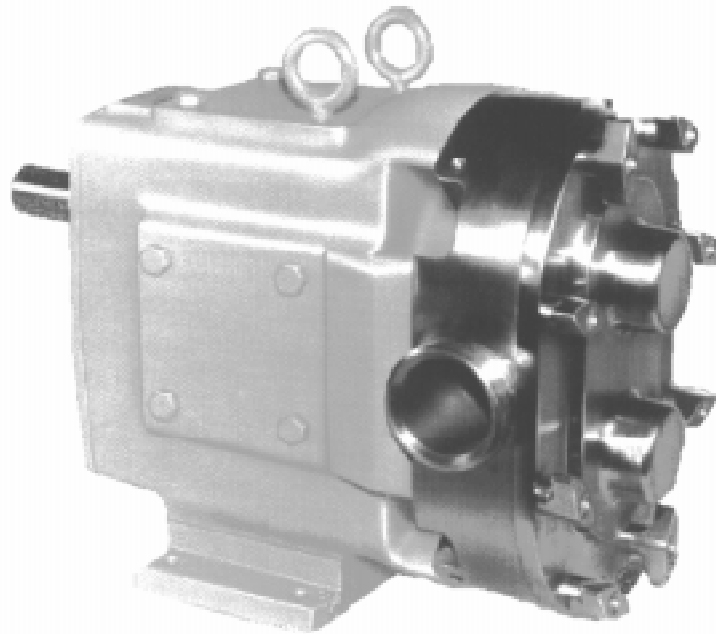




**Waukesha
Cherry-Burrell**



CIP PUMP ADDENDUM

REPLACES ADDENDUM US-519-001 (R)

Waukesha Pumps
UNIVERSAL SERIES

WAUKESHA CHERRY-BURRELL WARRANTY

Seller warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. This warranty shall not apply to products which require repair or replacement due to normal wear and tear or to products which are subjected to accident, misuse or improper maintenance. This warranty extends only to the original Buyer. Products manufactured by others but furnished by Seller are exempted from this warranty and are limited to the original manufacturer's warranty.

Seller's sole obligation under this warranty shall be to repair or replace any products that Seller determines, in its discretion, to be defective. Seller reserves the right either to inspect the products in the field or to request their prepaid return to Seller. Seller shall not be responsible for any transportation charges, duty, taxes, freight, labor or other costs. The cost of removing and/or installing products which have been repaired or replaced shall be at Buyer's expense.

Seller expressly disclaims all other warranties, express or implied, including without limitation any warranty of merchantability of fitness for a particular purpose. The foregoing sets forth Seller's entire and exclusive liability, and Buyer's exclusive and sole remedy, for any claim of damages in connection with the sale of products. In no event shall Seller be liable for any special consequential incidental or indirect damages (including without limitation attorneys' fees and expenses), nor shall Seller be liable for any loss of profit or material arising out of or relating to the sale or operation of the products based on contract, tort (including negligence), strict liability or otherwise.

WAUKESHA PUMP CIP SERIES

ADDENDUM TO THE UNIVERSAL SERIES PUMP OPERATION AND MAINTENANCE MANUAL

IMPORTANT NOTICE

- The user of this pump is responsible for the design, operation and maintenance of the Clean-In-Place (CIP) system in which this pump is to be used. This pump is only one of many critical items in such a system.
- The user must establish the correct choice of cleaning/sanitizing solutions, temperatures, pressures and rates and durations of flow. This must be done for the cleaning, sanitizing, and flushing cycles. Actual trials should be performed with bacterial and residual product testing to prove the effectiveness of the CIP process.
- The user should read the *Operation and Maintenance Manual* and understand the design features of the pump. The user must perform the required maintenance procedures at the correct time intervals.
- The user should apply accepted and appropriate standards and practices for the CIP system. The "3A Accepted Practices For Permanently Installed Sanitary Product-Pipelines and Cleaning systems," Number 605-02, is an example of such a standard. It is intended for systems handling milk and milk products.
- The user shall determine the suitability of the pump for his intended use and shall assume all risk and liability in connection therewith.

Waukesha Pumps shall not be liable for technical or editorial omissions made herein; nor for incidental or consequential damages resulting from the furnishing, performance or use of this pump.

IMPORTANT

THIS PUMP CANNOT BE CLEANED-IN-PLACE UNLESS PROPER PROCEDURES ARE FOLLOWED. READ AND UNDERSTAND THIS OPERATION AND MAINTENANCE BEFORE STARTUP.

SECTION IV TROUBLESHOOTING A PUMPING SYSTEM

(Add to page 14)

Problem

Product contamination located in the splines or threads under the hubs of the rotors.

Probable Causes

1. Rotor nut lose. (Keep in mind there is a right-hand and a left-hand nut.)
2. The "O" rings between shaft shoulder and rotor, or between the rotor and the shoulder of the rotor nut, are out of their groove or are missing. An "O" ring that has been overheated or taken a permanent set due to aging can also allow leakage.

Solutions

1. Re-torque the rotor nut. (See torque table in this addendum.)
2. Properly install **new** "O" rings.

Note: To adequately seal the spline area, you must have a **new** "O" ring, and you must use the proper torque for the rotor nut.

SECTION V OPERATION

(Page 15, replace the first paragraph)

NORMAL OPERATION

Normal operation for the CIP pumps covers a speed range of 0-600 RPM and pressure range of 0-100 PSI. Temperature range with standard rotors is -40 to 200 degrees F. (For operation at higher temperatures, consult factory.)

(Add to page 15)

CLEANING AND STERILIZING

(Add after the last paragraph): When using a CIP pump, it is necessary to disassemble the fluid head periodically for inspection and sterilizing. You must determine the time period between disassembly by testing the performance of your CIP circuit. Never exceed 500 hours of operation between disassembly and inspection periods. Use only **new** "O" rings each time you reassemble the fluid head. Also be sure to correctly torque the rotor nuts.

(Add to page 16)

FLUID HEAD DISASSEMBLY—ALL MODELS

(Replace step 4): Remove the rotor nuts, using the appropriate size socket wrench. Remove and discard the rotor nut “O” ring. **Notice:** There is a right-hand and a left-hand threaded rotor nut. The nuts are marked on top of the hex head with an “L” or “R”. Make a note of which nut goes onto which shaft.

(Add to step 5): Remove and **discard** the shaft shoulder “O” rings. If the “O” ring sticks to the shaft instead of the rotor, then remove it after step 6. **Notice:** Be sure to pull the rotors straight out away from the shafts, so that the rotor does not drop down, damaging the threads on the studs. It is best to protect the threads before removing the rotors. Slip a piece of hose over the threads.

(Add to page 18)

FLUID HEAD ASSEMBLY—ALL MODELS

ROTOR ASSEMBLY

(Add this sentence first): Before assembling a rotor onto the shaft, install a new square section “O” ring into the groove in the rotor. Be sure that the “O” ring remains in its groove while lining up the rotor and shaft. Apply an approved “O” ring lubricant to a new square section “O” ring and insert it into the groove of the rotor nut.

(Replace the last sentence with): Torque the rotor nuts to torque specified in this addendum. After tightening the rotor nuts, feel the body and rotor faces to be sure the rotors are not protruding beyond the body face. If they do protrude, the shaft shoulder “O” rings are out of position. Be sure to replace the “O” rings if reassembly of the rotor is required.

SECTION VI MAINTENANCE

SEAL MAINTENANCE (pages 22 and 23)

(Add this note): There are no shaft sleeves or their accompanying “O” rings on the CIP pumps. Instead, the shaft area under the body “O” rings has a chrome-oxide coating to resist “O” ring wear. **Take special care not to damage this area of the shafts.** Disregard all references to the shaft sleeves and their “O” rings when servicing the CIP pumps.

SECTION X REFERENCE TABLES

All specifications on page 43 can be used except for two items. Use the back face clearance listed here (instead of Table 1, Column A). Also use the rotor nut torque listed here (instead of Table 2, column labeled "Rotor").

BACK FACE CLEARANCE FOR CIP PUMPS

Model	Clearance
12, 15	.0025
22, 32	.003
62, 132	.005
222	.006

ROTOR NUT TORQUE FOR CIP PUMPS — FT-LB

Model	Rotor Nut Torque
12	50
22	50
32	50
62	75
132	150
222	250

NOTE: Rotor nut torque is especially critical on the CIP pumps. If the nut should loosen, the product being pumped can enter the rotor and shaft splines, and the threads of the stud and rotor nut.

SERVICE NOTES:

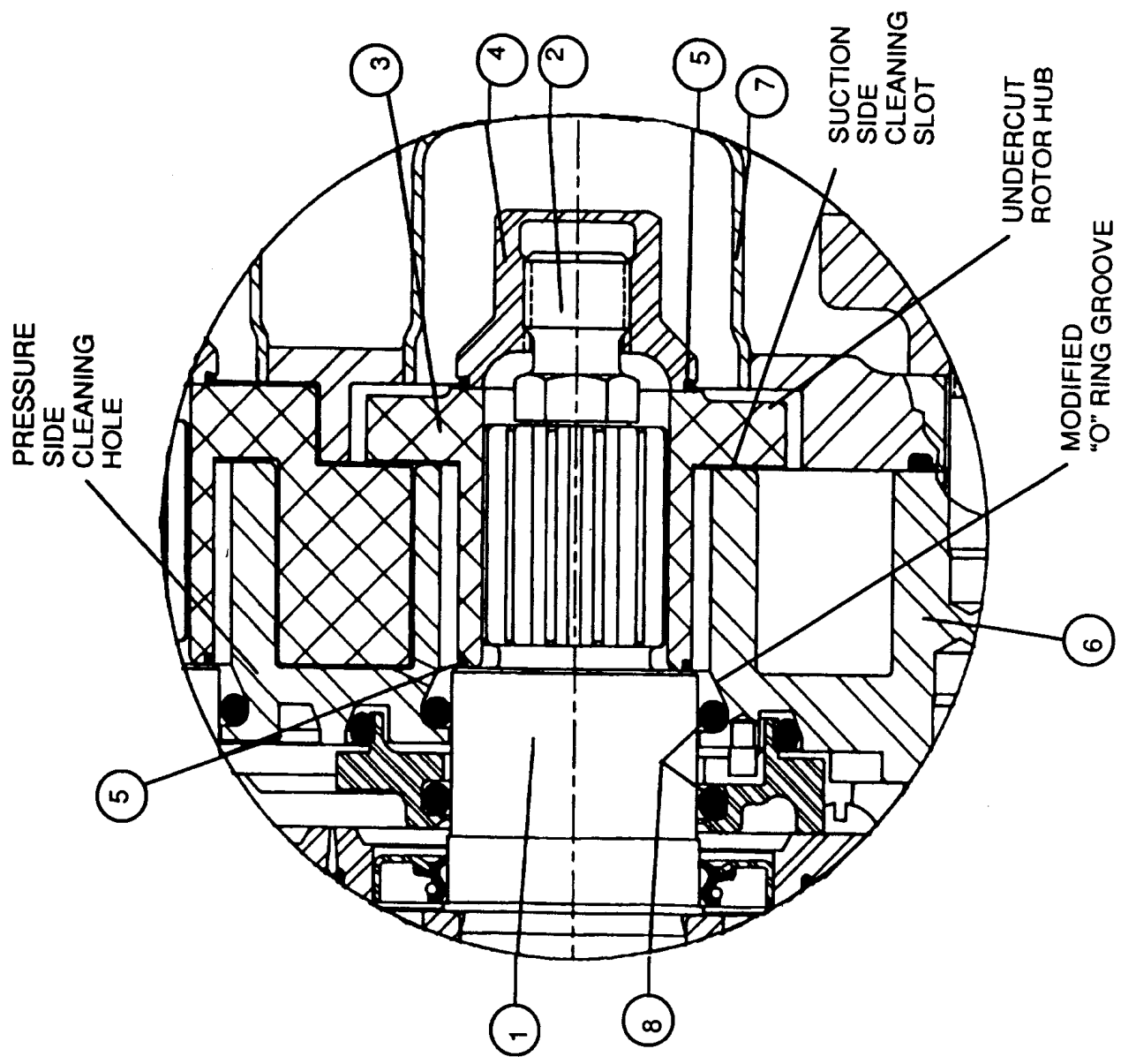


Fig.1
 PARTIAL SIDE CROSS SECTIONAL VIEW
 OF CIP PUMP FLUID HEAD
 (ONE PUMPING SECTION OF TWO)

CIP PUMP

PART NUMBERS FOR ALL MODELS

TABLE 1

US-519-001 (R1)

ITEM	DESCRIPTION	QTY	PART NO./ MODEL NO.							
			12	22	32	62	132	222		
1	1A Drive Shaft	1	012-008-001	022-008-001	032-008-001	062-008-001	132-008-001	222-008-001		
	1B Short Shaft	1	012-009-001	022-009-001	032-009-001	062-009-001	132409-001	222-009-001		
2	2A Shaft Stud, Left Hand	1	062-015-001	062-015-001	032-015-001	062-015-001	222-015-001	222-015-001		
	2B Shaft Stud, Plight Hand	1	062-015-000	062-015-000	032-015-000	062-015-000	222-015-000	222-015-000		
3	Rotor	2	012-010-100	022-010-100	032-010-100	062-010-100	032-010-100	222-010-100		
3	4A Rotor Nut, Right Hand	1	022-052-000	022-052-000	032-052-003	132-052-001	132-052-001	222-052-001		
	4B Rotor Nut, Left Hand	1	022-052-001	022-052-000	032-052-004	132-052-002	132^052-002	222-052-002		
	O-ring Nut to Rotor	2								
	Ring Rotor to Shaft	2								
	(Buna - N)	-	022-197-001	022-197-001	032-197-001	132-197-001	132-197-001	222-197-001		
	(EP)	-	022-197-002	022-197-002	032-197-002	132-197-002	132^1 97-002	222-197-002		
	(Silicone)	-	022-197-003	022-197-003	032-197-003	132-197-003	132-197-003	222-197-003		
6	Pump Body (See Note 1)	1	012-001 -XXX	022-001 -XXX	032-001 -XXX	062-001 -XXX	132-001 -XXX	222-001 -XXX		
7	Pump Cover	1	012-002-000	012-002-000	032-002-000	062-002-000	062-002-000	222-002-000		
8	O-ring Body to Shaft	2	ADO-079-000	ADO-079-000	030-079-001	060-079-001	060-079-001	222-079-001		

NOTES: 1) The last (3) digits (XXX) vary due to the port size and style, and whether the body has flushing.
2) Shaft studs are fastened into shafts with Loctite™ and come pre-assembled from the factory.

2-3-98

SERVICE NOTES:

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**Waukesha
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1-800-252-5045 OR 262-728-4904

95-03039

Effective Date:
FEBRUARY 23, 1998