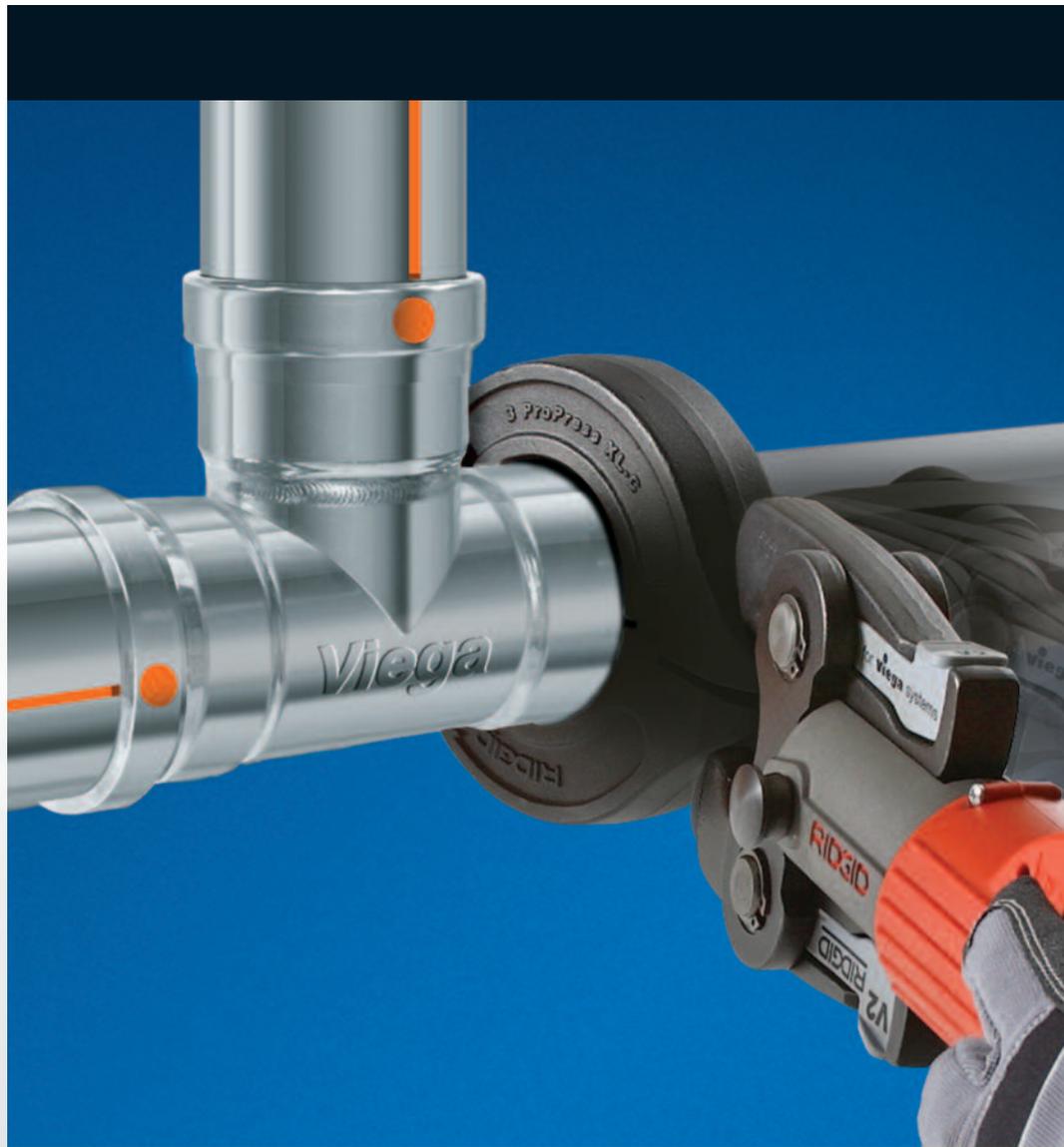




Viega ProPress® Stainless System

Fast.
Flameless.
And now
Stainless.

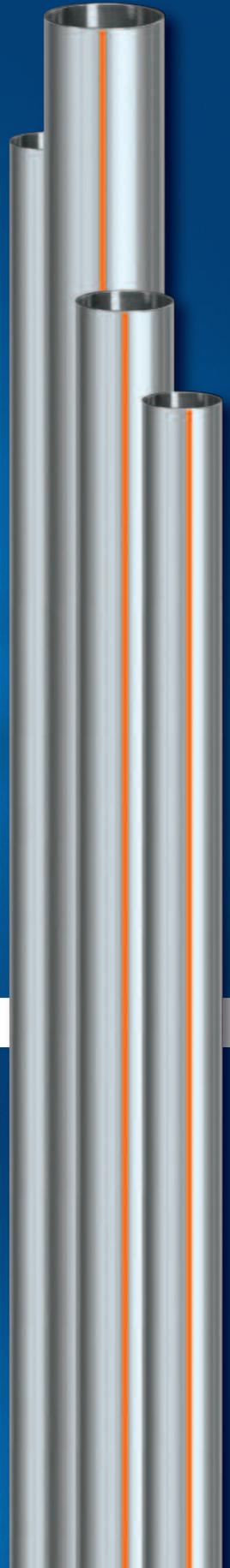


VIEGA...YOUR CONNECTION TO INNOVATION



Viega ProPress Stainless System

The total package:
fittings, valves and pipe.



Viega: the global leader in press technology is now in stainless steel.

The ProPress System, pioneered in Europe by Viega, is sweeping North America. In commercial and industrial installations, the ProPress System is the fastest, most reliable, flameless way to join stainless steel piping.

- Faster than welding or threading
- Safer – no flame, no grinding
- Cleaner – no welding rods, smoke or cutting oils
- Complete – one source for fittings, valves and pipe
- Convenient – same tool for copper and stainless
- Over 25 years of proven performance worldwide
- Highest quality stainless in two grades – 304 and 316
- Patented Smart Connect feature – only Viega fittings have it
- Wide selection of sizes – 1/2" to 4"
- Meets and exceeds industry standards
- Guaranteed reliability



Only Viega fittings offer the Smart Connect[®] feature.



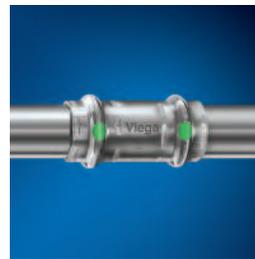
Unpressed

Identify an unpressed connection during pressure testing when water flows past the sealing element.



Pressing

Upon identification, the ProPress tool is used to press the fitting, making a permanent leak-proof connection.



Pressed

ProPress connections are fast, flameless and reliable.

Viega ProPress 304 and 316

Two stainless steel industrial grades...
one joining system.



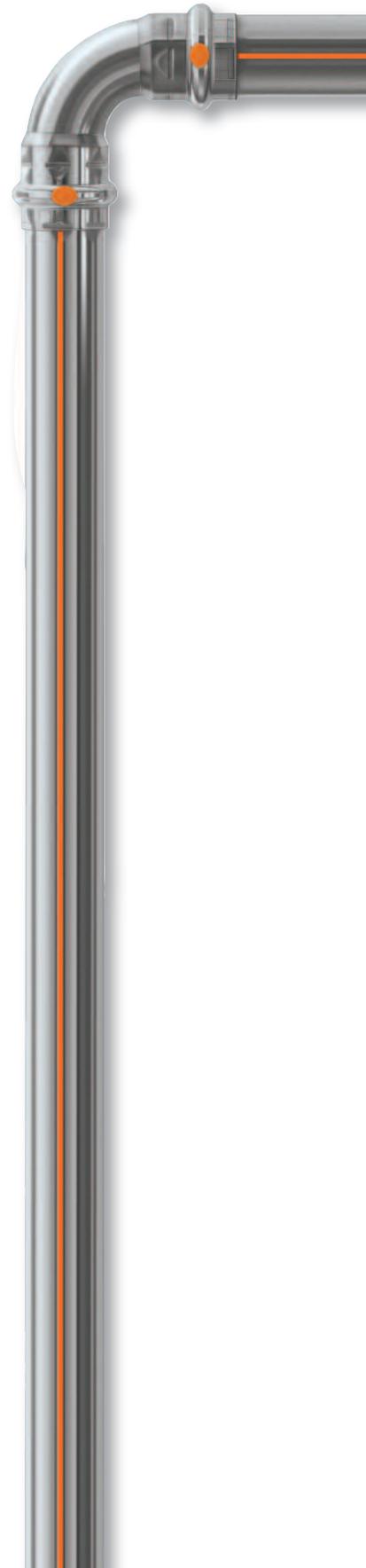
- System solution—pipe, valves and fittings
- Sizes—1/2" to 4"
- Specialty fittings for instrumentation
- Sealing Elements to meet application needs—EPDM, HNBR, and FKM

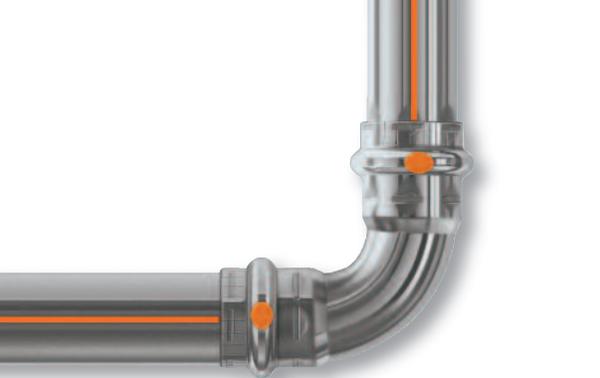
● Orange identifies ProPress Stainless Steel 304.

● Green identifies ProPress Stainless Steel 316.

Patented 180° swivel

V2 actuator and pressing rings can rotate a full 180° to join XL-S fittings. The swivel design increases flexibility in tight spaces and reduces actuator weight by 20% for increased comfort.

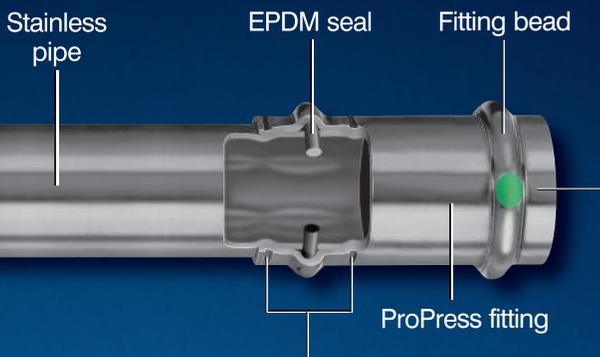




Press technology...the inside story.

Applications (not all inclusive)

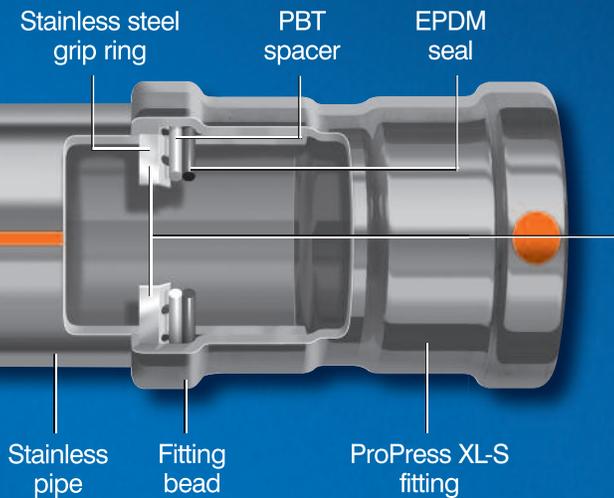
ProPress Stainless 1/2" to 2" fittings.



Unpressed connection with the Smart Connect feature allows liquids and/or air to pass by the sealing element during pressure test.

Pressed connection is pressed in front of, on top of, and behind the seal making a gas- and water-tight seal. The Smart Connect feature is sealed during pressing.

ProPress XL-S Stainless 2-1/2" to 4" fittings.



The stainless steel grip ring is pressed, forcing the grip ring teeth against the tube, making a high-strength connection.

- Additives
- Sludge
- Aeration
- Lube Oil
- Slurry
- Compressed Air
- Mill Water
- Soda Ash
- Black Liquor
- Nitrogen
- Spray Water
- Caustic
- Paint Lines
- Starch
- Chilled Water
- Plant Air
- Stock
- Plant Water
- UREA
- Condenser Water
- Potable Water
- Vacuum
- Cooling Water
- Process Air
- Waste Water
- DI Water
- Process Waste
- Dye
- Process Water
- R/O Water
- Filter Water
- Pump Seal Water
- Green Liquor

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System Data

System Description

ProPress Stainless and ProPress Stainless XL-S are safe, reliable and economical stainless steel pipe installation systems that use modern cold press connection technology for a wide assortment of fittings and pipe, in dimensions ranging from 1/2" to 4".

Operating Parameters

- Operating pressure 200 PSI.
- Test pressure 600 PSI max.
- Low pressure steam 15 PSI max.
- Vacuum 29.2" mercury max. @ 68°F
- Operating temperature 0°F - 250°F
- (FKM max. temp = 320°F)

Approved Applications

Refer to Viega's Tech Bulletins for approved applications and chemical compatibility.

System Benefits

- Flameless, fast and easy to use
- Permanent reliable connections
- Wide capacity from 1/2" to 4"
- Large selection of fittings
- Consistent professional appearance
- Less equipment required
- Environmentally friendly connection system
- Versatility of fittings and tools for a variety of applications

Fittings

Viega ProPress Stainless and ProPress Stainless XL-S fittings are offered in over 350 configurations of 304 stainless steel and 316 stainless steel, including: Elbows, Couplings, Ball Valves, Reducers, Tees, Reducing Tees, Threaded Adapters, Unions, Caps, and Flanges. **Viega ProPress Stainless and ProPress Stainless XL-S fittings are designed to be used with only Viega ProPress Stainless steel pipe.**

Fitting Markings

Each fitting is marked with the following:

- Viega
- The fitting dimension
- Production batch code
- Material (304 or 316)

Pipe

Viega ProPress Stainless steel pipe is offered in either 304 stainless or 316 stainless to compliment the Viega fittings and offer a complete system solution. Viega ProPress Stainless steel pipe meets the requirement of ASTM A312 for schedule 5 (minimum wall thickness 0.065"/1.7 mm) 304 and 316 stainless steel pipe.

Smart Connect (SC feature)

In ProPress Stainless 1/2" to 4" dimensions the Smart Connect feature assures leakage of liquids and/or gases from inside the system past the sealing element of an unpressed connection. The function of this feature is to provide the installer quick and easy identification of connections which have not been pressed prior to putting the system into operation.

History

ProPress has been used in Europe since the late 1980's and in the U.S. since the late 1990's for a variety of applications.

Warranty

Viega ProPress Stainless products carry a 2-year warranty against defects in material and workmanship. The RIDGID Lifetime Warranty applies to tools, jaws and press rings from Ridge Tool Company.

Approvals and Certificates for North America (in process)

- **NSF International**
www.nsf.org/business/search_listings/index.asp#mname (enter "Viega")
- **IAPMO**
<http://pld.iapmo.org/> (enter "Viega")
- **UL**
<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/gfilenbr.html> (enter "ex6157")
- **ABS (American Bureau of Shipping)**
<http://www.eagle.org/typeapproval/contents.html> (enter "Viega")
- **CSA International**
<http://www.csa/international.org/product/> (enter "Viega")

International Approvals

- Deutscher Verein des Gas-und Wasserfaches e.V. (DVGW)
- Lloyd's Register (LLOYD'S)
- Det Norske Veritas (DNV)
- Registro Italiano Navale (RINA)
- Bureau Veritas (BV)
- Class NK

Compliant with

- ICC International Plumbing Code
- SBCCI International Standard Plumbing Code
- UPC Uniform Plumbing Code
- BOCA National Plumbing Code 199
- PHCC National Standard Plumbing code
- Florida Building Code, Volume II Plumbing Code

Contact your local Viega representative for details on local approvals.

Tools

RIDGID offers press tools for connecting ProPress Stainless and ProPress Systems.

For more information on RIDGID products contact:

Ridge Tool Company
400 Clark Street, Elyria OH 44036

Demos and Literature:
800-769-7743

Technical Inquiries:
800-519-3456

Availability:
888-743-4333

On the web: www.ridgid.com

Engineering Data

Pipe Dimensional Data

Nominal Pipe Size	Nominal Dimensions							
	Outside Diameter (OD)		Inside Diameter (ID)		Wall Thickness		Weight	
	inches	mm	inches	mm	inches	mm	lb./ft.	lb./ft. (pipe stick)
1/2"	0.63	15.88	0.49	12.48	0.07	1.70	0.41	8.20
3/4"	0.88	22.23	0.74	18.83	0.07	1.70	0.59	11.80
1"	1.13	28.58	0.99	25.18	0.07	1.70	0.77	15.40
1-1/4"	1.38	35.00	1.24	31.60	0.07	1.70	0.95	19.00
1-1/2"	1.63	41.28	1.49	37.88	0.07	1.70	1.13	22.60
2"	2.13	54.00	1.99	50.60	0.07	1.70	1.50	30.00
2-1/2"	2.63	66.68	2.47	62.68	0.08	2.00	2.18	43.60
3"	3.13	79.38	2.97	75.38	0.08	2.00	2.60	52.00
4"	4.13	104.78	3.97	100.78	0.08	2.00	3.46	69.20

Dimensional Data

Nominal Pipe Size	Weight		
	Pipe (lb./ft.)	Water (lb./ft.)	Total (lb./ft.)
1/2"	0.41	0.06	0.47
3/4"	0.59	0.12	0.71
1"	0.77	0.20	0.97
1-1/4"	0.95	0.31	1.26
1-1/2"	1.13	0.43	1.56
2"	1.50	0.76	2.26
2-1/2"	2.18	1.61	3.79
3"	2.60	2.29	4.89
4"	3.46	4.06	7.52

1/2" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.490	
	Velocity (ft/sec)	Press Loss (psi/100')
1.00	1.70	1.05
2.00	3.40	4.20
3.00	5.10	9.44
4.00	6.81	16.79
5.00	8.51	26.23
6.00	10.21	37.78
7.00	11.91	51.42
8.00	13.61	67.16
9.00	15.31	85.00
10.00	17.01	104.94
11.00	18.71	126.98
12.00	20.42	151.11
13.00	22.12	177.35
14.00	23.82	205.68
15.00	25.52	236.11
16.00	27.22	268.64
17.00	28.92	303.27
18.00	30.62	340.00

Flow Rate, Velocity, and Friction Loss (Water)

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

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

Engineering Data

3/4" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.740	
	Velocity (ft/sec)	Press Loss (psi/100')
1.00	0.75	0.13
2.00	1.49	0.51
3.00	2.24	1.15
4.00	2.98	2.04
5.00	3.73	3.19
6.00	4.48	4.59
7.00	5.22	6.25
8.00	5.97	8.16
9.00	6.71	10.33
10.00	7.46	12.75
11.00	8.21	15.43
12.00	8.95	18.36
13.00	9.70	21.55
14.00	10.44	24.99
15.00	11.19	28.69
16.00	11.94	32.64
17.00	12.68	36.85
18.00	13.43	41.32
19.00	14.17	46.03
20.00	14.92	51.01
21.00	15.67	56.23
22.00	16.41	61.72
23.00	17.16	67.46
24.00	17.90	73.45
25.00	18.65	79.70
26.00	19.40	86.20
27.00	20.14	92.96
28.00	20.89	99.97
29.00	21.63	107.24
30.00	22.38	114.77

1" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.990	
	Velocity (ft/sec)	Press Loss (psi/100')
2.00	0.83	0.11
4.00	1.67	0.45
6.00	2.50	1.02
8.00	3.33	1.81
10.00	4.17	2.83
12.00	5.00	4.08
14.00	5.84	5.55
16.00	6.67	7.25
18.00	7.50	9.18
20.00	8.34	11.33
22.00	9.17	13.72
24.00	10.00	16.32
26.00	10.84	19.16
28.00	11.67	22.22
30.00	12.50	25.50
32.00	13.34	29.02
34.00	14.17	32.76
36.00	15.00	36.73
38.00	15.84	40.92
40.00	16.67	45.34
42.00	17.51	49.99
44.00	18.34	54.86
46.00	19.17	59.96

Engineering Data

1-1/4" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 1.240	
	Velocity (ft/sec)	Press Loss (psi/100')
5.00	1.33	0.23
8.00	2.13	0.59
11.00	2.92	1.11
14.00	3.72	1.80
17.00	4.52	2.66
20.00	5.31	3.68
23.00	6.11	4.86
26.00	6.91	6.21
29.00	7.70	7.73
32.00	8.50	9.41
35.00	9.30	11.26
38.00	10.10	13.27
41.00	10.89	15.45
44.00	11.69	17.80
47.00	12.49	20.31
50.00	13.28	22.98
53.00	14.08	25.82
56.00	14.88	28.83
59.00	15.67	32.00
62.00	16.47	35.33
65.00	17.27	38.84
68.00	18.07	42.50
71.00	18.86	46.34
74.00	19.66	50.34
77.00	20.46	54.50

1-1/2" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 1.490	
	Velocity (ft/sec)	Press Loss (psi/100')
10.00	1.84	0.35
13.00	2.39	0.59
16.00	2.94	0.89
19.00	3.50	1.26
22.00	4.05	1.69
25.00	4.60	2.18
28.00	5.15	2.73
31.00	5.70	3.35
34.00	6.26	4.03
37.00	6.81	4.77
40.00	7.36	5.58
43.00	7.91	6.45
46.00	8.46	7.38
49.00	9.02	8.37
52.00	9.57	9.43
55.00	10.12	10.55
58.00	10.67	11.73
61.00	11.22	12.97
64.00	11.78	14.28
67.00	12.33	15.65
70.00	12.88	17.08
73.00	13.43	18.58
76.00	13.98	20.14
79.00	14.54	21.76
82.00	15.09	23.44
85.00	15.64	25.19
88.00	16.19	27.00
91.00	16.74	28.87

Engineering Data

2" Stainless Steel, ASTM A312/A778

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 1.990	
	Velocity (ft/sec)	Press Loss (psi/100')
20.00	2.06	0.31
25.00	2.58	0.49
30.00	3.09	0.70
35.00	3.61	0.95
40.00	4.13	1.24
45.00	4.64	1.57
50.00	5.16	1.94
55.00	5.67	2.35
60.00	6.19	2.80
65.00	6.70	3.28
70.00	7.22	3.81
75.00	7.74	4.37
80.00	8.25	4.97
85.00	8.77	5.61
90.00	9.28	6.29
95.00	9.80	7.01
100.00	10.32	7.77
105.00	10.83	8.57
110.00	11.35	9.40
115.00	11.86	10.28
120.00	12.38	11.19
125.00	12.89	12.14
130.00	13.41	13.13
135.00	13.93	14.16
140.00	14.44	15.23
145.00	14.96	16.34
150.00	15.47	17.49
155.00	15.99	18.67
160.00	16.50	19.89
165.00	17.02	21.16

2-1/2" Stainless Steel, ASTM A312/A778

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

Engineering Data

3" Stainless Steel, ASTM A312/A778

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

4" Stainless Steel, ASTM A312/A778

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

Engineering Data

Fitting Friction Loss — Equivalent Length of Pipe (ft)

Fitting Type	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90° elbow (long radius)	0.66	0.99	1.33	1.65	1.98	2.66	3.30	3.97	5.30
45° elbow	0.66	0.99	1.33	1.65	1.98	2.66	3.30	3.97	5.30
tee (straight flow)	0.82	1.24	1.66	2.06	2.48	3.32	4.12	4.96	6.62
tee (branch outlet)	2.46	3.72	4.98	6.18	7.44	9.96	12.36	14.88	19.86
ball valve (full port)	6.15	9.30	12.45	15.45	18.60	24.90	n/a	n/a	n/a

MSS SP-69 or the following maximum spacing and minimum rod sizes

Nominal Pipe Size (Inches)	Stainless Steel Pipe Max. Span (feet)	Min. Rod Diameter (Inches)
Up to 3/4	10	3/8
1	10	3/8
1-1/4	10	3/8
1-1/2	10	3/8
2	10	3/8
2-1/2	11	1/2
3	12	1/2
4	14	5/8

Engineering Specifications

Part 1 – General

1.1	Summary
1.1.1	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	References
1.2.1	ASME A13.1 Scheme for the Identification of Piping Systems
1.2.2	ASME B1.20 Pipe Threads, General Purpose (Inch)
1.2.3	ASME B31.9 Building Services Piping
1.2.4	ASTM A312 Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
1.2.5	ASTM A788 Standard Specification for Welded Unannealed Austenitic Stainless Steel Tubular Products
1.2.6	AWWA C651 Standard for Disinfecting Water Mains
1.2.7	IAPMO Uniform Mechanical Code (in process)
1.2.8	IAPMO Uniform Plumbing Code (in process)
1.2.9	ICC International Plumbing Code (in process)
1.2.10	ICC International Mechanical Code (in process)
1.2.11	MSS-SP-58 Pipe Hangers and Supports - Materials, Design and Manufacture (in process)
1.2.12	MSS-SP-69 Pipe Hangers and Supports - Selection and Application (in process)

Part 1 – General

1.2.13	NFPA 13 Standard for the Installation of Sprinkler Systems (Approval Pending)
1.2.14	NFPA 13D Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes (Approval Pending)
1.2.15	NFPA 13R Standard for the Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height (Approval Pending)
1.2.16	NSF 61 Drinking Water System Components – Health Effects
1.2.17	ASME B31.1 Power Piping
1.2.18	ASME B31.3 Process Piping

1.3	Quality Assurance
1.3.1	The installer shall be a qualified installer, licensed within the jurisdiction, and familiar with the installation of stainless steel pipe.
1.3.2	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.

Engineering Specifications

Part 1 – General

1.4	Delivery, Storage, and Handling
1.4.1	Stainless steel pipe shall be shipped to the job site by truck or in such a manner to protect the pipe. The pipe and fittings shall not be handled roughly during shipment. The pipe and fittings shall be unloaded with reasonable care.
1.4.2	Protect the stored pipe from moisture and dirt. Elevate above grade. When stored inside, do not exceed the structural capacity of the floor.
1.4.3	Protect fittings and piping specialties from moisture and dirt.
1.5	Project Conditions
1.5.1	Verify length of pipe required by field measurements.
1.6	Warranty
1.6.1	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.
1.6.2	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	Manufacturers
2.1.1	Stainless Steel Press Fittings: Viega LLC, 301 N. Main Street, 9th Floor, Wichita, KS 67202, 800-370-3122
2.2	Material
2.2.1	Pipe Standard: Stainless Steel Pipe shall conform to ASTM A312 or ASTM A778.
2.2.2	Fitting Standard: Stainless steel fittings shall conform to the material requirements of ASTM A312 or ASTM A778.
2.2.3	Press Fitting: Stainless steel press fittings shall conform to the material and sizing requirements of ASME A312 or ASTM A778. Sealing elements for stainless steel press fittings shall be EPDM.
2.2.4	Threaded Fittings: Pipe Threads shall conform to ASME B1.20.1.
2.2.5	Hanger Standard: Hangers and supports shall conform to MSS-SP-58.
2.3	Source Quality Control
2.3.1	All pipe, fittings, and joining materials in contact with drinking water shall be listed by a third party agency to NSF 61.

Engineering Specifications

Part 3 – Execution

3.1	Examination
3.1.1	The installing contractor shall examine the stainless steel pipe and fittings for defects or cracks. There shall be no defects of the pipe or fittings. Any damaged pipe or fittings shall be rejected.
3.2	Preparation
3.2.1	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.
3.2.2	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.
3.3	Installation General Locations
3.3.1	Plans indicate general location and arrangement of piping systems. Identified locations and arrangements are used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, except where deviations to layout are approved on coordination drawings.
3.4	Installation, Stainless Steel Pipe
3.4.1	Pressure Rating: Install components having a pressure rating equal to or greater than the system operating pressure.
3.4.2	Install piping free of sags, bends, and kinks.
3.4.3	Change in Direction: Install fittings for changes in direction and branch connections.

Part 3 – Execution

3.4.4	Press Connections: Stainless steel press fittings shall be made in accordance with the manufacturer's installation instructions. The pipe shall be fully inserted into the fitting and the pipe marked at the shoulder of the fitting. The fitting alignment shall be checked against the mark on the pipe to assure the pipe is fully engaged (inserted) in the fitting. The joints shall be pressed using the tool approved by the manufacturer.
3.4.5	Threaded Joints: Threaded joints shall have pipe joint compound or teflon tape applied to the male threads only. Tighten joint with a wrench and backup wrench as required.
3.4.6	Pipe Protection: Provide protection against abrasion where stainless steel pipe is in contact with other building members by wrapping with an approved tape, pipe insulation or otherwise suitable method of isolation.
3.4.7	Penetration Protection: Provide allowance for thermal expansion and contraction of stainless steel pipe passing through a wall, floor, ceiling or partition by wrapping with an approved tape or pipe insulation, or by installing through an appropriately sized sleeve. Penetrations of fire resistance rated assemblies shall maintain the rating of the assembly
3.4.8	Backfill Material: Backfill material shall not include any ashes, cinders, refuse, stones, boulders or other materials which can damage or break the pipe or promote corrosive action in any trench or excavation in which pipe is installed.

Engineering Specifications

Part 3 – Execution

3.4.9	Horizontal Support: Install hangers for horizontal piping in accordance with MSS-SP-69 or the following maximum spacing and minimum rod sizes:	
Nominal Pipe Size (Inches)	Stainless Steel Pipe Max. Span (feet)	Min. Rod Diameter (Inches)
Up to 3/4	10	3/8
1	10	3/8
1-1/4	10	3/8
1-1/2	10	3/8
2	10	3/8
2-1/2	11	1/2
3	12	1/2
4	14	5/8
	All systems must be installed per local codes and/or standards and requirements. Consult the Viega technical support department before installing the system in other applications or applications with temperatures and/or pressures outside the stated ratings. Refer to Viega's Area of Application for more information	
3.4.10	Vertical Support: Vertical stainless steel pipe shall be supported at each floor or at 10 foot intervals.	
3.4.11	Galvanic Corrosion: Hangers and supports shall be either stainless steel or vinyl coated to prevent galvanic corrosion between the pipe and the supporting member.	
3.4.12	Restraint: In seismic areas, stainless steel pipe shall be installed to withstand seismic forces, as required by local code.	
3.4.13	Identification: Stainless steel pipe systems shall be identified in accordance with the requirements of ASME A13.1.	

Part 3 – Execution

3.5	Field Quality Control
3.5.1	Water Testing: The stainless steel pipe system shall be water tested for joint tightness. The piping system shall be filled with water. The system shall be pressurized to the maximum pressure and length of time required by the code or standard. The system shall have no leaks at the rated pressure.
3.5.2	Air Testing: In lieu of a water test, the stainless steel pipe system shall be air tested for joint tightness. The piping system shall be pressurized with air to the maximum pressure of the system or to the code or standard required minimum for the required length of time. The system shall have no leaks at the rated pressure.
3.6	Cleaning (for potable water systems.)
3.6.1	Disinfection: The stainless steel hot and cold water distribution system shall be disinfected prior to being placed in service. The system shall be disinfected in accordance with AWWA C651 or the following requirements:
3.6.1.1	The piping system shall be flushed with potable water until discolored water does not appear at any of the outlets.
3.6.1.2	The system shall be filled with a water chlorine solution containing at least 50 parts per million of chlorine. The system shall be valved in the closed position and allowed to stand for 24 hours. Or, the system shall be filled with a water chlorine solution containing at least 200 parts per million of chlorine. The system shall be valved in the closed position and allowed to stand for 3 hours.
3.6.1.3	Following the standing time, the system shall be flushed with water until the chlorine is purged from the system.

Chemical Compatibility Matrix

(Not all inclusive)

	Chemical	Chemical Formula	304 Stainless Steel	316 Stainless Steel	SEALS			Valve Seats
					EPDM	HNBR	FKM	PTFE
ACIDS	Acetic Acid, 5%	C ₂ H ₄ O ₂	N	R	R	N	R	R
	Acetic Acid, 10%	C ₂ H ₄ O ₂	N	L	R	N	R	R
	Acetic Acid, Glacial	C ₂ H ₄ O ₂	L	R	R	N	N	R
	Boric Acid	H ₃ BO ₃	R	R	R	R	R	R
	Hydrochloric, Concentrated to 158F	HCl	R	R	N	N	R	R
	Hydrofluoric, (anhydrous)	HF	R	R	N	N	R	R
	Hydrofluoric, (heated)	HF	N	N/A	N	N	R	R
	Nitric Acid, (3 molar to 158F)	HNO ₃	R	R	N	N	R	R
	Nitric Acid, Concentrated	HNO ₃	R	R	N	N	R	R
	Sulfuric Acid, Concentrated	H ₂ SO ₄	N	L	N	N	R	R
ALCOHOLS	Amyl Alcohol	C ₅ H ₁₁ OH	R	R	R	R	R	R
	Benzyl Alcohol	C ₇ H ₈ O	R	R	L	N	R	R
	Butyl Alcohol	C ₄ H ₁₀ O	R	R	L	L	R	R
	Ethyl Alcohol <80%	C ₂ H ₆ O	R	R	R	R	R	R
	Ethyl Alcohol >80%	C ₂ H ₆ O	R	R	R	R	R	R
	Ethylene Glycol	HOCH ₂ CH ₂ OH	R	R	R	R	R	R
	Glycerine (Glycerol)	C ₃ H ₅ (OH) ₃	R	R	R	R	R	R
	Isobutyl Alcohol	C ₄ H ₁₀ O	R	R	R	L	R	R
	Isopropyl Alcohol	C ₃ H ₈ O	L	L	R	R	R	R
	Methanol	CH ₃ OH	R	R	R	N	L	R
	Methyl Cellosolve	C ₃ H ₈ O ₂	R	R	R	R	N	R
	Propanol	CH ₃ CH ₂ CH ₂ OH	R	N/A	R	R	R	R
BASES	Ammonium Hydroxide, Concentrated	NH ₄ OH	R	R	R	N	R	R
	Potassium Hydroxide, 50%	KOH	R	R	R	R	R	R
	Sodium Hydroxide, 3 molar	NaOH	R	R	R	N	N	R

Key: R = Recommended L = Limited Resistance (consult factory)
 N = Not Recommended N/A = Data Unavailable

The information listed is general service recommendations only. Temperature, media, concentration, pressure, and system operation have a direct relationship to product life cycle. Please refer specific applications questions to Viega Technical Support.

Chemical Compatibility Matrix

(Not all inclusive)

Chemical	Chemical Formula	304 Stainless Steel	316 Stainless Steel	SEALS			Valve Seats	
				EPDM	HNBR	FKM	PTFE	
GASES	Acetylene	C ₂ H ₂	R	R	R	R	R	R
	Air		R	R	R	R	R	R
	Ammonia (anhydrous)	NH ₃	R	R	R	N	L	R
	Argon	Ar	R	R	R	R	R	R
	Butane	C ₄ H ₁₀	R	R	N	R	R	R
	Carbon Dioxide	CO ₂	R	R	R	R	R	R
	Carbon Monoxide	CO	R	R	R	R	R	R
	Ethane	C ₂ H ₆	R	R	N	R	R	R
	Ethyl Chloride	C ₂ H ₅ Cl	R	R	R	R	R	R
	Ethylene	C ₂ H ₄	R	R	N	L	R	R
	Helium	He	N/A	N/A	R	R	R	R
	Hydrogen	H ₂	R	R	R	R	R	R
	Hydrogen Chloride	HCl	N	N	R	N	R	R
	Hydrogen Sulfide	H ₂ S	N	R	R	N	N	R
	Isobutane	C ₄ H ₁₀	R	R	N	R	R	R
	Krypton	Kr	R	R	N/A	N/A	N/A	N/A
	Methane	CH ₄	R	R	N	R	R	R
	Nitrous Oxide	N ₂ O	R	R	R	R	R	R
	Nitrogen	N ₂	R	R	R	R	R	R
	Propane	C ₃ H ₈	R	R	N	R	R	R
Sulfur Dioxide	SO ₂	N	R	R	N	R	R	
Xenon	Xe	N/A	N/A	R	R	R	R	

Key: R = Recommended
N = Not Recommended

L = Limited Resistance (consult factory)
N/A = Data Unavailable

Chemical Compatibility Matrix

(Not all inclusive)

Chemical	Chemical Formula	304 Stainless Steel	316 Stainless Steel	SEALS			Valve Seats	
				EPDM	HNBR	FKM	PTFE	
SOLVENTS	Acetone	CH ₃ COCH ₃	R	R	R	N	N	R
	Acetonitrile	CH ₃ CN	R	R	N	N	N	R
	Amyl Acetate	C ₇ H ₁₄ O ₂	R	R	R	N	N	R
	Aniline	C ₆ H ₇ N	R	L	R	N	R	R
	Benzene	C ₆ H ₆	L	L	N	N	R	R
	Butyl Acetate	C ₆ H ₁₂ O ₂	L	R	R	N	N	R
	Carbon Tetrachloride	CCl ₄	L	L	N	N	R	R
	Chloroform	CHCl ₃	R	R	N	N	R	R
	Cyclohexane	C ₆ H ₁₂	R	R	N	R	R	R
	Cyclohexanone	C ₆ H ₁₀ O	R	R	L	N	N	R
	Dimethyl Acetamide		N/A	N/A	R	N	L	R
	Dimethyl Formamide	C ₃ H ₇ NO	R	L	R	N	L	R
	Dimethyl Sulfoxide (DMSO)	C ₂ H ₆ OS	R	R	R	N	R	R
	Dioxane	C ₄ H ₈ O ₂	N/A	N/A	L	N	N	R
	Ethyl Ether	C ₂ H ₅ OC ₂ H ₅	L	L	N	N	N	R
	Ethylene Dichloride	C ₂ H ₄ Cl ₂	L	L	L	N	R	R
	Formaldehyde 40%	CH ₂ O	L	R	R	L	R	R
	Freon 113	C ₂ ClF ₃	N/A	N/A	N	R	R	R
	Gasoline		R	R	N	R	R	R
	Hexane	C ₆ H ₁₄	R	R	N	R	R	R
	Isopropyl Acetate	C ₅ H ₁₀ O ₂	N	R	L	N	N	R
	Kerosene		R	R	N	R	R	R
	Methyl Acetate	C ₃ H ₆ O ₂	R	L	L	N	N	R
	Methyl Ethyl Ketone (MEK)	C ₄ H ₈ OCH ₃ COC ₂ H ₅	R	R	R	N	N	R
	Methyl Isobutyl Ketone	C ₆ H ₁₂ O	R	R	L	N	N	R
	Methylene Chloride	CH ₂ Cl ₂	L	R	N	N	R	R
	Nitrobenzene	C ₆ H ₅ NO ₂	R	R	R	N	R	R
	Pentane	C ₅ H ₁₂	N	L	N	R	R	R
	Perchloroethylene	C ₂ Cl ₄	R	R	N	L	R	R
	Pyridine	C ₅ H ₅ N	R	R	L	N	N	R
	Tetrahydrofuran	C ₄ H ₈ O	R	R	N	N	N	R
	Toluene	C ₇ H ₈	R	R	N	N	L	R
	Trichloroethane	C ₂ H ₃ Cl ₃	L	R	N	N	R	R
	Trichlorethylene	C ₂ HCl ₃	R	R	N	N	R	R
Triethylamine	C ₆ H ₁₅ N	R	R	R	L	N	R	
Xylene	C ₈ H ₁₀	L	R	N	N	R	R	

Key: R = Recommended L = Limited Resistance (consult factory)
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Chemical Compatibility Matrix

(Not all inclusive)

	Chemical	Chemical Formula	304 Stainless Steel	316 Stainless Steel	SEALS			Valve Seats
					EPDM	HNBR	FKM	PTFE
MISC.	Cottonseed Oil		R	R	L	R	R	R
	Hydrogen Peroxide (<90%)	H ₂ O ₂	R	R	N	N	R	R
	Peanut Oil		R	R	L	R	R	R
	Petroleum Oils		R	R	N	R	R	R
	Shellac		R	R	R	R	R	R
	Turpentine		R	R	N	N/A	R	R
	Vinegar		R	R	L	R	R	R
	Wagner 21B (brake fluid)		N/A	N/A	R	N	N	R
	Water		R	R	R	R	R	R
	White Liquor		R	R	R	R	R	R
	Wood Alcohol		R	R	R	R	N	R
	Wood Oil		R	R	N	R	R	R
	Water Distilled		R	R	R	R	R	R
	Water Deionized		R	R	R	R	R	R

Key: R = Recommended L = Limited Resistance (consult factory)
 N = Not Recommended N/A = Data Unavailable

Seals and Gasket Materials Information

EPDM Sealing Element

Operating temperature:
0°F to 250°F (-18°C to 120°C)

Viega Press Systems press fittings are manufactured with a high quality EPDM sealing element installed at the factory.

This sealing element is used mainly in the applications of potable water, hydronic heating, low-pressure steam, fire sprinkler, and compressed air installations. EPDM, or ethylene-propylene-dienemonomer, is gloss black in color.

The EPDM sealing element is a synthetically manufactured and peroxidically cross-linked general purpose elastomer with a wide range of applications.

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

The EPDM sealing element has particularly good resistance to hot water, making it ideal for seals and gaskets in heating systems, fittings, and household appliances (e.g. washing machines, pumps, dishwashers).

FKM Sealing Element

Operating temperature:
0°F to 320°F (-18°C to 160°C)

FKM is well known for its excellent resistance to petroleum products and solvents as well as excellent high temperature performance.

The FKM sealing element is a specialty purpose elastomer typically installed where higher temperatures and pressures are required.

FKM or Fluoroelastomer is flat black in color. It possesses excellent resistance to aging, ozone, sunlight, weathering, environmental influences, oils, and petroleum-based additives.

Its excellent 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.

HNBR Sealing Element

This sealing element is used mainly for applications of natural, propane, mixed, and manufactured gases in the vapor state (not in the liquid state).

It is commonly used in fuel oil heating systems. HNBR, or Hydrogenated Nitrile Butadiene Rubber, is yellow in color.

Ambient Operating temperature:
-40°F to 180°F (-40°C to 66°C)

HNBR is widely known for its physical strength and retention of properties after long-term exposure to heat, oil, and chemicals.

The unique properties attributed to HNBR have resulted in wide adoption of HNBR in automotive, industrial, and assorted high performance applications (i.e. Engine seals, grommets, and gaskets; Fuel system seals and hoses; Transmission system bonded piston seals; Oil field packers, and rotary shaft seals).

With its excellent performance for the most demanding of applications.

HNBR is the ideal choice for applications needing excellent physical properties, as well as oil, heat, and/or chemical resistance.

All sealing elements are inserted into the fitting using a #1 food grade lubricant registered with NSF, the USDA and approved for use under FDA 21 CFR.

Seals and Gasket Materials Information

Viega Grip and Separator Ring

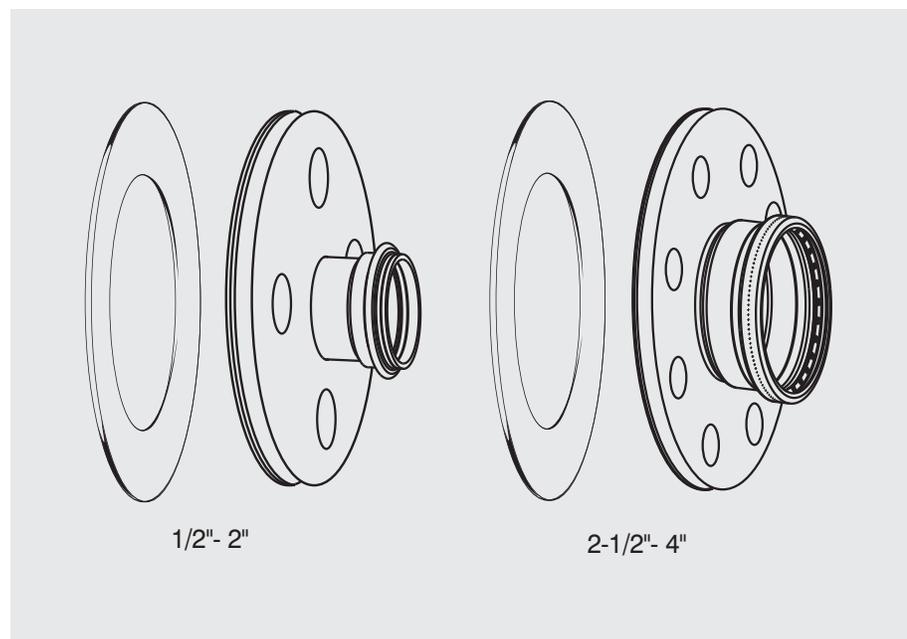
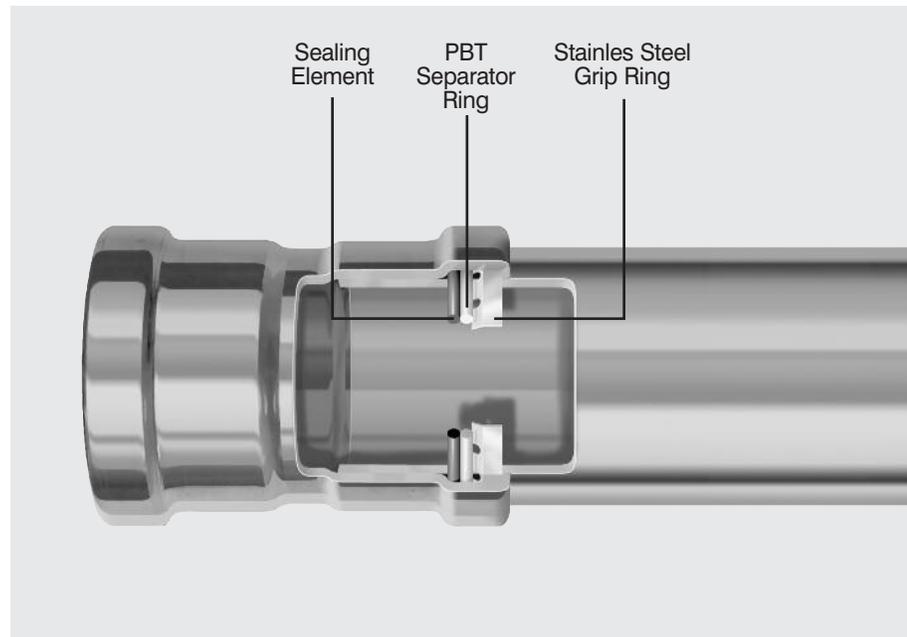
The grip ring is made of 420 (1.4021) stainless steel. The grip ring ensures the XL-S fittings create a positive cold press mechanical joint. The PBT (Polybutylene Terephthalate) separator ring ensures that sealing element and grip ring perform at maximum capacity by providing a positive physical separation. For specific applications, please refer to the chemical compatibility matrix located in Technical Bulletin 450 (pages 18-21), or call Viega at 1-877-843-4262.

Viega Flange Gasket

Viega Flange gaskets are an asbestos-free material composed of aramide fibers, inorganic fillers and other asbestos substitutes which are resistant to high temperatures.

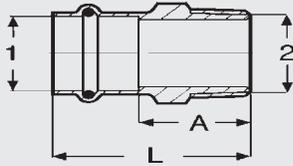
The material exhibits high tensile strength, as well as shearing resistance and does not contain color pigments.

Other properties of the material are excellent, stress resistance under high operating pressure and ease of handling. The gasket material has a non-stick top and bottom layer with a high coefficient of friction. Please review your specific product line for specific details.

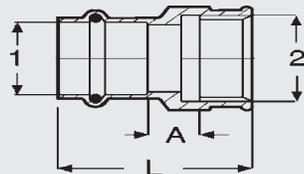


Dimensional Documentation

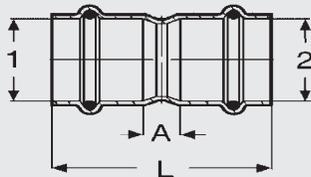
304 and 316 Stainless Steel 1/2 inch to 2 inch



Adapter P x M NPT					
Catalog No.		Size		A	L
S/S 304	S/S 316	1	2	(in)	(in)
85010	80010	1/2" x 1/2" NPT		2.01	1.260
85015	80015	1/2" x 3/4" NPT		2.09	1.339
85020	80020	3/4" x 1/2" NPT		2.30	1.398
85025	80025	3/4" x 3/4" NPT		2.34	1.437
85030	80030	3/4" x 1" NPT		2.60	1.693
85035	80035	1" x 3/4" NPT		2.36	1.457
85040	80040	1" x 1" NPT		2.64	1.732
85045	80045	1-1/4" x 1-1/4" NPT		2.91	1.890
85050	80050	1-1/2" x 1-1/2" NPT		3.37	1.949
85055	80055	2" x 2" NPT		3.68	2.106



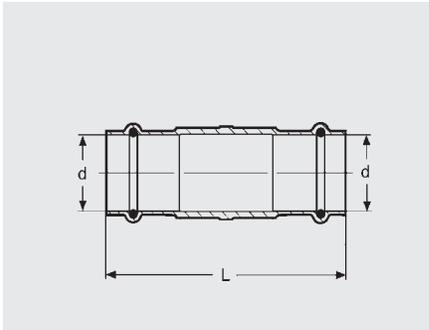
Adapter P x F NPT					
Catalog No.		Size		A	L
S/S 304	S/S 316	1	2	(in)	(in)
85080	80080	1/2" x 1/2" NPT		1.772	1.024
85085	80085	3/4" x 1/2" NPT		2.146	1.240
85090	80090	3/4" x 3/4" NPT		2.087	1.181
85092	80092	1" x 1/2" NPT		2.067	1.161
85095	80095	1" x 3/4" NPT		2.146	1.240
85100	80100	1" x 1" NPT		2.205	1.299
85105	80105	1-1/4" x 1-1/4" NPT		2.362	1.339
85110	80110	1-1/2" x 1-1/4" NPT		2.835	1.417
85115	80115	1-1/2" x 1-1/2" NPT		2.835	1.417
85075	80075	2" x 1" NPT		3.189	1.614
85120	80120	2" x 1-1/2" NPT		3.031	1.457
85125	80125	2" x 2" NPT		3.071	1.496



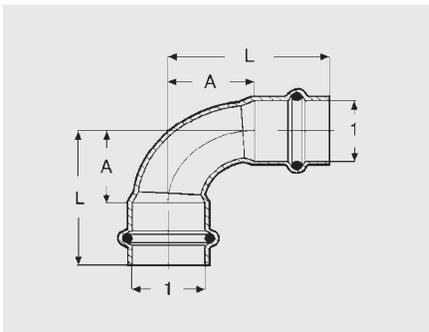
Coupling P x P with Stop					
Catalog No.		Size		A	L
S/S 304	S/S 316	1	2	(in)	(in)
85265	80265	1/2"		1.850	0.748
85270	80270	3/4"		2.185	0.906
85275	80275	1"		2.185	0.906
85280	80280	1-1/4"		2.539	1.043
85285	80285	1-1/2"		3.189	1.437
85290	80290	2"		3.622	1.594

Dimensional Documentation

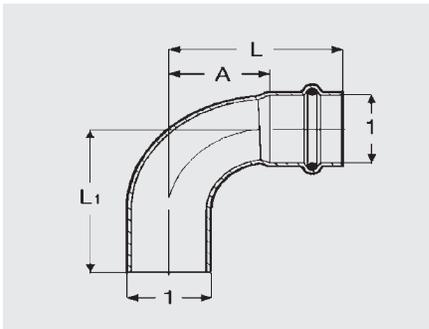
304 and 316 Stainless Steel 1/2 inch to 2 inch



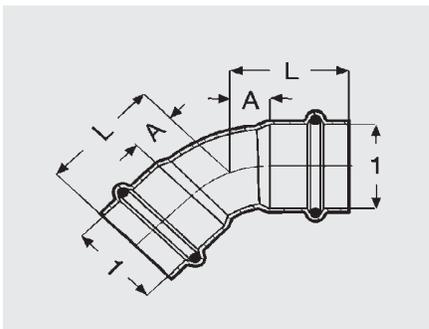
Coupling P x P No Stop				
Catalog No.		Size	L	
S/S 304	S/S 316	d	(in)	
85310	80310	1/2"	1.732	
85315	80315	3/4"	2.205	
85320	80320	1"	2.205	
85325	80325	1 1/4"	2.441	
85330	80330	1 1/2"	3.307	
85335	80335	2"	3.622	



Elbow 90° P x P				
Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85400	80400	1/2"	0.748	1.496
85405	80405	3/4"	1.039	1.945
85410	80410	1"	1.323	2.228
85415	80415	1-1/4"	1.654	2.677
85420	80420	1-1/2"	1.984	3.402
85425	80425	2"	2.551	4.126



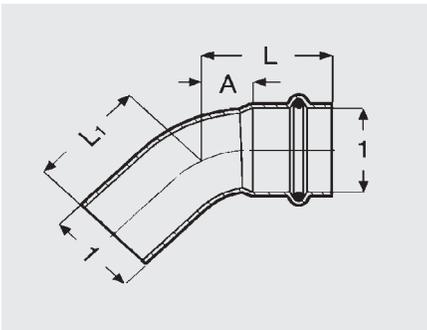
Elbow 90° FTG x P					
Catalog No.		Size	A	L	L1
S/S 304	S/S 316	1	(in)	(in)	(in)
85490	80490	1/2"	1.122	1.870	1.988
85495	80495	3/4"	1.496	2.402	3.031
85500	80500	1"	1.870	2.776	3.268
85505	80505	1-1/4"	2.343	3.366	3.760
85510	80510	1-1/2"	2.717	4.134	4.587
85515	80515	2"	3.602	5.197	5.591



Elbow 45° P x P				
Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85445	80445	1/2"	0.571	1.319
85450	80450	3/4"	0.728	1.634
85455	80455	1"	0.886	1.791
85460	80460	1-1/4"	1.083	2.126
85465	80465	1-1/2"	1.280	2.697
85470	80470	2"	1.732	3.327

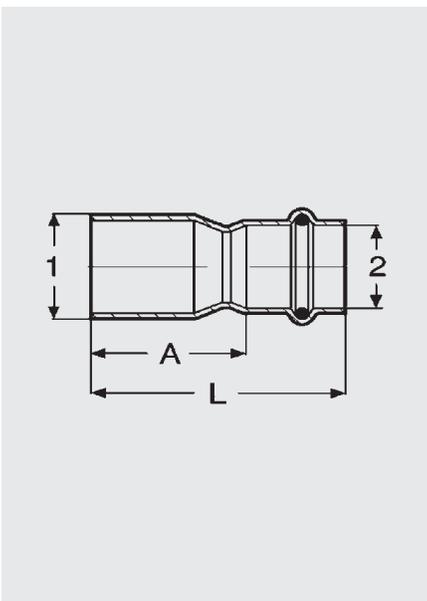
Dimensional Documentation

304 and 316 Stainless Steel 1/2 inch to 2 inch



Elbow 45° FTG x P

Catalog No.		Size	A	L	L1
S/S 304	S/S 316	1	(in)	(in)	(in)
85535	80535	1/2"	0.571	1.319	1.457
85540	80540	3/4"	0.728	1.634	1.890
85545	80545	1"	0.886	1.791	2.283
85550	80550	1-1/4"	1.083	2.126	2.126
85555	80555	1-1/2"	1.280	2.697	3.150
85560	80560	2"	1.732	3.327	3.720

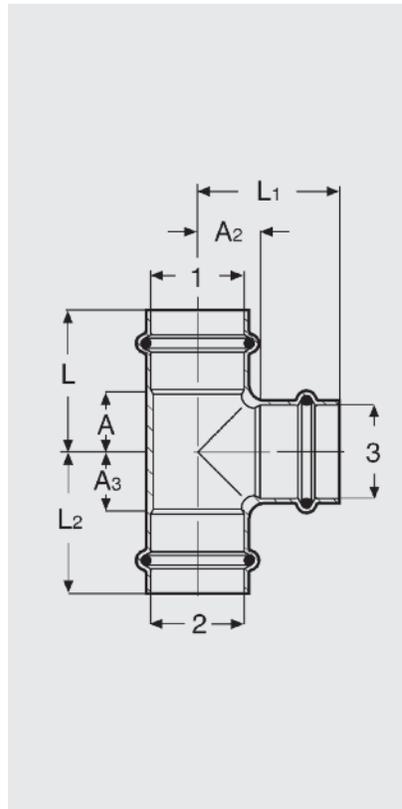


Reducer FTG x P

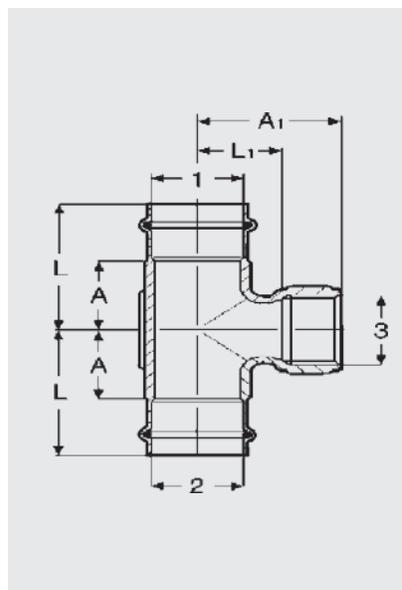
Catalog No.		Size	A	L
S/S 304	S/S 316	1 2	(in)	(in)
85160	80160	3/4" x 1/2"	1.535	2.883
85165	80165	1" x 1/2"	1.831	2.579
85170	80170	1" x 3/4"	1.555	2.461
85175	80175	1-1/4" x 1/2"	2.244	2.992
85180	80180	1-1/4" x 3/4"	1.929	2.835
85185	80185	1-1/4" x 1"	1.811	2.717
85190	80190	1-1/2" x 1/2"	3.051	3.799
85195	80195	1-1/2" x 3/4"	2.618	3.539
85200	80200	1-1/2" x 1"	2.500	3.406
85205	80205	1-1/2" x 1-1/4"	2.205	3.228
85210	80210	2" x 1/2"	3.740	4.488
85215	80215	2" x 3/4"	3.465	4.370
85220	80220	2" x 1"	3.091	3.996
85225	80225	2" x 1-1/4"	2.835	3.858
85230	80230	2" x 1-1/2"	2.598	4.134

Dimensional Documentation

304 and 316 Stainless Steel 1/2 inch to 2 inch



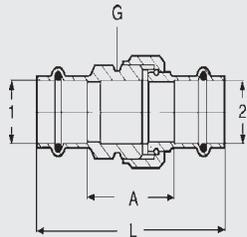
Catalog No.		Size			A	A2	A3	L	L1	L2
S/S 304	S/S 316	1	2	3	(in)	(in)	(in)	(in)	(in)	(in)
85580	80580	1/2"			0.748	0.748	0.748	1.496	1.496	1.496
85585	80585	3/4"			0.965	0.965	0.965	1.870	1.870	1.870
85630	80630	3/4" x 3/4" x 1/2"			0.965	0.906	0.965	1.870	1.654	1.870
85590	80590	1"			1.122	1.122	1.122	2.028	2.028	2.028
85640	80640	1" x 1" x 1/2"			1.122	1.024	1.122	2.028	1.752	2.028
85650	80650	1" x 1" x 3/4"			1.122	1.063	1.043	2.028	1.969	2.028
85595	80595	1-1/4"			1.043	1.043	1.043	2.067	2.067	2.067
85660	80660	1-1/4" x 1-1/4" x 1/2"			1.043	1.280	1.043	2.067	2.185	2.067
85670	80670	1-1/4" x 1-1/4" x 3/4"			1.043	1.161	1.043	2.067	1.909	2.067
85680	80680	1-1/4" x 1-1/4" x 1"			1.043	1.220	1.260	2.677	2.126	2.067
85600	80600	1-1/2"			1.260	1.260	1.260	2.677	2.677	2.677
85690	80690	1-1/2" x 1-1/2" x 1/2"			1.260	1.319	1.260	2.677	0.217	2.677
85700	80700	1-1/2" x 1-1/2" x 3/4"			1.260	1.378	1.260	2.677	2.283	2.677
85710	80710	1-1/2" x 1-1/2" x 1"			1.260	1.417	1.535	3.110	2.323	2.677
85605	80605	2"			1.535	1.516	1.535	3.110	3.091	3.110
85720	80720	2" x 2" x 1/2"			1.535	1.535	1.535	3.110	2.283	3.110
85730	80730	2" x 2" x 3/4"			1.535	1.594	1.535	3.110	2.500	3.110
85740	80740	2" x 2" x 1"			1.535	1.654	1.535	3.110	2.559	3.110
85750	80750	2" x 2" x 1-1/2"			1.535	1.476	1.535	3.110	2.894	3.110



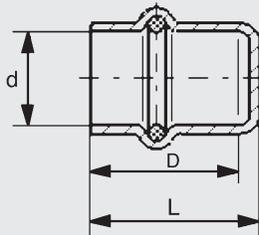
Catalog No.		Size			A	A1	L	L1
S/S 304	S/S 316	1	2	3	(in)	(in)	(in)	(in)
85820	80820	3/4" x 3/4" x 1/2" NPT			1.004	1.673	1.909	1.138
85830	80830	3/4" x 3/4" x 3/4" NPT			0.965	1.457	1.870	0.906
85840	80840	1" x 1" x 1/2" NPT			1.004	1.772	1.909	1.236
85850	80850	1" x 1" x 3/4" NPT			1.161	1.969	2.067	1.343
85860	80860	1-1/4" x 1-1/4" x 1/2" NPT			0.886	1.929	1.909	1.323
85870	80870	1-1/4" x 1-1/4" x 3/4" NPT			0.945	1.929	1.969	1.303
85880	80880	1-1/4" x 1-1/4" x 1" NPT			0.748	1.772	1.772	1.240
85890	80890	1-1/2" x 1-1/2" x 1/2" NPT			0.748	1.969	2.165	1.433
85900	80900	1-1/2" x 1-1/2" x 3/4" NPT			0.886	2.087	2.303	1.461
85910	80910	1-1/2" x 1-1/2" x 1" NPT			1.260	1.949	2.677	1.280
85920	80920	2" x 2" x 1/2" NPT			0.984	2.165	2.559	1.630
85930	80930	2" x 2" x 3/4" NPT			1.083	2.362	2.657	1.736
85940	80940	2" x 2" x 1" NPT			0.827	2.146	2.402	1.476

Dimensional Documentaion

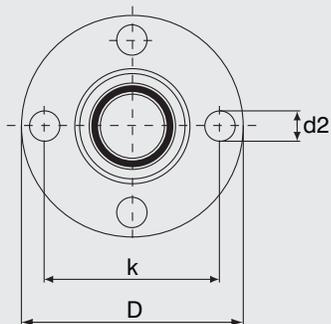
304 and 316 Stainless Steel 1/2 inch to 2 inch



Union P x P					
Catalog No.		Size	A	L	G
S/S 304	S/S 316	1 2	(in)	(in)	(in)
86005	81005	1/2"	1.260	2.756	3/4
86010	81010	3/4"	1.335	3.146	1
86015	81015	1"	1.827	3.638	1-1/4
86020	81020	1-1/4"	1.634	3.681	1-1/2
86025	81025	1-1/2"	2.126	4.961	2
86030	81030	2"	2.067	5.217	2-1/2

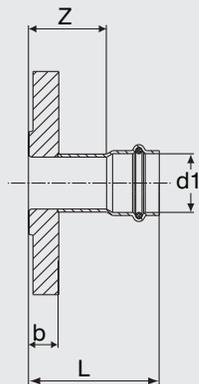


Cap P				
Catalog No.		Size	L	D
S/S 304	S/S 316	d	(in)	(in)
85355	80355	1/2"	0.917	0.799
85360	80360	3/4"	1.067	0.945
85365	80365	1"	1.110	0.992
85370	80370	1-1/4"	1.319	1.201
85375	80375	1-1/2"	1.622	1.465
85380	80380	2"	1.811	1.677



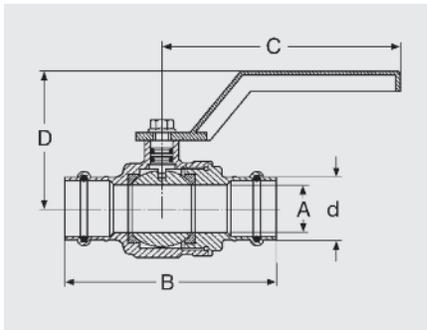
Flange P x Flange								
Catalog No.		Size	L	Z	b	d2	D	k
S/S 304	S/S 316	d1	(in)	(in)	(in)	(in)	(in)	(in)
86035	81035	1/2"	2.579	1.713	0.453	0.630	3.543	2.362
86040	81040	3/4"	2.579	1.673	0.512	0.630	3.937	2.756
86045	81045	1"	2.520	1.614	0.571	0.630	4.331	3.110
86050	81050	1-1/4"	2.717	1.673	0.650	0.630	4.528	3.504
86055	81055	1-1/2"	2.854	1.417	0.709	0.630	4.921	3.858
86060	81060	2"	3.878	2.303	0.768	0.748	5.906	4.764

NOTE: Flanges have raised face.

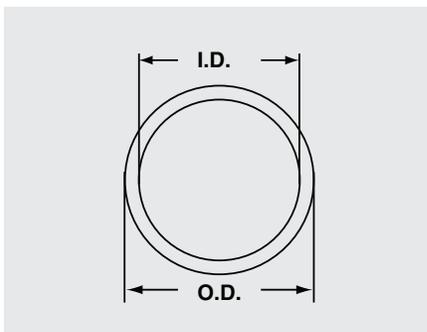


Dimensional Documentation

304 and 316 Stainless Steel 1/2 inch to 2 inch



ProPress Metal Handle Ball Valve (SC) P x P					
Catalog No.	Size	A	B	C	D
S/S 316		(in)	(in)	(in)	(in)
81080	1/2"	0.650	3.543	4.331	2.402
81085	3/4"	0.787	4.193	4.331	2.461
81090	1"	0.984	4.567	4.823	2.795
81095	1-1/4"	1.260	5.217	4.823	3.228
81100	1-1/2"	1.575	6.496	5.315	3.661
81105	2"	1.969	7.323	5.315	3.976

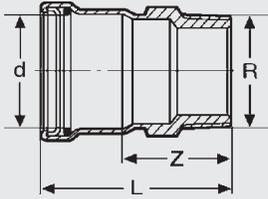


Pipe						
Catalog No.		Size	O.D.	I.D.	Weight/ft.	
S/S 304	S/S 316		(in)	(in)	(lbs)	(g)
87000	82000	1/2"	0.63	0.49	0.41	185.98
87005	82005	3/4"	0.88	0.74	0.59	267.62
87010	82010	1"	1.13	0.99	0.77	349.26
87015	82015	1-1/4"	1.38	1.24	0.95	430.91
87020	82020	1-1/2"	1.63	1.49	1.13	512.56
87025	82025	2"	2.13	1.99	1.50	680.39

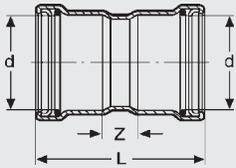
NOTE: Meets the requirements of Schedule 5 pipe.

Dimensional Documentation

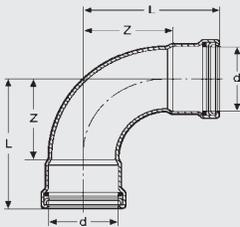
304 and 316 XL-S Stainless Steel 2-1/2 inch to 4 inch



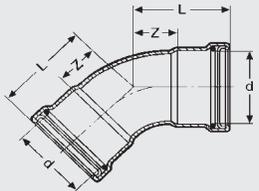
Adapter P x M NPT				
Catalog No.		Size	Z	L
S/S 304	S/S 316	d R	(in)	(in)
85060	80060	2-1/2" x 2-1/2" NPT	2.992	4.685
85065	80065	3" x 3" NPT	3.091	5.059
85070	80070	4" x 4" NPT	3.130	5.492



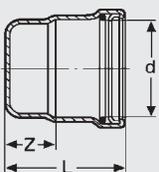
Coupling P x P with Stop				
Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85295	80295	2-1/2"	0.945	4.331
85300	80300	3"	0.984	4.921
85305	80305	4"	1.063	5.787



Elbow 90° P x P				
Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85430	80430	2-1/2"	3.189	4.882
85435	80435	3"	3.760	5.728
85440	80440	4"	4.862	7.224



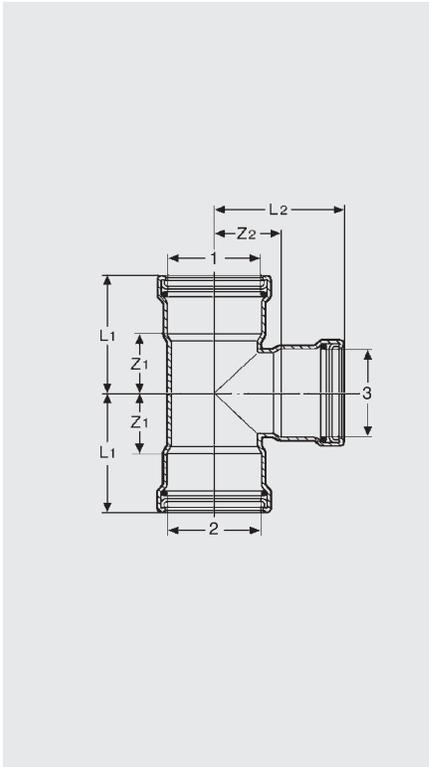
Elbow 45° P x P				
Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85475	80475	2-1/2"	1.484	3.169
85480	80480	3"	1.732	3.701
85485	80485	4"	2.185	4.547



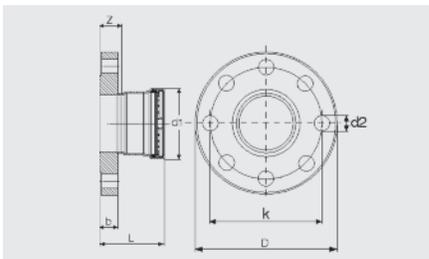
Cap P				
Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85385	80385	2-1/2"	1.339	3.031
85390	80390	3"	1.358	3.327
85395	80395	4"	1.358	3.720

Dimensional Documentation

304 and 316 XL-S Stainless Steel 2-1/2 inch to 4 inch

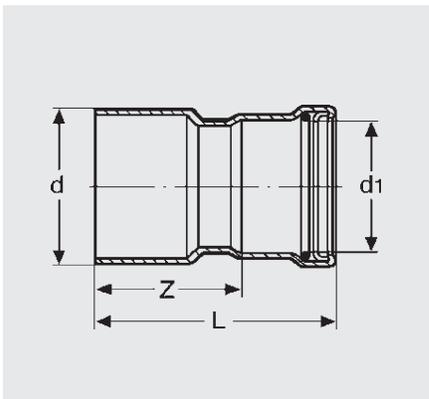


Tee P x P x P							
Catalog No.		Size	Z1	Z2	L1	L2	
S/S 304	S/S 316	1 2 3	(in)	(in)	(in)	(in)	
85610	80610	2-1/2"	1.831	1.870	3.524	3.563	
85763	80753	2-1/2" x 2" x 1-1/2"	1.535	1.783	2.736	2.638	
85762	80752	2-1/2" x 2" x 2"	1.535	1.783	3.524	3.583	
85761	80751	2-1/2" x 2-1/2" x 1-1/2"	1.535	1.783	2.736	2.638	
85760	80760	2-1/2" x 2-1/2" x 2"	1.535	1.783	3.524	3.583	
85615	80615	3"	2.067	2.146	4.035	4.114	
85771	80781	3" x 3" x 1-1/2"	1.850	2.126	3.524	2.638	
85772	80782	3" x 3" x 1-1/4"	1.850	2.126	3.524	2.638	
85770	80770	3" x 3" x 2"	1.850	2.126	3.524	3.583	
85780	80780	3" x 3" x 2-1/2"	1.850	2.126	4.252	4.331	
85620	80620	4"	2.598	2.657	4.961	5.059	
85791	80791	4" x 4" x 1-1/2"	1.594	2.551	2.736	2.638	
85790	80790	4" x 4" x 2"	1.594	2.551	3.524	3.583	
85800	80800	4" x 4" x 2-1/2"	1.594	2.551	4.252	4.331	
85810	80810	4" x 4" x 3"	1.890	2.638	4.469	4.626	



Flange P x Flange								
Catalog No.		Size	Z	L	b	D	k	d2
S/S 304	S/S 316	d1	(in)	(in)	(in)	(in)	(in)	(in)
86065	81065	2-1/2"	1.339	3.031	0.886	7.087	5.512	0.748
86070	81070	3"	1.437	3.406	0.965	7.480	5.984	0.748
86075	81075	4"	1.437	3.799	0.965	9.055	7.520	0.748

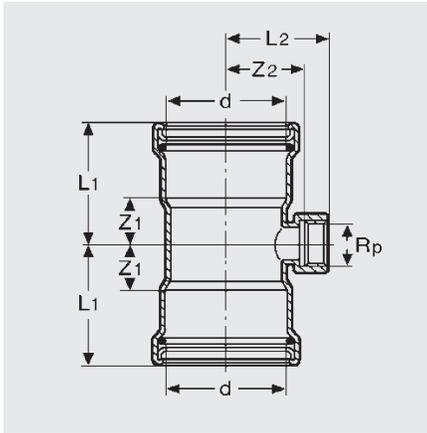
2-1/2" & 3" Flanges are 4 bolt configuration, 4" is 8 bolt configuration.



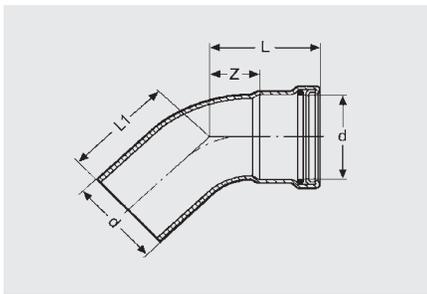
Reducer FTG x P					
Catalog No.		Size		Z	L
S/S 304	S/S 316	d	d1	(in)	(in)
85235	80235	2-1/2"	2"	2.274	3.858
85240	80240	3"	2"	2.825	4.409
85245	80245	3"	2-1/2"	2.559	4.252
85250	80250	4"	2"	4.222	5.807
85255	80255	4"	2-1/2"	4.094	5.787
85260	80260	4"	3"	3.878	5.846

Dimensional Documentation

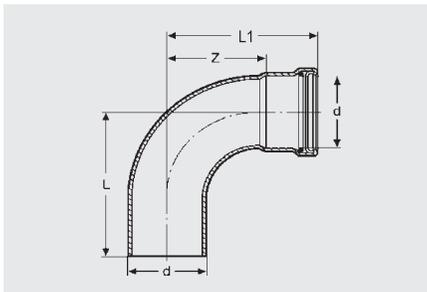
304 and 316 XL-S Stainless Steel 2-1/2 inch to 4 inch



Tee P x P x F NPT								
Catalog No.		Size			Z1	Z2	L1	L2
S/S 304	S/S 316	d	d	Rp	(in)	(in)	(in)	(in)
85950	80950	2-1/2" x 2-1/2" x 3/4"			1.024	1.614	2.717	2.303
85960	80960	2-1/2" x 2-1/2" x 1"			1.024	1.535	2.717	2.402
85970	80970	3" x 3" x 3/4"			1.043	1.870	2.972	2.559
85980	80980	3" x 3" x 1"			1.043	1.811	3.012	2.638
85990	80990	4" x 4" x 3/4"			1.043	2.382	3.445	3.071
86000	81000	4" x 4" x 1"			1.083	2.323	3.445	3.150



Elbow 45° FTG x P						
Catalog No.		Size		Z	L	L1
S/S 304	S/S 316	d		(in)	(in)	(in)
85565	80565	2-1/2"		1.476	3.169	3.098
85570	80570	3"		1.732	3.701	3.602
85575	80575	4"		2.185	4.547	4.449

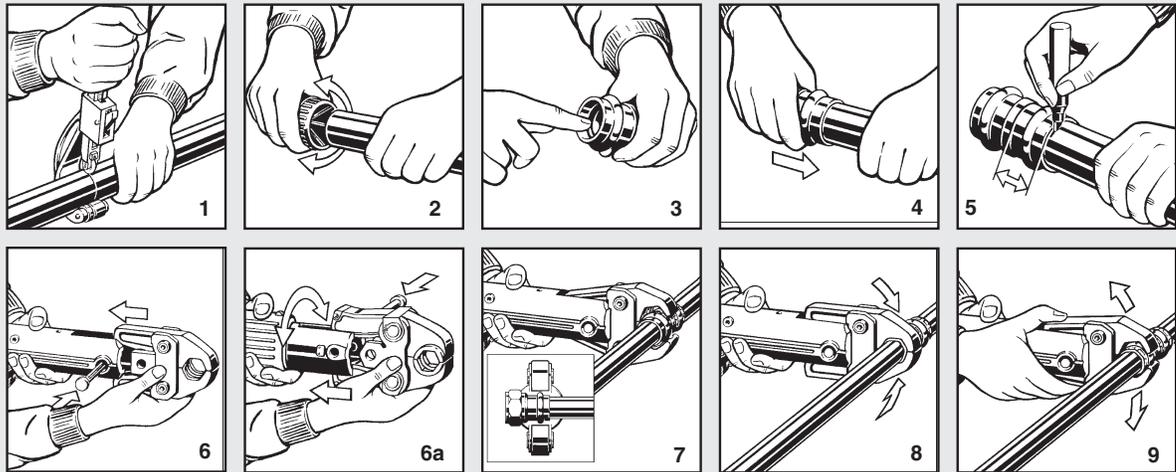


Elbow 90° FTG x P						
Catalog No.		Size		Z	L	L1
S/S 304	S/S 316	d		(in)	(in)	(in)
85520	80520	2-1/2"		3.189	4.882	4.803
85525	80525	3"		3.760	5.728	5.630
85530	80530	4"		4.902	7.264	7.126

Product Instruction

1/2 inch to 2 inch

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



ProPress Insertion Depth Chart

Pipe Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Insertion Depth	3/4"	7/8"	7/8"	1"	1-7/16"	1-9/16"

1. Cut Stainless Steel pipe at right angles using displacement type cutter or fine-toothed steel saw.
2. Remove burr from inside and outside of pipe to prevent cutting sealing element.
3. Check seal for correct fit. Do not use oils or lubricants. Use only ProPress Shiny Black EPDM or Dull Black FKM Sealing Elements.
4. Mark proper insertion depth as indicated by the ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal.
5. While turning slightly, slide press fitting onto pipe to the marked depth. Note: End of pipe must contact stop.
6. Insert appropriate Viega jaw into the pressing tool and push in holding pin until it locks in place.
7. Open the jaw and place at right angles on the fitting. Visually check insertion depth using mark on piping.
8. Start pressing process and hold the trigger until the jaw has engaged the fitting.
9. After pressing, the jaw can be opened again.
10. For applications requiring ProPress with FKM sealing elements, remove the factory installed EPDM sealing element and replace with FKM sealing element.



Smart Connect feature

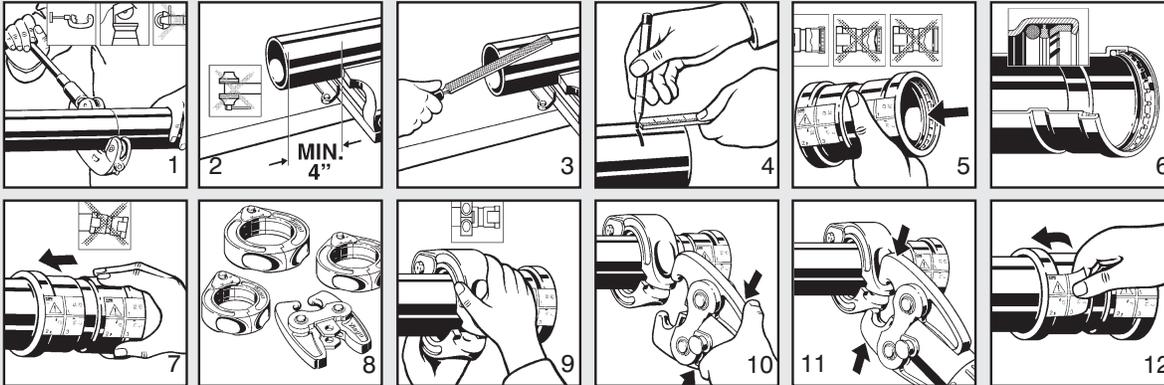
Pressure Testing: Pressure testing is to be carried out in accordance with local codes. ProPress Stainless also includes the Smart Connect (SC) feature providing quick and easy identification of **unpressed** connections during the pressure testing process. **Unpressed connections are located by pressurizing the system with air or water. When testing with air the pressure range is 1/2 PSI to 85 PSI maximum.** When testing with water the pressure range is 15 PSI to 85 PSI maximum. The SC feature is an integral part of the design of the fitting assuring leakage of liquids and/or gases from inside the system past the sealing element of an unpressed connection. The SC feature is removed during the pressing process creating a leak-proof, permanent connection.

Product Instruction

2-1/2 inch to 4 inch

⚠ WARNING

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



ProPress Stainless XL-S Insertion Depth Chart

Pipe Size	2-1/2"	3"	4"
Insertion Depth	1-5/8"	1-7/8"	2-3/8"

- Cut stainless steel pipe at right angles using displacement type cutter or fine-toothed steel saw.
- Keep end of piping a minimum of 4" away from the contact area of the vise to prevent possible damage to the piping in the press area.
- Remove burrs from inside and outside of tubing to prevent cutting sealing element.
- Check seal and grip ring for correct fit. Do not use oils or lubricants. Use only ProPress Stainless Shiny Black EPDM sealing elements.
- Mark proper insertion depth as indicated by the ProPress Stainless XL-S Insertion Depth Chart. Improper insertion depth may result in an improper seal.
- Illustration demonstrates proper fit of grip ring, separation ring and sealing element.
- While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
- ProPress Stainless XL-S fitting connections must be performed with ProPress XL-C Rings and V2 ACTUATOR. Use of ProPress XL Rings and/or Actuator (for Bronze fittings) will result in an improper connection. See Ridgid Operator's Manual for proper tool instructions.
- Open XL-C Ring and place at right angles on the fitting. XL-C Ring must be engaged on the fitting bead. Check insertion depth.
- With V2 ACTUATOR inserted into the tool, open the V2 ACTUATOR as shown and connect V2 ACTUATOR to the XL-C Ring.
- Place V2 ACTUATOR onto XL-C Ring and start pressing process. Hold the trigger until the Actuator has engaged the XL-C Ring. Keep extremities and foreign objects away from XL-C Ring and V2 ACTUATOR during pressing operation to prevent injury or incomplete press.
- Release V2 ACTUATOR from XL-C Ring and then remove the XL-C Ring from the fitting on completion of press. Remove tag from fitting indicating press has been performed.



Smart Connect feature

Pressure Testing: Pressure testing is to be carried out in accordance with local codes. ProPress Stainless XL-S also includes the Smart Connect (SC) feature providing quick and easy identification of **unpressed** connections during the pressure testing process. **Unpressed connections are located by pressurizing the system with air or water. When testing with air the pressure range is 1/2 PSI to 85 PSI Maximum.** When testing with water the pressure range is 15 PSI to 85 PSI Maximum. The SC feature is an integral part of the design of the fitting assuring leakage of liquids and/or gases from inside the system past the sealing element of an unpressed connection.

Product Specification Sheet

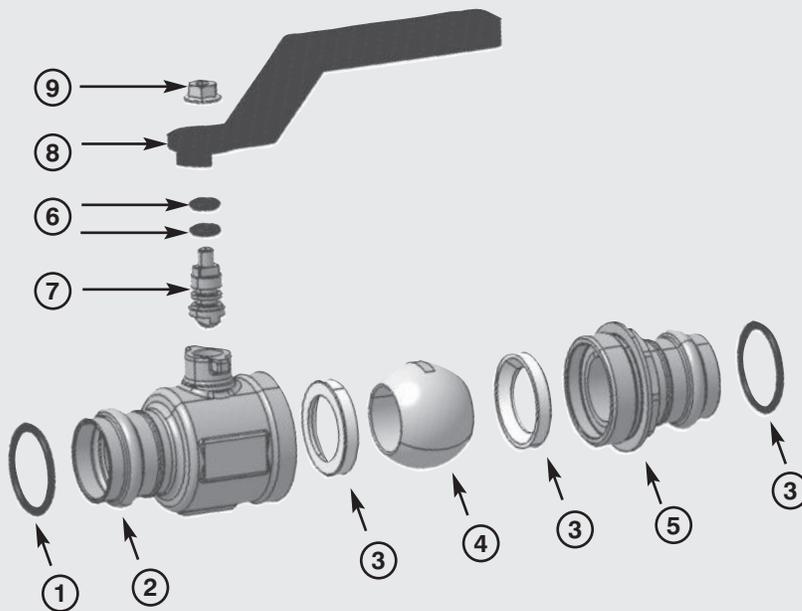
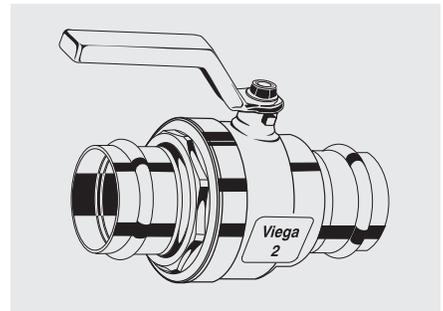
316 Stainless Steel Ball Valve (Metal Handle)

Application

The ProPress Stainless Steel Ball Valve is available in sizes, 1/2", 3/4", 1", 1-1/4", 1-1/2", and 2" and are equipped with the Smart Connect feature for easy identification of unpressed connections during pressure testing.

Features

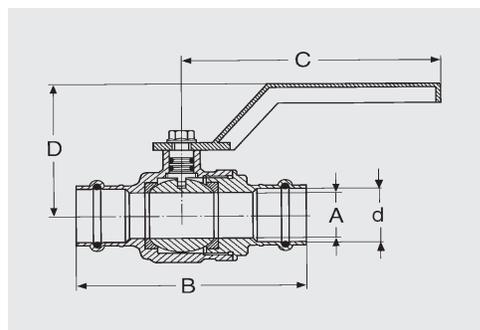
- ProPress press ends
- Full port, two piece design
- Blowout-proof stainless steel stem
- Reinforced PTFE seats
- 600 WOG
- Conforms to MSS SP-110
- NSF-61 Approved
- Rated 0°F-250°F
- Maximum operating pressure: 200 psi



Part	Description
1	EPDM Sealing Element
2	316 Stainless Steel Valve Body End Piece
3	PTFE Seat
4	316 Stainless Steel Ball
5	316 Stainless Steel Valve Body
6	EPDM Sealing Element
7	316 Stainless Steel Stem
8	Powder Coated Metal Handle
9	Galvanized Steel Nut

Ball Valve Torque Information

	Turning Torque Range		1st Movement Range	
	<N m	<lbs in	<N m	<lbs in
1/2"	6	53	9	80
3/4"	8	71	20	177
1"	10	89	25	221
1-1/4"	15	133	32.5	288
1-1/2"	12	106	30	266
2"	21	186	47	416

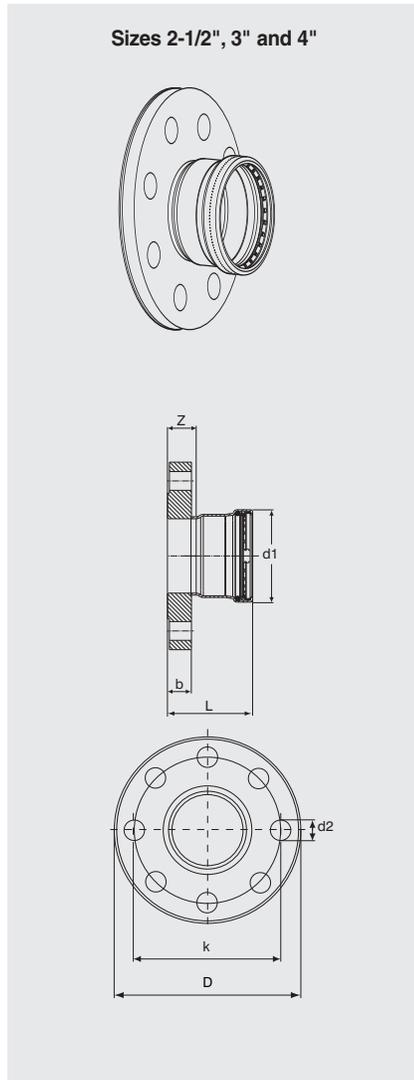
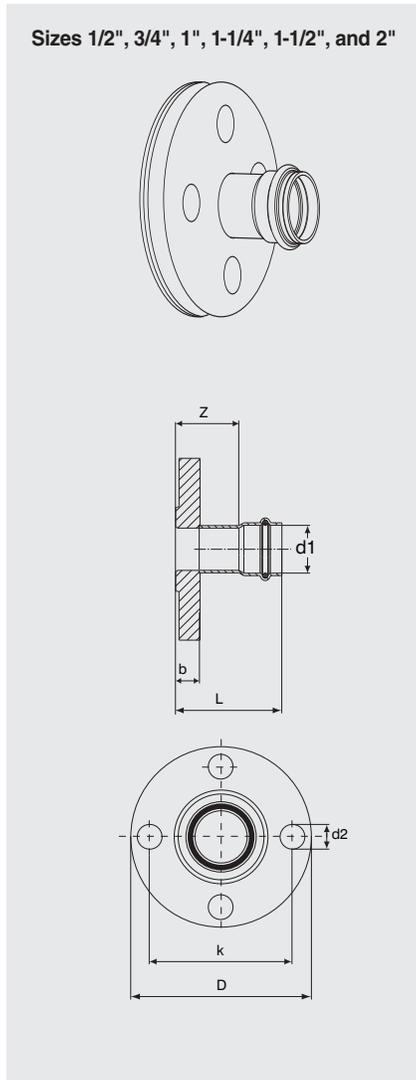


ProPress Metal Handle Ball Valve - (SC) P x P

Stock Code	Size	A	B	C	D
S/S 316	d	(in)	(in)	(in)	(in)
81080	1/2"	0.650	3.543	4.331	2.402
81085	3/4"	0.787	4.193	4.331	2.461
81090	1"	0.984	4.567	4.823	2.795
81095	1-1/4"	1.260	5.217	4.823	3.228
81100	1-1/2"	1.575	6.496	5.315	3.661
81105	2"	1.969	7.323	5.315	3.976

Product Specification Sheet

Adapter Flange — Available in sizes 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3" and 4"



Materials & Construction

- 304 and 316 Stainless Steel
- EPDM Sealing Element
- 2-1/2"- 4" Stainless Steel Grip Ring

Design Criteria

- Flanges are manufactured to ASME B16.24 Pipe Flanges and Flanged Fittings standard
- CLASS 150

Applications

Multipurpose adapter flange for use in General Utility, Chilled and Hydronic Heating Water, Vacuum, and Compressed Air Service.

Gasket

Part #	Size
81130	1/2"
81131	3/4"
93417	1"
93422	1-1/4"
93427	1-1/2"
93432	2"
93437	2-1/2"
93442	3"
93447	4"

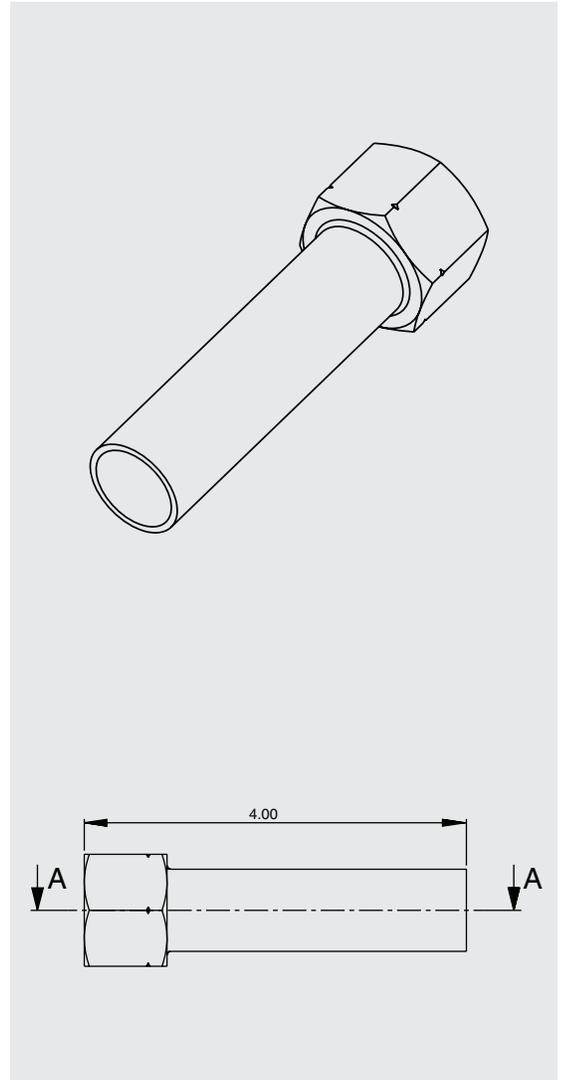
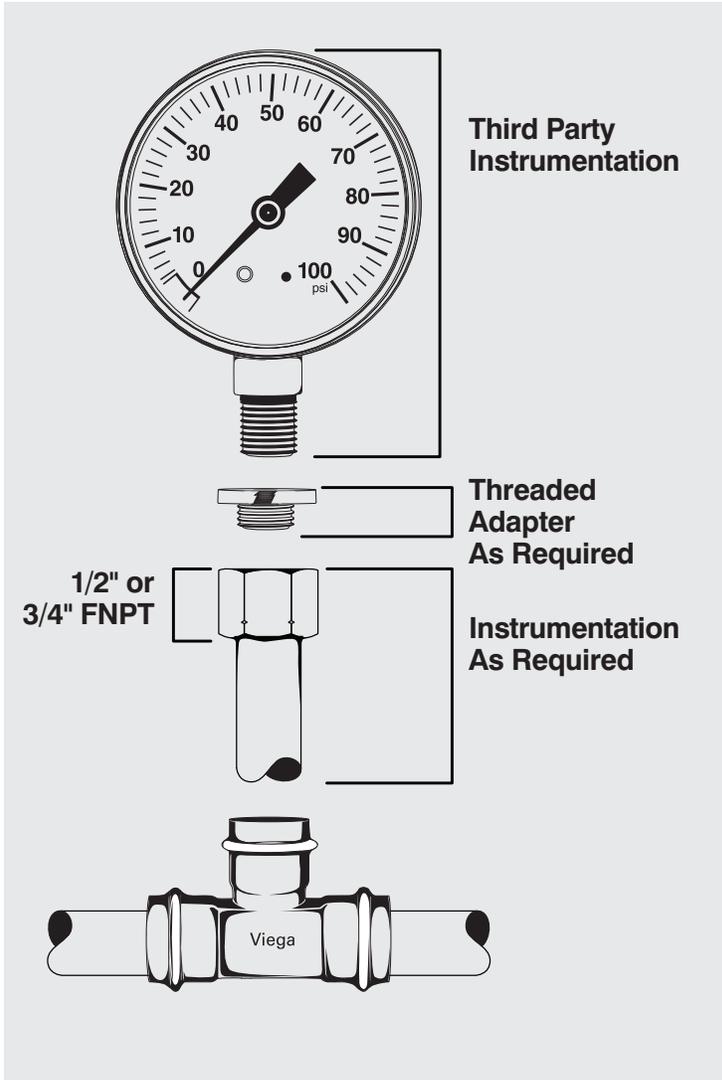


Catalog No.		Size	L	Z	b	d2	D	k
S/S 304	S/S 316	d1	(in)	(in)	(in)	(in)	(in)	(in)
86035	81035	1/2"	2.579	1.713	0.453	0.630	3.543	2.362
86040	81040	3/4"	2.579	1.673	0.512	0.630	3.937	2.756
86045	81045	1"	2.520	1.614	0.571	0.630	4.331	3.110
86050	81050	1-1/4"	2.717	1.673	0.650	0.630	4.528	3.504
86055	81055	1-1/2"	2.854	1.417	0.709	0.630	4.921	3.858
86060	81060	2"	3.878	2.303	0.768	0.748	5.906	4.764
86065	81065	2-1/2"	3.031	1.339	0.886	0.748	7.087	5.512
86070	81070	3"	3.406	1.437	0.965	0.748	7.480	5.984
86075	81075	4"	3.799	1.437	0.965	0.748	9.055	7.520

1", 1-1/4" and 1-1/2" = 1/2" bolt.
2", 2-1/2", 3" and 4" = 5/8" bolt.

Product Specification Sheet

Instrumentation Adapters



Catalog No.	Viega Part Number	Alloy	Description	Viega Model Number	Dimension
80126	382041	316 Stainless	Instrument Adapters FTG x FNPT	40125	1/2" x 1/2"
80127	382051	316 Stainless	Instrument Adapters FTG x FNPT	40125	3/4" x 3/4"

Product Specification Sheet

Pipe Marking Guide

Guide to the ANSI A13.1 Standard for the Identification of Pipes

Usage	Material Properties	Type of Application (typical)	Color Scheme
Hazardous Materials	<ul style="list-style-type: none"> • Flammable or explosive • Chemically Active or Toxic • Radioactive • Extreme Temperature/Pressure 	<ul style="list-style-type: none"> • Process Piping • High Pressure Steam • Acids/Corrosives 	YELLOW ON BLACK
Low Hazard Materials (Liquid)	<ul style="list-style-type: none"> • Liquid • Liquid Admixture 	<ul style="list-style-type: none"> • Cooling Water • Grey Water • Chilled Water 	WHITE ON GREEN
Low Hazard Materials (Gas)	<ul style="list-style-type: none"> • Gas • Gas Admixture 	<ul style="list-style-type: none"> • Compression Air • Nitrogen (N₂) • Argon (Ar) 	WHITE ON BLUE
Fire Suppression	<ul style="list-style-type: none"> • Liquid • Gas • Foam 	<ul style="list-style-type: none"> • Sprinklers (Wet/Dry) • CO₂ • Foam (AFFF) 	WHITE ON RED

Pipe O.D. Including Covering		Minimum Length of Label Field Color		Minimum Height of Letters	
3/4" to 1-1/4"	19 mm to 32 mm	8"	203 mm	1/2"	13 mm
1-1/2" to 2"	38 mm to 51 mm	8"	203 mm	3/4"	19 mm
2-1/2" to 4"	64 mm to 108 mm	12"	305 mm	1-1/4"	32 mm

Marker Placement

- At all changes in directions.
- At both sides of any penetrations (valves, flanges, tees, etc.)
- At frequent intervals on straight run (50 feet is typical).
- Locate pipe markers so they are readily visible.
- Provide arrows indicating direction of flow.

Note: This guide is for general information purposes only.
Pipe markings shall be in accordance with local code requirements.

Frequently Asked Questions

Q: What is the Smart Connect feature?

A: The Smart Connect feature 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, the pressure range is 1/2 psi to 85 psi maximum. When testing with water, the pressure range is 15 psi to 85 psi maximum. The Smart Connect feature is removed during the pressing process, creating a leak-proof, permanent connection. Guaranteed.

Q: Why is the Smart Connect feature so valuable?

A: The Smart Connect feature provides the user with a strong 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: Do I need additional equipment to install ProPress Stainless?

A: No. Viega designed ProPress Stainless to be compatible with the same jaws and press tools that are used for ProPress Copper and ProPress Copper XL-C.

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 would an inspector know they are looking at a good connection?

A: Good connections can be proven by performing a pressure test, using the same procedure for any fitting system.

Q: What is the lubrication used on the sealing elements?

A: The sealing elements are lubricated with an USDA Approved H1 lubricant, meeting the requirement of FDA 21CFR. If it is necessary to lubricate the seals in the field, use water only. Do not use petroleum-based lubricants. Petroleum and EPDM are incompatible.

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 I fabricate a system in tight places when using ProPress?

A: If necessary, pre-fabricate connections that are in tight places and then install.

Q: What is the warranty for ProPress Stainless?

A: ProPress fittings carry a 2 year warranty against defects in material and workmanship from Viega.

Q: How do ProPress connections hold up to freezing temperatures?

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

Q: What level of turbulence occurs in ProPress Stainless Steel fittings and will it cause premature wear in the piping?

A: The long radius of ProPress elbows reduce the turbulence typically experienced with traditional short radius fittings. Not reaming the ID of the pipe is the largest contributing factor to turbulence and premature wear of any piping system.

Q: What are the flow rates through ProPress Stainless Steel fittings?

A: Because of the long radius fittings, flow rates are better than standard short radius fittings. The friction loss allowance table can be found in Technical Bulletin 426 (see pages 8-13).

Frequently Asked Questions

Q: Why use FKM or HNBR sealing elements for compressed air systems with more than 25 grams per cubic foot of oil content?

A: FKM and HNBR sealing elements are better suited for high oil content due to their high resistance to hydrocarbon substances.

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

A: In general, ProPress fittings only leak due to one of three reasons; the fitting was never pressed, the piping was not properly inserted or the pressing jaws were not properly aligned. If the fitting was never pressed, confirm that the tubing is properly installed and proceed with pressing. If the piping 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: Is ProPress compatible with the cleaning agents used to disinfect a new plumbing system?

A: Yes, however, it is recommended to contact your local District Manager or the Viega Technical Support Department for consultation.

Q: What should be done if a user accidentally cuts the fitting seal?

A: Any damaged seal must be replaced. Please note that the tolerances of the fitting socket ensure that the piping is inserted at the appropriate angle.

Q: Is ProPress Stainless approved for underground use?

A: Yes. ProPress can be installed underground, however, users must obtain approval from the local jurisdiction. Approval of this application is based upon performance testing conducted by NSF, which includes withstanding pressure, temperature, water hammer, bending forces, torsion, temperature variation, vibration and vacuum.

Q: How should ProPress Stainless Steel pipe be prepared for installation?

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. Then, remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly. The pipe end should be wiped clean and dry, and remove any burrs.

Q: Can I mix 304 stainless with 316 stainless components?

A: Viega does NOT recommend the mixing of stainless components. However, Viega offers ball valves in 316, which is acceptable to use on a 304 system. Use of 304 stainless or 316 stainless is determined by YOUR SYSTEM SPECIFIC CHARACTERISTICS.

Q: At what temperature will the EPDM seals begin to distort?

A: There is no detractor or distortion of the EPDM seal within the stated temperature rating of 0°F to 250°F

Q: Does the ProPress Stainless System require the use of special valves?

A: No. Users can continue with their favorite valve line by using the threaded adapters or flanged adapters. However, Viega ProPress Stainless offers press connection ball valves in sizes 1/2" - 2".

Q: What level of turbulence is caused by ProPress Stainless steel fittings?

A: The long radius of ProPress Stainless fittings reduces the turbulence typically experience with traditional short radius fittings.

Viega Limited Warranty for Industrial and Marine Applications



Subject to the conditions and limitations in 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 and marine applications shall be free from failure caused by manufacturing defects for a period of two (2) years from date of installation. For purposes of this warranty, industrial applications are defined as non residential and non commercial applications not normally accessible to the general public. Marine applications are defined as mobile structures used to navigate water or stationary structures in water.

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 manufactured or 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; (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 of 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:

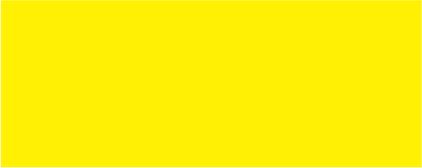
Viega, 301 N. Main, Floor 9
Wichita, KS 67202

or telephoning 1-877-843-4262 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, 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 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, WATER OR PROPERTY OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.**

THIS 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 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.



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