

CONING AND THREADING INSTRUCTIONS

Coning Tubing Ends

In order to get a proper sealing, you must use the HHP coning toll that provides approximately a 57°-59° cone in the end of the tube by completing the following steps:

1. Cut the tube with a Ham-Let Tube cutter and make sure to clean it properly with a Ham-Let Deburring tool.
2. Place the coning toll on a suitable vise and secure the body so you will have excess to the collet nut and knurled cap.
3. Rotate the knurled cap as far as possible to wards the coning tool body.
4. Take the knurled cap back away from the coning body by rotating counterclockwise for number of complete rotations as indicated below:
8. After removing the knurled cap and cutter apply a small amount of oil (cutting fluid) that is provided by HHP into the cutter and the coning body.
9. Reassemble the cutter and knurled cap back on the body until the cutter touches the tubing end.
10. Rotate the handle of the cutting tool clockwise rapidly with one hand while simultaneously slowly rotating the knurled cap clockwise with your other hand. Do not force the cutter against the tubing because it will bend. In order to perform the cone completely please rotate the knurled cap as indicated below

Tubing O.D. size	Number of turns
1/8"	3
1/4"	4.5
3/8"	4.5
3/16"	8

Tubing O.D. size	Number of turns
1/8"	2.5
1/4"	3.5
3/8"	4.54
3/16"	7.5

5. Insert the cut tube into the collet until it stops against the inside of the cutter.
6. Tighten the collet nut on the tube in order to secure its position.
7. Remove the knurled cap and cutter from the coning body by rotating the knurled cap counter-clockwise.
11. After finishing coning the tube remove the tube from the collet by loosening the collet nut. Make to clean the cutting fluid and metal chips that remain in the body for the next assembly, after removing the knurled cap and cutter.

Threading tubing ends

In order to get left-hand thread onto the end of the tube so you will get proper connection you must use HHP threading tool and operate by the following steps:

1. By removing the knurled cap and the cutter from the coning tool it will be used as a holder for the tube for using of threading operation.
2. After the tube is secured in place please put amount of oil (cutting fluid) on the end of the tube.
3. Place the threading tool onto the tubing while guide busing side is first.
4. Start rotate the treading tool counterclockwise by using your hand on the tool and after starting to gain momentum start to do it with the handles, you may need to do it back and forth in order to remove chips from the tube end, please continue placing the oil on the end of the tube all the time.
5. Remove the tube from the treading tool and clean the oil and chips leftovers.
6. The tube is ready for use.

NOTE: If the tube collar feels too tight or too loose while screwing on the tube, the die needs to be adjusted. Please remove the die from the holder by loosening the outer set screw, on the side of the die there is a small adjustment screw that can be turned in order to precisely set the die.

CONING AND THREADING INSTRUCTIONS

manual coning and threading tool for optimum performance with tubing sizes up to 9/16" (14.3 mm) outside diameter. These manual tools permit on-site end preparation for Ham-Let high pressure fittings and tubing installations.



Turn knurled cap counterclockwise to remove cap and cutter from tool. Apply a very liberal amount of cutting fluid to the end of the cutter. Screw cap and cutter back into the body until the cutter contacts the end of the tubing.

the side of the collet nut firmly with the wrench to release the collet.

THREADING THE TUBING



The coning tool (with the knurled cap and cutter removed) provides an ideal way to hold the tubing for the threading operation.

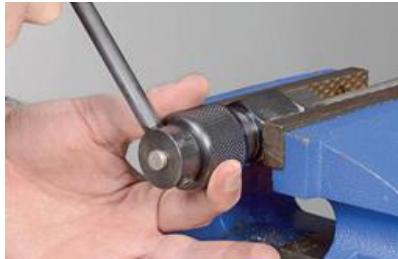
CONING TUBING ENDS



Secure the coning tool body in suitable in the vise. Angle position is preferred to have better access to the collet nut and knurled cap. Rotate the knurled cap clockwise into the tool as far as it will go.

Back off knurled cap by rotating counterclockwise a number of complete rotations as indicated in the table below. (A mark on the knurled cap may be useful)

Tubing Size	"Back off Turns"
1/2 O.D.	3 turns
1/4 O.D.	4-1/2 turns
3/4 O.D.	4-1/4 turns
9/16 O.D.	8 turns



Rotate handle of cutting tool clockwise fairly rapidly with one hand while slowly rotating the knurled cap clockwise with the other hand in order to continuously feed the cutter into the tubing. Do not overly force the cutter against the tubing as it will bind. (You will quickly develop the proper feel).

You will need to rotate the knurled cap a complete number of turns as per the chart below in order to complete the cone on the end of the tubing.

Tubing Size	"Back off Turns"
1/2 O.D.	2-1/2 turns
1/4 O.D.	3-1/2 turns
3/4 O.D.	4 turns
9/16 O.D.	7-1/2 turns

After coning the tubing end, loosen the collet nut and remove tubing from the tool. Remove the knurled cap and cutter from the tool to clean off the cutting fluid and steel chips in preparation for the next tube.

The 1/4" O.D. and 3/8" O.D. tubing sizes are relatively easy to cone. The 1/8" O.D. size is "delicate" (be especially careful not to force the cutter). The 9/16" O.D. size requires the most amount of firmness in the cutting.

As with other tools, it is not uncommon for a collet to "stick" even after the collet nut has been released. Should this occur, simply tap



Apply a liberal amount of cutting fluid to the end of the tubing. Place the threading tool (guide bushing side first) onto the tubing.



Place the palm of your hand firmly against the center of the threading tool and rotate your wrist counterclockwise. This will help "start" the die onto the tube. After you feel the die start onto the tubing, continue to rotate the threading tool using the handles. Remove the threading tool and clean off cutting fluid and chips.

Note: The tubing collar should easily screw onto the tubing. If it feels too tight or loose, the die should be adjusted accordingly. Simply remove the die from the holder by loosening the outer set screw. The small adjustment screw located on the side of the die can be turned to precisely set the die



Insert tubing through collet nut and collet until tubing stops up against inside cutter. Tighten collet nut to secure tubing into position.

CONING AND THREADING TOOLS

How to order

Coning Tool

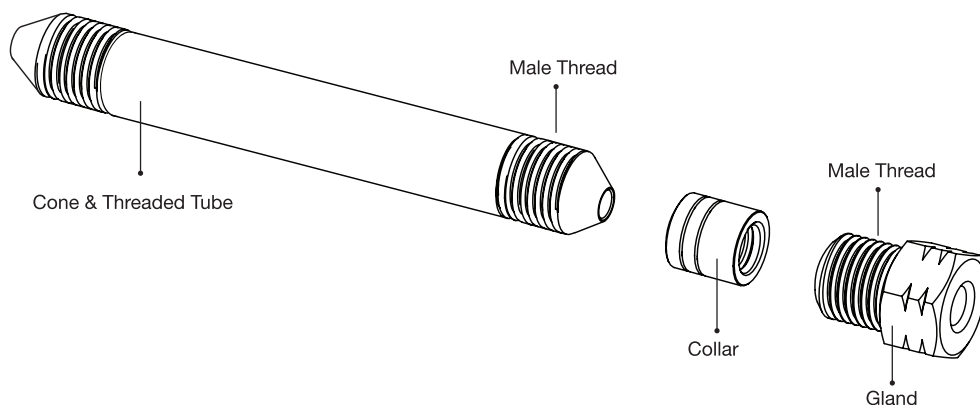
Ordering Information	TUBE O.D. Connection		TUBE I.D. Connection		Ordering Information Spare Cutter	Ordering Information Spare Collet
	inch	mm	inch	mm		
High Pressure: 60,000 psi (4,200 bar)						
HHPT60-CT-HF4	1/4	6.35	0.109	2.77	HHPT60-CT-HF4-CUT	HHPT60-CT-HF4-COL
HHPT60-CT-HF6	3/8	9.52	0.203	5.16	HHPT60-CT-HF6-CUT	HHPT60-CT-HF6-COL
HHPT60-CT-HF9	9/16	14.29	0.312	7.92	HHPT60-CT-HF9-CUT	HHPT60-CT-HF9-COL

Threading Tool

Ordering Information	TUBE O.D. Connection		Ordering Information Threading Die	Ordering Information Guide Bushing
	inch	mm		
High Pressure: 60,000 psi (4,200 bar)				
HHPT60-TT-HF4	1/4	6.35	HHPT60-TT-HF4-TD	HHPT60-TT-HF4-GB
HHPT60-TT-HF6	3/8	9.52	HHPT60-TT-HF6-TD	HHPT60-TT-HF6-GB
HHPT60-TT-HF9	9/16	14.29	HHPT60-TT-HF9-TD	HHPT60-TT-HF9-GB

HAM-LET HIGH PRESSURE -HHP INSTALLATION INSTRUCTIONS

Any installation of HHP elements with cone & thread (c&t) end connection, either to fitting, adapter or a valve, must be conducted by the following steps:



1. Lubricate all male threads with any anti-seize lubricant.
2. Apply the same lubricant to the cone end of the tubing.
3. Thread the collar counter-clock wise (left-hand thread) to the tube, up to 1-2 full threads space from the cone end of the tube.
4. Insert the tube with the collar into the fitting body.
5. Before applying the final torque, pay attention that the tube is on full contact with the female cone on the fitting body, a full metal face to face contact should be achieved.
6. Thread the gland into the fitting body until finger tight.
7. Hold the fitting body steady and tighten the gland to the required torque as specified in the table below.

