

## SPECIFICATIONS

<b>Metal Tube Types</b>	For soft copper, aluminum tube	
<b>Expander Heads</b>	Included: 3/8", 1/2", 5/8", 3/4", 7/8" (Color Coded - For use with BLACKMAX® BTLH5E and BTLE9 sets only)	
<b>Replacement Heads (Imperial)</b>	Available: 3/8", 1/2", 5/8", 3/4", 7/8" (Color Coded - Interchangeable with BLACKMAX® BTLH5E and BTLE9 sets only)	
<b>Replacement Heads (Metric)</b>	6, 8, 10, 12, 15, 18, 22, 28, 32mm (Color Coded - Interchangeable with BLACKMAX® BTLH5E and BTLE9 sets only)	
<b>Weight</b>	Expander = 2.59 lb. (1.17 kg)	Complete Set = 7.59 lb. (3.45 kg)
<b>Case Dimensions</b>	16.75" x 12.5" x 3.5" (L x W x H)	
<b>Warranty</b>	1 year	

## TUBE EXPANDER REPLACEMENT PARTS

IMPERIAL			
Size	Color	Replacement Heads	Replacement Blades (6 Pack)
1/4"	Chrome	BTLEX14*	BTLEX14B
5/16"	Copper	BTLEX516*	BTLEX516B
3/8"	Red	BTLEX38	BTLEX38B
1/2"	Yellow-Orange	BTLEX12	BTLEX12B
5/8"	Blue	BTLEX58	BTLEX58B
3/4"	Green	BTLEX34	BTLEX34B
7/8"	Red-Violet	BTLEX78	BTLEX78B
1"	Black	BTLEX1*	BTLEX1B
1-1/8"	Pink	BTLEX118*	BTLEX118B
<i>Above parts are for use with the BLACKMAX® BTLH5E hydraulic tool and BTLEXH manual tool (found in BTLE9 or BTLE9M)</i>			

\*Optionally purchased (not included with kit)

Expander blades are spring loaded and easily removed / replaced by hand.



## REPLACEMENT PARTS CONT'D

METRIC			
Size	Color	Replacement Heads	Replacement Blades (6 Pack)
6 mm	Chrome	BTLEX6M	BTLEX6MB
8 mm	Copper	BTLEX8M	BTLEX8MB
10 mm	Red	BTLEX10M	BTLEX10MB
12 mm	Yellow-Orange	BTLEX12M	BTLEX12MB
15 mm	Blue	BTLEX15M	BTLEX15MB
18 mm	Green	BTLEX18M	BTLEX18MB
22 mm	Red-Violet	BTLEX22M	BTLEX22MB
28 mm	Black	BTLEX28M	BTLEX28MB
32 mm	Pink	BTLEX32M	Not Available
<i>Above parts are for use with the BLACKMAX® BTLH5E hydraulic tool and BTLEXH manual tool (found in BTLE9 or BTLE9M)</i>			

## ADDITIONAL INFORMATION

For the latest product updates: visit [www.cpsproducts.com](http://www.cpsproducts.com)

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## BTLH5E Hydraulic Tube Expander Set Quick Start Guide



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TO BE OPERATED BY QUALIFIED PERSONNEL ONLY

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## OVERVIEW

The BLACKMAX® BTLH5E Hydraulic Tube Expander Kit includes a premium hydraulic tool that uses the power of hydraulics (fluid compression) to smoothly, quickly and easily expand the ends of soft copper and aluminum tube to be used in HVAC/R systems. Swaged ends eliminate the need for separate tube fittings (additional cost and potential points where refrigerant might leak from a system).

## TUBE EXPANDER LAYOUT & ACCESSORIES



Expander heads and blades are fully interchangeable with BLACKMAX® BTLE9 and BTLE9M kits (manual expander)

## KEY FEATURES

- Premium, compact, machined aluminum and steel hydraulic expander tool
- 5 quick change, aluminum heads (3/8", 1/2", 5/8", 3/4", 7/8")
- Heads are identical to, and fully interchangeable with CPS's BLACKMAX® BTLE9 *manually operated* tube expander
- Steel expander blades are replaceable (and identical to blades used in CPS's BLACKMAX® BTLE9 *manually operated* tube expander heads)
- Includes tube deburr tool
- Includes strong carrying case with room for extra expander heads

## QUICK START

1. Cut soft copper or aluminum tube to desired length.
2. Using supplied reamer tool, remove burrs from inside / outside tube ends.
3. From case, select Expander Head (that matches tube diameter) and thread onto end of Hydraulic Expander. *Note: Imperial or Metric heads (from BLACKMAX® BTLE9 or BTLE9M kits) can be used and are fully compatible with the BTLH5E hydraulic tool.*
5. Push tube fully over un-expanded end of head.
6. Squeeze pump handle numerous times until tube END is properly expanded.
7. Press Thumb Release Lever to loosen expander blades.
8. Remove expanded tube from head.



BTLE9 or BTLE9M Kits

## MAINTENANCE

1. **Expander Heads and Thrust Cone** - Keep free of dirt and debris.
  - a. For smooth operation, after every 20 uses, grease the thrust cone with a multi-purpose grease (NLG1 or NLG2).
  - b. Expander heads can be reordered (see replacement parts on page 4 & 5).
2. **Expander Blades**
  - a. Expander blades (spring loaded inside the heads) can be removed and then clean or replaced (see replacement parts on page 4 & 5).
  - b. To remove a blade from a head, push the blade IN and UP simultaneously until blade can be removed.
3. **Hydraulic Oil** (*Note: Adding to, or removing hydraulic oil from the tool should be done in a suitable location*).
  - a. After 10,000 or more uses, the hydraulic oil may need to be replaced (ISO-HV-15 Hydraulic Oil is recommended).
  - b. Secure the hydraulic aluminum head in a bench vise (rubber handle vertical).
  - c. Turn the rubber handle counter-clockwise while pulling upward to slip rubber handle off.
  - d. Use a strap wrench or similar to avoid scratching the oil reservoir's metal casing and remove metal casing by turning (↺) counter-clockwise.
  - e. Carefully pull the oil reservoir plug out by using a twisting motion.
  - g. Drain oil into an appropriate container.
  - f. Add new oil until full (approx. 0.54 oz. if empty).
  - h. Reinstall oil reservoir plug
  - i. Reinstall oil reservoir's metal casing.
  - j. Reinstall rubber handle.
  - k. Test for proper functionality by squeezing pump handle numerous times, followed by pressing the release lever.