RIPSAW™ ROTATING HYDRO-EXCAVATION NOZZLE

INSTRUCTIONAL SHEET

REV D

1. OVERVIEW

This manual is prepared to provide the operator with the basic information needed to operate the Ripsaw™ HD Rotating Hydro-Excavation nozzle. The operating recommendations in the manual will ensure that you receive satisfactory nozzle performance. All operating personnel responsible for the care of this equipment should be familiar with the information in this manual. If you have any questions or problems with this equipment, please contact the distributor you obtained the product from.

MANUFACTURER:

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2. SAFETY WARNING!

Operations with this equipment can be potentially dangerous if caution is not exercised prior to and during tool use. Please read and follow all of these instructions to ensure adequate safety.

- Always wear the proper PPE (Personal Protective Equipment) when using these nozzles.
- Do not point nozzles at people or animals. Serious injury can result from high-pressure water from these nozzles.
- Nozzles are recommended for use with high-pressure spray wand with automatic shut off (Dead man's switch).
- Always observe proper grounding procedures when performing hydro-excavation.
- Urethane coating on the nozzle tip is designed for safety. Replace nozzle when urethane coating is worn.
- A distance of at least 8" must be maintained between the nozzle tip and the underground facility and/or subsoil. The nozzle should never be inserted into the soil.
- The wand/nozzle shall never remain motionless during excavation. Aiming directly at the underground utilities should be avoided at all times.
- Observe the referenced industry best practices for recommended maximum pressures for rotating nozzles within 18" of utilities. Within 18" of utilities the operator should lower water inlet pressure from normal operating pressure to a maximum of 1500PSI and use the nozzle to "wash down" the utility, not to blast.
- Static nozzles are not to be used within 18" of utilities.
- Be sure pump is shut off and disconnected prior to performing maintenance or replacing this nozzle.
- This nozzle is not intended for chemical application. Running chemicals through the nozzle may reduce the life of the nozzle.
- Select the nozzle size based on intended application and performance.
- Follow all applicable national, state, and local safety regulations.

3. FLOW RATES

NOZZLE SIZE	RIPSAW HD NOZZLE PART NUMBER	REPAIR KIT PART NUMBER	FLOW RATE CHART (GPM)					
			@ 1000 PSI	@ 1500 PSI	@ 2000 PSI	@ 2500 PSI	@ 3000 PSI	@ 3200 PSI
3.0	20022380	20022328	1.5 GPM	1.8 GPM	2.1 GPM	2.4 GPM	2.6 GPM	2.7 GPM
4.0	20022381	20022329	2.0 GPM	2.4 GPM	2.8 GPM	3.2 GPM	3.5 GPM	3.6 GPM
5.0	20022382	20022330	2.5 GPM	3.1 GPM	3.5 GPM	4.0 GPM	4.3 GPM	4.5 GPM
6.0	20022383	20022331	3.0 GPM	3.7 GPM	4.2 GPM	4.7 GPM	5.2 GPM	5.4 GPM
8.0	20022384	20022332	4.0 GPM	4.9 GPM	5.7 GPM	6.3 GPM	6.9 GPM	7.2 GPM
10.0	20022385	20022333	5.0 GPM	6.1 GPM	7.1 GPM	7.9 GPM	8.7 GPM	8.9 GPM
12.0	20022386	20022334	6.0 GPM	7.3 GPM	8.5 GPM	9.5 GPM	10.4 GPM	10.7 GPM

4. SPECIFICATIONS

Minimum Inlet Pressure	1,000 PSI
Maximum Inlet Pressure	3,200 PSI
Housing Material	Stainless Steel

Maximum Water Temperature	180°F (+82°C)
Nozzle Tip & Seat Material	Tungsten Carbide
Inlet Connection Thread	1/2" FNPT

Coating Material	Hytrel

5. TROUBLE SHOOTING

My nozzle stream is failing to rotate (Lasering).Water is going around the nozzle and not through it (blow-by).	Check your pressure. Pressure for this nozzle should be set at a minimum of 1,000 PSI at nozzle. (3,200 PSI Max.)
	Check inlet screen for debris. Clean and/or replace.
	Nozzle may fail to rotate based on normal wear and tear, it may be time to rebuild. Refer to our repair kit.
No flow, low flow, or not enough impingement.	Increase your pump pressure. (Pump must remain between 1,000 PSI (min) and 3,200 PSI (max). Check for desired result.
	Change nozzle to a larger nozzle size (higher flow rate). Check for desired result.

6. CONNECTION & NOZZLE OPERATION

Nozzle Connection: Before connecting the Ripsaw nozzle, flush the hose to remove any debris that may be in the line. Next attach the nozzle using Teflon tape (before attaching check the inlet screen to ensure its free of debris). Once pump is started and up to pressure make sure the Ripsaw is pointed at the ground.

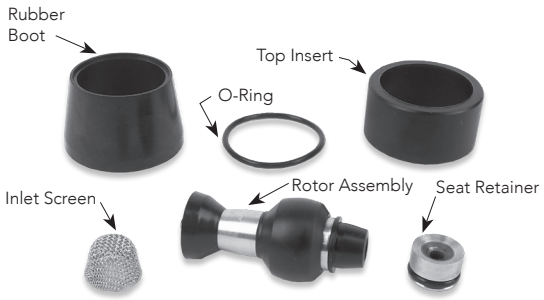
Nozzle Operation: After pressure is built up, keep a distance of **8" from soil**. Do not probe with the tool. Keep the nozzle free of debris by not submerging in water or bringing to rest in the soil material.

Nozzle Storage: After using the nozzle shutdown the pump before removing from wand or lance. We recommend draining water out of nozzle before storage to extend the life of your nozzle.

7. KITS & PARTS LIST

NOZZLE SIZE	RIPSAW HD NOZZLE PART NUMBER	REPAIR KIT PART NUMBER
3.0	20022380	20022328
4.0	20022381	20022329
5.0	20022382	20022330
6.0	20022383	20022331
8.0	20022384	20022332
10.0	20022385	20022333
12.0	20022386	20022334

ROTOR REPAIR KIT:

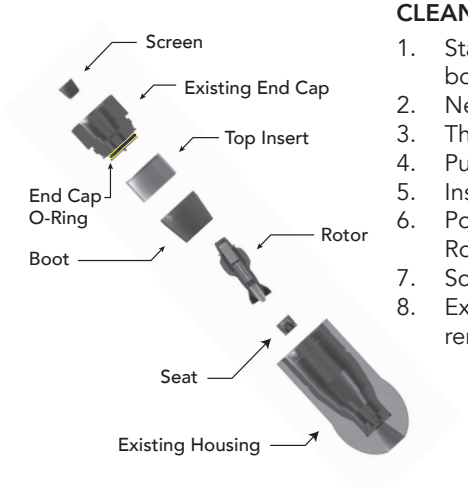


ACCESSORIES



INLET SCREENS (10 Pack)
20019939

8. REPAIR KIT INSTRUCTIONS



CLEANING/REBUILD INSTRUCTIONS:

1. Start by unscrewing the end cap on the nozzle and removing the existing components (top insert, boot, rotor, and seat).
2. Next, remove the o-ring on the end cap and replace.
3. Then install new seat as shown (o-ring side down) and press into place.
4. Push new boot into grooves inside housing.
5. Insert new top insert, ensuring the lip (smaller ID) is closest to the end cap.
6. Position the new rotor on the seat inside the housing, ensuring correct orientation with tip down. Rotor will lay against the side of the nozzle.
7. Screw on the end cap with rotor laying against the side of the nozzle, do not over-tighten.
8. Examine the inlet of the end cap to ensure there is no debris caught in the screen. If there is debris, remove the screen and clean/replace.

SCAN TO WATCH INSTRUCTION VIDEO!

9. WARRANTY

Hydra-Flex products are warrantied to be free from defects in materials and workmanship under normal use and service. "Normal use and service" means operated within recommended pressures, temperatures, and chemicals, and only handling compatible fluids. This warranty does not apply to any accessory repaired or altered to affect the performance or reliability of the product.

The warranty does not apply to:

a) Freight damage

b) Freezing damage

c) Damage caused by parts or accessories not obtained from or approved by Hydra-Flex

d) Damage from misuse and/or misapplication

e) Damage due to poor water quality

f) Normal wear of moving parts, components affected by moving parts or surfaces meant to wear

The warranty period is 90 days from the date the product is shipped from Hydra-Flex. The manufacturer's warranty liability is limited to the repair or replacement of that product, to be determined by Hydra-Flex, if our investigation determines the product was defective when shipped. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and/or any other obligations or liabilities on the part of Hydra-Flex. To inquire about the policy or to file a request for investigation, please use the button below to contact Hydra-Flex or call your sales rep to determine next steps. A return merchandise authorization number must be granted for units to be returned for replacement or repair.