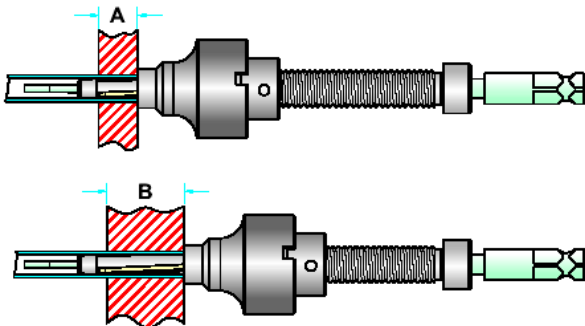


1/4"  
To  
3/8"  
O.D.

# AN SERIES



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"

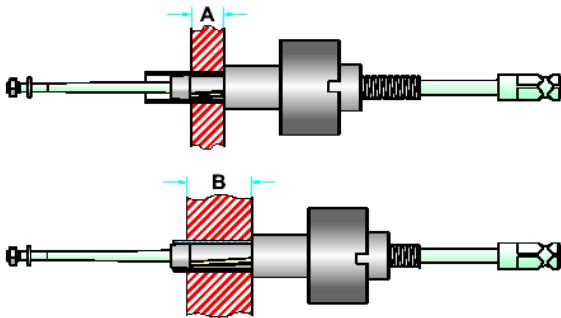
- USE : Oil Coolers ,Radiators and other apparatus with small diameter tubes.
- Advantages : Captive Mandrel –eliminates nut on mandrel tip which prevents scratching of tube ID.
- Increased feed angle makes it the fastest operating tool on the market , ideal for high production environments.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	0.049	3.8	0.152	3.7	0.148	4.2	0.167	25018	M-21819	R-20018
	19	1.06	0.042	4.2	0.166	4.0	0.160	4.5	0.180	25019	M-21819	R-21920
	20	0.88	0.035	4.5	0.180	4.4	0.175	4.9	0.196	25020	M-21821	R-21920
	21	0.81	0.032	4.7	0.186	4.5	0.180	5.1	0.202	25021	M-21821	R-22124
	22	0.71	0.028	4.9	0.194	4.8	0.190	5.4	0.213	25022	M-21822	R-22124
	23	0.63	0.025	5.0	0.200	4.9	0.195	5.5	0.216	25023	M-21824	R-21920
	24	0.55	0.022	5.2	0.206	5.1	0.201	5.7	0.224	25024	M-21824	R-22124
	28	0.53	0.021	5.6	0.222	5.4	0.217	6.1	0.243	25028	M-21830	R-22830
	29	0.33	0.013	5.7	0.224	5.4	0.217	6.1	0.243	25028	M-21830	R-22830
	30	0.30	0.012	5.7	0.226	5.4	0.217	6.1	0.243	25028	M-21830	R-22830
9.53 3/8"	14	2.1	0.083	5.3	0.209	5.1	0.204	5.8	0.230	37514	M-22830	R-21920
	15	1.82	0.072	5.8	0.231	5.6	0.225	6.6	0.265	37515	M-22830	R-31516
	16	1.65	0.065	6.2	0.245	6.0	0.238	7.0	0.278	37516	M-31671	R-31516
	17	1.47	0.058	6.5	0.259	6.4	0.253	7.4	0.293	37517	M-31671	R-31720
	18	1.24	0.049	7.0	0.277	6.8	0.270	7.8	0.310	37518	M-30018	R-31720
	19	1.06	0.042	7.3	0.291	7.1	0.285	8.1	0.325	37519	M-30019	R-31720
	20	0.88	0.035	7.7	0.305	7.4	0.295	8.4	0.335	37520	M-32021	R-31720
	21	0.81	0.032	7.9	0.311	7.5	0.305	8.6	0.345	37521	M-32021	R-32722
	22	0.71	0.028	8.1	0.319	7.9	0.312	8.9	0.353	37522	M-32024	R-32722
	23	0.63	0.025	8.2	0.325	8.1	0.318	9.2	0.363	37523	M-32024	R-32242
24	0.55	0.022	8.4	0.331	8.1	0.318	9.2	0.363	37523	M-32024	R-32242	

Note : All "AN" series expanders come with 1/4" Square Mandrel Drives. Round Mandrel Drives are Optional.

1/4"  
To  
3/8"  
O.D.

# 900 SERIES



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

TUBE EXPANDERS 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"

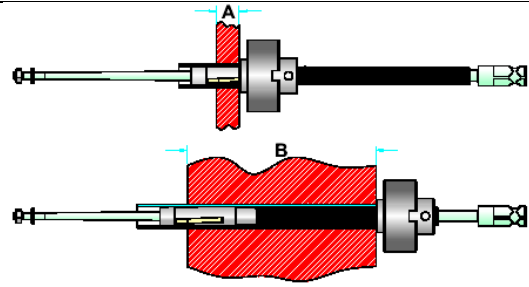
- USE : Oil Coolers ,Radiators and other apparatus with small diameter tubes.
- This tool has been the workhorse for several years for use on small diameter tubes.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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"	18	1.24	0.049	3.8	0.152	3.8	0.151	4.4	0.173	921	M-39	921	-	-	-
	19	1.06	0.042	4.2	0.166	4.1	0.165	4.7	0.185	922	M-39	923	-	-	-
	20	0.88	0.035	4.5	0.180	4.4	0.175	5.1	0.200	923	M-40	923	-	-	-
	21	0.81	0.032	4.7	0.186	4.5	0.180	5.2	0.207	924	M-40	924	-	-	-
	22	0.71	0.028	4.9	0.194	4.8	0.190	5.5	0.216	925	M-41	925	-	-	-
	23	0.63	0.025	5.0	0.200	4.9	0.195	5.6	0.222	926	M-41	923	-	-	-
	24	0.55	0.022	5.2	0.206	5.1	0.201	5.8	0.230	927	M-41	924	-	-	-
	28	0.53	0.021	5.6	0.222	5.4	0.222	6.0	0.238	928	928	903	-	-	-
	29	0.33	0.013	5.7	0.224	5.4	0.222	6.0	0.238	928	928	903	-	-	-
	30	0.30	0.012	5.7	0.226	5.4	0.222	6.0	0.238	928	928	903	-	-	-
9.53 3/8"	14	2.1	0.083	5.3	0.209	5.1	0.201	5.8	0.232	927	M-41	924	-	-	-
	15	1.82	0.072	5.8	0.231	5.6	0.230	6.7	0.265	915	M-42	903	-	-	-
	16	1.65	0.065	6.2	0.245	6.0	0.240	6.9	0.275	916	M-36	916	916 L	M-36 L	916 L
	17	1.47	0.058	6.5	0.259	6.4	0.255	7.3	0.289	917	M-38	903	920	M-38	904
	18	1.24	0.049	7.0	0.277	6.8	0.272	7.8	0.307	901	M-30	903	902	M-30	904
	19	1.06	0.042	7.3	0.291	7.1	0.286	8.1	0.320	903	M-31	903	904	M-31	904
	20	0.88	0.035	7.7	0.305	7.4	0.300	8.4	0.334	905	M-32	907	906	M-32	908
	21	0.81	0.032	7.9	0.311	7.5	0.306	8.6	0.340	907	M-33	907	908	M-33	908
	22	0.71	0.028	8.1	0.319	7.9	0.314	8.8	0.349	909	M-34	909	910	M-34	910
	23	0.63	0.025	8.2	0.325	8.1	0.320	9.0	0.357	911	M-34	911	912	M-34	912
24	0.55	0.022	8.4	0.331	8.1	0.320	9.0	0.357	911	M-34	911	912	M-34	912	

Note : All "900" series expanders come with 1/4" Square Mandrel Drives. Round Mandrel Drives are Optional.

3/8"  
O.D.

# 1300 SERIES



FOR TUBES INTERNAL DIAMETER  
FROM (5.8 mm) .231" TO (8.4 mm) .331"

TUBE EXPANDERS FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(19.05mm) 3/4"	(19.05mm) 3/4"	(76.20mm) 3"
(31.75mm) 1.1/4"	(31.75mm) 1.1/4"	(88.90mm) 3.1/2"

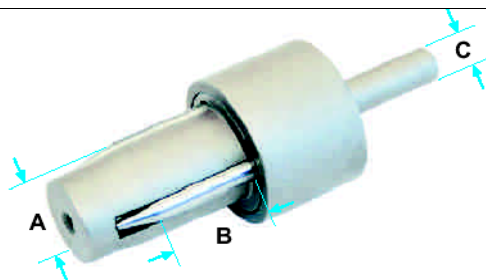
- USE : Oil Coolers ,Radiators and other apparatus with small diameter tubes.
- This tool has been the workhorse for several years for use on small diameter tubes.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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.
9.53  3/8"	15	1.82	0.072	5.8	0.231	5.6	0.230	6.7	0.265	1315	M-86	1315	1316	M-86	1316
	16	1.65	0.065	6.2	0.245	6.0	0.240	6.9	0.275	1319	M-86	1315	1319 L	M-86	916 L
	17	1.47	0.058	6.5	0.259	6.4	0.255	7.3	0.289	1317	M-88	903	1318	M-88	904
	18	1.24	0.049	7.0	0.277	6.8	0.272	7.8	0.307	1301	M-80	903	1302	M-80	904
	19	1.06	0.042	7.3	0.291	7.1	0.286	8.1	0.320	1303	M-81	903	1304	M-81	904
	20	0.88	0.035	7.7	0.305	7.4	0.300	8.4	0.334	1305	M-82	907	1306	M-82	908
	21	0.81	0.032	7.9	0.311	7.5	0.306	8.6	0.340	1307	M-83	907	1308	M-83	908
	22	0.71	0.028	8.1	0.319	7.9	0.314	8.8	0.349	1309	M-84	909	1310	M-84	910
23	0.63	0.025	8.2	0.325	8.1	0.320	9.0	0.357	1311	M-84	911	1312	M-84	912	
24	0.55	0.022	8.4	0.331	8.1	0.320	9.0	0.357	1311	M-84	911	1312	M-84	912	

Note : All "1300" series expanders come with 1/4" Square Mandrel Drives. Round Mandrel Drives are Optional.

5/16"  
To  
1.5/8"  
O.D.

# AL SERIES

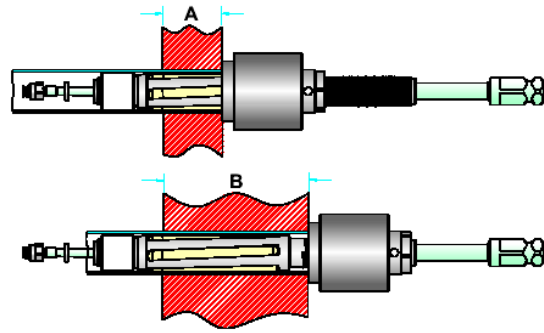


This Expander is used to enlarge the ends of soft tube so that another tube of same size can be inserted into the expanded section and soldered for a leak proof joint. These Expanders are designed to leave 0.015" clearance for slip fit and soldering. Special sizes and shanks on order. Average depth of expansion is 3/4". Specify tube gauge on order.

Tube OD		Expander No	Rollers Set No	A		B		C	
mm	Inch			mm	Inch	mm	inch	mm	inch
7.93	5/16	AL-312	ALR-312	8.38	0.33	15.87	5/8	6.35	1/4
9.53	3/8	AL-375	ALR-375	9.90	0.39	15.87	5/8	6.35	1/4
11.11	7/16	AL-437	ALR-437	11.43	0.45	15.87	5/8	7.93	5/16
12.70	1/2	AL-500	ALR-500	13.20	0.52	15.87	5/8	7.93	5/16
14.28	9/16	AL-562	ALR-562	14.73	0.58	19.05	3/4	7.93	5/16
15.87	5/8	AL-625	ALR-625	16.25	0.64	19.05	3/4	7.93	5/16
19.05	3/4	AL-750	ALR-750	19.55	0.77	19.05	3/4	9.53	3/8
22.22	7/8	AL-875	ALR-875	22.60	0.89	19.05	3/4	9.53	3/8
25.40	1	AL-1000	ALR-1000	25.65	1.01	25.40	1	9.53	3/8
28.57	1.1/8	AL-1125	ALR-1125	28.95	1.14	25.40	1	12.70	1/2
31.75	1.1/4	AL-1250	ALR-1250	32.25	1.27	25.40	1	12.70	1/2
34.92	1.3/8	AL-1375	ALR-1375	35.30	1.39	25.40	1	12.70	1/2
38.10	1.5/8	AL-1625	ALR-1625	38.60	1.52	25.40	1	12.70	1/2
41.27	5/16	AL-312	ALR-312	41.65	1.64	25.40	1	14.28	9/16

1/2"-  
1.1/2"  
O.D.

# 800 SERIES

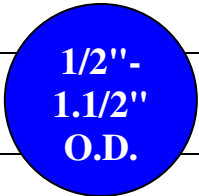


TUBE EXPANDERS FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
(38.1mm) 1.1/2"	(12.7mm) 1/2"	(38.1mm) 1.1/2"
(57.1mm) 2.1/4"	(31.7mm) 1.1/4"	(57.1mm) 2.1/4"

- Use : Most popular tool worldwide for use on heat exchangers and condensers with tube of 1/2" -1.1/2" O.D.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
12.70 1/2"	14	2.1	0.083	8.4	0.334	8.2	0.324	9.5	0.374	797	797	797	-	-	-
	15	1.82	0.072	9.0	0.356	8.8	0.348	10.1	0.398	799	799	R-1	-	-	--
	16	1.65	0.065	9.4	0.370	9.1	0.360	10.4	0.410	801	M-1	R-1	-	-	-
	17	1.47	0.058	9.7	0.384	9.5	0.374	10.7	0.424	803	M-1	R-2	-	-	-
	18	1.24	0.049	10.2	0.402	9.9	0.392	11.3	0.447	805	M-2	R-3	-	-	-
	20	0.88	0.035	10.9	0.430	10.3	0.406	11.7	0.461	805 S	M-3	R-3	-	-	-
15.88 5/8"	12	2.76	0.109	10.3	0.407	9.9	0.392	11.3	0.447	805	M-2	R-3	806	M-2	R-3 A
	13	2.41	0.095	11.0	0.435	10.8	0.425	12.1	0.480	807	M-3	R-4	808	M-3	R-4 A
	14	2.10	0.083	11.6	0.459	11.4	0.449	12.9	0.509	809	M4	R-4	810	M4	R-4 A
	15	1.82	0.072	12.2	0.481	11.9	0.471	13.6	0.536	811	M-5	R-5	812	M-5	R-5 A
	16	1.65	0.065	12.5	0.495	12.3	0.485	13.9	0.550	813	M-5	R-6	814	M-5	R-6 A
	17	1.47	0.058	12.9	0.509	12.6	0.499	14.3	0.564	815	M-6	R-6	816	M-6	R-6 A
	18	1.24	0.049	13.3	0.527	13.1	0.517	14.5	0.572	817	M-7	R-7	818	M-7	R-7 A
	19	1.06	0.042	13.7	0.541	13.2	0.522	14.7	0.582	819	M-6	R-7	820	M-6	R-7 A
	20	0.88	0.035	14.1	0.555	13.6	0.536	15.1	0.596	819S	M-8	R-7	820S	M-8	R-7 A
	21	0.81	0.032	14.2	0.561	13.6	0.536	15.1	0.596	819S	M-8	R-7	820S	M-8	R-7 A
	22	0.71	0.028	14.4	0.569	13.6	0.536	15.1	0.596	819S	M-8	R-7	820S	M-8	R-7 A
19.05 3/4"	10	3.40	0.134	12.2	0.482	11.9	0.471	13.6	0.536	811	M-5	R-5	812	M-5	R-5 A
	11	3.04	0.120	12.9	0.510	12.6	0.499	14.3	0.564	815	M-6	R-6	816	M-6	R-6 A
	12	2.76	0.109	13.5	0.532	13.2	0.522	14.7	0.582	819	M-6	R-7	820	M-6	R-7 A
	13	2.41	0.095	14.2	0.560	13.9	0.550	15.6	0.615	821	M-8	R-8	822	M-8	R-8 A
	14	2.10	0.083	14.8	0.584	14.5	0.574	16.2	0.639	823	M-8	R-9	824	M-8	R-9 A
	15	1.82	0.072	15.3	0.606	15.1	0.596	16.7	0.661	825	M-8	R-10	826	M-8	R-10 A
	16	1.65	0.065	15.7	0.620	15.3	0.605	17.4	0.685	827	M-9	R-10	828	M-9	R-10 A
	17	1.47	0.058	16.1	0.634	15.7	0.619	17.7	0.699	829	M-9	R-11	830	M-9	R-11 A
	18	1.24	0.049	16.5	0.652	15.7	0.619	17.7	0.699	829	M-9	R-11	830	M-9	R-11 A
	19	1.06	0.042	16.9	0.666	16.3	0.642	18.3	0.722	831	M-9	R-12	832	M-9	R-12 A
	20	0.88	0.035	17.2	0.680	16.3	0.642	18.3	0.722	831	M-9	R-12	832	M-9	R-12 A
	21	0.81	0.032	17.4	0.686	16.3	0.642	18.3	0.722	831	M-9	R-12	832	M-9	R-12 A
	22	0.71	0.028	17.6	0.694	16.3	0.642	18.3	0.722	831	M-9	R-12	832	M-9	R-12 A
22.22 7/8"	10	3.40	0.134	15.4	0.607	15.1	0.596	16.7	0.661	825	M-8	R-10	826	M-8	R-10 A
	11	3.04	0.120	16.1	0.635	15.7	0.619	17.7	0.699	829	M-9	R-11	830	M-9	R-11 A
	12	2.76	0.109	16.6	0.657	16.3	0.642	18.3	0.722	831	M-9	R-12	832	M-9	R-12 A
	13	2.41	0.095	17.4	0.685	17.0	0.670	19.0	0.750	833	M-10	R-13	834	M-10	R-13 A
	14	2.10	0.083	18.0	0.709	17.4	0.685	19.6	0.774	835	M-11	R-14	836	M-11	R-14 A
	15	1.82	0.072	18.5	0.731	18.0	0.712	20.3	0.801	837	M-11	R-15	838	M-11	R-15 A
	16	1.65	0.065	18.9	0.745	18.4	0.726	20.7	0.815	839	M-12	R-15	840	M-12	R-15 A
	17	1.47	0.058	19.2	0.759	18.8	0.740	21.0	0.829	843	M-12	R-16	844	M-12	R-16 A
	18	1.24	0.049	19.7	0.777	18.8	0.740	21.0	0.829	843	M-12	R-16	844	M-12	R-16 A

Model 797-856 expanders come with 3/8" Square Mandrel Drive and Model 857-900 expanders come with 1/2" Square Mandrel Drive



# 800 SERIES

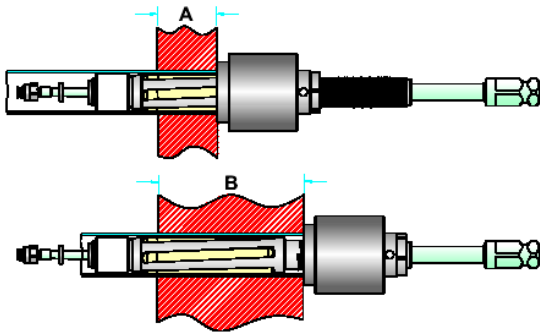


TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with( 19.05 mm) 3/4" Long Rollers			EXPANDER with( 31.75 mm) 1.1/4" Long Rollers		
	BWG	mm	inch	mm	inch	Mm	inch	Mm	inch	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
25.40 1"	8	4.19	0.165	17.0	0.670	16.6	0.655	18.6	0.735	841	M-9	R-13	842	M-9	R-13 A
	9	3.75	0.148	17.8	0.704	17.4	0.685	19.6	0.774	835	M-11	R-14	836	M-11	R-14 A
	10	3.40	0.134	18.5	0.732	18.0	0.712	20.3	0.801	837	M-11	R-15	838	M-11	R-15 A
	11	3.04	0.120	19.3	0.760	18.8	0.740	21.0	0.829	843	M-12	R-16	844	M-12	R-16 A
	12	2.76	0.109	19.8	0.782	19.3	0.763	21.6	0.852	845	M-12	R-17	846	M-12	R-17 A
	13	2.41	0.095	20.5	0.810	20.0	0.791	22.3	0.880	847	M-12	R-18	848	M-12	R-18 A
	14	2.10	0.083	21.1	0.834	20.5	0.810	23.0	0.909	849	M-13	R-18	850	M-13	R-18 A
	15	1.82	0.072	21.7	0.856	21.2	0.837	23.7	0.936	851	M-13	R-19	852	M-13	R-19 A
	16	1.65	0.065	22.1	0.870	21.2	0.837	23.7	0.936	851	M-13	R-19	852	M-13	R-19 A
	17	1.47	0.058	22.4	0.884	21.9	0.865	24.4	0.964	855	M-13	R-21	856	M-13	R-21 A
	18	1.24	0.049	22.9	0.902	21.9	0.865	24.4	0.964	855	M-13	R-21	856	M-13	R-21 A
28.58 1.1/8"	19	1.06	0.042	23.2	0.916	21.9	0.865	24.4	0.964	855	M-13	R-21	856	M-13	R-21 A
	20	0.88	0.035	23.6	0.930	21.9	0.865	24.4	0.964	855	M-13	R-21	856	M-13	R-21 A
	8	4.19	0.165	20.1	0.795	19.7	0.776	22.2	0.875	853	M-13	R-20	854	M-13	R-20 A
	9	3.75	0.148	21.0	0.829	20.5	0.810	23.0	0.909	849	M-13	R-18	850	M-13	R-18 A
	10	3.40	0.134	21.7	0.857	21.2	0.837	23.7	0.936	851	M-13	R-19	852	M-13	R-19 A
	11	3.04	0.120	22.4	0.885	21.9	0.865	24.4	0.964	855	M-13	R-21	856	M-13	R-21 A
	12	2.76	0.109	23.0	0.907	22.4	0.883	24.9	0.982	857	M-14	R-21	858	M-14	R-21 A
	13	2.41	0.095	23.7	0.935	23.2	0.926	25.7	1.025	859	M-14	R-22	860	M-14	R-22 A
	14	2.10	0.083	24.3	0.959	23.7	0.935	26.5	1.044	861	M-15	R-23	862	M-15	R-23 A
	15	1.82	0.072	24.9	0.981	24.4	0.962	27.2	1.071	863	M-15	R-24	864	M-15	R-24 A
	16	1.65	0.065	25.2	0.995	24.4	0.962	27.2	1.071	863	M-15	R-24	864	M-15	R-24 A
31.75 1.1/4"	17	1.47	0.058	25.6	1.010	25.1	0.990	27.9	1.009	867	M-16	R-26	868	M-16	R-26 A
	18	1.24	0.049	26.0	1.027	25.1	0.990	27.9	1.009	867	M-16	R-26	868	M-16	R-26 A
	8	4.19	0.165	23.3	0.920	22.8	0.901	25.6	1.010	865	M-15	R-25	866	M-15	R-25 A
	9	3.75	0.148	24.2	0.954	23.7	0.935	26.5	1.044	861	M-15	R-23	862	M-15	R-23 A
	10	3.40	0.134	24.9	0.992	24.4	0.962	27.2	1.071	863	M-15	R-24	864	M-15	R-24 A
	11	3.04	0.120	25.6	1.010	25.9	0.990	27.9	1.099	867	M-16	R-26	868	M-16	R-26 A
	12	2.76	0.109	26.2	1.032	25.7	1.013	28.5	1.122	869	M-16	R-27	870	M-16	R-27 A
	13	2.41	0.095	26.9	1.060	26.4	1.039	29.2	1.150	871	M-17	R-28	872	M-17	R-28 A
	14	2.10	0.083	27.5	1.084	26.9	1.060	29.6	1.169	873	M-17	R-29	874	M-17	R-29 A
	15	1.82	0.072	28.0	1.106	27.6	1.087	30.3	1.196	875	M-17	R-30	876	M-17	R-30 A
	16	1.65	0.065	28.4	1.120	27.6	1.087	30.3	1.196	875	M-17	R-30	876	M-17	R-30 A
34.92 1.3/8"	17	1.47	0.058	28.8	1.134	28.3	1.115	31.0	1.224	879	M-18	R-30	880	M-18	R-30 A
	18	1.24	0.049	29.2	1.152	28.3	1.115	31.0	1.224	879	M-18	R-30	880	M-18	R-30 A
	8	4.19	0.165	26.5	1.045	26.0	1.026	28.8	1.135	877	M-17	R-31	878	M-17	R-31 A
	9	3.75	0.148	27.4	1.079	26.9	1.060	29.6	1.169	873	M-17	R-29	874	M-17	R-29 A
	10	3.40	0.134	28.1	1.107	27.6	1.087	30.3	1.196	875	M-17	R-30	876	M-17	R-30 A
	11	3.04	0.120	28.8	1.135	28.3	1.115	31.0	1.224	879	M-18	R-30	880	M-18	R-30 A
	12	2.76	0.109	29.3	1.157	28.7	1.133	31.5	1.242	881	M-18	R-32	882	M-18	R-32 A
	13	2.41	0.095	30.1	1.185	29.4	1.160	32.3	1.275	883	M-19	R-33	884	M-19	R-33 A
	14	2.10	0.083	30.7	1.209	29.9	1.179	32.8	1.294	885	M-20	R-34	886	M-20	R-34 A
	15	1.82	0.072	31.2	1.231	30.6	1.206	33.5	1.321	887	M-20	R-35	888	M-20	R-35 A
	16	1.65	0.065	31.6	1.245	30.6	1.206	33.5	1.321	887	M-20	R-35	888	M-20	R-35 A
38.10 1.1/2"	17	1.47	0.058	31.6	1.245	30.6	1.206	33.5	1.321	887	M-20	R-35	888	M-20	R-35 A
	8	4.19	0.165	29.7	1.170	29.0	1.145	32.0	1.260	889	M-19	R-34	890	M-19	R-34 A
	9	3.75	0.148	30.5	1.204	29.9	1.177	32.8	1.294	885	M-20	R-34	886	M-20	R-34 A
	10	3.40	0.134	31.2	1.232	30.6	1.206	33.5	1.321	887	M-20	R-35	888	M-20	R-35 A
	11	3.04	0.120	32.0	1.260	31.3	1.235	34.2	1.350	891	M-20	R-36	892	M-20	R-36 A
	12	2.76	0.109	32.5	1.282	31.9	1.257	34.8	1.372	893	M-20	R-37	894	M-20	R-37 A
	13	2.41	0.095	33.2	1.310	32.6	1.285	35.5	1.400	895	M-21	R-37	896	M-21	R-37 A
	14	2.10	0.083	33.8	1.334	32.6	1.285	35.5	1.400	895	M-21	R-37	896	M-21	R-37 A
	15	1.82	0.072	34.4	1.356	33.8	1.331	36.7	1.446	897	M-21	R-38	898	M-21	R-38 A
	16	1.65	0.065	34.8	1.370	33.8	1.331	36.7	1.446	897	M-21	R-38	898	M-21	R-38 A
	17	1.47	0.058	35.1	1.384	33.8	1.331	37.3	1.472	899	M-22	R-38	900	M-22	R-38 A
18	1.24	0.049	35.6	1.402	33.8	1.331	37.3	1.472	899	M-22	R-38	900	M-22	R-38 A	
19	1.06	0.042	35.9	1.416	33.8	1.331	37.3	1.472	899	M-22	R-38	900	M-22	R-38 A	
20	0.88	0.035	36.3	1.430	33.8	1.331	37.3	1.472	899	M-22	R-38	900	M-22	R-38 A	

Model 797-856 expanders come with 3/8" Square Mandrel Drive and Model 857-900 expanders come with 1/2" Square Mandrel Drive.

1/2" -  
1.1/2"  
O.D.

# 800-5 SERIES



TUBE EXPANDERS 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"

- Use : highly recommended for use on thin wall tubes (19 thru 22 gauge walls ) of Stainless Steel ,Titanium, Incoloy and other exotic materials.
- Advantages : Gives a more concentric and even expansion when expanding thin walled tubes vs a conventional 3 roll expander and reduces tube spring back effect.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
15.88 5/8"	17	1.47	0.058	12.9	0.509	12.6	0.499	14.3	0.564	815-5	816-5	R-4-5	816-5	816-5	R-4A-5
	18	1.24	0.049	13.3	0.527	13.1	0.517	14.5	0.572	817-5	M-9	R-4-5	818-5	M-9	R-4A-5
	19	1.06	0.042	13.7	0.541	13.2	0.522	14.7	0.582	819-5	820-5	R-4-5	820-5	820-5	R-4A-5
	20	0.88	0.035	14.1	0.555	13.6	0.536	15.1	0.596	819S-5	820-5S	R-4-5	820S-5	820-5S	R-4A-5
	21	0.81	0.032	14.2	0.561	13.6	0.536	15.1	0.596	819S-5	820-5S	R-4-5	820S-5	820-5S	R-4A-5
19.05 3/4"	22	0.71	0.028	14.4	0.569	13.6	0.536	15.1	0.596	819S-5	820-5S	R-4-5	820S-5	820-5S	R-4A-5
	13	2.41	0.095	14.2	0.560	13.9	0.550	15.6	0.615	821-5	822-5	R-5-5	822-5	822-5	R-5A-5
	14	2.10	0.083	14.8	0.584	14.5	0.574	16.2	0.639	823-5	824-5	R-6-5	824-5	824-5	R-6A-5
	15	1.82	0.072	15.3	0.606	15.1	0.596	16.7	0.661	825-5	826-5	R-7-5	826-5	826-5	R-7A-5
	16	1.65	0.065	15.7	0.620	15.3	0.605	17.4	0.685	827-5	M-13	R-7-5	828-5	M-13	R-7A-5
	17	1.47	0.058	16.1	0.634	15.7	0.619	17.7	0.699	829-5	830-5	R-7-5	830-5	830-5	R-7A-5
	18	1.24	0.049	16.5	0.652	15.7	0.619	17.7	0.699	829-5	830-5	R-7-5	830-5	830-5	R-7A-5
	19	1.06	0.042	16.9	0.666	16.3	0.642	18.3	0.722	831-5	M-13	R-9-5	832-5	M-13	R-9A-5
	20	0.88	0.035	17.2	0.680	16.3	0.642	18.3	0.722	831-5	M-13	R-9-5	832-5	M-13	R-9A-5
	21	0.81	0.032	17.4	0.686	16.3	0.642	18.3	0.722	831-5	M-13	R-9-5	832-5	M-13	R-9A-5
	22	0.71	0.028	17.6	0.694	16.3	0.642	18.3	0.722	831-5	M-13	R-9-5	832-5	M-13	R-9A-5
22.22 7/8"	23	0.64	0.025	17.8	0.700	17.0	0.670	18.9	0.747	833-5	M-14 *	R-9-5	834-5	M-14 *	R-9A-5
	24	0.56	0.022	17.9	0.706	17.0	0.670	18.9	0.747	833-5	M-14 *	R-9-5	834-5	M-14 *	R-9A-5
	25	0.51	0.020	18.0	0.710	17.4	0.685	19.0	0.750	835-5	M-15 *	R-10-5	836-5	M-15 *	R-10A-5
	13	2.41	0.095	17.4	0.685	17.0	0.669	18.9	0.744	833-5	M-14 *	R-9-5	834-5	M-14 *	R-9A-5
	14	2.11	0.083	18.0	0.709	17.4	0.685	19.0	0.748	835-5	M-15 *	R-10-5	836-5	M-15 *	R-10A-5
	16	1.47	0.058	19.2	0.756	18.8	0.740	20.9	0.823	839-5	840-5	R-11-5	840-5	840-5	R-11A-5
	17	1.24	0.049	19.7	0.776	18.8	0.740	20.9	0.823	843-5	M-17 *	R-11-5	844-5	M-17 *	R-11A-5
	18	1.07	0.042	20.1	0.791	19.4	0.764	21.6	0.850	843-5	M-17 *	R-11-5	844-5	M-17 *	R-11A-5
	19	0.89	0.035	20.4	0.803	19.4	0.764	21.6	0.850	845-5	M-18 *	R-11-5	846-5	M-18 *	R-11A-5
	20	0.81	0.032	20.6	0.811	19.4	0.764	21.6	0.850	845-5	M-18 *	R-11-5	846-5	M-18 *	R-11A-5
	21	0.71	0.028	20.8	0.819	19.4	0.764	21.6	0.850	845-5	M-18 *	R-11-5	846-5	M-18 *	R-11A-5
22	0.64	0.025	20.9	0.823	20.1	0.791	22.4	0.882	845-5	M-18 *	R-11-5	846-5	M-18	R-11A-5	
23	0.56	0.022	21.0	0.827	20.1	0.791	22.4	0.882	847-5	M-18 *	R-13-5	846-5	M-18	R-13A-5	
24	2.41	0.095	17.4	0.685	17.0	0.669	18.9	0.744	847-5	M-18 *	R-13-5	848-5	M-18	R-13A-5	

Model 815-5 To 858-5 expanders come with 3/8" Square Mandrel Drive and Model 859-5 To 900-5 expanders come with 1/2" Square Mandrel Drive.

1/2"  
1.1/2"  
O.D.

## 800-5 SERIES

**SUNEX**

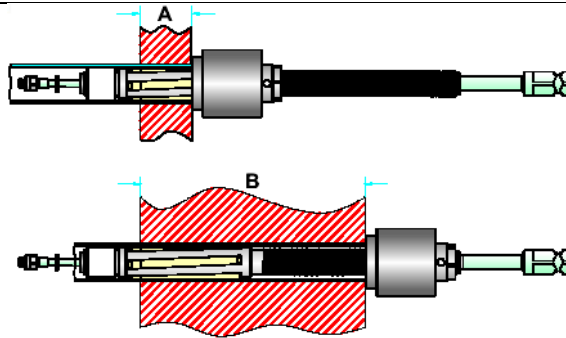
TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with( 19.05 mm) 3/4" Long Rollers			EXPANDER with( 31.75 mm) 1.1/4" Long Rollers		
	BWG	mm	inch	mm	inch	Mm	inch	Mm	inch	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
25.40 1"	12	2.76	0.109	19.8	0.780	19.4	0.764	21.6	0.850	845-5	M-18 *	R-11-5	846-5	M-18 *	R-11A-5
	13	2.41	0.095	20.5	0.807	20.1	0.791	22.4	0.882	847-5	M-18 *	R-13-5	848-5	M-18 *	R-13A-5
	14	2.11	0.083	21.2	0.835	20.5	0.807	22.3	0.878	849-5	850-5	R-12-5	850-5	850-5	R-12A-5
	15	1.82	0.072	21.7	0.854	21.3	0.839	23.8	0.937	851-5	852-5	R-13-5	852-5	852-5	R-13A-5
	16	1.65	0.065	22.0	0.866	21.3	0.839	23.8	0.937	851-5	852-5	R-13-5	852-5	852-5	R-13A-5
	17	1.47	0.058	22.4	0.882	22.0	0.866	24.5	0.965	855-5	856-5	R-13-5	856-5	856-5	R-13A-5
	18	1.24	0.049	22.9	0.902	22.0	0.866	24.5	0.965	855-5	856-5	R-13-5	856-5	856-5	R-13A-5
	19	1.06	0.042	23.2	0.913	22.0	0.866	24.5	0.965	855-5	856-5	R-13-5	856-5	856-5	R-13A-5
	20	0.88	0.035	23.6	0.929	22.0	0.866	24.5	0.965	855-5	856-5	R-13-5	856-5	856-5	R-13A-5
	21	0.81	0.032	23.8	0.937	22.4	0.882	25.3	0.996	857-5	M-21 *	R-15-5	858-5	M-21 *	R-15A-5
	22	0.71	0.028	24.0	0.945	22.4	0.882	25.3	0.996	857-5	M-21 *	R-15-5	858-5	M-21 *	R-15A-5
	23	0.64	0.025	24.1	0.949	22.4	0.882	25.3	0.996	857-5	M-21 *	R-15-5	858-5	M-21 *	R-15A-5
28.58 1.1/8"	24	0.56	0.022	24.3	0.957	22.4	0.882	25.3	0.996	857-5	M-21 *	R-15-5	858-5	M-21 *	R-15A-5
	12	2.76	0.109	23.0	0.915	22.4	0.889	25.3	1.005	857-5	M-21 *	R-15-5	858-5	M-21 *	R-15A-5
	13	2.41	0.095	23.7	0.942	23.2	0.921	25.4	1.009	859-5	860-5	R-16-5	860-5	860-5	R-16A-5
	14	2.11	0.083	24.3	0.966	23.7	0.940	26.4	1.048	861-5	862-5	R-17-5	862-5	862-5	R-17A-5
	22	0.71	0.028	27.2	1.082	26.4	1.048	29.4	1.168	871-5	872-5	R-19-5	872-5	872-5	R-19A-5
31.75 1.1/4"	24	0.56	0.022	27.5	1.093	24.4	0.968	29.4	1.168	871-5	872-5	R-19-5	872-5	872-5	R-19A-5
	15	1.82	0.072	28.1	1.117	27.6	1.095	30.4	1.207	875-5	876-5	R-21-5	876-5	876-5	R-21A-5
	16	1.65	0.065	28.4	1.129	27.6	1.095	30.4	1.207	875-5	876-5	R-21-5	876-5	876-5	R-21A-5
	17	1.47	0.058	28.8	1.145	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	18	1.24	0.049	29.3	1.165	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	19	1.07	0.042	29.6	1.177	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	20	0.88	0.035	30.0	1.193	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	21	0.81	0.032	30.1	1.197	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	22	0.71	0.028	30.3	1.205	28.8	1.143	31.3	1.243	879-5	880-5	R-21-5	880-5	880-5	R-21A-5
	23	0.64	0.025	30.5	1.213	28.8	1.143	31.5	1.251	881-5	882-5	R-21-5	882-5	882-5	R-21A-5
34.92 1.3/8"	24	0.56	0.022	30.6	1.217	28.8	1.143	31.5	1.251	881-5	882-5	R-21-5	882-5	882-5	R-21A-5
	12	2.76	0.109	29.3	1.165	28.8	1.143	31.5	1.251	881-5	882-5	R-21-5	882-5	882-5	R-21A-5
	14	2.11	0.083	30.7	1.221	29.9	1.187	32.9	1.307	885-5	882-5	R-23-5	884-5	882-5	R-23A-5
	20	0.88	0.035	33.2	1.320	31.9	1.266	35.2	1.398	893-5	894-5	R-26-5	894-5	894-5	R-26A-5
	22	0.71	0.028	33.5	1.332	32.6	1.294	36.0	1.430	895-5	896-5	R-26-5	896-5	896-5	R-26A-5
38.10 1.1/2"	24	0.56	0.022	33.8	1.344	32.6	1.294	36.0	1.430	895-5	896-5	R-26-5	896-5	896-5	R-26A-5
	17	1.47	0.058	35.1	1.396	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	18	1.24	0.049	35.6	1.416	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	19	1.06	0.042	36.0	1.431	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	20	0.89	0.035	36.3	1.443	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	21	0.81	0.032	36.5	1.451	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	22	0.71	0.028	36.7	1.459	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
	23	0.64	0.025	36.8	1.463	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5
24	0.56	0.022	37.0	1.471	33.8	1.341	37.8	1.488	899-5	900-5	R-29-5	900-5	900-5	R-29A-5	

Note : \* Manderel Come with 3/8" Square Mandrel Drive

Model 815-5 To 858-5 expanders come with 3/8" Square Mandrel Drive and Model 859-5 To 900-5 expanders come with 1/2" Square Mandrel Drive.

1/2"  
1.1/2"  
O.D.

# 1200 SERIES



TUBE EXPANDERS 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"

• Use : Most popular tool worldwide for use on heat exchangers and condensers with tube of 1/2" - 1.1/2" O.D.

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
12.70 1/2"	14	2.1	0.083	8.4	0.334	8.2	0.324	9.5	0.374	1197	1197	797	-	-	-
	15	1.82	0.072	9.0	0.356	8.8	0.348	10.1	0.398	1199	1199	R-1	-	-	-
	16	1.65	0.065	9.4	0.370	9.1	0.360	10.4	0.410	1201	M-51	R-1	-	-	-
	17	1.47	0.058	9.7	0.384	9.5	0.374	10.7	0.424	1203	M-51	R-2	-	-	-
	18	1.24	0.049	10.2	0.402	9.9	0.392	11.3	0.447	1205	M-52	R-3	-	-	-
15.88 5/8"	20	0.88	0.035	10.9	0.430	10.3	0.406	11.7	0.461	1205 S	M-53	R-3	-	-	-
	12	2.76	0.109	10.3	0.407	9.9	0.392	11.3	0.447	1205	M-52	R-3	1206	M-52	R-3 A
	13	2.41	0.095	11.0	0.435	10.8	0.425	12.1	0.480	1207	M-53	R-4	1208	M-53	R-4 A
	14	2.11	0.083	11.6	0.459	11.4	0.449	12.9	0.509	1209	M-54	R-4	1210	M-54	R-4 A
	15	1.82	0.072	12.2	0.481	11.9	0.471	13.6	0.536	1211	M-55	R-5	1212	M-55	R-5 A
	16	1.65	0.065	12.5	0.495	12.3	0.485	13.9	0.550	1213	M-55	R-6	1214	M-55	R-6 A
	17	1.47	0.058	12.9	0.509	12.6	0.499	14.3	0.564	1215	M-56	R-6	1216	M-56	R-6 A
	18	1.24	0.049	13.3	0.527	13.1	0.517	14.5	0.572	1217	M-57	R-7	1218	M-57	R-7 A
	19	1.06	0.042	13.7	0.541	13.2	0.522	14.7	0.582	1219	M-56	R-7	1220	M-56	R-7 A
	20	0.88	0.035	14.1	0.555	13.6	0.536	15.1	0.596	1219 S	M-58	R-7	1220 S	M-58	R-7 A
19.05 3/4"	21	0.81	0.032	14.2	0.561	13.6	0.536	15.1	0.596	1219 S	M-58	R-7	1220 S	M-58	R-7 A
	22	0.71	0.028	14.4	0.569	13.6	0.536	15.1	0.596	1219 S	M-58	R-7	1220 S	M-58	R-7 A
	10	3.40	0.134	12.2	0.482	11.9	0.471	13.6	0.536	1211	M-55	R-5	1212	M-55	R-5 A
	11	3.04	0.120	12.9	0.510	12.6	0.499	14.3	0.564	1215	M-56	R-6	1216	M-56	R-6 A
	12	2.76	0.109	13.5	0.532	13.2	0.522	14.7	0.582	1219	M-56	R-7	1220	M-56	R-7 A
	13	2.41	0.095	14.2	0.560	13.9	0.550	15.6	0.615	1221	M-58	R-8	1222	M-58	R-8 A
	14	2.10	0.083	14.8	0.584	14.5	0.574	16.2	0.639	1223	M-58	R-9	1224	M-58	R-9 A
	15	1.82	0.072	15.3	0.606	15.1	0.596	16.7	0.661	1225	M-58	R-10	1226	M-58	R-10 A
	16	1.65	0.065	15.7	0.620	15.3	0.605	17.4	0.685	1227	M-59	R-10	1228	M-59	R-10 A
	17	1.47	0.058	16.1	0.634	15.7	0.619	17.7	0.699	1229	M-59	R-11	1230	M-59	R-11 A
22.22 7/8"	18	1.24	0.049	16.5	0.652	15.7	0.619	17.7	0.699	1229	M-59	R-11	1230	M-59	R-11 A
	19	1.06	0.042	16.9	0.666	16.3	0.642	18.3	0.722	1231	M-59	R-12	1232	M-59	R-12 A
	20	0.88	0.035	17.2	0.680	16.3	0.642	18.3	0.722	1231	M-59	R-12	1232	M-59	R-12 A
	21	0.81	0.032	17.4	0.686	16.3	0.642	18.3	0.722	1231	M-59	R-12	1232	M-59	R-12 A
	22	0.71	0.028	17.6	0.694	16.3	0.642	18.3	0.722	1231	M-59	R-12	1232	M-59	R-12 A
	10	3.40	0.134	15.4	0.607	15.1	0.596	16.7	0.661	1225	M-58	R-10	1226	M-58	R-10 A
	11	3.04	0.120	16.1	0.635	15.7	0.619	17.7	0.699	1229	M-59	R-11	1230	M-59	R-11 A
	12	2.76	0.109	16.6	0.657	16.3	0.642	18.3	0.722	1231	M-59	R-12	1232	M-59	R-12 A
	13	2.41	0.095	17.4	0.685	17.0	0.670	19.0	0.750	1233	M-60	R-13	1234	M-60	R-13 A
	14	2.11	0.083	18.0	0.709	17.4	0.685	19.6	0.774	1235	M-61	R-14	1236	M-61	R-14 A
15	1.82	0.072	18.5	0.731	18.0	0.712	20.3	0.801	1237	M-61	R-15	1238	M-61	R-15 A	
16	1.65	0.065	18.9	0.745	18.4	0.726	20.7	0.815	1239	M-62	R-15	1240	M-62	R-15 A	
17	1.47	0.058	19.2	0.759	18.8	0.740	21.0	0.829	1243	M-62	R-16	1244	M-62	R-16 A	
18	1.24	0.049	19.7	0.777	18.8	0.740	21.0	0.829	1243	M-62	R-16	1244	M-62	R-16 A	



1/2"  
1.1/2"  
O.D.

# 1200 SERIES

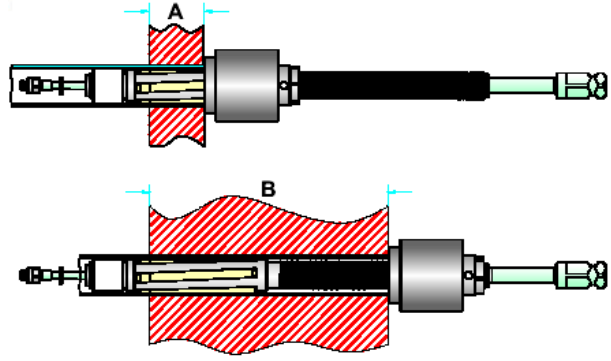


TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with( 19.05 mm) 3/4" Long Rollers			EXPANDER with( 31.75 mm) 1.1/4" Long Rollers		
	BWG	mm	inch	mm	inch	Mm	inch	Mm	inch	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
25.40 1"	8	4.19	0.165	17.0	0.670	16.6	0.655	18.6	0.735	1241	M-59	R-13	1242	M-59	R-13 A
	9	3.75	0.148	17.8	0.704	17.4	0.685	19.6	0.774	1235	M-61	R-14	1236	M-61	R-14 A
	10	3.40	0.134	18.5	0.732	18.0	0.712	20.3	0.801	1237	M-61	R-15	1238	M-61	R-15 A
	11	3.04	0.120	19.3	0.760	18.8	0.740	21.0	0.829	1243	M-62	R-16	1244	M-62	R-16 A
	12	2.76	0.109	19.8	0.782	19.3	0.763	21.6	0.852	1245	M-62	R-17	1246	M-62	R-17 A
	13	2.41	0.095	20.5	0.810	20.0	0.791	22.3	0.880	1247	M-62	R-18	1248	M-62	R-18 A
	14	2.11	0.083	21.1	0.834	20.5	0.810	23.0	0.909	1249	M-63	R-18	1250	M-63	R-18 A
	15	1.82	0.072	21.7	0.856	21.2	0.837	23.7	0.936	1251	M-63	R-19	1252	M-63	R-19 A
	16	1.65	0.065	22.1	0.870	21.2	0.837	23.7	0.936	1251	M-63	R-19	1252	M-63	R-19 A
	17	1.47	0.058	22.4	0.884	21.9	0.865	24.4	0.964	1255	M-63	R-21	1256	M-63	R-21 A
	18	1.24	0.049	22.9	0.902	21.9	0.865	24.4	0.964	1255	M-63	R-21	1256	M-63	R-21 A
	19	1.06	0.042	23.2	0.916	21.9	0.865	24.4	0.964	1255	M-63	R-21	1256	M-63	R-21 A
20	0.88	0.035	23.6	0.930	21.9	0.865	24.4	0.964	1255	M-63	R-21	1256	M-63	R-21 A	
28.58 1.1/8"	8	4.19	0.165	20.1	0.795	19.7	0.776	22.2	0.875	1253	M-63	R-20	1254	M-63	R-20 A
	9	3.75	0.148	21.0	0.829	20.5	0.810	23.0	0.909	1249	M-63	R-18	1250	M-63	R-18 A
	10	3.40	0.134	21.7	0.857	21.2	0.837	23.7	0.936	1251	M-63	R-19	1252	M-63	R-19 A
	11	3.04	0.120	22.4	0.885	21.9	0.865	24.4	0.964	1255	M-63	R-21	1256	M-63	R-21 A
	12	2.76	0.109	23.0	0.907	22.4	0.883	24.9	0.982	1257	M-64	R-21	1258	M-64	R-21 A
	13	2.41	0.095	23.7	0.935	23.2	0.926	25.7	1.025	1259	M-64	R-22	1260	M-64	R-22 A
	14	2.11	0.083	24.3	0.959	23.7	0.935	26.5	1.044	1261	M-65	R-23	1262	M-65	R-23 A
	15	1.82	0.072	24.9	0.981	24.4	0.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24 A
	16	1.65	0.065	25.2	0.995	24.4	0.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24 A
17	1.47	0.058	25.6	1.010	25.1	0.990	27.9	1.009	1267	M-66	R-26	1268	M-66	R-26 A	
18	1.24	0.049	26.0	1.027	25.1	0.990	27.9	1.009	1267	M-66	R-26	1268	M-66	R-26 A	
31.75 1.1/4"	8	4.19	0.165	23.3	0.920	22.8	0.901	25.6	1.010	1265	M-65	R-25	1266	M-65	R-25 A
	9	3.75	0.148	24.2	0.954	23.7	0.935	26.5	1.044	1261	M-65	R-23	1262	M-65	R-23 A
	10	3.40	0.134	24.9	0.992	24.4	0.962	27.2	1.071	1263	M-65	R-24	1264	M-65	R-24 A
	11	3.04	0.120	25.6	1.010	25.9	0.990	27.9	1.099	1267	M-66	R-26	1268	M-66	R-26 A
	12	2.76	0.109	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	0.095	26.9	1.060	26.4	1.039	29.2	1.150	1271	M-67	R-28	1272	M-67	R-28 A
	14	2.11	0.083	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	0.072	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	0.065	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	0.058	28.8	1.134	28.3	1.115	31.0	1.224	1279	M-68	R-30	1280	M-68	R-30 A	
18	1.24	0.049	29.2	1.152	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	0.165	26.5	1.045	26.0	1.026	28.8	1.135	1277	M-67	R-31	1272	M-67	R-31 A
	9	3.75	0.148	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	0.134	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	0.120	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	0.109	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	0.095	30.1	1.185	29.4	1.160	32.3	1.275	1283	M-69	R-33	1284	M-69	R-33 A
	14	2.11	0.083	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	0.072	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	0.065	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	0.165	29.7	1.170	29.0	1.145	32.0	1.260	1289	M-69	R-34	1290	M-69	R-34 A
	9	3.75	0.148	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	0.134	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	0.120	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	0.109	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	0.095	33.2	1.310	32.6	1.285	35.5	1.400	1295	M-71	R-37	1296	M-71	R-37 A
	14	2.11	0.083	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	0.072	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	0.065	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	0.058	35.1	1.384	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38 A
	18	1.24	0.049	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	0.042	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	0.035	36.3	1.430	33.8	1.331	37.3	1.472	1299	M-72	R-38	1300	M-72	R-38 A	

Model 1197 To 1256 expanders come with 3/8" Square Mandrel Drive and Model 1257 To 1300 expanders come with 1/2" Square Mandrel Drive.

1/2"  
1.1/2"  
O.D.

# 1200-5 SERIES



TUBE EXPANDERS 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"

- Use : highly recommended for use on thin wall tubes (19 thru 22 gauge walls ) of Stainless Steel ,Titanium, Incoloy and other exotic materials.
- Advantages : Gives a more concentric and even expansion when expanding thin walled tubes vs a conventional 3 roll expander and reduces tube spring back effect.

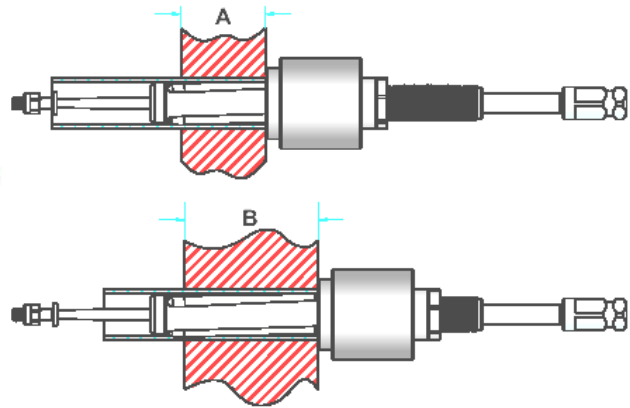
TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube I.D. Tool Enters		Maximum Expansion of Tool		EXPANDER with( 19.05 mm) 3/4" Long Rollers			EXPANDER with( 31.75 mm) 1.1/4" Long Rollers		
	BWG	mm	inch	mm	inch	mm	inch	mm	inch	Tool No	Mandrel	Roller	Tool No	Mandrel	Roller
19.05 3/4"	14	2.10	0.083	14.8	0.584	14.5	0.574	16.2	0.639	1223-5	1224-5	R-6-5	1224-5	1224-5	R-6A-5
	15	1.82	0.072	15.3	0.606	15.1	0.596	16.7	0.661	1225-5	1226-5	R-7-5	1226-5	1226-5	R-7A-5
	16	1.65	0.065	15.7	0.620	15.3	0.605	17.4	0.685	1227-5	M-63	R-7-5	1228-5	M-63	R-7A-5
	17	1.47	0.058	16.1	0.634	15.7	0.619	17.7	0.699	1229-5	M-63	R-7-5	1230-5	M-63	R-7A-5
	18	1.24	0.049	16.5	0.652	15.7	0.619	17.7	0.699	1229-5	M-63	R-7-5	1230-5	M-63	R-7A-5
	19	1.06	0.042	16.9	0.666	16.3	0.642	18.3	0.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9A-5
	20	0.88	0.035	17.2	0.680	16.3	0.642	18.3	0.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9A-5
	21	0.81	0.032	17.4	0.686	16.3	0.642	18.3	0.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9A-5
25.40 1"	22	0.71	0.028	17.6	0.694	16.3	0.642	18.3	0.722	1231-5	M-63	R-9-5	1232-5	M-63	R-9A-5
	14	2.1	0.083	21.2	0.835	20.5	0.807	22.3	0.878	1249-5	1250-5	R-12-5	1250-5	1250-5	R-12A-5
	15	1.82	0.072	21.7	0.854	21.3	0.839	23.8	0.937	1251-5	1252-5	R-13-5	1252-5	1252-5	R-13A-5
	16	1.65	0.065	22.0	0.866	21.3	0.839	23.8	0.937	1251-5	1252-5	R-13-5	1252-5	1252-5	R-13A-5
	17	1.47	0.058	22.4	0.882	22.0	0.866	24.5	0.965	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13A-5
	18	1.24	0.049	22.9	0.902	22.0	0.866	24.5	0.965	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13A-5
	19	1.06	0.042	23.2	0.913	22.0	0.866	24.5	0.965	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13A-5
	20	0.88	0.035	23.6	0.929	22.0	0.866	24.5	0.965	1255-5	1256-5	R-13-5	1256-5	1256-5	R-13A-5
28.58 1.1/8"	21	0.81	0.032	23.8	0.937	22.4	0.882	24.9	0.982	1257-5	M-71*	R-15-5	1258-5	M-71*	R-15A-5
	22	0.71	0.028	24.0	0.945	22.4	0.882	24.9	0.982	1257-5	M-71*	R-15-5	1258-5	M-71*	R-15A-5
	12	2.76	0.109	23.0	0.907	22.4	0.883	24.9	0.982	1257-5	M-71*	R-15-5	1258-5	M-71*	R-15A-5
38.10 1.1/2"	15	1.82	0.072	24.9	0.981	24.4	0.962	27.2	1.071	1263-5	1263-5	R-18-5	-	-	-
	16	1.65	0.065	25.2	0.995	24.4	0.962	27.2	1.071	1263-5	1263-5	R-18-5	-	-	-
	17	1.47	0.058	35.1	1.396	33.8	1.341	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29A-5
	18	1.24	0.049	35.6	1.416	33.8	1.341	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29A-5
1.1/2"	19	1.06	0.042	36.0	1.431	33.8	1.341	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29A-5
	20	0.89	0.035	36.3	1.443	33.8	1.341	37.3	1.472	1299-5	1299-5	R-29-5	1300-5	1299-5	R-29A-5

Note : \* Manderel Come with 3/8" Square Mandrel Drive.

Model 1215-5 To 1258-5 expanders come with 3/8" Square Mandrel Drive and Model 1259-5 To 1300-5 expanders come with 1/2" Square Mandrel Drive.

1.3/4"  
5"  
O.D.

# 8012 SERIES



TUBE EXPANDERS FITTED WITH ROLLER LENGTH	FOR TUBE SHEET ADJUSTABLE RANGE	
	MINIMUM A	MAXIMUM B
2.1/4" (57.1mm)	STD. REACH (12.7mm) 1/2"	(101.4mm) 4"
	- 6" REACH (12.7mm) 1/2"	(152.4mm) 6"
	- 8" REACH (12.7mm) 1/2"	(203.2mm) 8"

For Mandrels in 6" and 8" reach - suffix -6" or -8" to the mandrel model number.

- Use : To Expand Tubes in Air Heaters ,Boilers , and Refinery Steel tubes .Can be used to expand thick tube sheet upto 8"

TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	Tool No	Mandrel	Roller
44.45 1.3/4"	8	4.19	0.165	36.1	1.421	34.7	1.366	39.3	1.547	8012-1.3/4-8 G	M-90	R-33A
	10	3.40	0.134	37.6	1.480	36.0	1.417	40.8	1.606	8012-1.3/4-10 G	M-90	R-37A
	11	3.04	0.120	38.3	1.508	36.9	1.453	41.5	1.634	8012-1.3/4-11 G	M-90	R-42
	12	2.76	0.109	38.9	1.531	37.6	1.480	42.0	1.654	8012-1.3/4-12 G	M-90	R-44
	13	2.41	0.095	39.6	1.559	38.3	1.508	42.7	1.681	8012-1.3/4-13 G	M-90	R-46
	14	2.10	0.083	40.2	1.583	38.9	1.531	43.4	1.709	8012-1.3/4-14 G	M-90	R-48
50.80 2"	8	4.19	0.165	42.4	1.669	40.5	1.594	45.6	1.795	8012-2-8 G	M-91	R-48
	10	3.40	0.134	43.9	1.728	41.6	1.638	47.1	1.854	8012-2-10 G	M-91	R-50
	11	3.04	0.120	44.7	1.760	42.4	1.669	47.8	1.882	8012-2-11 G	M-91	R-52
	12	2.76	0.109	45.2	1.780	43.2	1.701	48.4	1.906	8012-2-12 G	M-91	R-54
	13	2.41	0.095	45.9	1.807	43.9	1.728	49.6	1.953	8012-2-13/18 G	M-91	R-56
	14	2.10	0.083	46.5	1.831	43.9	1.728	49.6	1.953	8012-2-13/18 G	M-91	R-56
	15	1.83	0.072	47.1	1.854	43.9	1.728	49.6	1.953	8012-2-13/18 G	M-91	R-56
	16	1.65	0.065	47.4	1.866	43.9	1.728	49.6	1.953	8012-2-13/18 G	M-91	R-56
57.15 2.1/4"	10	3.40	0.134	50.3	1.980	48.0	1.890	53.5	2.106	8012-2.1/4-10 G	M-92	R-56
	11	3.04	0.120	51.0	2.008	48.7	1.917	54.2	2.134	8012-2.1/4-11 G	M-92	R-58
	12	2.76	0.109	51.6	2.031	49.6	1.953	54.7	2.154	8012-2.1/4-12 G	M-92	R-60
	13	2.41	0.095	52.3	2.059	50.3	1.980	55.4	2.181	8012-2.1/4-13/16 G	M-92	R-62
	14	2.10	0.083	52.9	2.083	50.3	1.980	55.4	2.181	8012-2.1/4-13/16 G	M-92	R-62
	15	1.83	0.072	53.4	2.102	50.3	1.980	55.4	2.181	8012-2.1/4-13/16 G	M-92	R-62
63.50 2.1/2"	16	1.65	0.065	53.8	2.118	50.3	1.980	55.4	2.181	8012-2.1/4-13/16 G	M-92	R-62
	10	3.40	0.134	56.6	2.228	54.3	2.138	61.1	2.406	8012-2.1/2-10/12 G	M-93	R-64
	11	3.04	0.120	57.4	2.260	54.3	2.138	61.1	2.406	8012-2.1/2-10/12 G	M-93	R-64
	12	2.76	0.109	57.9	2.280	54.3	2.138	61.1	2.406	8012-2.1/2-10/12 G	M-93	R-64
	13	2.41	0.095	58.6	2.307	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64
	14	2.10	0.083	59.2	2.331	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64
	15	1.83	0.072	59.8	2.354	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64
	16	1.65	0.065	60.1	2.366	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64
17	1.47	0.058	60.6	2.386	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64	
18	1.24	0.049	61.0	2.402	56.6	2.228	62.2	2.449	8012-2.1/2-13/18 G	M-94	R-64	

1.3/4"  
5"  
O.D.

# 8012 SERIES



TUBE OD (mm) Inch	Tube Thickness			Tube I.D.		Tube 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	Tool No	Mandrel	Roller
69.85 2.3/4"	10	3.40	0.134	63.0	2.480	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	11	3.04	0.120	63.7	2.508	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	12	2.76	0.109	64.3	2.531	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	13	2.41	0.095	65.0	2.559	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	14	2.10	0.083	65.6	2.583	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	15	1.83	0.072	66.1	2.602	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
76.20 3"	16	1.65	0.065	66.5	2.618	60.7	2.390	68.6	2.701	8012-2.3/4-10/16 G	M-96	R-66
	8	4.19	0.165	67.8	2.669	65.0	2.559	71.8	2.827	8012-3-8/9 G	M-97	R-67
	9	3.75	0.148	68.6	2.701	65.0	2.559	71.8	2.827	8012-3-8/9 G	M-97	R-67
	10	3.40	0.134	69.3	2.728	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	11	3.04	0.120	70.1	2.760	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	12	2.76	0.109	70.6	2.780	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	13	2.41	0.095	71.3	2.807	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	14	2.10	0.083	71.9	2.831	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	15	1.83	0.072	72.5	2.854	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	16	1.65	0.065	72.8	2.866	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
88.90 3.1/2"	17	1.47	0.058	73.3	2.886	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	18	1.24	0.049	73.7	2.902	67.0	2.638	74.9	2.949	8012-3-10/18 G	M-96	R-67
	13	2.41	0.095	84.1	3.311	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
	14	2.10	0.083	84.7	3.335	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
	15	1.83	0.072	85.2	3.354	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
	16	1.65	0.065	85.6	3.370	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
101.60 4"	17	1.47	0.058	86.0	3.386	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
	18	1.24	0.049	86.4	3.402	81.0	3.189	88.0	3.465	8012-3.1/2-10/18 G	M-99	R-70
	3	6.60	0.260	88.4	3.480	87.0	3.425	96.0	3.780	8012-4-3/4 G	M-100	R-71
	4	6.00	0.236	89.6	3.528	87.0	3.425	96.0	3.780	8012-4-3/4 G	M-100	R-71
	8	4.19	0.165	93.2	3.669	91.0	3.583	100.0	3.937	8012-4-8/9 G	M-101	R-71
	9	3.75	0.148	94.1	3.705	91.0	3.583	100.0	3.937	8012-4-8/9 G	M-101	R-71
	10	3.40	0.134	94.8	3.732	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
	11	3.04	0.120	95.5	3.760	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
	12	2.76	0.109	96.1	3.783	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
	13	2.41	0.095	96.8	3.811	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
114.30 4.1/2"	14	2.10	0.083	97.4	3.835	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
	16	1.65	0.065	98.3	3.870	93.0	3.661	106.0	4.173	8012-4-10/18 G	M-101	R-72
	3	6.60	0.260	101.1	3.980	100.0	3.937	109.0	4.291	8012-4.1/2-3/4 G	M-102	R-73
	4	6.00	0.236	102.3	4.028	100.0	3.937	109.0	4.291	8012-4.1/2-3/4 G	M-102	R-73
	8	4.19	0.165	105.9	4.169	102.0	4.016	111.0	4.370	8012-4.1/2-8/9 G	M-102	R-74
	9	3.75	0.148	106.8	4.205	102.0	4.016	111.0	4.370	8012-4.1/2-8/9 G	M-102	R-74
	10	3.40	0.134	107.5	4.232	104.0	4.094	113.0	4.449	8012-4.1/2-10/18 G	M-103	R-74
127.00 5"	12	2.76	0.109	108.8	4.283	104.0	4.094	113.0	4.449	8012-4.1/2-10/18 G	M-103	R-74
	16	1.65	0.065	111.0	4.370	104.0	4.094	113.0	4.449	8012-4.1/2-10/18 G	M-103	R-74
	3	6.60	0.260	113.8	4.480	112.0	4.409	121.0	4.764	8012-5-3/4 G	M-105	R-76
	4	6.00	0.236	115.0	4.528	112.0	4.409	121.0	4.764	8012-5-3/4 G	M-105	R-76
	8	4.19	0.165	118.6	4.669	116.0	4.567	125.0	4.921	8012-5-8/9 G	M-105	R-77
127.00 5"	9	3.75	0.148	119.5	4.705	116.0	4.567	125.0	4.921	8012-5-8/9 G	M-105	R-77
	10	3.40	0.134	120.2	4.732	117.0	4.606	126.0	4.961	8012-5-10/18 G	M-105	R-78
	11	3.04	0.120	121.0	4.764	117.0	4.606	126.0	4.961	8012-5-10/18 G	M-105	R-78
	12	2.76	0.109	121.5	4.783	117.0	4.606	126.0	4.961	8012-5-10/18 G	M-105	R-78
	14	2.14	0.084	122.8	4.835	117.0	4.606	126.0	4.961	8012-5-10/18 G	M-105	R-78
	16	1.65	0.065	123.7	4.870	117.0	4.606	126.0	4.961	8012-5-10/18 G	M-105	R-78

Model 8012-1.3/4"-8G To 8012-2.1/2"-13/18G Expanders come with 3/4" Square Mandrel Drive and Model 8012-2.3/4"-10/16G To 8012-5"-10/16G Expanders come with 1" Square Mandrel Drive.