

# System Data Sheet

## ProPress 316



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 including: 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
- ASME B31.1, B31.3, B31.9
- IAPMO PS-117
- ICC-ES LC1002

### International Listings and Certificates

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

Contact your local Viega representative for details on local approvals.

### Compliant With

- ASME B31
- ASTM A312
- ASTM A403
- ASTM A554
- IAPMO Uniform Mechanical Code (UMC)
- ICC International Mechanical Code (IMC)

### Approved Applications

- 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.

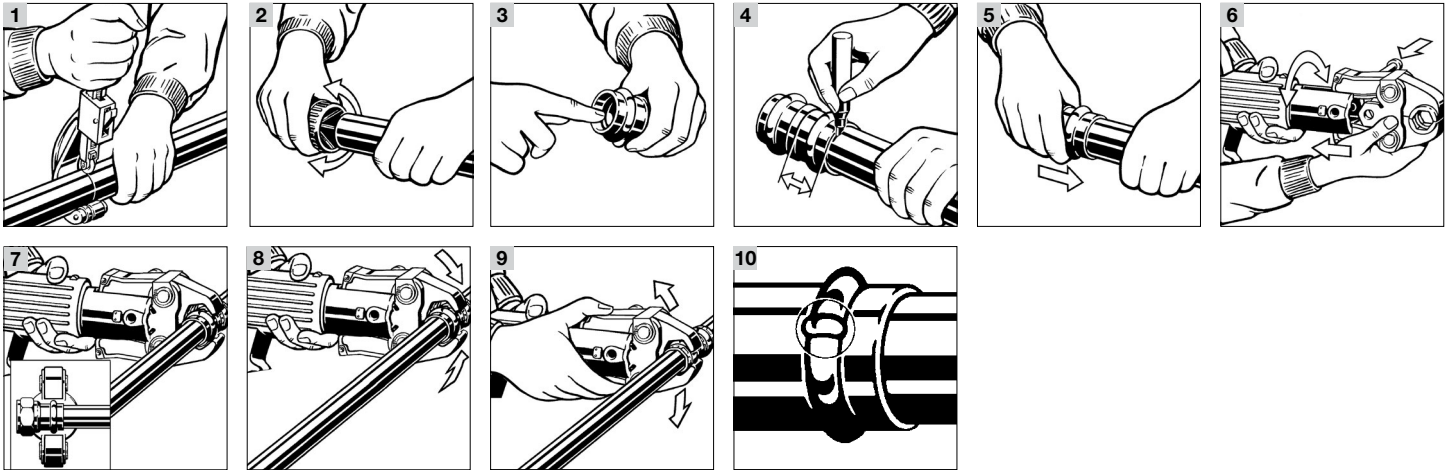
### Smart Connect® Technology

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.

## 2 Product Instructions

### ProPress Stainless 1/2" to 2" Fittings

For use only with Viega stainless steel tubing



**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.

**1** Cut stainless steel tubing only with an approved stainless steel pipe cutting tool. Cut the tube square using a displacement-type cutter or fine toothed 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, Scotchbrite 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. Use only Viega sealing elements.

**i** 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](#).

**4** Mark the proper insertion depth as indicated by the Viega ProPress Stainless Insertion Depth Chart. Improper insertion depth may result in an improper seal.

Tube Size (in)	Insertion Depth (in)
1/2	3/4
3/4	7/8
1	7/8
1 1/4	1
1 1/2	1 1/16
2	1 9/16

**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.

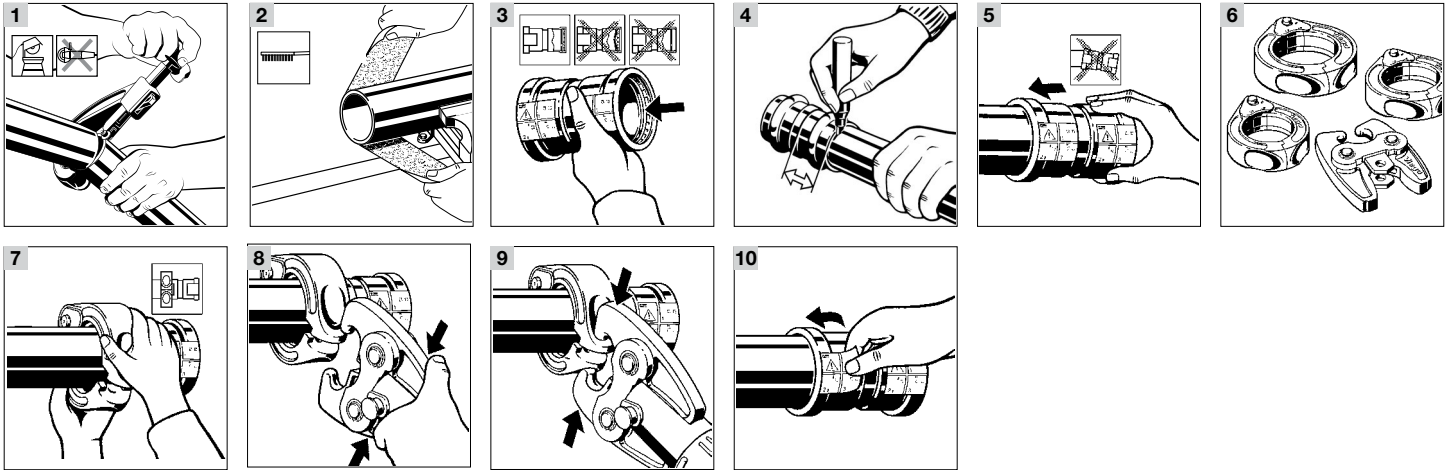
**i** Testing for unpressed connections using Smart Connect is not a replacement for pressure testing requirements of local codes and standards.

**CAUTION!**  
 It is the responsibility of designers of piping systems to verify the suitability of type 304 and 316 stainless steel pipe 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 effect on AISI type 304 or 316 stainless steel must be evaluated by the material specifier to confirm system life will be adequate for the intended service. Failure to do so may cause serious personal injury or property damage. Contact Viega Technical Services for questions and approvals.

# Product Instructions

## ProPress Stainless 2½" to 4" Fittings

For use only with Viega stainless steel tubing



**! 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.

**1** Cut stainless steel tubing only with an approved stainless steel pipe cutting tool. Cut the tube square using a displacement-type cutter or fine toothed 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, Scotchbrite 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. Use only Viega ProPress shiny black EPDM for 316 or dull black FKM for 304 sealing elements.

**4** Mark the proper insertion depth as indicated by the Viega ProPress Stainless XL Insertion Depth Chart. Improper insertion depth may result in an improper seal.

Insertion Depth (in)	d (in)
2½	1 11/16
3	1 5/16
4	2%

- 5** While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
- 6** Press Viega ProPress Stainless XL 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.

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

**! CAUTION!**  
 It is the responsibility of designers of piping systems to verify the suitability of type 304 and 316 stainless steel pipe 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 effect on AISI type 304 or 316 stainless steel must be evaluated by the material specifier to confirm system life will be adequate for the intended service. Failure to do so may cause serious personal injury or property damage. Contact Viega Technical Services for questions and approvals.

# 3 Engineering Specifications

## ProPress Stainless

### Part 1: General

#### 1.1 Summary

Stainless steel pipe and fitting system using cold press connection technology. The system is assembled when the pipe is fully inserted into the fitting, then pressed on both sides of the fitting seal, creating a mechanical joint.

#### 1.2 Definitions

ASME: American Society of Mechanical Engineers

ASTM: American Society for Testing and Materials

AWWA: American Water Works Association

EPDM: Ethylene Propylene Diene Monomer

FKM: Fluoroelastomer

IAPMO: International Association of Plumbing & Mechanical Officials

ICC: International Code Council

MSS: Manufacturers Standardization Society

NFPA: National Fire Protection Association

NSF: National Sanitation Foundation

#### 1.3 References

ASME A13.1: Scheme for the Identification of Piping Systems

ASME B1.20 Pipe Threads, General Purpose (Inch)

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 A554 Standard Specification For Welded Stainless Steel Mechanical Tubing

AWWA C651 Standard for Disinfecting Water Mains

IAPMO Uniform Mechanical Code

IAPMO Uniform Plumbing Code

ICC International Plumbing Code

ICC International Mechanical Code

MSS-SP-58 Pipe Hangers and Supports - Materials, Design and Manufacture

NFPA 13 Standard for the Installation of Sprinkler Systems (Approval Pending)

NFPA 13D Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes (Approval Pending)

NFPA 13R Standard for the Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height (Approval Pending)

NSF 61 Drinking Water System Components – Health Effects

#### 1.4 Quality Assurance

A. Installer shall be a qualified installer, licensed within the jurisdiction, and familiar with the installation of stainless steel pipe.

B. The installation of stainless steel pipe for hot and cold water distribution systems shall conform to the requirements of the ICC International Plumbing Code or IAPMO Uniform Plumbing Code. The installation of stainless steel pipe in hydronic systems shall conform to the requirements of the ICC International Mechanical Code or the IAPMO Uniform Mechanical Code.

### 1.5 Delivery, Storage, and Handling

- A. Stainless steel pipe shall be shipped to the job site on truck or in such a manner to protect the pipe. The pipe and fittings shall not be roughly handled during shipment. The pipe and fittings shall be unloaded with reasonable care.
- B. Protect the stored pipe from moisture and dirt. Elevate above grade. When stored inside, do not exceed the structural capacity of the floor.
- C. Protect fittings and piping from moisture and dirt.

### 1.6 Project Conditions

Verify length of pipe required by field measurements.

### 1.7 Warranty

- A. The pipe and fittings manufacturer shall warrant that the pipe and fittings are free from defects and conform to the designated standard. The warranty shall only be applicable to pipe and fittings installed in accordance with the manufacturer's installation instructions.
- B. The manufacturer of the pipe and fittings shall not be responsible for the improper use, handling, or installation of the product.

## Part 2: Products

### 2.1 Manufactures

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

### 2.2 Material

- A. Pipe standard: stainless steel pipe shall conform to ASTM A312 or ASTM A554.
- B. Fitting standard: stainless steel fittings shall conform to the material requirements of ASTM A312 or ASTM A554.
- C. Press fitting: stainless steel press fittings shall conform to the material and sizing requirements of ASME A312 or ASTM A554. O-rings for stainless steel press fittings shall be EPDM or FKM, depending on the application.
- D. Threaded fittings: pipe threads shall conform to ASME B1.20.1.
- E. Hanger standard: hangers and supports shall conform to MSS-SP-58.

### 2.3 Source Quality Control

All pipe, fittings, and joining materials in contact with drinking water shall be listed by a third party agency to NSF 61.

## Part 3: Execution

### 3.1 Examination

The installing contractor shall examine the stainless steel pipe and fittings for defects and cracks. There shall be no defects of the pipe or fittings. Any damaged pipe or fittings shall be rejected.

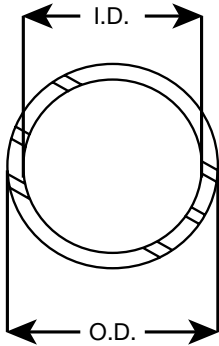
### 3.2 Preparation

- A. Stainless steel pipe shall be cut with a wheeled pipe cutter or approved stainless steel pipe cutting tool. The pipe shall be cut square to permit proper joining with the fittings.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly. The pipe end shall be wiped clean and dry. The burrs on the pipe shall be reamed with a deburring or reaming tool.

# 4 Dimensional Documents

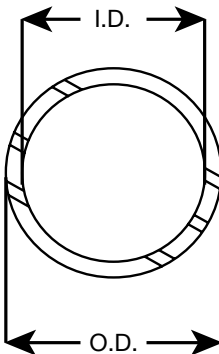
## ProPress Stainless Fittings

### ProPress Stainless Pipe ASTM A312 - Models 0103 / 4003



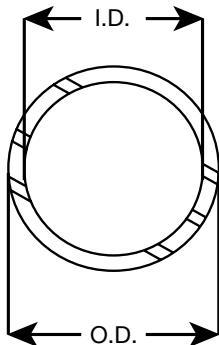
Part No.		Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
<b>304</b>	<b>316</b>					
87000	82000	½	0.63	0.50	0.06	20
87005	82005	¾	0.88	0.75	0.06	20
87010	82010	1	1.13	1.00	0.06	20
87015	82015	1¼	1.38	1.26	0.06	20
87020	82020	1½	1.63	1.50	0.06	20
87025	82025	2	2.13	2.00	0.06	20

### ProPress Stainless Pipe ASTM A312 - Models 0107XL / 4007XL



Part No.		Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
<b>304</b>	<b>316</b>					
87095	82042	2½	2.63	2.47	0.08	20
87100	82050	3	3.13	2.97	0.08	20
87105	82055	4	4.13	3.97	0.08	20

### ProPress 304 ECO Pipe ASTM A554 - Model 0108



Part No.	Size (in)	O.D. (in)	I.D. (in)	Wall Thickness (in)	Length (ft)
<b>304</b>					
87050	½	0.63	0.55	0.04	20
87055	¾	0.88	0.78	0.05	20
87060	1	1.13	1.03	0.05	20
87065	1¼	1.38	1.26	0.06	20
87070	1½	1.63	1.51	0.06	20
87075	2	2.13	2.01	0.06	20