I-500

FIELD INSTALLATION HANDBOOK

PRESSFIT® System

- **O-RING INFORMATION**
- **PIPE PREPARATION**
- **PRODUCT INSTALLATION**

⚠ WARNING

- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic products.
- Depressurize and drain piping systems before attempting to install, remove, adjust, or maintain any Victaulic products.
- Wear safety glasses, hardhat, foot protection, and hearing protection.

Failure to follow instructions and warnings could cause system failure, resulting in serious personal injury and/or property damage.

If you need additional copies of any instructions, or if you have questions about the safe and proper installation or operation of Victaulic products, contact Victaulic.
P.O. Box 31, Easton, PA USA 18044-0031, Phone: 1-800-PICK VIC, email: pickvic@victaulic.com

Table of Contents

Index

The following table provides a listing of products and installation information. If you need additional copies of any installation information, contact Victaulic at 1-800-PICK VIC. **NOTE:** If two sources of instructions are referenced in this index, Victaulic recommends the use of both to ensure proper installation.

Product	Where to Find Instructions
Series 782 TA Bypass	Instructions Shipped with Valve
Series 785 TA TBVS Sweated-End Mini Circuit Balancing Valve	Instructions Shipped with Valve
Series 786 TA STAS Soldered-End Circuit Balancing Valve	Instructions Shipped with Valve
Series 787 TA STAD NPT Female Threaded Circuit Balancing Valve	Instructions Shipped with Valve
Series 788 TA STAF Flanged-End Circuit Balancing Valve	Instructions Shipped with Valve
Series 789 TA STAG Grooved-End Circuit Balancing Valve	Instructions Shipped with Valve
Series 793 Knife Gate Valve	I-793/797
Series 797 Knife Gate Valve	I-793/797
Vic-300 Butterfly Valve	I-100
Style 005 FireLock Rigid Coupling	I-100
Style 07 Zero-Flex Rigid Coupling (1 – 12"/25 – 300 mm)	I-100
Style 07 Zero-Flex Rigid Coupling (14 – 24"/350 – 600 mm)	I-100 and IT-07
Style 22 Coupling for Vic-Ring Adapters and Shouldered-end Pipe	I-6000
Style 31 Coupling for AWWA Ductile Iron	I-300
Style 31 Coupling for Vic-Ring Adapters and Shouldered-end Pipe	I-6000
Style 41 Coupling for Vic-Ring Adapters and Shouldered-end Pipe	I-6000
Style 44 Coupling for Vic-Ring Adapters and Shouldered-end Pipe	I-6000
Style 72 Outlet Coupling	I-100
Style 74 OD Flexible Coupling	I-100
Style 75 Flexible Coupling	I-100
Style 77 Flexible Coupling	I-100
Style 78 Snap-Joint Coupling	I-100
Style 89 Rigid Coupling for Stainless Steel	I-100 and IT-89
Style 99 Roust-A-Bout Coupling for Plain-end Steel	I-100 and IT-99
Style 150 Mover Expansion Joint	Submittal 09.06
Style 155 Expansion Joint	Submittal 09.06
Style 307 Coupling for Grooved IPS Steel to Grooved AWWA Ductile Iron	I-300
Style 341 Vic-Flange Adapter for AWWA Ductile Iron	I-300
Style 397 V-Grip Coupling for Plain X Grooved Ductile Iron	I-300 and I-397

Product	Where to Find Instructions
Style 399 V-Grip Coupling for Plain-end Ductile Iron	I-300 and I-399
Style 441 Vic-Flange for Stainless Steel	I-100 and I-441
Style 475 Lightweight, Flexible Stainless Steel Coupling	I-100
Style 489 Rigid Coupling for Stainless Steel ($1^1/_4$ – 4"/40 – 100 mm)	I-100 and IT-489.2-4
Style 489 Rigid Coupling for Stainless Steel (6 – 12" and 139,7 – 318,5 Metric and JIS Sizes)	I-100 and IT-489
Style 606 Rigid Coupling for Copper Tubing	I-600
Style 641 Vic-Flange Adapter for Copper Tubing	I-600
Style 707-IJ Transition Coupling for NPS to JIS	I-100
Style 720 TestMaster II Alarm Test Module	I-720
Style 720 TestMaster II Alarm Test Module with Pressure Relief Option	I-720PR
Style 730 Vic-Strainer Tee-Type	I-730/732
Style 731-G Suction Diffuser	I-731G
Style 732 Wye-Type Vic-Strainer	I-730/732
Style 733 Venturi Flow Metering Sensor	I-100
Style 734/734S Orifice/Indicator Flow Metering System	I-100
Style 735 Fire Pump Test Meter	I-100
Style 738 TA Portable Differential Meter	Instructions Shipped with Meter
Style 739 Portable Master Meter	Instructions Shipped with Meter
Style 740 TA CBI Meter	Instructions Shipped with Meter
Style 741 IPS and Metric Vic-Flange Adapter	I-100
Style 743 Vic-Flange Adapter	I-100
Style 744 FireLock Flange Adapter	I-100
Style 750 Reducing Coupling	I-100
Style 770 Large-diameter Coupling	I-100 and IT-770
Style 775 Coupling for PVC	I-100
Style 791 Vic-Boltless Coupling	I-100
Style 808 Duo-Lock Coupling	I-32
Style 920 and 920N Mechanical-T Outlets	I-100 and I-920N
Style 922 FireLock Outlet-T	I-100 and I-922
Style 923 Vic-Let Strapless Outlet	I-100 and I-923
Style 924 Vic-O-Well Strapless Thermometer Outlet	I-100
Style 926 Mechanical-T Spigot Assembly	I-100 and I-926
Style 931 Vic-Tap II Mechanical-T	VT-II

Product	Where to Find Instructions
Style 994 Vic-Flange Adapter for HDPE	I-900 and IT-994
Style 995 Coupling for Plain-end IPS and Metric HDPE	I-900 and IT-995
Style 997 Transition Coupling for HDPE to Steel	I-900 and IT-997
Style 2970 Aquamine Coupling for Plain-end IPS PVC	IT-2970
Style 2971 Aquamine Transition Coupling for Plain-End IPS PVC to Plain-End HDPE	IT-2971
Style 2972 Aquamine Transition Coupling for Plain-End IPS PVC to Grooved IPS Steel	IT-2972
Style HP-70 Rigid Coupling (2 – 12"/50 – 300 mm)	I-100
Style HP-70 Rigid Coupling (14 – 16"/350 – 400 mm)	I-100 and IT-70
Style HP-70ES Rigid Coupling with EndSeal or Fire-R Gaskets (2 – 12"/50 – 300 mm)	I-100

HAZARD IDENTIFICATION

Definitions for identifying 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.**

⚠ CAUTION

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

NOTICE

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

INTRODUCTION

This field installation handbook is a basic field reference guide for Victaulic Pressfit Products. This handbook provides easy reference to proper installation information. In addition to this handbook, Victaulic offers the following handbooks for other products/materials:

- I-100 – Installation Instructions for IPS and Metric Carbon Steel, Stainless Steel, and Aluminum Products
- I-300 – Installation Instructions for AWWA Products
- I-600 – Installation Instructions for Copper Connection Products
- I-800 – Installation Instructions for FireLock CPVC Sprinkler System Products
- I-900 – Installation Instructions for HDPE Products

Additional copies of installation information are available from Victaulic, or Victaulic stocking distributors, upon request.

Always follow good piping practices. Specified pressures, temperatures, external loads, internal loads, performance standards, and tolerances must never be exceeded.

Many applications require recognition of special conditions, code requirements, and the use of safety factors. Qualified engineers should reference Section 26 of the Victaulic General Catalog (G-100) and Victaulic publication 05.01, "Gasket Selection Guide," when determining requirements for special applications.

NOTICE

- **Victaulic Company maintains a continual policy of product improvement. Therefore, Victaulic reserves the right to change product specifications, designs, and standard equipment without notice and without incurring obligation.**
- **VICTAULIC COMPANY IS NOT RESPONSIBLE FOR SYSTEM DESIGN, NOR DOES THE COMPANY ASSUME ANY RESPONSIBILITY FOR SYSTEMS THAT ARE DESIGNED IMPROPERLY.**
- **This handbook is not intended to be a substitute for competent, professional assistance, which is a prerequisite for any product application.**
- **The information published in this handbook and other Victaulic literature supersedes all previously published information.**
- **Drawings and/or pictures in this manual may be exaggerated for clarity.**
- **The field assembly handbook contains trademarks, copyrights, and products with patented features that are the exclusive property of Victaulic Company.**
- **WHILE EVERY EFFORT HAS BEEN MADE TO ENSURE ITS ACCURACY, VICTAULIC, ITS SUBSIDIARIES, AND ITS AFFILIATED COMPANIES MAKE NO EXPRESSED OR IMPLIED WARRANTY OF ANY KIND REGARDING THE INFORMATION CONTAINED OR REFERENCED IN THIS HANDBOOK. ANYONE WHO USES THE INFORMATION CONTAINED HEREIN DOES SO AT THEIR RISK AND ASSUMES ANY LIABILITY THAT RESULTS FROM SUCH USE.**

IMPORTANT INFORMATION – APPROVED PIPE

Type 304 Stainless Steel Products

The Victaulic Vic-Press 304™ System is a fast, reliable method for joining approved Type 304/304L Schedule 5 stainless steel pipe in sizes 1/2 - 2 inch (15 - 50 mm). Vic-Press 304 products and Type 304/304L stainless steel pipe are designed for 300-psi (2068-kPa) working pressure for ANSI Class 150 water, oil, non-combustible gas, and general chemical services (except steam). Refer to the "O-Ring Selection" section on page 13 for material recommendations for a particular service.

Victaulic Type 304/304L stainless steel pipe meets the requirements of ASTM A-312, Grade 304/304L (TP304, UNS designation S30400) and is marked "Vic-Press 304™ Pipe – Certified for Use with Vic-Press 304 Products."

Certified Type 304/304L stainless steel pipe, along with Vic-Press 304 couplings and fittings, are UL classified in accordance with ANSI/NSF 61 for cold (+86° F/ +30° C) potable water service or hot (+180° F/+82° C) potable water service.

Vic-Press 304 products must be installed only with approved Victaulic Vic-Press 304 stainless steel pipe and Victaulic Pressfit Tools.

Victaulic o-rings are designed to perform in a wide range of temperatures and operating conditions. As with any installation, there is a direct relationship between temperature, continuity of service, and gasket life. Victaulic publication 05.01, "Gasket Selection Guide," must be referenced for complete gasket grade recommendations for each application.

⚠ WARNING

- **The system designer must verify that Type 304/304L stainless steel pipe of 0.065-inch (1,7-mm) wall thickness is suitable with the intended fluid media.**
- **The system designer must evaluate the chemical composition of the fluid, pH level, operating temperature, chloride level, oxygen level, and flow rate and their effect on Type 304/304L stainless steel to confirm service life will be adequate for the intended service.**

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

Type 316 Stainless Steel Products

The Victaulic Vic-Press 316™ System is a fast, reliable method for joining approved Type 316/316L Schedule 5 stainless steel pipe in sizes 1/2 - 2 inch (15 – 50 mm). Vic-Press 316 products and Type 316/316L stainless steel pipe are designed for 300-psi (2068-kPa) working pressure for ANSI Class 150 water, oil, non-combustible gas, and general chemical services (except steam). Refer to the "O-Ring Selection" section on page 13 for material recommendations for a particular service.

Victaulic Type 316/316L stainless steel pipe meets the requirements of ASTM A-312, Grade 316/316L. Victaulic Type 316/316L stainless steel pipe is marked "Victaulic Pressfit Pipe – Certified for Use with Pressfit Products."

Certified Type 316/316L stainless steel pipe, along with Vic-Press 316 couplings and fittings, are UL classified in accordance with ANSI/NSF 61 for cold (+86° F/ +30° C) potable water service or hot (+180° F/+82° C) potable water service.

Vic-Press 316 products must be installed only with approved Victaulic Type 316/316L stainless steel pipe and Victaulic Pressfit Tools.

Victaulic o-rings are designed to perform in a wide range of temperatures and operating conditions. As with any installation, there is a direct relationship between temperature, continuity of service, and gasket life. Victaulic publication 05.01, "Gasket Selection Guide," must be referenced for complete gasket grade recommendations for each application.

⚠ WARNING

- **The system designer must verify that Type 316/316L stainless steel pipe of 0.065-inch (1,7-mm) wall thickness is suitable with the intended fluid media.**
- **The system designer must evaluate the chemical composition of the fluid, pH level, operating temperature, chloride level, oxygen level, and flow rate and their effect on Type 316/316L stainless steel to confirm service life will be adequate for the intended service.**

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

Carbon Steel Products

Victaulic Pressfit System couplings, elbows, tees, reducers, and adapters for Schedule 5 carbon steel pipe are available in $^{3}/_{4}$ - 2 inch (20 – 50 mm) sizes.

Carbon steel Pressfit System products are designed for use only with UL Listed and FM Approved Schedule 5 carbon steel pipe that has a maximum yield strength of 45,000 psi (310,230 kPa) and a maximum hardness of R_b70. The system is designed for water and compressed air services up to 300 psi (2068 kPa). Refer to the "O-Ring Selection" section on page 13 for material recommendations for a particular service.

Zinc-electroplated carbon steel Pressfit products must be installed only with approved Schedule 5 carbon steel pipe and Victaulic Pressfit tools.

Victaulic o-rings are designed to perform in a wide range of temperatures and operating conditions. As with any installation, there is a direct relationship between temperature, continuity of service, and gasket life. Victaulic publication 05.01, "Gasket Selection Guide," must be referenced for complete gasket grade recommendations for each application.

⚠ WARNING

- **The system designer must verify that adequate corrosion allowance, corrosion inhibitors, or experience confirms system life will be adequate for the intended service. Schedule 5 carbon steel pipe that is compatible with Pressfit products must provide corrosion resistance equivalent to ASTM A53, A135, and A795.**

Failure to follow this instruction could cause product failure, resulting in serious personal injury and/or property damage

NOTICE

- **Pressfit UL/ULC and FM ratings apply only to UL/ULC Listed and FM Approved Schedule 5 carbon steel pipe that is installed in a system with Pressfit couplings or fittings using a UL/ULC Listed and FM Approved Pressfit Tool.**

IMPORTANT INFORMATION – PREVENTION OF STAINLESS STEEL CONTAMINATION

These recommendations are provided as a general guideline to help prevent surface contamination of stainless steel products.

Handling and Storage

1. Stainless steel products should be handled only with non-contaminating apparatus (i.e. nylon straps or apparatus protected with a non-contaminating buffer material).

2. If carbon steel straps are used, a buffer material must be placed between the strap and the stainless steel product. Common non-contaminating buffer materials include wood, cardboard, paper, fire hose, canvas, and other stainless steel material.

3. Stainless steel products must be stocked on non-contaminating racks or skids.

4. Stainless steel products must be stocked in an area separate from iron or carbon steel products.

5. Do no climb on or stand on stainless steel products.

6. In storage areas where salt is present in the air (i.e. near the ocean), stainless steel products must be covered with a plastic tarp.

Shipping

1. Stainless steel products must be shipped with new, non-contaminating and non-damaging packing materials.

2. If markings are required directly on stainless steel products, the marking must have a water-soluble chloride content less than 50 parts per million (ppm). This chloride content must be measured upon drying of the marking.

3. Identification tags and connectors, if required, must be constructed from non-contaminating materials.

4. Stainless steel products must be shipped separately from iron or carbon steel products. If stainless steel and/or iron or carbon steel products must be shipped together, care must be taken to completely separate the dissimilar materials by using a non-contaminating buffer.

OPERATOR SAFETY GUIDELINES FOR PRESSFIT TOOLS

NOTICE

- **Although Victaulic Pressfit Tools are manufactured for safe, dependable operation, it is impossible to anticipate the combinations of circumstances that could result in an accident. The following instructions are recommended for safe operation of Victaulic Pressfit Tools. Always refer to the specific operating and maintenance instructions manual for complete safety guidelines.**

1. Read and understand the operating and maintenance instruction manual for the Pressfit Tool. Read the supplied manual carefully before operating or performing maintenance on any tool. Become familiar with the tool's features, operations, applications, and limitations. Be particularly aware of its specific hazards. Store the operator's manual in a readily available location. If you require additional copies of any literature, contact Victaulic.

2. Victaulic Pressfit System Products are designed for use only with UL/ULC Listed and FM Approved Schedule 5 steel pipe or approved Victaulic stainless steel pipe.

3. Prevent accidental start-ups. Do not carry a plugged-in tool with a finger on the switch.

4. Ground the Pressfit Tool. Make sure the Pressfit Tool is connected to an internally grounded electrical system (20 amps maximum).

5. Prevent electric shock by avoiding body contact with grounded surfaces (i.e. pipes, radiators, etc.).

6. When Pressfit Tools are used outdoors, use only extension cords suitable for outdoor use.

7. Do not abuse cords. Never carry the tool by the cord or yank it out of a receptacle. Prevent cords from contacting heat sources, oil, and sharp objects.

8. Operating environment. Do not operate tools in damp locations. Wear hearing protection in noisy shop operations. Ensure that the work area is well lit. Avoid locations near flammable liquids and gaseous, explosive atmospheres.

9. Keep work areas clean. Keep the work area clear of obstructions that could limit the movement of the operator. Clean up all oil and coolant spills.

10. Make sure there is adequate space to operate the tool properly. Assembly of Pressfit System Products requires sufficient space to open the jaws for proper placement over fittings.

11. Wear proper clothing. Do not wear unbuttoned jackets, loose sleeve cuffs, neckties, or anything else that can become tangled in moving parts. Always wear safety glasses and foot protection. Rubber gloves and non-skid footwear are recommended when working outdoors

12. Stay alert. Do not operate tools if you are drowsy from medication or fatigue. Avoid horseplay around tools, and keep bystanders a safe distance away from the immediate work area.

13. Inspect the equipment. Before starting the tool, check all moveable parts for any obstructions. Make sure the guards and tool parts are installed and secured properly.

14. Keep fingers and hands away from press jaws during tool operation.

15. Secure work. Use clamps, vices, or secured pipe hangers to hold the work and to free the hands of the operator.

16. Do not over-reach. Maintain proper footing and balance at all times.

17. Do not misuse tools. Perform only the functions for which the tool was designed. Do not force the tool.

18. Use only Victaulic Pressfit System "press jaws" in the proper size for the product being installed.

19. Disconnect the power cord before servicing tool. Only authorized personnel should attempt to service tools. Always disconnect the power source before servicing the tool, changing the press jaws, or making any adjustments.

20. Always maintain tools. Keep tools clean for safe, dependable operation. Follow all cleaning and lubricating instructions and jaw maintenance instructions. Inspect tool cords and extension cords periodically. Report any unsafe conditions to authorized personnel for immediate correction.

21. Check for damaged parts. Check for alignment of moving parts, breakage of parts, mounting, and other conditions that may affect tool or jaw operation. Parts that are damaged should be repaired or replaced by an authorized service center. Defective switches should be replaced by an authorized service center. Do not use the tool if the power switch does not operate properly.

22. Store Pressfit Tools in a dry, safe location.

PIPE SPECIFICATIONS

Approved Type 304/304L and Type 316/316L Stainless Steel Pipe and Schedule 5 Carbon Steel Pipe

Nominal Diameter inches (mm)	Actual Outside Diameter inches (mm)	Type 304/304L and Type 316/316L Stainless Steel Pipe and Schedule 5 Carbon Steel Pipe		
		Inside Dia. inches (mm)	Wall Thick. inches (mm)	Approx. Weight of Pipe Per foot (lbs/kg)
1/2* 15	0.840 21,3	0.710 18,0	0.065 1,7	0.6 0,3
3/4 20	1.050 26,9	0.920 23,4	0.065 1,7	0.7 0,3
1 25	1.315 33,7	1.185 30,1	0.065 1,7	0.9 0,4
1 1/4 32	1.660 42,4	1.530 38,9	0.065 1,7	1.1 0,5
1 1/2 40	1.900 48,3	1.770 45,0	0.065 1,7	1.3 0,6
2 50	2.375 60,3	2.245 57,0	0.065 1,7	1.6 0,7

* Schedule 5 carbon steel pipe is not available in the 1/2-inch (15-mm) size

MINIMUM PIPE-NIPPLE LENGTH REQUIREMENTS

⚠ WARNING

- **Pipe for use with Pressfit couplings and fittings must meet the minimum pipe-nipple length requirements specified in the table below.**

Failure to use proper pipe-nipple lengths could result in serious personal injury, improper joint assembly, and property damage

Nominal Diameter inches (mm)	Actual Outside Diameter inches (mm)	Minimum Pipe Nipple Length Required inches (mm)
1/2 15	0.840 21,3	2 5/8 67
3/4 20	1.050 26,9	2 7/8 73
1 25	1.315 33,7	2 7/8 73
1 1/4 32	1.660 42,4	3 1/4 83
1 1/2 40	1.900 48,3	3 1/2 89
2 50	2.375 60,3	5 127

PRESSFIT TOOL RATINGS

The PFT505 Electric Pressfit Tool is designed for field fabrication in industrial and trade applications only. The PFT505 is capable of assembling Pressfit System Products with Schedule 5 carbon steel pipe in sizes 3/4 - 2 inch (20 – 50 mm) and Type 304/304L and 316/316L stainless steel pipe in sizes 1/2 - 2 inch (15 – 50 mm).

SPACE REQUIRED FOR THE PRESSING OPERATION

Assembly of Pressfit System Products requires sufficient space for opening the press jaws and placing them over the coupling or fitting. The tool must be perpendicular to the coupling or fitting and the connecting pipe.

Table I Dimensions – inches/millimeters			
Nominal Diameter	**Actual Outside Diameter**	**A**	**C**
1/2 15	0.840 21,3	2.25 57	5.25 133
3/4 20	1.050 26,9	2.25 57	5.25 133
1 25	1.315 33,7	2.25 57	5.25 133
1 1/4 32	1.660 42,4	2.25 57	5.25 133
1 1/2 40	1.900 48,3	4.00 102	7.00 178
2 50	2.375 60,3	4.00 102	7.00 178

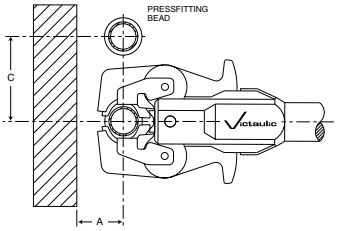


Table I Space Requirements

Table II Dimensions – inches/millimeters				
Nominal Diameter	**Actual Outside Diameter**	**A**	**B**	**C**
1/2 15	0.840 21,3	2.25 57	3.50 89	5.25 133
3/4 20	1.050 26,9	2.25 57	3.50 89	5.25 133
1 25	1.315 33,7	2.25 57	3.50 89	5.25 133
1 1/4 32	1.660 42,4	2.25 57	3.50 89	5.25 133
1 1/2 40	1.900 48,3	4.00 102	4.00 102	7.00 178
2 50	2.375 60,3	4.00 102	4.00 102	7.00 178

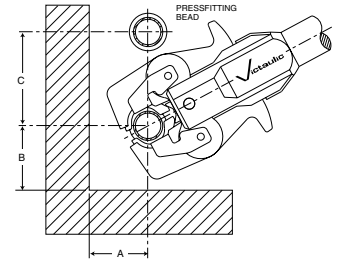


Table II Space Requirements

Table III Dimensions – inches/millimeters					
Nominal Diameter	**Actual Outside Diameter**	**A**	**B**	**C**	**D**
1/2 15	0.840 21,3	2.25 57	3.50 89	5.25 133	12.25 311
3/4 20	1.050 26,9	2.25 57	3.50 89	5.25 133	12.25 311
1 25	1.315 33,7	2.25 57	3.50 89	5.25 133	12.25 311
1 1/4 32	1.660 42,4	2.25 57	3.50 89	5.25 133	12.25 311
1 1/2 40	1.900 48,3	4.00 102	4.00 102	7.00 178	15.00 381
2 50	2.375 60,3	4.00 102	4.00 102	7.00 178	15.00 381

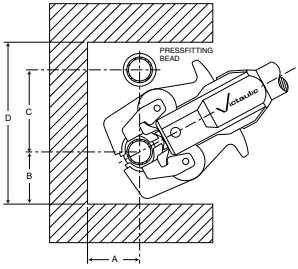


Table III Space Requirements

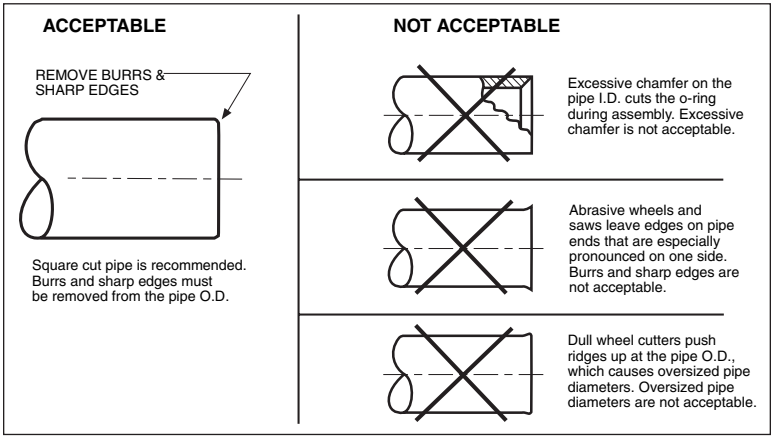
PIPE PREPARATION

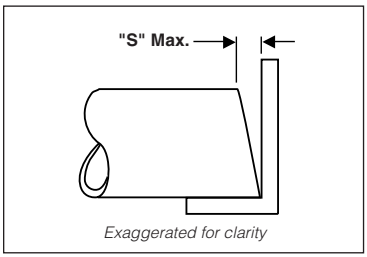
⚠ WARNING

- **Before operating any Victaulic pipe preparation tools, read and understand the operating and maintenance instructions manual for the tool.**
- **Learn the operation, applications, and potential hazards peculiar to the tool.**

Failure to follow these instructions could result in serious personal injury, property damage, product damage, and improper product installation.

Pipe Condition





1. Pipe ends must be square cut ("S" dimension shown) within 0.030 inch (0,8 mm).

2. Clean and inspect the pipe ends. Remove any scale, rust, or paint that may be present. Make sure the pipe ends do not contain burrs, sharp edges, raised weld beads, and indentations a minimum of 2 inches (51 mm) back from the pipe end.

O-RING SELECTION

⚠ CAUTION

- **To ensure maximum product performance, always specify the proper grade o-ring for the intended service.**

Failure to select the proper grade o-ring for the service may cause joint failure, resulting in property damage.

Many factors must be considered for optimum o-ring performance. Do not subject o-rings to temperatures beyond the recommended limits, since excessive temperatures will degrade o-ring life and performance.

The services listed below are general service recommendations, and they apply only to Victaulic o-rings. Recommendations for a particular service do not necessarily imply compatibility of the couplings, related fittings, or other components for the same service. Always refer to the latest Victaulic Gasket Selection Guide (05.01) for service recommendations.

Grade	Temp. Range	Compound	Color Code	* General Service Recommendations
Standard O-Ring				
E	–30°F (–34°C) to +230°F (110°C)	EPDM	Green	Recommended for hot water service within the specified temperature range, plus a variety of dilute acids, oil-free air, and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +86°F (+30°C) and hot +180°F (+82°C) potable water service. **NOT RECOMMENDED FOR PETROLEUM SERVICES AND STEAM SERVICES.**
Available O-Ring				
T	–20°F (–29°C) to +180°F (+82°C)	Nitrile	Orange Stripe	Recommended for petroleum products, hydrocarbons, compressed air, air with oil vapors, vegetable oil, and mineral oil, within the specified temperature range. **NOT RECOMMENDED FOR HOT WATER SERVICES OVER +150°F (+66°C) OR FOR HOT, DRY AIR OVER +140°F (+60°C).**
Optional O-Ring				
O	+20°F (–7°C) to +300°F (+149°C)	Fluoro-elastomer	Blue Stripe	Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids, and air with hydrocarbons to +300°F (+149°C). **NOT RECOMMENDED FOR STEAM SERVICES.**

* Pressfit steel and stainless steel products must be used only on services that are compatible with the o-ring and fitting materials. Incompatible services may result in leakage. For services not listed, or for special services, contact Victaulic for recommendations. Refer to the Victaulic Gasket Selection Guide (05.01) for specific recommendations.

LUBRICATION

Pressfit o-rings MUST BE LUBRICATED. Lubrication is essential to prevent pinching or tearing of o-rings during installation. Use a soapy water solution, liquid silicone, or a thin coat of Victaulic lubricant on the o-rings. WHEN USING VICTAULIC LUBRICANT, DO NOT OVER-LUBRICATE THE O-RINGS. A very thin coat of Victaulic lubricant is sufficient for proper installation.

⚠ WARNING

- **DO NOT climb on or hang from piping installed with Pressfit Products.**

Failure to follow this instruction will cause undue stress on installed joint, resulting in joint failure, serious personal injury, and property damage.

Piping that is joined with Pressfit System Products, like all other piping systems, requires support to carry the weight of pipes and equipment. The support or hanging method must eliminate stress on joints, piping, and other components. In addition, the method of support must allow pipeline movement, where required, along with other design requirements, such as drainage.

The following tables list the suggested maximum span between pipe supports for horizontal, straight runs of pipe carrying water or similar liquids.

NOTICE

- **These values are not intended to be used as specifications for all installations, and they DO NOT apply where critical calculations are made or where there are concentrated loads between supports.**
- **Victaulic Company is not responsible for system design, nor does the Company assume any responsibility for systems that are designed improperly.**

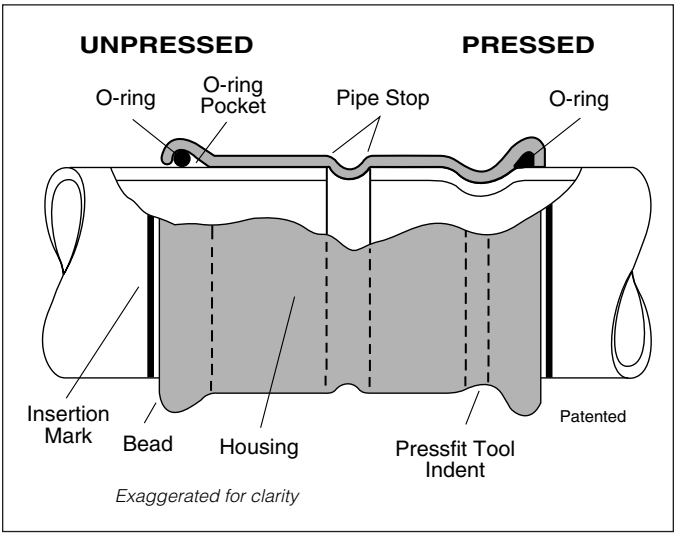
Approved Type 304/304L and Type 316/316L Stainless Steel Pipe and Schedule 5 Carbon Steel Pipe

For approved Type 304/304L and Type 316/316L stainless steel pipe, the maximum hanger spacing corresponds to ASME B31.1 or B31.9, as noted, and must be used only in conjunction with Victaulic Pressfit System Products on approved stainless steel pipe.

Pipe Size		Suggested Maximum Span Between Supports – feet/meters						
		Water Service				Gas/Air Service		
Nominal Diameter inches (mm)	Actual Outside Diameter inches (mm)	UL/ ULC/ FM *	B31.1	B31.3	B31.9	B31.1	B31.3	B31.9
1/2 15	0.840 21,3	- -	6 1,8	6 1,8	7 2,1	8 2,4	8 2,4	7 2,1
3/4 20	1.050 26,9	- -	7 2,1	7 2,1	8 2,4	9 2,7	9 2,7	8 2,4
1 25	1.315 33,7	12 3,7	7 2,1	7 2,1	9 2,7	9 2,7	9 2,7	9 2,7
1 1/4 32	1.660 42,4	12 3,7	7 2,1	7 2,1	11 3,4	9 2,7	9 2,7	11 3,4
1 1/2 40	1.900 48,3	12 3,7	7 2,1	7 2,1	12 3,7	9 2,7	9 2,7	13 4,0
2 50	2.375 60,3	12 3,7	10 3,1	10 3,1	13 4,0	13 4,0	13 4,0	15 4,6

* Applies to Schedule 5 carbon steel pipe only

PRODUCT INSTALLATION GUIDELINES



The following instructions are a general guideline for the installation of Victaulic Pressfit System Products. These instructions must be followed to ensure proper joint assembly.

1. Always check the supplied o-ring to ensure it is suitable for the intended service. Refer to the “O-Ring Selection” section on page 13 for details.

2. Always read the operating and maintenance instructions manual for the Pressfit Tool.

3. Pipe dimensions must be within published tolerances; these tolerances are subject to specified standards for acceptability. Refer to the “Pipe Specifications” section on page 8 for details.

4. Always measure the insertion depth by using the Pressfit Marking Gauge or a ruler or tape measure. Place a mark at the proper insertion-depth measurement. This mark is critical as an indicator for full insertion of the pipe end into the fitting (refer to the “Installation Instructions” section).

5. Pressfit System Products have unique center-to-end or end-to-end dimensions with uniform “take-out” dimensions. Threaded products with special features such as probes, escutcheon cups, etc. must be checked to ensure the thread standard and insertion length are compatible with fitting dimensions. Failure to verify dimensional suitability may result in difficult and/or improper assembly.

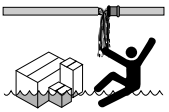
Installation Instructions for Pressfit System Products

All Vic-Press and Pressfit Configurations

⚠ WARNING







- **Read and understand all instructions before attempting to install any Victaulic piping products.**
- **Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.**
- **Wear safety glasses, hardhat, and foot protection.**

Failure to follow these instructions could result in serious personal injury, improper product installation, and/or property damage.

⚠ WARNING

- **Always measure pipe insertion depth by using the Pressfit Marking Gauge or a ruler or tape measure. Mark the pipe at the correct measurement by using a bright-colored marking pencil or paint stick.**

Failure to mark the pipe prior to installing Pressfit Products will not provide the visual check that is critical for confirming full pipe insertion into the fitting. Improperly inserted pipe will cause joint failure and may result in serious personal injury and/or property damage.

NOTICE

- **The following instructions feature carbon steel pipe. However, the same instructions apply to installations with stainless steel pipe.**

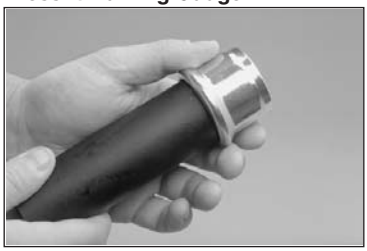
Pipe Preparation

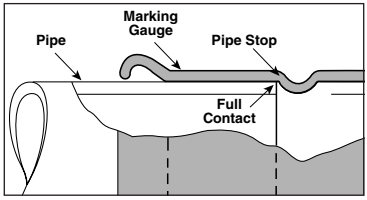
Make sure the pipe is prepared in accordance with the instructions on page 12.

Marking the Pipe

Pipe insertion depth must be measured by using the Pressfit Marking Gauge or a ruler or tape measure. Refer to the instructions below, which provide detailed directions for measuring and marking pipe ends.

Pressfit Marking Gauge:



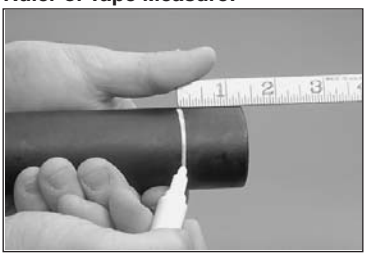


1. When using the Pressfit Marking Gauge, insert the pipe end into the correct size gauge. Make sure the pipe end contacts the pipe stop (refer to the sketch above).

2. While the pipe is inserted completely into the gauge, mark the pipe along the edge of the gauge with a bright-colored marking pencil or paint stick, as shown above.

3. Remove the gauge from the pipe end.

Ruler or Tape Measure:



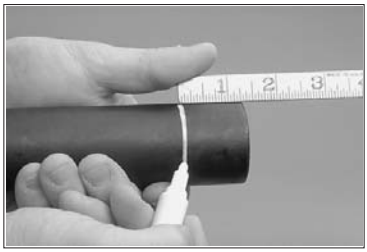
1. When using a ruler or tape measure, refer to the "Pressfit Insertion Depth Requirements" table below. Measure back from the pipe end. Place a mark around the pipe circumference with a bright-colored marking pencil or paint stick, as shown above.

Pressfit Insertion Depth Requirements

Nominal Diameter inches (mm)	Actual Outside Diameter inches (mm)	Insertion Depth Req. inches (mm)
1/2 15	0.840 21,3	7/8 22
3/4 20	1.050 26,9	1 25
1 25	1.315 33,7	1 25
1 1/4 32	1.660 42,4	1 1/4 32
1 1/2 40	1.900 48,3	1 1/2 38
2 50	2.375 60,3	1 7/8 48

Pressfit Slip Couplings:

Pressfit Slip Couplings do not contain a pipe stop so that insertion to various depths can be accommodated. For proper assembly, pipe must be inserted into the fitting to the minimum depth listed in the "Pressfit Slip Coupling Minimum Insertion Depth Requirements" table below.



1. Refer to the "Pressfit Slip Coupling Minimum Insertion Depth Requirements" table below. Use a ruler or tape measure to measure back from the pipe end. Place a mark around the pipe circumference with a bright-colored marking pencil or paint stick, as shown above.

Pressfit Slip Coupling Minimum Insertion Depth Requirements

Nominal Diameter inches (mm)	Actual Outside Diameter inches (mm)	Insertion Depth Req. inches (mm)
1/2 15	0.840 21,3	7/8 22
3/4 20	1.050 26,9	1 25
1 25	1.315 33,7	1 25
1 1/4 32	1.660 42,4	1 25
1 1/2 40	1.900 48,3	1 25
2 50	2.375 60,3	1 1/4 32

Product Assembly

1. Check Pressfit Product openings to make sure o-rings are seated properly inside the o-ring pocket. Make sure o-rings are the proper material grade for the intended service.

1a. If any dirt or debris is present, remove the o-rings from the o-ring pocket. Clean the o-rings with water, and replace them properly in the o-ring pocket. Make sure no grease or oil residue is present on the o-rings.

⚠CAUTION

- **Pressfit Product o-rings MUST be lubricated for proper assembly.**

Failure to follow this instruction could cause damage to the o-rings, resulting in joint leakage and/or property damage.

2. Pressfit o-rings MUST BE LUBRICATED. Lubrication is essential to prevent pinching or tearing of o-rings during installation. Use a soapy water solution, liquid silicone, or a thin coat of Victaulic lubricant on the o-rings. **WHEN USING VICTAULIC LUBRICANT, DO NOT OVER-LUBRICATE THE O-RINGS.** A very thin coat of Victaulic lubricant is sufficient for proper installation.

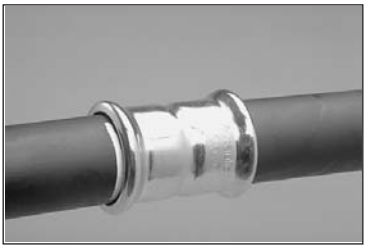
⚠CAUTION

- **DO NOT force the pipe into the coupling or fitting.**

Forcing the pipe into position may cause damage to the o-ring, resulting in joint leakage and/or property damage.

3. For Standard Couplings and Fittings: Insert the pipe into the coupling or fitting with a slight twisting action to ease insertion. The pipe must contact the pipe stop inside the coupling or fitting. Make sure the pipe is inserted fully up to the mark that was made in previous steps.

3a. For Slip Couplings: Insert the pipe into the slip coupling with a slight twisting action to ease insertion. Since slip couplings do not contain a pipe stop, make sure the pipe is inserted fully up to the mark that was made in the previous “Pressfit Slip Coupling” section.



4. Align the pipe. Make sure the joint is straight and the pipe marks indicate full insertion into the coupling or fitting before performing the pressing operation. The Pressfit Tool will not straighten a deflected joint during the pressing operation. Straight joints can be achieved through proper hanger positioning and careful tool handling.

⚠ WARNING

- **Before operating any Victaulic Pressfit Tools, read and understand the operating and maintenance instructions manual and all labels on the tool.**
- **Wear safety glasses, hardhat, foot protection, and hearing protection.**

Failure to follow instructions may result in serious personal injury, improper tool operation, improper joint assembly, and/or property damage.

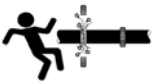
5. Press both sides of the coupling or fitting by using a Victaulic Pressfit Tool. Refer to the "Pressing Operation" section of the appropriate "Operating and Maintenance Instructions" manual.

NOTICE

- **For Pressfit Products with threaded connections, the outlet section of the fitting must be held rigid with a pipe wrench during tightening**

INSTALLATION INSPECTION

⚠ WARNING



- **Always inspect each joint to ensure proper product installation.**
- **Undersized or oversized pipe and improperly pressed fittings are unacceptable. Any of these conditions must be corrected before attempting to pressurize the system.**

Failure to follow these instructions could result in serious personal injury, property damage, joint leakage, and/or joint failure.

Proper pipe preparation and proper pressing of couplings or fittings is essential for maximum joint performance. **THESE CONDITIONS MUST BE PRESENT TO ENSURE PROPER JOINT ASSEMBLY.**

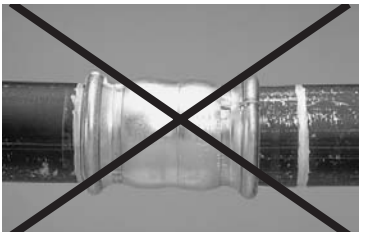
1. Always re-inspect joints before and after the field test to identify points of possible failure.

2. Inspect the pressed joint, and compare it to the photos shown below. If the pressed joint does not look like photo #1 under "Proper Press," the joint must be cut out, and a new coupling or fitting must be installed.

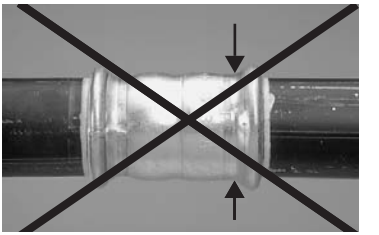
Proper Press

1 - GOOD JOINT

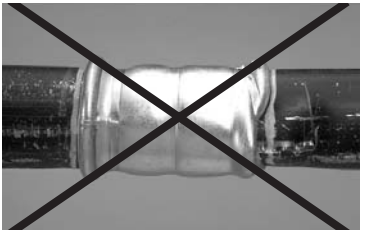
Improper Presses (Not Acceptable)



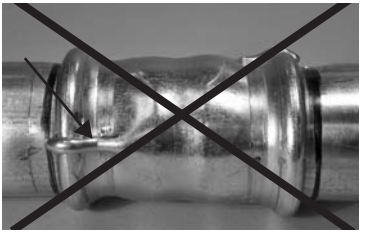
2 - Not Inserted Fully



4 - Right Side Not Fully Pressed



3 - Mis-Pressed



5 - Press Resulting from Improperly Maintained Press Jaws

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