



# MECHPRESS

Carbon Steel Press Systems

by CB Supplies



## Product Information & Installation Guide

## Overview

**MECHPRESS by CB Supplies** carbon steel press fittings are designed to be used with Schedule 10 to 40 carbon steel pipe (in accordance with **NFPA 13**, *Standard for the Installation of Sprinkler Systems*) on nominal sizes ½" to 2". MECHPRESS fittings can be connected to most carbon steel systems installed in residential, commercial, and industrial systems, including systems with seamless steel pipe (S) or ERW steel pipe (W).

All MECHPRESS fittings are zinc-nickel coated to protect against corrosion and available with the choice of two sealing elements Ethylene Propylene Diene Monomer (EPDM) for Mechanical and Fire Protection applications, or Hydrogenated Nitrile Butadiene Rubber (HNBR) for Gas and Fuel Oils applications.

MECHPRESS and MECHPRESS-G fittings are easily distinguished by unique colour recognition on all fittings, ensuring the proper sealing element is installed every time with shrink wrapped hubs: yellow for HNBR; green for EPDM.

## Features & Benefits

- 360° Symmetric design with double row of SS grip rings – Superior pull-out resistance
- Smart Leak-Proof Technology – Fittings will leak if not pressed
- Fall away shrink wrapped fitting hubs, provide visual confirmation that fittings have been pressed before going into service.
- Colour coded press fittings - MECHPRESS Green (EPDM) & MECHPRESS-G Yellow (HNBR) sealing elements.
- Over 250+ fittings available
- Compatible with leading carbon pipe press tools and jaws in the market
- 15-year limited warranty on all MECHPRESS fittings

## Operating Parameters

	MECHPRESS	MECHPRESS-G
	Mechanical & Fire Protection	Gas & Fuel Oils
Sealing Element	EPDM	HNBR
Operating Pressure	200 psi Max	200 psi Max
Operating Temperature	-40° F to 226° F	-40° F to 226° F

**MECHPRESS Carbon Steel Press Systems Installation Manual** is published by CB Supplies Ltd., 3325 190<sup>th</sup> Street, SURREY, BC V3Z 1A7, CANADA. All rights reserved. Printed in Canada. This publication may not be sold or distributed except by authorized dealers and subject to the conditions that it shall not be sold or distributed with any part of its title or markings removed, or in a mutilated condition.

## Operating Parameters

**NOTE:** Installation guidelines are the same for MECHPRESS and MECHPRESS-G



1. Cut pipe square using a fine-toothed saw or displacement-type metal tubing cutter.

**Do not use flame cutters, grease or oils.**

Damage to pipe and/or sealing element may result.



2. Maintain a minimum of **four inches** from the vise area when cutting pipe.

**For optimal sealing, cut an area where the wall thickness is uniform.**

Avoid cutting through any manufacturer's markings, grooves, or other engravings present on the surface of the pipe.



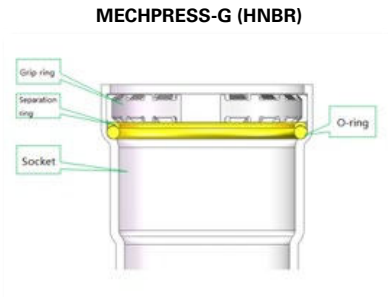
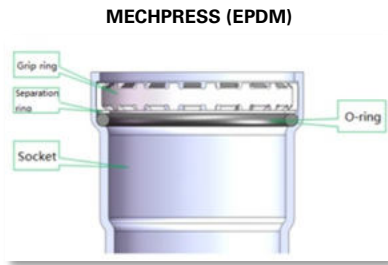
3. Remove all burrs from the inside and outside of pipe and prepare pipe surface to insertion depth using deburring tool or fine grit sandpaper.

**Pipe ends must be clear of all burrs.**

Improper deburring will reduce service life and encourage leak path formation.



4. Inspect sealing element to ensure correct material for application: EPDM (black) for Mechanical and Fire Sprinkler Systems, or HNBR (yellow) for Gas and Fuel Oils.



5. Ensure that press fitting components are intact and seated properly. Refer to illustration for proper fit of grip ring, separation ring, and sealing element.

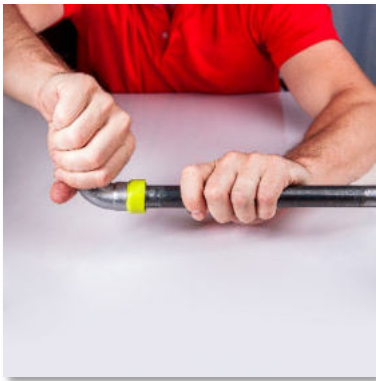
6. Determine insertion depth from nominal pipe diameter (see table below), and mark insertion depth on the surface of the pipe.

**Insertion depth must be marked before pressing the connection and visible after the connection is made.**

Improper insertion depth will reduce service life and potentially create a leakage path.

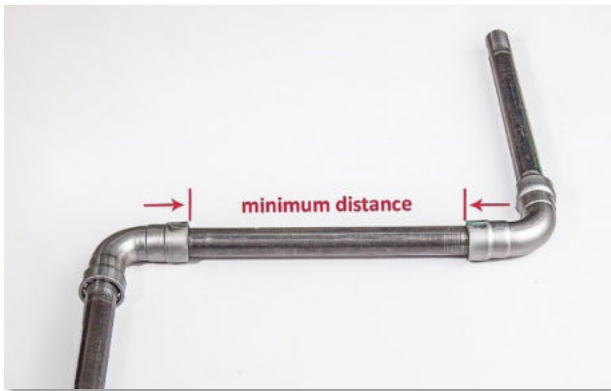
### Proper Insertion Depth by Nominal Pipe Size

Nominal Pipe Diameter (in.)	Minimum Insertion Depth (in.)	Maximum Insertion Depth (in.)
1/2	1-1/16	1-5/8
3/4	1-3/16	1-13/16
1	1-3/8	1-15/16
1-1/4	1-13/16	2-1/2
1-1/2	1-7/8	2-3/4
2	2	2-3/4



7. Insert press fitting over prepared pipe end, twisting slightly, until proper insertion depth is reached.
  - a. **Where fitting contains a stop:** Ensure end of pipe contacts stop before proceeding.
  - b. **Where fitting does not contain a stop:** Ensure Maximum Insertion Depth (see Insertion Depth chart below) is maintained before proceeding.

**Ensure minimum distance between press fittings is maintained.**  
 Failure to leave adequate distance will reduce service life and encourage leak path formation.



Nominal Pipe Diameter (in.)	Minimum Distance (in.)
1/2	1/4
3/4	
1	
1-1/4	1/2
1-1/2	
2	

**Insertion Depth  
 for Couplings Without Stops**  
 Adjustable Insertion Depth

Pipe Diameter (in.)	Min. Insertion Depth (in.)	Max. Insertion Depth (in.)
1/2	1-1/16	1-5/8
3/4	1-3/16	1-13/16
1	1-3/8	1-15/16
1-1/4	1-13/16	2-1/2
1-1/2	1-7/8	2-3/4
2	2	2-3/4

**Insertion Depth  
 for Extended Couplings Without Stops**  
 Extended Adjustable Insertion Depth

Pipe Diameter (in.)	Min. Insertion Depth (in.)	Max. Insertion Depth (in.)
1/2	1-1/16	2-3/4
3/4	1-3/16	2
1	1-3/8	3
1-1/4	1-13/16	3-1/2
1-1/2	1-7/8	3
2	2	3

**NOTICE:** In the next step, refer to nominal diameter of pipe and fittings for appropriate process for press connection.

**Installation requires a constant-force press tool with press jaws and press rings and corresponding actuator suitable for nominal pipe diameter.**

Refer to the Recommended Tools section for further information.



**8. FOR NOMINAL SIZES 1/2" TO 1"**

Press connections made with MECHPRESS 1/2" to 1" fittings must be performed with **press jaws**.



**FOR NOMINAL SIZES 1-1/4" TO 2"**

Press connections made with MECHPRESS 1-1/4" to 2" fittings press connections must be performed with **both ring jaw and press ring**.



**9. FOR NOMINAL SIZES 1/2" TO 1"**

Start pressing process by holding the tool trigger until jaw has engaged over the hub of the fitting. **Ensure insertion depth mark is visible.**

**KEEP EXTREMITIES AND FOREIGN OBJECTS CLEAR OF TOOL DURING OPERATION TO PREVENT INJURY OR INCOMPLETE PRESS**



**FOR NOMINAL SIZES 1-1/4" TO 2"**

Open press ring and place over hub of press fitting. **Ensure insertion depth mark is visible.**

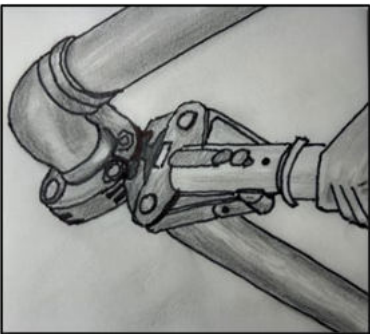
Place ring jaw onto press ring and energize tool until ring jaw has engaged press ring.

**KEEP EXTREMITIES AND FOREIGN OBJECTS CLEAR OF TOOL DURING OPERATION TO PREVENT INJURY OR INCOMPLETE PRESS**



**10. FOR NOMINAL SIZES 1/2" TO 1"**

Engage trigger until press joint is complete, then remove press jaws.



**FOR NOMINAL SIZES 1-1/4" TO 2"**

Engage trigger until press joint is complete, then remove ring jaw and press ring.



**11. Coloured shrink wrap hubs will fall off after pressing, providing visual confirmation that the fittings have been pressed before going into service.**

**Never press a connection more than once.**

## Recommended Tools for MECHPRESS

- MILWAUKEE M18 FORCE LOGIC
- RIDGID RP 240
- RIDGID RP 241

### NOTES REGARDING PRESS TOOLS

- See Operator’s Manual for proper tool instructions.
- Ensure press jaws and rings are compatible with carbon steel.  
**Do not use press tools or components intended for copper press-fit systems.**
- Do not mix and match components from different manufacturers.

## General Installation Notes

- Press tool operator’s manual and fitting manufacturer’s installation instructions must be read in full before installation.
  - **Failure to follow all instructions may have consequences, including but not limited to;** premature failure of system, property damage, personal injury, and/or death.
- The installation, inspection, testing and purging of systems shall be in accordance with relevant codes and standards for all installations, as directed by the authority having jurisdiction.

MECHPRESS	MECHPRESS-G
<b>Mechanical and Fire Protection Systems</b>	<b>Gas and Fuel Oil Systems</b>
<ul style="list-style-type: none"> <li>• Fittings are for use with approved mechanical applications and are intended for the operating pressure 0-200 psi.</li> <li>• See approved applications table for suitable types of service.</li> <li>• Fittings are not approved for fuel gas applications.</li> <li>• The mechanical system shall comply with the Electrical Bonding and Grounding Section of the relevant Plumbing &amp; Electrical code. The metal-to-metal contact between fittings and pipe ensures continuity of the bonding through this contact.</li> </ul>	<ul style="list-style-type: none"> <li>• Fittings are for use with fuel gases and are intended for an operating pressure of 0-125 psi.</li> <li>• See approved applications table for suitable types of service.</li> <li>• The installation, inspection, testing and purging of systems shall be in accordance with local codes, or in the absence of local codes, with <b>NFPA 54/ANSI Z223.1, <i>National Fuel Gas Code</i></b> as directed by the authority having jurisdiction.</li> <li>• Fuel gas system shall not be used as a grounding electrode for electrical systems.</li> </ul>



**APPROVED APPLICATIONS FOR MECHPRESS AND MECHPRESS-G**

Type of Service	System Operating Conditions			Sealing Element	
	Comments	Pressure (psi)	Temperature (°C)	EPDM	HNBR
				MECHPRESS	MECHPRESS-G
<b>FLUIDS/WATER</b>					
<b>Chilled Water</b>	Ethylene glycol/propylene glycol	200	See Note 1	✓	
<b>Hydronic Water</b>	Ethylene glycol/propylene glycol			✓	
<b>Fire Sprinkler</b>	NFPA 13,13D,13R	175	See Note 1	✓	
<b>Low Pressure Steam</b>	Low Pressure Steam Supply Lines	5	Max 108°C	✓ <sup>2</sup>	
<b>FUEL OIL AND LUBRICANTS</b>					
<b>Natural gas</b>	Major component methane	125	-40°C to 82°C		✓ <sup>4</sup>
<b>Propane</b>					✓ <sup>4</sup>
<b>Butane</b>					✓ <sup>4</sup>
<b>Heating fuel oil</b>			Max38°C		✓
<b>Diesel</b>					✓
<b>Mineral oil</b>		200	Ambient3		✓
<b>Lubricating oil</b>	Petroleum base		Max65°C		✓
<b>GASES/VACUUM</b>					
<b>Compressed air</b>	Oil concentration ≤25 mg/m <sup>3</sup>	200	Max60°C	✓ <sup>2</sup>	✓ <sup>2</sup>
	Oil concentration > 25 mg/m <sup>3</sup>				✓ <sup>2</sup>
<b>Nitrogen</b>				✓	✓
<b>Carbon dioxide</b>	Dry			✓	✓
<b>Argon gas</b>				✓	✓
<b>Oxygen</b>	Non-medical Keep oil and grease free	140	Max60°C	✓	
<b>Hydrogen</b>		125		✓	✓
<b>Acetylene</b>	Test pressure 350PSI	20	ambient3	✓	✓
<b>Vacuum</b>	Minimum absolute pressure Maximum differential pressure	750µm Hg 29.2" Hg	Max71°C	✓	✓
<p>1. System pressure and range depend on seals. Any ranges listed in the table above are limited by the following seals to include:                      1a EPDM temperature range is typically -17°C to 120°C.                      1b HNBR temperature range is typically -40°C to 82°C.</p> <p>2. The system must contain sufficient condensate drain.</p> <p>3. The ambient temperature should be regarded as a normal working condition and should not exceed the limit of the sealing ring.</p> <p>4. Complies with CSA 6.32/ANSI LC-4.</p>					

## MECHPRESS - Listings, Codes and Standards

	MECHPRESS	MECHPRESS-G
Referenced : Listing, Code or Standard	Mechanical & Fire Protection	GAS & Fuel Oils
Canadian Registration No. (CRN)	✓	✓
ANSI/CAN/UL 213, <i>Standard for Rubber Gasketed Fittings for Fire-Protection Service</i>	✓	
ASME B31.1, <i>Power Piping</i>		✓
ASME B31.3, <i>Process Piping</i>	✓	✓
ASME B31.5, <i>Refrigeration Piping &amp; Heat Transfer Components</i>	✓	✓
ASME B31.9, <i>Building Services Piping</i>	✓	✓
CSA B149.1, <i>Natural gas and propane installation code</i>		✓
CSA Class C330511, <i>GAS ACCESSORY DEVICES - Press Connect Type Metallic Fittings</i>		✓
CSA Class C330591, <i>GAS ACCESSORY DEVICES - Press connect Type Metallic Fittings Certified to US Standards</i>		✓
CSA/ANSI LC 4/CSA 6.32, <i>Press-connect metallic fittings for use in fuel gas distribution systems</i>		✓
FM 1920, <i>Pipe Couplings and Fittings for Aboveground Fire Protection Systems</i>	✓	
IAPMO/ANSI/CAN Z1117, <i>Press Connections</i>	✓	
International Fuel Gas Code (IFGC)	✓	✓
International Plumbing Code (IPC)	✓	✓
National Plumbing Code of Canada	✓	✓
NSF/ANSI 61, <i>Drinking Water System Components – Health Effects</i>	✓	
NSF/ANSI/CAN 372, <i>Drinking Water System Components – Lead Content</i>	✓	
UL 852, <i>Standard for Safety Metallic Sprinkler Pipe for Fire Protection Service</i>	✓	
ULC/ORD-C199S, <i>Light Wall Steel Pipes for Sprinkler Systems</i>	✓	
Uniform Plumbing Code (UPC)	✓	✓

# CB Supplies Limited Warranty

## **MECHPRESS AND MECHPRESS-G by CB Supplies**

Subject to the conditions in this Limited Warranty, CB SUPPLIES LTD. warrants to end users and installers who purchase and properly install MECHPRESS and MECHPRESS-G carbon steel press fittings, under normal conditions of use, will be free from failure caused by manufacturing defects for a period of fifteen (15) years from date of installation.

Under this warranty, you only have a right to reimbursement if the failure or leak resulted from a manufacturing defect in the products covered by this warranty and occurred during the warranty period. You do not have a remedy or right of reimbursement under this warranty and this warranty does not apply if the failure or any resulting damage is caused by: (1) components in the plumbing systems other than those manufactured or sold by CB Supplies Ltd.; (2) not designing, installing, inspecting, testing, or maintaining the systems in accordance with CB Supplies Ltd. installation instructions effective as of the time of the installation and relevant specifications, codes and standards for the type of installation; (3) improper design of the system; (4) mishandling and inadequate protection of the product prior to, during, or after installation, inadequate freeze protection, exposure to conditions in excess of those covered by relevant codes and standards; and (5) natural disasters such as, but not limited to, fire, flood, wind, ground movement, or lightning.

In the event of a leak or other failure of a product covered by this warranty, it is the responsibility of the property owner to take measures to limit and repair any damage in a timely manner and pay for the same. Only if the warranty applies will CB Supplies Ltd. be responsible for reimbursement under this warranty. The part or parts that allegedly failed should be kept and CB Supplies Ltd. contacted in writing to the address below within thirty (30) days after the leak or failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect, document the date of installation, and the amount of any claimed bills which you wish to be reimbursed. Within a reasonable time after receipt of the product, CB Supplies Ltd. will investigate the reasons for the failure, which includes the right to inspect the product at a CB Supplies Ltd. location and reasonable access to the site of the damage in order to determine if the warranty applies. CB Supplies Ltd. will notify you in writing of the results of its review.

If CB Supplies Ltd. determines that a failure or leak and any resulting damages were the result of a manufacturing defect in the products covered by this warranty, the limited and exclusive remedy under this warranty shall be that CB Supplies Ltd. will reimburse the property owner for reasonable repair or replacement charges. CB Supplies Ltd. shall not be liable for consequential economic loss damages under any legal theory and whether asserted by direct action, for contribution or indemnity or otherwise.

The above limited warranty is in lieu of all other warranties express or implied, including but not limited to, the implied warranties of the merchantability and fitness for a particular purpose. Other than this limited warranty, CB Supplies Ltd. does not authorize any person or firm to create for it any other obligation or liability.