

BOILER TUBE EXPANDER

BHARTIYA

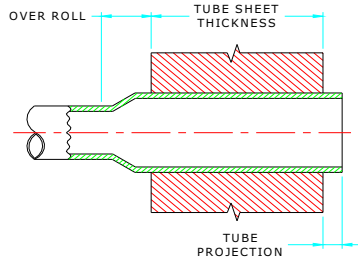
TUBE TOOLS

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 | | | 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 |
| 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) | | | | 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 |

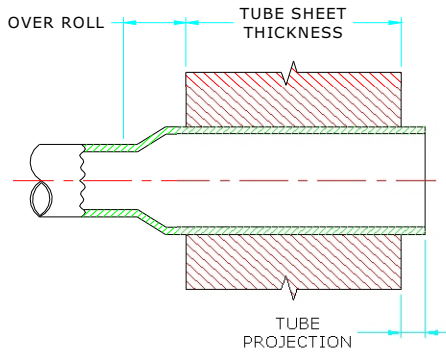
BOILER TUBE EXPANDER



TUBE TOOLS

PARALLEL TYPE 'BA' - 3 PLAIN ROLLERS

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 |

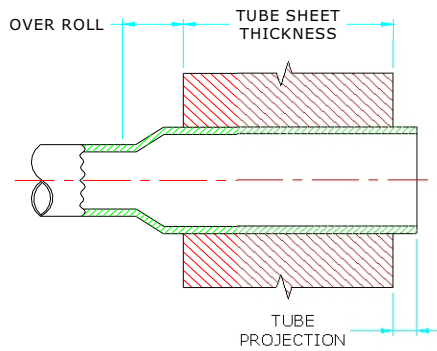
BOILER TUBE EXPANDER

BHARTIYA

TUBE TOOLS

PARALLEL TYPE 'BA' - 3 PLAIN ROLLERS

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 | 4 | | 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 |

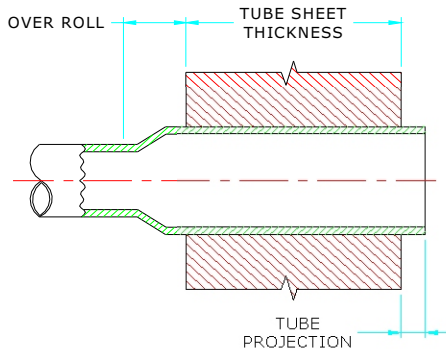
BOILER TUBE EXPANDER



TUBE TOOLS

PARALLEL TYPE 'BA' - 3 PLAIN ROLLERS

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 44-2-RS 43-2-RS | 43-3-RS 44-3-RS 43-3-RS | 43-4-RS 44-4-RS 43-4-RS | 43-5-RS 44-5-RS 43-5-RS | 43-6-RS 44-6-RS 43-6-RS | 3/4 3/4 3/4 | BDM-23 BDM-23 BDM-24 | BHM-23 BHM-23 BHM-24 | SM-23 SM-23 SM-24 |
| 44-2-RS 45-2-RS 47-2-RS | 44-3-RS 45-3-RS 47-3-RS | 44-4-RS 45-4-RS 47-4-RS | 44-5-RS 45-5-RS 47-5-RS | 44-6-RS 45-6-RS 47-6-RS | 3/4 3/4 3/4 | BDM-24 BDM-24 BDM-24 | BHM-24 BHM-24 BHM-24 | SM-24 SM-24 SM-24 |
| 46-2-RS 47-2-RS 48-2-RS | 46-3-RS 47-3-RS 48-3-RS | 46-4-RS 47-4-RS 48-4-RS | 46-5-RS 47-5-RS 48-5-RS | 46-6-RS 47-6-RS 48-6-RS | 1 1 1 | BDM-25 BDM-25 BDM-25 | BHM-25 BHM-25 BHM-25 | SM-25 SM-25 SM-25 |
| 49-2-RS 50-2-RS 51-2-RS | 49-3-RS 50-3-RS 51-3-RS | 49-4-RS 50-4-RS 51-4-RS | 49-5-RS 50-5-RS 51-5-RS | 49-6-RS 50-6-RS 51-6-RS | 1 1 1 | BDM-25 BDM-25 BDM-25 | BHM-25 BHM-25 BHM-25 | SM-25 SM-25 SM-25 |
| 52-2-RS 51-2-RS 52-2-RS | 52-3-RS 51-3-RS 52-3-RS | 52-4-RS 51-4-RS 52-4-RS | 52-5-RS 51-5-RS 52-5-RS | 52-6-RS 51-6-RS 52-6-RS | 1 1 1 | BDM-25 BDM-26 BDM-26 | BHM-25 BHM-26 BHM-26 | SM-25 SM-26 SM-26 |
| 53-2-RS 54-2-RS 54-2-RS | 53-3-RS 54-3-RS 54-3-RS | 53-4-RS 54-4-RS 54-4-RS | 53-5-RS 54-5-RS 54-5-RS | 53-6-RS 54-6-RS 54-6-RS | 1 1 1 | BDM-26 BDM-26 BDM-27 | BHM-26 BHM-26 BHM-27 | SM-26 SM-26 SM-27 |
| 55-2-RS 56-2-RS 57-2-RS | 55-3-RS 56-3-RS 57-3-RS | 55-4-RS 56-4-RS 57-4-RS | 55-5-RS 56-5-RS 57-5-RS | 55-6-RS 56-6-RS 57-6-RS | 1 1 1 | BDM-27 BDM-27 BDM-27 | BHM-27 BHM-27 BHM-27 | SM-27 SM-27 SM-27 |
| 58-2-RS 59-2-RS 60-2-RS | 58-3-RS 59-3-RS 60-3-RS | 58-4-RS 59-4-RS 60-4-RS | 58-5-RS 59-5-RS 60-5-RS | 58-6-RS 59-6-RS 60-6-RS | 1 1 1 | BDM-27 BDM-27 BDM-27 | BHM-27 BHM-27 BHM-27 | BSM-27 BSM-27 BSM-27 |
| 59-2-RS 60-2-RS 61-2-RS | 59-3-RS 60-3-RS 61-3-RS | 59-4-RS 60-4-RS 61-4-RS | 59-5-RS 60-5-RS 61-5-RS | 59-6-RS 60-6-RS 61-6-RS | 1 1 1 | BDM-28 BDM-28 BDM-28 | BHM-28 BHM-28 BHM-28 | BSM-28 BSM-28 BSM-28 |
| 62-2-RS 63-2-RS 62-2-RS | 62-3-RS 63-3-RS 62-3-RS | 62-4-RS 63-4-RS 62-4-RS | 62-5-RS 63-5-RS 62-5-RS | 62-6-RS 63-6-RS 62-6-RS | 1 1 1 | BDM-28 BDM-28 BDM-29 | BHM-28 BHM-28 BHM-29 | BSM-28 BSM-28 BSM-29 |
| 63-2-RS 64-2-RS 63-2-RS | 63-3-RS 64-3-RS 63-3-RS | 63-4-RS 64-4-RS 63-4-RS | 63-5-RS 64-5-RS 63-5-RS | 63-6-RS 64-6-RS 63-6-RS | 1 1 1 | BDM-29 BDM-29 BDM-30 | BHM-29 BHM-29 BHM-30 | BSM-29 BSM-29 BSM-30 |
| 64-2-RS 65-2-RS 66-2-RS | 64-3-RS 65-3-RS 66-3-RS | 64-4-RS 65-4-RS 66-4-RS | 64-5-RS 65-5-RS 66-5-RS | 64-6-RS 65-6-RS 66-6-RS | 1 1 1 | BDM-30 BDM-30 BDM-30 | BHM-30 BHM-30 BHM-30 | BSM-30 BSM-30 BSM-30 |