

For Tube I.D. 1.1/8" to 6"



For Evaporator,
Juice Heater, Pan,
Boiler & other Process Equipments.

For Tube I.D. 1/4" to 1"



For Condenser,
Oil Chillers,
Distillery Chillers,
Heat Exchanger & other
Process Equipments.

Manufacturer & Exporter of:

Tube Cleaning Equipments such as Flexible Shafts, Brushes, Cutters, Tube Expanders, Construction Equipments Concrete Vibrators, Flexible shaft Grinders & Accessories.



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.



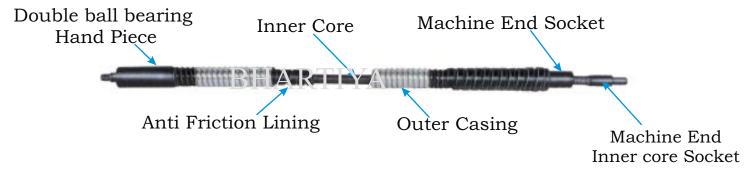
OEPN SYSTEM

CLOSE SYSTEM

Model No.	Motor HP	Power kW	Electric Supply	Speed RPM	Tube Mm.	I. D. Inch
BFM -10	1.0	0.746	440 V	1400	15.87- 22.0	5/8"-0.82"
BFM -30	3.0	2.238	3 Phase 50 C/S A/C	2800	22.0- 38.10	0.86"-1.1/2"
BFM -50	5.0	3.730	50 C/S A/C	2800	38.10-50.80	1.1/2"-2.0"

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

'Bharatflex' 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.



Connection:

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

INI	NER COF		6.4MM (1/4")	9.5MM (3/8")	11.0 MM (7/16")	12-13MM (½")	15-16MM (5/8")	19.0 MM (3/4")
OUTER CASING MM (INCH)		14.5 MM (0.57")	19.0 MM (3/4")	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.	MODEL NO.	MODEL NO.
6.0	20.0	1	BFS-101-20	BFS-102-20	BFS-104-20	BFS-105-20	BFS-106-20	BFS-107-20
7.5	25.0	2	BFS-101-25	BFS-102-25	BFS-104-25	BFS-105-25	BFS-106-25	BFS-107-25
8.0	27.0	3	BFS-101-27	BFS-102-27	BFS-104-27	BFS-105-27	BFS-106-27	BFS-107-27
9.0	30.0	4	BFS-101-30	BFS-102-30	BFS-104-30	BFS-105-30	BFS-106-30	BFS-107-30
10.0	33.0	5	BFS-101-33	BFS-102-33	BFS-104-33	BFS-105-33	BFS-106-33	BFS-107-33
12.0	40.0	6	BFS-101-40	BFS-102-40	BFS-104-40	BFS-105-40	BFS-106-40	BFS-107-40
15.0	50.0	7	BFS-101-50	BFS-102-50	BFS-104-50	BFS-105-50	BFS-106-50	BFS-107-50
18.0	60.0	8		BFS-102-60	BFS-104-60	BFS-105-60	BFS-106-60	BFS-107-60
20.0	65.0	9		BFS-102-65	BFS-104-65	BFS-105-65	BFS-106-65	BFS-107-65
25.0	82.5	10		BFS-102-82	BFS-104-82	BFS-105-82	BFS-106-82	BFS-107-82
30.0	100.0	11		BFS-102-100	BFS-104-100	BFS-105-100	BFS-106-100	BFS-107-100
Spare Ir	Spare Inner Core Per Meter		BIC-101	BIC-102	BIC-104	BIC-105	BIC-106	BIC-107
Spare Ou	uter Casing	Per Meter	BOC-101	BOC-102	BOC-104	BOC-105	BOC-106	BOC-107
Sp	are Hand F	Piece	BHP-101	BHP-102	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.



OPEN BODY CLOSED BODY

Serial No.		Tube I. D.	Tool Head	Cutters Wheel	Spare Arms
	Mm.	Inch		Set of 15 rollers	oparo 7 timo
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:



'T' SERIES Single layer

'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	e I. D.	Tool Head	Cutters Wheel Set of 3 rollers	Spare Arms
	Mm.	Inch	Model No.	Model No.	Model No.
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	Cone Cutter Set of 3 rollers	Spare Arms	Universal Joint
	Mm.	Inch Model No.		Model No.	Model No.	Model No.
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



WIRE BRUSHES





BRUSH

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



CUP SHAPE BRUSH

Max. Size of brush:
6" (152.4mm)
Purpose: For cleaning more space or where rotary brush can not be used.



CIRCULAR WHEEL BRUSH

Max. Size of brush:
6" (152.4mm)
Thickness: ½" to 2"
Purpose: For polishing,
deburing & cleaning
of tube

			(DT)	(DOC)	(DOM!)
Serial No.	Siz	ze	'BT' Turk Head Brush	'BCS' Cup Shape Brush	'BCW' Circular Wheel Brush
Conar ito.	Mm.	Inch	Model No.	Model No.	Model No.
1	31.7	1.1/4	BT-10		BCW-10
2	35.0	1.3/8	BT-11		BCW-11
3	38.1	1.1/2	BT-12		BCW-12
4	41.3	1.5/8	BT-13		BCW-13
5	44.5	1.3/4	BT-14		BCW-14
6	47.6	1.7/8	BT-15		BCW-15
7	51.0	2	BT-16	BCS-16	BCW-16
8	54.0	2.1/8	BT-17	BCS-17	BCW-17
9	57.1	2.1/4	BT-18	BCS-18	BCW-18
10	60.3	2.3/8	BT-19	BCS-19	BCW-19
11	63.5	2.5/8	BT-20	BCS-20	BCW-20
12	66.7	2.5/8	BT-21	BCS-21	BCW-21
13	69.8	2.3/4	BT-22	BCS-22	BCW-22
14	73.0	2.7/8	BT-23	BCS-23	BCW-23
15	76.2	3	BT-24	BCS-24	BCW-24
16	79.4	3.1/8	BT-25	BCS-25	BCW-25
17	82.5	3.1/4	BT-26	BCS-26	BCW-26
18	85.7	3.3/8	BT-27	BCS-27	BCW-27
19	88.9	3.1/2	BT-28	BCS-28	BCW-28
20	92.1	3.5/8	BT-29	BCS-29	BCW-29
21	95.2	3.3/4	BT-30	BCS-30	BCW-30
22	98.4	3.7/8	BT-31	BCS-31	BCW-31
23	101.6	4	BT-32	BCS-32	BCW-32

NOTE: All Above Brushes are available with Spring Steel wire, Stainless Steel wire or Brass wire. For detail about gauge of wire, arbor bore of brushes, please contact us.



WIRE BRUSHES



STEEL





SINGLE SPIRAL Brushes

NYLON

Max. Size of Brush: 2" (50.8mm). Wire fill Material: Nylon, Brass, Stainless Steel.

'BWBA' **Shuttle Cock Brushes** Brushes

Max. Size of Brush: 4" (101.6mm). Wire fill Material: Steel. Stainless Steel.

SELF EXPANDING Brushes

Max. Size of Brush: 4" (101.6 mm). Wire fill Material: Steel.

Serial No.	Siz	ze	'SSB' Single Spiral Brush	'BWBA' Shuttle Cock Brush	'BEXP' Self Expanding Brush
	Mm.	Inch	Model No.	Model No.	Model No.
1	6.40	1/4	SSB-204	_	_
2	12.7	1/2	SSB-208	_	_
3	19.1	3/4	SSB-212	_	_
4	25.4	1	SSB-216	_	_
5	31.7	1.1/4	SSB-220	BWBA-220	BEXP-220
6	38.1	1.1/2	SSB-222	BWBA-222	BEXP-222
7	44.4	1.3/4	SSB-224	BWBA-224	BEXP-224
8	50.8	2	SSB-226	BWBA-226	BEXP-226
9	57.1	2.1/4	SSB-228	BWBA-228	BEXP-228
10	63.5	2.1/2	SSB-230	BWBA-230	BEXP-230
11	69.8	2.3/4	SSB-232	BWBA-232	BEXP-232
12	76.2	3	SSB-234	BWBA-234	BEXP-234
13	82.5	3.1/4	SSB-236	BWBA-236	BEXP-236
14	88.9	3.1/2	SSB-238	BWBA-238	BEXP-238
15	95.2	3.3/4	SSB-240	BWBA-240	BEXP-240
16	101.6	4	SSB-242	BWBA-242	BEXP-242

NOTE: INTERMEDIATE SIZES FOR ALL ABOVE BRUSHES ARE AVAILABLE



PNEUMATIC 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.	Tu	be ID	Bend Tube	Straight Tubes
01.110.	MM	Inches	Model	Model
1	42.0-50.8	1.5/8-2	B6051	B6351
2	50.8-57.1	2-2.1/4	B6057	B6357
3	57.1-63.5	2.1/4-2.1/2	B6063	B6363
4	63.5- 69.9	2.1/2-2.3/4	B6069	B6369
5	69.9-76.2	2.3/4-3	B6076	B6376
6	76.2-88.9	33.1/2	B6088	B6388
7	88.9-101.6	3.1/2-4	B6101	B6401

NOTE: A. 6000 SERIES, AIR MOTOR CAN BE USED FOR STRAIGHT TUBES ALSO,

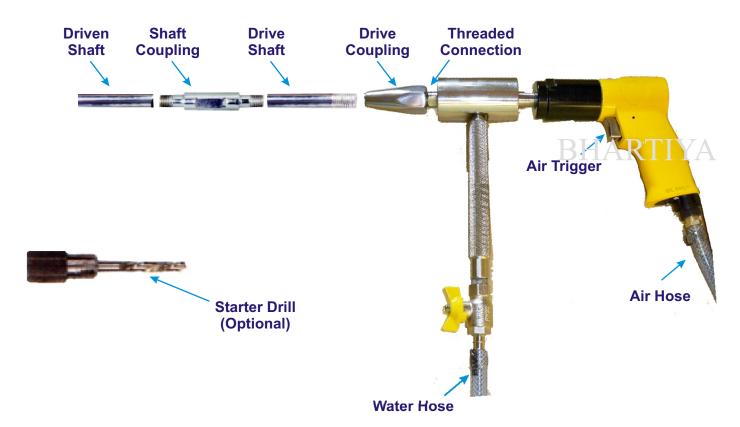
B. TUBE CLEANER AIR MOTOR FROM 3/4" TO 1.1/2" OR ABOVE 4" TO 6" CAN BE SUPPLIED AGAINST SPECIFIC REQUIREMENT

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 exits.
- 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.



Portable 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 severly clogged tubes, brushes for light deposits & buffing tools for final polishing. The rotation of air motor & the water flow are controlled independently.

Model	Motor Power Tube ID		Speed	Air S	Water Supply	Weight				
No.	HP	kW	Inch	mm	RPM	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 - 330	1	0.746	7/8-2	22.2-51.0	1000	90psi@20cfm	90psi@40cfm	30psi 100psi	6.60	3.0

- Model BC-20 is generally used for oil coolers, small heat exchanger and condensers.
- Model BC-330 is generally used for large diameter tubes of process equipment condensers and heat exchangers.





Cleaning Tools for Portable Pneumatic Tube Cleaners

Carbide Drills



Nylon Brushes



Brass Brushes



Stainless Steel Brushes



Buffing Tools



Portable Pneumatic Tube Cleaners Kits



- Kit consist of 1 drive (BC 20 or BC 330), 4 nos. of hollow drive shafts, 1 no. of hollow driven shafts, 5 nos. of shaft coupling, drive coupling based on length of tube to be cleaned and 20 cleaning tools (carbide drill, brushes, buffing tool).
- All above tools will be supplied in a handy metal box.

Note: For model nos. of all tools, please send us your enquiry.



Condenser/Heat Exchanger Tube Cleaners

ELECTRIC TUBE CLEANERS: ('BPC-4' 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.

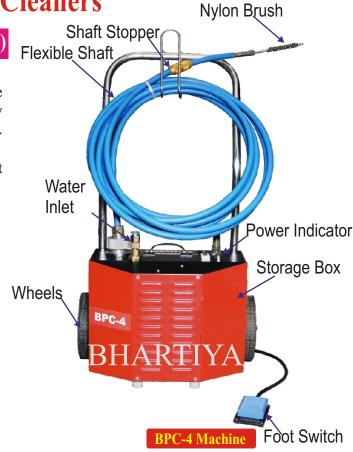
All units are available with following specifications:

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.	Moto	r	Tub	e ID	Speed
	HP	kW	inch	mm	RPM
BPC-2	0.50	0.40	1/4 -1	6.4 - 25.4	870
BPC-3	1.00	0.75	1/4 -1	6.4 - 25.4	870
BPC-4	1.00	0.75	1 & up	25.4 & up	1440
BPC-5	2.00	1.50	_	25.4 & up	



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		Tub	e ID	Speed	
	HP	kW	inch	mm	RPM	
BPC-P	0.50	0.40	1/4 -1	6.4 - 25.4	1440	

BHARTIYA

BPCP Model
by
Bhartiya Industries (India)

Water Inlet

Nylon Brush

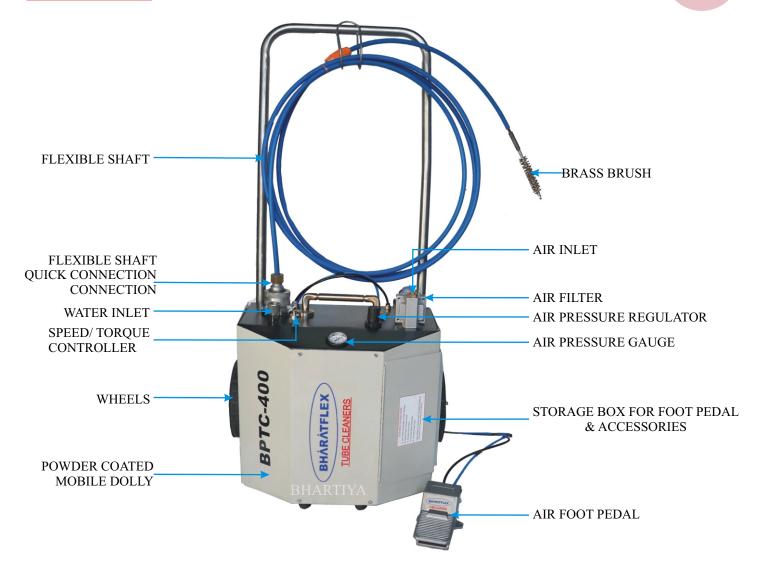
All units available with various electrical specification: 115v 60 Hz, 115v 50Hz - 9 Amps.220 v 60 Hz, 220v 50Hz -4.5 Amps. Please specify while ordering.

BPC-P Machine



Pneumatic Tube Cleaners





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

BHARATFLEX 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.

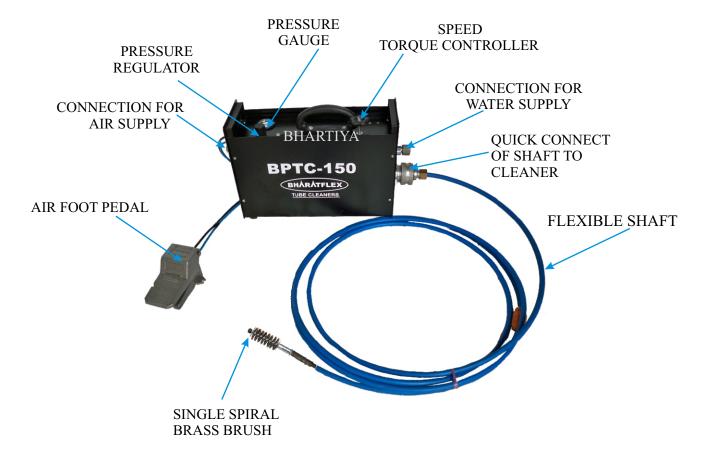
The BPTC- 400 uses a cleaning tool mounted to the tip of a flexible shaft, which is available in different lengths and diameters to fit the size of the tube to be cleaned. For wet applications as the shaft rotes inside ats watertight nylon casing, the unit feeds water through the casing to the cleaning 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	Tube I.D Tube Cleaner		Motor Power Motor Speed		Weight		Dimension			
Mm	Inch	Model No.	HP	KW	RPM	Lbs.	Kg.	High	Wide	Deep
6.4 & UP	1/4 & UP	BPTC-400	4	3	0-3000	64	29	38"(975mm)	22"(560mm)	16"(406mm)



Portable Pneumatic Tube Cleaners





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 waterflow softens the deposits before cleaning and flushes them out during cleaning

Tube I.D		Tube Cleaner	Motor Power		Motor	Air Supply		Weight		Dimension		
Mm	Inch	Model No.	HP	KW	Speed RPM	Min	Max	Lbs.	Kg.	High	Wide	Deep
6.4 & UP	1/4 & UP	BPTC-150	1.5	1	0-3000	a a	100psi @ 70cfm	64	29	10.3/8"(264mm)	6"(150mm)	19"(483mm)



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

While ordering flexible shafts & 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,

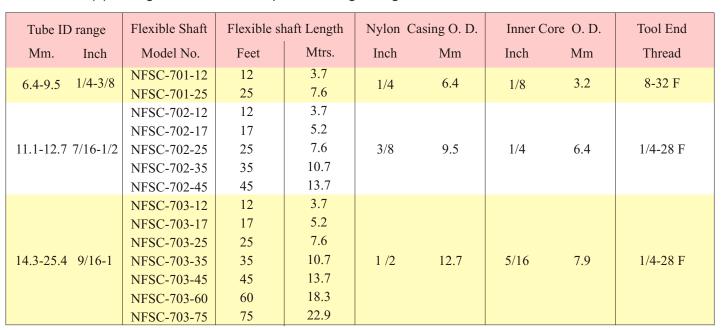
To order flexible shaft (s) determine tube I.d. & Length of longest tube (s). Order flexible shaft(s) to correspond with tube I. D.(s), & length. Please ask for special or longer length.

Shaft Stopper

Internally Lubricated

Inserts

Aluminium Cap



MODEL BPC3-45 CHILLER TUBE CLEANING SYSTEM:

Model No. BPC3-45 chiller tube cleaning system uses a 3/4 HP motor for tougher deposits. A 2 directions foot switch is provided for cleaning internally enhanced tubes.

CONTENTS:

- BPC-3 Tube cleaners-1
- NFSC-703-45 Flexible Shafts-2
- Nylon Brush (Specify Size)- 25
- Two Direction Foot Switch-1
- 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, & 2 bottles of lubricant Tubes.



BHARTIYA INDUSTRIES

WORKS: PLOT NO. 268, DIGVIJAY INDUSTRIAL ESTATE NO.2, UPAVAN, POKHARAN ROAD NO.1, THANE (W) M.S., INDIA - 400603 OFFICE: G-201, USHA COMPLEX, KHANDELWAL MARG, BHANDUP (W.), MUMBAI -400078, INDIA

PH.: +91-22-2585 4509, 6505 6400, 2566 6421, 2588 3527 FAX: +91-22-2588 3527.

E-mail: bharatflex@yahoo.com

Website: www.bharatiyaindustries.com, www.tubecleaner.co.in

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