VE206 Pipe/Tubing Roll Grooving Tool



REMS AMIGO† 2 COMPACT DRIVE

RIDGID® 700 DRIVE

† Rems Amigo is a trademark of REMS GmbH & Co KG

® Ridgid is a registered trademark of Ridgid Tool Company



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 roll 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, P.O. Box 31, Easton, PA 18044-0031, Phone: 1-800-PICK VIC, E-Mail: pickvic@victaulic.com.

Original Instructions



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TM-VE206 / Operating and Maintenance Instructions Manual

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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.



 The use of the word "DANGER" identifies an immediate hazard with a likelihood of death or serious personal injury if instructions, including recommended precautions, are not followed.

WARNING

 The use of the word "WARNING" identifies the presence of hazards or unsafe practices that could result in death or serious personal injury if instructions, including recommended precautions, are not followed.

CAUTION

 The use of the word "CAUTION" identifies possible hazards or unsafe practices that could result in personal injury and product or property damage if instructions, including recommended precautions, are not followed.

NOTICE

 The use of the word "NOTICE" identifies special instructions that are important but not related to hazards.

OPERATOR SAFETY INSTRUCTIONS

The VE206 Roll Grooving Tool is designed for the sole purpose of roll grooving pipe/ tubing. These instructions must be read and understood by each operator PRIOR to working with the grooving tool. These instructions describe safe operation of the tool, including set up 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 this tool requires dexterity and mechanical skills, as well as sound safety habits. Although this tool is 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 this tool. 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 this tool to ensure that all operators read this manual and fully understand the operation of this tool.

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.

A DANGER

- 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.
- Ground the power drive to protect the operator from electric shock. Ensure that the power drive is connected to an internally grounded electrical source.

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- 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.

A WARNING

- Prevent back injury. Always use proper lifting techniques when handling tool components.
- 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, hardhat, foot protection, and hearing protection (sound levels up to 104 decibels can be produced during the grooving process).
- Keep hands and tools away from grooving rolls during the grooving operation.
 Grooving rolls can crush or cut fingers and hands.
- Do not reach inside pipe ends during tool operation. Pipe edges can be sharp and can snag hands and shirt sleeves.
- 6. Operate the tool opposite the direction of pipe rotation. The tool must be operated with the safety foot switch that is located for easy operator access. Never reach across moving parts. If the tool does not contain a safety foot switch, do not use the tool, and contact Victaulic.
- Do not over-reach. Maintain proper balance at all times. Ensure that the safety foot switch is easily accessible to the operator.
- Do not make any modifications to the tool. Do not remove any safety guarding or any components that would affect tool performance.

A CAUTION

- The VE206 tool is designed ONLY for roll grooving pipe/tubing sizes, materials, and wall thicknesses as designated.
- Inspect the equipment. Before using the tool, check moveable parts for obstructions. Ensure that tool components are installed and adjusted in accordance with setup instructions. Ensure that properly matched roll sets are installed and lubricated.
- **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 on the floor to prevent slips or falls.
- 6. Secure the work, machine, and accessories. Ensure that the tool is stable. Refer to the "Tool Setup" section.
- Support the work. Support long pipe lengths with a pipe stand, in accordance with the "Long Pipe/Tubing 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
- Maintain tool with care. Keep the tool clean to ensure proper and safe performance. Follow the instructions for matching and 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. Refer to the "Parts Ordering Information" and "Accessories" sections.
- **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 Victaulic VE206 is a portable hydraulic-feed tool for roll grooving pipe/tubing to receive Victaulic grooved pipe/tubing products. The standard VE206 tool is supplied with grooving rolls for 1¼–6 inch/42.4–168.3 mm carbon steel pipe. Rolls are marked with the size and part number, and are color-coated to identify the pipe material. For roll grooving to other Victaulic specifications and materials, refer to the "Tool Rating and Roll Selection" section. Grooving rolls for other specifications, sizes, and materials must be purchased separately.

CAUTION

- This tool must be used ONLY for grooving pipe/tubing with specifications that fall within the designated parameters.
- Verify that the upper and lower grooving rolls are a matched set.

Failure to follow these instructions could damage the tool and cause product failure, resulting in property damage or personal injury.

RECEIVING THE TOOL

VE206 tools are packed individually in sturdy containers. 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 Head Assembly
1	Stand Assembly
1	Hydraulic Hand Pump Assembly
1	Power Drive
1	Lower Roll/Main Shaft for 1¼ – 3-inch/ 42.4 – 88.9-mm Carbon Steel Pipe
1	Lower Roll/Main Shaft for 4 – 6-inch/ 114.3 – 168.3-mm Carbon Steel Pipe*
1	Safety Foot Switch
1	Storage Bag
1	³/16-inch Hex Key
1	5/16-inch Hex Key
1	%6-inch Hex Key
1	Pipe Diameter Tape
2	Operating and Maintenance Manual

^{*} Installed in the tool head assembly

NOTE: Optional items, such as roll sets for grooving stainless steel pipe or copper tubing, must be specified on the order and may be shipped separately.

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POWER REQUIREMENTS

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DANGER

- To reduce the risk of electric shock, check the electrical source for proper grounding.
- Before performing any maintenance on the tool, disconnect the power cord from the electrical source.

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

POWER DRIVE REQUIREMENTS

Several power drive options are available for use with the VE206, as shown in the table below. Consult the drive manufacturer's instructions for proper operation.

Compatible Power Drives	
Rems Amigo 2 Compact	
Ridgid 700	
Ridgid 300	
VPD 752	

Contact Victaulic before attaching a power drive system not listed above. Alternate drive systems require different mounting hardware.

Power must be supplied to the power drive through a safety foot switch to ensure safe operation. Ensure that the power drive is grounded properly in accordance with Article 250 of the National Electrical Code. Always refer to the operating manual for the power drive for additional information.

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

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 (i.e. Conductor Size American Wire Gauge). Cord size selection is based upon tool rating (amps) and cord length (feet). Use of a cord size (gauge) thinner than required will cause significant voltage drop at the power drive or tool motor while the tool is operating. Voltage drops may cause damage to the power drive or tool motor and can result in improper tool operation. **NOTE:** It is acceptable to use a cord size that is thicker than required.

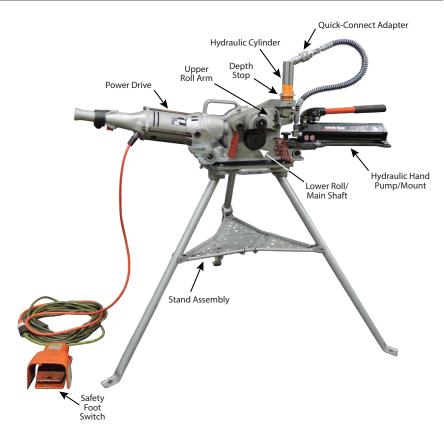
Listed in the chart below are recommended cord size (gauge) for cord lengths up to and including 100 feet. Use of extension cords beyond 100 feet in length should be avoided.

Power	Cord Lengths feet/meters			
Drive Rating volts/amps	25 8	50 15	100 31	
110 12	12 gauge	12 gauge	10 gauge	
220 6	14 gauge	12 gauge	10 gauge	

TOOL NOMENCLATURE

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.



IMPORTANT SAFETY INFORMATION LABELS PROVIDED ON THE TOOL

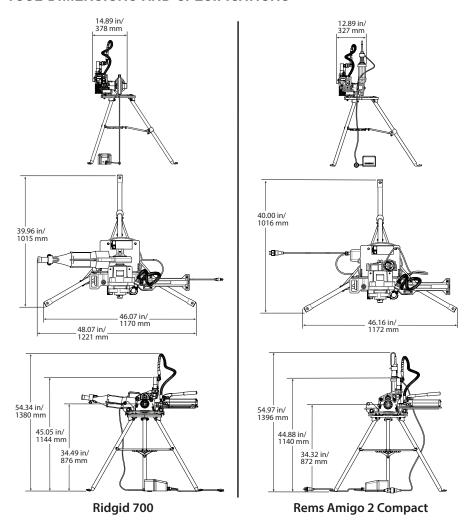






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TOOL DIMENSIONS AND SPECIFICATIONS



Tool weight is 165 pounds/75 kilograms. Tool weight includes the tool head assembly, power drive, stand assembly, hand pump, and foot switch. The tool head assembly alone weighs approximately 63 pounds/29 kilograms.

Tool sound pressure is 103.6 dB(A), while tool sound power is 95.6 dB(A). All measurements taken with a Ridgid 700 power drive.

NOTE: Noise measurements are dependent on the power drive, and will vary based on configuration. Always check the power drive manufacturer's documentation for details.



SETUP OF THE STAND ASSEMBLY

DANGER



DO NOT connect power until instructed otherwise.

Failure to follow this instruction could result in death or serious personal injury.

The VE206 tool is intended for field or shop setup.

- 1. Remove all components from the packaging, and ensure that all necessary items are included. Refer to the "Receiving the Tool" section.
- 2. Select a location for the tool by taking into consideration the following factors (refer to "Tool Dimensions And Specifications" for overall dimensions):
 - **a.** The required power supply (verify the voltage of the power drive as 110 volt or 220 volt)
 - **b.** Adequate space to handle pipe lengths
 - **c.** A firm and level surface for the tool and pipe stand
 - **d.** Adequate clearance around the tool for adjustment and maintenance.



3. Place the stand assembly in the horizontal position (lying down).



4. Remove the chain from around the three legs, as shown above.



5. Carefully lift and open the stand into the vertical position (upright), as shown above. Ensure that each leg is extended completely. Ensure that stand is level and stable before proceeding.

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SETUP OF THE TOOL HEAD ASSEMBLY

MARNING





 Always use proper lifting techniques when handling the tool head assembly.

Failure to follow this instruction could result in personal injury.



1. Using proper lifting techniques, lift the tool head assembly by the two handles with the roll guards facing toward you, as shown above. Do not lift the tool head by the roll guards.

NOTE: Tool head weighs approximately 63 pounds/29 kilograms.





2. Slide the tool head assembly onto the stand assembly. The grooving rolls should be facing outward, as shown above.

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3. Tighten each wing head thumb screw to secure the tool head assembly onto the stand assembly. Ensure that the bolts are tightened evenly on both the left and right sides of the tool head assembly.



4. Level the tool from the top of the stand assembly, as shown above.

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SETUP OF THE RIDGID 700 POWER DRIVE

DANGER



 DO NOT connect power until instructed otherwise.
 Failure to follow this instruction could result in death or serious personal injury.

NOTICE

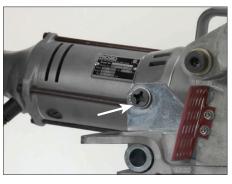
 The VE206 requires drive-specific mounting hardware. Ensure that your power drive is compatible with the provided hardware before mounting.



1. Place the Ridgid 700 power drive on the back of the stand assembly. Align the tapped hole in the Ridgid 700 power drive's body with the hole in the mounting bracket on the base plate.



2. Align the square drive adapter of the Ridgid 700 power drive with the square drive of the tool head assembly, then push the power drive toward the tool head assembly, as shown above.



3. Align the mounting screw (attached to a mounting plate on the stand assembly) through the tapped hole in the body of the Ridgid 700 power drive, as shown above.



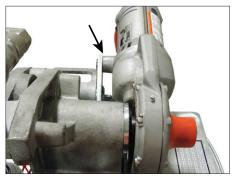
4. Using a %-inch square drive ratchet, tighten the mounting screw to secure the Ridgid 700 power drive to the stand assembly.



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5. Using a %-inch hex key, tighten each set screw on the square drive adapter of the Ridgid 700 power drive.



6. Ensure that the Ridgid 700 power drive is properly aligned with the tool head assembly. The edge of the tapped hole on the power drive should lie flush against the mounting plate on the stand assembly, as shown above.





7. Install the trigger lock onto the power drive, as shown above. Tighten the mounting screw on the underside of the trigger lock.

NOTE: It is important that the trigger lock's tab depresses the trigger so that the lower roll rotates away from the operator when viewed from the front of the tool. (See Figure 2 on page 21 for more information.)

If rotation of the lower roll is toward the operator, turn the trigger lock upside-down and reattach it so that the tab depresses the switch on the underside of the power drive.

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WARNING

 DO NOT operate the power drive without a safety foot switch. If the tool does not contain a safety foot switch, contact Victaulic.

Operating the tool without a safety foot switch could result in serious personal injury.





- To reduce the risk of electric shock, check the electrical source for proper grounding.
- Before performing any maintenance on the tool, disconnect the power cord from the electrical source.

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

8. Remove the safety foot switch from the storage box.



9. Plug the Ridgid 700 power drive cord into the safety foot switch, as shown above. Plug the safety foot switch cord into a grounded electrical outlet. Refer to the power drive manufacturer's operating manual for additional information.



- **10.** Depress the safety foot switch. Verify that the lower roll rotates away from the operator when viewed from the front of the tool. If the lower roll rotates toward the operator, reverse the trigger lock as outlined in step 7. Remove foot from the safety foot switch.
- 11. Ensure that the tool is stable. If the tool wobbles, ensure that the legs are adjusted correctly and that the tool is level. If the wobble persists, the tool must be relocated to a more level surface.

SETUP OF THE REMS AMIGO 2 COMPACT POWER DRIVE

DANGER

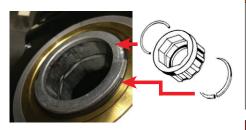


DO NOT connect power until instructed otherwise.

Failure to follow this instruction could result in death or serious personal injury.

NOTICE

 The VE206 requires drive-specific mounting hardware. Ensure that your power drive is compatible with the provided hardware before mounting.



1. The Rems Amigo 2 Compact power drive must be equipped with the stop ring (Rems No. 522005R). This must be installed with the locking ring (Rems No. 522018) prior to assembly with the VE206 tool.



2. Hold the Rems Amigo 2 Compact power drive with the motor handle facing upwards. Align the drive bushing of the tool head assembly with the retaining ring of the power drive. Push the power drive over the drive bushing.

WARNING

 DO NOT operate the power drive without a safety foot switch. If the tool does not contain a safety foot switch, contact Victaulic.

Operating the tool without a safety foot switch could result in serious personal injury.

DANGER



- To reduce the risk of electric shock, check the electrical source for proper grounding.
- Before performing any maintenance on the tool, disconnect the power cord from the electrical source.

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

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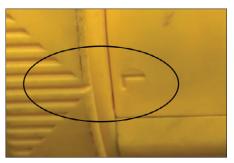
3. Plug the Rems Amigo 2 Compact power drive cord into a grounded electrical outlet. Refer to the power drive manufacturer's operating manual for additional information.



4. Depress the safety foot switch. Verify that the lower roll rotates away from the operator when viewed from the front of the tool. (See Figure 2 on page 21 for more information.) If the lower roll rotates toward the operator, reverse the rotation collar as outlined in step 7. Remove foot from the safety foot switch.



5a. Locate the rotation collar at the base of the Rems drive body.





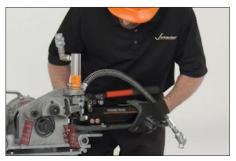
- **5b.** The drive body features L (left) and R (right) markings. To reverse the direction of rotation, twist the collar to align the arrow with the opposite marking.
- **6.** Ensure that the tool is stable. If the tool wobbles, ensure that the legs are adjusted correctly and that the tool is level. If the wobble persists, the tool must be relocated to a more level surface.

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SETUP OF THE HYDRAULIC HAND PUMP

The hydraulic hand pump can be installed on either the left-hand or right-hand side of the tool.





1. Place the hydraulic hand pump over one of the lifting handles on the tool head assembly, making sure that the lip on the underside of the pump's mounting plate aligns with the edge of the lifting handle.



2. Tighten the thumbscrew to secure the hydraulic hand pump to the tool head assembly.



3. Confirm that the hydraulic hand pump valve is not holding any residual pressure by rotating the hydraulic hand pump valve **counterclockwise** to open the valve.



4. Remove the cap and install the quick-connect adapter onto the hydraulic cylinder connection, tightening completely. If the collar is not fully seated and tightened, the ball check may not operate properly, allowing hydraulic fluid to flow back through the hose.

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PRE-OPERATION CHECKS AND ADJUSTMENTS

Every Victaulic roll grooving tool is checked, adjusted, and tested at the factory prior to shipment. However, before operating the tool, the following checks and adjustments should be made to ensure proper tool operation. In addition, the tool should be inspected for any damage that may have occurred during shipping and handling.



DANGER



 Before making any tool adjustments, disconnect the power cord from the electrical source.

Accidental startup of the tool could result in death or serious personal injury.

GROOVING ROLLS

Ensure that the proper roll set is installed on the tool for the pipe/tubing size and material to be grooved. Roll sets are marked with the pipe/tubing size and part number, and are color-coated for the pipe/tubing material. Refer to the "Tool Rating and Roll Selection" section. If the proper rolls are not installed on the tool, refer to the "Roll Changing" section.

PIPE/TUBING PREPARATION

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

1. Victaulic recommends square-cut pipe/tubing for use with grooved-end pipe/tubing products. Square-cut pipe/tubing MUST be used with FlushSeal® and EndSeal® gaskets. Beveled-end pipe/tubing may be used, provided that the wall thickness is standard wall (ANSI B36.10) or less and that the bevel meets ANSI B16.25 (37 ½°) or ASTM A-53 (30°).

NOTE: Roll grooving beveled-end pipe/tubing may result in unacceptable flare, leaks, or joint failure.

- 2. Raised internal and external weld beads and seams must be ground flush with the pipe/ tubing surface 2 inches/50 mm back from the pipe/tubing ends.
- **3.** All coarse scale, dirt, and other foreign material must be removed from the interior and exterior surfaces of the pipe/tubing ends.



CAUTION

 For maximum grooving roll life, remove foreign material and loose rust from the interior and exterior surfaces of the pipe/ tubing 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 out of Victaulic specifications.

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PIPE/TUBING LENGTHS SUITABLE FOR GROOVING

The VE206 tool is capable of grooving short pipe lengths without the use of a pipe stand. Refer to the "Short Pipe/Tubing Lengths" section on this page.

Pipe lengths longer than those listed in Table 1 on this page (and up to 20 feet/ 6 meters) must be supported with a pipe stand.

Pipe lengths from 20 feet/6 meters up to double-random lengths (approximately 40 feet/12 meters) must be supported with two pipe stands.

SHORT PIPE/TUBING LENGTHS

WARNING



 Grooving rolls can crush or cut fingers and hands.

Never groove pipe that is shorter than the recommended lengths listed in this manual.

Table 1 shows the minimum and maximum pipe lengths that can be grooved without the use of a pipe stand. Refer to the "Grooving Operation" section for instructions on how to groove short pipe lengths. For pipe longer than what is shown in Table 1, refer to the "Long Pipe/Tubing Lengths" section.

NOTICE

 Grooved pipe nipples, shorter than those listed in Table 1, are available from Victaulic.

TABLE 1: PIPE LENGTHS SUITABLE FOR GROOVING

Steel and Stainless Steel Pipe Size		Length – inches/mm		
Nominal Pipe Size inches or mm	Actual Outside Diameter inches/mm	Minimum	Maximum	
11/4	1.660	8	36	
	42.4	205	915	
1½	1.900	8	36	
	48.3	205	915	
2	2.375	8	36	
	60.3	205	915	
2½	2.875	8	36	
	73.0	205	915	
3	3.500	8	36	
	88.9	205	915	
3½	4.000	8	36	
	101.6	205	915	
4	4.500	8	36	
	114.3	205	915	
4½	5.000	8	32	
	127.0	205	815	
5	5.563	8	32	
	141.3	205	815	
152.4 mm	6.000	10	30	
	152.4	255	765	
6	6.625	10	28	
	168.3	255	715	

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. Refer to the example below.

EXAMPLE: A 20-foot, 4-inch/6.2-m length of 6-inch diameter steel pipe is required to finish a section, and only 20-foot/6.1-m lengths are available. Instead of roll grooving a 20-foot/6.1-m length of steel pipe and a 4-inch/0.1-m length of steel pipe, follow these steps:

- 1. Refer to Table 1 on this page, and note that for 6-inch diameter steel pipe, the minimum length that should be roll grooved is 10 inches/255 mm.
- **2.** Roll groove a 19-foot, 6-inch/5.9-m length of pipe and a 10-inch/255-mm length of pipe. Refer to the "Long Pipe/Tubing Lengths" section.

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LONG PIPE/TUBING LENGTHS

When roll grooving pipe that exceeds the maximum length shown in Table 1, a roller-type pipe stand must be used. The stand must be capable of handling the weight of the pipe, while allowing the pipe to rotate freely.

- 1. Ensure that the tool is level. Refer to the "Tool Setup" section for leveling requirements. Set the pipe stand height to produce a ½ to 1° pitch on the pipe away from the tool (see Figure 1). This will promote tracking and reduce pipe end flare.
- 2. Keep pipe straight and square to the lower roll flange. The pipe may be adjusted up to ½° off-center if the initial setup is not providing sufficient tracking (see Figure 2). When flare is excessive, right-to-left tracking must be kept to a minimum.
- 3. Installation of couplings on pipe that exceeds the maximum allowable flare may prevent padto-pad closure of the housings and may cause damage to the coupling gasket. Refer to the applicable "Roll Groove Specifications" table for details.

- **4.** If the tool is properly set up in a level position, but the back end of the pipe is higher than the end being grooved, the pipe may not track. As a result, excessive flare may occur on the pipe end. Refer to the "Tool Setup" section and to Figures 1 and 2 for tool setup and pipe positioning requirements.
- **5.** Position the pipe stand at a distance slightly beyond half the pipe length from the tool. Refer to Figure 1, below.

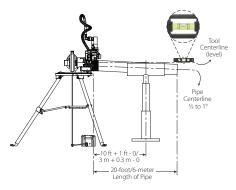
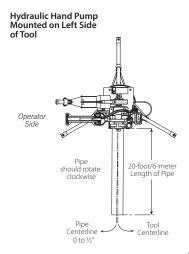


FIGURE 1: SUPPORT OF PIPE

6. Position the pipe stand approximately 0 to ½° to the left for the tracking angle. Refer to Figure 2, below.



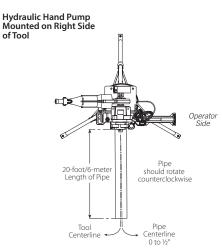


FIGURE 2: TRACKING ANGLE



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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

- This tool must be used ONLY for grooving pipe/tubing with specifications that fall within the designated parameters.
- Verify that the upper and lower grooving rolls are a matched set.

Failure to follow these instructions could damage the tool and cause product failure, resulting in property damage or personal injury.

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



2. Plug the power drive cord into the safety foot switch, as shown above. Plug the safety foot switch cord into a grounded electrical outlet. Refer to the power drive manufacturer's operating manual for additional information.

WARNING

 The power drive must be operated with a safety foot switch. If the power drive is not supplied with a safety foot switch, contact Victaulic.

Operating the tool without a safety foot switch could result in serious personal injury.



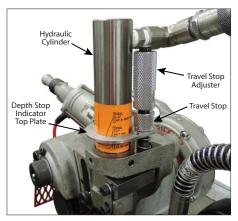
3. Depress the safety foot switch. Verify that the lower roll rotates away from the operator when viewed from the front of the tool. If the lower roll rotates toward the operator, see the appropriate power drive section for instructions to reverse rotation. Remove foot from the safety foot switch.



4. Rotate the hydraulic hand pump valve **counterclockwise** to open the valve and raise the upper roll to provide clearance for pipe insertion.

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5. Back off the groove diameter stop by loosening the travel stop adjuster.



6. Turn the travel stop **counterclockwise** several turns.

WARNING



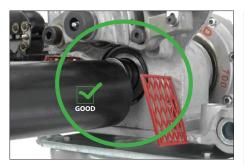
Grooving rolls can crush or cut fingers and hands.

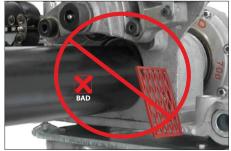
- Before making any tool adjustments, always disconnect the power cord from the electrical source.
- Loading and unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls during operation.
- Never reach inside the pipe end or across the tool during operation.
- Always groove pipe with rotation away from the operator.
- Never groove pipe that is shorter than the recommended lengths listed in this manual.
- Never wear loose clothing, loose gloves, or anything that can become entangled in moving parts.



7. Insert a length of pipe that is the correct size and thickness onto the lower roll.

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8. Ensure that the pipe end contacts the lowerroll backstop flange completely, but does not cover the flange.

NOTICE

 Using the tool with the pipe covering the flange will damage the tool. Ensure that the pipe is positioned correctly before starting the grooving process.



9. Rotate the hydraulic hand pump valve **clockwise** to close the valve.



10a. While supporting the pipe, pump the handle of the hydraulic hand pump to place the upper roll into light contact with the pipe.

10b. Remove hands from the pipe. For long pipe lengths supported with a pipe stand, ensure that the pipe is pitched and positioned properly. Refer to the "Long Pipe/Tubing Lengths" section.

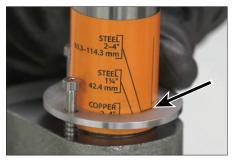
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NOTICE

- The groove diameter stop must be adjusted for changes in pipe size or wall thickness.
- The groove diameter, which is identified as the "C" dimension, is listed under the "Roll Groove Specifications" section.
- To perform the following adjustments, use several scrap sections of pipe that are the proper material, diameter, and thickness.
 Ensure that the scrap sections meet the length requirements listed in Table 1.



11. Loosen the travel stop adjuster.



12. Check the depth reference decal for the pipe size and material to be grooved. Find the horizontal line that corresponds to that pipe size and material.

To ensure the correct starting position, the upper edge of the depth stop indicator top plate must be adjusted to meet that horizontal line.



13. Turn the travel stop to adjust the height of the depth stop indicator top plate.



14. When the depth stop indicator top plate is properly aligned, tighten the travel stop adjuster to lock in the setting.

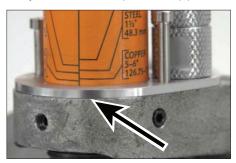


15. Depress and hold down the safety-footswitch pedal.

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16. As the pipe rotates, begin the grooving process by pumping the handle of the hydraulic hand pump at a slow, steady rate. Ensure that the pipe remains against the lower-roll backstop flange. If the pipe does not remain against the lower-roll backstop flange, remove foot from the safety foot switch and re-position the pipe.



- 17. Continue the grooving process until the depth stop indicator top plate makes firm contact with the top edge of the tool head assembly.
- **18.** Without pumping the hand pump, continue to rotate the pipe for one to three revolutions to ensure groove completion.
- 19. Remove foot from the safety foot switch.

WARNING

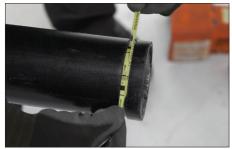
 DO NOT place hands inside the pipe end or in the area of the grooving rolls while the pipe is still rotating.

Failure to follow this instruction could result in serious personal injury.

20. If a pipe stand is not being used, manually support the pipe during removal to prevent it from falling as it separates from the tool.



21. Rotate the hydraulic hand pump valve **counterclockwise** to open the valve and release the pipe from the tool.



22. After the pipe is grooved and removed from the tool, carefully check the groove diameter ("C" dimension). Refer to the "Roll Groove Specifications" section. A pipe diameter tape, supplied with the tool, is the best method for checking the "C" dimension. A vernier caliper or narrow-land micrometer can also be used to check this dimension at two locations (90° apart) around the groove. The average reading must be within the required groove diameter specification.

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CAUTION

- The "C" dimension (groove diameter) and maximum allowable flare must conform to Victaulic specifications to ensure proper joint performance.
- The "C" dimension (groove diameter)
 must be within specification for the
 diameter and wall thickness of pipe. The
 groove diameter should be checked and
 adjusted, as necessary, to ensure that
 grooves remain within specification.

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

- **23.** If the groove diameter ("C" dimension) is not within Victaulic specifications, the diameter stop must be readjusted. Return to steps 9 through 14 and make the following changes:
 - **a.** To DECREASE the groove diameter (increase groove depth), readjust the upper edge of the depth stop indicator top plate so that it is slightly above the horizontal line previously used.
 - **b.** To INCREASE the groove diameter (decrease groove depth), readjust the upper edge of the depth stop indicator top plate so that it is slightly below the horizontal line previously used.
- **24.** Prepare another trial groove, and re-check the groove diameter ("C" dimension), as described in step 22. Repeat these steps, as necessary, until the groove diameter is within specification.

ROLL CHANGING

DANGER



 Before making any tool adjustments, disconnect the power cord from the electrical source.

Accidental startup of the tool could result in serious personal injury.

The VE206 is designed with rolls to accommodate several pipe sizes, which eliminates the need for frequent roll changes. However, different pipe materials may require different rolls. For proper roll selection, refer to the "Tool Rating and Roll Selection" section.

LOWER ROLL/MAIN SHAFT REMOVAL

When preparing to groove stainless steel pipe, copper tubing, or pipe to "ES" specifications, the lower roll/main shaft for carbon steel pipe must be removed.

When preparing to groove copper tubing or pipe to "ES" specifications, the carbon steel upper roll must also be removed (refer to the "Upper Roll Removal" and "Upper Roll Installation" sections). The upper roll must be installed prior to installation of the lower roll/main shaft in the tool body.

1. Remove and lock out power to the tool.



2. Raise the upper roll arm to its maximum position by rotating the hydraulic hand pump valve **counterclockwise** to open the valve.

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3. Loosen and remove the hex bolt and lock washer at the rear of the shaft, using a 5/16-inch socket.

⚠ WARNING



 DO NOT strike the lower roll/ main shaft with a hammer or other blunt object.

Striking the lower roll/main shaft can cause fragmentation, resulting in serious personal injury.



- **4.** Pull the lower roll/main shaft out from the front of the tool head. Using a soft cloth, remove any debris and excess grease from the lower roll/main shaft.
- **5.** Store the lower roll/main shaft in the provided tool bag to prevent damage.

UPPER ROLL REMOVAL

The same upper roll is used for standard grooving of carbon steel pipe and stainless steel pipe.

When preparing to groove copper tubing or pipe to "ES" specifications, the upper roll for carbon steel/stainless steel pipe must be removed and the appropriate upper roll must be installed.

NOTICE

 The lower roll/main shaft must be removed prior to removing the upper roll from the upper roll shaft/arm casting.



1. Using a $\frac{3}{16}$ -inch hex key, loosen the set screw located on the top of the arm casting.



2. Prepare to support the upper roll while sliding the upper shaft out of the arm casting.

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3. Remove the upper roll. Store the upper roll in the provided tool bag to prevent damage.



3. Insert the upper shaft into the arm casting and upper roll.

UPPER ROLL INSTALLATION

NOTICE

- The upper roll must be installed prior to installing the lower roll/main shaft.
- 1. Select the proper upper roll for the pipe size and material to be grooved. Refer to the "Tool Rating and Roll Selection" section.



2. Position the upper roll in the pocket of the arm casting.

NOTE: The flange portion of the upper roll must face toward the rear of the tool, as shown above.



4. Using a 3/6-inch hex key, tighten the set screw to secure the upper shaft in position. Ensure that the upper roll rotates freely.

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LOWER ROLL/MAIN SHAFT INSTALL ATION

- 1. Remove and lock out power to the tool.
- **2.** Select the proper lower roll/main shaft for the pipe size and material to be grooved. Refer to the "Tool Rating and Roll Selection" section.

NOTICE

- Upper roll installation must be complete before proceeding with lower roll/main shaft installation.
- **3.** Apply dry graphite spray to the lower roll/main shaft bore and main shaft.



4. Install the lower roll/main shaft into the tool head. While maintaining a grip on the knurled end (lower roll) of the main shaft, ensure that the flats on the drive end of the main shaft align with the flats in the power drive adapter.



5. Install and tighten the hex bolt and lock washer at the rear of the shaft, using a \%-inch socket.



- **6.** Rotate the hydraulic hand pump valve **clockwise** to close the valve.
- **7.** Lower the arm casting by pumping the handle of the hydraulic hand pump. Ensure that the upper roll aligns properly with the lower roll/main shaft.

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MAINTENANCE

DANGER

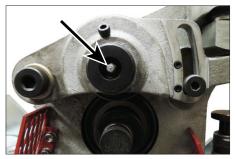


 Before performing any maintenance on the tool, disconnect the power cord from the electrical source.

Failure to follow this instruction could result in death or serious personal injury.

This section provides information about keeping tools in proper operating condition. Replacement parts must be ordered from Victaulic to ensure proper and safe operation of the tool.

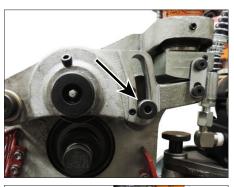
LUBRICATION



1. After every 8 hours of operation, apply grease to the grease fitting of the upper roll shaft.



2. Apply grease under the pivot block.





3. Apply grease to all locations where the roll arm slides against the tool body.

PARTS ORDERING INFORMATION

When ordering parts, the following information is required for Victaulic to process the order and send the correct part(s). Request the RP-VE206 Repair Parts List for detailed information. Parts can be ordered by calling 1-800-PICK VIC.

- 1. Tool Model Number VE206
- 2. Tool Serial Number The serial number is stamped onto the tool body
- 3. Quantity, Part Number, and Description
- 4. Where to Send the Part(s) Company name and address
- 5 To Whose Attention to Send the Part(s)
- 6 Purchase Order Number

ACCESSORIES

VAPS112 VICTAULIC ADJUSTABLE PIPF STAND



The Victaulic VAPS112 is a portable, adjustable, roller-type pipe stand that contains four legs for additional stability. Ball transfer rollers, adjustable for 2-12-inch/60.3-323.9-mm pipe, and the "V" rest for 34-11/2-inch/ 26.9-48.3-mm pipe, accommodate linear and rotational movement. The turnstile design permits ease of grooving for both pipe ends. Contact Victaulic for details

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VAPS224 VICTAULIC ADJUSTABLE PIPF STAND



The Victaulic VAPS224 contains features that are similar to the VAPS112, but it is suitable for 2 – 24-inch/60.3 - 610.0-mm pipe sizes. Contact Victaulic for details.

OPTIONAL ROLLS

The following optional rolls are available for purchase. Contact Victaulic for details.

- Lower Roll/Main Shaft for Grooving 1 1/4 - 6-inch/42.4 - 168.3-mm Schedule 5S and 10S Stainless Steel Pipe (NOTE: The same upper roll is used for grooving carbon steel pipe and stainless steel pipe)
- Lower Roll/Main Shaft and Upper Roll for Grooving 2-6-inch/54.0-155.6-mm ASTM Drawn Copper Tubing to CTS US Standard
- Lower Roll/Main Shaft and Upper Roll for 2-3-inch/60.3-88.9-mm "ES" Grooves
- Lower Roll/Main Shaft and Upper Roll for 4-6-inch/114.3-168.3-mm "ES" Grooves

REV D



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TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pipe/tubing will not stay in grooving rolls.	Incorrect pipe/tubing positioning of long pipe/tubing length.	Refer to the "Long Pipe/Tubing Lengths" section.
	Lower roll/main shaft and pipe/tubing are not aligned properly with the grooving direction.	Flip over the trigger-lock switch on the power drive to depress the opposite trigger. Refer to the power drive manufacturer's operating and maintenance instructions for additional information.
Pipe/tubing stops rotating during grooving.	Rust or dirt buildup is present on the lower roll.	Remove rust or dirt accumulation from the lower roll with a stiff wire brush.
	Rust or dirt is excessively heavy inside the pipe/tubing end.	Remove heavy rust and dirt from inside the pipe/tubing end.
	Worn lower roll.	Inspect the lower roll for worn knurls. Replace the lower roll/main shaft if excessive wear is present.
	The circuit breaker/GFI has tripped or a fuse has blown out on the electrical circuit that supplies the power drive.	Test/reset the jobsite GFI/breaker, or replace the fuse.
	The trigger-lock switch clamp is loose.	Tighten the trigger-lock switch thumb screw.
While grooving, loud squeaks echo through the pipe/tubing.	Incorrect pipe/tubing support positioning of long pipe/tubing length. Pipe/tubing is "over-tracking."	Move the pipe support to the right. Refer to the "Long Pipe/Tubing Lengths" section.
	Pipe/tubing end is not cut square.	Cut the pipe/tubing end squarely.
	Pipe/tubing is rubbing excessively on the lower-roll backstop flange.	Remove the pipe/tubing from the tool, and apply a light coating of saw blade wax or water-soluble non-hydrocarbon lubricant to the face of the lower-roll backstop flange, as needed.
During grooving, loud thumps or bangs occur approximately once every revolution of the pipe/tubing.	Pipe/tubing has a pronounced weld seam.	Grind the raised welds flush with the interior and exterior pipe/tubing surfaces 2 inches/50 mm back from the pipe/tubing end.
Pipe/tubing flare is excessive.	Pipe/tubing support adjusted too high for long pipe/tubing length.	Refer to the "Long Pipe/Tubing Lengths" section.
	Tool is tilted forward (out of level) while grooving long pipe/tubing length.	Refer to the "Tool Setup" section.
	Incorrect pipe/tubing support positioning.	Move the pipe support to the right. Refer to the "Long Pipe/Tubing Lengths" section.



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TROUBLESHOOTING (CONTINUED)

PROBLEM	POSSIBLE CAUSE	SOLUTION
The tool will not groove the pipe/tubing.	Pipe/tubing is beyond the wall thickness capacity of the tool, or the pipe/tubing material is too hard.	Refer to the "Tool Rating and Roll Selection" section.
Pipe/tubing grooves do not conform with Victaulic	Groove diameter stop is not adjusted correctly.	Refer to the "Groove Diameter Stop Adjustment" section.
specifications.	Pipe/tubing is beyond the wall thickness capacity of the tool, or the pipe/tubing material is too hard.	Refer to the "Tool Rating and Roll Selection" section.
The "A" gasket seat or "B" groove width dimensions do not conform with Victaulic specifications.	Incorrect upper roll, lower roll, or both installed on the tool.	Install the correct rolls. Refer to the "Tool Rating and Roll Selection" section.

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

TOOL RATING AND ROLL SELECTION

STANDARD AND "ES" ROLLS FOR STEEL PIPE - COLOR-CODED BLACK

Pip	e Size	Dimensions - in	ches/millimeters	Standard	"ES"
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	Steel Pipe W	all Thickness Maximum	Roll Part Numbers	Roll Part Numbers
1 1/4	1.660 42.4	0.065 1.7	0.140 3.6		
1 ½	1.900 48.3	0.065 1.7	0.145 3.7	Lower Roll	_
2	2.375 60.0	0.065 1.7	0.154 3.9	R912106L03 Upper Roll	Lower Roll
21/2	2.875 73.0	0.083 2.1	0.203 5.2	R912106UA6	R-Z02-106-L03 Upper Roll
3	3.500 88.9	0.083 2.1	0.216 5.5		R-Z02-106-UA3
4	4.500 114.3	0.083 2.1	0.237 6.0		
41/2	5.000 127.0	0.095 2.4	0.237 6.0	Lower Roll R904106L06	Lower Roll R-Z04-106-L06
5	5.563 141.3	0.109 2.8	0.258 6.6	Upper Roll R912106UA6	Upper Roll R-Z04-106-UA6
6	6.625 168.3	0.109 2.8	0.280 7.1		

Notes:

Maximum ratings on steel are limited to pipe of a Brinnel Hardness Number (BHN) of 180 BHN and less
The wall thicknesses listed are nominal minimum and maximum
In addition, the following pipe sizes may be roll grooved: 76.1 mm; 108.0 mm; 127.0 mm; 133.0 mm; 139.7 mm; 152.4 mm; 159.0 mm; and
165.1 mm. Contact Victaulic for details.

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STANDARD ROLLS FOR SCHEDULES 5S AND 10S STAINLESS STEEL PIPE -**COLOR-CODED SILVER**

Pip	e Size	Dimensions - in	ches/millimeters	RX
	Actual Pipe	Stainless Steel Pi	pe Wall Thickness	
Nominal Size inches	Outside Diameter inches/mm	Minimum for Schedule 5S	Maximum for Schedule 10S	Roll Part Numbers
1 1/4	1.660 42.4	0.065 1.7	0.109 2.8	
1½	1.900 48.3	0.065 1.7	0.109 2.8	
2	2.375 60.0	0.065 1.7	0.109 2.8	
21/2	2.875 73.0	0.083 2.1	0.120 3.0	Lower Roll RX12106L06
3	3.500 88.9	0.083 2.1	0.120 3.0	Upper Roll R912106UA6
4	4.500 114.3	0.083 2.1	0.120 3.0	
5	5.563 141.3	0.109 2.8	0.134 3.4	
6	6.625 168.3	0.109 2.8	0.134 3.4	

Notes:

Types 304/304L and 316/316L stainless steel pipe
The wall thicknesses listed are nominal minimum and maximum

In addition, the following pipe sizes may be roll grooved: 76.1 mm; 108.0 mm; 127.0 mm; 133.0 mm; 139.7 mm; 152.4 mm; 159.0 mm; and 165.1 mm. Contact Victaulic for details.

ROLLS FOR CTS US STANDARD - ASTM DRAWN COPPER TUBING -**COLOR-CODED COPPER**

Tub	e Size	Dimensions - in	ches/millimeters	Copper
	Actual Pipe	Copper Tubing Wall Thickness		
Nominal Size inches	Outside Diameter inches/mm	Minimum	Maximum	Roll Part Numbers
2	2.125 54.0	0.042 1.1	0.083 2.1	
2 ½	2.625 66.7	0.065 1.7	0.095 2.4	
3	3.125 79.4	0.045 1.1	0.109 2.8	Lower Roll RR02106L06
4	4.125 104.8	0.058 1.5	0.134 3.4	Upper Roll RR02106UA6
5	5.125 130.2	0.072 1.8	0.160 4.1	
6	6.125 155.6	0.083 2.1	0.192 4.9	

Notes: ASTM B306, Type DWV and ASTM B88, Types K, L, M copper tubing The wall thicknesses listed are nominal minimum and maximum

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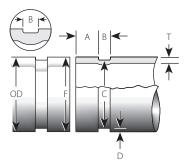
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EXPLANATION OF CRITICAL ROLL GROOVE DIMENSIONS FOR ORIGINAL GROOVE SYSTEM (OGS) PRODUCTS

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

Illustration is exaggerated for clarity

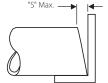
NOTICE

FOR STANDARD COUPLINGS WITH RATINGS ON LIGHT-WALL STAINLESS STEEL PIPE:

 Victaulic RX rolls MUST be used when roll grooving light-wall stainless steel pipe for use with standard couplings.

Pipe Outside Diameter – Nominal NPS Pipe Size (ANSI B36.10) and Basic Metric Pipe Size (ISO 4200) – The average pipe outside diameter must not vary from the specifications listed in the tables on the following pages. Maximum allowable pipe ovality shall comply with the requirements of ASTM A-999 and API 5L. Greater variations between the major and minor diameters will result in difficult coupling assembly.

For NPS pipe, the maximum allowable tolerance from square-cut pipe ends is: 1/16 inch/1.6 mm for 4 to 24-inch/114.3 to 610-mm sizes and 3/32 inch/2.4 mm for 26-inch/660-mm and larger sizes. This is measured from the true square line.



Any internal and external weld beads or seams must be ground flush to the pipe surface. 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 or result in difficulties during coupling assembly.

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- "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.
- **"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 cut or roll grooving. Pipe that is less than the minimum nominal wall thickness for cut grooving may be suitable for roll grooving or adapted for Victaulic couplings by using Vic-Ring® Adapters. Vic-Ring Adapters can be used in the following situations (contact Victaulic for details):
- When pipe is less than the minimum nominal wall thickness suitable for roll grooving
- When pipe outside diameter is too large to roll or cut groove
- · When pipe is used in abrasive services

NOTICE

- Coatings that are applied to the interior surfaces of Victaulic grooved and plain-end pipe couplings must not exceed 0.010 inch/0.25 mm. This includes the 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 0.010 inch/0.25 mm.

STEEL PIPE AND ALL MATERIALS GROOVED WITH STANDARD AND RX ROLLS ROLL GROOVE SPECIFICATIONS

Tube Depti Page Planeter All	S	Size						Dimension	Dimensions – inches/millimeters	nillimeters					
Quiside Inchesidant Max. Min. Basic Max. Min. Mar. Min. Depth (Mat.) (Mat.	Nominal	Actual Pipe	Pipe Outsid	e Diameter	Ga	ısket Seat "A	L	Gre	ove Width "		Groove Dia	meter "C"			
1660 1676 1644 0.625 0.656 0.284 0.281 0.320 0.526 1.530 1.530 0.063 0.049 1902 1456 1656 0.654 0.634 0.281 0.312 0.250 1.530 0.666 0.063 0.049 1902 1881 159 0.655 0.654 0.834 0.312 0.250 1.77 1.76 0.66 0.063 0.049 2375 23.99 2.347 0.655 0.554 0.344 0.375 0.313 2.720 2.702 0.063 0.049 23875 2.399 2.346 0.655 0.554 0.344 0.375 0.313 2.702 0.063 0.049 23875 2.394 2.346 0.655 0.656 0.554 0.344 0.375 0.313 2.702 0.078 0.078 2807 2.352 3.666 0.554 0.344 0.375 0.313 2.344 3.376 0.083 0.078	Size inches or mm	Outside Diameter inches/mm	Max.	Min.		Max.			Max.	_	Max.	Min.	Groove Depth "D" (ref.)	_	Max. Allow. Flare Dia.
1900 1919 1881 0.625 0.656 0.284 0.281 0.312 0.250 1.775 1.760 0.063 0.049 483 48,7 4,88 18,9 16,5 0.656 0.554 0.284 0.31 2.520 1.775 1.760 0.063 0.049 2375 2.99 2.371 0.655 0.656 0.594 0.344 0.375 0.313 2.250 2.078 0.063 0.078	1 1/4	1.660	1.676	1.644	0.625	0.656	0.594	0.281	0.312	0.250 6.4	1.535	1.520	0.063	0.049	1.77
2.375 2.390 2.351 0.655 0.656 0.594 0.374 0.375 0.313 2.250 2.2375 0.603 0.6049 0.603 0.656 0.594 0.344 0.375 0.313 2.250 2.285 0.66 0.12 2.875 2.944 2.846 0.655 0.656 0.594 0.344 0.375 0.313 2.720 2.078 0.078 0.078 3.000 3.030 2.970 0.625 0.656 0.594 0.344 0.375 0.813 2.845 2.847 0.078 0.078 3.500 3.030 3.035 3.469 0.655 0.656 0.594 0.344 0.375 0.81 2.845 2.845 2.078 0.078 3.500 3.550 3.469 0.655 0.656 0.594 0.344 0.375 0.81 3.34 3.344 4.814 0.078 0.078 4.500 5.056 0.594 0.344 0.375 0.313 3.344 <td< td=""><td>1 1/2</td><td>1.900</td><td>1.919</td><td>1.881</td><td>0.625</td><td>0.656</td><td>0.594</td><td>0.281</td><td>0.312</td><td>0.250</td><td>1.775</td><td>1.760</td><td>0.063</td><td>0.049</td><td>2.01</td></td<>	1 1/2	1.900	1.919	1.881	0.625	0.656	0.594	0.281	0.312	0.250	1.775	1.760	0.063	0.049	2.01
2.875 2.904 2.846 0.625 0.656 0.534 0.344 0.375 0.313 2.720 2.702 0.078 0.078 73.0 73.3 73.8 72.3 15.9 16.7 15.1 8.7 9.5 8.0 0.313 2.723 0.078 0.078 76.1 76.1 77.0 75.4 15.9 16.7 15.1 8.7 9.5 8.0 0.34 0.078 0.038 0.078	2	2.375 60.3	2.399	2.351 59.7	0.625	0.656	0.594	0.344	0.375	0.313	2.250 57.2	2.235	0.063	0.049	2.48
3,000 3,030 2,970 0,625 0,656 0,594 0,344 0,375 0,313 2,845 2,827 0,078 0,078 7,61 77,0 7,54 15,9 16,7 15,1 8,7 9,5 8,0 72,3 7,18 2,0 0,0 2,0 0,0 2,0 0,0 0,0 8 0,0 2,0 0,0 <t< td=""><td>2 1/2</td><td>2.875</td><td>2.904</td><td>2.846</td><td>0.625</td><td>0.656</td><td>0.594</td><td>0.344</td><td>0.375</td><td>0.313</td><td>2.720</td><td>2.702</td><td>0.078</td><td>0.078</td><td>2.98</td></t<>	2 1/2	2.875	2.904	2.846	0.625	0.656	0.594	0.344	0.375	0.313	2.720	2.702	0.078	0.078	2.98
3.500 3.535 3.469 0.625 0.656 0.594 0.344 0.375 0.313 3.344 3.326 0.078 0.078 88.9 88.9 88.1 15.9 16.7 15.1 8.7 9.5 8.0 84.9 84.5 2.0 4.500 4.545 1.59 16.7 15.1 8.7 9.5 8.0 4.34 4.34 0.083 0.078 1.14.3 1.15.4 1.65 1.65 1.51 8.7 9.5 8.0 1.234 4.34 0.083 0.078 5.00 5.050 6.055 0.554 0.344 0.375 8.0 1.22.8 1.23 2.2 2.0 5.250 5.303 5.219 0.625 0.656 0.594 0.344 0.375 8.0 1.23 1.23 2.0 2.0 1.33.0 1.34.7 1.32.6 1.65 1.51 8.7 9.5 8.0 1.23 2.0 2.0 5.500	76.1 mm	3.000	3.030	2.970 75.4	0.625	0.656	0.594	0.344	0.375	0.313	2.845	2.827	0.078	0.078	3.10
4.500 4.545 4.469 0.625 0.656 0.594 0.344 0.375 0.313 4.334 4.314 0.083 0.078 114.3 115.4 113.5 15.9 16.7 15.1 8.7 9.5 8.0 110.1 109.6 2.2 2.0 1200 5.500 2.550 15.9 16.7 15.1 8.7 9.5 8.0 122.8 10.08 0.078 127.0 128.3 126.2 16.7 15.1 8.7 9.5 8.0 122.8 120.2 2.0 127.0 128.3 126.2 16.7 15.1 8.7 9.5 8.0 122.8 10.08 0.078 139.7 141.1 138.9 16.7 15.1 8.7 9.5 8.0 123.4 0.083 0.078 5.503 5.519 16.7 15.1 8.7 9.5 8.0 135.9 135.0 10.08 0.078 5.563 5.619 5.53	ю	3.500	3.535	3.469	0.625	0.656	0.594	0.344	0.375	0.313	3.344	3.326	0.078	0.078	3.60
5.000 5.050 4.969 0.625 0.656 0.594 0.344 0.375 0.313 4.834 4.814 0.083 0.078 1.270 1.283 1.262 1.59 16.7 15.1 8.7 9.5 8.0 122.8 2.2 2.0 1.270 1.283 1.262 1.59 16.7 15.1 8.7 9.5 8.0 129.1 128.6 2.2 2.0 1.33.0 1.34.7 1.32.6 6.059 0.594 0.344 0.375 8.0 129.1 128.6 2.2 2.0 1.35.0 6.065 0.656 0.594 0.344 0.375 8.0 139.4 0.083 0.078 5.563 5.619 5.532 0.656 0.594 0.344 0.375 8.0 139.5 1.008 0.088 6.000 6.056 5.969 0.656 0.594 0.344 0.375 8.0 138.7 2.2 2.0 1.52.4 1.52.1	4	4.500	4.545	4.469	0.625	0.656	0.594	0.344	0.375	0.313	4.334	4.314	0.083	0.078	4.60
5.250 5.303 5.219 0.625 0.656 0.594 0.344 0.375 0.313 5.084 5.064 0.083 0.078 133.0 134.7 1326 15.9 16.7 15.1 8.7 9.5 8.0 129.1 128.6 2.2 2.0 5.500 5.550 5.469 0.625 0.656 0.594 0.344 0.375 0.313 5.334 5.314 0.083 0.078 139.7 141.1 138.9 15.9 16.7 15.1 8.7 9.5 8.0 135.5 135.0 0.078 5.560 5.540 0.656 0.594 0.344 0.375 0.313 5.395 0.084 0.078 6.000 6.000 6.056 0.594 0.344 0.375 0.313 5.830 0.084 0.078 141.3 142.7 140.5 16.7 15.1 8.7 9.5 8.0 148.1 147.5 2.2 2.0 152.4	4 1/2	5.000	5.050	4.969	0.625	0.656	0.594	0.344	0.375	0.313	4.834	4.814	0.083	0.078	5.10 129.5
5.500 5.556 5.469 0.625 0.656 0.594 0.344 0.375 0.313 5.334 5.314 0.083 0.078 5.563 5.619 5.536 15.9 16.7 15.1 8.7 9.5 8.0 135.5 135.0 2.2 2.0 5.563 5.619 5.532 0.655 0.656 0.594 0.344 0.375 0.313 5.395 5.373 0.084 0.078 6.000 6.056 5.969 0.656 0.594 0.344 0.375 0.313 5.830 5.808 0.085 0.078 6.200 6.056 0.594 0.344 0.375 0.313 5.830 5.808 0.085 0.085 6.500 6.056 0.594 0.344 0.375 0.313 6.005 0.085 0.086 0.594 0.344 0.375 0.313 6.306 0.085 0.086 0.594 0.344 0.375 0.313 6.306 0.095 0.294 0.344 <td>133.0mm</td> <td></td> <td>5.303</td> <td>5.219</td> <td>0.625</td> <td>0.656</td> <td>0.594</td> <td>0.344</td> <td>0.375</td> <td>0.313</td> <td>5.084</td> <td>5.064</td> <td>0.083</td> <td>0.078</td> <td>5.35 135.9</td>	133.0mm		5.303	5.219	0.625	0.656	0.594	0.344	0.375	0.313	5.084	5.064	0.083	0.078	5.35 135.9
5.563 5.619 5.532 0.625 0.656 0.594 0.344 0.375 0.313 5.395 5.373 0.084 0.078 141.3 142.7 140.5 15.9 15.1 8.7 9.5 8.0 137.0 136.5 2.2 2.0 6.000 6.056 16.7 15.1 8.7 9.5 8.0 138.5 2.2 2.0 1.524 15.1 15.9 16.7 15.1 8.7 9.5 8.0 148.1 147.5 2.2 2.0 1.524 15.1 15.9 0.54 0.344 0.375 8.0 148.1 147.5 2.2 2.0 6.250 6.534 0.54 0.344 0.375 8.0 148.1 147.5 2.2 2.0 1550 16.7 15.1 8.7 9.5 8.0 153.2 0.08 0.08 165.1 166.2 16.4 0.544 0.375 0.313 6.32 0.08 0.0	139.7 mm		5.556	5.469	0.625	0.656	0.594	0.344	0.375	0.313	5.334	5.314	0.083	0.078	5.60
6,000 6,056 5,969 0,656 0,656 0,594 0,344 0,375 0,313 5,830 5,808 0,085 0,078 1524 153,4 151,6 15,9 16,7 15,1 8.7 9,5 8.0 148.1 147,5 2.2 2.0 6,250 6,313 6,219 0,625 0,656 0,594 0,344 0,375 0,313 6,032 6,002 0,109 0,109 6,500 6,500 15,9 16,7 15,1 8.7 9,5 8.0 153.2 2,8 2,8 6,500 6,500 15,9 16,7 15,1 8.7 9,5 8.0 153.2 2,8 2.8 165.1 166.7 164.3 16,7 15,1 8.7 9,5 8.0 160.8 0,008 0,008 6,625 6,688 6,594 0,656 0,594 0,344 0,375 0,313 6,455 6,433 0,008 0,008 0,008	-52	5.563	5.619	5.532	0.625	0.656	0.594	0.344	0.375	0.313	5.395	5.373	0.084	0.078	5.66
6.250 6.313 6.219 0.625 0.656 0.594 0.344 0.375 0.313 6.032 6.002 0.109 0.109 1590 160.4 1580 16.7 15.1 8.7 9.5 8.0 153.2 15.2 2.8 2.8 6.500 6.560 6.469 0.625 0.656 0.594 0.344 0.375 0.313 6.330 6.308 0.0085 0.078 165.1 166.7 164.3 15.1 8.7 9.5 8.0 160.8 6.085 0.078 6.625 6.688 6.594 0.656 0.594 0.344 0.375 0.313 6.455 6.433 0.0085 0.0085 168.3 169.9 167.5 15.1 8.7 9.5 8.0 164.0 163.4 2.2 2.8	152.4mm		6.056	5.969	0.625	0.656	0.594	0.344	0.375	0.313	5.830	5.808	0.085	0.078	6.10 154.9
6.500 6.563 6.469 0.625 0.656 0.594 0.344 0.375 0.313 6.330 6.308 0.085 0.078 165.1 166.7 164.3 15.9 16.7 15.1 8.7 9.5 8.0 160.8 2.2 2.8 6.625 6.688 6.594 0.656 0.594 0.344 0.375 0.313 6.455 6.433 0.085 0.008 168.3 169.9 167.5 15.1 8.7 9.5 8.0 164.0 163.4 2.2 2.8	159.0mm		6.313	6.219	0.625	0.656	0.594	0.344	0.375	0.313	6.032	6.002	0.109	0.109	6.35 161.3
6.625 6.688 6.594 0.625 0.656 0.594 0.344 0.375 0.313 6.455 6.433 0.085 0.008 0.008 163.9 16.7 15.1 8.7 9.5 8.0 164.0 163.4 2.2 2.8	165.1 mm	6.500	6.563 166.7	6.469	0.625	0.656	0.594	0.344	0.375	0.313	6.330	6.308	0.085	0.078	6.60 167.6
	9	6.625 168.3	6.688	6.594 167.5	0.625	0.656	0.594	0.344	0.375 9.5	0.313 8.0	6.455 164.0	6.433 163.4	0.085	0.078	6.73 170.9

TM-VE206_42 REV_D

STANDARD-WALL PIPE OR PLASTIC-COATED PIPE JOINED WITH STYLE HP-70ES ENDSEAL COUPLINGS

Si	Size					Dimensio	Dimensions – inches/millimeters	illimeters				
		Pipe Outsic	Pipe Outside Diameter	Gasket 5	Gasket Seat "A"	Groove M	Groove Width "B"	Groove Dia	Groove Diameter "C"			
Nominal Size inches	Actual Pipe Outside Diameter inches/mm	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Groove Depth "D" (ref.)	Min. Allow. Wall Thick. "T"	Max. Allow Flare Dia.
2	2.375 60.3	2.399	2.351	0.572	0.552	0.265	0.250	2.250 57.2	2.235 56.8	0.063	0.154	2.480
21/2	2.875 73.0	2.904	2.846	0.572	0.552	0.265	0.250	2.720 69.1	2.702 68.6	0.078	0.203	2.980
m	3.500	3.535	3.469	0.572	0.552	0.265	0.250	3.344 84.9	3.326 84.5	0.083	0.216	3.600
4	4.500 114.3	4.545 115.4	4.469 113.5	0.610	0.590	0.320	0.300	4.334	4.314	0.083	0.237	4.600
9	6.625	6.688 169.9	6.594	0.610	0.590	0.320	0.300	6.455 164.0	6.433 163.4	0.085	0.280	6.730

CTS US STANDARD - ASTM B-88 HARD-DRAWN COPPER TUBING AND DWV PER ASTM B-306

Copper Tubing Size						Dimensions – inches/mm	- inches/mm					
Nominal	Actual Outside Diameter †	ual iameter †	Ű	Gasket Seat "A"		Groove Width "B"	idth "B"	Groove Diameter "C"	meter "C"			
size inches/ Actual mm	Max.	Min.	Basic	Мах.	Min.	Мах.	Min.	Мах.	Min.	Depth "D" (ref.)	Wall Thick. "T"	Max. Allow. Flare Dia. "F"
2 54.0	2.127	2.123 53.9	0.610	0.640	0.580	0.330	0.300	2.029	2.009	0.048	*/\\\\	2.220
21/2	2.627	2.623	0.610	0.640	0.580	0.330	0.300	2.525	2.505	0.050	0.065	2.720 69.1
3 79.4	3.127	3.123 79.3	0.610	0.640	0.580	0.330	0.300	3.025 76.8	3.005	0.050	*\\\\\	3.220
4 104.8	4.127	4.123	0.610	0.640	0.580	0.330	0.300	4.019	3.999	0.053	*/\\\	4.220
5 130.2	5.127 130.2	5.123 130.1	0.610	0.640	0.580	0.330	0.300	4.999 127.0	4.979 126.5	0.063	*/\\\	6.220
6 155.6	6.127 155.6	6.123 155.5	0.610	0.640	0.580	0.330	0.300	5.999 152.3	5.979 151.9	0.063	*/\\\	6.220
8 206.4	8.127 206.4	8.121 206.3	0.610	0.640	0.580	0.330	0.300	7.959	7.939 201.7	0.083 2.1	DWV*	8.220 208.8

† The outside diameter of roll grooved copper tubing cannot vary from the tolerance listed. The maximum allowable tolerance from square cut ends is 0.030 inch/0.8 mm for 2 – 3-inch/ 54.0 – 79.4-mm sizes and 0.045 inch/1.1 mm for 4 – 6-inch/104.8 – 155.6-mm sizes; this is measured from the true square line.

* ASTM B-306 drain-waste and vent (DWV) is the minimum wall thickness of copper tubing that can be roll grooved.

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REV_D

EC DECLARATION OF INCORPORATION

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 Model: VE-206

Serial No.: Refer to Machinery Nameplate

Product Description: Portable Pipe Roll Grooving Tool

Conformity Assessment: 2006/42/EC, Annex I

Technical Documentation: The relevant technical documentation prepared in

accordance with Annex VII (B) of the Machinery Directive 2006/42/EC, will be made available upon

request to the governing authorities.

Compatible Power Drives: When installed with any of the following power drive

units, each having an appropriate EC Declaration of Conformity in accordance with Annex II (A) of the Directive 2006/42/EC, the VE-206 may be

commissioned for its full intended purpose:

REMS Amigo 2 Compact Ridgid* 300 Ridgid* 700

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: April 11, 2016

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REV_D

VE206 Portable Pipe/Tubing Roll Grooving Tool

