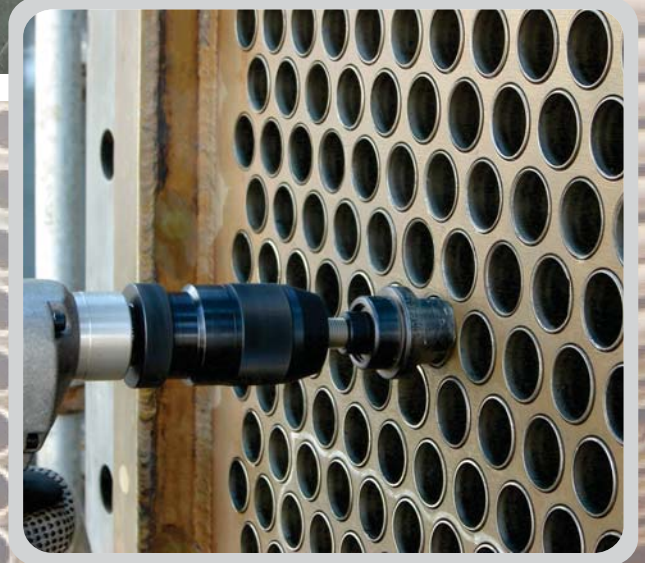


# TUBE INSTALLATION TOOLS



# NW SERIES GROOVING TOOL



# Subzero

The Tube Expander Company...



TOOL BIT



TOOL BIT WITH TOOLBIT HOLDER



CIRCULAR FORM CUTTER

INSTALLATION TOOL

## Features :

- » Changing of pilot nose and cutter allows one tool to cover a range of hole diameters.
- » Simple to change cutter for different groove shapes.
- » Location and depth of cut easy to adjust.
- » Only light pressure required to cut precision grooves.
- » Ready to fit in CNC drill, lathes and boring machines.
- » The life of the cutter is extendable by re-sharpening.

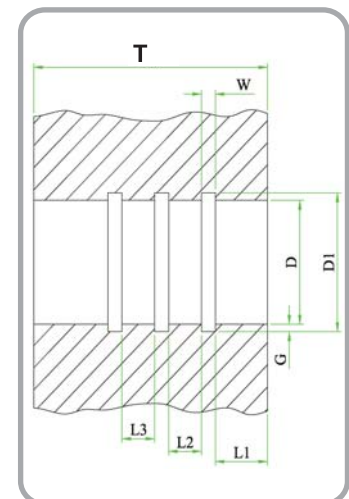
## ■ SPECIFICATIONS

Bore Range		Tool Model No.	Pilot Nose Model No.	Circular Form Cutter Model No.	Tool Bit Holder Model No.	Spare Tool Bit Model No.
mm	Inch					
9-32	3/8-1.1/4	1 NW-2 MT	1 NW-PN	1 NW-CF	1 NW - TBH	1 NW - TB
16-45	5/8-1.3/4	3 NW-3 MT	3 NW-PN	3 NW-CF	3 NW - TBH	3 NW - TB
19-48	3/4-1.7/8	4 NW-4 MT	4 NW-PN	4 NW-CF	4 NW - TBH	4 NW - TB
38-102	1.1/2-4	6 NW-5 MT	6 NW-PN	6 NW-CF	6 NW - TBH	6 NW - TB

### Note :

Specify whether you need Circular Form Cutter (one piece HSS construction) or Tool Bit Holder with Tool Bit, when ordering. Refer to operation manual for detailed spare parts list.

D	Bore Dia after reaming with Tolerances
D1	Diameter of Grooves
G	Grooves undercut Depth
L1	Distance of First Groove
L2, L3	Spacing of Grooves
N	Total Number of Grooves
T	Tube Plate Thickness
W	Groove Width



# ST SERIES GROOVING TOOL



# Subzero

The Tube Expander Company...

INSTALLATION TOOL

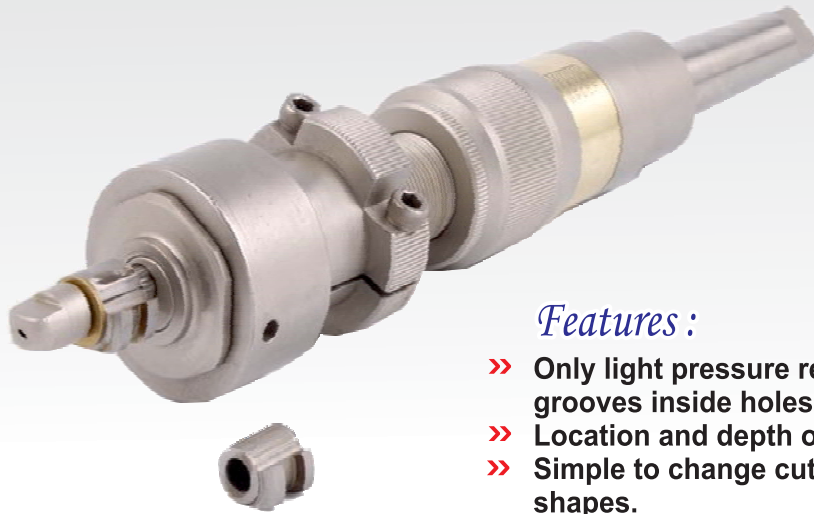


## Features :

- » High production tool
- » Ideal for use where 1 tool is needed per bore
- » Tool is ideally suited for CNC applications on account of one piece mandrel construction and short design.

## ■ SPECIFICATIONS

Tube O. D.		Tool Model NO	SPARE TOOL BITS		
mm	Inch		1/8 x 3/8 x 1/8 Spacing	1/8 x 1/4 x 1/8 Spacing	Special Spacing.
9.53	3/8	ST-375-970	ST-3703	ST-3703-S	ST-3703-SP
12.70	1/2	ST-500-1270	ST-5003	ST-5003-S	ST-5003-SP
15.87	5/8	ST-625-1588	ST-6203	ST-6203-S	ST-6203-SP
19.05	3/4	ST-750-1900	ST-7503	ST-7503-S	ST-7503-SP
22.22	7/8	ST-875-2220	ST-7503	ST-7503-S	ST-7503-SP
25.40	1	ST-1000-2540	ST-7503	ST-7503-S	ST-7503-SP
28.57	1.1/8	ST-1125-2553	ST-7503	ST-7503-S	ST-7503-SP
31.75	1.1/4	ST-1250-3175	ST-7503	ST-7503-S	ST-7503-SP
34.92	1.3/8	ST-1375-3493	ST-7503	ST-7503-S	ST-7503-SP
38.10	1.1/2	ST-1500-3810	ST-7503	ST-7503-S	ST-7503-SP
41.27	1.5/8	ST-1625-4128	ST-7503	ST-7503-S	ST-7503-SP
44.45	1.3/4	ST-1750-4445	ST-7503	ST-7503-S	ST-7503-SP
47.62	1.7/8	ST-1875-4763	ST-7503	ST-7503-S	ST-7503-SP
50.80	2	ST-2000-5080	ST-7503	ST-7503-S	ST-7503-SP
57.15	2.1/4	ST-2250-5715	ST-7503	ST-7503-S	ST-7503-SP
63.50	2.1/2	ST-2500-6350	ST-7503	ST-7503-S	ST-7503-SP



*Features :*

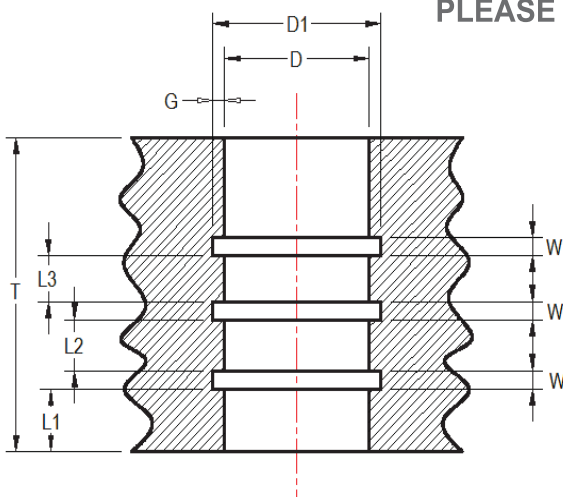
- » Only light pressure required to cut precision grooves inside holes or cylinders.
- » Location and depth of groove easy to adjust.
- » Simple to change cutter for different groove shapes.
- » Changing of bushing and cutter allow one tool to cover a range of hole diameters.
- » The life of the cutter extendable by re sharpening.

■ **SPECIFICATIONS**

Tube O.D.		Tool Model No.	Pilot Nose / Bushing Model No.	Tool Bits Model No.
mm	inch			
10 - 13	0.40 - 0.51	SGT - 102	SGT - 102 - PN	SGT - 102 - TB
12.7 - 16	0.50 - 0.63	SGT - 122	SGT - 122 - PN	SGT - 122 - TB
16 - 20	0.63 - 0.79	SGT - 162	SGT - 162 - PN	SGT - 162 - TB
19 - 32	0.75 - 1.26	SGT - 193	SGT - 193 - PN	SGT - 193 - TB
30 - 52	1.18 - 2.05	SGT - 303	SGT - 303 - PN	SGT - 303 - TB
50 - 78	1.97 - 3.07	SGT - 504	SGT - 504 - PN	SGT - 504 - TB

**Note :** Ask for catalog number CTG - 100 for spare parts list, operating introduction and detailed feature

**PLEASE SUPPLY FOLLOWING INFORMATION WHEN ORDERING GROOVING TOOL OR SPARE CUTTERS.**



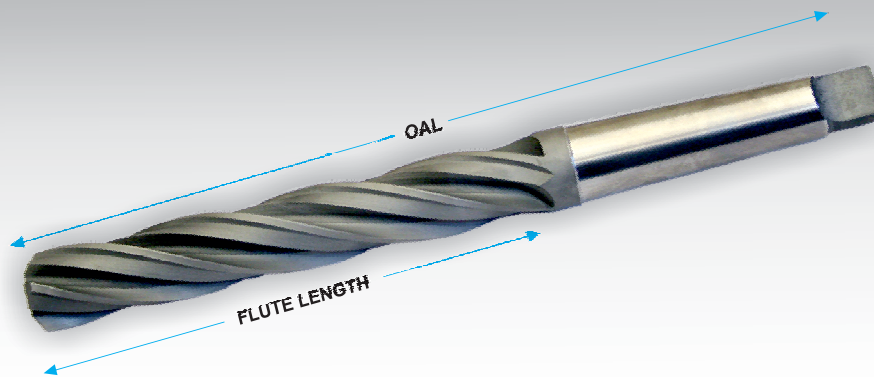
A	Bore Dia after reaming with Tolerances.	D
B	Tube Plate Thickness.	T
C	Distance of of First Groove.	L1
D	Total Number of Groove.	N
E	Spacing of Grooves.	L2, L3
F	Groove Width.	W
G	Diameter of Grooves.	D1
H	Groove undercut Depth.	G

# RM SERIES TUBE SHEET HOLE REAMER



# Subzero

The Tube Expander Company...



INSTALLATION TOOL

## ■ SPECIFICATIONS

Tube O.D.		Reamer Size to "TEMA" Specification		Model No.	Flute Length		OAL		Empty Shank Size
mm	inch	mm	inch		mm	inch	mm	inch	
9.53	3/8	9.65	.380	RM-095/66	66	2.60	146	5.70	1
				RM-095/101	101	3.97	181	7.12	
				RM-095/152	152	5.98	232	9.13	
12.70	1/2	12.83	.505	RM-127/76	76	2.99	156	6.14	1
				RM-127/101	101	3.97	181	7.12	
				RM-127/152	152	5.98	232	9.13	
15.87	5/8	16.03	.631	RM-158/87	87	3.42	187	7.36	2
				RM-158/152	152	5.98	252	9.92	
				RM-158/203	203	7.99	303	11.93	
16.00	-	16.16	.636	RM-160/87	87	3.42	187	7.36	2
				RM-160/152	152	5.98	252	9.92	
				RM-160/203	203	7.99	303	11.93	
19.05	3/4	19.25	.758	RM-190/100	100	3.90	200	7.87	2
				RM-190/152	152	5.98	252	9.92	
				RM-190/203	203	7.99	303	11.93	
20.00	-	20.20	.795	RM-200/100	100	3.90	200	7.87	2
				RM-200/152	152	5.98	252	9.92	
				RM-200/203	203	7.99	303	11.93	
22.00	-	22.22	.875	RM-220/107	107	4.21	207	8.15	2
				RM-220/152	152	5.98	252	9.92	
				RM-220/203	203	7.99	303	11.93	
22.22	7/8	22.42	.883	RM-222/107	107	4.21	207	8.15	2
				RM-222/152	152	5.98	252	9.92	
				RM-222/203	203	7.99	303	11.93	
25.00	-	25.25	.994	RM-250/115	115	4.53	242	9.53	3
				RM-250/203	203	7.99	330	12.99	
				RM-250/254	254	10.00	381	15.00	
25.40	1	25.65	1.010	RM-254/115	115	4.53	242	9.53	3
				RM-254/203	203	7.99	330	12.99	
				RM-254/254	254	10.00	281	15.00	
28.57	1.1/8	28.86	1.136	RM-285/124	124	4.88	251	9.88	3
				RM-285/203	203	7.99	330	12.99	
				RM-285/254	254	10.00	381	15.00	
31.75	1.1/4	32.07	1.262	RM-317/133	133	5.23	293	11.53	4
				RM-317/203	203	7.99	363	14.29	
				RM-317/254	254	10.00	414	16.30	

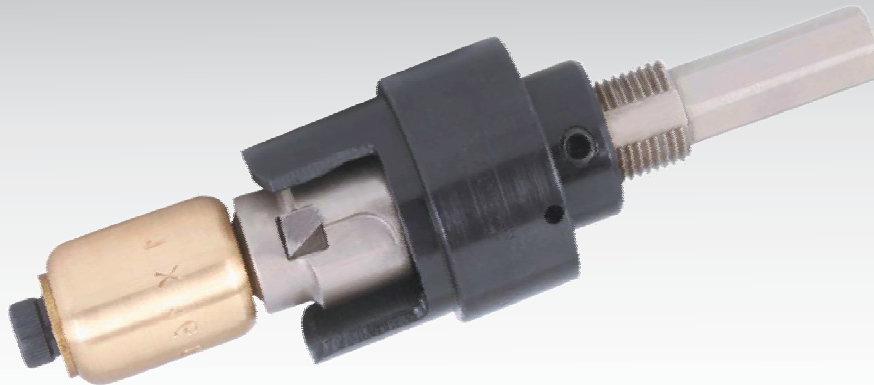
# TEF SERIES TUBE END FACER



# Subzero

The Tube Expander Company...

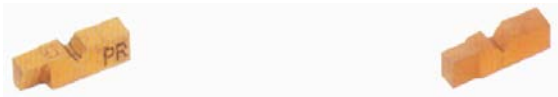
INSTALLATION TOOL



### Features :

- >> Ideal for quick facing of projecting tube ends in heat exchangers, condensers and boilers.
- >> One size of tool is suitable for use on multiple tube thicknesses by interchanging pilot. (TEF-375 is the exception with the tool suitable for one tube ID only).
- >> Each tool is supplied with a set of multiple pilots to cover all tube thicknesses.
- >> Tube end facers for MM sizes of tubes also available.

### TOOL BIT



**NON-FERROUS  
&  
CARBON STEEL**

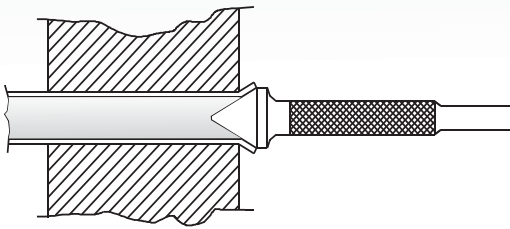
**STAINLESS STEEL**

### ■ SPECIFICATIONS

Tube O. D.		Tool Thk. bwg	Model No.	Spare Tool Bits	
mm	Inch			Non-Ferrous or Carbon Steel Tubes Model No.	Stainless Steel Tubes Model No.
9.53	3/8	16-22	TEF-375	TEF-376	TEF-376 SS
12.70	1/2	15-20	TEF-500	TEF-506	TEF-506 SS
15.87	5/8	14-18	TEF-625	TEF-626	TEF-626 SS
19.05	3/4	10-18	TEF-750	TEF-756	TEF-756 SS
22.22	7/8	13-18	TEF-875	TEF-876	TEF-876 SS
25.40	1	11-18	TEF-1000	TEF-1006	TEF-1006 SS
28.57	1.1/8	11-18	TEF-1125	TEF-1126	TEF-1126 SS
31.75	1.1/4	11-18	TEF-1250	TEF-1256	TEF-1256 SS
34.92	1.3/8	11-18	TEF-1375	TEF-1376	TEF-1376 SS
38.10	1.1/2	11-18	TEF-1500	TEF-1506	TEF-1506 SS
41.27	1.5/8	11-18	TEF-1625	TEF-1626	TEF-1626 SS
44.45	1.3/4	11-18	TEF-1750	TEF-1756	TEF-1756 SS
47.62	1.7/8	11-18	TEF-1875	TEF-1876	TEF-1876 SS
50.80	2	11-18	TEF-2000	TEF-2006	TEF-2006 SS
57.15	2.1/4	11-18	TEF-2250	TEF-2256	TEF-2256 SS
63.50	2.1/2	11-18	TEF-2500	TEF-2506	TEF-2506 SS



## FLARING TOOL

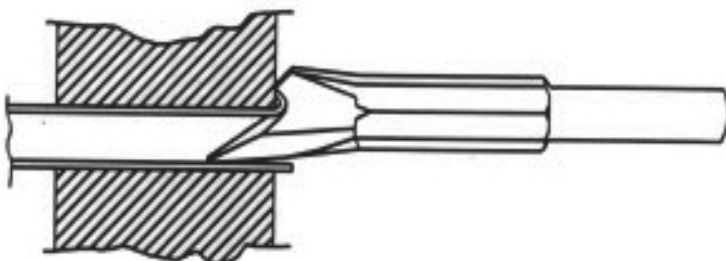


» Used to flare projected ends of tubes after expansion. Normally used with a pneumatic chipping hammer.

### SPECIFICATIONS

Tube O.D.		Tube Thk. Bwg.	Model No.
mm	Inch		
12.70	1/2	16-22	FT-1
15.87	5/8	14-15	FT-2
		16-22	FT-3
		14-15	FT-4
19.05	3/4	16-22	FT-5
		14-15	FT-6
22.22	7/8	16-22	FT-7
		12-15	FT-8
25.40	1	16-22	FT-9
		12-15	FT-10
28.57	1.1/8	16-22	FT-11
		8-14	FT-12
31.75	1.1/4	15-22	FT-13
		8-14	FT-14
34.92	1.3/8	15-22	FT-15
		8-14	FT-16
38.10	1.1/2	15-22	FT-17

## BEADING TOOL



» Note : Fitted with Type 1 round shank for use with standard pneumatic chipping hammer. Other shanks on request

Tube O.D.		Tube Thk. Bwg.	Model No.
mm	Inch		
12.70	1/2	16-17	BDT-1
		18-19	BDT-2
		20-22	BDT-3
15.87	5/8	16-17	BDT-4
		18-19	BDT-5
		20-22	BDT-6
19.05	3/4	16-17	BDT-7
		18-19	BDT-8
		20-22	BDT-9
22.22	7/8	16-17	BDT-10
		18-19	BDT-11
		20-22	BDT-12
25.40	1	16-17	BDT-13
		18-19	BDT-14
		20-22	BDT-15

# TUBE SHEET HOLE BRUSH



# Subzero

The Tube Expander Company...

## ■ SPECIFICATIONS

Tube O.D.		Model No.
mm	inch	
12.70	1/2	TSHB-1/2
15.87	5/8	TSHB-5/8
19.05	3/4	TSHB-3/4
22.22	7/8	TSHB-7/8
25.40	1	TSHB-1
31.75	1.1/4	TSHB-1.1/4
38.10	1.1/2	TSHB-1.1/2
44.45	1.3/4	TSHB-1.3/4
50.80	2	TSHB-2
57.15	2.1/4	TSHB-2.1/4
63.50	2.1/2	TSHB-2.1/2
69.85	2.3/4	TSHB-2.3/4
76.20	3	TSHB-3



### Features :

- >> To clean tube sheet bores, prior to tube installation.
- >> Can be used with any standard pneumatic or electric drill.
- >> Available in Carbon Steel, Stainless Steel and Brass.

INSTALLATION TOOL

## TUBE GUIDE



Tube O.D.		Tube Thk. Bwg.	Model No.
mm	inch		
12.70	1/2	16-18	PGT-1
		19-20	PTG-2
		21-23	PTG-2.5
15.87	5/8	12-13	PTG-3
		14-16	PTG-4
		17-20	PTG-5
		22-24	PTG-5.5
		10-12	PTG-6
19.05	3/4	13-16	PTG-7
		17-20	PTG-8
		22-24	PTG-8.5
		10-12	PTG-9
22.22	7/8	13-16	PTG-10
		17-20	PTG-11
		21-22	PTG-11.5
		8-9	PTG-12.5
25.40	1	10-12	PTG-12
		13-16	PTG-13
		17-20	PTG-14
		21-23	PTG-14.5

- >> To 'pilot' the tubes through the tube sheets and baffle plates during tube insertion .

Tube O.D.		Tube Thk. Bwg.	Model No.
mm	inch		
31.75	1.1/4	10-13	PTG-15
		14-20	PTG-16
34.92	1.3/8	8-9	PTG-17
		10-13	PTG-18
		14-20	PTG-19
38.10	1.1/2	8-9	PTG-20
		10-13	PTG-21
		14-20	PTG-22
50.80	2	8-10	PTG-23
		11-13	PTG-24
		14-18	PTG-25
63.50	2.1/2	10-13	PTG-26
		14-18	PTG-27

Note : Available in your choice of carbon steel, stainless steel or brass.

For other / larger sizes, please enquire.

# TUBE LEAK DETECTOR

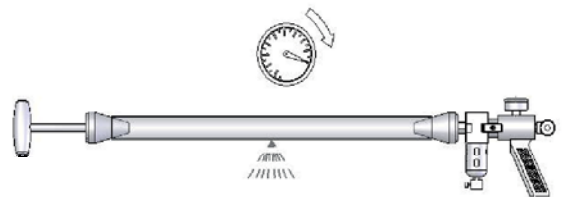
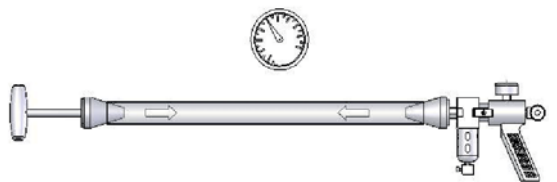
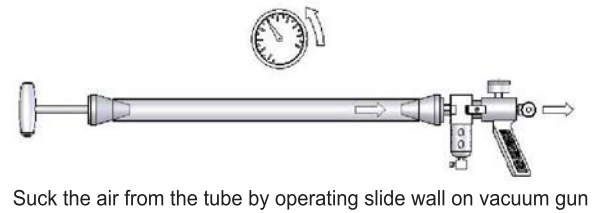
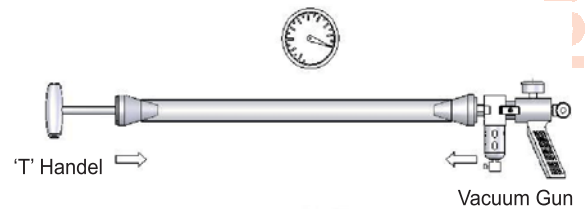


The vacuum leak tester SVLD-3000 is a very quick, easy & precise method of testing damage or leaky tubes of boilers, condensers, & heat exchangers. Also it is very economical & fast method compare to hydro test for locating

- Tube Capacity** : 1/4" (6.3mm) To 3" (76.2mm)
- Air Pressure required** : 90 psi (6.0 Bar)
- Max Vacuum** : 80%
- Temperature range** : -20 to 80 C
- Weight** : 0.800 gms
- Dimensions** : 230 x 120 x 170 ( MM )



INSTALLATION TO...



Model (SEALS)	Model (NOZZLE HANDLE SIDE)	Model (NOZZLE GUN SIDE)	Tube Size
P-750	NH-750	NG-750	1/4"(6.3mm) – 3/4" (19.05 mm)
P-1250	NH-1250	NG-1250	5/8"(15.9mm)– 1.1/4" (31.7mm)
P-2000	NH-2000	NG-2000	1.1/8" (28.6mm) – 2" (50.8 mm)
P-3000	NH-3000	NG-3000	1.7/8" (47.6mm) – 3" (76.2 mm)

