



Features:

- Stainless Steel Construction - Longer Life.
- Interchangeable Cleaning Tools - Versatile.
- Simple to Operate - Minimum Training required.
- Flexible Shaft can be easily disconnected without need for any Tools.
- Large Wheels - easy to move
- Simultaneous Water Flush - remove deposits'.
- Foot Switch Operation makes it convenient for Operation.

Tube Cleaning Machines are Compact, Self - Contained, roll anywhere Units that can be used in Confined Areas. Operation through a Foot Switch ensures the need for One Operator. The Brushes or other Cleaning Tools are rotated through the Tube at the Tip of the Flexible Shaft; Water simultaneously flushes out loosened deposits' leaving Tubes cleaned. Nylon Flexible Shaft ensures use in Bend Tubes. All Models are supplied with Mobile Dolly, Tool Storage Box, and Single Direction Foot Switch.

Tube I.D.		Model No.	Motor Power		Motor Speed RPM	Weight		Dimension		
Inch	Mm		HP	KW		Lbs.	Kgs.	Height	Wide	Deep
1/4-1	6.4-25.2	PTC - 4	1/2	0.40	870	66	30	37"	20"	17"
1/4-1	6.4-25.2	PTC - 5	3/4	0.60	870	66	30	37"	20"	17"
1 & UP	25.4 & UP	PTC - 4X	1	0.75	1740	66	30	37"	20"	17"
1 & UP	25.4 & UP	PTC-4X-2A	2	1.50	1740	97	44	37"	20"	17"

All Units available in a) 110 V 60 Hz, b) 110 V 50 Hz, c) 220 V 60 Hz, d) 220 V 50 Hz,
(Please Specify while Ordering)

Model PTC-4 Chiller Tube Cleaning Systems: This represents our Most Commonly used packages for Trone, Corner, York, and other Units.

Contents: 1 PTC - 4 Tube Cleaning Machine, 2 NFS - 703 - 25 Flexible Shaft, 40 Nylon Brushes (Specify Size), 2 TBT - 203, 204, 205 or 206 Buffing Tool (Specify Size), 8 Replacement Blade for Buffing Tool, 1 Repair Kit for Flexible Shaft NFS - 703 Consisting of 4 Drive End Coupling, 4 Tool End Coupling, 1 Crimping Tool with Punch, 1 Flexible Shaft Lubricator and 2 Bottles of Lubricant.



PTC 5 Chiller Tube Cleaning Systems: This System is similar to PTC 4 Tube Cleaning Systems, but is more Powerful 3/4 HP Motor for together deposits'. A Two Direction Foot Switch is provided for cleaning internally enhanced Tubes.

Contents : 1 PTC - 5 Tube Cleaning Machine, 2 NFS - 703 - 25 Flexible Shaft, 25 Nylon Brushes (Specify Size), 1 Two Direction Foot Switch, 1 Repair Kit for Flexible Shaft NFS - 703 Consisting of 4 Drive End Coupling, 4 Tool End Coupling, 1 Crimping Tool with Punch, 1 Flexible Shaft Lubricator and 2 Bottles of Lubricant.



ELECTRIC TUBE CLEANING

Features:

- Compact - easy to use.
- Interchangeable Cleaning Tools - Versatile.
- Simple to Operate - Minimum Training required.
- Flexible Shaft can be easily disconnected without need for any Tools.
- Simultaneous Water Flush - remove deposits'.
- Foot Switch Activation - Safe Operation.

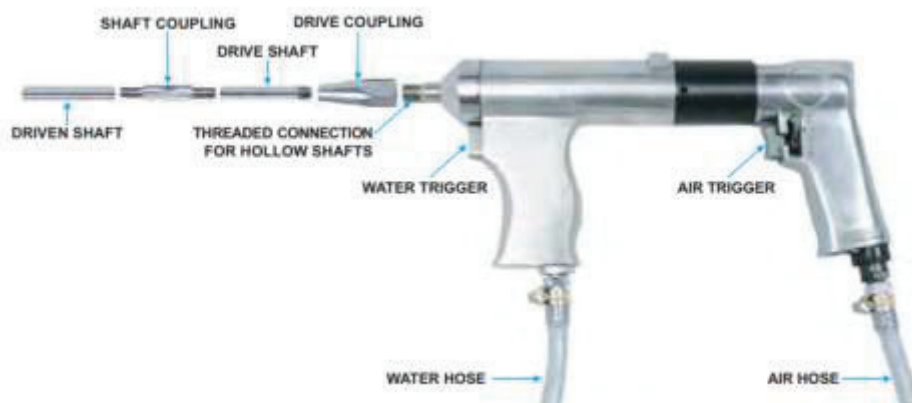


The PTC - P is built for Technicians on the move - used to clean 1/4" - 1" I. D. Tubes in Chillers, Condensers, Evaporators, Heat Exchangers, The Flexible Shaft rotates at 1440 RPM as water feeds through the Nylon Casing to the Cleaning Tool. As the Tool removes the deposits', the water flow flushes them out. A Solenoid Valve ensures that Water flows only when the Machine is running.

Tube I.D.		Model No.	Motor power		Motor Speed RPM	Weight		Dimension		
Inch	mm		HP	KW		Lbs.	Kgs.	Height	Wide	Deep
1/4-1	6.4-25.2	PTC - P	1/2	0.40	1440	44	22	9.5"	10.3/8"	18"

All Units available in a) 110 V 60 Hz, b) 110 V 50 Hz, c) 220 V 60 Hz, d) 220 V 50 Hz, (Please Specify while Ordering)

PNEUMATIC TUBE CLEANING



Used on oil coolers, small heat exchangers and condensers.

Used on larger diameter tubes of process vessels, heat exchangers and condensers.

Tube I.D.'s suited for		Model No.	Motor Power		Free Speed RPM	Air Supply		Water Supply		Weight	
mm	inch		HP	kW		Min	Max	Min	Max	lbs.	kg.
4.8-25.4	3/16-1	C-10	0.6	0.45	700	60psi@16cfm	90psi@16cfm	30psi	100psi	572	2.6
22.2-51.0	7/8-2	CP-315	1	0.746	1000	90psi@20cfm	90psi@40cfm	30psi	100psi	6.60	3.0



Shaft Model	Aluminum Cap Color Code
701	Gold
702	Black / Red
703	Red
704	Blue




Nylon Flexible Shafts with Galvanized Inner Core :

When Ordering Nylon Flexible Shaft and Accessories, each item should be ordered for Specific Tube / Pipe Size or Size Range. Shafts have Color Coded durable Aluminum Caps for easy identification. Galvanized Inner Core ensures our Shafts have Longest Life, Flexibility and Resistance for Corrosion. To Order Flexible Shaft(s), determine Tube I.D.s and Length of the Longest Tubes. Order Flexible Shafts to correspond with Tube I.D.s and Lengths. Wet / Dry Applications:

Tube I. D.		Model No.	Length		Inner Code O. D.		Outer Casing O.D.		Tool End Thread
inch	mm		feet	mm	inch	mm	inch	mm	
1/4	6.4	NFS-701-12	12	3.7	1/8	3.2	1/4	6	8 – 32 F
TO	TO	NFS-701-25	25	7.6	1/8	3.2	1/4	6	8 – 32 F
3/8	9.5								
7/16	11.1	NFS-702-12	12	3.7	1/4	6.4	3/8	9.5	1/4 – 28 F
		NFS-702-17	17	5.2	1/4	6.4	3/8	9.5	1/4 – 28 F
TO	TO	NFS-702-25	25	7.6	1/4	6.4	3/8	9.5	1/4 – 28 F
		NFS-702-35	35	10.7	1/4	6.4	3/8	9.5	1/4 – 28 F
1/2	12.7	NFS-702-45	45	13.7	1/4	6.4	3/8	9.5	1/4 – 28 F
9/16	14.3	NFS-703-12	12	3.7	5/16	7.9	1/2	12.7	1/4 – 28 F
		NFS-703-17	17	5.2	5/16	7.9	1/2	12.7	1/4 – 28 F
TO	TO	NFS-703-25	25	7.6	5/16	7.9	1/2	12.7	1/4 – 28 F
		NFS-703-35	35	10.7	5/16	7.9	1/2	12.7	1/4 – 28 F
		NFS-703-45	45	13.7	5/16	7.9	1/2	12.7	1/4 – 28 F
1	25.4	NFS-703-60	60	18.3	5/16	7.9	1/2	12.7	1/4 – 28 F
		NFS-703-75	75	22.9	5/16	7.9	1/2	12.7	1/4 – 28 F
11/16	17.5	NFS-704-12	12	3.7	3/8	9.5	9/16	14.3	1/4 – 28 F
		NFS-704-17	17	5.2	3/8	9.5	9/16	14.3	1/4 – 28 F
TO	TO	NFS-704-25	25	7.6	3/8	9.5	9/16	14.3	1/4 – 28 F
		NFS-704-35	35	10.7	3/8	9.5	9/16	14.3	1/4 – 28 F
		NFS-704-45	45	13.7	3/8	9.5	9/16	14.3	1/4 – 28 F
1	25.4	NFS-704-60	60	18.3	3/8	9.5	9/16	14.3	1/4 – 28 F
		NFS-704-75	75	22.9	3/8	9.5	9/16	14.3	1/4 – 28 F
1	25.4	NFS-720-15	15	4.6	1/2	12.7	3/4	19.1	1/2 – 12 F
TO	TO	NFS-720-25	25	7.6	1/2	12.7	3/4	19.1	1/2 – 12 F
UP	UP	NFS-720-35	35	10.7	1/2	12.7	3/4	19.1	1/2 – 12 F
		NFS-720-50	50	15.2	1/2	12.7	3/4	19.1	1/2 – 12 F

FLEXIBLE SHAFTS (DRY APPLICATIONS – COVERED STEEL CASING) FOR TUBES 1" (25.4MM)

Tube I. D.		Model No.	Length		Inner Code O. D.		Outer Casing O.D.		Tool End Thread
inch	mm		feet	mm	inch	mm	inch	mm	
1	25.4	NFS-721-15	15	4.6	1/2	12.7	3/4	19.1	1/2 – 12 F
TO	TO	NFS-721-25	25	7.6	1/2	12.7	3/4	19.1	1/2 – 12 F
UP	UP	NFS-721-35	35	10.7	1/2	12.7	3/4	19.1	1/2 – 12 F
		NFS-721-50	50	15.2	1/2	12.7	3/4	19.1	1/2 – 12 F

Nylon Brushes : Recommended for removing Soft deposits (Mud, algae, etc.) in Straight Ferrous and Non Ferrous Tubes (Copper, Stainless, Brass, etc.)	
Stainless Steel Brushes : Recommended for removing Soft and Light Scale deposits in Straight Ferrous Tubes (Stainless Steel, Carbon Steel)	
Brass Brushes : Recommended for removing Soft and Light Scale deposits in Straight Ferrous and Non Ferrous Tubes. Brush should be (Stainless Steel, Brass, Copper, etc.)	

Tube O. D.		Nylon Brush	S. S. Brush	Brass Brush	Threading	Coupling
inch	mm					
1/4"	8.4	N - 250	SS - 250	B - 250	8 - 32 F	P - 1 (8.32m X 8.32m)
5/16"	9.1	N - 312	SS - 312	B - 312	8 - 32 F	P - 1 (8.32m X 8.32m)
3/8"	9.5	N - 375	SS - 375	B - 375	12 - 24 F	P - 2 (8.32m X 12.24m)
7/16"	11.1	N - 437	SS - 437	B - 437	1/4 - 28 M	P - 2 (8.32m X 12.24m)
1/2"	12.7	N - 500	SS - 500	B - 500	1/4 - 28 M	P - 2 (8.32m X 12.24m)
9/16"	14.3	N - 562	SS - 562	B - 562	1/4 - 28 M	P - 2 (8.32m X 12.24m)
5/8"	15.9	N - 615	SS - 615	B - 615	1/4 - 28 M	P - 2 (8.32m X 12.24m)
11/16"	17.5	N - 687	SS - 687	B - 687	1/4 - 28 M	P - 2 (8.32m X 12.24m)
3/4"	19.1	N - 750	SS - 750	B - 750	1/4 - 28 M	P - 2 (8.32m X 12.24m)
13/16"	20.6	N - 812	SS - 812	B - 812	1/4 - 28 M	P - 2 (8.32m X 12.24m)
7/8"	22.2	N - 875	SS - 875	B - 875	1/4 - 28 M	P - 2 (8.32m X 12.24m)
15/16"	23.8	N - 937	SS - 937	B - 937	1/4 - 28 M	P - 2 (8.32m X 12.24m)
1"	25.4	N - 1000	SS - 1000	B - 1000	1/4 - 28 M	P - 2 (8.32m X 12.24m)

Note : Brush should be equal to or 1/16" (1.6mm) Smaller then Tube I. D. 9/16" - 1" (14.3 - 25.4mm) Brushes can be used for both Clockwise and Counterclockwise rotation.

BUFFING TOOL

Stainless Steel Wire Buffing Tools are used for removing Light to Medium Scale deposits or finishing tube previously roughed out with other Cleaning Tools. They can be used in both Ferrous and Non Ferrous Tubes. Buffing Tools can be used in Clockwise Directions and cannot be used in internally Buffing Tools.

Tube I. D.		Buffing Tool	Buffing Tool with Drill Tip	Replacement Blades	Adjusting Tie
Inch	mm				
5/16 - 3/8	7.9 - 9.5	PBT - 203	PBT - 203 DT	PBT - 207	PBT - 209
3/8 - 1/2	9.5 - 12.7	PBT - 204	PBT - 204 DT	PBT - 207	PBT - 209
1/2 - 9/16	12.7 - 14.3	PBT - 205	PBT - 205 DT	PBT - 208 A	PBT - 209
5/8 - 1	15.9 - 25.4	PBT - 206	PBT - 206 DT	PBT - 208 B	PBT - 209



TUBE CLEANING TOOLS





Flexible Shaft Machine is a self-contained portable unit, mounted on a 3-wheel trolley, fitted with a carrying handle. It incorporates a directly coupled, totally enclosed squirrel cage, 2800/1440 rpm. Continuously rated electric motor. Selecting the H.P. of the motor depends upon length and size of Flexible Shaft and nature of scaling. It is controlled by a push button starter which is provided with three thermal adjustable overload relays. Each machine is fully wired, carefully tested and is fitted with a 10-foot length of PVC Cable to main supply. Longer cable can be supplied upon request. Please consult us if your electric supply is different from listed below. Motors for alternate supplies are also available.

Model No.	Motor H.P.	Speed (RPM)	Electric Supply
PTC-30	3.0	2800/1440	440V 3 PHASE
PTC-50	5.0		
PTC-75	7.5		

FLEXIBLE SHAFT



- The Flexible Shaft transmits constant torque / power from the motor unit to the Tool head or Brush within the tube.
- Inner Core - is double wound in opposing layers made out of high tensile-spring steel wires and passed through stress relieving process, made to absolute-vibration free performance and continuous duty.
- Outer Casing - is flexible, made out of galvanized steel strip and provided with special steel anti-friction lining for the entire length.
- Connections - Suitable motor connection at one end and detachable ball bearing hand piece (tool holder) with threaded spindle for Tool Head or Brush at other end. The size of the Flexible Shaft is based on internal diameter (I.D.) of the tube. The length of Flexible shaft required is the addition of the length of the longest tube plus the distance between the mouth of the tube and the position of the power unit. This should be located that the Flexible Shaft be kept as straight as possible.

Inner Core mm (inch)		12 -13 (1/2")	15 - 16 (5/8)	19 - 20 (3/4")
Outer Casing mm (inch)		25 -26 (1")	31 - 32 (1.1/4")	34 - 35 (1.3/8")
Length mtr.	Length feet	Model	Model	Model
7.5	25.0	IFS-105-25	IFS-106-25	IFS-107-25
9.0	30.0	IFS-105-30	IFS-106-30	IFS-107-30
10.0	33.0	IFS-105-33	IFS-106-33	IFS-107-33
12.0	40.0	IFS-105-40	IFS-106-40	IFS-107-40
15.0	50.0	IFS-105-50	IFS-106-50	IFS-107-50
18.0	60.0	IFS-105-60	IFS-106-60	IFS-107-60
20.0	65.0	IFS-105-65	IFS-106-65	IFS-107-65

SUGAR MILL CUTTER



**SINGLE LAYER
'H' TOOL**



**TWO LAYER
'H' TOOL**



**THREE LAYER
'H' TOOL**



**CLOSE 'HZ' TOOL
(HZ-10 TO HZ-11)**



**OPEN 'HZ' TOOL
(HZ-11A TO HZ-16)**



"TH" for soot removal from smoke tubes, general cleaning.



"DS" for removing light scale and burnishing all types of tubes.



"WBA" heavy duty brushes.

Size		'TH' Turk Head Brush Model	'DS' Double Spiral Brush Model	'WBA' Brush Model
inch	mm			
1.1/4	31.7	PTH-10	PDS-10	PWBA-10
1.3/8	35.0	PTH-11	PDS-11	PWBA-11
1.1/2	38.1	PTH-12	PDS-12	PWBA-12
1.5/8	41.3	PTH-13	PDS-13	PWBA-13
1.3/4	44.5	PTH-14	PDS-14	PWBA-14
1.7/8	47.6	PTH-15	PDS-15	PWBA-15
2	50.8	PTH-16	PDS-16	PWBA-16
2.1/8	54.0	PTH-17	PDS-17	PWBA-17
2.1/4	57.1	PTH-18	PDS-18	PWBA-18
2.3/8	60.3	PTH-19	PDS-19	PWBA-19
2.1/2	63.5	PTH-20	PDS-20	PWBA-20
2.5/8	66.7	PTH-21	PDS-21	PWBA-21
2.3/4	70.0	PTH-22	PDS-22	PWBA-22
2.7/8	73.0	PTH-23	PDS-23	PWBA-23
3	76.2	PTH-24	PDS-24	PWBA-24



"MB" for general purpose polishing and deburring.



"CB" spare brush Wheels for "MB" brushes.



"RS" heavy duty brushes for heavy scale removal.



"EXS" Expanding Scrapers for thin scale, soot or soft deposits.

Size		'MB' Multi Purpose Brush Model	'CB' Circular Wheel Brush Model	'RS' Cup Shape Brush Model	'EXS' Expanding Scrapers Model
inch	mm				
1.1/4	31.7	PMB-10	PCB-10		PEXS-10
1.3/8	35.0	PMB-11	PCB-11	-	PEXS-11
1.1/2	38.1	PMB-12	PCB-12		PEXS-12
1.5/8	41.3	PMB-13	PCB-13		PEXS-13
1.3/4	44.5	PMB-14	PCB-14	-	PEXS-14
1.7/8	47.6	PMB-15	PCB-15		PEXS-15
2	51.0	PMB-16	PCB-16	PRS-16	PEXS-16
2.1/8	54.0	PMB-17	PCB-17	PRS-17	PEXS-17
2.1/4	57.1	PMB-18	PCB-18	PRS-18	PEXS-18
2.3/8	60.3	PMB-19	PCB-19	PRS-19	PEXS-19
2.1/2	63.5	PMB-20	PCB-20	PRS-20	PEXS-20
2.5/8	66.7	PMB-21	PCB-21	PRS-21	PEXS-21
2.3/4	70.0	PMB-22	PCB-22	PRS-22	PEXS-22
2.7/8	73.0	PMB-23	PCB-23	PRS-23	PEXS-23
3	76.2	PMB-24	PCB-24	PRS-24	PEXS-24