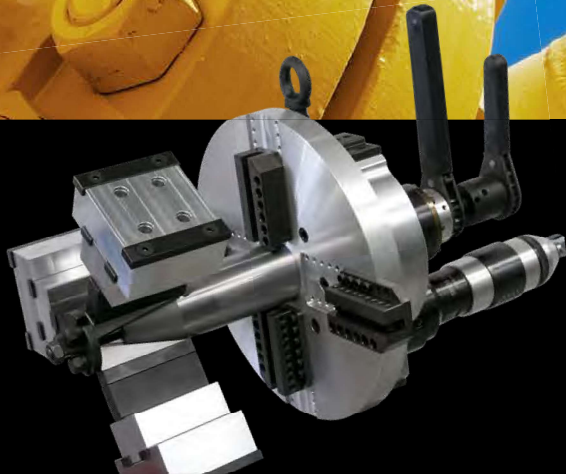
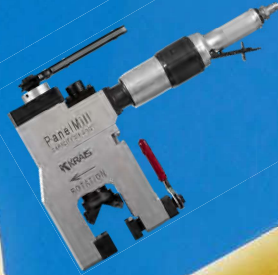
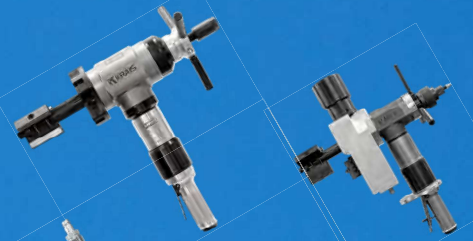




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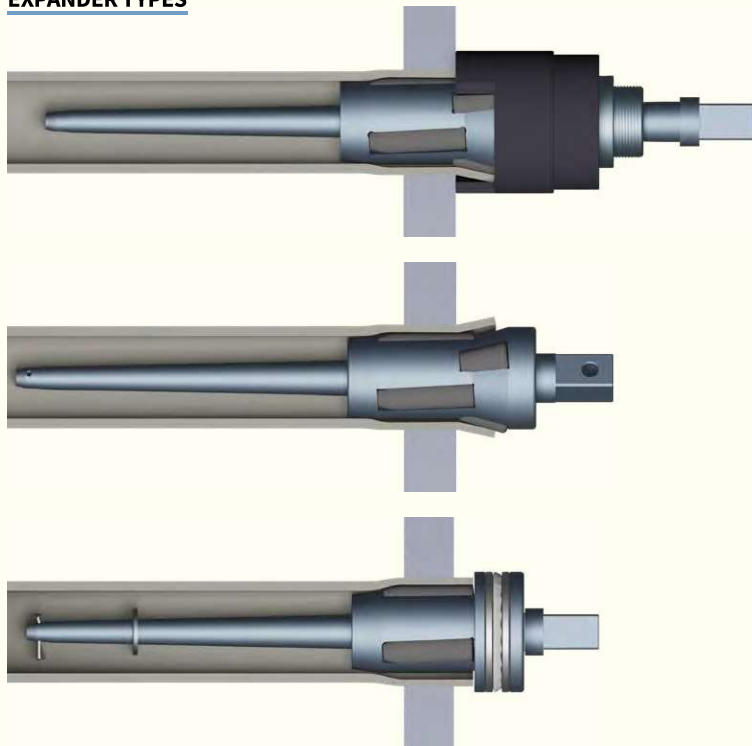


Tube & Pipe Professional Tools



Correct tool selection

EXPANDER TYPES



FTKS SERIES

】 This expander will simultaneously expand and flare the tubes in 1 single operation. An adjustable collar with a ball bearing prevents the cage and flare rolls to penetrate too much inside the tube. Allows consistent expansion and flare even for non-experienced operators. This tool is an excellent expander for re-rolling leaky tubes.

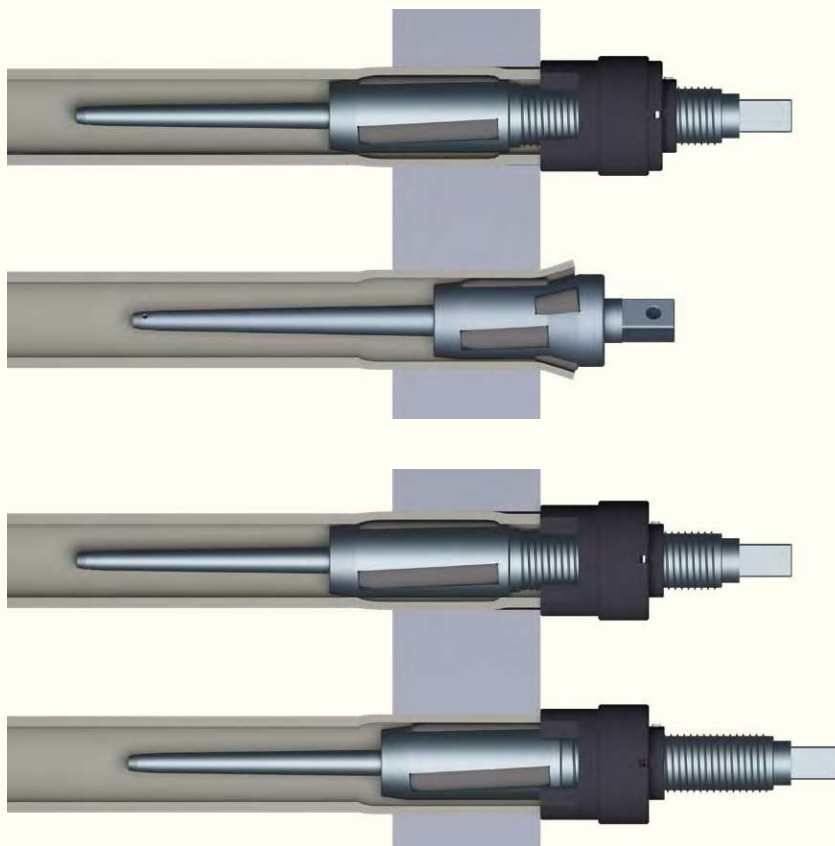
KS SERIES

】 Self-feeding boiler tube expander, simultaneously expands and flare the tube. An excellent expander for re-rolling leaky tubes and new constructions.

PZ SERIES

】 Self-feeding, fixed depth, three roll boiler tube expander with plane collar and ball bearing. An excellent expander for re-rolling leaky tubes and new boilers.

PROPER EXPANDING PROCESS FOR HEAVY TUBE SHEETS AND BOILER DRUMS



EXPANSION WITH FLARE

1. Insert the tube expander inside the tube; rolls should stick out 8-12 mm behind the drum. Expand the tube until the set torque on the expanding machine is reached (according to the tube's calculated expanded inside diameter).
2. If the expansion with flare is desired, use the KS flare tube expander in the next step. Insert expander into the tube for the depth that will overlap with the first expansion, start next step expanding and flaring. Please note that operation with KS expander may need more than one pass. It depends on the required wall reduction and gap size between the tube and the hole in the drum. The more significant gap requires more passes - it is needed to avoid the cage penetration too much into the tube, which may cause damage to the tube or tool.

EXPANSION WITHOUT FLARE

1. Insert the tube expander inside the tube; rolls should stick out 8-12 mm behind the drum. Expand the tube until the set torque on the expanding machine is reached (according to the tube's calculated expanded inside diameter).
2. If the flare is not desired, then readjust the P2 expander to the required expanding length and finish the expansion as shown in the picture.

Recommended Motors for Boiler Tube Expanders

Varies depending upon tube material, gauge, and tube sheet thickness.
For tubes above 4" (101,6 mm) we recommend model K77-RT-25

TOOL NO	K73-RT-375	K73-RT-280	K73-RT-190	TESMINI K90-E-190	K72-RT-90	K90-E-90
KS Series						
KS-19	OK					
KS-20	OK					
KS-22	OK					
KS-23	OK					
KS-24	OK					
KS-25	OK					
KS-27	OK					
KS-28	OK	OK		OK		
KS-29	OK	OK		OK		
KS-30	OK	OK		OK		
KS-32	OK	OK	OK	OK		
KS-35	OK	OK	OK	OK		OK
KS-37	OK	OK	OK	OK		OK
KS-40	OK	OK	OK	OK	OK	OK
KS-42	OK	OK	OK	OK	OK	OK
KS-44		OK	OK	OK	OK	OK
KS-47		OK	OK	OK	OK	OK
KS-49		OK	OK	OK	OK	OK
KS-52		OK	OK	OK	OK	OK
KS-54			OK	OK	OK	OK
KS-57			OK	OK	OK	OK
KS-60					OK	OK
KS-65					OK	OK
KS-68					OK	OK
KS-72					OK	OK
KS-77					OK	OK
KS-82					OK	OK
KS-86					OK	OK
KS-90					OK	OK
KS-96					OK	OK
PZ Series						
PZ-19	OK					
PZ-20	OK					
PZ-22	OK					
PZ-25	OK					
PZ-28	OK	OK		OK		
PZ-29	OK	OK		OK		

TOOL NO	K73-RT-375	K73-RT-280	K73-RT-190	TESMINI K90-E-190	K72-RT-90	K90-E-90
PZ-30	OK	OK		OK		
PZ-32	OK	OK	OK	OK		
PZ-35	OK	OK	OK	OK		
PZ-37	OK	OK	OK	OK		
PZ-40	OK	OK	OK	OK	OK	OK
PZ-42	OK	OK	OK	OK	OK	OK
PZ-44		OK	OK	OK	OK	OK
PZ-47		OK	OK	OK	OK	OK
PZ-49		OK	OK	OK	OK	OK
PZ-52		OK	OK	OK	OK	OK
PZ-54			OK	OK	OK	OK
PZ-57			OK	OK	OK	OK
PZ-60					OK	OK
PZ-65					OK	OK
PZ-68					OK	OK
PZ-72					OK	OK
PZ-77					OK	OK
PZ-82					OK	OK
PZ-86					OK	OK
PZ-90					OK	OK
PZ-96					OK	OK
P2 Series						
P2-280		OK		OK		
P2-290		OK		OK		
P2-300		OK		OK		
P2-320		OK	OK	OK		
P2-350		OK	OK	OK		OK
P2-370		OK	OK	OK		OK
P2-400		OK	OK	OK	OK	OK
P2-420		OK	OK	OK	OK	OK
P2-440		OK	OK	OK	OK	OK
P2-470		OK	OK	OK	OK	OK
P2-490		OK	OK	OK	OK	OK
P2-520			OK	OK	OK	OK
P2-540			OK	OK	OK	OK
P2-570					OK	OK
P2-600					OK	OK
P2-650					OK	OK

TOOL NO	K73-RT-375	K73-RT-280	K73-RT-190	TESMINI K90-E-190	K72-RT-90	K90-E-90
P2-680					OK	OK
FTKS Series						
FTKS-508			OK			OK
FTKS-635			OK		OK	OK
FTKS-762					OK	OK
FTPZ Series						
FTPZ-508			OK			OK
FTPZ-635			OK		OK	OK
FTPZ-762					OK	OK
UCRBT Series						
K-41633-00					OK	OK
K-42158-00					OK	OK
K-41359-00					OK	OK

Short Mandrel's Expansion Range

MANDREL SET	EXPANSION RANGE ON THE EACH MANDREL												PROTRUDING FROM THE FRONT OF CAGE		SQUARE
	A				B				C						
	[MM]		[INCH]		[MM]		[INCH]		[MM]		[INCH]				
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MM	INCH	
TKK-19	19,00	20,00	0,748	0,787	20,00	21,00	0,787	0,827	21,00	22,00	0,827	0,866	40,00	1,575	1/2"
TKK-20	20,00	21,00	0,787	0,826	21,00	22,00	0,827	0,866	22,00	23,00	0,866	0,906	40,00	1,575	1/2"
TKK-22	22,00	23,00	0,866	0,905	23,00	24,00	0,906	0,945	24,00	25,00	0,945	0,984	40,00	1,575	1/2"
TKK-23	23,00	24,00	0,906	0,944	24,00	25,00	0,945	0,984	25,00	26,00	0,984	1,024	40,00	1,575	1/2"
TKK-24	24,00	25,00	0,945	0,984	25,00	26,00	0,984	1,024	26,00	27,00	1,024	1,063	40,00	1,575	1/2"
TKK-25	25,00	26,00	0,984	1,023	26,00	27,00	1,024	1,063	27,00	28,00	1,063	1,102	40,00	1,575	1/2"
TKK-27	27,00	28,00	1,063	1,102	28,00	29,00	1,102	1,142	29,00	30,00	1,142	1,181	40,00	1,575	1/2"
TKK-28	28,00	29,30	1,102	1,153	29,30	30,60	1,154	1,205	30,60	32,00	1,205	1,260	50,00	1,969	1/2"
TKK-29	29,00	30,30	1,142	1,192	30,30	31,60	1,193	1,244	31,60	33,00	1,244	1,299	50,00	1,969	1/2"
TKK-30	30,00	31,30	1,181	1,232	31,30	32,60	1,232	1,283	32,60	34,00	1,283	1,339	50,00	1,969	1/2"
TKK-32	32,00	33,30	1,260	1,311	33,30	34,60	1,311	1,362	34,60	36,00	1,362	1,417	50,00	1,969	1/2"
TKK-37* ¹	35,00	37,00	1,378	1,456	37,00	39,00	1,457	1,535	39,00	41,00	1,535	1,614	65,00	2,559	3/4"
TKK-37	37,00	39,00	1,457	1,535	39,00	41,00	1,535	1,614	41,00	43,00	1,614	1,693	65,00	2,559	3/4"
TKK-42* ²	40,00	42,00	1,575	1,653	42,00	44,00	1,654	1,732	44,00	46,00	1,732	1,811	65,00	2,559	3/4"
TKK-42	42,00	44,00	1,654	1,732	44,00	46,00	1,732	1,811	46,00	48,00	1,811	1,890	65,00	2,559	3/4"
TKK-44	44,00	46,00	1,732	1,811	46,00	48,00	1,811	1,890	48,00	50,00	1,890	1,969	65,00	2,559	3/4"
TKK-47	47,00	49,40	1,850	1,944	49,40	51,70	1,945	2,035	51,70	54,00	2,035	2,126	75,00	2,953	3/4"
TKK-49	49,00	51,40	1,929	2,023	51,40	53,70	2,024	2,114	53,70	56,00	2,114	2,205	75,00	2,953	3/4"
TKK-49* ³	52,00	54,60	2,047	2,149	54,40	56,90	2,142	2,240	57,70	59,20	2,272	2,331	75,00	2,953	3/4"
TKK-54	54,00	56,60	2,126	2,228	56,60	59,30	2,228	2,335	59,30	62,00	2,335	2,441	82,00	3,228	3/4"
TKK-57	57,00	60,00	2,244	2,362	60,00	63,00	2,362	2,480	63,00	66,00	2,480	2,598	90,00	3,543	3/4"
TKK-65* ⁴	60,00	63,00	2,362	2,480	63,00	66,00	2,480	2,598	66,00	69,00	2,598	2,717	90,00	3,543	3/4"
TKK-65	65,00	68,00	2,559	2,677	68,00	71,00	2,677	2,795	71,00	74,00	2,795	2,913	90,00	3,543	3/4"
TKK-72* ⁵	68,00	71,40	2,677	2,811	71,40	74,70	2,811	2,941	74,70	78,00	2,941	3,071	100,00	3,937	1"
TKK-72	72,00	75,30	2,835	2,964	75,40	78,60	2,969	3,094	78,70	82,00	3,098	3,228	100,00	3,937	1"
TKK-77	77,00	80,40	3,031	3,165	80,40	83,70	3,165	3,295	83,70	87,00	3,295	3,425	100,00	3,937	1"
TKK-82	82,00	85,40	3,228	3,362	85,40	88,70	3,362	3,492	88,70	92,00	3,492	3,622	100,00	3,937	1"
TKK-86	86,00	89,40	3,386	3,519	89,40	92,70	3,520	3,650	92,70	96,00	3,650	3,780	100,00	3,937	1"
TKK-90	90,00	94,00	3,543	3,700	94,00	98,00	3,701	3,858	98,00	102,00	3,858	4,016	115,00	4,528	1"
TKK-96	96,00	100,00	3,780	3,937	100,00	104,00	3,937	4,094	104,00	108,00	4,094	4,252	115,00	4,528	1"

*1 re. expander KS-35

*2 re. expander KS-40

*3 re. expander KS-52

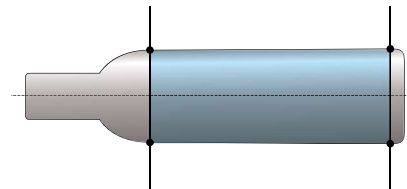
*4 re. expander KS-60

*5 re. expander KS-68

ROLLS RANGE (SHEET THICKNESS) FOR KS, PZ & FTKS

ROLL LENGTH		TUBE SHEET THICKNESS		AVAILABILITY
[MM]	[INCH]	[INCH]	[MM]	
40	1,574	1/2" - 3/4"	12 - 19	On request
42	1,653	1/2" - 3/4"	12 - 19	Standard
50	1,968	5/8" - 7/8"	16 - 22	Standard
60	2,362	7/8" - 1 1/4"	22 - 32	On request
80	3,149	1 3/8" - 1 3/4"	35 - 45	On request
100	3,937	1 7/8" - 2 1/4"	48 - 58	On special request

BOTTLE ROLLS FOR KS, PZ



For KS and PZ expanders there are available special bottle type rolls which reduce the effective roll length. Max. for 10 mm from the front of the roll.

KS Series

Three expansion rolls with three flare rolls, self feeding boiler expanders. This expanders simultaneously expand and flare the tube. An excellent expander for re-rolling leaky tubes and for new constructions of water tube boilers, fire tube boilers, economizers, air heaters. Expanders with 6 expansion rolls and 3 flare rolls are available on request. K70's right-angle rolling motors are recommended to be used with this expanders.



Tube OD		Tube Gauge	Tool No.	Expansion Range				Rolls			Mandrel			Short Mandrell Set (3 pcs.)			Square
[inch]	[mm]	[BWG]		[mm]		[inch]		No.	Lenght		No.	Length		No.	Length		
				min	max	min	max		[mm]	[inch]		[mm]	[inch]		[mm]	[inch]	[inch]
1"	25,40	9-11	KS-1942	19,0	22,0	0,75	0,87	RR12RK5/42	42	1,654	TK19	195	7,677	-	-	-	1/2
1"	25,40	13-14	KS-2042	20,0	23,0	0,79	0,91	RR12RK5/42	42	1,654	TK20	195	7,677	-	-	-	1/2
1-1/4"	31,75	7	KS-2242	22,0	25,0	0,87	0,98	RR12RK5/42	42	1,654	TK22	195	7,677	-	-	-	1/2
1-1/4"	31,75	9	KS-2342	23,0	26,0	0,91	1,02	RR13RK6/42	42	1,654	TK23	195	7,677	-	-	-	1/2
1-1/4"	31,75	10	KS-2442	24,0	27,0	0,94	1,06	RR13RK6/42	42	1,654	TK24	195	7,677	-	-	-	1/2
1-1/4"	31,75	11-13	KS-2542	25,0	28,0	0,98	1,10	RR13RK6/42	42	1,654	TK25	195	7,677	-	-	-	1/2
1-1/4"	31,75	12-14	KS-2642	26,0	29,0	1,02	1,14	RR13RK6/42	42	1,654	TK26	195	7,677	-	-	-	1/2
1-1/4"	31,75	14-15	KS-2742	27,0	30,0	1,06	1,18	RR15RK7/42	42	1,654	TK27	200	7,874	-	-	-	1/2
1-1/4"	31,75	16	KS-2842	28,0	32,0	1,10	1,26	RR16RK8/42	42	1,654	TK28	260	10,236	TKK28	175	6,890	3/4
			KS-2850	28,0	32,0	1,10	1,26	RR16RK8/50	50	1,969	TK28	260	10,236	TKK28	175	6,890	3/4
			KS-2860	28,0	32,0	1,10	1,26	RR16RK8/60	60	2,362	TK28	260	10,236	TKK28	175	6,890	3/4
			KS-2880	28,0	32,0	1,10	1,26	RR16RK8/80	80	3,150	TK28	260	10,236	TKK28	175	6,890	3/4
1-1/2"	38,10	7-10	KS-2942	29,0	33,0	1,14	1,30	RR16RK8/42	42	1,654	TK29	260	10,236	TKK29	175	6,890	3/4
			KS-2950	29,0	33,0	1,14	1,30	RR16RK8/50	50	1,969	TK29	260	10,236	TKK29	175	6,890	3/4
			KS-2960	29,0	33,0	1,14	1,30	RR16RK8/60	60	2,362	TK29	260	10,236	TKK29	175	6,890	3/4
			KS-2980	29,0	33,0	1,14	1,30	RR16RK8/80	80	3,150	TK29	260	10,236	TKK29	175	6,890	3/4
1-1/2"	38,10	10-12	KS-3042	30,0	34,0	1,18	1,34	RR16RK8/42	42	1,654	TK30	260	10,236	TKK30	175	6,890	3/4
			KS-3050	30,0	34,0	1,18	1,34	RR16RK8/50	50	1,969	TK30	260	10,236	TKK30	175	6,890	3/4
			KS-3060	30,0	34,0	1,18	1,34	RR16RK8/60	60	2,362	TK30	260	10,236	TKK30	175	6,890	3/4
			KS-3080	30,0	34,0	1,18	1,34	RR16RK8/80	80	3,150	TK30	260	10,236	TKK30	175	6,890	3/4
1-1/2"	38,10	12-14	KS-3242	32,0	36,0	1,26	1,42	RR17RK9/42	42	1,654	TK32	260	10,236	TKK32	175	6,890	3/4
			KS-3250	32,0	36,0	1,26	1,42	RR17RK9/50	50	1,969	TK32	260	10,236	TKK32	175	6,890	3/4
			KS-3260	32,0	36,0	1,26	1,42	RR17RK9/60	60	2,362	TK32	260	10,236	TKK32	175	6,890	3/4
			KS-3280	32,0	36,0	1,26	1,42	RR17RK9/80	80	3,150	TK32	260	10,236	TKK32	175	6,890	3/4
1-1/2"	38,10	13-20	KS-3342	33,0	38,0	1,30	1,50	RP33RR33/42	42	1,654	TK33	290	11,417	TKK33	181	7,126	3/4
			KS-3350	33,0	38,0	1,30	1,50	RP33RR33/50	50	1,969	TK33	290	11,417	TKK33	181	7,126	3/4
			KS-3360	33,0	38,0	1,30	1,50	RP33RR33/60	60	2,362	TK33	290	11,417	TKK33	181	7,126	3/4
			KS-3380	33,0	38,0	1,30	1,50	RP33RR33/80	80	3,150	TK33	290	11,417	TKK33	181	7,126	3/4
1-3/4"	44,45	8-9	KS-3542	35,0	41,0	1,38	1,61	RR21RK35 /42	42	1,654	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3550	35,0	41,0	1,38	1,61	RR21RK35 /50	50	1,969	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3560	35,0	41,0	1,38	1,61	RR21RK35 /60	60	2,362	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3580	35,0	41,0	1,38	1,61	RR21RK35 /80	80	3,150	TK37	310	12,205	TKK37	188	7,402	3/4
1-3/4"	44,45	10-12	KS-3742	37,0	43,0	1,46	1,69	RR22RK10/42	42	1,654	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3750	37,0	43,0	1,46	1,69	RR22RK10/50	50	1,969	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3760	37,0	43,0	1,46	1,69	RR22RK10/60	60	2,362	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3780	37,0	43,0	1,46	1,69	RR22RK10/80	80	3,150	TK37	310	12,205	TKK37	188	7,402	3/4
1-3/4"	44,45	12-18	KS-3942	39,0	45,0	1,54	1,77	RR40RK40/42	42	1,654	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3950	39,0	45,0	1,54	1,77	RR40RK40/50	50	1,969	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3960	39,0	45,0	1,54	1,77	RR40RK40/60	60	2,362	TK37	310	12,205	TKK37	188	7,402	3/4
			KS-3980	39,0	45,0	1,54	1,77	RR40RK40/80	80	3,150	TK37	310	12,205	TKK37	188	7,402	3/4
2"	50,80	7-9	KS-4040	40,0	46,0	1,57	1,81	RR40RK40/40	40	1,575	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4050	40,0	46,0	1,57	1,81	RR40RK40/50	50	1,969	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4060	40,0	46,0	1,57	1,81	RR40RK40/60	60	2,362	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4080	40,0	46,0	1,57	1,81	RR40RK40/80	80	3,150	TK42	310	12,205	TKK42	205	8,071	3/4
2"	50,80	10-13	KS-4240	42,0	48,0	1,65	1,89	RR23RK11/40	40	1,575	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4250	42,0	48,0	1,65	1,89	RR23RK11/50	50	1,969	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4260	42,0	48,0	1,65	1,89	RR23RK11/60	60	2,362	TK42	310	12,205	TKK42	205	8,071	3/4
			KS-4280	42,0	48,0	1,65	1,89	RR23RK11/80	80	3,150	TK42	310	12,205	TKK42	205	8,071	3/4
2"	50,80	12-14	KS-4440	44,0	50,0	1,73	1,97	RR23RK11/40	40	1,575	TK44	310	12,205	TKK44	205	8,071	3/4
			KS-4450	44,0	50,0	1,73	1,97	RR23RK11/50	50	1,969	TK44	310	12,205	TKK44	205	8,071	3/4
			KS-4460	44,0	50,0	1,73	1,97	RR23RK11/60	60	2,362	TK44	310	12,205	TKK44	205	8,071	3/4
			KS-4480	44,0	50,0	1,73	1,97	RR23RK11/80	80	3,150	TK44	310	12,205	TKK44	205	8,071	3/4

Tube OD		Tube Gauge	Tool No.	Expansion Range				Rolls				Mandrel				Short Mandrell Set (3 pcs.)			Square	
[inch]	[mm]			[mm]	max	[inch]	max	No.	Lenght		No.	Length		No.	Length		[inch]			
		[BWG]						[mm]	[inch]		[mm]	[inch]		[mm]	[inch]		[mm]	[inch]	[inch]	
2"	50,80	15-16	KS-4740	47,0	54,0	1,85	2,13	RR24RK12/40	40	1,575	TK47	338	13,307	TKK47	218	8,583	3/4			
			KS-4750	47,0	54,0	1,85	2,13	RR24RK12/50	50	1,969	TK47	338	13,307	TKK47	218	8,583	3/4			
			KS-4760	47,0	54,0	1,85	2,13	RR24RK12/60	60	2,362	TK47	338	13,307	TKK47	218	8,583	3/4			
			KS-4780	47,0	54,0	1,85	2,13	RR24RK12/80	80	3,150	TK47	338	13,307	TKK47	218	8,583	3/4			
2-1/4"	57,15	10-13	KS-4940	49,0	56,0	1,93	2,20	RR24RK12/40	40	1,575	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-4950	49,0	56,0	1,93	2,20	RR24RK12/50	50	1,969	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-4960	49,0	56,0	1,93	2,20	RR24RK12/60	60	2,362	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-4980	49,0	56,0	1,93	2,20	RR24RK12/80	80	3,150	TK49	338	13,307	TKK49	218	8,583	3/4			
2-1/4"	57,15	14-16	KS-5240	52,0	59,0	2,05	2,32	RR25RK13/40	40	1,575	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-5250	52,0	59,0	2,05	2,32	RR25RK13/50	50	1,969	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-5260	52,0	59,0	2,05	2,32	RR25RK13/60	60	2,362	TK49	338	13,307	TKK49	218	8,583	3/4			
			KS-5280	52,0	59,0	2,05	2,32	RR25RK13/80	80	3,150	TK49	338	13,307	TKK49	218	8,583	3/4			
2-1/2"	63,50	8-13	KS-5440	54,0	62,0	2,13	2,44	RR26RK14/40	40	1,575	TK54	375	14,764	TKK54	230	9,055	3/4			
			KS-5450	54,0	62,0	2,13	2,44	RR26RK14/50	50	1,969	TK54	375	14,764	TKK54	230	9,055	3/4			
			KS-5460	54,0	62,0	2,13	2,44	RR26RK14/60	60	2,362	TK54	375	14,764	TKK54	230	9,055	3/4			
			KS-5480	54,0	62,0	2,13	2,44	RR26RK14/80	80	3,150	TK54	375	14,764	TKK54	230	9,055	3/4			
2-1/2"	63,50	12-16	KS-5740	57,0	66,0	2,24	2,60	RR27RK15/40	40	1,575	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-5750	57,0	66,0	2,24	2,60	RR27RK15/50	50	1,969	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-5760	57,0	66,0	2,24	2,60	RR27RK15/60	60	2,362	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-5780	57,0	66,0	2,24	2,60	RR27RK15/80	80	3,150	TK57	395	15,551	TKK57	235	9,252	3/4			
2-3/4"	69,85	7-11	KS-6040	60,0	69,0	2,36	2,72	RR28RK16/40	40	1,575	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-6050	60,0	69,0	2,36	2,72	RR28RK16/50	50	1,969	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-6060	60,0	69,0	2,36	2,72	RR28RK16/60	60	2,362	TK57	395	15,551	TKK57	235	9,252	3/4			
			KS-6080	60,0	69,0	2,36	2,72	RR28RK16/80	80	3,150	TK57	395	15,551	TKK57	235	9,252	3/4			
3"	76,20	7-8	KS-6540	65,0	74,0	2,56	2,91	RR29RK17/40	40	1,575	TK65	395	15,551	TKK65	235	9,252	3/4			
			KS-6550	65,0	74,0	2,56	2,91	RR29RK17/50	50	1,969	TK65	395	15,551	TKK65	235	9,252	3/4			
			KS-6560	65,0	74,0	2,56	2,91	RR29RK17/60	60	2,362	TK65	395	15,551	TKK65	235	9,252	3/4			
			KS-6580	65,0	74,0	2,56	2,91	RR29RK17/80	80	3,150	TK65	395	15,551	TKK65	235	9,252	3/4			
3"	76,20	10-14	KS-6840	68,0	77,0	2,68	3,03	RR30RK18/40	40	1,575	TK72	403	15,866	TKK72	255	10,039	1			
			KS-6850	68,0	77,0	2,68	3,03	RR30RK18/50	50	1,969	TK72	403	15,866	TKK72	255	10,039	1			
			KS-6860	68,0	77,0	2,68	3,03	RR30RK18/60	60	2,362	TK72	403	15,866	TKK72	255	10,039	1			
			KS-6880	68,0	77,0	2,68	3,03	RR30RK18/80	80	3,150	TK72	403	15,866	TKK72	255	10,039	1			
3-1/4"	82,55	7-11	KS-7240	72,0	81,0	2,83	3,19	RR31RK19/40	40	1,575	TK72	403	15,866	TKK72	255	10,039	1			
			KS-7250	72,0	81,0	2,83	3,19	RR31RK19/50	50	1,969	TK72	403	15,866	TKK72	255	10,039	1			
			KS-7260	72,0	81,0	2,83	3,19	RR31RK19/60	60	2,362	TK72	403	15,866	TKK72	255	10,039	1			
			KS-7280	72,0	81,0	2,83	3,19	RR31RK19/80	80	3,150	TK72	403	15,866	TKK72	255	10,039	1			
3-1/4"	82,55	15-16	KS-7740	77,0	87,0	3,03	3,43	RR32RK20/40	40	1,575	TK77	422	16,614	TKK77	255	10,039	1			
			KS-7750	77,0	87,0	3,03	3,43	RR32RK20/50	50	1,969	TK77	422	16,614	TKK77	255	10,039	1			
			KS-7760	77,0	87,0	3,03	3,43	RR32RK20/60	60	2,362	TK77	422	16,614	TKK77	255	10,039	1			
			KS-7780	77,0	87,0	3,03	3,43	RR32RK20/80	80	3,150	TK77	422	16,614	TKK77	255	10,039	1			
3-1/2"	88,90	10-13	KS-8240	82,0	92,0	3,23	3,62	RR33RK21/40	40	1,575	TK82	422	16,614	TKK82	255	10,039	1			
			KS-8250	82,0	92,0	3,23	3,62	RR33RK21/50	50	1,969	TK82	422	16,614	TKK82	255	10,039	1			
			KS-8260	82,0	92,0	3,23	3,62	RR33RK21/60	60	2,362	TK82	422	16,614	TKK82	255	10,039	1			
			KS-8280	82,0	92,0	3,23	3,62	RR33RK21/80	80	3,150	TK82	422	16,614	TKK82	255	10,039	1			
3-3/4"	95,25	8-12	KS-8640	86,0	96,0	3,39	3,78	RR34RK22/40	40	1,575	TK86	422	16,614	TKK86	255	10,039	1			
			KS-8650	86,0	96,0	3,39	3,78	RR34RK22/50	50	1,969	TK86	422	16,614	TKK86	255	10,039	1			
			KS-8660	86,0	96,0	3,39	3,78	RR34RK22/60	60	2,362	TK86	422	16,614	TKK86	255	10,039	1			
			KS-8680	86,0	96,0	3,39	3,78	RR34RK22/80	80	3,150	TK86	422	16,614	TKK86	255	10,039	1			
4"	101,60	9-12	KS-9040	90,0	100,0	3,54	3,94	RR34RK22/40	40	1,575	TK90	422	16,614	TKK90	275	10,827	1			
			KS-9050	90,0	100,0	3,54	3,94	RR34RK22/50	50	1,969	TK90	422	16,614	TKK90	275	10,827	1			
			KS-9060	90,0	100,0	3,54	3,94	RR34RK22/60	60	2,362	TK90	422	16,614	TKK90	275	10,827	1			
			KS-9080	90,0	100,0	3,54	3,94	RR34RK22/80	80	3,150	TK90	422	16,614	TKK90	275	10,827	1			
4"	101,60	16	KS-9640	96,0	106,0	3,78	4,17	RR35RK23/40	40	1,575	TK96	422	16,614	TKK96	275	10,827	1			
			KS-9650	96,0	106,0	3,78	4,17	RR35RK23/50	50	1,969	TK96	422	16,614	TKK96	275	10,827	1			
			KS-9660	96,0	106,0	3,78	4,17	RR35RK23/60	60	2,362	TK96	422	16,614	TKK96	275	10,827	1			
			KS-9680	96,0	106,0	3,78	4,17	RR35RK23/80	80	3,150	TK96	422	16,614	TKK96	275	10,827	1			

* 100 mm roll length made to order only if technically possible

PZ Series

Three expansion rolls, self feeding tube expanders. An excellent expander for re-rolling leaky tubes and for new constructions of water tube boilers, fire tube boilers, economizers and air heaters. Expanders with 4, 5 and 7 rolls are available on request. Our K70's right-angle rolling motors are recommended to be used with this expanders.



Tube OD		Tube Gauge	Tool No.	Expansion Range				Standard Rolls			Mandrel		Short Mandrell Set (3 pcs.)			Square	
[inch]	[mm]	[BWG]		[mm]		[inch]		No.	Lenght		No.	Length		No.	Length		
			min	max	min	max		[mm]	[inch]		[mm]	[inch]		[mm]	[inch]	[mm]	
1"	25,40	11-12	PZ-1942	19,0	22,0	0,75	0,87	RR12/42	42	1,654	TK19	195	7,677	-	-	-	1/2
			PZ-1950	19,0	22,0	0,75	0,87	RR12/50	50	1,969	TK19	195	7,677	-	-	-	1/2
1"	25,40	13-16	PZ-2042	20,0	23,0	0,79	0,91	RR12/42	42	1,654	TK20	208	8,189	-	-	-	1/2
			PZ-2050	20,0	23,0	0,79	0,91	RR12/50	50	1,969	TK20	208	8,189	-	-	-	1/2
1-1/8"	28,58	12-14	PZ-2242	22,0	25,0	0,87	0,98	RR12/42	42	1,654	TK22	220	8,661	-	-	-	1/2
			PZ-2250	22,0	25,0	0,87	0,98	RR12/50	50	1,969	TK22	220	8,661	-	-	-	1/2
1-1/8"	28,58	14-16	PZ-2342	23,0	26,0	0,91	1,02	RR13/42	42	1,654	TK23	220	8,661	-	-	-	1/2
			PZ-2350	23,0	26,0	0,91	1,02	RR13/50	50	1,969	TK23	220	8,661	-	-	-	1/2
1-1/8"	28,58	15-17	PZ-2442	24,0	27,0	0,94	1,06	RR13/42	42	1,654	TK24	220	8,661	-	-	-	1/2
			PZ-2450	24,0	27,0	0,94	1,06	RR13/50	50	1,969	TK24	220	8,661	-	-	-	1/2
1-1/8"	28,58	16	PZ-2542	25,0	28,0	0,98	1,10	RR13/42	42	1,654	TK25	220	8,661	-	-	-	1/2
			PZ-2550	25,0	28,0	0,98	1,10	RR13/50	50	1,969	TK25	220	8,661	-	-	-	1/2
1-1/4"	31,75	12-14	PZ-2642	26,0	29,0	1,02	1,14	RR13/42	42	1,654	TK26	220	8,661	-	-	-	1/2
			PZ-2650	26,0	29,0	1,02	1,14	RR13/50	50	1,969	TK26	220	8,661	-	-	-	1/2
1-1/4"	31,75	12-17	PZ-2742	27,0	30,0	1,06	1,18	RR15/42	42	1,654	TK27	220	8,661	-	-	-	1/2
			PZ-2750	27,0	30,0	1,06	1,18	RR15/50	50	1,969	TK27	220	8,661	-	-	-	1/2
1-1/4"	31,75	16	PZ-2842	28,0	32,0	1,10	1,26	RR16/42	42	1,654	TK28	285	11,220	-	-	-	3/4
			PZ-2850	28,0	32,0	1,10	1,26	RR16/50	50	1,969	TK28	285	11,220	-	-	-	3/4
1-1/2"	38,10	7-11	PZ-2942	29,0	33,0	1,14	1,30	RR16/42	42	1,654	TK29	285	11,220	-	-	-	3/4
			PZ-2950	29,0	33,0	1,14	1,30	RR16/50	50	1,969	TK29	285	11,220	-	-	-	3/4
1-1/2"	38,10	10-12	PZ-3042	30,0	34,0	1,18	1,34	RR16/42	42	1,654	TK30	285	11,220	-	-	-	3/4
			PZ-3050	30,0	34,0	1,18	1,34	RR16/50	50	1,969	TK30	285	11,220	-	-	-	3/4
1-1/2"	38,10	13-16	PZ-3242	32,0	36,0	1,26	1,42	RR17/42	42	1,654	TK32	260	10,236	-	-	-	3/4
			PZ-3250	32,0	36,0	1,26	1,42	RR17/50	50	1,969	TK32	260	10,236	-	-	-	3/4
1-1/2"	38,10	13-20	PZ-3342	33,0	38,0	1,30	1,50	RP33/42	42	1,654	TK33	290	11,417	TKK33	181,00	7,126	3/4
			PZ-3350	33,0	38,0	1,30	1,50	RP33/50	50	1,969	TK33	290	11,417	TKK33	181,00	7,126	3/4
1-3/4"	44,45	8-9	PZ-3542	35,0	41,0	1,38	1,61	RR21/42	42	1,654	TK37	310	12,205	TKK37	188,00	7,402	3/4
			PZ-3550	35,0	41,0	1,38	1,61	RR21/50	50	1,969	TK37	310	12,205	TKK37	188,00	7,402	3/4
1-3/4"	44,45	10-16	PZ-3742	37,0	43,0	1,46	1,69	RR22/42	42	1,654	TK37	310	12,205	TKK37	188,00	7,402	3/4
			PZ-3750	37,0	43,0	1,46	1,69	RR22/50	50	1,969	TK37	310	12,205	TKK37	188,00	7,402	3/4
1-3/4"	44,45	12-18	PZ-3942	39,0	45,0	1,54	1,77	RR40/42	42	1,654	TK37	310	12,205	TKK37	188,00	7,402	3/4
			PZ-3950	39,0	45,0	1,54	1,77	RR40/50	50	1,969	TK37	310	12,205	TKK37	188,00	7,402	3/4
2"	50,80	7-10	PZ-4050	40,0	46,0	1,57	1,81	RR40/50	50	1,969	TK42	310	12,205	TKK42	205,00	8,071	3/4
			PZ-4080	40,0	46,0	1,57	1,81	RR40/80	80	3,150	TK42	310	12,205	TKK42	205,00	8,071	3/4
2"	50,80	11-12	PZ-4250	42,0	48,0	1,65	1,89	RR23/50	50	1,969	TK42	310	12,205	TKK42	205,00	8,071	3/4
			PZ-4280	42,0	48,0	1,65	1,89	RR23/80	80	3,150	TK42	310	12,205	TKK42	205,00	8,071	3/4
2"	50,80	13-15	PZ-4450	44,0	50,0	1,73	1,97	RR23/50	50	1,969	TK44	310	12,205	TKK44	205,00	8,071	3/4
			PZ-4480	44,0	50,0	1,73	1,97	RR23/80	80	3,150	TK44	310	12,205	TKK44	205,00	8,071	3/4
2"	50,80	15-16	PZ-4750	47,0	54,0	1,85	2,13	RR24/50	50	1,969	TK47	338	13,307	TKK47	218,00	8,583	3/4
			PZ-4780	47,0	54,0	1,85	2,13	RR24/80	80	3,150	TK47	338	13,307	TKK47	218,00	8,583	3/4
2-1/4"	57,15	10-12	PZ-4950	49,0	56,0	1,93	2,20	RR24/50	50	1,969	TK49	338	13,307	TKK49	218,00	8,583	3/4
			PZ-4980	49,0	56,0	1,93	2,20	RR24/80	80	3,150	TK49	338	13,307	TKK49	218,00	8,583	3/4
2-1/4"	57,15	14-16	PZ-5250	52,0	59,0	2,05	2,32	RR25/50	50	1,969	TK49	338	13,307	TKK49	218,00	8,583	3/4
			PZ-5280	52,0	59,0	2,05	2,32	RR25/80	80	3,150	TK49	338	13,307	TKK49	218,00	8,583	3/4
2-1/2"	63,50	11-12	PZ-5450	54,0	62,0	2,13	2,44	RR26/50	50	1,969	TK54	375	14,764	TKK54	230,00	9,055	3/4
			PZ-5480	54,0	62,0	2,13	2,44	RR26/80	80	3,150	TK54	375	14,764	TKK54	230,00	9,055	3/4
2-1/2"	63,50	13-16	PZ-5750	57,0	66,0	2,24	2,60	RR27/50	50	1,969	TK57	395	15,551	TKK57	235,00	9,252	3/4
			PZ-5780	57,0	66,0	2,24	2,60	RR27/80	80	3,150	TK57	395	15,551	TKK57	235,00	9,252	3/4
2-3/4"	69,85	7-11	PZ-6050	60,0	69,0	2,36	2,72	RR28/50	50	1,969	TK57	395	15,551	TKK57	235,00	9,252	3/4
			PZ-6080	60,0	69,0	2,36	2,72	RR28/80	80	3,150	TK57	395	15,551	TKK57	235,00	9,252	3/4
3"	76,20	7-11	PZ-6550	65,0	74,0	2,56	2,91	RR29/50	50	1,969	TK65	395	15,551	TKK65	235,00	9,252	3/4
			PZ-6580	65,0	74,0	2,56	2,91	RR29/80	80	3,150	TK65	395	15,551	TKK65	235,00	9,252	3/4

Tube OD		Tube Gauge	Tool No.	Expansion Range				Standard Rolls			Mandrel		Short Mandrell Set (3 pcs.)			Square	
[inch]	[mm]	[BWG]		[mm]		[inch]		No.	Length		No.	Length		No.	Length		
				min	max	min	max		[mm]	[inch]		[mm]	[inch]		[mm]		[inch]
3"	76,20	12-13	PZ-6850	68,0	77,0	2,68	3,03	RR30/50	50	1,969	TK72	403	15,866	TKK72	255,00	10,039	1
			PZ-6880	68,0	77,0	2,68	3,03	RR30/80	80	3,150	TK72	403	15,866	TKK72	255,00	10,039	1
3-1/4"	82,55	7-12	PZ-7250	72,0	81,0	2,83	3,19	RR31/50	50	1,969	TK72	403	15,866	TKK72	255,00	10,039	1
			PZ-7280	72,0	81,0	2,83	3,19	RR31/80	80	3,150	TK72	403	15,866	TKK72	255,00	10,039	1
3-1/4"	82,55	13-16	PZ-7750	77,0	87,0	3,03	3,43	RR32/50	50	1,969	TK77	422	16,614	TKK77	255,00	10,039	1
			PZ-7780	77,0	87,0	3,03	3,43	RR32/80	80	3,150	TK77	422	16,614	TKK77	255,00	10,039	1
3-1/2"	88,90	10-16	PZ-8250	82,0	92,0	3,23	3,62	RR33/50	50	1,969	TK82	422	16,614	TKK82	255,00	10,039	1
			PZ-8280	82,0	92,0	3,23	3,62	RR33/80	80	3,150	TK82	422	16,614	TKK82	255,00	10,039	1
3-3/4"	95,25	7-12	PZ-8650	86,0	96,0	3,39	3,78	RR34/50	50	1,969	TK86	422	16,614	TKK86	255,00	10,039	1
			PZ-8680	86,0	96,0	3,39	3,78	RR34/80	80	3,150	TK86	422	16,614	TKK86	255,00	10,039	1
4"	101,60	8-12	PZ-9050	90,0	100,0	3,54	3,94	RR34/50	50	1,969	TK90	422	16,614	TKK90	275,00	10,827	1
			PZ-9080	90,0	100,0	3,54	3,94	RR34/80	80	3,150	TK90	422	16,614	TKK90	275,00	10,827	1
4"	101,60	13-16	PZ-9650	96,0	106,0	3,78	4,17	RR35/50	50	1,969	TK96	422	16,614	TKK96	275,00	10,827	1
			PZ-9680	96,0	106,0	3,78	4,17	RR35/80	80	3,150	TK96	422	16,614	TKK96	275,00	10,827	1

* 100 mm roll length made to order, only if technically possible!

SHORTER EXPANSION LENGTH



If you require expanding shorter expansion length than a standard expander, we can supply the reduction collar SC (you can specify desired length in order e.g. PZ-4280/60).

FTKS-L Flare Type Boiler Tube Expanders

Self-feeding tube expander with three expansion rolls and three flare rolls, simultaneously expands and flares the tube. We equipped the expander with an adjustable thrust collar for friction-free operation, long tool life and consistent flare length.

This is an excellent tool for re-rolling leaky tubes and new installations of water tube boilers, fire tube boilers, economizers and air heaters.



Tube OD		Tube Gauge	Tool No.	Expansion Range				Standard Rolls			Mandrel			Short Mandrell Set (3 pcs.)			Square
[inch]	[mm]			[mm]	[mm]	[inch]	[inch]	No.	Length		No.	Length		No.	Length		
		[BWG]		min	max	min	max		[mm]	[inch]		[mm]	[inch]		[mm]	[inch]	[inch]
1-1/4"	31,75	16	FTKS-2842-L	28,0	31,5	1,10	1,24	RR16RK8	42	1,654	T-300	375	14,764	PTK28	175	6,890	3/4
			FTKS-2880-L	28,0	31,5	1,10	1,24	RR16RK8/80	80	3,150	T-300	375	14,764	PTK28	175	6,890	3/4
1-1/2"	38,10	7-10	FTKS-2942-L	29,0	32,5	1,14	1,28	RR16RK8	42	1,654	T-300	375	14,764	PTK29	175	6,890	3/4
			FTKS-2980-L	29,0	32,5	1,14	1,28	RR16RK8/80	80	3,150	T-300	375	14,764	PTK29	175	6,890	3/4
1-1/2"	38,10	10-12	FTKS-3042-L	30,0	33,5	1,18	1,32	RR16RK8	42	1,654	T-300	375	14,764	PTK30	175	6,890	3/4
			FTKS-3080-L	30,0	33,5	1,18	1,32	RR16RK8/80	80	3,150	T-300	375	14,764	PTK30	175	6,890	3/4
1-1/2"	38,10	12-14	FTKS-3242-L	32,0	35,5	1,26	1,40	RR17RK9	42	1,654	T-320	385	15,157	PTK32	175	6,890	3/4
			FTKS-3280-L	32,0	35,5	1,26	1,40	RR17RK9/80	80	3,150	T-320	385	15,157	PTK32	175	6,890	3/4
1-1/2"	38,10	13-20	FTKS-3342-L	33,0	36,5	1,30	1,44	RP33RR33	42	1,654	T-320	385	15,157	PTK33	181	7,126	3/4
			FTKS-3380-L	33,0	36,5	1,30	1,44	RP33RR33/80	80	3,150	T-320	385	15,157	PTK33	181	7,126	3/4
1-3/4"	44,45	8-9	FTKS-3542-L	35,0	40,5	1,38	1,59	RR21RK35	42	1,654	T-370	410	16,142	PTK37	188	7,402	3/4
			FTKS-3580-L	35,0	40,5	1,38	1,59	RR21RK35/80	80	3,150	T-370	410	16,142	PTK37	188	7,402	3/4
1-3/4"	44,45	10-12	FTKS-3742-L	37,0	42,5	1,46	1,67	RR22RK10	42	1,654	T-370	410	16,142	PTK37	188	7,402	3/4
			FTKS-3780-L	37,0	42,5	1,46	1,67	RR22RK10/80	80	3,150	T-370	410	16,142	PTK37	188	7,402	3/4
1-3/4"	44,45	12-18	FTKS-3942-L	39,0	44,5	1,54	1,75	RR40RK40	42	1,654	T-370	410	16,142	PTK37	188	7,402	3/4
			FTKS-3980-L	39,0	44,5	1,54	1,75	RR40RK40/80	80	3,150	T-370	410	16,142	PTK37	188	7,402	3/4
2"	50,80	7-9	FTKS-4050-L	40,0	45,5	1,57	1,79	RR40RK40	50	1,969	T-420	410	16,142	PTK42	205	8,071	3/4
			FTKS-4080-L	40,0	45,5	1,57	1,79	RR40RK40/80	80	3,150	T-420	410	16,142	PTK42	205	8,071	3/4
2"	50,80	10-13	FTKS-4250-L	42,0	47,5	1,65	1,87	RR23RK11	50	1,969	T-420	410	16,142	PTK42	205	8,071	3/4
			FTKS-4280-L	42,0	47,5	1,65	1,87	RR23RK11/80	80	3,150	T-420	410	16,142	PTK42	205	8,071	3/4
2"	50,80	12-14	FTKS-4450-L	44,0	49,5	1,73	1,95	RR23RK11	50	1,969	T-440	410	16,142	PTK44	205	8,071	3/4
			FTKS-4480-L	44,0	49,5	1,73	1,95	RR23RK11/80	80	3,150	T-440	410	16,142	PTK44	205	8,071	3/4
2"	50,80	16	FTKS-4750-L	47,0	53,5	1,85	2,11	RR24RK12	50	1,969	T-470	435	17,126	PTK47	218	8,583	3/4
			FTKS-4780-L	47,0	53,5	1,85	2,11	RR24RK12/80	80	3,150	T-470	435	17,126	PTK47	218	8,583	3/4
2-1/4"	57,15	10-13	FTKS-4950-L	49,0	55,5	1,93	2,19	RR24RK12	50	1,969	T-490	435	17,126	PTK49	218	8,583	3/4
			FTKS-4980-L	49,0	55,5	1,93	2,19	RR24RK12/80	80	3,150	T-490	435	17,126	PTK49	218	8,583	3/4
2-1/4"	57,15	14-16	FTKS-5250-L	52,0	58,5	2,05	2,30	RR25RK13	50	1,969	T-490	435	17,126	PTK49	218	8,583	3/4
			FTKS-5280-L	52,0	58,5	2,05	2,30	RR25RK13/80	80	3,150	T-490	435	17,126	PTK49	218	8,583	3/4
2-1/2"	63,50	8-13	FTKS-5450-L	54,0	61,5	2,13	2,42	RR26RK14	50	1,969	T-540	470	18,504	PTK54	230	9,055	3/4
			FTKS-5480-L	54,0	61,5	2,13	2,42	RR26RK14/80	80	3,150	T-540	470	18,504	PTK54	230	9,055	3/4
2-1/2"	63,50	12-16	FTKS-5750-L	57,0	65,5	2,24	2,58	RR27RK15	50	1,969	T-570	500	19,685	PTK57	235	9,252	3/4
			FTKS-5780-L	57,0	65,5	2,24	2,58	RR27RK15/80	80	3,150	T-570	500	19,685	PTK57	235	9,252	3/4
2-3/4"	69,85	7-11	FTKS-6050-L	60,0	68,5	2,36	2,70	RR28RK16	50	1,969	T-570	500	19,685	PTK57	235	9,252	3/4
			FTKS-6080-L	60,0	68,5	2,36	2,70	RR28RK16/80	80	3,150	T-570	500	19,685	PTK57	235	9,252	3/4
3"	76,20	7-8	FTKS-6550-L	65,0	73,5	2,56	2,89	RR29RK17	50	1,969	T-650	500	19,685	PTK65	235	9,252	3/4
			FTKS-6580-L	65,0	73,5	2,56	2,89	RR29RK17/80	80	3,150	T-650	500	19,685	PTK65	235	9,252	3/4
3"	76,20	10-14	FTKS-6850-L	68,0	76,5	2,68	3,01	RR30RK18	50	1,969	T-720	530	20,866	PTK72	255	10,039	1
			FTKS-6880-L	68,0	76,5	2,68	3,01	RR30RK18/80	80	3,150	T-720	530	20,866	PTK72	255	10,039	1
3-1/4"	82,55	7-11	FTKS-7250-L	72,0	80,5	2,83	3,17	RR31RK19	50	1,969	T-720	530	20,866	PTK72	255	10,039	1
			FTKS-7280-L	72,0	80,5	2,83	3,17	RR31RK19/80	80	3,150	T-720	530	20,866	PTK72	255	10,039	1
3-1/4"	82,55	15-16	FTKS-7750-L	77,0	86,5	3,03	3,41	RR32RK20	50	1,969	T-770	530	20,866	PTK77	255	10,039	1
			FTKS-7780-L	77,0	86,5	3,03	3,41	RR32RK20/80	80	3,150	T-770	530	20,866	PTK77	255	10,039	1
3-1/2"	88,90	10-13	FTKS-8250-L	82,0	91,5	3,23	3,60	RR33RK21	50	1,969	T-820	530	20,866	PTK82	255	10,039	1
			FTKS-8280-L	82,0	91,5	3,23	3,60	RR33RK21/80	80	3,150	T-820	530	20,866	PTK82	255	10,039	1
3-3/4"	95,25	8-12	FTKS-8650-L	86,0	95,5	3,39	3,76	RR34RK22	50	1,969	T-860	530	20,866	PTK86	255	10,039	1
			FTKS-8680-L	86,0	95,5	3,39	3,76	RR34RK22/80	80	3,150	T-860	530	20,866	PTK86	255	10,039	1
4"	101,60	9-12	FTKS-9050-L	90,0	99,5	3,54	3,92	RR34RK22	50	1,969	T-900	530	20,866	PTK90	275	10,827	1
			FTKS-9080-L	90,0	99,5	3,54	3,92	RR34RK22/80	80	3,150	T-900	530	20,866	PTK90	275	10,827	1
4"	101,60	16	FTKS-9650-L	96,0	105,5	3,78	4,15	RR35RK23	50	1,969	T-960	530	20,866	PTK96	275	10,827	1
			FTKS-9680-L	96,0	105,5	3,78	4,15	RR35RK23/80	80	3,150	T-960	530	20,866	PTK96	275	10,827	1

P2 Series

Three rolls, self feeding adjustable reach tube expander for deep reach expansion. Parallel rolling with long effective double radius rolls. Rolls are self retained in the cage. An excellent expander for use as touch-up expansion as well as a hard rolling and re-rolling a leaky tubes and for new constructions of water tube boilers, fire tube boilers, economizers, air heaters.

Expanders with 4, 5 rolls, with longer rolls or longer reach with 2 inch increments are available on request.

Our K70's right-angle rolling motors are recommended to be used with this expanders.



MAX REACH FOR P2 EXPANDERS

COLLAR	60 MM ROLLS		80 MM ROLLS	
	[MM]	[INCH]	[MM]	[INCH]
Standard	112	4,40"	132	5,20"
Short	132	5,20"	152	6"

Tube OD		Tube Gauge	Tool No.	Expansion range				Rolls			Mandrel		Short Mandrell Set (3 pcs.)			Square	
[inch]	[mm]			[bwg]	[mm]		[inch]		No.	Lenght		No.	Length		No.		Length
			min	max	min	max		[mm]	[inch]		[mm]	[inch]		[mm]	[inch]	[inch]	
1-1/4"	31,70	16	P2-280	27,0	33,0	1,06	1,30	998	60	2,362	T-290	385,00	15,157	PTK28	175	6,890	1/2"
			P2-280/80	28,0	33,0	1,10	1,30	998/80	80	3,150	T-290	385,00	15,157	PTK28	175	6,890	1/2"
1-1/2"	38,10	7-11	P2-290	29,0	34,0	1,14	1,34	1048	60	2,362	T-290	385,00	15,157	PTK29	175	6,890	1/2"
			P2-290/80	29,0	34,0	1,14	1,34	1048/80	80	3,150	T-290	385,00	15,157	PTK29	175	6,890	1/2"
1-1/2"	38,10	10-12	P2-300	30,0	35,0	1,18	1,38	1089	60	2,362	T-290	385,00	15,157	PTK30	175	6,890	1/2"
			P2-300/80	30,0	35,0	1,18	1,38	1089/80	80	3,150	T-290	385,00	15,157	PTK30	175	6,890	1/2"
1-1/2"	38,10	13-16	P2-320	32,0	37,0	1,26	1,46	1143	60	2,362	T-320	385,00	15,157	PTK32	175	6,890	1/2"
			P2-320/80	32,0	37,0	1,26	1,46	1143/80	80	3,150	T-320	385,00	15,157	PTK32	175	6,890	1/2"
1-1/2"	38,10	13-20	P2-330	33,0	38,0	1,30	1,50	RR1143	60	2,362	T-320	385,00	15,157	PTK33	181	7,126	3/4"
			P2-330/80	33,0	38,0	1,30	1,50	RR1143/80	80	3,150	T-320	385,00	15,157	PTK33	181	7,126	3/4"
1-3/4"	44,40	8-9	P2-350	35,0	41,0	1,38	1,61	RR21A	60	2,362	T-370	410,00	16,142	PTK37	188	7,402	3/4"
			P2-350/80	35,0	41,0	1,38	1,61	RR21A/80	80	3,150	T-370	410,00	16,142	PTK37	188	7,402	3/4"
1-3/4"	44,40	10-16	P2-370	37,0	43,0	1,46	1,69	RR22A	60	2,362	T-370	410,00	16,142	PTK37	188	7,402	3/4"
			P2-370/80	37,0	43,0	1,46	1,69	RR22A/80	80	3,150	T-370	410,00	16,142	PTK37	188	7,402	3/4"
1-3/4"	44,45	12-18	P2-390	39,0	45,0	1,54	1,77	RR22A	60	2,362	T-370	410,00	16,142	PTK37	188	7,402	3/4"
			P2-390/80	39,0	45,0	1,54	1,77	RR22A/80	80	3,150	T-370	410,00	16,142	PTK37	188	7,402	3/4"
2"	50,80	7-10	P2-400	40,0	46,0	1,57	1,81	RR40A	60	2,362	T-420	410,00	16,142	PTK42	205	8,071	3/4"
			P2-400/80	40,0	46,0	1,57	1,81	RR40A/80	80	3,150	T-420	410,00	16,142	PTK42	205	8,071	3/4"
2"	50,80	11-12	P2-420	42,0	48,0	1,65	1,89	RR23A	60	2,362	T-420	410,00	16,142	PTK42	205	8,071	3/4"
			P2-420/80	42,0	48,0	1,65	1,89	RR23A/80	80	3,150	T-420	410,00	16,142	PTK42	205	8,071	3/4"
2"	50,80	13-15	P2-440	42,0	50,0	1,65	1,97	RR23A	60	2,362	T-440	410,00	16,142	PTK44	205	8,071	3/4"
			P2-440/80	44,0	50,0	1,73	1,97	RR23A/80	80	3,150	T-440	410,00	16,142	PTK44	205	8,071	3/4"
2"	50,80	16	P2-470	47,0	54,0	1,85	2,13	RR24A	60	2,362	T-470	435,00	17,126	PTK47	218	8,583	3/4"
			P2-470/80	47,0	54,0	1,85	2,13	RR24A/80	80	3,150	T-470	435,00	17,126	PTK47	218	8,583	3/4"
2-1/4"	57,10	10-12	P2-490	49,0	56,0	1,93	2,20	RR24A	60	2,362	T-490	435,00	17,126	PTK49	218	8,583	3/4"
			P2-490/80	49,0	56,0	1,93	2,20	RR24A/80	80	3,150	T-490	435,00	17,126	PTK49	218	8,583	3/4"
2-1/4"	57,10	14-16	P2-520	53,0	59,0	2,09	2,32	RR25A	60	2,362	T-490	435,00	17,126	PTK49	218	8,583	3/4"
			P2-520/80	52,0	59,0	2,05	2,32	RR25A/80	80	3,150	T-490	435,00	17,126	PTK49	218	8,583	3/4"
2-1/2"	63,50	11-12	P2-540	54,0	62,0	2,13	2,44	RR26A	60	2,362	T-540	470,00	18,504	PTK54	230	9,055	3/4"
			P2-540/80	54,0	62,0	2,13	2,44	RR26A/80	80	3,150	T-540	470,00	18,504	PTK54	230	9,055	3/4"
2-1/2"	63,50	13-16	P2-570	57,0	66,0	2,24	2,60	RR27A	60	2,362	T-570	500,00	19,685	PTK57	235	9,252	3/4"
			P2-570/80	57,0	66,0	2,24	2,60	RR27A/80	80	3,150	T-570	500,00	19,685	PTK57	235	9,252	3/4"
2-3/4"	69,80	7-11	P2-600	60,0	69,0	2,36	2,72	RR28A	60	2,362	T-570	500,00	19,685	PTK57	235	9,252	3/4"
			P2-600/80	60,0	69,0	2,36	2,72	RR28A/80	80	3,150	T-570	500,00	19,685	PTK57	235	9,252	3/4"
3"	76,20	7-11	P2-650	65,0	74,0	2,56	2,91	RR29A	60	2,362	T-650	500,00	19,685	PTK65	235	9,252	3/4"
			P2-650/80	65,0	74,0	2,56	2,91	RR29A/80	80	3,150	T-650	500,00	19,685	PTK65	235	9,252	3/4"
3"	76,20	13-15	P2-680	68,0	77,5	2,68	3,05	RR30A	60	2,362	T-720	530,00	20,866	PTK72	255	10,039	1"
			P2-680/80	68,0	77,5	2,68	3,05	RR30A/80	80	3,150	T-720	530,00	20,866	PTK72	255	10,039	1"
3-1/4"	82,55	7-12	P2-720	72,0	81,5	2,83	3,21	RR31A	60	2,362	T-720	530,00	20,866	PTK72	255	10,039	1"
			P2-720/80	72,0	81,5	2,83	3,21	RR31A/80	80	3,150	T-720	530,00	20,866	PTK72	255	10,039	1"
3-1/4"	82,55	13-16	P2-770	77,0	87,0	3,03	3,43	RR32A	60	2,362	T-770	530,00	20,866	PTK77	255	10,039	1"
			P2-770/80	77,0	87,0	3,03	3,43	RR32A/80	80	3,150	T-770	530,00	20,866	PTK77	255	10,039	1"
3-1/2"	88,90	10-16	P2-820	82,0	92,0	3,23	3,62	RR33A	60	2,362	T-820	530,00	20,866	PTK82	255	10,039	1"
			P2-820/80	82,0	92,0	3,23	3,62	RR33A/80	80	3,150	T-820	530,00	20,866	PTK82	255	10,039	1"
3-3/4"	95,25	7-12	P2-860	86,0	96,0	3,39	3,78	RR34A	60	2,362	T-860	530,00	20,866	PTK86	255	10,039	1"
			P2-860/80	86,0	96,0	3,39	3,78	RR34A/80	80	3,150	T-860	530,00	20,866	PTK86	255	10,039	1"
4"	101,60	8-12	P2-900	90,0	100,0	3,54	3,94	RR34A	60	2,362	T-900	530,00	20,866	PTK90	275	10,827	1"
			P2-900/80	90,0	100,0	3,54	3,94	RR34A/80	80	3,150	T-900	530,00	20,866	PTK90	275	10,827	1"
4"	101,60	13-16	P2-960	96,0	106,0	3,78	4,17	RR35A	60	2,362	T-960	530,00	20,866	PTK96	275	10,827	1"
			P2-960/80	96,0	106,0	3,78	4,17	RR35A/80	80	3,150	T-960	530,00	20,866	PTK96	275	10,827	1"

Universal Combination Roller Beading

This tool is designed primarily for the fabrication and maintenance of Fire Tube Boilers with Tubes of 2"-3" OD. This self feeding, straight roll tool, is capable of simultaneously expanding and forming a uniform bead tight upon the tube sheet. For the best results we recommend a tube projection of 3/16" (5 mm).



TUBE OD		TUBE GAUGE	TOOL NO.	EXPANSION RANGE				ROLLS	BEADING ROLLS	FRONT PILOT	MANDREL	MANDREL SQUARE	
[INCH]	[MM]	[BWG]		[INCH]		[MM]						[INCH]	[MM]
				MIN	MAX	MIN	MAX						
2"	50,8	10	41633-00	1,700	1,907	43,2	48,4	R-42811	BR-41631-10	P-41701-10	M-42157	3/4"	19
		11	41633-00	1,700	1,907	43,2	48,4	R-42811	BR-41631-11	P-41701-11	M-42157	3/4"	19
		12	41633-00	1,700	1,907	43,2	48,4	R-42811	BR-41631-12	P-41701-12	M-42157	3/4"	19
		13	41633-00	1,700	1,907	43,2	48,4	R-42811	BR-41631-13	P-41701-13	M-42157	3/4"	19
2-1/2"	63,5	10	41634-00	2,200	2,460	55,9	62,6	R-41673	BR-41651-10	P-41702-10	M-42158	3/4"	19
		11	41634-00	2,200	2,460	55,9	62,6	R-41673	BR-41651-11	P-41702-11	M-42158	3/4"	19
		12	41634-00	2,200	2,460	55,9	62,6	R-41673	BR-41651-12	P-41702-12	M-42158	3/4"	19
		13	41634-00	2,200	2,460	55,9	62,6	R-41673	BR-41651-13	P-41702-13	M-42158	3/4"	19
3"	76,2	10	41359-00	2,700	2,890	68,6	75,7	R-41676	BR-41666-10	P-41703-10	M-42159	1"	25,4
		11	41359-00	2,700	2,890	68,6	75,7	R-41676	BR-41666-11	P-41703-11	M-42159	1"	25,4
		12	41359-00	2,700	2,890	68,6	75,7	R-41676	BR-41666-12	P-41703-12	M-42159	1"	25,4

Colins Expander



Nonparallel self feeding boiler tube expanders from 1/2" to 4". Suitable for new erection or repair work that have thin tube sheet or just touch up a leaky joints. Recommended for tube sheets from 1/8" to 5/8" (3 mm to 16 mm).

TUBE OD		GAUGE	TUBE ID				TOOL NO.	EXPANSION RANGE				ROLLS NO.	MANDREL NO.	MANDREL SQUARE	
[INCH]	[MM]		[INCH]	[MM]	[INCH]	[MM]		[INCH]	[MM]	[INCH]	[MM]			[INCH]	[MM]
1/2"	12,70	16-17	0,370	0,384	9,40	9,76	CBTE-10	0,352	0,435	8,94	11,05	RS-13	MS-22	3/8"	9,52
		18-19	0,402	0,416	10,22	10,56	CBTE-11	0,382	0,465	9,70	11,81	RS-13	MS-23	3/8"	9,52
5/8"	15,88	14	0,459	0,459	11,65	11,65	CBTE-13	0,438	0,521	11,12	13,23	RS-14	MS-24	3/8"	9,52
		15-17	0,481	0,509	12,21	12,93	CBTE-15	0,462	0,566	11,73	14,37	RS-15	MS-25	3/8"	9,52
3/4"	19,05	18-19	0,527	0,541	13,39	13,73	CBTE-17	0,490	0,620	12,44	15,74	RS-15	MS-26	3/8"	9,52
		10	0,482	0,482	12,25	12,25	CBTE-15	0,462	0,566	11,73	14,37	RS-15	MS-25	3/8"	9,52
		11-12	0,510	0,532	12,95	13,51	CBTE-17	0,490	0,620	12,44	15,74	RS-15	MS-26	3/8"	9,52
		13-15	0,560	0,606	14,23	15,39	CBTE-19	0,538	0,688	13,66	17,47	RS-16	MS-26	3/8"	9,52
7/8"	22,22	16-17	0,620	0,634	15,75	16,11	CBTE-21	0,596	0,752	15,13	19,10	RS-17	MS-27	3/8"	9,52
		18-19	0,652	0,916	16,57	23,26	CBTE-22	0,620	0,776	15,75	19,71	RS-18	MS-27	3/8"	9,52
		11	0,635	0,635	16,12	16,12	CBTE-21	0,596	0,752	15,13	19,10	RS-17	MS-27	3/8"	9,52
		12	0,657	0,657	16,68	16,68	CBTE-22	0,620	0,776	15,75	19,71	RS-18	MS-27	3/8"	9,52
1"	25,40	13-14	0,685	0,709	17,40	18,00	CBTE-23	0,650	0,806	16,51	20,47	RS-19	MS-27	3/8"	9,52
		15-17	0,731	0,759	18,56	19,28	CBTE-24	0,710	0,866	18,03	21,99	RS-19	MS-28	1/2"	12,70
		9	0,704	0,704	17,88	17,88	CBTE-23	0,650	0,806	16,51	20,47	RS-19	MS-27	3/8"	9,52
		10-11	0,732	0,760	18,60	19,30	CBTE-24	0,710	0,866	18,03	21,99	RS-19	MS-28	1/2"	12,70
1-1/8"	28,58	12-13	0,782	0,810	19,86	20,58	CBTE-25	0,760	0,916	19,30	23,26	RS-20	MS-28	1/2"	12,70
		14-16	0,834	0,870	21,18	22,10	CBTE-26	0,812	0,968	20,62	24,58	RS-21	MS-28	1/2"	12,70
		17-18	0,884	0,902	22,46	22,92	CBTE-27	0,861	1,018	21,88	25,85	RS-22	MS-28	1/2"	12,70
		12	0,908	0,908	23,06	23,06	CBTE-27	0,862	1,018	21,89	25,85	RS-22	MS-28	1/2"	12,70
1-1/4"	31,75	13-17	0,937	1,008	23,80	25,60	CBTE-29	0,890	1,173	22,60	29,80	RS-24	MS-29	1/2"	12,70
		9-12	0,949	1,028	24,10	26,10	CBTE-29	0,890	1,173	22,60	29,80	RS-24	MS-29	1/2"	12,70
1-3/8"	34,93	13-16	1,058	1,118	26,88	28,40	CBTE-30	1,016	1,291	25,80	32,80	RS-25	MS-29	1/2"	12,70
		13	1,185	1,185	30,10	30,10	CBTE-31	1,150	1,398	29,20	35,50	RS-26	MS-29	1/2"	12,70
1-1/2"	38,10	11-12	1,260	1,280	32,00	32,50	CBTE-31	1,150	1,398	29,20	35,50	RS-26	MS-29	1/2"	12,70
		13-16	1,310	1,370	33,28	34,80	CBTE-32	1,274	1,524	32,35	38,70	RS-26	MS-30	3/4"	19,05
1-5/8"	41,28	11-13	1,385	1,435	35,17	36,45	CBTE-33	1,336	1,586	33,93	40,28	RS-27	MS-30	3/4"	19,05
1-3/4"	44,45	11-13	1,510	1,560	38,35	39,63	CBTE-36	1,462	1,712	37,13	43,48	RS-28	MS-30	3/4"	19,05
1-7/8"	47,63	11-13	1,635	1,685	41,52	42,80	CBTE-40	1,600	1,850	40,64	46,99	RS-29	MS-31	3/4"	19,05
2"	50,80	11-13	1,760	1,810	44,70	45,98	CBTE-44	1,724	1,974	43,78	50,14	RS-30	MS-31	3/4"	19,05
2-1/8"	53,98	11-13	1,885	1,935	47,87	49,15	CBTE-52	1,850	2,100	46,99	53,34	RS-31	MS-31	3/4"	19,05
2-1/4"	57,15	11-13	2,008	2,058	51,00	52,28	CBTE-56	1,980	2,230	50,28	56,64	RS-31	MS-32	1"	25,40
2-1/2"	63,50	11-13	2,260	2,310	57,40	58,68	CBTE-65	2,230	2,480	56,64	63,00	RS-32	MS-32	1"	25,40
2-3/4"	69,85	11-13	2,510	2,560	63,75	65,03	CBTE-66	2,480	2,730	63,00	69,35	RS-33	MS-32	1"	25,40
3"	76,20	10-13	2,732	2,810	69,40	71,38	CBTE-68	2,690	3,023	68,33	76,78	RS-33	MS-33	1"	25,40
3-1/4"	82,55	10-13	2,984	3,062	75,80	77,78	CBTE-70	2,940	3,273	74,67	83,13	RS-34	MS-33	1"	25,40
3-1/2"	88,90	10-13	3,232	3,310	82,10	84,08	CBTE-80	3,190	3,523	81,02	89,48	RS-35	MS-33	1"	25,40
3-3/4"	95,25	9-13	3,454	3,560	87,73	90,43	CBTE-84	3,412	3,745	86,66	95,12	RS-34	MS-35	1"	25,40
4"	101,60	9-13	3,704	3,810	94,08	96,78	CBTE-90	3,661	3,995	93,00	101,47	RS-35	MS-35	1"	25,40
4-1/2"	114,30	9-13	4,204	4,310	106,78	109,48	CBTE-100	4,161	4,449	105,70	113,00	RS-36	MS-35	1"	25,40