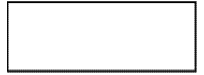


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ProPress® Stainless System

<input type="checkbox"/>	System Data Sheet	2
<input type="checkbox"/>	ProPress® Stainless Flow Data	3
<input type="checkbox"/>	ProPress Stainless 304 and 316	9
<input type="checkbox"/>	Engineering Specifications	10
<input type="checkbox"/>	Seals And Gasket Materials Information	14
<input type="checkbox"/>	ProPress® Stainless 1/2" - 2"	16
<input type="checkbox"/>	ProPress® Stainless XL-S	27
<input type="checkbox"/>	ProPress® Stainless Product Instructions 1/2" to 2"	34
<input type="checkbox"/>	ProPress® Stainless Product Instructions 2-1/2" to 4"	35
<input type="checkbox"/>	Pipe Marking Guide	36
<input type="checkbox"/>	Frequently Asked Questions	37
<input type="checkbox"/>	Viega Limited Warranty for Industrial and Marine Applications	39

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System Data Sheet

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
- Large selection of fittings from 1/2" to 4"
- 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 or ASTM A554 for schedule 5 304 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 1980s and in the U.S. since the late 1990s 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")

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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

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ProPress® Stainless Flow 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

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:

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

h = friction loss

L = pipe length

D = pipe ID

V = velocity (ft./sec.)

g = gravity constant (32.174ft./sec.²)

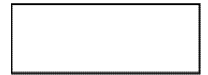
f = pipe friction factor

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3/4" Stainless Steel, ASTM A312

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

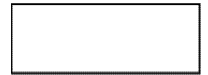
Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.990	
	Velocity (ft./sec.)	Press Loss (psi/100')
2.00	0.83	0.11
4.00	1.67	0.45
6.00	2.50	1.02
8.00	3.33	1.81
10.00	4.17	2.83
12.00	5.00	4.08
14.00	5.84	5.55
16.00	6.67	7.25
18.00	7.50	9.18
20.00	8.34	11.33
22.00	9.17	13.72
24.00	10.00	16.32
26.00	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

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1-1/4" Stainless Steel, ASTM A312

Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.740	
	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

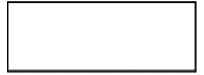
Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.07 ID = 0.990	
	Velocity (ft./sec.)	Press Loss (psi/100')
10.00	1.84	0.35
13.00	2.39	0.59
16.00	2.94	0.89
19.00	3.50	1.26
22.00	4.05	1.69
25.00	4.60	2.18
28.00	5.15	2.73
31.00	5.70	3.35
34.00	6.26	4.03
37.00	6.81	4.77
40.00	7.36	5.58
43.00	7.91	6.45
46.00	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

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2" Stainless Steel, ASTM A312

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 A554

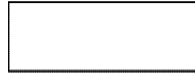
Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.08 ID = 2.470	
	Velocity (ft./sec.)	Press Loss (psi/100')
50.00	3.35	0.62
55.00	3.68	0.75
60.00	4.02	0.90
65.00	4.35	1.05
70.00	4.69	1.22
75.00	5.02	1.40
80.00	5.36	1.59
85.00	5.69	1.80
90.00	6.03	2.02
95.00	6.36	2.25
100.00	6.70	2.49
105.00	7.03	2.75
110.00	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

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3" Stainless Steel, ASTM A554

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 A554

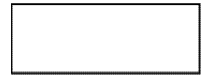
Flow Rate (gpm)	Schedule 5	
	Wall Thickness = 0.08 ID = 3.970	
	Velocity (ft./sec.)	Press Loss (psi/100')
200.00	5.18	0.93
220.00	5.70	1.12
240.00	6.22	1.34
260.00	6.74	1.57
280.00	7.26	1.82
300.00	7.78	2.09
320.00	8.29	2.38
340.00	8.81	2.69
360.00	9.33	3.01
380.00	9.85	3.35
400.00	10.37	3.72
420.00	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

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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 (in.)	Stainless Steel Pipe Max. Span (ft.)	Min. Rod Diameter (in.)
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

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ProPress Stainless 304 and 316

ProPress Stainless is the total system solution where optimum corrosion protection or chemical resistance is required. Available in two stainless alloys, 304 or 316, all fittings offer Viega's patented Smart Connect feature, the quick and easy way to identify unpressed connections. Exceeding the most rigorous testing in North America, ProPress Stainless is the industry's new standard for stainless steel installations.

Features and Benefits

- Makes connections in for to seven seconds
- Same tool used on all Viega plumbing and heating press systems
- Ensures a consistent, strong, reliable seal for liquids or gases
- Reduces system installation time and job site clean up
- Requires less pipe preparation than other joining methods
- Eliminates costly downtime
- Faster production changeover and repairs for unplanned outages
- Reduced maintenance problems
- Provides superior flow characteristics of press technology
- No hot work, burn permits or fire watches needed

Codes and Standards

- ASTM A312: Standard Specification for Seamless Welded and Heavily Cold Worked Austenitic Stainless Steel Pipe
- ASTM A403: Standard Specification for Austenitic and Stainless Steel Piping Fittings
- ASTM A554: Standard Specification for Welded and Stainless Steel Mechanical Tubing
- ASTM A999: Standard Specification for Alloy and Stainless Steel Pipe
- ASME: B31.1: Power Piping
- ASME B31.3: Process Piping
- ASME B31.9: Building Service Piping
- CRN 13492.5: Canadian Registration Number
- CSA B125.3: Plumbing Fittings (valves) (316 Only)
- NSF/ANSI Standard 61G: Drinking Water System Components (316 Only)
- ABS: America Bureau of Shipping

Zero Lead (316 Only)

Zero Lead identifies Viega products meeting the lead free requirements of California and Virginia law, effective January 1, 2010, as tested and listed against NSF 61, Annex G. For more detailed information on zero lead issues and legislation, visit www.zeroleadfacts.com. For more information on Viega's Zero Lead products, contact Inside Sales.

Abbreviation

- BSP - British Standard Pipe
- FTG - Fitting
- NPT - National Pipe Thread
- P - ProPress Connection

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Engineering Specifications

ART 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 A554 Standard Specification For Welded Stainless Steel Mechanical Tubing
- 1.2.6 AWWA C651 Standard for Disinfecting Water Mains
- 1.2.7 IAPMO Uniform Mechanical Code
- 1.2.8 IAPMO Uniform Plumbing Code
- 1.2.9 ICC International Plumbing Code
- 1.2.10 ICC International Mechanical Code
- 1.2.11 MSS-SP-58 Pipe Hangers and Supports - Materials, Design and Manufacture
- 1.2.12 MSS-SP-69 Pipe Hangers and Supports - Selection and Application
- 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.

1.4 DELIVERY, STORAGE, AND HANDLING

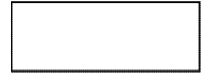
- 1.4.1 Stainless steel pipe shall be shipped to the job site by truck or in such a manner to protect the pipe. The pipe and fittings shall not be handled roughly during shipment. The pipe and fittings shall be unloaded with reasonable care.
- 1.4.2 Protect the stored pipe from moisture and dirt. Elevate 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.

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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 North America, 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 A554.
- 2.2.2 Fitting Standard: Stainless steel fittings shall conform to the material requirements of ASTM A312 or ASTM A554.
- 2.2.3 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.
- 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.

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.

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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.
- 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.
- 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:

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

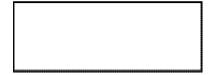
Nominal Pipe Size (in)	Stainless Steel Pipe Max. Span (ft)	Min. Rod Diameter (in)
Up to 3/4	10	3/8
1	10	3/8
1-1/4	10	3/8
1-1/2	10	3/8
2	10	3/8
2-1/2	11	1/2
3	12	1/2
4	14	5/8

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- 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 all seismic forces.
- 3.4.13 Identification: Stainless steel pipe systems shall be identified in accordance with the requirements of ASME A13.1.

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.

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Seals And Gasket Materials Information

FKM Sealing Element

Operating temperature:

0°F to 284°F (-18°C to 140°C)

Resistant to thermal spikes to 356°F (thermal spikes are temperature increases above maximum defined operating temperature for a duration of 24 hours or less).

FKM, is a fluoroelastomer or synthetic fluorinated rubber, specialty purpose elastomer.

FKM sealing elements are white in color, and possess excellent resistance to chemicals, higher temperatures, aging, ozone, sunlight, weathering, environmental influences, oils, and petroleum-based additives.

FKM's resistance to aggressive chemicals and higher operating temperatures makes it ideal for seals and gaskets in industrial process applications.

All sealing elements are installed using an H-1 food grade silicone oil lubricant registered with NSF, USDA and approved for use under FDA 21 CFR.

Refer to product line application guides or chemical compatibility matrix for general information.

HNBR Sealing Element

Operating temperature:

-40°F to 180°F (-40°C to 82°C)

[sliding scale range]

HNBR, or Hydrinatet butadiene-acrylic rubber, is a speciality purpose compound used where resistance to petroleum-based additives are required.

HNBR sealing elements are yellow in color, and possess excellent physical strength and retention properties after long-term exposure to heat, oil, and chemicals.

HNBR sealing elements are used for applications of natural, propane, mixed, and manufactured gases.

HNBR's unique properties have resulted in wide adoption in automotive, industrial, and assorted high performance applications.

Product line application guides and chemical compatibility matrix are not all inclusive.

EPDM Sealing Element

Operating temperature:

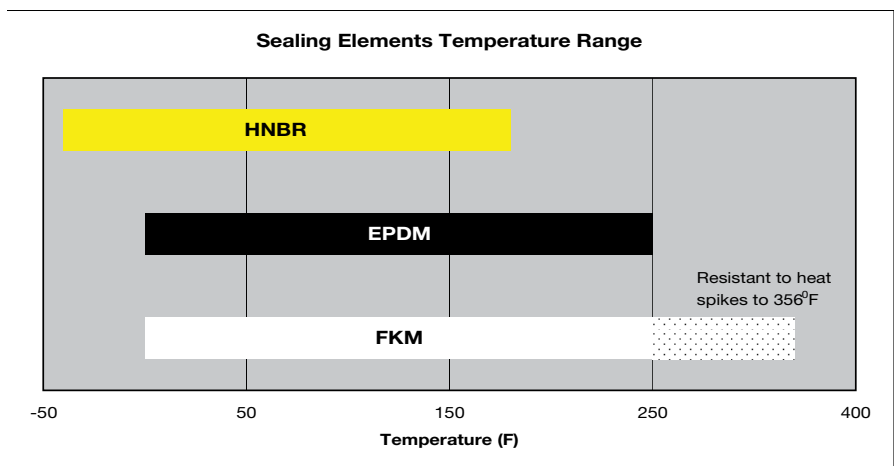
0°F to 250°F (-18°C to 120°C)

EPDM, or ethylene-propylene-diene rubber, is a synthetically manufactured and peroxidically cured all-purpose elastomer.

EPDM sealing elements are black in color and possess excellent resistance to aging, ozone, sunlight, weathering, environmental influences, alkalis and most alkaline solutions along with chemicals used in a broad range of applications, including ketones.

Viega Press Systems are manufactured with a high quality EPDM sealing elements standard, installed at the factory.

EPDM has particularly good resistance to hot water, making it ideal for seals and gaskets.



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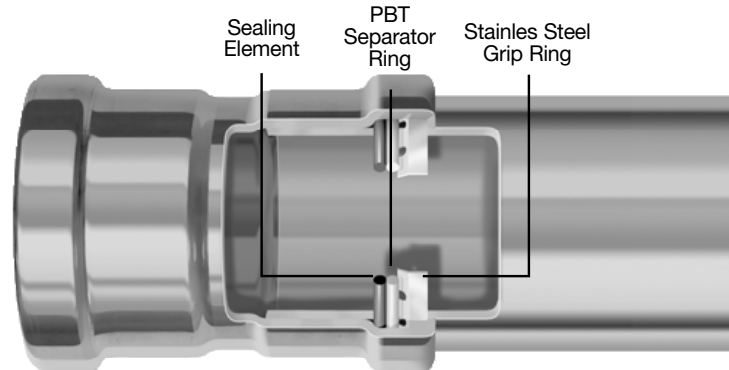
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Viega Grip and Separator Ring

The grip ring is made of 420 (1.4021) stainless steel. The grip ring ensures the XL and XLC 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, call Viega at 1-877-843-4262.



Viega Flange Gasket

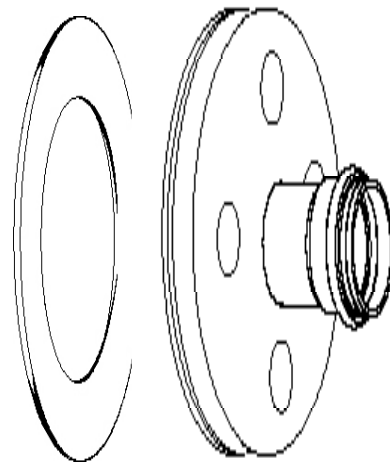
Viega Flange gaskets are an asbestos-free gasket material composed of aramide fibers, inorganic fillers and other asbestos substitutes which are resistant to high temperatures.

These are firmly bonded to high grade elastomers under elevated pressure and temperature. The gaskets do not contain any color pigments.

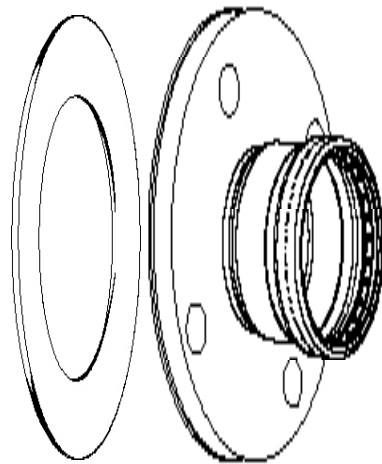
The material exhibits high tensile strength, stress as well as shearing resistance. Other characteristic properties of the material are excellent temperature resistance, stress resistance under high operating pressure and ease of handling.

The gasket material has a non-stick top and bottom layer with a high coefficient of friction. This aids in dismantling. Additional surface treatment is not needed in most cases. Please review your specific product line for specific details.

1/2" - 2"



2-1/2" - 4"



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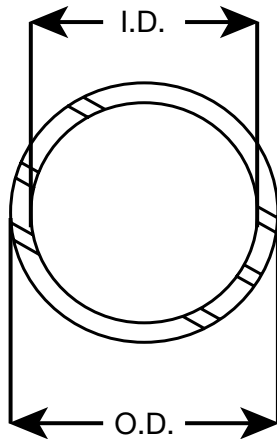
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ProPress® Stainless 1/2" - 2"

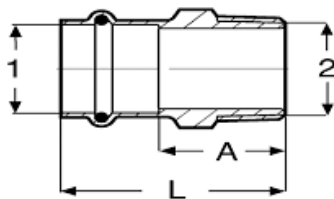
ProPress Stainless Steel 304 ECO-Pipe ASTM A554



Catalog No.	Size	O.D. (in)	I.D. (in)	Wall Thickness	Length (ft)
87050	1/2"	0.63	0.55	0.04	20
87055	3/4"	0.88	0.78	0.05	20
87060	1"	1.13	1.04	0.05	20
87065	1-1/4"	1.38	1.27	0.06	20
87070	1-1/2"	1.63	1.52	0.06	20
87075	2"	2.13	2.02	0.06	20

ProPress Stainless Steel 304 & 316 Pipe ASTM A312

Catalog No.		Size	O.D. (in)	I.D. (in)	Wall Thickness	Length (ft)
S/S 304	S/S 316					
87000	82000	1/2"	0.63	0.49	0.07	20
87005	82005	3/4"	0.88	0.70	0.07	20
87010	82010	1"	1.13	0.99	0.07	20
87015	82015	1-1/4"	1.38	1.24	0.07	20
87020	82020	1-1/2"	1.63	1.49	0.07	20
87025	82025	2"	2.13	1.99	0.07	20



Adapter P x M NPT w/ EPDM Seals Model - 0111 / 4011

Catalog No.		Size	A (in)	L (in)
S/S 304	S/S 316	1 2		
85010	80010	1/2" x 1/2" NPT	1.260	2.010
85015	80015	1/2" x 3/4" NPT	1.339	2.090
85020	80020	3/4" x 1/2" NPT	1.398	2.300
85025	80025	3/4" x 3/4" NPT	1.437	2.340
85030	80030	3/4" x 1" NPT	1.693	2.600
85035	80035	1" x 3/4" NPT	1.457	2.360
85040	80040	1" x 1" NPT	1.732	2.640
85045	80045	1-1/4" x 1-1/4" NPT	1.880	2.910
85050	80050	1-1/2" x 1-1/2" NPT	1.949	3.370
85055	80055	2" x 2" NPT	2.106	3.680

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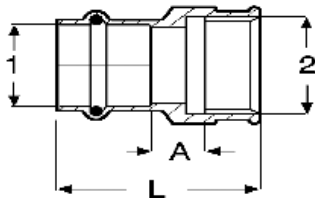
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Adapter P x M NPT w/ FKM Seals Model - 6011

Catalog No.	Size		A (in)	L (in)
	S/S 304	1 2		
85012		1/2" x 1/2" NPT	1.260	2.010
85017		1/2" x 3/4" NPT	1.339	2.090
85022		3/4" x 1/2" NPT	1.398	2.300
85027		3/4" x 3/4" NPT	1.437	2.340
85032		3/4" x 1" NPT	1.693	2.600
85037		1" x 3/4" NPT	1.457	2.360
85042		1" x 1" NPT	1.732	2.640
85047		1-1/4" x 1-1/4" NPT	1.880	2.910
85052		1-1/2" x 1-1/2" NPT	1.949	3.370
85057		2" x 2" NPT	2.106	3.680

Adapter P x F NPT w/ EPDM Seals Model - 0112 / 4012



Catalog No.	S/S 304	S/S 316	Size		A (in)	L (in)
			1	2		
85080		80080	1/2" x 1/2" NPT		1.024	1.772
85085		80085	3/4" x 1/2" NPT		1.240	2.146
85090		80090	3/4" x 3/4" NPT		1.181	2.087
85092		80092	1" x 1/2" NPT		1.161	2.067
85095		80095	1" x 3/4" NPT		1.240	2.146
85100		80100	1" x 1" NPT		1.299	2.205
85105		80105	1-1/4" x 1-1/4" NPT		1.329	2.362
85110		80110	1-1/2" x 1-1/4" NPT		1.407	2.835
85115		80115	1-1/2" x 1-1/2" NPT		1.407	2.835
85075		80075	2" x 1" NPT		1.604	3.189
85120		80120	2" x 1-1/2" NPT		1.447	3.031
85125		80125	2" x 2" NPT		1.489	3.071

Adapter P x F NPT w/ FKM Seals Model - 6012

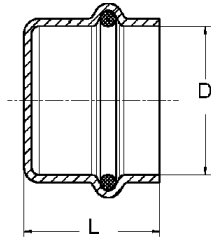
Catalog No.	Size		A (in)	L (in)
	S/S 304	1 2		
85082		1/2" x 1/2" NPT	1.024	1.772
85087		3/4" x 1/2" NPT	1.240	2.146
85096		3/4" x 3/4" NPT	1.181	2.087
85094		1" x 1/2" NPT	1.161	2.067
85097		1" x 3/4" NPT	1.240	2.146
85102		1" x 1" NPT	1.299	2.205
85107		1-1/4" x 1-1/4" NPT	1.329	2.362
85117		1-1/2" x 1-1/2" NPT	1.407	2.835
85077		2" x 1" NPT	1.604	3.189
85122		2" x 1-1/2" NPT	1.447	3.031
85127		2" x 2" NPT	1.489	3.071

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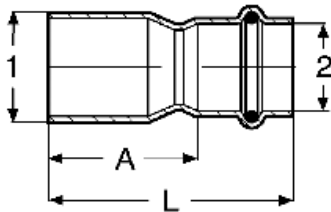


Cap P w/ EPDM Seals Model - 0156 / 4056

Catalog No.		Size	L	D
S/S 304	S/S 316		(in)	(in)
85355	80355	1/2"	0.819	0.693
85360	80360	3/4"	1.043	0.925
85365	80365	1"	1.063	0.945
85370	80370	1-1/4"	1.200	1.043
85375	80375	1-1/2"	1.594	1.435
85380	80380	2"	1.744	1.585

Cap P w/ FKM Seals Model - 6056

Catalog No.		Size	L	D
S/S 304			(in)	(in)
85357		1/2"	0.819	0.693
85362		3/4"	1.043	0.925
85367		1"	1.063	0.945
85372		1-1/4"	1.200	1.043
85377		1-1/2"	1.594	1.435
85382		2"	1.744	1.585



Reducer FTG x P w/ EPDM Seals Model - 01151 / 40151

Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85160	80160	3/4" x 1/2"	1.535	2.283
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	3.524
85200	80200	1-1/2" x 1"	2.500	3.406
85205	80205	1-1/2" x 1-1/4"	2.256	3.287
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"	2.827	3.858
85230	80230	2" x 1-1/2"	2.598	4.016

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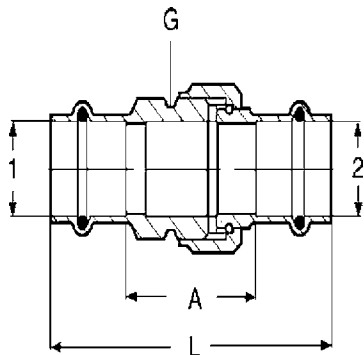
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Reducer FTG x P w/ FKM Seals Model - 6015.1

Catalog No.	Size	A (in)	L (in)
S/S 304	1		
85162	3/4" x 1/2"	1.535	2.283
85167	1" x 1/2"	1.831	2.579
85172	1" x 3/4"	1.555	2.461
85177	1-1/4" x 1/2"	2.244	2.992
85182	1-1/4" x 3/4"	1.929	2.835
85187	1-1/4" x 1"	1.811	2.717
85192	1-1/2" x 1/2"	3.051	3.799
85197	1-1/2" x 3/4"	2.618	3.524
85202	1-1/2" x 1"	2.500	3.406
85212	2" x 1/2"	3.740	4.488
85217	2" x 3/4"	3.465	4.370
85222	2" x 1"	3.091	3.996
85232	2" x 1-1/2"	2.598	4.016

Union P x P w/ EPDM Seals Model - 0160 / 4060



Catalog No.	Size	A (in)	L (in)	G (in)	
S/S 304	S/S 316				
86005	81005	1/2"	1.858	3.354	3/4"
86010	81010	3/4"	1.850	3.661	1"
86015	81015	1"	2.224	4.035	1-1/4"
86020	81020	1-1/4"	2.224	4.291	1-1/2"
86025	81025	1-1/2"	2.677	5.531	2"
86030	81030	2"	2.953	6.122	2-1/2"

Union P x P w/ FKM Seals Model - 6060

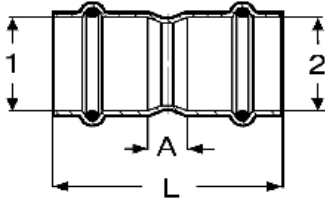
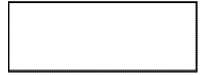
Catalog No.	Size	A (in)	L (in)	G (in)
S/S 304				
86007	1/2"	1.858	3.354	3/4"
86012	3/4"	1.850	3.661	1"
86017	1"	2.224	4.035	1-1/4"
86022	1-1/4"	2.224	4.291	1-1/2"
86027	1-1/2"	2.677	5.531	2"
86032	2"	2.953	6.122	2-1/2"

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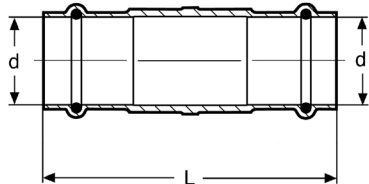


Coupling P x P w/ Stop w/ EPDM Seals Model - 0115 / 4015

Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85265	80265	1/2"	0.354	1.850
85270	80270	3/4"	0.433	2.244
85275	80275	1"	0.374	2.185
85280	80280	1-1/4"	0.461	2.528
85285	80285	1-1/2"	0.335	3.189
85290	80290	2"	0.453	3.642

Coupling P x P w/ Stop w/ FKM Seals Model - 6015

Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85267	80267	1/2"	0.354	1.850
85272	80272	3/4"	0.433	2.244
85277	80277	1"	0.374	2.185
85282	80282	1-1/4"	0.461	2.528
85287	80287	1-1/2"	0.335	3.189
85292	80292	2"	0.453	3.642



Slip Coupling P x P w/ EPDM Seals Model - 01155 / 40155

Catalog No.		Size	L
S/S 304	S/S 316	1	(in)
85310	80310	1/2"	1.850
85315	80315	3/4"	2.272
85320	80320	1"	2.185
85325	80325	1-1/4"	2.520
85330	80330	1-1/2"	3.189
85335	80335	2"	3.642

Slip Coupling P x P w/ FKM Seals Model - 6015.5

Catalog No.		Size	L
S/S 304	S/S 316	1	(in)
85312	80312	1/2"	1.850
85317	80317	3/4"	2.272
85322	80322	1"	2.185
85327	80327	1-1/4"	2.520
85332	80332	1-1/2"	3.189
85337	80337	2"	3.642

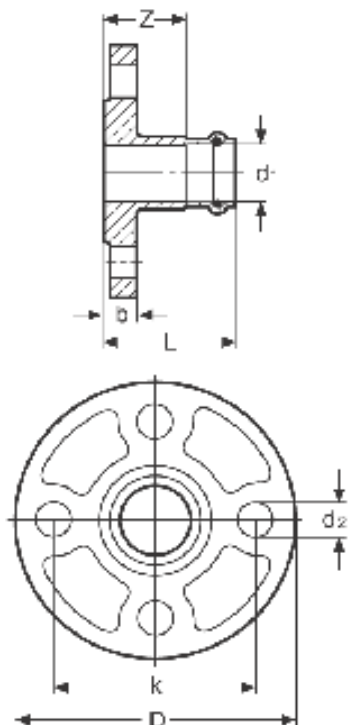
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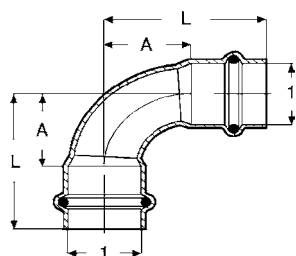
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Flange P x Flange w/ EPDM Seals Model - 0159 / 4059



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"	2.465	1.717	0.457	0.630	3.543	2.348
86040	81040	3/4"	2.587	1.681	0.520	0.630	3.937	2.756
86045	81045	1"	2.528	1.622	0.579	0.630	4.331	3.110
86050	81050	1-1/4"	2.709	1.675	0.642	0.630	4.528	3.504
86055	81055	1-1/2"	2.850	1.423	0.705	0.630	4.921	3.858
86060	81060	2"	3.878	2.293	0.768	0.748	5.906	4.764

Elbow 90° P x P w/ EPDM Seals Model - 0116 / 4016



Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85400	80400	1/2"	1.122	1.870
85405	80405	3/4"	1.732	2.638
85410	80410	1"	1.323	2.228
85415	80415	1-1/4"	1.654	2.687
85420	80420	1-1/2"	1.984	3.413
85425	80425	2"	2.551	4.138

Elbow 90° P x P w/ FKM Seals Model - 6016

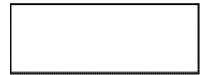
Catalog No.		Size	A	L
S/S 304	S/S 316	1	(in)	(in)
85402	80402	1/2"	1.122	1.870
85407	80407	3/4"	1.732	2.638
85412	80412	1"	1.323	2.228
85417	80417	1-1/4"	1.654	2.687
85422	80422	1-1/2"	1.984	3.413
85427	80427	2"	2.551	4.138

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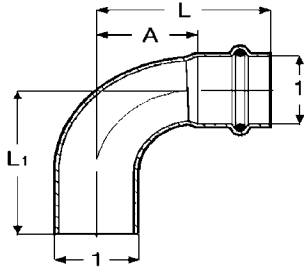
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Elbow 90° FTG x P w/ EPDM Seals Model - 01161 / 40161

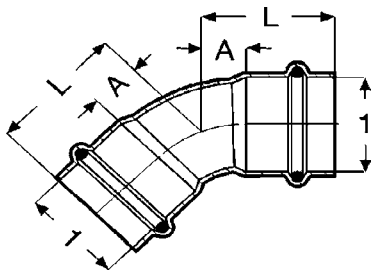


Catalog No.		Size	A	L	L1
S/S 304	S/S 316	1	(in)	(in)	(in)
85490	80490	1/2"	1.122	1.870	1.988
85495	80495	3/4"	1.449	2.354	3.031
85500	80500	1"	1.323	2.228	2.268
85505	80505	1-1/4"	1.654	2.689	2.756
85510	80510	1-1/2"	1.984	3.413	3.480
85515	80515	2"	2.551	4.138	4.205

Elbow 90° FTG x P w/ FKM Seals Model - 6016.1

Catalog No.		Size	A	L	L1
S/S 304		1	(in)	(in)	(in)
85492		1/2"	1.122	1.870	1.988
85497		3/4"	1.449	2.354	3.031
85502		1"	1.323	2.228	2.268
85512		1-1/2"	1.984	3.413	3.480
85517		2"	2.551	4.138	4.205

Elbow 45° P x P w/ EPDM Seals Model - 0126 / 4026



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"	0.866	1.772
85455	80455	1"	0.547	1.453
85460	80460	1-1/4"	0.685	1.717
85465	80465	1-1/2"	0.823	2.248
85470	80470	2"	1.055	2.642

Elbow 45° P x P w/ EPDM Seals Model - 6026

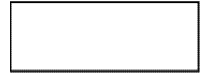
Catalog No.		Size	A	L
S/S 304		1	(in)	(in)
85447		1/2"	0.571	1.319
85452		3/4"	0.866	1.772
85457		1"	0.547	1.453
85462		1-1/4"	0.685	1.717
85467		1-1/2"	0.823	2.248
85472		2"	1.055	2.642

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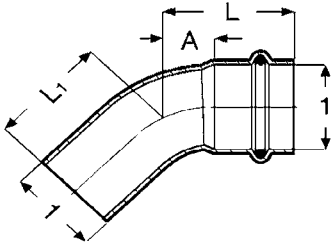
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Elbow 45° FTG x P w/ EPDM Seals Model - 01261 / 40261

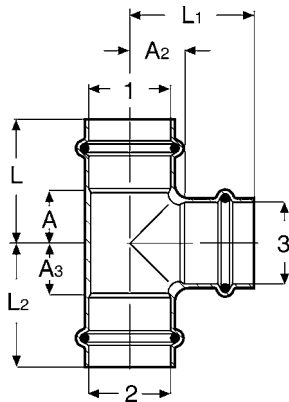


Catalog No.		Size	A	L	L1
S/S 304	S/S 316	1	(in)	(in)	(in)
85535	80535	1/2"	0.571	1.319	1.457
85540	80540	3/4"	0.685	1.591	2.272
85545	80545	1"	0.547	1.453	1.492
85550	80550	1-1/4"	0.685	1.717	1.787
85555	80555	1-1/2"	0.822	2.248	2.319
85560	80560	2"	1.055	2.642	2.709

Elbow 45° FTG x P w/ FKM Seals Model - 6026.1

Catalog No.		Size	A	L	L1
S/S 304		1	(in)	(in)	(in)
85537		1/2"	0.571	1.319	1.457
85542		3/4"	0.685	1.591	2.272
85547		1"	0.547	1.453	1.492
85557		1-1/2"	0.822	2.248	2.319
85562		2"	1.055	2.642	2.709

Tee P x P x P w/ EPDM Seals Model - 0118 / 4018



Catalog No.		Size	A	A2	A3	L	L1	L2
S/S 304	S/S 316	d1	(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
85590	80590	1"	1.122	1.122	1.122	2.028	2.028	2.028
85595	80595	1-1/4"	1.033	1.033	1.033	2.067	2.067	2.067
85600	80600	1-1/2"	1.250	1.250	1.250	2.677	2.677	2.677
85605	80605	2"	1.528	1.528	1.528	3.110	3.110	3.110

Tee P x P x P w/ FKM Seals Model - 6018

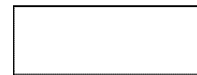
Catalog No.		Size	A	A2	A3	L	L1	L2
S/S 304		d1	(in)	(in)	(in)	(in)	(in)	(in)
85582		1/2"	0.748	0.748	0.748	1.496	1.496	1.496
85587		3/4"	0.965	0.965	0.965	1.870	1.870	1.870
85592		1"	1.122	1.122	1.122	2.028	2.028	2.028
85597		1-1/4"	1.033	1.033	1.033	2.067	2.067	2.067
85602		1-1/2"	1.250	1.250	1.250	2.677	2.677	2.677
85607		2"	1.528	1.528	1.528	3.110	3.110	3.110

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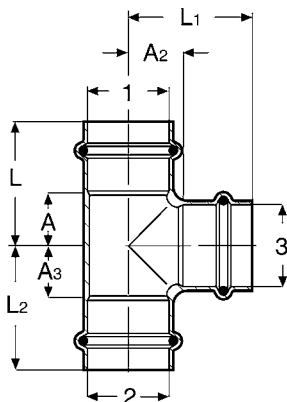
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Reducing Tee P x P x P w/ EPDM Seals Model - 0118 / 4018



Catalog No.		Size	A	A2	A3	L	L1	L2
S/S 304	S/S 316	d1	(in)	(in)	(in)	(in)	(in)	(in)
85630	80630	3/4" x 3/4" x 1/2"	0.965	0.925	0.965	1.870	1.673	1.870
85640	80640	1" x 1" x 1/2"	1.122	1.046	1.122	2.028	1.780	2.028
85650	80650	1" x 1" x 3/4"	1.122	1.070	1.122	2.028	1.976	2.028
85660	80660	1-1/4" x 1-1/4" x 1/2"	1.033	1.161	1.033	2.067	1.909	2.067
85670	80670	1-1/4" x 1-1/4" x 3/4"	1.033	1.220	1.033	2.067	2.126	2.067
85680	80680	1-1/4" x 1-1/4" x 1"	1.033	1.272	1.033	2.067	2.177	2.067
85690	80690	1-1/2" x 1-1/2" x 1/2"	1.250	1.315	1.250	2.677	2.063	2.677
85700	80700	1-1/2" x 1-1/2" x 3/4"	1.250	1.374	1.250	2.677	2.280	2.677
85710	80710	1-1/2" x 1-1/2" x 1"	1.250	1.425	1.250	2.677	2.330	2.677
85720	80720	2" x 2" x 1/2"	1.528	1.535	1.528	3.110	2.283	3.110
85730	80730	2" x 2" x 3/4"	1.528	1.614	1.528	3.110	2.519	3.110
85740	80740	2" x 2" x 1"	1.528	1.665	1.528	3.110	2.571	3.110
85750	80750	2" x 2" x 1-1/2"	1.528	1.488	1.528	3.110	2.913	3.110

Reducing Tee P x P x P w/ FKM Seals Model - 6018

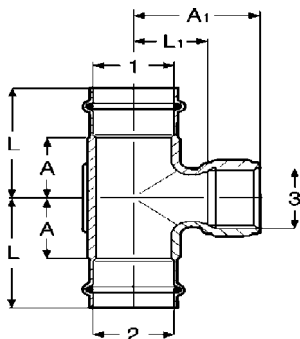
Catalog No.		Size	A	A2	A3	L	L1	L2
S/S 304		d1	(in)	(in)	(in)	(in)	(in)	(in)
85632		3/4" x 3/4" x 1/2"	0.965	0.925	0.965	1.870	1.673	1.870
85642		1" x 1" x 1/2"	1.122	1.046	1.122	2.028	1.780	2.028
85652		1" x 1" x 3/4"	1.122	1.070	1.122	2.028	1.976	2.028
85662		1-1/4" x 1-1/4" x 1/2"	1.033	1.161	1.033	2.067	1.909	2.067
85672		1-1/4" x 1-1/4" x 3/4"	1.033	1.220	1.033	2.067	2.126	2.067
85682		1-1/4" x 1-1/4" x 1"	1.033	1.272	1.033	2.067	2.177	2.067
85692		1-1/2" x 1-1/2" x 1/2"	1.250	1.315	1.250	2.677	2.063	2.677
85702		1-1/2" x 1-1/2" x 3/4"	1.250	1.374	1.250	2.677	2.280	2.677
85712		1-1/2" x 1-1/2" x 1"	1.250	1.425	1.250	2.677	2.330	2.677
85722		2" x 2" x 1/2"	1.528	1.535	1.528	3.110	2.283	3.110
85732		2" x 2" x 3/4"	1.528	1.614	1.528	3.110	2.519	3.110
85742		2" x 2" x 1"	1.528	1.665	1.528	3.110	2.571	3.110
85752		2" x 2" x 1-1/2"	1.528	1.488	1.528	3.110	2.913	3.110

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Reducing Tee P x P x F NPT w/ EPDM Seals Model - 01172 / 40172

Catalog No.		Size	A	A1	L	L1
S/S 304	S/S 316	d1	(in)	(in)	(in)	(in)
85820	80820	3/4" x 3/4" x 1/2" NPT	0.963	0.980	1.868	1.546
85830	80830	3/4" x 3/4" x 3/4" NPT	0.963	0.902	1.868	1.457
85840	80840	1" x 1" x 1/2" NPT	1.122	10.870	2.028	1.622
85850	80850	1" x 1" x 3/4" NPT	1.122	1.008	2.028	1.563
85860	80860	1-1/4" x 1-1/4" x 1/2" NPT	1.033	1.236	2.067	1.772
85870	80870	1-1/4" x 1-1/4" x 3/4" NPT	1.033	1.157	2.067	1.713
85880	80880	1-1/4" x 1-1/4" x 1" NPT	1.033	1.130	2.067	1.791
85890	80890	1-1/2" x 1-1/2" x 1/2" NPT	1.250	1.388	2.677	1.924
85900	80900	1-1/2" x 1-1/2" x 3/4" NPT	1.250	1.309	2.677	1.865
85910	80910	1-1/2" x 1-1/2" x 1" NPT	1.250	1.282	2.677	1.943
85920	80920	2" x 2" x 1/2" NPT	1.528	1.610	3.110	2.146
85930	80930	2" x 2" x 3/4" NPT	1.528	1.531	3.110	2.087
85940	80940	2" x 2" x 1" NPT	1.528	1.504	3.110	2.165

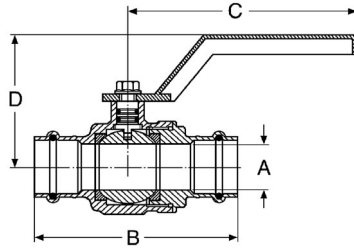
Reducing Tee P x P x F NPT w/ FKM Seals Model - 6017.2

Catalog No.		Size	A	A1	L	L1
S/S 304		d1	(in)	(in)	(in)	(in)
85822		3/4" x 3/4" x 1/2" NPT	0.963	0.980	1.868	1.546
85832		3/4" x 3/4" x 3/4" NPT	0.963	0.902	1.868	1.457
85842		1" x 1" x 1/2" NPT	1.122	10.870	2.028	1.622
85852		1" x 1" x 3/4" NPT	1.122	1.008	2.028	1.563
85862		1-1/4" x 1-1/4" x 1/2" NPT	1.033	1.236	2.067	1.772
85872		1-1/4" x 1-1/4" x 3/4" NPT	1.033	1.157	2.067	1.713
85882		1-1/4" x 1-1/4" x 1" NPT	1.033	1.130	2.067	1.791
85892		1-1/2" x 1-1/2" x 1/2" NPT	1.250	1.388	2.677	1.924
85902		1-1/2" x 1-1/2" x 3/4" NPT	1.250	1.309	2.677	1.865
85912		1-1/2" x 1-1/2" x 1" NPT	1.250	1.282	2.677	1.943
85922		2" x 2" x 1/2" NPT	1.528	1.610	3.110	2.146
85932		2" x 2" x 3/4" NPT	1.528	1.531	3.110	2.087
85942		2" x 2" x 1" NPT	1.528	1.504	3.110	2.165

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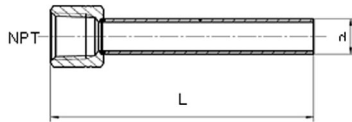
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316 Stainless Steel Ball Valve P x P w/ EPDM Seals Model - 4070

Catalog No.	Size	A (in)	B (in)	C (in)	D (in)
S/S 316					
81080	1/2"	0.650	3.543	4.331	2.382
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



Instrument Adapter Model - 40125

Catalog No.	Size	L (in)	d (in)
S/S 316	NPT		
80126	1/2"	4.000	1.870
80127	3/4"	4.000	2.354

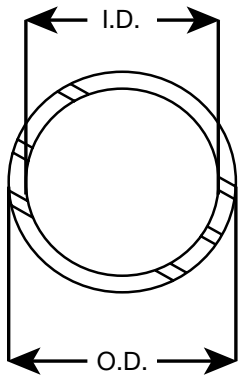
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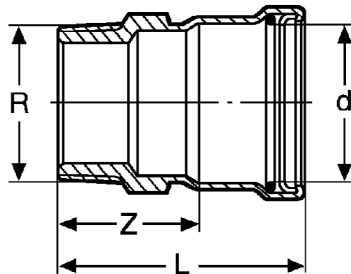


ProPress Stainless Steel 304 ECO-Pipe XL ASTM A554

Catalog No.	Size	O.D. (in)	I.D. (in)	Wall Thickness	Length (ft)
87080	2-1/2"	2.63	2.48	0.07	20
87085	3"	3.13	2.98	0.07	20
87090	4"	4.13	3.98	0.07	20

ProPress Stainless Steel 304 & 316 Pipe XL ASTM A554

Catalog No.	Size	O.D. (in)	I.D. (in)	Wall Thickness	Length (ft)	
S/S 304	S/S 316					
87030	82030	2-1/2"	2.63	2.47	0.08	20
87035	82035	3"	3.13	2.97	0.08	20
87040	82040	4"	4.13	3.97	0.08	20

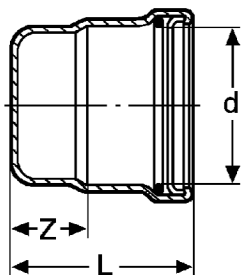


Adapter P x M NPT w/ EPDM seals Model - 0111 XL / 4011 XL

Catalog No.	Size	Z (in)	L (in)
S/S 304	S/S 316		
		d	R
85060	80060	2-1/2" x 2-1/2" NPT	
85065	80065	3" x 3" NPT	
85070	80070	4" x 4" NPT	

Adapter P x M NPT w/ FKM seal Model - 6011 XL / 4311 XL

Catalog No.	Size	Z (in)	L (in)
S/S 304	S/S 316		
		d	R
85062	80062	2-1/2" x 2-1/2" NPT	
85067	80066	3" x 3" NPT	
85072	80072	4" x 4" NPT	



Cap x P w/ EPDM seals Model - 01561 XL / 40561 XL

Catalog No.	Size	Z (in)	L (in)
S/S 304	S/S 316		
		d	
85385	80385	2-1/2"	
85390	80390	3"	
85395	80395	4"	

Cap x P w/ FKM seal Model - 60561 XL / 43561 XL

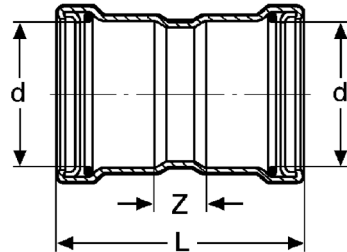
Catalog No.	Size	Z (in)	L (in)
S/S 304	S/S 316		
		d	
85387	80387	2-1/2"	
85392	80392	3"	
85397	80397	4"	

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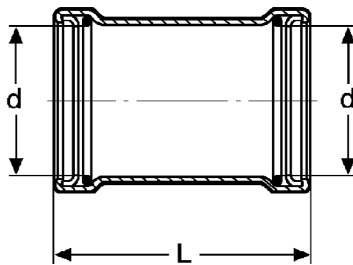


Coupling P x P w/ Stop w/ EPDM seals Model - 0115 XL /4015 XL

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

Coupling P x P w/ Stop w/ FKM seals Model - 6015 XL /4315 XL

Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85297	80297	2-1/2"	0.945	4.331
85302	80302	3"	0.984	4.921
85307	80307	4"	1.063	5.787

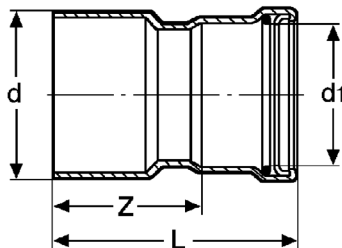


Slip Coupling P x P w/ EPDM seals Model - 01155 XL / 40155 XL

Catalog No.		Size	L
S/S 304	S/S 316	d	(in)
85340	80340	2-1/2"	4.331
85345	80345	3"	4.921
85350	80350	4"	5.787

Slip Coupling P x P w/ FKM seals Model - 60155 XL / 43155 XL

Catalog No.		Size	L
S/S 304	S/S 316	d	(in)
85342	80342	2-1/2"	4.331
85347	80347	3"	4.921
85352	80352	4"	5.787



Reducer FTG x P w/ EPDM seals Model - 01151 XL / 40151 XL

Catalog No.		Size	Z	L
S/S 304	S/S 316	d d1	(in)	(in)
85235	80235	2-1/2" x 2"	2.835	4.409
85240	80240	3" x 2"	3.386	4.961
85245	80245	3" x 2-1/2"	3.209	4.902
85250	80250	4" x 2"	4.272	5.846
85255	80255	4" x 2-1/2"	4.094	5.787
85260	80260	4" x 3"	3.878	5.846

Reducer FTG x P w/ FKM seals Model - 60151 XL / 43151 XL

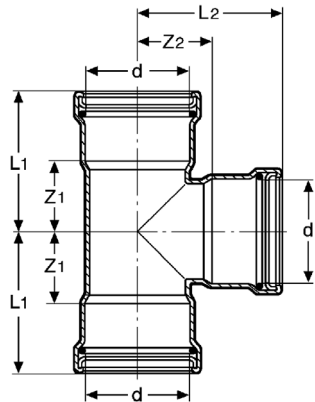
Catalog No.		Size	Z	L
S/S 304	S/S 316	d d1	(in)	(in)
85237	80237	2-1/2" x 2"	2.835	4.409
85242	80242	3" x 2"	3.386	4.961
85247	80247	3" x 2-1/2"	3.209	4.902
85252	80252	4" x 2"	4.272	5.846
85257	80257	4" x 2-1/2"	4.094	5.787
85262	80262	4" x 3"	3.878	5.846

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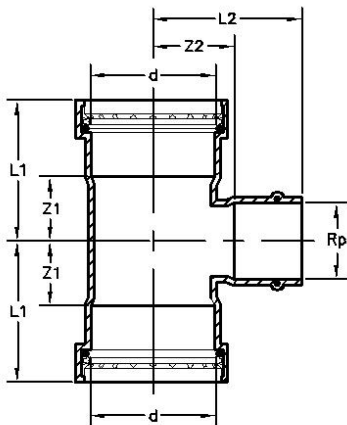


Tee P x P x P w/ EPDM seals Model - 0118 XL / 4018 XL

Catalog No.		Size	Z 1	Z 2	L 1	L 2
S/S 304	S/S 316	d	(in)	(in)	(in)	(in)
85610	80610	2-1/2"	1.831	1.870	3.524	3.563
85615	80615	3"	2.067	2.146	4.035	4.114
85620	80620	4"	2.598	2.657	4.961	5.020

Tee P x P x P w/ FKM seals Model - 6018 XL / 4318 XL

Catalog No.		Size	Z 1	Z 2	L 1	L 2
S/S 304	S/S 316	d	(in)	(in)	(in)	(in)
85612	80612	2-1/2"	1.831	1.870	3.524	3.563
85617	80617	3"	2.067	2.146	4.035	4.114
85622	80622	4"	2.598	2.657	4.961	5.020



Reducing Tee P x P x P w/ EPDM seals Model - 0118 XL / 4018 XL

Catalog No.		Size	Z 1	Z 2	L 1	L 2
S/S 304	S/S 316	d d Rp	(in)	(in)	(in)	(in)
85761	80761	2-1/2" x 2-1/2" x 1-1/2"	1.299	1.744	2.992	3.169
85760	80760	2-1/2" x 2-1/2" x 2"	1.535	1.772	3.228	3.346
85772	80772	3" x 3" x 1-1/4"	1.240	1.929	3.209	2.953
85771	80771	3" x 3" x 1-1/2"	1.319	2.008	3.287	3.425
85770	80770	3" x 3" x 2"	1.555	2.008	3.524	3.583
85780	80780	3" x 3" x 2-1/2"	1.850	2.126	3.819	3.819
85791	80791	4" x 4" x 1-1/2"	1.358	2.520	3.720	3.937
85790	80790	4" x 4" x 2"	1.594	2.520	3.957	4.094
85800	80800	4" x 4" x 2-1/2"	1.890	2.638	4.252	4.331
85810	80810	4" x 4" x 3"	2.067	2.657	4.469	4.626

Reducing Tee P x P x P w/ FKM seals Model - 6018 XL / 4318 XL

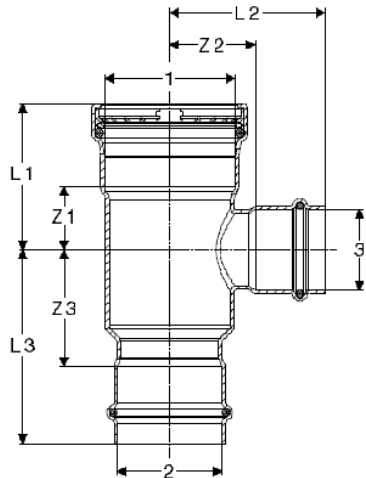
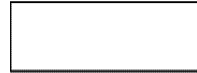
Catalog No.		Size	Z 1	Z 2	L 1	L 2
S/S 304	S/S 316	d d Rp	(in)	(in)	(in)	(in)
85934	80934	2-1/2" x 2-1/2" x 1-1/2"	1.299	1.744	2.992	3.169
85904	80904	2-1/2" x 2-1/2" x 2"	1.535	1.772	3.228	3.346
85944	80944	3" x 3" x 1-1/4"	1.240	1.929	3.209	2.953
85935	80955	3" x 3" x 1-1/2"	1.319	2.008	3.287	3.425
85905	80905	3" x 3" x 2"	1.555	2.008	3.524	3.583
85914	80914	3" x 3" x 2-1/2"	1.850	2.126	3.819	3.819
85945	80945	4" x 4" x 1-1/2"	1.358	2.520	3.720	3.937
85915	80915	4" x 4" x 2"	1.594	2.520	3.957	4.094
85924	80924	4" x 4" x 2-1/2"	1.890	2.638	4.252	4.331
85925	80925	4" x 4" x 3"	2.067	2.657	4.469	4.626

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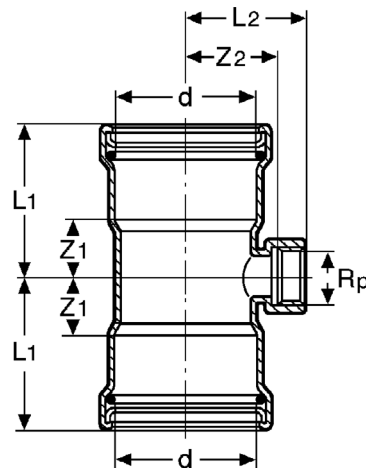


Reducing Tee P x P x P w/ EPDM seals Model - 0118 XL / 4018 XL

Catalog No.		Size			Z 1	Z 2	Z 3	L 1	L 2	L 3
S/S 304	S/S 316	1	2	3	(in)	(in)	(in)	(in)	(in)	(in)
85763	80763	2-1/2" x 2" x 1-1/2"			1.299	1.744	2.386	2.992	3.169	3.961
85762	80762	2-1/2" x 2" x 2"			1.535	1.791	2.697	3.228	3.366	4.272

Reducing Tee P x P x P w/ FKM seals Model - 6018 XL / 4318 XL

Catalog No.		Size			Z 1	Z 2	Z 3	L 1	L 2	L 3
S/S 304	S/S 316	1	2	3	(in)	(in)	(in)	(in)	(in)	(in)
85955	80594	2-1/2" x 2" x 1-1/2"			1.299	1.744	2.386	2.992	3.169	3.961
85954	80935	2-1/2" x 2" x 2"			1.535	1.791	2.697	3.228	3.366	4.272



Reducing Tee P x P x F NPT w/ EPDM Seals Model - 01172 XL / 40172 XL

Catalog No.		Size			Z 1	Z 2	L 1	L 2
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	1.807	2.717	2.362
85960	80960	2-1/2" x 2-1/2" x 1"			1.024	1.740	2.717	2.402
85970	80970	3" x 3" x 3/4"			1.043	2.004	3.012	2.559
85980	80980	3" x 3" x 1"			1.043	1.976	3.012	2.638
85990	80990	4" x 4" x 3/4"			1.083	2.516	3.445	3.071
86000	81000	4" x 4" x 1"			1.083	2.488	3.445	3.150

Reducing Tee P x P x F NPT w/ FKM Seals Model - 01172 XL / 40172 XL

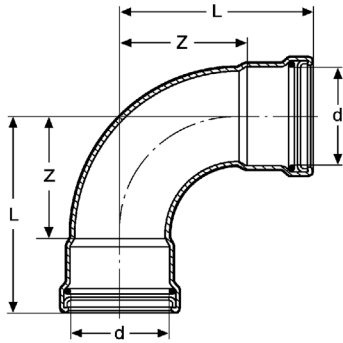
Catalog No.		Size			Z 1	Z 2	L 1	L 2
S/S 304	S/S 316	d	d	Rp	(in)	(in)	(in)	(in)
85950	80950	2-1/2" x 2-1/2" x 3/4"			1.024	1.807	2.717	2.362
85960	80960	2-1/2" x 2-1/2" x 1"			1.024	1.740	2.717	2.402
85970	80970	3" x 3" x 3/4"			1.043	2.004	3.012	2.559
85980	80980	3" x 3" x 1"			1.043	1.976	3.012	2.638
85990	80990	4" x 4" x 3/4"			1.083	2.516	3.445	3.071
86000	81000	4" x 4" x 1"			1.083	2.488	3.445	3.150

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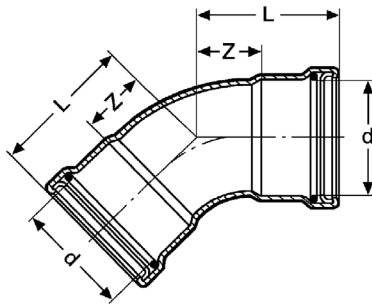


EII 90° P x P w/ EPDM seals Model - 0116 XL / 4016 XL

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

EII 90° P x P w/ FKM seals Model - 6016 XL / 4316 XL

Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85432	80432	2-1/2"	3.189	4.882
85437	80437	3"	3.760	5.728
85442	80442	4"	4.862	7.224

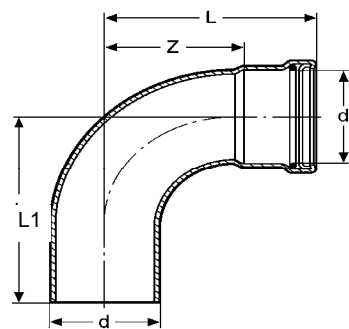


EII 45° P x P w/ EPDM seals Model - 0126 XL / 4026 XL

Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85475	80475	2-1/2"	1.484	3.177
85480	80480	3"	1.732	3.701
85485	80485	4"	2.189	4.551

EII 45° P x P w/ FKM seals Model - 6026 XL / 4326 XL

Catalog No.		Size	Z	L
S/S 304	S/S 316	d	(in)	(in)
85477	80477	2-1/2"	1.484	3.177
85482	80482	3"	1.732	3.701
85487	80487	4"	2.189	4.551



EII 90° FTG x P w/ EPDM seals Model - 01161 XL / 40161 XL

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"	4.862	7.224	7.126

EII 90° FTG x P w/ FKM seals Model - 60161 XL / 43161 XL

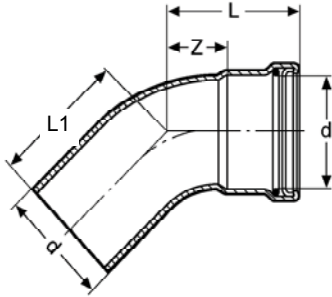
Catalog No.		Size	Z	L	L1
S/S 304	S/S 316	d	(in)	(in)	(in)
85522	80522	2-1/2"	3.189	4.882	4.803
85527	80532	3"	3.760	5.728	5.630
85532	80433	4"	4.862	7.224	7.126

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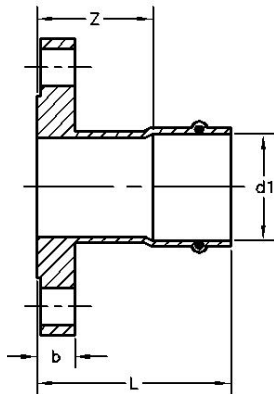


EII 45° FTG x P w/ EPDM seals Model - 01261 XL / 40261 XL

Catalog No.		Size	Z	L	L1
S/S 304	S/S 316	d	(in)	(in)	(in)
85565	80565	2-1/2"	1.484	3.177	3.098
85570	80570	3"	1.732	3.701	3.602
85575	80575	4"	2.189	4.551	4.453

EII 45° FTG x P w/ FKM seals Model - 60261 XL / 43261 XL

Catalog No.		Size	Z	L	L1
S/S 304	S/S 316	d	(in)	(in)	(in)
85567	80567	2-1/2"	1.484	3.177	3.098
85572	80572	3"	1.732	3.701	3.602
85577	80577	4"	2.189	4.551	4.453

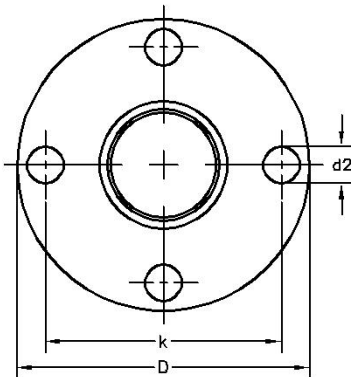


Flange P x Flange w/ EPDM seals Model - 0159 XL / 4059 XL

Catalog No.		Size	Z	L	b	D	k	d2
S/S 304	S/S 316	d	(in)	(in)	(in)	(in)	(in)	(in)
86065	81065	2-1/2"	1.346	3.039	0.894	7.087	5.512	0.748
86070	81070	3"	1.429	3.398	0.957	7.480	5.984	0.748
86075	81075	4"	1.429	3.791	0.957	9.055	7.520	0.748

Flange P x Flange w/ FKM seals Model - 6059 XL / 4359 XL

Catalog No.		Size	Z	L	b	D	k	d2
S/S 304	S/S 316	d	(in)	(in)	(in)	(in)	(in)	(in)
86067	81067	2-1/2"	1.346	3.039	0.894	7.087	5.512	0.748
86072	81072	3"	1.429	3.398	0.957	7.480	5.984	0.748
86077	81077	4"	1.429	3.791	0.957	9.055	7.520	0.748



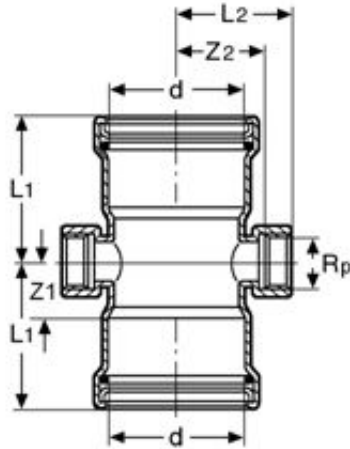
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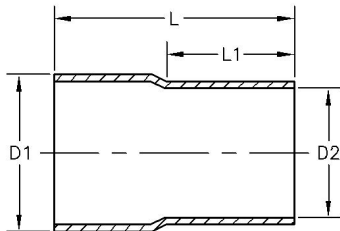
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Cross P x P x F NPT x F NPT w/ EPDM seals Model - 40441 XL



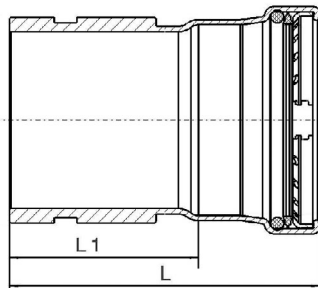
S/S 316	Size		Z 1	Z 2	L 1	L 2
	d	Rp	(in)	(in)	(in)	(in)
80067	2-1/2	x 3/4	1.024	1.087	2.717	2.362
80069	3	x 3/4	1.043	2.004	3.012	2.559
80068	4	x 3/4	1.083	2.516	3.445	3.071

Transition P X Weld - w/out Seal Model - 0113.1XL & 4013.1XL



Catalog No.		Size		L	L1
S/S 304	S/S 316	D1	D2	(in)	(in)
85135	80081	2-1/2" ID	2-1/2" OD	4.370	2.323
85145	80082	3" ID	3" OD	4.567	2.598
85155	80083	4" ID	4" OD	5.157	2.992

Transition P X Groove - EPDM Seals Model - 0113.2XL & 4013.2XL



Catalog No.		Size	L	L1
S/S 304	S/S 316	d1	(in)	(in)
85166	80064	2-1/2"	4.331	2.638
85177	80061	3"	4.626	4.528
85188	80063	4"	5.020	5.315

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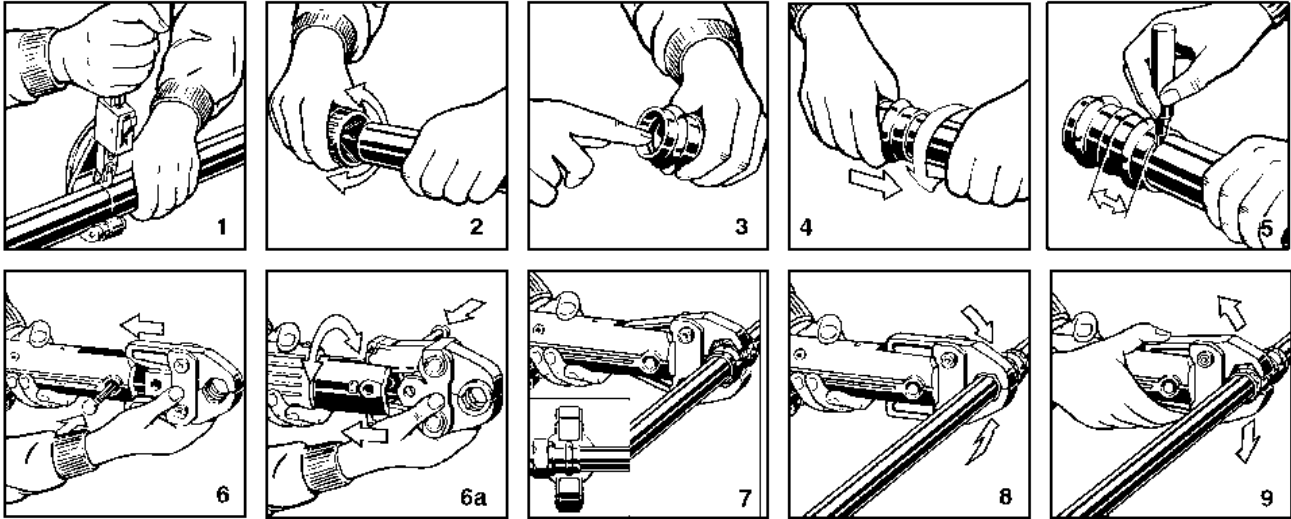
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ProPress® Stainless Product Instructions 1/2" to 2"

⚠ WARNING

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



ProPress Stainless 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 only with an approved stainless steel pipe cutting tool. Cut pipe to permit proper joining with the fitting.
2. Remove burrs, scale, slag, dirt and debris from inside and outside of the pipe and fittings before assembly. Wipe pipe ends clean and dry.
3. Check fitting to ensure sealing element is properly seated.
4. Fitting insertion: insert pipe in fitting until stop is encountered.
5. Mark pipe to verify insertion depth.
6. Insert the appropriate fitting jaw into the press tool, lock into place.
- 6a. Tool head rotates, allowing jaws to be placed in desired position.
7. Open press jaws and place at right angles on the fitting. Visually check insertion depth using mark on pipe.
8. Start pressing procedure by holding the press tool trigger until jaws have engaged.
9. Once press process is complete, jaws can be released.

Note: Once press tool is operating, jaws will not open.



Smart Connect Feature

For ProPress 1/2" to 2" dimension, the Smart Connect feature is a special indentation in the inside surface of the fitting near the sealing element.

This indentation is removed during the pressing process, creating a leak-free permanent connection. The function of the feature is to provide identification of connections which have not been pressed prior to putting the system in to operation. The function of the Smart Connect Feature is carried out by pressurizing the piping system. The Smart Connect Feature

may be pressure tested 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 test is not a substitute for local code required pressure testing of the piping system. Carry out the final piping system pressure test in accordance with local codes.

⚠ WARNING Read this instruction sheet carefully before starting the pressing procedure. Failure to understand and follow the contents of this sheet may result in extensive property damage or injury.

⚠ 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 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.

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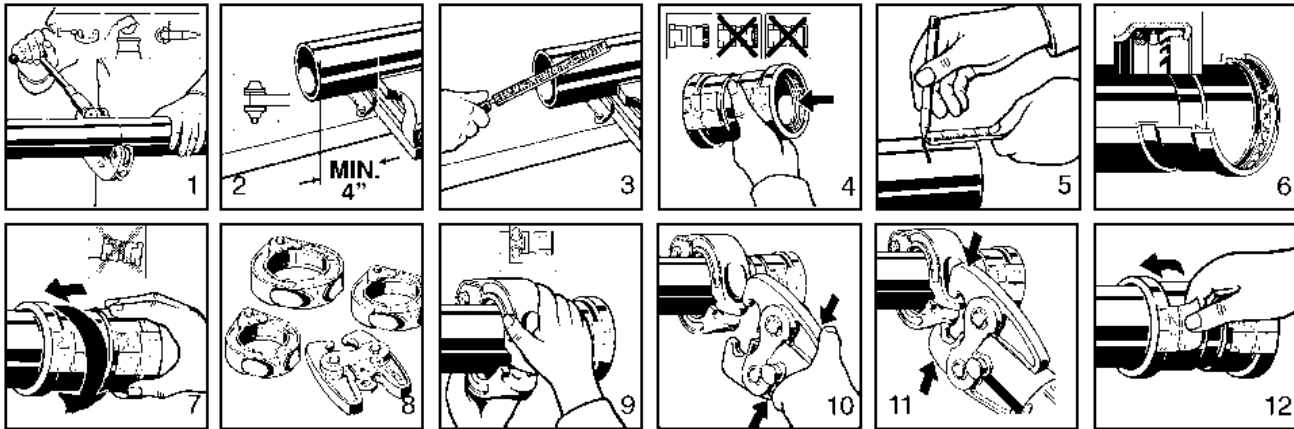
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ProPress® Stainless Product Instructions 2-1/2" to 4"

⚠ WARNING

Read, understand, and follow all instructions for installing ProPress Stainless 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"

1. Cut stainless steel pipe only with an approved stainless steel pipe cutting tool. Cut pipe to permit proper joining with the fitting.
2. 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.
3. Remove burrs from inside and outside of tubing to prevent damage of the sealing element.
4. Check seal and grip ring for correct fit. Do not use oils or lubricants. Use only ProPress Stainless XL-S sealing elements.
5. Mark proper insertion depth as indicated by ProPress Stainless XL-S insertion depth chart. Improper insertion depth may result in an improper seal.
6. Illustration demonstrates proper fit of grip ring, separation ring and sealing element.
7. While turning slightly, slide press fitting onto pipe to the marked depth. **End of pipe must contact stop.**
8. Press ProPress Stainless XL-S fitting connections 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 Ridge Tool operator's manual for proper tool instructions.
9. 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.
10. With V2 ACTUATOR inserted in the tool, open the V2 ACTUATOR as shown and connect the V2 ACTUATOR to the XL-C Ring.
11. Place the V2 ACTUATOR onto the XL-C Ring. Hold the trigger until the Actuator has engaged the XL-C Ring. Keep extremities and foreign objects away from the XL-C Ring and V2 ACTUATOR during pressing operation to prevent injury or incomplete press.
12. 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 completed.

Pressure testing: Carry out pressure testing in accordance with local codes.

ProPress Stainless XL-S includes the Smart connect (SC) feature, 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 operation. The Smart Connect Feature test is not a substitute for local code required pressure testing of the piping system. Carry out the final piping system pressure test in accordance with local codes.

⚠ WARNING sheet
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pressing procedure. Failure to understand and follow the contents of this sheet may result in extensive property damage or injury.

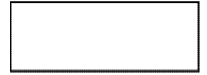
⚠ CAUTION of
systems to verify the suitability of type 304 and 316 stainless steel pipe for use with the intended fluid media. The fluid's chemical composition, pH level, operation temperature, chloride level, oxygen level, and flow rate and their effect on AISI type 316 stainless steel must be evaluated 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.

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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
1-1/2" to 2"	38 mm to 51 mm	8"	203 mm
2-1/2" to 4"	64 mm to 108 mm	12"	305 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 ft 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

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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. 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 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 a 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 to 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).

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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 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 any burrs should be removed.

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

A: Viega does NOT recommend the mixing of stainless components. However, Viega offers ball valve 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 ProPressStainless System require the use of special valves?

A: No. Users can continue with their favorite valve line by using the threaded adapters or flanges adapres. 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?

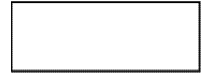
A: The long radius of ProPress Stainless fittings reduces the turbulence typically experience with traditional short radius fittings.

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Viega Limited Warranty for Industrial and Marine Applications

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 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 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 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 below or telephoning 1-877-843-4362 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 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 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 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.

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.

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