



# CB Supplies VIPERT® tubing with F-1960 Cold Expansion

## Installation Guidelines



## Installation Guidelines

### Installing CB Supplies VIPERT® tubing with ASTM F-1960 Cold Expansion Fittings using Auto-Rotating Expansion Head Cordless Power Tools



Read this Manual BEFORE installing and using power equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.

Keep this Manual for future reference.

CB Supplies F-1960 Cold expansion fittings used with VIPERT® tubing create a solid and reliable connection for potable and hydronic systems.

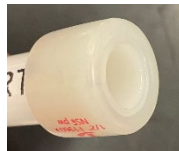
This Installation guideline provides the necessary details to make proper connections using either **Dewalt 20V Mac** or **Milwaukee's M12 Fuel™ & M18 FORCE LOGIC™** cordless power expansion tools equipped with **auto-rotating PEX heads**. Non-rotating heads or hand expansion tools are not recommended with VIPERT.

#### Making consistent solid mechanical connections are easy, simply follow the following steps each and every time:



1. Squarely cut VIPERT® tubing perpendicular to the pipe using only a PEX and PE-RT suitable for PEX and PE-RT Tubing only.

Remove any excess materials or burrs to avoid leakage paths.



2. Place PEX expansion ring over the end of the tubing, pushing on complete until stop on PEX expansion ring.



3. Only use power expansion tools complete with auto-rotating heads for PEX and PE-RT Tubing.

Continue expanding until the tubing and PEX expansion ring are snug against the shoulder of the expansion head.

Refer to **Table 1.1** for the recommended number of expansions by tube size.



**IMPORTANT: Do not force the expansion head into the tubing, allow the expansion head to do the work, otherwise expansion of the tubing may be uneven potentially damaging the tubing and/or creating a path for leakage and/or a failure of the joint.**



**Expansion with proper rotation**



**Expansion without proper rotation**



4. After the final recommended expansion is complete, immediately remove the expansion head and insert the F1960 fitting into the expanded tubing.

You should feel some resistance while inserting fitting into tubing. If you do not, the tubing may have been over expanded and will require more time to contract over the fitting, if in doubt, cut out the expanded tubing and start from step 1.



Ensure the tubing and PEX expansion ring are seated against the shoulder of the F1960 fitting.

**IMPORTANT: Only perform the necessary tubing expansions, DO NOT over or under expand the tubing.**

**Table 1-1: Number of Expansions of 1/8<sup>th</sup> of inch advances into the VIPERT<sup>®</sup> tubing for 3/8" to 2" Nominal Tubing Size at 73.4° F (23° C) Using cordless expansion power tools with auto rotating PEX head**

CB Supplies requires a minimum distance between F1960 Cold Expansion Fittings to ensure the expander head does not damage the fittings during the expansion process. See table below for minimum distances between fittings by pipe diameter.

Nominal Tubing Size (in.)	DeWALT Power Tool	Milwaukee Power Tools	
		M12	M18
3/8	7	7	5
1/2	8	8	9
5/8	10	10	9
3/4	12	12	10
1	18	18	19
1 1/4	--	--	9
1 1/2	--	--	10
2	--	--	10

Nominal Fitting Size (inches)	Cut Length of Tubing (inches)	Cut Length of Tubing (cm)
1/2	3	7.62
3/4	4	10.16
1	5	12.7
1 1/4	6	15.24
1 1/2	7	17.78
2	8	20.32



**Cut Length of pipe**

## Cold Weather Installations

Temperatures can affect the time required for the PE-RT tubing and PEX expansion ring to fully contract onto the fitting. Taking a longer time to contract over the fitting in colder temperature is common when using F1960 joining systems.

Where possible keep material in a heated space, this will help reduce time for contraction of the joint. Keep F1960 fittings and PEX expansion rings in your pocket to keep them warm when exposed to cold conditions.

**IMPORTANT: Do not use any type of heat source (open flame or indirect) on VIPERT® tubing as an attempt to speed up the contraction process, this could result in damage to the tubing and fittings.**

### Installation Cautions



Follow manufacturer instructions for use and maintenance of your expansion tool and expansion heads

Remove any excess lubricants from the expansion tool and expansion heads

Do not leave expansion head in held open position of tubing, over expansion of tubing will occur



Replace all connections where F1960 fitting and PEX expansion ring have not been completely inserted to the fitting stop and/or PEX expansion sleeve stop



Cut tubing squarely, the end of the tubing and the stop at the end of the PEX expansion ring must mate together to ensure a complete seal



Do not install any fittings or tubing that are visibly damaged, otherwise a leakage path will be present. If in doubt, cut it out.