 1/2 quart is required to fill the bearing housing when completely drained. Fill to the bottom of the threads.

QC Transmission

Add any type of automatic transmission fluid (ATF) through the fluid level hole or by removing the breather. Approximately 4 quarts is required to fill the transmission when completely drained. Fill to the bottom of the threads.

For ambient temperatures above 90° F, SAE 20 300 SSU @ 100° F with service classification SA, SB or SC should be used.

Testing

Perform the tests listed in F-1031, Section 1000, "*Centrifugal Fire Pump Principles of Operation, Inspection Tests and Troubleshooting Guide.*" During the running tests, monitor the smoothness of operation, listen for unusual noises and check for leaks.