

1200 Series

Tools for expanding tubes in condensers, chillers, heat exchangers, fin fan coolers, feedwater heaters and surface condensers.

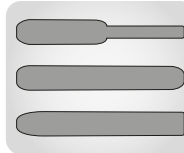
As a standard expanders are supplied with STC collar. Available in regular and long reaches (some diameters, up to 5m) and as the 5-rolls version for rolling thin walls. Many different shaped rolls are available.



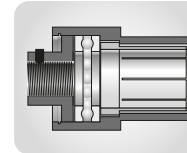
WORKING RANGE

TUBE ID	TUBE OD	TUBE SHEET
8,48 - 36,32 MM	12,7 - 38,1 MM	See table below
0,334 - 1,430"	1/2" to 1-1/2"	

OPTIONAL SPARES AND ACCESSORIES



ROLLS ON REQUEST
→ PAGE 11



THRUST COLLARS
→ PAGE 10



ROLLING MOTORS
→ CHAPTER PAGE 44

TUBE SHEET THICKNESS

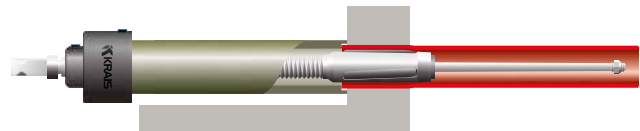
ROLLS	REACH	TUBE SHEET THICKNESS	
		[INCH]	[MM]
1 1/2" 38,1	STD	1 1/2 - 6"	38,1 - 152,4 mm
	A	1 1/2 - 8"	38,1 - 203,2 mm
	B	1 1/2 - 10"	38,1 - 254,0 mm
	C	1 1/2 - 12"	38,1 - 304,8 mm
2 1/4" 57,1	STD	2 1/4 - 6 3/4"	57,1 - 171,4 mm
	A	2 1/4 - 8 3/4"	57,1 - 222,2 mm
	B	2 1/4 - 10 3/4"	57,1 - 273,0 mm
	C	2 1/4 - 12 3/4"	57,1 - 323,8 mm

NOTE!

Please note that expanders are equipped with "UNIVERSAL NOSE PIECE" which shorten the expansion reach by 3/4". In order to receive full expansion reach, expander has to be equipped with "SHORT NOSE PIECE".

OPTIONAL

Special extended thrust collars to reach the face of the tube sheet



TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR*	ELECTRIC MOTOR*
											1/2" TO 6"		2-1/4" TO 6-3/4"						
[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	1195	795	-	-	M-1195	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	1197	797	-	-	1197	3/8	9,5	K20-500	TES300 S1500 or TESMini2
		15	0,072	1,83	0,356	9,04	0,348	0,398	8,84	10,11	1199	R-1	-	-	1199	3/8	9,5		
		16	0,065	1,65	0,370	9,40	0,36	0,41	9,14	10,41	1201	R-1	-	-	M-51	3/8	9,5		
		17	0,058	1,47	0,384	9,75	0,374	0,424	9,50	10,77	1203	R-2	-	-	M-51	3/8	9,5	K20-1800	TESMini2 HT0
		18	0,049	1,24	0,402	10,21	0,392	0,447	9,96	11,35	1205	R-3	-	-	M-52	3/8	9,5		
		20	0,035	0,89	0,430	10,92	0,406	0,461	10,31	11,71	1205[S]	R-3	-	-	M-53	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	1205	R-3	-	-	M-52	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	1207	R-4	-	-	M-53	3/8	9,5		
		14	0,083	2,11	0,459	11,66	0,449	0,509	11,40	12,93	1209	R-4	1210	R-4-A	M-54	3/8	9,5		
		15	0,072	1,83	0,481	12,22	0,471	0,536	11,96	13,61	1211	R-5	1212	R-5A	M-55	3/8	9,5		
		16	0,065	1,65	0,495	12,57	0,485	0,550	12,32	13,97	1213	R-6	1214	R-6A	M-55	3/8	9,5		
		17	0,058	1,47	0,509	12,93	0,499	0,564	12,67	14,33	1215	R-6	1216	R-6A	M-56	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	1217	R-7	1218	R-7-A	M-58 M-55	3/8	9,5		
		19	0,042	1,07	0,541	13,74	0,522	0,582	13,26	14,78	1219	R-7	1220	R-7-A	M-56	3/8	9,5		
		20	0,035	0,89	0,555	14,10	0,536	0,596	13,61	15,14	1219[S]	R-7	1220[S]	R-7-A	M-58	3/8	9,5		
		21	0,032	0,81	0,561	14,25	0,536	0,596	13,61	15,14	1219[S]	R-7	1220[S]	R-7-A	M-58	3/8	9,5		
22	0,028	0,71	0,569	14,45	0,536	0,596	13,61	15,14	1219[S]	R-7	1220[S]	R-7-A	M-58	3/8	9,5				

1200 Series

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *		
											1/2" TO 6"		2-1/4" TO 6-3/4"								
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.	[INCH]	[MM]					
3/4	19	10	0,134	3,40	0,482	12,24	0,471	0,536	11,96	13,61	1211	R-5	1212	R-5-A	M-55	3/8	9,5	K60-900	TES3000 + G1000 TESMini2 + ES2		
		11	0,120	3,05	0,510	12,95	0,499	0,564	12,67	14,33	1215	R-6	1216	R-6-A	M-56	3/8	9,5				
		12	0,109	2,77	0,532	13,51	0,522	0,582	13,26	14,78	1219	R-7	1220	R-7-A	M-56	3/8	9,5				
				13	0,095	2,41	0,560	14,22	0,55	0,615	13,97	15,62	1221	R-8	1222	R-8-A	M-58	3/8	9,5	K50-400	TES3000 G1450 or TESMini2
				14	0,083	2,11	0,584	14,83	0,574	0,639	14,58	16,23	1223	R-9	1224	R-9-A	M-58	3/8	9,5		
				15	0,072	1,83	0,606	15,39	0,596	0,661	15,14	16,79	1225	R-10	1226	R-10-A	M-58	3/8	9,5	K50-600	TES3000 G1000 or TESMini2 DUO
				16	0,065	1,65	0,620	15,75	0,605	0,685	15,37	17,40	1227	R-10	1228	R-10-A	M-59	3/8	9,5		
				17	0,058	1,47	0,634	16,10	0,619	0,699	15,72	17,75	1229	R-11	1230	R-11-A	M-59	3/8	9,5	K60-900	TES3000 G1000 or TESMini2
				18	0,049	1,24	0,652	16,56	0,619	0,699	15,72	17,75	1229	R-11	1230	R-11-A	M-59	3/8	9,5		
				19	0,042	1,07	0,666	16,92	0,642	0,722	16,31	18,34	1231	R-12	1232	R-12-A	M-59	3/8	9,5		
				20	0,035	0,89	0,680	17,27	0,642	0,722	16,31	18,34	1231	R-12	1232	R-12-A	M-59	3/8	9,5	K50-400	TES3000 G1000 or TESMini2 ES2
				21	0,032	0,81	0,686	17,42	0,642	0,722	16,31	18,34	1231	R-12	1232	R-12-A	M-59	3/8	9,5		
		22	0,028	0,71	0,694	17,63	0,642	0,722	16,31	18,34	1231	R-12	1232	R-12-A	M-59	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	1225	R-10	1226	R-10-A	M-58	3/8	9,5	K50-400	TES3000 G1000 or TESMini2 ES2		
		11	0,120	3,05	0,635	16,13	0,619	0,699	15,72	17,75	1229	R-11	1230	R-11-A	M-59	3/8	9,5				
		12	0,109	2,77	0,657	16,69	0,642	0,722	16,31	18,34	1231	R-12	1232	R-12-A	M-59	3/8	9,5				
				13	0,095	2,41	0,685	17,40	0,67	0,750	17,02	19,05	1233	R-13	1234	R-13-A	M-60	3/8	9,5	K50-600	TES3000 G1000 or TESMini2 ES2
				14	0,083	2,11	0,709	18,01	0,685	0,774	17,40	19,66	1235	R-14	1236	R-14-A	M-61	3/8	9,5		
				15	0,072	1,83	0,731	18,57	0,712	0,801	18,08	20,35	1237	R-15	1238	R-15-A	M-61	3/8	9,5	K50-1250	TES3000 + G1450 TESMini2 ES2
				16	0,065	1,65	0,745	18,92	0,726	0,815	18,44	20,70	1239	R-15	1240	R-15-A	M-62	3/8	9,5		
				17	0,058	1,47	0,759	19,28	0,740	0,829	18,80	21,06	1243	R-16	1244	R-16-A	M-62	3/8	9,5		
		18	0,049	1,24	0,777	19,74	0,740	0,829	18,80	21,06	1243	R-16	1244	R-16-A	M-62	3/8	9,5				
1	25,4	8	0,165	4,19	0,670	17,02	0,655	0,735	16,64	18,67	1241	R-13	1242	R-13-A	M-59	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	1235	R-14	1236	R-14-A	M-61	3/8	9,5				
		10	0,134	3,40	0,732	18,59	0,712	0,801	18,08	20,35	1237	R-15	1238	R-15-A	M-61	3/8	9,5				
				11	0,120	3,05	0,760	19,30	0,740	0,829	18,80	21,06	1243	R-16	1244	R-16-A	M-62	3/8	9,5	K50-400	TES3000 G1000 or TESMini2 ES2
				12	0,109	2,77	0,782	19,86	0,763	0,852	19,38	21,64	1245	R-17	1246	R-17-A	M-62	3/8	9,5		
				13	0,095	2,41	0,810	20,57	0,791	0,880	20,09	22,35	1247	R-18	1248	R-18-A	M-62	3/8	9,5	K50-600	TES3000 G1000 or TESMini2 ES2
				14	0,083	2,11	0,834	21,18	0,810	0,909	20,57	23,09	1249	R-18	1250	R-18-A	M-63	3/8	9,5		
				15	0,072	1,83	0,856	21,74	0,837	0,936	21,26	23,77	1251	R-19	1252	R-19-A	M-63	3/8	9,5		
				16	0,065	1,65	0,870	22,10	0,837	0,936	21,26	23,77	1251	R-19	1252	R-19-A	M-63	3/8	9,5	K50-600	TES3000 G1000 or TESMini2 ES2
				17	0,058	1,47	0,884	22,45	0,865	0,964	21,97	24,49	1255	R-21	1256	R-21-A	M-63	3/8	9,5		
				18	0,049	1,24	0,902	22,91	0,865	0,964	21,97	24,49	1255	R-21	1256	R-21-A	M-63	3/8	9,5	K60-400	TES3000 G1000 or TESMini2 DU1
				19	0,042	1,07	0,916	23,27	0,865	0,964	21,97	24,49	1255	R-21	1256	R-21-A	M-63	3/8	9,5		
		20	0,035	0,89	0,930	23,62	0,865	0,964	21,97	24,49	1255	R-21	1256	R-21-A	M-63	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	1253	R-20	1254	R-20-A	M-63	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	1249	R-18	1250	R-18-A	M-63	3/8	9,5				
		10	0,134	3,40	0,857	21,77	0,837	0,936	21,26	23,77	1251	R-19	1252	R-19-A	M-63	3/8	9,5				
				11	0,120	3,05	0,885	22,48	0,865	0,964	21,97	24,49	1255	R-21	1256	R-21-A	M-63	3/8	9,5	K60-400	TES3000 G1000 or TESMini2 DU1
				12	0,109	2,77	0,907	23,04	0,883	0,982	22,43	24,94	1257	R-21	1258	R-21-A	M-64	1/2	12,7		
				13	0,095	2,41	0,935	23,75	0,916	1,015	23,27	25,78	1259	R-22	1260	R-22-A	M-64	1/2	12,7	K60-400	TES3000 G1000 or TESMini2 DU1
				14	0,083	2,11	0,959	24,36	0,935	1,044	23,75	26,52	1261	R-23	1262	R-23-A	M-65	1/2	12,7		
				15	0,072	1,83	0,981	24,92	0,962	1,071	24,43	27,20	1263	R-24	1264	R-24-A	M-65	1/2	12,7		
				16	0,065	1,65	0,995	25,27	0,962	1,071	24,43	27,20	1263	R-24	1264	R-24-A	M-65	1/2	12,7	K60-400	TES3000 G1000 or TESMini2 DU1
		17	0,058	1,47	1,009	25,63	0,990	1,099	25,15	27,91	1267	R-26	1268	R-26-A	M-66	1/2	12,7				
		18	0,049	1,24	1,027	26,09	0,990	1,099	25,15	27,91	1267	R-26	1268	R-26-A	M-66	1/2	12,7				

1200 Series

TUBE OD		TUBE GAUGE			TUBE ID		EXPANSION RANGE				TUBE SHEET THICKNESS				MANDREL	MANDREL SQUARE		PNEUMATIC MOTOR *	ELECTRIC MOTOR *
											1/2" TO 6"		2-1/4" TO 6-3/4"						
[INCH]	[MM]	[BWG]	[INCH]	[MM]	[INCH]	[MM]	MIN	MAX	MIN	MAX	TOOL NO.	ROLL NO.	TOOL NO.	ROLL NO.	[INCH]	[MM]			
1-1/4	31,7	8	0,165	4,19	0,92	23,37	0,901	1,010	22,89	25,65	1265	R-25	1266	R-25-A	M-65	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	1261	R-23	1262	R-23-A	M-65	1/2	12,7		
		10	0,134	3,40	0,982	24,94	0,962	1,071	24,43	27,20	1263	R-24	1264	R-24-A	M-65	1/2	12,7		
		11	0,120	3,05	1,010	25,65	0,990	1,099	25,15	27,91	1267	R-26	1268	R-26-A	M-66	1/2	12,7		
		12	0,109	2,77	1,032	26,21	1,013	1,122	25,73	28,50	1269	R-27	1270	R-27-A	M-66	1/2	12,7		
		13	0,095	2,41	1,060	26,92	1,041	1,150	26,44	29,21	1271	R-28	1272	R-28-A	M-67	1/2	12,7		
		14	0,083	2,11	1,084	27,53	1,060	1,169	26,92	29,69	1273	R-29	1274	R-29-A	M-67	1/2	12,7		
		15	0,072	1,83	1,106	28,09	1,087	1,196	27,61	30,38	1275	R-30	1276	R-30-A	M-67	1/2	12,7		
		16	0,065	1,65	1,12	28,45	1,087	1,196	27,61	30,38	1275	R-30	1276	R-30-A	M-67	1/2	12,7		
		17	0,058	1,47	1,134	28,80	1,115	1,224	28,32	31,09	1279	R-30	1280	R-30-A	M-68	1/2	12,7		
18	0,049	1,24	1,152	29,26	1,115	1,224	28,32	31,09	1279	R-30	1280	R-30-A	M-68	1/2	12,7				
1-3/8	34,9	8	0,165	4,19	1,045	26,54	1,026	1,135	26,06	28,83	1277	R-31	1278	R-31-A	M-67	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	1273	R-29	1274	R-29-A	M-67	1/2	12,7		
		10	0,134	3,40	1,107	28,12	1,087	1,196	27,61	30,38	1275	R-30	1276	R-30-A	M-67	1/2	12,7		
		11	0,120	3,05	1,135	28,83	1,115	1,224	28,32	31,09	1279	R-30	1280	R-30-A	M-68	1/2	12,7		
		12	0,109	2,77	1,157	29,39	1,133	1,242	28,78	31,55	1281	R-32	1282	R-32-A	M-68	1/2	12,7		
		13	0,095	2,41	1,185	30,10	1,160	1,275	29,46	32,39	1283	R-33	1284	R-33-A	M-69	1/2	12,7		
		14	0,083	2,11	1,209	30,71	1,179	1,294	29,95	32,87	1285	R-34	1286	R-34-A	M-70	1/2	12,7		
		15	0,072	1,83	1,231	31,27	1,206	1,321	30,63	33,55	1287	R-35	1288	R-35-A	M-70	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	1289	R-34	1290	R-34-A	M-69	1/2	12,7	K60-250	TES3000 G400 or TESMini2 DU1
		9	0,148	3,76	1,204	30,58	1,145	1,294	29,08	32,87	1285	R-34	1286	R-34-A	M-70	1/2	12,7		
		10	0,134	3,40	1,232	31,29	1,206	1,321	30,63	33,55	1287	R-35	1288	R-35-A	M-70	1/2	12,7		
		11	0,120	3,05	1,260	32,00	1,235	1,350	31,37	34,29	1291	R-36	1292	R-36-A	M-70	1/2	12,7		
		12	0,109	2,77	1,282	32,56	1,257	1,372	31,93	34,85	1293	R-37	1294	R-37-A	M-70	1/2	12,7		
		13	0,095	2,41	1,310	33,27	1,285	1,400	32,64	35,56	1295	R-37	1296	R-37-A	M-71	1/2	12,7		
		14	0,083	2,11	1,334	33,88	1,285	1,400	32,64	35,56	1295	R-37	1296	R-37-A	M-71	1/2	12,7		
		15	0,072	1,83	1,356	34,44	1,331	1,446	33,81	36,73	1297	R-38	1298	R-38-A	M-71	1/2	12,7		
		16	0,065	1,65	1,370	34,80	1,331	1,446	33,81	36,73	1297	R-38	1298	R-38-A	M-71	1/2	12,7		
		17	0,058	1,47	1,384	35,15	1,331	1,472	33,81	37,39	1299	R-38	1300	R-38-A	M-72	1/2	12,7		
18	0,049	1,24	1,402	35,61	1,331	1,472	33,81	37,39	1299	R-38	1300	R-38-A	M-72	1/2	12,7				
19	0,042	1,07	1,416	35,97	1,331	1,472	33,81	37,39	1299	R-38	1300	R-38-A	M-72	1/2	12,7				
20	0,035	0,89	1,430	36,32	1,331	1,472	33,81	37,39	1299	R-38	1300	R-38-A	M-72	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 order of step by step expanding in a thick tube sheets in order to avoid tension between both tube sheets after rolling.

