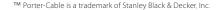
CPVC/PVC Cut Grooving Tool





WARNING

WARNING

Failure to follow instructions and warnings could result in 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, P.O. Box 31, Easton, PA 18044-0031, Phone: 1-800-PICK VIC, E-Mail: pickvic@victaulic.com.

Original Instructions



TM-CG1100

TABLE OF CONTENTS

Hazard Identification 4	ł
Operator Safety Instructions 4	ŀ
Introduction 6	ò
Receiving The Tool	5
Container Contents	5
Returning The Tool6	5
Power Requirements 7	/
Power Drive Requirements	1
Extension Cord Requirements	1
Tool Nomenclature 8	3
Tool Dimensions and Specifications 9)
Pipe Setup)
Tool Setup)
Setup for 2-4 inch Pipe	
2–4 Inch Cutter Bit Setup	
2–4 Inch "A" Dimension	
(Groove Location) Set Up14	ł
2–4 Inch Arm Setup15	;
Setup for 6-12 inch Pipe16	
6–12 Inch Cutter Bit Setup16	5
6–12 Inch "A" Dimension	
(Groove Location) Set Up	
6–12 Inch Arm Setup	
Tool Mounting	
Grooving Operation 24	
Maintenance	j
Troubleshooting	'
PGS-300 Groove Dimensions for	
CPVC and PVC Products 28	3
Cut Groove Specifications 30)



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" 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.

 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 CG1100 CPVC/PVC Cut Grooving Tool is designed for the sole purpose of cut grooving CPVC and PVC pipe. These instructions must be read and understood by each operator PRIOR to working with the 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 verify 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.



DANGER

- 1. Avoid using the tool in dangerous environments. Do not use the tool on sloped or uneven surfaces. Do not use the tool in wet locations. Keep the work area well lit. Allow sufficient space to operate the tool properly.
- Disconnect electrical power before servicing the tool. Only authorized personnel should perform maintenance on the tool. Always disconnect the battery before servicing or adjusting the tool.
- 3. Prevent accidental startups. Place the power switch in the "OFF" position before connecting the tool to a battery.

WARNING

- 1. 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, foot protection, and hearing protection.
- Keep hands and tools away from cutter bit and rollers during the grooving operation. Grooving area can crush or cut fingers and hands.
- 5. Do not reach inside the pipe ends during tool operation. Pipe edges can be sharp and can snag gloves, hands, and shirt sleeves.
- 6. Do not make any modifications to the tool. Do not remove any safety features or any components that would affect tool performance.

A CAUTION

- 1. **Inspect the equipment.** Before using the tool, check all moveable parts for any obstructions. Verify that tool components are installed and adjusted properly.
- 2. Stay alert. Do not operate the tool if you are drowsy from medication or fatigue.
- 3. 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.
- Keep work areas clean. Keep the work area around the tool clear of any obstructions that could limit the movement of the operator. Clean up any oil or other spills.
- 5. Secure the work, tool, and accessories. Verify that the tool is stable. Refer to the "Tool Set Up" section.
- 6. Support the work. Pipe should be supported by a pipe stand that is secured to the floor or to the ground.
- 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.
- 8. Maintain tool with care. Keep the tool clean at all times to verify proper and safe performance. Follow the instructions for servicing tool components.
- 9. Use only Victaulic replacement parts and accessories. Use of any other parts may result in a voided warranty, improper operation, and hazardous situations.
- **10.** Do not remove any labels from the tool. Replace any damaged or worn labels.



INTRODUCTION

The CG1100 CPVC/PVC Cut Grooving Tool is power-driven for cut grooving CPVC and PVC pipe to prepare it to receive Victaulic keyed couplings.

This tool should only be used to groove pipe with specifications that fall within the designated parameters.

• This tool must be used ONLY for cut grooving CPVC and PVC pipe as designated.

Failure to follow this instruction could overload the tool, resulting in reduced tool life, tool damage, or personal injury.

RECEIVING THE TOOL

The CG1100 Cut Grooving Tool is packed in a sturdy canvas bag that is designed for repeated shipping. Save the original container for return shipment of rental tools.

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

CONTAINER CONTENTS



Qty.	Description
1	CG1100 Tool
2	Handle
1	Set of Tool Arms (2–4 inch)*
1	Set of Tool Arms (6–12 inch)*
2	Cutter Bit (2–4 inch)
2	Cutter Bit (6–12 inch)
1	Alignment Block (2–4 inch)
1	Alignment Block (6–12 inch)
1	Flat-head Screwdriver
1	¾6-inch Hex Key
1	⅔inch Wrench
1	¹ ‰-inch Wrench
1	Go/No-Go Groove Diameter Cable
1	Operating and Maintenance Instructions Manual
1	Motor Instructions Manual

 * One set of tool arms will be installed on the tool. The second set will be included in the tool bag.

RETURNING THE TOOL

When packing the tool for return shipping, verify that the handles, bits, and alignment blocks are removed and secured. The bits must be returned to their original packaging to protect the blades. Hand tools must be secured separately.



POWER REQUIREMENTS



disconnect the tool from the electrical source.

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

POWER DRIVE REQUIREMENTS

The CG1100 Cut Grooving Tool is equipped with a 120 VAC 50/60-Hz motor. Maximum current draw is 7 amps. Read and understand the operation of the motor by referring to the manual provided by the manufacturer.

If an extension cord is required, refer to the "Extension Cord Requirements" section that follows for cord sizes. In addition, refer to the motor manufacturer's instructions prior to use.

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 drive motor while the tool is operating. Voltage drops may cause damage to the drive motor and can result in improper tool operation. **NOTE:** It is acceptable to use a cord size that is thicker than required.

The required cord sizes for cord lengths up to and including 100 ft/31 m are listed in the table below. Use of extension cords longer than 100 ft/31 m must be avoided.

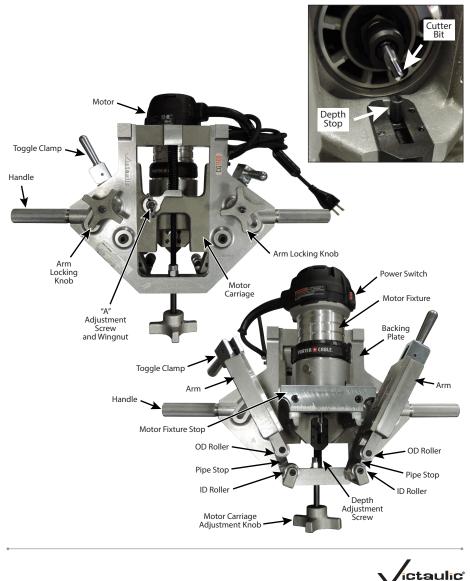
Power Drive Rating		Cord Lengths feet/meters	i
volts/amps	25 8	50 15	100 31
120 7	18 gauge	16 gauge	14 gauge



TOOL NOMENCLATURE

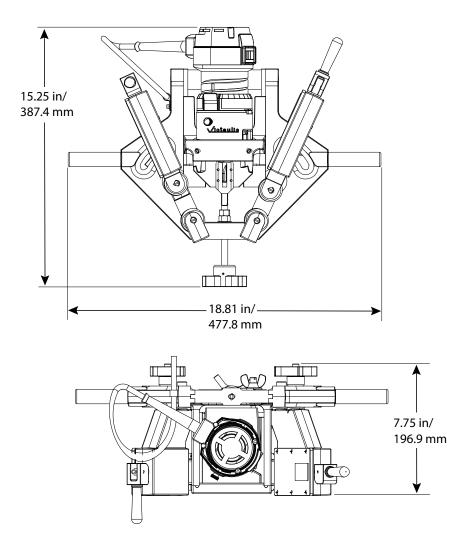
NOTICE

- 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.





TOOL DIMENSIONS AND SPECIFICATIONS



Tool weight is 17.2 pounds/7.8 kilograms when using 2-4" arms, and 21.3 pounds/9.6 kilograms when using 6-12" arms. Tool weight includes the tool assembly, motor, handles, and arms.



PIPE SET UP

All coarse scale, dirt, and other foreign material must be removed from the interior and exterior surfaces of the pipe ends.

Plpe ends must be square cut from the centerline and have a square face. Chamfered or beveled pipe may only be used if it complies with the requirements as shown on page 31 of this manual.

Select a location for the grooving operation by taking into consideration the following factors (refer to "Tool Dimensions And Specifications" for overall dimensions):

- **a.** Adequate space to handle pipe lengths
- **b.** A firm and level surface for the pipe stand(s)
- **c.** Anchoring requirements for the pipe stand(s)

Pipe must be secured with a pipe stand or similar restraint to prevent movement. The system used must be capable of bearing the weight of the tool (see "Tool Dimensions" on page 9) in addition to the weight of the pipe being grooved.

Position the pipe to overhang the pipe stand by approximately 8 inches/203 mm so that the pipe stand will not obstruct the grooving process.

TOOL SET UP

DANGER

• DO NOT connect power until instructed otherwise.

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

The CG1100 tool is intended for field or shop set up.

1. Remove all components from the packaging, and verify that all necessary items are included. Refer to the "Receiving the Tool" section. If any parts are missing, contact Victaulic.



- 2. While supporting the tool on a level surface, screw the handles into the sides of the tool until hand-tight. Do not overtighten.
- **3.** Determine the pipe size to be grooved, then refer to the corresponding section for appropriate setup instructions. See page 11 for 2–4 inch pipe or page 17 for 6–12 inch pipe.



SETUP FOR 2–4 INCH PIPE

2–4 Inch Cutter Bit Setup



1. Retrieve the 2" THRU 4" alignment block. Alignment blocks are etched with the pipe size in inches.

WARNING

- This tool uses a multi-blade cutter bit. Handle the bit with care.
- The cutter bit may be hot after grooving. Do NOT handle the bit immediately after grooving.

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



2a. Retrieve the 2–4 inch cutter bit from its packaging. Retain the packaging for future storage.

WARNING

 The bits shipped with the CG1100 tool have a custom radius for grooving. Do not substitute off-the-shelf square bits. Always use bits provided by Victaulic.

Failure to follow these instructions will cause improper product assembly and joint failure, and could result in serious personal injury and property damage.



2b. Take note of the line etched on the base of the bit. This marks the minimum depth of insertion when installing the bit into the tool.

NOTICE

- Do not lock the collet if no bit is installed. This can damage the collet.
- Do not lock the collet before the bit has been aligned, as shown in the following steps.



TM-CG1100_11

TM-CG1100 / Operating and Maintenance Instructions Manual

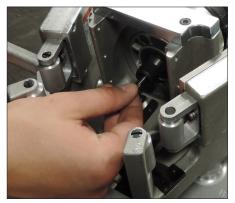




 While pressing the spindle lock button, use the ⁵/₄-inch wrench to loosen the collet. Remove the 6–12 inch bit.



4. Use the 7/16-inch wrench to loosen the depth stop locking nut.



5. Insert the 2–4 inch cutter bit into the collet to just past the minimum insertion depth.





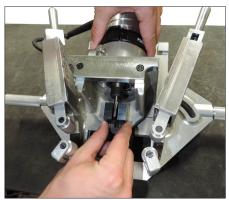
6. While pressing the spindle lock button, use the ⁵/₈-inch wrench to tighten the collet to hand-tight. Do not overtighten.





7. Verify that the cutter bit is inserted deeply enough for the etched line to be partially or fully covered by the collet.





8. Align the notch on the back of the alignment block with the depth stop behind the bit. Slide the alignment block over the depth stop until fully seated.



9a. Select the appropriate cutter bit location by matching the pipe size to the corresponding line on the alignment block.

NOTICE

 Verify that it is the TIP of the bit that is meeting the line on the alignment block, rather than a radiused corner or other edge of the bit. Visually confirm the accuracy of this adjustment from all angles.



9b. To change the cutter bit location, use a flat-head screwdriver to twist the depth adjustment screw until the tip of the bit rests just below or meets the selected line on the alignment block.

Adjusting clockwise will produce a deeper groove and result in a smaller "C" dimension. Adjusting counterclockwise will produce a shallower groove and result in a larger "C" dimension. One half turn of the depth adjustment screw will adjust the indicator mark on the groove diameter cable one complete width.





- **9c.** Verify the alignment of the tip of the cutter bit with the appropriate line on the alignment block. The cutter bit pictured above is set for 2-inch pipe.
- **10.** Remove the alignment block and store it in the provided tool bag.



11. Tighten the depth stop locking nut to hand-tight. Do not overtighten.

Consult the motor manufacturer's documentation for further information.

2-4 Inch "A" Dimension (Groove Location) Set Up



1. Loosen the wing nut on the "A" adjustment screw, located on the front of the tool.



 Using a flat-head screwdriver, rotate the "A" adjustment screw counterclockwise to adjust the groove location.



3. Adjust the 'A' adjustment screw so that the back edge of the motor fixture is drawn firmly against the motor carriage with no gap. There should be a gap between the front edge of the motor fixture and the motor fixture stop.



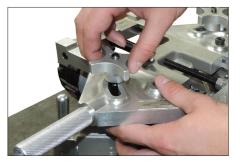
4. Tighten the wing nut on the "A" adjustment screw, located on the front of the tool.



2-4 Inch Arm Set Up



1. Loosen and remove the shoulder bolts using the provided hex key.

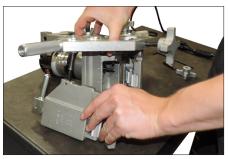


2. Unscrew and remove the arm locking knobs.



3. Pull the 6–12 inch arms straight out from the body of the tool. When not in use, store the arms in the provided tool bag.







4. The 2–4 inch arms must be mounted on the tool in a specific orientation. Match the "A" or "B" etched on the arm with the corresponding letter on the tool body, then insert the arms into the tool body so that the matching letters face each other.





 Replace the arm locking knobs and screw down until the arms are secure against the body of the tool.



6. Replace and tighten the shoulder bolts to finger-tight.



7. Using the motor carriage adjustment knob, verify that the bit is positioned high enough to clear the pipe OD when mounting the tool. Rotate the knob counterclockwise to raise the bit and clockwise to lower the bit.

The bit should not touch the pipe during mounting or dismounting. This will prevent the bit from being chipped and protect the integrity of the gasket sealing surface.

SETUP FOR 6-12 INCH PIPE

6-12 Inch Cutter Bit Setup



1. Retrieve the 6" THRU 12" alignment block. Alignment blocks are etched with the pipe size in inches.

WARNING

- This tool uses a multi-blade cutter bit. Handle the bit with care.
- The cutter bit may be hot after grooving. Do NOT handle the bit immediately after grooving.

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



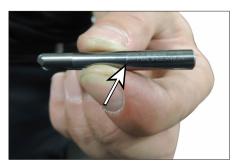
2a. Retrieve the 6–12 inch cutter bit from its packaging. Retain the packaging for future storage.



WARNING

• The bits shipped with the CG1100 tool have a custom radius for grooving. Do not substitute off-the-shelf square bits. Always use bits provided by Victaulic.

Failure to follow these instructions will cause improper product assembly and joint failure, and could result in serious personal injury and property damage.



2b. Take note of the line etched on the base of the bit. This marks the minimum depth of insertion when installing the bit into the tool.

NOTICE

- Do not lock the collet if no bit is installed. This can damage the collet.
- Do not lock the collet before the bit has been aligned, as shown in the following steps.



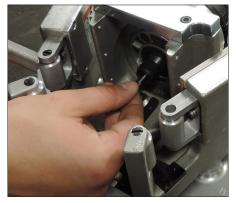


 While pressing the spindle lock button, use the %-inch wrench to loosen the collet. Remove the 2–4 inch bit.



4. Use the 7/16-inch wrench to loosen the depth stop locking nut.





5. Insert the 6–12 inch cutter bit into the collet to just past the minimum insertion depth.

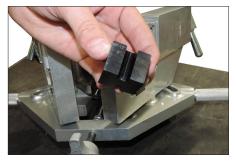




6. While pressing the spindle lock button, use the %-inch wrench to tighten the collet until hand-tight. Do not overtighten.



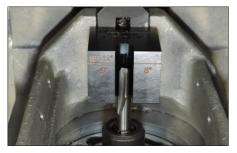
7. Verify that the cutter bit is inserted deeply enough for the etched line to be partially or fully covered by the collet.





8. Align the notch on the back of the alignment block with the depth stop behind the bit. Slide the alignment block over the depth stop until fully seated.





9a. Select the appropriate cutter bit location by matching the pipe size to the corresponding line on the alignment block.

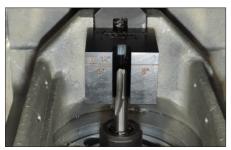
NOTICE

• Verify that it is the TIP of the bit that is meeting the line on the alignment block, rather than a radiused corner or other edge of the bit. Visually confirm the accuracy of this adjustment from all angles.



9b. To change the cutter bit location, use a flat-head screwdriver to twist the depth adjustment screw until the tip of the bit rests just below or meets the selected line on the alignment block.

Adjusting clockwise will produce a deeper groove and result in a smaller "C" dimension. Adjusting counterclockwise will produce a shallower groove and result in a larger "C" dimension. One half turn of the depth adjustment screw will adjust the indicator mark on the groove diameter cable one complete width.



- **9c.** Verify the alignment of the tip of the cutter bit with the appropriate line on the alignment block. The cutter bit pictured above is set for 6-inch pipe.
- **10.** Remove the alignment block and store it in the provided tool bag.



11. Tighten the depth stop locking nut until hand-tight. Do not overtighten.

Consult the motor manufacturer's documentation for further information.

6–12 Inch "A" Dimension (Groove Location) Set Up



1. Loosen the wing nut on the "A" adjustment screw, located on the front of the tool.





2. Using a flat-head screwdriver, rotate the "A" adjustment screw clockwise to adjust the groove location.



3. Adjust the "A" adjustment screw so that the front edge of the motor fixture is drawn firmly against the motor fixture stop with no gap. There should be a gap between the back edge of the motor fixture and the motor carriage.



4. Tighten the wing nut on the "A" adjustment screw, located on the front of the tool.

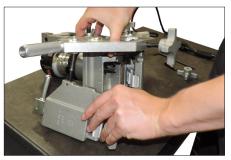
6-12 Inch Arm Set Up



1. Loosen and remove the shoulder bolts using the provided hex key.



2. Unscrew and remove the arm locking knobs.



3. Pull the 2–4 inch arms straight out from the body of the tool. When not in use, store the arms in the provided tool bag.





4. The 6–12 inch arms are interchangeable and may be mounted on the tool in either orientation. Insert the arms into the body of the tool.



 Replace the arm locking knobs and screw down until the arms are secure against the body of the tool.



6. Replace and tighten the shoulder bolts to finger-tight.



7. Using the motor carriage adjustment knob, verify that the bit is positioned high enough to clear the pipe OD when mounting the tool. Rotate the knob counterclockwise to raise the bit and clockwise to lower the bit.

The bit should not touch the pipe during mounting or dismounting. This will prevent the bit from being chipped and protect the integrity of the gasket sealing surface.



TOOL MOUNTING



 If grooving for the first time, or if grooving a different diameter or wall thickness pipe than the previous groove, perform all steps in the "Tool Set Up" section to verify proper tool settings for the pipe to be grooved.

> Always prepare a trial groove to ensure that all settings are appropriate and that the groove is within specification.



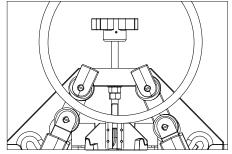
 Using the motor carriage adjustment knob, verify that the bit is positioned high enough to clear the pipe OD when mounting the tool. Rotate the knob counterclockwise to raise the bit and clockwise to lower the bit.

> The bit should not touch the pipe during mounting or dismounting. This will prevent the bit from being chipped and protect the integrity of the gasket sealing surface.



3. Put the toggle clamps in the disengaged position.





4. Lift the tool with both hands on the handles. The bit should face towards the pipe.

Push the tool onto the pipe, placing the pipe wall between the two sets of rollers on the tool arms. The tool is positioned correctly when the pipe stops meet the pipe edge.





5. Tighten the arm locking knobs to handtight. Do not over-tighten.



6. Put the toggle clamps in the engaged position, then hand tighten until the OD and ID rollers are against on the pipe. Do not overtighten.

• Do NOT leave the tool unsupported by the operator while mounted on pipe.

Failure to follow this instruction could result in tool damage or personal injury.



7. Push the tool through one complete clockwise rotation to check for obstructions and to allow the tool to track onto the pipe. Verify that the tool tracks onto the pipe, and that the tool moves freely throughout the entire rotation.

If the tool tracks properly and maintains the appropriate pressure on the pipe, the arm setting is correct.

WARNING

• The tool is designed to travel clockwise during the grooving process. Do NOT turn the tool counterclockwise.

Failure to follow this instruction will damage the groove, and could result in tool damage or personal injury.



GROOVING OPERATION

1. Mount the tool as directed in the "Tool Mounting" section.

WARNING

• Verify that the motor switch is turned OFF before plugging in the tool.

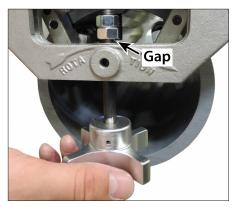
Failure to follow this instruction could result in personal injury.



 Plug the tool into an interally grounded outlet or an appropriate extension cord (see page 5 for extension cord requirements).



3. Turn the motor on.



4. Turn the motor carriage adjustment knob clockwise to lower the bit into the pipe until the depth stop rests on the pipe. When the depth stop rests on the pipe, the adjustment knob will turn easily and a gap will develop between the nut and the washer.



5. Grasp both handles and slowly push the tool through one complete clockwise rotation.





6. Turn the motor off.





7. Turn the motor carriage adjustment knob counterclockwise to lift the bit until it will clear the pipe when removed.



8. Put the toggle clamps in the disengaged position.



9. Verify that the tool bit is clear of the pipe and cannot damage the pipe "A" dimension (groove location) during removal.

Lift the tool with both hands on the handles to remove it from the pipe.

10. After the pipe is grooved and the tool is removed, carefully clean chips from the groove with a soft brush or compressed air.





11. Once the groove is clean, check the groove diameter ("C" dimension). A pipe diameter cable, supplied with the tool, is the recommended method for checking the "C" dimension. Refer to the wide angle view and close-up shown above.

Verify other groove dimensions by referring to the "Cut Groove Specifications" chart on page 30.

 If groove dimensions do not meet Victaulic specifications, return to the appropriate "Tool Set Up" subsection to make adjustments.

MAINTENANCE

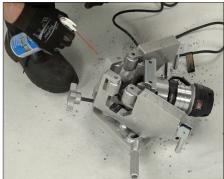
DANGER

Before making any adjustments and before performing any maintenance:

- Turn the power switch to the OFF position.
- Remove the battery from the motor.

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

The tool must be cleaned after grooving each piece of pipe to remove chips and debris from all components. Pay particular attention to the rollers, where chips can build up and affect traction.



Clean chips from the tool with a soft brush or compressed air.



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
"C" dimension too large.	Cutter bit set too shallow.	Adjust cutter bit position. Refer to the "Cutter Bit Set Up" section.
"C" dimension too small.	Cutter bit set too deep.	Adjust cutter bit position. Refer to the "Cutter Bit Set Up" section.
"A" dimension does not meet specifications.	Motor fixture not positioned correctly.	Adjust motor fixture position. Refer to the "A Dimension Set Up" section.
	Foreign material is affecting motor fixture position.	Ensure that motor carriage surfaces are free of debris.
Tool has difficulty tracking.	Foreign material is affecting roller grip.	Clean pipe and rollers.
	Arm position is incorrect.	Adjust arm position. Refer to the "Arm Set Up" section.
	Tool is clamped too tightly.	Adjust tool mounting. Refer to the "Tool Mounting" section.
Tool bit chatters.	Tool bit is loose or overextended.	Tighten tool bit, or insert tool bit deeper into the collet.
	Tool bit is damaged.	Replace tool bit.
	Cutting speed is too fast.	Adjust cutting speed.
	Rollers are too loose on the pipe.	Adjust rollers.
Excessive tool bit wear.	Scale or other foreign material is present on the pipe.	Clean pipe to remove foreign material.
	Cutting speed is too fast.	Adjust cutting speed. Do not force the tool.
Rough surface finish.	Tool bit is chipped or dull.	Replace tool bit.
	Cutting speed is incorrect.	Adjust cutting speed.
Improper groove depth.	Groove bit position not set correctly.	Adjust groove bit position.
	Foreign material caught between depth stop and pipe.	Clean depth stop and rollers to remove foreign material.

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

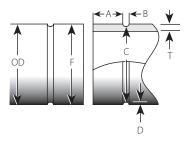


PGS-300 GROOVE DIMENSIONS FOR CPVC AND PVC PRODUCTS

WARNING

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

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

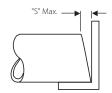


PGS-300 GROOVE

Illustration is exaggerated for clarity

Pipe Outside Diameter – Nominal Pipe Size (C-ASTM F441) – 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 C-ASTM F441. Greater variations between the major and minor diameters will result in difficult coupling assembly.

For CPVC/PVC pipe, the maximum allowable tolerance from square-cut pipe ends is: 3/100 inch/0.8 mm for 3/4 to 3 1/2-inch/20 to 90-mm sizes, 9/200 inch/1.1 mm for 4 to 6-inch/100 to 150-mm sizes, and 9/100 inch/1.5 mm for 8-inch/200-mm and larger sizes. This is measured from the true square line.



The outside and inside diameter of the pipe end must be cleaned to remove coarse scale, dirt, and other foreign material that might interfere with the rollers or damage grooving bits. The front edge of the pipe end shall be uniform with no concave/convex surface features that will cause improper grooving or 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, and roll marks from the pipe end to the groove to verify 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 must be 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.

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

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.



CUT GROOVE SPECIFICATIONS PGS-300 FOR CPVC/PVC PIPE

∞ ∙

> } 1

						Dimer	Dimensions – inches/millimeters	es/millimeter	S					
	Pipe (Pipe Outside Diameter	neter	Ğ	Gasket Seat "A"	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Gre	Groove Width "B"	8"	Groove Diameter "C"	meter "C"	Groove	Pipe End	Min.
Nominal Size inches	Basic	Max.	Min.	Basic	Max.	Min.	Basic	Max.	Min.	Max.	Min.	Depth "D" (ref.)		Wall Thickness "T"
2	2.375	2.381	2.369	0.875	0.890	0.860	0.188	0.193	0.183	2.235	2.220	0.070	0.094	0.154
DN50	60.3	60.5	60.2	22.2	22.6	21.8	4.8	4.9	4.6	56.8	56.4	1.8	2.4	3.9
21/2	2.875	2.882	2.868	0.875	0.890	0.860	0.188	0.193	0.183	2.695	2.677	0.090	0.094	0.203
	73.0	73.2	72.9	22.2	22.6	21.8	4.8	4.9	4.6	68.5	68.0	2.3	2.4	5.2
3	3.500	3.508	3.492	0.875	0.890	0.860	0.188	0.193	0.183	3.320	3.302	0.090	0.094	0.216
DN80	88.9	89.1	88.7	22.2	22.6	21.8	4.8	4.9	4.6	84.3	83.9	2.3	2.4	5.5
4	4.500	4.509	4.491	0.875	0.890	0.860	0.188	0.193	0.183	4.320	4.300	0.090	0.094	0.237
DN100	114.3	114.5	114.1	22.2	22.6	21.8	4.8	4.9	4.6	109.7	109.2	2.3	2.4	6.0
6	6.625	6.636	6.614	1.000	1.015	0.985	0.250	0.255	0.245	6.345	6.323	0.140	0.125	0.280
DN150	168.3	168.6	168.0	25.4	25.8	25.0	6.4	6.5	6.2	161.2	160.6	3.6	3.2	7.1
8	8.625	8.640	8.610	1.000	1.015	0.985	0.250	0.255	0.245	8.305	8.280	0.160	0.125	0.322
DN200	219.1	219.5	218.7	25.4	25.8	25.0	6.4	6.5	6.2	211.0	210.3	4.1	3.2	8.2
10	10.750	10.765	10.735	1.000	1.015	0.985	0.250	0.255	0.245	10.430	10.403	0.160	0.188	0.365
DN250	273.1	273.4	272.7	25:4	25.8	25.0	6.4	6.5	6.2	264.9	264.2	4.1	4.8	9.3
12	12.750	12.765	12.735	1.000	1.015	0.985	0.250	0.255	0.245	12.390	12.360	0.180	0.188	0.406
DN300	323.9	324.2	323.5	25:4	25.8	25.0	6.4	6.5	6.2	314.7	313.9	4.6	4.8	10.3

TM-CG1100 / Operating and Maintenance Instructions Manual



This page intentionally blank



CPVC/PVC Cut Grooving Tool

