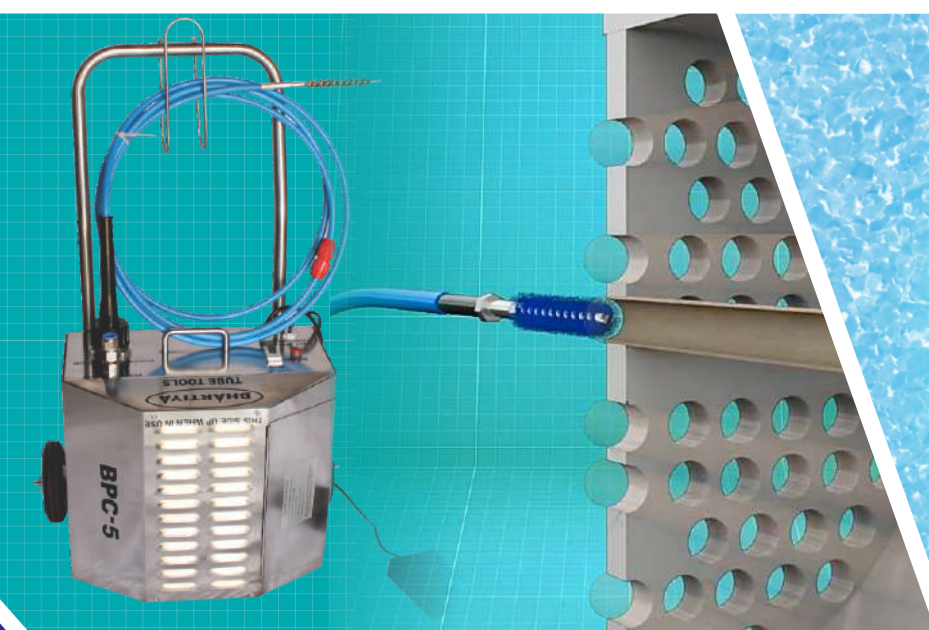




TUBE TOOLS



SHINGARE

INDUSTRIES PVT LTD

MANUFACTURER & EXPORTER OF
Tube Cleaners, Tube Expanders, Tube Tools,
Pipe Beveling Machines, Plate Bevellers,
High Pressure Water Jetting Machine & Tapping Machine

Our Successful Participation in Trade Fairs and Conventions in INDIA and Overseas.



SISSA BANGALORE 2015



SISSTA, CHENNAI 2016



STAI, NEW DELHI 2016



SISSTA, TIRUPATI 2017



MAHATECH, PUNE 2015

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TUBE TOOLS

Education is necessary but not a pre-requisite for success in life. Bhartiya Industries is the best example of this theory. **Mr. Suryakant Shingare** (HARIBHAI), the founder of the company is a non-matriculate technocrat with more than 10 years experience in flexible shaft manufacturing. He founded this company in 1989.



Basic Products:

Engineering products is our forte. We manufacture engineering products such as tube expander, tube cleaner, tube tools, hydraulic tube expansion, tube pulling, and pipe beveling machines. We also deal in manufacture of flexible shaft grinders, construction equipment, hydraulic torque wrench, impact socket, pneumatic tapping machines, and many more...

Brief History of the Company:



We were a small industry until 2003 engaged in production and supply of different types of flexible shafts for tube cleaning, brushes, flexible shaft grinder, and concrete vibrators. The year 2003 was a watershed year for the company.

Mr. Pradip Shingare, son of **Mr. Hari Shingare**, graduated from Mumbai University with a degree in Mechanical Engineering. He had great plans to take the company forward on the route to expansion. He ventured into export of the engineering products. By 2008, the company acquired the reputation as the largest exporter of tube cleaning machines and flexible shafts in India.

The year 2009 saw the expansion of the company into manufacture of products such as Tube expander, tube tools, and tube pulling machines. The company witnessed a record double-digit growth in this product range. In 2011, the company started developing a product range of pipe beveling machines. These machines are extremely popular in India as well as in the overseas market. The year 2013 witnessed the company foray into imports of different types of tools such as tapping tools, grinding tools, etc making us the leading player in India in these categories.

The year 2015 saw us entering into the sugar industry component with the manufacture of the Heavy Duty Sugar Dust Collector machine, FlexRepair40 machine.

In 2016, we added **SHINGARE INDUSTRIES PVT. LTD.** a new company in our group. We awarded ISO 9001:2015 certification for strictly followed quality norms and processes.

Dedicated Staff:

We have a dedicated team of more than 40 people, many of whom are with us since the early days of the company. We have an excellent blend of youth, knowledge, and experience in our ranks.

Export oriented:

We export over 60% of our products to more than 55 countries all over the globe.

Expansion:

We feel the need to expand our business to enable us to serve the people of this country better. With this aim in mind, we established a new company in the name of SHINGARE INDUSTRIES PVT. LTD.

Our main motto of business is “Growth with Trust.”

Our mission is to innovate and create an import substitute products in India.

BOILER TUBE CLEANER



TUBE TOOLS

FLEXIBLE SHAFT MACHINE ('BFM' SERIES):

It is a 3 phase electric motor (2800 rpm) mounted on 3 wheel trolley fitted with a carrying trolley. Horse power of motor is selected depending upon the length & size of shaft, and type of scaling. Push button starter is provided to control the motor. Each machine is fully wired, carefully tested & fitted with a 10 ft. Length (Or longer if required) PVC cable to main supply. Motors are available in enclosed system as well as in open system (i.e. Without covering of above motor.)

Please contact us if your electrical specification is different from below mentioned. Machine for alternate supply are also available.



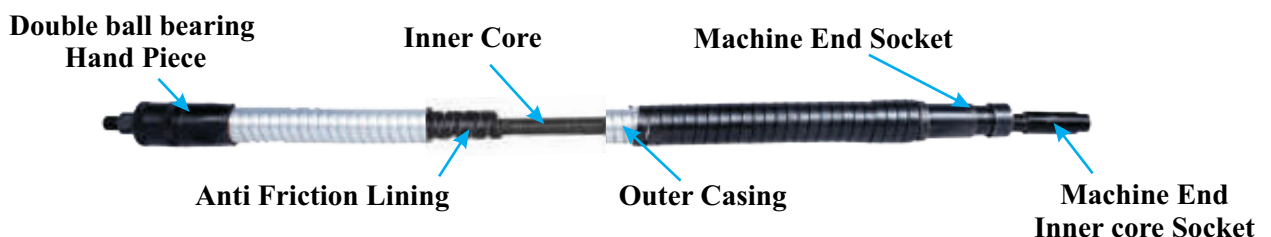
OPEN SYSTEM

CLOSE SYSTEM

Model No.	Motor HP	power KW	Electric Supply	Speed RPM	Tube I. D.	
					MM	INCH
BFM-30	3.0	2.238	440 V 3 Phase 50 C/S A/C	2800	22.0-38.10	0.86"-1.1/2"
BFM-50	5.0	3.730		2800	38.10-101.6	1.1/2"-4.0"
BFM-75	7.5	5.650		2800	38.10-152.8	1.1/2"-6.0"
BFM-50M	5.0	3.730		2800,1400,910	38.10-101.6	1.1/2"-4.0"

NOTE: Flexible Shaft Machines are also available with closed system.

'BHARTIYA' FLEXIBLE SHAFTS ('BFS' SERIES):



It is used for cleaning of tube by transmitting power in terms of rotation from the motor unit to tool head cutter or brush within tube.

INNER CORE:

It is flexible wire with multiple wound opposite layer. It is made of high tensile spring steel or stainless steel (as per requirement) and passed through heat treatment processes to make it absolutely vibration free.

OUTER CASING:

It is flexible, double interlocked, circular rounded, made of galvanized steel strip, Special spring steel lining is provided within outer casing to avoid any friction between inner core & outer casing.

FLEXIBLE SHAFT MACHINE ('BFM' SERIES):

Connection : One end of shaft with machine end socket is attached to suitable motor and other end is attached to tool end.

For Domestic or Indian Flexible Shafts, Sizes are as follows:

1. Model: BFS-105:

Inner core: 12.5mm
Outer casing: 26.5mm

2. Model BFS-106:

Inner core: 15mm
Outer Casing: 33mm

3. Model: BFS-107:

Inner Core: 18.5mm
Outer Casing: 35.5mm

Note:

Tolerance for inner cores
Are ± 0.5 mm

Tolerance for outer casing
Are ± 1 mm

INNER CORE DIA MM (INCH)			11.0 MM (7/16")	13 MM (1/2")	15 MM (5/8")	19.0 MM (3/4")
OUTER CASING MM (INCH)			22.0 MM (7/8")	24.0 MM (15/16")	29.0 MM (1.14")	33.0 MM (1.3")
LENGTH						
Mtrs.	Feet	Sr. No.	MODEL NO.	MODEL NO.	MODEL NO.	MODEL NO.
6.0	20.0	1	BFS-104-25	BFS-105-25	BFS-106-25	BFS-107-25
7.5	25.0	2	BFS-104-25	BFS-105-25	BFS-106-25	BFS-107-25
8.0	27.0	3	BFS-104-25	BFS-105-25	BFS-106-25	BFS-107-25
9.0	30.0	4	BFS-104-25	BFS-105-25	BFS-106-25	BFS-107-25
10.0	33.0	5	BFS-104-33	BFS-105-33	BFS-106-33	BFS-107-33
12.0	40.0	6	BFS-104-40	BFS-105-40	BFS-106-40	BFS-107-40
15.0	50.0	7	BFS-104-50	BFS-105-50	BFS-106-50	BFS-107-50
18.0	60.0	8	BFS-104-60	BFS-105-60	BFS-106-60	BFS-107-60
20.0	65.0	9	BFS-104-65	BFS-105-65	BFS-106-65	BFS-107-65
25.0	82.5	10	BFS-104-82	BFS-105-82	BFS-106-82	BFS-107-82
30.0	100.0	11	BFS-104-100	BFS-105-100	BFS-106-100	BFS-107-100
Spare Inner Core Per Meter			BIC-104	BIC-105	BIC-106	BIC-107
Spare Outer Casing Per Meter			BOC-104	BOC-105	BOC-106	BOC-107
Spare Hand Piece			BHP-104	BHP-105	BHP-106	BHP-107

TOOL HEAD CUTTER:

'CT' SERIES TOOL HEAD CUTTER:

Purpose: For rapid removal of hard scale.

Description: It has 15 cutter wheels.(4 straight wheels, 4 left wheel, 4 right wheel & 3 bevel wheels). They are spring loaded & self expanding.

Size: For tube I. D. From 31mm to 53mm.



Serial No.	Tube I. D.		Tool Head	Cutters Wheel Set of 15 rollers	Spare Arms
	MM	INCH			
1	31.7	1.1/4	CT-10	CTW-1	CTA-1
2	33.3	1.5/16	CT-10A	CTW-1	CTA-1
3	35.0	1.3/8	CT-11	CTW-1	CTA-1
4	36.5	1.7/16	CT-11A	CTW-1	CTA-1
5	38.1	1.1/2	CT-12	CTW-2	CTA-2
6	39.7	1.9/16	CT-12A	CTW-2	CTA-2
7	41.3	1.5/8	CT-13	CTW-2	CTA-2
8	42.9	1.11/16	CT-13A	CTW-2	CTA-2
9	44.5	1.3/4	CT-14	CTW-3	CTA-3
10	46.0	1.13/16	CT-14A	CTW-3	CTA-3
11	47.6	1.7/8	CT-15	CTW-3	CTA-3
12	49.2	1.15/16	CT-15A	CTW-3	CTA-3
13	51.0	2	CT-16	CTW-3	CTA-3

'T' SERIES TOOL HEAD CUTTER:



TUBE TOOLS

'T' Series :

Purpose: For cleaning straight and curved tubes as found in boiler, air heaters.

Description: This head cutter is provided with three wheels, one each of straight teeth, teeth cut right hand, teeth cut left hand for quicker cleaning and to prevent grooving of scale.

Size: Tube I. D. From 31mm to 102mm



NOTE: '2 Layer & 3 Layer tool head cutters also available in 'T' series cutters.

Serial No.	Tube I. D.		Tool Head Model No.	Cutters Wheel Set of 3 rollers Model No.	Spare Arms Model No.
	MM	INCH			
1	31.7	1.1/4	T-10	TW-1	TA-1
2	35.0	1.3/8	T-11	TW-1	TA-1
3	38.1	1.1/2	T-12	TW-1	TA-1
4	41.3	1.5/8	T-13	TW-2	TA-2
5	44.5	1.3/4	T-14	TW-2	TA-2
6	47.6	1.7/8	T-15	TW-2	TA-2
7	51.4	2	T-16	TW-2	TA-2
8	54.0	2.1/8	T-17	TW-2	TA-2
9	57.1	2.1/4	T-18	TW-3	TA-3
10	63.5	2.1/2	T-20	TW-3	TA-3
11	70.0	2.3/4	T-22	TW-4	TA-4
12	76.2	3	T-24	TW-4	TA-4
13	82.5	3.1/4	T-26	TW-5	TA-5
14	88.9	3.1/2	T-28	TW-5	TA-5
15	95.2	3.3/4	T-30	TW-6	TA-6
16	101.6	4	T-32	TW-6	TA-6

'YT' SERIES TOOL HEAD CUTTER:

'YT' Series :

Purpose: For fine cleaning of curved or bend tubes.

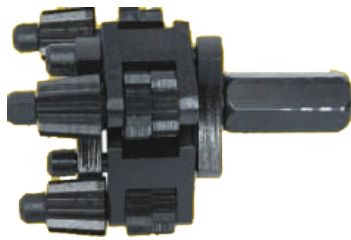
Description: It has pivoted arms and cutter head which contacts every part of tube due to centrifugal force.

Size: For tube I. D. From 32mm to 102mm.



Serial No.	Tube I. D.		Tool Head Model No.	Cone Cutter Set of 3 rollers Model No.	Spare Arms Model No.	Universal Joint Model No.
	MM	INCH				
1	38.1	1.1/2	YT-12	YTC-12	YTA-12	YTUJ-12
2	44.5	1.3/4	YT-14	YTC-14	YTA-14	YTUJ-14
3	51.4	2	YT-16	YTC-16	YTA-16	YTUJ-16
4	57.1	2.1/4	YT-18	YTC-18	YTA-18	YTUJ-18
5	63.5	2.1/2	YT-20	YTC-20	YTA-20	YTUJ-20
6	69.8	2.3/4	YT-22	YTC-22	YTA-22	YTUJ-22
7	76.2	3	YT-24	YTC-24	YTA-24	YTUJ-24
8	88.9	3.1/2	YT-28	YTC-28	YTA-28	YTUJ-28
9	101.6	4	YT-30	YTC-30	YTA-30	YTUJ-30

'SA' TYPE CUTTER HEADS



Model No.	Tube I.D.		Cone & Flat Cutter Set (9) Model No.	Arms Model No.	Universal Joint Model No.
	MM	INCH			
SA-16	51.0	2	SAFC-1	SAA-1	SAUJ-1
SA-18	57.1	2.1/4	SAFC-2	SAA-2	SAUJ-2
SA-20	63.5	2.1/2	SAFC-2	SAA-2	SAUJ-2
SA-22	70.0	2.3/4	SAFC-3	SAA-2	SAUJ-2
SA-24	76.2	3	SAFC-3	SAA-2	SAUJ-2
SA-28	88.9	3.1/2	SAFC-4	SAA-2	SAUJ-2
SA-32	101.6	4	SAFC-5	SAA-3	SAUJ-2

for Tubes / Pipes 2"-4" (51.0mm-101.6mm) I.D. These cutter Heads have 3 to 5 freely pivoted arms, activated centrifugally, which swing out to give access to any part of tube wall.

CARBIDE DRILL

Carbide Drills used for cleaning tubes choked solidly with hard deposits. Size 1/4 m (6.4 m) - 2 1/ (50.8 mm)



CARBIDE DRILL

'P' & 'TC' TYPE

The model "P" & "TC" cutter head is used for cleaning straight tubes from 1-1/2" I.D. through 7" I.D. It is usually direct coupled to drive motor but flexible couplings, universal joints or flexible holders, are used to negotiate curved or bend tubes.

The model "P" & "TC" is for heavy and hard tube deposits as found in refinery and still tubes. It is tough in its parts and assembly as necessary to stand up in this service and it makes economical provision, as described below, for inevitable wear due to large forces which must transmit through the assembly. The model "P" & "TC" is conformed to do its work quickly and thoroughly even when deposits are of varying thickness and hardness.



'P' & 'TC' TYPE

Cone cutters, with tapered cutting edges at the front of the cutter head, expand against tube deposits by centrifugal force and break up uneven shoulders of scale. This is followed by long rows of expanding "no-track" cutter wheels which finish up with thorough, repeated cuts. Centrifugal force assures good working contact between tube deposits and cutting edges and "no track" means that cutters cannot fall into a pattern which skips over and leaves strips of scale behind.

The expansion range (range of cutter head diameters) of these cutter heads is considerable (See chart below.) and is due to (1) slotted cutter pin bearing bores and (2) intentional "play" in pin bearing inserts, features which include an economical bonus.

Model No.	Tube I.D. INCH	Minimum Dia. Over Cutter INCH	Minimum Dia. Over Cutter INCH	Cone Cutter Set Model No.	Cylinder Cutter Set Model No.	Cutter Pin Set Model No.
TC-14	1.1/2	1.3/8	1.23/32	1787-1	1788-2	1584-1
TC-11	1.3/4	1.5/8	2	1587-1	1588-2	1584-1
TC-17	1.7/8	1.11/16	2	2287-3	2288-6	1584-3
TC-16	2	1.13/16	2.3/16	1787-3	1788-6	1584-PY
TC-13	2.1/8	1.15/16	2.5/16	1787-3	1788-6	1584-PY
P-15	2.1/4	2.1/16	2.7/16	2487-3	3338-6	2484-PY
P-9-S	2.3/8	2.3/16	2.11/16	C52-3	C76-6	2484-3
P-9	2.1/2	2.1/4	2.13/16	1587-3	1588-6	1584-PY
P-8	2.5/8	2.9/16	2.7/8	1087-3	1088-6	184-3
P-7	2.3/4	2.9/16	2.15/166	1087-3	1088-6	184-3
P-6-A	3	2.11/16	3.1/8	1087-3	1088-6	184-3

Note : Maximum Size of P&TC Cutter is up to 7".

WIRE BRUSHES



Female Threading

TURK HEAD BRUSH

Max. Brush Size: 6" (152.4mm)
Purpose: For removal of light scale from pan, evaporator, juice heaters tube.



"WBA" HEAVEY DUTY BRUSH

It can be used along with 15 roller tool head cutter for quick cleaning size 1/4" to 4"



DOUBLE SPIRAL BRUSH

"BDS" for removing light scale and burnishing all types of tubes



SPRING COIL BRUSH

Max. Brush Size: 38.1mm upto 152.4 mm I/D
Purpose: For heavy duty tube cleaning.



TUBE TOOLS



CIRCULAR WHEEL BRUSH

Max. Brush Size: 6" (152.4mm)
Thickness: 1/2" to 2"
Purpose: For polishing, deburring & cleaning of tube



"EXS" EXPANDING SCRAPPERS
 For thin scale, soot or soft deposits

SR. No.	Size		'BT'	'BDS'	'BCW'	'WBA'	'BSC'	'EXS'
	MM	INCH	Turk Head Brush Model No.	Double Sprial Brush Model No.	Circular Wheel Brush Model No.	Shuttle Cock Brush Model No.	Spring Coil Brush Model No.	Expanding Scrapper Brush Model No.
1	31.7	1.1/4	BT-10	BDS-10	BCW-10	WBA-10	---	EXS-10
2	35.0	1.3/8	BT-11	BDS-11	BCW-11	WBA-11	---	EXS-11
3	38.1	1.1/2	BT-12	BDS-12	BCW-12	WBA-12	BSC-12	EXS-12
4	41.3	1.5/8	BT-13	BDS-13	BCW-13	WBA-13	BSC-13	EXS-13
5	44.5	1.3/4	BT-14	BDS-14	BCW-14	WBA-14	BSC-14	EXS-14
6	47.6	1.7/8	BT-15	BDS-15	BCW-15	WBA-15	BSC-15	EXS-15
7	50.8	2	BT-16	BDS-16	BCW-16	WBA-16	BSC-16	EXS-16
8	54.0	2.1/8	BT-17	BDS-17	BCW-17	WBA-17	BSC-17	EXS-17
9	57.1	2.1/4	BT-18	BDS-18	BCW-18	WBA-18	BSC-18	EXS-18
10	60.3	2.3/8	BT-19	BDS-19	BCW-19	WBA-19	BSC-19	EXS-19
11	63.5	2.5/8	BT-20	BDS-20	BCW-20	WBA-20	BSC-20	EXS-20
12	66.7	2.5/8	BT-21	BDS-21	BCW-21	WBA-21	BSC-21	EXS-21
13	69.8	2.3/4	BT-22	BDS-22	BCW-22	WBA-22	BSC-22	EXS-22
14	73.0	2.7/8	BT-23	BDS-23	BCW-23	WBA-23	BSC-23	EXS-23
15	76.2	3	BT-24	BDS-24	BCW-24	WBA-24	BSC-24	EXS-24
16	79.4	3.1/8	BT-25	BDS-25	BCW-25	WBA-25	BSC-25	EXS-25
17	82.5	3.1/4	BT-26	BDS-26	BCW-26	WBA-26	BSC-26	EXS-26
18	85.7	3.3/8	BT-27	BDS-27	BCW-27	WBA-27	BSC-27	EXS-27
19	88.9	3.1/2	BT-28	BDS-28	BCW-28	WBA-28	BSC-28	EXS-28
20	92.1	3.5/8	BT-29	BDS-29	BCW-29	WBA-29	BSC-29	EXS-29
21	95.2	3.3/4	BT-30	BDS-30	BCW-30	WBA-30	BSC-30	EXS-30
22	98.4	3.7/8	BT-31	BDS-31	BCW-31	WBA-31	BSC-31	EXS-31
23	101.6	4	BT-32	BDS-32	BCW-32	WBA-32	BSC-32	EXS-32

PNEUMATIC BOILER TUBE CLEANERS FOR BOILERS & HEAT EXCHANGER TUBES



6000 SERIES AIR MOTOR

Powerful short design of Air Motor is ideal for negotiating short radius bends when cleaning curved tubes. Precision slip-fit motor construction means no special tool required for assembly and disassembly. Thrust plate motor packs plenty of power to operate all types of cleaning heads. Shown with forward swing arm type cleaner head and universal joint.

6300 SERIES AIR MOTOR

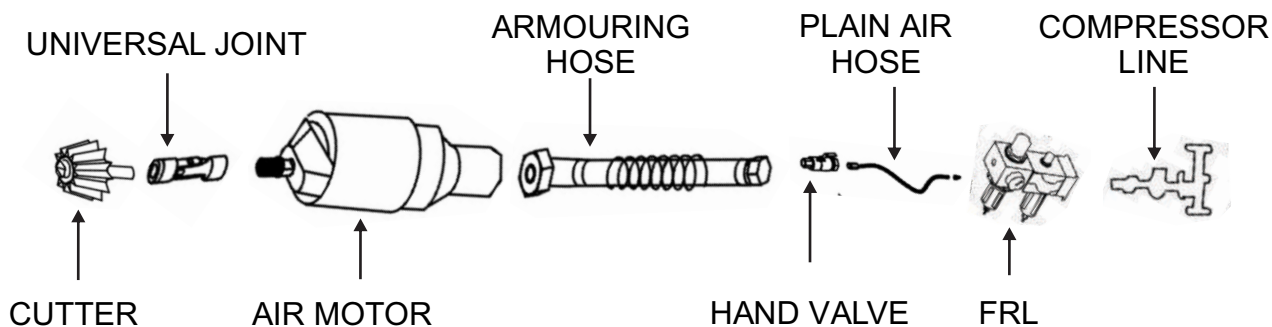
Thirst plate type motor specially designed for straight tubes motor parts slip-fit together for easy assembly without special tools. The motor operates at full power for high speed, heavy duty performance.

Sr. No.	Tube ID		Bend Tube Model	Straight Tubes Model
	MM	INCH		
1	22.0-24.0	7/8-61/64	B6024	B6324
2	25.0-29.0	1-1.5/32	B6029	B6329
3	30.0-35.0	1.3/16-1.25/64	B6035	B6335
4	36.0-41.0	1.27/64-1.21/32	B6041	B6341
5	42.0-50.8	1.5/8-2	B6051	B6351
6	50.8-57.1	2-2.1/4	B6057	B6357
7	57.1-63.5	2.1/4-2.1/2	B6063	B6363
9	63.5- 69.9	2.1/2-2.3/4	B6069	B6369
10	69.9-76.2	2.3/4-3	B6076	B6376
11	76.2-88.9	3.-3.1/2	B6088	B6388
12	88.9-101.6	3.1/2-4	B6101	B6401
12	101.6-127.0	4-5	B6127	B6427

FEATURES

- The safe way to remove tough deposits from curved or straight tubes.
- Standard models available for 19 to 140 mm I.D. On request, BHARTIYA can supply heads for up to 500 mm I.D. Tubes.
- Recommended for all places where danger of explosion exists.
- Air-driven rotary motor 3000-6000 RPM under no load. No overheating Efficient. Very durable.
- Automatic cut-out with torque overload prevents tube wall damage.
- Self-cleaning heads. Air blast clears away loose scale; cools cutters heads.
- Versatile range of standard cutters.
- Air motor have a simple design with few moving parts, which provide trouble free operation with minimum of maintenance.

GENERAL ARRANGEMENT FOR PNEUMATIC TUBE CLEANER SYSTEM



ACCESSORIES FOR TURBINE STYLE TUBE CLEANERS



Armoured Hose

Armoured Hose is connected between spiral steel wire winding throughout the hose length.



Plain Hose :

It is located between Hand Valve, FRL / Compressor line. Standard length of plain hose is 10 meter.



Hand Valve :

Hand Valve is device for controlling air pressure supply.



Circular Brush

Circular Brushes are more popular brushes with Air Motor. These brushes are connected to Air Motor by using either flexible extension or universal joint. The purpose of this brush for polishing, deburing and cleaning of tube



Flexible Extension :

It is compact device mainly used for bend/straight tube cleaning.



FRL :

The main purpose of Filter Regulator Lubricator is filter compressed air, regulates its pressure and lubricate it with oil to protect inside parts of Air Motor from rusting.



Universal Joint

It is small tool connected between air motor and circular brush for vertical straight tube cleaning.

ABOVE TUBE CLEANING SYSTEM IS ALSO KNOWN AS PIPE CUTTING EQUIPMENT OR ALUMINUM SIPHON TUBE CLEANERS.

ELECTRIC TUBE CLEANERS: ('BPC-5' SERIES)

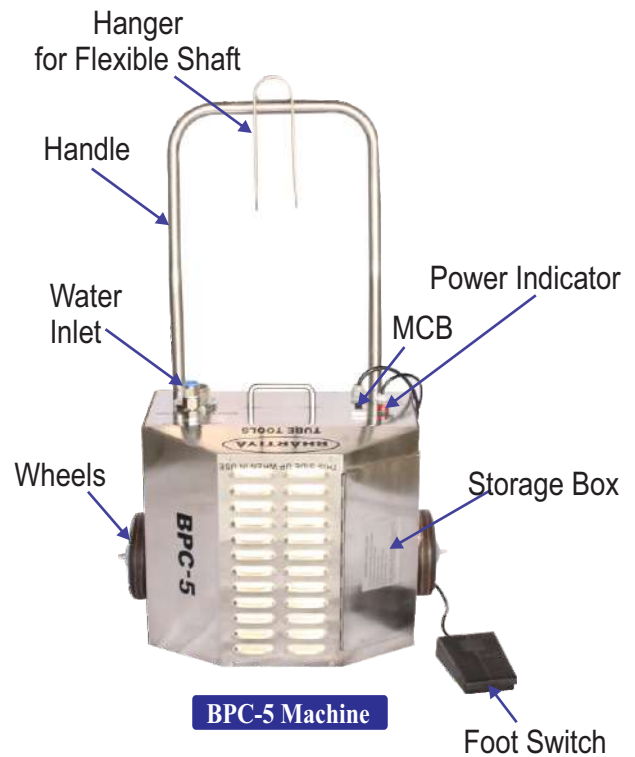
In Electric Tube Cleaner, the brushes or other cleaning tools are rotated through a tube at tip of flexible shaft. Simultaneously water gets injected, hence loosen deposits leaving tubes cleaned. Flexible shafts ensure use in bent tubes.

All models consist of tool storage box, single direction foot switch, mobile dolly. 2 direction foot switch is optional.

- All units are available with following specifications:
115 v 60 Hz, 115 v 50 Hz - 9 Amps
220 v 60 Hz, 220 v 50 Hz - 4.5 Amps

While ordering, please mention electric specifications.

Model No.	Motor		Tube ID		Speed RPM
	HP	KW	INCH	MM	
BPC-3	0.75	0.56	1/4 -1	6.4 - 25.40	910
BPC-4	1.00	0.75	1/4 -1.1/4	6.4 - 31.75	910
BPC-4S	1.00	0.75	1/4-1	6.4-25.40	1440
BPC-5	2.00	1.50	1/4-1.1/2	6.4-38.10	910
BPC-6	2.00	1.50	1/4-1.1/4	6.4-31.75	1440



BPC-5 Machine

PORTABLE TUBE CLEANER : ('BPC-P' SERIES)

BPC- P is a portable machine which can be carried by technician on the move. Flexible shaft rotates at speed of 1740 rpm and water gets injected simultaneously 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 machine is running.

- All units are available with following specifications :
115 v 60 Hz, 115 v 50 Hz - 9 Amps
220 v 60 Hz, 220 v 50 Hz - 4.5 Amps

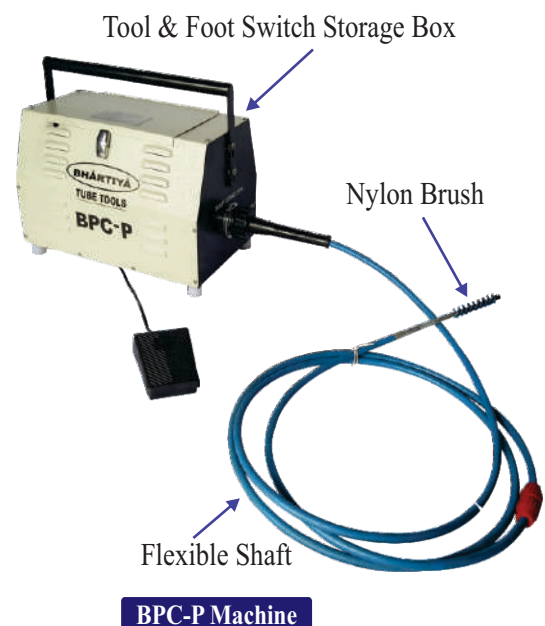
While ordering, please mention electric specifications.

Model No.	Motor		Tube ID		Speed RPM
	HP	KW	INCH	MM	
BPC-P	0.50	0.40	1/4 -1	6.4 - 25.4	1440
BPC-P1	1.00	0.75	1/4 -1	6.4 - 25.4	1440

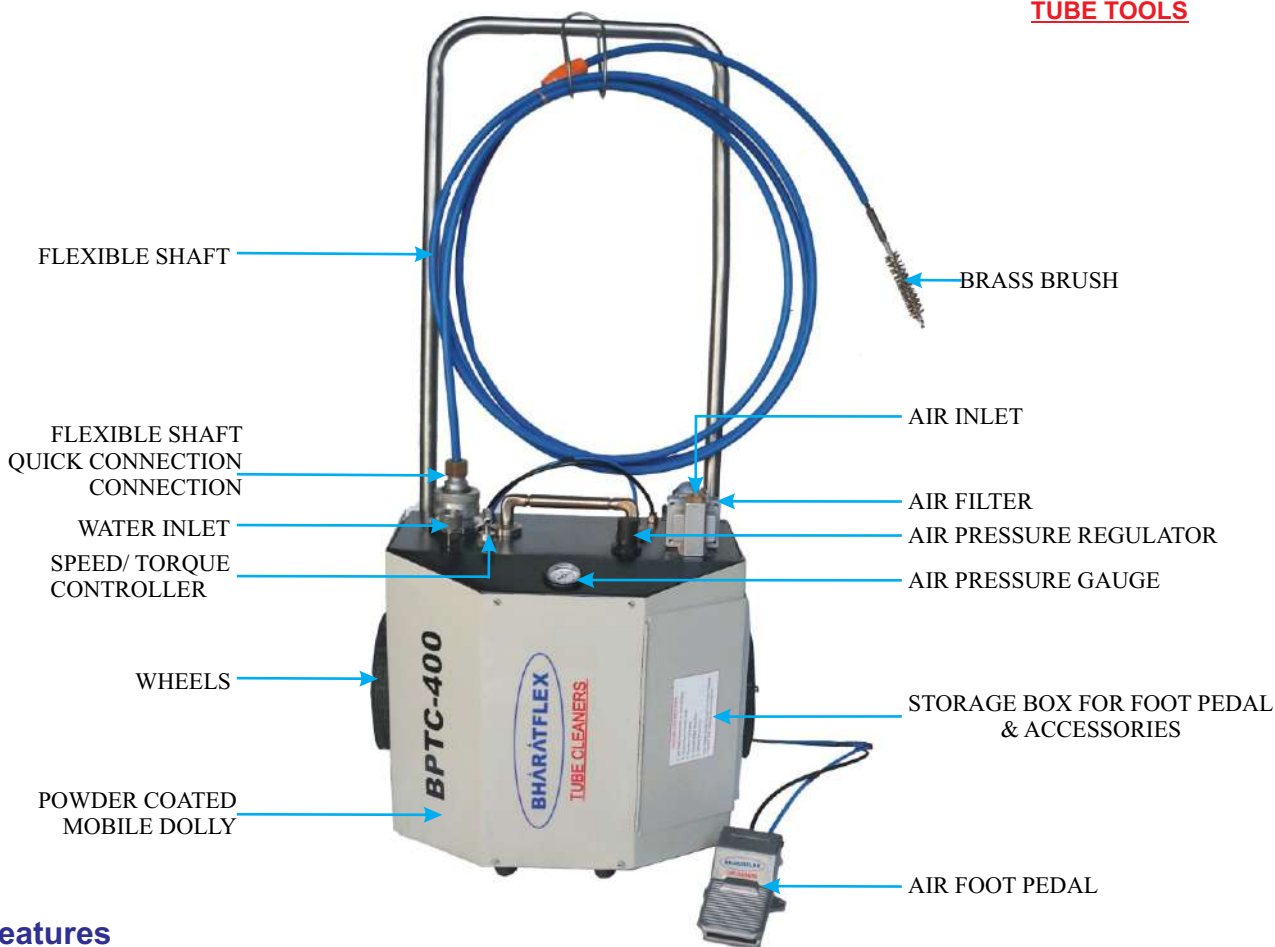
All units available with various electrical specification:

115v 60 Hz, 115v 50Hz - 9 Amps. 220 v 60 Hz, 220v 50Hz -4.5 Amps.

Please specify while ordering.



BPC-P Machine



Features

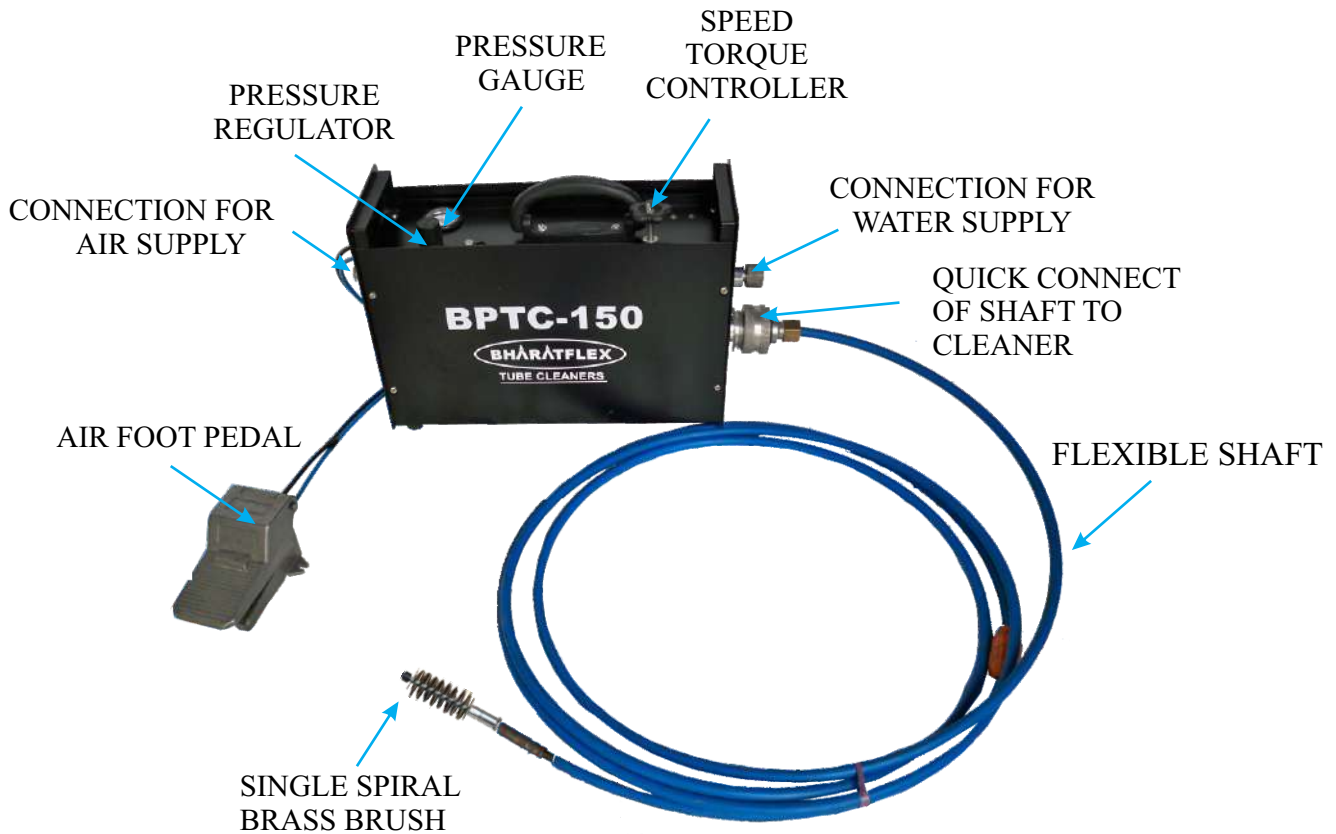
- Shock Resistant - Excellent for applications where using electric equipment is hazardous.
- Speed/Torque control - Shaft rotation can be set at optimum speed for each application.
- Versatile - Interchangeability of different size flexible shafts and cleaning tools
- No Tooling - Quick disconnect for flexible shaft.
- Easy maneuverability - Large Wheels.
- Cleanliness - Foot pedal for operator convenience to activate shaft rotation and water flow to reduced water consumption and cleaner working area.
- Time Saving - Simultaneous water flush to remove deposits from tubes.

NOTE: As per the customer requirement, we can provide the machine with Stainless Steel Cover & Chasis

•**BHARTIYA Model BPTC- 400** Extra Heavy Duty Pneumatic Tube Cleaners Machine includes lubricator, regulator, air filter, adjustable speed/torque control, mobile dolly, air foot pedal and tool storage box.

•**The BPTC- 400** uses a cleaning tool mounted to the tip of a flexible shaft, which is available in different lengths and diameters to fit the size of the tube to be cleaned. For wet applications as the shaft rotates inside at watertight nylon casing, the unit feeds water through the casing to the cleaning tool. A foot pedal controls shaft rotation and flow. While the operator feeds the rotating shaft assembly through the tube, the water flushes out deposits as they are loosened.

Tube I.D		Tube Cleaner Model No.	Motor Power		Motor Speed	Air Supply		Weight		Dimension		
MM	INCH		HP	KW	RPM	Min	Max	LBS.	KG.	HIGH	WIDE	DEEP
6.4 - 38.1	1/4" - 1.1/2"	BPTC-400	4	3	0-3000	60psi @ 15cfm	90psi @ 70cfm	66	30	38"(975mm)	22"(560mm)	16"(406mm)



Features

- **Shock Resistant** - Excellent for applications where using electric equipment is hazardous.
- **Versatile** - Interchangeability of different size flexible shafts and cleaning tools
- **Speed/Torque control** - Shaft rotation speed can be set at optimum for each application.
- **No Tooling** - Quick disconnection for flexible shaft.
- **Time Saving** - Simultaneous water flush to remove deposits from tubes
- **Cleanliness** - Foot pedal for operator’s convenience to activate both shaft rotation and water flow to reduced water consumption and making working area clean.
- **Compact** - Light weight easy to operate inside drum.

Model-BPTC-150 Portable Pneumatic Tube Cleaning Machine includes FRL unit, adjustable speed/torque control, and air foot pedal. The BPTC-150 uses a cleaning tool mounted on the tip of a flexible shaft, which is available in different lengths and diameters to fit the size of the tube to be cleaned. For wet applications, as the shaft rotates inside its watertight nylon casing, the unit feeds water through the casing to the cleaning tool.

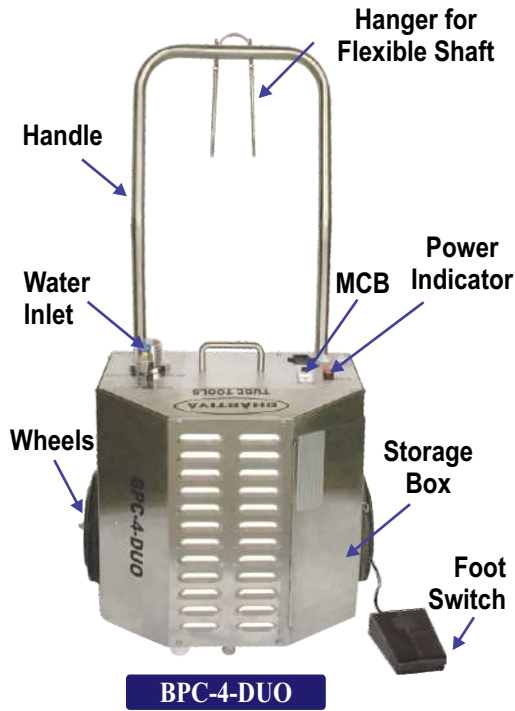
A foot switch controls shaft rotation and water flow. While the operator feeds the rotating shaft assembly through the tube, the water flow softens the deposits before cleaning and flushes them out during cleaning.

Tube I.D		Tube Cleaner Model No.	Motor Power		Motor Speed	Air Supply		Weight		Dimension		
MM	INCH		HP	KW	RPM	Min	Max	LBS.	KG.	HIGH	WIDE	DEEP
6.4 & UP	1/4 & UP	BPTC-150	1.5	1	0-3000	60 psi @ 15cfm	90psi @ 70cfm	33	15	10.3/8" (264mm)	6" (150mm)	19" (483mm)

ELECTRIC TUBE CLEANERS: ('BPC-4-DUO' SERIES)



TUBE TOOLS



In order to clean internally enhanced tubes of chiller efficiently, we introduced new series of electrically operated chiller tube cleaner machine with bi directional foot switch & stainless steel mobile trolley. All our foot switches are air operated.

2 direction foot switch is optional.

- All units are available with following specifications :
- 115 v 60 Hz, 115 v 50 Hz - 9 Amps
- 220 v 60 Hz, 220 v 50 Hz - 4.5 Amps
- While ordering, please mention electric specifications.

Model No.	Motor		Tube ID		Speed
	HP	KW	INCH	MM	RPM
BPC-4-DUO	1.0	0.75	1/4 -1	6.4-25.40	1440

FLEXIBLE SHAFTS:

For BPC-2 & BPC-3, Flexible Shaft with stainless steel inner core can be supplied if specified by client.

While ordering flexible shafts and accessories, each item should be ordered for specific tube / pipes size or size range.

Stainless steel inner core ensures our shafts have longest life, resistance to corrosion,

To order flexible shaft (s) determine tube I.d. & Length of longest tube (s). Order flexible shaft(s) to correspond with tube I. D.(s), & length. Please ask for special or longer length.



Tube ID range		Flexible Shaft Model No.	Flexible shaft Length		Nylon Casing O.D.		Inner Core O.D.		Tool End Thread
MM	INCH		FEET	MTRS.	INCH	MM	INCH	MM	
6.4-9.5	1/4-3/8	NFSC-701-12	12	3.7	1/4	6.4	1/8	3.2	8-32 F
		NFSC-701-25	25	7.6					
11.1-12.7	7/16-1/2	NFSC-702-12	12	3.7	3/8	9.5	1/4	6.4	1/4-28 F
		NFSC-702-17	17	5.2					
		NFSC-702-25	25	7.6					
		NFSC-702-35	35	10.7					
		NFSC-702-45	45	13.7					
14.3-25.4	9/16-1	NFSC-703-12	12	3.7	1/2	12.7	5/16	7.9	1/4-28 F
		NFSC-703-17	17	5.2					
		NFSC-703-25	25	7.6					
		NFSC-703-35	35	10.7					
		NFSC-703-45	45	13.7					
		NFSC-703-60	60	18.3					
22.1-38.1	7/8-1.1/2	NFSC-705-12	12	3.7	3/4	19.1	1/2	12.7	1/2-12 F
		NFSC-705-25	25	7.6					
		NFSC-705-35	35	10.7					
		NFSC-705-45	45	13.7					



TUBE TOOLS

FLEXIBLE SHAFTS

(Dry Application - Steel Casing) for tubes 1" (25.4mm) I.D. and UP



FLEXIBLE SHAFT

Tube I.D. Range		Flexible Shaft Model No.	Flexible Shaft Length		Steel Casing O.D.		Shaft Core O.D.		Tool End Thread
MM	INCH		FEET	MTRS	MM	INCH	MM	INCH	
25.4 and up	1 and up	BFSC-706-12	12	3.7	22.2	7/8	12.7	1/2	1/2 - 12F
		BFSC-706-25	25	7.6					
		BFSC-706-35	35	10.7					
		BFSC-706-45	45	13.7					

FLEXIBLE SHAFTS REPAIR / MAINTENANCE

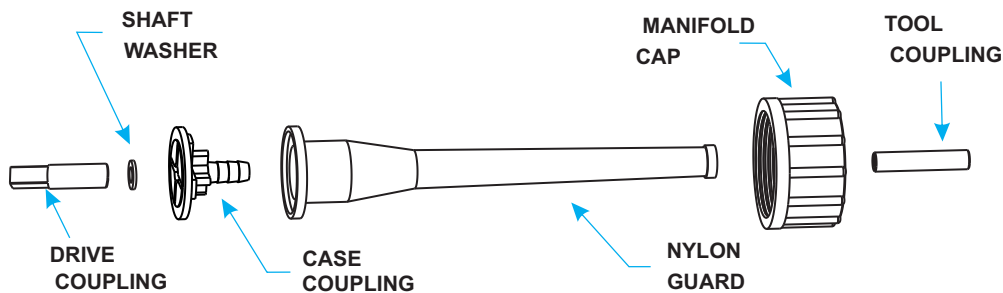
for NFSC-701, NFSC-702, NFSC-703 NFSC-704, NFSC-705 Flexible Shafts.

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	NFSC 701 / 702 / 703 / 705
Tool Coupling	TC-703
Casing Nipple	CN-703
Manifold Cap	MC-703
Shaft Washer	9/16x7/8
Drive Coupling	DC-703
Rubber Gasket	RG-703

For, NFSC-701, NFSC-702, NFSC-703, NFSC-704, NFSC-705 FLEXIBLE SHAFT



Flexible Shaft

MODEL BPC4-45 CHILLER TUBE CLEANING SYSTEM:

Model No. BPC4-45 chiller tube cleaning system uses a 3/4 HP motor for tougher deposits. Single direction foot switch is provided for cleaning internally enhanced tubes.

CONTENTS:

- BPC-4 Tube cleaners-1
- Nylon Brush (Specify Size)- 25
- Repairing kit for flexible shaft NFSC-703 consisting of 4 drive couplings, 4 tool end couplings, 1 crimping tool with punch, 1 flexible shafts lubricator and 2 bottles of lubricant Tubes.
- NFSC-703-45 Flexible Shafts-2
- Single Direction Air Foot Switch-1



BPC-4 Tube Cleaners



Flexible Shaft



Crimping Tool



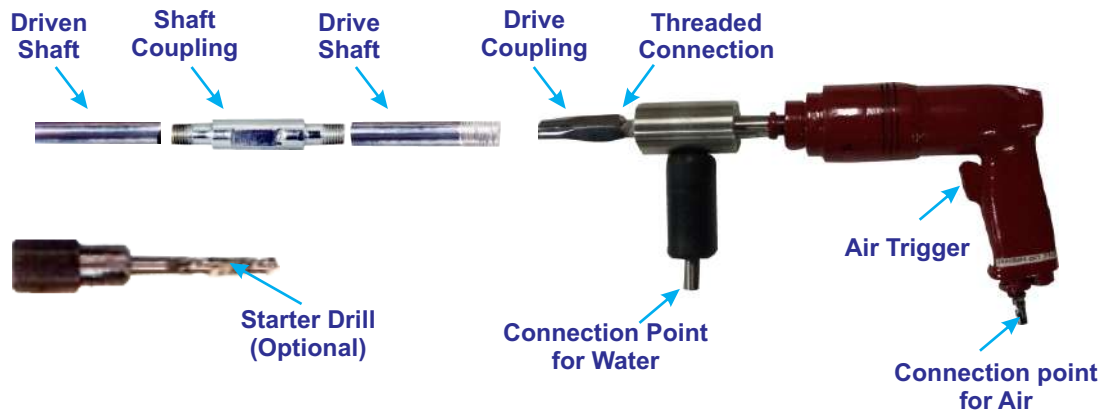
Repair Kit

PNEUMATIC TUBE CLEANER (CHOKED TUBE)



TUBE TOOLS

CHOKED TYPE PNEUMATIC TUBE CLEANERS



- Portable pneumatic tube cleaners used hollow air craft quality shaft of different diameters s per tube I.D. to be cleaned which can be coupled together to form length of the tube to be cleaned.
- Water flows through the hollow tube & flushes out deposits that are loosened by the cleaning tools attached to hollow shaft. Tools used for cleaning are carbide drills, for severely clogged tubes, brushes for light deposits & buffing tools for final polishing. The rotation of air motor & the water flow are controlled independently.

Model No.	Motor Power		Tube ID		Speed RPM	Air Supply		Water Supply		Weight	
	HP	KW	INCH	MM		Min.	Max.	Min.	Max.	LBS.	KG.
BC - 20	0.6	0.45	3/16-1	4.8-25.4	700	60psi@16cfm	90psi@16cfm	30psi	100psi	5.72	2.6
BC - 750	1.2	0.90	7/8-2	22.2-51.0	1000	90psi@20cfm	90psi@40cfm	30psi	100psi	6.60	4.0

- Model BC-20 is generally used for oil coolers, small heat exchanger and condensers.
- Model BC-750 is generally used for large diameter tubes of process equipment condensers and heat exchangers.

PORTABLE PNEUMATIC TUBE -2 CLEANER ACCESSORIES

- **Hollow Drive Shaft** - 4ft. (1.2m) long aircraft quality steel shafts to connect to drive.
Model DS-300 to DS-500
Model DS-562 to DS-750
- **Hollow Driven Shaft** - 4ft. (1.2m) long aircraft quality steel shafts to connect to driven shafts. Order quantities based on length of tube to be cleaned.
Model DN-300 to DN-500
Model DN-562 to DN-750
- **Drive Coupling** - To Couple hollow drive shaft to drive.
Model DC-300 to DC-500
Model DC-562 to DC-750
- **Shaft Coupling** - To Couple 2 hollow shafts together.
Model SC-300 to SC-500
Model SC-562 to SC-750
- **Starter Drill** - To make pilot holes in deposits of completely clogged tubes.
Model SD-312 to SD-500
Model SD-562 to SD-750



CLEANING TOOLS SUCH AS NYLON/ BRASS/ SS SINGLE SPIRAL BRUSHES, BUFFING TOOLS, CARBIDE DRILLS ARE USED WITH CHOKED TYPE PNEUMATIC TUBE CLEANERS.

BRUSHES

NYLON BRUSHES

Used for removing soft deposits in straight non-ferrous tubes (copper, brass, plastic, etc).

BRASS BRUSHES

Used for removing soft and light scale deposits in straight, non-ferrous tubes.

STAINLESS STEEL BRUSHES

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



Nylon Brush



Brass Brush



Stainless Steel Brush

- Brush should be equal to or 1/16" (1.6mm) smaller than tube I.D.
- 9/16" - 1" (14.3 - 25.4mm) brushes can be used for both clockwise and counterclockwise rotation.

Brush O.D.		Nylon Brush	Stainless Steel	Brass Brush	Threading	Coupling
INCH	MM					
1/4	6.4	SSB-N-204	SSB-SS-204	SSB-B-204	8 - 32F	P-1 (8 - 32M x 8 - 32M)
5/16	7.9	SSB-N-205	SSB-SS-205	SSB-B-205	8 - 32F	P-1 (8 - 32M x 8 - 32M)
3/8	9.5	SSB-N-206	SSB-SS-206	SSB-B-206	12 - 24F	P-2 (8 - 32M x 12 - 24M)
7/16	11.1	SSB-N-207	SSB-SS-207	SSB-B-207	1/4 - 28M	-
1/2	12.7	SSB-N-208	SSB-SS-208	SSB-B-208	1/4 - 28M	-
9/16	14.3	SSB-N-209	SSB-SS-209	SSB-B-209	1/4 - 28M	-
5/8	15.9	SSB-N-210	SSB-SS-210	SSB-B-210	1/4 - 28M	-
11/16	17.5	SSB-N-211	SSB-SS-211	SSB-B-211	1/4 - 28M	-
3/4	19.1	SSB-N-212	SSB-SS-212	SSB-B-212	1/4 - 28M	-
13/16	20.6	SSB-N-213	SSB-SS-213	SSB-B-213	1/4 - 28M	-
7/8	22.2	SSB-N-214	SSB-SS-214	SSB-B-214	1/4 - 28M	-
15/16	23.8	SSB-N-215	SSB-SS-215	SSB-B-215	1/4 - 28M	-
1	25.4	SSB-N-216	SSB-SS-216	SSB-B-216	1/4 - 28M	-

DRILL TIP DOUBLE DIAMETER BRUSHES

These brushes are used to clean internally enhanced 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.



Drill Tip Double Diameter Nylon Brush



Drill Tip Double Diameter Brass Brush

SPIN-GRIT BRUSHES



Spin-Grit Brush

Tube I.D.		Spin-Grit Brushes
INCH	MM	
1/4-3/8	6.4-9.5	BSGB-050
7/16-9/16	11.1-14.3	BSGB-075
5/8-11/16	15.9-17.5	BSGB-100
3/4-1	19.1-25.4	BSGB-125

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

These brushes are used for removing soft and light scale deposits in straight, ferrous and non-ferrous tubes. The abrasive impregnated nylon bristles of this brush clean and polish tubes in one step. Unlike regular spiral brushes Spin-Grit is designed to be oversized in the tube so the bristles lay over, putting the abrasive in contact with the tube wall. Order brush to correspond with tube I.D.

POWER SPIN-GRIT BRUSHES

These brush are used for removing soft and light scale deposits in straight, ferrous and non-ferrous internally enhanced tubes. The small diameter end of each of each brush cleans into the grooves of the tube's rifling with the ends of the brush filaments. The large diameter end of the brush cleans the lands of the tube's rifling, as well as any prime surface, with the sides of the brush filaments. Order brush to correspond to tube I.D.



Power Spin G Brush

Tube I.D.		Power Spin-Grit Brushes
INCH	MM	
1/2	12.7	BPSGB-050
5/8	15.9	BPSGB-062
3/4	19.1	BPSGB-075
1	25.4	BPSGB-100

COLOR CODED SHOOT THRU SCRUBBERS

In most cases Hard Tube Scrubbers are recommended for removing light to medium deposits in condensers order.



Tube Scrubbers by Model & Color

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

CARBIDE DRILL for Plugged Tubes/Pipes

CARBIDE DRILL are used for cleaning straight tubes plugged solidly with deposits.



Carbide Drill

Tube I.D.		Carbide Drill
INCH	MM	
1/4	6.4	BCB-025
3/8	9.5	BCB-037
7/16	11.1	BCB-043
1/2	12.7	BCB-050
9/16	14.3	BCB-056
5/8	15.9	BCB-062
11/16	17.5	BCB-068

Note : All drill run 10% oversize {e.g. CB-062 drill is .6875" (17.5mm) O.D.}

FLEX-HONE ABRASIVE TOOLS

Tube I.D.		Flex-Hone Abrasive Tools
INCH	MM	
1/4	6.4	BFHT-025
5/16	7.9	BFHT-031
3/8	9.5	BFHT-037
7/16	11.1	BFHT-043
1/2	12.7	BFHT-050
9/16	14.3	BFHT-056
5/8	15.9	BFHT-062
11/16	17.5	BFHT-068
3/4	19.1	BFHT-075
7/8	22.2	BFHT-087
1	25.4	BFHT-100

FLEX-HOSE ABRASIVE TOOLS are light pressure, soft application honing devices for straight tubes. They consist of 180 grit silicon carbide abrasive globules (stones) bonded to high density nylon filaments. They are flexible, self-compensating for wear. Their unbreakable stones are formulated to provide for a long lasting, consistent finish. Order tool to correspond to tube I.D.

Note : Flex-Hone Abrasive Tools are normally used with a water flush for maximum life.



Flex-Hose Abrasive Tools

U-TUBE TOOL

These tools have either a cup brush, wheel brush or grinding tip attached to a 20”(508.0mm) piece of flexible shaft. They are designed to negotiate the bends of a U-tube from each side to clean the U-portion from both sides.

CUP BRUSH TOOLS - Brass or Stainless Steel.

Tube I.D.		Cup Brush Tools
INCH	MM	
1/2-3/4	12.7-19.1	BCS-075B
1/2-3/4	12.7-19.1	BCS-075S



Cup Brush Tool

Tube I.D.		Wheel Brush Tools
INCH	MM	
1/2-3/4	12.7-19.1	BCW-075B
13/16-1	20.6-25.4	BCW-100B
1/2-3/4	12.7-19.1	BCW-075S
13/16-1	20.6-25.4	BCW-100S



Wheel Brush Tool

Note : U-Tube tool is also available with Cobalt Grinding Tip.

BRUSHES

NYLON BRUSHES Recommended for removing soft deposits (mud, algae, etc.) In straight, non-ferrous tubes. (Copper, brass, plastic, etc.) Order brush to correspond to tube I.D.



Nylon Brush

BRASS BRUSHES Recommended for removing soft and light scale deposits In straight, non-ferrous tubes. Order brush to correspond to tube I.D.



Brass Brush

STAINLESS STEEL BRUSHES Recommended for removing soft soft and light scale deposits In straight, non-ferrous tubes. (Carbon steel, stainless steel, etc.) Order brush to correspond to tube I.D.



Stainless Steel Brush

Brush O.D.		Nylon Brush	Brass Brush	Stainless Steel
INCH	MM			
1.1/4	31.7	SSB-N-012	SSB-N-012	SSB-N-012
1.1/2	38.1	SSB-N-015	SSB-N-015	SSB-N-015
1.3/4	44.5	SSB-N-017	SSB-N-017	SSB-N-017
2	51.0	SSB-N-020	SSB-N-020	SSB-N-020
2.1/4	57.1	SSB-N-022	SSB-N-022	SSB-N-022
2.1/2	63.5	SSB-N-025	SSB-N-025	SSB-N-025
2.3/4	70.0	SSB-N-027	SSB-N-027	SSB-N-027
3	76.2	SSB-N-030	SSB-N-030	SSB-N-030
3.1/4	82.6	SSB-N-032	SSB-N-032	SSB-N-032
3.1/2	89.0	SSB-N-035	SSB-N-035	SSB-N-035
3.3/4	95.2	SSB-N-037	SSB-N-037	SSB-N-037
4	101.6	SSB-N-040	SSB-N-040	SSB-N-040

CLEANING ACCESSORIES



TUBE TOOLS

Brush O.D.		Carbon Brush	Plastic Brush
INCH	MM		
5	127.0	CS - 050	P - 050
6	152.4	CS - 060	P - 060
7	178.0	CS - 070	P - 070
8	203.2	CS - 080	P - 080
9	228.6	CS - 090	P - 090
10	254.0	CS - 100	P - 100
11	279.4	CS - 110	P - 110
12	305.0	CS - 120	P - 120
13	330.2	CS - 130	P - 130
14	355.6	CS - 140	P - 140

CARBON STEEL BRUSHES

Recommended for removing soft and light scale deposits in straight, ferrous tubes. Order brush to correspond to tube I.D.



Carbon Steel Brush

PLASTIC BRUSHES

Recommended for removing soft deposits in straight, ferrous and non-ferrous tubes. Order brush to correspond to tube I.D.



Plastic Brush

POWER SPIN-GRIT BRUSHES Recommended for removing soft and light deposits in straight, ferrous and non-ferrous internally enhanced tubes. The small diameter end of each brush cleans into the grooves of the tube's rifling with the ends of the brush filaments. The large diameter end of the brush cleans the lands of the tube's rifling, as well as any prime surfaces, with the sides of the brush filaments. Order brush to correspond to the I.D.



Power Spin-Grit Brush

PSGB-100 Power Spin-Grit Single Spiral Brush for tubes 1" (25.4mm) I.D.

PSGB-125 Power Spin-Grit Single Spiral Brush for tubes 1.1/4" (31.7mm) I.D.

Note : Brushes over 1" O.D. Require #TCB-C Coupling to Connect to NFSC-705, & NFSC-706 shafts (over couplings supplied with each brush order.)

WHEEL BRUSH ASSEMBLIES To order Wheel Brush Assemblies refer to the table below listing the types of tubes to be cleaned straight or curved.

STRAIGHT TUBE WHEEL BRUSH ASSEMBLIES

Recommended for removing soft and light scale deposits (rust, soot, algae, etc.) In straight tubes. Each assembly consists of four stainless steel wire wheel brushes attached to a universal joint. Brushes should be 1/8" - 1/4" (3.2-6.4mm) smaller than tube I.D. Replacement brush elements are available as shown in the table below.



Straight Brush Assemblies

Curved Tube I.D.		Wheel Brush Assembly	Actual Brush O.D.		Replacement Brushes (2 req.)	Replacement Universal Joint	Replacement Retainer Bolt
INCH	MM		INCH	MM			
1.1/8-1.1/4	28.6-31.7	WBS-100	1	25.4	WBR-100	CUJ-001	SWB-001
1.3/8-1.1/2	36.0-38.1	WBS-125	1.1/4	31.7	WBR-125	CUJ-001	SWB-001
1.5/8-1.3/4	41.3-44.5	WBS-150	1.1/2	38.1	WBR-150	CUJ-001	SWB-001
1.7/8-2	47.6-51.0	WBS-175	1.3/4	44.5	WBR-175	CUJ-002	SWB-002
2.1/8-2.1/4	54.0-57.1	WBS-200	2	51.0	WBR-200	CUJ-002	SWB-002
2.3/8-2.1/2	60.3-63.5	WBS-225	2.1/4	57.1	WBR-225	CUJ-002	SWB-002
2.5/8-2.3/4	66.7-70.0	WBS-250	2.1/2	63.5	WBR-250	CUJ-002	SWB-002
2.7/8-3	73.0-76.2	WBS-275	2.3/4	70.0	WBR-275	CUJ-002	SWB-002
3.1/8-3.1/4	79.4-82.6	WBS-300	3	76.2	WBR-300	CUJ-002	SWB-002

Note : For larger sizes consult factory.

CURVED TUBE WHEEL BRUSH ASSEMBLIES

Recommended for removing soft and light scale deposits in curved tubes. Each assembly consists of a single stainless steel wire wheel brush attached to each end of a universal joint. Brushes should be 1/4" - 3/8"(6.4-9.5mm) smaller than tube I.D. Replacement brush elements are available as shown in the table below.



Curved Tube Wheel Brush Assembly

TUBE TOOLS

Curved Tube I.D.		Wheel Brush Assembly	Actual Brush O.D.		Replacement Brushes (two req.)	Replacement Universal Joint	Replacement Retainer Bolt
INCH	MM		INCH	MM			
1.1/4-1.3/8	31.7-35.0	WBC-100*	1	25.4	WBR-100	CUJ-003*	CWB-001
1.1/2-1.5/8	38.1-41.3	WBC-125*	1.1/4	31.7	WBR-125	CUJ-003*	CWB-001
1.3/4-1.7/8	44.5-47.6	WBC-150*	1.1/2	38.1	WBR-150	CUJ-003*	CWB-001
2-2.1/8	51.0-54.0	WBC-175	1.3/4	44.5	WBR-175	CUJ-002	CWB-002
2.1/4-2.3/8	57.1-60.3	WBC-200	2	51.0	WBR-200	CUJ-002	CWB-002
2.1/2-2.5/8	63.5-66.7	WBC-225	2.1/4	57.1	WBR-225	CUJ-002	CWB-002
2.3/4-2.7/8	70.0-73.0	WBC-250	2.1/2	63.5	WBR-250	CUJ-002	CWB-002
3-3.1/8	76.2-79.4	WBC-275	2.3/4	70.0	WBR-275	CUJ-002	CWB-002
3.1/4-3.1/2	82.6-89.0	WBC-300	3	76.2	WBR-300	CUJ-002	CWB-002

Note : For larger sizes consult factory.

Note : BPTC-706 Coupling required to connect to BPFS-720 and BPFS-721 & BPFS-821 flexible shafts.

BUFFING TOOLS for Tubes/Pipes 1"-3" (25.4-76.2mm) I.D. Stainless Steel Wire Buffing Tool are used for light to medium scale deposits of for finishing tubes previously "roughed out" with other cleaning tools. They can be used in both ferrous and non-ferrous tubes. Buffing tool are normally used in straight tubes but will go through very large radius bends.



Buffing Tool



Replacement Blades



Buffing Tool with Drill Tip

BPTC-223 Adjustable Buffing Tools for tubes 1"-3" (25.4-76.2mm) I.D.

BPTC-223DT Adjustable Buffing Tools for tubes 1"-3" (25.4-76.2mm) with drill up

BPTC-224 Replacement Blades for BPTC-223.

CARBIDE DRILLS for Plugged Tubes/Pipes Carbide Drills are used for cleaning straight tubes plugged solidly with scale or deposit.



Carbide Drill

Tube I.D.		Carbide Drill
INCH	MM	
3/4	19.1	BCB-075
7/8	22.2	BCB-088
1	25.4	BCB-100

Note : All drills run 10% oversize [e.g. CB-075 Drills is 0.825" (21.0mm) O.D.]

FLEX-HONE ABRASIVE TOOLS for Tubes/Pipes 1.1/4" (31.7mm) I.D. and UP Flex-Hone Abrasive Tool are light pressure, soft application honing devices for straight tubes. They consist of 180 grit silicon carbide abrasive globules (stones) bonded to high density nylon filaments.

They are flexible, self-centering, self-aligning and self compensating for wear. Their unbreakable stones are formulated to provide for a long lasting, consistent finish. Order tool to correspond to tube I.D.



Flex-Hone Abrasive Tool

Note : For larger sizes consult factory. Flex-Hone Abrasive Tools are used with water flush for maximum life.

Tube I.D.		Flex-Hone Abrasive Tools
INCH	MM	
1.1/4	31.7	FHT-125
1.1/2	38.1	FHT-150
1.3/4	44.5	FHT-175
2	51.0	FHT-200
2.1/4	57.1	FHT-225
2.1/2	63.5	FHT-250
2.3/4	70.0	FHT-275
3	76.2	FHT-300

CONE CUTTER ASSEMBLIES Cone Cutter Assemblies are used for removing scale from curved and straight tubes. Assemblies are slightly smaller than tube I.D. Scale is cut at the smaller tapered end finished at the larger end. The rotation of the tool ensures a through cleaning. In water tube boiler, cone cutters are the most effective cleaning tools for all conditions. To order refer to the tables below.

SINGLE AND DOUBLE CONE ASSEMBLIES

Assemblies consisting of one or two cone elements are used for cleaning straight tubes 1.1/8" - 2.5/16" (28.6-58.7mm) I.D. And curved tubes 1 1/4" - 2.3/8" (31.7-60.3mm) I.D.

Straight Tube I.D.		Curved Tube I.D.		Complete Single Cone Assembly	Complete Double Cone Assembly	Cone Max		Replacement Cone Only	Universal Joint	Single Cone Bolt	Double Cone Bolt
INCH	MM	INCH	MM			INCH	MM				
1.1/8-1.1/4	28.6-31.7	1.1/4-1.3/8	31.7-35.0	BSCA-100	BDCA-100	1	25.4	RCO-100	CUJ-001	CRB-001	DCB-001
1.5/16-1.3/8	33.3-35.0	1.1/2-1.5/8	38.1-41.3	BSCA-112	BDCA-112	1.1/8	28.6	RCO-112	CUJ-002	CRB-002	DCB-002
1.7/16-1.1/2	36.5-38.1	1.3/4-1.7/8	44.5-47.6	BSCA-125	BDCA-125	1.1/4	31.7	RCO-125	CUJ-002	CRB-002	DCB-002
1.9/16-1.3/4	39.7-44.5	2-2.1/8	51.0-54.0	BSCA-150	BDCA-150	1.1/2	38.1	RCO-150	CUJ-002	CRB-002	DCB-002
1.13/16-2	46.0-51.0	2.1/4-2.3/8	57.1-60.3	BSCA-175	BDCA-175	1.3/4	44.5	RCO-175	CUJ-002	CRB-002	DCB-002
2.1/16-2.5/16	52.4-58.7			BSCA-200	BDCA-200	2	51.0	RCO-200	CUJ-002	CRB-002	DCB-002



Replacement Cone



Single Cone Assembly



Double Cone Assembly



Disc Cone Assembly

DISC CONE ASSEMBLIES Assemblies consisting of three cones are used for cleaning straight tubes 2.3/8"-3.3/4" (60.3-95.2mm) I.D. and curved tubes 2.1/2"-4" (63.5-101.6mm) I.D.

Straight Tube I.D.		Curved Tube I.D.		Complete Disc Cone Assembly	Replacement Cone Only (three req.)	Disc Only (less cones)	Universal Joint	Cone Retainer Bolt (three req.)
INCH	MM	INCH	MM					
2.3/8-2.13/16	60.3-71.4	2.1/2-3.1/16	63.5-77.8	BDC-101	PCO-100	PCD-101	CUJ-002	CRB-001
2.7/8-3.5/16	73.0-84.1	3.1/8-3.5/8	79.4-92.1	BDC-102	PCO-100	PCD-102	CUJ-002	CRB-001
3.3/8-3.3/4	85.7-95.2	3.11/16-4	93.7-101.6	BDC-103	PCO-112	PCD-102	CUJ-002	CRB-002

FLEX HUB TOOLS Flex Hub Tools use centrifugal force activated blades for removing hard and heavy deposits in straight or curved tubes. A drill can be attached to the front of the BPTC-227 or BPTC-231 Flex Hub to clean severely clogged tubes.

Straight Tube I.D.		Curved Tube I.D.		Flex Hub Assembly
INCH	MM	INCH	MM	
7/8-11/2	22.2-38.1	1-1.3/4	25.4-44.5	BPTC-226
1.1/2-2	38.1-51.0	1.3/4-2.1/2	44.5-63.5	BPTC-231
1.3/4-3	44.5-76.2	2.1/2-3	63.5-76.2	BPTC-227



Flex Hub Assembly



Replacement Blades



Universal Joint



Carbide Drill

BPTC-223 Replacement Blades for BPTC-226 (set of three).

BPTC-231A Replacement Blades for BPTC-231 (set of three).

BPTC-227A Replacement Blades for BPTC-227 (set of three).

CB-088 Drill to be attached to BPTC-227 Flex Hub Assembly for use when tubes are severely clogged.

CB-075 Drill to be attached to BPTC-231 Flex Hub Assembly for use when tubes are severely clogged.

CUJ-002 Universal Joint for use with above Flex Hub Assemblies when minimum tube bend radius is less than 5x tube I.S. (Consult factory).

DRILL CONE ASSEMBLIES FOR Plugged Tubes/Pipes 1"-1.7/8" (25.4-47.6mm) I.D.

Drill/ Cone Assemblies are recommended for cleaning straight tubes plugged solidly with deposits. Order assembly to corresponded to Tube I.D. All drill run 10% oversize.

TUBE TOOLS

Tube I.D.		Drill Cone Assembly
INCH	MM	
1	25.4	DC-100
1.1/8	28.6	DC-112
1.1/4-1.3/8	31.7-35.0	DC-125
1.1/2-1.5/8	38.1-41.3	DC-150
1.3/4-1.7/8	44.5-47.6	DC-175



Drill/Cone Assembly

ROTATING CUTTING WHEEL TOOLS for Tubes/Pipes 1.1/2" - 3.15/16" (38.1 - 100.0mm) I.D. Rotating Cutting Wheel Tools incorporate self-centering, centrifugally activated serrated cutting wheels for removing light to heavy deposits in straight or curved tubes, typically in boilers.

Tube I.D.		Cutting Wheel Tools
INCH	MM	
1.1/2-1.13/16	38.1-46.0	BRCW-150
1.7/8-2.3/16	47.6-55.6	BRCW-187
2.1/4-3.1/8	57.1-79.4	BRCW-225
3.3/16-3.15/16	81.0-100.0	BRCW-312



Rotating Cutting Wheel Tools

CW-062 Replacement Cutting Wheel for BRCW-150 or BRTC-187.

CW-093 Replacement Cutting Wheel for BRCW-225 or BRTC-312.

FLARE CONE TOOLS for Tubes/Pipes 1.3/4" - 6.1/2" (44.5-165.1mm) I.D. **(Rigid Arm)**

Rigid Arm Flare Cone Tools incorporate centrifugal force activated, cones for removing light to heavy deposits in straight tubes.



Rigid Arm Flare Cone Tool

Tube I.D.		Flare Cone Tools
INCH	MM	
1.3/4-4	44.5-101.6	BFCT-300
4-6.1/2	101.6-165.1	BFCT-301



Flexible Arm Flare Cone Tool

BRCO-100 Replacement Cone (three required).

BCRB-001 Replacement Cone Retainer Bolt (three required).

For Tubes/Pipes 4"-12" (101.6-305.0mm) I.D. **(Flexible Arm)**

The Flexible Arm Flare Cone Tool incorporates centrifugal force activated cones for removing light to heavy scale deposits in straight or curved tubes. Use typically in vertical tubes.

BFCT-600 Flexible Flare Cone Tool **4"-12" (101.6-305.0mm) I.D**

BRCO-001 Replacement Cone (six required).

BCRB-001 Replacement Cone Retainer Bolt (six required).

FLARE BRUSHES for Tubes/Pipes 1"-8" (25.4-203.2mm) I.D. Flare Brushes incorporated centrifugal force activated wire cables with cobalt tips for light descaling and polishing of straight or curved tubes.

Tube I.D.		Flare Brushes
INCH	MM	
1-2	25.4-51.0	BFBT-301
2-4	51.0-101.6	BFBT-501
4-8	101.6-203.2	BFBT-502



Three Strand Flare Brush Five Strand Flare Brush

NOTE : We also manufacture Universal Nylon Rod Tool.

TUBE TOOLS

Vessel	Type of Tube	Deposit	Machine	Cleaning Tools
Heat Exchanger Condenser	Non-Ferrous Straight 1/4"-1" (6.4-25.4mm)	Soft Deposits	BPC-3, BPC-4, BPC-P	Nylon Brush
Heat Exchanger Condenser	Non-Ferrous Straight 1/4"-1" (6.4-25.4mm)	Medium to Hard Scale	BPC-4, BPC-5	Carbide Drill
Heat Exchanger Condenser	Non-Ferrous U-Tube 1/2"-1"(12.7-25.4mm)	Soft Deposit	BPC-3, BPC-4, BPC-P	Cup Brush, Wheel Brush
Heat Exchanger Condenser	Non-Ferrous U-Tube 1/2"-1"(12.7-25.4mm)	Hard Scale or Blockage	BPC-5, BPC-6	Cobalt Tip Top
Heat Exchanger Condenser	Ferrous Straight 1/4"-1"(6.4-25.4mm)	Soft Deposit Light Scale	BPC-3, BPC-4, BPC-P	Stainless Steel brush
Heat Exchanger Condenser	Non-Ferrous U-Tube 1/2"-1"(12.7-25.4mm)	Too Hard Scale	BPC-5, BPC-6	Carbide Drill, Wheel Brush Toll
Heat Exchanger Condenser	Non-Ferrous U-Tube 1/2"-1"(12.7-25.4mm)	Soft Deposit light Scale	BPC-4, BPC-5, BPC-P	Cup Brush, Wheel Tool
Heat Exchanger Condenser	Non-Ferrous Straight 1/4"-1" (6.4-25.4mm)	Hard Scale or Blockage	BPC-6	Cobalt Tip Tool
Heat Exchanger Condenser	Non-Freeous or Ferrous Straight	Medium to hard Scale	BC-10 with Hollow Tube	Buffing Tool with Drill Tip, Drill
Heat Exchanger Condenser	Ferrous 3/16"-3/8" I.D.(4.8-9.5mm)	Hard Scale Blockage	BC-10	Hollow Drills (other diameters and lengths available on request.
Heat Exchanger Condenser	Non-Ferrous or Ferrous Straight 3/16"-3/8" I.D.	Hard Scale Blockage	BC-315	Carbide Drills
Heat Exchanger Condenser	7/8"-2" I. D. (22.2-51.0mm)	Choked Tubes	BC-10	Carbide Drills
Heat Exchanger Condenser	Non-Ferrous or Ferrous Straight	Medium to Hard Scale	BC-10 with Hollow tube	Carbide Drills
Heat Exchanger Condenser	3/16"-1" I. D. (4.8-25.5mm)	Deposit	BPC-5, BPC-6	Buffing tool, Wing Tool-Flexible Arm-Carbide ball Tip,
Heat Exchanger Condenser	Non-Ferrous Straight 1"-14" I. D.	Soft Deposit	BPC-5	carbon Steel Brush
Heat Exchanger Condenser	Ferrous Straight 1"-14" I.D.(25.4-355.6mm)	Soot and Light Scale	BFM-50, BFM-75	Double spiral brush, Tool Head Cutter
Fire Tube Boiler	Straight Steel 1.3/8"-4" O. D. (35.0-101.6mm)	Soft & Light Scale	BPC-5, BPC-6	Nylon Brush and plastic Brush
Fire Tube Boiler	Straight Steel 1.3/8"-4" O. D. (35.0-101.6mm)	Medium To Hard Scale	BPC-5	Buffing Tool, CBTS Series Brush
Vacuum Pan, JuiceHeater	Straight Steel 1.3/8"-4" O. D. (35.0-101.6mm)	Medium To Hard Scale	BFM-30	Scraper Tool, Cone Cutter Tool, Wing Tool-Stif Arm Cutter
Vacuum Pan, JuiceHeater	Ferrous Straight 1.18"-1.49" I.D. (30.0-38.0mm)	Soft Deposits, light Scale	BFM-50	HZ Cutter, H Cutter, TH Brush, WBA brush, DS Brush
Vacuum Pan, JuiceHeater	Ferrous Straight 1.53"-2.55" I.D. (38.4-65.0mm)	Medium to Hard Scale	BFM-75	DS Brush, WEB Brush
Water Tube Boiler	Ferrous Straight 2.59"-3.93" I.D. (66.0-100.0mm)	Medium to Hard Scale	BFM-50	Tool Head Cutter, Wing Tool-Flexible Arm-Carbide Ball
Water Tube Boiler	Straight Steel 1"-3.1/4" I.D. (25.4-82.6)	Hard Scale	BFM-50	Tool Head Cutter, Turk Head Brushes



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CLEANER SPECIFICATIONS QUICK REFERENCE GUIDE

Model	Tube Size	Motor Power	Source	Speed
BPC-3	1/4"-1" I.D (6.4-25.4mm)	3/4 HP (0.60kW)	Electric 110 or 220v, 50 or 60 Hz	910 rpm
BPC-4	1/4" & UP (6.4mm & UP)	1 HP (0.75 kW)	Electric 110 or 220v, 50 or 60 Hz	910 rpm
BPC-5	1/4"& 1.1/2" (6.4mm-38.1mm)	2 HP (1.50kW)	Electric 110 or 220v, 50 or 60 Hz	910 rpm
BPC-6	1/4"& 1.1/2" (6.4mm-38.1mm)	2 HP (1.50kW)	Electric 110 or 220v, 50 or 60 Hz	1440 rpm
BPC-P	1/4"-1" I.D. (6.4mm-25.4mm)	1/2 HP (0.40kW)	Electric 110 or 220v, 50 or 60 Hz	1440 rpm
BC-10	1/2" - 1.1/4" (12.7mm-32.0mm)	0.6 HP (0.45kW)	Air:Min.60psi@16cfm	700rpm
BC-750	7/8"-2" (22.1mm-50.8mm)	1HP (0.75kW)	Air:Min.90psi@20cfm	1000 rpm
BFM - 30	0.86"-1.1/2" (22.0mm-38.1mm)	3HP (2.238kW)	Electric 440 or 220v, 50 or 60 Hz	2800rpm
BFM - 50	1.1/2"-4" (38.1mm-101.6mm)	5HP (3.73kW)	Electric 440 or 220v, 50 or 60 Hz	2800rpm
BFM - 75	1.1/2"-6" (38.1mm-152.4mm)	7.5HP (5.62kW)	Electric 440 or 220v, 50 or 60 Hz	2800rpm

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