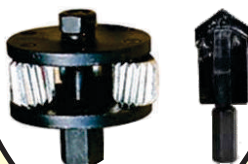
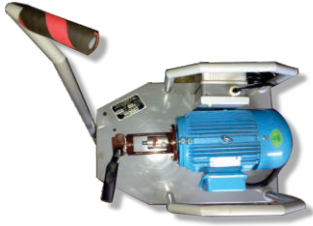


POWERFLEX[®]

HEAVY DUTY

MANUFACTURERS & EXPORTERS OF

TUBE CLEANING & TUBE EXPANDING EQUIPMENT



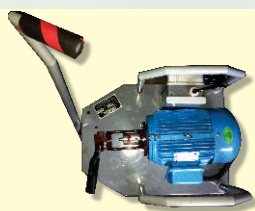
**CUT HEAT LOSSES
REDUCE FUEL BILLS
REDUCE DOWNTIME
CUT CLEANING COSTS
INCREASE EFFICIENCY**

**GUARANTEED
THOROUGH
CLEANING**

**IN BOILERS
AIR HEATERS
CONDENSERS
EVAPORATORS
VACUUM PANS**

TUBE CLEANING MACHINES (Electric 400/440v, 3 Phase Ac)

POWERFLEX®
HEAVY DUTY



Single Speed Machine

Multispeed Machine

Electrically operated for cleaning straight and curved tubes in Boilers and process plants.

POWERFLEX Flexible Shaft Machines are of robust construction, simple to operate by unskilled workmen and will give trouble free service with minimum maintenance.

It is a self-contained portable unit mounted on 3 wheel trolley, fitted with a lifting or carrying handle. It consists of a TEFC, continuously rated, squirrel cage, 400/440 volts, 3 phase, 50 C/S, A.C. electric motor. The motor H.P. and speed according to choice. (Standard machines with H.P. 3, 5 & 7.5 and speed 2880 or 1440 r.p.m.)

It is controlled by a push button starter, which also embodies single phasing protection (3 phase), as well as overload and under voltage protection. In addition it is also ambient temperature compensated.

Each machine is fully wired, carefully tested and is fitted with a 20 feet length of PVC cable to the main supply.

MODEL NO.	MOTOR H.P	MOTOR MAKE	SHAFT LENGTH		DESCALE TUBE I.D
			MTRS	FEET	
FM-30-P	3.0	POWERFLEX	10	33	UPTO 2"
FM-30-K	3.0	KIRLOSKAR	10	33	
FM-50-P	5.0	POWERFLEX	20	70	UPTO 4"
FM-50-K	5.0	KIRLOSKAR	20	70	
FM-75-P	7.5	POWERFLEX	30	100	UPTO 4"
FM-75-K	7.5	KIRLOSKAR	30	100	
MOTOR : 1440 OR 2800 R.P.M.TEFC, SQUIRREL CAGE STARTER : DOL WITH OVERLOAD TRIP RELAYS ELCTRIC SUPPLY : 400/440 VOLTS, 3 PHASE, 50 C/S, A.C. (ALTERNATE SUPPLIES ARE ALSO AVAILABLE)					

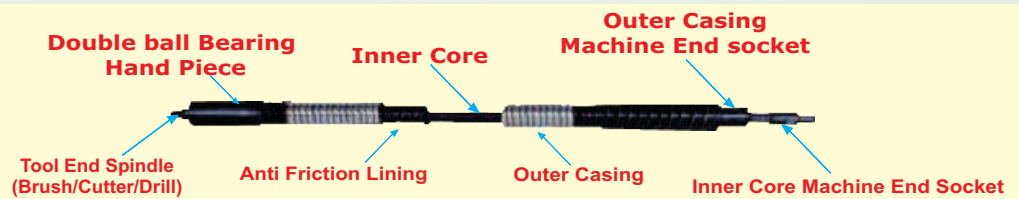
Multispeed Machine :

Powerflex makes multispeed tube cleaning machine electrical, pulley type with "V" belt drive for variable speed provided with 3 grooves pulley to give 3 speeds.

fitted with 1440 rpm motor will deliver speeds of 750 rpm, 1440 rpm & 2800 rpm.

fitted with 2800 rpm motor will deliver speeds of 1440 rpm, 2800 rpm & 5600 rpm.

FLEXIBLE SHAFTS/DRIVES (Outer Casing Round Or Interlock Design)



Flexible shaft is a complete mechanism capable of transmitting rotary power from the motor unit to the tool head or brush within the tube. The size of the flexible shaft is based on internal diameter (ID.) of the tube.

INNER WIRE CORE is flexible shaft's most important working element. It is designed and constructed to meet power drive operating conditions that include torque, speed, length and minimum bend radius. At the centre of the core is a single wire around which successive multi-stranded layers of wire are wrapped. Each layer is wound in the opposite direction and at right angles to the layer directly beneath it. The direction in which the wire on the outer most layer is wound determines the direction in which the shaft is designed to rotate.

OUTER CASING made of galvanized steel / rubber hose and internally reinforced with antifriction lining to support the wire core and resist helixing under torque loading. It does not rotate and it functions as a cover to protect the core.

HANDPIECE is attached to one end of the shaft, either detachable or fixed type, with threaded spindle to connect tool heads or brushes, with two nos ball bearing

MOTOR COUPLING is fitted to the other end of the shaft, either threaded type or pin type. The length of the 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.

INNER CORE MM (INCH)		12 - 13 (1 / 2")	15 - 16 (5.8")	19 (3 / 4")
OUTER CASING MM (INCH)		25 - 26 (1")	30 - 32 (1.1 / 4")	35 - 36 (1.3 / 8")
METER	FEET	CODE NO.	CODE NO.	CODE NO.
6.0	20.0	PFS - 1326 - 20	PFS - 1632 - 20	PFS - 1935 - 20
7.5	25.0	PFS - 1326 - 25	PFS - 1632 - 25	PFS - 1935 - 25
8.0	27.0	PFS - 1326 - 27	PFS - 1632 - 27	PFS - 1935 - 27
9.0	30.0	PFS - 1326 - 30	PFS - 1632 - 30	PFS - 1935 - 30
10.0	33.0	PFS - 1326 - 33	PFS - 1632 - 33	PFS - 1935 - 33
12.0	40.0	PFS - 1326 - 40	PFS - 1632 - 40	PFS - 1935 - 40
15.0	50.0	PFS - 1326 - 50	PFS - 1632 - 50	PFS - 1935 - 50
18.0	60.0	PFS - 1326 - 60	PFS - 1632 - 60	PFS - 1935 - 60
20.0	65.0	PFS - 1326 - 65	PFS - 1632 - 65	PFS - 1935 - 65
22.0	70.0	PFS - 1326 - 70	PFS - 1632 - 70	PFS - 1935 - 70
25.0	75.0	PFS - 1326 - 75	PFS - 1632 - 75	PFS - 1935 - 75
SPARES		CODE NO.	CODE NO.	CODE NO.
Inner Core		PIC - 1300	PIC - 1600	PIC - 1900
Outer Casing		POC - 2600	POC - 3200	POC - 3500
Ball Bearing Hand Piece Code		HP - 3000	HP - 3500	HP - 3800
Socket Inner Core Tool End		STE - 13T	STE - 16T	STE - 19T
Socket Inner Core Motor End (Screw Type)		SME - 13S	SME - 16S	SME - 19S
Socket Inner Core Motor End (Pin Type)		SME - 13P	SME - 16P	SME - 19P
Socket Outer Casing Tool End		STE - 26	STE - 32	STE - 35
Socket Outer Casing Motor End		SME - 26	SME - 32	SME - 35
Tool End Bearing Spindle		BS - 1326	BS - 1632	BS - 1935

FLXIBLE SHAFT SPARES



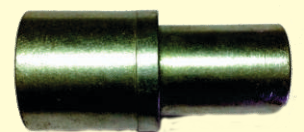
DETACHABLE TYPE
BALL BEARING HANDPIECES



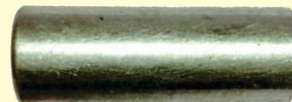
FIXED TYPE
PLAIN END BEARING HANDPIECE



SOCKET OUTER CASING TOOL END



SOCKET OUTER CASING MOTOR END



SOCKET INNER CORE TOOL END



SOCKET INNER CORE MOTOR END



TOOL END BEARING SPINDLE SCREW TYPE



SOCKET INNER CORE MOTOR END PIN TYPE



STD 1 1/2 MOTOR ADAPTOR



SHEAR PIN

Powerflex Heavy Duty Interlocking Flexible Shafts

The interlocking metallic cover/outer casing are made with flat spiral steel inner lining. To prevent undue bending of the casing, either at the motor end or at the headpiece end, external flat spiral strengtheners are also provided where possible

TUBE CLEANER CUTTER HEADS **(For Boilers,juice Heaters,Evaporators etc)**

POWERFLEX[®]
HEAVY DUTY

Powerflex Tool Head Cutters are designed to remove the hardest deposit from tubes. The cutters are of trackless design to eliminate tube damage. A trackless cutter has the teeth cut on a different pitch. All the tool heads contact the surface to be cleaned as a result of the centrifugal force.

Powerflex tool head cutters are supplied in a very wide range of sizes. The standard sizes are upto tube I.D.4". Intermediate sizes are available for all models. Larger sizes can be supplied for special work.

POWERFLEX SINGLE HEAD - PSH



Designed for general tube descaling of process pipes, boiler, juice heater and vacuum pan tubes. The design of this head is simple and its action is extremely effective. These cutter heads are fitted with 3 cutter wheels one each, teeth cut straight, teeth cut right and teeth cut left, which increase descaling speed and prevent grooving of the scale. The side plates are reversible and double drilled to give maximum length of service.

POWERFLEX SPRING LOADED TOOL HEAD - PSL

OPEN BODY



CLOSE BODY



This spring loaded, self expanding, tool head is fitted with fifteen cutter wheels, five each on three bridge type arm pins and is slightly tapered at the top end. While the tapered top allows easy entry in the tube, the spring loaded arms allow the cutter wheels to contract or expand according to scale conditions.

POWERFLEX CARBIDE DRILL HEAD - PCD

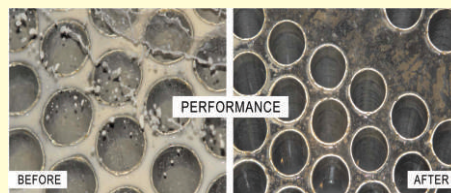


Designed for cleaning fully or partially blocked tubes of soft or hard deposits. The cutting edges are tapered to a point to enter small openings. The drill roughs out the deposit and is generally followed by use of a cutter head. It is supplied with an adaptor for straight tubes and universal joint for curved tubes.

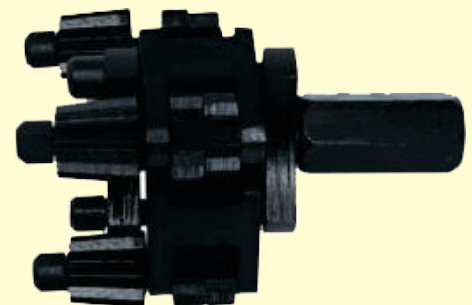
POWERFLEX PIVOTED ARM TOOL HEAD - PPA



This tool head is for hard-to-get-at medium to extra thick deposits ranging from gummy to hard. Four cone cutters fitted on arms of unequal length are pivoted at the spider on the rear of the cutter head, which gives maximum tube cleaning range. It is supplied with an adaptor for straight tubes and universal joint for curved tubes.



POWERFLEX SWING FRAME TOOL HEAD - PSF



This model is a swing frame cutter head and therefore has a large expansion-contraction range. It is fitted with 3 to 5 cone cutters (depending on size) to break up heavy shoulders of scale and long lines of star cutter wheels for thorough cleaning of remaining scale in one pass. It is supplied with an adaptor for straight tubes and universal joint for curved tubes.

TUBE CLEANER CUTTER HEADS (For Boilers,juice Heaters,Evaporators etc)

POWERFLEX®
HEAVY DUTY

TOOL HEAD CUTTER FOR MEDIUM SIZE TUBES(1.1/4" TO 2")



PIPE INTERNAL DIA		PSH	PSL	PCD
INCH	MM	TOOL NO.	TOOL NO.	TOOL NO.
1.1/4	31.7	PSH -317	PSL -317	PCD -317
1.5/16	33.3	PSH-333	PSL-333	PCD-333
1.3/8	34.9	PSH-349	PSL-349	PCD-349
1.7/16	36.5	PSH-365	PSL-365	PCD-365
1.1/2	38.1	PSH-381	PSL-381	PCD-381
1.9/16	39.7	PSH-397	PSL-397	PCD-397
1.5/8	41.3	PSH-413	PSL-413	PCD-413
1.11/16	42.8	PSH-428	PSL-428	PCD-428
1.3/4	44.4	PSH-444	PSL-444	PCD-444
1.13/16	46.0	PSH-460	PSL-460	PCD-460
1.7/8	47.6	PSH-476	PSL-476	PCD-476
1.15/16	49.2	PSH-492	PSL-492	PCD-492
2	50.8	PSH-508	PSL-508	PCD-508

TOOL HEAD CUTTER FOR LARGE SIZE TUBES (2" TO 4.1/2")



PIPE INTERNAL DIA		PSH	PPA	PSF
INCH	MM	TOOLNO	TOOL NO	TOOL NO
2	50.8	PSH-508	PPA-508	PSF-508
2.1/4	57.1	PSH-571	PPA-571	PSF-571
2.1/2	63.5	PSH-635	PPA-635	PSF-635
2.3/4	69.8	PSH-698	PPA-698	PSF-698
3	76.2	PSH-762	PPA-762	PSF-762
3.1/4	82.5	PSH-825	PPA-825	PSF-825
3.1/2	88.9	PSH-889	PPA-889	PSF-889
3.3/4	95.2	PSH-952	PPA-952	PSF-952
4	101.6	PSH-1020	PPA-1020	PSF-1020
4.1/2	114.3	PSH-1150	PPA-1150	PSF-1150

TUBE CLEANER WIRE BRUSHES (For Boilers,juice Heaters,Evaporators etc)

POWERFLEX®
HEAVY DUTY

Powerflex Superior quality industrial wire brushes suitable for rugged duty are manufactured from best quality spring steel wires of high tensile strength. Maximum amount of wires and quality of wire used, guarantee efficient cleaning at minimum cost.

TURK'S HEAD BRUSH - PTH



This design of brush is used mainly for light brushing of all types of tubular plant, including boilers, evaporators, juice heaters, vacuum pans, etc. This is a most popular brush in sugar Mills.

DOUABLE SPIRAL BRUSH - PDS



This brush designed on the double spiral principle allows maximum amount of wire filling for prolonged cleaning work in straight tubes.

GENERAL PURPOSE BRUSH - PGP



This general purpose brush is used for deburring, descaling, paint removing, metal finishing, polishing, etc. it consists of 1 to 4 circular sections depending upon the application. These circular sections are easily replaceable.

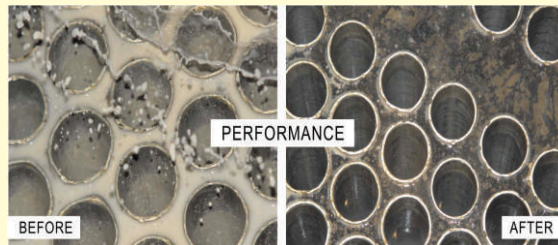
CUP SHAPE BRUSH - WBA



METAL CLEANING BRUSH



CIRCULAR WHEEL BRUSH - PCB



TUBE CLEANER WIRE BRUSHES (For Boilers,juice Heaters,Evaporators etc)

POWERFLEX®
HEAVY DUTY

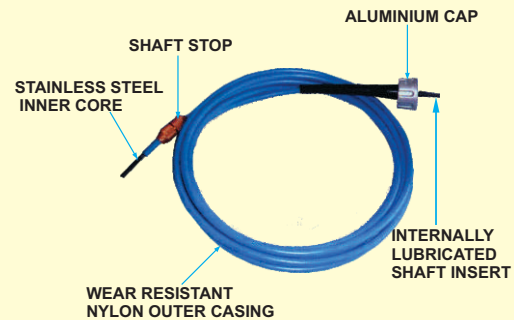
POWERFLEX Superior quality industrial wire brushes suitable for rugged duty are manufactured from best quality spring steel wires of high tensile strength. Maximum amount of wires and quality of wire used, guarantee efficient cleaning at minimum cost.



INTERNAL DIA		"PTH" TYPE TURK HEAD	"PDS" TYPE DOUBLE SPIRAL	"PGP" TYPE GENERAL USE	"WBA" TYPE CUP SHAPED	"PCB" TYPE CIRCULAR WHEEL
MM	INCH	BRUSH NO	BRUSH NO	BRUSH NO.	BRUSH NO	BRUSH NO
31.7	1.1/4	PTH-317	PDS-317	PGP-317	WBA-317	PCB-317
33.3	1.5/16	PTH-333	PDS-333	PGP-333	WBA-333	PCB-333
34.9	1.3/8	PTH-349	PDS-349	PGP-349	WBA-349	PCB-349
36.5	1.7/16	PTH-365	PDS-365	PGP-365	WBA-365	PCB-365
38.1	1.1/2	PTH-381	PDS-381	PGP-381	WBA-381	PCB-381
39.7	1.9/16	PTH-397	PDS-397	PGP-397	WBA-397	PCB-397
41.3	1.5/8	PTH-413	PDS-413	PGP-413	WBA-413	PCB-413
42.8	1.11/16	PTH-428	PDS-428	PGP-428	WBA-428	PCB-428
44.4	1.3/4	PTH-444	PDS-444	PGP-444	WBA-444	PCB-444
46.0	1.13/16	PTH-460	PDS-460	PGP-460	WBA-460	PCB-460
47.6	1.7/8	PTH-476	PDS-476	PGP-476	WBA-476	PCB-476
49.2	1.15/16	PTH-492	PDS-492	PGP-492	WBA-492	PCB-492
50.8	2	PTH-508	PDS-508	PGP-508	WBA-508	PCB-508
52.4	2.1/1.6	PTH-524	PDS-524	PGP-524	WBA-524	PCB-524
57.1	2.1/4	PTH-571	PDS-571	PGP-571	WBA-571	PCB-571
60.3	2.3/8	PTH-603	PDS-603	PGP-603	WBA-603	PCB-603
63.5	2.3/4	PTH-635	PDS-635	PGP-635	WBA-635	PCB-635
66.7	2.5/8	PTH-667	PDS-667	PGP-667	WBA-667	PCB-667
69.8	2.3/4	PTH-698	PDS-698	PGP-698	WBA-698	PCB-698
73.0	2.7/8	PTH-730	PDS-730	PGP-730	WBA-730	PCB-730
76.2	3	PTH-762	PDS-762	PGP-762	WBA-762	PCB-762
79.4	3.1/8	PTH-794	PDS-794	PGP-794	WBA-794	PCB-794
82.5	3.1/4	PTH-825	PDS-825	PGP-825	WBA-825	PCB-825
88.9	3.1/2	PTH-889	PDS-889	PGP-889	WBA-889	PCB-889
92.1	3.5/8	PTH-921	PDS-921	PGP-921	WBA-921	PCB-921
95.2	3.3/4	PTH-952	PDS-952	PGP-952	WBA-952	PCB-952
98.4	3.7/8	PTH-984	PDS-984	PGP-984	WBA-984	PCB-984
101.6	4	PTH-1020	PDS-1020	PGP-1020	WBA-1020	PCB-1020
105.0	4.1/8	PTH-1050	PDS-1050	PGP-1050	WBA-1050	PCB-1050
108.0	4.1/4	PTH-1080	PDS-1080	PGP-1080	WBA-1080	PCB-1080

TUBE CLEANING SYSTEM (Electric 230v Single Phase Ac)

POWERFLEX®
HEAVY DUTY



ELECTRIC TUBE CLEANERS

FLEXIBLE SHAFTS WITH STAINLESS STEEL INNER CORE

Tube cleaning system with water feeding attachment for wet application in condenser & cooler tubes.
Features :

- Operates on single phase supply which is easily available
- Water flows through the shaft. It softens the scale & flushes out from the tube
- Tube cleaner is operated by foot. So operator concentrates on cleaning operation
- Flexible shafts are easily connected & disconnected
- Mobile trolley for easy movement
- Water flows through the shaft when operator presses the foot pedal

TUBE OD.		MODEL NO.	MOTOR POWER		MOTOR SPEED RPM	WEIGHT (KG.)
INCH	MM		HP	KW		
1/4" - 1"	6.35 - 25.40	PFTC - 1	1/2	0.40	890	28.0
1/4" - 1"	6.35 - 25.40	PFTC - 2	3/4	0.60	890	30.0
1" - 1.1/2"	25.40 - 38.10	PFTC - 3	1	0.75	1780	32.0
1" - 1.1/2"	25.40 - 38.10	PFTC - 4	2	1.50	1780	38.0
1/4" - 1"	6.35 - 25.40	PORTO	1/2	0.40	1780	16.0

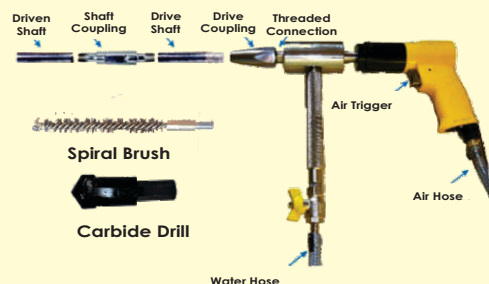
FLEXIBLE SHAFTS WITH STAINLESS STEEL INNER CORE

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.

To order flexible shaft, determine tube I.D and length of the longest tube. order flexible shaft to correspond with tube I.D. and lengths. please ask us for special or longer lengths.

PORTABLE TUBE CLEANING KIT (Pneumatic Or Electric Gun)

POWERFLEX®
HEAVY DUTY



Portable Tube Cleaner is designed for cleaning straight tubes in condensers, coolers, chillers etc. These exchangers contain many small diameter tubes which vary from 3/8" to 1 1/4" in diameter and six to twenty feet in length.

A tool head is fed into the tube on a rigid hollow shaft. The hollow shaft and tool head are turned by a portable drive handled by an operator at one end of the exchanger. Standard length of shafts are connected using couplings to clean required length of tube.

A water flushing system is attached to the drive. A stream of water conducted along the hollow shaft flushes loose deposits out of the tube and keeps the tool head cool.

Water flow and air drive are controlled independently eliminating excessive water consumption and mess. The use of one piece shaft is preferable where sufficient head room prevails.

Features :

- It's powerful portable cleaner for totally choked tubes
- Water flows through the shaft. it softs the scale & flushes out from the tube.
- Water flows through the shaft when operator press the water gun trigger.
- Hollow drive shaft & hollow driven shaft can coupled together with shaft coupling to for the Required length of the tube which is to be clean.



Hollow Driven Shaft



Hollow Drive Shaft



Drive Coupling



Carbide Drill



Shaft Coupling



Spiral Brush

PNEUMATIC DRIVE SPECIFICATION:

TUBE ID MM	MODEL NO.	AIR CONSUMPTION	NO LOAD SPEED
9.5 TO 30	C - 10	18	700 Rpm
25 TO 51	C - 20	22	652 Rpm

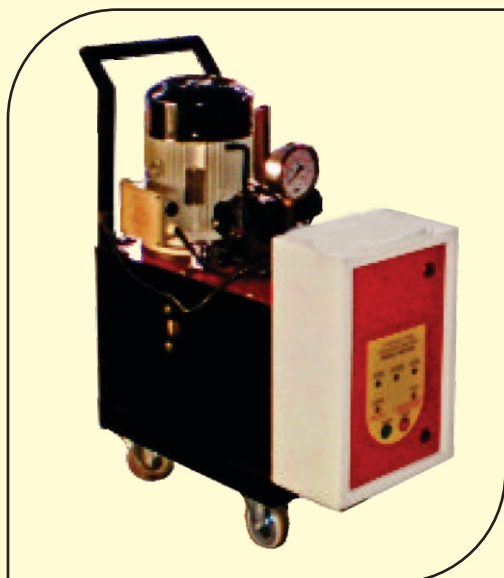
ELECTRIC DRIVE SPECIFICATION:

TUBE ID MM	MODEL NO.	CURRENT	NO LOAD SPEED
9.5 TO 30	WDH	3.1 Amps	440 Rpm
25 TO 51	NW-10	4.7 Amps	280 Rpm

TUBE I.D.	PEEMATIC DRIVE	ELECTRIC DRIVE	DRIVE COUPLING	DRIVE SHAFTING	DRIVEN SHAFTING	SHAFT COUPLING	CUTTER / DRILL CROPLING	BRUSH COUPLING
9.5	C-10	WDH	DC-312	DS-312	DN-312	SC-312	CC-312	BC-312
12.7			DC-437	DS-437	DN-437	SC-437	CC-437	BC-437
15.9			DC-500	DS-500	DN-500	SC-500	CC-500	BC-500
19.1			DC-562	DS-562	DN-562	SC-562	CC-562	BC-562
22.2			DC-625	DS-625	DN-625	SC-625	CC-625	BC-625
25.4	C-10 OR C-20	WDH OR NW-10	DC-625	DS-625	DN-625	SC-625	CC-625	BC-625
28.6			DC-750	DS-750	DN-750	SC-750	CC-750	BC-750
31.8	C-20	NW-10	DC-750	DS-750	DN-750	SC-750	CC-750	BC-750
34.9			DC-750	DS-750	DN-750	SC-750	CC-750	BC-750
38.1			DC-750	DS-750	DN-750	SC-750	CC-750	BC-750
41.3			DC-1000	DS-750	DN-750	SC-750	CC-750	BC-750
47.6			DC-1000	DS-1000	DN-1000	SC-1000	CC-1000	BC-1000
50.8			DC-1000	DS-1000	DN-1000	SC-1000	CC-1000	BC-1000

TUBE EXPANDING MACHINES (With Hydraulic Gun And Powerpack)

POWERFLEX®
HEAVY DUTY



Powerflex Torque Control Unit

Model	Powerflex Torque Control Unit
Input Electrical	3 Phase, 415V+/- 10% V
Electric Motor	3.7 KW / 5HP, 1430Rpm, 50/60 Hz
Control Voltage	24V DC
Max. Working Pressure	100 BAR
Maximum Flow	23 LPM
Oil Tank Capacity	45 LTR
Dimensions	L820XW325 X H985
Weight Without Oil	110 KG.

Tube Expansion Drive Head

TYPE	PED-112		PED-300		PED-400	
Socket	3/8" & 1/2"		1/2", 3/4" & 1"		3/4" & 1"	
Torque (Kgm)	6.5		3.8		5.2	
RPM	480		840		620	
Tube Range	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Tube O.D.	Ø 3/4"	Ø 1.1/2"	Ø 1.1/2"	Ø 3"	Ø 2"	Ø 4"
	Ø 19.0mm	Ø 38.1mm	Ø 38.1mm	Ø 76.2mm	Ø 50.8mm	Ø 101.6mm
Tube Thickness	1/16"	13/32"	1/8"	5/32"	9/64"	1/4"
	1.65mm	2.77mm	3.2mm	4.0mm	3.5mm	6.35mm
Tube sheet Thickness	13/16"	1.1/4"	1.25/32"	1.1/4"	2.9/16"	2"
	20mm	32mm	45mm	32mm	65mm	50.8mm
Dimension	762 x 254 x 254		762 x 254 x 254		762 x 254 x 254	
Weight - KG(LBS)	9.2(20)		11.0(24)		11.5(26)	

Powerflex tube expansion system is supplied with following standard accessories



Tube Expansion drive head



Drive Socket



Remote Controller
(Standard Length 10mtrs, Can Be Supplied In Users Required Length)



Hydraulic Hose

TUBE EXPANSION SYSTEM (Electric Drive With Digital Torque Controller)

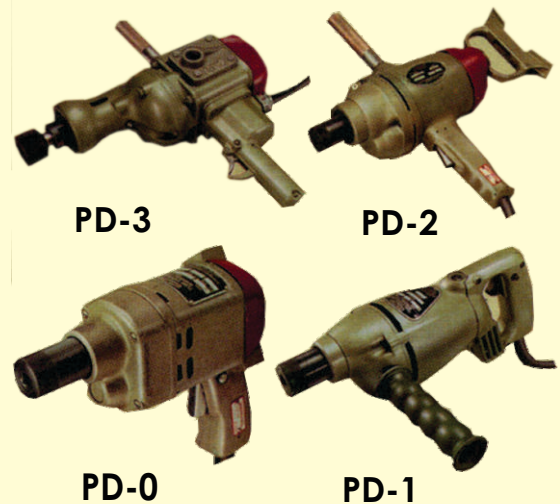
POWERFLEX[®]
HEAVY DUTY



....regulates amount of expansion or degree of tightness of a tube joint.

The Digital Torque Control Unit is constructed from most modern components, to provide an accurate means of controlling the amount of current supplied to the driving unit so that the torque can be regulated. The Digital Torque Control Unit will automatically switch off the drive unit as soon as the drive current reaches a preset value of expansion or torque has been attained. The digital readout allows precise setting to the exact torque required.

The Digital Torque Control Unit is built to operate four types of driving units PD-0, PD-1, PD-2 & PD -3. The drive is a conventional electric drill type machine. The characteristic of the unit is such that the current drawn by the motor increases as the load is applied and by the accurate measurement of this current the effort produced is determined and also the degree of tube expansion, when the preset torque is reached.



FEATURES:-

- Eliminates over rolled and under rolled tube joints
- Increases production - reduces costs.
- Release skilled employees for more precise work.
- Assures uniformly rolled tube joints.
- Reduce need for constant inspection.



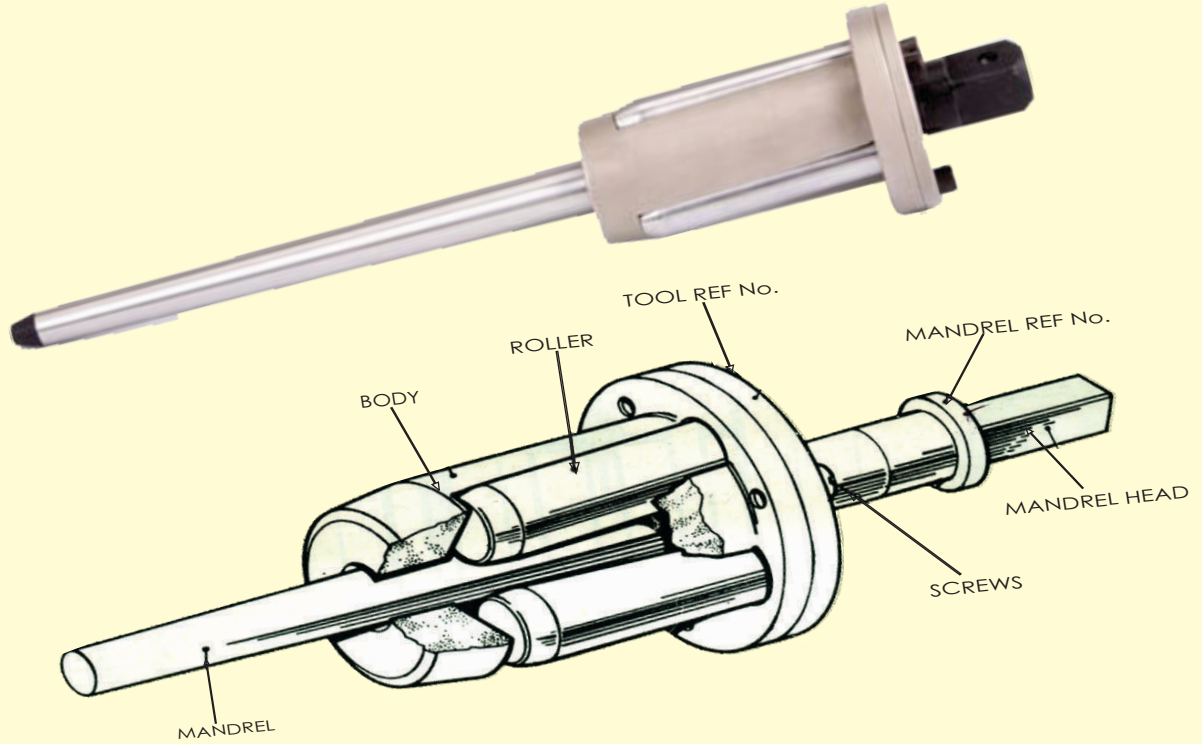
SPECIFICATIONS

DRIVE MODEL		NO LOAD SPEED R.P.M.	EXPANSION RANGE		DRIVE WEIGHT KGS.	FULL LOAD CURRENT (Amps)		FULL LOAD TORQUE (KGM)
230V	110V		Steel Tube O.D. MM	CopperTube O.D. MM		230V	110V	
PD - 0N PD - 1N	PD - 0L PD - 1L	700 550	6 to 12 10 to 16	8 to 16 13 to 22	2.8 4.1	1.3 3.4	2.6 6.8	0.36 0.46
PD - 2N PD - 3N	PD - 2L PD - 3L	560 380	16 to 28 25 to 45	19 to 34 38 to 65	7.7 11.3	4.0 6.0	8.0 12.0	1.26 3.0

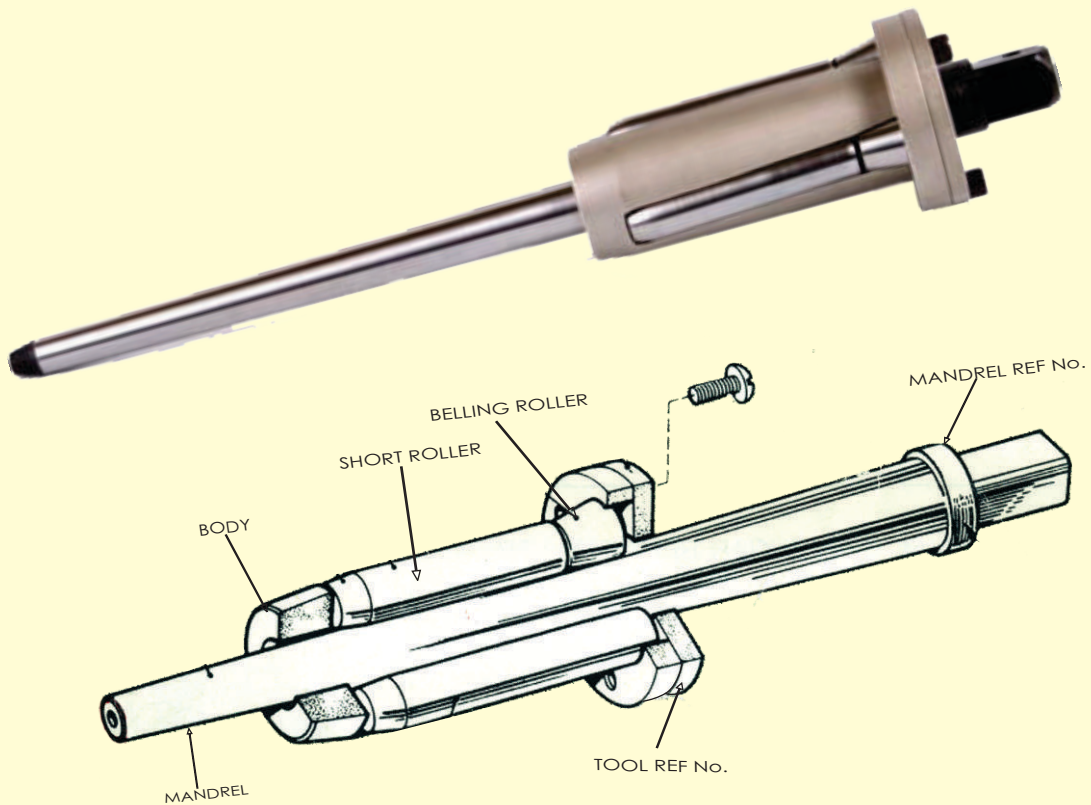
TUBE EXPANDERS
(For Boilers, Evaporators, Air Heaters etc)

POWERFLEX[®]
HEAVY DUTY

'TP' SERIES THREE ROLLER PARALLEL TUBE EXPANDER



'TF' SERIES THREE ROLLER FLARE TYPE TUBE EXPANDER



TUBE EXPANDERS (For Boilers, Evaporators, Air Heaters etc)

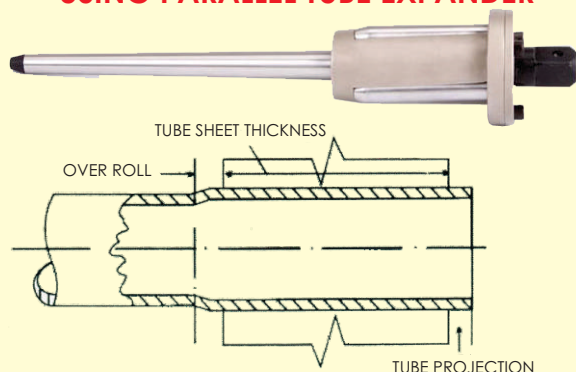
POWERFLEX®
HEAVY DUTY

These 'TP' & 'TF' series tube expanders are widely used for smooth and accurate expansion of tubes in boilers, economisers, super heaters, juice heaters, evaporators etc.

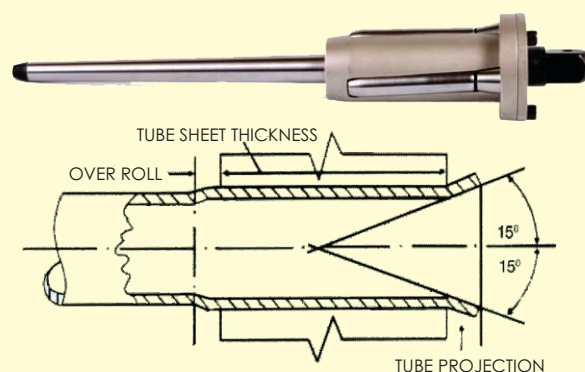
the there roller 'TP' series tube expander is a fixed roller length, parallel rolling tool. The 'TF' series tube expander is provided with one additional bellling roller to flare tube projection.

The chart provided below is for quick easy selection of the correct tube expander. the last digit of tool number denotes plate/drum thickness. the standard tube plate thicknesses are 30 mm(3), 40 mm(4), 55 mm(5), 65 mm (6),

USING PARALLEL TUBE EXPANDER

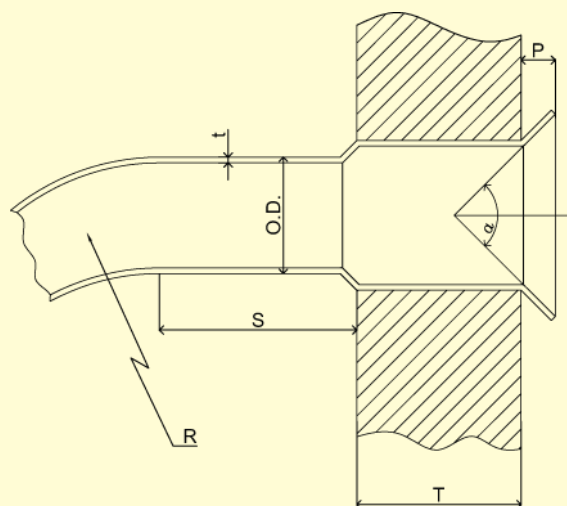


USING FLARE TYPE EXPANDER



WHILE ORDERING PLEASE SPECIFY

- Tube O.D.× tube wall thickness (t), and wall thickness tolerance.
- Tube sheet thickness (T), and effective expansion length required.
- When requiring flare expansion, flare angle (α) and tube projection (P).
- Hand hole diameter of header.
- Length of straight tube part (S).
- Curve radius of bent tube part (R).
- Type of Expander (TP, TF etc.)
- Type of Mandrel required.



TUBE SIZE O.D × THIK Inch × swg	EXPANSION TOOL RANGE		TOOL NO. (30MM PLATE THIK)		
	FROM MM	TO MM	PARALLEL TYPE	FLARE TYPE	MANDREL ☐ SIZE
1.1/4 × 11	25.2	28.0	TP – 44/3	TF – 44/3	1/2"
1.1/4 × 12	25.7	28.5	TP – 45/3	TF – 45/3	1/2"
1.1/4 × 13	26.1	28.8	TP – 46/3	TF – 46/3	1/2"
1.1/4 × 14	26.4	29.2	TP – 47/3	TF – 47/3	1/2"
1.1/4 × 15	26.9	29.7	TP – 48/3	TF – 48/3	1/2"
1.1/4 × 16	27.6	30.4	TP – 49/3	TF – 49/3	1/2"
1.3/8 × 11	28.3	31.2	TP – 50/3	TF – 50/3	1/2"
1.3/8 × 12	28.8	31.7	TP – 51/3	TF – 51/3	1/2"
1.3/8 × 13 – 14	29.5	33.4	TP – 52/3	TF – 52/3	1/2"
1.3/8 × 15 – 16	30.0	34.1	TP – 53/3	TF – 53/3	1/2"
1.1/2 × 11 – 12	30.6	34.8	TP – 54/3	TF – 54/3	1/2"
1.1/2 × 13	31.4	35.6	TP – 55/3	TF – 55/3	1/2"
1.1/2 × 14 – 15	32.6	36.8	TP – 56/3	TF – 56/3	1/2"
1.1/2 × 16 – 18	33.4	38.1	TP – 57/3	TF – 57/3	1/2"
1.3/4 × 8	34.2	38.7	TP – 58/3	TF – 58/3	3/4"
1.3/4 × 9 – 10	35.0	40.6	TP – 59/3	TF – 59/3	3/4"
1.3/4 × 11 – 12	36.6	42.2	TP – 60/3	TF – 60/3	3/4"
1.3/4 × 13 – 14	39.8	45.4	TP – 61/3	TF – 61/3	3/4"
1.3/4 × 15 – 16	38.2	43.8	TP – 62/3	TF – 62/3	3/4"
2 × 9 – 10	41.4	47.0	TP – 63/3	TF – 63/3	3/4"
2 × 11 – 13	47.9	49.5	TP – 64/3	TF – 64/3	3/4"
2 × 14 – 16	44.5	51.1	TP – 65/3	TF – 65/3	3/4"
2.1/4 × 8 – 9	46.1	52.7	TP – 66/3	TF – 66/3	3/4"
2.1/4 × 10 – 11	47.7	54.3	TP – 67/3	TF – 67/3	3/4"
2.1/4 × 12 – 13	49.3	55.9	TP – 68/3	TF – 68/3	3/4"
2.1/4 × 14 – 16	50.8	57.8	TP – 69/3	TF – 69/3	3/4"
2.1/2 × 8 – 9	52.4	59.4	TP – 70/3	TF – 70/3	3/4"
2.1/2 × 10 – 11	54.0	61.0	TP – 71/3	TF – 71/3	3/4"
2.1/2 × 12 – 14	55.6	64.0	TP – 72/3	TF – 72/3	3/4"
2.3/4 × 7 – 8	57.2	65.6	TP – 73/3	TF – 73/3	1"
2.3/4 × 9 – 10	58.6	67.0	TP – 74/3	TF – 74/3	1"
2.3/4 × 11 – 13	60.4	68.8	TP – 75/3	TF – 75/3	1"
3 × 5 – 6	62.2	70.4	TP – 76/3	TF – 76/3	1"
3 × 7 – 8	63.6	72.0	TP – 77/3	TF – 77/3	1"
3 × 9 – 10	65.0	73.4	TP – 78/3	TF – 78/3	1"
3 × 11 – 13	66.6	75.0	TP – 79/3	TF – 79/3	1"
3.1/4 × 5 – 6	68.3	76.9	TP – 80/3	TF – 80/3	1"
3.1/4 × 7 – 8	69.9	78.5	TP – 81/3	TF – 81/3	1"
3.1/4 × 9 – 10	71.5	80.1	TP – 82/3	TF – 82/3	1"
3.1/4 × 11 – 13	73.1	81.7	TP – 83/3	TF – 83/3	1"
3.1/2 × 5 – 6	74.6	84.2	TP – 84/3	TF – 84/3	1"
3.1/2 × 7 – 8	76.2	85.5	TP – 85/3	TF – 85/3	1"
3.1/2 × 9 – 11	77.8	87.4	TP – 86/3	TF – 86/3	1"
3.1/2 × 12 – 14	79.4	89.0	TP – 87/3	TF – 87/3	1"
3.3/4 × 5 – 6	81.0	90.6	TP – 88/3	TF – 88/3	1"
3.3/4 × 7 – 8	82.6	92.2	TP – 89/3	TF – 89/3	1"
3.3/4 × 9 – 10	84.2	93.2	TP – 90/3	TF – 90/3	1"
3.3/4 × 11 – 14	85.8	96.2	TP – 91/3	TF – 91/3	1"
4 × 5 – 6	87.4	97.8	TP – 92/3	TF – 92/3	1"
4 × 7 – 8	89.0	99.4	TP – 93/3	TF – 93/3	1"
4 × 9 – 11	90.4	100.8	TP – 94/3	TF – 94/3	1"
4 × 12 – 16	92.0	102.4	TP – 95/3	TF – 95/3	1"

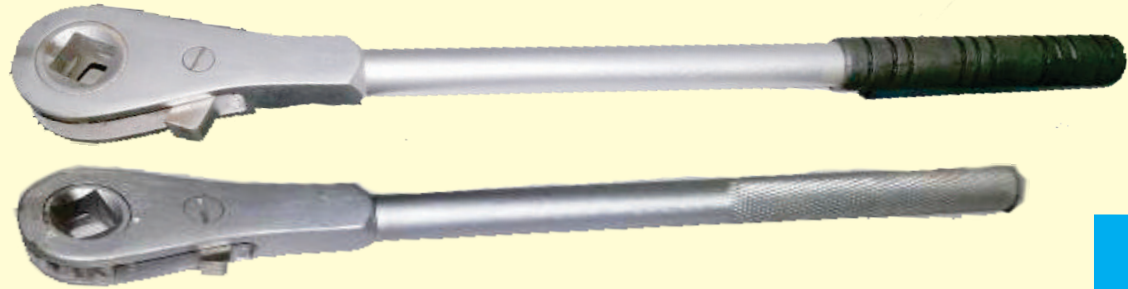
Drum mandrel will be supplied unless header or short series mandrels are ordered.

TUBE EXPANDING ACCESSORIES

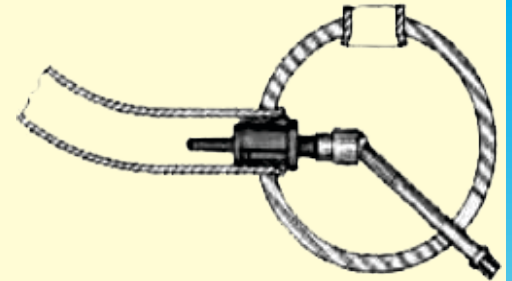
POWERFLEX®
HEAVY DUTY

RATCHET HANDLE

This is a manual tube expansion tool. It allows rotational transmit by a ratchet mechanism



EXTENSION UNIVERSAL JOINT FEMALE - MALE



UNIVERSAL JOINT

Universal joint female - female

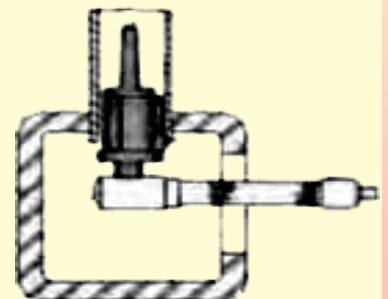


Universal joint female - male



RIGHT ANGLE DRIVE

This is a manual tube expansion tool used when workspace is limited for boiler headers and superheaters. It allows rotational transmit at a right angle



GEAR BLOCK

This tool is used in tube expansion work inside boiler headers and superheaters. It allow rotational transmit at a right angle by combination with a drive shaft.



TUBE EXPANDERS

[For Heat Exchanger, Condensers, Coolers etc]

POWERFLEX[®]
HEAVY DUTY

'P900' TYPE

For Tube Sizes 1/4 inch To 3/8 inch O.D.
Roller Length 3/4 inch & 1.1/4 inch
For Tube Sheets 1/4 inch To 1.1/4 inch



'P1300' TYPE

For Tube Sizes 3/8 inch O.D.
Roller Length 3/4 inch & 1.1/4 inch
For Tube Sheets 3/4 inch To 3.3/4 inch



'P800' TYPE

For Tube Sizes 1/2 inch To 1.1/2 inch O.D.
Roller Length 1.1/2 inch & 2.1/4 inch
For Tube Sheets 1/2 inch To 2.1/4 inch



'P1200' TYPE

For Tube Sizes 1/2 inch To 1.1/2 inch O.D.
Roller Length 1.1/2 inch & 2.1/4 inch
For Tube Sheets 1.1/2 inch To 12.3/4 inch



'P8012' TYPE

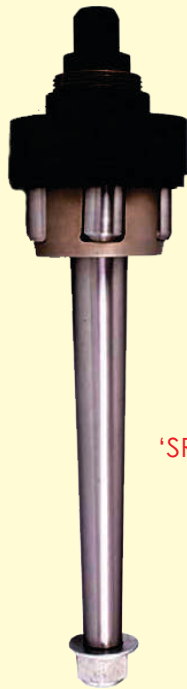
For Tube Sizes 1.3/4 inch To 3 inch O.D.
Roller Length 2.1/4 inch
For Tube Sheets 1/2 inch To 4 inch



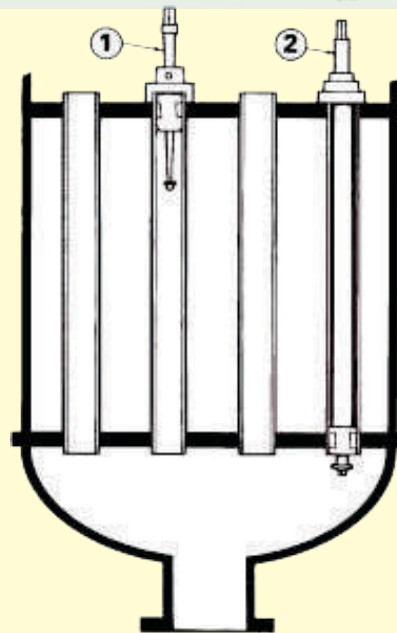
TUBE EXPANDERS

(For Sugar Refining Vessels, Juice Heater, Pan Tubes etc)

POWERFLEX®
HEAVY DUTY



'SR' SERIES



'LSR' SERIES



SUGAR REFINERY 'SR' series tube expander is provided with a bridge type thrust collar, which rests against the tube plate and holds the tube in position. Useful for expanding vertically fitted tubes in sugar refining vessels.

SUGAR REFINERY 'LSR' series long body tube expander which is operated from upper tube plate area is provided with a threaded thrust collar to locate and expand the tube in lower tube plate of sugar refining vessels.

TUBE SIZE O.D × THIK Inch × swg	EXPANSION TOOL RANGE		TOOL NO.
	FROM MM	TO MM	
1.1/2 × 11 - 12	30.6	33.2	SR- 00
1.1/2 × 13 - 14	32.6	36.6	SR- 0
1.1/2 × 15 - 16	33.6	38.2	SR- 1
1.3/4 × 9 - 10	35.3	40.3	SR- 2
1.3/4 × 11 - 12	36.6	41.8	SR- 3
1.3/4 × 13 - 14	38.2	43.4	SR- 4
1.3/4 × 15 - 16	39.8	45.3	SR- 5
2 × 7 - 8	41.6	47.0	SR- 6
2 × 9 - 10	42.9	48.5	SR- 7
2 × 11 - 13	44.5	50.5	SR- 8
2 × 14 - 16	46.2	52.0	SR- 9
2.1/4 × 9 - 10	47.8	53.6	SR- 10
2.1/4 × 11 - 13	49.2	53.2	SR- 11
2.1/4 × 14 - 16	50.9	57.6	SR- 12

TUBE SIZE O.D × THIK Inch × swg	EXPANSION TOOL RANGE		TOOL NO.
	FROM MM	TO MM	
2.1/2 × 9 - 10	54.1	60.8	SR - 13
2.1/2 × 14 - 16	57.3	65.5	SR - 14
2.1/2 × 10 - 14	60.5	68.6	SR - 15
3 × 7 - 9	63.7	71.8	SR - 16
3 × 10 - 14	66.7	74.8	SR - 17
3.1/4 × 7 - 8	70.0	78.4	SR - 18
3.1/4 × 4 - 5	73.2	81.5	SR - 19
3.1/2 × 6 - 8	76.2	85.3	SR - 20
3.3/4 × 4 - 5	79.5	88.8	SR - 21
3.3/4 × 6 - 8	82.7	92.0	SR - 22
4 × 3 - 4	85.9	96.0	SR - 23
4 × 10 - 16	90.5	100.6	SR - 24
4.1/4 × 6 - 8	95.1	105.2	SR - 25
4.1/2 × 4 - 7	99.9	110.9	SR - 26

POWERFLEX
HEAVY DUTY

Office : 220, Ashok Industrial Premises, L.B.S. Marg, Bhandup, Mumbai - 400 078 India

Email : powerflexengg@gmail.com, powerflexenquiry@gmail.com

Telefax : 022-25963223 Mobile : +91 9821441828