1 System Data Sheet

MegaPress 304 FKM

MegaPress 304 FKM fittings are designed to be used with standard IPS ASTM A312 stainless steel pipe to form a complete press system that is ideal for industrial applications. MegaPress 304 FKM ½" to 2" fittings can be used with Schedule 5 to Schedule 40 stainless steel pipe and 2½" to 4" fittings can be used with Schedule 10 to Schedule 40 stainless steel pipe. A MegaPress 304 FKM system can stand up to harsh environments while transporting process water, diesel fuel, lube oil, ammonia, low pressure steam, or any number of other essential fluids or gases. MegaPress 304 FKM fittings in sizes from ½" to 4" are offered in configurations including: elbows, couplings, reducers, tees, reducing tees, threaded adapters, unions, caps, and flanges.

Components

- Alloy: 304 stainless steel
- FKM sealing element
- 420 stainless steel grip ring
- 304 stainless steel separator ring for ½" to 2" fittings
- PBT separator ring for 2½" to 4" fittings

Operating Parameters

- Operating Pressure: 200 psi max
- Operating Temperatures: 14°F to 284°F (with temperature spikes up to 356°F)

Listings and Certificates

- ABS type approval
- ASME B31.1, B31.3, B31.9
- BV (Bureau Veritas)
- CRN 23076.5 A/B/C
- DNV-GL
- IAPMO PS117
- ICC-ES LC1002
- Lloyd's Register
- NFPA 13, 13D, 13R
- FM Class 1920 (½" to 2" only)
- ANSI/CAN/UL 213 (½" to 3" only)

Compliant With

- ASME B31
- ASTM A312
- ASTM A554
- IAPMO Uniform Mechanical Code (UMC)
- ICC International Mechanical Code (IMC)
- ICC International Residential Code (IRC)
- National Building Code of Canada (NBCC)
- National Plumbing Code of Canada (NPCC)

Approved Applications

- Low pressure steam
- Industrial gases
- Compress air (no oil)
- Lube oil
- Caustic solutions
- Acid solutions
- Vacuum
- Process water (non-potable)

For more specific information on applications for MegaPress 304 FKM, contact Viega Technical Services at 1-800-976-9819.

MegaPress 304 FKM systems are approved for underground use. When installed underground, MegaPress 304 FKM should have proper corrosion protection in accordance with local and national codes.

Recommended Tools

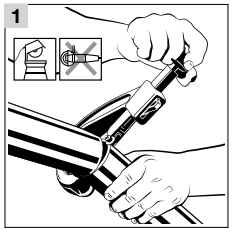
- Standard size press tool (minimum hydraulic ram output of 7200 lbs.)
- #56013 MegaPress jaw/ring kit (½" to 2")
- #26200 MegaPress XL PressBooster with 2½" press ring
- #26201 MegaPress XL 3" and 4" press ring kit
- #57081 Z3 Actuator with 2½" ring (must be used with press gun with minimum 80mm press stroke)

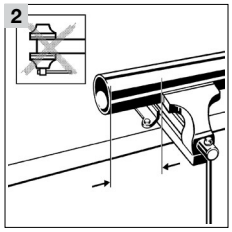
Smart Connect® Technology

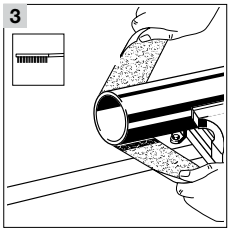
MegaPress 304 FKM fittings are manufactured with Viega's unique Smart Connect technology. A design of the fitting, Smart Connect technology allows identification of an unpressed fitting during pressure testing.

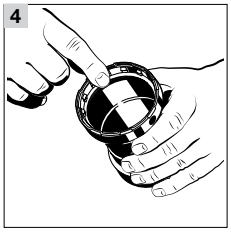
2 Product Instructions

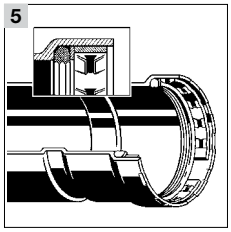
MegaPress Stainless ½" to 2" Fittings

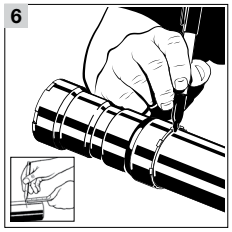


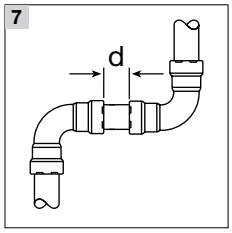


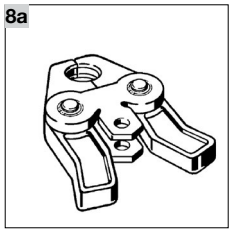


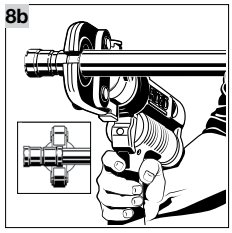


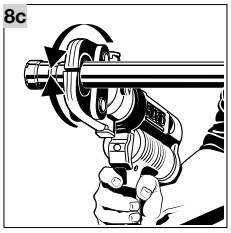


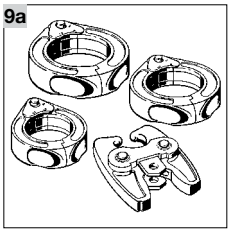


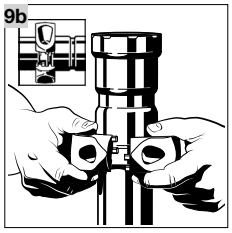


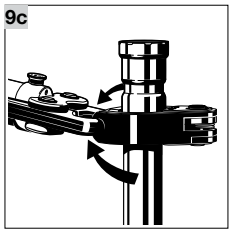


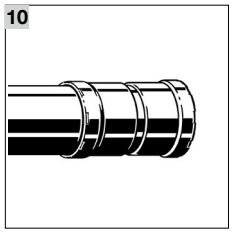












1 Cut piping at right angles using displacement type cutter.

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. See *MegaPress Installation Manual* for minimum clearance required for prep tools.

3 Remove burr from inside and outside of piping and prep to proper insertion depth using a preparation tool or fine grit sandpaper.

4 Check seal and grip ring for correct fit. Do not use oils or lubricants.

5 Illustration demonstrates proper fit of grip ring, separation ring, and sealing element.

6 Mark proper insertion depth. Improper insertion depth may result in an improper seal. The depth marking shall be visible on the completed assembly.

Pipe Size (in)	Insertion Depth (in)
½	1 1/16
¾	1 3/16
1	1 3/8
1¼	1 13/16
1½	1 7/8
2	2

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

Pipe Diameter (in)	d (in)
½	¼
¾	¼
1	¼
1¼	½
1½	½
2	½

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

8a Viega MegaPress stainless ½" to 1" fitting connections must be performed with MegaPress jaws. See pressing tools Operator's Manual for proper tool instructions.

8b Open the MegaPress jaw and place at right angles on the fitting. Visually check insertion depth using mark on piping.

8c Start pressing process and hold the trigger until the jaw has engaged the fitting.

9a Viega MegaPress 1¼" to 2" fitting connections must be performed with MegaPress rings and V2 actuator. See Operator's Manual for proper tool instructions.

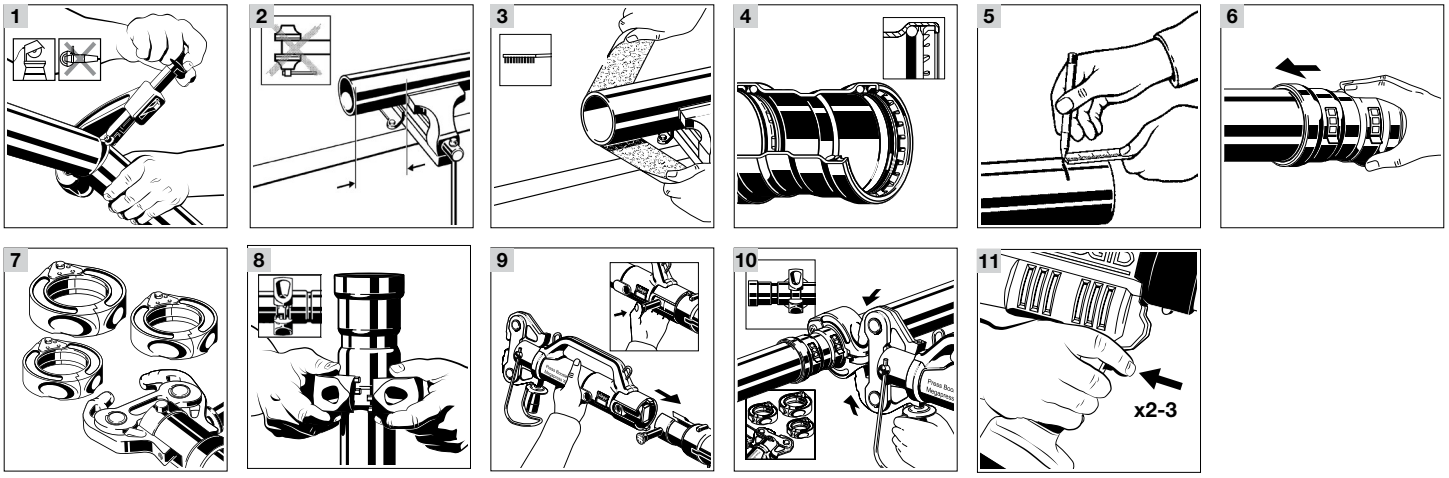
9b Open MegaPress ring and place at right angles on the fitting. MegaPress ring must be engaged on the fitting bead. Check insertion depth.

9c Place V2 actuator onto MegaPress ring and start pressing process. Hold the trigger until the actuator has engaged the MegaPress ring.

10 Remove MegaPress jaw from fitting or release V2 actuator from MegaPress ring and then remove MegaPress ring from the fitting on completion of press. Remove control label to indicate press has been completed.

Product Instructions

MegaPress Stainless 2½" to 4" Fittings



1 Cut piping at right angles using displacement type cutter.

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. See *MegaPress Installation Manual* for minimum clearance required for prep tools.

3 Remove burr from inside and outside of piping and prep to proper insertion depth using a preparation tool or fine grit sandpaper.

4 Illustration demonstrates proper fit of grip ring, separation ring, and sealing element.

5 Mark proper insertion depth. Improper insertion depth may result in an improper seal. The depth marking shall be visible on the completed assembly.

Insertion Depth (in)	d (in)
2½	$1^{13}/_{16}$
3	$2^{5}/_{16}$
4	3⅛

6 While turning slightly, slide fitting onto tubing to the marked depth. End of tubing must contact stop.

7 Viega MegaPress 2½" to 4" fitting connections must be made using MegaPress XL rings and a PressBooster/Z3 actuator. See Operator's Manual for proper tool instructions.

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

8 Open MegaPress ring and place at right angles on the fitting. MegaPress ring must be engaged on the fitting bead. Check insertion depth.

9 Remove the retaining bolt of the press machine. Slide the PressBooster in via the press jaw fixture.

10 Place PressBooster/Z3 actuator onto MegaPress XL rings and start pressing process. Hold the trigger until the actuator has engaged the MegaPress ring.

11 The PressBooster requires two presses of the trigger to execute a complete press. A third press may be needed to initiate a release cycle to reset the rollers back to the original position.

3 Engineering Specifications
MegaPress Stainless

Part 1: General

1.1 Summary
MegaPress stainless steel pipes and fittings use cold press connection technology. The system is assembled when the pipe is fully inserted into the fitting, then the fitting is pressed onto the pipe using the manufacturer's approved tooling, creating a mechanical joint. Press system for use with standard IPS ASTM A312 stainless steel pipe in sizes ½" to 4". MegaPress stainless ½" to 2" fittings can be used with Schedule 5 to Schedule 40 stainless steel pipe and 2½" to 4" fittings can be used with Schedule 10 to Schedule 40 stainless steel pipe.

1.2 Definitions
ASME: American Society of Mechanical Engineers
ASTM: American Society for Testing and Materials
AWWA: American Water Works Association
EPDM: Ethylene Propylene Diene Monomer
FKM: Fluoroelastomer
IAPMO: International Association of Plumbing and Mechanical Officials
ICC: International Code Council
MSS: Manufacturers Standardization Society
NSF: National Sanitation Foundation
psi: Pounds per Square Inch

1.3 References
ASME A13.1 Scheme for the Identification of Piping Systems
ASME B1.20.1 Pipe Threads, General Purpose (Inch)
ASME B31.1 Power Piping
ASME B31.3 Process Piping
ASME B31.9 Building Services Piping
ASTM A312 Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM A403 Standard Specification for Wrought Austenitic Steel Piping Fittings.
ASTM F3226 Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems
AWWA C651 Standard for Disinfecting Water Mains
IAPMO Uniform Mechanical Code
IAPMO Uniform Plumbing Code
IAPMO PS-117 Press and Nail Connections
ICC International Plumbing Code
ICC International Mechanical Code
MSS-SP-58 Pipe Hangers and Supports - Materials, Design and Manufacture
NSF 61 Drinking Water System Components – Health Effects

1.4 Quality Assurance
A. The installer shall be a qualified installer, licensed within the jurisdiction, and familiar with the installation of stainless steel pipe.
B. The installation of stainless steel pipe for hot and cold water distribution systems shall conform to the requirements of the ICC International Plumbing Code or IAPMO Uniform Plumbing Code. The installation of stainless steel pipe in hydronic systems shall conform to the requirements of the ICC International Mechanical Code or the IAPMO Uniform Mechanical Code.

1.5 Delivery, Storage, and Handling

A. Stainless steel pipe shall be shipped to the job site 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.
B. Protect the stored pipe from moisture and dirt. Elevate above grade. When stored inside, do not exceed the structural capacity of the floor.
C. Protect fittings and piping specialties from moisture and dirt.

1.6 Project Conditions

Verify length of pipe required by field measurements.

1.7 Warranty

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

Part 2: Products

2.1 Manufacturer

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

2.2 Material

A. Pipe standard: stainless steel pipe shall conform to ASTM A312.
B. Press fitting standard: stainless steel press fittings shall conform to the material, sizing, and performance requirements of ASTM F3226 and PS-117. O-rings for stainless steel press fittings shall be EPDM or FKM depending on the application.
C. Threaded fitting standard: pipe threads shall conform to ASME B1.20.1.
D. Hanger standard: hangers and supports shall conform to MSS-SP-58.

2.3 Source Quality Control

All pipe, fittings, and joining materials in contact with drinking water shall be listed to NSF 61.

Part 3: Execution

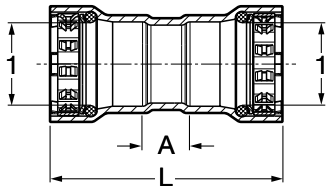
3.1 Examination

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

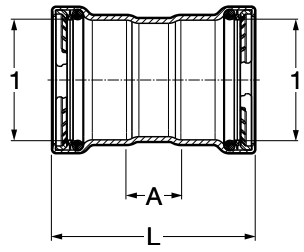
A. Stainless steel pipe shall be cut with a wheeled pipe cutter or approved stainless steel pipe cutting tool. The pipe shall be cut square to permit proper joining with the fittings.
B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly. The pipe end shall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

MegaPress Coupling with Stop, Stainless Steel, P x P - Models 4115 / 5115 / 6815



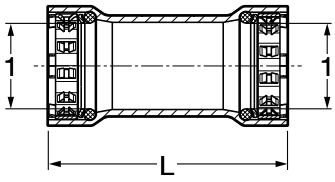
Part No.			Size (in)	A (in)	L (in)
304 FKM	316 EPDM	316 FKM	1		
95285	90285	91100	½	0.56	2.78
95290	90290	91105	¾	0.62	3.01
95295	90295	91110	1	0.60	3.39
95800	90850	91115	1¼	0.70	4.42
95300	90300	91120	1½	0.89	4.71
95305	90305	91125	2	0.80	4.82

MegaPress Stainless Coupling with Stop P x P - Model 4115XL / 5115XL / 6815XL



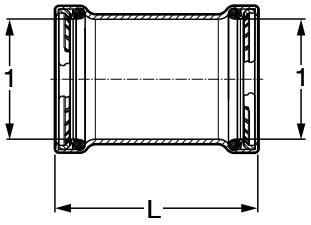
Part Number			Size (in)	A (in)	L (in)
304 FKM	316 EPDM	316 FKM	1		
95645	90645	98375	2½	1.32	4.92
95650	90650	98380	3	1.38	5.98
95655	90655	98385	4	1.57	7.87

MegaPress Coupling No Stop, Stainless Steel, P x P - Models 4115.5 / 5115.5 / 6815.5



Part No.			Size (in)	L (in)
304 FKM	316 EPDM	316 FKM	1	
95310	90310	91290	½	2.78
95315	90315	91295	¾	3.01
95320	90320	91300	1	3.37
95805	90855	91305	1¼	4.42
95325	90325	91310	1½	4.71
95330	90330	91315	2	4.82

MegaPress Stainless Coupling No Stop P x P - Model 4115.5XL / 5115.5XL / 6815.5XL



Part Number			Size (in)	L (in)
304 FKM	316 EPDM	316 FKM	1	
95660	90660	98360	2½	4.92
95665	90665	98365	3	5.98
95670	90670	98370	4	7.91