



CONDENSER & BOILER TUBE EXPANDERS



TUBE EXPANSION

TUBE INSTALLATION

TUBE REMOVAL

TUBE CLEANING

Dh Boiler Xchangers Tools Pvt. Ltd

DBX Tools was established, to give customer an better alternative source for their tube tool requirements. After the initial years of struggle and hard work we had proudly extended our services not only throughout India but also in Middle East and European countries.

Quality

Our quality and inspection department are continuously refining every scope of increasing life of the products. We make sure that customer gets maximum life of the tools. Repeat orders from the customers certify their satisfaction.

Price

Competitors will surely copy our products but matching our price will not be possible. We being the actual manufactures and our policy to deal directly with the end user makes our prices more competitive.

ISO- 9001:2008

All the procedure form procurement to dispatch and after sale services are followed as per the guide lines of ISO -9001 model. DBX Tools Pvt. Ltd. will continue to implement and work within the given guidelines.

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INDEX

PRODUCTS

PAGE NO

TUBE EXPANDER

1)	900 SERIES	2
2)	AN SERIES	3
3)	800 SERIES	4-5
4)	800-5 SERIES	6-7
5)	1200 SERIES	8-9
6)	1200-5 SERIES	10

EXPANSION SYSTEM

7)	ELECTRIC EXPANSION SYSTEM	11-13
8)	PNEUMATIC ROLLING DRIVES	14
9)	HYDRAULIC TUBE EXPANSION SYSTEM	15
	EXPANSION ACCESSORIES	

INSTALLATION TOOLS

10)	TUBE SHEET HOLE REAMER	16
11)	GROOVING TOOLS	17
12)	TUBE SHEET HOLE BRUSH	18
13)	TUBE AND FACER	19-20
14)	PIPE BEVELLING MACHINE	21-22

TUBE REMOVAL TOOLS

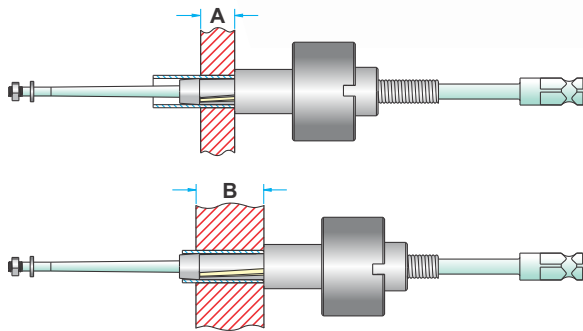
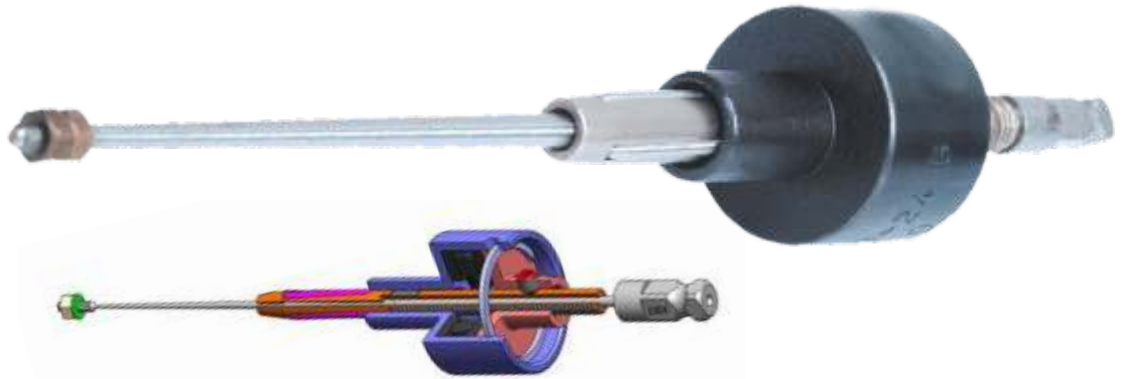
15)	INTERNAL TUBE CUTTER	23-24
16)	HYDRAULIC TUBE PULLING SYSTEM	25-28
17)	MASTER TUGGER	29-30
18)	MANUAL TUBE PULLER	31
19)	TUBE PLUGS	31
20)	TUBE REMOVAL TOOLS	32

BOILER EXPANDERS

15)	8012 SERIES ADJUSTABLE EXPANDERS	33-34
16)	114 SERIES	35-38
17)	'A' SERIES	39-40
18)	'AF3' SERIES	41
19)	'SB' SERIES	41
20)	'CSB' SERIES	42
15)	BEADING EXPANDER	43
16)	TUBE EXPANDER ACCESSORIES.	44
17)	PNEUMATIC EXPANSION SYSTEM.	45-46
18)	ELECTRIC EXPANSION SYSTEM.	47
19)	PIPE FACING AND BEVELING MACHINE.	48-49

TUBE CLEANING EQUIPMENT

15)	ALL TYPES OF HEAT EXCHANGER TUBE CLEANING SYSTEMS	50-51
16)	FLEXIBLE SHAFT , BRUSHES & ACCESSORIES	43
17)	STRAIGHT TUBE CLEANING SYSTEM	44
18)	BOILER & SUGAR MILL TUBE CLEANING SYSTEM	45-46
19)	BOILER TUBE CLEANING WITH COMPACT AIR MOTOR	47



FOR TUBES INTERNAL DIAMETER
 FROM (3.8 mm) .152" TO (8.4 mm) .331"

TUBE EXPANDER FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(19.05mm) 3/4"	(6.35mm) 1/4"	(19.05mm) 3/4"
(31.75mm) 1.1/4"	(19.05mm) 3/4"	(31.75mm) 1.1/4"

Features :

Used for tubes in oil coolers , radiators and other equipments in which the small OD tubes are used. These tools are widely used for expansion of small OD tubes for many years

☐ '900' series expanders have 1/4" square mandrel drives.

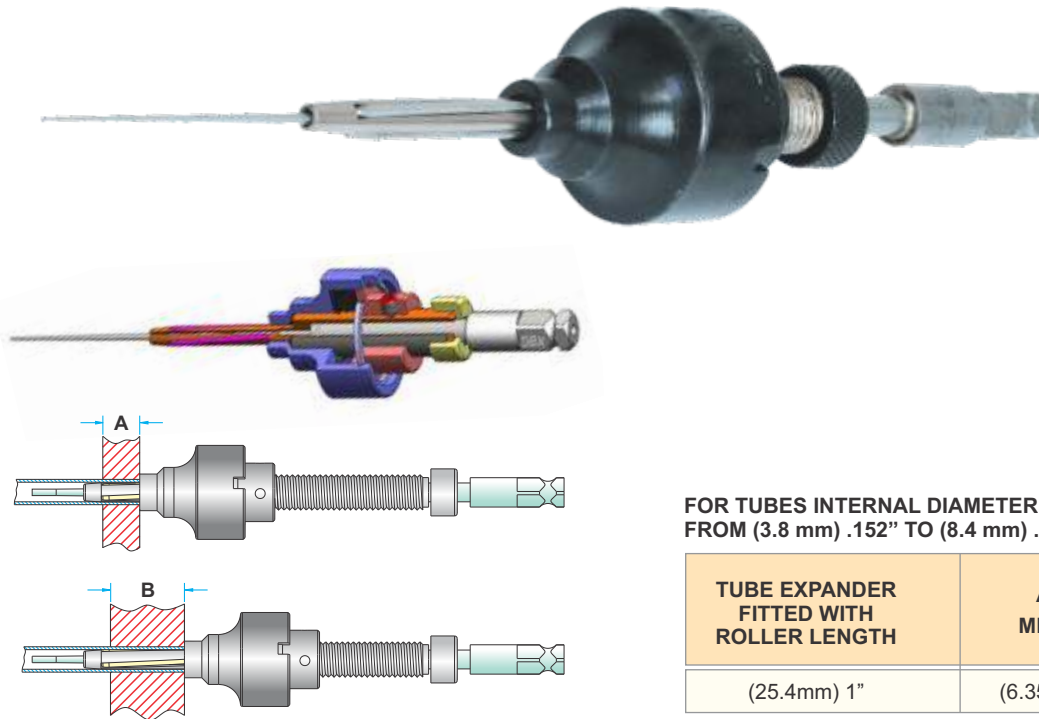
Tube O.D mm inch	Tube Thickness			Suitable for Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (19.05 mm) 3/4" Long Rollers			EXPANDER with (31.75 mm) 1.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(6.35) 1/4	20	0.88	.035	4.5	.180	4.4	.175	5.1	.200	923	M-40	923	-	-	-
	21	0.81	.032	4.7	.186	4.5	.180	5.2	.207	924	M-40	924	-	-	-
	22	0.71	.028	4.9	.194	4.8	.190	5.5	.216	925	M-41	925	-	-	-
	23	0.63	.025	5.0	.200	4.9	.195	5.6	.222	926	M-41	923	-	-	-
	24	0.55	.022	5.2	.206	5.1	.201	5.8	.230	927	M-41	924	-	-	-
	28	0.35	.014	5.6	.222	5.6	.217	6.0	.238	928	928	903	-	-	-
	29	0.33	.013	5.7	.224	5.6	.217	6.0	.238	928	928	903	-	-	-
	30	0.30	.012	5.7	.226	5.6	.217	6.0	.238	928	928	903	-	-	-
(9.53) 3/8	14	2.10	.083	5.3	.209	5.1	.204	5.8	.232	927	M-41	924	-	-	-
	15	1.82	.072	5.8	.231	5.8	.225	6.7	.265	915	M-42	903	-	-	-
	16	1.65	.065	6.2	.245	6.1	.238	6.9	.275	916	M-36	916	916 L	M-36 L	916 L
	17	1.47	.058	6.5	.259	6.4	.253	7.3	.289	918	M-38	903	920	M-38	904
	18	1.24	.049	7.0	.277	6.9	.270	7.8	.307	901	M-30	903	902	M-30	904
	19	1.06	.042	7.3	.291	7.2	.285	8.1	.320	903	M-31	903	904	M-31	904
	20	0.88	.035	7.7	.305	7.6	.295	8.4	.334	905	M-32	907	906	M-32	908
	21	0.81	.032	7.9	.311	7.7	.305	8.6	.340	907	M-33	907	908	M-33	908
22	0.71	.028	8.1	.319	7.9	.312	8.8	.349	909	M-34	909	910	M-34	910	
23	0.63	.025	8.2	.325	8.1	.318	9.0	.357	911	M-34	911	912	M-34	912	
24	0.55	.022	8.4	.331	8.1	.318	9.0	.357	911	M-34	911	912	M-34	912	

TUBE EXPANDERS FOR SMALL TUBES

AN SERIES



1/4"-3/8"
OD



FOR TUBES INTERNAL DIAMETER
FROM (3.8 mm) .152" TO (8.4 mm) .331"

TUBE EXPANDER FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(25.4mm) 1"	(6.35mm) 1/4"	(25.4mm) 1"

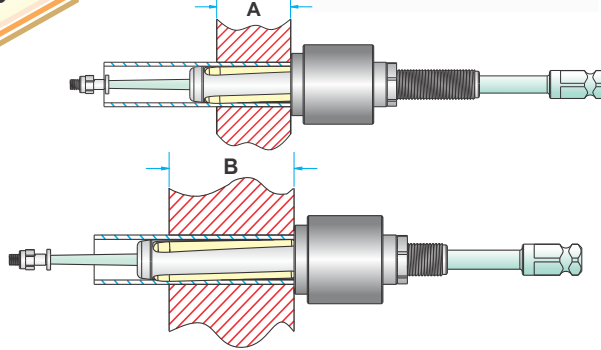
Features :

Used for tubes in oil coolers , radiators and other equipments in which the small OD tubes are used. These tools have capatative mandrel which is internally locked and do not have nut on the tip of the mandrel which may in some case scratch the ID of the tube during the expansion process. The feed angel is more hence the speed of expansion is also high.

All 'AN' series expanders come with 1/4" square mandrel drives.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (25.4 mm) 1" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.
(6.35) 1/4	18	1.24	.049	3.8	.152	3.7	.148	4.2	.167	A-25018	M-21819	R-20018
	19	1.06	.042	4.2	.166	4.0	.160	4.5	.180	A-25019	M-21819	R-21920
	20	0.88	.035	4.5	.180	4.4	.175	4.9	.196	A-25020	M-22021	R-21920
	21	0.81	.032	4.7	.186	4.5	.180	5.1	.202	A-25021	M-22021	R-22124
	22	0.71	.028	4.9	.194	4.8	.190	5.4	.213	A-25022	M-22324	R-22124
	23	0.63	.025	5.0	.200	4.9	.195	5.5	.216	A-25023	M-22324	R-21920
	24	0.55	.022	5.2	.206	5.1	.201	5.7	.224	A-25024	M-22830	R-22124
	28	0.35	.014	5.6	.222	5.4	.217	6.1	.243	A-25028	M-22830	R-22830
	29	0.33	.013	5.7	.224	5.4	.217	6.1	.243	A-25028	M-22830	R-22830
(9.53) 3/8	30	0.30	.012	5.7	.226	5.4	.217	6.1	.243	A-25028	M-22830	R-22830
	14	2.10	.083	5.3	.209	5.1	.204	5.8	.230	A-37514	M-22830-B	R-21920
	15	1.82	.072	5.8	.231	5.6	.225	6.6	.265	A-37515	M-22830-B	R-31516
	16	1.65	.065	6.2	.245	6.0	.238	7.0	.278	A-37516	M-31617	R-31516
	17	1.47	.058	6.5	.259	6.4	.253	7.4	.293	A-37517	M-31617	R-31720
	18	1.24	.049	7.0	.277	6.8	.270	7.8	.310	A-37518	M-30018	R-31720
	19	1.06	.042	7.3	.291	7.1	.285	8.1	.325	A-37519	M-30019	R-31720
	20	0.88	.035	7.7	.305	7.4	.295	8.4	.335	A-37520	M-32021	R-31720
	21	0.81	.032	7.9	.311	7.5	.305	8.6	.345	A-37521	M-32021	R-32122
	22	0.71	.028	8.1	.319	7.9	.312	8.9	.353	A-37522	M-32224	R-32122
	23	0.63	.025	8.2	.325	8.1	.318	9.2	.363	A-37523	M-32224	R-32324
	24	0.55	.022	8.4	.331	8.1	.318	9.2	.363	A-37523	M-32224	R-32324

1/2"-1.1/2"
OD

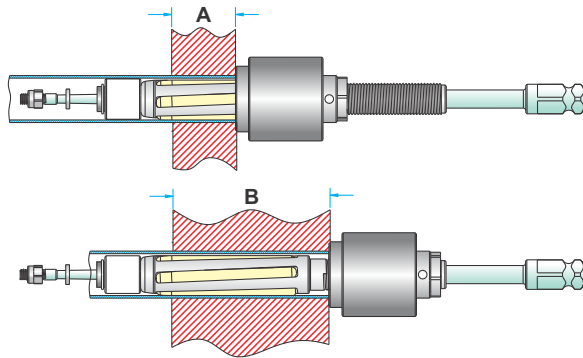


FOR TUBES INTERNAL DIAMETER
FROM (8.4 mm) .334" TO (36.3 mm) 1.43"

TUBE EXPANDER FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(38.1mm) 1.1/2"	(12.7mm) 1/2"	(38.1mm) 1.1/2"
(57.1mm) 2.1/4"	(31.7mm) 1.1/4"	(57.1mm) 2.1/4"

Model 797-856 have 3/8" square mandrel drives
 Model 857-900 have 1/2" square mandrel drives

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(12.70) 1/2	14	2.10	.083	8.4	.334	8.4	.324	9.5	.374	797	797	797	-	-	-
	15	1.82	.072	9.0	.356	8.8	.348	10.1	.398	799	799	R-1	-	-	-
	16	1.65	.065	9.4	.370	9.1	.360	10.4	.410	801	M-1	R-1	-	-	-
	17	1.47	.058	9.7	.384	9.5	.374	10.7	.424	803	M-1	R-2	-	-	-
	18	1.24	.049	10.2	.402	9.9	.392	11.3	.447	805	M-2	R-3	-	-	-
(15.88) 5/8	20	0.88	.035	10.9	.430	10.3	.406	11.7	.461	805 S	M-3	R-3	-	-	-
	12	2.76	.109	10.3	.407	9.9	.392	11.3	.447	805	M-2	R-3	-	-	-
	13	2.41	.095	11.0	.435	10.8	.425	12.1	.480	807	M-3	R-4	-	-	-
	14	2.10	.083	11.6	.459	11.4	.449	12.9	.509	809	M-4	R-4	810	M-4	R-4-A
	15	1.82	.072	12.2	.481	11.9	.471	13.6	.536	811	M-5	R-5	812	M-5	R-5-A
	16	1.65	.065	12.5	.495	12.3	.485	13.9	.550	813	M-5	R-6	814	M-5	R-6-A
	17	1.47	.058	12.9	.509	12.6	.499	14.3	.564	815	M-6	R-6	816	M-6	R-6-A
	18	1.24	.049	13.3	.527	13.1	.517	14.5	.572	817	M-7	R-7	818	M-7	R-7-A
	19	1.06	.042	13.7	.541	13.2	.522	14.7	.582	819	M-6	R-7	820	M-6	R-7-A
	20	0.88	.035	14.1	.555	13.6	.536	15.1	.596	819 S	M-8	R-7	820 S	M-8	R-7-A
(19.05) 3/4	21	0.81	.032	14.2	.561	13.6	.536	15.1	.596	819 S	M-8	R-7	820 S	M-8	R-7-A
	22	0.71	.028	14.4	.569	13.6	.536	15.1	.596	819 S	M-8	R-7	820 S	M-8	R-7-A
	10	3.40	.134	12.2	.482	11.9	.471	13.6	.536	811	M-5	R-5	812	M-5	R-5-A
	11	3.04	.120	12.9	.510	12.6	.499	14.3	.564	815	M-6	R-6	816	M-6	R-6-A
	12	2.76	.109	13.5	.532	13.2	.522	14.7	.582	819	M-6	R-7	820	M-6	R-7-A
	13	2.41	.095	14.2	.560	13.9	.550	15.6	.615	821	M-8	R-8	822	M-8	R-8-A
	14	2.10	.083	14.8	.584	14.5	.574	16.2	.639	823	M-8	R-9	824	M-8	R-9-A
	15	1.82	.072	15.3	.606	15.1	.596	16.7	.661	825	M-8	R-10	826	M-8	R-10-A
	16	1.65	.065	15.7	.620	15.3	.605	17.4	.685	827	M-9	R-10	828	M-9	R-10-A
	17	1.47	.058	16.1	.634	15.7	.619	17.7	.699	829	M-9	R-11	830	M-9	R-11-A
(22.22) 7/8	18	1.24	.049	16.5	.652	15.7	.619	17.7	.699	829	M-9	R-11	830	M-9	R-11-A
	19	1.06	.042	16.9	.666	16.3	.642	18.3	.722	831	M-9	R-12	832	M-9	R-12-A
	20	0.88	.035	17.2	.680	16.3	.642	18.3	.722	831	M-9	R-12	832	M-9	R-12-A
	21	0.81	.032	17.4	.686	16.3	.642	18.3	.722	831	M-9	R-12	832	M-9	R-12-A
	22	0.71	.028	17.6	.694	16.3	.642	18.3	.722	831	M-9	R-12	832	M-9	R-12-A
	10	3.40	.134	15.4	.607	15.1	.596	16.7	.661	825	M-8	R-10	826	M-8	R-10-A
	11	3.04	.120	16.1	.635	15.7	.619	17.7	.699	829	M-9	R-11	830	M-9	R-11-A
	12	2.76	.109	16.6	.657	16.3	.642	18.3	.722	831	M-9	R-12	832	M-9	R-12-A
	13	2.41	.095	17.4	.685	17.0	.670	19.0	.750	833	M-10	R-13	834	M-10	R-13-A
	14	2.10	.083	18.0	.709	17.4	.685	19.6	.774	835	M-11	R-14	836	M-11	R-14-A
7/8	15	1.82	.072	18.5	.731	18.0	.712	20.3	.801	837	M-11	R-15	838	M-11	R-15-A
	16	1.65	.065	18.9	.745	18.4	.726	20.7	.815	839	M-12	R-15	840	M-12	R-15-A
	17	1.47	.058	19.2	.759	18.8	.740	21.0	.829	843	M-12	R-16	844	M-12	R-16-A
	18	1.24	.049	19.7	.777	18.8	.740	21.0	.829	843	M-12	R-16	844	M-12	R-16-A



FOR TUBES INTERNAL DIAMETER
FROM (12.9 mm) .509" TO (36.7 mm) 1.44"

TUBE EXPANDER FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(38.1mm) 1.1/2"	(12.7mm) 1/2"	(38.1mm) 1.1/2"
(57.1mm) 2.1/4"	(31.7mm) 1.1/4"	(57.1mm) 2.1/4"

 Model 815-5 - 858-5 come with 3/8" square mandrel drives.
Model 859-5 - 900-5 come with 1/2" square mandrel drives.

Features :

- These expanders are recommended for expansion of the tubes with less than 1mm thick ness.
- Conventional 3-roll expander may stretch and tear the thin walls of tubes.
- 5-rolls given more concentric and even expansion and also reduces the spring back effect of the tubes.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(15.88) 5/8	17	1.47	.058	12.9	.509	12.6	.499	14.3	.654	815-5	816-5	R-4-5	816-5	816-5	R-4-A-5
	18	1.24	.049	13.4	.527	13.1	.517	14.6	.576	817-5	M-9	R-4-5	-	-	-
	19	1.06	.042	13.7	.541	13.3	.522	14.8	.582	819-5	820-5	R-4-5	820-5	820-5	R-4-A-5
	20	0.88	.035	14.1	.555	13.6	.536	15.1	.596	819-5 S	820-5 S	R-4-5	820-5 S	820-5 S	R-4-A-5
	21	0.81	.032	14.2	.561	13.6	.536	15.1	.596	819-5 S	820-5 S	R-4-5	820-5 S	820-5 S	R-4-A-5
	22	0.71	.028	14.5	.569	13.6	.536	15.1	.596	819-5 S	820-5 S	R-4-5	820-5 S	820-5 S	R-4-A-5
(19.05) 3/4	13	2.41	.095	14.2	.560	13.9	.550	15.6	.615	821-5	822-5	R-5-5	822-5	822-5	R-5-A-5
	14	2.10	.083	14.8	.584	14.5	.574	15.9	.629	823-5	824-5	R-6-5	824-5	824-5	R-6-A-5
	15	1.82	.072	15.3	.606	14.9	.590	16.8	.661	825-5	826-5	R-7-5	826-5	826-5	R-7-A-5
	16	1.65	.065	15.7	.620	15.3	.605	17.2	.680	827-5	M-13	R-7-5	828-5	M-13	R-7-A-5
	17	1.47	.058	16.1	.634	15.7	.619	17.8	.699	829-5	830-5	R-7-5	830-5	830-5	R-7-A-5
	18	1.24	.049	16.5	.652	15.7	.619	17.8	.699	829-5	830-5	R-7-5	830-5	830-5	R-7-A-5
	19	1.06	.042	16.9	.666	16.3	.642	18.5	.729	831-5	M-13	R-9-5	832-5	M-13	R-9-A-5
	20	0.88	.035	17.2	.680	16.3	.642	18.5	.729	831-5	M-13	R-9-5	832-5	M-13	R-9-A-5
	21	0.81	.032	17.4	.686	16.3	.642	18.5	.729	831-5	M-13	R-9-5	832-5	M-13	R-9-A-5
	22	0.71	.028	17.6	.694	16.3	.642	18.5	.729	831-5	M-13	R-9-5	832-5	M-13	R-9-A-5
	23	0.64	.025	17.8	.700	17.0	.670	18.9	.747	833-5	M-14-3/8	R-9-5	834-5	M-14-3/8	R-9-A-5
	24	0.56	.022	17.9	.706	17.0	.670	18.9	.747	833-5	M-14-3/8	R-9-5	834-5	M-14-3/8	R-9-A-5
	25	0.51	.020	18.0	.710	17.4	.685	19.0	.750	835-5	M-15-3/8	R-10-5	836-5	M-15-3/8	R-10-A-5

NOTE : 'Thin Wall Trust Collar' is recommended when rolling 19 thru 22 gauge wall tubes. Ref.Pg. 33 for more details on collars.

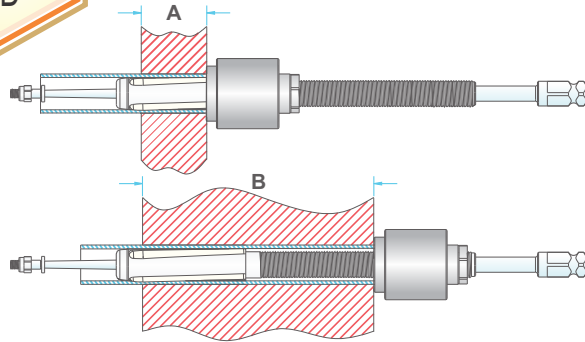
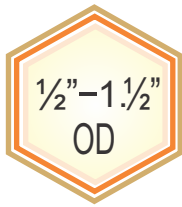
800-5 SERIES FIVE ROLL FOR THIN WALL TUBES



Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(22.22) 7/8	13	2.41	.095	17.4	.685	17.0	.670	18.9	.747	833-5	M-14-3/8	R-9-5	834-5	M-14-3/8	R-9-A-5
	14	2.10	.083	18.0	.709	17.4	.685	19.0	.750	835-5	M-15-3/8	R-10-5	836-5	M-15-3/8	R-10-A-5
	16	1.65	.065	18.9	.745	18.4	.726	20.3	.800	839-5	840-5	R-11-5	840-5	840-5	R-11-A-5
	17	1.47	.058	19.2	.759	18.8	.740	20.9	.824	843-5	M-17-3/8	R-11-5	844-5	M-17-3/8	R-11-A-5
	18	1.24	.049	19.7	.777	18.8	.740	20.9	.824	843-5	M-17-3/8	R-11-5	844-5	M-17-3/8	R-11-A-5
	19	1.07	.042	20.1	.791	19.4	.763	21.6	.851	845-5	M-18-3/8	R-11-5	846-5	M-18-3/8	R-11-A-5
	20	0.89	.035	20.4	.805	19.4	.763	21.6	.851	845-5	M-18-3/8	R-11-5	846-5	M-18-3/8	R-11-A-5
	21	0.81	.032	20.6	.811	19.4	.763	21.6	.851	845-5	M-18-3/8	R-11-5	846-5	M-18-3/8	R-11-A-5
	22	0.71	.028	20.8	.819	19.4	.763	21.6	.851	845-5	M-18-3/8	R-11-5	846-5	M-18-3/8	R-11-A-5
	23	0.64	.025	20.9	.825	20.1	.791	22.4	.880	847-5	M-18-3/8	R-13-5	848-5	M-18-3/8	R-13-A-5
24	0.56	.022	21.1	.831	20.1	.791	22.4	.880	847-5	M-18-3/8	R-13-5	848-5	M-18-3/8	R-13-A-5	
(25.40) 1	12	2.76	.109	19.8	.782	19.4	.763	21.6	.852	845-5	M-18-3/8	R-11-5	846-5	M-18-3/8	R-11-A-5
	13	2.41	.095	20.5	.810	20.1	.791	22.4	.880	847-5	M-18-3/8	R-13-5	848-5	M-18-3/8	R-13-A-5
	14	2.10	.083	21.2	.834	20.5	.810	22.3	.879	849-5	850-5	R-12-5	850-5	850-5	R-12-A-5
	15	1.82	.072	21.7	.856	21.3	.837	23.8	.936	851-5	852-5	R-13-5	852-5	852-5	R-13-A-5
	16	1.65	.065	22.0	.870	21.3	.837	23.8	.936	851-5	852-5	R-13-5	852-5	852-5	R-13-A-5
	17	1.47	.058	22.4	.884	22.0	.865	24.5	.965	855-5	856-5	R-13-5	856-5	856-5	R-13-A-5
	18	1.24	.049	22.9	.902	22.0	.865	24.5	.965	855-5	856-5	R-13-5	856-5	856-5	R-13-A-5
	19	1.06	.042	23.2	.916	22.0	.865	24.5	.965	855-5	856-5	R-13-5	856-5	856-5	R-13-A-5
	20	0.88	.035	23.6	.930	22.0	.865	24.5	.965	855-5	856-5	R-13-5	856-5	856-5	R-13-A-5
	21	0.81	.032	23.8	.936	22.4	.883	25.3	.997	857-5	M-21-3/8	R-15-5	858-5	M-21-3/8	R-15-A-5
(28.58) 1.1/8	12	2.76	.109	23.0	.907	22.4	.883	25.3	.997	857-5	M-21-3/8	R-15-5	858-5	M-21-3/8	R-15-A-5
	13	2.41	.095	23.7	.935	23.2	.916	25.4	1.000	859-5	860-5	R-16-5	860-5	860-5	R-16-A-5
	14	2.11	.083	24.3	.959	23.7	.935	26.4	1.039	861-5	862-5	R-17-5	862-5	862-5	R-17-A-5
	22	0.71	.028	27.2	1.069	26.4	1.039	29.4	1.157	871-5	872-5	R-19-5	872-5	872-5	R-19-A-5
	24	0.56	.022	27.5	1.081	26.4	1.039	29.4	1.157	871-5	872-5	R-19-5	872-5	872-5	R-19-A-5
	15	1.82	.072	28.1	1.106	27.6	1.087	30.4	1.196	875-5	876-5	R-21-5	876-5	876-5	R-21-A-5
	16	1.65	.065	28.4	1.120	27.6	1.087	30.4	1.196	875-5	876-5	R-21-5	876-5	876-5	R-21-A-5
	17	1.47	.058	28.8	1.134	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
	18	1.24	.049	29.3	1.152	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
	19	1.07	.042	29.6	1.166	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
(31.75) 1.1/4	20	0.88	.035	30.0	1.180	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
	21	0.81	.032	30.1	1.186	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
	22	0.71	.028	30.3	1.194	28.3	1.115	31.3	1.231	879-5	880-5	R-21-5	880-5	880-5	R-21-A-5
	23	0.64	.025	30.5	1.200	28.3	1.133	31.5	1.242	881-5	882-5	R-21-5	882-5	882-5	R-21-A-5
	24	0.56	.022	30.6	1.206	28.3	1.133	31.5	1.242	881-5	882-5	R-21-5	882-5	882-5	R-21-A-5
	12	2.76	.109	29.3	1.154	28.3	1.133	31.5	1.242	881-5	882-5	R-21-5	882-5	882-5	R-21-A-5
(34.92) 1.3/8	14	2.11	.083	30.7	1.209	29.9	1.179	32.9	1.296	885-5	882-5	R-23-5	882-5	882-5	R-23-A-5
	20	0.88	.035	33.2	1.305	31.9	1.257	35.2	1.385	893-5	894-5	R-26-5	894-5	894-5	R-26-A-5
	22	0.71	.028	33.5	1.319	32.6	1.285	36.0	1.417	895-5	896-5	R-26-5	896-5	896-5	R-26-A-5
	24	0.56	.022	33.8	1.331	32.6	1.285	36.0	1.417	895-5	896-5	R-26-5	896-5	896-5	R-26-A-5
(38.10) 1.1/2	17	1.47	.058	35.1	1.384	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	18	1.24	.049	35.6	1.402	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	19	1.06	.042	36.0	1.416	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	20	0.89	.035	36.3	1.430	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	21	0.81	.032	36.5	1.436	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	22	0.71	.028	36.7	1.444	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	23	0.64	.025	36.8	1.450	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5
	24	0.56	.022	37.0	1.456	33.8	1.331	37.8	1.489	899-5	900-5	R-29-5	900-5	900-5	R-29-A-5

1200 SERIES LONG REACH EXPANDER

LONG REACH EXPANDER FOR THICK TUBE SHEETS



FOR TUBES INTERNAL DIAMETER
FROM (8.4 mm) .334" TO (36.3 mm) 1.43"

TUBE EXPANDER FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(38.1mm) 1.1/2"	STD REACH (38.1mm) 1.1/2" "A" REACH (38.1mm) 1.1/2" "B" REACH (38.1mm) 1.1/2" "C" REACH (38.1mm) 1.1/2"	(152.4mm) 6" (203.2mm) 8" (253.8mm) 10" (304.6mm) 12"
(57.1mm) 2.1/4"	STD REACH (57.1mm) 2.1/4" "A" REACH (57.1mm) 2.1/4" "B" REACH (57.1mm) 2.1/4" "C" REACH (57.1mm) 2.1/4"	(171.4mm) 6.3/4" (222.1mm) 8.3/4" (272.8mm) 10.3/4" (323.6mm) 12.3/4"

Model 1197-1256 expanders come with 3/8" square mandrel drives
Model 1257-1300 expanders come with 1/2" square mandrel drives.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(12.70) 1/2	14	2.10	.083	8.4	.334	8.2	.324	9.5	.374	1197	1197	797	-	-	-
	15	1.82	.072	9.0	.356	8.8	.348	10.1	.398	1199	1199	R-1	-	-	-
	16	1.65	.065	9.4	.370	9.1	.360	10.4	.410	1201	M-51	R-1	-	-	-
	17	1.47	.058	9.7	.384	9.5	.374	10.7	.424	1203	M-51	R-2	-	-	-
	18	1.24	.049	10.2	.402	9.9	.392	11.3	.447	1205	M-52	R-3	-	-	-
	20	0.88	.035	10.9	.430	10.3	.406	11.7	.461	1205 S	M-53	R-3	-	-	-
(15.88) 5/8	12	2.76	.109	10.3	.407	9.9	.392	11.3	.447	1205	M-52	R-3	-	-	-
	13	2.41	.095	11.0	.435	10.8	.425	12.1	.480	1207	M-53	R-4	-	-	-
	14	2.10	.083	11.6	.459	11.4	.449	12.9	.509	1209	M-54	R-4	1210	M-54	R-4-A
	15	1.82	.072	12.2	.481	11.9	.471	13.6	.536	1211	M-55	R-5	1212	M-55	R-5-A
	16	1.65	.065	12.5	.495	12.3	.485	13.9	.550	1213	M-55	R-6	1214	M-55	R-6-A
	17	1.47	.058	12.9	.509	12.6	.499	14.3	.564	1215	M-56	R-6	1216	M-56	R-6-A
	18	1.24	.049	13.3	.527	13.1	.517	14.5	.572	1217	M-57	R-7	1218	M-57	R-7-A
	19	1.06	.042	13.7	.541	13.2	.522	14.7	.582	1219	M-56	R-7	1220	M-56	R-7-A
	20	0.88	.035	14.1	.555	13.6	.536	15.1	.596	1219 S	M-58	R-7	1220 S	M-58	R-7-A
	21	0.81	.032	14.2	.561	13.6	.536	15.1	.596	1219 S	M-58	R-7	1220 S	M-58	R-7-A
(19.05) 3/4	22	0.71	.028	14.4	.569	13.6	.536	15.1	.596	1219 S	M-58	R-7	1220 S	M-58	R-7-A
	10	3.40	.134	12.2	.482	11.9	.471	13.6	.536	1211	M-55	R-5	1212	M-55	R-5-A
	11	3.04	.120	12.9	.510	12.6	.499	14.3	.564	1215	M-56	R-6	1216	M-56	R-6-A
	12	2.76	.109	13.5	.532	13.2	.522	14.7	.582	1219	M-56	R-7	1220	M-56	R-7-A
	13	2.41	.095	14.2	.560	13.9	.550	15.6	.615	1221	M-58	R-8	1222	M-58	R-8-A
	14	2.10	.083	14.8	.584	14.5	.574	16.2	.639	1223	M-58	R-9	1224	M-58	R-9-A
	15	1.82	.072	15.3	.606	15.1	.596	16.7	.661	1225	M-58	R-10	1226	M-58	R-10-A
	16	1.65	.065	15.7	.620	15.3	.605	17.4	.685	1227	M-59	R-10	1228	M-59	R-10-A
	17	1.47	.058	16.1	.634	15.7	.619	17.7	.699	1229	M-59	R-11	1230	M-59	R-11-A
	18	1.24	.049	16.5	.652	15.7	.619	17.7	.699	1229	M-59	R-11	1230	M-59	R-11-A
	19	1.06	.042	16.9	.666	16.3	.642	18.3	.722	1231	M-59	R-12	1232	M-59	R-12-A
	20	0.88	.035	17.2	.680	16.3	.642	18.3	.722	1231	M-59	R-12	1232	M-59	R-12-A
(22.22) 7/8	21	0.81	.032	17.4	.686	16.3	.642	18.3	.722	1231	M-59	R-12	1232	M-59	R-12-A
	22	0.71	.028	17.6	.694	16.3	.642	18.3	.722	1231	M-59	R-12	1232	M-59	R-12-A
	10	3.40	.134	15.4	.607	15.1	.596	16.7	.661	1225	M-58	R-10	1226	M-58	R-10-A
	11	3.04	.120	16.1	.635	15.7	.619	17.7	.699	1229	M-59	R-11	1230	M-59	R-11-A
	12	2.76	.109	16.6	.657	16.3	.642	18.3	.722	1231	M-59	R-12	1232	M-59	R-12-A
	13	2.41	.095	17.4	.685	17.0	.670	19.0	.750	1233	M-60	R-13	1234	M-60	R-13-A
	14	2.10	.083	18.0	.709	17.4	.685	19.6	.774	1235	M-61	R-14	1236	M-61	R-14-A
	15	1.82	.072	18.5	.731	18.0	.712	20.3	.801	1237	M-61	R-15	1238	M-61	R-15-A
	16	1.65	.065	18.9	.745	18.4	.726	20.7	.815	1239	M-62	R-15	1240	M-62	R-15-A
	17	1.47	.058	19.2	.759	18.8	.740	21.0	.829	1243	M-62	R-16	1244	M-62	R-16-A
18	1.24	.049	19.7	.777	18.8	.740	21.0	.829	1243	M-62	R-16	1244	M-62	R-16-A	

1200 SERIES LONG REACH EXPANDER

AVAILABLE UP TO 12" LONG REACH



Features :

- Similar as 800 series expanders this expander is also a workhorse in its category.
- Its is mostly used for larger expansion length in thick tube sheet.
- It can cover expansion length up to 320mm in step by step expansion in which each step can be of 50 mm max.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 1.1/2" Long Rollers			
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.	
(25.40)	1	8	4.19	.165	17.0	.670	16.6	.665	18.6	.735	1241	M-59	R-13	1242	M-59	R-13-A
		9	3.75	.148	17.8	.704	17.4	.685	19.6	.774	1235	M-61	R-14	1236	M-61	R-14-A
		10	3.40	.134	18.5	.732	18.0	.712	20.3	.801	1237	M-61	R-15	1238	M-61	R-15-A
		11	3.04	.120	19.3	.760	18.8	.740	21.0	.829	1243	M-62	R-16	1244	M-62	R-16-A
		12	2.76	.109	19.8	.782	19.3	.763	21.6	.852	1245	M-62	R-17	1246	M-62	R-17-A
		13	2.41	.095	20.5	.810	20.0	.791	22.3	.880	1247	M-62	R-18	1248	M-62	R-18-A
		14	2.10	.083	21.1	.834	20.5	.810	23.0	.909	1249	M-63	R-18	1250	M-63	R-18-A
		15	1.82	.072	21.7	.856	21.2	.837	23.7	.936	1251	M-63	R-19	1252	M-63	R-19-A
		16	1.65	.065	22.1	.870	21.2	.837	23.7	.936	1251	M-63	R-19	1252	M-63	R-19-A
		17	1.47	.058	22.4	.884	21.9	.865	24.4	.964	1255	M-63	R-21	1256	M-63	R-21-A
(29.58)	1.1/8	8	4.19	.165	20.1	.795	19.7	.776	22.2	.875	1253	M-63	R-20	1254	M-63	R-20-A
		9	3.75	.148	21.0	.829	20.5	.810	23.0	.909	1249	M-63	R-18	1250	M-63	R-18-A
		10	3.40	.134	21.7	.857	21.2	.837	23.7	.936	1251	M-63	R-19	1252	M-63	R-19-A
		11	3.04	.120	22.4	.885	21.9	.865	24.4	.964	1255	M-63	R-21	1256	M-63	R-21-A
		12	2.76	.109	23.0	.907	22.4	.883	24.9	.982	1257	M-64	R-21	1258	M-64	R-21-A
		13	2.41	.095	23.7	.935	23.2	.916	25.7	1.015	1259	M-64	R-22	1260	M-64	R-22-A
		14	2.10	.083	24.3	.959	23.7	.935	26.5	1.044	1261	M-65	R-23	1262	M-65	R-23-A
		15	1.82	.072	24.9	.981	24.4	.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24-A
		16	1.65	.065	25.2	.995	24.4	.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24-A
		17	1.47	.058	25.6	1.010	25.1	.990	27.9	1.009	1267	M-66	R-26	1268	M-66	R-26-A
(31.75)	1.1/4	8	4.19	.165	23.3	.920	22.8	.901	25.6	1.010	1265	M-65	R-25	1266	M-65	R-25-A
		9	3.75	.148	24.2	.954	23.7	.935	26.5	1.044	1261	M-65	R-23	1262	M-65	R-23-A
		10	3.40	.134	24.9	.982	24.4	.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24-A
		11	3.04	.120	25.6	1.010	25.1	.990	27.9	1.009	1267	M-66	R-26	1268	M-66	R-26-A
		12	2.76	.109	26.2	1.032	25.7	1.013	28.5	1.122	1269	M-66	R-27	1270	M-66	R-27-A
		13	2.41	.095	26.9	1.060	26.4	1.039	29.2	1.150	1271	M-67	R-28	1272	M-67	R-28-A
		14	2.10	.083	27.5	1.084	26.9	1.060	29.6	1.169	1273	M-67	R-29	1274	M-67	R-29-A
		15	1.82	.072	28.0	1.106	27.6	1.087	30.3	1.196	1275	M-67	R-30	1276	M-67	R-30-A
		16	1.65	.065	28.4	1.120	27.6	1.087	30.3	1.196	1275	M-67	R-30	1276	M-67	R-30-A
		17	1.47	.058	28.8	1.134	28.3	1.115	31.0	1.224	1279	M-68	R-30	1280	M-68	R-30-A
(34.92)	1.3/8	8	4.19	.165	26.5	1.045	26.0	1.026	28.8	1.135	1277	M-67	R-31	1278	M-67	R-31-A
		9	3.75	.148	27.4	1.079	26.9	1.060	29.6	1.169	1273	M-67	R-29	1274	M-67	R-29-A
		10	3.40	.134	28.1	1.107	27.6	1.087	30.3	1.196	1275	M-67	R-30	1276	M-67	R-30-A
		11	3.04	.120	28.8	1.135	28.3	1.115	31.0	1.224	1279	M-68	R-30	1280	M-68	R-30-A
		12	2.76	.109	29.3	1.157	28.7	1.133	31.5	1.242	1281	M-68	R-32	1282	M-68	R-32-A
		13	2.41	.095	30.1	1.185	29.4	1.160	32.3	1.275	1283	M-69	R-33	1284	M-69	R-33-A
		14	2.10	.083	30.7	1.209	29.9	1.179	32.8	1.294	1285	M-70	R-34	1286	M-70	R-34-A
		15	1.82	.072	31.2	1.231	30.6	1.206	33.5	1.321	1287	M-70	R-35	1288	M-70	R-35-A
		16	1.65	.065	31.6	1.245	30.6	1.206	33.5	1.321	1287	M-70	R-35	1288	M-70	R-35-A
		(38.10)	1.1/2	8	4.19	.165	29.7	1.170	29.0	1.145	32.0	1.260	1289	M-79	R-34	1290
9	3.75			.148	30.5	1.204	29.9	1.177	32.8	1.294	1285	M-70	R-34	1286	M-70	R-34-A
10	3.40			.134	31.2	1.232	30.6	1.206	33.5	1.321	1287	M-70	R-35	1288	M-70	R-35-A
11	3.04			.120	32.0	1.260	31.3	1.235	34.2	1.350	1291	M-70	R-36	1292	M-70	R-36-A
12	2.76			.109	32.5	1.282	31.9	1.257	34.8	1.372	1293	M-70	R-37	1294	M-70	R-37-A
13	2.41			.095	33.2	1.310	32.6	1.285	35.5	1.400	1295	M-71	R-37	1296	M-71	R-37-A
14	2.10			.083	33.8	1.334	32.6	1.285	35.5	1.400	1295	M-71	R-37	1296	M-71	R-37-A
15	1.82			.072	34.4	1.356	33.8	1.331	36.7	1.446	1297	M-71	R-38	1298	M-71	R-38-A
16	1.65			.065	34.8	1.370	33.8	1.331	36.7	1.446	1297	M-71	R-38	1298	M-71	R-38-A
17	1.47			.058	35.1	1.384	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38-A
(38.10)	1.1/2	18	1.24	.049	35.6	1.402	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38-A
		19	1.06	.042	35.9	1.416	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38-A
		20	0.88	.035	36.3	1.430	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38-A
		20	0.88	.035	36.3	1.430	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38-A

1200 SERIES LONG REACH

DBX | Dh Boiler eXchangers Tools Pvt. Ltd.

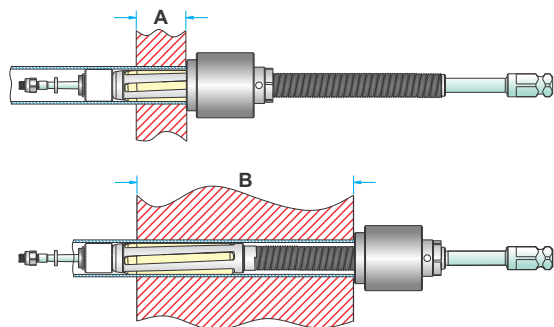
1200-5 SERIES FIVE ROLL EXPANDER

LONG REACH EXPANDER FOR THIN WALL TUBE

3/4"-1 1/2"
 OD



FOR TUBES INTERNAL DIAMETER
 FROM (14.8 mm) .584" TO (36.3 mm) 1.43"



TUBE EXPANDER FITTED WITH ROLLER LENGTH		FOR TUBE SHEET ADJUSTABLE RANGE	
		MINIMUM A	MAXIMUM B
(38.1mm) 1.1/2"	STD REACH	(38.1mm) 1.1/2"	(152.4mm) 6"
	"A" REACH	(38.1mm) 1.1/2"	(203.2mm) 8"
	"B" REACH	(38.1mm) 1.1/2"	(253.8mm) 10"
	"C" REACH	(38.1mm) 1.1/2"	(304.6mm) 12"
(57.1mm) 2.1/4"	STD REACH	(57.1mm) 2.1/4"	(171.4mm) 6.3/4"
	"A" REACH	(57.1mm) 2.1/4"	(222.1mm) 8.3/4"
	"B" REACH	(57.1mm) 2.1/4"	(272.8mm) 10.3/4"
	"C" REACH	(57.1mm) 2.1/4"	(323.6mm) 12.3/4"

Features :

- Similar as 800 series expanders this 1200 series expander is also a workhorse in its category.
- Most world wide usage of this tool is due to its superior and economical performance.
- Its is mostly used for larger expansion length in thick tube sheet.
- It can cover expansion length up to 320mm in step by step expansion in which each step can be of 50 mm max.

Model 1223-5 expanders come with 3/8" square mandrel drives
 Model 1263-5 - 1300-5 expanders come with 1/2" square mandrel drives.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (38.10 mm) 1.1/2" Long Rollers			EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.	Complete Tool No.	Mandrel No.	Rollers Set No.
(19.05) 3/4	14	2.10	.083	14.8	.584	14.5	.574	16.2	.639	1223-5	1224-5	R-6-5	1224-5	1224-5	R-6-A-5
	15	1.82	.072	15.3	.606	14.9	.590	16.7	.661	1225-5	1226-5	R-7-5	1226-5	1226-5	R-7-A-5
	16	1.65	.065	15.7	.620	15.3	.605	17.4	.685	1227-5	M-63	R-7-5	1228-5	M-63	R-7-A-5
	17	1.47	.058	16.1	.634	15.7	.619	17.8	.699	1229-5	1230-5	R-7-5	1230-5	1230-5	R-7-A-5
	18	1.24	.049	16.5	.652	15.7	.619	17.8	.722	1229-5	1230-5	R-7-5	1230-5	1230-5	R-7-A-5
	19	1.06	.042	16.9	.666	16.3	.642	18.5	.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9-A-5
	20	0.88	.035	17.2	.680	16.3	.642	18.5	.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9-A-5
	21	0.81	.032	17.4	.686	16.3	.642	18.5	.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9-A-5
(25.40) 1	22	0.71	.028	17.6	.694	16.3	.642	18.5	.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9-A-5
	14	2.10	.083	21.1	.834	20.5	.810	23.0	.909	1249-5	1250-5	R-12-5	1250-5	1250-5	R-12-A-5
	15	1.82	.072	21.7	.856	21.2	.837	23.7	.936	1251-5	1251-5	R-13-5	1252-5	1251-5	R-13-A-5
	16	1.65	.065	22.0	.870	21.2	.837	23.7	.936	1251-5	1251-5	R-13-5	1252-5	1251-5	R-13-A-5
	17	1.47	.058	22.4	.884	21.9	.865	24.4	.964	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13-A-5
	18	1.24	.049	22.9	.902	21.9	.865	24.4	.964	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13-A-5
	19	1.06	.042	23.2	.916	21.9	.865	24.4	.964	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13-A-5
	20	0.88	.035	23.6	.930	21.9	.865	24.4	.964	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13-A-5
(28.58) 1.1/8	21	0.81	.032	23.8	.936	22.4	.883	24.9	.982	1257-5	M-71-3/8	R-15-5	1258-5	M-71-3/8	R-15-A-5
	22	0.71	.028	24.0	.944	22.4	.883	24.9	.982	1257-5	M-71-3/8	R-15-5	1258-5	M-71-3/8	R-15-A-5
	12	2.76	.109	23.0	.907	22.4	.883	24.9	.982	1257-5	M-71-3/8	R-15-5	1258-5	M-71-3/8	R-15-A-5
	15	1.82	.072	24.9	.981	24.4	.962	27.2	1.071	1263-5	1263-5	R-18-5	-	-	-
(38.10) 1.1/2	16	1.65	.065	25.2	.995	24.4	.962	27.2	1.071	1263-5	1263-5	R-18-5	-	-	-
	17	1.47	.058	35.1	1.384	33.8	1.331	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29-A-5
	18	1.24	.049	35.6	1.402	33.8	1.331	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29-A-5
	19	1.06	.042	36.0	1.416	33.8	1.331	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29-A-5
	20	0.89	.035	36.3	1.430	33.8	1.331	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29-A-5

DTA - 15 (Current Based)

Features :

- Fully solid state with Digital Display. No Moving parts like relay or contactors, So less wear and tear and long life.
- Working satisfactory in market since last 10 years with very successful market report.
- Superior SCR technology used over Triacs for controlling the high voltage drives.
- Rugged and sturdy construction for harsh on site condition.
- All operation indicated with the glow of LED indicators.
- Separate Emergency REVERSE switch provided.
- Arrangement for connecting optional foot-switch.
- MCB provided for electrical safety which protect the operators in case of any short circuit.



MODEL DTA-15

Model	Voltage	Max Amps	Expansion Drive Suitable	Weight
DTA - 15	110	20	EDB0, EDB1, EDR-2, EDR-3	8
DTA - 15	230	10	EDB0, EDB1, EDR-2, EDR-3	7

DTW - 15 (Wattage Based)

Features :

- Fully Solid State Design - No noise - Long life.
- Advance micro-controller chip for control functions.
- Accurately calibrated torque settings with a resolution of 1 watt facilities easy setting reproduction of identical results.
- Soft start feature reduces starting currents in the drive resulting in increased life of carbon brushes & drive. Connected drive is automatically recognized & indicated by means of LED on the torque controller.
- Four different Torque setting arranged for four different ranges to suit four different drives.
- Appropriate maximum wattage range is automatically selected for the connected drive, hence drives can not be abused or overloaded.
- Manual reverse by push button, in case of emergency. Expansions can be carried out either in single cycle mode or auto repeat mode.
- All operation of drive like FWD, REV, TRIP are indicated with LED indicators.
- MCB provided to protect the operator, controller and expansion drives against over current by short circuits.
- All the spares inside the panel viz : PCBs, Transformers, CT, Relays DPM etc. can be easily replaced by use of only a screw driver.
- Superior SCR technology has been incorporated rather than triacs.
- SCR have much better voltage, current & v/t ratings than triacs. This leads to greater reliability & the power circuit becomes almost failsafe.
- DBX Torque controllers are widely used by many users worldwide and have an excellent market report.



MODEL DTW-15

Model	Volts	Max Amps	Max Watts	Expansion Drive Suitable	Weight
STANDARD MODELS					
DTW - 15	110	20	1260	EDB-0, EDB-1, EDR-2, EDR-3	11
DTW - 15	230	10	1260	EDB-0, EDB-1, EDR-2, EDR-3	10
HEAVY DUTY MODELS					
DTW-15-E	110	32	1600	EDB-0, EDB-1, EDG-2, EDG-3	11
DTW-15-E	230	16	1600	EDB-0, EDB-1, EDG-2, EDG-3	10
PC COMPATIBLE MODEL					
DTW-15-PC	230	16	1600	EDB-0, EDB-1, EDG-2, EDG-3	10



FEATURES :

- Heavy Duty and light weight drives. Continuous duty cycle.
- Less sparking of carbon brush under load condition increases the life of carbon brushes and armatures



EDB-0



EDB-1



EDR-2



EDR-3



EDG-2



EDG-3

Supply Voltage Single Phase 50/60 Hz	Drive Model	Drive Speed	No Load R.P.M.	Expansion Range				Drive Weight Kgs.
				Steel Tube O. D.		Copper Tube O. D.		
				inch	mm	inch	mm	
230 V	EDB - 0N	I	2000	1/4" - 3/8"	6 - 10	1/4" - 1/2"	6 - 12	2
	EDB - 1N	I	1000	3/8" - 5/8"	10 - 16	3/8" - 3/4"	13 - 20	2.5
		II	1900	5/16" - 3/8"	8 - 13	5/16" - 1/2"	10 - 16	
	EDR - 2N	I	560	5/8" - 1.1/4"	16 - 28	3/4" - 1.3/8"	19 - 34	7.5
	EDR - 3N	I	380	1" - 1.3/4"	25 - 45	1.1/2" - 2.1/4"	38 - 57	11.3
	EDG - 2N	I	480	5/8" - 1.3/4"	16 - 45	5/8" - 2"	16 - 50	7.5
II		1080	5/8" - 1.1/4"	16 - 32	5/8" - 1.1/2"	16 - 38		
EDG - 3N	I	130	1" - 3"	25 - 76	1" - 4"	25 - 102	8.5	
	II	430	1" - 2"	25 - 50	1" - 3"	25 - 76		
110 V	EDB - 0N	I	2000	1/4" - 3/8"	6 - 10	1/4" - 1/2"	6 - 12	2
	EDB - 1N	I	1000	3/8" - 5/8"	10 - 16	3/8" - 3/4"	13 - 20	2.5
		II	1900	5/16" - 3/8"	8 - 13	5/16" - 1/2"	10 - 16	
	EDR - 2N	I	560	5/8" - 1.1/4"	16 - 28	3/4" - 1.3/8"	19 - 34	7.5
	EDR - 3N	I	380	1" - 1.3/4"	25 - 45	1.1/2" - 2.1/4"	38 - 57	11.3
	EDG - 2N	I	480	5/8" - 1.3/4"	16 - 45	5/8" - 2"	16 - 50	7.5
		II	1080	5/8" - 1.1/4"	16 - 32	5/8" - 1.1/2"	16 - 38	
	EDG - 3N	I	130	1" - 3"	25 - 76	1" - 4"	25 - 102	8.5
		II	430	1" - 2"	25 - 50	1" - 3"	25 - 76	

PNEUMATIC TUBE EXPANSION DRIVES

PISTOL TYPE PNEUMATIC ROLLING DRIVE - PRD

1/2" - 1.1/4"
OD



Areas where sparking tools are not allowed Pneumatic Rolling Drives are the best choice for tube expansion. Precise tripping mechanism make it highly accurate tool for tube expansion.

Features :

- Fully aluminum body so light in weight.
- Ergonomically perfect push / pull throttle
- Drive stop halts Automatically after achieving the set load
- Precisely controlled torque output.

Model Number	Free Speed rpm	Min Torque nm	Max Torque nm	Tube Capacity inch	Air Consumption l/min	Weight kg.
PRD - 1250	1250	1.58	12.20	3/4	1700	4.80
PRD - 600	600	2.49	21.81	1	1700	4.80
PRD - 400	400	5.00	36.00	1.1/4	1700	4.80

RIGHT ANGLE ROLLING DRIVES

1.1/2" - 4"
OD



Right angle Drives are heavy duty rolling drives specifically designed for expanding large OD boiler tubes in steam drum, mud drums, fire tube & related boiler equipment.

Features :

- Smartly design Fully enclosed bearings assembly which increase the trouble free life
- Both models equipped with roll throttle as standard supply. Other lever throttle if required can be provided optionally.
- Torque setting is extremely easy.
- Multi position Angle head can be set in any position. 360 degree adjustable air exhaust.

Model Number	Free Speed rpm	Min Torque nm	Max Torque nm	Tube Capacity inch	Air Consumption l/min	Weight kg.
PRD-RT-190	190	95	190	2.5	57	5.80
PRD-RT- 90	90	200	410	4	57	6.70

COLLAPSIBLE TROLLEY FOR TUBE EXPANSION

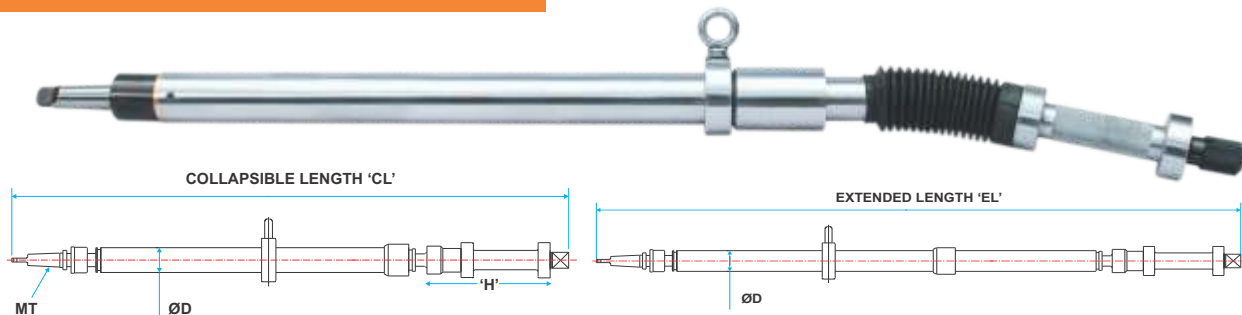


Features :

An ultimate option for in house jobs of Tube expansion, Tube cutting etc. Fully detachable and collapseable for easy storage and mobility. Fully Powder coated body made of Sheet Metal Construction. Spacious and comfortably houses all tools needed for expanding tubes.

Model	Description
FS-1	Foot Switches, set of 3 separate paddles.
TCW	Digital Torque Controller.
TR-1	Fully powder coated Collapsible Trolley
SWF-5	Spring Balancer
SB-1	Stainless steel Swivel Bracket
MP	Suitable Electric Drive
TS	Telescopic Shaft

TELESCOPIC SHAFTS



Features :

- Telescopic shafts are mainly used for relieving the operator from continuously handling the drives.
- Sturdy construction and smooth operation, it absorbs all torque during tube expansion.

Model Number	MT Shank	CL mm	EL mm	Handle Length 'H' mm	D mm	For Use with Drive Model	Weight kg	Supplied with Quick Change Chucks and Adaptors of Following Sizes
TS-1 E	2 MT	850	1250	200	38.0	MP-2	2.75	3/8", 1/2", 3/4"
TS-2 E	3 MT	1000	1505	225	38.0	MP-3	5.75	1/2", 3/4", 1"
TS-3 E	3 MT	1000	1400	250	51.0	MP-3	9.20	1/2", 3/4", 1"

QUICK CHANGE CHUCKS AND ADAPTORS



Specify Square Size
(to couple to expander mandrel square)

Features :

- Mainly use directly with Expansion Drives all - electric, hydraulic and pneumatic.
- Also can be used with Telescopic Shafts.
- All practical combination possible for use with any manufacturers equipment.
- Kindly specify the square size and thread type (if applicable) on either end of quick change chuck / adaptor when ordering.

HYDRAULIC EXPANSION SYSTEM.



HYDRAULIC POWERPACK : HEP-500



HEP-500 Simplified



HEP 500 Wireless Controls

Full body is powder coated and assembled on four wheels for ease of movement. Easy to move the powerpack on the floor with the help of Hand and Wheels.

Features

- 1) High torque machine suitable for expanding large diameter and thick wall tubes with easy.
- 2) Best suitable for the tubes in boiler range.
- 3) Very compact hence very easy and comfortable to use inside the boiler drum.
- 4) Silent operation as compared to other pneumatic or Electric expansion system.
- 5) Four different drives to suite the full range of tube in this category.
- 6) All four drive and be used with one single powerpack.
- 7) Rugged –long life – low maintenance.
- 8) Inbuilt Single phase and Phase reverse protection.

Simplified version

All operation are indicated by LED on the front panel of Powerpack. Hand set is connected to powerpack with 10 meters control cable. Simple circuit yet highly durable.

Wireless Version

All operation are remotely controlled by a wireless remote 'Hand-Set' within a range of 20 meters. State of art technology using microcontroller for highly precise and user friendly operation. Fully automatic Forward- Trip-Reverse operation.



HYDRAULIC DRIVE.

HYDRAULIC POWERPACK

	Hydraulic Powerpack Model	
	HEP 500 (Simplified)	HEP 500 (Wireless control)
Operating Control	Wired hand set with 10 meter control cable	Wireless remote controller with 20 meter range.
Tank Capacity	45	45
Max Working Pressure	100	100
Voltage Supply	3 phase / 415 Volts	3 phase / 415 Volts
Electric Motor	5 hp . 3 phase	5 hp . 3 phase
Standard hose size	1/2 " x 10 mtrs	1/2 " x 10 mtrs
Hydraulic Oil grade	SAE VG 68	SAE VG 68
Net Weight (kg)	100	100

Tube Expansion Range				Drive		Drive Speed N/L rpm	Drive Weight Kgs.
Steel Tube O.D.		Copper Tube O.D.		Model No.	Square Socket inch		
mm	inch	mm	inch			With HEP-500	
15-25	5/8 - 1	25 - 38	1 - 1.1/2	HED-3	3/8	954	
19-38	3/4 - 1.1/2	32- 1.1/2	1.1/4 - 2.1/2	HED-4	3/8 & 1/2	480	9.7
38-76	1.1/2- 3	50 - 102	2 - 4	HED-5	1/2 & 3/4	884	
50-102	2 - 4	-	-	HED-6	3/4 & 1	62	11.5

Note : Drive supplied with FORWARD, STOP, REVERSE, AUTO BUTTONS, QUICK RELEASE COUPLINGS, SOCKETS and REACTION BAR.

Powerpack includes 2 hoses each of length 10 meters. If required longer hoses can be supplied.



HOSE

Model No.	Hydraulic Hose (Qty. x Size x Length) (Mtrs.)
HE/HS/1210/2	2 x 1/2" x 10
HE/HS/5815/2	2 x 5/8" x 15
HE/HS/5820/2	2 x 5/8" x 20
HE/HS/1210/4	4 x 1/2" x 10
HE/HS/5815/4	4 x 5/8" x 15
HE/HS/5820/4	4 x 5/8" x 20



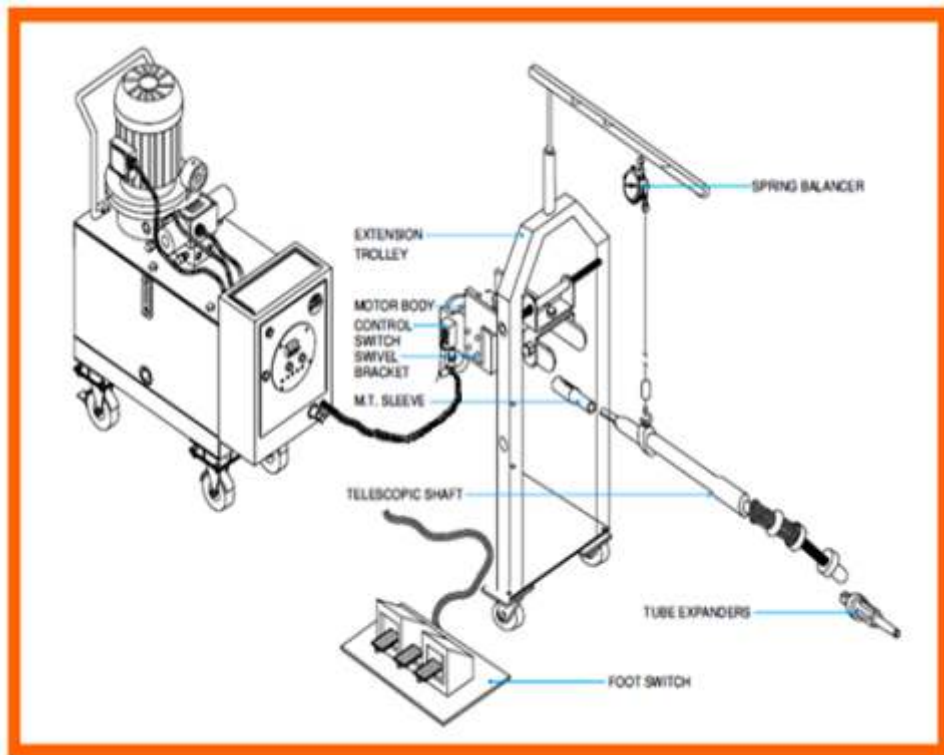
SUPPLY CABLE

Model No.	Supply Cable Length (Mtrs.)
HE/SC/15	15
HE/SC/20	20
HE/SC/25	25



HYDRAULIC DRIVE SOCKET

Model No.	Square Size
HE/DS/38	3/8"
HE/DS/12	1/2"
HE/DS/34	3/4"
HE/DS/1	1"



Extension Trolley - Optional detachable Trolley suitable for HEP 500, used when the system is intended to be operated with Telescopic Shaft assembly and Foot Switch.

Motor Body - The steel body which envelops the hydraulic motor.

Control Switch - Detachable wired or wireless Handset with FWD- STOP- REV Switches to control the drive operation.

Swivel Bracket - The bracket assembly use to attach the hydraulic drive to the trolley.

MT Sleeve - The socket to couple the telescopic shaft and hydraulic drive.

Telescopic Shaft - To be used with the trolley for easy and comfortable operation while expanding tubes.

Foot Switch - Alternative control switches to control the drive operation if operator intends to operate the drive with foot.

Spring Balancer - Used to suspend the telescopic shaft to the trolley and counter its weight by spring tension.



FOOT SWITCH

Model	Description
FS-I	Set of 3 Foot Switches



TELESCOPIC SHAFT

Model Number	MT Shank	CL mm	EL mm	Handle Length 'H' mm	D mm	For Use with Drive Model	Weight kg	Supplied with Quick Change Chucks and Adapters of Following Sizes
TS-1 E	2 MT	850	1250	200	38.0	MP-2	2.75	3/8", 1/2", 3/4"
TS-2 E	3 MT	1000	1505	225	38.0	MP-3	5.75	1/2", 3/4", 1"
TS-3 E	3 MT	1000	1400	250	51.0	MP-3	9.20	1/2", 3/4", 1"

REAMER - BRUSH - TUBE GUIDE

TUBE SHEET HOLE REAMER, BRUSH & TUBE GUIDE



3/8"-4"
O.D.

REAMER



Features :

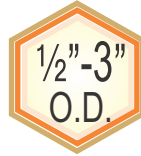
Idle for the smooth and accurate reaming of hole in tube sheet of heat exchanger and condenser

High speed steel cryo processed coated with titanium nitride for long life.

Reamer available in TEMA standard and in mm.

Available in large diameter and long flute length.

O. D.		Reamer Size to "TEMA" Spec.		Model No.	Tube I.D.		OAL		Shank: Morse Taper #
mm	inch	mm	inch		mm	inch	mm	inch	
9.53	3/8	9.65	0.380	RM-095/66	66	2.60	146	5.70	1
				RM-095/101	102	3.97	181	7.12	
				RM-095/152	152	5.98	232	9.13	
12.70	1/2	12.83	.505	RM-127/76	76	2.99	156	6.14	1
				RM-127/101	101	3.97	181	7.12	
				RM-127/152	152	5.98	232	9.13	
15.87	5/8	16.03	.631	RM-158/87	87	3.42	187	7.36	2
				RM-158/152	152	5.98	252	9.92	
				RM-158/203	203	7.99	303	11.93	
16.00	-	16.16	.636	RM-160/87	87	3.42	187	7.36	2
				RM-160/152	152	5.98	252	9.92	
				RM-160/203	203	7.99	303	11.93	
19.05	3/4	19.25	.758	RM-190/100	100	3.90	200	7.87	2
				RM-190/152	152	5.98	252	9.92	
				RM-190/203	203	7.99	303	11.93	
20.00	-	20.20	.795	RM-200/100	100	3.90	200	7.87	2
				RM-200/152	152	5.98	252	9.92	
				RM-200/203	203	7.99	303	11.93	
22.00	-	22.22	.875	RM-220/107	107	4.21	207	8.15	2
				RM-220/152	152	5.98	252	9.92	
				RM-220/203	203	7.99	303	11.93	
22.22	7/8	22.42	.883	RM-222/107	107	4.21	207	8.15	2
				RM-222/152	152	5.98	252	9.92	
				RM-222/203	203	7.99	303	11.93	
25.00	-	25.25	.994	RM-250/115	115	4.53	242	9.53	3
				RM-250/203	203	7.99	330	12.99	
				RM-250/254	254	10.00	381	15.00	
25.40	1	25.65	1.010	RM-254/115	115	4.53	242	9.53	3
				RM-254/203	203	7.99	330	12.99	
				RM-254/254	254	10.00	381	15.00	
28.57	1.1/8	28.86	1.136	RM-285/124	124	4.88	251	9.88	3
				RM-285/203	203	7.99	330	12.99	
				RM-285/254	254	10.00	381	15.00	
31.75	1.1/4	30.07	1.262	RM-317/133	133	5.23	293	11.53	4
				RM-317/203	203	7.99	363	14.29	
				RM-317/254	254	10.00	414	16.30	



1/2"-3"
O.D.

TUBE SHEET HOLE BRUSH

Features :

Mainly used to clean tube sheet bore before insertion of tubes



Tube O.D.		Model No.
mm	Inch	
12.70	1/2	TSHB-1/2
15.87	5/8	TSHB-5/8
19.05	3/4	TSHB-3/4
22.22	7/8	TSHB-7/8
25.40	1	TSHB-1
31.75	1.1/4	TSHB-1.1/4
38.10	1.1/2	TSHB-1.1/2
44.45	1.3/4	TSHB-1.3/4
50.80	2	TSHB-2
57.15	2.1/4	TSHB-2.1/4
63.50	2.1/2	TSHB-2.1/2
69.85	2.3/4	TSHB-2.3/4
76.20	3	TSHB-3

TUBE GUIDE

Features :

This tool is use during inserting the tube in to the tube sheet and baffles. It is inserted into the tube end which helps to 'pilot' the tubes through the tubes sheets and baffle plates during tube insertion.

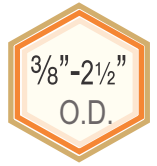


1/2"-3"
O.D.



Tube O.D.		Tube Thk. bwg.	Model No.
mm	Inch		
12.70	1/2	16-18	PTG-1
		19-20	PTG-2
		21-23	PTG-2.5
15.87	5/8	12-13	PTG-3
		14-16	PTG-4
		17-20	PTG-5
19.05	3/4	22-24	PTG-5.5
		10.12	PTG-6
		13-16	PTG-7
22.22	7/8	17-20	PTG-8
		22-24	PTG-8.5
		10-12	PTG-9
25.40	1	13-16	PTG-10
		17-20	PTG-11
		21-22	PTG-11.5
31.75	1.1/4	8-9	PTG-12.5
		10-12	PTG-12
		13-16	PTG-13
34.92	1.3/8	17-20	PTG-14
		21-23	PTG-14.5
		10-13	PTG-15
38.10	1.1/2	14-20	PTG-16
		8-9	PTG-17
		10-13	PTG-18
50.80	2	14-20	PTG-19
		8-9	PTG-20
		10-13	PTG-21
63.50	2.1/2	14-20	PTG-22
		8-10	PTG-23
		11-13	PTG-24
76.20	3	14-18	PTG-25
		10-13	PTG-26
		14-18	PTG-27

'ST' SERIES - SINGLE DIA TOOL



Features :

- Idle for machining grooves in tube sheet holes at heat Exchanger and condenser.
- Compact design for extreme rigidity, less run-out increased accuracy
- By applying light pressure to cut groove will get high production
- Designed to suit cnc machine.

Tube O.D.		Tool Model No.	Spare Tool Bits		
mm	inch		1/8" x 3/8" x 1/8" Spacing	1/8" x 1/4" x 1/8" Spacing	Special Spacing
9.53	3/8	ST-375-970	ST-3703	ST-3703-S	ST-3703-SPEC
12.70	1/2	ST-500-1270	ST-5003	ST-5003-S	ST-5003-SPEC
15.87	5/8	ST-625-1588	ST-6203	ST-6203-S	ST-6203-SPEC
19.05	3/4	ST-750-1900	ST-7503	ST-7503-S	ST-7503-SPEC
22.22	7/8	ST-875-2220	ST-8753	ST-8753-S	ST-8753-SPEC
25.40	1	ST-1000-2540	ST-10003	ST-10003-S	ST-10003-SPEC
31.75	1.1/4	ST-1250-3175	ST-12503	ST-12503-S	ST-12503-SPEC
38.10	1.1/2	ST-1500-3810	ST-15003	ST-15003-S	ST-15003-SPEC
50.80	2	ST-2000-5080	ST-20003	ST-20003-S	ST-20003-SPEC
63.50	2.1/2	ST2500-6350	ST25003	ST25003-S	ST-25003-SPEC

'NW' SERIES - ADJUSTABLE TYPE TOOL



CIRCULAR FORM CUTTER



TOOL BIT HOLDER WITH TOOLBIT

Features :

- Standard interchangeable pilot nose assemblies and stop collars quickly adapt one tool to pilot either in the work or in the fixture bushing.
- Changing of pilot nose and cutter allows one tool to cover a range of hole diameter.
- Simple to change cutter for different groove shapes.
- Location and depth of cut easy to adjust.
- Only light pressure required to cut precision groove.
- Ready to fit to drill machines, lathes and boring machine.
- The life of the cutter will be extendable by re sharpening.

Bore Range		Tool Model No.	Pilot Nose Model No.	Circular Form Cutter Model No.	Tool Bit Holder Model No.	Spare Tool Bit Model No.
mm	inch					
9 - 32	3/8 - 1.1/4	1 NW - 2 MT	1 NW - PN	1 NW - CF	1 NW - TBH	1 NW - TB
16 - 45	5/8 - 1.3/4	3 NW - 3 MT	3 NW - PN	3 NW - CF	3 NW - TBH	3 NW - TB
19 - 48	3/4 - 1.7/8	4 NW - 4 MT	4 NW - PN	4 NW - CF	4 NW - TBH	4 NW - TB
38 - 102	1.1/2 - 4	6 NW - 5 MT	6 NW - PN	6 NW - CF	6 NW - TBH	6 NW - TB

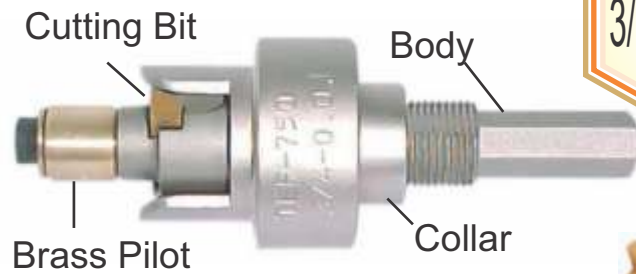
Note : Circular Form Cutter (CF Cutter) and Tool Bit Holder with Tool Bit (TBHTB) are alternative to each other and perform same function. Kindly specify whether you need CF Cutter (one piece HSS construction) or TBHTB- having detachable tool bit , when ordering. TBHTB available for 16mm (5/8") and above hole diameters only. For more detail spare parts list refer to operation manual.

TUBE END FACER

'TEF' SERIES

Features :

- Ideally suited for facing tube ends projecting after expansion on heat Exchangers and condensers
- The rotating bell protects the surface of the tube sheet from machining mark.
- By changing pilot gauge one size of tool can be used for multiple thicknesses.



Tool Bit



Tool Bit for Stainless Steel

Tube O.D.		Tube Thk. bwg.	Model No.	Spare Tool Bits	
mm	Inch			Non-Ferrous of Carbon Steel Tubes Model No.	Stainless Steel Tubes Model No.
9.53	3/8	16-22	TFT-375	TFT-376	TFT-376 SS
12.70	1/2	15-20	TFT-500	TFT-506	TFT-506 SS
15.87	5/8	14-18	TFT-625	TFT-626	TFT-626 SS
19.05	3/4	10-18	TFT-750	TFT-756	TFT-756 SS
22.22	7/8	13-18	TFT-875	TFT-876	TFT-876 SS
25.40	1	11-18	TFT-1000	TFT-1006	TFT-1006 SS
28.57	1.1/8	11-18	TFT-1125	TFT-1126	TFT-1126 SS
31.75	1.1/4	11-18	TFT-1250	TFT-1256	TFT-1256 SS
34.92	1.3/8	11-18	TFT-1375	TFT-1376	TFT-1376 SS
38.10	1.1/2	11-18	TFT-1500	TFT-1506	TFT-1506 SS
41.27	1.5/8	11-18	TFT-1625	TFT-1626	TFT-1626 SS
44.45	1.3/4	11-18	TFT-1750	TFT-1756	TFT-1756 SS
47.62	1.7/8	11-18	TFT-1875	TFT-1876	TFT-1876 SS
50.80	2	11-18	TFT-2000	TFT-2006	TFT-2006 SS
57.15	2.1/4	11-18	TFT-2250	TFT-2256	TFT-2256 SS
63.50	2.1/2	11-18	TFT-2500	TFT-2506	TFT-2506 SS

FB-SERIES

Features :

- After expansion facing tools can be used for facing tube projection



Tube O.D.		Tube Thk. bwg.	Model No.	Spare Tool Bits	
mm	Inch			Non-Ferrous of Carbon Steel Tubes Model No.	Stainless Steel Tubes Model No.
9.53	3/8	16-22	FB-375	FB-376	FB-376 SS
12.70	1/2	15-20	FB-500	FB-506	FB-506 SS
15.87	5/8	14-18	FB-625	FB-626	FB-626 SS
19.05	3/4	10-18	FB-750	FB-756	FB-756 SS
22.22	7/8	13-18	FB-875	FB-876	FB-876 SS
25.40	1	11-18	FB-1000	FB-1006	FB-1006 SS
28.57	1.1/8	11-18	FB-1125	FB-1126	FB-1126 SS
31.75	1.1/4	11-18	FB-1250	FB-1256	FB-1256 SS
34.92	1.3/8	11-18	FB-1375	FB-1376	FB-1376 SS
38.10	1.1/2	11-18	FB-1500	FB-1506	FB-1506 SS
41.27	1.5/8	11-18	FB-1625	FB-1626	FB-1626 SS
44.45	1.3/4	11-18	FB-1750	FB-1756	FB-1756 SS
47.62	1.7/8	11-18	FB-1875	FB-1876	FB-1876 SS
50.80	2	11-18	FB-2000	FB-2006	FB-2006 SS
57.15	2.1/4	11-18	FB-2250	FB-2256	FB-2256 SS



TUBE END FACER / WELD REMOVAL TOOL

'FC' SERIES END FACER / WELD REMOVAL TOOL



Tube O.D.		Model No.	Morse Taper
mm	Inch		
38.10	1.1/2	FC-1500	FC-1500-TB
41.27	1.5/8	FC-1625	FC-1625-TB
44.45	1.3/4	FC-1750	FC-1750-TB
47.62	1.7/8	FC-1875	FC-1875-TB
50.80	2	FC-2000	FC-2000-TB
57.15	2.1/4	FC-2250	FC-2250-TB
63.50	2.1/2	FC-2500	FC-2500-TB
69.85	2.3/4	FC-2750	FC-2750-TB
76.20	3	FC-3000	FC-3000-TB
82.55	3.1/4	FC-3250	FC-3250-TB
88.90	3.1/2	FC-3500	FC-3500-TB
95.25	3.3/4	FC-3750	FC-3750-TB
101.6	4	FC-4000	FC-4000-TB

Features :

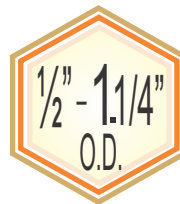
- Tool is made up with 3 cutting blades which can be set for tube end facing or weld removal as a step in the removal of welded tubes from the tube sheet.
- Tool supplied with MT shank for use with standard air or electric drills.
- TINI coated cutting blades give 3 times the life of conventional cutting blades.
- Tools available for MM sizes of tubes also. Please enquire.

FLARING TOOL



Tube O.D.		Tube Thk. bwg.	Model No.
mm	Inch		
12.70	1/2	16-22	FT-1
15.87	5/8	14-15	FT-2
		16-22	FT-3
19.05	3/4	14-15	FT-4
		16-22	FT-5
22.22	7/8	14-15	FT-6
		16-22	FT-7
25.40	1	12-15	FT-8
		16-22	FT-9
28.57	1.1/8	12-15	FT-10
		16-22	FT-11
31.75	1.1/4	8-14	FT-12
		15-22	FT-13
34.92	1.3/8	8-14	FT-14
		15-22	FT-15
38.10	1.1/2	8-14	FT-16
		15-22	FT-17

TUBE SHEET HOLE RADIUS CUTTER



- Made of high speed steel tool, specifically used in chamfering or preparing tube sheets to suit the flaring or beading of tube ends outside of or flush with the tube sheet.

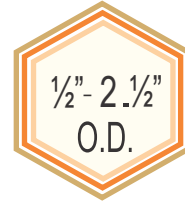
Tube O.D.		Model No.	Tool Radius		Morse Taper
mm	Inch		mm	inch	
12.70	1/2	20338	3.2	1/8	2
15.87	5/8	20224	4.0	5/32	2
19.05	3/4	20225	4.8	3/16	2
22.22	7/8	20226	4.8	3/16	2
25.40	1	20227	4.8	3/16	2
28.57	1.1/8	40512	6.4	1/4	2
31.75	1.1/4	21395	6.4	1/4	2

Note : As a standard supply FT is supplied with Type 1 round shank for use with standard pneumatic chipping hammer. We also provide other shanks on request.

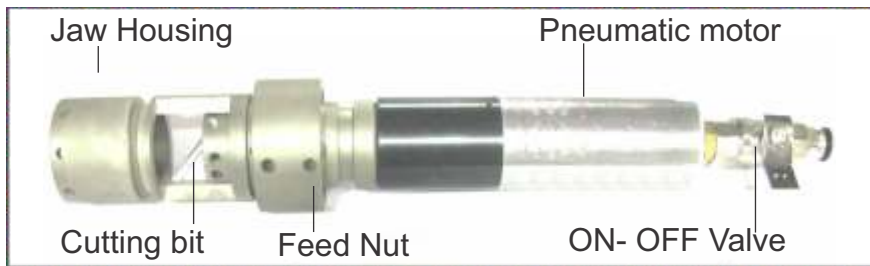
OD CLAMPING FACING MACHINE

Features :

DBX OD clamping facing machine have made great break thru in the field fo facing machine. These are extremely user friendly and can be operated by any body with minimum of knowledge.



FMP SEREIS (Pneumatic)



Operation:

Insert the tube in the jaw housing



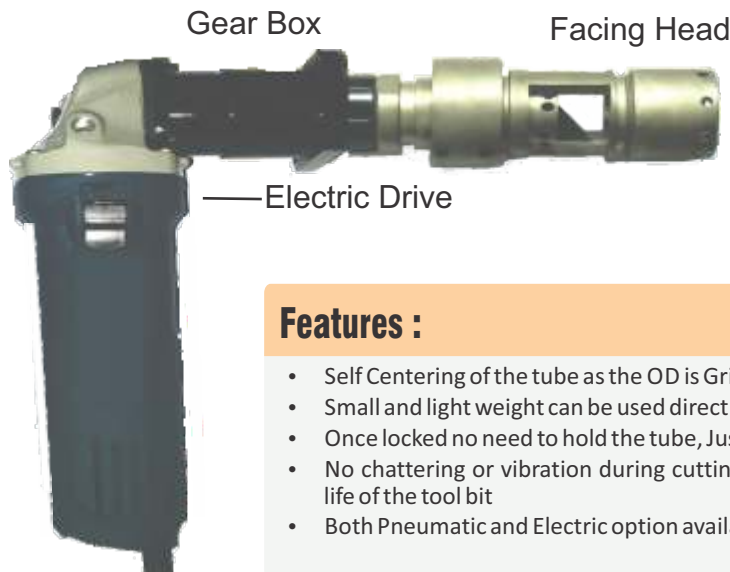
Grip the tube by rotating the jaw housing



Start the Drive and rotate the Feed to apply feed



FME SERIES (Electric)



Features :

- Self Centering of the tube as the OD is Gripped by 3 jaws
- Small and light weight can be used directly on jobs.
- Once locked no need to hold the tube, Just apply feed.
- No chattering or vibration during cutting ensures long life of the tool bit
- Both Pneumatic and Electric option available.

Consumables

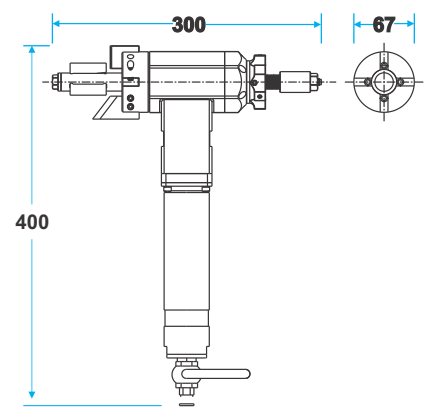


Drive	Pneumatic		Electric	
MODEL	FMP -1500	FMP-2500	FME-1500	FME- 2500
Locking Range (mm)	10 - 40	19 -65	10 - 40	19 - 65
Ideal Speed (RPM)	200	150	200	150
Torque (Nm)	27.5	84	45	138
Feeding Stroke (mm)	23	40	23	40
Pneumatic Power (HP)	0.83	1.3	–	–
Air Consumption (cfm)	16	42	–	–
Air Pressure (psi)	90	90	–	–
Electric Power (watts)	–	–	850	1000
Weight (kg)	5.5	9.5	5.5	9.5

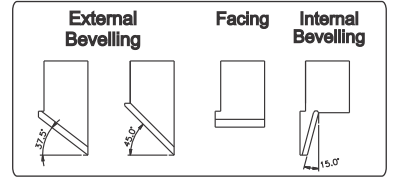
FM- 1625

The little player FM-1625 is light weight yet powerful machine. Use of FM-1625 for Facing, beveling and weld preparation is easier due to its compact design and quick set up. Slim body design makes this machine the best choice for use in restricted access area and close clearance jobs. Commonly used during shutdown of Heat Exchangers, Condenser and Piping industries.

Drive	Pneumatic	Electric
ID Locking Range (mm)	20 - 42	20 - 42
Torque (Nm)	27.5	45.0
Ideal Speed (RPM)	400	250
Feeding Stroke (mm)	23	23
Electric Power (watts)	—	650
Pneumatic Power (HP)	0.60	---
Air Consumption (cfm)	16	---
Air Pressure (psi)	90	---
Weight (kg)	5.5	5.5



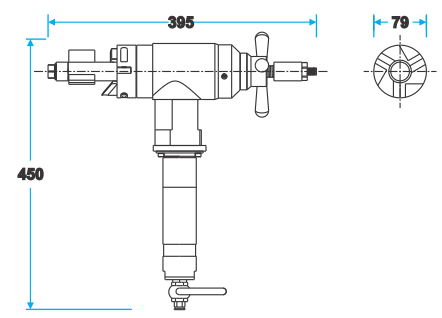
CUTTING BITS



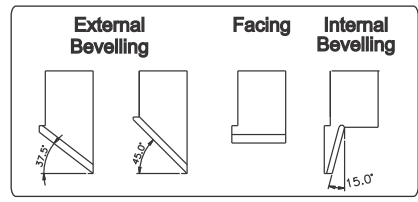
FM- 3000

FM – 3000 combines high power with safe and smooth work operation. This machine is regarded as the number one tool in the Marine, Boiler and Power generation industries. DFM 3000 effortlessly produces all the standard weld preparations on all material and schedules of pipe within its range. DFM 3000 has proven its worth and now is a essential tool for general pipe works fabrication.

Drive	Pneumatic	Electric
ID Locking Range (mm)	28 - 76	28 - 76
Torque (Nm)	84	138
Ideal Speed (RPM)	110	140
Feeding Stroke (mm)	40	40
Electric Power (watts)	—	595
Pneumatic Power (HP)	0.83	---
Air Consumption (cfm)	42	---
Air Pressure (psi)	90	---
Weight (kg)	9.5	11.0



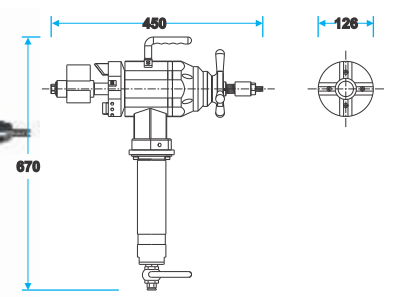
CUTTING BITS



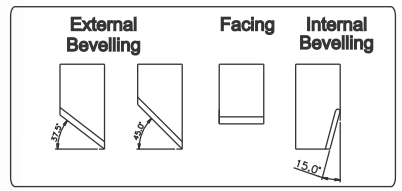
FM- 4000

The FM-4500 is designed to cover all the boiler pipe range and above. Designed to handle tough heavy wall tubes. Rugged and powerful machine also finds its use for seal weld removal in boilers tubes. Commonly used during shutdown of Boilers and Piping industries.

Drive	Pneumatic	Electric
Locking Range (mm)	39 - 104	39 - 104
Ideal Speed (RPM)	60	60
Torque (Nm)	220	240
Feeding Stroke (mm)	40	40
Pneumatic Power (HP)	1.3	--
Air Consumption (cfm)	40	--
Air Pressure (psi)	90	--
Electric Power (watts)	--	1800
Weight (kg)	21.0	23.0



CUTTING BITS



TUBE / PIPE BEVELLING MACHINES

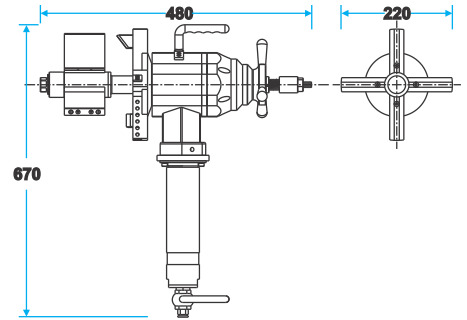


FM - 4500 / 8000

FM- 8000

The DFM -8000 is an extremely rugged and powerful machine in its class. Machine produces accurate weld preparation on all material of pipe and any scheduled within its range. Commonly used for facing, beveling, counter boring weld edge preparation in piping industries.

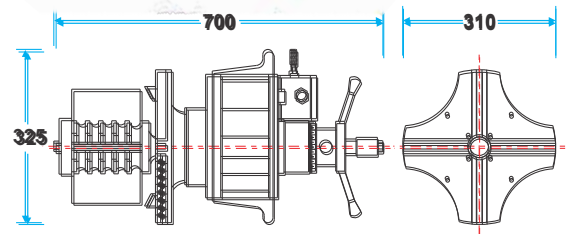
Drive	Pneumatic	Electric
Locking Range (mm)	51 - 203	51 - 203
Ideal Speed (RPM)	40	40
Torque (NM)	220	240
Feeding Stroke (mm)	40	40
Pneumatic Power (HP)	1.3	--
Air Consumption (cfm)	40	--
Air Pressure (psi)	90	--
Electric Power (watts)	--	1800
Weight (Kg)	26.5	30.0



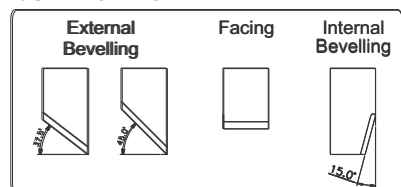
FM -12000

The FM-12000 is a combination of power and range in a light and portable design. Wide range for tube end facing, beveling, counter boring and weld edge preparation. Rugged and balanced machine suitable for all sizes of tube and pipes.

Drive	Pneumatic	Electric
Locking Range (mm)	100 - 306	100 - 306
Ideal Speed (RPM)	35	31
Torque (Nm)	180	230
Feeding Stroke (mm)	50	50
Pneumatic Power (HP)	1.9	--
Air Consumption (cfm)	60	--
Air Pressure (psi)	90	--
Electric Power (watts)	--	1400
Weight (kg)	43.0	44.0



CUTTING BITS



5/8"-2 1/2"
O.D.



Features :

DBX OTC type internal tube cutter pierces and cut off tubes with clean square edge in a single revolution of a tool. Recommended for non-ferrous tubes only & designed for hand operation using a ratchet handle.

O. D.		Tube Gauge (BW)	Tube I.D.		Cutter Model No.	Spare Bit Model No.
mm	inch		mm	inch		
15.87	5/8"	14	11.4 - 11.9	.450 - .470	OTC - 625 - 14	OTC - 625 - SB
		15 - 16	12.0 - 12.9	.472 - .510	OTC - 625 - 16	
		17 - 18	12.7 - 13.5	.500 - .531	OTC - 625 - 18	
		19 - 20	13.5 - 14.2	.531 - .560	OTC - 625 - 20	
		22	14.0 - 14.7	.550 - .580	OTC - 625 - 22	
19.05	3/4"	14 - 15	14.7 - 15.5	.580 - .610	OTC - 750 - 14	OTC - 750 - SB
		16	15.2 - 16.0	.600 - .630	OTC - 750 - 16	
		17 - 18	15.9 - 16.5	.625 - .650	OTC - 750 - 18	
		19 - 20	16.7 - 17.5	.660 - .690	OTC - 750 - 20	
22.22	7/8"	14 - 15	17.8 - 18.5	.700 - .730	OTC - 875 - 14	OTC - 875 - SB
		16 - 17	18.8 - 19.5	.740 - .770	OTC - 875 - 16	
		18	19.3 - 20.0	.760 - .790	OTC - 875 - 18	
		19 - 20	19.8 - 20.6	.780 - .810	OTC - 875 - 20	
25.40	1"	14	20.8 - 21.6	.820 - .850	OTC - 1000 - 14	OTC - 1000 - SB
		15	21.3 - 22.1	.840 - .870	OTC - 1000 - 16	
		16 - 17	22.8 - 22.6	.860 - .890	OTC - 1000 - 18	
		18 - 20	22.6 - 23.1	.890 - .910	OTC - 1000 - 20	
		22	23.9 - 24.6	.940 - .970	OTC - 1000 - 22	
31.75	1.1/4"	12	25.9 - 26.7	1.020 - 1.050	OTC - 1250 - 12	OTC - 1250 - SB
		13 - 14	26.7 - 27.4	1.050 - 1.080	OTC - 1250 - 14	
		15 - 16	27.9 - 28.7	1.110 - 1.130	OTC - 1250 - 16	
		17 - 19	28.7 - 29.6	1.130 - 1.160	OTC - 1250 - 18	
38.10	1.1/2"	12 - 13	32.5 - 33.3	1.280 - 1.310	OTC - 1500 - 12	OTC - 1500 - SB
		14 - 15	33.8 - 34.5	1.330 - 1.360	OTC - 1500 - 14	
		16 - 17	34.5 - 35.3	1.360 - 1.390	OTC - 1500 - 16	
		18 - 19	35.3 - 36.1	1.390 - 1.420	OTC - 1500 - 18	
50.80	2"	12 - 13	45.0 - 46.0	1.770 - 1.810	OTC - 2000 - 12	OTC - 2000 - SB
		14 - 15	46.2 - 47.2	1.820 - 1.860	OTC - 2000 - 14	
		16 - 17	47.2 - 48.2	1.860 - 1.900	OTC - 2000 - 16	
		18 - 19	48.0 - 49.0	1.890 - 1.930	OTC - 2000 - 18	
63.50	2.1/2"	12 - 13	57.6 - 58.6	2.270 - 2.310	OTC - 2500 - 12	OTC - 2500 - SB
		14 - 15	58.9 - 60.0	2.320 - 2.360	OTC - 2500 - 14	
		16 - 17	60.0 - 61.0	2.360 - 2.400	OTC - 2500 - 16	
		18 - 19	60.7 - 61.7	2.390 - 2.430	OTC - 2500 - 18	

Note : We supply different bits for ferrous & Non- Ferrous material. Kindly specify the type of material while placing the order.

5/8"-2 1/2"
O.D.



Features :

- DBX make power driven internal tube cutter suitable for cutting tubes behind tube sheet and tube end projection of ferrous and non ferrous tubes. This cutter is easy to operate with an adjustable collar for reaching into tubes at various depth . Bit can be easily replaceable

Tube O.D.	Tube Gauge (BWG)	Standard Reach	
		Tube Cutter Model No.	Cutting Bit Model No.
5/8"	14 - 22	ATP - 625	ATP - 625 SB
3/4"	14 - 22	ATP - 750	ATP - 750 SB
7/8"	14 - 22	ATP - 875	ATP - 875 SB
1"	12 - 22	ATP - 1000	ATP - 1000 SB
1.1/4"	12 - 22	ATP - 1250	ATP - 1250 SB
1.1/2"	12 - 22	ATP - 1500	ATP - 1500 SB

1/2"-4 1/2"
O.D.



Features :

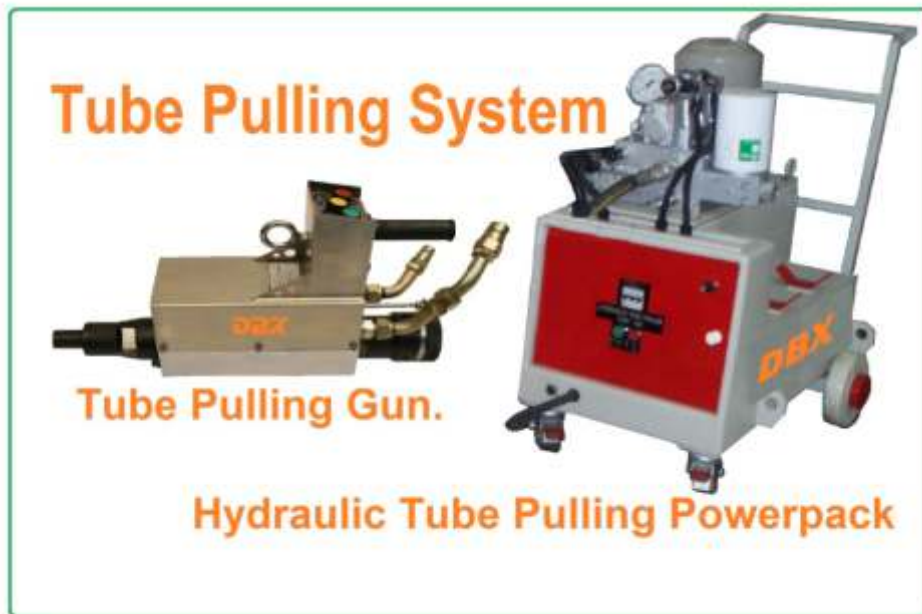
The above cutter is mainly used to cut large diameter and higher gauge tubes found in boiler tubes.

Size	Tube Model Number	Spare Bit Model Number	Tube I.D. Range		Max. Tube O.D.		Body Dia.	
			mm	inch	mm	inch	mm	inch
095	0680951	1680951	10 - 12	.394 - .472	15	.591	9.5	.374
105	0681051		11 - 13	.433 - .512	18	.709	10.5	.413
115	0681151	1681151	12 - 14	.472 - .551	19	.748	11.5	.453
125	0681251		13 - 15	.519 - .591	20	.787	12.5	.492
135	0681351	1681251	14 - 17	.551 - .669	23	.906	13.5	.531
155	0681551		16 - 19	.630 - .748	25	.984	15.5	.610
175	0681751	1681751	18 - 21	.709 - .827	27	1.063	17.5	.689
195	0681951	1681951	20 - 25	.787 - .984	34	1.339	19.5	.768
245	0682451	1682451	25 - 30	.984 - 1.181	38	1.496	24.5	.965
290	0682901	1682901	30 - 35	1.181 - 1.378	43	1.693	29	1.142
330	0683301		35 - 40	1.378 - 1.575	48	1.890	33	1.299
380	0683801	1684801	40 - 50	1.575 - 1.969	58	2.126	38	1.496
480	0684801		50 - 60	1.969 - 2.362	68	2.677	48	1.890
530	0685301	1684801	55 - 65	2.165 - 2.559	73	2.874	53	2.087
630	0686301		65 - 75	2.559 - 2.953	83	3.268	63	2.480
730	0687301	1687301	75 - 85	2.953 - 3.346	93	3.661	73	2.874
830	0688301		85 - 95	3.346 - 3.740	103	4.055	83	3.268
930	0689301	1687301	95 - 105	3.740 - 4.134	113	4.449	93	3.661

Note : Model 0680951 to 0683801 have 1/2" Sq male Drive and Model 0684801 to 0689301 have 3/4" Sq male Drive

CONTINUOUS HYDRAULIC TUBE PULLER

TUBE PULLING POWERPACK



MODEL: TPP-50 (Electric) Pump

TUBE PULLING POWERPACK - SPECIFICATIONS

Model	Motor	Volts/ Phase	Power hp	Oil Tank Capacity ltrs.	Net Wt. kgs.	Dim. mm	Air Supply	Hyd.Hoses Size x Length inch x mtrs.
TPP-50	Siemens	415 / 3	5	90	220	1200 x 750 x 990	-	1/2"x5 & 3/4"x5

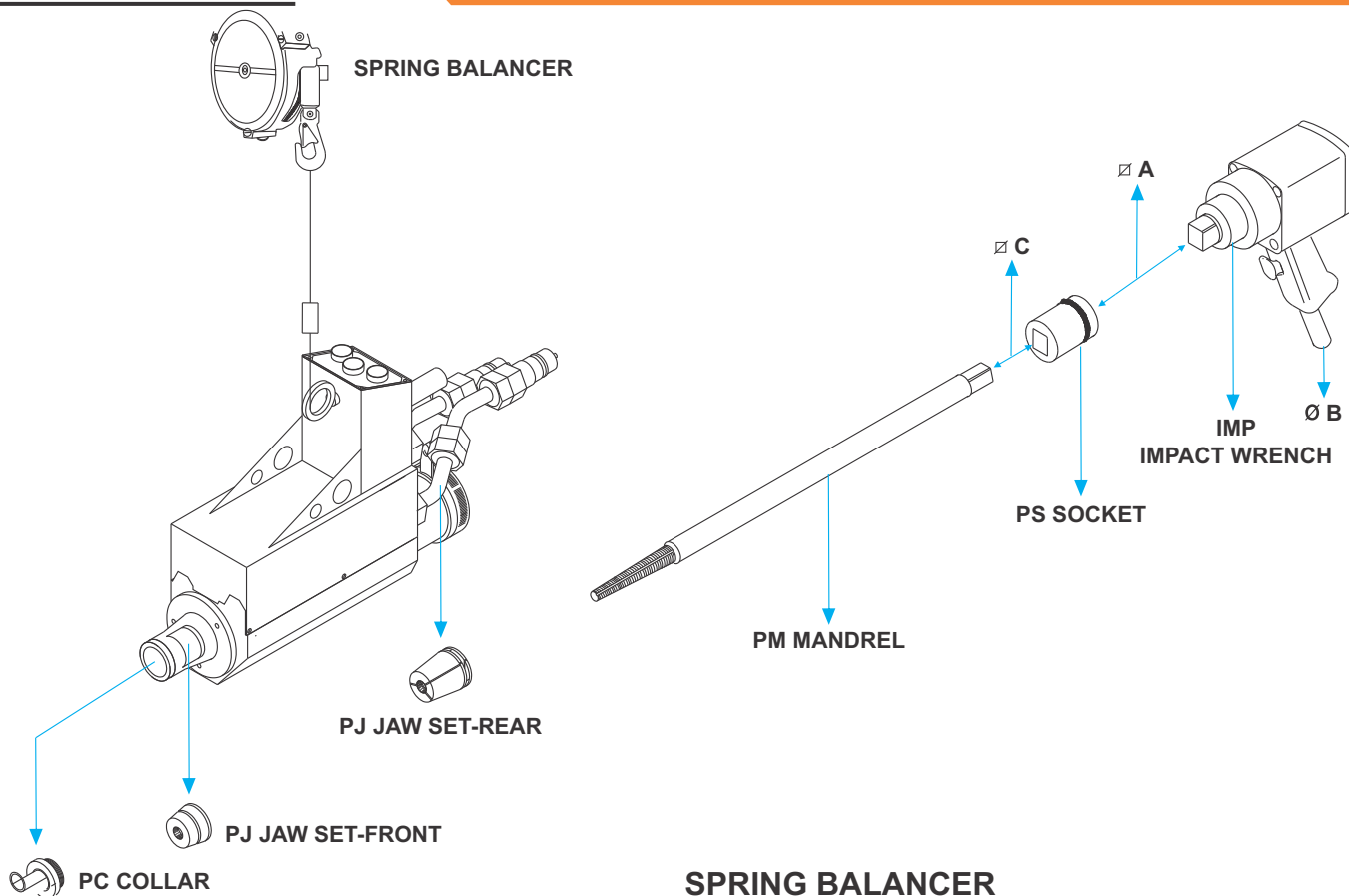
Note : Max. Working Pressure 350 Bar. Powerpacks supplied with 5 mtr. long hydraulic hoses.

TUBE PULLING GUN



HYDRAULIC TUBE PULLING GUNS (ELECTRIC) - SPECIFICATIONS

Gun Model	Pulling Capacity tons	Max. Tube O.D. Thru Gun inch	Stub Pulling Capacity inch	Weight		Free Pulling Speed (meter/min) with		
				kgs.	lbs.	TPP-50	TPP-30	PPP-50
HPG-15	15	1	1.1/2	26	57	5.2	1.8	5.6
HPG-30	30	1.1/2	3	38	84	3.0	2.4	3.5
HPG-45	45	3	4	78	172	2.0	2.0	2.3



SPRING BALANCER

- Used to suspend pulling guns while in operation. The guns can be moved just by one finger.
- operator from handling weight of the gun, allowing him to concentrate on the tube pulling operation.



Model	Balancer Range		For Pulling Gun Model	Weight	
	kg	lbs		kg.	lbs.
SWF-30	20 - 30	44 - 66	HPG-15 / AHPG-15	9.5	21.0
SWF-40	30 - 40	66 - 88	HPG-30 / AHPG-30	10.5	23.1
SWF-85	70 - 85	154 - 187	HPG-45 / AHPG-45	15.0	33.0

IMP - IMPACT WRENCH

- Used for threading the Pulling mandrels into the tube with help of sockets.



Model	Suited For Mandrel Model Numbers	Weight		Ø A	Ø B
		kg	lbs		
IMP-1	PM-7 to PM-37	5.0	11.0	3/4"	3/8"
IMP-2	PM-19 to PM-95/102	10.5	23.0	1"	1/2"

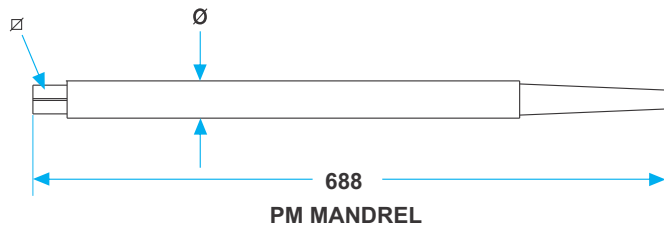
PS - SOCKET

- Used to connect impact wrench to pulling mandrel.

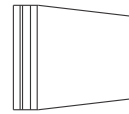


Model	Ø A	Ø C
PS-1	3/4"	3/8"
PS-2	3/4"	1/2"
PS-3	3/4"	5/8"
PS-4	3/4"	3/4"
PS-5	3/4"	1"
PS-6	1"	3/4"
PS-7	1"	1"
PS-8	1"	1.1/2"

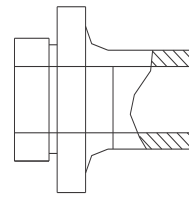
SELECTION CHART FOR CONSUMABLES



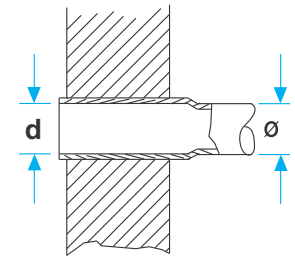
PM MANDREL



PJ JAW SET



PC COLLAR

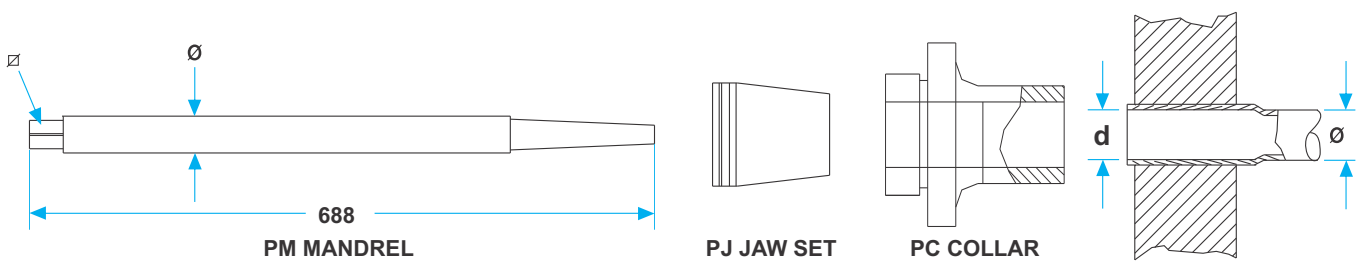


Tube Size		Tube I.D. after Expansion d		Mandrel		Jaw Set			Collar		
Ø	bwg	mm	inch	Model	Square Size	Model For HPG-15	Model For HPG-30	Model For HPG-45	Model For HPG-15	Model For HPG-30	Model For HPG-45
Ø				PM	Ø	PJ 15	PJ 30	PJ 45	PC 15	PC 30	PC 45
3/8"	17-19		0.260-0.295	7	5/16"	1	1		11	11	
	20-24		0.295-0.335	8							
1/2"	14-16		0.335-0.375	9	3/8"	2	2		15	15	
	17-18	9.5-10.5	0.375-0.415	10							
	19-21	10.5-11.5	0.415-0.455	11							
	24	11.5-12.5	0.455-0.495	12							
	16-17	12.5-13.5	0.495-0.535	13 A	1/2"	3	3		18	18	
	19-21	13.5-14.5	0.535-0.570	14 A							
	23-24	14.5-15.5	0.570-0.610	15 A							
3/4"	11	12.5-13.5	0.495-0.535	13	5/8"	4	4		21	21	
	12-13	13.5-14.5	0.535-0.570	14							
	14-15	14.5-15.5	0.570-0.610	15							
	16-17	15.5-16.5	0.610-0.650	16							
	18-20	16.5-17.5	0.650-0.690	17							
	21-24	17.5-18.5	0.690-0.730	18							
	14	17.5-18.5	0.690-0.730	18 S	5/8"	4/A	4/A		25	25	
	16-17	18.5-19.5	0.730-0.770	19 S							
	18-19	19.5-20.5	0.770-0.810	20 S							
1"	10-11	18.5-19.5	0.730-0.770	19	3/4"	5	5	5	28	28	28
	12	19.5-20.5	0.770-0.810	20							
	13-14	20.5-21.5	0.810-0.845	21							
	15-16	21.5-22.5	0.845-0.885	22							
	18	22.5-23.5	0.885-0.925	23							
	19-20	23.5-24.5	0.925-0.965	24							
3/4" Gas	13	21.5-22.5	0.845-0.886	22 G			6	6		31	31
	14-15	22.5-23.5	0.886-0.925	23 G							
	16-17	23.5-24.5	0.925-0.965	24 G							
	19-21	24.5-25.5	0.965-1.005	25 G							
	10	24.5-25.5	0.965-1.005	25	1"		7	7		34	34
	11-12	25.5-26.5	1.005-1.045	26							
	13	26.5-27.5	1.045-1.085	27							
	14-15	27.5-28.5	1.085-1.125	28							
	16-18	28.5-29.5	1.125-1.160	29							
	19-22	29.5-30.5	1.160-1.200	30							
	23-24	30.5-31.5	1.200-1.240	31							
1" Gas	9	25.5-26.5	1.005-1.045	26 G			8	8		37	37
	10	26.5-27.5	1.045-1.085	27 G							
	11-12	27.5-28.5	1.085-1.125	28 G							
	13-14	28.5-29.5	1.125-1.160	29 G							
1.1/2"	10-11	31.5-32.5	1.240-1.280	32			9	9		41	41
	12-13	32.5-33.5	1.280-1.320	33							
	14	33.5-34.5	1.320-1.360	34							
	15-17	34.5-35.5	1.360-1.400	35							
	18-20	35.5-36.5	1.400-1.440	36							
	21-24	36.5-37.5	1.440-1.475	37							



CONSUMABLES FOR CONTINUOUS TUBE PULLER

SELECTION CHART FOR CONSUMABLES



Tube Size		Tube I.D. after Expansion D		Mandrel		Jaw Set			Collar			
		mm	inch	Model	Square Size	Model For HPG-15	Model For HPG-30	Model For HPG-45	Model For HPG-15	Model For HPG-30	Model For HPG-45	
OD / Ø	bwg			PM	Ø	PJ 15	PJ 30	PJ 45	PC 15	PC 30	PC 45	
1.1/4" Gas	12	36.5-37.5	1.440-1.475		1"							
	13-14	37.5-38.5	1.475-1.515									
	15-16	38.5-39.5	1.515-1.555					10	10		44	44
	17-19	39.5-40.5	1.555-1.595									
	20-24	40.5-41.5	1.595-1.635									
1.3/4"	10-11	37.5-38.5	1.475-1.515									
	12	38.5-39.5	1.515-1.555									
	13-14	39.5-40.5	1.555-1.595						11			48
	15-16	40.5-41.5	1.595-1.635									
	18-19	41.5-42.5	1.635-1.675									
1.1/2" Gas	20-24	42.5-43.5	1.675-1.715									
	11-12	42.5-43.5	1.715-1.755									
	13-14	43.5-44.5	1.755-1.795					12			53	
2"	15-17	44.5-54.5	1.795-1.830									
	18-19	45.5-46.5	1.830-1.870									
	10	43.5-44.5	1.830-1.870	44/51								
	11-12	44.5-45.5	1.870-1.910	45/51								
	13	45.5-46.5	1.910-1.950	46/51								
	14-15	46.5-47.5	1.950-1.990	47/51				13			54	
2.1/4"	16-18	47.5-48.5	1.870-1.910	48/51								
	19-22	48.5-49.5	1.910-1.950	49/51								
	9-10	49.5-50.5	1.950-1.990	50/57								
2"	11	50.5-51.5	1.990-2.030	51/57								
	12-13	51.5-52.5	2.030-2.070	52/57								
	7	50.5-51.5	1.990-2.030	51G								
2" Gas	8	51.5-52.5	2.030-2.070	52G								
	9	53.5-53.5	2.070-2.105	53G								
	7	53.5-54.5	2.015-2.145	54/63								
2.1/2"	8	54.5-55.5	2.145-2.185	55/63	1.1/2"							
	9	55.5-56.5	2.185-2.225	56/63								
	10	56.5-57.5	2.225-2.265	57/63								
	7	66.5-67.5	2.580-2.620	67/76								
3"	8	67.5-68.5	2.620-2.660	68/76								
	9-10	68.5-69.5	2.660-2.695	69/76								
	11	69.5-70.5	2.695-2.735	70/76								
									17			80

Note : For Tubes larger than 3" O.D., please contact us for larger size working consumables and larger size tube pulling guns.
 All models indicated above are for continuous tube pulling. When you are using equipment for stub pulling, please contact us for modifications needed.

MASTER TUGGER HYD TUBE PULLER



HYDROULIC POWERPACK

Features :

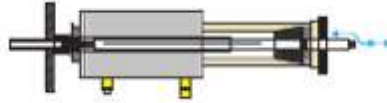
- Simple and robust operation.
- Very little of the operator needed. Set up in less than a minute.
- High pressure pump for pulling toughest jobs.
- Compact and lightweight gun and powerpack.
- Removes Tube without damage.
- Low set up time / ease of operation.
- Available with choice of electric / pneumatic operation.
- Automatic switchover from low pressure to high pressure.
- Interchangeable pulling gun accessories compatible with existing system on the market.
- Single man operation.



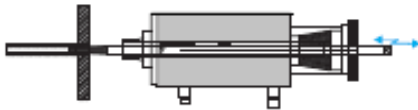
SEQUENCE OF OPERATION



1) Thread the pulling mandrel in to the tube with the help of impact wrench.



3) Start the powerpack by pressing the START button on the pendant. Press the Forward switch to pull the cylinders out and push REV button till the cylinder is fully retract. Push the gun forward by hand till it touches the tube sheet.



2) Mount the pulling gun by sliding it over the mandrel till the collar touches the tube.



4) Remove the mandrel by unscrewing it from the pulled tube and proceed to next tube.

TUBE PULLING POWERPACK - SPECIFICATION

Model	Volts/Phase	Power hp	Oil Tank Capacity ltrs.	Net Wt. kgs.
STPP - 300	230 / 1	3	10	68
STPP - 300 (Pneumatic)	-	-	10	65

Note : Max. Working Pressure 700 Bar
ALL Powerpacks supplied with 5 mtr. long hydraulic hoses.

HYDRAULIC TUBE PULLING GUNS - SPECIFICATION

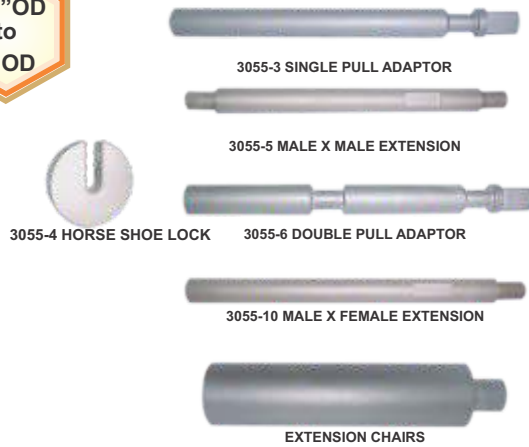
Gun Model	Pulling Capacity tons	Max. Tubes O.D. Thru Gun inch	Stub Pulling Capacity inch
SHPG - 15	15	1	1.1/2
SHPG - 30	30	1.1/2	3
SHPG - 45	45	3	4

* Contact us for the further details

Reffer Pg 26,27,28 for selecting consumables like Pulling mandrels, Pulling jaws, Collar and Socket



PULLING GUN FOR MASTER TUGGER



Model	Tube O.D.
80-3055-7	1.1/4" - 1.1/2"
80-36307	1.3/4"
80-36308	2" - 2.1/4"
80-36309	2.1/2"
80-36310	2.3/4" - 3"



1.1/4" - 3" TUBE SPEAR

Model Number	Tube OD inch	BWG
S-2509	1	9
S-2510	1	10-11
S-2512	1	12-13
S-2514	1	14-15
S-2516	1	16-17
S-2518	1	18-19
S-2520	1	20-21
S-3112	1-1/4	12-13
S-3114	1-1/4	14-15
S-3116	1-1/4	16-17
S-3318	1-1/4	18-19
S-3120	1-1/4	20-21
S-3814	1-1/2	14-16
S-3817	1-1/2	17-20
S-4414	1-3/4	14-18
S-5014	2	14-18
S-5714	2-1/2	14-18
S-7610	3	10-14

3/8" - 1" TUBE SPEAR

Model Number	Tube OD inch	BWG
S-0916	3/8	16-17
S-0918	3/8	18-19
S-0920	3/8	20-21
S-0922	3/8	22-24
S-1212	5/8	12-13
S-1214	5/8	14-15
S-1216	5/8	16-17
S-1218	5/8	18-19
S-1220	5/8	20-21
S-1911	3/4	11-13
S-1914	3/4	14-15
S-1916	3/4	16-17
S-1918	3/4	18-19
S-1920	3/4	20-21
S-2212	7/8	12-13
S-2214	7/8	14-15
S-2216	7/8	16-17
S-2218	7/8	18-19
S-2220	7/8	20-21

Note : All the above items are compatible for use with Tube Pulling Systems of Airetool, Wilson, Elliot and other manufacturers of "Pine Jenny" style systems.

Extension chair is sized to allow tube being pulled to enter I.D. of chair. Spears, Adaptors, Male x Male Extension, Horse Shoe Lock and Extension Chair are needed for sizes 1.1/4" O.D. and larger. Male x Female Extensions are used for longer reach. Consult us for sizes not listed here.

MANUAL TUBE PULLER

Features :

- DBX make manual tube puller proved an economical, fast means of removing tubes from the tube sheet, making the tube puller ideal for field service application.



O. D.		BWG	Tube Size				Tube Puller Model Number	Spare Spear Model Number
mm	inch		Wall Thickness		I.D.			
mm	inch	mm	inch	mm	inch			
6.35	1/4	18	1.24	.049	3.86	.152	MTP-25-18	MTS-25-18
9.52	3/8	16	1.65	.065	6.22	.245	MTP-38-16	MTS-38-16
9.52	3/8	18	1.24	.049	7.04	.277	MTP-38-18	MTS-38-18
9.52	3/8	20	0.88	.035	7.75	.305	MTP-38-20	MTS-38-20
12.70	1/2	14	2.11	.083	8.48	.334	MTP-50-14	MTS-50-14
12.70	1/2	16	1.65	.065	9.40	.370	MTP-50-16	MTS-50-16
12.70	1/2	18	1.24	.049	10.21	.402	MTP-50-18	MTS-50-18
12.70	1/2	20	0.88	.035	10.92	.430	MTP-50-20	MTS-50-20
15.88	5/8	14	2.10	.083	11.66	.459	MTP-63-14	MTS-63-14
15.88	5/8	16	1.65	.065	12.57	.495	MTP-63-16	MTS-63-16
15.88	5/8	18	1.24	.049	13.39	.527	MTP-63-18	MTS-63-18
15.88	5/8	20	0.88	.035	14.10	.555	MTP-63-20	MTS-63-20
19.05	3/4	14	2.10	.083	14.86	.585	MTP-75-14	MTS-75-14
19.05	3/4	16	1.65	.065	15.75	.620	MTP-75-16	MTS-75-16
19.05	3/4	18	1.24	.049	16.56	.652	MTP-75-18	MTS-75-18
19.05	3/4	20	0.88	.035	17.27	.680	MTP-75-20	MTS-75-20
22.22	7/8	14	2.10	.083	18.01	.709	MTP-87-14	MTS-87-14
22.22	7/8	16	1.65	.065	18.92	.745	MTP-87-16	MTS-87-16
22.22	7/8	18	1.24	.049	19.74	.777	MTP-87-18	MTS-87-18
22.22	7/8	20	0.88	.035	20.45	.805	MTP-87-20	MTS-87-20
25.40	1	14	2.10	.083	21.18	.834	MTP-100-14	MTS-100-14
25.40	1	16	1.65	.065	22.10	.870	MTP-100-16	MTS-100-16
25.40	1	18	1.24	.049	22.91	.902	MTP-100-18	MTS-100-18
25.40	1	20	0.88	.035	23.62	.930	MTP-100-20	MTS-100-20

TUBE REMOVAL TOOLS



WALL REDUCER / KNOCK OUT / COLLAPSING TOOLS

3/8" - 4"
OD



Features :

TUBE WALL REDUCER	TUBE DRIFT/KNOCKOUT TOOL	COLLAPSING TOOL
This tool reduce the wall of expanded tubes , in removal process first stage is reduction of the rolled portion of the tubes in the tube sheet, the font pilot portion maintain the alignment in the tube bores.	These tools can be operated manually by hammer or pneumatic chipping hammer. The pilot diameter is designed to just enter in the tube ID as a guide while main body of the tool forces the tubes away from tube plate	These tools are used with manual hammer or Pneumatic chipping hammer to collapse tubes in the tube sheet.



CHIPPING HAMMER
MODEL CH-1 - SPECIFICATION

Blows/min	Bore	Stroke	Weight
1600	1.1/8" (28.5mm)	3.1/4" (82.5mm)	16lbs (7.0kg)

Tube O.D. Inch	Wall Reducer Tool		Tube Drift / Knockout Tool	Collapsing Tool
	Model Number	MT Shank #	Model Number	Model Number
3/8	WR-375	1	KT-375	CT-375
1/2	WR-500	2	KT-500	CT-500
5/8	WR-625	2	KT-625	CT-625
3/4	WR-750	2	KT-750	CT-750
7/8	WR-875	2	KT-875	CT-875
1	WR-1000	3	KT-1000	CT-1000
1.1/4	WR-1250	3	KT-1250	CT-1250
1.1/2	WR-1500	3	KT-1500	CT-1500
1.3/4	SH-1750	3	KT-1750	CT-1750
2	SH-2000	3	KT-2000	CT-2000
2.1/2	SH-2500	4	KT-2500	CT-2500
2.3/4	SH-2750	4	KT-2750	
3	SH-3000	4	KT-3000	
3.1/4	SH-3250	4	KT-3250	
3.1/2	SH-3500	4	KT-3500	
4	SH-4000	4	KT-4000	

3/8"
to
1.1/2" OD



ONE PIECE



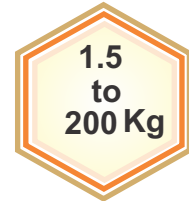
TWO PIECE

TUBE PLUGS (PLG SERIES)

• Tube plugs are designed for sealing off leaking or damaged tubes in heat exchangers, condensers, boilers etc. It ensures a uniform joint without damaging the tube sheet.

Tube O. D.		Tube Puller Model Number	Spare Spear Model Number
mm	inch		
9.53	3/8	PLG-375-1	-
12.70	1/2	PLG-500-1	PLG-500-2
15.87	5/8	PLG-625-1	PLG-625-2
19.05	3/4	PLG-750-1	PLG-750-2
22.22	7/8	PLG-875-1	PLG-875-2
25.40	1	PLG-1000-1	PLG-1000-2
31.75	1.1/4	PLG-1250-1	PLG-1250-2
38.10	1.1/2	PLG-1500-1	PLG-1500-2

Note : Tube plugs are available in a variety of materials like carbon steel, brass, stainless steel, fibre etc. Specify material needed when ordering.



Features in Spring Balancer

- **CLOSED BODY & COVER** : Prevents industrial accident by preventing ingress of fingers inside the assembly.
- **BODY LINER** : To prevent the wear of body by wire rope. Increases life of the balancer.
- **VERTICAL AXIS SPRING ADJUSTMENT** : This will facilitate adjustment of spring tension from ground level.
- **CONTAINERISED SPRING ASSEMBLY** : Concealed containers are easy in handling during maintenance and replacement of springs.
- **WIRE ROPE REPLACEMENT WITHOUT DISMANTLING** : A slot on balancer facilitates removal & installation of wire rope without disassembly of balancer. This facility is not available for long range balancer.
- **PRESSURE DIE CASTING** : Parts are manufactured through pressure die hence there is consistency in surface finish & total interchangeability of spares. Facilitates large batch production hence reduced delivery period.
- **SAFETY LOCK PIN** : Locks drum pulley in the event of spring failure and thus prevents the fall of costly equipment & injury to the operator from falling load.
- **FORGED TOP HOOK** : Permits 360 degree swivel of balancer.

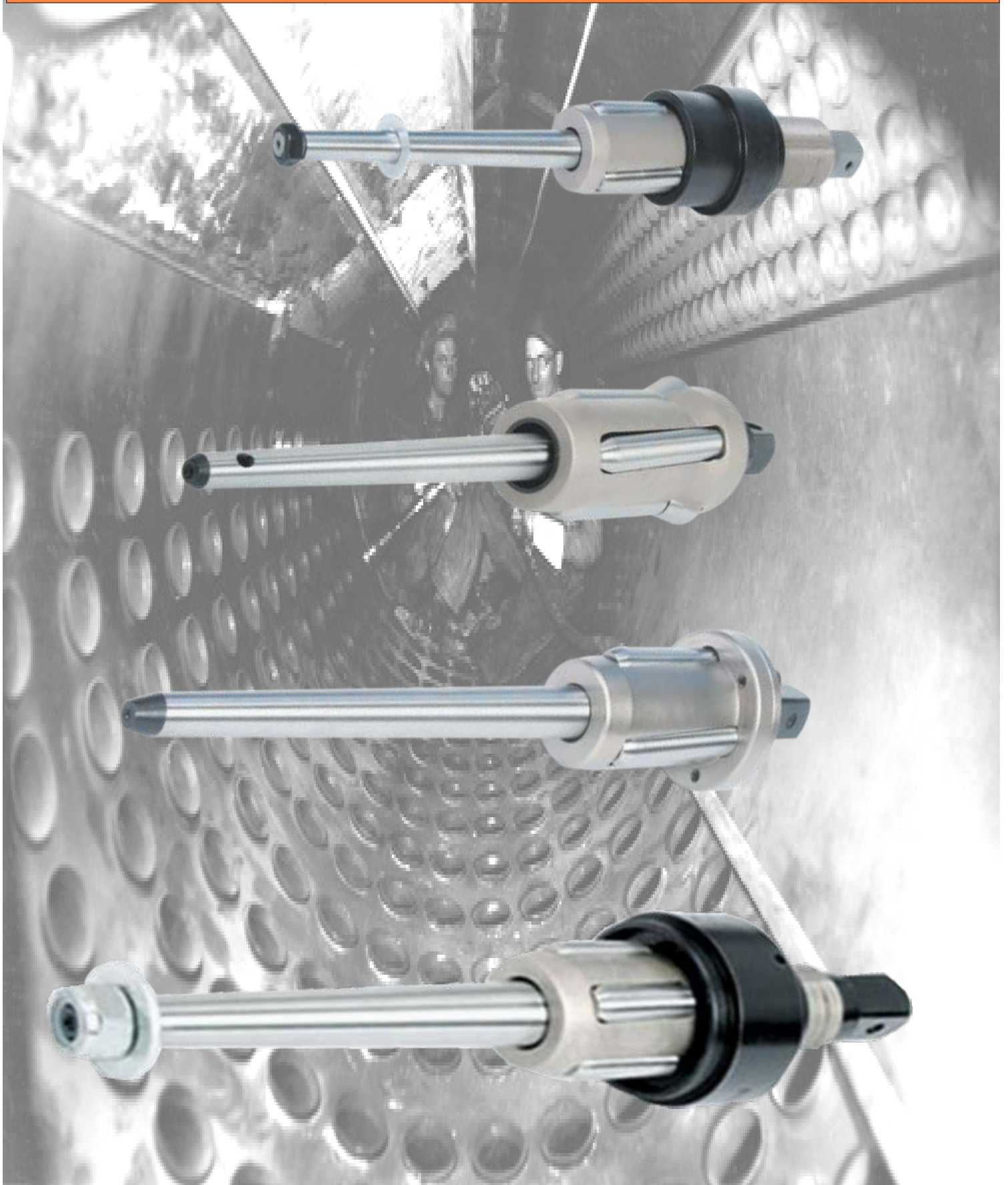
SWF Series

SWF series balancers are now fully enclosed & are provisioned with a body liner to prevent damage to

STANDARD LENGTH				EXTRA LONG LENGTH			
Capacity	Model	Travel	Weight	Capacity	Model	Travel	Weight
kg	No.	meter	kg	kg	No.	meter	kg
0.5 - 1.5	SWF - 01	1.0	1.0	-	-	-	-
1.0 - 2.0	SWF - 02	1.0	1.0	-	-	-	-
1.5 - 3.0	SWF - 03	1.3	1.8	1.5 - 3.0	SWF - 03 L	2.5	0.75
3.0 - 5.0	SWF - 05	1.3	1.9	3.0 - 5.0	SWF - 05 L	2.5	0.85
4.5 - 9.0	SWF - 09	1.3	4.0	4.5 - 9.0	SWF - 09 L	2.3	8.00
9.0 - 15.0	SWF - 15	1.3	4.0	9.0 - 15.0	SWF - 15 L	2.3	8.00
15.0 - 22.0	SWF - 22	1.5	8.0	15.0 - 22.0	SWF - 22 L	2.3	8.50
22.0 - 30.0	SWF - 30	1.5	9.0	22.0 - 30.0	SWF - 30 L	2.3	9.50
30.0 - 40.0	SWF - 40	1.5	10.5	30.0 - 40.0	SWF - 40 L	2.3	11.00
40.0 - 50.0	SWF - 50	1.5	11.0	40.0 - 50.0	SWF - 50 L	2.3	12.00
50.0 - 60.0	SWF - 60	1.5	12.0	50.0 - 60.0	SWF - 60 L	2.3	13.00
60.0 - 70.0	SWF - 70	1.5	12.5	60.0 - 70.0	SWF - 70 L	2.3	13.50
70.0 - 85.0	SWF - 85	1.5	13.0	70.0 - 85.0	SWF - 85 L	2.3	18.00
85.0 - 100.0	SWF - 100	1.5	13.5	85.0 - 100.0	SWF - 100 L	2.5	19.00
100.0 - 120.0	SWF - 120	1.5	29.0	100.0 - 120.0	SWF - 120 L	2.5	29.00
120.0 - 140.0	SWF - 140	1.5	31.0	120.0 - 130.0	SWF - 130 L	2.5	31.00
140.0 - 170.0	SWF - 170	1.5	33.5	-	-	-	-
170.0 - 200.0	SWF - 200	1.5	33.6	-	-	-	-



BOILER TUBE EXPANDER

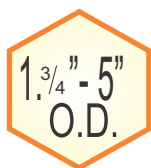


BOILER TUBE EXPANDERS

8012 SERIES



Adjustable type expander can be adjusted for different tube sheet thickness



FOR TUBES INTERNAL DIAMETER
FROM (36.1 mm) 1.420" TO (123.7 mm) 4.870"

TUBE EXPANDER FITTED WITH ROLLER LENGTH		FOR TUBE SHEET ADJUSTABLE RANGE	
		MINIMUM A	MAXIMUM B
2.1/4" (57.1mm)	STD REACH	(12.7mm) 1.1/2"	(101.4mm) 4"
	"6" REACH	(12.7mm) 1.1/2"	(152.4mm) 6"
	"8" REACH	(12.7mm) 1.1/2"	(203.2mm) 8"

Features:

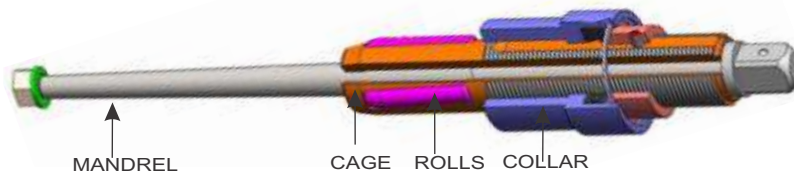
To expand tubes in Air Heaters, Boiler and Refinery, still tubes. These expanders can be used to expand thick sheets upto 8". Adjustable type expander.

✘ Model 8012-1.3/4-8 - 8012-2.1/2-13-18 expanders come with 3/4" square mandrel drives. Model 8012-2.3/4-10-16 - 8012-5-10-18 expanders come with 1" square mandrel drives.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.
(44.45) 1.3/4	8	4.19	.165	36.1	1.420	34.7	1.368	39.3	1.550	8012-1.3/4-8	M-90	R-33-A
	10	3.40	.134	37.6	1.482	36.0	1.420	40.8	1.607	8012-1.3/4-10	M-90	R-37-A
	11	3.04	.120	38.3	1.510	36.9	1.454	41.5	1.635	8012-1.3/4-11	M-90	R-42
	12	2.76	.109	38.9	1.532	37.6	1.482	42.0	1.657	8012-1.3/4-12	M-90	R-44
	13	2.41	.095	39.6	1.560	38.3	1.510	42.7	1.685	8012-1.3/4-13	M-90	R-46
	14	2.10	.083	40.2	1.584	38.9	1.532	43.4	1.709	8012-1.3/4-14	M-90	R-48
(50.80) 2	7	4.57	.180	41.6	1.640	39.8	1.570	45.0	1.770	8012-2-7	M-91	R-46
	8	4.19	.165	42.4	1.670	40.5	1.595	45.6	1.795	8012-2-8	M-91	R-48
	10	3.40	.134	43.9	1.732	41.6	1.640	47.1	1.857	8012-2-10	M-91	R-50
	11	3.04	.120	44.7	1.760	42.4	1.670	47.8	1.885	8012-2-11	M-91	R-52
	12	2.76	.109	45.2	1.782	43.2	1.704	48.4	1.907	8012-2-12	M-91	R-54
	13	2.41	.095	45.9	1.810	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56
	14	2.10	.083	46.5	1.834	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56
	15	1.83	.072	47.1	1.856	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56
	16	1.65	.065	47.4	1.870	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56
	17	1.47	.058	47.9	1.884	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56
18	1.24	.049	48.3	1.902	43.9	1.732	49.6	1.956	8012-2-13-18	M-91	R-56	
(57.15) 2.1/4	10	3.40	.134	50.3	1.982	48.0	1.890	53.5	2.107	8012-2.1/4-10	M-92	R-56
	11	3.04	.120	51.0	2.010	48.7	1.920	54.2	2.135	8012-2.1/4-11	M-92	R-58
	12	2.76	.109	51.6	2.032	49.6	1.954	54.7	2.157	8012-2.1/4-12	M-92	R-60
	13	2.41	.095	52.3	2.060	50.3	1.982	55.4	2.185	8012-2.1/4-13-16	M-92	R-62
	14	2.10	.083	52.9	2.084	50.3	1.982	55.4	2.185	8012-2.1/4-13-16	M-92	R-62
	15	1.83	.072	53.4	2.106	50.3	1.982	55.4	2.185	8012-2.1/4-13-16	M-92	R-62
(63.50) 2.1/2	16	1.65	.065	53.8	2.120	50.3	1.982	55.4	2.185	8012-2.1/4-13-16	M-92	R-62
	7-8	4.50	.177	54.5	2.146	52.0	2.050	59.3	2.335	8012-2.1/2-7-8	M-92	R-45-A
	9	3.75	.148	56.0	2.204	53.5	2.106	60.4	2.380	8012-2.1/2-9	M-93	R-46-A
	10	3.40	.134	56.6	2.232	54.3	2.140	61.1	2.407	8012-2.1/2-10-12	M-93	R-64
	11	3.04	.120	57.4	2.260	54.3	2.140	61.1	2.407	8012-2.1/2-10-12	M-93	R-64
	12	2.76	.109	57.9	2.282	54.3	2.140	61.1	2.407	8012-2.1/2-10-12	M-93	R-64
	13	2.41	.095	58.6	2.310	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64
	14	2.10	.083	59.2	2.334	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64
	15	1.83	.072	59.8	2.356	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64
	16	1.65	.065	60.1	2.370	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64
	17	1.47	.058	60.6	2.384	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64
	18	1.24	.049	61.0	2.402	56.6	2.232	62.2	2.450	8012-2.1/2-13-18	M-94	R-64

8012 SERIES

Adjustable type expander can be adjusted for different tube sheet thickness



1.3/4" - 5"
O.D.

Model 8012-1.3/4-8 - 8012-2.1/2-13-18 expanders come with 3/4" square mandrel drives. Model 8012-2.3/4-10-16 - 8012-5-10-18 expanders come with 1" square mandrel drives.

Tube O.D mm inch	Tube Thickness			Tube I. D.		Minimum I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with (57.15 mm) 2.1/4" Long Rollers		
	bwg	mm	inch	mm	inch	mm	inch	mm	inch	Complete Tool No.	Mandrel No.	Rollers Set No.
(68.85) 2.3/4	10	3.40	.134	63.0	2.482	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	11	3.04	.120	63.7	2.510	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	12	2.76	.109	64.3	2.532	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	13	2.41	.095	65.0	2.560	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	14	2.10	.083	65.6	2.584	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	15	1.83	.072	66.1	2.606	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
(76.20) 3	16	1.65	.065	66.5	2.620	60.7	2.390	68.6	2.702	8012-2.3/4-10-16	M-96	R-66
	8	4.19	.165	67.8	2.670	65.0	2.560	71.8	2.829	8012-3-8-9	M-97	R-67
	9	3.75	.148	68.6	2.704	65.0	2.560	71.8	2.829	8012-3-8-9	M-97	R-67
	10	3.40	.134	69.3	2.732	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	11	3.04	.120	70.1	2.760	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	12	2.76	.109	70.6	2.782	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	13	2.41	.095	71.3	2.810	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	14	2.10	.083	71.9	2.834	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
(89.9) 3.1/2	15	1.83	.072	72.5	2.856	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	16	1.65	.065	72.8	2.870	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	17	1.47	.058	73.3	2.884	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	18	1.24	.049	73.7	2.902	67.0	2.640	74.9	2.952	8012-3-10-18	M-96	R-67
	13	2.41	.095	84.1	3.311	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
(101.6) 4	14	2.10	.083	84.7	3.334	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
	15	1.83	.072	85.2	3.354	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
	16	1.65	.065	85.6	3.370	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
	17	1.47	.058	86.0	3.385	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
	18	1.24	.049	86.4	3.401	81.0	3.190	88.0	3.464	8012-3.1/2-10-18	M-99	R-70
(114.3) 4.1/2	3	6.60	.259	88.4	3.480	87.0	3.425	96.0	3.780	8012-4-3-4	M-100	R-71
	4	6.00	.236	89.6	3.527	87.0	3.425	96.0	3.780	8012-4-3-4	M-100	R-71
	8	4.19	.165	93.2	3.670	91.0	3.582	100.0	3.940	8012-4-8-9	M-101	R-71
	9	3.75	.148	94.1	3.704	91.0	3.582	100.0	3.940	8012-4-8-9	M-101	R-71
	10	3.40	.134	94.8	3.732	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
	11	3.04	.120	95.5	3.760	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
	12	2.76	.109	96.1	3.783	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
	13	2.41	.095	96.8	3.811	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
(127.0) 5	14	2.10	.083	97.4	3.834	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
	16	1.65	.065	98.3	3.870	93.0	3.661	100.6	3.960	8012-4-10-18	M-101	R-72
	3	6.60	.259	101.1	3.980	100.0	3.940	109.0	4.291	8012-4.1/2-3-4	M-102	R-73
	4	6.00	.236	102.3	4.030	100.0	3.940	109.0	4.291	8012-4.1/2-3-4	M-102	R-73
	8	4.19	.165	105.9	4.170	102.0	4.020	111.0	4.370	8012-4.1/2-8-9	M-102	R-74
	9	3.75	.148	106.8	4.204	102.0	4.020	111.0	4.370	8012-4.1/2-8-9	M-102	R-74
(127.0) 5	10	3.40	.134	107.5	4.232	104.0	4.100	113.0	4.450	8012-4.1/2-10-18	M-103	R-74
	12	2.76	.109	108.8	4.283	104.0	4.100	113.0	4.450	8012-4.1/2-10-18	M-103	R-74
	16	1.65	.065	111.0	4.370	104.0	4.100	113.0	4.450	8012-4.1/2-10-18	M-103	R-74
	3	6.60	.259	113.8	4.480	112.0	4.410	121.0	4.763	8012-5-3-4	M-105	R-76
	4	6.00	.236	115.0	4.527	112.0	4.410	121.0	4.763	8012-5-3-4	M-105	R-76
	8	4.19	.165	118.6	4.670	116.0	4.566	125.0	4.921	8012-5-8-9	M-105	R-77
	9	3.75	.148	119.5	4.704	116.0	4.566	125.0	4.921	8012-5-8-9	M-105	R-77
	10	3.40	.134	120.2	4.732	117.0	4.606	126.0	4.960	8012-5-10-18	M-105	R-78
(127.0) 5	11	3.04	.120	121.0	4.763	117.0	4.606	126.0	4.960	8012-5-10-18	M-105	R-78
	12	2.76	.109	121.5	4.783	117.0	4.606	126.0	4.960	8012-5-10-18	M-105	R-78
	14	2.10	.083	122.8	4.834	117.0	4.606	126.0	4.960	8012-5-10-18	M-105	R-78
	16	1.65	.065	123.7	4.870	117.0	4.606	126.0	4.960	8012-5-10-18	M-105	R-78

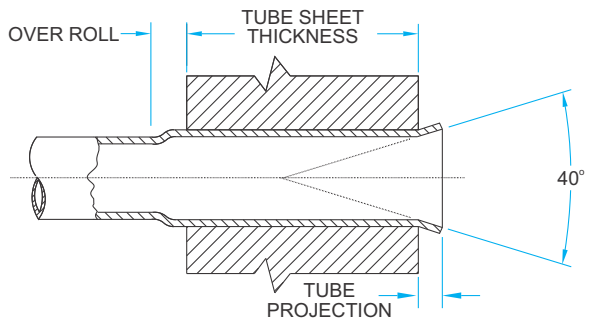
Slim expander can be used through hole, header etc.

7/8" - 4 1/2"
O.D.



Features :

- Overlapping flare rolls prevent ridging of Tube.
- Can be converted for parallel expansion use - enquire with us.
- Self retained rolls in cage.
- Compact design for use through small hand holes, headers etc.
- Use - General purpose expander for expanding and flaring boiler tubes, water wall, down comer, economizer, riser and air heater tubes.

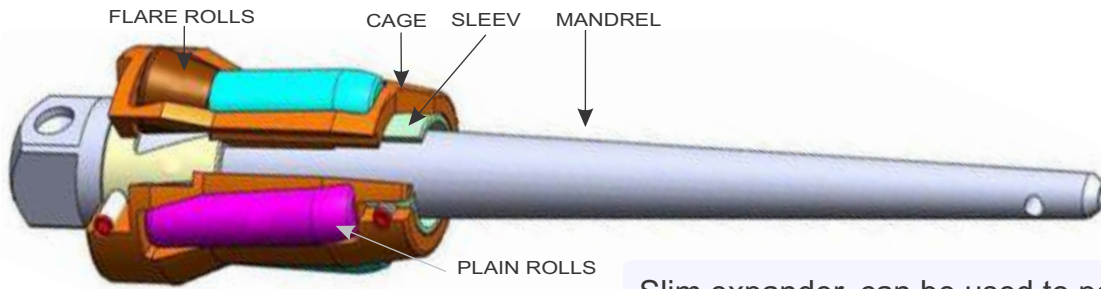


Tube O.D	Tube Thickness		Tube O.D	Tube Thickness		Maximum I.D. Tool Enters		Maximum Expansion Of Tool		Tube Expander Model Number Tube Sheet Thickness Range				
	inch	bwg		inch	bwg	inch	mm	inch	mm	inch	1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"
2	4 & 5	.238 & .220	1.3/4	11 - 13	.120 - .095	36.7	1.444	43.1	1.696	-	14172	14174	14176	14178
	6 & 7	.203 & .180	1.3/4	14 - 16	.480 - .065	38.3	1.507	44.6	1.755	-	14182	14184	14186	14188
	7 & 8	.180 & .165				39.9	1.570	46.6	1.826	14191	14192	14194	14196	14198
	9 & 10	.148 & .134	2.1/4	13	.095	41.5	1.633	48.0	1.889	14201	14202	14204	14206	14208
	11 - 13	.120 - .095	2.1/4	4 & 5	.238 & .220	43.1	1.696	49.6	1.952	14211	14212	14214	14216	14218
2.1/2	2	.284	2.1/4	6 - 8	.203 - .165	45.5	1.791	52.6	2.070	-	14222	14224	14226	14228
	3 & 4	.259 & .238	2.1/4	9 - 11	.148 - .120	47.1	1.856	54.2	2.133	-	14232	14234	14236	14238
	4 - 6	.238 - .203	2.1/4	12 - 15	.109 - .072	49.0	1.929	57.3	2.255	-	14242	14244	14246	14248
	7 - 10	.180 - .134	2.3/4	2 & 3	.284 & .259	51.9	2.043	60.5	2.381	-	14252	14254	14256	14258
	11 - 13	.120 - .095	2.3/4	4 & 5	.238 & .220	55.1	2.169	63.7	2.507	14261	14262	14264	14266	14268
3	1 - 3	.300 - .259	2.3/4	6 - 10	.203 - .134	57.4	2.259	66.6	2.622	-	14272	14274	14276	14278
	4 - 6	.238 - .203	2.3/4	11 - 15	.120 - .072	60.6	2.385	70.0	2.755	-	14282	14284	14286	14288
	7 - 11	.180 - .120	3.1/4	1 - 4	.300 - .238	63.8	2.511	73.9	2.909	-	14292	14294	14296	14298
	10 - 12	.134 - .109	3.1/4	4 - 7	.238 - .180	66.9	2.638	77.3	3.043	14301	14302	14304	14306	14308
3.1/2	1 - 4	.300 - .238	3.1/4	7 - 11	.180 - .120	70.1	2.759	80.1	3.153	-	14312	14314	14316	14318
	4 - 7	.238 - .180	3.1/4	10 - 15	.134 - .072	73.0		83.4	3.283	-	14322	14324		14328
	7 - 11	.180 - .120	3.3/4	2 & 3	.284 & .259	76.2	3.000	86.8	3.417	-	14332	14334	14336	14338
	10 - 12	.134 - .109	3.3/4	4 & 5	.238 & .	79.3	3.122	8	3.535	-	14342	14344	14346	14348
	1 - 4	.300 - .238	3.3/4	6 - 10	.203 - .134	82.5	3.248	93.0	3.661	-	14352	14354	14356	14358
4	4 - 7	.238 - .180	3.3/4	11 - 15	.120 - .072	85.7	3.374	96.0	3.779	-	14362	14364	14366	14368
	7 - 11	.180 - .120	4.1/4	2 & 3	.284 & .259	88.9	3.500	98.6	3.881	-	14372	14374	14376	14378
	8 - 12	.165 - .109	4.1/4	3 & 5	.259 & .220	90.5	3.562	102.3	4.027	-	14382	14384	14386	14388
4.1/2	1 - 4	.300 - .238	4.1/4	6 - 9	.203 - .148	95.2	3.748	104.7	4.122	-	14392	14394	14396	14398
	3 - 8	.238 - .165	4.1/4	10 - 13	.134 - .095	98.4	3.874	110.3	4.342	-	14402	14404	14406	14408
	6 - 12	.203 - .109	-	-	-	101.6	4.000	113.5	4.468	-	14412	14414	14416	14418

114 SERIES



Slim expander, can be used to pass through hole, header etc.



2"-4 1/2"
O.D.

Slim expander, can be used to pass through hole, header etc. where the expansion area is not directly accessible. Also can be converted for parallel expansion only just by changing the rolls.

Short Series Mandrel set



Mandrel Type	Description
Drum	Standard Mandrel
Header	Extra long mandrel for long reach
Short Series	Set of 3 short mandrels

Drum Mandrel



Header Mandrel

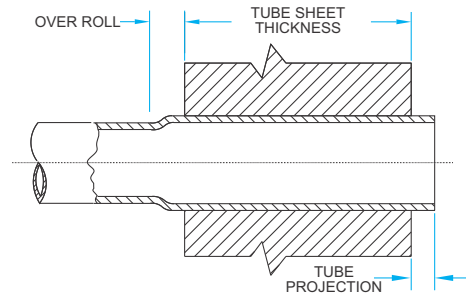
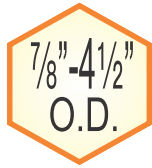


Spare Rollers Set Model Number Tube Sheet Thickness Range					Mandrel Square Drive Size inch	Drum Type	Header Type	Spare Mandrel Model Number								
1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"	2.1/8" To 2.5/8"				Short Series 5.1/8 inch				Short Series 7.1/8 inch				
-	34872	34874	34878	34948	3/4	32269	32289	32308	32309	32310	32311		34876	34948		
-	34879	34881	34883	34949	3/4	32269	32289	32309	32310	32311			-			
34878	34879	34881	34883	34949	3/4	32270	32290	32309	32310	32311	32312		-			
34878	34879	34881	34883	34949	3/4	32271	32291	32311	32312	32313			32346			
34885	34866	34888	34890	34950	3/4	32270	32290	32310	32311	32312			32345			
-	34893	34895	34897	34951	3/4	32270	32290	32310	32311	32312	32313		-			
-	34893	34895	34897	34951	3/4	32271	32291	32311	32312	32313	32314		-			
-	34893	34895	34897	34951	3/4	32272	32292	32312	32313	21214	32315		-			
-	34900	34902	34904	34952	3/4	32272	32292	32312	32313	32314	32315	32316	32347	32348	32349	
34899	34900	34902	34904	34952	3/4	32273	32293	32315	32316	32317		32316	33630	33631		
-	34907	34909	34911	34953	3/4	32273	32293	32315	32316	32317	32318		-			
-	34907	34909	34911	34953	1	32274	32294	32317	32318	32319	32320	32319	-			
-	34914	34916	34918	34954	1	32274	32294	32318	32319	32320	32321	32321	33632	33633	33634	33635
34913	34914	34916	34918	34954	1	32275	32295	32320	32321	32322		32322	33634	33635		
-	34921	34923	34925	34955	1	32274	32294	32318	32319	32320	32321		-			
-	34921	34923	34925	34955	1	32275	32295	32321	32322	32323	32324	32322	-			
-	34921	34923	34925	34955	1	32276	32296	32323	32324	32325	32326	32325	-			
-	34921	34923	34925	34955	1	32277	32297	32324	32325	32326	32327	32327	-			
-	34928	34930	34932	34956	1	32276	32296	32324	32325	32326	32327	32328	-			
-	34928	34930	34932	34956	1	32277	32297	32326	32327	32328	32329	32330	-			
-	34928	34930	34932	34956	1	32278	32298	32328	32329	32330	32331	32332	-			
-	34935	34937	34939	34957	1	32277	32297	32324	32325	32326	32327	32328	-			
-	34935	34937	34939	34957	1	32278	32298	32329	32330	32331	32332	32350	-			
-	34935	34937	34939	34957	1	32279	32299	32331	32332	32350	32337	32338	-			
-	34942	34944	34946	34958	1	32278	32298	32326	32327	32328	32329	32330	-			

'A' SERIES TUBE EXPANDER



The most economical tool when parallel rolling is to be done.



Features :

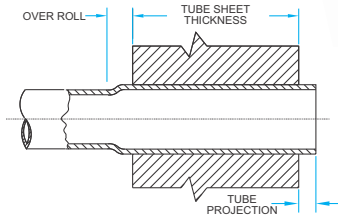
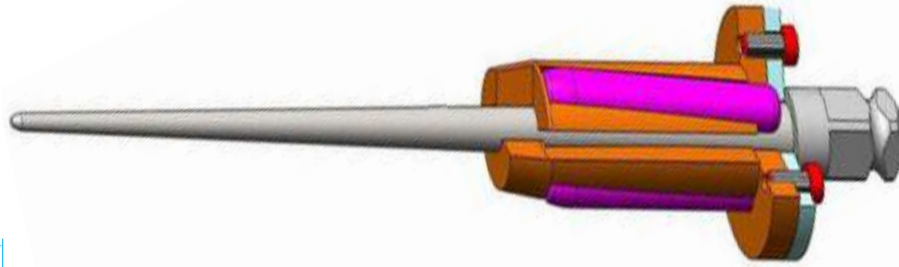
- Most economical tool for parallel rolling in boiler drums.
- Built in sleeve holds the rolls in the cage when mandrel is out.
- Tested and sturdy design ensure extra long life of the tools.

Tube O.D	Tube Thickness		Tube O.D	Tube Thickness		Minimum I.D Tool Enters		Maximum Expansion Of Tool		Tube Expander Model Number Tube Sheet Thickness Range				
	inch	bwg		inch	bwg	inch	mm	inch	mm	inch	1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"
7/8	15	.072	1	10	.134	18.1	.712	20.4	.803	A-31/2	A-31/3	-	-	-
7/8	16	.065				18.4	.724	20.7	.814	A-32/2	A-32/3	-	-	-
7/8	17	.058	1	11	.120	18.8	.740	21.1	.830	A-33/2	A-33/3	-	-	-
7/8	18	.049	1	12	.109	19.4	.763	21.6	.850	A-34/2	A-34/3	-	-	-
7/8	19 & 20	.042 & .035	1.1/8	8	.165	19.7	.775	22.3	.877	A-35/2	A-35/3	-	-	-
1	13	.095				20.1	.791	22.4	.881	A-36/2	A-36/3	-	-	-
1	14	.083	1.1/8	9	.148	20.6	.811	23.1	.909	A-37/2	A-37/3	A-37/4	-	-
1	15 & 16	.072 & .065	1.1/8	10	.134	21.3	.838	23.8	.937	A-38/2	A-38/3	A-38/4	-	-
1	17 & 18	.058 & .048	1.1/8	11	.120	22.0	.866	24.5	.964	A-39/2	A-39/3	A-39/4	-	-
1	19 & 20	.042 & .035	1.1/8	12	.109	22.4	.881	25.0	.984	A-40/2	A-40/3	A-40/4	-	-
1.1/4	8	.165	1.1/8	13	.095	23.3	.917	25.9	1.019	A-41/2	A-41/3	A-41/4	-	-
1.1/4	9	.148	1.1/8	14	.083	23.8	.937	26.5	1.043	A-42/2	A-42/3	A-42/4	-	-
1.1/4	10	.134	1.1/8	15 & 16	.072 & .065	24.4	.960	27.2	1.070	A-43/2	A-43/3	A-43/4	-	-
1.1/4	11	.120				25.2	.992	28.0	1.102	A-44/2	A-44/3	A-44/4	-	-
1.1/4	12	.109				25.7	1.011	28.5	1.122	A-45/2	A-45/3	A-45/4	-	-
1.1/4	13	.095	1.3/8	8	.165	26.1	1.027	28.8	1.133	A-46/2	A-46/3	A-46/4	-	-
1.1/4	14	.083				26.4	1.039	29.2	1.149	A-47/2	A-47/3	A-47/4	-	-
1.1/4	15	.072	1.3/8	9	.148	26.9	1.059	29.7	1.169	A-48/2	A-48/3	A-48/4	-	-
1.1/4	16	.065	1.3/8	10	.134	27.6	1.086	30.4	1.196	A-49/2	A-49/3	A-49/4	A-49/5	A-49/6
1.1/2	7	.180	1.3/8	11	.120	28.3	1.114	31.2	1.228	A-50/2	A-50/3	A-50/4	A-50/5	A-50/6
1.1/2	8	.165	1.3/8	12	.109	28.8	1.133	31.7	1.248	A-51/2	A-51/3	A-51/4	A-51/5	A-51/6
1.1/2	9	.148	1.3/8	13 & 14	.095 & .083	29.5	1.161	33.4	1.314	A-52/2	A-52/3	A-52/4	A-52/5	A-52/6
1.1/2	10	.134	1.3/8	15 & 16	.072 & .065	30.0	1.181	34.1	1.342	A-53/2	A-53/3	A-53/4	A-53/5	A-53/6
1.1/2	11 & 12	.120 & .109				30.6	1.204	34.8	1.370	A-54/2	A-54/3	A-54/4	A-54/5	A-54/6
1.1/2	13	.095	1.3/4	5	.220	31.4	1.236	35.6	1.401	A-55/2	A-55/3	A-55/4	A-55/5	A-55/6
1.1/2	14 & 15	.083 & .072	1.3/4	6	.203	32.6	1.283	36.8	1.448	A-56/2	A-56/3	A-56/4	A-56/5	A-56/6
			1.3/4	7	.180	33.4	1.314	38.1	1.500	A-57/2	A-57/3	A-57/4	A-57/5	A-57/6
			1.3/4	8	.165	34.2	1.346	38.7	1.523	A-58/2	A-58/3	A-58/4	A-58/5	A-58/6
2	3	.259	1.3/4	9 & 10	.148 & .134	35.0	1.377	40.6	1.598	A-59/2	A-59/3	A-59/4	A-59/5	A-59/6
2	4	.238	1.3/4	11 & 12	.120 & .109	36.6	1.440	42.2	1.661	A-60/2	A-60/3	A-60/4	A-60/5	A-60/6
2	5 & 6	.220 & .203	1.3/4	13 & 14	.095 & .083	38.2	1.503	43.8	1.712	A-61/2	A-61/3	A-61/4	A-61/5	A-61/6
2	7 & 8	.180 & .165	1.3/4	15 & 16	.072 & .065	39.8	1.566	45.4	1.787	A-62/2	A-62/3	A-62/4	A-62/5	A-62/6
2	9 & 10	.148 & .134	2.1/4	3	.259	41.4	1.629	47.0	1.850	A-63/2	A-63/3	A-63/4	A-63/5	A-63/6
2	11 - 13	.120 - .095	2.1/4	4	.238	42.9	1.688	49.5	1.948	A-64/2	A-64/3	A-64/4	A-64/5	A-64/6
2	14 - 16	.083 - .065	2.1/4	6 & 7	.203 & .180	44.5	1.751	51.1	2.011	A-65/2	A-65/3	A-65/4	A-65/5	A-65/6
2	17 & 18	.058 & .049	2.1/4	8 & 9	.165 & .148	46.1	1.814	52.7	2.074	A-66/2	A-66/3	A-66/4	A-66/5	A-66/6

'A' SERIES TUBE EXPANDER



Time tested and durable design with rolls self contained in cage.



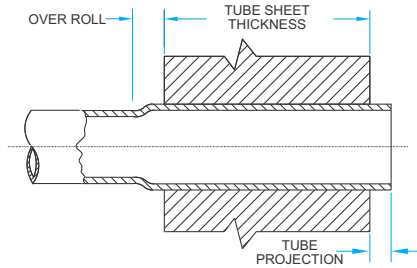
Spare Rollers Set Model Number Tube Sheet Thickness Range					Mandrel Square Drive Size inch	Tube Expander Model Number Tube Sheet Thickness Range		
1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"	2.1/8" To 2.5/8"		Drum Type	Header Type	Short Series Mandrel Set (No. Of Mandrels)
15-2-RS	15-3-RS	-	-	-	3/8	DM-11	-	-
15-2-RS	15-3-RS	-	-	-	3/8	DM-12	-	-
16-2-RS	16-3-RS	-	-	-	3/8	DM-12	-	-
20-2-RS	20-3-RS	-	-	-	3/8	DM-12	-	-
17-2-RS	17-3-RS	-	-	-	3/8	DM-13	-	-
18-2-RS	18-3-RS	-	-	-	3/8	DM-12	-	-
18-2-RS	18-3-RS	18-4-RS	-	-	3/8	DM-13	HM-13	SM-13 (2)
19-2-RS	19-3-RS	19-4-RS	-	-	3/8	DM-13	HM-13	SM-13 (2)
21-2-RS	21-3-RS	21-4-RS	-	-	3/8	DM-13	HM-13	SM-13 (2)
21-2-RS	21-3-RS	21-4-RS	-	-	3/8	DM-14	HM-14	SM-14 (2)
22-2-RS	22-3-RS	22-4-RS	-	-	3/8	DM-14	HM-14	SM-14 (2)
23-2-RS	23-3-RS	23-4-RS	-	-	1/2	DM-15	HM-15	SM-15 (2)
24-2-RS	24-3-RS	24-4-RS	-	-	1/2	DM-15	HM-15	SM-15 (2)
26-2-RS	26-3-RS	26-4-RS	-	-	1/2	DM-16	HM-16	SM-16 (2)
27-2-RS	27-3-RS	27-4-RS	-	-	1/2	DM-16	HM-16	SM-16 (2)
31-2-RS	31-3-RS	31-4-RS	-	-	1/2	DM-16	HM-16	SM-16 (2)
28-2-RS	28-3-RS	28-4-RS	-	-	1/2	DM-17	HM-17	SM-17 (2)
29-2-RS	29-3-RS	29-4-RS	-	-	1/2	DM-17	HM-17	SM-17 (2)
30-2-RS	30-3-RS	30-4-RS	30-5-RS	30-6-RS	1/2	DM-17	HM-17	SM-17 (2)
30-2-RS	30-3-RS	30-4-RS	30-5-RS	30-6-RS	1/2	DM-18	HM-18	SM-18 (2)
32-2-RS	32-3-RS	32-4-RS	32-5-RS	32-6-RS	1/2	DM-18	HM-18	SM-18 (2)
28-2-RS	28-3-RS	28-4-RS	28-5-RS	28-6-RS	1/2	DM-20	HM-20	SM-20 (2)
29-2-RS	29-3-RS	29-4-RS	29-5-RS	29-6-RS	1/2	DM-20	HM-20	SM-20 (2)
30-2-RS	30-3-RS	30-4-RS	30-5-RS	30-6-RS	1/2	DM-20	HM-20	SM-20 (2)
33-2-RS	33-3-RS	33-4-RS	33-5-RS	33-6-RS	1/2	DM-20	HM-20	SM-20 (2)
32-2-RS	32-3-RS	32-4-RS	32-5-RS	32-6-RS	1/2	DM-21	HM-21	SM-21 (2)
36-2-RS	36-3-RS	36-4-RS	36-5-RS	36-6-RS	1/2	DM-21	HM-21	SM-21 (2)
37-2-RS	37-3-RS	37-4-RS	37-5-RS	37-6-RS	1/2	DM-21	HM-21	SM-21 (2)
33-2-RS	33-3-RS	33-4-RS	33-5-RS	33-6-RS	3/4	DM-22	HM-22	SM-22 (2)
37-2-RS	37-3-RS	37-4-RS	37-5-RS	37-6-RS	3/4	DM-22	HM-22	SM-22 (2)
38-2-RS	38-3-RS	38-4-RS	38-5-RS	38-6-RS	3/4	DM-22	HM-22	SM-22 (2)
39-2-RS	39-3-RS	39-4-RS	39-5-RS	39-6-RS	3/4	DM-22	HM-22	SM-22 (2)
40-2-RS	40-3-RS	40-4-RS	40-5-RS	40-6-RS	3/4	DM-22	HM-22	SM-22 (2)
40-2-RS	40-3-RS	40-4-RS	40-5-RS	40-6-RS	3/4	DM-23	HM23	SM-23 (2)
41-2-RS	41-3-RS	41-4-RS	41-5-RS	41-6-RS	3/4	DM-23	HM-23	SM-23 (2)
42-2-RS	42-3-RS	42-4-RS	42-5-RS	42-6-RS	3/4	DM-23	HM-23	SM-23 (2)

'A' SERIES TUBE EXPANDER



Rolls available in different lengths for different thicknesses

40 Dh Boiler eXchangers Tools Pvt. Ltd. A SERIES



Tube O.D	Tube Thickness		Tube O.D	Tube Thickness		Minimum I.D Tool Enters		Maximum Expansion Of Tool		Tube Expander Model Number Tube Sheet Thickness Range				
	inch	bwg		inch	bwg	inch	mm	inch	mm	inch	1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"
2.1/2	3	.259	2.1/4	10 & 11	.134 & .120	47.7	1.877	54.3	2.137	A-67/2	A-67/3	A-67/4	A-67/5	A-67/6
2.1/2	4 & 5	.238 & .220	2.1/4	12 & 13	.109 & .095	49.3	1.940	55.9	2.220	A-68/2	A-68/3	A-68/4	A-68/5	A-68/6
2.1/2	6 & 7	.203 & .180	2.1/4	14 - 16	.083 - .065	50.8	2.000	57.8	2.275	A-69/2	A-69/3	A-69/4	A-69/5	A-69/6
2.1/2	8 & 9	.165 & .148	2.3/4	3	.259	52.4	2.062	59.4	2.338	A-70/2	A-70/3	A-70/4	A-70/5	A-70/6
2.1/2	10 & 11	.134 & .120	2.3/4	4	.238	54.0	2.125	61.0	2.401	A-71/2	A-71/3	A-71/4	A-71/5	A-71/6
2.1/2	12 - 14	.109 & .083	2.3/4	5 & 6	.220 & .203	55.6	2.188	64.0	2.519	A-72/2	A-72/3	A-72/4	A-72/5	A-72/6
2.1/2	15 & 16	.072 & .065	2.3/4	7 & 8	.180 & .165	57.2	2.251	65.6	2.582	A-73/2	A-73/3	A-73/4	A-73/5	A-73/6
3	3	.259	2.3/4	9 & 10	.148 & .134	58.6	2.307	67.0	2.637	A-74/2	A-74/3	A-74/4	A-74/5	A-74/6
3	4	.238	2.3/4	11 - 13	.120 - .095	60.4	2.377	68.8	2.708	A-75/2	A-75/3	A-75/4	A-75/5	A-75/6
3	5 & 6	.220 & .203	2.3/4	14 - 16	.083 - .065	62.2	2.448	70.4	2.771	A-76/2	A-76/3	A-76/4	A-76/5	A-76/6
3	7 & 8	.180 & .165	-	-	-	63.6	2.503	72.0	2.834	A-77/2	A-77/3	A-77/4	A-77/5	A-77/6
3	9 & 10	.148 & .134	3.1/4	3	.259	65.0	2.559	73.4	2.889	A-78/2	A-78/3	A-78/4	A-78/5	A-78/6
3	11 - 13	.120 - .095	3.1/4	4	.238	66.6	2.622	75.0	2.952	A-79/2	A-79/3	A-79/4	A-79/5	A-79/6
3	14 - 16	.083 - .065	3.1/4	5 & 6	.220 & .203	68.3	2.688	76.9	3.027	A-80/2	A-80/3	A-80/4	A-80/5	A-80/6
3.1/2	2	.284	3.1/4	7 & 8	.180 & .165	69.9	2.751	78.5	3.090	A-81/2	A-81/3	A-81/4	A-81/5	A-81/6
3.1/2	3	.259	3.1/4	9 & 10	.148 & .134	71.5	2.814	80.1	3.153	A-82/2	A-82/3	A-82/4	A-82/5	A-82/6
3.1/2	4	.238	3.1/4	11 - 13	.120 - .095	73.1	2.877	81.7	3.216	A-83/2	A-83/3	A-83/4	A-83/5	A-83/6
3.1/2	5 & 6	.220 & .203	3.1/4	14 - 16	.083 - .065	74.6	2.937	84.2	3.314	A-84/2	A-84/3	A-84/4	A-84/5	A-84/6
3.1/2	7 & 8	.180 & .165	3.3/4	2	.084	76.2	3.000	85.5	3.366	A-85/2	A-85/3	A-85/4	A-85/5	A-85/6
3.1/2	9 - 10	.148 - .120	3.3/4	3	.259	77.8	3.062	87.4	3.440	A-86/2	A-86/3	A-86/4	A-86/5	A-86/6
3.1/2	12 - 16	.109 - .065	3.3/4	4	.238	79.4	3.125	89.0	3.503	A-87/2	A-87/3	A-87/4	A-87/5	A-87/6
			3.3/4	5 & 6	.220 & .203	81.0	3.188	90.6	3.566	A-88/2	A-88/3	A-88/4	A-88/5	A-88/6
4	2	.284	3.3/4	7 & 8	.180 & .165	82.6	3.251	92.2	3.629	A-89/2	A-89/3	A-89/4	A-89/5	A-89/6
4	3	.259	3.3/4	9 & 10	.148 & .134	84.2	3.314	93.8	3.629	A-90/2	A-90/3	A-90/4	A-90/5	A-90/6
4	4	.238	3.3/4	11 - 13	.120 - .095	85.8	3.377	96.2	3.787	A-91/2	A-91/3	A-91/4	A-91/5	A-91/6
4	5 & 6	.220 & .203	3.3/4	14 - 16	.083 - .065	87.4	3.440	97.8	3.850	A-92/2	A-92/3	A-92/4	A-92/5	A-92/6
4	7 & 8	.180 & .165	4.1/4	2		89.0	3.503	99.4	3.913	A-93/2	A-93/3	A-93/4	A-93/5	A-93/6
4	9 - 11	.148 - .120	4.1/4	3	.284	90.4	3.559	100.8	3.968	A-94/2	A-94/3	A-94/4	A-94/5	A-94/6
4	12 - 16	.109 - .065	4.1/4	4	.238	92.0	3.622	102.4	4.031	A-95/2	A-95/3	A-95/4	A-95/5	A-95/6
			4.1/4	5 & 6	.220 & .203	93.4	3.677	103.8	4.086	A-96/2	A-96/3	A-96/4	A-96/5	A-96/6
4.1/2	2	.284	4.1/4	7 & 8	.180 & .165	95.0	3.740	105.4	4.149	A-97/2	A-97/3	A-97/4	A-97/5	A-97/6
4.1/2	3	.259	4.1/4	9 - 11	.148 & .134	96.6	3.803	107.0	4.212	A-98/2	A-98/3	A-98/4	A-98/5	A-98/6
4.1/2	4 & 5	.238 & .220	4.1/4	11 - 13	.120 - .095	98.2	3.866	108.6	4.275	A-99/2	A-99/3	A-99/4	A-99/5	A-99/6
4.1/2	6 & 7	.203 & .180	-	-	-	101.2	3.984	110.0	4.330	A-100/2	A-100/3	A-100/4	A-100/5	A-100/6
4.1/2	8 & 9	.165 & .148	-	-	-	102.8	4.047	111.6	4.393	A-101/2	A-101/3	A-101/4	A-101/5	A-101/6
4.1/2	10 - 12	.134 - .109	-	-	-	104.4	4.110	113.2	4.456	A-102/2	A-102/3	A-102/4	A-102/5	A-102/6

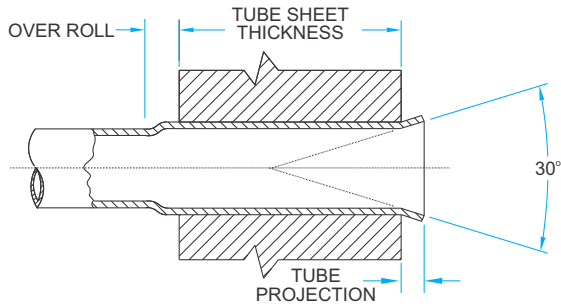
'A' SERIES TUBE EXPANDER

This expander is work-hose in boiler tube expansion.



Mandrel Type	Description
Drum	Standard Mandrel
Header	Extra long mandrel for long reach
Short Series	Set of 3 short mandrels

Spare Rollers Set Model Number Tube Sheet Thickness Range					Mandrel Square Drive Size inch	Tube Expander Model Number Tube Sheet Thickness Range		
1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"	2.1/8" To 2.5/8"		Drum Type	Header Type	Short Series Mandrel Set (No. Of Mandrels)
43-2-RS	43-3-RS	43-4-RS	43-5-RS	43-6-RS	3/4	DM-23	HM-23	SM-23 (3)
44-2-RS	44-3-RS	44-4-RS	44-5-RS	44-6-RS	3/4	DM-23	HM-23	SM-23 (3)
43-2-RS	43-3-RS	43-4-RS	43-5-RS	43-6-RS	3/4	DM-24	HM-24	SM-24 (3)
44-2-RS	44-3-RS	44-4-RS	44-5-RS	44-6-RS	3/4	DM-24	HM-24	SM-24 (3)
45-2-RS	45-3-RS	45-4-RS	45-5-RS	45-6-RS	3/4	DM-24	HM-24	SM-24 (3)
47-2-RS	47-3-RS	47-4-RS	47-5-RS	47-6-RS	3/4	DM-24	HM-24	SM-24 (3)
46-2-RS	46-3-RS	46-4-RS	46-5-RS	46-6-RS	1	DM-25	HM-25	SM-25 (3)
47-2-RS	47-3-RS	47-4-RS	47-5-RS	47-6-RS	1	DM-25	HM-25	SM-25 (3)
48-2-RS	48-3-RS	48-4-RS	48-5-RS	48-6-RS	1	DM-25	HM-25	SM-25 (3)
49-2-RS	49-3-RS	49-4-RS	49-5-RS	49-6-RS	1	DM-25	HM-25	SM-25 (3)
50-2-RS	50-3-RS	50-4-RS	50-5-RS	50-6-RS	1	DM-25	HM-25	SM-25 (3)
51-2-RS	51-3-RS	51-4-RS	51-5-RS	51-6-RS	1	DM-25	HM-25	SM-25 (3)
52-2-RS	52-3-RS	52-4-RS	52-5-RS	52-6-RS	1	DM-25	HM-25	SM-25 (3)
51-2-RS	51-3-RS	51-4-RS	51-5-RS	51-6-RS	1	DM-26	HM-26	SM-26 (4)
52-2-RS	52-3-RS	52-4-RS	52-5-RS	52-6-RS	1	DM-26	HM-26	SM-26 (4)
53-2-RS	53-3-RS	53-4-RS	53-5-RS	53-6-RS	1	DM-26	HM-26	SM-26 (4)
54-2-RS	54-3-RS	54-4-RS	54-5-RS	54-6-RS	1	DM-26	HM-26	SM-26 (4)
54-2-RS	54-3-RS	54-4-RS	54-5-RS	54-6-RS	1	DM-27	HM-27	SM-27 (4)
55-2-RS	55-3-RS	55-4-RS	55-5-RS	55-6-RS	1	DM-27	HM-27	SM-27 (4)
56-2-RS	56-3-RS	56-4-RS	56-5-RS	56-6-RS	1	DM-27	HM-27	SM-27 (4)
57-2-RS	57-3-RS	57-4-RS	57-5-RS	57-6-RS	1	DM-27	HM-27	SM-27 (4)
58-2-RS	58-3-RS	58-4-RS	58-5-RS	58-6-RS	1	DM-27	HM-27	SM-27 (4)
59-2-RS	59-3-RS	59-4-RS	59-5-RS	59-6-RS	1	DM-27	HM-27	SM-27 (4)
60-2-RS	60-3-RS	60-4-RS	60-5-RS	60-6-RS	1	DM-27	HM-27	SM-27 (4)
59-2-RS	59-3-RS	59-4-RS	59-5-RS	59-6-RS	1	DM-28	HM-28	SM-28 (4)
60-2-RS	60-3-RS	60-4-RS	60-5-RS	60-6-RS	1	DM-28	HM-28	SM-28 (4)
61-2-RS	61-3-RS	61-4-RS	61-5-RS	61-6-RS	1	DM-28	HM-28	SM-28 (4)
62-2-RS	62-3-RS	62-4-RS	62-5-RS	62-6-RS	1	DM-28	HM-28	SM-28 (4)
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	DM-28	HM-28	SM-28 (4)
62-2-RS	62-3-RS	62-4-RS	62-5-RS	62-6-RS	1	DM-29	HM-29	SM-29 (4)
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	DM-29	HM-29	SM-29 (4)
64-2-RS	64-3-RS	64-4-RS	64-5-RS	64-6-RS	1	DM-29	HM-29	SM-29 (4)
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	DM-30	HM-30	SM-30 (4)
64-2-RS	64-3-RS	64-4-RS	64-5-RS	64-6-RS	1	DM-30	HM-30	SM-30 (4)
65-2-RS	65-3-RS	65-4-RS	65-5-RS	65-6-RS	1	DM-30	HM-30	SM-30 (4)
66-2-RS	66-3-RS	66-4-RS	66-5-RS	66-6-RS	1	DM-30	HM-30	SM-30 (4)



Features :

- Overlapping flare rolls prevent ridding of Tube.
- Can be converted for parallel expansion use - enquire with us.
- Self retained rolls in cage.
- Compact design for use through small hand holes, headers etc.
- Use - General purpose expander for expanding and flaring boiler tubes, water wall, down comer, economizer, riser and air heater tubes.

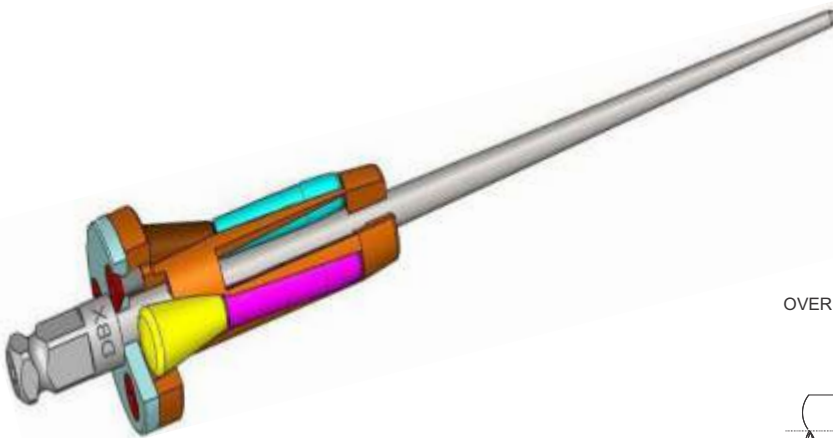
Tube O.D	Tube Thickness		Tube O.D	Tube Thickness		Maximum I.D. Tool Enters		Maximum Expansion Of Tool		Tube Expander Model Number Tube Sheet Thickness Range				
	inch	bwg		inch	bwg	inch	mm	inch	mm	inch	1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"
7/8	15	.072	1	10	.134	18.1	.712	20.4	.803	AF3-31/2	AF3-31/3	-	-	-
7/8	16	.065				18.4	.724	20.7	.814	AF3-32/2	AF3-32/3	-	-	-
7/8	17	.058	1	11	.120	18.8	.740	21.1	.830	AF3-33/2	AF3-33/3	-	-	-
7/8	18	.049	1	12	.109	19.4	.763	21.6	.850	AF3-34/2	AF3-34/3	-	-	-
7/8	19 & 20	.042 & .035	1.1/8	8	.165	19.7	.775	22.3	.877	AF3-35/2	AF3-35/3	-	-	-
1	13	.095				20.1	.791	22.4	.881	AF3-36/2	AF3-36/3	-	-	-
1	14	.083	1.1/8	9	.148	20.6	.811	23.1	.909	AF3-37/2	AF3-37/3	AF3-37/4	-	-
1	15 & 16	.072 & .035	1.1/8	10	.134	21.3	.838	23.8	.937	AF3-38/2	AF3-38/3	AF3-38/4	-	-
1	17 & 18	.058 & .048	1.1/8	11	.120	22.0	.866	24.5	.964	AF3-39/2	AF3-39/3	AF3-39/4	-	-
1	19 & 20	.042 & .035	1.1/8	12	.109	22.4	.881	25.0	.984	AF3-40/2	AF3-40/3	AF3-40/4	-	-
1.1/4	8	.165	1.1/8	13	.095	23.3	.917	25.9	1.019	AF3-41/2	AF3-41/3	AF3-41/4	-	-
1.1/4	9	.148	1.1/8	14	.083	23.8	.937	26.5	1.043	AF3-42/2	AF3-42/3	AF3-42/4	-	-
1.1/4	10	.134	1.1/8	15 & 16	.072 & .065	24.4	.960	27.2	1.070	AF3-43/2	AF3-43/3	AF3-43/4	-	-
1.1/4	11	.120				25.2	.992	28.0	1.102	AF3-44/2	AF3-44/3	AF3-44/4	-	-
1.1/4	12	.109				25.7	1.011	28.5	1.122	AF3-45/2	AF3-45/3	AF3-45/4	-	-
1.1/4	13	.095	1.3/8	8	.165	26.1	1.027	28.8	1.133	AF3-46/2	AF3-46/3	AF3-46/4	-	-
1.1/4	14	.083				26.4	1.039	29.2	1.149	AF3-47/2	AF3-47/3	AF3-47/4	-	-
1.1/4	15	.072	1.3/8	9	.148	26.9	1.059	29.7	1.169	AF3-48/2	AF3-48/3	AF3-48/4	-	-
1.1/4	16	.065	1.3/8	10	.134	27.6	1.086	30.4	1.196	AF3-49/2	AF3-49/3	AF3-49/4	AF3-49/5	AF3-49/6
1.1/2	7	.180	1.3/8	11	.120	28.3	1.114	31.2	1.228	AF3-50/2	AF3-50/3	AF3-50/4	AF3-50/5	AF3-50/6
1.1/2	8	.165	1.3/8	12	.109	28.8	1.133	31.7	1.248	AF3-51/2	AF3-51/3	AF3-51/4	AF3-51/5	AF3-51/6
1.1/2	9	.148	1.3/8	13 & 14	.095 & .083	29.5	1.161	33.4	1.314	AF3-52/2	AF3-52/3	AF3-52/4	AF3-52/5	AF3-52/6
1.1/2	10	.134	1.3/8	15 & 16	.072 & .065	30.0	1.181	34.1	1.342	AF3-53/2	AF3-53/3	AF3-53/4	AF3-53/5	AF3-53/6
1.1/2	11 & 12	.120 & .109				30.6	1.204	34.8	1.370	AF3-54/2	AF3-54/3	AF3-54/4	AF3-54/5	AF3-54/6
1.1/2	13	.095	1.3/4	5	.220	31.4	1.236	35.6	1.401	AF3-55/2	AF3-55/3	AF3-55/4	AF3-55/5	AF3-55/6
1.1/2	14 & 15	.083 & .072	1.3/4	6	.203	32.6	1.283	36.8	1.448	AF3-56/2	AF3-56/3	AF3-56/4	AF3-56/5	AF3-56/6
			1.3/4	7	.180	33.4	1.314	38.1	1.500	AF3-57/2	AF3-57/3	AF3-57/4	AF3-57/5	AF3-57/6
			1.3/4	8	.165	34.2	1.346	38.7	1.523	AF3-58/2	AF3-58/3	AF3-58/4	AF3-58/5	AF3-58/6
2	3	.259	1.3/4	9 & 10	.148 & .134	35.0	1.377	40.6	1.598	AF3-59/2	AF3-59/3	AF3-59/4	AF3-59/5	AF3-59/6
2	4	.238	1.3/4	11 & 12	.120 & .109	36.6	1.440	42.2	1.661	AF3-60/2	AF3-60/3	AF3-60/4	AF3-60/5	AF3-60/6
2	5 & 6	.220 & .203	1.3/4	13 & 14	.095 & .083	38.2	1.503	43.8	1.712	AF3-61/2	AF3-61/3	AF3-61/4	AF3-61/5	AF3-61/6
2	7 & 8	.180 & .165	1.3/4	15 & 16	.072 & .065	39.8	1.566	45.4	1.787	AF3-62/2	AF3-62/3	AF3-62/4	AF3-62/5	AF3-62/6
2	9 & 10	.148 & .134	2.1/4	3	.259	41.4	1.629	47.0	1.850	AF3-63/2	AF3-63/3	AF3-63/4	AF3-63/5	AF3-63/6
2	11 - 13	.120 - .095	2.1/4	4	.238	42.9	1.688	49.5	1.948	AF3-64/2	AF3-64/3	AF3-64/4	AF3-64/5	AF3-64/6
2	14 - 16	.083 - .065	2.1/4	6 & 7	.203 & .180	44.5	1.751	51.1	2.011	AF3-65/2	AF3-65/3	AF3-65/4	AF3-65/5	AF3-65/6
2	17 & 18	.058 & .049	2.1/4	8 & 9	.165 & .148	46.1	1.814	52.7	2.074	AF3-66/2	AF3-66/3	AF3-66/4	AF3-66/5	AF3-66/6

'Af3' SERIES TUBE EXPANDER

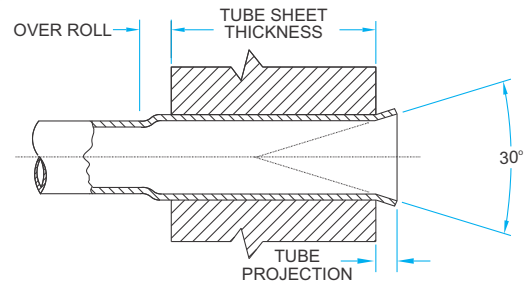
AF3 SERIES

DBX
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AF3 SERIES



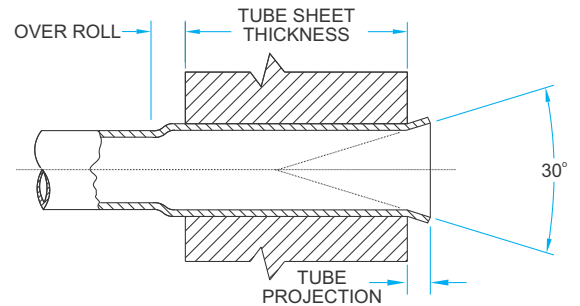
7/8" - 4 1/2"
O.D.



Spare Rollers Set Model Number Tube Sheet Thickness Range					Mandrel Square Drive Size inch	Spare Mandrel Model Number		
1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"	2.1/8" To 2.5/8"		Drum Type	Header Type	Short Series Mandrel Set (No. Of Mandrels)
15-2-F3S	15-3-F3S	-	-	-	3/8	DM-11	-	-
15-2-F3S	15-3-F3S	-	-	-	3/8	DM-12	-	-
16-2-F3S	16-3-F3S	-	-	-	3/8	DM-12	-	-
20-2-F3S	20-3-F3S	-	-	-	3/8	DM-12	-	-
17-2-F3S	17-3-F3S	-	-	-	3/8	DM-13	-	-
18-2-F3S	18-3-F3S	-	-	-	3/8	DM-12	-	-
18-2-F3S	18-3-F3S	18-4-F3S	-	-	3/8	DM-13	HM-13	SM-13
19-2-F3S	19-3-F3S	19-4-F3S	-	-	3/8	DM-13	HM-13	SM-13
21-2-F3S	21-3-F3S	21-4-F3S	-	-	3/8	DM-13	HM-13	SM-13
21-2-F3S	21-3-F3S	21-4-F3S	-	-	3/8	DM-14	HM-14	SM-14
22-2-F3S	22-3-F3S	22-4-F3S	-	-	3/8	DM-14	HM-14	SM-14
23-2-F3S	23-3-F3S	23-4-F3S	-	-	1/2	DM-15	HM-15	SM-15
24-2-F3S	24-3-F3S	24-4-F3S	-	-	1/2	DM-15	HM-15	SM-15
26-2-F3S	26-3-F3S	26-4-F3S	-	-	1/2	DM-16	HM-16	SM-16
27-2-F3S	27-3-F3S	27-4-F3S	-	-	1/2	DM-16	HM-16	SM-16
31-2-F3S	31-3-F3S	31-4-F3S	-	-	1/2	DM-16	HM-16	SM-16
28-2-F3S	28-3-F3S	28-4-F3S	-	-	1/2	DM-17	HM-17	SM-17
29-2-F3S	29-3-F3S	29-4-F3S	-	-	1/2	DM-17	HM-17	SM-17
30-2-F3S	30-3-F3S	30-4-F3S	30-5-F3S	30-6-F3S	1/2	DM-17	HM-17	SM-17
30-2-F3S	30-3-F3S	30-4-F3S	30-5-F3S	30-6-F3S	1/2	DM-18	HM-18	SM-18
34-2-F3S	34-3-F3S	34-4-F3S	34-5-F3S	34-6-F3S	1/2	DM-18	HM-18	SM-18
28-2-F3S	28-3-F3S	28-4-F3S	28-5-F3S	28-6-F3S	1/2	DM-20	HM-20	SM-20
29-2-F3S	29-3-F3S	29-4-F3S	29-5-F3S	29-6-F3S	1/2	DM-20	HM-20	SM-20
30-2-F3S	30-3-F3S	30-4-F3S	30-5-F3S	30-6-F3S	1/2	DM-20	HM-20	SM-20
33-2-F3S	33-3-F3S	33-4-F3S	33-5-F3S	33-6-F3S	1/2	DM-20	HM-20	SM-20
32-2-F3S	32-3-F3S	32-4-F3S	32-5-F3S	32-6-F3S	1/2	DM-21	HM-21	SM-21
36-2-F3S	36-3-F3S	36-4-F3S	36-5-F3S	36-6-F3S	1/2	DM-21	HM-21	SM-21
37-2-F3S	37-3-F3S	37-4-F3S	37-5-F3S	37-6-F3S	1/2	DM-21	HM-21	SM-21
33-2-F3S	33-3-F3S	33-4-F3S	33-5-F3S	33-6-F3S	3/4	DM-22	HM-22	SM-22
37-2-F3S	37-3-F3S	37-4-F3S	37-5-F3S	37-6-F3S	3/4	DM-22	HM-22	SM-22
38-2-F3S	38-3-F3S	38-4-F3S	38-5-F3S	38-6-F3S	3/4	DM-22	HM-22	SM-22
39-2-F3S	39-3-F3S	39-4-F3S	39-5-F3S	39-6-F3S	3/4	DM-22	HM-22	SM-22
40-2-F3S	40-3-F3S	40-4-F3S	40-5-F3S	40-6-F3S	3/4	DM-22	HM-22	SM-22
40-2-F3S	40-3-F3S	40-4-F3S	40-5-F3S	40-6-F3S	3/4	DM-23	HM-23	SM-23
41-2-F3S	41-3-F3S	41-4-F3S	41-5-F3S	41-6-F3S	3/4	DM-23	HM-23	SM-23
42-2-F3S	42-3-F3S	42-4-F3S	42-5-F3S	42-6-F3S	3/4	DM-23	HM-23	SM-23

AF3 SERIES

7/8" - 4 1/2"
 O.D.



Tube O.D	Tube Thickness		Tube O.D	Tube Thickness		Maximum I.D. Tool Enters		Maximum Expansion Of Tool		Tube Expander Model Number Tube Sheet Thickness Range				
	inch	bwg		inch	bwg	inch	mm	inch	mm	inch	1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"
2.1/2	3	.259	2.1/4	10 & 11	.134 & .120	47.7	1.877	54.3	2.137	AF3-67/2	AF3-67/3	AF3-67/4	AF3-67/5	AF3-67/6
2.1/2	4 & 5	.238 & .220	2.1/4	12 & 13	.109 & .095	49.3	1.940	55.9	2.220	AF3-68/2	AF3-68/3	AF3-68/4	AF3-68/5	AF3-68/6
2.1/2	6 & 7	.203 & .180	2.1/4	14 - 16	.083 - .065	50.8	2.000	57.8	2.275	AF3-69/2	AF3-69/3	AF3-69/4	AF3-69/5	AF3-69/6
2.1/2	8 & 9	.165 & .148	2.3/4	3	.259	52.4	2.062	59.4	2.338	AF3-70/2	AF3-70/3	AF3-70/4	AF3-70/5	AF3-70/6
2.1/2	10 & 11	.134 & .120	2.3/4	4	.238	54.0	2.125	61.0	2.401	AF3-71/2	AF3-71/3	AF3-71/4	AF3-71/5	AF3-71/6
2.1/2	12 - 14	.109 - .083	2.3/4	5 & 6	.220 & .203	55.6	2.188	64.0	2.519	AF3-72/2	AF3-72/3	AF3-72/4	AF3-72/5	AF3-72/6
2.1/2	15 & 16	.072 & .065	2.3/4	7 & 8	.180 & .165	57.2	2.251	65.6	2.582	AF3-73/2	AF3-73/3	AF3-73/4	AF3-73/5	AF3-73/6
3	3	.259	2.3/4	9 & 10	.148 & .134	58.6	2.307	67.0	2.637	AF3-74/2	AF3-74/3	AF3-74/4	AF3-74/5	AF3-74/6
3	4	.238	2.3/4	11 - 13	.120 - .095	60.4	2.377	68.8	2.708	AF3-75/2	AF3-75/3	AF3-75/4	AF3-75/5	AF3-75/6
3	5 & 6	.220 & .203	2.3/4	14 - 16	.083 - .065	62.2	2.448	70.4	2.771	AF3-76/2	AF3-76/3	AF3-76/4	AF3-76/5	AF3-76/6
3	7 & 8	.180 & .165				63.6	2.503	72.0	2.834	AF3-77/2	AF3-77/3	AF3-77/4	AF3-77/5	AF3-77/6
3	9 & 10	.148 & .134	3.1/4	3	.259	65.0	2.559	73.4	2.889	AF3-78/2	AF3-78/3	AF3-78/4	AF3-78/5	AF3-78/6
3	11 - 13	.120 - .095	3.1/4	4	.238	66.6	2.622	75.0	2.952	AF3-79/2	AF3-79/3	AF3-79/4	AF3-79/5	AF3-79/6
3	14 - 16	.083 - .065	3.1/4	5 & 6	.220 & .203	68.3	2.688	76.9	3.027	AF3-80/2	AF3-80/3	AF3-80/4	AF3-80/5	AF3-80/6
3.1/2	2	.284	3.1/4	7 & 8	.180 & .165	69.9	2.751	78.5	3.090	AF3-81/2	AF3-81/3	AF3-81/4	AF3-81/5	AF3-81/6
3.1/2	3	.259	3.1/4	9 & 10	.148 & .134	71.5	2.814	80.1	3.153	AF3-82/2	AF3-82/3	AF3-82/4	AF3-82/5	AF3-82/6
3.1/2	4	.238	3.1/4	11 - 13	.120 & .095	73.1	2.877	81.7	3.216	AF3-83/2	AF3-83/3	AF3-83/4	AF3-83/5	AF3-83/6
3.1/2	5 & 6	.220 & .203	3.1/4	14 - 16	.083 - .065	74.6	2.937	84.2	3.314	AF3-84/2	AF3-84/3	AF3-84/4	AF3-84/5	AF3-84/6
3.1/2	7 & 8	.180 & .165	3.3/4	2	.284	76.2	3.000	85.5	3.366	AF3-85/2	AF3-85/3	AF3-85/4	AF3-85/5	AF3-85/6
3.1/2	9 - 11	.148 - .120	3.3/4	3	.259	77.8	3.062	87.4	3.440	AF3-86/2	AF3-86/3	AF3-86/4	AF3-86/5	AF3-86/6
3.1/2	12 - 16	.109 - .065	3.3/4	4	.238	79.4	3.125	89.0	3.503	AF3-87/2	AF3-87/3	AF3-87/4	AF3-87/5	AF3-87/6
			3.3/4	5 & 6	.220 & .203	81.0	3.188	90.6	3.566	AF3-88/2	AF3-88/3	AF3-88/4	AF3-88/5	AF3-88/6
4	2	.284	3.3/4	7 & 8	.180 & .165	82.6	3.251	92.2	3.629	AF3-89/2	AF3-89/3	AF3-89/4	AF3-89/5	AF3-89/6
4	3	.259	3.3/4	9 & 10	.148 & .134	84.2	3.314	93.8	3.629	AF3-90/2	AF3-90/3	AF3-90/4	AF3-90/5	AF3-90/6
4	4	.238	3.3/4	11 - 13	.120 - .095	85.8	3.377	96.2	3.787	AF3-91/2	AF3-91/3	AF3-91/4	AF3-91/5	AF3-91/6
4	5 & 6	.220 & .203	3.3/4	14 - 16	.083 - .065	87.4	3.440	97.8	3.850	AF3-92/2	AF3-92/3	AF3-92/4	AF3-92/5	AF3-92/6
4	7 & 8	.180 & .165	4.1/4	2	.284	89.0	3.503	99.4	3.913	AF3-93/2	AF3-93/3	AF3-93/4	AF3-93/5	AF3-93/6
4	9 - 11	.148 - .120	4.1/4	3	.259	90.4	3.559	100.8	3.968	AF3-94/2	AF3-94/3	AF3-94/4	AF3-94/5	AF3-94/6
4	12 - 16	.109 - .065	4.1/4	4	.238	92.0	3.662	102.4	4.031	AF3-95/2	AF3-95/3	AF3-95/4	AF3-95/5	AF3-95/6
			4.1/4	5 & 6	.220 & .203	93.4	3.677	103.8	4.086	AF3-96/2	AF3-96/3	AF3-96/4	AF3-96/5	AF3-96/6
4.1/2	2	.284	4.1/4	7 & 8	.180 & .165	95.0	3.740	105.4	4.149	AF3-97/2	AF3-97/3	AF3-97/4	AF3-97/5	AF3-97/6
4.1/2	3	.259	4.1/4	9 - 11	.148 - .120	96.6	3.803	107.0	4.212	AF3-98/2	AF3-98/3	AF3-98/4	AF3-98/5	AF3-98/6
4.1/2	4 & 5	.238 & .220	4.1/4	11 - 13	.120 - .095	98.2	3.866	108.6	4.275	AF3-99/2	AF3-99/3	AF3-99/4	AF3-99/5	AF3-99/6
4.1/2	6 & 7	.203 & .180				101.2	3.984	110.0	4.330	AF3-100/2	AF3-100/3	AF3-100/4	AF3-100/5	AF3-100/6
4.1/2	8 & 9	.165 & .148				102.8	4.047	111.6	4.393	AF3-101/2	AF3-101/3	AF3-101/4	AF3-101/5	AF3-101/6
4.1/2	10 - 12	.134 - .109				104.4	4.110	113.2	4.456	AF3-102/2	AF3-102/3	AF3-102/4	AF3-102/5	AF3-102/6

AF3 SERIES TUBE EXPANDERS

AF3 SERIES



Set of Short Series Mandrels



Drum Mandrel



Header Mandrel

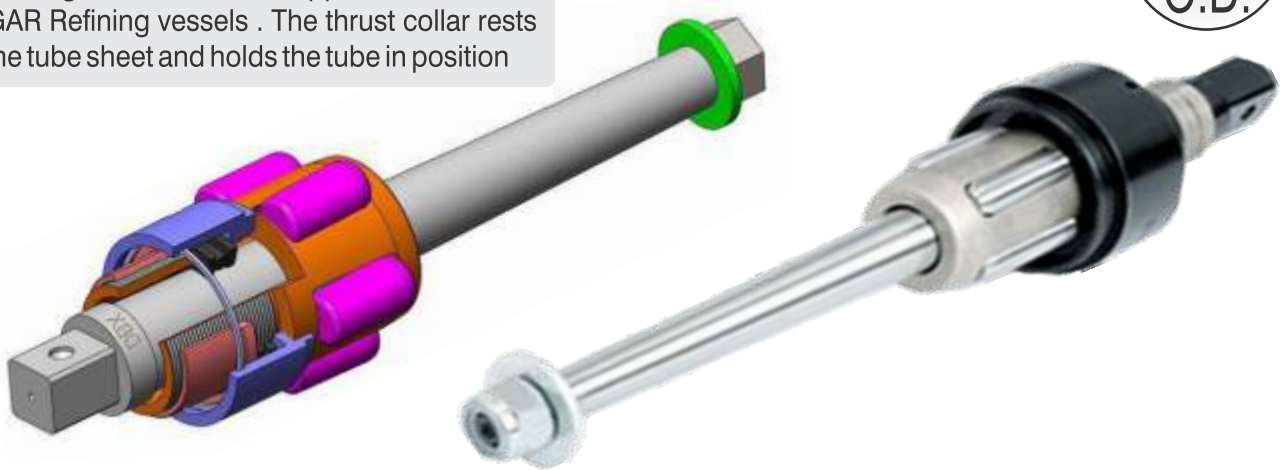
Mandrel Type	Description
Drum	Standard Mandrel
Header	Extra long mandrel for long reach
Short Series	Set of 3 short mandrels

Spare Rollers Set Model Number Tube Sheet Thickness Range					Mandrel Square Drive Size inch	Spare Mandrel Model Number		
1/2" To 7/8"	3/4" To 1.1/8"	1.1/8" To 1.5/8"	1.5/8" To 2.1/8"	2.1/8" To 2.5/8"		Drum Type	Header Type	Short Series Mandrel Set (No. Of Mandrels)
43-2-F3S	43-3-F3S	43-4-F3S	43-5-F3S	43-6-F3S	3/4	DM-23	HM-23	SM-23 (3)
44-2-F3S	44-3-F3S	44-4-F3S	44-5-F3S	44-6-F3S	3/4	DM-23	HM-23	SM-23 (3)
43-2-F3S	43-3-F3S	43-4-F3S	43-5-F3S	43-6-F3S	3/4	DM-24	HM-24	SM-24 (3)
44-2-F3S	44-3-F3S	44-4-F3S	44-5-F3S	44-6-F3S	3/4	DM-24	HM-24	SM-24 (3)
45-2-F3S	45-3-F3S	45-4-F3S	45-5-F3S	45-6-F3S	3/4	DM-24	HM-24	SM-24 (3)
47-2-F3S	47-3-F3S	47-4-F3S	47-5-F3S	47-6-F3S	3/4	DM-24	HM-24	SM-24 (3)
46-2-F3S	46-3-F3S	46-4-F3S	46-5-F3S	46-6-F3S	1	DM-25	HM-25	SM-25 (3)
47-2-F3S	47-3-F3S	47-4-F3S	47-5-F3S	47-6-F3S	1	DM-25	HM-25	SM-25 (3)
48-2-F3S	48-3-F3S	48-4-F3S	48-5-F3S	48-6-F3S	1	DM-25	HM-25	SM-25 (3)
49-2-F3S	49-3-F3S	49-4-F3S	49-5-F3S	49-6-F3S	1	DM-25	HM-25	SM-25 (3)
50-2-F3S	50-3-F3S	50-4-F3S	50-5-F3S	50-6-F3S	1	DM-25	HM-25	SM-25 (3)
51-2-F3S	51-3-F3S	51-4-F3S	51-5-F3S	51-6-F3S	1	DM-25	HM-25	SM-25 (3)
52-2-F3S	52-3-F3S	52-4-F3S	52-5-F3S	52-6-F3S	1	DM-25	HM-25	SM-25 (3)
51-2-F3S	51-3-F3S	51-4-F3S	51-5-F3S	51-6-F3S	1	DM-26	HM-26	SM-26 (4)
52-2-F3S	52-3-F3S	52-4-F3S	52-5-F3S	52-6-F3S	1	DM-26	HM-26	SM-26 (4)
53-2-F3S	53-3-F3S	53-4-F3S	53-5-F3S	53-6-F3S	1	DM-26	HM-26	SM-26 (4)
54-2-F3S	54-3-F3S	54-4-F3S	54-5-F3S	54-6-F3S	1	DM-26	HM-26	SM-26 (4)
54-2-F3S	54-3-F3S	54-4-F3S	54-5-F3S	54-6-F3S	1	DM-27	HM-27	SM-27 (4)
55-2-F3S	55-3-F3S	55-4-F3S	55-5-F3S	55-6-F3S	1	DM-27	HM-27	SM-27 (4)
56-2-F3S	56-3-F3S	56-4-F3S	56-5-F3S	56-6-F3S	1	DM-27	HM-27	SM-27 (4)
57-2-F3S	57-3-F3S	57-4-F3S	57-5-F3S	57-6-F3S	1	DM-27	HM-27	SM-27 (4)
59-2-F3S	59-3-F3S	59-4-F3S	59-5-F3S	59-6-F3S	1	DM-27	HM-27	SM-27 (4)
59-2-F3S	59-3-F3S	59-4-F3S	59-5-F3S	59-6-F3S	1	DM-27	HM-27	SM-27 (4)
60-2-F3S	60-3-F3S	60-4-F3S	60-5-F3S	60-6-F3S	1	DM-27	HM-27	SM-27 (4)
59-2-F3S	59-3-F3S	59-4-F3S	59-5-F3S	59-6-F3S	1	DM-28	HM-28	SM-28 (4)
60-2-F3S	60-3-F3S	60-4-F3S	60-5-F3S	60-6-F3S	1	DM-28	HM-28	SM-28 (4)
61-2-F3S	61-3-F3S	61-4-F3S	61-5-F3S	61-6-F3S	1	DM-28	HM-28	SM-28 (4)
62-2-F3S	62-3-F3S	62-4-F3S	62-5-F3S	62-6-F3S	1	DM-28	HM-28	SM-28 (4)
63-2-F3S	63-3-F3S	63-4-F3S	63-5-F3S	63-6-F3S	1	DM-28	HM-28	SM-28 (4)
62-2-F3S	62-3-F3S	62-4-F3S	62-5-F3S	62-6-F3S	1	DM-29	HM-29	SM-29 (4)
63-2-F3S	63-3-F3S	63-4-F3S	63-5-F3S	63-6-F3S	1	DM-29	HM-29	SM-29 (4)
64-2-F3S	64-3-F3S	64-4-F3S	64-5-F3S	64-6-F3S	1	DM-29	HM-29	SM-29 (4)
63-2-F3S	63-3-F3S	63-4-F3S	63-5-F3S	63-6-F3S	1	DM-30	HM-30	SM-30 (4)
64-2-F3S	64-3-F3S	64-4-F3S	64-5-F3S	64-6-F3S	1	DM-30	HM-30	SM-30 (4)
65-2-F3S	65-3-F3S	65-4-F3S	65-5-F3S	65-6-F3S	1	DM-30	HM-30	SM-30 (4)
66-2-F3S	66-3-F3S	66-4-F3S	66-5-F3S	66-6-F3S	1	DM-30	HM-30	SM-30 (4)

1 1/2" - 4 1/2"
O.D.

Features :

DBX make SB Type Tube Expander is best for expanding vertical tubes in upper tube sheet in SUGAR Refining vessels . The thrust collar rests on the tube sheet and holds the tube in position



Tube O.D inch	Tube Thickness		Minimum Tube Tool Enters		Maximum Expansion Of Tools		Tube Sheet Thickness mm (inch)			Spare Mandrel Model No.	Mandrel Sq. Size	Spare Rollers Set Model No.		
	bwg	inch	mm	inch	mm	inch	31.75(1.25)	38.1(1.5)	50.8(2.0)			Tube Expander Model No.		
1.1/2	11 & 12	.120 & .109	31.0	1.220	33.2	1.307	SB-00A	SB-00B	SB-00C	SBM-1	1/2	SBR-1A	SBR-1B	SBR-1C
1.1/2	13 & 14	.095 & .083	32.5	1.279	36.0	1.417	SB-0A	SB-0B	SB-0C	SBM-2	1/2	SBR-2A	SBR-2B	SBR-2C
1.1/2	15 & 16	.072 & .065	33.5	1.319	37.2	1.465	SB-1A	SB-1B	SB-1C	SBM-2	1/2	SBR-3A	SBR-3B	SBR-3C
1.3/4	9 & 10	.148 & .134	35.2	1.386	39.1	1.539	SB-2A	SB-2B	SB-2C	SBM-3	3/4	SBR-3A	SBR-3B	SBR-3C
1.3/4	11 & 12	.120 & .109	36.5	1.437	40.5	1.594	SB-3A	SB-3B	SB-3C	SBM-3	3/4	SBR-4A	SBR-4B	SBR-4C
1.3/4	13 & 14	.095 & .083	38.1	1.500	42.7	1.681	SB-4A	SB-4B	SB-4C	SBM-3	3/4	SBR-5A	SBR-5B	SBR-5C
1.3/4	15 & 16	.072 & .065	39.1	1.539	44.2	1.740	SB-5A	SB-5B	SB-5C	SBM-4	3/4	SBR-4A	SBR-4B	SBR-4C
2	7 & 8	.180 & .165	41.3	1.626	46.7	1.838	SB-6A	SB-6B	SB-6C	SBM-4	3/4	SBR-5A	SBR-5B	SBR-5C
2	9 & 10	.148 & .134	42.8	1.685	48.3	1.901	SB-7A	SB-7B	SB-7C	SBM-4	3/4	SBR-6A	SBR-6B	SBR-6C
2	11 - 13	.120 - .095	44.4	1.748	49.7	1.957	SB-8A	SB-8B	SB-8C	SBM-5	3/4	SBR-6A	SBR-6B	SBR-6C
2	14 - 16	.083 - .065	46.0	1.811	52.2	2.055	SB-9A	SB-9B	SB-9C	SBM-5	3/4	SBR-7A	SBR-7B	SBR-7C
2.1/4	9 & 10	.148 & .134	47.6	1.874	53.8	2.118	SB-10A	SB-10B	SB-10C	SBM-5	3/4	SBR-8A	SBR-8B	SBR-8C
2.1/4	11 - 13	.120 - .095	49.2	1.937	55.4	2.181	SB-11A	SB-11B	SB-11C	SBM-5	3/4	SBR-9A	SBR-9B	SBR-9C
2.1/4	14 - 16	.083 - .065	50.7	1.996	57.8	2.275	SB-12A	SB-12B	SB-12C	SBM-6	3/4	SBR-8A	SBR-8B	SBR-8C
2.1/2	9 & 10	.148 & .134	54.9	2.161	61.0	2.401	SB-13A	SB-13B	SB-13C	SBM-6	3/4	SBR-10A	SBR-10B	SBR-10C
2.1/2	14 - 16	.083 - .065	57.1	2.248	65.6	2.582	SB-14A	SB-14B	SB-14C	SBM-7	1	SBR-11A	SBR-11B	SBR-11C
2.3/4	10 - 14	.134 - .083	60.3	2.374	68.8	2.708	SB-15A	SB-15B	SB-15C	SBM-7	1	SBR-12A	SBR-12B	SBR-12C
3	7 - 9	.180 - .148	63.5	2.50	72.0	2.835	SB-16A	SB-16B	SB-16C	SBM-7	1	SBR-13A	SBR-13B	SBR-13C
3	10 - 14	.134 - .083	66.5	2.618	75.0	2.953	SB-17A	SB-17B	SB-17C	SBM-7	1	SBR-14A	SBR-14B	SBR-14C
3.1/4	7 & 8	.180 & .165	69.8	2.748	78.5	3.090	SB-18A	SB-18B	SB-18C	SBM-8	1	SBR-14A	SBR-14B	SBR-14C
3.1/2	4 & 5	.238 - .220	73.0	2.874	81.7	3.216	SB-19A	SB-19B	SB-19C	SBM-8	1	SBR-15A	SBR-15B	SBR-15C
3.1/2	6 - 8	.203 - .165	76.1	2.996	85.8	3.378	SB-20A	SB-20B	SB-20C	SBM-9	1	SBR-16A	SBR-16B	SBR-16C
3.3/4	4 & 5	.238 & .220	79.3	3.112	89.0	3.504	SB-21A	SB-21B	SB-21C	SBM-9	1	SBR-17A	SBR-17B	SBR-17C
3.3/4	6 - 8	.203 - .165	82.5	3.248	92.2	3.629	SB-22A	SB-22B	SB-22C	SBM-9	1	SBR-18A	SBR-18B	SBR-18C
4	3 & 4	.259 & .238	85.7	3.374	96.2	3.787	SB-23A	SB-23B	SB-23C	SBM-10	1	SBR-18A	SBR-18B	SBR-18C
4	10 - 16	.134 - .065	90.3	3.555	100.8	3.968	SB-24A	SB-24B	SB-24C	SBM-10	1	SBR-19A	SBR-19B	SBR-19C
4.1/4	6 - 8	.203 - .165	94.9	3.736	105.2	4.141	SB-25A	SB-25B	SB-25C	SBM-11	1	SBR-20A	SBR-20B	SBR-20C
4.1/2	4 - 7	.238 - .180	89.7	3.531	110.9	4.366	SB-26A	SB-26B	SB-26C	SBM-11	1	SBR-21A	SBR-21B	SBR-21C
4.1/2	8 - 10	.165 - .134	104.3	4.106	113.1	4.452	SB-27A	SB-27B	SB-27C	SBM-12	1	SBR-21A	SBR-21B	SBR-21C

LONG REACH C S B SERIES TUBE EXPANDERS



LONG REACH CSB SERIES

Features :

DBX make CSB type Long Body Tube Expander is best for expanding lower ends of vertical tubes in SUGAR Refining vessels . The operation of this tube expander is from the upper tube sheet.



■ Note : Other sizes, special lengths are available on request.

Tube O.D	Tube Thickness		Minimum Tube Tool Enters		Maximum Expansion Of Tools		Tube Sheet Thickness 'T'		Depth in Mtrs		Mandrel Sq. Size inch	Oal Mtrs.	Weight in Kgs	Tube Expander Model No.	Spare Mandrel Model No.	Spare Rollers Set Model No.
	inch	bwg	inch	mm	inch	mm	inch	mm	inch	mm						
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	1.7	2.0	3/4	2.258	10.0	CSB-5STD	CSBM-5STD	CSBR-5
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	2.0	2.3	3/4	2.558	11.2	CSB-5A	CSBM-5A	CSBR-5
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	2.3	2.3	3/4	2.858	12.4	CSB-5B	CSBM-5B	CSBR-5
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	2.6	2.9	3/4	3.158	13.7	CSB-5C	CSBM-5C	CSBR-5
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	2.9	3.2	3/4	3.458	14.9	CSB-5D	CSBM-5D	CSBR-5
1.3/4	15 & 16	.072 & .065	39.8	1.566	45.3	1.783	32.0	1.259	3.2	3.5	3/4	3.758	16.2	CSB-5E	CSBM-5E	CSBR-5
CSB-9 (5 Rollers)																
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	1.7	2.0	3/4	2.241	16.2	CSB-9STD	CSBM-9STD	CSBR-9
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	2.0	2.3	3/4	2.541	18.3	CSB-9A	CSBM-9A	CSBR-9
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	2.3	2.3	3/4	2.841	20.4	CSB-9B	CSBM-9B	CSBR-9
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	2.6	2.9	3/4	3.141	22.5	CSB-9C	CSBM-9C	CSBR-9
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	2.9	3.2	3/4	3.441	24.6	CSB-9D	CSBM-9D	CSBR-9
2	14 - 16	.083 - .065	46.2	1.818	50.8	2.000	32.0	1.259	3.2	3.5	3/4	3.741	26.7	CSB-9E	CSBM-9E	CSBR-9
CSB-24 (5 Rollers)																
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	0.7	1.0	1	1.416	23.7	CSB-24STD	CSBM-24STD	CSBR-24
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	1.0	1.3	1	1.716	29.4	CSB-24A	CSBM-24A	CSBR-24
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	1.3	1.6	1	2.016	35.5	CSB-24B	CSBM-24B	CSBR-24
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	1.6	1.9	1	2.316	40.8	CSB-24C	CSBM-24C	CSBR-24
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	1.6	2.2	1	2.616	46.5	CSB-24D	CSBM-24D	CSBR-24
4	12 - 18	.109 - .049	90.5	3.563	102.4	4.031	32.0	1.259	2.2	2.5	1	2.916	52.5	CSB-24E	CSBM-24E	CSBR-24

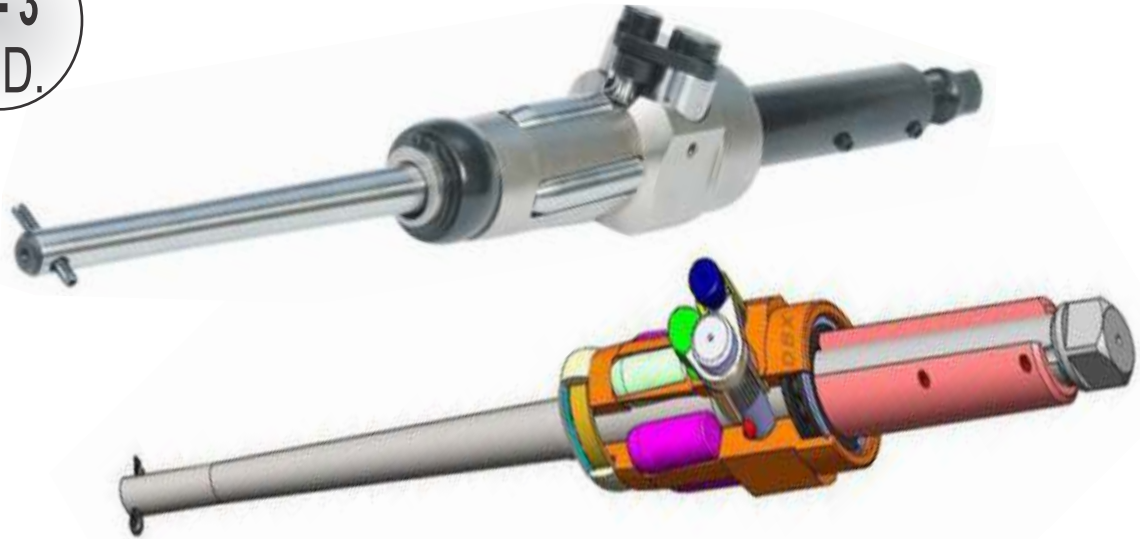


BEADING EXPANDERS

COMBINATION BEADING EXPANDERS

2" - 3"
O.D.

TUBE EXPANDING AND BEADING IN SINGLE OPERATION



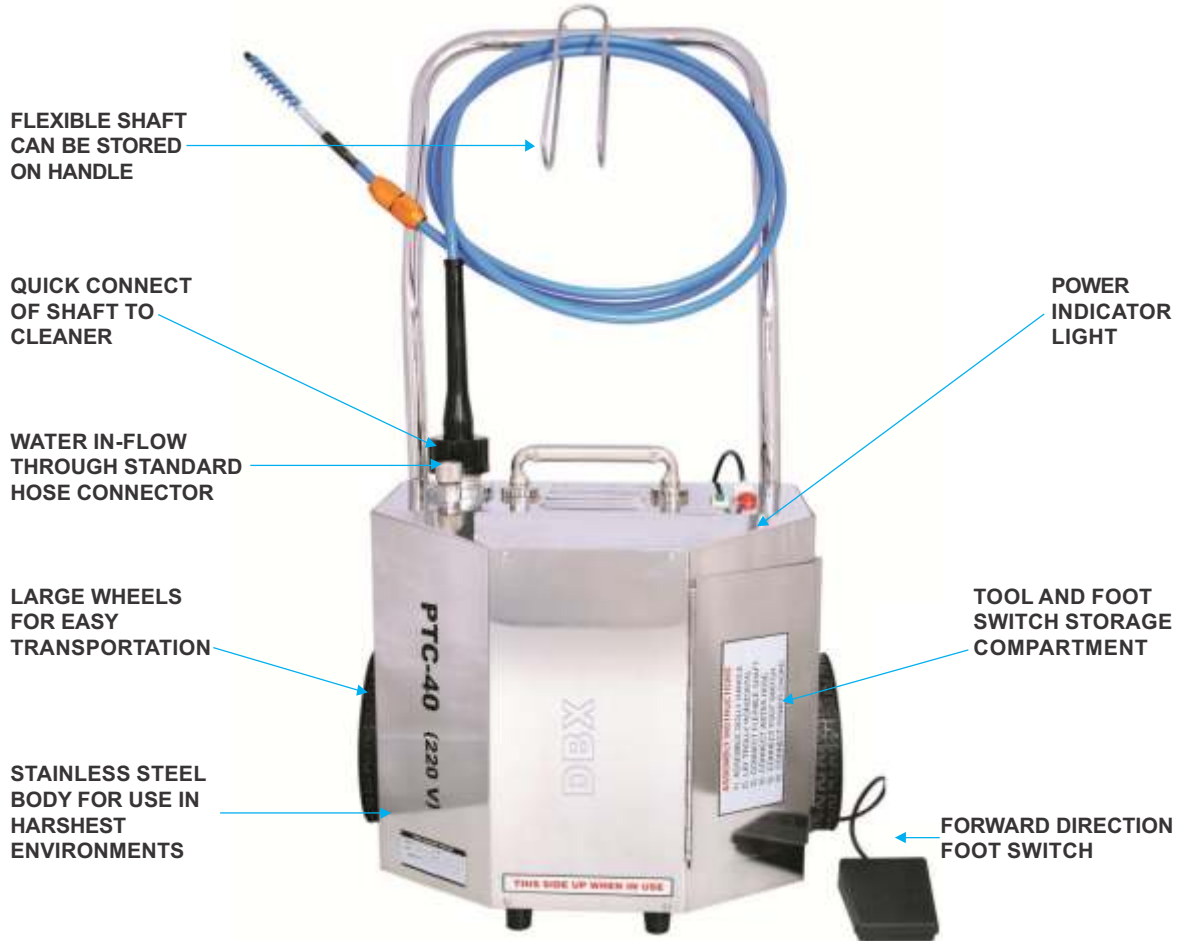
	Previously	Now With New Beading Expander
Tool Required	1] Flaring Tube Expander 2] Tube Expander Drive 3] Beading Tool 4] Air Hammer	1] Combination Beading Expander 2] Tube Expander Drive
Operating Steps	1] Expand 2] Bead 3] Reroll	1] Beading and Expansion done at same time
Operator Fatigue	1] Very High...Mainly due to air hammer Vibration and noise	1] Very Less.....As no Air Hammer needed and No rerolling

Tube O.D.	Tube Thickness		Expansion Range		Model No.	Mandrel Model No. (Square)	Spare Roller Set Model No.	Beading Roll Model No.	Guide Roll Assembly Model No.
	bwg	inch	mm	inch					
2	10	.134	43.2 - 48.41	1,700 - 1,906	41633 - 0010	41615 (3/4")	41670 set of 4	41631 - 0010	41701 -0010
	11	.120			41633 - 0011			41631 - 0011	41701 -0011
	12	.109			41633 - 0012			41631 - 0012	41701 -0012
	13	.095			41633 - 0013			41631 - 0013	41701 -0013
2.1/2	10	.134	55.9 - 62.48	2,200 - 2,460	41634 - 0010	41635 (1")	41673 set of 5	41631 - 0010	41701 -0010
	11	.120			41634 - 0011			41631 - 0011	41701 -0011
	12	.109			41634 - 0012			41631 - 0012	41701 -0012
	13	.095			41634 - 0013			41631 - 0013	41701 -0013
3	10	.134	68.6 - 75.69	2,700 - 2,980	41359 - 0010	41653 (1")	41676 set of 5	41631 - 0010	41701 -0010
	11	.120			41359 - 0011			41631 - 0011	41701 -0011
	12	.109			41359 - 0012			41631 - 0012	41701 -0012

Note : Refer to operation manual for other spare parts. Reverse mandrels are available.

HEAT EXCHANGER TUBE CLEANERS

ELECTRIC TUBE CLEANING SYSTEM



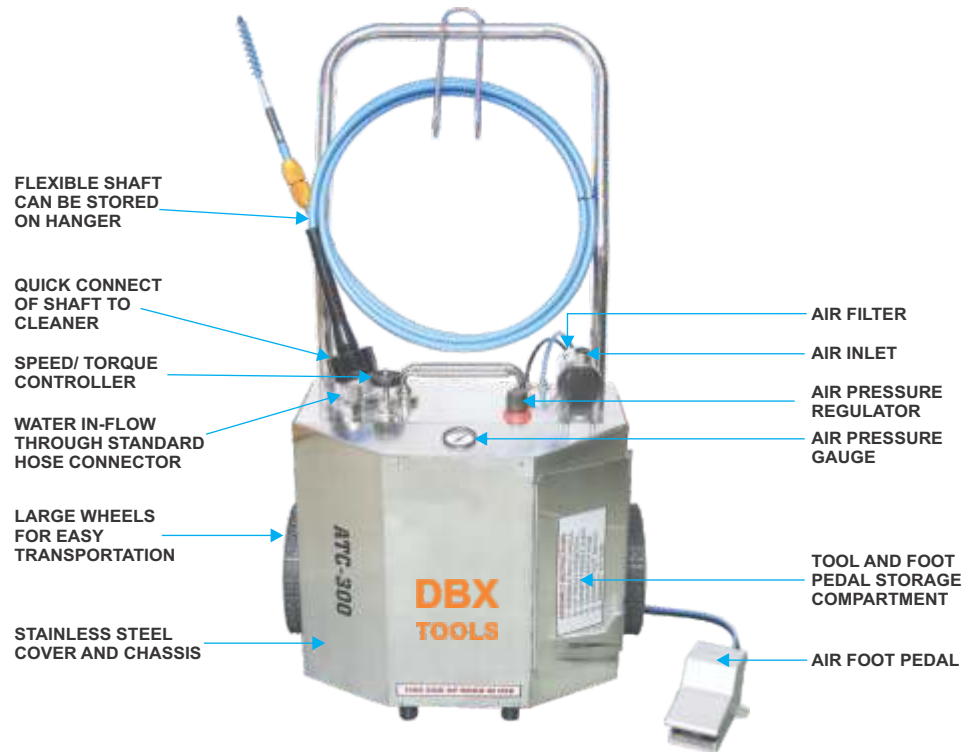
Features :

- Water flushes through the shaft and helps remove deposits from tube.
- Forward direction foot switch enables operator to concentrate on cleaning operation without worrying about cleaner.
- Flexible shaft can be easily disconnected.
- Stainless steel body for use in the harshest environments.
- Easy interchangeability of various shafts and accessories for maximum versatility.
- Large wheels for easy transportation.
- Water consumption can be regulated as needed.

Electric Tube Cleaners are environment friendly, compact and easily maneuverable units used to clean straight and curved tubes in heat exchangers, condensers, boilers and other tubular apparatus. They work by attaching a cleaning tool (to be determined on type of deposit to be cleaned) to a flexible shaft. The Electric Tube Cleaner provides rotary motion to the flexible shaft which rotates the cleaning tool inside the tube. If needed water passes through the flexible shaft to aid in flushing out of the deposits. All Electric Tube Cleaners are supplied with forward direction foot switch. Dual direction foot switches are available on request.

Tube I.D.		Tube Cleaner Model No.	Motor Power		Motor Speed RPM	Weight		High	Dimension	
mm	inch		HP	kW		lbs.	Kg.		Wide	Deep
6.4-25.4	1/4-1	PTC-40	1/2	0.40	890	62	28	38"(975mm)	21"(535mm)	18"(457mm)
6.4-25.4	1/4-1	PTC-60	3/4	0.60	890	66	30	38"(975mm)	21"(535mm)	18"(457mm)
25.4 & UP	1 & UP	PTC-75	1	0.75	1780	70	32	38"(975mm)	21"(535mm)	18"(457mm)
25.4 & UP	1 & UP	PTC-150	2	1.50	1780	84	38	40"(1015mm)	22"(560mm)	19"(482mm)

All units available in your choice of : 110v 60Hz, 110v 50Hz - 9 Amps. 220v 60Hz, 220v 50Hz - 4.5 Amps. Please Specify when ordering.



Features :

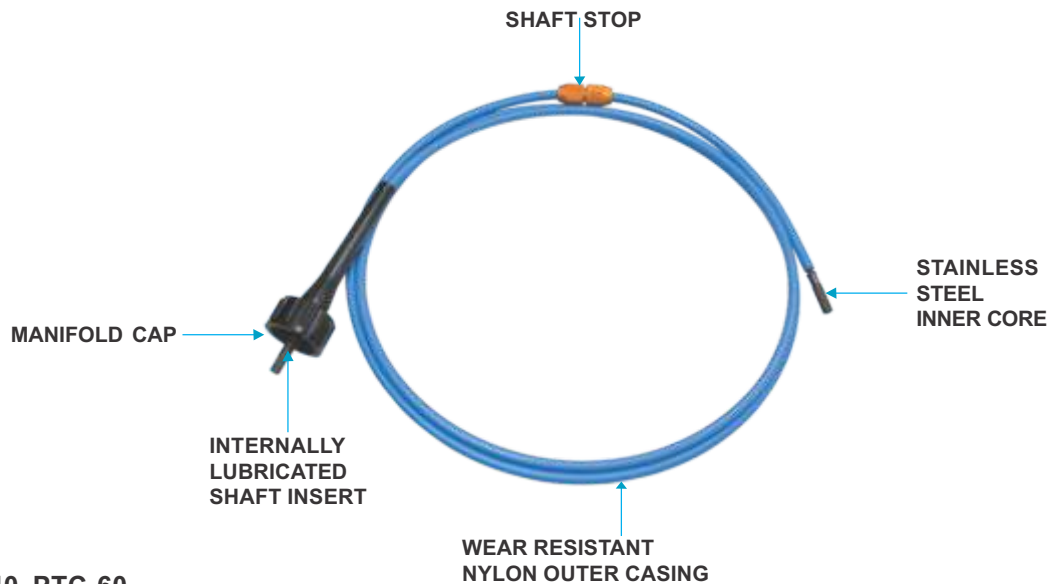
- Shock Resistant - Excellent for applications where using electric equipment is hazardous.
- Corrosion Resistant - Stainless steel cover and chassis for long life.
- Versatile - Interchangeability of different size flexible shafts and cleaning tools.
- Speed/Torque control - Shaft rotation can be set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

- ✍ DBX Model ATC-300 Extra Heavy Duty Pneumatic Tube Cleaning Machine includes air filter, regulator, lubricator, adjustable speed / torque control, mobile trolley, tool storage box and air foot pedal.
- ✍ The ATC-300 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 its watertight nylon casing, the unit feeds water through the casing to the cleaning tool.
- ✍ A foot pedal controls shaft rotation and water 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 RPM	Weight		Dimension		
mm	inch		HP	KW		lbs.	Kg.	High	Wide	Deep
6.4 & UP	1/4 & UP	ATC-300	4	3.00	300-3000	64	29	38"(975mm)	22"(560mm)	16"(406mm)

FLEXIBLE SHAFTS



For PTC-40, PTC-60

FLEXIBLE SHAFTS WITH STAINLESS STEEL INNER CORE

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

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

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

FLEXIBLE SHAFTS FOR INTERNALLY GROOVED TUBES

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

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

BRUSHES

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



NYLON BRUSH

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



STAINLESS STEEL BRUSH

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



BRASS BRUSH

Brushes for Heat Exchangers and Condensers

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

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

Brushes for Boiler and Sugar Mills

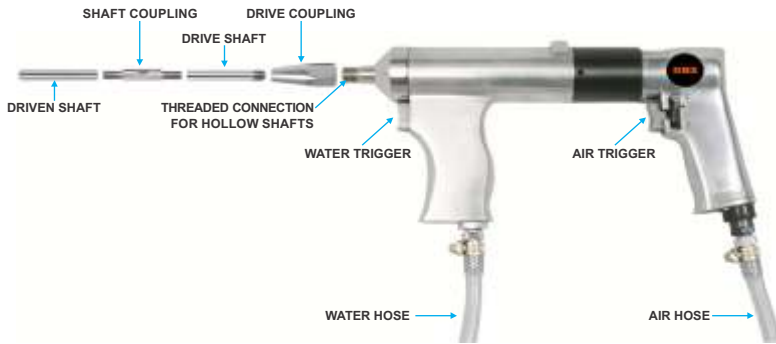
Brush O.D.		Nylon Brush	Brass Brush	Stainless Steel
mm	inch			
31.7	1.1/4	N - 1250	B - 1250	SS - 1250
38.1	1.1/2	N - 1500	B - 1500	SS - 1500
44.5	1.3/4	N - 1750	B - 1750	SS - 1750
51.0	2	N - 2000	B - 2000	SS - 2000
57.1	2.1/4	N - 2250	B - 2250	SS - 2250
63.5	2.1/2	N - 2500	B - 2500	SS - 2500
70.0	2.3/4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



STRAIGHT TUBE CLEANER



PORTABLE PNEUMATIC TUBE CLEANERS



Operation : The portable pneumatic tube cleaners use hollow shafting of different diameters as per tube I.D. to be cleaned which can be coupled together to form lengths as per the length of the tube to be cleaned.

Water flows through the hollow tube and washes out deposits that are dislodged by the cleaning tools attached to the driven shafts. Typical cleaning tools used are carbide drills for severely clogged tubes, brushes for light deposits and buffing tools for final polishing of tubes. The water flow is independently controlled allowing the user to determine how much water is needed in the application.

Model **C-10** is typically used on oil coolers, small heat exchangers and condensers.

Model **CP-315** is typically used on larger diameter tubes of process vessels, heat exchangers and condensers.

Tube I.D.'s suited for mm	Tube I.D.'s suited for inch	Model No.	Max Motor Power		Free Speed RPM	Air Supply		Water Supply		Weight	
			HP	kW		Min	Max	Min	Max	lbs.	kg.
4.8-25.4	3/16-1	C-10	0.6	0.45	700	60psi@16cfm	90psi@16cfm	30psi	100psi	5.72	2.6
22.2-51.0	7/8-2	CP-315	1	0.746	1000	90psi@20cfm	90psi@40cfm	30psi	100psi	6.60	3.0

Note : The tube cleaners above are supplied with a heavy duty plastic carrying case with separate provision to house upto 8, 4ft. (1.2m) long hollow shafts, 15ft. (4.6m) air hose, 15ft. (4.6m) water hose.

- **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**



Tube I.D.'s suited for mm	Tube I.D.'s suited for inch	Drive Model No.	Hollow Drive Shaft Model No.	Hollow Driven Shaft Model No.	Drive Coupling Model No.	Shaft Coupling Model No.	Starter Drill Model No.
4.8-6.4	3/16-1/4		DS-300	DN-300	DC-300	SC-300	-
9.5	3/8		DS-312	DN-312	DC-312	SC-312	SD-312
11.1	7/16	C-10	DS-375	DN-375	DC-375	SC-375	SD-375
12.7-14.3	1/2-9/16		DS-437	DN-437	DC-437	SC-437	SD-437
15.9-17.5	5/8-11/16		DS-500	DN-500	DC-500	SC-500	SD-500
19.1-20.6	3/4-13/16		DS-562	DN-562	DC-562	SC-562	SD-562
22.2-25.4	7/8-1	CP-315	DS-625	DN-625	DC-625	SC-625	SD-625
27.0-51.0	1.1/16-2		DS-750	DN-750	DC-750	SC-750	SD-750

NOTE: To use brushes and drill with above system please refer page No xxxxxx

We will supply all the above in a handy box at no extra charge ! The box will accommodate a maximum of 1 Drive + 4 Hollow Shafts + 5 Couplings + 18 Cleaning Tools (Brushes, Carbide Drills, Buffing Tools).

BUFFING TOOL AND DRILL BITS



Works as a compressed air - powered cleaner for both straight and curved tubes.

FEATURES :-

- 1) Air Motor generate no spark, so they can be used in explosive area. Powerful motor design allow for immediate start up.
- 2) The easy and fast way to remove tough scale from curved and straight tubes.
- 3) Range start from 20mm ID to 140mm ID.
- 4) This cleaner does not create heat generation even after long and continuous use.
- 5) In case of overloading it stops the rotation to prevent damaging the tube inner surface. Air cooled, Air driven roleyv motor 3000-8000 R.P.M. under no load.
- 6) With the efficient use of exhaust air this tool clears away loose scale from the tubes.
- 7) Air motor having a simple design with few movable parts which prove trouble free operation with minimum maintenance.
- 8) Save more man power and time for cleaing of job.
- 9) The motor required no special tool for repair.
- 10) Armored hose design for rigidity and heat resolution.

Tube I.D. (mm)	Cleaner No.	Min Curve radius	Drill Head		Drill Head	Cutter Head Type			Brush Type		Air Consumption CFM	Hose Size (Inch)
			UJ	FH		D	SU	SF	SE	BF		
19	7006	230	6	6	6	6	-	-	-	6	10	1/4
22	7007	250	6	6	7	7	-	-	-	7	12	1/4
25	7008	280	8	8	8	8	-	-	-	8	14	1/4
29	7009	290	8	8	9	9	-	-	-	9	18	3/8
32	7010	300	10	10	10	10	-	-	-	10	20	3/8
35	7011	320	10	10	11	11	-	-	-	11	24	3/8
38	7012	330	12	12	12	12	12	-	12	12	30	1/2
41	7013	330	12	12	12	12	12	-	13	12	30	1/2
45	7014	340	12	12	14	14	14	14	14	14	34	1/2
48	7015	340	12	12	14	14	14	14	15	14	34	1/2
51	7016	360	12	12	16	16	16	16	16	16	40	1/2
54	7017	360	16	16	16	16	16	16	16	16	40	1/2
57	7018	370	16	16	18	18	18	18	18	18	45	1/2
60	7019	370	16	16	18	18	18	18	18	18	45	1/2
64	7020	390	19	19	20	18	20	20	20	20	52	1/2
67	7021	390	19	19	20	-	20	20	20	20	52	1/2
70	7022	420	19	19	22	-	22	22	22	22	62	1/2
73	7023	420	19	19	22	-	22	22	22	22	62	1/2
76	7024	440	19	19	24	-	24	24	24	24	70	3/4
83	7026	470	22	22	24	-	24	24	24	24	70	3/4
89	7028	500	22	22	28	-	28	28	28	28	82	3/4
95	7030	500	25	25	28	-	28	28	28	28	82	3/4
102	7032	500	25	25	32	-	32	32	32	32	95	3/4
114	7036	500	25	25	36	-	36	36	36	36	95	3/4
127	7040	520	28	28	40	-	40	40	40	40	105	3/4
140	7044	520	28	28	44	-	44	44	44	44	105	3/4

HEAVY DUTY TUBE CLEANERS TROLLEY

CLEAN TUBES MEANS SAVING IN FUEL COST



Why to clean tubes :

To function efficiently every tubes of Boiler, Heat Exchanger, condenser to be cleaned and scale free. All piping accumulates scales over various periods of use. The formation of mud deposit, hard or soft scale in the tubes drastically reduce the flow retards heat transfer and consequently increases fuel consumption and lower efficiency.

We had developed this Air driven Boiler Tube Cleaner by considering problem arise during cleaning period of boiler tubes. This small motor directly coupled with the brush or cutter can be inserted inside the tube ID along with the air supply hose. Small but power full motor has enough torque to clean the hardest deposited in the tubes. Various attachment make it fully versatile to be used in any type of conditions. Available form 19mm tube ID to 140mm Tube ID. Suitable for both straight and curved tubes.



"TH" FOR SOOT REMOVAL FROM SMOKE TUBES, GENERAL CLEANING.



"CS" FOR REMOVING LIGHT SCALE AND BURNISHING ALL TYPES OF TUBES.



'B' Type Brush

Size		'TH' Turk Head Brush Model No.	'DS' Double Spiral Brush Model No.	'CB' Circular Wheel Brush Model No.
mm	inch			
31.7	1.1/4	TH-10	DS-10	CB-10
35.0	1.3/8	TH-11	DS-11	CB-11
38.1	1.1/2	TH-12	DS-12	CB-12
41.3	1.5/8	TH-13	DS-13	CB-13
44.5	1.3/4	TH-14	DS-14	CB-14
47.6	1.7/8	TH-15	DS-15	CB-15
50.8	2	TH-16	DS-16	CB-16
54.0	2.1/8	TH-17	DS-17	CB-17
57.1	2.1/4	TH-18	DS-18	CB-18
60.3	2.3/8	TH-19	DS-19	CB-19
63.5	2.1/2	TH-20	DS-20	CB-20
66.7	2.5/8	TH-21	DS-21	CB-21
70.0	2.3/4	TH-22	DS-22	CB-22
73.0	2.7/8	TH-23	DS-23	CB-23
76.2	3	TH-24	DS-24	CB-24
79.4	3.1/8	TH-25	DS-25	CB-25
82.5	3.1/4	TH-26	DS-26	CB-26
85.7	3.3/8	TH-27	DS-27	CB-27
88.9	3.1/2	TH-28	DS-28	CB-28
92.1	3.5/8	TH-29	DS-29	CB-29
95.2	3.3/4	TH-30	DS-30	CB-30
98.4	3.7/8	TH-31	DS-31	CB-31
101.6	4	TH-32	DS-32	CB-32

Air Driven Tube Cleaning system: 7000 series.

To recommend DBX make tube cleaner. Kindly provide following information.

- 1) Tube OD x Gauge or thickness
- 2) Length of Tubes
- 3) Whether Tubes straight or bend.
- 4) Type of tube material MS, SS, Brass, Copper
- 5) Scale in tubes : Hard, Soft, Gummy, Moderate.
- 6) Type of vessel (Boiler, Heat Exchanger, Condenser, Chillers)

Complete package consist of-

- 1) Air motor with spares set of blades
- 2) Steel wire armoring air hose as per tube length.
- 3) Drill or cutter as per scale condition
- 4) Universal Joint
- 5) 'B' type brushes
- 6) Flexible Holder
- 7) Filter+Regular+Lubricator.



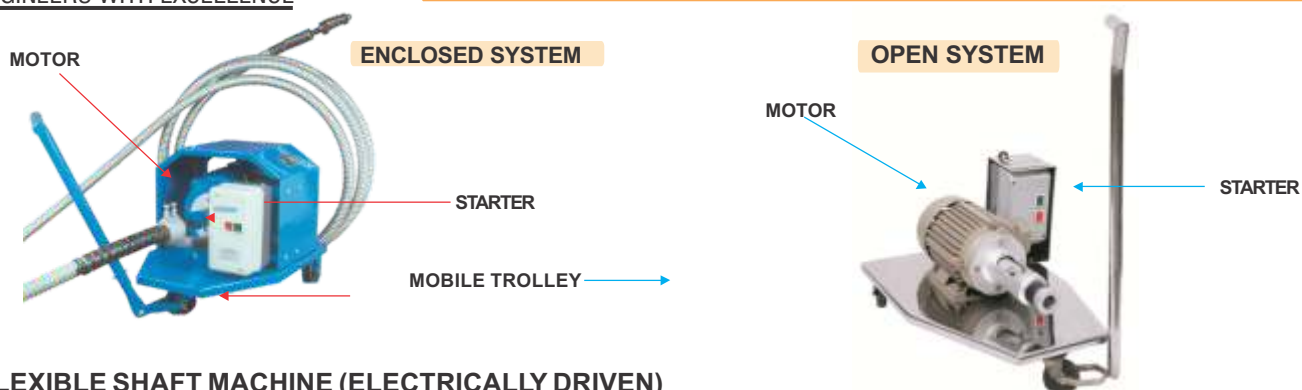
Air Motor



CARBIDE DRILL

For heavily choked tubes. Used for cleaning tubes choked solidly with hard deposits.

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



FLEXIBLE SHAFT MACHINE (ELECTRICALLY DRIVEN)

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

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



FLEXIBLE SHAFTS (DRIVES)

The Flexible Shaft transmits constant torque / power from the motor unit to the tool head or brush within the tube. **INNER CORE** - is double wound in opposing layers made out of high tensile-spring steel wires and passed through stress relieving process, made to absolute-vibration free performance and continuous duty.

OUTER CASING - is flexible, made out of galvanized steel strip and provided with special steel anti-friction lining for the entire length.

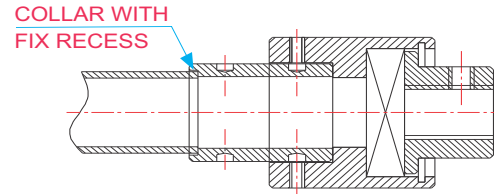
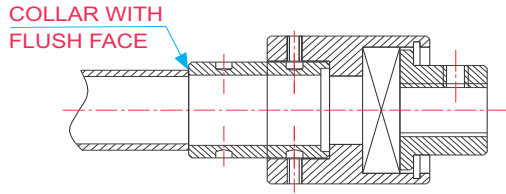
CONNECTIONS - Suitable motor connection at one end and detachable ball bearing hand piece (tool holder) with threaded spindle for tool head or brush at other end.

The size of the flexible shaft is based on internal diameter (I.D.) of the tube. The length of flexible shaft required is the addition of the length of the longest tube plus the distance between the mouth of the tube and the position of the power unit. The power unit should be located so that the flexible shaft be kept as straight as possible.

Inner Core mm (inch)	12 - 13 (1/2")	15 - 16 (5/8")	19 - 20 (3/4")
Outer Casing mm (inch)	25 - 26 (1")	31 - 32 (1.1/4")	34 - 35 (1.3/8")
Length			
mtr.	feet	Model No.	Model No.
7.5	25.0	IFS-105-25	IFS-106-25
9.0	30.0	IFS-105-30	IFS-106-30
10.0	33.0	IFS-105-33	IFS-106-33
12.0	40.0	IFS-105-40	IFS-106-40
15.0	50.0	IFS-105-50	IFS-106-50
18.0	60.0	IFS-105-60	IFS-106-60
20.0	65.0	IFS-105-65	IFS-106-65
Spare Inner Core Per mtr.		IC-105	IC-106
Spare Outer Casing Per mtr.		OC-105	OC-106
Spare Hand Piece		HP-105	HP-106
			IC-107
			OC-107
			HP-107

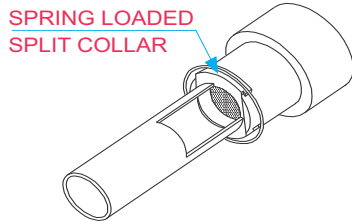
TYPES OF THRUST COLLAR FOR DBX MAKE CONDENSER TUBE EXPANDERS

REVERSIBLE THRUST COLLAR ASSEMBLY



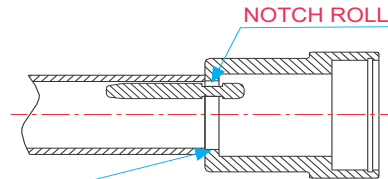
Nose portion can be 'reversed' to expand tubes flush with tube sheet and also tubes that are projecting 1/8" from tube sheet. This collar is supplied standard on all tube expanders.

THIN WALL THRUST COLLARS



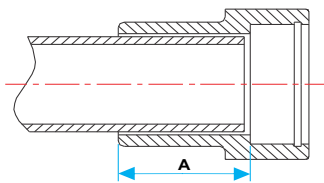
SPRING LOADED SPLIT COLLAR

Has an expandable front nose that expands along with the rolls, and eliminates tube being sucked into the collar.



NOTCH ROLL THRUST COLLAR

This portion of the collar fits into the 'notched' portions of the special rolls supplied. This prevents thin walled tubes being sucked into the expander while expanding and has proven to be the most efficient method to eliminate this problem. Exact tube sheet thickness needs to be known for rolls to be specially designed.



FULL RECESS THRUST COLLAR

Used when tubes project varying distances from the tube sheet.

SPECIAL TABLES

Recommended Expansion of Tubes for Optimum Joint Strength in Heat Exchanger and Condensers

Tube O.D. mm	inch	Gauge	Tube Expansion mm	inch	Tube O.D. mm	inch	Gauge	Tube Expansion mm	inch	Tube O.D. mm	inch	Gauge	Tube Expansion mm	inch
12.7	1/2	14	.15	.006	15.8	5/8	20	.10	.004	25.4	1	10	.22	.009
12.7	1/2	15	.15	.006	15.8	5/8	21	.10	.004	25.4	1	11	.22	.009
12.7	1/2	16	.15	.006	19.0	3/4	10	.20	.008	25.4	1	12	.22	.009
12.7	1/2	17	.12	.005	19.0	3/4	11	.20	.008	25.4	1	13	.20	.008
12.7	1/2	18	.12	.005	19.0	3/4	12	.20	.008	25.4	1	14	.20	.008
12.7	1/2	19	.10	.004	19.0	3/4	13	.20	.008	25.4	1	15	.17	.007
12.7	1/2	20	.10	.004	19.0	3/4	14	.20	.008	25.4	1	16	.15	.006
12.7	1/2	21	.10	.004	19.0	3/4	15	.17	.007	25.4	1	17	.12	.005
15.8	5/8	12	.15	.006	19.0	3/4	16	.15	.006	25.4	1	18	.12	.005
15.8	5/8	13	.15	.006	19.0	3/4	17	.12	.005	31.7	1.1/4	8	.25	.010
15.8	5/8	14	.15	.006	19.0	3/4	18	.12	.005	31.7	1.1/4	10	.25	.010
15.8	5/8	15	.15	.006	19.0	3/4	19	.12	.005	31.7	1.1/4	12	.22	.009
15.8	5/8	16	.15	.006	19.0	3/4	20	.12	.005	31.7	1.1/4	14	.20	.008
15.8	5/8	17	.12	.005	19.0	3/4	21	.10	.004	31.7	1.1/4	16	.17	.007
15.8	5/8	18	.12	.005	25.4	1	8	.22	.009	31.7	1.1/4	18	.15	.006
15.8	5/8	19	.10	.004	25.4	1	9	.22	.009					

ADDITIONAL SIZES:

For 1/4in. (6.3MM) OD tube- Expand 0.003in. (.07mm) for all gauges after contact of tube OD with tube sheet hole ID.

For 3/8in. (9.5mm) OD tube- Expand .004in (.10mm) for all gauges after contact of tube OD with tube sheet hole ID.

TUBE EXPANSION EXAMPLE:

TUBE SIZE = 1in. OD (25.4mm) x 14 gauge tube
 Recommended Expansion = 0.008in (0.20mm)
 Tube Sheet Hole ID = 1.010in. (25.65mm)
 So determine the required Expansion will be as follows
 1) Tube Id before Expansion = 21.20mm
 2) Recommended Expansion = 0.20mm
 3) Clearance [Tube sheet hole ID - Tube OD]= 0.25mm
 Final Expanded ID (1+2+3) = 21.65mm

Please note that these recommendation is based on trial taken at our workshop and our technical experiences. However , there are many verities of materials used for tube and tube sheets. In some cases actual trial is recommended for determination of data for the satisfactory results.



OUR OTHER PRODUCTS:

BOLTING TOOLS

HYDRAULIC TORQUE WRENCH

MANUAL TORQUE WRENCH

HYDRAULIC POWERPACK

FLANGE SPREADER

BOLT TENSIONER

NUT SPLITTERS

SOCKETS

TUBE CLEANING TOOLS

AIR-DRIVEN BOILER TUBE CLEANING SYSTEM

HEAT EXCHANGER TUBE CLEANING SYSTEM

SUGAR FACTORY TUBE CLEANING TOOLS

PORTABLE TUBE CLEANERS

CLEANING BRUSHES

FLEXIBLE SHAFTS

CUTTERS

Dh Boiler eXchangers Tools Pvt. Ltd.

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