RG3210 Roll Grooving Tool

WARNING

WARNING

Failure to follow instructions and warnings could result in death, serious personal injury, property damage, and/or product damage.

- **Before operating or servicing any grooving tools, read all instructions in this manual and all warning labels on the tool.**
- **Wear safety glasses, hardhat, foot protection, and hearing protection while working around this tool.**
- **Save this operating and maintenance manual in a place accessible to all operators of the tool.**

If you need additional copies of any literature, or if you have questions concerning the safe and proper operation of this tool, contact Victaulic, No.13, Tieshan Dong 2 Road, DaLian Development Zone, Dalian, China 116630, Phone: 86-411-39213600, E-Mail: vicap@victaulic.com

Original Instructions

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HAZARD IDENTIFICATION

Definitions for identifying the various hazard levels are provided below.

This safety alert symbol indicates important safety messages. When you see this symbol, be alert to the possibility of personal injury. Carefully read and fully understand the message that follows.

DANGER

- **The use of the word "DANGER" always signifies an immediate hazard with a likelihood of severe personal injury or death if instructions, including recommended precautions, are not followed.**

WARNING

- **The use of the word "WARNING" signifies the presence of hazards or unsafe practices which could result in severe personal injury if instructions, including recommended precautions, are not followed.**

CAUTION

- **The use of the word "CAUTION" signifies possible hazards or unsafe practices which could result in minor injury and product or property damage if instructions, including recommended precautions, are not followed.**

NOTICE

- **The use of the word "NOTICE" signifies special instructions which are important but not related to hazards.**

OPERATOR SAFETY INSTRUCTIONS

The RG3210 is designed for the sole purpose of roll grooving pipe. These instructions must be read and understood by each operator PRIOR to working with the grooving tools. These instructions describe safe operation of the tool, including setup and maintenance. Each operator must become familiar with the tool's operations, applications, and limitations. Particular care should be given to reading and understanding the dangers, warnings, and cautions described throughout these operating instructions.

Use of these tools requires dexterity and mechanical skills, as well as sound safety habits. Although these tools are designed and manufactured for safe, dependable operation, it is difficult to anticipate all combinations of circumstances that could result in an accident. The following instructions are recommended for safe operation of these tools. The operator is cautioned to always practice "safety first" during each phase of use, including set up and maintenance. It is the responsibility of the lessee or user of these tools to ensure that all operators read this manual and fully understand the operation of these tools.

Store this manual in a clean, dry area where it is always readily available. Additional copies of this manual are available upon request through Victaulic, or can be downloaded at victaulic.com.

⚠ DANGER

1. **Avoid using the tool in potentially dangerous environments.** Do not expose the tool to rain, and do not use the tool in damp or wet locations. Do not use the tool on sloped or uneven surfaces. Keep the work area well lit. Allow sufficient space to operate the tool properly.
2. **Ground the motor to protect the operator from electric shock.** Ensure that the motor is connected to an internally grounded electrical source.
3. **Disconnect the power cord from the electrical source before servicing the tool.** Only authorized personnel should perform maintenance on the tool. Always disconnect the power cord from the electrical source before servicing or adjusting the tool.
4. **Prevent accidental startups.** Place the power switch in the "OFF" position before connecting the tool to an electrical source.

⚠ WARNING

1. **Prevent back injury.** DO NOT attempt to lift tool components without the use of mechanical lifting equipment.
2. **Wear proper apparel.** Do not wear loose clothing, jewelry, or anything that can become entangled in moving parts.
3. **Wear protective items when working with tools.** Always wear safety glasses, hard hat, foot protection, and hearing protection.
4. **Keep hands and tools away from grooving rolls and stabilizer wheel during the grooving operation.** Grooving rolls can crush or cut fingers and hands.
5. **Do not reach inside pipe ends during tool operation.** Pipe edges can be sharp and can snag gloves, hands, and shirt sleeves. Never reach across moving parts.
6. **Do not over-reach.** Maintain proper footing and balance at all times.

⚠ CAUTION

1. **This tool is designed ONLY for roll grooving pipe sizes, materials, and wall thicknesses listed in the "Tool Ratings for Steel Pipe" section.**
2. **Inspect the equipment.** Before using the tool, check all moveable parts for any obstructions. Verify that tool components are installed and adjusted in accordance with the "Tool Setup" section.
3. **Stay alert.** Do not operate the tool if you are drowsy from medication or fatigue.
4. **Keep visitors, trainees, and observers away from the immediate work area.** All visitors should be kept a safe distance from the equipment at all times.
5. **Keep work areas clean.** Keep the work area around the tool clear of any obstructions that could limit movement of the operator. Clean up any spills.
6. **Secure the work, machine, and accessories.** Ensure that the tool is stable. Refer to the "Tool Setup" section.
7. **Support the work.** Support long pipe/tubing lengths with a pipe stand, in accordance with the "Long Pipe Lengths" section.
8. **Do not force the tool.** Do not force the tool or accessories to perform any functions beyond the capabilities described in these instructions. Do not overload the tool.
9. **Maintain tool with care.** Keep the tool clean at all times to ensure proper and safe performance. Follow the instructions for lubricating tool components.
10. **Use only Victaulic replacement parts and accessories.** Use of any other parts may result in a voided warranty, improper operation, and hazardous situations.
11. **Do not remove any labels from the tool.** Replace any damaged or worn labels.

INTRODUCTION

NOTICE

- **Drawings and/or pictures in this manual may be exaggerated for clarity.**
- **The tool, along with this operating and maintenance instructions manual, contains trademarks, copyrights, and/or patented features that are the exclusive property of Victaulic.**

The RG3210 is a hydraulic-feed shop or field tool designed to roll groove carbon steel pipe of various diameters and wall thicknesses. The RG3210 is a completely self-contained unit with a motor, power cord/plug, and hydraulic pump handle.

⚠ CAUTION

- **The RG3210 should only be used for roll grooving pipe designated in the "Tool Ratings for Steel Pipe" section of this manual.**

Use of the tools for other purposes, or use exceeding the pipe thickness maximums, will overload the tools, shortening tool life and potentially causing tool damage.

RECEIVING THE TOOL

RG3210 tools are packed individually in sturdy containers that are designed for repeated shipping. Save the container for return shipment of rental tools.

Upon receipt of the tool, ensure that all necessary parts are included. If any parts are missing, contact Victaulic.

CONTAINER CONTENTS

Qty.	Description
1	Tool with Motor and Hydraulic Pump Handle
1	Foot Switch
1	PS3210 Pipe Stand
1	Roll Set Assembly (5 Rollers)
1	Go/No-Go Grooved Pipe Diameter Tape
2	Operating and Maintenance Instructions Manual
1	Repair Parts List

POWER REQUIREMENTS

DANGER

- **To reduce the risk of electric shock, check the electrical source for proper grounding and follow all instructions.**
- **Before performing any repair or maintenance, disconnect the tool from the electrical source.**

Failure to do so could result in death or serious personal injury.

Maximum current draw is 8.5 amps. Tool motor is set to the appropriate specifications for the region.

The RG3210 tool must be grounded properly in accordance with all local and national electrical code requirements.

If an extension cord is required, refer to the "Extension Cord Requirements" section.

EXTENSION CORD REQUIREMENTS

When pre-wired outlets are not available and an extension cord must be used, it is important to use the proper cord size (gauge). Cord size selection is based upon tool rating and cord length. Use of a cord size (gauge) thinner than required will cause significant voltage drop at the motor while the tool is operating. Voltage drops may cause damage to the motor and can result in improper tool operation. **NOTE:** It is acceptable to use a cord size that is thicker than required.

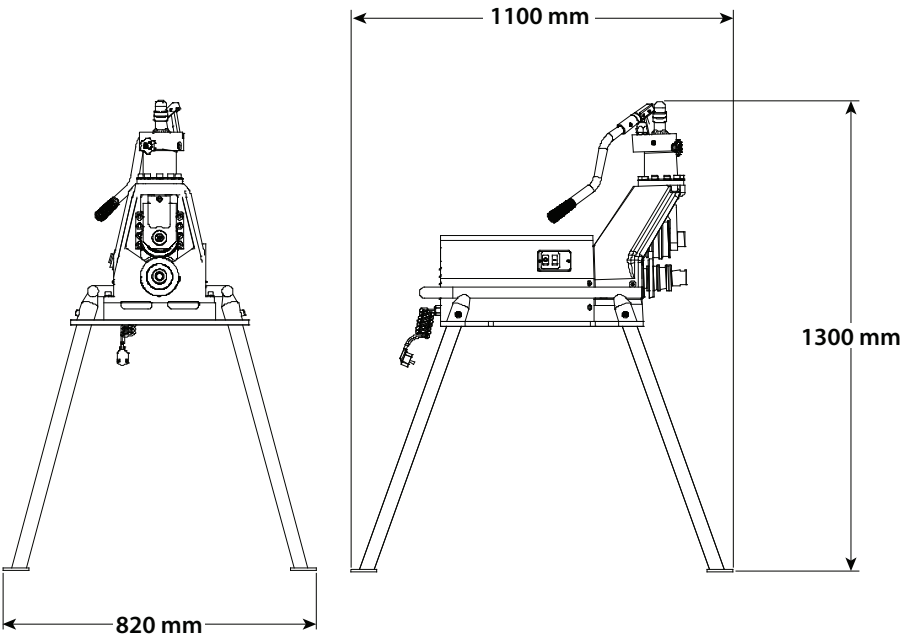
Listed in the chart below are recommended cord size (gauge) for cord lengths up to and including 31 meters. Use of extension cords beyond 31 meters in length should be avoided.

Extension cords must meet all applicable local codes and facility rules for safe and proper use.

	Cord Lengths		
	8 meters	15 meters	31 meters
Cord Size (Gauge)	12 gauge	12 gauge	10 gauge

TOOL NOMENCLATURE

TOOL DIMENSIONS



TOOL SPECIFICATIONS

Tool weight: 137 kilograms
Voltage: 220-volt, single phase
Frequency: 50 Hz/60 Hz
Capacity of oil tank: 150 ml

TOOL SETUP

⚠ WARNING

- **Do not connect power until instructed otherwise.**
- **Tool must be lifted with a hoist and plate clamp to safely handle the tool weight (137 kilograms).**

Failure to follow these instructions may result in serious personal injury.

1. Remove all components and check to ensure that all necessary items are included. Refer to the "Receiving the Tool" section.

2. Select a location for the tool and pipe stand. Choose a location that has:

a. The required power. Refer to the "Power Requirements" section
b. The space necessary to adequately handle the pipe to be grooved
c. A level surface for the tool and pipe stand

3. Place the tool on a level surface. Place a level on top of the motor to verify that the tool is level front to back and side to side.

4. Verify that the hydraulic system is full of oil. Refer to the "Maintenance" section for hydraulic oil requirements.

PRE-OPERATION ADJUSTMENTS

Every RG3210 tool is checked and tested at the factory prior to shipment. Before grooving, however, the following adjustments should be made to ensure proper tool operation.

⚠ WARNING

- **Always turn off power before making any tool adjustments.**

Accidental startup of tool may result in serious personal injury.

GROOVING ROLLS

Ensure that the proper roll set is on the tool. Rolls are marked with the pipe size and part number. Refer to the "Tool Ratings for Steel Pipe" section. If proper rolls are not on the tool, please refer to relative sections to change the rolls.

⚠ CAUTION

- **Ensure that roll retaining bolts are tight.**

Loose retaining bolts could seriously damage both the tool and the rolls.

PREPARING PIPE FOR GROOVING

⚠ CAUTION

- **For maximum grooving roll life, remove foreign material and loose rust from the interior and exterior surfaces of the pipe ends. Rust is an abrasive material that will wear the surface of grooving rolls.**

Foreign material may interfere with or damage grooving rolls, resulting in distorted grooves and grooves that are not within Victaulic specifications.

For proper tool operation and production of grooves that are within Victaulic specifications, the following pipe preparation steps must be followed.

1. Victaulic recommends square-cut pipe for use with grooved-end pipe products.

2. Raised internal and external weld beads and seams must be ground flush with the pipe surface 50 mm back from the pipe ends.

3. The inside diameter of the pipe end must be cleaned to remove coarse scale, dirt, and other foreign material that might interfere with or damage grooving rolls. The front edge of the pipe end shall be uniform with no concave/convex surface features that will cause improper grooving roll tracking and result in difficulties during coupling assembly.

PIPE LENGTH REQUIREMENTS

RG3210 tools are capable of grooving short pipe lengths without the use of a pipe stand. Table 1 identifies the maximum pipe lengths that can be grooved without the use of a pipe stand.

Pipe lengths, longer than those listed in Table 1 (and up to 6 meters), must be supported with a pipe stand. Pipe lengths, from 6 meters up to double-random lengths (approximately 12 meters), must be supported with two pipe stands. Refer to the "Long Pipe Lengths" section for instructions on how to groove long pipe lengths.

If pipe is required that is shorter than the minimum length listed in Table 1, shorten the next-to-last piece so that the last piece is as long (or longer) than the minimum length specified.

EXAMPLE: A 6.2-m length of 219.1-mm diameter steel pipe is required to finish a section, and only 6.1-m lengths are available. Instead of roll grooving a 6.1-m length of carbon steel pipe and a 100-mm length of carbon steel pipe, follow these steps:

1. Refer to Table 1, and note that for 219.1-mm diameter carbon steel pipe, the minimum length that should be roll grooved is 255 mm.

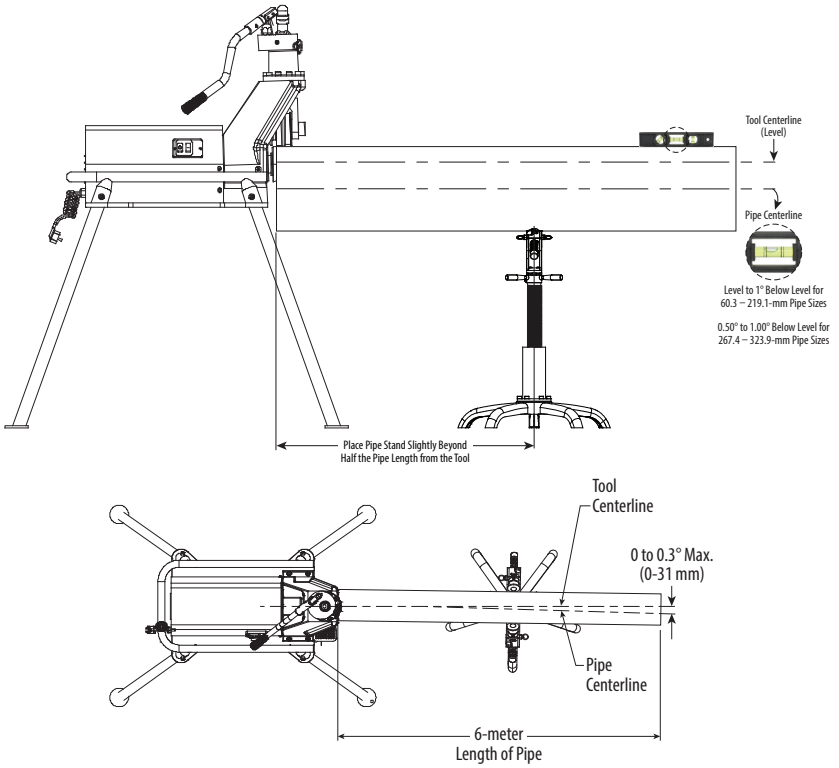
2. Roll groove a 5.945-m length of pipe and a 255-mm length of pipe. Refer to the "Long Pipe Lengths" section.

Table 1- Pipe Lengths Suitable for Grooving

Actual Pipe Outside Diameter	Minimum Length mm	Maximum Length mm
60.3 mm – 114.3 mm	205	915
127.0 mm – 141.3 mm	205	815
152.4 mm	255	760
165.1 mm – 168.3 mm	255	710
203.2 mm – 219.1 mm	255	610
267.4 mm – 273.0 mm	255	510
318.5 mm – 323.9 mm	305	460

LONG PIPE LENGTHS

1. A pipe stand must be used with pipe that is longer than the maximum length listed in Table 1. Place the pipe stand at a distance slightly beyond half the pipe length from the tool.
2. Position a length of pipe on the tool's lower roll. For 60.3 – 219.1-mm pipe sizes, adjust the pipe stand height to position the pipe level to 1° below level. For 267.4 – 323.9-mm pipe sizes, adjust the pipe stand height to position the pipe angle between 0.50° and 1.00° below level (when necessary, raise the tool to achieve the required angle of pipe).



Drawings are exaggerated for clarity

⚠ CAUTION

- **Right-to-left tracking angle must be kept to a minimum. Keep the pipe as centered as possible on the lower roll.**
- **Verify that the tool is level. The pipe may not track properly if the back end of the pipe is higher than the end being grooved.**

Failure to follow these instructions may result in grooves that are not within specification.

GROOVE DIAMETER STOP ADJUSTMENT

⚠ WARNING

- **Always turn off power before making any tool adjustments.**

Accidental startup of tool may result in serious personal injury.

NOTICE

- **To perform the following adjustments, use several short scrap sections of pipe that are the proper material, diameter, and wall thickness. Refer to Table 1 for the minimum pipe lengths required for grooving.**

The groove diameter stop must be adjusted each time rolls are changed and for each change in pipe size or wall thickness.

1. Verify that the correct, matching roll set is installed on the tool. Rolls are marked with the pipe size and part number. If the correct, matching rolls are not on the tool, the roll set must be changed by following the steps on pages 14 and 15.

2. Insert a piece of pipe of the correct size and wall thickness onto the lower roll.

3. Close the hydraulic pump valve.

4. Use the hydraulic pump handle to bring the slide down until the upper roll contacts the pipe.

5. Loosen the locking nut from the depth adjuster nut. Tighten the depth adjuster nut downward against the top of the tool head.

6. Adjust the depth adjuster nut upward to a distance equal to the required groove depth. One rotation of the depth adjuster nut equals 2.5 mm.

7. Prevent the depth adjuster nut from rotating. Tighten the locking nut downward against the top of the depth adjuster nut.

⚠ WARNING

Grooving rolls can crush or cut fingers and hands.

- **Keep hands away from grooving rolls.**
- **Never reach inside pipe end or across the tool or pipe during operation.**
- **Always groove pipe in a clockwise direction only.**
- **Never groove pipe shorter than what is recommended.**
- **Never wear loose clothing, loose gloves, or jewelry while operating tool.**

8. Groove the sample pipe by following the "Grooving Operation" section. Continue the grooving operation until the depth adjuster nut contacts the tool head. Allow the pipe to rotate an additional one to two turns to ensure groove completion.

9. After a trial groove is prepared and the pipe is removed from the tool, carefully check the "C" groove diameter. Refer to the "Roll Groove Specifications" section. The "C" groove diameter dimension is best checked with a pipe tape. If a vernier caliper or narrow-land micrometer is used, the groove must be checked at two locations, 90° apart. The average reading must equal the required groove diameter specification.

10. If the "C" groove diameter is too large (too shallow), loosen the locking nut and adjust the depth adjuster nut upward to half the distance of the value of the desired adjustment to the "C" groove diameter.

11. If the "C" groove diameter is too small (too deep), loosen the locking nut and adjust the depth adjuster nut downward to half the distance to the value of the desired adjustment to the "C" groove diameter.

12. Prepare another trial groove and check the "C" groove diameter again. Follow all steps in this section until the "C" groove diameter is within specification.

⚠ CAUTION

- **The "C" groove diameter must always conform to the dimensions listed in the "Roll Groove Specifications" section to ensure proper joint performance.**

Failure to follow this instruction could cause joint leakage or failure, resulting in personal injury and property damage.

GROOVING OPERATION

DANGER

- **To reduce the risk of electric shock, check the electrical source for proper grounding.**
- **Before operating the tool, review the "Operator Safety Instructions" section of this manual.**

Failure to follow these instructions could result in death or serious personal injury.

CAUTION

- **RG3210 tools are designed ONLY for roll grooving pipe sizes and wall thicknesses outlined in the "Tool Ratings for Steel Pipe" section.**

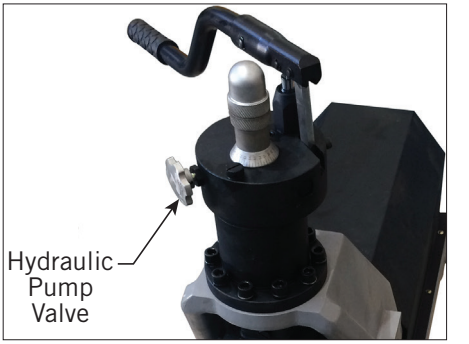
Failure to follow the instructions in this manual will result in improper tool operation.

1. Before grooving, ensure that all instructions in the previous sections of this manual have been followed.

2. Plug the RG3210 into an internally-grounded electrical source.

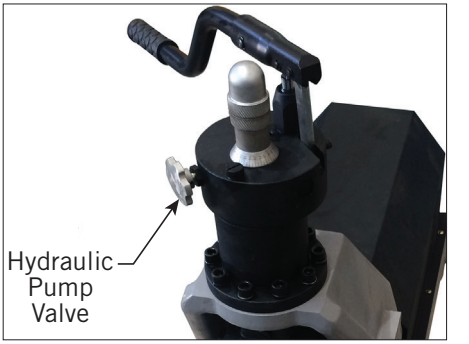
3. Turn the switch on the side of the tool to the "ON" position to verify that the tool is operational and that lower roll is turning clockwise.

4. Turn the switch on the side of the tool to the "OFF" position.



5. Open the hydraulic pump valve by turning the knob counterclockwise. This will raise the slide and upper roll to their highest positions.

6. Insert a piece of pipe of the correct size and wall thickness onto the lower roll.



7. Close the hydraulic pump valve by turning the knob clockwise.

⚠ WARNING

Grooving rolls can crush or cut fingers and hands.

- **Keep hands away from grooving rolls.**
- **Never reach inside pipe end or across the tool or pipe during operation.**
- **Always groove pipe in a clockwise direction only.**
- **Never groove pipe shorter than what is recommended.**
- **Never wear loose clothing, loose gloves, or jewelry while operating tool.**

8. Operator should be positioned, as shown.

9. Use the hydraulic pump handle to bring the slide down until the upper roll contacts the pipe.

10. Turn the switch on the side of the tool to the "ON" position. Check the tracking of the pipe as it rotates to verify that it remains against the lower roll.

NOTE: If the pipe does not remain against the lower roll, stop the tool by turning the switch to the "OFF" position. Verify that the pipe is level and positioned properly.

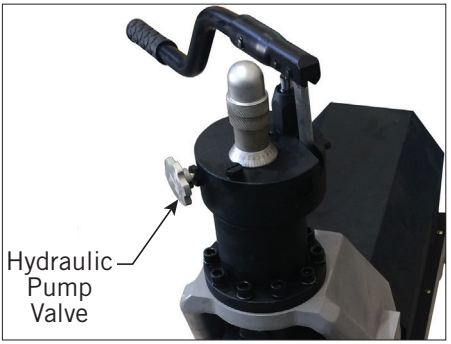
11. With the switch in the "ON" position, the pipe will begin to rotate clockwise. As the pipe rotates, begin grooving by using the hydraulic pump handle.

NOTICE

- **Do not pump the hydraulic pump handle too fast, but at a rate sufficient to groove the pipe and maintain a moderate load on the tool's motor.**

12. Continue the grooving operation until the locking nut/depth adjuster nut contact the tool head. Allow the pipe to rotate an additional one to two turns to ensure groove completion.

13. Turn the switch on the side of the tool to the "OFF" position.



14. To release the pipe, open the hydraulic pump valve by turning the knob counterclockwise (be prepared to support short pipe lengths when opening the hydraulic pump valve). Remove pipe from tool.

NOTICE

- **The "C" groove diameter should be checked periodically and adjusted, as necessary, to ensure that the dimension remains within specification.**

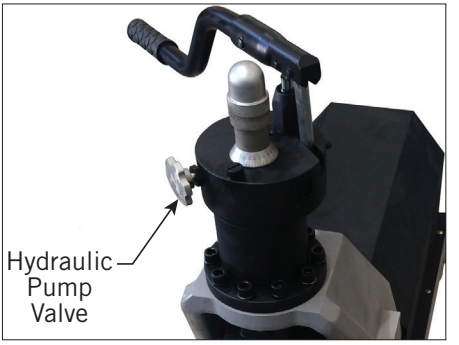
LOWER ROLL REMOVAL

⚠ WARNING

- **Always turn off power before making any tool adjustments.**

Accidental startup of tool may result in serious personal injury.

The lower roll must be removed before the upper roll.



1. Open the hydraulic pump valve by turning the knob counterclockwise. This will raise the slide and upper roll to their highest positions.

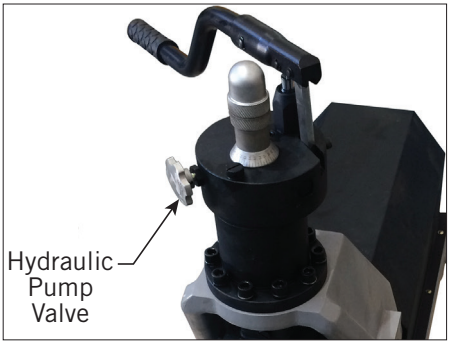
2. Remove the main shaft fastening nut, then remove the lower roll. Store the lower roll in a safe location for future use.

UPPER ROLL REMOVAL

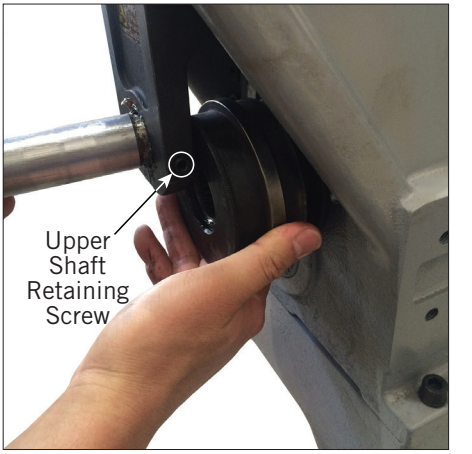
⚠ WARNING

- **Always turn off power before making any tool adjustments.**

Accidental startup of tool may result in serious personal injury.



1. Open the hydraulic pump valve by turning the knob counterclockwise. This will raise the slide and upper roll to their highest positions.



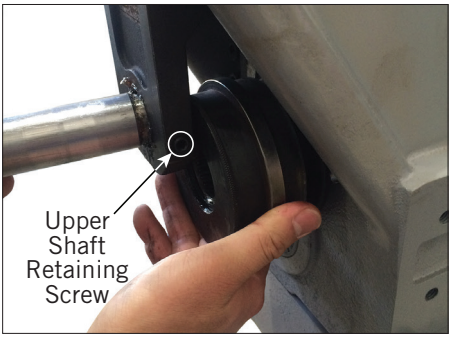
2. Loosen the upper shaft retaining screw.

3. While supporting the upper roll, remove the upper shaft from the slide/upper roll holder by pulling it straight outward. Remove the upper roll, and store it in a safe location for future use.

UPPER ROLL INSTALLATION

Clean the upper shaft to remove any dirt before installation of the upper roll. Inspect the roller bearing inside the upper roll for proper lubrication and condition.

The upper roll must be installed before the lower roll.



1. Carefully insert the desired size upper roll behind the slide/upper roll holder with the markings on the upper roll facing outward.

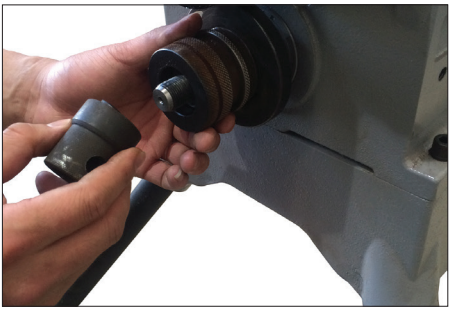
2. While supporting the upper roll, insert the upper shaft into the slide/upper roll holder and upper roll.

3. Tighten the upper shaft retaining screw to retain the upper roll on the upper shaft.

4. Lubricate upper roll bearing with a No. 2EP Lithium based grease. Refer to the “Maintenance” section for additional information.

LOWER ROLL INSTALLATION

Clean the main shaft and lower roll bore to remove any dirt before installation of the lower roll. **NOTE:** To aid in removing the lower roll at a later time, apply a thin film of oil or grease (anti-seize lubricant) to the main shaft before installing the lower roll.



1. Slide the desired size lower roll fully onto main shaft with the marked side facing outward.

2. Tighten the main shaft fastening nut completely to retain the lower roll on the main shaft.

MAINTENANCE

⚠ WARNING

- **Always disconnect the tool from the electrical source before making any tool adjustments.**

Accidental startup of tool may result in serious personal injury.

Prior to the start of each shift, verify that the tool and roll sets are clean. Lubricate the tool at the grease ports.

Always lubricate upper roll bearings and main shaft bearings when rolls are changed by utilizing the grease ports. Use a No. 2EP Lithium based grease.

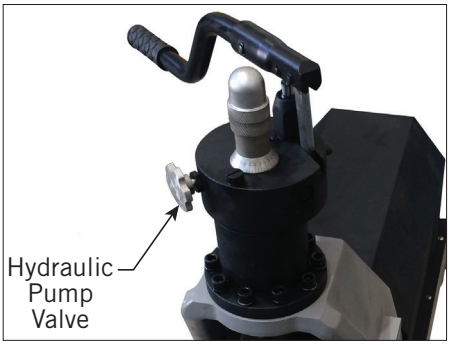
On a monthly basis, lubricate the gear motor with a spray-type, heavy-duty open gear lubricant.

HYDRAULIC SYSTEM

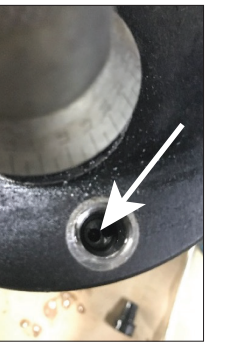
The level of hydraulic fluid should be checked before operation and **must** be checked several times per year, especially if the hydraulic pump is not operating properly. Use a #20 oil (ISO Viscosity Grade 22) for the hydraulic pump. The level of the oil should be no higher than the inlet hole when the hydraulic pump valve is released.

Relieve pressure in the hydraulic system by opening the hydraulic pump valve, then remove the plug indicated above to add hydraulic fluid.

Fill Hydraulic System



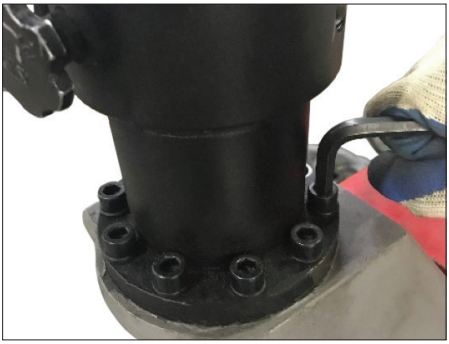
1. Open the hydraulic pump valve by turning the knob counterclockwise.



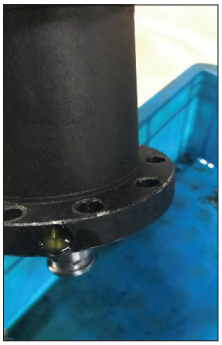
2. Loosen the valve and put it aside. Fill with oil until the oil level comes close to the inlet hole.

Drain Hydraulic System

1. Open the hydraulic pump valve by turning the knob counterclockwise.

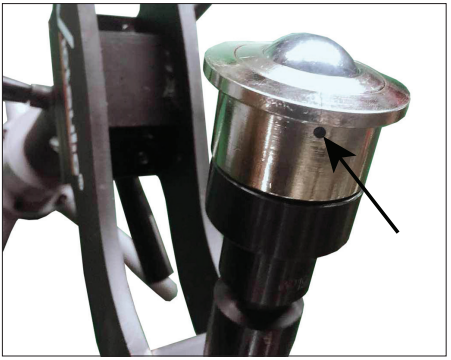


2. Remove the bolts supporting the cylinder.



3. Remove the plug at the bottom of the cylinder. Drain the oil in the tank.

PS3210 PIPE STAND



Regular lubrication is required for the PS3210 Pipe Stand. On a weekly basis, apply a light machine oil to the location shown above at each universal ball unit. Work the light machine oil in by rotating the universal ball units.

REPLACEMENT PARTS

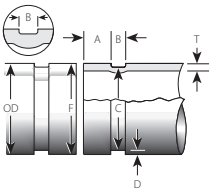
Any replacement parts must be ordered from Victaulic to ensure proper tool operation.

EXPLANATION OF CRITICAL ROLL GROOVE DIMENSIONS

⚠ WARNING

- **Pipe dimensions and groove dimensions must be within the tolerances specified in the tables on the following pages to ensure proper joint performance.**

Failure to follow these specifications could cause joint failure, resulting in serious personal injury and/or property damage.

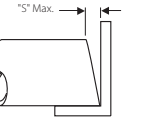


Standard Roll Groove

Exaggerated for clarity

Pipe Outside Diameter – The average pipe outside diameter must not vary from the specifications listed in the tables on the following pages. Maximum allowable pipe ovality should not vary by more than 1%. Greater variations between the major and minor diameters will result in difficult coupling assembly.

The maximum allowable tolerance from square-cut pipe ends is:
0.8 mm for 60.3 – 101.6-mm sizes and 1.6 mm for 114.3-mm and larger sizes. This is measured from the true square line.



Raised internal and external weld beads and seams must be ground flush with the pipe surface 50 mm back from the pipe ends. The inside diameter of the pipe end must be cleaned to remove coarse scale, dirt, and other foreign material that might interfere with or damage grooving rolls. The front edge of the pipe end shall be uniform with no concave/convex surface features that will cause improper grooving roll tracking and result in difficulties during coupling assembly.

"A" Dimension – The "A" dimension, or the distance from the pipe end to the groove, identifies the gasket seating area. This area must be free from indentations, projections (including weld seams), and roll marks from the pipe end to the groove to ensure a leak-tight seal. All foreign material, such as loose paint, scale, oil, grease, chips, rust, and dirt must be removed.

"B" Dimension – The "B" dimension, or groove width, controls expansion, contraction, and angular deflection of flexible couplings by the distance it is located from the pipe and its width in relation to the coupling housings' "key" width. The bottom of the groove must be free of all foreign material, such as dirt, chips, rust, and scale that may interfere with proper coupling assembly.

"C" Dimension – The "C" dimension is the average diameter at the base of the groove. This dimension must be within the diameter's tolerance and concentric with the OD for proper coupling fit. The groove must be of uniform depth for the entire pipe circumference.

EXPLANATION OF CRITICAL ROLL GROOVE DIMENSIONS (CONT.)

"D" Dimension – The "D" dimension is the normal depth of the groove and is a reference for a "trial groove" only. Variations in pipe OD affect this dimension and must be altered, if necessary, to keep the "C" dimension within tolerance. The groove diameter must conform to the "C" dimension described above.

"F" Dimension – Maximum allowable pipe-end flare diameter is measured at the extreme pipe-end diameter. **NOTE:** This applies to average (pi tape) and single-point readings.

"T" Dimension – The "T" dimension is the lightest grade (minimum nominal wall thickness) of pipe that is suitable for roll grooving.

NOTICE

- **Coatings that are applied to the interior surfaces of Victaulic grooved pipe couplings must not exceed 0.25 mm. This includes bolt pad mating surfaces.**
- **In addition, the coating thickness applied to the gasket-sealing surface and within the groove on the pipe exterior must not exceed 0.25 mm.**

ROLL GROOVE SPECIFICATIONS FOR STEEL PIPE

Actual Pipe Outside Diameter mm	Dimensions – millimeters												
	Pipe Outside Diameter		Gasket Seat "A"			Groove Width "B"			Groove Diameter "C"		Groove Depth "D" (ref.)	Min. Allow. Wall Thick. "T"	Max. Allow. Flare Dia. "F"
	Max.	Min.	Basic	Max.	Min.	Basic	Max.	Min.	Max.	Min.			
60.3 mm	60.9	59.7	15.9	16.7	15.1	8.7	9.5	8.0	57.2	56.8	1.6	1.2	63.0
73.0 mm	73.8	72.3	15.9	16.7	15.1	8.7	9.5	8.0	69.1	68.6	2.0	2.0	75.7
76.1 mm	77.0	75.4	15.9	16.7	15.1	8.7	9.5	8.0	72.3	71.8	2.0	2.0	78.7
88.9 mm	89.8	88.1	15.9	16.7	15.1	8.7	9.5	8.0	84.9	84.5	2.0	2.0	91.4
101.6 mm	102.6	100.8	15.9	16.7	15.1	8.7	9.5	8.0	97.4	96.9	2.2	2.0	104.1
108.0 mm	109.0	107.2	15.9	16.7	15.1	8.7	9.5	8.0	103.7	103.2	2.2	2.0	110.5
114.3 mm	115.4	113.5	15.9	16.7	15.1	8.7	9.5	8.0	110.1	109.6	2.2	2.0	116.8
127.0 mm	128.3	126.2	15.9	16.7	15.1	8.7	9.5	8.0	122.8	122.3	2.2	2.0	129.5
133.0 mm	134.7	132.6	15.9	16.7	15.1	8.7	9.5	8.0	129.1	128.6	2.2	2.0	135.9
139.7 mm	141.1	138.9	15.9	16.7	15.1	8.7	9.5	8.0	135.5	135.0	2.2	2.0	142.2
141.3 mm	142.7	140.5	15.9	16.7	15.1	8.7	9.5	8.0	137.0	136.5	2.2	2.0	143.8
152.4 mm	153.8	151.6	15.9	16.7	15.1	8.7	9.5	8.0	148.1	147.5	2.2	2.0	154.9
165.1 mm	166.7	164.3	15.9	16.7	15.1	8.7	9.5	8.0	160.8	160.2	2.2	2.8	167.6
168.3 mm	169.9	167.5	15.9	16.7	15.1	8.7	9.5	8.0	164.0	163.4	2.2	2.8	170.9
203.2 mm	204.8	202.4	19.1	19.8	18.3	11.9	12.7	11.1	198.5	197.9	2.4	2.8	207.5
216.3 mm	217.9	215.5	19.1	19.8	18.3	11.9	12.7	11.1	211.6	211.0	2.4	2.8	220.7
219.1 mm	220.7	218.3	19.1	19.8	18.3	11.9	12.7	11.1	214.4	213.8	2.4	2.8	223.5
267.4 mm	269.0	266.6	19.1	19.8	18.3	11.9	12.7	11.1	262.6	262.0	2.4	3.4	271.8
273.0 mm	274.7	272.3	19.1	19.8	18.3	11.9	12.7	11.1	268.3	267.6	2.4	3.4	277.4
318.5 mm	320.1	317.7	19.1	19.8	18.3	11.9	12.7	11.1	313.0	312.2	2.8	4.0	322.8
323.9 mm	325.5	323.1	19.1	19.8	18.3	11.9	12.7	11.1	318.3	317.5	2.8	4.0	328.2

TOOL RATINGS FOR STEEL PIPE

Actual Pipe Outside Diameter	Nominal Wall Thickness Dimensions
60.3 mm – 219.1 mm	Schedule 10 – Schedule 40
267.4 mm – 323.9 mm	Schedule 10 – Schedule 20

Maximum ratings on steel are limited to pipe of 180 BHN (Brinnel Hardness Number) and less.

EC DECLARATION OF CONFORMITY

In Accordance with the Machinery Directive 2006/42/EC

Victaulic Company, headquartered at 4901 Kesslersville Road, Easton, PA 18040, USA, hereby declares that the machinery listed below complies with the essential safety requirements of the Machinery Directive, 2006/42/EC.

Product Models:	RG3210
Serial No. :	Refer to Machinery Nameplate
Product Description:	Roll Grooving Tool
Conformity Assessment:	2006/42/EC, Annex I
Reference Standards:	EN ISO 12100 : 2010 EN IEC 60204-1:2006+A1:2009 EN ISO 13857 : 2008
Technical Documentation:	The relevant technical documentation prepared in accordance with Annex VII (A) of the Machinery Directive 2006/42/EC, will be made available upon request to the governing authorities.
Authorized Representative:	Victaulic Company c/o Victaulic Europe BVBA Prijkelstraat 36 9810, Nazareth Belgium

Signed for and on behalf of Victaulic Company,

Mr. Len R. Swantek
Director – Global Regulatory Compliance
Machinery Manufacturer Representative

Place of Issue: Easton, Pennsylvania, USA
Date of Issue: December 05, 2017

RG3210 Roll Grooving Tool

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pipe will not stay in grooving rolls.	Incorrect pipe positioning of long pipe.	Refer to "Long Pipe Lengths" section.
Pipe stops rotating during grooving.	Rust or dirt has built up on lower roll.	Remove accumulation from lower roll with stiff wire brush.
	Worn grooving rolls.	Inspect lower roll for worn knurls. Replace if worn.
	Motor has stalled due to excess pumping of the hydraulic pump handle.	Open the hydraulic pump valve to free the pipe, then close hydraulic pump valve. Continue grooving, pumping at a moderate rate.
	Circuit breaker has tripped or fuse has blown on electrical circuit supplying motor.	Reset breaker or replace fuse.
While grooving, loud squeaks echo through the pipe.	Incorrect pipe support positioning on long pipe. Pipe is "overtracking".	Refer to the "Long Pipe Lengths" section.
	Pipe end is not cut square.	Cut pipe end squarely.
	Pipe is rubbing excessively hard on the lower roll.	Remove pipe from tool and apply a film of grease to the face of the lower roll, as needed.
During grooving, loud thumps or bangs occur about once every revolution of the pipe.	Pipe has a pronounced weld seam.	Raised internal and external weld beads and seams must be ground flush with the pipe surface 50 mm back from the pipe ends.
Tool won't groove pipe.	Hydraulic pump valve is not closed tightly.	Tighten the hydraulic pump valve.
	Hydraulic pump is low on oil.	Refer to the "Maintenance" section.
	Pipe is beyond tool's wall thickness capability.	Refer to the "Tool Ratings for Steel Pipe" section.

In the event of tool malfunction outside the scope of the troubleshooting section, contact Victaulic for assistance.

UPDATED 07/2019
TM-RG3210 10275 REV H