800 Series

The 800 Series offers a basic and reliable solution for expanding tubes in the most common sizes. It features three expansion rolls, available in two lengths. This tool is suitable for use in condensers, coolers, heat exchangers, surface condensers, and FinFan coolers.

WORKING RANGE

TUBE ID	TUBE OD	TUBE SHEET
8,48 - 26,9 mm	12,7 - 38,1 MM	12,7 - 57,1 MM
0,334" - 1,027"	1/2" to 1-1/2"	1/2" to 2-1/4"

ADDITIONAL INFORMATION

How-to basics → PAGE 11

Rolls range → PAGE 10

Rolling motors → PAGE 45

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
							[INCH]		[MM]		1/2 TO 1-1/2"		1-1/4 TO 2-1/4"						
											12,7 TO 38,1 MM		31,7 TO 57,1 MM						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.		[INCH]	[MM]		
3/8	9,5	22-24	0,027	0,71	0,314	8,00	0,307	0,358	7,80	9,10	**795**	**795**	-	-	**797**	3/8	9,5		
1/2	12,7	14	0,083	2,11	0,334	8,48	0,324	0,374	8,23	9,50	**797**	**797**	-	-	**797**	3/8	9,5	K20-500	TES300 S1500 or TESMini2 HT0
		15	0,072	1,83	0,356	9,04	0,348	0,398	8,84	10,11	**799**	**R-1**	-	-	**799**	3/8	9,5		
		16	0,065	1,65	0,370	9,40	0,36	0,410	9,14	10,41	**801**	**R-1**	-	-	**M-1**	3/8	9,5	K20-1800	
		17	0,058	1,47	0,384	9,75	0,374	0,424	9,50	10,77	**803**	**R-2**	-	-	**M-1**	3/8	9,5		
		18	0,049	1,24	0,402	10,21	0,392	0,447	9,96	11,35	**805**	**R-3**	-	-	**M-2**	3/8	9,5		
		20	0,035	0,89	0,430	10,92	0,406	0,461	10,31	11,71	**805[S]**	**R-3**	-	-	**M-3**	3/8	9,5		
5/8	15,8	12	0,109	2,77	0,407	10,34	0,392	0,447	9,96	11,35	**805**	**R-3**	-	-	**M-2**	3/8	9,5	K50-600	TES3000 G1450 or TesMini2 ES2
		13	0,095	2,41	0,435	11,05	0,425	0,480	10,80	12,19	**807**	**R-4**	-	-	**M-3**	3/8	9,5		
		14	0,083	2,11	0,459	11,66	0,449	0,509	11,40	12,93	**809**	**R-4**	**810**	**R-4-A**	**M-4**	3/8	9,5		
		15	0,072	1,83	0,481	12,22	0,471	0,536	11,96	13,61	**811**	**R-5**	**812**	**R-5A**	**M-5**	3/8	9,5		
		16	0,065	1,65	0,495	12,57	0,485	0,550	12,32	13,97	**813**	**R-6**	**814**	**R-6A**	**M-5**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DUO
		17	0,058	1,47	0,509	12,93	0,499	0,564	12,67	14,33	**815**	**R-6**	**816**	**R-6A**	**M-6**	3/8	9,5		
		18	0,049	1,24	0,527	13,39	0,517	0,572	13,13	14,53	**817**	**R-7**	**818**	**R-7-A**	**M-7 M-5**	3/8	9,5		
		19	0,042	1,07	0,541	13,74	0,522	0,582	13,26	14,78	**819**	**R-7**	**820**	**R-7-A**	**M-6**	3/8	9,5		
		20	0,035	0,89	0,555	14,10	0,536	0,596	13,61	15,14	**819[S]**	**R-7**	**820[S]**	**R-7-A**	**M-8**	3/8	9,5		
		21	0,032	0,81	0,561	14,25	0,536	0,596	13,61	15,14	**819[S]**	**R-7**	**820[S]**	**R-7-A**	**M-8**	3/8	9,5		
		22	0,028	0,71	0,569	14,45	0,536	0,596	13,61	15,14	**819[S]**	**R-7**	**820[S]**	**R-7-A**	**M-8**	3/8	9,5		
3/4	19	10	0,134	3,40	0,482	12,24	0,471	0,536	11,96	13,61	**811**	**R-5**	**812**	**R-5-A**	**M-5**	3/8	9,5	K60-900	TES3000 + G1000 TESMini 2 +ES2
		11	0,120	3,05	0,510	12,95	0,499	0,564	12,67	14,33	**815**	**R-6**	**816**	**R-6-A**	**M-6**	3/8	9,5		
		12	0,109	2,77	0,532	13,51	0,522	0,582	13,26	14,78	**819**	**R-7**	**820**	**R-7-A**	**M-6**	3/8	9,5		
		13	0,095	2,41	0,560	14,22	0,550	0,615	13,97	15,62	**821**	**R-8**	**822**	**R-8-A**	**M-8**	3/8	9,5	K50-400	TES3000 G1450 or TESMini2 ES2
		14	0,083	2,11	0,584	14,83	0,574	0,639	14,58	16,23	**823**	**R-9**	**824**	**R-9-A**	**M-8**	3/8	9,5		
		15	0,072	1,83	0,606	15,39	0,596	0,661	15,14	16,79	**825**	**R-10**	**826**	**R-10-A**	**M-8**	3/8	9,5	K50-600	
		16	0,065	1,65	0,620	15,75	0,605	0,685	15,37	17,40	**827**	**R-10**	**828**	**R-10-A**	**M-9**	3/8	9,5		

800 Series

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
							[INCH]		[MM]		1/2 TO 1-1/2" 12,7 TO 38,1 MM		1-1/4 TO 2-1/4" 31,7 TO 57,1 MM						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.		[INCH]	[MM]		
3/4	19	17	0,058	1,47	0,634	16,10	0,619	0,699	15,72	17,75	**829**	**R-11**	**830**	**R-11-A**	**M-9**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DUO
		18	0,049	1,24	0,652	16,56	0,619	0,699	15,72	17,75	**829**	**R-11**	**830**	**R-11-A**	**M-9**	3/8	9,5		
		19	0,042	1,07	0,666	16,92	0,642	0,722	16,31	18,34	**831**	**R-12**	**832**	**R-12-A**	**M-9**	3/8	9,5		
		20	0,035	0,89	0,680	17,27	0,642	0,722	16,31	18,34	**831**	**R-12**	**832**	**R-12-A**	**M-9**	3/8	9,5		
		21	0,032	0,81	0,686	17,42	0,642	0,722	16,31	18,34	**831**	**R-12**	**832**	**R-12-A**	**M-9**	3/8	9,5		
		22	0,028	0,71	0,694	17,63	0,642	0,722	16,31	18,34	**831**	**R-12**	**832**	**R-12-A**	**M-9**	3/8	9,5		
7/8	22,2	10	0,134	3,40	0,607	15,42	0,596	0,661	15,14	16,79	**825**	**R-10**	**826**	**R-10-A**	**M-8**	3/8	9,5		TES3000 G1000 or TESMini2 ES2
		11	0,120	3,05	0,635	16,13	0,619	0,699	15,72	17,75	**829**	**R-11**	**830**	**R-11-A**	**M-9**	3/8	9,5	K50-400	
		12	0,109	2,77	0,657	16,69	0,642	0,722	16,31	18,34	**831**	**R-12**	**832**	**R-12-A**	**M-9**	3/8	9,5		
		13	0,095	2,41	0,685	17,40	0,670	0,750	17,02	19,05	**833**	**R-13**	**834**	**R-13-A**	**M-10**	3/8	9,5	K50-600	
		14	0,083	2,11	0,709	18,01	0,685	0,774	17,40	19,66	**835**	**R-14**	**836**	**R-14-A**	**M-11**	3/8	9,5		
		15	0,072	1,83	0,731	18,57	0,712	0,801	18,08	20,35	**837**	**R-15**	**838**	**R-15-A**	**M-11**	3/8	9,5		
		16	0,065	1,65	0,745	18,92	0,726	0,815	18,44	20,70	**839**	**R-15**	**840**	**R-15-A**	**M-12**	3/8	9,5		
		17	0,058	1,47	0,759	19,28	0,740	0,829	18,80	21,06	**843**	**R-16**	**844**	**R-16-A**	**M-12**	3/8	9,5	K50-1250	TES3000 G1450 or TESMini2 ES2
		18	0,049	1,24	0,777	19,74	0,740	0,829	18,80	21,06	**843**	**R-16**	**844**	**R-16-A**	**M-12**	3/8	9,5		
1	25,4	8	0,165	4,19	0,670	17,02	0,655	0,735	16,64	18,67	**841**	**R-13**	**842**	**R-13-A**	**M-9**	3/8	9,5	K60-400	TES3000 G1000 or TESMini2 ES2
		9	0,148	3,76	0,704	17,88	0,685	0,774	17,40	19,66	**835**	**R-14**	**836**	**R-14-A**	**M-11**	3/8	9,5		
		10	0,134	3,40	0,732	18,59	0,712	0,801	18,08	20,35	**837**	**R-15**	**838**	**R-15-A**	**M-11**	3/8	9,5		
		11	0,120	3,05	0,760	19,30	0,740	0,829	18,80	21,06	**843**	**R-16**	**844**	**R-16-A**	**M-12**	3/8	9,5		
		12	0,109	2,77	0,782	19,86	0,763	0,852	19,38	21,64	**845**	**R-17**	**846**	**R-17-A**	**M-12**	3/8	9,5	K50-400	
		13	0,095	2,41	0,810	20,57	0,791	0,880	20,09	22,35	**847**	**R-18**	**848**	**R-18-A**	**M-12**	3/8	9,5		
		14	0,083	2,11	0,834	21,18	0,810	0,909	20,57	23,09	**849**	**R-18**	**850**	**R-18-A**	**M-13**	3/8	9,5		
		15	0,072	1,83	0,856	21,74	0,837	0,936	21,26	23,77	**851**	**R-19**	**852**	**R-19-A**	**M-13**	3/8	9,5		
		16	0,065	1,65	0,870	22,10	0,837	0,936	21,26	23,77	**851**	**R-19**	**852**	**R-19-A**	**M-13**	3/8	9,5		
		17	0,058	1,47	0,884	22,45	0,865	0,964	21,97	24,49	**855**	**R-21**	**856**	**R-21-A**	**M-13**	3/8	9,5	K50-600	
		18	0,049	1,24	0,902	22,91	0,865	0,964	21,97	24,49	**855**	**R-21**	**856**	**R-21-A**	**M-13**	3/8	9,5		
		19	0,042	1,07	0,916	23,27	0,865	0,964	21,97	24,49	**855**	**R-21**	**856**	**R-21-A**	**M-13**	3/8	9,5		
		20	0,035	0,89	0,930	23,62	0,865	0,964	21,97	24,49	**855**	**R-21**	**856**	**R-21-A**	**M-13**	3/8	9,5		
1-1/8	28,5	8	0,165	4,19	0,795	20,19	0,776	0,875	19,71	22,23	**853**	**R-20**	**854**	**R-20-A**	**M-13**	3/8	9,5	K60-400	TES3000 G1000 or TESMini2 DU1
		9	0,148	3,76	0,829	21,06	0,810	0,909	20,57	23,09	**849**	**R-18**	**850**	**R-18-A**	**M-13**	3/8	9,5		
		10	0,134	3,40	0,857	21,77	0,837	0,936	21,26	23,77	**851**	**R-19**	**852**	**R-19-A**	**M-13**	3/8	9,5		
		11	0,120	3,05	0,885	22,48	0,865	0,964	21,97	24,49	**855**	**R-21**	**856**	**R-21-A**	**M-13**	3/8	9,5		
		12	0,109	2,77	0,907	23,04	0,883	0,982	22,43	24,94	**857**	**R-21**	**858**	**R-21-A**	**M-14**	1/2	12,7		
		13	0,095	2,41	0,935	23,75	0,916	1,015	23,27	25,78	**859**	**R-22**	**860**	**R-22-A**	**M-14**	1/2	12,7		
		14	0,083	2,11	0,959	24,36	0,935	1,044	23,75	26,52	**861**	**R-23**	**862**	**R-23-A**	**M-15**	1/2	12,7		
		15	0,072	1,83	0,981	24,92	0,962	1,071	24,43	27,20	**863**	**R-24**	**864**	**R-24-A**	**M-15**	1/2	12,7		
		16	0,065	1,65	0,995	25,27	0,962	1,071	24,43	27,20	**863**	**R-24**	**864**	**R-24-A**	**M-15**	1/2	12,7		
		17	0,058	1,47	1,009	25,63	0,990	1,099	25,15	27,91	**867**	**R-26**	**868**	**R-26-A**	**M-16**	1/2	12,7		
		18	0,049	1,24	1,027	26,09	0,990	1,099	25,15	27,91	**867**	**R-26**	**868**	**R-26-A**	**M-16**	1/2	12,7		
1-1/4	31,7	8	0,165	4,19	0,92	23,37	0,901	1,010	22,89	25,65	**865**	**R-25**	**866**	**R-25-A**	**M-15**	1/2	12,7	K60-400	TES3000 G1000 or TESMini2 DU1
		9	0,148	3,76	0,954	24,23	0,935	1,044	23,75	26,52	**861**	**R-23**	**862**	**R-23-A**	**M-15**	1/2	12,7		
		10	0,134	3,40	0,982	24,94	0,962	1,071	24,43	27,20	**863**	**R-24**	**864**	**R-24-A**	**M-15**	1/2	12,7		
		11	0,120	3,05	1,010	25,65	0,990	1,099	25,15	27,91	**867**	**R-26**	**868**	**R-26-A**	**M-16**	1/2	12,7		
		12	0,109	2,77	1,032	26,21	1,013	1,122	25,73	28,50	**869**	**R-27**	**870**	**R-27-A**	**M-16**	1/2	12,7		
		13	0,095	2,41	1,060	26,92	1,041	1,150	26,44	29,21	**871**	**R-28**	**872**	**R-28-A**	**M-17**	1/2	12,7		
		14	0,083	2,11	1,084	27,53	1,060	1,169	26,92	29,69	**873**	**R-29**	**874**	**R-29-A**	**M-17**	1/2	12,7		
		15	0,072	1,83	1,106	28,09	1,087	1,196	27,61	30,38	**875**	**R-30**	**876**	**R-30-A**	**M-17**	1/2	12,7		
		16	0,065	1,65	1,12	28,45	1,087	1,196	27,61	30,38	**875**	**R-30**	**876**	**R-30-A**	**M-17**	1/2	12,7		
		17	0,058	1,47	1,134	28,80	1,115	1,224	28,32	31,09	**879**	**R-30**	**880**	**R-30-A**	**M-18**	1/2	12,7		
		18	0,049	1,24	1,152	29,26	1,115	1,224	28,32	31,09	**879**	**R-30**	**880**	**R-30-A**	**M-18**	1/2	12,7		

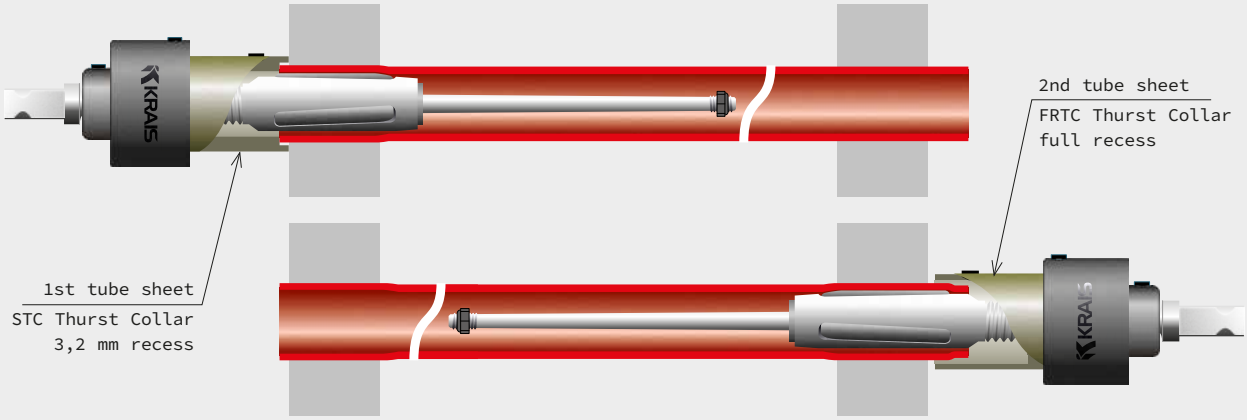
800 Series

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
							[INCH]		[MM]		1/2 TO 1-1/2"		1-1/4 TO 2-1/4"						
											12,7 TO 38,1 MM		31,7 TO 57,1 MM						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.		[INCH]	[MM]		
1-3/8	34,9	8	0,165	4,19	1,045	26,54	1,026	1,135	26,06	28,83	**877**	**R-31**	**878**	**R-31-A**	**M-17**	1/2	12,7	K60-250	TES3000 G400 or TESMini2 DU1
		9	0,148	3,76	1,079	27,41	1,060	1,169	26,92	29,69	**873**	**R-29**	**874**	**R-29-A**	**M-17**	1/2	12,7		
		10	0,134	3,40	1,107	28,12	1,087	1,196	27,61	30,38	**875**	**R-30**	**876**	**R-30-A**	**M-17**	1/2	12,7		
		11	0,120	3,05	1,135	28,83	1,115	1,224	28,32	31,09	**879**	**R-30**	**880**	**R-30-A**	**M-18**	1/2	12,7		
		12	0,109	2,77	1,157	29,39	1,133	1,242	28,78	31,55	**881**	**R-32**	**882**	**R-32-A**	**M-18**	1/2	12,7		
		13	0,095	2,41	1,185	30,10	1,160	1,275	29,46	32,39	**883**	**R-33**	**884**	**R-33-A**	**M-19**	1/2	12,7	K60-400	
		14	0,083	2,11	1,209	30,71	1,179	1,294	29,95	32,87	**885**	**R-34**	**886**	**R-34-A**	**M-20**	1/2	12,7		
		15	0,072	1,83	1,231	31,27	1,206	1,321	30,63	33,55	**887**	**R-35**	**888**	**R-35-A**	**M-20**	1/2	12,7		
		16	0,065	1,65	1,245	31,62	1,206	1,321	30,63	33,55	**887**	**R-35**	**888**	**R-35-A**	**M-20**	1/2	12,7		
1-1/2	38,1	8	0,165	4,19	1,170	29,72	1,145	1,260	29,08	32,00	**889**	**R-34**	**890**	**R-34-A**	**M-19**	1/2	12,7	K60-250	TES3000 G400 or TESMini2 DU1
		9	0,148	3,76	1,204	30,58	1,179	1,294	29,95	32,87	**885**	**R-34**	**886**	**R-34-A**	**M-20**	1/2	12,7		
		10	0,134	3,40	1,232	31,29	1,206	1,321	30,63	33,55	**887**	**R-35**	**888**	**R-35-A**	**M-20**	1/2	12,7		
		11	0,120	3,05	1,260	32,00	1,235	1,350	31,37	34,29	**891**	**R-36**	**892**	**R-36-A**	**M-20**	1/2	12,7		
		12	0,109	2,77	1,282	32,56	1,257	1,372	31,93	34,85	**893**	**R-37**	**894**	**R-37-A**	**M-20**	1/2	12,7		
		13	0,095	2,41	1,310	33,27	1,285	1,400	32,64	35,56	**895**	**R-37**	**896**	**R-37-A**	**M-21**	1/2	12,7	K60-400	
		14	0,083	2,11	1,334	33,88	1,285	1,400	32,64	35,56	**895**	**R-37**	**896**	**R-37-A**	**M-21**	1/2	12,7		
		15	0,072	1,83	1,356	34,44	1,331	1,446	33,81	36,73	**897**	**R-38**	**898**	**R-38-A**	**M-21**	1/2	12,7		
		16	0,065	1,65	1,370	34,80	1,331	1,446	33,81	36,73	**897**	**R-38**	**898**	**R-38-A**	**M-21**	1/2	12,7		
		17	0,058	1,47	1,384	35,15	1,331	1,472	33,81	37,39	**899**	**R-38**	**900**	**R-38-A**	**M-22**	1/2	12,7		
		18	0,049	1,24	1,402	35,61	1,331	1,472	33,81	37,39	**899**	**R-38**	**900**	**R-38-A**	**M-22**	1/2	12,7		
		19	0,042	1,07	1,416	35,97	1,331	1,472	33,81	37,39	**899**	**R-38**	**900**	**R-38-A**	**M-22**	1/2	12,7		
		20	0,035	0,89	1,430	36,32	1,331	1,472	33,81	37,39	**899**	**R-38**	**900**	**R-38-A**	**M-22**	1/2	12,7		

** Motor recommendation applies only to most popular cases with a standard percentage of the wall reduction. The recommendation can be different for thicker tube sheet, harder and exotic metal tube and a higher percentage of wall reduction.*

RECOMMENDATION

Recommended selection of thrust collars when rolling pipes from both sides to prevent the formation of stresses.



800-5 Five Roll Series

The 800-5 Series is designed with five rolling elements, making it ideal for thin-walled tubes. Rolls are available in two lengths. It is highly recommended for expanding tubes in condensers, coolers, heat exchangers, surface condensers, and FinFan coolers.

WORKING RANGE

TUBE ID	TUBE OD	TUBE SHEET
12,98 - 36,68 MM	15,8 - 38,1 MM	12,7 - 57,1 MM
0,509" - 1,440"	5/8" to 1-1/2"	1/2" to 2-1/4"

ADDITIONAL INFORMATION

How-to basics → PAGE 11
Rolls range → PAGE 10
Rolling motors → PAGE 45

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
							[INCH]		[MM]		1/2" TO 1-1/2"		1-1/4" TO 2-1/4"						
											12,7 TO 38,1 MM		31,7 TO 57,1MM						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MIAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.		[INCH]	[MM]		
5/8	15,8	17	0,058	1,47	0,509	12,93	0,499	0,564	12,67	14,33	**815-5**	**R-4-5**	**816-5**	**R-4-A-5**	**M-816-5**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DUO
		18	0,049	1,24	0,527	13,39	0,517	0,572	13,13	14,53	**817-5**	**R-4-5**	**818-5**	**R-4-A-5**	**M-9**	3/8	9,5		
		19	0,042	1,07	0,541	13,74	0,522	0,582	13,26	14,78	**819-5**	**R-4-5**	**820-5**	**R-4-A-5**	**M-820-5**	3/8	9,5		
		20	0,035	0,89	0,555	14,10	0,536	0,596	13,61	15,14	**819-5[S]**	**R-4-5**	**820-5[S]**	**R-4-A-5**	**820-5[S]**	3/8	9,5		
		21	0,032	0,81	0,561	14,25	0,536	0,596	13,61	15,14	**819-5[S]**	**R-4-5**	**820-5[S]**	**R-4-A-5**	**820-5[S]**	3/8	9,5		
		22	0,028	0,71	0,569	14,45	0,536	0,596	13,61	15,14	**819-5[S]**	**R-4-5**	**820-5[S]**	**R-4-A-5**	**820-5[S]**	3/8	9,5		
3/4	19,0	13	0,095	2,41	0,560	14,22	0,550	0,615	13,97	15,62	**821-5**	**R-5-5**	**822-5**	**R-5-A-5**	**M-822-5**	3/8	9,5	K50-600	TES3000 + G1450 TesMini2 + ES2
		14	0,083	2,11	0,584	14,83	0,574	0,639	14,58	16,23	**823-5**	**R-6-5**	**824-5**	**R-6-A-5**	**M-824-5**	3/8	9,5		
		15	0,072	1,83	0,606	15,39	0,590	0,661	14,99	16,79	**825-5**	**R-7-5**	**826-5**	**R-7-A-5**	**M-826-5**	3/8	9,5		
		16	0,065	1,65	0,620	15,75	0,605	0,685	15,37	17,40	**827-5**	**R-7-5**	**828-5**	**R-7-A-5**	**M-13**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DUO
		17	0,058	1,47	0,634	16,10	0,619	0,699	15,72	17,75	**829-5**	**R-7-5**	**830-5**	**R-7-A-5**	**M-830-5**	3/8	9,5		
		18	0,049	1,24	0,652	16,56	0,619	0,699	15,72	17,75	**829-5**	**R-7-5**	**830-5**	**R-7-A-5**	**M-830-5**	3/8	9,5		
		19	0,042	1,07	0,666	16,92	0,642	0,722	16,31	18,34	**831-5**	**R-9-5**	**832-5**	**R-9-A-5**	**M-13**	3/8	9,5		
		20	0,035	0,89	0,680	17,27	0,642	0,722	16,31	18,34	**831-5**	**R-9-5**	**832-5**	**R-9-A-5**	**M-13**	3/8	9,5		
		21	0,032	0,81	0,686	17,42	0,642	0,722	16,31	18,34	**831-5**	**R-9-5**	**832-5**	**R-9-A-5**	**M-13**	3/8	9,5		
		22	0,028	0,71	0,694	17,63	0,642	0,722	16,31	18,34	**831-5**	**R-9-5**	**832-5**	**R-9-A-5**	**M-13**	3/8	9,5		
7/8	22,2	13	0,095	2,41	0,685	17,40	0,670	0,750	17,02	19,05	**833-5**	**R-9-5**	**834-5**	**R-9-A-5**	**M-14-3/8**	3/8	9,5	K50-600	TES3000 G1450 or TESMini2 ES2
		14	0,083	2,11	0,709	18,01	0,685	0,774	17,40	19,66	**835-5**	**R-10-5**	**836-5**	**R-10-A-5**	**M-15**	3/8	9,5		
		16	0,065	1,65	0,745	18,92	0,726	0,815	18,44	20,70	**839-5**	**R-11-5**	**840-5**	**R-11-A-5**	**M-840-5**	3/8	9,5		
		17	0,058	1,47	0,759	19,28	0,740	0,829	18,80	21,06	**843-5**	**R-11-5**	**844-5**	**R-11-A-5**	**M-17-3/8**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DU0
		18	0,049	1,24	0,777	19,74	0,740	0,829	18,80	21,06	**843-5**	**R-11-5**	**844-5**	**R-11-A-5**	**M-17-3/8**	3/8	9,5		
		19	0,042	1,07	0,791	20,09	0,763	0,852	19,38	21,64	**845-5**	**R-11-5**	**846-5**	**R-11-A-5**	**M-18-3/8**	3/8	9,5		
		20	0,035	0,89	0,805	20,45	0,763	0,852	19,38	21,64	**845-5**	**R-11-5**	**846-5**	**R-11-A-5**	**M-18-3/8**	3/8	9,5		
		21	0,032	0,81	0,811	20,60	0,763	0,852	19,38	21,64	**845-5**	**R-11-5**	**846-5**	**R-11-A-5**	**M-18-3/8**	3/8	9,5		
		22	0,028	0,71	0,819	20,80	0,763	0,852	19,38	21,64	**845-5**	**R-11-5**	**846-5**	**R-11-A-5**	**M-18-3/8**	3/8	9,5		

800-5 Five Roll Series

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
							[INCH]		[MM]		1/2" TO 1-1/2"		1-1/4" TO 2-1/4"						
							[INCH]		[MM]		12,7 TO 38,1 MM		31,7 TO 57,1MM						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MIAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.		[INCH]	[MM]		
1	25,4	12	0,109	2,77	0,782	19,86	0,763	0,852	19,38	21,64	**845-5**	**R-11-5**	**846-5**	**R-11-A-5**	**M-18-3/8**	3/8	9,5	K50-600	TES3000 G1450 or TESMini2 ES2
		13	0,095	2,41	0,810	20,57	0,791	0,880	20,09	22,35	**847-5**	**R-13-5**	**848-5**	**R-13-A-5**	**M-18-3/8**	3/8	9,5		
		14	0,083	2,11	0,834	21,18	0,810	0,909	20,57	23,09	**849-5**	**R-12-5**	**850-5**	**R-12-A-5**	**M-850-5**	3/8	9,5		
		15	0,072	1,83	0,856	21,74	0,837	0,936	21,26	23,77	**851-5**	**R-14-5**	**852-5**	**R-14-A-5**	**M-852-5**	3/8	9,5		
		16	0,065	1,65	0,87	22,10	0,837	0,936	21,26	23,77	**851-5**	**R-13-5**	**852-5**	**R-13-A-5**	**M-852-5**	3/8	9,5		
		17	0,058	1,47	0,884	22,45	0,865	0,964	21,97	24,49	**855-5**	**R-13-5**	**856-5**	**R-13-A-5**	**M-856-5**	3/8	9,5	K50-1250	TES3000 G1000 or TESMini2 DU0
		18	0,049	1,24	0,902	22,91	0,865	0,964	21,97	24,49	**855-5**	**R-13-5**	**856-5**	**R-13-A-5**	**M-856-5**	3/8	9,5		
		19	0,042	1,07	0,916	23,27	0,865	0,964	21,97	24,49	**855-5**	**R-13-5**	**856-5**	**R-13-A-5**	**M-856-5**	3/8	9,5		
		20	0,035	0,89	0,93	23,62	0,865	0,964	21,97	24,49	**855-5**	**R-13-5**	**856-5**	**R-13-A-5**	**M-856-5**	3/8	9,5		
		21	0,032	0,81	0,936	23,77	0,883	0,982	22,43	24,94	**857-5**	**R-15-5**	**858-5**	**R-15-A-5**	**M-21-3/8**	3/8	9,5		
		22	0,028	0,71	0,944	23,98	0,883	0,982	22,43	24,94	**857-5**	**R-15-5**	**858-5**	**R-15-A-5**	**M-21-3/8**	3/8	9,5		
1-1/8	28,5	12	0,109	2,77	0,907	23,04	0,883	0,982	22,43	24,94	**857-5**	**R-15-5**	**858-5**	**R-15-A-5**	**M-21-3/8**	3/8	9,5	K60-400	TES3000 + G1000 TESMini2 + DU1
		13	0,095	2,41	0,935	23,75	0,916	1,015	23,27	25,78	**859-5**	**R-16-5**	**860-5**	**R-16-A-5**	**M-860-5**	1/2	12,7		
		14	0,083	2,11	0,959	24,36	0,935	1,044	23,75	26,52	**861-5**	**R-17-5**	**862-5**	**R-17-A-5**	**M-862-5**	1/2	12,7		
1-1/4	31,7	15	0,072	1,83	1,106	28,09	1,087	1,196	27,61	30,38	**875-5**	**R-21-5**	**876-5**	**R-21-A-5**	**M-876-5**	1/2	12,7	K60-400	TES3000 G1000 or TESMini2 DU1
		16	0,065	1,65	1,120	28,45	1,087	1,196	27,61	30,38	**875-5**	**R-21-5**	**876-5**	**R-21-A-5**	**M-876-5**	1/2	12,7		
		17	0,058	1,47	1,134	28,80	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
		18	0,049	1,24	1,152	29,26	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
		19	0,042	1,07	1,166	29,62	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
		20	0,035	0,89	1,180	29,97	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
		21	0,032	0,81	1,186	30,12	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
		22	0,028	0,71	1,194	30,33	1,115	1,231	28,32	31,27	**879-5**	**R-21-5**	**880-5**	**R-21-A-5**	**M-880-5**	1/2	12,7		
1-3/8	34,9	12	0,109	2,77	1,157	29,39	1,133	1,242	28,78	31,55	**881-5**	**R-21-5**	**882-5**	**R-21-A-5**	**M-882-5**	1/2	12,7	K60-250	
		14	0,083	2,11	1,209	30,71	1,179	1,294	29,95	32,87	**885-5**	**R-23-5**	**886-5**	**R-23-A-5**	**M-882-5**	1/2	12,7		
1-1/2	38,1	17	0,058	1,47	1,384	35,15	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7	K60-900	TES3000 G1000 or TESMini2 ES2
		18	0,049	1,24	1,402	35,61	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7		
		19	0,042	1,07	1,416	35,97	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7		
		20	0,035	0,89	1,430	36,32	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7		
		21	0,032	0,81	1,436	36,47	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7		
		22	0,028	0,71	1,444	36,68	1,331	1,472	33,81	37,39	**899-5**	**R-29-5**	**900-5**	**R-29-A-5**	**M-900-5**	1/2	12,7		

** Motor recommendation applies only to most popular cases with a standard percentage of the wall reduction. The recommendation can be different for thicker tube sheet, harder and exotic metal tube and a higher percentage of wall reduction.*

RECOMMENDATION

For the thin wall tube, it is recommended to use 5 roll expanders with bottle rolls (BL) type rolls and BL type thrust collar to prevent the tube to be retracted inside the thrust collar making the tube projection uneven or even effectively jammed the tube inside collar.