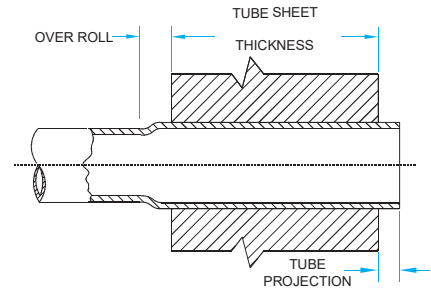


# BOILER TUBE EXPANDER A SERIES

## Features :

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

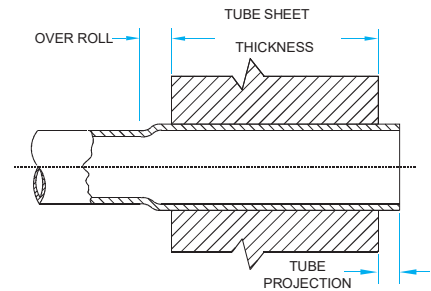
7/8" - 4 1/2"  
O.D.



| Tube O.D. | Tube Thickness |             | Tube O.D. | Tube Thickness |             | Minimum I.D. Tool Enters |       | Maximum Expansion Of Tool |       | Tube Expander Model Number<br>Tube Sheet Thickness Range |                |                  |                  |                  |
|-----------|----------------|-------------|-----------|----------------|-------------|--------------------------|-------|---------------------------|-------|----------------------------------------------------------|----------------|------------------|------------------|------------------|
|           | inch           | bwg         | inch      | bwg            | 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" |
| 7/8       | 15             | .072        | 1         | 10             | .134        | 18.1                     | .712  | 20.4                      | .803  | A-31/2                                                   | A-31/3         | -                | -                | -                |
| 7/8       | 16             | .065        |           |                |             | 18.4                     | .724  | 20.7                      | .814  | A-32/2                                                   | A-32/3         | -                | -                | -                |
| 7/8       | 17             | .058        | 1         | 11             | .120        | 18.8                     | .740  | 21.1                      | .830  | A-33/2                                                   | A-33/3         | -                | -                | -                |
| 7/8       | 18             | .049        | 1         | 12             | .109        | 19.4                     | .763  | 21.6                      | .850  | A-34/2                                                   | A-34/3         | -                | -                | -                |
| 7/8       | 19 & 20        | .042 & .035 | 1 1/8     | 8              | .165        | 19.7                     | .775  | 22.3                      | .877  | A-35/2                                                   | A-35/3         | -                | -                | -                |
| 1         | 13             | .095        |           |                |             | 20.1                     | .791  | 22.4                      | .881  | A-36/2                                                   | A-36/3         | -                | -                | -                |
| 1         | 14             | .083        | 1 1/8     | 9              | .148        | 20.6                     | .811  | 23.1                      | .909  | A-37/2                                                   | A-37/3         | A-37/4           | -                | -                |
| 1         | 15 & 16        | .072 & .065 | 1 1/8     | 10             | .134        | 21.3                     | .838  | 23.8                      | .937  | A-38/2                                                   | A-38/3         | A-38/4           | -                | -                |
| 1         | 17 & 18        | .058 & .048 | 1 1/8     | 11             | .120        | 22.0                     | .866  | 24.5                      | .964  | A-39/2                                                   | A-39/3         | A-39/4           | -                | -                |
| 1         | 19 & 20        | .042 & .035 | 1 1/8     | 12             | .109        | 22.4                     | .881  | 25.0                      | .984  | A-40/2                                                   | A-40/3         | A-40/4           | -                | -                |
| 1 1/4     | 8              | .165        | 1 1/8     | 13             | .095        | 23.3                     | .917  | 25.9                      | 1.019 | A-41/2                                                   | A-41/3         | A-41/4           | -                | -                |
| 1 1/4     | 9              | .148        | 1 1/8     | 14             | .083        | 23.8                     | .937  | 26.5                      | 1.043 | A-42/2                                                   | A-42/3         | A-42/4           | -                | -                |
| 1 1/4     | 10             | .134        | 1 1/8     | 15 & 16        | .072 & .065 | 24.4                     | .960  | 27.2                      | 1.070 | A-43/2                                                   | A-43/3         | A-43/4           | -                | -                |
| 1 1/4     | 11             | .120        |           |                |             | 25.2                     | .992  | 28.0                      | 1.102 | A-44/2                                                   | A-44/3         | A-44/4           | -                | -                |
| 1 1/4     | 12             | .109        |           |                |             | 25.7                     | 1.011 | 28.5                      | 1.122 | A-45/2                                                   | A-45/3         | A-45/4           | -                | -                |
| 1 1/4     | 13             | .095        | 1 3/8     | 8              | .165        | 26.1                     | 1.027 | 28.8                      | 1.133 | A-46/2                                                   | A-46/3         | A-46/4           | -                | -                |
| 1 1/4     | 14             | .083        |           |                |             | 26.4                     | 1.039 | 29.2                      | 1.149 | A-47/2                                                   | A-47/3         | A-47/4           | -                | -                |
| 1 1/4     | 15             | .072        | 1 3/8     | 9              | .148        | 26.9                     | 1.059 | 29.7                      | 1.169 | A-48/2                                                   | A-48/3         | A-48/4           | -                | -                |
| 1 1/4     | 16             | .065        | 1 3/8     | 10             | .134        | 27.6                     | 1.086 | 30.4                      | 1.196 | A-49/2                                                   | A-49/3         | A-49/4           | A-49/5           | A-49/6           |
| 1 1/2     | 7              | .180        | 1 3/8     | 11             | .120        | 28.3                     | 1.114 | 31.2                      | 1.228 | A-50/2                                                   | A-50/3         | A-50/4           | A-50/5           | A-50/6           |
| 1 1/2     | 8              | .165        | 1 3/8     | 12             | .109        | 28.8                     | 1.133 | 31.7                      | 1.248 | A-51/2                                                   | A-51/3         | A-51/4           | A-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 | A-52/2                                                   | A-52/3         | A-52/4           | A-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 | A-53/2                                                   | A-53/3         | A-53/4           | A-53/5           | A-53/6           |
| 1 1/2     | 11 & 12        | .120 & .109 |           |                |             | 30.6                     | 1.204 | 34.8                      | 1.370 | A-54/2                                                   | A-54/3         | A-54/4           | A-54/5           | A-54/6           |
| 1 1/2     | 13             | .095        | 1 3/4     | 5              | .220        | 31.4                     | 1.236 | 35.6                      | 1.401 | A-55/2                                                   | A-55/3         | A-55/4           | A-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 | A-56/2                                                   | A-56/3         | A-56/4           | A-56/5           | A-56/6           |
|           |                |             | 1 3/4     | 7              | .180        | 33.4                     | 1.314 | 38.1                      | 1.500 | A-57/2                                                   | A-57/3         | A-57/4           | A-57/5           | A-57/6           |
|           |                |             | 1 3/4     | 8              | .165        | 34.2                     | 1.346 | 38.7                      | 1.523 | A-58/2                                                   | A-58/3         | A-58/4           | A-58/5           | A-58/6           |
| 2         | 3              | .259        | 1 3/4     | 9 & 10         | .148 & .134 | 35.0                     | 1.377 | 40.6                      | 1.598 | A-59/2                                                   | A-59/3         | A-59/4           | A-59/5           | A-59/6           |
| 2         | 4              | .238        | 1 3/4     | 11 & 12        | .120 & .109 | 36.6                     | 1.440 | 42.2                      | 1.661 | A-60/2                                                   | A-60/3         | A-60/4           | A-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 | A-61/2                                                   | A-61/3         | A-61/4           | A-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 | A-62/2                                                   | A-62/3         | A-62/4           | A-62/5           | A-62/6           |
| 2         | 9 & 10         | .148 & .134 | 2 1/4     | 3              | .259        | 41.4                     | 1.629 | 47.0                      | 1.850 | A-63/2                                                   | A-63/3         | A-63/4           | A-63/5           | A-63/6           |
| 2         | 11 - 13        | .120 - .095 | 2 1/4     | 4              | .238        | 42.9                     | 1.688 | 49.5                      | 1.948 | A-64/2                                                   | A-64/3         | A-64/4           | A-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 | A-65/2                                                   | A-65/3         | A-65/4           | A-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 | A-66/2                                                   | A-66/3         | A-66/4           | A-66/5           | A-66/6           |

# BOILER TUBE EXPANDER A SERIES

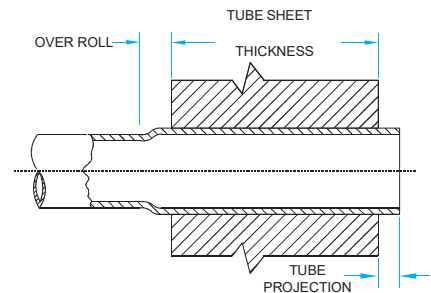
7/8"-4 1/2"  
O.D.



| Spare Rollers Set Model Number<br>Tube Sheet Thickness Range |                      |                        |                        |                        | Mandrel<br>Square<br>Drive<br>Size<br>inch | Spare Mandrel Model Number |                |                                                  |
|--------------------------------------------------------------|----------------------|------------------------|------------------------|------------------------|--------------------------------------------|----------------------------|----------------|--------------------------------------------------|
| 1/2"<br>To<br>7/8"                                           | 3/4"<br>To<br>1 1/8" | 1 1/8"<br>To<br>1 5/8" | 1 5/8"<br>To<br>2 1/8" | 2 1/8"<br>To<br>2 5/8" |                                            | Drum<br>Type               | Header<br>Type | Short Series<br>Mandrel Set<br>(No. Of Mandrels) |
| 15-2-RS                                                      | 15-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-11                      | -              | -                                                |
| 15-2-RS                                                      | 15-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-12                      | -              | -                                                |
| 16-2-RS                                                      | 16-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-12                      | -              | -                                                |
| 20-2-RS                                                      | 20-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-12                      | -              | -                                                |
| 17-2-RS                                                      | 17-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-13                      | -              | -                                                |
| 18-2-RS                                                      | 18-3-RS              | -                      | -                      | -                      | 3/8                                        | DM-12                      | -              | -                                                |
| 18-2-RS                                                      | 18-3-RS              | 18-4-RS                | - (2)                  | -                      | 3/8                                        | DM-13                      | HM-13          | SM-13                                            |
| 19-2-RS                                                      | 19-3-RS              | 19-4-RS                | - (2)                  | -                      | 3/8                                        | DM-13                      | HM-13          | SM-13                                            |
| 21-2-RS                                                      | 21-3-RS              | 21-4-RS                | - (2)                  | -                      | 3/8                                        | DM-13                      | HM-13          | SM-13                                            |
| 21-2-RS                                                      | 21-3-RS              | 21-4-RS                | - (2)                  | -                      | 3/8                                        | DM-14                      | HM-14          | SM-14                                            |
| 22-2-RS                                                      | 22-3-RS              | 22-4-RS                | - (2)                  | -                      | 3/8                                        | DM-14                      | HM-14          | SM-14                                            |
| 23-2-RS                                                      | 23-3-RS              | 23-4-RS                | - (2)                  | -                      | 1/2                                        | DM-15                      | HM-15          | SM-15                                            |
| 24-2-RS                                                      | 24-3-RS              | 24-4-RS                | - (2)                  | -                      | 1/2                                        | DM-15                      | HM-15          | SM-15                                            |
| 26-2-RS                                                      | 26-3-RS              | 26-4-RS                | - (2)                  | -                      | 1/2                                        | DM-16                      | HM-16          | SM-16                                            |
| 27-2-RS                                                      | 27-3-RS              | 27-4-RS                | - (2)                  | -                      | 1/2                                        | DM-16                      | HM-16          | SM-16                                            |
| 31-2-RS                                                      | 31-3-RS              | 31-4-RS                | - (2)                  | -                      | 1/2                                        | DM-16                      | HM-16          | SM-16                                            |
| 28-2-RS                                                      | 28-3-RS              | 28-4-RS                | - (2)                  | -                      | 1/2                                        | DM-17                      | HM-17          | SM-17                                            |
| 29-2-RS                                                      | 29-3-RS              | 29-4-RS                | - (2)                  | -                      | 1/2                                        | DM-17                      | HM-17          | SM-17                                            |
| 30-2-RS                                                      | 30-3-RS              | 30-4-RS                | 30-5-RS                | 30-6-RØ                | 1/2                                        | DM-17                      | HM-17          | SM-17                                            |
| 30-2-RS                                                      | 30-3-RS              | 30-4-RS                | 30-5-RS                | 30-6-RØ                | 1/2                                        | DM-18                      | HM-18          | SM-18                                            |
| 32-2-RS                                                      | 32-3-RS              | 32-4-RS                | 32-5-RS                | 32-6-RØ                | 1/2                                        | DM-18                      | HM-18          | SM-18                                            |
| 28-2-RS                                                      | 28-3-RS              | 28-4-RS                | 28-5-RS                | 28-6-RØ                | 1/2                                        | DM-20                      | HM-20          | SM-20                                            |
| 29-2-RS                                                      | 29-3-RS              | 29-4-RS                | 29-5-RS                | 29-6-RØ                | 1/2                                        | DM-20                      | HM-20          | SM-20                                            |
| 30-2-RS                                                      | 30-3-RS              | 30-4-RS                | 30-5-RS                | 30-6-RØ                | 1/2                                        | DM-20                      | HM-20          | SM-20                                            |
| 33-2-RS                                                      | 33-3-RS              | 33-4-RS                | 33-5-RS                | 33-6-RØ                | 1/2                                        | DM-20                      | HM-20          | SM-20                                            |
| 32-2-RS                                                      | 32-3-RS              | 32-4-RS                | 32-5-RS                | 32-6-RØ                | 1/2                                        | DM-21                      | HM-21          | SM-21                                            |
| 36-2-RS                                                      | 36-3-RS              | 36-4-RS                | 36-5-RS                | 36-6-RØ                | 1/2                                        | DM-21                      | HM-21          | SM-21                                            |
| 37-2-RS                                                      | 37-3-RS              | 37-4-RS                | 37-5-RS                | 37-6-RØ                | 1/2                                        | DM-21                      | HM-21          | SM-21                                            |
| 33-2-RS                                                      | 33-3-RS              | 33-4-RS                | 33-5-RS                | 33-6-RØ                | 3/4                                        | DM-22                      | HM-22          | SM-22                                            |
| 37-2-RS                                                      | 37-3-RS              | 37-4-RS                | 37-5-RS                | 37-6-RØ                | 3/4                                        | DM-22                      | HM-22          | SM-22                                            |
| 38-2-RS                                                      | 38-3-RS              | 38-4-RS                | 38-5-RS                | 38-6-RØ                | 3/4                                        | DM-22                      | HM-22          | SM-22                                            |
| 39-2-RS                                                      | 39-3-RS              | 39-4-RS                | 39-5-RS                | 39-6-RØ                | 3/4                                        | DM-22                      | HM-22          | SM-22                                            |
| 40-2-RS                                                      | 40-3-RS              | 40-4-RS                | 40-5-RS                | 40-6-RØ                | 3/4                                        | DM-22                      | HM-22          | SM-22                                            |
| 40-2-RS                                                      | 40-3-RS              | 40-4-RS                | 40-5-RS                | 40-6-RØ                | 3/4                                        | DM-23                      | HM-23          | SM-23                                            |
| 41-2-RS                                                      | 41-3-RS              | 41-4-RS                | 41-5-RS                | 41-6-RØ                | 3/4                                        | DM-23                      | HM-23          | SM-23                                            |
| 42-2-RS                                                      | 42-3-RS              | 42-4-RS                | 42-5-RS                | 42-6-RØ                | 3/4                                        | DM-23                      | HM-23          | SM-23                                            |

# BOILER TUBE EXPANDER A SERIES

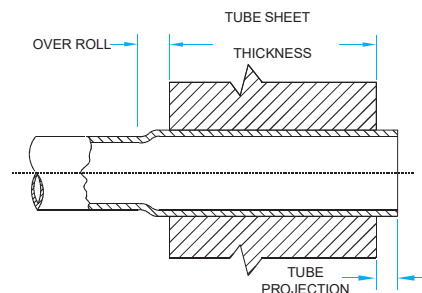
7/8"-4 1/2"  
O.D.



| Tube<br>O.D. | Tube<br>Thickness |             | Tube<br>O.D. | Tube<br>Thickness |             | Minimum I.D.<br>Tool<br>Enters |       | Maximum<br>Expansion<br>Of Tool |       | Tube Expander Model Number<br>Tube Sheet Thickness Range |                      |                        |                        |                        |
|--------------|-------------------|-------------|--------------|-------------------|-------------|--------------------------------|-------|---------------------------------|-------|----------------------------------------------------------|----------------------|------------------------|------------------------|------------------------|
|              | inch              | bwg         | inch         | bwg               | inch        |                                |       |                                 |       | 1/2"<br>To<br>7/8"                                       | 3/4"<br>To<br>1.1/8" | 1.1/8"<br>To<br>1.5/8" | 1.5/8"<br>To<br>2.1/8" | 2.1/8"<br>To<br>2.5/8" |
| 2.1/2        | 3                 | .259        | 2.1/4        | 10 & 11           | .134 & .120 | 47.7                           | 1.877 | 54.3                            | 2.137 | A-67/2                                                   | A-67/3               | A-67/4                 | A-67/5                 | A-67/6                 |
| 2.1/2        | 4 & 5             | .238 & .220 | 2.1/4        | 12 & 13           | .109 & .095 | 49.3                           | 1.940 | 55.9                            | 2.200 | A-68/2                                                   | A-68/3               | A-68/4                 | A-68/5                 | A-68/6                 |
| 2.1/2        | 6 & 7             | .203 & .180 | 2.1/4        | 14 - 16           | .083 - .065 | 50.8                           | 2.000 | 57.8                            | 2.275 | A-69/2                                                   | A-69/3               | A-69/4                 | A-69/5                 | A-69/6                 |
| 2.1/2        | 8 & 9             | .165 & .148 | 2.3/4        | 3                 | .259        | 52.4                           | 2.062 | 59.4                            | 2.338 | A-70/2                                                   | A-70/3               | A-70/4                 | A-70/5                 | A-70/6                 |
| 2.1/2        | 10 & 11           | .134 & .120 | 2.3/4        | 4                 | .238        | 54.0                           | 2.125 | 61.0                            | 2.401 | A-71/2                                                   | A-71/3               | A-71/4                 | A-71/5                 | A-71/6                 |
| 2.1/2        | 12 - 14           | .109 - .083 | 2.3/4        | 5 & 6             | .220 & .203 | 55.6                           | 2.188 | 64.0                            | 2.519 | A-72/2                                                   | A-72/3               | A-72/4                 | A-72/5                 | A-72/6                 |
| 2.1/2        | 15 & 16           | .072 & .065 | 2.3/4        | 7 & 8             | .180 & .165 | 57.2                           | 2.251 | 65.6                            | 2.582 | A-73/2                                                   | A-73/3               | A-73/4                 | A-73/5                 | A-73/6                 |
| 3            | 3                 | .259        | 2.3/4        | 9 & 10            | .148 & .134 | 58.6                           | 2.307 | 67.0                            | 2.637 | A-74/2                                                   | A-74/3               | A-74/4                 | A-74/5                 | A-74/6                 |
| 3            | 4                 | .238        | 2.3/4        | 11 - 13           | .120 - .095 | 60.4                           | 2.377 | 68.8                            | 2.708 | A-75/2                                                   | A-75/3               | A-75/4                 | A-75/5                 | A-75/6                 |
| 3            | 5 & 6             | .220 & .203 | 2.3/4        | 14 - 16           | .083 - .065 | 62.2                           | 2.448 | 70.4                            | 2.771 | A-76/2                                                   | A-76/3               | A-76/4                 | A-76/5                 | A-76/6                 |
| 3            | 7 & 8             | .180 & .165 | -            | -                 | -           | 63.6                           | 2.503 | 72.0                            | 2.834 | A-77/2                                                   | A-77/3               | A-77/4                 | A-77/5                 | A-77/6                 |
| 3            | 9 & 10            | .148 & .134 | 3.1/4        | 3                 | .259        | 65.0                           | 2.559 | 73.4                            | 2.889 | A-78/2                                                   | A-78/3               | A-78/4                 | A-78/5                 | A-78/6                 |
| 3            | 11 - 13           | .120 - .095 | 3.1/4        | 4                 | .238        | 66.6                           | 2.622 | 75.0                            | 2.952 | A-79/2                                                   | A-79/3               | A-79/4                 | A-79/5                 | A-79/6                 |
| 3            | 14 - 16           | .083 - .065 | 3.1/4        | 5 & 6             | .220 & .203 | 68.3                           | 2.688 | 76.9                            | 3.027 | A-80/2                                                   | A-80/3               | A-80/4                 | A-80/5                 | A-80/6                 |
| 3.1/2        | 2                 | .284        | 3.1/4        | 7 & 8             | .180 & .165 | 69.9                           | 2.751 | 78.5                            | 3.090 | A-81/2                                                   | A-81/3               | A-81/4                 | A-81/5                 | A-81/6                 |
| 3.1/2        | 3                 | .259        | 3.1/4        | 9 & 10            | .148 & .134 | 71.5                           | 2.814 | 80.1                            | 3.153 | A-82/2                                                   | A-82/3               | A-82/4                 | A-82/5                 | A-82/6                 |
| 3.1/2        | 4                 | .238        | 3.1/4        | 11 - 13           | .120 - .095 | 73.1                           | 2.877 | 81.7                            | 3.216 | A-83/2                                                   | A-83/3               | A-83/4                 | A-83/5                 | A-83/6                 |
| 3.1/2        | 5 & 6             | .220 & .203 | 3.1/4        | 14 - 16           | .083 - .065 | 74.6                           | 2.937 | 84.2                            | 3.314 | A-84/2                                                   | A-84/3               | A-84/4                 | A-84/5                 | A-84/6                 |
| 3.1/2        | 7 & 8             | .180 & .165 | 3.3/4        | 2                 | .084        | 76.2                           | 3.000 | 85.5                            | 3.366 | A-85/2                                                   | A-85/3               | A-85/4                 | A-85/5                 | A-85/6                 |
| 3.1/2        | 9 - 10            | .148 - .120 | 3.3/4        | 3                 | .259        | 77.8                           | 3.062 | 87.4                            | 3.440 | A-86/2                                                   | A-86/3               | A-86/4                 | A-86/5                 | A-86/6                 |
| 3.1/2        | 12 - 16           | .109 - .065 | 3.3/4        | 4                 | .238        | 79.4                           | 3.125 | 89.0                            | 3.503 | A-87/2                                                   | A-87/3               | A-87/4                 | A-87/5                 | A-87/6                 |
|              |                   |             | 3.3/4        | 5 & 6             | .220 & .203 | 81.0                           | 3.188 | 90.6                            | 3.566 | A-88/2                                                   | A-88/3               | A-88/4                 | A-88/5                 | A-88/6                 |
| 4            | 2                 | .284        | 3.3/4        | 7 & 8             | .180 & .165 | 82.6                           | 3.251 | 92.2                            | 3.629 | A-89/2                                                   | A-89/3               | A-89/4                 | A-89/5                 | A-89/6                 |
| 4            | 3                 | .259        | 3.3/4        | 9 & 10            | .148 & .134 | 84.2                           | 3.314 | 93.8                            | 3.629 | A-90/2                                                   | A-90/3               | A-90/4                 | A-90/5                 | A-90/6                 |
| 4            | 4                 | .238        | 3.3/4        | 11 - 13           | .120 - .095 | 85.8                           | 3.377 | 96.2                            | 3.787 | A-91/2                                                   | A-91/3               | A-91/4                 | A-91/5                 | A-91/6                 |
| 4            | 5 & 6             | .220 & .203 | 3.3/4        | 14 - 16           | .083 - .065 | 87.4                           | 3.440 | 97.8                            | 3.850 | A-92/2                                                   | A-92/3               | A-92/4                 | A-92/5                 | A-92/6                 |
| 4            | 7 & 8             | .180 & .165 | 4.1/4        | 2                 |             | 89.0                           | 3.503 | 99.4                            | 3.913 | A-93/2                                                   | A-93/3               | A-93/4                 | A-93/5                 | A-93/6                 |
| 4            | 9 - 11            | .148 - .120 | 4.1/4        | 3                 | .284        | 90.4                           | 3.559 | 100.8                           | 3.968 | A-94/2                                                   | A-94/3               | A-94/4                 | A-94/5                 | A-94/6                 |
| 4            | 12 - 16           | .109 - .065 | 4.1/4        | 4                 | .238        | 92.0                           | 3.622 | 102.4                           | 4.031 | A-95/2                                                   | A-95/3               | A-95/4                 | A-95/5                 | A-95/6                 |
|              |                   |             | 4.1/4        | 5 & 6             | .220 & .203 | 93.4                           | 3.677 | 103.8                           | 4.086 | A-96/2                                                   | A-96/3               | A-96/4                 | A-96/5                 | A-96/6                 |
| 4.1/2        | 2                 | .284        | 4.1/4        | 7 & 8             | .180 & .165 | 95.0                           | 3.740 | 105.4                           | 4.149 | A-97/2                                                   | A-97/3               | A-97/4                 | A-97/5                 | A-97/6                 |
| 4.1/2        | 3                 | .259        | 4.1/4        | 9 - 11            | .148 - .120 | 96.6                           | 3.803 | 107.0                           | 4.212 | A-98/2                                                   | A-98/3               | A-98/4                 | A-98/5                 | A-98/6                 |
| 4.1/2        | 4 & 5             | .238 & .220 | 4.1/4        | 11 - 13           | .120 - .095 | 98.2                           | 3.866 | 108.6                           | 4.275 | A-99/2                                                   | A-99/3               | A-99/4                 | A-99/5                 | A-99/6                 |
| 4.1/2        | 6 & 7             | .203 & .180 | -            | -                 | -           | 101.2                          | 3.984 | 110.0                           | 4.330 | A-100/2                                                  | A-100/3              | A-100/4                | A-100/5                | A-100/6                |
| 4.1/2        | 8 & 9             | .165 & .148 | -            | -                 | -           | 102.8                          | 4.047 | 111.6                           | 4.393 | A-101/2                                                  | A-101/3              | A-101/4                | A-101/5                | A-101/6                |
| 4.1/2        | 10 - 12           | .134 - .109 | -            | -                 | -           | 104.4                          | 4.110 | 113.2                           | 4.456 | A-102/2                                                  | A-102/3              | A-102/4                | A-102/5                | A-102/6                |

# BOILER TUBE EXPANDER A SERIES

$\frac{7}{8}$ "- $\frac{1}{2}$ "  
O.D.



| Spare Rollers Set Model Number<br>Tube Sheet Thickness Range |                                           |                                            |                                            |                                            | Mandrel<br>Square<br>Drive<br>Size<br>inch | Spare Mandrel Model Number |                |                                                  |
|--------------------------------------------------------------|-------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|----------------------------|----------------|--------------------------------------------------|
| $\frac{1}{2}$ "<br>To<br>$\frac{7}{8}$ "                     | $\frac{3}{4}$ "<br>To<br>$1\frac{1}{8}$ " | $1\frac{1}{8}$ "<br>To<br>$1\frac{5}{8}$ " | $1\frac{5}{8}$ "<br>To<br>$2\frac{1}{8}$ " | $2\frac{1}{8}$ "<br>To<br>$2\frac{5}{8}$ " |                                            | Drum<br>Type               | Header<br>Type | Short Series<br>Mandrel Set<br>(No. Of Mandrels) |
| 43-2-RS                                                      | 43-3-RS                                   | 43-4-RS                                    | 43-5-RS                                    | 43-6-RS                                    | 3/4                                        | DM-23                      | HM-23          | SM-23                                            |
| 44-2-RS                                                      | 44-3-RS                                   | 44-4-RS                                    | 44-5-RS                                    | 44-6-RS                                    | 3/4                                        | DM-23                      | HM-23          | SM-23                                            |
| 43-2-RS                                                      | 43-3-RS                                   | 43-4-RS                                    | 43-5-RS                                    | 43-6-RS                                    | 3/4                                        | DM-24                      | HM-24          | SM-24                                            |
| 44-2-RS                                                      | 44-3-RS                                   | 44-4-RS                                    | 44-5-RS                                    | 44-6-RS                                    | 3/4                                        | DM-24                      | HM-24          | SM-24                                            |
| 45-2-RS                                                      | 45-3-RS                                   | 45-4-RS                                    | 45-5-RS                                    | 45-6-RS                                    | 3/4                                        | DM-24                      | HM-24          | SM-24                                            |
| 47-2-RS                                                      | 47-3-RS                                   | 47-4-RS                                    | 47-5-RS                                    | 47-6-RS                                    | 3/4                                        | DM-24                      | HM-24          | SM-24                                            |
| 46-2-RS                                                      | 46-3-RS                                   | 46-4-RS                                    | 46-5-RS                                    | 46-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 47-2-RS                                                      | 47-3-RS                                   | 47-4-RS                                    | 47-5-RS                                    | 47-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 48-2-RS                                                      | 48-3-RS                                   | 48-4-RS                                    | 48-5-RS                                    | 48-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 49-2-RS                                                      | 49-3-RS                                   | 49-4-RS                                    | 49-5-RS                                    | 49-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 50-2-RS                                                      | 50-3-RS                                   | 50-4-RS                                    | 50-5-RS                                    | 50-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 51-2-RS                                                      | 51-3-RS                                   | 51-4-RS                                    | 51-5-RS                                    | 51-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 52-2-RS                                                      | 52-3-RS                                   | 52-4-RS                                    | 52-5-RS                                    | 52-6-RS                                    | 1                                          | DM-25                      | HM-25          | SM-25                                            |
| 51-2-RS                                                      | 51-3-RS                                   | 51-4-RS                                    | 51-5-RS                                    | 51-6-RS                                    | 1                                          | DM-26                      | HM-26          | SM-26                                            |
| 52-2-RS                                                      | 52-3-RS                                   | 52-4-RS                                    | 52-5-RS                                    | 52-6-RS                                    | 1                                          | DM-26                      | HM-26          | SM-26                                            |
| 53-2-RS                                                      | 53-3-RS                                   | 53-4-RS                                    | 53-5-RS                                    | 53-6-RS                                    | 1                                          | DM-26                      | HM-26          | SM-26                                            |
| 54-2-RS                                                      | 54-3-RS                                   | 54-4-RS                                    | 54-5-RS                                    | 54-6-RS                                    | 1                                          | DM-26                      | HM-26          | SM-26                                            |
| 54-2-RS                                                      | 54-3-RS                                   | 54-4-RS                                    | 54-5-RS                                    | 54-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 55-2-RS                                                      | 55-3-RS                                   | 55-4-RS                                    | 55-5-RS                                    | 55-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 56-2-RS                                                      | 56-3-RS                                   | 56-4-RS                                    | 56-5-RS                                    | 56-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 57-2-RS                                                      | 57-3-RS                                   | 57-4-RS                                    | 57-5-RS                                    | 57-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 58-2-RS                                                      | 58-3-RS                                   | 58-4-RS                                    | 58-5-RS                                    | 58-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 59-2-RS                                                      | 59-3-RS                                   | 59-4-RS                                    | 59-5-RS                                    | 59-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 60-2-RS                                                      | 60-3-RS                                   | 60-4-RS                                    | 60-5-RS                                    | 60-6-RS                                    | 1                                          | DM-27                      | HM-27          | SM-27                                            |
| 59-2-RS                                                      | 59-3-RS                                   | 59-4-RS                                    | 59-5-RS                                    | 59-6-RS                                    | 1                                          | DM-28                      | HM-28          | SM-28                                            |
| 60-2-RS                                                      | 60-3-RS                                   | 60-4-RS                                    | 60-5-RS                                    | 60-6-RS                                    | 1                                          | DM-28                      | HM-28          | SM-28                                            |
| 61-2-RS                                                      | 61-3-RS                                   | 61-4-RS                                    | 61-5-RS                                    | 61-6-RS                                    | 1                                          | DM-28                      | HM-28          | SM-28                                            |
| 62-2-RS                                                      | 62-3-RS                                   | 62-4-RS                                    | 62-5-RS                                    | 62-6-RS                                    | 1                                          | DM-28                      | HM-28          | SM-28                                            |
| 63-2-RS                                                      | 63-3-RS                                   | 63-4-RS                                    | 63-5-RS                                    | 63-6-RS                                    | 1                                          | DM-28                      | HM-28          | SM-28                                            |
| 62-2-RS                                                      | 62-3-RS                                   | 62-4-RS                                    | 62-5-RS                                    | 62-6-RS                                    | 1                                          | DM-29                      | HM-29          | SM-29                                            |
| 63-2-RS                                                      | 63-3-RS                                   | 63-4-RS                                    | 63-5-RS                                    | 63-6-RS                                    | 1                                          | DM-29                      | HM-29          | SM-29                                            |
| 64-2-RS                                                      | 64-3-RS                                   | 64-4-RS                                    | 64-5-RS                                    | 64-6-RS                                    | 1                                          | DM-29                      | HM-29          | SM-29                                            |
| 63-2-RS                                                      | 63-3-RS                                   | 63-4-RS                                    | 63-5-RS                                    | 63-6-RS                                    | 1                                          | DM-30                      | HM-30          | SM-30                                            |
| 64-2-RS                                                      | 64-3-RS                                   | 64-4-RS                                    | 64-5-RS                                    | 64-6-RS                                    | 1                                          | DM-30                      | HM-30          | SM-30                                            |
| 65-2-RS                                                      | 65-3-RS                                   | 65-4-RS                                    | 65-5-RS                                    | 65-6-RS                                    | 1                                          | DM-30                      | HM-30          | SM-30                                            |
| 66-2-RS                                                      | 66-3-RS                                   | 66-4-RS                                    | 66-5-RS                                    | 66-6-RS                                    | 1                                          | DM-30                      | HM-30          | SM-30                                            |