

# 1 System Data Sheet

## MegaPress ½" to 2" Fittings



MegaPress is a carbon steel, cold press system designed for use in chilled water, hydronic heating, compressed air, and fire sprinkler applications.

MegaPress fittings in sizes from ½" to 2" are offered in configurations including: elbows, couplings, no-stop couplings, reducers, tees, reducing tees, adapters, reducing adapters, unions, caps, and flanges.

### Components

- Alloy: carbon steel with corrosion-resistant zinc/nickel coating
- EPDM sealing element
- 420 stainless steel grip ring
- 304 stainless steel separator ring

### Operating Parameters

- Operating Pressure: 200 psi max
- Test Pressure: 600 psi max
- Operating Temperatures: 0°F to 250°F

### Listings and Certificates

- ANSI/CAN/UL 213
- ASME B31.1, B31.3, B31.9
- ASTM F3226
- CRN 23019.5 A/B/C
- FM Class 1920
- IAPMO PS-117
- ICC-ES LC1002
- NFPA 13, 13D, 13R

### Compliant With

- ASME B31: Code for Pressure Piping
- 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

- Hydronics
- Low pressure steam
- Industrial gases
- Compress air (no oil)
- Fire sprinkler
- Vacuum

MegaPress fittings with an EPDM seal are not approved for potable water or fuel gas applications. For more specific information on applications for MegaPress, contact Viega Technical Services at 1-800-976-9819.

MegaPress ½" to 2" systems are approved for underground use and must be protected against corrosion in accordance with NFPA 54 section 404.8, NACE Standard RP0169-2002 section 5, 2009 UPC Chapter 6 section 609.3.1, 2009 UMC Chapter 13 section 1312.1.3, and in accordance with local and national codes.

MegaPress fittings are designed for use in piping systems utilizing ASTM A53, A106, A135, and A795 Schedule 5 to Schedule 40 carbon steel pipe.

### Recommended Tools

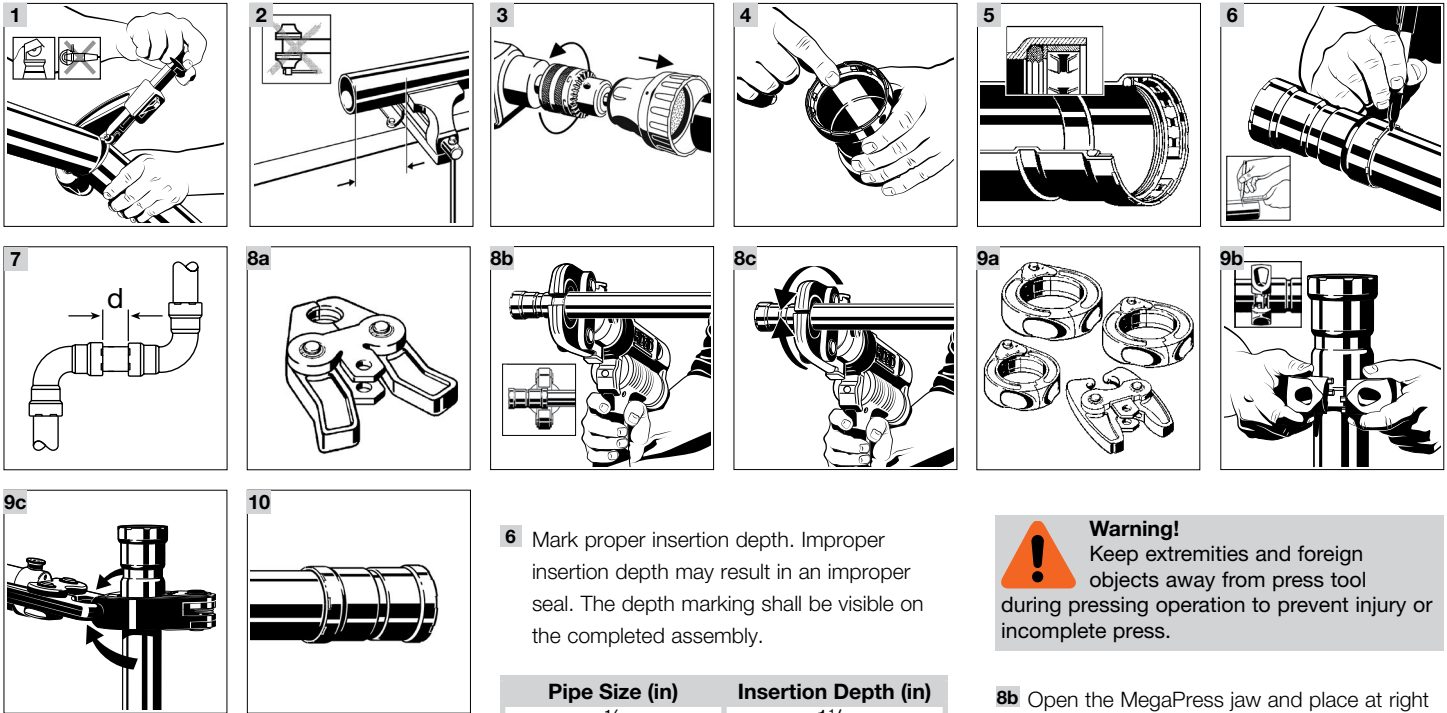
- Standard size press tool (minimum hydraulic ram output of 7200 lbs.)
- #56013 MegaPress jaw/ring kit

### Smart Connect® Technology

MegaPress 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 1/2" 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)
1/2	1 1/16
3/4	1 3/16
1	1 3/8
1 1/4	1 13/16
1 1/2	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)	d (mm)
1/2	1/4	6
3/4	1/4	6
1	1/4	6
1 1/4	1/2	13
1 1/2	1/2	13
2	1/2	13

- 8a Viega MegaPress 1/2" to 1" fitting connections must be performed with MegaPress jaws. See the pressing tool's 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.

- 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 1 1/4" to 2" fitting connections must be performed with MegaPress rings and V2 actuator. See the pressing tool's Operator's Manual for proper tool instructions.
- 9b Open the MegaPress ring and place at right angles on the fitting. The MegaPress ring must be engaged on the fitting bead. Check insertion depth.
- 9c Place V2 actuator onto the MegaPress ring and start pressing process. Hold the trigger until the actuator has engaged the MegaPress ring.
- 10 Remove the MegaPress jaw from the fitting or release the V2 actuator from the MegaPress ring and then remove the MegaPress ring from the fitting on completion of press. Remove control label to indicate press has been completed.

# 3 Engineering Specifications

## MegaPress ½" to 2" Fitting System

### Part 1: General

#### 1.1 Summary

MegaPress is a Cold Press Mechanical Joint Fitting System utilizing standard Schedule 5 to Schedule 40 Carbon Steel Pipe.

#### 1.2 Definitions

ASME: American Society of Mechanical Engineers

ASTM: American Society for Testing and Materials

CRN: Canadian Registration Number

CSA: Canadian Standards Association

EPDM: Ethylene Propylene Diene Monomer

FM: Factory Mutual

IACS: International Association of Classification Societies

IAPMO: International Association of Plumbing & Mechanical Officials

ICC: International Code Council

MSS: Manufacturers Standardization Society

NACE International: National Association of Corrosion Engineers

NFPA: National Fire Protection Association

UL: Underwriters Laboratory

#### 1.3 References

ASME A13.1 Scheme for the Identification of Piping Systems

ASME B1.20.1 Pipe Threads, General Purpose (inch)

ASME B16.3 Malleable Iron Threaded Fittings

ASME B16.9 Factory Made Wrought Steel Butt Welding Fittings

ASME B31.1 Power Piping

ASME B31.3 Process Piping

ASME B31.9 Building Piping Systems

ASME B36.10 Welded and Seamless Wrought Steel Pipe

ASTM A106 Specification for Seamless Carbon Steel Pipe - High Temperature Service

ASTM A135 Specification for Electric-Resistance-Welded Steel Pipe

ASTM A420 Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low Temperature Service

ASTM A53 Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless Pipe

ASTM A795 Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use

ASTM D2000 Classification System for Rubber Products in Automotive Applications

ASTM F1476 Performance of Gasketed Mechanical Couplings for Use in Piping Applications

ASTM F3226 Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems

IACS Requirements concerning Pipes And Pressure Vessels

IAPMO Uniform Mechanical Code

IAPMO Uniform Plumbing Code

IAPMO PS-117 Press and Nail Connections

ICC International Mechanical Code

ICC International Plumbing Code

NACE RP 0169 Control of External Corrosion on Underground or Submerged Metallic Piping Systems

MSS SP 58 Pipe Hangers and Supports Materials, Design and Manufacturer

NFPA13 Standard for the Installation of Sprinkler Systems

NFPA13D Standard for the Installation of Sprinkler Systems in One/Two Family Dwellings and Mobile Homes

NFPA13R Standard for the Installation of Sprinkler Systems for Residential Occupancies up to and including Four Stories in Height

NFPA14 Standard for the Installation of Standpipe and Hose Systems

#### 1.4 Quality Assurance

- A. Installer shall be qualified, licensed within the jurisdiction, and familiar with the installation of cold press mechanical joint systems.
- B. MegaPress press fittings shall be installed using the proper tool, actuator, jaws and rings as instructed by the press fitting manufacturer.
- C. The installation of carbon steel pipe in sprinkler or standpipe systems shall conform to NFPA13, 13D, 13R and 14.
- D. The installation of carbon steel pipe in Hydronic systems shall conform to the requirements of the ICC International Mechanical Code or the IAPMO Uniform Mechanical Code.
- E. Compliance to ASME B31.9 for building services piping valves..

#### 1.5 Delivery, Storage, and Handling

- A. Carbon steel pipe shall be shipped to the job site in such a manner to protect the pipe. The pipe and fittings shall not be roughly handled during shipment. Pipe and fittings shall be unloaded with reasonable care.
- B. Protect the stored product 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. Viega LLC (Viega) warrants to end users, installers and distribution houses that its Viega metal press products (MegaPress) when properly installed shall be free from failure caused by manufacturing defects. Refer to Viega warranties for specific information.
- B. Viega LLC (Viega) manufacturer of the fittings shall not be responsible for the improper use, handling or installation of the product.

## Part 2: Products

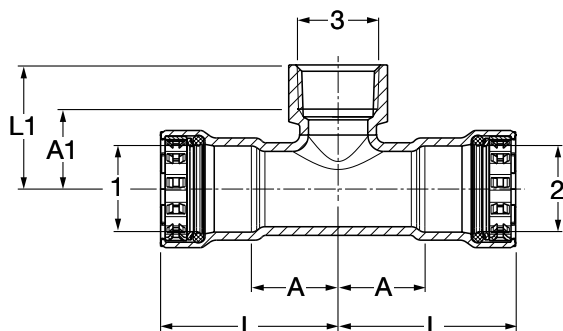
#### 2.1 Manufacturer

Viega LLC  
 585 Interlocken Blvd.  
 Broomfield CO, 80021  
 Telephone (800) 976-9819  
[www.viega.us](http://www.viega.us)

#### 2.2 Material

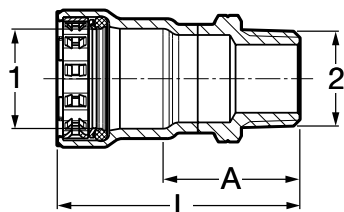
- A. Pipe: Carbon steel pipe shall conform to ASTM A53, A106, A135 or A795. Pipe schedule (pipe wall thickness) shall conform to the standard referenced dimensions for Schedule 5 to 40.
- B. Fittings: Cold Press Mechanical Joint Fitting shall conform to material requirements of ASTM A420 or ASME B16.3 and performance criteria of IAPMO PS117 and ASTM F3226. Sealing elements for press fittings shall be EPDM. Sealing elements shall be factory installed or an alternative supplied by fitting manufacturer. Press ends shall have Smart Connect® technology design (leakage path). MegaPress fittings with the Smart Connect technology assure 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.
- C. Pipe Thread: Pipe Threads shall conform to ASTM B1.20.1.
- D. Hangers and supports: Hangers and supports shall conform to MSS SP 58.
- E. Hanger spacing: In accordance with ASME B 31.1, NFPA54, UPC, IMC other National or local codes.

**MegaPress Reducing Tee, Carbon Steel, P x P x FPT - Models 4817.2 / 5917.2 / 6617.2**



EPDM	Part No.		Size (in)			A (in)	A1 (in)	L (in)	L1 (in)
	FKM	HNBR	1	2	3				
25405	84545	25406	3/4	3/4	1/2	1.11	1.02	2.26	1.55
25480	84550	25481	3/4	3/4	3/4	1.11	1.03	2.26	1.58
25410	84555	25411	1	1	1/2	1.23	1.19	2.57	1.73
25415	84560	25416	1	1	3/4	1.23	1.18	2.57	1.73
25485	84575	25486	1 1/4	1 1/4	1/2	1.41	1.31	3.23	1.85
25505	84570	25506	1 1/4	1 1/4	3/4	1.41	1.33	3.23	1.89
25500	84565	25501	1 1/4	1 1/4	1	1.41	1.37	3.23	2.03
25435	84580	25436	1 1/2	1 1/2	1/2	1.57	1.42	3.44	1.95
25440	84585	25441	1 1/2	1 1/2	3/4	1.57	1.41	3.44	1.97
25445	84590	25446	1 1/2	1 1/2	1	1.57	1.57	3.44	2.24
25450	NA	25451	1 1/2	1 1/2	1 1/4	1.57	1.47	3.44	2.15
25455	84595	25456	2	2	1/2	1.81	1.70	3.80	2.24
25460	84600	25461	2	2	3/4	1.81	1.72	3.80	2.28
25465	84605	25466	2	2	1	1.81	1.89	3.80	2.55
25470	NA	25471	2	2	1 1/4	1.81	1.77	3.80	2.45
25475	NA	25476	2	2	1 1/2	1.81	1.73	3.80	2.41

**MegaPress Adapter, Carbon Steel, P x MPT - Models 4811 / 5911 / 6611**



EPDM	Part No.		Size (in)		A (in)	L (in)
	FKM	HNBR	1	2		
25100	84245	25101	1/2	1/2	1.45	2.52
25105	84250	25106	3/4	3/4	1.50	2.66
25110	84255	25111	1	1	1.66	3.00
25115	84260	25116	1 1/4	1 1/4	1.90	3.70
25120	84265	25121	1 1/2	1 1/2	1.93	3.80
25125	84270	25126	2	2	1.93	3.92