

# BOILER TUBE EXPANDER



## PARALLEL TYPE 'BA' - 3 PLAIN ROLLERS

Tube O. D.  
7/8"- 4.1/2"

### FEATURES:

- Time tested, durable design.
- Sturdy construction with rolls self contained in cage.
- Best 'Value for Money' tool in the world when parallel rolling tubes.
- Use - Economical tool used for applications where tubes are to be expanded without flaring.



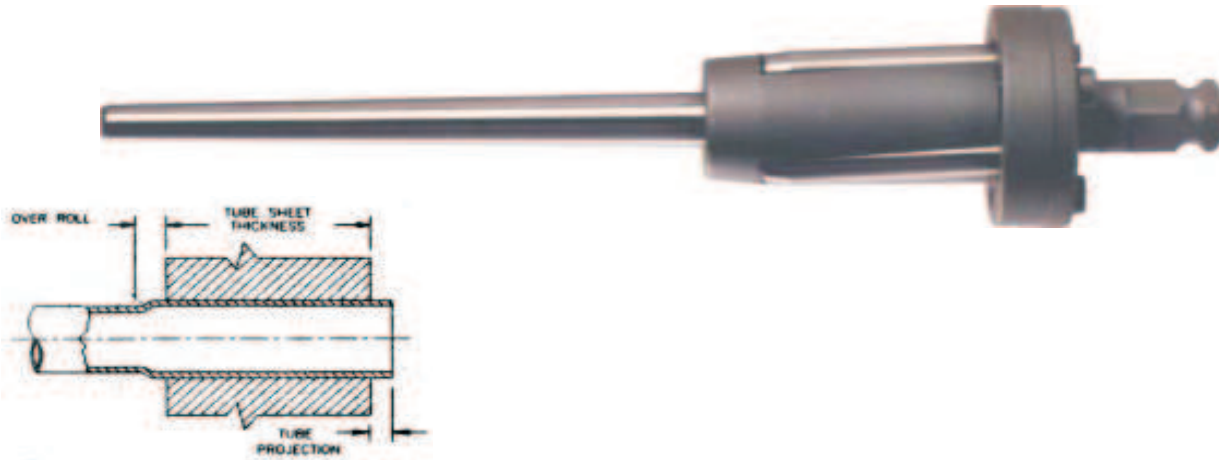
TUBE SIZE			TUBE SIZE			MIN. I. D. TUBE TOOL ENTERS		MAX. EXPANSION OF TOOL		TUBE EXPANDER MODEL NUMBER				
O.D. inch	THK. GA.	THK. inch	O.D. inch	THK. GA.	THK. inch	Mm	Inch	Mm	Inch	TUBE SHEET THICKNESS RANGE				
										1/2" TO 7/8"	3/4" TO 1. 1/8"	1. 1/8" TO 1. 5/8"	1. 5/8" TO 2. 1/8"	2. 1/8" TO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

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Tube O. D.  
7/8" - 4.1/2"



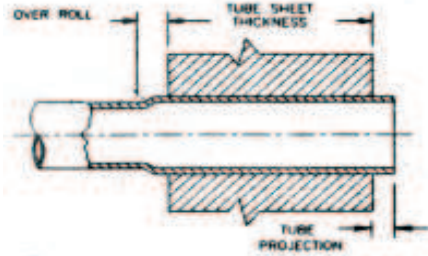
SPARE ROLLERS SET MODEL NUMBER					SPARE MANDREL MODEL NUMBER			
TUBE SHEET THICKNESS RANGE					MANDREL SIZE inch	DRUM TYPE	HEADER TYPE	SHORT SERIES
1/2" TO 7/8"	3/4" TO 1. 1/8"	1. 1/8" TO 1. 5/8"	1. 5/8" TO 2. 1/8"	2. 1/8" TO 2. 5/8"				
2	3	4	5	6	<<< Tube Sheet Thickness Codes			
15-2-RS 15-2-RS 16-2-RS	15-3-RS 15-3-RS 16-3-RS	- - -	- - -	- - -	3/8 3/8 3/8	BDM-11 BDM-12 BDM-12	- - -	- - -
20-2-RS 17-2-RS 18-2-RS	20-3-RS 17-3-RS 18-3-RS	- - -	- - -	- - -	3/8 3/8 3/8	BDM-12 BDM-13 BDM-12	- - -	- - -
18-2-RS 19-2-RS 21-2-RS	18-3-RS 19-3-RS 21-3-RS	18-4-RS 19-4-RS 21-4-RS	- - -	- - -	3/8 3/8 3/8	BDM-13 BDM-13 BDM-13	BHM-13 BHM-13 BHM-13	BSM-13 BSM-13 BSM-13
21-2-RS 22-2-RS 23-2-RS	21-3-RS 22-3-RS 23-3-RS	21-4-RS 22-4-RS 23-4-RS	- - -	- - -	3/8 3/8 1/2	BDM-14 BDM-14 BDM-15	BHM-14 BHM-14 BHM-15	BSM-14 BSM-14 BSM-15
24-2-RS 26-2-RS 27-2-RS	24-3-RS 26-3-RS 27-3-RS	24-4-RS 26-4-RS 27-4-RS	- - -	- - -	1/2 1/2 1/2	BDM-15 BDM-16 BDM-16	BHM-15 BHM-16 BHM-16	BSM-15 BSM-16 BSM-16
31-2-RS 28-2-RS 29-2-RS	31-3-RS 28-3-RS 29-3-RS	31-4-RS 28-4-RS 29-4-RS	- - -	- - -	1/2 1/2 1/2	BDM-16 BDM-17 BDM-17	BHM-16 BHM-17 BHM-17	BSM-16 BSM-17 BSM-17
30-2-RS 30-2-RS 32-2-RS	30-3-RS 30-3-RS 32-3-RS	30-4-RS 30-4-RS 32-4-RS	30-5-RS 30-5-RS 32-5-RS	30-6-RS 30-6-RS 32-6-RS	1/2 1/2 1/2	BDM-17 BDM-18 BDM-18	BHM-17 BHM-18 BHM-18	BSM-17 BSM-18 BSM-18
28-2-RS 29-2-RS 30-2-RS	28-3-RS 29-3-RS 30-3-RS	28-4-RS 29-4-RS 30-4-RS	28-5-RS 29-5-RS 30-5-RS	28-6-RS 29-6-RS 30-6-RS	1/2 1/2 1/2	BDM-20 BDM-20 BDM-20	BHM-20 BHM-20 BHM-20	BSM-20 BSM-20 BSM-20
33-2-RS 34-2-RS 36-2-RS	33-3-RS 34-3-RS 36-3-RS	33-4-RS 34-4-RS 36-4-RS	33-5-RS 34-5-RS 36-5-RS	33-6-RS 34-6-RS 36-6-RS	1/2 1/2 1/2	BDM-20 BDM-21 BDM-21	BHM-20 BHM-21 BHM-21	BSM-20 BSM-21 BSM-21
37-2-RS 33-2-RS 37-2-RS	37-3-RS 33-3-RS 37-3-RS	37-4-RS 33-4-RS 37-4-RS	37-5-RS 33-5-RS 37-5-RS	37-6-RS 33-6-RS 37-6-RS	1/2 3/4 3/4	BDM-21 BDM-22 BDM-22	BHM-21 BHM-22 BHM-22	BSM-21 BSM-22 BSM-22
38-2-RS 39-2-RS 40-2-RS	38-3-RS 39-3-RS 40-3-RS	38-4-RS 39-4-RS 40-4-RS	38-5-RS 39-5-RS 40-5-RS	38-6-RS 39-6-RS 40-6-RS	3/4 3/4 3/4	BDM-22 BDM-22 BDM-22	BHM-22 BHM-22 BHM-22	BSM-22 BSM-22 BSM-22
40-2-RS 41-2-RS 42-2-RS	40-3-RS 41-3-RS 42-3-RS	40-4-RS 41-4-RS 42-4-RS	40-5-RS 41-5-RS 42-5-RS	40-6-RS 41-6-RS 42-6-RS	3/4 3/4 3/4	BDM-23 BDM-23 BDM-23	BHM-23 BHM-23 BHM-23	BSM-23 BSM-23 BSM-23

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Tube O. D.  
7/8" - 4.1/2"



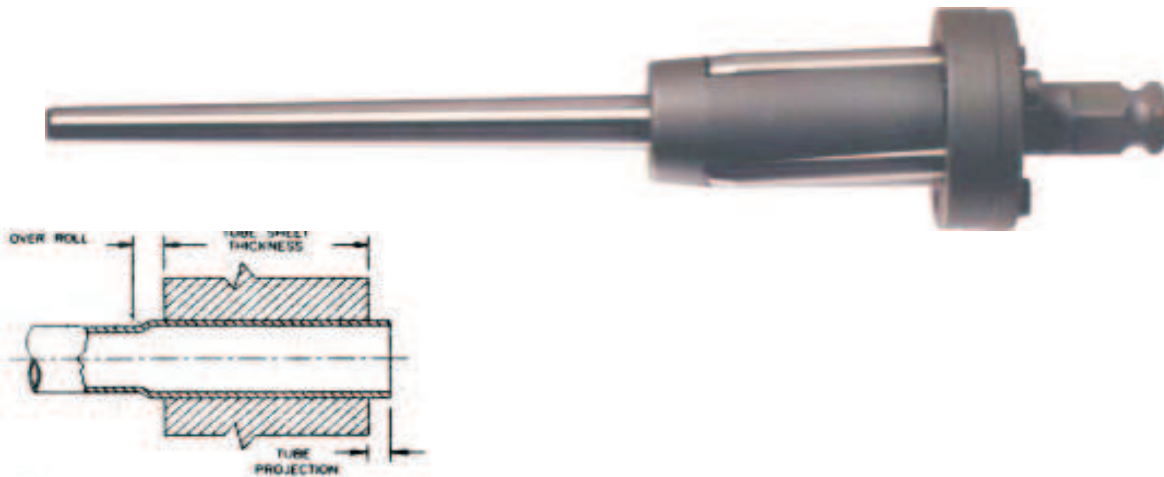
TUBE SIZE			TUBE SIZE			MIN. I. D. TUBE TOOL ENTERS		MAX. EXPANSION OF TOOL		TUBE EXPANDER MODEL NUMBER				
O.D. inch	THK. GA.	THK. inch	O.D. inch	THK. GA.	THK. inch	Mm	Inch	Mm	Inch	TUBE SHEET THICKNESS RANGE				
										1/2" TO 7/8"	3/4" TO 1. 1/8"	1. 1/8" TO 1. 5/8"	1. 5/8" TO 2. 1/8"	2. 1/8" TO 2. 5/8"
Tube Sheet Thickness Codes >>>										2	3	4	5	6
2. 1/2	3	(.259)	2. 1/4	10 & 11	(.134 & .120)	47.7	(1.877)	54.3	(2.137)	BA-67/2	BA-67/3	BA-67/4	BA-67/5	BA-67/6
2. 1/2	4 & 5	(.238 & .220)	2. 1/4	12 & 13	(.109 & .095)	49.3	(1.940)	55.9	(2.200)	BA-68/2	BA-68/3	BA-68/4	BA-68/5	BA-68/6
2. 1/2	6 & 7	(.203 & .180)	2. 1/4	14 - 16	(.083 - .065)	50.8	(2.000)	57.8	(2.275)	BA-69/2	BA-69/3	BA-69/4	BA-69/5	BA-69/6
2. 1/2	8 & 9	(.165 & .148)	2. 3/4	3	(.259)	52.4	(2.062)	59.4	(2.338)	BA-70/2	BA-70/3	BA-70/4	BA-70/5	BA-70/6
2. 1/2	10 & 11	(.134 & .120)	2. 3/4	4	(.238)	54.0	(2.125)	61.0	(2.401)	BA-71/2	BA-71/3	BA-71/4	BA-71/5	BA-71/6
2. 1/2	12 - 14	(.109 - .083)	2. 3/4	5 & 6	(.220 & .203)	55.6	(2.188)	64.0	(2.519)	BA-72/2	BA-72/3	BA-72/4	BA-72/5	BA-72/6
2. 1/2	15 & 16	(.072 & .065)	2. 3/4	7 & 8	(.180 & .165)	57.2	(2.251)	65.6	(2.582)	BA-73/2	BA-73/3	BA-73/4	BA-73/5	BA-73/6
3	3	(.259)	2. 3/4	9 & 10	(.148 & .134)	58.6	(2.307)	67.0	(2.637)	BA-74/2	BA-74/3	BA-74/4	BA-74/5	BA-74/6
3	4	(.238)	2. 3/4	11 - 13	(.120 - .095)	60.4	(2.377)	68.8	(2.708)	BA-75/2	BA-75/3	BA-75/4	BA-75/5	BA-75/6
3	5 & 6	(.220 & .203)	2. 3/4	14 - 16	(.083 - .065)	62.2	(2.448)	70.4	(2.771)	BA-76/2	BA-76/3	BA-76/4	BA-76/5	BA-76/6
3	7 & 8	(.180 & .165)	3. 1/4	3	(.259)	63.6	(2.503)	72.0	(2.834)	BA-77/2	BA-77/3	BA-77/4	BA-77/5	BA-77/6
3	9 & 10	(.148 & .134)	3. 1/4	3	(.259)	65.0	(2.559)	73.4	(2.889)	BA-78/2	BA-78/3	BA-78/4	BA-78/5	BA-78/6
3	11 - 13	(.120 - .095)	3. 1/4	4	(.238)	66.6	(2.622)	75.0	(2.952)	BA-79/2	BA-79/3	BA-79/4	BA-79/5	BA-79/6
3	14 - 16	(.083 - .065)	3. 1/4	5 & 6	(.220 & .203)	68.3	(2.688)	76.9	(3.027)	BA-80/2	BA-80/3	BA-80/4	BA-80/5	BA-80/6
3. 1/2	2	(.284)	3. 1/4	7 & 8	(.180 & .165)	69.9	(2.751)	78.5	(3.090)	BA-81/2	BA-81/3	BA-81/4	BA-81/5	BA-81/6
3. 1/2	3	(.259)	3. 1/4	9 & 10	(.148 & .134)	71.5	(2.814)	80.1	(3.153)	BA-82/2	BA-82/3	BA-82/4	BA-82/5	BA-82/6
3. 1/2	4	(.238)	3. 1/4	11 - 13	(.120 - .095)	73.1	(2.877)	81.7	(3.216)	BA-83/2	BA-83/3	BA-83/4	BA-83/5	BA-83/6
3. 1/2	5 & 6	(.220 & .203)	3. 1/4	14 - 16	(.083 - .065)	74.6	(2.937)	84.2	(3.314)	BA-84/2	BA-84/3	BA-84/4	BA-84/5	BA-84/6
3. 1/2	7 & 8	(.180 & .165)	3. 3/4	2	(.084)	76.2	(3.000)	85.5	(3.366)	BA-85/2	BA-85/3	BA-85/4	BA-85/5	BA-85/6
3. 1/2	9 - 11	(.148 - .120)	3. 3/4	3	(.259)	77.8	(3.062)	87.4	(3.440)	BA-86/2	BA-86/3	BA-86/4	BA-86/5	BA-86/6
3. 1/2	12 - 16	(.109 - .065)	3. 3/4	4	(.238)	79.4	(3.125)	89.0	(3.503)	BA-87/2	BA-87/3	BA-87/4	BA-87/5	BA-87/6
4	2	(.284)	3. 3/4	5 & 6	(.220 & .203)	81.0	(3.188)	90.6	(3.566)	BA-88/2	BA-88/3	BA-88/4	BA-88/5	BA-88/6
4	3	(.259)	3. 3/4	7 & 8	(.180 & .165)	82.6	(3.251)	92.2	(3.629)	BA-89/2	BA-89/3	BA-89/4	BA-89/5	BA-89/6
4	3	(.259)	3. 3/4	9 & 10	(.148 & .134)	84.2	(3.314)	93.8	(3.692)	BA-90/2	BA-90/3	BA-90/4	BA-90/5	BA-90/6
4	4	(.238)	3. 3/4	11 - 13	(.120 - .095)	85.8	(3.377)	96.2	(3.787)	BA-91/2	BA-91/3	BA-91/4	BA-91/5	BA-91/6
4	5 & 6	(.220 & .203)	3. 3/4	14 - 16	(.083 - .065)	87.4	(3.440)	97.8	(3.850)	BA-92/2	BA-92/3	BA-92/4	BA-92/5	BA-92/6
4	7 & 8	(.180 & .165)	4. 1/4	2		89.0	(3.503)	99.4	(3.913)	BA-93/2	BA-93/3	BA-93/4	BA-93/5	BA-93/6
4	9 - 11	(.148 - .120)	4. 1/4	3	(.284)	90.4	(3.559)	100.8	(3.968)	BA-94/2	BA-94/3	BA-94/4	BA-94/5	BA-94/6
4	12 - 16	(.109 - .065)	4. 1/4	4	(.238)	92.0	(3.622)	102.4	(4.031)	BA-95/2	BA-95/3	BA-95/4	BA-95/5	BA-95/6
4	12 - 16	(.109 - .065)	4. 1/4	5 & 6	(.220 & .203)	93.4	(3.677)	103.8	(4.086)	BA-96/2	BA-96/3	BA-96/4	BA-96/5	BA-96/6
4. 1/2	2	(.284)	4. 1/4	7 & 8	(.180 & .165)	95.0	(3.740)	105.4	(4.149)	BA-97/2	BA-97/3	BA-97/4	BA-97/5	BA-97/6
4. 1/2	3	(.259)	4. 1/4	9 - 11	(.148 - .120)	96.6	(3.803)	107.0	(4.212)	BA-98/2	BA-98/3	BA-98/4	BA-98/5	BA-98/6
4. 1/2	4 & 5	(.238 & .220)	4. 1/4	11 - 13	(.120 - .095)	98.2	(3.866)	108.6	(4.275)	BA-99/2	BA-99/3	BA-99/4	BA-99/5	BA-99/6
4. 1/2	6 & 7	(.203 & .180)				101.2	(3.984)	110.0	(4.330)	BA-100/2	BA-100/3	BA-100/4	BA-100/5	BA-100/6
4. 1/2	8 & 9	(.165 & .148)				102.8	(4.047)	111.6	(4.393)	BA-101/2	BA-101/3	BA-101/4	BA-101/5	BA-101/6
4. 1/2	10 - 12	(.134 - .109)				104.4	(4.110)	113.2	(4.456)	BA-102/2	BA-102/3	BA-102/4	BA-102/5	BA-102/6

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Tube O. D.  
7/8" - 4.1/2"



SPARE ROLLERS SET MODEL NUMBER					SPARE MANDREL MODEL NUMBER			
TUBE SHEET THICKNESS RANGE					MANDREL SIZE inch	DRUM TYPE	HEADER TYPE	SHORT SERIES
1/2" TO 7/8"	3/4" TO 1. 1/8"	1. 1/8" TO 1. 5/8"	1. 5/8" TO 2. 1/8"	2. 1/8" TO 2. 5/8"				
2	3	4	5	6	<<< Tube Sheet Thickness Codes			
43-2-RS	43-3-RS	43-4-RS	43-5-RS	43-6-RS	3/4	BDM-23	BHM-23	SM-23
44-2-RS	44-3-RS	44-4-RS	44-5-RS	44-6-RS	3/4	BDM-23	BHM-23	SM-23
43-2-RS	43-3-RS	43-4-RS	43-5-RS	43-6-RS	3/4	BDM-24	BHM-24	SM-24
44-2-RS	44-3-RS	44-4-RS	44-5-RS	44-6-RS	3/4	BDM-24	BHM-24	SM-24
45-2-RS	45-3-RS	45-4-RS	45-5-RS	45-6-RS	3/4	BDM-24	BHM-24	SM-24
47-2-RS	47-3-RS	47-4-RS	47-5-RS	47-6-RS	3/4	BDM-24	BHM-24	SM-24
46-2-RS	46-3-RS	46-4-RS	46-5-RS	46-6-RS	1	BDM-25	BHM-25	SM-25
47-2-RS	47-3-RS	47-4-RS	47-5-RS	47-6-RS	1	BDM-25	BHM-25	SM-25
48-2-RS	48-3-RS	48-4-RS	48-5-RS	48-6-RS	1	BDM-25	BHM-25	SM-25
49-2-RS	49-3-RS	49-4-RS	49-5-RS	49-6-RS	1	BDM-25	BHM-25	SM-25
50-2-RS	50-3-RS	50-4-RS	50-5-RS	50-6-RS	1	BDM-25	BHM-25	SM-25
51-2-RS	51-3-RS	51-4-RS	51-5-RS	51-6-RS	1	BDM-25	BHM-25	SM-25
52-2-RS	52-3-RS	52-4-RS	52-5-RS	52-6-RS	1	BDM-25	BHM-25	SM-25
51-2-RS	51-3-RS	51-4-RS	51-5-RS	51-6-RS	1	BDM-26	BHM-26	SM-26
52-2-RS	52-3-RS	52-4-RS	52-5-RS	52-6-RS	1	BDM-26	BHM-26	SM-26
53-2-RS	53-3-RS	53-4-RS	53-5-RS	53-6-RS	1	BDM-26	BHM-26	SM-26
54-2-RS	54-3-RS	54-4-RS	54-5-RS	54-6-RS	1	BDM-26	BHM-26	SM-26
54-2-RS	54-3-RS	54-4-RS	54-5-RS	54-6-RS	1	BDM-27	BHM-27	SM-27
55-2-RS	55-3-RS	55-4-RS	55-5-RS	55-6-RS	1	BDM-27	BHM-27	SM-27
56-2-RS	56-3-RS	56-4-RS	56-5-RS	56-6-RS	1	BDM-27	BHM-27	SM-27
57-2-RS	57-3-RS	57-4-RS	57-5-RS	57-6-RS	1	BDM-27	BHM-27	SM-27
58-2-RS	58-3-RS	58-4-RS	58-5-RS	58-6-RS	1	BDM-27	BHM-27	BSM-27
59-2-RS	59-3-RS	59-4-RS	59-5-RS	59-6-RS	1	BDM-27	BHM-27	BSM-27
60-2-RS	60-3-RS	60-4-RS	60-5-RS	60-6-RS	1	BDM-27	BHM-27	BSM-27
59-2-RS	59-3-RS	59-4-RS	59-5-RS	59-6-RS	1	BDM-28	BHM-28	BSM-28
60-2-RS	60-3-RS	60-4-RS	60-5-RS	60-6-RS	1	BDM-28	BHM-28	BSM-28
61-2-RS	61-3-RS	61-4-RS	61-5-RS	61-6-RS	1	BDM-28	BHM-28	BSM-28
62-2-RS	62-3-RS	62-4-RS	62-5-RS	62-6-RS	1	BDM-28	BHM-28	BSM-28
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	BDM-28	BHM-28	BSM-28
62-2-RS	62-3-RS	62-4-RS	62-5-RS	62-6-RS	1	BDM-29	BHM-29	BSM-29
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	BDM-29	BHM-29	BSM-29
64-2-RS	64-3-RS	64-4-RS	64-5-RS	64-6-RS	1	BDM-29	BHM-29	BSM-29
63-2-RS	63-3-RS	63-4-RS	63-5-RS	63-6-RS	1	BDM-30	BHM-30	BSM-30
64-2-RS	64-3-RS	64-4-RS	64-5-RS	64-6-RS	1	BDM-30	BHM-30	BSM-30
65-2-RS	65-3-RS	65-4-RS	65-5-RS	65-6-RS	1	BDM-30	BHM-30	BSM-30
66-2-RS	66-3-RS	66-4-RS	66-5-RS	66-6-RS	1	BDM-30	BHM-30	BSM-30