



# CB SUPPLIES VIPERT PE-RT TUBING WITH F-1960 COLD EXPANSION

## INSTALLATION GUIDELINES



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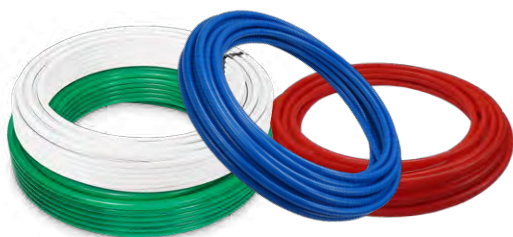
Installing CB Supplies VIPERT™ tubing with ASTM F-1960 Cold Expansion Fittings using Auto-Rotating Expansion Head Cordless Power Tools.

**Read these guidelines **BEFORE** installing and using power equipment. Failure to read and follow all safety instructions can result in death, serious personal injury, property damage, or damage to the equipment. Keep these guidelines for future reference.**

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

This Installation guideline provides the necessary details to make proper connections using either **Milwaukee's M12 Fuel & M18 FORCE LOGIC or DeWALT 20V Mac** 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 is easy; simply follow these step-by-step instructions each and every time.**



- 1 Squarely cut VIPERT tubing perpendicular to the pipe using only a PEX/PE-RT Tubing Cutter designed specifically for PEX/PE-RT tubing. Remove any excess materials or burrs to avoid leakage paths.



- 2 The PEX expansion ring must be placed over the end of PE-RT tubing and pushed on until the tubing is fully inserted to the end of ring at the stopper edge.



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

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



Refer to table on pg 6 for the recommended number of expansions by tube size.

**IMPORTANT: DO NOT** force the expansion head into the tubing, but allow it to do the work, as otherwise uneven expansion may damage the tubing, create leaks, and potentially cause joint failures.

Whenever a pipe undergoes a cold expansion, small signs of stretching are common. For 1 in. and greater tube sizes, these signs are more visible but will not compromise the joint integrity.

It is important to ensure that your tool's head is well-lubricated and automatically rotating 1/8 of a full turn between expansions in order to avoid uneven expansion in the pipe.



- 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.

Below is a table showing the suggested amount of expansions of 1/8 in. advancements into VIPERT tubing for 3/8 in. – 2 in. nominal tubing size at 73.4°F (23°C) using cordless expansion power tools with auto-rotating PEX/PE-RT heads. If you have more than one type of tool, be sure that the expansion heads are not mixed up. Many heads can be physically interchanged but features such as auto rotate may not work.

**IMPORTANT:** Only perform the necessary number of expansions. Fewer expansions are required in colder temperatures.

NOMINAL TUBING SIZE (IN.)	MILWAUKEE POWER TOOLS		DEWALT POWER TOOL
	M12	M18	
3/8	7	5	7
1/2	8	9	8
5/8	10	9	10
3/4	12	10	12
1	18	19	18
1-1/4	-	9	-
1-1/2	-	10	-
2	-	10	-

**NOTE:** Do NOT use F1960 power tools designed for sizes larger than nominal tubing size (NTS) 2 inches, example: Milwaukee 2633-22HD. Contact CB Supplies should you have any questions on tool suitability for VIPERT™ (PE-RT) Tubing used with Cold Expansion Fittings (F-1960).

There is a minimum distance required between F1960 Cold Expansion Fittings. See the table below for minimum distances between fittings by pipe diameter.

NOMINAL FITTING SIZE (IN.)	CUT LENGTH OF TUBING (IN.)	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 to help reduce time for the 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.