VE272SFS Pipe/Tubing Roll Grooving Tool



WARNING



WARNING
Failure to follow instructions and warnings could result in death or serious

- Before operating or servicing any pipe preparation tools, read all instructions in the operating and maintenance manual and all warning labels on the tool.
- Wear safety glasses, hardhat, foot protection, and hearing protection while working around pipe preparation tools.

personal injury, property damage, and product damage.

• Save the 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 any pipe preparation tools, contact Victaulic, P.O. Box 31, Easton, PA 18044-0031, Phone: 1-800-PICK VIC, E-Mail: pickvic@victaulic.com

Original Instructions



TM-VE272SFS

TABLE OF CONTENTS

Hazard Identification	. 2
Operator Safety Instructions	. 2
Introduction	. 4
Receiving the Tool	4
Container Contents	5
Power Requirements	. 6
Power Drive Requirements	6
Extension Cord Requirements	6
Tool Nomenclature	. 7
Tool Dimensions and Specifications	. 8
Tool Setup	. 9
Pre-Operation Checks and Adjustments	14
Grooving Rolls	. 14
Pipe/Tubing Preparation	. 14
Pipe/Tubing Lengths Suitable	
for Grooving	15
Short Pipe/Tubing Lengths	. 15
Long Pipe/Tubing Lengths	. 17
Checking and Adjusting the Tool	
Prior to Grooving	. 18
Grooving Rolls	. 18
Groove Diameter Stop Adjustment	. 18
Adjusting The Roll Guards	.21
Pipe Stabilizer Adjustment	.23
Grooving Operation	26

Roll Changing	29
Lower Roll Removal For	
2-inch/DN50 And Larger Sizes	.30
Upper Roll Removal	.31
Arbor Removal	.32
Lower Roll/Adapter Assembly Installation For ¾-inch/DN20 And 1 – 1½-inch/	
DN25 – DN40 Sizes	.33
Upper Roll Installation	.34
Lower Roll/Adapter Assembly Removal For ¾-inch/DN20 And 1 – 1½-inch/	
DN25 – DN40 Sizes	.35
Arbor Installation	.36
Lower Roll Installation For 2-inch/DN50 And Larger Sizes	.37
Maintenance	39
Lubrication	.39
Checking And Filling Hydraulic	
Hand Pump Hydraulic Fluid	.41
Air Bleeding.	.41
Recommended Lubricants	.42
Parts Ordering Information	43
Accessories	43
Troubleshooting	44
VE272SFS Ratings - Maximum Pipe Size	
and Wall Thickness Capacity	46
Roll Part Numbers	47
Link to Groove Specifications	50
Link to Additional Resources	50
EC Declaration of Incorporation	51
UK Declaration of Incorporation	52



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.

A 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 VE272SFS is designed for the sole purpose of roll grooving pipe. These instructions must be read and understood by each operator PRIOR to working with the grooving tools. These instructions describe safe operation of the tool, including 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 these tools requires dexterity and mechanical skills, as well as sound safety habits. Although these tools are designed and manufactured for safe, dependable operation, it is difficult to anticipate all combinations of circumstances that could result in an accident. The following instructions are recommended for safe operation of these tools. The operator is cautioned to always practice "safety first" during each phase of use, including set up and maintenance. It is the responsibility of the lessee or user of these tools to ensure that all operators read this manual and fully understand the operation of these tools.

Store this manual in a clean, dry area where it is always readily available. Additional copies of this manual are available upon request through Victaulic.



A DANGER

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

WARNING

- 1. **Prevent back injury.** DO NOT attempt to lift tool components without the use of mechanical lifting equipment.
- 2. Wear proper apparel. Do not wear loose clothing, jewelry, or anything that can become entangled in moving parts.
- **3.** Wear protective items when working with tools. Always wear safety glasses, hardhat, foot protection, and hearing protection.
- 4. Keep hands and tools away from grooving rolls and stabilizer wheel during the grooving operation. Grooving rolls can crush or cut fingers and hands.
- 5. Do not reach inside pipe ends during tool operation. Pipe edges can be sharp and can snag gloves, hands, and shirt sleeves.
- 6. Operate the tool from the control station side only. 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.
- 7. Do not over-reach. Maintain proper footing and balance at all times. Ensure that the safety foot switch is easily accessible to the operator.

- 1. This tool is designed ONLY for roll grooving pipe sizes, materials, and wall thicknesses specified in this manual.
- 2. Inspect the equipment. Before using the tool, check all moveable parts for any obstructions. Ensure that tool components are installed and adjusted in accordance with the "Tool Setup" section.
- 3. Stay alert. Do not operate the tool if you are drowsy from medication or fatigue.
- 4. Keep visitors, trainees, and observers away from the immediate work area. All visitors should be kept a safe distance from the equipment at all times.
- 5. Keep work areas clean. Keep the work area around the tool clear of any obstructions that could limit the movement of the operator. Clean up any spills.
- 6. Secure the work, machine, and accessories. Ensure that the tool is stable. Refer to the "Tool Setup" section.



TM-VE272SFS_3

- 7. **Support the work.** Support long pipe/tubing 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.
- **9. Maintain tool with care.** Keep the tool clean at all times to ensure proper and safe performance. Follow the instructions for lubricating tool components.
- **10.** Use only Victaulic replacement parts and accessories. Use of any other parts may result in a voided warranty, improper operation, and hazardous situations. 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.

VE272SFS Roll Grooving Tool is a hydraulic-feed tools for roll grooving pipe to receive Victaulic grooved pipe products. The standard VE272SFS tool is supplied with rolls for grooving 2–12 inch/DN50–DN300 mm carbon steel pipe. VE272SFS rolls are marked with the size and part number, and are color coded to identify the pipe material. For roll grooving to other specifications and materials, refer to the "Roll Groove Specifications" section on page 50. Grooving rolls for other specifications, sizes, and materials must be purchased separately.

• These tools must be used ONLY for roll grooving pipe designated in the applicable "Roll Groove Specifications" section of this manual.

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

RECEIVING THE TOOL

The VE272SFS tool is palletized individually and enclosed in a cardboard sleeve, which is designed for repeated shipping. Optional roll sets and pipe stabilizer/mounting hardware are shipped in a separate container. Save the original containers for return shipment of rental tools and accessories.

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 with Mounting Table
1	Upper Leg
2	Adjustable Legs
1	Hand Pump/Pump Support
2	Upper Rolls for 2 – 6-inch/DN50 – DN150 Steel Pipe and 8 – 12-inch/DN200 – DN300 Steel Pipe
3	"Keyless Square-Drive" Lower Rolls for 2 – 3-inch/DN50 – DN80, 4 – 6-inch/DN100 – DN150, and 8 – 12-inch/DN200 – DN300 Steel Pipe ‡
1	Guard Setting Pad
1	Lower Roll Removal Wedge
1	Can of Dry Graphite Spray
1	Pipe Tape
2	TM-VE272SFS Operating and Maintenance Instructions Manual
1	RP-VE272SFS Repair Parts List

NOTE: Optional items, such as the stabilizer assembly, may be shipped separately.

‡ The 8–12-inch/DN200– DN300 roll set is mounted on the tool head assembly at the factory



[®] Ridgid is a registered trademark of Ridgid Tool Company

POWER REQUIREMENTS



POWER DRIVE REQUIREMENTS

The VE272SFS tool is designed for operation with a power drive. The tool mounts directly onto a Victaulic VPD752 Power Drive or a Ridgid[®] 300 Power Drive with a 38-rpm maximum chuck speed. Always refer to the operating manual for the power drive for additional information.

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

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 while the tool is operating. Voltage drops may cause damage to the power drive 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	Cord Lengths feet/meters								
Rating volts/amps	25 8	50 15	100 31						
115 15	12 gauge	12 gauge	10 gauge						



TOOL NOMENCLATURE

NOTICE

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- 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 184 pounds/84 kilograms.

Tool sound pressure is 99.7 dB(A), while tool sound power is 91.7 dB(A). All measurements taken with a VPD 752 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.



TOOL SETUP

A WARNING

• DO NOT connect the tool to the electrical source until instructed otherwise.

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

The standard VE272SFS tool is intended for field or shop setup. Before grooving, the tool head assembly and legs must be mounted onto a Victaulic VPD752 Power Drive or a Ridgid 300 Power Drive with a 38-rpm maximum chuck speed.

1. Remove all components from the packaging, and make sure all necessary items are included. Refer to the "Receiving the Tool" section.

2. Select a location for the power drive, tool, and pipe stand by taking into consideration the following factors (refer to the drawing on the previous page for overall dimensions):

- a. The required power supply (refer to the power drive manufacturer's instructions)
- b. Adequate space to handle pipe lengths
- c. A firm and level surface for the power drive, tool, and pipe stand
- d. Adequate clearance around the tool for adjustment and maintenance



3. Remove threading dies, cutoff attachments, etc. from the power drive. Extend the two tubular support arms approximately 7½ inches/190 mm beyond the chuck of the power drive. Secure the support arms in this position. Refer to the power drive manufacturer's instructions.

4. Open the chuck of the power drive fully. Refer to the power drive manufacturer's instructions.

WARNING

• During tool set-up, at least two people are needed to safely handle the weight of the tool head assembly (184 pounds/84 kilograms). If a hoist is available, use it to lift the tool head assembly into position.

Failure to follow this instruction may result in serious injury.



5. Slide the tool head assembly completely onto the arms of the power drive.





6. Allow approximately ½-inch/13-mm clearance from the hex bolts on the back of the tool to the power drive chuck.

7. Align the flat portions of the drive shaft with the chuck jaws by turning the lower roll.



8. Tighten the chuck. Make sure the jaws engage with the flats of the drive shaft.

9. Insert the two adjustable legs completely into the sockets of the upper leg. Hand-tighten the hex bolts.



10. Insert the top of the leg assembly completely into the socket under the tool head assembly. Rotate the assembly until it seats completely in the socket. The hex head bolts on the legs should be facing toward the back of the machine (toward the power drive).



11. Tighten the hex head bolt with a wrench.





12. Loosen the hex bolts to release the two lower legs, allowing them to slide down to the floor. Turn the leg pads at the bottom until they are resting flat of the floor.



13. Level the tool from front to back. **NOTE:** The top of the hydraulic cylinder is a good location to measure "level," as shown.



14. Using a wrench, tighten the two hex head bolts on the two legs to maintain the level position.



15. Attach the hand pump/pump support to the left side of the tool with the two hex bolts (supplied). Tighten the two hex bolts with a wrench.





16. Connect the hydraulic line from the hand pump to the power cylinder with the connectors provided.

17. Hang the guard setting pad on the hook provided under the base of the hand pump.

A 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.

18. Ensure that the switch on the power drive is in the "OFF" position. Plug the power drive into an internally grounded electrical outlet. The outlet must meet the requirements for the power drive (refer to the power drive manufacturer's instructions). If an extension cord is used, refer to the "Extension Cord Requirements" section.

• 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.



19. Turn the power drive switch to the position that will produce **clockwise** rotation of the chuck when viewed from the front of the tool. On the Victaulic VPD752 or Ridgid 300 Power Drive, placing the switch in the **reverse** position will produce clockwise rotation of the chuck, lower roll, and pipe.

20. Depress the safety foot switch, check the rotation of the chuck and lower roll, and ensure that the tool is stable. If rotation is counterclockwise, place the switch on the power drive to the opposite position. If the tool wobbles, ensure that the tool is mounted squarely in the chuck and that the tool is level on the floor. If the wobble persists, the power drive support arms are bent or the power drive is damaged. Have the power drive repaired if the wobble persists.

21. Turn the switch on the power drive to the "OFF" position, or disconnect the power cord from the electrical source.





22a. If the optional stabilizer assembly was ordered separately, attach it to the right side of the tool with the four hex bolts and four lock washers provided.









PRE-OPERATION CHECKS AND ADJUSTMENTS

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

A 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

Verify 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 they are color coded for the pipe/ tubing material. Refer to pages 47-49. 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:

1. Victaulic recommends square-cut pipe. Square-cut pipe SHALL be used with Victaulic products containing FlushSeal[™] and EndSeal[™] gaskets. Beveled-end pipe 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 may result in unacceptable flare, leaks, or joint failure.

The maximum allowable tolerance from square-cut pipe ends is: $\frac{1}{32}$ inch/0.8 mm for $\frac{3}{4}$ – 3-inch/DN20 – DN80 sizes $\frac{1}{6}$ inch/1.6 mm for 4-inch/DN100 and larger sizes This is measured from the true square line.



2. Any internal and external weld beads or seams shall be ground flush to the pipe surface 2 inches/ 51 mm back from the pipe ends.

3. The inside diameter of the pipe end shall be cleaned to remove coarse scale, dirt, and other foreign material that might interfere with or damage grooving rolls.

4. The front edge of the pipe end shall be uniform with no concave/convex surface features that will cause improper grooving roll tracking and result in difficulties during coupling assembly.

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.



PIPE/TUBING LENGTHS SUITABLE FOR GROOVING

The VE272SFS 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 that exceeds the maximum lengths listed in Table 1 on the following page (and up to 20 feet/6 meters in length) requires the use of a pipe stand. Refer to the "Long Pipe/Tubing Lengths" section.

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

SHORT PIPE/TUBING LENGTHS



Table 1 identifies the minimum pipe lengths that can be grooved safely by using Victaulic Roll Grooving Tools. In addition, this table identifies the maximum pipe lengths that can be roll grooved without the use of a pipe stand. Refer to the "Grooving Operation" section for instructions on how to groove short pipe lengths.

NOTICE

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



Steel, Stainless Steel, Aluminum, and PVC Pipe		CTS US Standard ASTM B-88 Copper Tubing Size	Leng	gth – s/mm
Nominal Size inches/	Actual Outside Dia. inches/	Nominal inches/ Actual		
DN	mm	mm	Min.	Max.
3/4	1.050	_	8	36
DN20	26.9		205	915
1	1.315	_	8	36
DN25	33./		205	915
11/4	1.660	_	8	36
DN32	42.4		205	915
11/2	1.900	_	8	36
DIN40	48.3		205	915
2	2.375	2	8	36
DIN50	60.3		205	915
	2.8/5	21/2	8	36
	/3.0		205	915
	3.500	3	205	36
DINOU 21/	00.9		205	210
3½ DN00	4.000	_	205	30
DIN90	101.0		205	210
4 DN100	4.500	4	205	36
DINTUU	114.3		205	915
4½	5.000	-	8	32
DNT20	127.0		205	815
5	5.563	5	8	32
DNTZ5	141.3		205	815
152.4 mm	6.000	_	10	30
-	152.4		255	705
	0.025	6	10	28
DIVISU	108.3		255	/15
203.2 mm	8.000	-	10	24
-	203.2		255	010
8	8.625	8	10	24
DN200	219.1		255	610
	10./50	_	10	20
DN250	2/3.0		255	510
12	12.750	_	12	18
DN300	323.9		305	460

Nominal Size	e Millimeters	Length - r	nillimeters
European Standard Copper Tubing Size	Australian Standard Copper Tubing Size	Minimum	Maximum
54	DN50	205	915
64	DNCC	205	915
66.7	DINOS	205	915
76.1		205	915
88.9	DINOU	205	915
108	DN100	205	915
133	DN125	205	815
159	DN150	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.

EXAMPLE: A 20-foot, 4-inch/6.2-m length of 6-inch/DN150 diameter carbon 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 carbon steel pipe and a 4-inch/102-mm length of carbon steel pipe, follow these steps:

1. Refer to Table 1 above, and note that for 6-inch/DN150 diameter carbon steel pipe, the minimum length that can be roll grooved is 10inches/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.



LONG PIPE/TUBING LENGTHS

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



1. Verify 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 (refer to 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 (refer to Figure 2). When flare is excessive, right-to-left tracking shall be kept to a minimum.

3. Installation of couplings on pipe that exceeds the maximum allowable flare may prevent pad-to-pad closure of the housings and may cause damage to the coupling gasket. Refer to page 50 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.

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



Pipe angle exaggerated for clarity

FIGURE 2 - TRACKING ANGLE



CHECKING AND ADJUSTING THE TOOL PRIOR TO GROOVING

Every Victaulic roll grooving tool is checked, adjusted, and tested at the factory prior to shipment. However, before attempting to operate the tool, the following checks and adjustments should be made to ensure proper tool operation.

WARNING

• Always disconnect the turn off the main power supply to the tool before making any tool adjustments.

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

GROOVING ROLLS

Ensure that the proper roll set is installed on the tool for the pipe/tubing size and material that will be grooved. Roll sets are marked with the pipe size, part number, and they are color coded for the pipe material. Refer to the "Roll Groove Specifications" section on page 50. If the proper rolls are not installed on the tool, refer to the "Roll Changing" section.

• Ensure that the roll retaining bolts and nuts are tight.

Loose roll retaining bolts and nuts could cause damage to the tool and rolls.

GROOVE DIAMETER STOP ADJUSTMENT

The groove diameter stop must be adjusted for each pipe size or change in wall thickness. The groove diameter, which is identified as the "C" dimension, is listed under the "Roll Groove Specifications" section. In addition, a label is affixed to the tool, which lists the "C" dimensions.

NOTICE

• To perform the following adjustments, Victaulic recommends the use of several short, scrap sections of pipe that are the proper material, diameter, and thickness to be grooved. Ensure that the scrap sections meet the length requirements listed in Table 1.

To achieve the proper diameter:

1. Determine the diameter and thickness of the pipe to be grooved.





2. Locate the proper diameter and thickness on the pipe size indicator. The pipe size indicator barrel can be rotated for easy viewing.



3a. Unlock the depth adjuster from the depth adjuster lock.

3b. Align the top edge of the depth adjuster with the lowest line position of the proper size and schedule markings.

3c. Hold the depth adjuster to prevent it from turning.

3d. Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

NOTICE

- Rotating the depth adjusters while locked will cause premature thread wear of the depth adjusters and cylinder ram.
- The markings provide an approximate groove diameter adjustment and are not exact groove diameter settings. Variations in pipe OD and wall thickness make it impossible to calibrate the groove diameter stop exactly.
- Set the initial adjustment shallow (at bottom edge of mark), groove a sample piece of pipe, then make the final adjustment.



4. Insert a length of pipe over the lower roll with the pipe end against the lower-roll backstop flange.



- Grooving rolls can crush or cut fingers and hands.
- Always turn off the main power supply to the tool before making any tool adjustments.
- Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and the roller on the pipe stabilizer during operation.
- Never reach inside the pipe ends or across the tool or pipe during operation.
- Always groove pipe in a CLOCKWISE direction.
- 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.

5. Prepare a trial groove. Refer to the applicable "Grooving Operation" section.



TM-VE272SFS / Operating and Maintenance Instructions Manual



6a. When grooving to OGS specifications, carefully check the groove diameter ("C" dimension) with the PT-100 Pipe Tape. A vernier caliper or narrow-land micrometer may 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. Refer to the "Roll Groove Specifications" section.



6b. When grooving to **STRENG**THIN[™]100 specifications, carefully check the groove diameter ("C" dimension) with the **STRENG**THIN[™]100 Go/No-Go Groove Diameter Cable. Refer to the "Roll Groove

Specifications" section.

• The "C" dimension (groove diameter) must conform to Victaulic specifications to ensure proper joint performance. Refer to I-100 field installation handbook for exact specifications. Failure to follow this instruction could cause joint failure, resulting in personal injury and/or property damage.

7a. If the groove diameter ("C" dimension) is not within Victaulic specifications, the diameter stop must be adjusted.

7b. Unlock the depth adjuster from the depth adjuster lock.

7c. To adjust for a smaller groove diameter, turn the depth adjuster counterclockwise (when viewed from above the tool). Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

7d. To adjust for a larger groove diameter, turn the depth adjuster clockwise (when viewed from above the tool). Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

NOTE: A quarter turn either way will change the groove diameter by 0.031 inch/.79 mm or 0.125 inch/3.2 mm per full turn.

NOTICE

• Rotating the depth adjusters while locked will cause premature thread wear of the depth adjusters and cylinder ram.

8. Prepare another trial groove, and check the groove diameter ("C" dimension), as described in previous steps. Repeat these steps, as necessary, until the groove diameter is within specification.



ADJUSTING THE ROLL GUARDS

• Always unplug the power cord before making any roll guard adjustments.

Accidental start up of tool may result in serious personal injury.

The VE272SFS guards must be adjusted every time rolls are changed, or when the pipe size or wall thickness changes.

1. Ensure that the proper roll set is installed for the pipe size and material to be grooved. Rolls are marked with the pipe size and part number, and are color-coded according to the pipe material. Refer to the "Roll Groove Specifications" section on page 50.



2. Loosen the wing nuts and move the adjustable guards to the full up position. Tighten the wing nuts



3. Set the groove diameter stop to the pipe size and schedule/thickness to be grooved by backing off the depth adjuster lock and aligning the depth adjuster with the proper pipe diameter and thickness marking. Lock the depth adjuster in position with the depth adjuster lock.

WARNING



Grooving rolls can crush or cut fingers and hands.

• Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and the roller on the pipe stabilizer.



4. If the tool is equipped with the optional pipe stabilizer: Retract the pipe stabilizer, if necessary, to insert the pipe onto the lower roll by loosening the locking handle and retracting the stabilizer roller with the handwheel.





5. Insert a length of pipe that is the correct size and schedule over the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange. The pipe must rest directly on top of the roll and must not be skewed to one side or the other.



6. Close the valve on the hydraulic hand pump by turning it clockwise.



7. Pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with pipe.



8. Remove the guard setting pad from its storage hook under the hydraulic hand pump support. Hold the guard setting pad firmly down against the pipe while pushing it under the adjustable guards until it contacts the upper roll.







9. Loosen the wing nuts and adjust each guard to conform to and lightly pinch the pad against the pipe. Tighten the wing nuts to secure each guard in position. Remove the guard setting pad.

10. Remove the guard setting pad. Store the pad on the hook provided under the hydraulic hand pump support.



11. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the full up position.

PIPE STABILIZER ADJUSTMENT

Applies only to tools equipped with the optional pipe stabilizer

WARNING

- Always disconnect the tool from the electrical source before making any tool adjustments.
- DO NOT reach over pipe while making adjustments.
- DO NOT make adjustments while the tool/pipe is in operation/motion.
- Failure to follow these instructions could result in serious personal injury.

The pipe stabilizer for the VE272SFS is designed to prevent sway of pipe lengths in 8 – 12-inch/DN200 – DN300 sizes. The pipe stabilizer is required when grooving light-wall stainless steel pipe and 8-inch/DN200 copper tubing.

When the pipe stabilizer is adjusted for a selected pipe size and wall thickness, it does not require further adjustment unless pipe of a different size or thickness will be grooved. Pipe of the same size and thickness can be moved in and out of the tool without retracting the stabilizer.

1. Ensure that the proper roll set is installed on the tool for the pipe size and material to be grooved. Rolls are marked with the pipe size, part number, and they are color-coded according to the pipe material. Refer to the "Roll Groove Specifications" section on page 50.



TM-VE272SFS_23



2a. Loosen the stabilizer locking handle.

2b. Using the stabilizer handwheel, retract the stabilizer roller to clear the pipe when it is inserted onto the lower roll.



Grooving rolls can crush or cut fingers and hands.

• Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and from the roller on the pipe stabilizer.



3. Insert a length of pipe that is the correct size and schedule over the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange. The pipe must rest directly on top of the roll and must not be skewed to one side or the other.



4. Close the valve on the hydraulic hand pump by turning it clockwise.



5. Pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with pipe.



- DO NOT adjust the stabilizer roller to push the pipe to the left and off center from the rolls. Increased pipe-end flare and shortened roll life will result if the pipe is pushed to the left and off center.
- DO NOT reach across the pipe to make pipe stabilizer adjustments.
- DO NOT adjust the pipe stabilizer while the pipe is in motion.
- Assembly of couplings on pipe that exceeds the maximum allowable flare dimension may prevent proper pad-to-pad assembly of coupling housings and gasket distortion/damage.

Failure to prepare pipe in accordance with all instructions may cause joint failure, resulting in personal injury and/or property damage.



6. Using the stabilizer handwheel, adjust the stabilizer roller inward to the correct position (shown in the drawing above). Tighten the locking handle.

7. Complete all adjustments and groove the pipe. Refer to the applicable "Grooving Operation" section. Observe the stabilizer roller while grooving. It should remain in contact with the pipe, and the pipe should rotate smoothly without swaying from side to side. If the pipe is not rotating smoothly or is swaying from side to side, discontinue grooving and adjust the stabilizer roller further. Continue the grooving operation and make further adjustments, as necessary. DO NOT adjust the stabilizer roller too far inward, since it will skew the pipe to the left and off center, resulting in excessive pipe-end flare.



GROOVING OPERATION

• This tool must be used ONLY for roll grooving pipe designated in the applicable "Roll Groove Specifications" section of this manual.

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

NOTICE

- Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll and cause the pipe to slip during the grooving process.
- It may become necessary to clean the lower roll with a wire brush periodically. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.

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

2. Connect the tool to an internally-grounded electrical source.



3. Set the power drive switch to produce **clockwise** rotation of the lower roll when viewed from the front of the tool. On the Victaulic VPD752 Power Drive and Ridgid 300 Power Drive, place the switch in the reverse position to produce clockwise rotation of the lower roll.



4. Depress the safety foot switch momentarily to ensure that the tool is operational. The lower roll should be rotating clockwise when viewed from the front of the tool. Remove foot from the switch.



5. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the fully up position.



A 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 or pipe during operation.
- Always groove pipe in a direction that rotates 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.



6. Insert a length of pipe that is the correct size and thickness onto the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange completely.



7. Close the valve on the hydraulic hand pump by turning it clockwise.



8a. The operator should be positioned on the safety foot switch/hydraulic hand pump side of the tool. While manually supporting the pipe, pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with the pipe.

8b. Remove hands from the pipe.





9. Depress and hold down the safety foot switch. The pipe will begin to rotate clockwise when viewed from the front of the tool. As the pipe rotates, begin forming the groove by pumping the handle of the hydraulic hand pump slowly.

NOTICE

• Do not pump the handle of the hydraulic hand pump too fast. The rate should be sufficient to groove the pipe and maintain audible, moderate-to-heavy load on the motor/drive.



10a. Continue the grooving process until the depth adjuster lock comes into contact with the top of the tool body. Continue pipe rotation for several revolutions to ensure groove completion.

10b. Release the safety foot switch, and withdraw foot from the switch.



11. Prepare to support the pipe. Open the valve on the hydraulic hand pump by turning it counterclockwise to release the pipe. Remove the pipe from the tool.

12. When roll grooving is finished, disconnect the tool from the electrical source.

NOTICE

• The 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 grooves remain within specification.



ROLL CHANGING

WARNING

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

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

The VE272SFS roll grooving tool is designed with rolls to accommodate several pipe sizes, eliminating the need for frequent roll changes.

An upper roll and a "keyless square-drive" lower roll for 8 - 12-inch/DN200 – DN300 steel pipe are factory installed on the tool. When 2 - 6-inch/DN50 – DN150 steel pipe or other pipe materials are required for grooving, the upper and lower rolls must be changed. Refer to the following sections:

- 1. "Upper Roll Removal" section
- 2. "Lower Roll Removal for 2-inch/DN50 and Larger Sizes" section
- 3. "Lower Roll Installation for 2-inch/DN50 and Larger Sizes" section
- 4. "Upper Roll Installation" section

When $1\frac{1}{2}$ -inch/DN40 and smaller size steel pipe is required for grooving, the optional lower roll/adapter assembly for $\frac{3}{2}$ -inch/DN20 and $1 - 1\frac{1}{2}$ -inch/DN25 – DN40 steel pipe must be ordered and installed. In addition, the correct upper roll for steel pipe must be installed. To accomplish this, the upper and lower rolls and the arbor for 2-inch/DN50 and larger sizes must be removed. Refer to the following sections:

- 1. "Upper Roll Removal" section
- 2. "Lower Roll Removal for 2-inch/DN50 and Larger Sizes" section
- 3. "Arbor Removal" section
- 4. "Lower Roll/Adapter Assembly Installation" section
- 5. "Upper Roll Installation" section

In addition, different pipe materials may require different rolls. For proper roll selection, refer to the "Tool Rating and Roll Selection" section.



LOWER ROLL REMOVAL FOR 2-INCH/ DN50 AND LARGER SIZES



1. Open the hand pump valve by turning the knob **counterclockwise**. Opening the hand pump valve will allow the upper roll and arm to move to the full up position.



2. Using a wrench, loosen **(counterclockwise)** the nut on the threaded stud of the arbor. Back off the nut approximately ¼ inch/6 mm without removing it from the threaded stud of the arbor.

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.



3 To loosen the lower roll from the arbor, use the aluminum wedge supplied with the tool. Place the aluminum wedge behind the lower roll, and strike the wedge with a soft-faced hammer to break the roll loose from the arbor. **DO NOT STRIKE THE ROLL DIRECTLY WITH A HAMMER.**





4. Remove the nut, and lower roll as shown above. Store these items in a clean, dry location.

UPPER ROLL REMOVAL





1. Using a wrench, loosen (counterclockwise) and remove the bolt from the upper roll. Store the bolt in a clean, dry location.



2. Remove the upper roll assembly. Store the upper roll in a clean, dry location.



ARBOR REMOVAL

This procedure is necessary for grooving smaller-size pipe or for replacing a damaged arbor. The standard arbor installed in the tool is specifically for 2 - 12-inch/DN50 – DN300 pipe. When it is necessary to groove $1\frac{1}{2}$ -inch/DN40 and smaller size pipe, the optional lower roll/adapter assembly must be ordered and installed.

1. Refer to the "Lower Roll Removal for 2-inch/DN50 and Larger Sizes" section to remove the lower roll.



2. With a hex wrench inserted into the hex portion of the stud, loosen the stud by turning **counterclockwise**. The arbor should move outward as the stud is loosened.



3. When the stud has stopped moving the arbor outward, pull the arbor assembly out of the tool's main shaft. Store the arbor in a clean, dry location.

NOTICE

 The arbor could become difficult to remove from the main shaft if insufficient lubrication was applied. The arbor features three ¼ – 20 UNC tapped holes so that jack bolts can be used to push out the arbor.

ACAUTION

• Never operate the tool with jack bolts installed in the arbor. Failure to follow this instruction could result in personal injury and tool damage.



LOWER ROLL/ADAPTER ASSEMBLY INSTALLATION FOR ¾-INCH/DN20 AND 1 – 1½-INCH/DN25 – DN40 SIZES



1. Using a soft cloth, clean the bore of the main shaft and the lower roll/adapter assembly.



2. Lightly lubricate the lower roll/adapter assembly with dry graphite spray (supplied with the tool and available from Victaulic).

NOTICE

 The ¾-inch/DN20 and 1 – 1½-inch/DN25 – DN40 lower roll/adapter assembly is held in position with left-hand threads and must be tightened by turning COUNTERCLOCKWISE.



3. Carefully insert the lower roll/adapter assembly into the main shaft. Make sure the lower roll/ adapter assembly is fully seated on the main shaft. It may be necessary to rotate the lower roll/adapter assembly to align its square end with the square bore in the main shaft. Tighten the lower roll/ adapter assembly by turning **counterclockwise**.



UPPER ROLL INSTALLATION

Refer to the "Tool Rating and Roll Selection" section for information regarding grooving rolls.







2. While the upper roll is removed from the tool, inspect the internal roller bearing for contamination, proper lubrication, and freedom of movement. In addition, inspect the guards for wear and freedom of movement. Repair or replace damaged components, as necessary.



3. Carefully slide the desired upper roll assembly onto the upper shaft with the red plate facing out. Loosen the guards, if necessary, to ease installation. Make sure the red plate engages the two pins on the arm and that it contacts the front of the upper roll shaft.



4. Insert the bolt for the upper roll. Tighten the bolt **(clockwise)** securely with a wrench.





5. Lubricate the upper roll bearing. Refer to the "Maintenance" section for additional maintenance information.

LOWER ROLL/ADAPTER ASSEMBLY REMOVAL FOR ¾-INCH/DN20 AND 1 – 1½-INCH/DN25 – DN40 SIZES



1. Open the hand pump valve by turning the knob **counterclockwise**. Opening the hand pump valve will allow the upper roll and arm to move to the full up position.

NOTICE

• The $\frac{3}{-inch/DN20}$ and $1 - \frac{1}{2}-inch/DN25 - DN40$ lower roll/adapter assembly is held in position with left-hand threads and must be removed by turning CLOCKWISE.



2. Using a wrench engaged on the square end of the lower roll/adapter assembly, remove the lower roll/adapter assembly by turning clockwise. Store the lower roll/adapter assembly in a clean, dry location.



ARBOR INSTALLATION



1. Using a soft cloth, clean the bore of the main shaft and the arbor.



2. Lightly lubricate the arbor with dry graphite spray (supplied with the tool and available from Victaulic).



3. Carefully insert the arbor into the main shaft. Make sure the arbor is fully seated in the main shaft. It may be necessary to rotate the arbor to align its square end with the square bore in the main shaft. Tighten the arbor into the main shaft by turning the exposed hex-portion of the threaded stud **clockwise**.

4a. Install the lower roll for the correct size and pipe material by referring to the "Lower Roll Installation" section.

4b. Make sure the upper roll is installed for the correct pipe size and material.



LOWER ROLL INSTALLATION FOR 2-INCH/DN50 AND LARGER SIZES

NOTICE

• The arbor must be installed before attempting to install the lower roll. Refer to the "Arbor Installation" section.

- Ensure that the square drive flats of the roll are aligned properly with the square drive flats of the arbor.
- Make sure the nut is tightened securely onto the threaded stud of the arbor.

Failure to follow these instructions can result in the lower roll slipping on the arbor and causing damage to the arbor.



1. Place the lower roll onto the arbor. Re-position the roll guards, if necessary, to ease assembly. Make sure the lower roll fits fully onto the arbor. **NOTE:** The square drive flats of the roll must be aligned with the square drive flats of the arbor.



2. Install the nut onto the threaded stud of the arbor in front of the lower roll.



3. Using a wrench, tighten the nut **clockwise** securely against the lower roll.





4. Close the hand pump valve by turning the knob **clockwise.**



5. Pump the hand pump several times until the upper roll interlocks with the lower roll. This will confirm proper roll installation.



6. Open the hand pump valve by turning the knob **counterclockwise**.

7. Lower roll installation for 2-inch/DN50 and larger sizes is now complete. Before grooving, follow all steps in the "Pre-Operation Checks and Adjustments" section.



MAINTENANCE



Always turn off the main power supply to the tool before making any tool adjustments or before performing any maintenance.

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

NOTICE

A DANGER

- Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll and cause the pipe to slip during the grooving process.
- It may become necessary to clean the lower roll with a wire brush periodically. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.

This section provides information about keeping tools in proper operating condition, and guidance for making repairs when it becomes necessary. Preventive maintenance during operation will pay for itself in repair and operating savings.

Replacement parts must be ordered from Victaulic to ensure proper and safe operation of the tool.

LUBRICATION

After every eight hours of operation, lubricate the tool. Always lubricate the upper roll bearings when rolls are changed.



1. Grease the upper roll bearings every time roll changes are made and after every eight hours of operation. A grease fitting is provided, as shown. Refer to the applicable "Recommended Lubricants" table for the proper grease.



2. Grease the main shaft bearings through the grease fitting on the side of the tool, as shown. Refer to the applicable "Recommended Lubricants" table for the proper grease.





3. Lubricate the linkage mechanisms, the arm pivot point, and the arm sliding surfaces. A heavy-duty spray lubricant can be used, or apply grease by hand. Refer to the applicable "Recommended Lubricants" table for the proper grease.

4. Lubricate the stabilizer wheel (if equipped) through the grease fitting, as shown. Refer to the applicable "Recommended Lubricants" table for the proper grease.



5a. After every 40 hours of operation, clean and lubricate the $\frac{3}{2}$ -inch/DN20 and $1 - 1\frac{1}{2}$ -inch/DN25 – DN40 lower roll assemblies.

5b. Remove the cap screws and disassemble the two-piece collar. Remove the collar, needle bearing, and washers.

5c. Remove the lower roll from the arbor. Clean the $\frac{3}{-inch/DN20}$ and $1 - \frac{1}{2} - \frac{inch/DN25}{-DN40}$ lower roll and lightly lubricate with the proper lubricant (mechanical assembly spray supplied with the tool and available from Victaulic).

5d. Reassemble the $\frac{3}{-inch}/DN20$ and $1 - 1\frac{1}{2}$ -inch/DN25 -DN40 lower roll assembly. Lubricate the needle bearing.





REV_D

CHECKING AND FILLING HYDRAULIC HAND PUMP HYDRAULIC FLUID

The hydraulic fluid level in the hydraulic hand pump must be checked a minimum of every six months (depending on tool usage), or if pumping feels spongy.





1. Open the valve on the hydraulic hand pump by turning it counterclockwise.

2a. Remove the hydraulic fill plug at the back end of the hydraulic hand pump.

2b. Check the hydraulic fluid level. Add hydraulic jack oil to the bottom of the threaded port.

- 2c. Re-install the hydraulic fill plug.
- **2d.** Follow the "Air Bleeding" section.

AIR BLEEDING



1. Remove the hydraulic hand pump/pump support assembly from the tool base.



2. Close the valve on the hydraulic hand pump by turning it clockwise.





RECOMMENDED LUBRICANTS BEARING AND SLIDE GREASE

(General Purpose EP Lithium Base Grease)

Manufacturer	Product
BP Amoco	Energrease LC-EP2
Gulf Oil Corp.	Gulfcrown Grease EP#2
Lubriplate	No. 630-2
Mobil Oil Corp.	Mobilux EP2
Pennzoil Products Co.	Pennlith EP 712 Lube
Shell Oil Co.	Alvania EP2
Sun Refining	Sun Prestige 742 EP
Texaco Inc.	Multifak EP2

3. To bleed air from the system, hold the entire hydraulic hand pump so that the hydraulic fill plug end is ABOVE the hydraulic cylinder. This will prevent siphoning of fluid from the hydraulic cylinder through the hydraulic hand pump.

4. Open the hydraulic fill plug one full turn.

5. Pump the handle of the hydraulic hand pump several strokes to build pressure.

6. Open the valve on the hydraulic hand pump by turning it counterclockwise. Allow air to escape.

7. Repeat steps 2 through 6 several times to bleed all air from the system.

8. Continue to hold the hydraulic hand pump above the hydraulic cylinder, and close the hydraulic fill plug.

9. Re-install the hydraulic hand pump/pump support assembly securely to the tool base.

HYDRAULIC OIL

(High Pressure, Anti-Wear/Anti-Foam Hydraulic Oil ISO Grade 32)

Manufacturer	Product
BP Amoco	Energol HLP-HM32
Gulf Oil Corp.	Harmony 32 AW
Kendall Refining Co.	Kenoil R&O AW-32
Lubriplate	HO-o
Mobil Oil Corp.	Mobil DTE 24
Pennzoil Products Co.	Pennzbell AW32
Shell Oil Co.	Tellus 32
Sun Refining	Survis 832
Texaco Inc	Rando



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-VE272SFS Repair Parts List for detailed drawings and parts listings.

1. Tool Model Number - VE272SFS

2. Tool Series Number – The serial number can be found on the side of the tool on the nameplate

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
- 7. Billing Address

Parts can be ordered by calling 1-800-PICK VIC.

ACCESSORIES

VAPS112 VICTAULIC ADJUSTABLE PIPE 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/DN50 – DN 300 pipe, and the "V" rest for $\frac{3}{4}-1\frac{1}{2}$ -inch/DN20–DN40 pipe, accommodate linear and rotational movement. The turnstile design permits ease of grooving for both pipe ends. Contact Victaulic for details.

VAPS224 VICTAULIC ADJUSTABLE PIPE STAND



The Victaulic VAPS224 contains features that are similar to the VAPS112, but it is suitable for 2 - 24-inch/DN50 - DN600 pipe sizes. Contact Victaulic for details.

OPTIONAL ROLLS

Refer to the applicable "Roll Groove Specifications" section, which identifies rolls that are available for different pipe materials and groove specifications.

PIPE STABILIZER



The pipe stabilizer for the VE272SFS is designed to prevent sway of short and long pipe lengths in 8 - 12-inch/DN200 - DN300 sizes. The pipe stabilizer is required when grooving light-wall stainless steel pipe and 8-inch/DN200 copper tubing. Contact Victaulic for details.



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION					
Pipe will not stay in grooving rolls.	Incorrect pipe positioning of long pipe length.	Refer to the "Long Pipe Lengths" section.					
	Lower roll and pipe are not rotating clockwise.	Flip the switch on the power drive to the opposite rotation position.					
Pipe 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 end.	Remove heavy rust and dirt from inside the pipe end.					
	Worn grooving rolls.	Inspect the lower roll for worn knurls. Replace the lower roll if excessive wear is present.					
	Power drive has stalled due to excessive pumping of the hand pump.	Support the pipe. Open the hand pump valve by turning the knob coun- terclockwise. Close the hand pump valve by turning the knob clockwise. Continue grooving by pumping the hand pump at a moderate rate.					
	The circuit breaker has tripped or a fuse has blown out on the electrical circuit that supplies the power drive.	Reset the breaker, or replace the fuse.					
The tool will not groove the pipe.	Pipe is beyond the wall thickness capacity of the tool.	Refer to the "Tool Ratings" section.					
While grooving, loud squeaks	Pipe material is excessively hard.	Refer to the "Tool Ratings" section.					
echo	Incorrect pipe support positioning of long pipe. Pipe is "over-tracking."	Move the pipe support to the right. Refer to the "Long Pipe Lengths" section.					
	Pipe end is not cut square.	Cut the pipe end squarely.					
	Pipe is rubbing excessively on the lower roll backstop flange.	Remove the pipe from the tool, and apply a light coating of grease 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.	Pipe has a pronounced weld seam.	Grind the raised welds flush with the interior and exterior pipe surfaces 2 inches (50 mm) back from the pipe end.					



TROUBLESHOOTING (CONTINUED)

PROBLEM	POSSIBLE CAUSE	SOLUTION				
Pipe flare is excessive.	Pipe support adjusted too high for long pipe.	Refer to the "Long Pipe Lengths" section.				
	Tool is tilted forward (out of level) while grooving long pipe.	Refer to the "Tool Setup" section.				
	Incorrect pipe support positioning of long pipe. Pipe is "over-tracking".	Move the pipe support to the right. Refer to the "Long Pipe Lengths" section.				
	Pipe stabilizer is adjusted too far inward.	Back off the pipe stabilizer to the furthest point where it still stabilizes the pipe effectively.				
Larger diameter pipe sways or	Incorrect pipe stabilizer adjustment.	Move the pipe stabilizer in or out until the pipe rotates smoothly.				
vibrates from side to side.	Optional pipe stabilizer was not purchased, installed, or used.	Purchase, install, or use the optional pipe stabilizer.				
The tool will not groove	Hand pump valve is not closed tightly.	Tighten the hand pump valve by turning the knob clockwise.				
the pipe.	Improper feed rate.	Advance the feed at the rate specified in the "Grooving Operation" section.				
	Hand pump is low on oil.	Refer to the "Maintenance" section.				
	Air is present in the hydraulic system.	Refer to the "Maintenance" section.				
	Pipe is beyond the wall thickness capacity of the tool.	Refer to the "Tool Rating and Roll Selection" section.				
Pipe grooves do not meet Victaulic specifications.	Groove diameter stop is not adjusted correctly.	Refer to the "Groove Diameter Stop Adjustment" section.				
	Pipe is beyond the wall thickness capacity of the tool.	Refer to the "Tool Rating and Roll Selection" section.				
The "A" Gasket Seat or "B" Groove Width dimensions do not meet Victaulic specifica- tions.	Upper roll bearing is not lubricated adequately.	Refer to the "Maintenance" section.				
	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.



NOTICE

 The "Maximum Pipe Size and Wall Thickness Capacity" table below is accurate as of the date printed on the back cover of this manual. For the most up-to-date information, reference Victaulic publication 24.01, which can be viewed/downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link: https://www.victaulic.com/assets/uploads/literature/24.01.pdf



VE272SFS RATINGS - MAXIMUM PIPE SIZE AND WALL THICKNESS CAPACITY

			Pipe Size (in/mm)												
Model	Pipe Material	³ ⁄4 20	1 25	1¼ 32	1½ 40	2 50	21⁄2	3 80	3½ 90	4 100	5	6 150	8 200	10 250	12 300
	Steel (OGS)						Sch. 5 – 40 1.7 – 8.2 mm							Sch. 5 3.4 – 6.	5–20 4 mm
VE272SES	Steel (OGS-200)					Sch. 4 3.9 – 7	10 – 8 7.6 mr	0 n		S 6.0	ch. 4 - 7.1	0 mm			
	Stainless	Sch. 40S 2.9 – 8.2 mm		Sch. 40S 2.9 – 8.2 mm								.25 6.4 r	50 mm		
	Stainless (OGS-200)		Sch. 40S 3.9 – 7.1 mm												
	Lt. Wall SS		Sch. 5S – 10S 1.7 – 4.6 mm												
	Aluminum				Sch. 5 – 40 1.7 – 8.2 mm							Sch. 5 3.4–6.4	5 – 20 4 mm		
	PVC Plastic					Sch. 40Sch. 40 – 80S3.9 mm5.2 – 11.0 mm8				Sch. 40 8.2 mm					
	Copper							Κ, Ι	_, M a	nd D	WV				



ORIGINAL GROOVE SYSTEM (OGS) AND "ES" ROLL PART NUMBERS

STEEL AND STAINLESS STEEL PIPE – COLOR-CODED BLACK

Pipe Size inches or mm	OGS Roll Part Numbers	"ES" Roll Part Numbers
3/.	Lower Roll R9A0268L01	
74	Upper Roll R9A0268U02	
1 11/	Lower Roll R9A1268L02	
1-172	Upper Roll R9A0268U02	_
2 21/	Lower Roll R902272L03	Lower Roll RZ02272L03
2-372	Upper Roll R9A2268U06	Upper Roll RZA2268U03
4-5	Lower Roll	Lower Roll
152.4 mm		RZ04272L06
6	Upper Roll R9A2268U06	Upper Roll RZA4268U06
203.2 mm	Lower Roll R908272L12	Lower Roll RZ08272L12
8-12	Upper Roll R9A8268U12	Upper Roll RZA8268U12

RX ROLL PART NUMBERS

SCHEDULE 5S AND 10S STAINLESS STEEL PIPE – COLOR-CODED SILVER

Pipe Size inches/mm	RX Roll Part Numbers
2-31⁄2	Lower Roll RX02272L03
50-90	Upper Roll RXA2268U06
4-6	Lower Roll RX04272L06
100-150	Upper Roll RXA2268U06
8-12	Lower Roll RX08272L12
200-300	Upper Roll RXA8268U12



STRENGTHIN[™]100 ROLL PART NUMBERS

STAINLESS STEEL – COLOR-CODED BLUE

Pipe Size inches or DN	ST100 Roll Part Numbers
2-6 DN50-DN150	Lower Roll RXS1272L06 Upper Roll RXS1272U06
8-12 DN200-DN300	Lower Roll RXS1272L12 Upper Roll RXS1272U12

ORIGINAL GROOVE SYSTEM (OGS) ROLL PART NUMBERS

ALUMINUM AND PVC PLASTIC PIPE – COLOR-CODED YELLOW ZINC

Pipe Size inches or mm	Roll Part Numbers	
2-31/2	Lower Roll R902272L03 Upper Roll RP02272U06	
4-5	Lower Roll	
152.4mm		
6	RP02272U06	

ORIGINAL GROOVE SYSTEM (OGS) ROLL PART NUMBERS

ALUMINUM AND PVC PLASTIC PIPE – COLOR-CODED YELLOW ZINC

Pipe Size inches or mm	Roll Part Numbers	
2-31/2	Lower Roll R902272L03 Upper Roll RP02272U06	
4-5	Lower Roll R904272L06	
152.4mm	Upper Roll	
6	RP02272U06	



STRENGTHIN™100 ROLL PART NUMBERS

STAINLESS STEEL – COLOR-CODED BLUE

Pipe Size inches or DN	ST100 Roll Part Numbers
2-6 DN50-DN150	Lower Roll RXS1272L06 Upper Roll
	RXS1272U06
8-12	Lower Roll RXS1272L12
DN200-DN300	Upper Roll RXS1272U12

CTS US STANDARD – ROLL PART NUMBERS

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ASTM DRAWN COPPER TUBING – COLOR-CODED COPPER

Pipe Size inches/mm	Copper Roll Part Numbers
2-6	Lower Roll RR02272L06
50-150	Upper Roll RRA2268U08
8	Lower Roll RR08272L0
200	Upper Roll RRA2268U08

EUROPEAN STANDARD – ROLL PART NUMBERS

EN 1057 DRAWN COPPER TUBING – COLOR-CODED COPPER

Pipe Size mm	Copper Roll Part Numbers
54.0	
64.0	
66.7	Lower Roll
76.1	RRE1272L06
88.9	Linner Roll
108.0	RRE1272U06
133.0	
159.0	

AUSTRALIAN STANDARD – ROLL PART NUMBERS

AS 1432 DRAWN COPPER TUBING – COLOR CODED COPPER

Pipe Size mm	Copper Roll Part Numbers
DN 50	
DN 65	Lower Roll
DN 80	RRE1272L06
DN 100	Upper Roll
DN 125	RRE1272U06
DN 150	



OGS GROOVE SPECIFICATIONS

For the most up-to-date information regarding OGS roll groove specifications, reference the current revision of Victaulic publication 25.01, which can be viewed/ downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:

https://www.victaulic.com/assets/uploads/literature/25.01.pdf

COPPER TUBING GROOVE SPECIFICATIONS

For the most up-to-date information regarding copper tubing roll groove specifications, reference the current revision of Victaulic publication 25.06, which can be viewed/ downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:

https://www.victaulic.com/assets/uploads/literature/25.06.pdf

STRENGTHIN[™]100 GROOVE SPECIFICATIONS

For the most up-to-date information regarding **STRENG**THIN TO roll groove specifications, reference the current revision of Victaulic publication 25.13, which can be viewed/downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:

https://www.victaulic.com/assets/uploads/literature/25.13.pdf

ADDITIONAL RESOURCES

For additional information on 24-inch/DN600 and smaller Victaulic mechanical piping products for carbon steel, stainless steel, aluminum, and CPVC/PVC pipe, reference the current revision of the I-100 Field Installation Handbook, which can be viewed/ downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:

https://www.victaulic.com/assets/uploads/literature/I-100.pdf

For additional information on Victaulic Copper Connection Products, reference the current revision of the I-600 Field Installation Handbook, which can be viewed/ downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:

https://www.victaulic.com/assets/uploads/literature/I-600.pdf













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:	VE272SFS	
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-272 SFS may be commissioned for its full intended purpose:	

Victaulic	Victaulic	Berkley Tool	Ridgid* 300
VPD752	VPD753	BT-5020	

Authorized Representative:

Victaulic Company c/o Victaulic Europe BV Prijkelstraat 36 9810, Nazareth Belgium

Signed for and on behalf of Victaulic Company,

Len R. Swantek

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

Place of Issue: Easton, Pennsylvania, USA Date of Issue: February 7, 2024

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UK DECLARATION OF INCORPORATION

In Accordance with The Supply of Machinery (Safety) Regulations 2008 No. 1597

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 Supply of Machinery (Safety) Regulations 2008 No. 1597.

Product Models:	VE272SFS
Serial No. :	Refer to Machinery Nameplate
Product Description:	Portable Pipe Roll Grooving Tool
Conformity Assessment:	2008 No. 1597, Annex I
Technical Documentation:	The relevant technical documentation prepared ir accordance with Annex VII (A) of The Supply o Machinery (Safety) Regulations 2008 No. 1597, 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 UK Declaration o Conformity in accordance with The Supply of Machinery (Safety) Regulations 2008 No. 1597, the VE272 SFS may be commissioned for its full intended purpose:
	Victaulic Victaulic Berkley Tool Ridgid 300 VPD752 VPD753 BT-5020
Authorized Representative:	Victaulic Company c/o Victaulic Europe BVBA Units B1 & B2 Cockerell Close off Gunnels Wood Road Stevenage, Hertfordshire SG1 2NB, United Kingdom

Signed for and on behalf of Victaulic Company,

Len R. Swantek

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

Place of Issue: Easton, Pennsylvania, USA Date of Issue: May 17, 2021

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VE272SFS Pipe/Tubing Roll Grooving Tool

