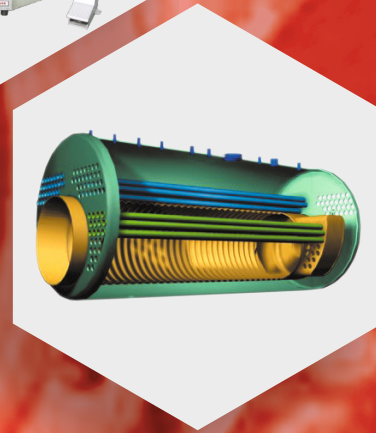
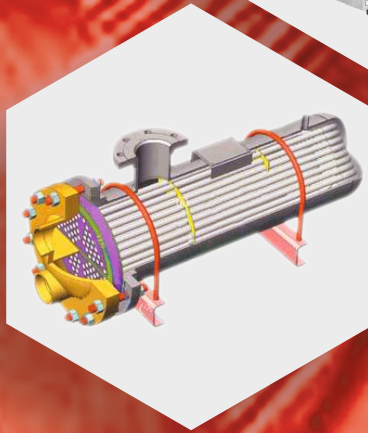




TUBE TOOLS



Tools for every conceivable need....

www.powermasteramerica.com

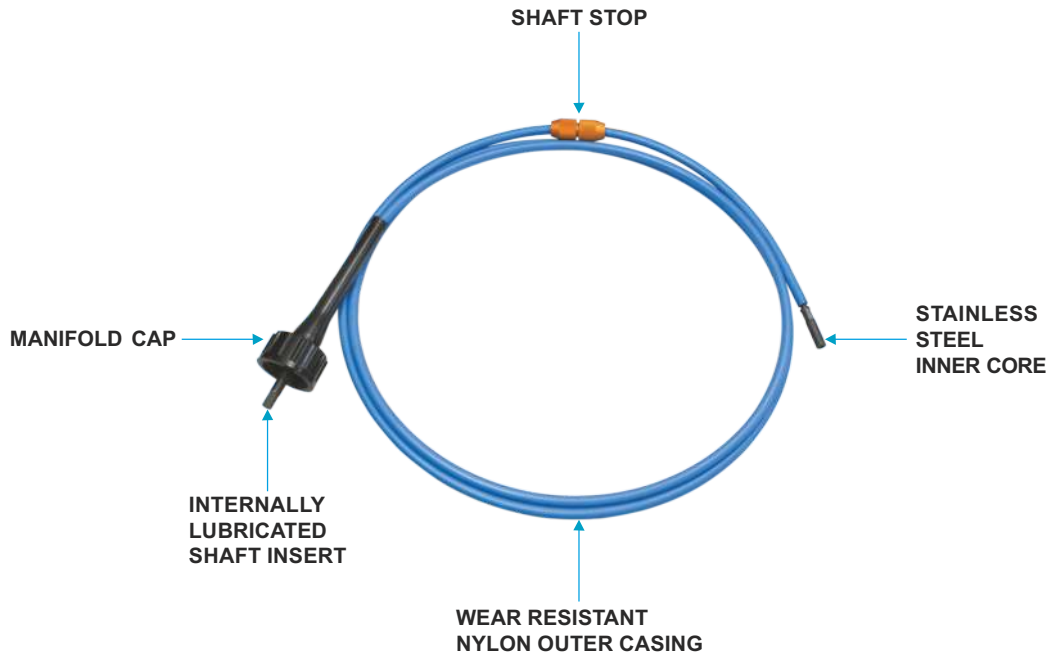


TUBE CLEANERS



FLEXIBLE SHAFTS

1/4" - 1"
I.D.



For PTC-40, PTC-60 FLEXIBLE SHAFTS WITH STAINLESS STEEL INNER CORE

When ordering flexible shafts and accessories, each item should be ordered for specific tube/pipe size or size range. Shafts have color coded shaft stops for easy identification. Stainless Steel inner cores ensure our shafts have longest life, flexibility and resistance to corrosion. Since the inner core of the shafts are the heart of the system and take most of the strain, stainless steel inner cores cause our shafts to last longer than the competition.

To order Flexible Shaft(s), determine tube I.D.(s) and length of the longest tube(s). Order Flexible Shaft(s) to correspond with tube I.D.(s) and lengths. Please ask us for special or longer lengths.

Tube I.D. Range mm	Tube I.D. Range inch	Flexible Shaft Model No.	Flexible Shaft Length		Shaft Core O.D.		Shaft Casing O.D.		Tool End Thread
			feet	mtrs	mm	inch	mm	inch	
6.4-9.5	1/4-3/8	PFS-250-40	13	4.0	3.2	1/8	6.4	1/4	8 - 32 F
		PFS-250-79	26	7.9					
11.1-12.7	7/16-1/2	PFS-375-40	13	4.0	6.4	1/4	9.5	3/8	1/4 -28 F
		PFS-375-55	18	5.5					
		PFS-375-79	26	7.9					
		PFS-375-110	36	11.0					
		PFS-375-140	46	14.0					
14.3-25.4	9/16-1	PFS-500-40	13	4.0	7.9	5/16	12.7	1/2	1/4 -28 F
		PFS-500-55	18	5.5					
		PFS-500-79	26	7.9					
		PFS-500-110	36	11.0					
		PFS-500-140	46	14.0					
		PFS-500-184	61	18.4					
		PFS-500-232	76	23.2					

FLEXIBLE SHAFTS FOR INTERNALLY GROOVED TUBES

Tube I.D. Range mm	Tube I.D. Range inch	Flexible Shaft Model No.	Flexible Shaft Length		Shaft Core O.D.		Shaft Casing O.D.		Tool End Thread
			feet	mtrs	mm	inch	mm	inch	
17.5-25.4	11/16-1	PFS-560-40	13	4.0	9.5	3/8	14.3	9/16	1/4 - 28
		PFS-560-55	18	5.5					
		PFS-560-79	26	7.9					
		PFS-560-110	36	11.0					
		PFS-560-140	46	14.0					
		PFS-560-186	61	18.6					
		PFS-560-232	75	23.2					

Note : PFS - 560 shafts can be supplied with Teflon[®] casing for when using dry. To order add suffix "T" to shaft number. Teflon is a trademark of Du Pont Company.

Note: See page 102 for shaft repair equipment.



BRUSHES

NYLON BRUSHES Used for removing soft scales in ferrous (carbon steel, stainless steel) and non-ferrous tubes (copper, brass, plastic, etc.) and for final 'finishing' of tubes.



NYLON BRUSH

STAINLESS STEEL BRUSHES Used for removing soft and light scale deposits in ferrous tubes (carbon steel, stainless steel, etc.).



STAINLESS STEEL BRUSH

BRASS BRUSHES Used for removing soft and light scale deposits in straight, non-ferrous tubes. (Copper, brass, nickel and their alloyed tubes).



BRASS BRUSH

Brush O.D.		Nylon Brush	Stainless Steel	Brass Brush	Threading	Coupling
mm	inch					
6.4	1/4	N - 250	SS - 250	B - 250	8 - 32F	P-1 (8 - 32M x 8 - 32M)
7.9	5/16	N - 312	SS - 312	B - 312	8 - 32F	P-1 (8 - 32M x 8 - 32M)
9.5	3/8	N - 375	SS - 375	B - 375	12 - 24F	P-2 (8 - 32M x 12 - 24M)
11.1	7/16	N - 437	SS - 437	B - 437	1/4 - 28M	-
12.7	1/2	N - 500	SS - 500	B - 500	1/4 - 28M	-
14.3	9/16	N - 562	SS - 562	B - 562	1/4 - 28M	-
15.9	5/8	N - 625	SS - 625	B - 625	1/4 - 28M	-
17.5	11/16	N - 687	SS - 687	B - 687	1/4 - 28M	-
19.1	3/4	N - 750	SS - 750	B - 750	1/4 - 28M	-
20.6	13/16	N - 812	SS - 812	B - 812	1/4 - 28M	-
22.2	7/8	N - 875	SS - 875	B - 875	1/4 - 28M	-
23.8	15/16	N - 937	SS - 937	B - 937	1/4 - 28M	-
25.4	1	N - 1000	SS - 1000	B - 1000	1/4 - 28M	-

- Brushes should be ordered so that brush O.D. is marginally less than tube I.D., for it to easily enter tube with deposit.

DRILL TIP DOUBLE DIAMETER BRUSHES



DRILL TIP DOUBLE DIAMETER NYLON BRUSH



DRILL TIP DOUBLE DIAMETER BRASS BRUSH

Tube I.D.		Drill Tip Nylon Brush	Drill Tip Brass Brush
mm	inch		
15.9	5/8	DTBN-625	DTBB-625

DRILL TIP DOUBLE DIAMETER BRUSHES

These brushes are used to clean internally grooved tubes. The drill tip of brushes cleans through hard scale before the brush cleaning action takes over. The large diameter of this brush cleans into the grooves of the tubes and the small diameter into the lands of the tube's rifling.

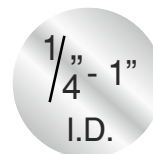
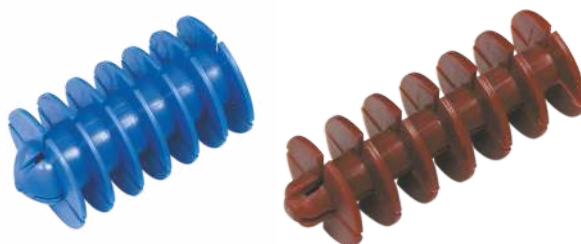
COLOR CODED SHOOT THRU SCRUBBERS

Tube I.D.		Scrubber O.D. (inch)	Model	Color	Type
mm	inch				
12.57-13.74	0.495-0.541	0.560	SC-560-S	Gold	Soft
13.39-14.10	0.527-0.555	0.560	SC-560	Gold	Hard
14.50-15.75	0.570-0.620	0.630	SC-630-S	Brown	Soft
15.00-16.00	0.590-0.630	0.630	SC-630	Brown	Hard
15.75-17.15	0.620-0.675	0.695	SC-695-S	Orange	Soft
16.56-17.63	0.652-0.694	0.695	SC-695	Orange	Hard
16.76-18.54	0.660-0.730	0.750	SC-750-S	Violet	Soft
18.03-19.05	0.710-0.750	0.750	SC-750	Violet	Hard
18.54-20.32	0.730-0.800	0.825	SC-825-S	White	Soft
19.74-20.80	0.777-0.819	0.825	SC-825	White	Hard
19.81-21.60	0.780-0.850	0.870	SC-870-S	Lime	Soft
20.96-22.10	0.825-0.870	0.870	SC-870	Lime	Hard
22.10-24.00	0.870-0.944	0.960	SC-960-S	Blue	Soft
22.50-24.13	0.886-0.950	0.960	SC-960-M	Blue	Medium
22.91-24.28	0.902-0.956	0.960	SC-960	Blue	Hard
25.40-27.56	1.000-1.085	1.100	SC-1100-S	Black	Soft
26.09-28.09	1.027-1.106	1.100	SC-1100	Black	Hard

In most cases hard tube scrubbers are recommended for removing light to medium deposits in condensers. They work by being 'Shot Thru' the tubes with a high pressure air gun. Order tube scrubbers by model and color.

Features :

- Scrubbers are shot thru tubes with a gun using compressed air and water.
- The scraping disks will not damage inside of tubes.
- Scrubbers float for easy retrieval.
- Reuseable.



CLEANING ACCESSORIES



BUFFING TOOL



REPLACEMENT BLADES



BUFFING TOOL WITH DRILL TIP

BUFFING TOOLS are used for final polishing or removal of light and soft deposits from ferrous and non-ferrous tubes that have been previously cleaned. Used in straight or very large radius tubes in a clockwise direction only.

Tube I.D.		Buffing Tool	With Drill Tip	Replacement Blades	Adjusting Tool
mm	inch				
7.9-9.5	5/16-3/8	PBT-1	PBT-1-T	PBB-1	PBT-AT
9.5-12.7	3/8-1/2	PBT-2	PBT-2-T	PBB-1	PBT-AT
12.7-14.3	1/2-9/16	PBT-3	PBT-3-T	PBB-2	-
15.9-25.4	5/8-1	PBT-4	PBT-4-T	PBB-3	-

CARBIDE DRILLS for heavily choked tubes

Tube I.D.		Carbide Drill
mm	inch	
6.4	1/4	CB-250
9.5	3/8	CB-375
11.1	7/16	CB-430
12.7	1/2	CB-500
14.3	9/16	CB-560
15.9	5/8	CB-625
17.5	11/16	CB-680



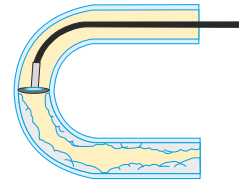
CARBIDE DRILL

CARBIDE DRILLS are used for cleaning tubes choked solidly with hard deposits.



CLEANING ACCESSORIES

U-TUBE TOOLS These tools are used to clean tubes that have sharp bends in them. They consist of a brush or cobalt tip mounted on a piece of flexible shaft so the tool can negotiate the bend.



CUP BRUSH TOOLS - Brass or Stainless Steel

Tube I.D.		Cup Brush Tools
mm	inch	
12.7-19.1	1/2-3/4	CBT-500B
12.7-19.1	1/2-3/4	CBT-500SS



CUP BRUSH TOOL

WHEEL BRUSH TOOLS - Brass or Stainless Steel

Tube I.D.		Wheel Brush Tools
mm	inch	
20.6-25.4	13/16-1	WBT-813B
20.6-25.4	13/16-1	WBT-813SS



WHEEL BRUSH TOOL

COBALT TIP TOOLS

Tube I.D.		Cobalt Tip Tools
mm	inch	
12.7	1/2	CTT-500
15.9	5/8	CTT-625



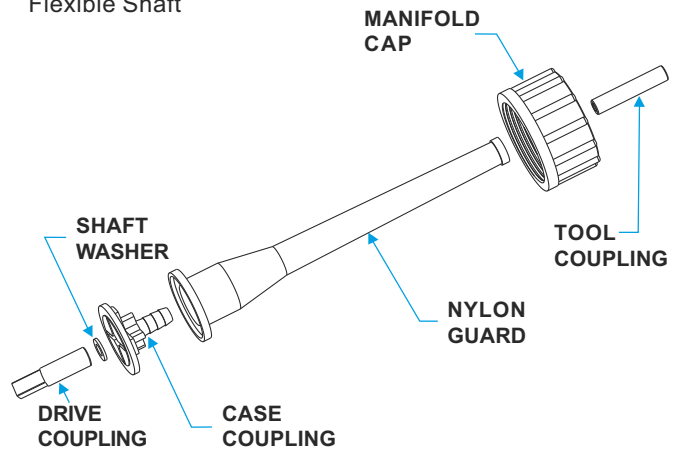
COBALT TIP TOOL

For sizes not listed above please contact us.

SHAFT REPLACEMENT COUPLINGS

Flexible Shaft Model	PFS-250	PFS-375	PFS-500	PFS-560	PFS-750
Tool Coupling	TC-250	TC-375	TC-500	TC-560	TC-750
Case Coupling	CC-250	CC-375	CC-500	CC-560	CC-750
Manifold Cap	MC-1	MC-1	MC-1	MC-1	MC-1
Shaft Washer	3/16x3/4	5/16x3/4	7/16x3/4	9/16x7/8	11/16x1
Drive Coupling	DC-250	DC-375	DC-500	DC-560	DC-750
Nylon Guard	NG-250	NG-250	NG-500	NG-500	NG-750

FLEXIBLE SHAFT REPAIR AND MAINTENANCE
For PFS-250, PFS-375, PFS-500, PFS-560 and PFS-750 Flexible Shaft



SHAFT REPAIR TOOL allows users to quickly and safely attach couplings onto the shaft ensuring maximum useful life for the shaft.

- SHT-1 Shaft Repair Tool with Hammer.
- SHP-1 Replacement Hammer.



SHAFT REPAIR TOOL

FLEXIBLE SHAFT LUBRICATOR is used to lubricate flexible shafts for maximum useful life. They are also used to lubricate shafts prior to storage. The lubricator is filled with a water soluble lubricant that enters and lubricates the shaft when air supply is provided to the lubricator. The residue lubricant washes out with water when the shaft is used again.

- PFSL-1 Flexible Shaft Lubricator.
- PLUBE Lubricant for flexible shaft lubricator, 8 ounces (0.25 litres).



LUBRICANT



FLEXIBLE SHAFT LUBRICATOR

SHAFTS & BRUSHES

1" & UP
I.D.



FLEXIBLE SHAFT

For PTC-75, PTC-150

To order flexible shaft(s), determine tube I.D.(s) and length of longest tubes. Order flexible shaft(s) to correspond with tube I.D.(s) and lengths. (Consult factory for longer shafts if required.)

FLEXIBLE SHAFTS (Wet application - Nylon casing) for tubes 1" (25.4mm) I.D. and UP

Tube I.D. Range		Flexible Shaft Model No.	Flexible Shaft Length		Shaft Core O.D.		Shaft Casing O.D.		Tool End Thread
mm	inch		feet	mtrs	mm	inch	mm	inch	
25.4	1	PFS-750-49	16	4.9	12.7	1/2	19.1	3/4	1/2 - 12F
		PFS-750-79	26	7.9					
		PFS-750-110	36	11.0					
		PFS-750-155	51	15.5					



FLEXIBLE SHAFT

FLEXIBLE SHAFTS (Dry application - Steel casing) for tubes 1" (25.4mm) I.D. and UP

Tube I.D. Range		Flexible Shaft Model No.	Flexible Shaft Length		Shaft Core O.D.		Shaft Casing O.D.		Tool End Thread
mm	inch		feet	mtrs	mm	inch	mm	inch	
25.4	1	PFS-875-49	16	4.9	12.7	1/2	22.2	7/8	1/2 - 12F
		PFS-875-79	26	7.9					
		PFS-875-110	36	11.0					
		PFS-875-155	51	15.5					

FLEXIBLE SHAFTS (Dry application - Stainless steel casing) for tubes 1" (25.4mm) I.D. and UP

Tube I.D. Range		Flexible Shaft Model No.	Flexible Shaft Length		Shaft Core O.D.		Shaft Casing O.D.		Tool End Thread
mm	inch		feet	mtrs	mm	inch	mm	inch	
25.4	1	PFS-875-49-SS	16	4.9	12.7	1/2	22.2	7/8	1/2 - 12F
		PFS-875-79-SS	26	7.9					
		PFS-875-110-SS	36	11.0					
		PFS-875-155-SS	51	15.5					

BRUSHES

NYLON BRUSHES Recommended for removing soft scales in straight, non-ferrous tubes. (copper, brass, plastic, etc.) and ferrous (stainless steel, carbon steel) and for final 'finishing' of tubes. Order brush so that brush O.D. is marginally smaller than tube I.D.

BRASS BRUSHES Recommended for removing soft and light scale deposits in straight, non-ferrous tubes. Order brush so that brush O.D. is marginally smaller than tube I.D.

STAINLESS STEEL BRUSHES Recommended for removing soft and light scale deposits in straight, ferrous tubes. (carbon steel, stainless steel, etc.). Order brush so that brush O.D. is marginally smaller than tube I.D.

Brush O.D.		Nylon Brush	Brass Brush	Stainless Steel
mm	inch			
31.7	1.1/4	N - 1250	B - 1250	SS - 1250
38.1	1.1/2	N - 1500	B - 1500	SS - 1500
44.5	1.3/4	N - 1750	B - 1750	SS - 1750
51.0	2	N - 2000	B - 2000	SS - 2000
57.1	2.1/4	N - 2250	B - 2250	SS - 2250
63.5	2.1/2	N - 2500	B - 2500	SS - 2500
70.0	2.3/4	N - 2750	B - 2750	SS - 2750
76.2	3	N - 3000	B - 3000	SS - 3000
82.6	3.1/4	N - 3250	B - 3250	SS - 3250
89.0	3.1/2	N - 3500	B - 3500	SS - 3500
95.2	3.3/4	N - 3750	B - 3750	SS - 3750
101.6	4	N - 4000	B - 4000	SS - 4000



NYLON BRUSH



BRASS BRUSH



STAINLESS STEEL BRUSH



BRUSHES & ACCESSORIES

CARBON STEEL BRUSHES Recommended for removing soft and light scale deposits in straight, ferrous tubes. Order brush so that brush O.D. is marginally smaller than tube I.D.

PLASTIC BRUSHES Recommended for removing soft deposits in straight, ferrous and non-ferrous tubes and for final 'finishing' up of cleaning in hoses, tubes and pipes. Order brush so that brush O.D. is marginally smaller than tube I.D.

Brush O.D.		Carbon Steel	Plastic Brush
mm	inch		
127.0	5	CS - 5000	P - 5000
152.4	6	CS - 6000	P - 6000
178.0	7	CS - 7000	P - 7000
203.2	8	CS - 8000	P - 8000
228.6	9	CS - 9000	P - 9000
254.0	10	CS - 10000	P - 10000
279.4	11	CS - 11000	P - 11000
305.0	12	CS - 12000	P - 12000
330.2	13	CS - 13000	P - 13000
355.6	14	CS - 14000	P - 14000

Note : Brushes over 1" O.D. require # TCB-C coupling to connect to PFS-750, PFS-875 and PFS-875-SS



CARBON STEEL BRUSH



PLASTIC BRUSH

DRILL TIP DOUBLE DIAMETER BRUSHES

These brushes are used to clean internally grooved tubes. The drill tip of brushes cleans through hard scale before the brush cleaning action takes over. The large diameter of this brush, cleans into the grooves of the tubes and the small diameter into the lands of the tube's rifling.

Tube I.D.		Drill Tip Nylon Brush	Drill Tip Brass Brush
mm	inch		
25.4	1	DTBN-1000	DTBB-1000
31.7	1.1/4	DTBN-1250	DTBB-1250



DRILL TIP NYLON BRUSH



DRILL TIP BRASS BRUSH

CIRCULAR BRUSH TOOLS FOR STRAIGHT TUBES

These tools consist of 4 stainless steel circular brushes that are mounted on a shaft and connected to a Universal Joint. These tools are used to clean soft to medium scales. Replacement circular brushes can be ordered when wear starts.



**CIRCULAR BRUSH
(FOR STRAIGHT TUBES)**

Straight Tube I.D.		Circular Brush Tool Model	Brush O.D.		Spare Brush Model (4 needed)	Spare Universal Joint Model
mm	inch		mm	inch		
28.6-33.3	1.1/8-1.5/16	CBTS-1125	25.4	1	CBSB-1125	UCT-1063
35.0-39.7	1.3/8-1.9/16	CBTS-1375	31.7	1.1/4	CBSB-1375	UCT-1063
41.3-47.1	1.5/8-1.13/16	CBTS-1625	38.1	1.1/2	CBSB-1625	UCT-1063
47.6-52.6	1.7/8-2.1/16	CBTS-1875	44.5	1.3/4	CBSB-1875	UCT-1250
54.0-58.7	2.1/8-2.5/16	CBTS-2125	51.0	2	CBSB-2125	UCT-1250
60.3-65.1	2.3/8-2.9/16	CBTS-2375	57.1	2.1/4	CBSB-2375	UCT-1250
66.7-71.6	2.5/8-2.13/16	CBTS-2625	63.5	2.1/2	CBSB-2625	UCT-1250
73.0-77.8	2.7/8-3.1/16	CBTS-2875	70.0	2.3/4	CBSB-2875	UCT-1250
79.4-84.2	3.1/8-3.5/16	CBTS-3125	76.2	3	CBSB-3125	UCT-1250

Note : For larger sizes, please enquire.

CIRCULAR BRUSH TOOLS FOR CURVED TUBES

These tools consist of 2 stainless steel circular brushes that are mounted onto a Double Universal Joint for maximum flexibility. These tools are used to clean soft to medium scales. Replacement circular brushes can be ordered when wear starts.



CIRCULAR BRUSH (FOR CURVED TUBES)

Curved Tube I.D.		Circular Brush Tool Model	Brush O.D.		Spare Brush Model (2 needed)	Spare Universal Joint Model
mm	inch		mm	inch		
31.7-35.6	1.1/4-1.7/16	CBTC-1125	25.4	1	CBSB-1125	UCT-1500
38.1-42.9	1.1/2-1.11/16	CBTC-1500	31.7	1.1/4	CBSB-1375	UCT-1500
44.5-49.2	1.3/4-1.15/16	CBTC-1750	38.1	1.1/2	CBSB-1625	UCT-1500
51.0-55.6	2-2.3/16	CBTC-2000	44.5	1.3/4	CBSB-1875	UCT-1250
57.1-61.9	2.1/4-2.7/16	CBTC-2250	51.0	2	CBSB-2125	UCT-1250
63.5-68.3	2.1/2-2.11/16	CBTC-2500	57.1	2.1/4	CBSB-2375	UCT-1250
70.0-74.6	2.3/4-2.15/16	CBTC-2750	63.5	2.1/2	CBSB-2625	UCT-1250
76.2-81.0	3-3.3/16	CBTC-3000	70.0	2.3/4	CBSB-2875	UCT-1250
82.6-90.6	3.1/4-3.9/16	CBTC-3250	76.2	3	CBSB-3125	UCT-1250

Note : For larger sizes, please enquire.



BUFFING TOOL



BUFFING TOOL WITH DRILL TIP



REPLACEMENT BLADES

BUFFING TOOLS for Tubes/Pipes 1"-3" (25.4-76.2mm) I.D.

Buffing tool are used for final polishing or removal of light and soft deposits from ferrous and non-ferrous tubes that have been previously cleaned.

Used in straight or very large radius tubes in a clockwise direction only.

PBT-7 Buffing Tools for tubes 1"-3" (25.4-76.2mm) I.D.

PBT-7-T Buffing Tools for tubes 1"-3" (25.4-76.2mm) with drill tip.

PBB-5 Replacement Blades for PBT-7.

CARBIDE DRILLS for Heavily choked tubes.

Carbide Drills are used for cleaning tubes choked solidly with hard deposits.

Tube I.D.		Carbide Drill
mm	inch	
19.1	3/4	CB-750
22.2	7/8	CB-875
25.4	1	CB-1000



CARBIDE DRILL



CLEANING ACCESSORIES

CONE CUTTER TOOLS These tools use patented ergocentric cutters to clean hard scale from typically larger tubes that are found in boilers. The ergocentric cutters ensure that the same tooth does not touch the same spot when cleaning and prevents grooves being formed in the tube scale. All cone cutter tools are fitted with universal joints to negotiate bends in curved tubes.

ONE CONE TOOL These consist of 1 Cone fitted onto a Universal Joint and are used when scale build up is not severe.

TWO CONE TOOL These consist of 2 Cones fitted onto a Universal Joint and are used when scale build up is severe.



SPARE CONE

Straight Tube I.D.		Curved Tube I.D.		One Cone Tool Model	Two Cone Tool Model	Cone Diameter		Spare Cone Model	Spare Universal Joint Model
m m	inch	m m	inch			m m	inch		
27.0-33.3	1.1/16-1.5/16	30.2-36.5	1.3/16-1.7/16	OCT-1063	TCT-1063	23.8	15/16	SCT-937	UCT-1063
31.7-36.5	1.1/4-1.7/16	36.5-42.9	1.7/16-1.11/16	OCT-1250	TCT-1250	27.0	1.1/16	SCT-1062	UCT-1250
35.0-39.7	1.3/8-1.9/16	42.9-49.2	1.11/16-1.15/16	OCT-1375	TCT-1375	30.2	1.3/16	SCT-1187	UCT-1250
38.1-46.0	1.1/2-1.13/16	49.2-55.5	1.15/16-2.3/16	OCT-1500	TCT-1500	36.5	1.7/16	SCT-1437	UCT-1250
44.5-58.7	1.3/4-2.1/16	55.5-61.9	2.3/16-2.7/16	OCT-1750	TCT-1750	42.9	1.11/16	SCT-1687	UCT-1250
50.8-60.3	2-2.3/8			OCT-2000	TCT-2000	49.2	1.15/16	SCT-1937	UCT-1250



ONE CONE TOOL



TWO CONE TOOL



THREE CONE TOOL

THREE CONE TOOL

These consist of 3 Cones fitted onto a base which is fitted with a Universal Joint and are used for cleaning larger (2.5/16" I.D. and up) tubes where scale build up is severe.

Straight Tube I.D.		Curved Tube I.D.		Three Cone Tool Model	Spare Cone Model	Spare Base Model	Spare Universal Joint Model
m m	inch	m m	inch				
58.7-73.0	2.5/16-2.7/8	61.9-79.4	2.7/16-3.1/8	PCT-2313	SCT-937	CTB-2313	UCT-1250
71.4-85.7	2.13/16-3.3/8	77.8-93.7	3.1/16-3.11/16	PCT-2813	SCT-937	CTB-2813	UCT-1250
84.1-96.8	3.5/16-3.13/16	92.1-103.2	3.5/8-4.1/16	PCT-3313	SCT-1062	CTB-2813	UCT-1250

SCRAPER TOOLS

Scraper Tools use scrapper blades that 'fly out' when the tool is rotated, coming into contact with scale and scraping it out. These tools can be coupled with brushes for simultaneous 'finishing' of the cleaning operation as with carbide drills to initially drill through tubes that have very hard deposits.

Straight Tube I.D.		Curved Tube I.D.		Scraper Tool Model
m m	inch	m m	inch	
20.6-39.7	13/16-1.9/16	23.8-46.0	15/16-1.13/16	SCR-813
36.5-58.7	1.7/16-2.1/16	42.9-65.1	1.11/16-2.9/16	SCR-1438
42.9-77.8	1.11/16-3.1/16	61.9-77.8	2.7/16-3.1/16	SCR-1687



FLEX HUB ASSEMBLY



REPLACEMENT BLADES



CARBIDE DRILL



UNIVERSAL JOINT

SPARES FOR SCRAPER TOOLS

- Model **SCR-813-SB** Spare Set of 3 Scraping Blades for SCR-813.
- Model **SCR-1438-SB** Spare Set of 3 Scraping Blades for SCR-1438.
- Model **SCR-1687-SB** Spare Set of 3 Scraping Blades for SCR-1687.
- Model **CB-750** Carbide Drill for use with SCR-1438 Scraper tool to drill through tubes with very hard deposits.
- Model **CB-875** Carbide Drill for use with SCR-1687 Scraper tool to drill through tubes with very hard deposits.
- Model **UCT-1250** Universal Joint for use with scraper tool for use with curved tubes.

COMBINATION CONE-CARBIDE DRILL TOOL

These combination tools use the extreme hardness of a carbide drill coupled with the ergocentric cleaning properties of cone cleaning cutters to drill through and simultaneously clean tubes that are choked with very hard deposits.

Tube I.D.		Combination Cone-Carbide Drill Tool Model
mm	inch	
23.8-27.0	15/16-1.1/16	CCD-938
27.0-30.2	1.1/16-1.3/16	CCD-1063
30.2-36.5	1.3/16-1.7/16	CCD-1188
36.5-42.9	1.7/16-1.11/16	CCD-1438
42.9-49.2	1.11/16-1.15/16	CCD-1687



COMBINATION CONE-CARBIDE DRILL TOOL

CYLINDER CUTTER TOOL

These tools are used typically in boilers and other larger tubes that have a light to medium deposit. These tools use patented ergonomic cutting wheels that ensure the same tooth of the cutter wheel does not touch the same spot when cleaning. This prevents grooves being formed in the tube scale. The cutters 'fly out' when the tool is rotated and perform cleaning action.

Tube I.D.		Cylinder Cutter Tool Model	Spare Cylinder Cutter Model
mm	inch		
36.5-47.6	1.7/16-1.7/8	CCT-1438	CYC-1438
46.0-73.0	1.13/16-2.7/8	CCT-1813	CYC-1438
55.5-81.0	2.3/16-3.3/16	CCT-2188	CYC-2188
79.4-98.4	3.1/8-3.7/8	CCT-3125	CYC-2188



CYLINDER CUTTER TOOL

WING TOOLS-STIFF ARM CUTTER

These tools use long stiff arms with patented cone cutters on their ends, that spread out when rotated. These tools are used to clean light to medium deposits in large diameter tubes and pipes.

Tube I.D.		Wing Tool-Stiff Arm Cutter Model	Spare Cone Cutter Model
mm	inch		
42.9-101.6	1.11/16-4	WTS-1688	SCT-937
100.0-165.1	3.15/16-6.1/2	WTS-3938	SCT-937



WING TOOLS-STIFF ARM CUTTER

WING TOOLS-FLEXIBLE ARM CUTTER

These tools are similar in operation to the Stiff Arm Winged Tools, but patented Cone Cutters are attached onto flexible arms. These tools are used in typically very large vertical pipes and are used in cleaning pipes from top to bottom.

Tube I.D.		Wing Tool - Flexible Arm Cutter Model	Spare Cone Cutter Model
mm	inch		
100.0-309.0	3.15/16-12	WTF-3938	SCT-937



WING TOOLS-FLEXIBLE ARM CUTTER

WING TOOLS-FLEXIBLE ARM-CARBIDE BALL TIP

These tools are similar in operation to the Flexible Arm Cutter Wing Tools except these use carbide balls for removing light scale in large diameter tubes and pipes.

Tube I.D.		Wing Tool - Flexible Arm Carbide Ball Tip Model	Number of Balls Used
mm	inch		
23.8-52.4	15/16-2.1/16	WTC-938	4
49.2-103.2	1.15/16-4.1/16	WTC-1938	6
100.0-204.8	3.15/16-8.1/16	WTC-3938	6



WING TOOLS-FLEXIBLE ARM-CARBIDE BALL TIP

WING TOOLS-FLEXIBLE NYLON ROD

These tools are fitted with abrasive nylon rods that spread out when rotated. These tools are used to clean light deposits in thin tubes and pipes of exotic materials where damage to tubes is to be avoided.

Tube I.D.		Wing Tool - Flexible Nylon Rod Model
mm	inch	
49.2-431.8	1.15/16-17	WTN-1938



WING TOOLS-FLEXIBLE NYLON ROD



SHAFT REPAIR

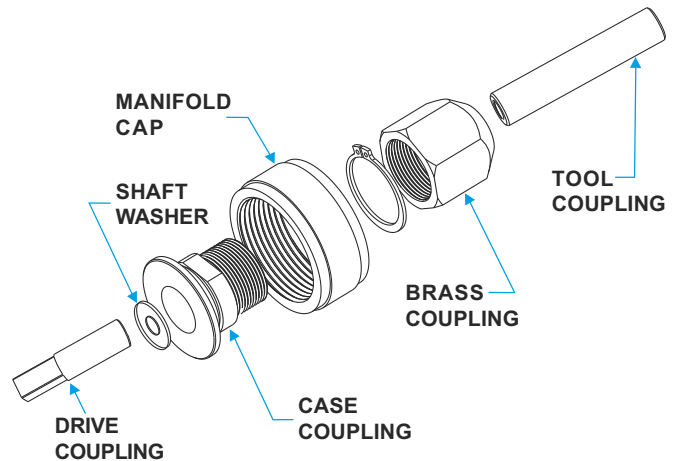
FLEXIBLE SHAFTS REPAIR / MAINTENANCE

For PFS-750, PFS-875 and PFS-875-SS Flexible Shafts

SHAFT REPAIR COUPLINGS

The life of flexible shafts can be extended by proper use and maintenance. If a flexible shaft should break at either end it can be easily repaired by cutting off the end portion and using a shaft repair tool to attach a coupling onto the cut shaft.

Flexible Shaft Model	PFS-875/ PFS-875-SS
Tool Coupling	TC-750
Case Coupling	CC-875
Manifold Cap	MC-2
Shaft Washer	9/16x7/8
Drive Coupling	DC-750
Brass Coupling	BC-875



SHAFT REPAIR TOOL FOR FLEXIBLE SHAFT REPAIR

Allows users to quickly and safely attach couplings onto the shaft ensuring maximum useful life for the shaft.

- SHT-1** Shaft Repair Tool with Hammer.
- SHP-1** Replacement Hammer.



FLEXIBLE SHAFT LUBRICATOR

Is used to lubricate flexible shafts for maximum useful life. They are also used to lubricate shafts prior to storage. The lubricator is filled with a water soluble lubricant that enters and lubricates the shaft when air supply is provided to the lubricator. The residue lubricant washes out with water when the shaft is used again.

- PFSL-1** Flexible Shaft Lubricator.
- PLUBE** Lubricant for flexible shaft lubricator, 8 ounces (0.25 litres).



FLEXIBLE SHAFT REPAIR KITS

Flexible shaft repair kits include 4 drive end repair couplings, 4 tool end repair couplings, 1 shaft repair tool with punch, 1 flexible shaft lubricator, 2 bottles [8 ounce (0.25 liter) each] of lubricant for flexible shaft lubricator.

- REP-750-KIT** Repair kit for PFS-750, PFS-875 and PFS-875-SS Flexible shafts.



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- 1) *Boiler Cleaning Systems (Twin Drive).*
- 2) *Shoot Thru Tube Cleaning Guns.*

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