

**Installation Manual**

**Viega ProPress® Stainless**



# Table of Contents

|          |                                                |          |
|----------|------------------------------------------------|----------|
| <b>1</b> | <b>About this Document</b>                     | <b>5</b> |
| 1.1      | Disclaimer                                     | 5        |
| 1.2      | Symbols Used                                   | 5        |
| <b>2</b> | <b>Product Information</b>                     | <b>6</b> |
| 2.1      | ProPress 316 Systems                           | 6        |
| 2.2      | Safety                                         | 6        |
| 2.3      | Approved Applications                          | 7        |
| 2.3.1    | Commercial and Residential                     | 7        |
| 2.3.2    | Industrial and Plant Operations                | 7        |
| 2.3.3    | Technical Assistance                           | 7        |
| 2.4      | Product Description                            | 8        |
| 2.4.1    | Overview                                       | 8        |
| 2.4.2    | Listing, Certifications, and/or Recognitions   | 8        |
| 2.4.3    | Codes and Standards                            | 8        |
| 2.4.4    | Tubing                                         | 9        |
| 2.4.5    | Press Fittings                                 | 9        |
| 2.4.5.1  | Viega ProPress Stainless ½" to 2" Fittings     | 9        |
| 2.4.5.2  | Viega ProPress Stainless 2½" to 4" Fittings    | 9        |
| 2.4.5.3  | FKM Sealing Element                            | 10       |
| 2.4.5.4  | EPDM Sealing Element                           | 10       |
| 2.4.5.5  | Cylindrical Guides                             | 10       |
| 2.4.5.6  | Fitting Markings                               | 11       |
| 2.4.5.7  | Viega Smart Connect Technology                 | 12       |
| 2.4.6    | Marking on Tubing                              | 12       |
| 2.5      | General Installation Requirements              | 13       |
| 2.5.1    | Required Tools                                 | 13       |
| 2.5.2    | Expansion                                      | 13       |
| 2.5.3    | Electrical Bonding                             | 14       |
| 2.5.4    | Exposure to Freezing Temperatures              | 14       |
| 2.5.5    | Underground Installations                      | 14       |
| 2.5.6    | Concealed Spaces                               | 15       |
| 2.5.7    | Corrosion Protection                           | 15       |
| 2.5.7.1  | Mixed Installations                            | 15       |
| 2.5.8    | Pressure Surges                                | 15       |
| 2.5.9    | Rotating a Pressed Fitting                     | 16       |
| 2.5.10   | Deflection                                     | 16       |
| 2.5.10.1 | Controlling Deflection                         | 16       |
| 2.6      | ProPress Stainless Flow Data                   | 17       |
| 2.6.1    | Flow Rate, Velocity, and Friction Loss (Water) | 18       |
| 2.6.2    | Fitting Friction Loss                          | 27       |
| 2.6.3    | Maximum Span/Minimum Rod Diameter              | 27       |

## Table of Contents, continued

|          |                                                                       |           |
|----------|-----------------------------------------------------------------------|-----------|
| <b>3</b> | <b>Handling Instructions</b>                                          | <b>28</b> |
| 3.1      | Transport                                                             | 28        |
| 3.2      | Storage                                                               | 28        |
| <b>4</b> | <b>Installation Instructions</b>                                      | <b>29</b> |
| 4.1      | Check System Components                                               | 29        |
| 4.1.1    | Changing the Sealing Element                                          | 29        |
| 4.1.1.1  | 1/2" to 2" Fittings                                                   | 29        |
| 4.1.1.2  | 2 1/2" to 4" Fittings                                                 | 30        |
| 4.2      | Installing and Mounting the Tube                                      | 32        |
| 4.2.1    | Pipe Hangers and Supports                                             | 32        |
| 4.3      | Space Requirements and Intervals                                      | 32        |
| 4.3.1    | Transition Fittings                                                   | 33        |
| 4.3.1.1  | Threaded Connections                                                  | 33        |
| 4.3.1.2  | Flange Connections                                                    | 33        |
| 4.3.2    | No-Stop Couplings                                                     | 33        |
| 4.3.3    | Minimum Distance between Fittings                                     | 34        |
| 4.3.4    | ProPress Jaws Clearance Requirements                                  | 34        |
| 4.3.5    | ProPress Rings Clearance Requirements                                 | 36        |
| 4.4      | Soldering or Brazing                                                  | 38        |
| 4.4.1    | Using ProPress Stainless In Line with Existing Fittings               | 38        |
| 4.4.2    | Soldering or Brazing In Line with Existing ProPress Stainless Fitting | 38        |
| 4.5      | Welding                                                               | 39        |
| 4.5.1    | Welding Adjacent to a Press Fitting                                   | 39        |
| 4.6      | Cutting the Tube                                                      | 40        |
| 4.7      | Deburring the Tube                                                    | 40        |
| 4.8      | Pressing the Fitting – ProPress 1/2" to 4"                            | 41        |
| 4.8.1    | Pressing 1/2"-2" Fittings                                             | 42        |
| 4.8.2    | Pressing 2 1/2"-4" Fittings                                           | 43        |
| 4.9      | Pressure Testing                                                      | 45        |
| 4.10     | Disposal                                                              | 45        |
| <b>5</b> | <b>Limited Warranty – Viega Metal Systems</b>                         | <b>46</b> |

# List of Tables

|                 |                                                                                            |    |
|-----------------|--------------------------------------------------------------------------------------------|----|
| <b>Table 1</b>  | Dimensional data _____                                                                     | 17 |
| <b>Table 2</b>  | ½" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                              | 18 |
| <b>Table 3</b>  | ¾" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                              | 19 |
| <b>Table 4</b>  | 1" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                              | 20 |
| <b>Table 5</b>  | 1¼" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                             | 21 |
| <b>Table 6</b>  | 1½" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                             | 22 |
| <b>Table 7</b>  | 2" Stainless Steel, ASTM A312 flow rate, velocity, loss _____                              | 23 |
| <b>Table 8</b>  | 2½" Stainless Steel, ASTM A554 flow rate, velocity, loss _____                             | 24 |
| <b>Table 9</b>  | 3" Stainless Steel, ASTM A554 flow rate, velocity, loss _____                              | 25 |
| <b>Table 10</b> | 4" Stainless Steel, ASTM A554 flow rate, velocity, loss _____                              | 26 |
| <b>Table 11</b> | Fitting friction loss equivalent length of tube (feet) _____                               | 27 |
| <b>Table 12</b> | MSS SP-58 or the maximum spacing and minimum rod sizes _____                               | 27 |
| <b>Table 13</b> | Insertion depths for ProPress Stainless ½" to 2" no-stop couplings _____                   | 33 |
| <b>Table 14</b> | Insertion depths for ProPress Stainless 2½" to 4" no-stop couplings _____                  | 33 |
| <b>Table 15</b> | Minimum distance between press fittings _____                                              | 34 |
| <b>Table 16</b> | ProPress standard jaws clearance requirements _____                                        | 35 |
| <b>Table 17</b> | ProPress standard jaws clearance requirements between tube, wall, and floor _____          | 35 |
| <b>Table 18</b> | ProPress compact jaws clearance requirements _____                                         | 35 |
| <b>Table 19</b> | ProPress compact jaws clearance requirements between tube, wall, and floor _____           | 35 |
| <b>Table 20</b> | ProPress rings dimensions _____                                                            | 36 |
| <b>Table 21</b> | ProPress rings with V1 actuator clearance requirements _____                               | 36 |
| <b>Table 22</b> | ProPress rings with V2 actuator clearance requirements _____                               | 36 |
| <b>Table 23</b> | ProPress rings with V1 actuator clearance requirements between tube, wall, and floor _____ | 36 |
| <b>Table 24</b> | ProPress rings with V2 actuator clearance requirements between tube, wall, and floor _____ | 37 |
| <b>Table 25</b> | ProPress rings with C1 actuator clearance requirements between tube, wall, and floor _____ | 37 |
| <b>Table 26</b> | ProPress XL-C rings dimensions _____                                                       | 37 |
| <b>Table 27</b> | ProPress XL-C rings clearance requirements _____                                           | 37 |
| <b>Table 28</b> | ProPress XL-C rings clearance requirements between tube, wall, and floor _____             | 37 |
| <b>Table 29</b> | Minimum distance between existing soldered or brazed fitting and ProPress fitting _____    | 38 |
| <b>Table 30</b> | Minimum distance between soldered fitting and ProPress fitting _____                       | 39 |
| <b>Table 31</b> | Minimum insertion depths for ProPress ½" to 4" fittings _____                              | 41 |

# 1 About this Document

## 1.1 Disclaimer



This document is subject to updates. For the most current Viega technical literature, please visit [www.viega.us](http://www.viega.us).



Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with Viega products and their installation. **Installation by non-professionals may void Viega LLC's warranty.**

## 1.2 Symbols Used

The following symbols may be used within this document:



### **DANGER!**

This symbol warns of possible life-threatening injury.



### **WARNING!**

This symbol warns of possible serious injury.



### **CAUTION!**

This symbol warns of possible injury.



### **NOTICE!**

This symbol warns of possible damage to property.



Notes give additional helpful tips.

## 2 Product Information

### 2.1 ProPress 316 Systems

Viega ProPress Stainless systems are state-of-the-art press fitting systems that provide economical and reliable installations for the commercial, industrial, and residential markets.

Viega ProPress 316 systems are stainless steel tube, fittings, and valves in copper tube size (CTS) ranging from ½ inch to 4 inches. The fittings require no brazing, threading, or welding and are installed with electro-hydraulic press tools (battery-powered or corded press tools).

Viega ProPress 316 fittings feature a green dot that represents Smart Connect® technology with an EPDM sealing element. Viega's unique Smart Connect technology helps installers ensure that they have pressed all connections.

Viega ProPress 316 2½" to 4" fittings feature a stainless steel grip ring and PBT separator ring.



Stainless tubing is thicker than Schedule 5 inert gas welded pipes, meeting ASTM A312, A554 wall thickness requirements.

All tube diameters are delivered in nominal 20 foot lengths, with a metallic bare exterior and interior surface. The tubes are free from annealing color and corrosion-promoting substances.



Only ProPress stainless steel tubing is approved for installation with ProPress stainless fittings. This ensures reliability and conformity with the stainless steel system.

### 2.2 Safety

Please read and understand the instructions before beginning installation to eliminate safety concerns and reduce risks associated with use and handling of Viega products.

## 2.3 Approved Applications

Viega systems are designed for a wide range of applications across plumbing, heating, cooling, and various industrial uses. For detailed guidance on approved applications and compatible working fluids, please consult the [Viega Commonly Approved Applications Chart](#). If specific project requirements involve unique working fluids or conditions, or your intended application is not explicitly listed, you may submit an [Application Evaluation Form](#). This process allows our experts to review your specific needs and determine the suitability and compatibility of Viega products, ensuring optimal performance and system integrity for your project while maintaining proper warranty coverage.

### 2.3.1 Commercial and Residential

ProPress Stainless systems are approved for numerous applications in commercial and residential markets.

### 2.3.2 Industrial and Plant Operations

ProPress Stainless systems are also suitable for use in industrial and plant processes.

Primary areas of application include:

- Utility systems
- Process piping
- Cooling water

### 2.3.3 Technical Assistance

Consult Viega's Customer Success Division for information on applications not listed or applications outside listed temperature and pressure ranges.

- Viega Technical Support: [techsupport@viega.us](mailto:techsupport@viega.us)
- Engineering Services: For more information on fire protection system design, radiant system design, and plumbing design services: [engineeringservices@viega.us](mailto:engineeringservices@viega.us)



ProPress 316 tubing and fittings are physically and chemically compatible with one another. Care must be taken to ensure that both alloys are compatible with the fluid and that the proper sealing elements are used throughout the system.



#### **DANGER!**

**Failure to verify suitability.** Failure to verify suitability of the system for certain applications may cause serious personal injury or even death.

- It is the responsibility of designers to verify the suitability of type 316 stainless steel tubing for use with intended fluid media.
- The fluid's chemical composition, pH level, operation temperature, chloride level, oxygen level, and flow rate and their effects on AISI type 316 stainless steel must be evaluated by the material specifier to confirm adequate system life.

## 2.4 Product Description

### 2.4.1 Overview

ProPress 316 systems consists of stainless steel press fittings for stainless steel tubing and the corresponding press tools. Stainless fittings are designed to be used with only Viega's stainless steel tubing.

### 2.4.2 Listing, Certifications, and/or Recognitions

ProPress 316 fittings have the following listings and certifications:

- ABS: American Bureau of Shipping Type Approval
- BV: Bureau Veritas Type Approval
- Canadian Registration Number (CRN): 13492.5 A/B/C
- DNV GL: Det Norske Veritas Germanischer Lloyd Type Approval
- LR: Lloyd's Register Type Approval
- NKK: Nippon Kaija Kyokai Type Approval IAPMO Z1117: Press and Nail Connections
- ICC-ES LC1002: Press-Connection Fittings for Potable Water Tube and Radiant Heating Systems

### 2.4.3 Codes and Standards

ProPress 316 fittings comply with the following codes and standards:

- ASME B31: Code for Pressure Piping
- ASME B31.1: Power Piping
- ASME B31.3: Process Piping
- ASME B31.9: Building Services Piping
- ASTM A312: Standard Specification for Seamless, Welded and Heavily Cold Worked Austenitic Stainless Steel Pipes
- ASTM A403: Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings
- ASTM A554: Standard Specification for Welded Stainless Steel Mechanical Tubing
- IAPMO Uniform Mechanical Code (UMC)
- ICC International Mechanical Code (IMC)
- National Building Code of Canada (NBCC)

## 2.4.4 Tubing

Viega stainless steel tubing is offered in ½ inch to 4 inches size in 316 stainless steel to complement the Viega ProPress Stainless fittings and offer a complete system solution. Viega stainless steel tubing meets the requirement of ASTM A312 or ASTM A554 for Schedule 5 316 stainless steel pipe.

Only Viega stainless tubing is approved for installation with Viega ProPress for Stainless fittings. This is to ensure reliability and conformity with the stainless steel system.

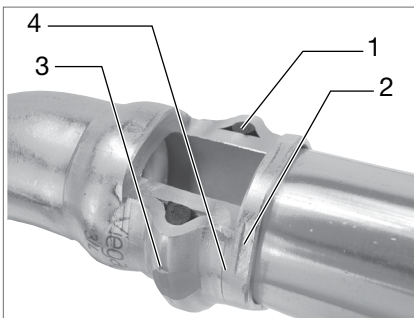
Viega ProPress for Stainless tubing is thicker than Schedule 5 inert gas welded pipes, meeting ASTM A312, A554, and DIN 1988 wall thickness requirements.

All diameters are delivered in nominal 20 foot lengths, with a metallic bare exterior and interior surface. The tubes are free from annealing color and corrosion-promoting substances.

All tubing has been tested for leaks and is subject to continuous quality monitoring as well as external monitoring by the material testing office.

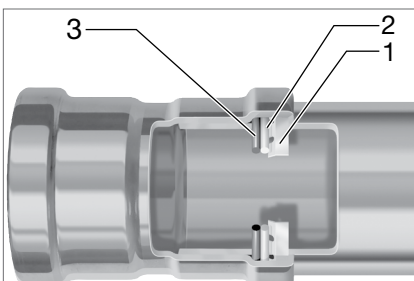
## 2.4.5 Press Fittings

### 2.4.5.1 Viega ProPress Stainless ½" to 2" Fittings



- 1 Each fitting contains an application specific sealing element. A green dot on a Viega ProPress Stainless fitting indicates the presence of Smart Connect technology and an EPDM sealing element. A white dot on a Viega ProPress Stainless fitting indicates the presence of the Smart Connect feature and an FKM sealing element.
- 2 Viega's distinctive hexagonal pressing pattern bonds fitting and tube and provides the mechanical strength for the connection.
- 3 Color coded dots indicate the presence of Viega's unique Smart Connect technology which helps installers ensure that they have pressed all connections.
- 4 Cylindrical guides ensure the proper insertion of the tube and protects the sealing element.

### 2.4.5.2 Viega ProPress Stainless 2½" to 4" Fittings



- 1 A 420 stainless steel grip ring's teeth cut into the tube and lock the fitting securely in place.
- 2 A PBT (Polybutylene Terephthalate) separator ring protects the sealing element from damage by creating a positive physical separation during installation and later during pressing.
- 3 An application specific sealing element (FKM or EPDM) ensures water-tight or air-tight connections.

ProPress 2½" to 4" fittings are designed to be pressed with ProPress XL-C press rings and V2 actuator to produce a non-detachable, secure connection.

#### 2.4.5.3 FKM Sealing Element



Viega ProPress 316 FKM fittings are manufactured with a high-quality, dull black FKM (Fluoroelastomer) sealing element installed at the factory. Sealing elements are inserted into the fitting using a H1 food grade lubricant registered with NSF and the USDA, and is approved for use under FDA 21 CFR.

FKM possesses excellent resistance to aging, ozone, sunlight, weathering, environmental influences, and oils and petroleum-based additives. Its superb resistance to high temperatures and petroleum based additives makes it ideal for seals and gaskets in solar, district heating, low-pressure steam, and compressed air system fittings. It can withstand heat spikes up to 356°F.

The operating temperature of the FKM sealing element is 14° to 284°F (-10° to 140°C).

#### 2.4.5.4 EPDM Sealing Element

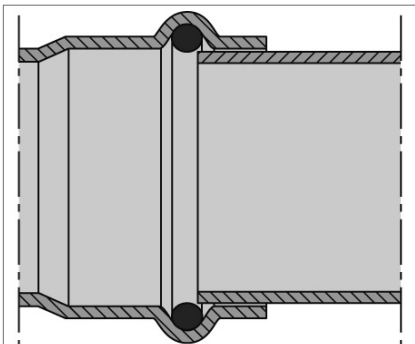


Viega ProPress 316 fittings are manufactured with a high-quality, shiny black EPDM (Ethylene Propylene Diene Monomer) sealing element installed at the factory. Sealing elements are inserted into the fitting using a H1 food grade lubricant registered with NSF and the USDA, and is approved for use under FDA 21 CFR.

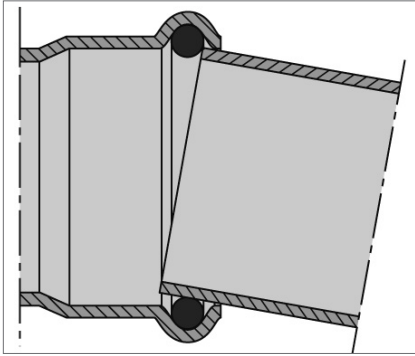
The EPDM sealing element possesses excellent resistance to aging, ozone, sunlight, weathering, environmental influences, and most alkaline solutions and chemicals used in a broad range of applications.

The operating temperature of the EPDM sealing element is 0° to 250°F (-18° to 120°C).

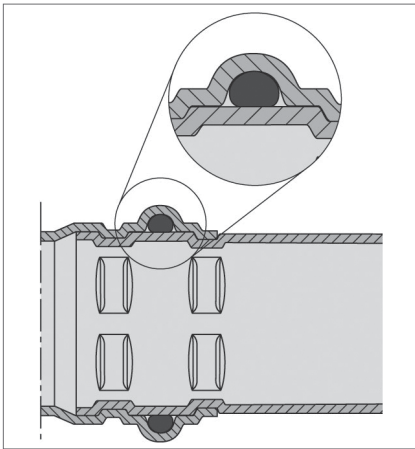
#### 2.4.5.5 Cylindrical Guides



All Viega fittings are designed with cylindrical guides to keep the tube straight and protect the sealing element during assembly.

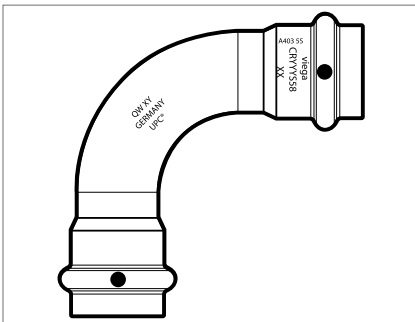


Fittings that do not have cylindrical guides risk making an unsecured connection. Without the guides, installers may damage the sealing element.



Fittings are radially pressed around the sealing element in a single step.

#### 2.4.5.6 Fitting Markings



Each ProPress 316 fitting is marked with the following:

- Green dot: EPDM sealing element and Smart Connect technology
- Size of fitting
- Stainless steel alloy number
- Manufacturer name
- Manufacturer batch code
- Country of origin
- UMC®

### 2.4.5.7 Viega Smart Connect Technology



**1** Identify an unpressed connection during pressure testing when water or air flows past the sealing element.



**2** Upon identification, use the press tool to press the fitting, making a secure leak-proof connection.



**3** Viega ProPress connections are fast, flameless, and reliable.

Viega Smart Connect technology provides the installer quick and easy identification of an unpressed fitting during a leak test. When the fitting is pressed, a secure, non-detachable, mechanical connection is created. Smart Connect technology provides the installer with an easy way to see connections that have not been pressed before putting the system into operation.



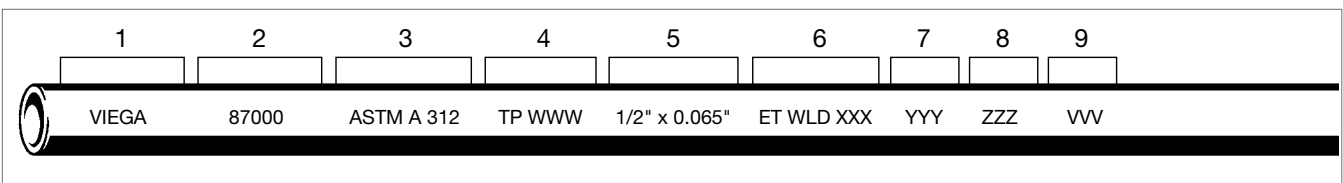
Testing for leaks using Viega Smart Connect is not a replacement for testing requirements of local codes and standards. If testing with compressed air, it is necessary to use an approved leak-detect solution.

### 2.4.6 Marking on Tubing



Viega ProPress Stainless tubing is marked with important information regarding the material configuration and manufacture of the tubing. It is labeled with the following information along its entire length:

- 1 Manufacturer
- 2 Stock code
- 3 Specification standard
- 4 Material type
- 5 Nominal diameter x wall thickness
- 6 Manufacturing information
- 7 Date of manufacture
- 8 Batch code
- 9 Country of origin



It is the responsibility of the installer or any other parties to adhere to all applicable local rules and regulations governing the nature of the installation.

## 2.5 General Installation Requirements

The Viega ProPress Stainless fitting system must be installed while considering the following general industry requirements.

### 2.5.1 Required Tools

The following tools are required for making a press connection:

- Pipe cutter or a fine-toothed hacksaw
- Deburring tool
- Marker for marking insertion depth on the tube
- Press machine with constant pressing force
- Press jaw or press ring with corresponding actuator suitable for the tube diameter and with the proper profile



#### **Improper Tool/Material Damage**

Only use press jaws and rings that are designed for use with ProPress fittings.

### 2.5.2 Expansion

Thermal expansion in installed systems generates stress on the tubing and appliance connectors. Compensation must be allowed for expansion and contraction that may occur within the system. Expansion joints or mechanical expansion compensators may be used to alleviate these stresses. ProPress Stainless systems do not require any additional protection when compared to traditional joining methods.

The following methods are effective:

- Fixed and sliding hangers
- Expansion equalization joints (expansion bends)
- Expansion compensators

### 2.5.3 Electrical Bonding

When properly installed, ProPress Stainless fittings comply with Section 1211.15 Electrical Bonding and Grounding of the Uniform Plumbing Code and Section 310 of the International Fuel Gas Code.

The mechanical press provides continuous metal-to-metal contact between fitting and tube. The press ensures the continuity of the bonding through this contact.



A qualified electrician is responsible for ensuring electrical bonding is tested and secured.



#### **DANGER!** **Electric Shock**

An electric shock can cause burns, serious injury, and even death.

- Because all metallic tubing can conduct electricity, unintentional contact with a live wire can lead to the entire system and components connected to it to become energized. Metal tubing is not meant to conduct electricity.
- A properly bonded system creates a safe path for electricity to travel so that the system can't be energized.
- An unbonded or improperly bonded system can be a shock hazard.
- Always ensure bonding is in accordance with local codes.

### 2.5.4 Exposure to Freezing Temperatures

Viega ProPress Stainless systems with EPDM sealing elements can be installed in ambient temperatures down to 0° F and with FKM sealing element down to 14° F. Tubing exposed to freezing temperatures must be protected per acceptable engineering practices, codes, and as required by local code.

### 2.5.5 Underground Installations

Viega ProPress Stainless fitting systems are approved for underground installations. However, installations must meet all state and local codes, including those for underground. Proper authorization must be obtained prior to installation from the Authority Having Jurisdiction.

## 2.5.6 Concealed Spaces

The Viega ProPress Stainless fitting system has been approved for use in concealed spaces. Specific performance tests were conducted to evaluate the fittings for use in concealed spaces. Concealed tubing and fittings shall be protected from puncture threats.

## 2.5.7 Corrosion Protection

Viega ProPress Stainless fittings exposed to corrosive action, such as soil conditions or moisture, must be protected in an approved manner in accordance with NFPA 54 Section 404.8, NACE Standard RP0169-2002 Section 5, 2009 UPC Chapter 6 Section 609.3.1, 2009 UMC Chapter 13 Section 1312.1.3, or satisfying local code requirements. In addition, systems should be properly sized to minimize the risk of erosion corrosion resulting from excessive velocities.

### 2.5.7.1 Mixed Installations

- Stainless steel should not be directly connected to copper. Brass or bronze fittings are a suitable transition in most applications.
- ProPress Stainless dielectric unions should be used when connecting stainless steel to steel or galvanized steel pipe. Do not use dielectric unions intended for copper to steel transitions to connect stainless steel to copper or steel.
- Care should be taken to select hangers of suitable material that are galvanically compatible with the tubing.

Above ground tube and fittings do not normally require external corrosion protection.

Please contact the Viega Technical Services Department for questions on this subject.

## 2.5.8 Pressure Surges



- ProPress Stainless fittings should be isolated or separated by sufficient distance from pumps, fast-acting valves, and other sources of pressure transients.
- The maximum operating pressure in a ProPress Stainless system is 200 psi, which applies to general operation as well as pressure transients.
- Good engineering practices should be used to design the system in a way that minimizes sharp pressure surges.

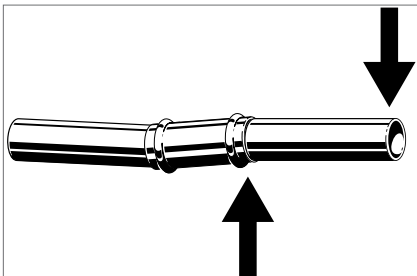
- Pressure surges or transients from fast-acting valves, pump surges, and other sources that result in water hammer may cause damage to many system components, including press fittings.
- When fast-acting valves and/or pumps are incorporated into a system, the designer and installer should isolate press fittings from sharp pressure surges.

## 2.5.9 Rotating a Pressed Fitting

Once a ProPress Stainless fitting has been pressed, it can be rotated (not by hand), but once rotated more than five degrees, the fitting should be repressed to restore resistance to rotational movement.

If the fitting is re-pressed, care should be taken to align the flat sides on the jaw with those on the fitting.

## 2.5.10 Deflection



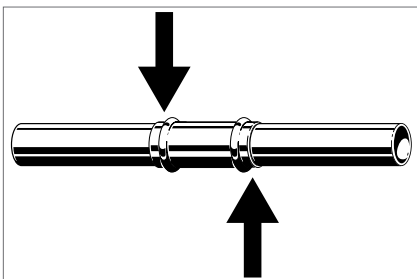
The pressing process can cause deflection (angular misalignment) to occur. When pressing Viega ProPress Stainless fittings in a system, the deformation of the fitting is constant. This allows for a consistent leak-free joint every time and is a result of the pressing technique.

Deflection occurs in the same way for every fitting. The fitting being pressed will move in the direction of the jaw or ring opening.

- Since the fitting will deflect toward the opening of the jaw or ring, the tube end will deflect in the opposite direction.
- By counteracting the fitting movement, one can minimize the deflection of the fitting and ultimately the tube.
- When using strut and clamps, deflection is minimized and nearly eliminated depending on clamp spacing.

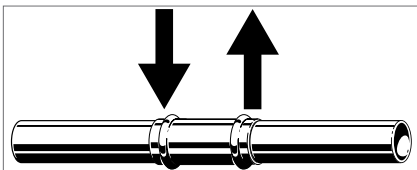
### 2.5.10.1 Controlling Deflection

Deflection while pressing can be minimized by utilizing the following installation practices.



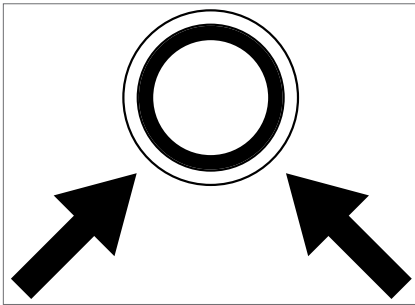
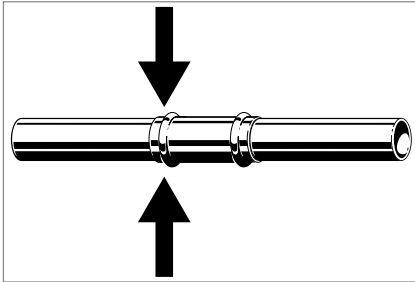
#### Alternate Press Directions

- Press one end of fitting.
- Make second press on other end of fitting from the opposite side. Site conditions permitting.



#### Push-Pull Method

- Rings = Push on press tool.
  - Jaws = Pull on press tool.
- The press tool can be feathered using the trigger as needed to apply pulling or pushing force to control deflection.



### Re-Press

► Press the fitting, once on each side (that is, re-press the fitting a second time on the opposite side). Pressing the same connection from the opposite side will usually straighten misalignment between the tube and fitting.

- When pressing overhead piping, it may be inconvenient to alternate sides for each press.
- The natural weight of the piping plus pressing on opposite sides at a 45 degree angle should adequately eliminate deflection.
- This technique can also be used for any horizontal piping and also when working above the piping.



- As long as the tubing is properly prepped and marked and the fitting is installed according to Viega's ProPress Stainless Product Instructions, if there is any deflection present after the installation of the fitting, the connection is still acceptable and meets Viega's manufacturing specifications for proper installation and warranty.
- Deflection of a press connection has no effect on the integrity of the system, and it can be pressure tested in accordance with the ProPress Stainless Product Instructions.

## 2.6 ProPress Stainless Flow Data

| Nominal Tube Size<br>(in) | Tube (lb./ft.) | Weight          |                 |
|---------------------------|----------------|-----------------|-----------------|
|                           |                | Water (lb./ft.) | Total (lb./ft.) |
| ½                         | 0.41           | 0.06            | 0.47            |
| ¾                         | 0.59           | 0.12            | 0.71            |
| 1                         | 0.77           | 0.20            | 0.97            |
| 1¼                        | 0.95           | 0.31            | 1.26            |
| 1½                        | 1.13           | 0.43            | 1.56            |
| 2                         | 1.50           | 0.76            | 2.26            |
| 2½                        | 2.18           | 1.61            | 3.79            |
| 3                         | 2.60           | 2.29            | 4.89            |
| 4                         | 3.46           | 4.06            | 7.52            |

Table 1: Dimensional data

## 2.6.1 Flow Rate, Velocity, and Friction Loss (Water)

Friction loss state within the following tables is based on pipe dimensional data using the Darcy-Weisbach equation:

$$h_f = f \cdot \frac{L}{D} \cdot \frac{V^2}{2g}$$

Where:

$h_f$  = friction loss

$L$  = pipe length

$D$  = pipe ID

$V$  = velocity (ft./sec.)

$g$  = gravity constant (32.174ft./sec.<sup>2</sup>)

$f$  = pipe friction factor

| Schedule 5             |                       |                             |
|------------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.065 |                       |                             |
| ID = 0.50              |                       |                             |
| Flow Rate (gpm)        | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 1.00                   | 1.63                  | 0.95                        |
| 2.00                   | 3.27                  | 3.79                        |
| 3.00                   | 4.90                  | 8.54                        |
| 4.00                   | 6.54                  | 15.18                       |
| 5.00                   | 8.17                  | 23.71                       |
| 6.00                   | 9.80                  | 34.15                       |
| 7.00                   | 11.44                 | 46.48                       |
| 8.00                   | 13.07                 | 60.71                       |
| 9.00                   | 14.71                 | 76.83                       |
| 10.00                  | 16.34                 | 94.86                       |
| 11.00                  | 17.97                 | 114.77                      |
| 12.00                  | 19.61                 | 136.59                      |
| 13.00                  | 21.24                 | 160.31                      |
| 14.00                  | 22.88                 | 185.92                      |
| 15.00                  | 24.51                 | 213.42                      |
| 16.00                  | 26.14                 | 242.83                      |
| 17.00                  | 27.78                 | 274.13                      |
| 18.00                  | 29.41                 | 307.33                      |

**Table 2: ½" Stainless Steel, ASTM A312 flow rate, velocity, loss**

| <b>Schedule 5</b><br><b>Wall Thickness = 0.065</b><br><b>ID = 0.75</b> |                              |                                    |
|------------------------------------------------------------------------|------------------------------|------------------------------------|
| <b>Flow Rate (gpm)</b>                                                 | <b>Velocity (ft./second)</b> | <b>Pressure Loss (psi/100 ft.)</b> |
| 1.00                                                                   | 0.73                         | 0.12                               |
| 2.00                                                                   | 1.45                         | 0.48                               |
| 3.00                                                                   | 2.18                         | 1.07                               |
| 4.00                                                                   | 2.90                         | 1.91                               |
| 5.00                                                                   | 3.63                         | 2.98                               |
| 6.00                                                                   | 4.36                         | 4.29                               |
| 7.00                                                                   | 5.08                         | 5.84                               |
| 8.00                                                                   | 5.81                         | 7.63                               |
| 9.00                                                                   | 6.54                         | 9.65                               |
| 10.00                                                                  | 7.26                         | 11.92                              |
| 11.00                                                                  | 7.99                         | 14.42                              |
| 12.00                                                                  | 8.71                         | 17.16                              |
| 13.00                                                                  | 9.44                         | 20.14                              |
| 14.00                                                                  | 10.17                        | 23.36                              |
| 15.00                                                                  | 10.89                        | 26.81                              |
| 16.00                                                                  | 11.62                        | 30.51                              |
| 17.00                                                                  | 12.35                        | 34.44                              |
| 18.00                                                                  | 13.07                        | 38.61                              |
| 19.00                                                                  | 13.80                        | 43.02                              |
| 20.00                                                                  | 14.52                        | 47.67                              |
| 21.00                                                                  | 15.25                        | 52.55                              |
| 22.00                                                                  | 15.98                        | 57.68                              |
| 23.00                                                                  | 16.70                        | 63.04                              |
| 24.00                                                                  | 17.43                        | 68.64                              |
| 25.00                                                                  | 18.16                        | 74.48                              |
| 26.00                                                                  | 18.88                        | 80.56                              |
| 27.00                                                                  | 19.61                        | 86.88                              |
| 28.00                                                                  | 20.33                        | 93.43                              |
| 29.00                                                                  | 21.06                        | 100.22                             |
| 30.00                                                                  | 21.79                        | 107.25                             |

**Table 3: ¾" Stainless Steel, ASTM A312 flow rate, velocity, loss**

| Schedule 5             |                       |                             |
|------------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.065 |                       |                             |
| ID = 1.00              |                       |                             |
| Flow Rate (gpm)        | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 2.00                   | 0.82                  | 0.11                        |
| 4.00                   | 1.63                  | 0.43                        |
| 6.00                   | 2.45                  | 0.97                        |
| 8.00                   | 3.27                  | 1.72                        |
| 10.00                  | 4.08                  | 2.69                        |
| 12.00                  | 4.90                  | 3.88                        |
| 14.00                  | 5.72                  | 5.28                        |
| 16.00                  | 6.54                  | 6.89                        |
| 18.00                  | 7.35                  | 8.73                        |
| 20.00                  | 8.17                  | 10.77                       |
| 22.00                  | 8.99                  | 13.04                       |
| 24.00                  | 9.80                  | 15.51                       |
| 26.00                  | 10.62                 | 18.21                       |
| 28.00                  | 11.44                 | 21.12                       |
| 30.00                  | 12.25                 | 24.24                       |
| 32.00                  | 13.07                 | 27.58                       |
| 34.00                  | 13.89                 | 31.13                       |
| 36.00                  | 14.71                 | 34.91                       |
| 38.00                  | 15.52                 | 38.89                       |
| 40.00                  | 16.34                 | 43.09                       |
| 42.00                  | 17.16                 | 47.51                       |
| 44.00                  | 17.97                 | 52.14                       |
| 46.00                  | 18.79                 | 56.99                       |

**Table 4: 1" Stainless Steel, ASTM A312 flow rate, velocity, loss**

| Schedule 5            |                       |                             |
|-----------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.06 |                       |                             |
| ID = 1.26             |                       |                             |
| Flow Rate (gpm)       | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 5.00                  | 1.29                  | 0.21                        |
| 8.00                  | 2.06                  | 0.54                        |
| 11.00                 | 2.83                  | 1.03                        |
| 14.00                 | 3.60                  | 1.66                        |
| 17.00                 | 4.37                  | 2.45                        |
| 20.00                 | 5.15                  | 3.39                        |
| 23.00                 | 5.92                  | 4.49                        |
| 26.00                 | 6.69                  | 5.73                        |
| 29.00                 | 7.46                  | 7.13                        |
| 32.00                 | 8.23                  | 8.68                        |
| 35.00                 | 9.01                  | 10.39                       |
| 38.00                 | 9.78                  | 12.25                       |
| 41.00                 | 10.55                 | 14.26                       |
| 44.00                 | 11.32                 | 16.42                       |
| 47.00                 | 12.09                 | 18.73                       |
| 50.00                 | 12.87                 | 21.20                       |
| 53.00                 | 13.64                 | 23.82                       |
| 56.00                 | 14.41                 | 26.60                       |
| 59.00                 | 15.18                 | 29.52                       |
| 62.00                 | 15.95                 | 32.60                       |
| 65.00                 | 16.72                 | 35.83                       |
| 68.00                 | 17.50                 | 39.21                       |
| 71.00                 | 18.27                 | 42.75                       |
| 74.00                 | 19.04                 | 46.44                       |
| 77.00                 | 19.81                 | 50.28                       |

**Table 5: 1¼" Stainless Steel, ASTM A312 flow rate, velocity, loss**

| Schedule 5            |                       |                             |
|-----------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.06 |                       |                             |
| ID = 1.50             |                       |                             |
| Flow Rate (gpm)       | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 10.00                 | 1.82                  | 0.34                        |
| 13.00                 | 2.36                  | 0.57                        |
| 16.00                 | 2.90                  | 0.86                        |
| 19.00                 | 3.45                  | 1.22                        |
| 22.00                 | 3.99                  | 1.63                        |
| 25.00                 | 4.54                  | 2.11                        |
| 28.00                 | 5.08                  | 2.64                        |
| 31.00                 | 5.63                  | 3.24                        |
| 34.00                 | 6.17                  | 3.90                        |
| 37.00                 | 6.72                  | 4.61                        |
| 40.00                 | 7.26                  | 5.39                        |
| 43.00                 | 7.81                  | 6.23                        |
| 46.00                 | 8.35                  | 7.13                        |
| 49.00                 | 8.90                  | 8.09                        |
| 52.00                 | 9.44                  | 9.11                        |
| 55.00                 | 9.99                  | 10.19                       |
| 58.00                 | 10.53                 | 11.33                       |
| 61.00                 | 11.07                 | 12.54                       |
| 64.00                 | 11.62                 | 13.80                       |
| 67.00                 | 12.16                 | 15.13                       |
| 70.00                 | 12.71                 | 16.51                       |
| 73.00                 | 13.25                 | 17.96                       |
| 76.00                 | 13.80                 | 19.46                       |
| 79.00                 | 14.34                 | 21.03                       |
| 82.00                 | 14.89                 | 22.66                       |
| 85.00                 | 15.43                 | 24.34                       |
| 88.00                 | 15.98                 | 26.09                       |
| 91.00                 | 16.52                 | 27.90                       |

Table 6: 1½" Stainless Steel, ASTM A312 flow rate, velocity, loss

| Flow Rate (gpm) | Schedule 5            |                             |
|-----------------|-----------------------|-----------------------------|
|                 | Wall Thickness = 0.06 |                             |
|                 | ID = 2.00             |                             |
|                 | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 20.00           | 2.04                  | 0.30                        |
| 25.00           | 2.55                  | 0.47                        |
| 30.00           | 3.06                  | 0.68                        |
| 35.00           | 3.57                  | 0.93                        |
| 40.00           | 4.08                  | 1.21                        |
| 45.00           | 4.60                  | 1.53                        |
| 50.00           | 5.11                  | 1.89                        |
| 55.00           | 5.62                  | 2.29                        |
| 60.00           | 6.13                  | 2.73                        |
| 65.00           | 6.64                  | 3.20                        |
| 70.00           | 7.15                  | 3.71                        |
| 75.00           | 7.66                  | 4.26                        |
| 80.00           | 8.17                  | 4.85                        |
| 85.00           | 8.68                  | 5.47                        |
| 90.00           | 9.19                  | 6.14                        |
| 95.00           | 9.70                  | 6.84                        |
| 100.00          | 10.21                 | 7.57                        |
| 105.00          | 10.72                 | 8.35                        |
| 110.00          | 11.23                 | 9.17                        |
| 115.00          | 11.74                 | 10.02                       |
| 120.00          | 12.25                 | 10.91                       |
| 125.00          | 12.77                 | 11.84                       |
| 130.00          | 13.28                 | 12.80                       |
| 135.00          | 13.79                 | 13.81                       |
| 140.00          | 14.30                 | 14.85                       |
| 145.00          | 14.81                 | 15.93                       |
| 150.00          | 15.32                 | 17.04                       |
| 155.00          | 15.83                 | 18.20                       |
| 160.00          | 16.34                 | 19.39                       |
| 165.00          | 16.85                 | 20.62                       |

Table 7: 2" Stainless Steel, ASTM A312 flow rate, velocity, loss

| Schedule 5            |                       |                             |
|-----------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.08 |                       |                             |
| ID = 2.470            |                       |                             |
| Flow Rate (gpm)       | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 50.00                 | 3.35                  | 0.62                        |
| 55.00                 | 3.68                  | 0.75                        |
| 60.00                 | 4.02                  | 0.90                        |
| 65.00                 | 4.35                  | 1.05                        |
| 70.00                 | 4.69                  | 1.22                        |
| 75.00                 | 5.02                  | 1.40                        |
| 80.00                 | 5.36                  | 1.59                        |
| 85.00                 | 5.69                  | 1.80                        |
| 90.00                 | 6.03                  | 2.02                        |
| 95.00                 | 6.36                  | 2.25                        |
| 100.00                | 6.70                  | 2.49                        |
| 105.00                | 7.03                  | 2.75                        |
| 110.00                | 7.37                  | 3.01                        |
| 115.00                | 7.70                  | 3.30                        |
| 120.00                | 8.03                  | 3.59                        |
| 125.00                | 8.37                  | 3.89                        |
| 130.00                | 8.70                  | 4.21                        |
| 135.00                | 9.04                  | 4.54                        |
| 140.00                | 9.37                  | 4.88                        |
| 145.00                | 9.71                  | 5.24                        |
| 150.00                | 10.04                 | 5.61                        |
| 155.00                | 10.38                 | 5.99                        |
| 160.00                | 10.71                 | 6.38                        |
| 165.00                | 11.05                 | 6.78                        |
| 170.00                | 11.38                 | 7.20                        |
| 175.00                | 11.72                 | 7.63                        |
| 180.00                | 12.05                 | 8.07                        |
| 185.00                | 12.39                 | 8.53                        |
| 190.00                | 12.72                 | 8.99                        |
| 195.00                | 13.06                 | 9.47                        |
| 200.00                | 13.39                 | 9.97                        |

**Table 8: 2½" Stainless Steel, ASTM A554 flow rate, velocity, loss**

| Schedule 5                          |                       |                             |
|-------------------------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.08<br>ID = 2.970 |                       |                             |
| Flow Rate (gpm)                     | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 50.00                               | 2.32                  | 0.25                        |
| 60.00                               | 2.78                  | 0.36                        |
| 70.00                               | 3.24                  | 0.49                        |
| 80.00                               | 3.70                  | 0.63                        |
| 90.00                               | 4.17                  | 0.80                        |
| 100.00                              | 4.63                  | 0.99                        |
| 110.00                              | 5.09                  | 1.20                        |
| 120.00                              | 5.56                  | 1.43                        |
| 130.00                              | 6.02                  | 1.68                        |
| 140.00                              | 6.48                  | 1.94                        |
| 150.00                              | 6.95                  | 2.23                        |
| 160.00                              | 7.41                  | 2.54                        |
| 170.00                              | 7.87                  | 2.86                        |
| 180.00                              | 8.34                  | 3.21                        |
| 190.00                              | 8.80                  | 3.58                        |
| 200.00                              | 9.26                  | 3.96                        |
| 210.00                              | 9.73                  | 4.37                        |
| 220.00                              | 10.19                 | 4.80                        |
| 230.00                              | 10.65                 | 5.24                        |
| 240.00                              | 11.11                 | 5.71                        |
| 250.00                              | 11.58                 | 6.20                        |
| 260.00                              | 12.04                 | 6.70                        |
| 270.00                              | 12.50                 | 7.23                        |
| 280.00                              | 12.97                 | 7.77                        |
| 290.00                              | 13.43                 | 8.34                        |
| 300.00                              | 13.89                 | 8.92                        |
| 310.00                              | 14.36                 | 9.53                        |
| 320.00                              | 14.82                 | 10.15                       |
| 330.00                              | 15.28                 | 10.79                       |
| 340.00                              | 15.75                 | 11.46                       |
| 350.00                              | 16.21                 | 12.14                       |
| 360.00                              | 16.67                 | 12.85                       |
| 370.00                              | 17.13                 | 13.57                       |
| 380.00                              | 17.60                 | 14.31                       |
| 390.00                              | 18.06                 | 15.08                       |

Table 9: 3" Stainless Steel, ASTM A554 flow rate, velocity, loss

| Schedule 5                          |                       |                             |
|-------------------------------------|-----------------------|-----------------------------|
| Wall Thickness = 0.08<br>ID = 3.970 |                       |                             |
| Flow Rate (gpm)                     | Velocity (ft./second) | Pressure Loss (psi/100 ft.) |
| 200.00                              | 5.18                  | 0.93                        |
| 220.00                              | 5.70                  | 1.12                        |
| 240.00                              | 6.22                  | 1.34                        |
| 260.00                              | 6.74                  | 1.57                        |
| 280.00                              | 7.26                  | 1.82                        |
| 300.00                              | 7.78                  | 2.09                        |
| 320.00                              | 8.29                  | 2.38                        |
| 340.00                              | 8.81                  | 2.69                        |
| 360.00                              | 9.33                  | 3.01                        |
| 380.00                              | 9.85                  | 3.35                        |
| 400.00                              | 10.37                 | 3.72                        |
| 420.00                              | 10.89                 | 4.10                        |
| 440.00                              | 11.40                 | 4.50                        |
| 460.00                              | 11.92                 | 4.91                        |
| 480.00                              | 12.44                 | 5.35                        |
| 500.00                              | 12.96                 | 5.81                        |
| 520.00                              | 13.48                 | 6.28                        |
| 540.00                              | 14.00                 | 6.77                        |
| 560.00                              | 14.51                 | 7.28                        |
| 580.00                              | 15.03                 | 7.81                        |
| 600.00                              | 15.55                 | 8.36                        |
| 620.00                              | 16.07                 | 8.93                        |
| 640.00                              | 16.59                 | 9.51                        |
| 660.00                              | 17.11                 | 10.12                       |
| 680.00                              | 17.62                 | 10.74                       |
| 700.00                              | 18.14                 | 11.38                       |
| 720.00                              | 18.66                 | 12.04                       |
| 740.00                              | 19.18                 | 12.72                       |
| 760.00                              | 19.70                 | 13.42                       |
| 780.00                              | 20.22                 | 14.13                       |
| 800.00                              | 20.73                 | 14.87                       |
| 820.00                              | 21.25                 | 15.62                       |
| 840.00                              | 21.77                 | 16.39                       |
| 860.00                              | 22.29                 | 17.18                       |
| 880.00                              | 22.81                 | 17.99                       |

Table 10: 4" Stainless Steel, ASTM A554 flow rate, velocity, loss

## 2.6.2 Fitting Friction Loss

| Fitting Size (in) | 90° Elbow (long radius) | 45° Elbow | Tee (straight flow) | Tee (branch outlet) | Ball Valve (full port) |
|-------------------|-------------------------|-----------|---------------------|---------------------|------------------------|
| ½                 | 0.66                    | 0.66      | 0.82                | 2.46                | 6.15                   |
| ¾                 | 0.99                    | 0.99      | 1.24                | 3.72                | 9.30                   |
| 1                 | 1.33                    | 1.33      | 1.66                | 4.98                | 12.45                  |
| 1¼                | 1.65                    | 1.65      | 2.06                | 6.18                | 15.45                  |
| 1½                | 1.98                    | 1.98      | 2.48                | 7.44                | 18.60                  |
| 2                 | 2.66                    | 2.66      | 3.32                | 9.96                | 24.90                  |
| 2½                | 3.30                    | 3.30      | 4.12                | 12.36               | NA                     |
| 3                 | 3.97                    | 3.97      | 4.96                | 14.88               | NA                     |
| 4                 | 5.30                    | 5.30      | 6.62                | 19.86               | NA                     |

Table 11: Fitting friction loss equivalent length of tube (feet)

## 2.6.3 Maximum Span/Minimum Rod Diameter

| Nominal Tube Size (in) | Stainless Steel Pipe Maximum Span (ft) | Minimum Rod Diameter (in) |
|------------------------|----------------------------------------|---------------------------|
| ½                      | 10                                     | ⅜                         |
| ¾                      | 10                                     | ⅜                         |
| 1                      | 10                                     | ⅜                         |
| 1¼                     | 10                                     | ⅜                         |
| 1½                     | 10                                     | ⅜                         |
| 2                      | 10                                     | ⅜                         |
| 2½                     | 11                                     | ½                         |
| 3                      | 12                                     | ½                         |
| 4                      | 14                                     | ⅝                         |

Table 12: MSS SP-58 or the maximum spacing and minimum rod sizes

## 3 Handling Instructions

All Viega ProPress Stainless components and associated tubing shall be free from dirt, debris, or items that may interfere with the sealing element and the press connection. Viega ProPress Stainless sealing elements, separator rings, and grip rings are to be visually inspected prior to installation to ensure the seal is intact and properly located within the fitting.

### 3.1 Transport

When transporting fittings:

- Do not pull or drag the fittings or system components along other surfaces.
- Secure fittings, tube, and system components during transportation to keep them from shifting.
- Do not damage the protective cap on the components or tube ends.
- Do not remove protective caps until immediately before installing.

### 3.2 Storage

When storing materials:

- Store fittings, tube, and system components in a clean and dry place.
  - Fittings must be clean and free of debris when pressing.  
Use only water when cleaning.
- Do not store components directly on the floor.
- Provide at least three points of support for the storage of tube.
- Where possible, store different sizes separately.
- Store small sizes on top of larger sizes if separate storage is not possible.
- Store fittings, tube, and system components of different materials separately to prevent contact corrosion.

## 4 Installation Instructions

### 4.1 Check System Components

System components may, in some cases, become damaged through transportation and storage.

- Check all parts.
- Replace damaged components.
- Do not repair damaged components.
- Contaminated components may not be installed.

#### 4.1.1 Changing the Sealing Element



##### Damage to the Sealing Element

If damage to the sealing element, separator ring, or grip ring is discovered, contact a Viega District Manager for assistance.

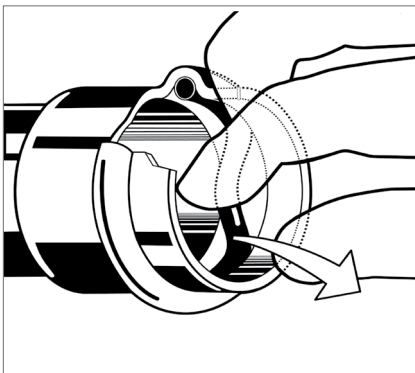
If the sealing element in the fitting is damaged, it should be exchanged for a Viega replacement sealing element.



For applications requiring a different sealing elements, remove the factory installed sealing element and replace with the applicable sealing element. See [Changing Sealing Elements Product Instructions](#).

For applications requiring an FKM sealing element in ProPress 316, remove the factory-installed EPDM sealing element using an O-ring pick and replace with an FKM sealing element.

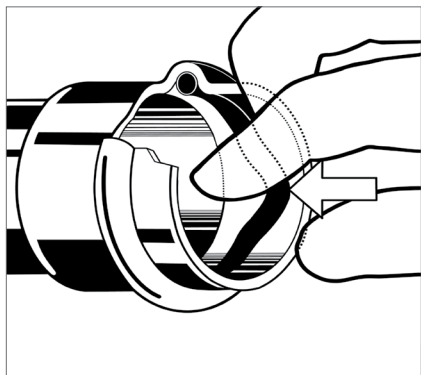
##### 4.1.1.1 ½" to 2" Fittings



- Remove the sealing element from the bead using a blunt object such as a finger or an O-ring pick.

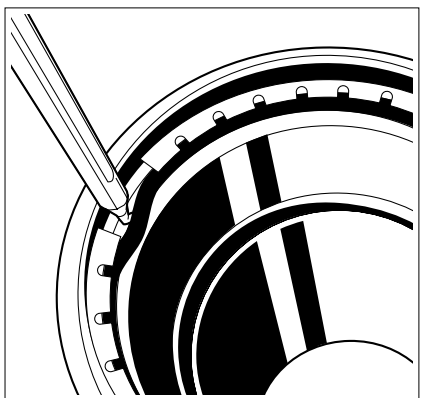


Do not use metallic pointed or sharp objects during removal because they could damage the sealing element and/or bead.

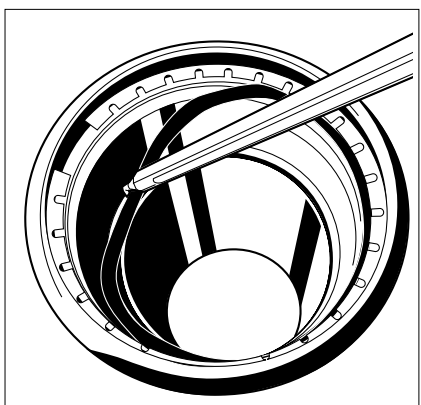


- Insert new, undamaged sealing element into the bead.
- Check to make sure that the whole sealing element is in the bead.

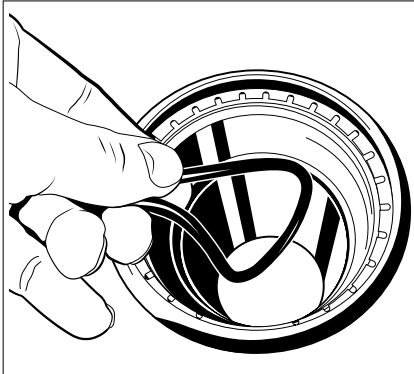
#### 4.1.1.2 2½" to 4" Fittings



- Insert o-ring pick between sealing element and separator ring.



- Use o-ring pick to push the sealing element into the fitting below the grip ring.



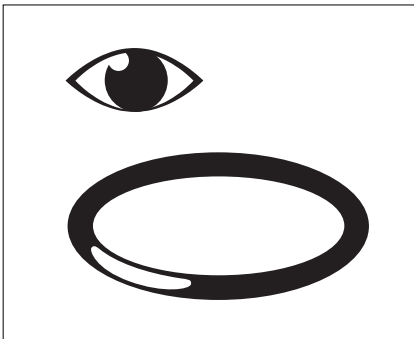
- Carefully reach past the grip ring, pinch and remove the sealing element from the fitting.

**WARNING!**

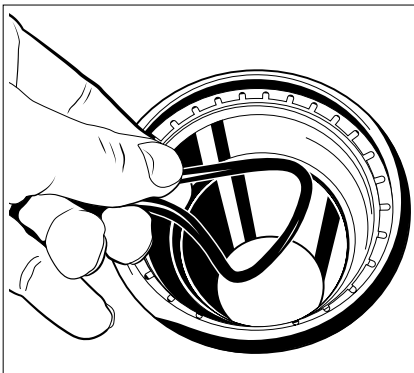
Grip ring is extremely sharp, use gloves or extreme caution when reaching into fitting.

**CAUTION!**

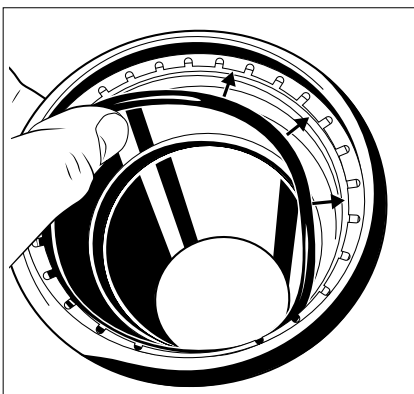
If reusing the sealing element ensure the sealing element does not make contact with grip ring as this can cause damage.



- Visually inspect replacement sealing element. Ensure there are no defects, scratches, or burrs, is free of debris, and is coated with lubricant.



- Pinch the sealing element and place it fully inside the fitting, below the separator and grip rings.



- Carefully pull the sealing element up into the channel below the separator ring. Ensure proper, concentric seating of grip ring, separator ring and sealing element before installation.

## 4.2 Installing and Mounting the Tube

Observe the general rules of hanging and mounting:

- Fixed tube should not be used as support for other tubing and components.
- Do not use pipe hooks.
- Observe distance between fittings and mounting points.
- Observe the expansion direction – plan fixed and sliding mounts.

### 4.2.1 Pipe Hangers and Supports

Pipe supports perform two functions:

- To provide support for the tube.
- To guide the tube during thermal expansion and contraction.



#### **Fittings must not be used as support**

- System malfunction may result from additional stress and strain put on the fitting.
- At no point in the system should a fitting be the sole means of support. For example, when installing a tee, both the branch and the trunk must be properly supported.

Industry standard practices and guidelines shall be used for tube layout and support. Viega press connections require no special consideration for support.

Hangers and supports must conform to the local code requirements. In the absence of local code requirements, hangers and supports should conform to ANSI/MSS SP 58 Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application and Installation. For extinguishing systems per NFPA 17A and the system manufacturer's installation, operation, and maintenance manual, the maximum spacing is 10 feet.

## 4.3 Space Requirements and Intervals



#### **Not enough space**

Malfunctions may arise from improper technique.

- Adhere to minimum space requirements.
- Make sure that the space required for pressing tools is available if fittings will be pressed immediately upstream or downstream from wall or ceiling penetrations.
- Take the minimum required distances into consideration during the planning phase of the project whenever possible.

## 4.3.1 Transition Fittings

### 4.3.1.1 Threaded Connections

The Viega ProPress Stainless systems can be joined with compatible, off-the-shelf threaded fittings.

In this regard:

- The threaded connection is made first.
- The press connection is made second.

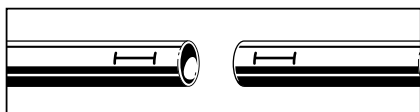
This process avoids unnecessary torsion on the press fitting.

### 4.3.1.2 Flange Connections

When using Viega flanges, bolt the flange end in place prior to pressing the fitting to the tube.

## 4.3.2 No-Stop Couplings

No-stop couplings and extended no-stop couplings are often used to conduct repairs. Without a stop, these couplings can slide completely onto a tube and allow a connection to be made in tighter spaces. Unlike fittings with an integrated stop that have a minimum insertion depth, no-stop couplings have minimum and maximum allowable insertion depths. Both the minimum and the maximum insertion depths must be marked and a line connecting the two marks.



| Tube Diameter (in) | Minimum Insertion Depth (in) | Minimum Insertion Depth (mm) | Maximum Insertion Depth (in) | Maximum Insertion Depth (mm) |
|--------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1/2                | 3/4                          | 19                           | 7/8                          | 22                           |
| 3/4                | 7/8                          | 23                           | 1 1/8                        | 28                           |
| 1                  | 7/8                          | 23                           | 1 1/8                        | 28                           |
| 1 1/4              | 1                            | 26                           | 1 3/16                       | 30                           |
| 1 1/2              | 1 7/16                       | 37                           | 1 9/16                       | 40                           |
| 2                  | 1 9/16                       | 40                           | 1 3/4                        | 44                           |

Table 13: Insertion depths for ProPress Stainless 1/2" to 2" no-stop couplings

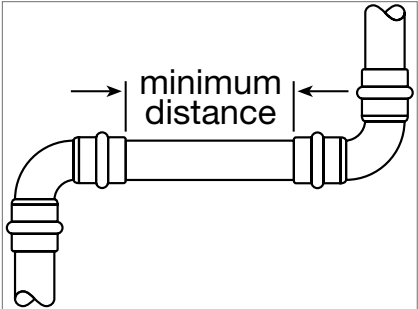
| Tube Diameter (in) | Minimum Insertion Depth (in) | Minimum Insertion Depth (mm) | Maximum Insertion Depth (in) | Maximum Insertion Depth (mm) |
|--------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2 1/2              | 1 1/16                       | 43                           | 2 5/8                        | 67                           |
| 3                  | 1 15/16                      | 50                           | 2 15/16                      | 75                           |
| 4                  | 2 3/8                        | 60                           | 3 7/16                       | 87                           |

Table 14: Insertion depths for ProPress Stainless 2 1/2" to 4" no-stop couplings

### 4.3.3 Minimum Distance between Fittings

To ensure a correct press, a minimum distance between press fittings must be maintained. Failure to provide this distance may result in an improper seal.

For installations where the minimum distance is zero, it is particularly important to ensure the correct insertion depth of the tube into each fitting.



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) |
|--------------------|----------------|----------------|
| 1/2                | 0              | 0              |
| 3/4                |                |                |
| 1                  |                |                |
| 1 1/4              | 7/16           | 10             |
| 1 1/2              | 5/8            | 15             |
| 2                  | 3/4            | 20             |
| 2 1/2              | 5/8            | 15             |
| 3                  |                |                |
| 4                  |                |                |

**Table 15: Minimum distance between press fittings**

### 4.3.4 ProPress Jaws Clearance Requirements

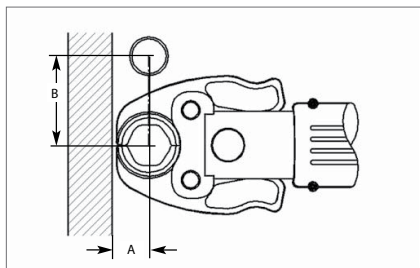
The minimum distance between adjacent tubes, or the tube and the wall/ceiling construction, must be taken into consideration in the planning phase for a problem free work process. The following illustrate the clearance requirements for the jaws and fittings and the procedure for pressing fittings in tight quarters.



#### **Tubing installed too closely together**

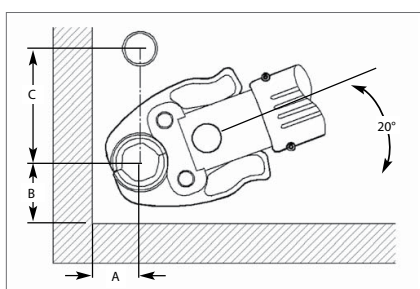
Connection may leak

- Adhere to minimum intervals between fittings.
- Insert tube to full insertion depth before pressing.



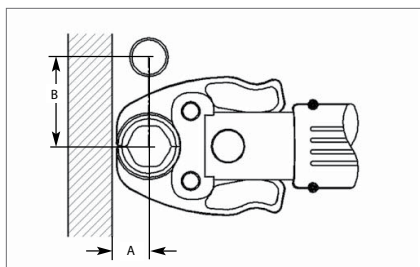
| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|
| 1/2                | 3/4            | 19             | 1 5/8          | 41             |
| 3/4                | 7/8            | 22             | 2 1/8          | 54             |
| 1                  | 1              | 26             | 2 1/2          | 64             |
| 1 1/4              | 1 1/8          | 29             | 2 7/8          | 73             |
| 1 1/2              | 1 3/4          | 45             | 3 1/2          | 89             |
| 2                  | 2              | 51             | 4 3/8          | 111            |

Table 16: ProPress standard jaws clearance requirements



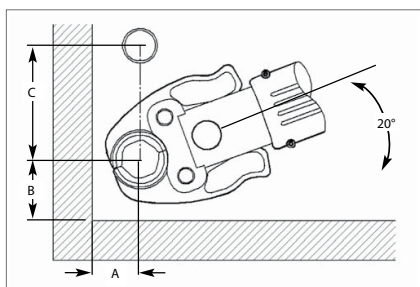
| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1/2                | 7/8            | 23             | 1 3/8          | 35             | 2 1/2          | 64             |
| 3/4                | 1              | 26             | 1 1/2          | 38             | 2 1/2          | 64             |
| 1                  | 1 1/8          | 29             | 1 3/4          | 45             | 3              | 76             |
| 1 1/4              | 1 1/4          | 32             | 2 1/4          | 57             | 3 1/8          | 80             |
| 1 1/2              | 1 7/8          | 48             | 2 1/2          | 64             | 3 3/4          | 95             |
| 2                  | 2 1/8          | 54             | 3 1/8          | 80             | 5              | 127            |

Table 17: ProPress standard jaws clearance requirements between tube, wall, and floor



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|
| 1/2                | 3/4            | 19             | 2              | 51             |
| 3/4                | 7/8            | 22             | 2 3/8          | 60             |
| 1                  |                | 26             | 2 5/8          | 67             |
| 1 1/4              | 1 1/8          | 28             | 3 1/8          | 85             |

Table 18: ProPress compact jaws clearance requirements

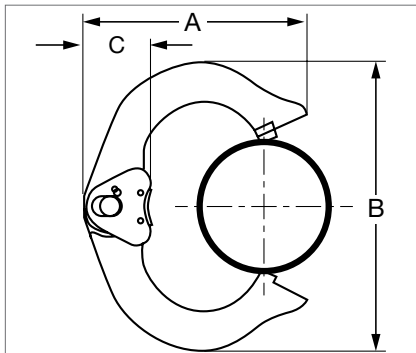


| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1/2                | 7/8            | 23             | 1 3/8          | 35             | 2 1/2          | 64             |
| 3/4                | 1              | 26             | 1 1/2          | 38             | 2 3/4          | 70             |
| 1                  | 1 1/8          | 29             | 1 5/8          | 41             | 3              | 76             |
| 1 1/4              | 1 1/8          | 39             | 2 1/8          | 53             | 3 3/8          | 85             |

Table 19: ProPress compact jaws clearance requirements between tube, wall, and floor

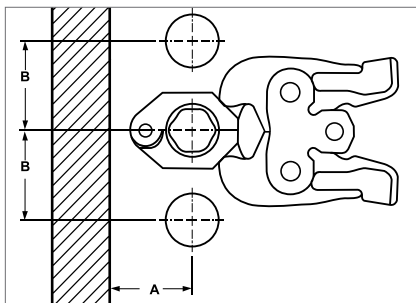
### 4.3.5 ProPress Rings Clearance Requirements

Ensure that the space required for system pressing tools is available if Viega ProPress Stainless fittings will be installed immediately upstream or downstream from ceiling penetrations.



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1/2                | 2 1/4          | 57             | 2 1/8          | 54             | 1 1/16         | 27             |
| 3/4                | 2 11/16        | 68             | 2 7/8          | 73             | 1 1/8          | 28             |
| 1                  | 2 15/16        | 75             | 3 5/16         | 84             | 1 3/16         | 30             |
| 1 1/4              | 3 5/16         | 84             | 3 7/8          | 99             |                |                |
| 1 1/2              | 3 11/16        | 94             | 4 5/16         | 110            |                |                |
| 2                  | 4 7/16         | 113            | 5 7/16         | 139            |                |                |

Table 20: ProPress rings dimensions

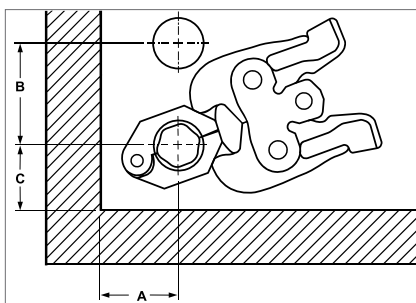


| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|
| 1/2                | 1 5/8          | 41             | 2 3/16         | 71             |
| 3/4                | 1 3/4          | 45             | 2 3/16         | 55             |
| 1                  | 2              | 51             | 1 5/8          | 42             |
| 1 1/4              | 2 3/16         | 55             | 2 15/16        | 75             |

Table 21: ProPress rings with V1 actuator clearance requirements

| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|
| 1 1/2              | 2 3/8          | 60             | 3 5/16         | 85             |
| 2                  | 2 9/16         | 65             | 4 1/8          | 105            |

Table 22: ProPress rings with V2 actuator clearance requirements



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1/2                | 1 5/8          | 41             | 3 9/16         | 90             | 2 5/16         | 59             |
| 3/4                | 1 3/4          | 45             | 3 5/8          | 92             | 2 1/8          | 55             |
| 1                  | 2              | 51             | 3 13/16        | 97             | 2 3/16         | 56             |
| 1 1/4              | 2 3/16         | 55             | 3 3/4          | 92             | 2 1/8          | 55             |

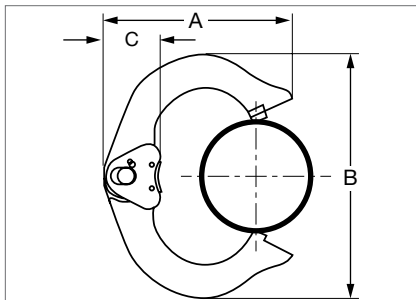
Table 23: ProPress rings with V1 actuator clearance requirements between tube, wall, and floor

| Tube Diameter (in) | A Minimum (in)   | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in)   | C Minimum (mm) |
|--------------------|------------------|----------------|----------------|----------------|------------------|----------------|
| 1½                 | 2⅜               | 60             | 5              | 127            | 2⅜ <sub>16</sub> | 56             |
| 2                  | 2⅞ <sub>16</sub> | 65             | 4¾             | 121            | 3⅞ <sub>16</sub> | 65             |

**Table 24: ProPress rings with V2 actuator clearance requirements between tube, wall, and floor**

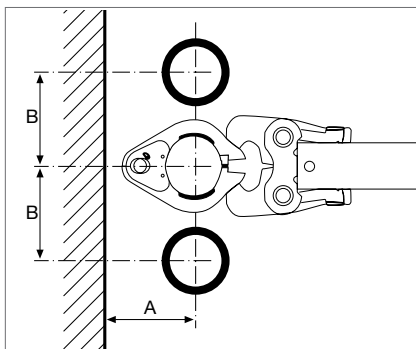
| Tube Diameter (in) | A Minimum (in)   | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| ½                  | 1⅝               | 41             | 3¼             | 83             | 2              | 51             |
| ¾                  | 1¾               | 45             |                |                | 1⅞             | 48             |
| 1                  | 2                | 51             |                |                |                |                |
| 1¼                 | 2⅜ <sub>16</sub> | 55             | 3⅝             | 86             |                |                |

**Table 25: ProPress rings with C1 actuator clearance requirements between tube, wall, and floor**



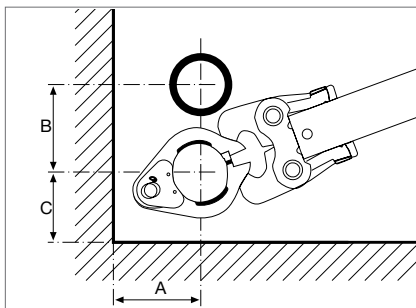
| Tube Diameter (in) | A Minimum (in)                 | A Minimum (mm) | B Minimum (in)                  | B Minimum (mm) | C Minimum (in)                 | C Minimum (mm) |
|--------------------|--------------------------------|----------------|---------------------------------|----------------|--------------------------------|----------------|
| 2½                 | 6⅜ <sub>16</sub>               | 157            | 6 <sup>15</sup> / <sub>16</sub> | 176            | 2 <sup>7</sup> / <sub>16</sub> | 62             |
| 3                  | 7 <sup>7</sup> / <sub>16</sub> | 189            | 8 <sup>13</sup> / <sub>16</sub> | 224            |                                |                |
| 4                  | 8 <sup>1</sup> / <sub>16</sub> | 205            | 10 <sup>7</sup> / <sub>16</sub> | 265            |                                |                |

**Table 26: ProPress XL-C rings dimensions**



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|
| 2½                 | 4⅞             | 105            | 6              | 152            |
| 3                  | 4¾             | 111            | 7              | 178            |
| 4                  | 5              | 127            | 8              | 203            |

**Table 27: ProPress XL-C rings clearance requirements**



| Tube Diameter (in) | A Minimum (in) | A Minimum (mm) | B Minimum (in) | B Minimum (mm) | C Minimum (in) | C Minimum (mm) |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 2½                 | 4⅞             | 105            | 6              | 152            | 4½             | 114            |
| 3                  | 4¾             | 111            | 7              | 178            | 4⅞             | 124            |
| 4                  | 5              | 127            | 8              | 203            | 5¾             | 146            |

**Table 28: ProPress XL-C rings clearance requirements between tube, wall, and floor**

## 4.4 Soldering or Brazing

### 4.4.1 Using ProPress Stainless In Line with Existing Fittings

- The minimum clearance requirement when pressing connections near an existing brazed connection is two tube diameters.
- To ensure proper sealing of both the soldered and press connections, a minimum distance when pressing connections near an existing soldered fitting must be maintained.

Refer to the table below.

| Tube Diameter (in) | Minimum Distance from Soldered (in) | Minimum Distance from Soldered (mm) | Minimum Distance from Brazed (in) | Minimum Distance from Brazed (mm) |
|--------------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|
| ½                  | ¼                                   | 7                                   | 1                                 | 26                                |
| ¾                  | ¼                                   | 7                                   | 1½                                | 38                                |
| 1                  | 7/16                                | 11                                  | 2                                 | 51                                |
| 1¼                 | 7/16                                | 11                                  | 2½                                | 64                                |
| 1½                 | 5/8                                 | 16                                  | 3                                 | 76                                |
| 2                  | ¾                                   | 19                                  | 4                                 | 102                               |
| 2½                 | ¼                                   | 7                                   | 5                                 | 127                               |
| 3                  | ¼                                   | 7                                   | 6                                 | 153                               |
| 4                  | ¼                                   | 7                                   | 8                                 | 204                               |

**Table 29: Minimum distance between existing soldered or brazed fitting and ProPress fitting**



Check the fitting to make sure there is no residual solder or other foreign debris on the tube that will be inserted into the Viega ProPress Stainless fitting.

### 4.4.2 Soldering or Brazing In Line with Existing ProPress Stainless Fitting

To prevent damage to the sealing element and ensure proper sealing of the soldered/brazed joint and the press connection, maintain proper soldering/brazing distances from the fitting:

- When soldering near a ProPress connection: three tube diameters.
- When brazing near a ProPress connection: nine tube diameters.

Refer to the table on the following page.

| Tube Diameter (in) | Soldering Minimum Distance (in) | Soldering Minimum Distance (mm) | Brazing Minimum Distance (in) | Brazing Minimum Distance (mm) |
|--------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|
| 1/2                | 1 1/2                           | 38                              | 4 1/2                         | 114                           |
| 3/4                | 2 1/4                           | 57                              | 6 3/4                         | 172                           |
| 1                  | 3                               | 76                              | 9                             | 229                           |
| 1 1/4              | 3 3/4                           | 95                              | 11 1/4                        | 286                           |
| 1 1/2              | 4 1/2                           | 114                             | 13 1/2                        | 343                           |
| 2                  | 6                               | 153                             | 18                            | 457                           |
| 2 1/2              | 7 1/2                           | 191                             | 22 1/2                        | 572                           |
| 3                  | 9                               | 229                             | 27                            | 686                           |
| 4                  | 12                              | 305                             | 36                            | 915                           |

**Table 30: Minimum distance between soldered fitting and ProPress fitting**

The installer should take precautions to keep the Viega ProPress Stainless connection cool:

- Wrap the connection with a cold wet rag.
- Protect the connection with a weld blanket.
- Prefabricate solder connections/welded fittings prior to installing the press fitting. (Ensure tube has cooled before installing the fitting).
- Apply heat sink gel or spray or spot freezing

## 4.5 Welding

### 4.5.1 Welding Adjacent to a Press Fitting

To prevent damage to the sealing element, maintain proper welding distances from the fitting. If welding adjacent to the connection, weld a minimum of 4 inches away.

Installers should follow the precautions listed above to keep the Viega ProPress Stainless connection cool.

## 4.6 Cutting the Tube



### Damaged tube and/or sealing element

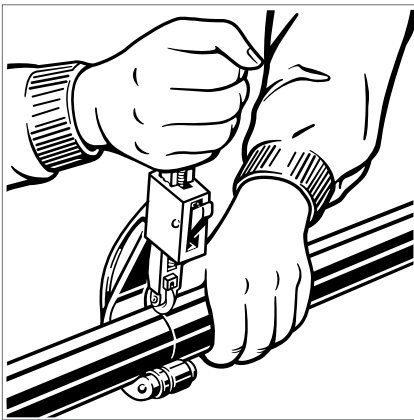
Press fittings can form improper connections as the result of damaged tube and/or sealing elements.

- Do not use flame cutters when cutting the tube.
- Do not use grease or oils when cutting the tube.

Only cut stainless steel pipe with an approved stainless steel pipe cutter.

- Cut the tube square using a displacement-type cutter or fine toothed saw.

**Note:** Cut tubing a minimum of 4 inches away from the contact area of the vise to prevent possible damage to the tubing in the press area.



## 4.7 Deburring the Tube

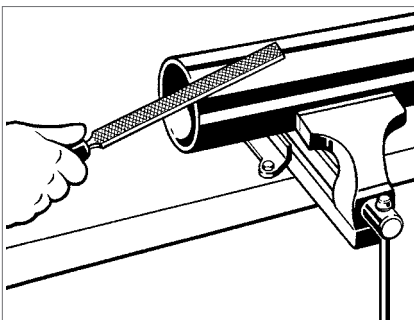


### Damage resulting from the wrong deburring tool

- Connections may leak if they are damaged by improper deburrer.
- Failure to deburr the tube will reduce the service life of the system and can cause premature leaks.

The tube ends must be thoroughly deburred after cutting. Damage to or twisting of the sealing element during installation is prevented by deburring.

- Deburr inside and outside of the tube to the proper insertion depths.
- Use a wire brush, Scotchbrite pad, sand cloth, or sandpaper to remove loose dirt and rust particles from the pressing area.

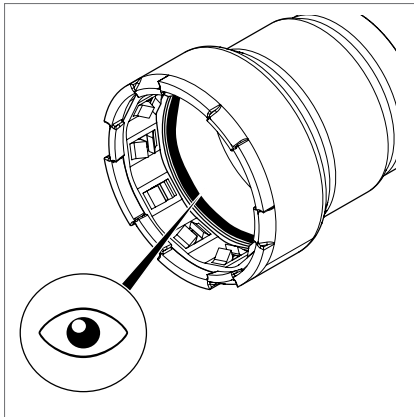


## 4.8 Pressing the Fitting – ProPress ½" to 4"

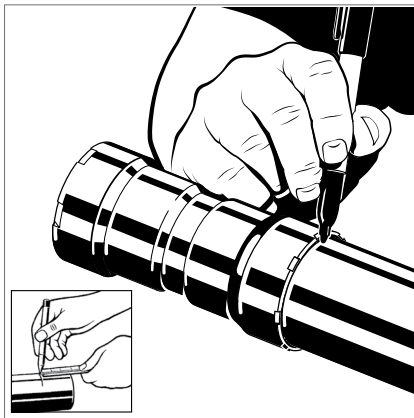


### WARNING!

Read and understand all instructions for installing Viega ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury, or death.



- Check the sealing element for correct fit:
  - The tube end is not bent or damaged.
  - The tube is deburred.
  - The correct sealing element is in the fitting.
  - The sealing element is undamaged.
  - The complete sealing element is in the bead.



- Measure insertion depth (see ProPress Minimum Insertion Depth table below).
- Mark the proper insertion depth on the outside of the tube. It is recommended that the depth marking be visible on the completed assembly.

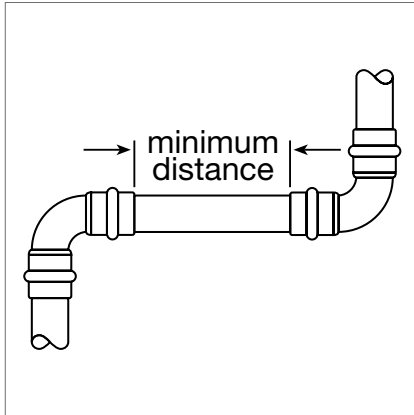


### Improper insertion depth

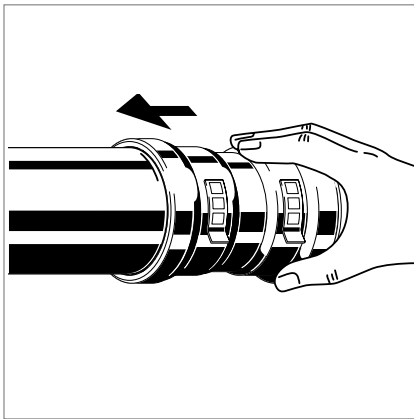
Improper insertion depth may result in an improper seal. Be sure to mark the correct insertion depth on the pipe before pressing the fitting.

| Tube diameter<br>(in) | Minimum insertion depth |      |
|-----------------------|-------------------------|------|
|                       | (in)                    | (mm) |
| ½                     | ¾                       | 19   |
| ¾                     | 7/8                     | 23   |
| 1                     | 7/8                     | 23   |
| 1¼                    | 1                       | 26   |
| 1½                    | 1 1/16                  | 37   |
| 2                     | 1 9/16                  | 40   |
| 2½                    | 1 11/16                 | 43   |
| 3                     | 1 15/16                 | 50   |
| 4                     | 2 3/8                   | 60   |

Table 31: Minimum insertion depths for ProPress ½" to 4" fittings



- Refer to [Table 4 for the minimum distance between fittings](#) to ensure a correct press. Failure to provide this distance may result in an improper seal.



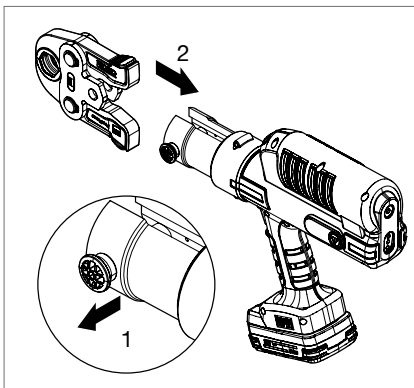
### WARNING!

Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

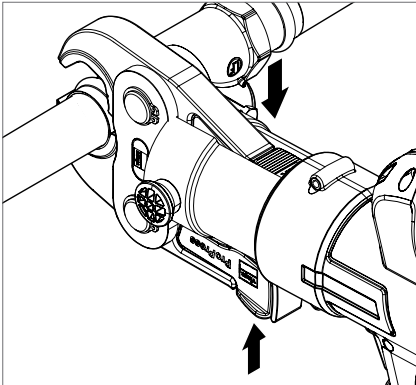
- While turning slightly, slide press fitting onto the tube to the marked insertion depth.
- End of tube must contact stop.
- Once the assembly is completed, it is recommended that the depth marking still be visible.

## 4.8.1 Pressing ½"-2" Fittings

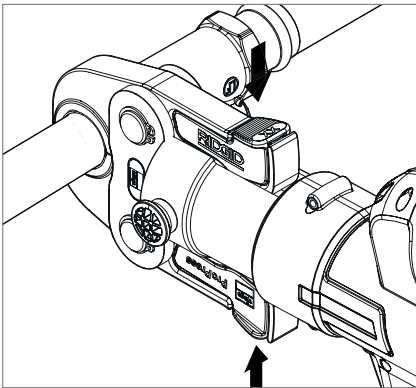
ProPress ½"-2" fittings are for ½"-2" hard copper tubing or ½"-1¼" soft copper tubing.



- Insert appropriate Viega ProPress jaw (2) into the press tool and push in, holding pin (1) until it locks into place.



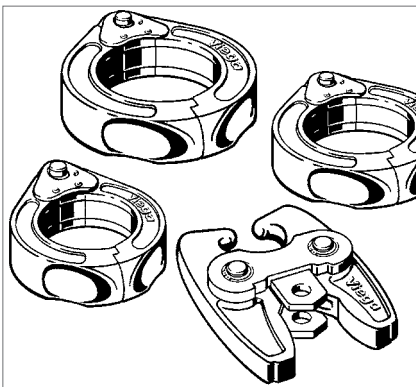
- Open the jaw and place at right angles on the fitting.
- Visually check insertion depth using mark on tubing.



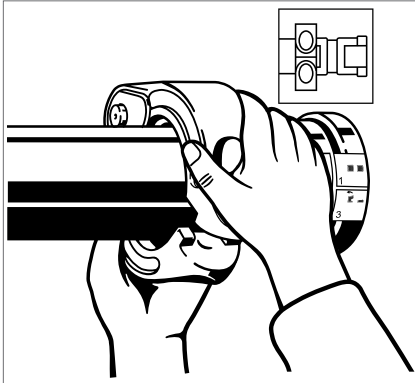
- Hold trigger on press tool until press jaws have fully engaged the fitting.
- Jaws will automatically release after a full press is made.
- After pressing, open the jaw and remove the press tool.

#### 4.8.2 Pressing 2½"-4" Fittings

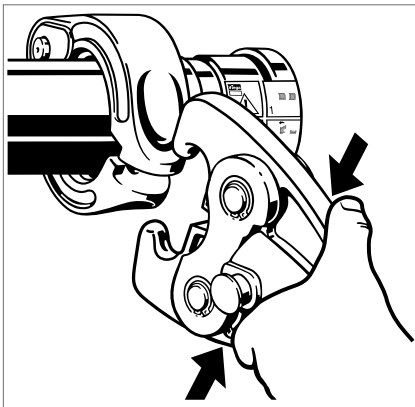
ProPress 2½" to 4" fittings are for hard copper tubing only.



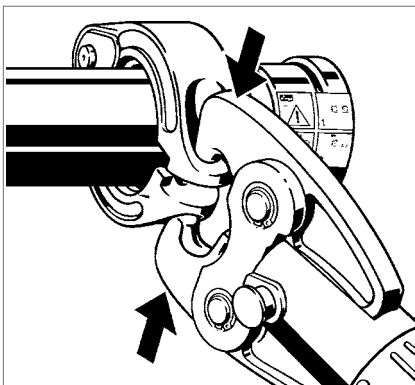
- ProPress 2½" to 4" connections must be performed with compatible rings.
- Do not mix actuators and rings from different manufacturers.
- Do not use rings intended for 2½" to 4" bronze fittings.
- Use of incompatible rings will result in an improper connection.



- Open XL-C ring and place at right angles on the fitting.
- XL-C ring must be engaged on the fitting bead.
- Check insertion depth.



- With V2 actuator inserted into the tool, open the V2 actuator and connect it to the XL-C ring.



- Hold the trigger until the V2 actuator has fully engaged the XL-C ring.
- Keep extremities and foreign objects away from XL-C ring and V2 actuator during pressing operation to prevent injury or incomplete press.
- Upon completion of the press, release the V2 actuator from XL-C ring.
- Remove the XL-C ring from the fitting.

## 4.9 Pressure Testing

Viega Smart Connect technology provides a quick and easy way for installers to identify connections that need to be pressed. Unpressed connections are located by pressurizing the system with air or water.

Pressure test all installed tubing in accordance with local codes.



### Smart Connect Testing

- Testing for unpressed connections using Smart Connect is not a replacement for pressure testing requirements of local codes and standards.
- If testing with compressed air, use an approved leak-detect solution.

Water testing with Viega Smart Connect:

- Use a range of 15 to 85 psi.
- If an unpressed fitting is found, make sure the tube is fully inserted before completing the press.
- If the initial test is successful, system may be pressure tested as required up to 600 psi.

Testing with air can be dangerous at high pressures. When air testing with Viega Smart Connect:

- Use a range of ½ psi to 45 psi (static or dynamic).
- If an unpressed fitting is found, make sure the tube is fully inserted before completing the press.
- If the initial test is successful, system may be pressure tested as required up to 200 psi (static).

## 4.10 Disposal

Separate the product and packaging materials (e.g. paper, metal, plastic, non-ferrous metals) and dispose in accordance with all national, state, and regional requirements.

## 5 Limited Warranty – Viega Metal Systems

Subject to the conditions and limitations in this Limited Warranty (“Warranty”), Viega LLC (“Viega”) warrants to end users, installers, and distributors in the United States and Canada that the following products (“Viega Products”) will be free of failure caused by a manufacturing defect from the date of installation for the time periods specified in the table included in this Warranty.

This Warranty will be valid only in the event the following conditions have been met: The Viega Products have been properly installed (1) under normal conditions of use; (2) under applications approved by Viega; (3) under Viega-specified system operating conditions; (4) using tools compatible with Viega systems; and (5) in alignment with Viega’s listings.

Further, you have a right to a remedy under this Warranty only if the Viega Product failure resulted from a manufacturing defect in the Viega Product and if the failure occurred during the applicable warranty period. You do not have a remedy under this Warranty if the failure was caused by (1) components other than those manufactured and/or sold by Viega; (2) failure to design, install, inspect, test, or maintain the Viega Product in accordance with Viega’s installation and product instructions in effect at the time of installation; (3) use of Viega Products under non-recommended system operating conditions (e.g., water pressures, temperatures, or other external chemical or physical conditions); (4) improper handling or protection of the Viega Product prior to, during, or after installation (e.g., inadequate freeze protection or exposure to environmental conditions not recommended for the application); or (5) acts of nature, including, without limitation, earthquakes, fire, or weather damage.

In the event of a failure of a Viega Product covered by this Warranty, it is the duty and responsibility of the end user to take appropriate measures to mitigate all potential damage, including making timely repairs to the system in which the Viega Product has been installed. The part or parts which you claim failed must be kept and returned to Viega for testing. Viega may be contacted at the phone number or mailing address below. All warranty claims must be made within 30 calendar days after the failure has (or should reasonably have) been discovered. You should be prepared to ship, at your expense, the Viega Product which you claim failed due to a manufacturing defect, with documentation of the installation date and the amount spent on any repair or replacement if performed by you. Within a reasonable time after receiving the Viega Product, Viega will investigate the cause of the failure, which includes the right to inspect the Viega Product at a Viega location and reasonable access to the site of any alleged damage. Viega will notify you in writing of the results of its review.

In the event Viega determines that the failure was the result of a manufacturing defect in the Viega Product covered by this Warranty and all conditions of this Warranty have been met, your **SOLE AND EXCLUSIVE REMEDY** under this Warranty shall be the reimbursement for the reasonable costs of repair or replacement of the Viega Product itself. **VIEGA SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER SIMILAR DAMAGES (E.G., ECONOMIC LOSS, WATER OR PROPERTY DAMAGE,**

OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION, INDEMNITY, OR OTHERWISE.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR ANY STATUTE OF LIMITATIONS RELATING TO SUCH WARRANTIES. Viega will be responsible for remedies only if all conditions of this Warranty have been met. Other than this Warranty, Viega does not authorize any person, company, contractor, or distributor to create any additional warranty, obligation, or liability in connection with the Viega Product.

This Warranty gives you specific legal rights, and you also may have other rights which may vary from state to state. This Warranty shall be interpreted and applied under the law of the state in which the product is installed and is intended as a COMMERCIAL WARRANTY.

| Warranty Period by Product and Application Type                                                                                                                                                                                                                                                      |                            |                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------|
| Viega Product Line                                                                                                                                                                                                                                                                                   | Residential and Commercial | Industrial <sup>1</sup> and Marine <sup>2</sup> |
| ProPress® copper fittings                                                                                                                                                                                                                                                                            | 50 years                   | 2 years                                         |
| ProPress 316 fittings and tubing                                                                                                                                                                                                                                                                     | 10 years                   |                                                 |
| MegaPress® fittings                                                                                                                                                                                                                                                                                  | 15 years                   |                                                 |
| MegaPress FKM fittings                                                                                                                                                                                                                                                                               |                            |                                                 |
| MegaPress 304 FKM fittings                                                                                                                                                                                                                                                                           |                            |                                                 |
| MegaPress 316 fittings                                                                                                                                                                                                                                                                               |                            |                                                 |
| MegaPress 316 FKM fittings                                                                                                                                                                                                                                                                           |                            |                                                 |
| MegaPressG <sup>3</sup> fittings                                                                                                                                                                                                                                                                     |                            |                                                 |
| MegaPress CuNi fittings                                                                                                                                                                                                                                                                              |                            |                                                 |
| All valves                                                                                                                                                                                                                                                                                           | 5 years                    |                                                 |
| <sup>1</sup> Industrial applications are defined as non-residential and non-commercial applications not normally accessible to the general public, including manufacturing, mining, process, or fabrication environments, or applications with components that have been cleaned for oxygen service. |                            |                                                 |
| <sup>2</sup> Marine applications are defined as mobile structures used to navigate water or stationary structures in water.                                                                                                                                                                          |                            |                                                 |
| <sup>3</sup> MegaPressG products covered by this Warranty must be installed by a licensed contractor in compliance with applicable building, permit, and inspection codes. See product instructions for additional information.                                                                      |                            |                                                 |

**> Viega LLC**  
585 Interlocken Blvd.  
Broomfield, CO 80021  
  
Phone (800) 976-9819  
www.viega.us

©2026, Viega<sup>®</sup>, ManaBloc<sup>®</sup>, MegaPress<sup>®</sup>, ProPress<sup>®</sup>, SeaPress<sup>®</sup>, Smart Connect<sup>®</sup>, Climate Mat<sup>®</sup>, Climate Panel<sup>®</sup>, Climate Trak<sup>®</sup>, PureFlow<sup>®</sup>, XL<sup>®</sup>, and Viega: Connected in quality<sup>®</sup> are trademarks of Viega Holding GmbH & Co. KG. Eco Brass<sup>®</sup> is a registered trademark of Mitsubishi Shindoh Co., LTD. RIDGID<sup>®</sup> is a registered trademark of RIDGID, Inc. LoopCAD<sup>®</sup> is a registered trademark of Avenir Software Inc. LEED<sup>®</sup> is a registered trademark of the U.S. Green Building Council<sup>®</sup>.

