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VIEGA PROPRESS® STAINLESS SYSTEMS

POCKET GUIDE



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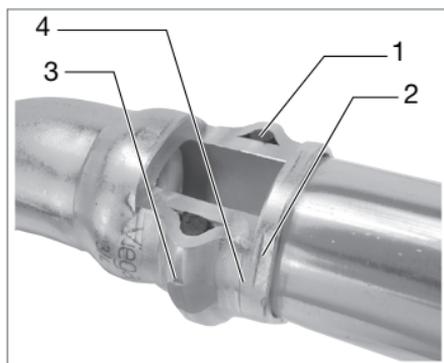
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Building on Tradition

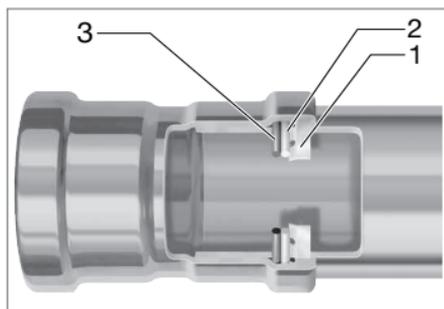
Founded 120 years ago, Viega is a privately owned international group of companies. In the United States, Canada, Mexico, and Latin America, Viega specializes in plumbing, heating, and pipe-joining technologies. The values of Viega's founder, Franz-Anselm Viegener, are just as present today as they were when he started the company in 1899. Courage, passion, and innovative spirit are still the basics of Viega's foundation.

At Viega, Safety is Priority

Safe, certain, and secure, Viega fittings are designed for peace of mind.



1. In all ProPress Stainless $\frac{1}{2}$ " to 2" fittings, each fitting contains an application-specific sealing element. A green dot indicates an EPDM sealing element.
2. Viega's distinctive hexagonal pressing pattern bonds the fitting and tube and provides the mechanical strength for the connection.
3. Viega's unique Smart Connect® technology helps installers ensure that they have pressed all connections.
4. Cylindrical guides help installers ensure proper insertion of the tube and protect the sealing element.



1. In ProPress Stainless $2\frac{1}{2}$ " to 4" fittings, the 420 stainless-steel grip ring's teeth bite 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 watertight or air-tight connections.

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This document is subject to updates. For the most current Viega technical literature, please visit 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.**



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

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 electrohydraulic press tools (battery-powered or corded press tools).

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.

Tubing

Viega stainless-steel tubing is offered in ½" to 4" size in 316 stainless steel to complement the Viega ProPress Stainless fittings and to offer a complete system solution. Viega stainless-steel tubing meets the requirement of ASTM A312, ASTM A554, or ASTM A778 for Schedule 5 316 stainless-steel pipe.

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

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.

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.



CAUTION!

It is the responsibility of designers of piping systems to verify the suitability of type 316 stainless-steel tube for use with the 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 that system life will be adequate for the intended service. Failure to do so may cause serious personal injury or property damage. Contact Viega Technical Support for questions and approvals.

Smart Connect Technology – Security Under Pressure

Locating unpressed connections is an important step in the pressure-testing process. Viega ProPress Stainless includes Smart Connect technology, providing quick and easy identification of unpressed connections during a pressure test.

Smart Connect technology is an integral part of the design of the fitting, providing



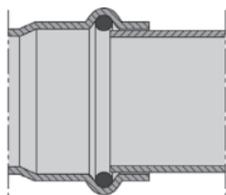
- 1 Identify an unpressed connection during pressure testing when air or water flows past the sealing element.
- 2 Upon identification, use the press tool to press the fitting, making a secure, leak-proof connection.
- 3 Viega ProPress connections are fast, flameless, and reliable.

a path for liquids and/or gases from inside the system past the sealing element of an unpressed connection. When pressed according to our Product Instructions, the fluid path is altered, creating a reliable, leakproof connection.

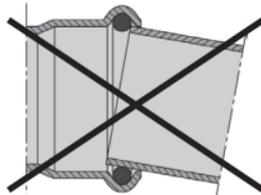
Unpressed connections are located by pressurizing the system with air or water. When testing with water the proper pressure range is 15 to 85 psi. Pressure testing with air can be dangerous at high pressures. When testing with compressed air the proper pressure range is ½ to 45 psi. Following a successful Smart Connect test, the system may be pressure tested up to 600 psi maximum for water and 200 psi maximum for air if required by local code requirements.

i Testing for unpressed connections using Smart Connect is not a replacement for pressure-testing requirements of local codes and standards.

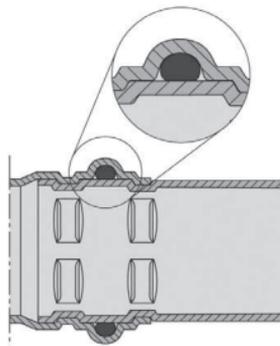
Cylindrical Guides



All Viega ProPress Stainless 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 unsecure connection, and leaving the sealing element vulnerable to damage prior to pressing.



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

Viega ProPress 316 Fitting Systems

ProPress 316 is a stainless-steel system designed to be used with Viega 316 stainless-steel tubing to form a complete press system that is ideal for process water and durable enough to handle industrial applications or environments. ProPress 316 fittings feature the same EPDM sealing element found in ProPress copper fittings and provide the same permanent leak-free connections in dimensions from ½" to 4".

ProPress 316 fittings are offered in configurations that include elbows, couplings, reducers, tees, reducing tees, threaded adapters, unions, caps, and flanges. ProPress 316 fittings in 2½" to 4" have a 420 stainless-steel grip ring and a PBT separator ring in addition to the EPDM sealing element.

Operating Parameters

- Operating Pressure: 200 psi maximum
- Test Pressure: 600 psi maximum
- Operating Temperature: 0°F to 250°F

Listings and Certificates

- ABS
- IAPMO PS-117
- ICC-ES LC1002
- NSF®-61-372

International Listings and Certificates

- BV: Bureau Veritas
- DNV GL: Det Norske Veritas Germanischer
- LR: Lloyd's Register
- NKK: Nippon Kaiji Kyokai

Compliant With

- ASME B31, B31.1, B31.3, B31.9
- ASTM A312
- ASTM A403
- ASTM A554
- ASTM A778
- IAPMO Uniform Mechanical Code (UMC)
- ICC International Mechanical Code (IMC)

Approved Applications

- Hot and cold potable water
- Hydronic heating (with glycol)
- Chilled water
- Low-pressure steam (15 psi maximum)
- Isopropyl alcohol
- Latex paint
- Phosphoric acid
- Compressed air
- Non-medical gases
- Vacuum (29.2" Hg maximum @ 68°F)

ProPress 316 systems are approved for underground use. When installed underground, ProPress 316 fittings should have proper corrosion protection in accordance with local and national codes.

For more specific information on applications for ProPress 316, contact Viega Technical Services at 1-800-976-9819.

Smart Connect Technology

ProPress 316 fittings are manufactured with Viega's unique Smart Connect technology. A design of the fitting, Viega Smart Connect technology allows identification of an unpressed fitting during pressure testing.



Contact your local Viega representative for details on local approvals.



The use of the system for applications other than those listed or outside these parameters must be approved by the Viega Technical Services Department.

Viega ProPress 316 Ball Valve

Description

The ProPress 316 two-piece ball valve can be used in a variety of commercial and industrial applications. The EPDM sealing elements make it the perfect choice for potable water systems, while the durable 316 stainless steel allows it to stand up to some of the harshest environments found in power plants, refineries, utilities, and mills. The double EPDM stem seals prevent leaks, without the need for constant adjustment. The 316 stainless-steel ball valves are available in sizes ranging from ½" to 2" and are equipped with Viega's unique Smart Connect technology for easy identification of unpressed connections during pressure testing.

Approvals

- Conforms to MSS SP-110
- NSF®-61-372

Features

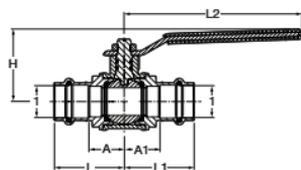
- ProPress press ends
- 316 stainless-steel ball and stem
- Full port, two piece design
- Blowout-proof stainless-steel stem
- Reinforced PTFE seats
- Lockable metal handle

Ratings

- 250 CWP
- Temperature Range: 0°F to 250°F
- Max. Operating Pressure: 200 psi

Component	Material
Body	316 Stainless Steel
Ball	316 Stainless Steel
Seat	Reinforced PTFE
Stem	316 Stainless Steel
Stem Seals	EPDM
Nut	Zinc-plated Steel
Handle	Zinc-plated Steel
Handle Cover	Polyvinyl
Sealing Element	EPDM

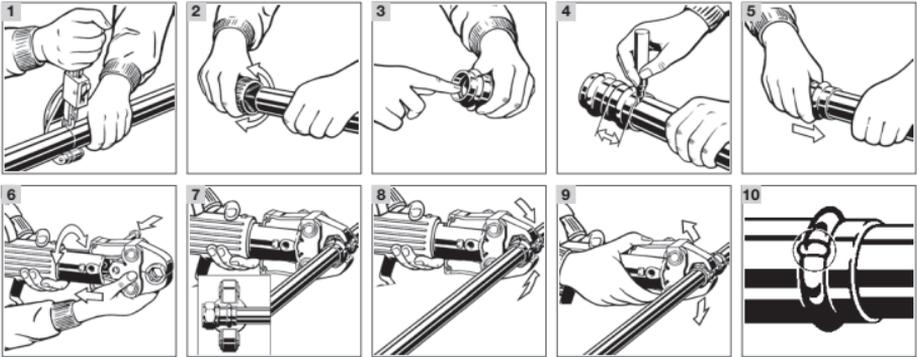
Viega ProPress 316 Ball Valve – Model 4070



Part No.	Size (in)	A (in)	A1 (in)	A2 (in)	L (in)	L1 (in)	L2 (in)
	1						
81080	½	0.89	1.17	1.64	1.92	5.55	2.44
81085	¾	1.06	1.36	1.97	2.26	5.55	2.52
81090	1	1.18	1.57	2.09	2.48	5.55	2.68
81095	1¼	1.45	1.72	2.48	2.75	6.10	3.09
81100	1½	1.83	1.81	3.26	3.24	6.10	3.34
81105	2	1.97	2.18	3.54	3.78	6.10	3.66

Viega ProPress Stainless 1/2" to 2" Fittings

For use only with Viega stainless-steel tubing



- 1 Cut stainless-steel tubing only with an approved stainless-steel tube cutting tool. Cut the tube square using a displacement-type cutter or fine-tooth saw.

i Cut tubing a minimum of four inches away from the contact area of the vise to prevent possible damage to the tubing in the press area.

- 2 Deburr inside and outside of the tube to the proper insertion depths to prevent cutting sealing element. Use a wire brush, Scotch-Brite pad, sand cloth, or sandpaper to remove loose dirt and rust particles from the pressing area.
- 3 Check the sealing element for correct fit. Do not use oils or lubricants.

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

- 4 Mark the proper insertion depth as indicated by the Minimum Insertion Depth Chart. Improper insertion depth may result in an improper seal.

Minimum Insertion Depth for ProPress Stainless

Tube Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Insertion Depth	3/4"	7/8"	7/8"	1"	1 1/16"	1 1/16"

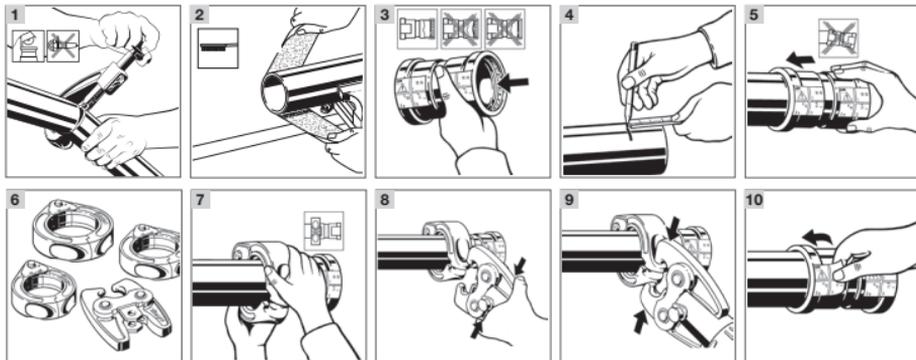
- 5 While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
- 6 Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.

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

- 7 Open the jaw and place at right angle on the fitting. Visually check insertion depth using mark on tubing.
- 8 Hold trigger on press tool until press jaws have fully engaged the fitting. Jaws will automatically release after a full press is made.
- 9 After pressing, open the jaw and remove the press tool.
- 10 Pressure testing with Smart Connect: Unpressed connections are located by pressurizing the system with air or water. When testing with water, the proper pressure range is 15 psi to 85 psi. When testing with compressed air, the proper pressure range is 1/2 psi to 45 psi maximum. If testing with compressed air, use an approved leak-detect solution. Following a successful pressure test, the system may be pressure tested up to 200 psi with air or up to 600 psi with water.

Viega ProPress Stainless 2½" to 4" Fittings

For use only with Viega stainless-steel tubing



- 1 Cut stainless-steel tubing only with an approved stainless-steel tube cutting tool. Cut the tube square using a displacement-type cutter or fine-tooth saw.

i Cut tubing a minimum of four inches away from the contact area of the vise to prevent possible damage to the tubing in the press area.

- 2 Deburr inside and outside of the tube to the proper insertion depths to prevent cutting sealing element. Use a wire brush, Scotch-Brite pad, sand cloth, or sandpaper to remove loose dirt and rust particles from the pressing area.
- 3 Check the sealing element, separator ring, and grip ring for correct fit. Do not use oils or lubricants.
- 4 Mark the proper insertion depth as indicated by the ProPress Stainless 2½" to 4" Insertion Depth Chart. Improper insertion depth may result in an improper seal.

ProPress Stainless 2½" to 4" Insertion Depth

Tube Size	2½"	3"	4"
Insertion Depth	1 11/16"	1 15/16"	2 3/8"

- 5 While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
- 6 Press Viega ProPress Stainless 2½" to 4" fittings with Viega ProPress XL-C rings and V2 actuator.

! Use only rings that are compatible with ProPress XL-C fittings. Do not use rings intended for 2½" to 4" bronze fittings.

- 7 Open XL-C ring and place at right angles on the fitting. Ensure that the XL-C ring is engaged on the fitting bead.
- 8 With V2 actuator inserted into the press tool, open the V2 actuator. Connect the V2 actuator to the XL-C Ring. Look at insertion depth mark on the tube to make sure that the tube is properly inserted into the fitting.

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

- 9 Hold the trigger until the actuator has engaged the XL-C ring.
- 10 Upon completion of the press, release the V2 actuator from XL-C ring. Remove the XL-C ring from fitting. Remove product instruction label from fitting to indicate that press has been completed.

Pressure testing with Smart Connect:

Unpressed connections are located by pressurizing the system with air or water. When testing with water, the proper pressure range is 15 psi to 85 psi. When testing with compressed air, the proper pressure range is ½ psi to 45 psi maximum. If testing with compressed air, use an approved leak-detect solution. Following a successful pressure test, the system may be pressure tested up to 200 psi with air or up to 600 psi with water.

Approved Applications

Media ¹	System Operating Conditions			Product Line, Material, and Sealing Element ²		
	Comments	Max Pressure (psig)	Temperature Range (°F)	ProPress Stainless 316		
EPDM				FKM		
Water/Liquids						
Hot and cold potable water	Test pressure 600 psi	200	See note ³	✓		
Rainwater/Graywater				✓	✓	
Chilled water	≤50% ethylene/propylene glycol			✓	✓	
Hydronic heating water ⁹	≤50% ethylene/propylene glycol			✓	✓	
Treated water	Fully desalinated, deionized, demineralized, distilled (open system)			32° to 250°	✓	✓
Reverse osmosis water	<1 MΩ				✓	✓
Paraffin wax				Max 100°		✓
Methyl ethyl ketone					✓	
Isopropyl alcohol					✓	✓
Nitric acid	Concentration ≤10%			Ambient ⁵	✓	✓
Phosphoric acid	Concentration ≤25%		✓	✓		
Steam	Low-pressure Residential	15 5	Max 250° Max 227°	✓ ⁴	✓ ⁴	
Fuels/Oils/Lubricants						
Ethanol	Pure grain alcohol	200	Ambient ⁵	✓		
Mineral oil						✓
Lube oil	Petroleum based			Max 150°		✓
Diesel Exhaust Fluid (DEF)				See note ³ (10° minimum)	✓	✓
Biodiesel	ASTM D6751	140	Max 150°		✓	
Heating fuel oil		125	See note ³		✓	
Diesel fuel				Max 100°		✓
Kerosene				Max 68°		✓
Gear oil	Lubricant					✓
Automatic transmission fluid						✓
Hydraulic oil						✓
Engine oil						✓
Engine coolant					✓	✓
Waste oil				✓		

¹ It is recommended that all systems be clearly labeled with the media being conveyed. For further information, please consult Viega Technical Services.

² All Viega systems must be used with the manufacturer's recommended sealing element. Contact your local Viega representative or Viega Technical Services for specific application temperature, pressure, and concentration limits.

³ System pressure and temperature ranges depend on sealing element. Any ranges listed above will be overruled by the sealing element limits here:

^{3a} EPDM temperature ranges are typically 0°F to 250°F.

^{3b} FKM temperature ranges are typically 14°F to 284°F, with temperature spikes (24 hours) up to 356°F.

^{3c} HNBR temperature ranges are typically -40°F to 180°F.

⁴ System must contain adequate condensate drainage.

⁵ Ambient temperatures should be taken as normal operating conditions in order for the applications not to exceed sealing element limitations.

⁷ All copper or copper alloy components that are exposed in ammonia environments require lacquer or paint coating.

⁹ It is a Viega engineering best practice that for heating applications using EPDM – where the media will be running continuously, non-stop at 200°F or above – to consider switching to an FKM sealing element.

Media ¹	System Operating Conditions			Product Line, Material, and Sealing Element ²	
	Comments	Max Pressure (psig)	Temperature Range (°F)	ProPress Stainless 316	
EPDM				FKM	
Gases					
Compressed air	Oil concentration ≤ 25 mg/m ³	200	Max 140°	✓	✓
	Oil concentration > 25 mg/m ³			✓	✓
Nitrogen – N ₂	✓			✓	
Carbon Dioxide – CO ₂	✓			✓	
Argon – Ar	✓		✓		
Ammonia	Anhydrous		Max 120°	✓	
	Ammonia environment ⁷	✓		✓	
Oxygen – O ₂	Non-medical. Keep free of oil and grease.	140	Max 140°	✓	
Hydrogen – H ₂		125		✓	✓
Acetylene	Test pressure 350 psi	20	Ambient ⁵	✓	✓
Vacuum	Minimum absolute pressure Maximum differential pressure	750µm Hg 29.2" Hg	Max 160°	✓	✓
Special Media					
Methanol		200	75°	✓	
Latex paint			32° to 250°	✓	✓
Urea solution	Concentration $\leq 40\%$	140	100°	✓	
Caustic soda	Concentration $\leq 50\%$		140°	✓	
Acetone	Liquid	70	-14° to 104°	✓	

¹ It is recommended that all systems be clearly labeled with the media being conveyed. For further information, please consult Viega Technical Services.

² All Viega systems must be used with the manufacturer's recommended sealing element. Contact your local Viega representative or Viega Technical Services for specific application temperature, pressure, and concentration limits.

³ System pressure and temperature ranges depend on sealing element. Any ranges listed above will be overruled by the sealing element limits here:

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⁴ System must contain adequate condensate drainage.

⁵ Ambient temperatures should be taken as normal operating conditions in order for the applications not to exceed sealing element limitations.

⁷ All copper or copper alloy components that are exposed in ammonia environments require lacquer or paint coating.

⁸ It is a Viega engineering best practice that for heating applications using EPDM – where the media will be running continuously, non-stop at 200°F or above – to consider switching to an FKM sealing element.

Sealing Element Description

EPDM Sealing Element

Viega ProPress 316 fittings are manufactured with an EPDM sealing element installed at the factory. The EPDM sealing element is used mainly for potable water, hydronic heating, fire sprinklers, and compressed-air installations.

Definition: EPDM
Ethylene-Propylene-Diene-Monomer, gloss black in color

Operating Temperature: 0°F to 250°F

The EPDM sealing element is a synthetically manufactured and peroxidically cross-linked general-purpose elastomer with a wide range of applications. It is resistant to aging, ozone, UV, weathering, environmental influences, chemicals, and most alkaline solutions.

The EPDM sealing element is recommended for drinking water applications. It is particularly resistant to hot water, making it ideal for seals and gaskets in heating systems, fittings, and household appliances (e.g., washing machines, pumps, and dishwashers). It is not resistant to hydrocarbon solvent solutions, oils, chlorinated hydrocarbons, turpentine, and gasoline.

FKM Sealing Element

Viega ProPress 316 fittings can be equipped with a high-quality, FKM sealing element. Sealing elements are inserted into the fitting using an 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, UV, 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.

Definition: FKM
Fluoroelastomer, dull black in color

Operating Temperature: 14°F to 284°F (with temperature spikes up to 356°F)

The FKM sealing element is a special-purpose elastomer typically installed where higher temperatures are required.



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.

General Installation Notes

Expansion

Thermal expansion in installed systems generates stress on 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 as opposed to traditional joining methods.

The following methods are effective:

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

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 that bonding is in accordance with local codes.

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 RP0 169-2002 Section 5, 2009 UPC Chapter 6 Section 609.3.1, 2009 UMC Chapter 13 Section 1312.1.3, or by satisfying local code requirements. In addition, systems should be properly sized to minimize the risk of erosion corrosion resulting from excessive velocities.

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 tube. 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.

Aboveground tube and fittings do not normally require external corrosion protection.

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.

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.

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.

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.

Rotating a Pressed Fitting

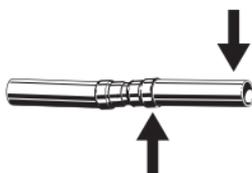
Once a ProPress Stainless fitting has been pressed, it can be rotated (not by hand); but once rotated more than five degrees, the fitting should be re-pressed to restore resistance to rotational movement. If the fitting is re-pressed, care should be taken to align the flat sides on the jaw with those on the fitting.

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.

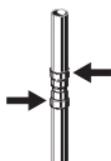
Deflection occurs in the same way for every fitting. The fitting being pressed will move in the direction of the jaw or ring opening.

- 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 struts and clamps, deflection is minimized and nearly eliminated, depending on clamp spacing.



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.

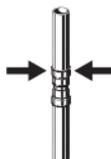
Push-Pull Method

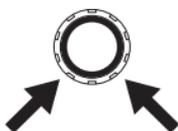
- Rings = Push on press tool.
 - Jaws = Pull on press tool.
- The press tool can be feathered using the trigger as needed to apply pulling or pushing force to control deflection.



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 when working above the piping.

i

■ 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.

Transition Fittings – Threaded

The Viega ProPress systems can be joined with off-the-shelf threaded fittings made of non-ferrous metals. In this regard:

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

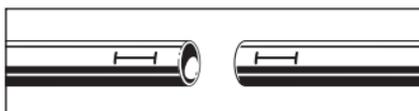
This process avoids unnecessary torsion on the press fitting.

Transition Fittings – Flange

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

No-Stop Couplings

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. The minimum and the maximum insertion depths should be marked, and a line should connect the two marks.



ProPress Stainless No-Stop Couplings

Tube Diameter (in)	Minimum Insertion		Maximum Insertion	
	in	mm	in	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
2 1/2	1 11/16	43	2 5/8	67
3	1 15/16	50	2 15/16	75
4	2 3/8	60	3 7/16	87

Soldering or Brazing

Using ProPress Stainless in Line with Existing Fittings

Maintain proper distances when installing a ProPress Stainless fitting near an existing soldered or brazed fitting.

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

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.

Tube Diameter (in)	Soldering Minimum Distance		Brazed Minimum Distance	
	in	mm	in	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



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.

Welding

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 four inches away.

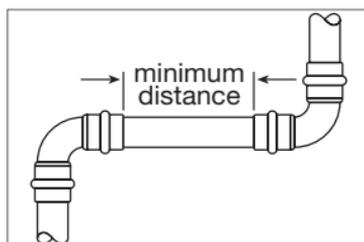
Welding Requirements

The installer should take precautions to keep the ProPress 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 press fitting.)
- Apply heat sink gel or spray or spot freezing.

Minimum Clearance Between Two Viega Press Connections

Tubing Diameter (in)	Viega ProPress Stainless	
	Minimum Clearance (in)	Minimum Clearance (mm)
1/2	0	0
3/4	0	0
1	0	0
1 1/4	7/16	10
1 1/2	5/8	15
2	3/4	20
2 1/2	5/8	15
3	5/8	15
4	5/8	15



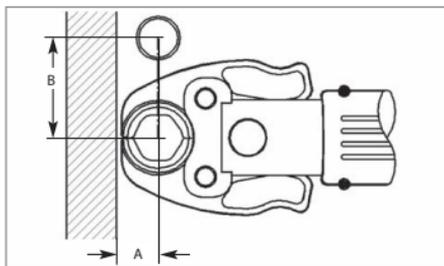
Friction Loss in Equivalent Feet of Tube

Fitting Size	Fittings Friction Loss				
	90° elbow (long radius)	45° Elbow	Tee (straight flow)	Tee (branch outlet)	Ball Valve (full port)
1/2"	0.66	0.66	0.82	2.46	6.15
3/4"	0.99	0.99	1.24	3.72	9.30
1"	1.33	1.33	1.66	4.98	12.45
1 1/4"	1.65	1.65	2.06	6.18	15.45
1 1/2"	1.98	1.98	2.48	7.44	18.60
2"	2.66	2.66	3.32	9.96	24.90
2 1/2"	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

Tool Clearances

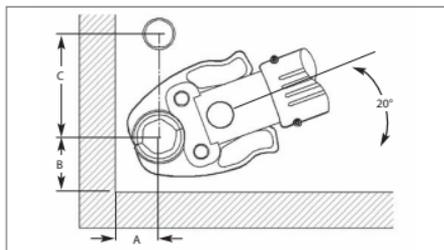
Minimum distances should be taken into consideration during planning in order to avoid space constraints during installation.

ProPress Standard Jaw Clearance



Tube Diameter	A minimum	B minimum
1/2"	3/4"	1 5/8"
3/4"	7/8"	2 1/8"
1"	1"	2 1/2"
1 1/4"	1 1/8"	2 7/8"
1 1/2"	1 3/4"	3 1/2"
2"	2"	4 3/8"

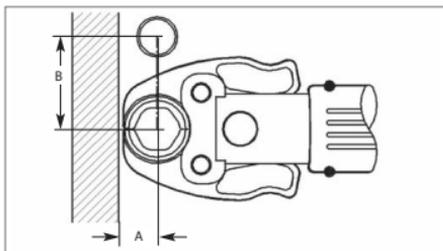
ProPress Standard Jaw Clearance Between Tube, Wall, and Floor



Tube Diameter	A minimum	B minimum	C minimum
1/2"	7/8"	1 3/8"	2 1/2"
3/4"	1"	1 1/2"	2 1/2"
1"	1 1/8"	1 3/4"	3"
1 1/4"	1 1/4"	2 1/4"	3 1/8"
1 1/2"	1 7/8"	2 1/2"	3 3/4"
2"	2 1/8"	3 1/8"	5"

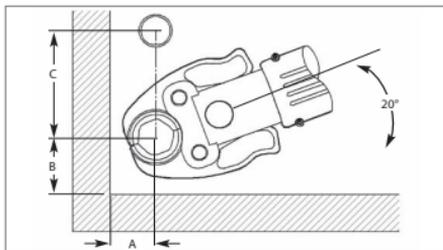
Ensure that the space required for system pressing tools is available if Viega ProPress Stainless fittings will be installed immediately upstream or downstream from wall or floor penetrations.

ProPress Compact Jaw Clearance

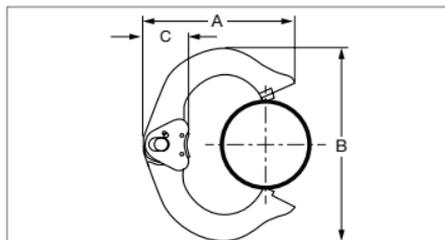


Tube Diameter	A minimum	B minimum
1/2"	3/4"	2"
3/4"	7/8"	2 3/8"
1"	7/8"	2 5/8"
1 1/4"	1 1/8"	3 1/8"

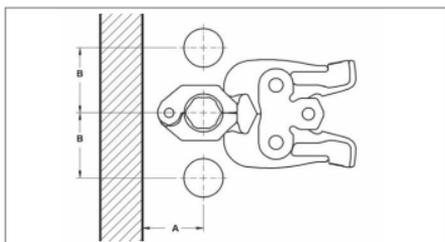
ProPress Compact Jaw Clearance Between Tube, Wall, and Floor



Tube Diameter	A minimum	B minimum	C minimum
1/2"	7/8"	1 3/8"	2 1/2"
3/4"	1"	1 1/2"	2 3/4"
1"	1 1/8"	1 5/8"	3"
1 1/4"	1 5/8"	2 1/8"	3 3/8"

ProPress Ring Dimensions


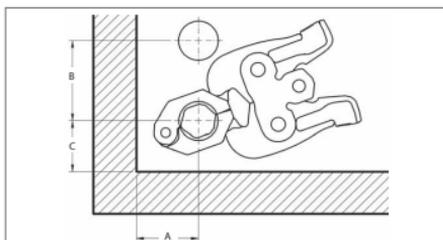
Tube Diameter	A minimum	B minimum	C minimum
1/2"	2 1/4"	2 1/8"	1 1/16"
3/4"	2 11/16"	2 7/8"	1 1/8"
1"	2 5/16"	3 5/16"	1 3/16"
1 1/4"	3 5/16"	3 7/8"	1 3/16"
1 1/2"	3 11/16"	4 5/16"	1 3/16"
2"	4 7/16"	5 7/16"	1 3/16"

ProPress Rings With V1 Actuator Clearance


Tube Diameter	A minimum	B minimum
1/2"	1 5/8"	2 3/16"
3/4"	1 3/4"	2 3/16"
1"	2"	1 5/8"
1 1/4"	2 3/16"	2 5/16"

ProPress Rings With V2 Actuator Clearance

Tube Diameter	A minimum	B minimum
1 1/2"	2 3/8"	3 5/16"
2"	2 9/16"	4 1/8"

ProPress Rings With V1 Actuator Clearance Between Tube, Wall, and Floor


Tube Diameter	A minimum	B minimum	C minimum
1/2"	1 5/8"	3 9/16"	2 5/16"
3/4"	1 3/4"	3 5/8"	2 1/8"
1"	2"	3 13/16"	2 3/16"
1 1/4"	2 3/16"	3 3/4"	2 1/8"

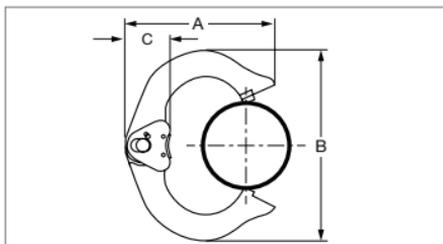
ProPress Rings With V2 Actuator Clearance Between Tube, Wall, and Floor

Tube Diameter	A minimum	B minimum	C minimum
1 1/2"	2 3/8"	5"	2 3/16"
2"	2 9/16"	4 3/4"	3 9/16"

ProPress Rings With C1 Actuator Clearance Between Tube, Wall, and Floor

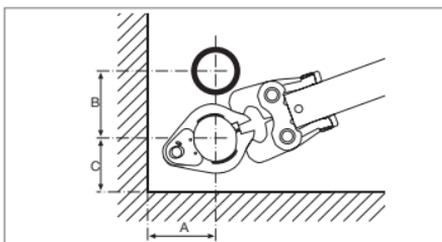
Tube Diameter	A minimum	B minimum	C minimum
1/2"	1 5/8"	3 1/4"	2"
3/4"	1 3/4"	3 1/4"	1 7/8"
1"	2"	3 1/4"	1 7/8"
1 1/4"	2 3/16"	3 3/8"	1 7/8"

ProPress XL-C Ring Dimensions



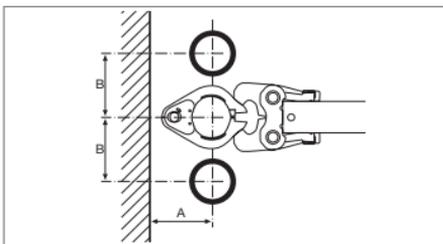
Tube Diameter	A minimum	B minimum	C minimum
2½"	6¾"	6¹⁵⁄₁₆"	2⁷⁄₁₆"
3"	7⁷⁄₁₆"	8¹³⁄₁₆"	2⁷⁄₁₆"
4"	8³⁄₁₆"	10⁷⁄₁₆"	2⁷⁄₁₆"

ProPress XL-C Ring Clearance Between Tube, Wall, and Floor



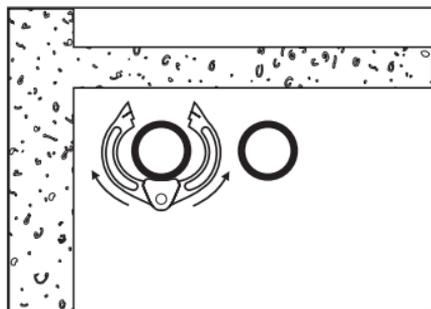
Tube Diameter	A minimum	B minimum	C minimum
2½"	4⅛"	6"	4½"
3"	4¾"	7"	4⅞"
4"	5"	8"	5¾"

ProPress XL-C Ring Clearance

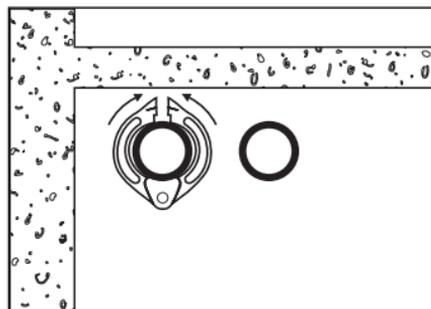


Tube Diameter	A minimum	B minimum
2½"	4⅛"	6"
3"	4¾"	7"
4"	5"	8"

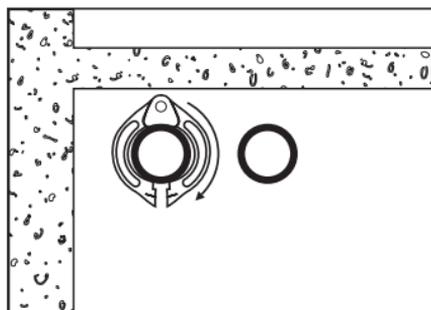
Pressing with Ring and Actuator in Tight Quarters



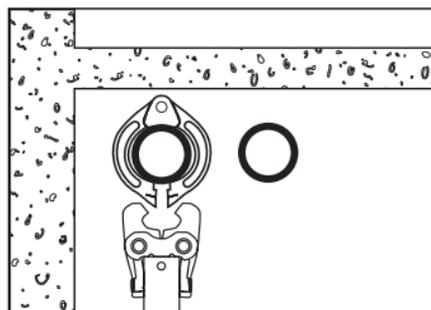
1. Wrap the actuator ring around the press fitting with the opening facing away from you.



2. Close the actuator tight around the fitting.



3. Rotate the actuator ring until the press jaw receptacle is facing toward you.

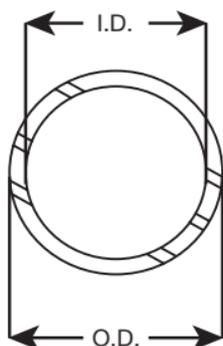


4. Properly insert press jaws and begin the press-fitting procedure.

Dimensional Documentation
ProPress Stainless Fittings

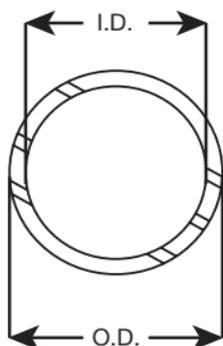


ProPress Stainless Tubing – Model 4003



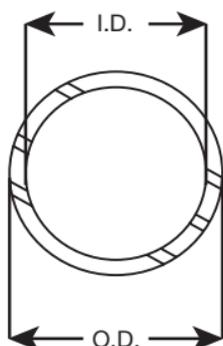
Part No.	Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
82000	1/2	0.63	0.50	0.06	20
82005	3/4	0.88	0.75	0.06	20
82010	1	1.13	1.00	0.06	20
82015	1 1/4	1.38	1.26	0.06	20
82020	1 1/2	1.63	1.50	0.06	20
82025	2	2.13	2.00	0.06	20

ProPress Stainless Tubing – Model 4007XL

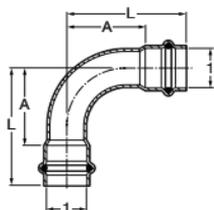


Part No.	Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
82042	2 1/2	2.63	2.47	0.08	20
82050	3	3.13	2.97	0.08	20
82055	4	4.13	3.97	0.08	20

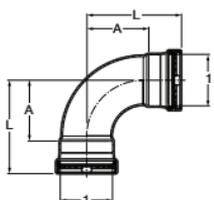
ProPress 316 ECO Tubing – Models 4008 / 4008XL



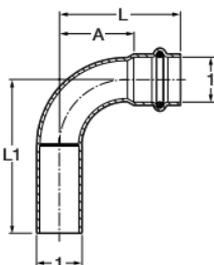
Part No.	Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
82150	1/2	0.63	0.55	0.04	20
82155	3/4	0.88	0.78	0.05	20
82160	1	1.13	1.03	0.05	20
82165	1 1/4	1.38	1.26	0.06	20
82170	1 1/2	1.63	1.51	0.06	20
82175	2	2.13	2.01	0.06	20
82180	2 1/2	2.63	2.47	0.08	20
82185	3	3.13	2.97	0.08	20
82190	4	4.13	3.97	0.08	20

ProPress Stainless 90° Elbow P x P – Model 4016


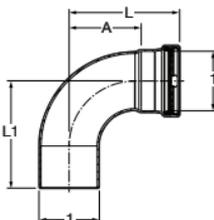
Part No.	Size (in)	A (in)	L (in)
316	1		
80400	1/2	1.12	1.87
80405	3/4	1.73	2.64
80410	1	1.87	2.78
80415	1 1/4	1.65	2.69
80420	1 1/2	1.98	3.41
80425	2	2.55	4.14

ProPress Stainless 90° Elbow P x P – Model 4016XL


Part No.	Size (in)	A (in)	L (in)
316	1 1		
80430	2 1/2 x 2 1/2	3.19	4.88
80435	3 x 3	3.76	5.73
80440	4 x 4	4.86	7.22

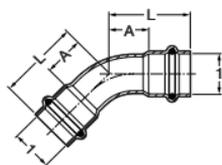
ProPress Stainless 90° Elbow FTG x P – Model 4016.1


Part No.	Size (in)	A (in)	L (in)	L1 (in)
316	1			
80490	1/2	1.12	1.87	1.99
80495	3/4	1.45	2.35	3.03
80500	1	1.87	2.78	3.27
80505	1 1/4	1.65	2.69	2.76
80510	1 1/2	1.98	3.41	3.48
80515	2	2.55	4.14	4.20

ProPress Stainless 90° Street Elbow P x FTG – Model 4016.1XL


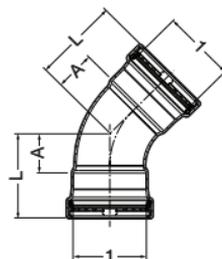
Part No.	Size (in)	A (in)	L (in)	L1 (in)
316	1 1			
80520	2 1/2 x 2 1/2	3.19	4.88	4.80
80525	3 x 3	3.76	5.73	5.63
80530	4 x 4	4.86	7.22	7.13

ProPress Stainless 45° Elbow P x P – Model 4026



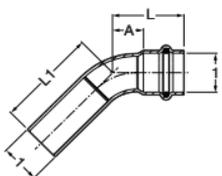
Part No.	Size (in)	A (in)	L (in)
316	1		
80445	1/2	0.57	1.32
80450	3/4	0.87	1.77
80455	1	0.89	1.79
80460	1 1/4	0.69	1.72
80465	1 1/2	0.82	2.25
80470	2	1.06	2.64

ProPress Stainless 45° Elbow P x P – Model 4026XL



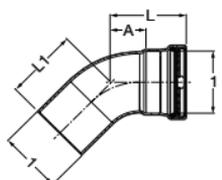
Part No.	Size (in)	A (in)	L (in)
316	1 1		
80475	2 1/2 x 2 1/2	1.48	3.18
80480	3 x 3	1.73	3.70
80485	4 x 4	2.19	4.55

ProPress Stainless 45° Elbow FTG x P – Model 4026.1

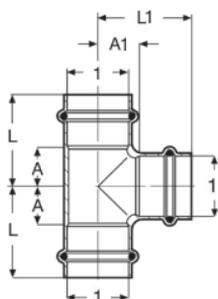


Part No.	Size (in)	A (in)	L (in)	L1 (in)
316	1			
80535	1/2	0.57	1.32	1.46
80540	3/4	0.69	1.59	2.27
80545	1	0.89	1.79	2.28
80550	1 1/4	0.69	1.72	1.79
80555	1 1/2	0.82	2.25	2.32
80560	2	1.06	2.64	2.71

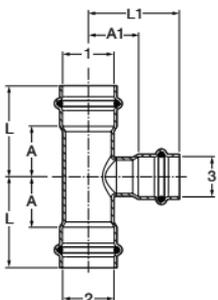
ProPress Stainless 45° Street Elbow P x FTG – Model 4026.1XL



Part No.	Size (in)	A (in)	L (in)	L1 (in)
316	1 1			
80565	2 1/2 x 2 1/2	1.48	3.18	3.10
80570	3 x 3	1.73	3.70	3.60
80575	4 x 4	2.19	4.55	4.45

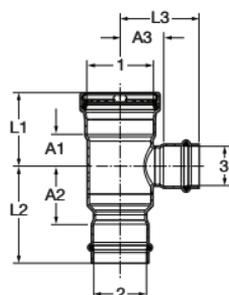
ProPress Stainless Tee P x P x P – Model 4018


Part No.	Size (in)	A (in)	A1 (in)	L (in)	L1 (in)
316	1				
80580	1/2	0.75	0.87	1.50	1.61
80585	3/4	0.96	0.96	1.86	1.86
80590	1	1.13	1.18	2.04	2.09
80595	1 1/4	1.04	1.05	2.08	2.07
80600	1 1/2	1.26	1.22	2.69	2.65
80605	2	1.54	1.53	3.12	3.11

ProPress Stainless Tee P x P x P – Model 4018


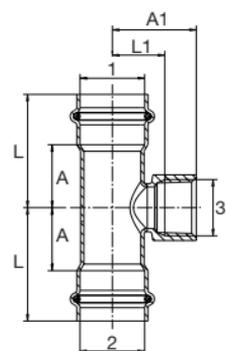
Part No.	Size (in)	A (in)	A1 (in)	L (in)	L1 (in)
316	1 2 3				
80630	3/4 x 3/4 x 1/2	0.96	0.98	1.86	1.73
80640	1 x 1 x 1/2	1.13	1.13	2.04	1.88
80650	1 x 1 x 3/4	1.13	1.10	2.04	2.01
80660	1 1/4 x 1 1/4 x 1/2	0.75	1.28	1.78	2.03
80670	1 1/4 x 1 1/4 x 3/4	0.83	1.25	1.86	2.16
80680	1 1/4 x 1 1/4 x 1	1.04	1.33	2.08	2.24
80690	1 1/2 x 1 1/2 x 1/2	1.26	1.39	2.69	2.14
80700	1 1/2 x 1 1/2 x 3/4	1.26	1.37	2.69	2.27
80710	1 1/2 x 1 1/2 x 1	1.26	1.44	2.69	2.35
80720	2 x 2 x 1/2	0.71	1.65	2.30	2.40
80730	2 x 2 x 3/4	0.71	1.63	2.30	2.53
80740	2 x 2 x 1	0.83	1.70	2.41	2.61
80750	2 x 2 x 1 1/2	1.15	1.49	2.73	2.91

ProPress Stainless Tee P x P x P – Model 4018XL

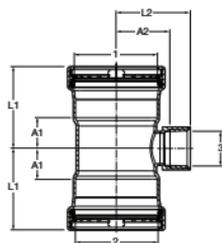


Part No.	Size (in)	A1 (in)	A2 (in)	A3 (in)	L1 (in)	L2 (in)	L3 (in)
316	1 2 3						
80753	2½ x 2 x 1½	1.30	2.37	1.74	2.99	3.96	3.17
80752	2½ x 2 x 2	1.54	2.69	1.78	3.23	4.27	3.37
80751	2½ x 2½ x 1½	1.30	1.30	1.74	2.99	2.99	3.17
80760	2½ x 2½ x 2	1.54	1.54	1.78	3.23	3.23	3.37
80610	2½ x 2½ x 2½	1.83	1.83	1.87	3.52	3.52	3.56
80782	3 x 3 x 1¼	1.24	1.24	1.96	3.21	3.21	2.99
80781	3 x 3 x 1½	1.32	1.32	2.00	3.29	3.29	3.43
80770	3 x 3 x 2	1.56	1.56	2.04	3.52	3.52	3.62
80780	3 x 3 x 2½	1.85	1.85	2.13	3.82	3.82	3.82
80615	3 x 3 x 3	2.07	2.07	2.15	4.04	4.04	4.11
80791	4 x 4 x 1½	1.36	1.36	2.51	3.72	3.72	3.94
80790	4 x 4 x 2	1.59	1.59	2.55	3.96	3.96	4.13
80800	4 x 4 x 2½	1.89	1.89	2.64	4.25	4.25	4.33
80810	4 x 4 x 3	2.11	2.11	2.66	4.47	4.47	4.63
80620	4 x 4 x 4	2.60	2.60	2.66	4.96	4.96	5.02

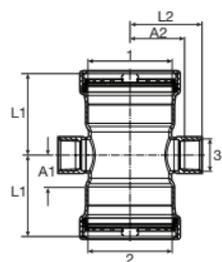
ProPress Stainless Reducing Tee P x P x FPT – Model 4017.2



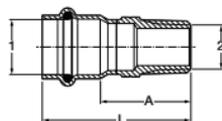
Part No.	Size (in)	A (in)	A1 (in)	L (in)	L1 (in)
316	1 2 3				
80820	¾ x ¾ x ½ FPT	0.96	0.76	1.86	1.26
80830	¾ x ¾ x ¾ FPT	0.96	0.78	1.86	1.34
80840	1 x 1 x ½ FPT	1.13	0.87	2.04	1.41
80850	1 x 1 x ¾ FPT	1.13	0.93	2.04	1.48
80860	1¼ x 1¼ x ½ FPT	0.75	1.02	1.78	1.56
80870	1¼ x 1¼ x ¾ FPT	0.83	1.08	1.86	1.63
80880	1¼ x 1¼ x 1 FPT	1.04	1.09	2.08	1.75
80890	1½ x 1½ x ½ FPT	1.26	1.13	2.69	1.67
80900	1½ x 1½ x ¾ FPT	1.26	1.19	2.69	1.75
80910	1½ x 1½ x 1 FPT	1.26	1.20	2.69	1.87
80920	2 x 2 x ½ FPT	0.71	1.39	2.30	1.93
80930	2 x 2 x ¾ FPT	0.71	1.45	2.30	2.01
80940	2 x 2 x 1 FPT	0.83	1.50	2.41	2.13

ProPress Stainless Reducing Tee P x P x FPT – Model 4017.2XL


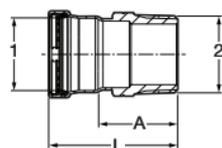
Part No.	Size (in)			A1 (in)	A2 (in)	L1 (in)	L2 (in)
	1	2	3				
80950	2½	2½	¾	1.02	1.73	2.72	2.28
80960	2½	2½	1	1.02	1.74	2.72	2.38
80970	3	3	¾	1.04	1.98	3.01	2.54
80980	3	3	1	1.04	1.98	3.01	2.64
80990	4	4	¾	1.08	2.50	3.44	3.05
81000	4	4	1	1.08	2.49	3.44	3.15

ProPress Stainless Cross P x P x FPT x FPT – Model 4044.2XL


Part No.	Size (in)			A1 (in)	A2 (in)	L1 (in)	L2 (in)
	1	2	3				
80067	2½	2½	¾	1.02	1.73	2.62	2.28
80069	3	3	¾	1.04	1.98	3.01	2.54
80068	4	4	¾	1.08	2.50	3.44	3.05

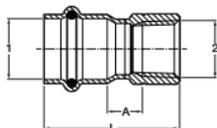
ProPress Stainless Adapter P x MPT – Model 4011


Part No.	Size (in)		A (in)	L (in)
	1	2		
80010	½	½ MPT	1.37	2.11
80015	½	¾ MPT	1.44	2.19
80020	¾	½ MPT	1.42	2.32
80025	¾	¾ MPT	1.46	2.36
80030	¾	1 MPT	1.71	2.62
80035	1	¾ MPT	1.47	2.37
80040	1	1 MPT	1.74	2.65
80045	1¼	1¼ MPT	1.89	2.92
80050	1½	1½ MPT	1.94	3.37
80055	2	2 MPT	2.10	3.68

ProPress Stainless Adapter P x MPT – Model 4011XL


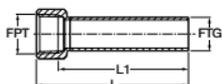
Part No.	Size (in)		A (in)	L (in)
	1	2		
80060	2½	2½ MPT	2.99	4.69
80065	3	3 MPT	3.09	5.06
80070	4	4 MPT	3.13	5.49

ProPress Stainless Adapter P x FPT – Model 4012



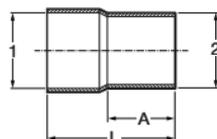
Part No. 316	Size (in)		A (in)	L (in)
	1	2		
80080	1/2 x 1/2	FPT	0.54	1.82
80085	3/4 x 1/2	FPT	0.51	1.95
80090	3/4 x 3/4	FPT	0.57	2.03
80092	1 x 1/2	FPT	0.62	2.06
80095	1 x 3/4	FPT	0.62	2.08
80100	1 x 1	FPT	0.61	2.18
80105	1 1/4 x 1 1/4	FPT	0.62	2.33
80110	1 1/2 x 1 1/4	FPT	0.69	2.80
80115	1 1/2 x 1 1/2	FPT	0.69	2.80
80075	2 x 1	FPT	0.75	2.99
80120	2 x 1 1/2	FPT	0.73	2.99
80125	2 x 2	FPT	0.71	2.99

ProPress 316 Instrument Adapter – Model 4012.5



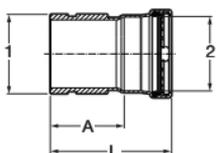
Part No. 316	Size (in) FPT x FTG	L (in)	L1 (in)
80126	1/2 x 1/2	4.06	3.52
80127	3/4 x 3/4	3.94	3.38

ProPress Stainless Adapter BW (IPS) x FTG – Model 4013.1XL



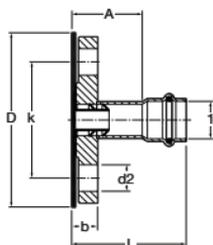
Part No. 316	Size (in)		A (in)	L (in)
	1 (IPS)	2 (CTS)		
80081	2 1/2 ID	2 1/2 OD	2.32	4.37
80082	3 ID	3 OD	2.60	4.57
80083	4 ID	4 OD	2.99	5.16

ProPress Stainless Adapter Groove x P – Model 4013.2XL



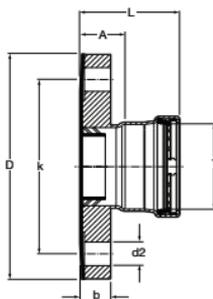
Part No. 316	Size (in)		A (in)	L (in)
	1 G (IPS)	2		
80064	2 1/2	2 1/2	2.64	4.33
80061	3	3	2.66	4.63
80063	4	4	2.66	5.02

ProPress Stainless Adapter Flange P x Flange – Model 4059



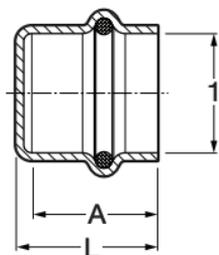
Part No.	Size (in)	b (in)	A (in)	L (in)	k (in)	D (in)	d2 (in)
316	1						
81035	½	0.46	1.72	2.46	2.36	3.54	0.63
81040	¾	0.52	1.66	2.57	2.76	3.94	0.63
81045	1	0.58	1.60	2.51	3.11	4.33	0.63
81050	1¼	0.64	1.66	2.69	3.50	4.53	0.63
81055	1½	0.70	1.41	2.83	3.86	4.92	0.63
81060	2	0.77	2.30	3.86	4.76	5.91	0.75

ProPress Stainless Adapter Flange P x Flange – Model 4059XL



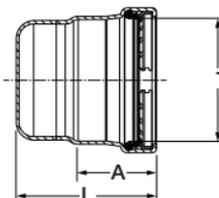
Part No.	Size (in)	b (in)	A (in)	L (in)	k (in)	D (in)	d2 (in)
316	1						
81065	2½	0.89	1.35	3.04	5.51	7.09	0.75
81070	3	0.96	1.39	3.40	5.98	7.48	0.75
81075	4	0.96	1.40	3.77	7.52	9.06	0.75

ProPress Stainless Cap P – Model 4056



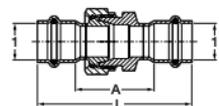
Part No.	Size (in)	A (in)	L (in)
316	1		
80355	½	0.70	0.82
80360	¾	0.93	1.04
80365	1	0.94	1.06
80370	1¼	1.04	1.20
80375	1½	1.44	1.59
80380	2	1.59	1.74

ProPress Stainless Cap P – Model 4056.1XL



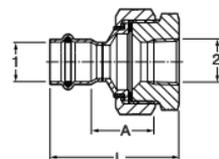
Part No.	Size (in)	A (in)	L (in)
316	1		
80385	2½	1.69	3.01
80390	3	1.97	3.33
80395	4	2.36	3.72

ProPress Stainless Union P x P – Model 4060

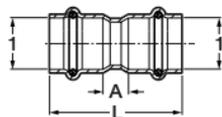


Part No.	Size (in)	A (in)	L (in)
316	1		
81005	½	1.87	3.37
81010	¾	1.89	3.70
81015	1	2.25	4.06
81020	1¼	2.25	4.31
81025	1½	2.68	5.53
81030	2	2.95	6.12

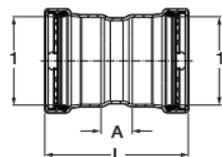
ProPress 316 Dielectric Union P x FPT – Model 4067



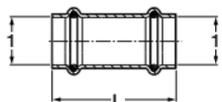
Part No.	Size (in)	A (in)	L (in)
316	1 2		
80071	½ x ½ FPT	1.28	2.57
80078	¾ x ¾ FPT	1.39	2.85
80073	1 x 1 FPT	1.25	2.81
80074	1¼ x 1¼ FPT	1.33	3.04
80076	1½ x 1½ FPT	1.54	3.64
80077	2 x 2 FPT	1.72	4.00

ProPress Stainless Coupling with Stop P x P – Model 4015


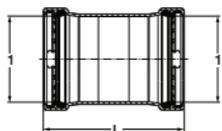
Part No. 316	Size (in) 1	A (in)	L (in)
80265	1/2	0.35	1.85
80270	3/4	0.43	2.24
80275	1	0.39	2.20
80280	1 1/4	0.47	2.54
80285	1 1/2	0.36	3.21
80290	2	0.47	3.64

ProPress Stainless Coupling with Stop P x P – Model 4015XL


Part No. 316	Size (in) 1 1	A (in)	L (in)
80295	2 1/2 x 2 1/2	0.95	4.33
80300	3 x 3	0.98	4.92
80305	4 x 4	1.06	5.79

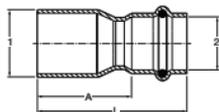
ProPress Stainless Coupling No Stop P x P – Model 4015.5


Part No. 316	Size (in) 1	L (in)
80310	1/2	1.87
80315	3/4	2.27
80320	1	2.19
80325	1 1/4	2.54
80330	1 1/2	3.27
80335	2	3.66

ProPress Stainless Coupling No Stop P x P – Model 4015.5XL


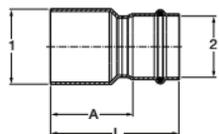
Part No. 316	Size (in) 1 1	L (in)
80340	2 1/2 x 2 1/2	4.33
80345	3 x 3	4.92
80350	4 x 4	5.79

ProPress Stainless Reducer FTG x P – Model 4015.1



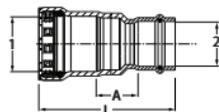
Part No. 316	Size (in)	A (in)	L (in)
	1 2		
80160	¾ x ½	1.54	2.28
80165	1 x ½	1.84	2.59
80170	1 x ¾	1.56	2.46
80175	1¼ x ½	2.25	3.00
80180	1¼ x ¾	1.93	2.83
80185	1¼ x 1	1.81	2.72
80190	1½ x ½	3.03	3.78
80195	1½ x ¾	2.64	3.54
80200	1½ x 1	2.50	3.41
80205	1½ x 1¼	2.26	3.29
80210	2 x ½	3.75	4.50
80215	2 x ¾	3.48	4.39
80220	2 x 1	3.08	3.99
80225	2 x 1¼	2.94	3.97
80230	2 x 1½	2.59	4.02

ProPress Stainless Reducer FTG x P – Model 4015.1XL



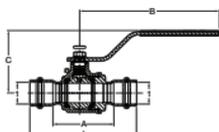
Part No. 316	Size (in)	A (in)	L (in)
	1 2		
80235	2½ x 2	2.85	4.43
80240	3 x 2	3.38	4.96
80245	3 x 2½	3.21	4.90
80250	4 x 2	4.26	5.85
80255	4 x 2½	4.09	5.79
80260	4 x 3	3.88	5.85

ProPress to MegaPress Transition Coupling, Stainless Steel, P x P – Model 5113



Part No. 316	Size (in)	A (in)	L (in)
	1 (IPS) 2 (CTS)		
90465	½ x ½	1.07	2.93
90470	¾ x ¾	1.07	3.17
90475	1 x 1	1.11	3.40
90890	1¼ x 1¼	1.11	4.00
90485	1½ x 1½	1.21	4.55
90490	2 x 2	1.23	4.82

ProPress 316 Ball Valve P x P – Model 4070



Part No.	Size (in)	A (in)	L (in)	B (in)	C (in)
316	1				
81080	½	2.06	3.56	5.55	2.44
81085	¾	2.42	4.23	5.55	2.52
81090	1	2.76	4.59	5.55	2.68
81095	1¼	3.17	5.23	6.10	3.09
81100	1½	3.65	6.50	6.10	3.34
81105	2	4.15	7.32	6.10	3.66

Q What is Smart Connect technology?

A Smart Connect technology provides a quick and easy way to identify unpressed connections during the pressure-testing process. Unpressed connections are located by pressurizing the system with air or water. When testing with air or water, the pressure range is 15 psi to 85 psi maximum.

Q Why is Smart Connect technology so valuable?

A Smart Connect technology provides the user with peace of mind. It allows for faster testing procedures since you do not have to shut down and drain the system. Costly damages and possible insurance claims and premiums can be avoided because it identifies unpressed connections before they can become a problem. Because of the time savings, projects stay on track.

Q What is the lubrication used on the sealing elements?

A The sealing elements are lubricated with an H1 food-grade, silicone-based lubricant registered with NSF and the USDA. If it is necessary to lubricate the seals in the field, use water only. Do not use other lubricants, especially any petroleum-based lubricants.

Q How do I fabricate a system in tight places when using Viega ProPress Stainless?

A If necessary, prefabricate connections that are in tight places and then install.

Q Can you turn a pressed fitting without damaging the integrity of the connection?

A Yes. The fitting can be turned, although not by hand, and will not affect the integrity of the connection. As a general rule of thumb, if the fitting is turned more than 5° it should be re-pressed to restore the resistance to rotational movement.

Q What are the flow rates through Viega ProPress Stainless fittings?

A Flow rates and flow rate calculations are the same as those used for solder-fitting installations. The friction loss tables can be found in the Viega ProPress Stainless Installation Manual.

Q What should a user do if a Viega ProPress Stainless system leaks?

A In general, Viega ProPress Stainless fittings only leak due to one of three reasons: the fitting was never pressed, the tubing was not properly inserted, or the pressing jaws were not properly aligned. If the fitting was never pressed, confirm that the tubing is fully inserted and proceed with pressing. If the tubing was not properly inserted, cut out the fitting and reinstall properly. If the pressing jaws were not properly aligned, cut out the fitting and reinstall properly. If problems persist, be sure to contact Viega immediately.

Q If a leak is discovered, is it necessary to drain the system prior to pressing the connection?

A No. It is not necessary to drain the system when making a repair.

Q How long will the EPDM seal last?

A When properly installed, the EPDM seal and connection will last as long as the piping system.

Q How do Viega ProPress Stainless connections hold up to freezing temperatures?

A Precautions should be taken with any piping to protect the system from below-freezing temperatures.

Q How would inspectors know they are looking at a good connection?

A Good connections can be proven by performing a pressure test. This is the same procedure for solder connections.

Viega ProPress Stainless Tubing, Fittings, and Valves

Subject to the conditions and limitations in this Limited Warranty, Viega LLC (Viega) warrants to end users, installers, and distribution houses in the United States and Canada that its ProPress Stainless tubing and fittings with application-appropriate sealing element and when properly installed in non-industrial and non-marine applications and under specified operating conditions of use will be free of failure caused by manufacturing defect for a period of ten (10) years from date of installation and that its ProPress Stainless valves, when properly installed in non-industrial and non-marine applications and under normal conditions of use, will be free of failure caused by manufacturing defect for a period of five (5) years from date of installation.

Under this Limited Warranty, you only have a right to a remedy if the failure or leak resulted from a manufacturing defect in the Viega Product covered by this warranty and the failure or leak occurred during the warranty period. You do not have a remedy under this warranty and the warranty does not apply if the failure or any resulting damage is caused by (1) components other than those manufactured or sold by Viega; (2) not designing, installing, inspecting, testing, or maintaining the Viega Product in accordance with Viega's installation instructions and other specifications in effect at the time of the installation; applicable code requirements; and accepted industry practice; (3) use of the Viega Product under non-recommended system operating conditions; improper handling and protection of the Viega Product prior to, during, and after installation; inadequate freeze protection; and exposure to environmental conditions, water pressures, temperatures, or applications outside acceptable operating conditions; (4) acts of nature, such as, but not limited to, earthquakes, fire, flood, lightning, or weather damage; or (5) external environmental causes, such as water-quality variations, aggressive water, or other external chemical or physical conditions.

In the event of a leak or other failure of the parts covered by this warranty, it is the responsibility of the end user to take appropriate measures to mitigate any damage, to include making timely

repairs. Only if the warranty applies will Viega be responsible for the remedy under this warranty. The part or parts which you claim failed should be kept and Viega contacted by writing to the address on the back page or telephoning 1-800-976-9819 within thirty (30) days after the leak or other failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect; and document the date of installation and the amount of the repair or replacement if performed by you. Within a reasonable time after receiving the product, Viega will investigate the reasons for the failure, which includes the right to inspect the product at a Viega location and reasonable access to the site of damage. Viega will notify you in writing of the results of its review.

In the event that Viega determines that the failure or leak was the result of a manufacturing defect in the Viega Product covered by this warranty and that this warranty applies, the **EXCLUSIVE AND ONLY REMEDY** under this warranty shall be the reimbursement for reasonable charges for repair or replacement of the Viega Product itself. **VIEGA SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGE (FOR EXAMPLE, ECONOMIC LOSS OR WATER, PROPERTY, OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.**

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Other than this Limited Warranty, Viega does not authorize any person or firm to create for it any other obligation or liability in connection with its products.

This Limited 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**.

Viega Metal Systems for Industrial Applications

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.

Subject to the terms and conditions of this Limited Warranty, Viega LLC (Viega) warrants to end users, installers, and distribution houses that its Viega metal press products (Viega Product) when properly installed in industrial applications shall be free from failure caused by manufacturing defects for a period of two (2) years from date of installation.

Under this Limited Warranty, you only have a right to a remedy if the failure or leak resulted from a manufacturing defect in the Viega Product and the failure or leak occurs during the warranty period. You do not have a remedy under this warranty and the warranty remedy does not apply if the failure or any resulting damage is caused by (1) components other than those sold by Viega; (2) not designing, installing, inspecting, testing, or maintaining the Viega Product in accordance with Viega's installation and product instructions in effect at the time of installation and other specifications and approvals applicable to the installation; (3) improper handling and protection of the Viega Product prior to, during, and after installation; inadequate freeze protection; or exposure to environmental or operating conditions not recommended for the application; or (4) acts of nature, such as, but not limited to, earthquakes, fire, flood, lightning, or weather damage. Final approval as to use compatibility to a specific process or fluid application is the responsibility of the engineer of record or responsible design/facilities personnel, and this Limited Warranty only applies to manufacturing defects in the Viega Product.

In the event of a leak or other failure in the Viega Product covered by this warranty, it is the responsibility of the end user to take appropriate measures to diminish any damage, to include making timely repairs. Only if the warranty applies will Viega be responsible for the remedy under this warranty. The part or parts which you claim failed should be kept and Viega contacted by writing to the address on the back page or telephoning 1-800-976-9819 within thirty (30)

calendar days after the leak or other failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect; and document the date of installation and the amount of the repair or replacement if performed by you. Within a reasonable time after receiving the product, Viega will investigate the reasons for the failure, which includes the right to inspect the product at a Viega location and reasonable access to the site of damage. Viega will notify you in writing as to the results of its review.

In the event that Viega determines that the failure or leak was the result of a manufacturing defect in the Viega Product covered by this warranty and to which this warranty applies, the EXCLUSIVE AND ONLY REMEDY under this warranty shall be the reimbursement for reasonable charges for repair or replacement of the Viega Product itself. VIEGA SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR OTHER DAMAGE (FOR EXAMPLE, ECONOMIC LOSS OR WATER, PROPERTY, OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR ANY STATUTE OF LIMITATIONS RELATING TO SUCH WARRANTIES. Other than this Limited Warranty, Viega does not authorize any person or firm to create for it any other obligation or liability in connection with its products.

This Limited 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.

Viega Marine Applications

Marine applications are defined as mobile structures used to navigate water or stationary structures in water.

Subject to the terms and conditions of this Limited Warranty, Viega LLC (Viega) warrants to end users, installers, and distribution houses that its Viega metal press products (Viega Product), when properly installed in approved marine applications, and other products sold by Viega LLC, when properly installed in marine applications in accordance with our listings, shall be free from failure caused by manufacturing defects for a period of two (2) years from date of installation. This warranty applies only to approved applications. Installations that are not approved shall not be covered by this warranty and shall not be the responsibility of Viega LLC.

Under this Limited Warranty, you only have a right to a remedy if the failure or leak resulted from a manufacturing defect in the Viega Product and the failure or leak occurs during the warranty period. You do not have a remedy under this warranty and the warranty remedy does not apply if the failure or any resulting damage is caused by (1) components other than those sold by Viega; (2) not designing, installing, inspecting, testing, or maintaining the Viega Product in accordance with Viega's installation and product instructions in effect at the time of installation and other specifications and approvals applicable to the installation; (3) improper handling and protection of the Viega Product prior to, during, and after installation; inadequate freeze protection; or exposure to environmental or operating conditions not recommended for the application; or (4) acts of nature, such as, but not limited to, earthquakes, fire, or weather damage. Final approval as to use compatibility to a specific process or fluid application is the responsibility of the engineer of record or responsible design/facilities personnel, and this Limited Warranty only applies to manufacturing defects in the Viega Product.

In the event of a leak or other failure in the Viega Product covered by this warranty, it is the responsibility of the end user to take appropriate measures to diminish any damage, to include making timely repairs. Only if the warranty applies will Viega be responsible for the remedy under this

warranty. The part or parts which you claim failed should be kept and Viega contacted by writing to the address on the back page or telephoning 1-800-976-9819 within thirty (30) calendar days after the leak or other failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect; and document the date of installation and the amount of the repair or replacement if performed by you. Within a reasonable time after receiving the product, Viega will investigate the reasons for the failure, which includes the right to inspect the product at a Viega location and reasonable access to the site of damage. Viega will notify you in writing as to the results of its review.

In the event that Viega determines that the failure or leak was the result of a manufacturing defect in the Viega Product covered by this warranty and to which this warranty applies, the EXCLUSIVE AND ONLY REMEDY under this warranty shall be the reimbursement for reasonable charges for repair or replacement of the Viega Product itself. VIEGA SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR OTHER DAMAGE (FOR EXAMPLE, ECONOMIC LOSS OR WATER, PROPERTY, OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.

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This Limited 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.



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