

BOILER TUBE EXPANDER



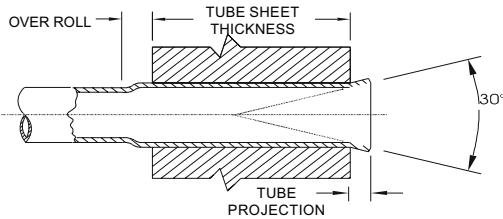
Tube O. D.
7/8"- 4.1/2"

'BABF3' SERIES

3 PLAIN & 3 FLARE ROLLER TUBE EXPANDER WITH THRUST BEARING

FEATURES:

- Its similar to BAF3 series tube expander
- Bearing reduces frictional build up for smoother expanding cycles.
- Bearing increases useful life of tool.
- Use: This tool is most useful for high productivity where flaring of tubes is needed.



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			TUBE SHEET THICKNESS RANGE						
						Mm	Inch	Mm	Inch	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)	ABF3-31/2	ABF3-31/3	-	-	-
7/8	16	(.065)				18.4	(.724)	20.7	(.814)	ABF3-32/2	ABF3-32/3	-	-	-
7/8	17	(.058)	1	11	(.120)	18.8	(.740)	21.1	(.830)	ABF3-33/2	ABF3-33/3	-	-	-
7/8	18	(.049)	1	12	(.109)	19.4	(.763)	21.6	(.850)	ABF3-34/2	ABF3-34/3	-	-	-
7/8	19&20	(.042 & .035)	1. 1/8	8	(.165)	19.7	(.775)	22.3	(.877)	ABF3-35/2	ABF3-35/3	-	-	-
1	13	(.095)				20.1	(.791)	22.4	(.881)	ABF3-36/2	ABF3-36/3	-	-	-
1	14	(.083)	1. 1/8	9	(.148)	20.6	(.811)	23.1	(.909)	ABF3-37/2	ABF3-37/3	ABF3-37/4	-	-
1	15&16	(.072 & .065)	1. 1/8	10	(.134)	21.3	(.838)	23.8	(.937)	ABF3-38/2	ABF3-38/3	ABF3-38/4	-	-
1	17&18	(.058 & .048)	1. 1/8	11	(.120)	22.0	(.866)	24.5	(.964)	ABF3-39/2	ABF3-39/3	ABF3-39/4	-	-
1	19&20	(.042 & .035)	1. 1/8	12	(.109)	22.4	(.881)	25.0	(.984)	ABF3-40/2	ABF3-40/3	ABF3-40/4	-	-
1. 1/4	8	(.165)	1. 1/8	13	(.095)	23.3	(.917)	25.9	(1.019)	ABF3-41/2	ABF3-41/3	ABF3-41/4	-	-
1. 1/4	9	(.148)	1. 1/8	14	(.083)	23.8	(.937)	26.5	(1.043)	ABF3-42/2	ABF3-42/3	ABF3-42/4	-	-
1. 1/4	10	(.134)	1. 1/8	15&16	(.072 & .065)	24.4	(.960)	27.2	(1.070)	ABF3-43/2	ABF3-43/3	ABF3-43/4	-	-
1. 1/4	11	(.120)				25.2	(.992)	28.0	(1.102)	ABF3-44/2	ABF3-44/3	ABF3-44/4	-	-
1. 1/4	12	(.109)				25.7	(1.011)	28.5	(1.122)	ABF3-45/2	ABF3-45/3	ABF3-45/4	-	-
1. 1/4	13	(.095)	1. 3/8	8	(.165)	26.1	(1.027)	28.8	(1.133)	ABF3-46/2	ABF3-46/3	ABF3-46/4	-	-
1. 1/4	14	(.083)				26.4	(1.039)	29.2	(1.149)	ABF3-47/2	ABF3-47/3	ABF3-47/4	-	-
1. 1/4	15	(.072)	1. 3/8	9	(.148)	26.9	(1.059)	29.7	(1.169)	ABF3-48/2	ABF3-48/3	ABF3-48/4	-	-
1. 1/4	16	(.065)	1. 3/8	10	(.134)	27.6	(1.086)	30.4	(1.196)	ABF3-49/2	ABF3-49/3	ABF3-49/4	ABF3-49/5	ABF3-49/6
1. 1/2	7	(.180)	1. 3/8	11	(.120)	28.3	(1.114)	31.2	(1.228)	ABF3-50/2	ABF3-50/3	ABF3-50/4	ABF3-50/5	ABF3-50/6
1. 1/2	8	(.165)	1. 3/8	12	(.109)	28.8	(1.133)	31.7	(1.248)	ABF3-51/2	ABF3-51/3	ABF3-51/4	ABF3-51/5	ABF3-51/6
1. 1/2	9	(.148)	1. 3/8	13&14	(.095 & .083)	29.5	(1.161)	33.4	(1.314)	ABF3-52/2	ABF3-52/3	ABF3-52/4	ABF3-52/5	ABF3-52/6
1. 1/2	10	(.134)	1. 3/8	15&16	(.072 & .065)	30.0	(1.181)	34.1	(1.342)	ABF3-53/2	ABF3-53/3	ABF3-53/4	ABF3-53/5	ABF3-53/6
1. 1/2	11&12	(.120 & .109)				30.6	(1.204)	34.8	(1.370)	ABF3-54/2	ABF3-54/3	ABF3-54/4	ABF3-54/5	ABF3-54/6
1. 1/2	13	(.095)	1. 3/4	5	(.220)	31.4	(1.236)	35.6	(1.401)	ABF3-55/2	ABF3-55/3	ABF3-55/4	ABF3-55/5	ABF3-55/6
1. 1/2	14&15	(.083 & .072)	1. 3/4	6	(.203)	32.6	(1.283)	36.8	(1.448)	ABF3-56/2	ABF3-56/3	ABF3-56/4	ABF3-56/5	ABF3-56/6
			1. 3/4	7	(.180)	33.4	(1.314)	38.1	(1.500)	ABF3-57/2	ABF3-57/3	ABF3-57/4	ABF3-57/5	ABF3-57/6
			1. 3/4	8	(.165)	34.2	(1.346)	38.7	(1.523)	ABF3-58/2	ABF3-58/3	ABF3-58/4	ABF3-58/5	ABF3-58/6
2	3	(.259)	1. 3/4	9 & 10	(.148 & .134)	35.0	(1.377)	40.6	(1.598)	ABF3-59/2	ABF3-59/3	ABF3-59/4	ABF3-59/5	ABF3-59/6
2	4	(.238)	1. 3/4	11&12	(.120 & .109)	36.6	(1.440)	42.2	(1.661)	ABF3-60/2	ABF3-60/3	ABF3-60/4	ABF3-60/5	ABF3-60/6
2	5 & 6	(.220 & .203)	1. 3/4	13&14	(.095 & .083)	38.2	(1.503)	43.8	(1.712)	ABF3-61/2	ABF3-61/3	ABF3-61/4	ABF3-61/5	ABF3-61/6
2	7 & 8	(.180 & .165)	1. 3/4	15&16	(.072 & .065)	39.8	(1.566)	45.4	(1.787)	ABF3-62/2	ABF3-62/3	ABF3-62/4	ABF3-62/5	ABF3-62/6
2	9 & 10	(.148 & .134)	2. 1/4	3	(.259)	41.4	(1.629)	47.0	(1.850)	ABF3-63/2	ABF3-63/3	ABF3-63/4	ABF3-63/5	ABF3-63/6
2	11 - 13	(.120 - .095)	2. 1/4	4	(.238)	42.9	(1.688)	49.5	(1.948)	ABF3-64/2	ABF3-64/3	ABF3-64/4	ABF3-64/5	ABF3-64/6
2	14 - 16	(.083 - .065)	2. 1/4	6 & 7	(.203 & .180)	44.5	(1.751)	51.1	(2.011)	ABF3-65/2	ABF3-65/3	ABF3-65/4	ABF3-65/5	ABF3-65/6
2	17&18	(.058 & .049)	2. 1/4	8 & 9	(.165 & .148)	46.1	(1.814)	52.7	(2.074)	ABF3-66/2	ABF3-66/3	ABF3-66/4	ABF3-66/5	ABF3-66/6

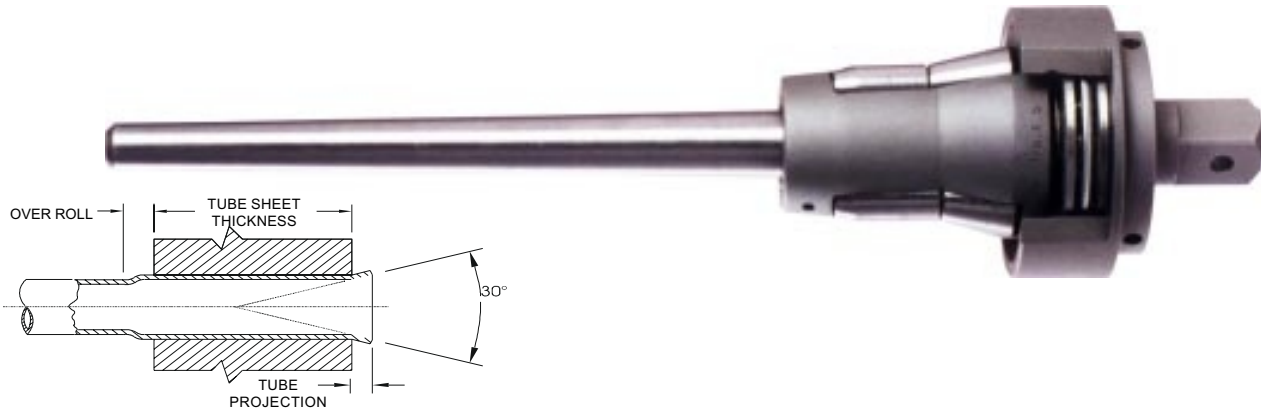
BOILER TUBE EXPANDER



'BABF3' SERIES

3 PLAIN & 3 FLARE ROLLER TUBE EXPANDER WITH THRUST BEARING

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
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	
B15-2-F3S B15-2-F3S B16-2-F3S	B15-3-F3S B15-3-F3S B16-3-F3S	- - -	- - -	- - -	3/8 3/8 3/8	BDMB-11 BDMB-12 BDMB-12
B20-2-F3S B17-2-F3S B18-2-F3S	B20-3-F3S B17-3-F3S B18-3-F3S	- - -	- - -	- - -	3/8 3/8 3/8	BDMB-12 BDMB-13 BDMB-12
B18-2-F3S B19-2-F3S B21-2-F3S	B18-3-F3S B19-3-F3S B21-3-F3S	B18-4-F3S B19-4-F3S B21-4-F3S	- - -	- - -	3/8 3/8 3/8	BDMB-13 BDMB-13 BDMB-13
B21-2-F3S B22-2-F3S B23-2-F3S	B21-3-F3S B22-3-F3S B23-3-F3S	B21-4-F3S B22-4-F3S B23-4-F3S	- - -	- - -	3/8 3/8 1/2	BDMB-14 BDMB-14 BDMB-15
B24-2-F3S B26-2-F3S B27-2-F3S	B24-3-F3S B26-3-F3S B27-3-F3S	B24-4-F3S B26-4-F3S B27-4-F3S	- - -	- - -	1/2 1/2 1/2	BDMB-15 BDMB-16 BDMB-16
B31-2-F3S B28-2-F3S B29-2-F3S	B1-3-F3S B28-3-F3S B29-3-F3S	B31-4-F3S B28-4-F3S B29-4-F3S	- - -	- - -	1/2 1/2 1/2	BDMB-16 BDMB-17 BDMB-17
B30-2-F3S B30-2-F3S 32-2-F3S	B30-3-F3S B30-3-F3S B32-3-F3S	B30-4-F3S B30-4-F3S B32-4-F3S	B30-5-F3S B30-5-F3S B32-5-F3S	B30-6-F3S B30-6-F3S B32-6-F3S	1/2 1/2 1/2	BDMB-17 BDMB-18 BDMB-18
B28-2-F3S B29-2-F3S B30-2-F3S	B28-3-F3S B29-3-F3S B30-3-F3S	B28-4-F3S B29-4-F3S B30-4-F3S	B28-5-F3S B29-5-F3S B30-5-F3S	B28-6-F3S B29-6-F3S B30-6-F3S	1/2 1/2 1/2	BDMB-20 BDMB-20 BDMB-20
B33-2-F3S B34-2-F3S B36-2-F3S	B33-3-F3S B34-3-F3S B36-3-F3S	B33-4-F3S B34-4-F3S B36-4-F3S	B33-5-F3S B34-5-F3S B36-5-F3S	B33-6-F3S B34-6-F3S B36-6-F3S	1/2 1/2 1/2	BDMB-20 BDMB-21 BDMB-21
B37-2-F3S B33-2-F3S B37-2-F3S	B37-3-F3S B33-3-F3S B37-3-F3S	B37-4-F3S B33-4-F3S 3B7-4-F3S	B37-5-F3S B33-5-F3S B37-5-F3S	B37-6-F3S B33-6-F3S B37-6-F3S	1/2 3/4 3/4	BDMB-21 BMB-22 BDMB-22
B38-2-F3S B39-2-F3S B40-2-F3S	B38-3-F3S B39-3-F3S B40-3-F3S	B38-4-F3S B39-4-F3S B40-4-F3S	B38-5-F3S B9-5-F3S B40-5-F3S	B38-6-F3S B39-6-F3S B40-6-F3S	3/4 3/4 3/4	BDMB-22 BDMB-22 BDMB-22
B40-2-F3S B41-2-F3S B42-2-F3S	B40-3-F3S B41-3-F3S B42-3-F3S	B40-4-F3S B41-4-F3S B42-4-F3S	B40-5-F3S B41-5-F3S B42-5-F3S	B40-6-F3S B41-6-F3S B42-6-F3S	3/4 3/4 3/4	BDMB-23 BDMB-23 BDMB-23

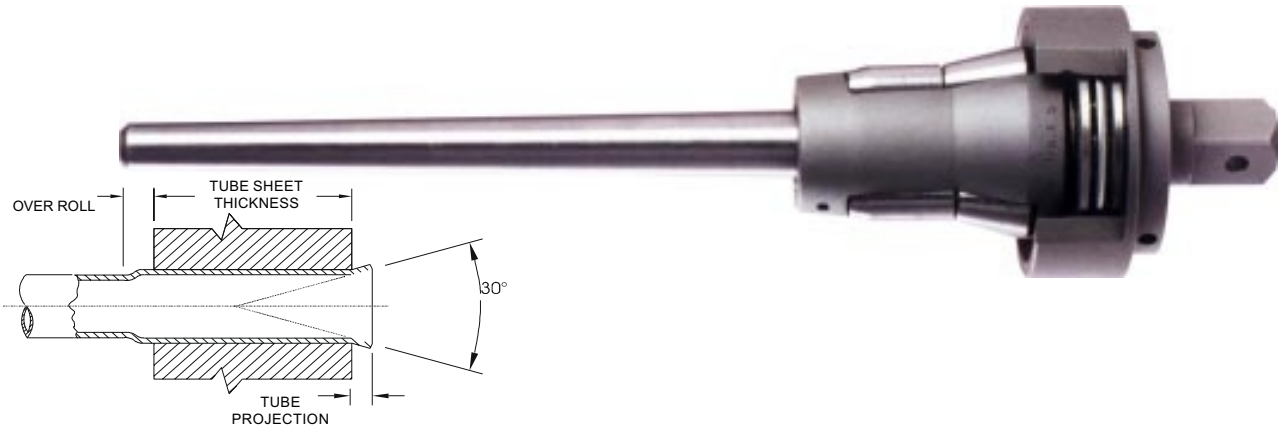
BOILER TUBE EXPANDER



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

'BABF3' SERIES

3 PLAIN & 3 FLARE ROLLER TUBE EXPANDER WITH THRUST BEARING



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			TUBE SHEET THICKNESS RANGE						
						Mm	Inch	Mm	Inch	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)	BABF3-67/2	BABF3-67/3	BABF3-67/4	BABF3-67/5	BABF3-67/6
2.1/2	4 & 5	(.238 &.220)	2.1/4	12&13	(.109 &.095)	49.3	(1.940)	55.9	(2.200)	BABF3-68/2	BABF3-68/3	BABF3-68/4	BABF3-68/5	BABF3-68/6
2.1/2	6 & 7	(.203 &.180)	2.1/4	14 -16	(.083 -.065)	50.8	(2.000)	57.8	(2.275)	BABF3-69/2	BABF3-69/3	BABF3-69/4	BABF3-69/5	BABF3-69/6
2.1/2	8 & 9	(.165 &.148)	2.3/4	3	(.259)	52.4	(2.062)	59.4	(2.338)	BABF3-70/2	BABF3-70/3	BABF3-70/4	BABF3-70/5	BABF3-70/6
2.1/2	10&11	(.134 &.120)	2.3/4	4	(.238)	54.0	(2.125)	61.0	(2.401)	BABF3-71/2	BABF3-71/3	BABF3-71/4	BABF3-71/5	BABF3-71/6
2.1/2	12 -14	(.109 -.083)	2.3/4	5 & 6	(.220 &.203)	55.6	(2.188)	64.0	(2.519)	BABF3-72/2	BABF3-72/3	BABF3-72/4	BABF3-72/5	BABF3-72/6
2.1/2	15&16	(.072 &.065)	2.3/4	7 & 8	(.180 &.165)	57.2	(2.251)	65.6	(2.582)	BABF3-73/2	BABF3-73/3	BABF3-73/4	BABF3-73/5	BABF3-73/6
3	3	(.259)	2.3/4	9 & 10	(.148 &.134)	58.6	(2.307)	67.0	(2.637)	BABF3-74/2	BABF3-74/3	BABF3-74/4	BABF3-74/5	BABF3-74/6
3	4	(.238)	2.3/4	11 -13	(.120 -.095)	60.4	(2.377)	68.8	(2.708)	BABF3-75/2	BABF3-75/3	BABF3-75/4	BABF3-75/5	BABF3-75/6
3	5 & 6	(.220 &.203)	2.3/4	14 -16	(.083 -.065)	62.2	(2.448)	70.4	(2.771)	BABF3-76/2	BABF3-76/3	BABF3-76/4	BABF3-76/5	BABF3-76/6
3	7 & 8	(.180 &.165)	3.1/4	3	(.259)	63.6	(2.503)	72.0	(2.834)	BABF3-77/2	BABF3-77/3	BABF3-77/4	BABF3-77/5	BABF3-77/6
3	9 & 10	(.148 &.134)	3.1/4	4	(.238)	65.0	(2.559)	73.4	(2.889)	BABF3-78/2	BABF3-78/3	BABF3-78/4	BABF3-78/5	BABF3-78/6
3	11 -13	(.120 -.095)	3.1/4	5 & 6	(.220 &.203)	66.6	(2.622)	75.0	(2.952)	BABF3-79/2	BABF3-79/3	BABF3-79/4	BABF3-79/5	BABF3-79/6
3	14 -16	(.083 -.065)	3.1/4	7 & 8	(.180 &.165)	68.3	(2.688)	76.9	(3.027)	BABF3-80/2	BABF3-80/3	BABF3-80/4	BABF3-80/5	BABF3-80/6
3.1/2	2	(.284)	3.1/4	9 & 10	(.148 &.134)	69.9	(2.751)	78.5	(3.090)	BABF3-81/2	BABF3-81/3	BABF3-81/4	BABF3-81/5	BABF3-81/6
3.1/2	3	(.259)	3.1/4	11 -13	(.120 -.095)	71.5	(2.814)	80.1	(3.153)	BABF3-82/2	BABF3-82/3	BABF3-82/4	BABF3-82/5	BABF3-82/6
3.1/2	4	(.238)	3.1/4	14 -16	(.083 -.065)	73.1	(2.877)	81.7	(3.216)	BABF3-83/2	BABF3-83/3	BABF3-83/4	BABF3-83/5	BABF3-83/6
3.1/2	5 & 6	(.220 &.203)	3.1/4	3	(.259)	74.6	(2.937)	84.2	(3.314)	BABF3-84/2	BABF3-84/3	BABF3-84/4	BABF3-84/5	BABF3-84/6
3.1/2	7 & 8	(.180 &.165)	3.3/4	2	(.084)	76.2	(3.000)	85.5	(3.366)	BABF3-85/2	BABF3-85/3	BABF3-85/4	BABF3-85/5	BABF3-85/6
3.1/2	9 - 11	(.148 -.120)	3.3/4	3	(.238)	77.8	(3.062)	87.4	(3.440)	BABF3-86/2	BABF3-86/3	BABF3-86/4	BABF3-86/5	BABF3-86/6
3.1/2	12 -16	(.109 -.065)	3.3/4	4	(.238)	79.4	(3.125)	89.0	(3.503)	BABF3-87/2	BABF3-87/3	BABF3-87/4	BABF3-87/5	BABF3-87/6
4	2	(.284)	3.3/4	5 & 6	(.220 &.203)	81.0	(3.188)	90.6	(3.566)	BABF3-88/2	BABF3-88/3	BABF3-88/4	BABF3-88/5	BABF3-88/6
4	3	(.259)	3.3/4	7 & 8	(.180 &.165)	82.6	(3.251)	92.2	(3.629)	BABF3-89/2	BABF3-89/3	BABF3-89/4	BABF3-89/5	BABF3-89/6
4	4	(.238)	3.3/4	9 & 10	(.148 &.134)	84.2	(3.314)	93.8	(3.692)	BABF3-90/2	BABF3-90/3	BABF3-90/4	BABF3-90/5	BABF3-90/6
4	5 & 6	(.220 &.203)	3.3/4	11 -13	(.120 -.095)	85.8	(3.377)	96.2	(3.787)	BABF3-91/2	BABF3-91/3	BABF3-91/4	BABF3-91/5	BABF3-91/6
4	7 & 8	(.180 &.165)	3.3/4	14 -16	(.083 -.065)	87.4	(3.440)	97.8	(3.850)	BABF3-92/2	BABF3-92/3	BABF3-92/4	BABF3-92/5	BABF3-92/6
4	9 - 11	(.148 -.120)	4.1/4	2	(.284)	89.0	(3.503)	99.4	(3.913)	BABF3-93/2	BABF3-93/3	BABF3-93/4	BABF3-93/5	BABF3-93/6
4	12 -16	(.109 -.065)	4.1/4	3	(.238)	90.4	(3.559)	100.8	(3.968)	BABF3-94/2	BABF3-94/3	BABF3-94/4	BABF3-94/5	BABF3-94/6
4.1/2	2	(.284)	4.1/4	4	(.238)	92.0	(3.622)	102.4	(4.031)	BABF3-95/2	BABF3-95/3	BABF3-95/4	BABF3-95/5	BABF3-95/6
4.1/2	3	(.259)	4.1/4	5 & 6	(.220 &.203)	93.4	(3.677)	103.8	(4.086)	BABF3-96/2	BABF3-96/3	BABF3-96/4	BABF3-96/5	BABF3-96/6
4.1/2	4 & 5	(.238 &.220)	4.1/4	7 & 8	(.180 &.165)	95.0	(3.740)	105.4	(4.149)	BABF3-97/2	BABF3-97/3	BABF3-97/4	BABF3-97/5	BABF3-97/6
4.1/2	8 & 9	(.165 &.148)	4.1/4	9 -11	(.148 -.120)	96.6	(3.803)	107.0	(4.212)	BABF3-98/2	BABF3-98/3	BABF3-98/4	BABF3-98/5	BABF3-98/6
4.1/2	10 -12	(.134 -.109)	4.1/4	11 -13	(.120 -.095)	98.2	(3.866)	108.6	(4.275)	BABF3-99/2	BABF3-99/3	BABF3-99/4	BABF3-99/5	BABF3-99/6
4.1/2	6 & 7	(.203 &.180)				101.2	(3.984)	110.0	(4.330)	BABF3-100/2	BABF3-100/3	BABF3-100/4	BABF3-100/5	BABF3-100/6
4.1/2	8 & 9	(.165 &.148)				102.8	(4.047)	111.6	(4.393)	BABF3-101/2	BABF3-101/3	BABF3-101/4	BABF3-101/5	BABF3-101/6
4.1/2	10 -12	(.134 -.109)				104.4	(4.110)	113.2	(4.456)	BABF3-102/2	BABF3-102/3	BABF3-102/4	BABF3-102/5	BABF3-102/6

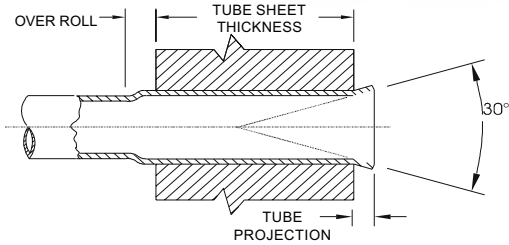
BOILER TUBE EXPANDER



'BABF3' SERIES

3 PLAIN & 3 FLARE ROLLER TUBE EXPANDER WITH THRUST BEARING

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
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-BF3S 44-2-BF3S 43-2-BF3S	B43-3-BF3S B44-3-BF3S B43-3-BF3S	B43-4-BF3S B44-4-BF3S B43-4-BF3S	B43-5-BF3S B44-5-BF3S B43-5-BF3S	B43-6-BF3S B44-6-BF3S B43-6-BF3S	3/4 3/4 3/4	BDMB-23 BDMB-23 BDMB-24
44-2-BF3S 45-2-BF3S 47-2-BF3S	B44-3-BF3S B45-3-BF3S B47-3-BF3S	B44-4-BF3S B45-4-BF3S B47-4-BF3S	B44-5-BF3S B45-5-BF3S B47-5-BF3S	B44-6-BF3S B45-6-BF3S B47-6-BF3S	3/4 3/4 3/4	BDMB-24 BDMB-24 BDMB-24
46-2-BF3S 47-2-BF3S 48-2-BF3S	B46-3-BF3S B47-3-BF3S B48-3-BF3S	B46-4-BF3S B47-4-BF3S B48-4-BF3S	B46-5-BF3S B47-5-BF3S B48-5-BF3S	B46-6-BF3S B47-6-BF3S B48-6-BF3S	1 1 1	BDMB-25 BDMB-25 BDMB-25
49-2-BF3S 50-2-BF3S 51-2-BF3S	B49-3-BF3S B50-3-BF3S B51-3-BF3S	B49-4-BF3S B50-4-BF3S B51-4-BF3S	B49-5-BF3S B50-5-BF3S B51-5-BF3S	B9-6-BF3S B50-6-BF3S B51-6-BF3S	1 1 1	BDMB-25 BDMB-25 BDMB-25
52-2-BF3S 51-2-BF3S 52-2-BF3S	B52-3-BF3S B51-3-BF3S B52-3-BF3S	B52-4-BF3S B51-4-BF3S B52-4-BF3S	B52-5-BF3S B51-5-BF3S B52-5-BF3S	B52-6-BF3S B51-6-BF3S B52-6-BF3S	1 1 1	BDMB-25 BDMB-26 BDMB-26
53-2-BF3S 54-2-BF3S 54-2-BF3S	B53-3-BF3S B54-3-BF3S B54-3-BF3S	B53-4-BF3S B54-4-BF3S B54-4-BF3S	B53-5-BF3S B54-5-BF3S B5-5-BF3S	B53-6-BF3S B54-6-BF3S B54-6-BF3S	1 1 1	BDMB-26 BDMB-26 BDMB-27
55-2-BF3S 56-2-BF3S 57-2-BF3S	B55-3-BF3S B56-3-BF3S B57-3-BF3S	B55-4-BF3S B56-4-BF3S B57-4-BF3S	B5-5-BF3S B6-5-BF3S B57-5-BF3S	B55-6-BF3S B56-6-BF3S B57-6-BF3S	1 1 1	BDMB-27 BDMB-27 BDMB-27
58-2-BF3S 59-2-BF3S 60-2-BF3S	B58-3-BF3S B59-3-BF3S B60-3-BF3S	B58-4-BF3S B9-4-BF3S B60-4-BF3S	B8-5-BF3S B59-5-BF3S B60-5-BF3S	B58-6-BF3S B59-6-BF3S B60-6-BF3S	1 1 1	BDMB-27 BDMB-27 BDMB-27
59-2-BF3S 60-2-BF3S 61-2-BF3S	B59-3-BF3S B60-3-BF3S B61-3-BF3S	B9-4-BF3S B60-4-BF3S B1-4-BF3S	B59-5-BF3S B0-5-BF3S B61-5-BF3S	B59-6-BF3S B60-6-BF3S B61-6-BF3S	1 1 1	BDMB-28 BDMB-28 BDMB-28
62-2-BF3S 63-2-BF3S 62-2-BF3S	B62-3-F3S B63-3-F3S B62-3-F3S	B62-4-F3S B63-4-F3S B62-4-F3S	B62-5-BF3S B63-5-BF3S B62-5-BF3S	B62-6-BF3S B63-6-BF3S B62-6-BF3S	1 1 1	BDMB-28 BDMB-28 BDMB-29
63-2-BF3S 64-2-BF3S 63-2-BF3S	B63-3-F3S B4-3-F3S B63-3-F3S	B63-4-F3S B64-4-F3S B63-4-F3S	B63-5-BF3S B64-5-BF3S B63-5-BF3S	B63-6-F3S B64-6-F3S B63-6-F3S	1 1 1	BDMB-29 BDMB-29 BDMB-30
64-2-BF3S 65-2-BF3S 66-2-BF3S	B64-3-BF3S B65-3-BF3S B66-3-BF3S	B64-4-BF3S B65-4-BF3S B66-4-BF3S	B64-5-BF3S B65-5-BF3S B66-5-BF3S	B64-6-BF3S B65-6-BF3S B66-6-BF3S	1 1 1	BDMB-30 BDMB-30 BDMB-30