

# 800 Series

The 800 Series offers a basic and reliable solution for expanding tubes in the most common sizes. It features three expansion rolls, available in two lengths. This tool is suitable for use in condensers, coolers, heat exchangers, surface condensers, and FinFan coolers.



## WORKING RANGE

| TUBE ID         | TUBE OD        | TUBE SHEET     |
|-----------------|----------------|----------------|
| 8,48 - 26,9 mm  | 12,7 - 38,1 MM | 12,7 - 57,1 MM |
| 0,334" - 1,027" | 1/2" to 1-1/2" | 1/2" to 2-1/4" |

## ADDITIONAL INFORMATION



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| TUBE OD |      | TUBE GAUGE |        | TUBE ID |        | EXPANSION RANGE |       |       |       | TUBE SHEET THICKNESS |          |                 |          | MANDREL  | MANDREL SQUARE |        | PNEUMATIC MOTOR * | ELECTRIC MOTOR * |                              |
|---------|------|------------|--------|---------|--------|-----------------|-------|-------|-------|----------------------|----------|-----------------|----------|----------|----------------|--------|-------------------|------------------|------------------------------|
|         |      |            |        |         |        |                 |       |       |       | 1/2 TO 1-1/2"        |          | 1-1/4 TO 2-1/4" |          |          |                |        |                   |                  |                              |
|         |      |            |        |         |        | [INCH]          |       | [MM]  |       | 12,7 TO 38,1 MM      |          | 31,7 TO 57,1 MM |          |          |                |        |                   |                  |                              |
| [INCH]  | [MM] | [BWG]      | [INCH] | [MM]    | [INCH] | [MM]            | MIN   | MAX   | MIN   | MAX                  | TOOL NO. | ROLL NO.        | TOOL NO. | ROLL NO. |                | [INCH] | [MM]              |                  |                              |
| 3/8     | 9,5  | 22-24      | 0,027  | 0,71    | 0,314  | 8,00            | 0,307 | 0,358 | 7,80  | 9,10                 | 795      | 795             | -        | -        | 797            | 3/8    | 9,5               | K20-500          | TES300 S1500 or TESMini2 HTO |
| 1/2     | 12,7 | 14         | 0,083  | 2,11    | 0,334  | 8,48            | 0,324 | 0,374 | 8,23  | 9,50                 | 797      | 797             | -        | -        | 797            | 3/8    | 9,5               |                  |                              |
|         |      | 15         | 0,072  | 1,83    | 0,356  | 9,04            | 0,348 | 0,398 | 8,84  | 10,11                | 799      | R-1             | -        | -        | 799            | 3/8    | 9,5               |                  |                              |
|         |      | 16         | 0,065  | 1,65    | 0,370  | 9,40            | 0,36  | 0,410 | 9,14  | 10,41                | 801      | R-1             | -        | -        | M-1            | 3/8    | 9,5               |                  |                              |
|         |      | 17         | 0,058  | 1,47    | 0,384  | 9,75            | 0,374 | 0,424 | 9,50  | 10,77                | 803      | R-2             | -        | -        | M-1            | 3/8    | 9,5               |                  |                              |
|         |      | 18         | 0,049  | 1,24    | 0,402  | 10,21           | 0,392 | 0,447 | 9,96  | 11,35                | 805      | R-3             | -        | -        | M-2            | 3/8    | 9,5               |                  |                              |
| 5/8     | 15,8 | 20         | 0,035  | 0,89    | 0,430  | 10,92           | 0,406 | 0,461 | 10,31 | 11,71                | 805[S]   | R-3             | -        | -        | M-3            | 3/8    | 9,5               |                  |                              |
|         |      | 12         | 0,109  | 2,77    | 0,407  | 10,34           | 0,392 | 0,447 | 9,96  | 11,35                | 805      | R-3             | -        | -        | M-2            | 3/8    | 9,5               |                  |                              |
|         |      | 13         | 0,095  | 2,41    | 0,435  | 11,05           | 0,425 | 0,480 | 10,80 | 12,19                | 807      | R-4             | -        | -        | M-3            | 3/8    | 9,5               |                  |                              |
|         |      | 14         | 0,083  | 2,11    | 0,459  | 11,66           | 0,449 | 0,509 | 11,40 | 12,93                | 809      | R-4             | 810      | R-4-A    | M-4            | 3/8    | 9,5               |                  |                              |
|         |      | 15         | 0,072  | 1,83    | 0,481  | 12,22           | 0,471 | 0,536 | 11,96 | 13,61                | 811      | R-5             | 812      | R-5A     | M-5            | 3/8    | 9,5               |                  |                              |
|         |      | 16         | 0,065  | 1,65    | 0,495  | 12,57           | 0,485 | 0,550 | 12,32 | 13,97                | 813      | R-6             | 814      | R-6A     | M-5            | 3/8    | 9,5               |                  |                              |
|         |      | 17         | 0,058  | 1,47    | 0,509  | 12,93           | 0,499 | 0,564 | 12,67 | 14,33                | 815      | R-6             | 816      | R-6A     | M-6            | 3/8    | 9,5               |                  |                              |
|         |      | 18         | 0,049  | 1,24    | 0,527  | 13,39           | 0,517 | 0,572 | 13,13 | 14,53                | 817      | R-7             | 818      | R-7-A    | M-7<br>M-5     | 3/8    | 9,5               |                  |                              |
|         |      | 19         | 0,042  | 1,07    | 0,541  | 13,74           | 0,522 | 0,582 | 13,26 | 14,78                | 819      | R-7             | 820      | R-7-A    | M-6            | 3/8    | 9,5               |                  |                              |
|         |      | 20         | 0,035  | 0,89    | 0,555  | 14,10           | 0,536 | 0,596 | 13,61 | 15,14                | 819[S]   | R-7             | 820[S]   | R-7-A    | M-8            | 3/8    | 9,5               |                  |                              |
| 3/4     | 19   | 21         | 0,032  | 0,81    | 0,561  | 14,25           | 0,536 | 0,596 | 13,61 | 15,14                | 819[S]   | R-7             | 820[S]   | R-7-A    | M-8            | 3/8    | 9,5               |                  |                              |
|         |      | 22         | 0,028  | 0,71    | 0,569  | 14,45           | 0,536 | 0,596 | 13,61 | 15,14                | 819[S]   | R-7             | 820[S]   | R-7-A    | M-8            | 3/8    | 9,5               |                  |                              |
|         |      | 10         | 0,134  | 3,40    | 0,482  | 12,24           | 0,471 | 0,536 | 11,96 | 13,61                | 811      | R-5             | 812      | R-5-A    | M-5            | 3/8    | 9,5               |                  |                              |
|         |      | 11         | 0,120  | 3,05    | 0,510  | 12,95           | 0,499 | 0,564 | 12,67 | 14,33                | 815      | R-6             | 816      | R-6-A    | M-6            | 3/8    | 9,5               |                  |                              |
|         |      | 12         | 0,109  | 2,77    | 0,532  | 13,51           | 0,522 | 0,582 | 13,26 | 14,78                | 819      | R-7             | 820      | R-7-A    | M-6            | 3/8    | 9,5               |                  |                              |
|         |      | 13         | 0,095  | 2,41    | 0,560  | 14,22           | 0,550 | 0,615 | 13,97 | 15,62                | 821      | R-8             | 822      | R-8-A    | M-8            | 3/8    | 9,5               |                  |                              |
|         |      | 14         | 0,083  | 2,11    | 0,584  | 14,83           | 0,574 | 0,639 | 14,58 | 16,23                | 823      | R-9             | 824      | R-9-A    | M-8            | 3/8    | 9,5               |                  |                              |
|         |      | 15         | 0,072  | 1,83    | 0,606  | 15,39           | 0,596 | 0,661 | 15,14 | 16,79                | 825      | R-10            | 826      | R-10-A   | M-8            | 3/8    | 9,5               |                  |                              |
|         |      | 16         | 0,065  | 1,65    | 0,620  | 15,75           | 0,605 | 0,685 | 15,37 | 17,40                | 827      | R-10            | 828      | R-10-A   | M-9            | 3/8    | 9,5               |                  |                              |

## 800 Series

| TUBE OD |       | TUBE GAUGE |       |       | TUBE ID |       | EXPANSION RANGE |       |       |        | TUBE SHEET THICKNESS |        |                 |        | MANDREL | MANDREL SQUARE |      | PNEUMATIC MOTOR * | ELECTRIC MOTOR *              |
|---------|-------|------------|-------|-------|---------|-------|-----------------|-------|-------|--------|----------------------|--------|-----------------|--------|---------|----------------|------|-------------------|-------------------------------|
|         |       |            |       |       |         |       |                 |       |       |        | 1/2 TO 1-1/2"        |        | 1-1/4 TO 2-1/4" |        |         |                |      |                   |                               |
|         |       |            |       |       |         |       | [INCH]          | [MM]  | [BWG] | [INCH] | [MM]                 | [INCH] | [MM]            | MIN    |         |                |      |                   |                               |
| 3/4     | 19    | 17         | 0,058 | 1,47  | 0,634   | 16,10 | 0,619           | 0,699 | 15,72 | 17,75  | 829                  | R-11   | 830             | R-11-A | M-9     | 3/8            | 9,5  | K50-1250          | TES3000 G1000 or TESMini2 DUO |
|         |       | 18         | 0,049 | 1,24  | 0,652   | 16,56 | 0,619           | 0,699 | 15,72 | 17,75  | 829                  | R-11   | 830             | R-11-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 19         | 0,042 | 1,07  | 0,666   | 16,92 | 0,642           | 0,722 | 16,31 | 18,34  | 831                  | R-12   | 832             | R-12-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 20         | 0,035 | 0,89  | 0,680   | 17,27 | 0,642           | 0,722 | 16,31 | 18,34  | 831                  | R-12   | 832             | R-12-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 21         | 0,032 | 0,81  | 0,686   | 17,42 | 0,642           | 0,722 | 16,31 | 18,34  | 831                  | R-12   | 832             | R-12-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 22         | 0,028 | 0,71  | 0,694   | 17,63 | 0,642           | 0,722 | 16,31 | 18,34  | 831                  | R-12   | 832             | R-12-A | M-9     | 3/8            | 9,5  |                   |                               |
| 7/8     | 22,2  | 10         | 0,134 | 3,40  | 0,607   | 15,42 | 0,596           | 0,661 | 15,14 | 16,79  | 825                  | R-10   | 826             | R-10-A | M-8     | 3/8            | 9,5  | K50-400           | TES3000 G1000 or TESMini2 ES2 |
|         |       | 11         | 0,120 | 3,05  | 0,635   | 16,13 | 0,619           | 0,699 | 15,72 | 17,75  | 829                  | R-11   | 830             | R-11-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 12         | 0,109 | 2,77  | 0,657   | 16,69 | 0,642           | 0,722 | 16,31 | 18,34  | 831                  | R-12   | 832             | R-12-A | M-9     | 3/8            | 9,5  |                   |                               |
|         |       | 13         | 0,095 | 2,41  | 0,685   | 17,40 | 0,670           | 0,750 | 17,02 | 19,05  | 833                  | R-13   | 834             | R-13-A | M-10    | 3/8            | 9,5  |                   |                               |
|         |       | 14         | 0,083 | 2,11  | 0,709   | 18,01 | 0,685           | 0,774 | 17,40 | 19,66  | 835                  | R-14   | 836             | R-14-A | M-11    | 3/8            | 9,5  | K50-600           |                               |
|         |       | 15         | 0,072 | 1,83  | 0,731   | 18,57 | 0,712           | 0,801 | 18,08 | 20,35  | 837                  | R-15   | 838             | R-15-A | M-11    | 3/8            | 9,5  |                   |                               |
|         |       | 16         | 0,065 | 1,65  | 0,745   | 18,92 | 0,726           | 0,815 | 18,44 | 20,70  | 839                  | R-15   | 840             | R-15-A | M-12    | 3/8            | 9,5  |                   |                               |
|         |       | 17         | 0,058 | 1,47  | 0,759   | 19,28 | 0,740           | 0,829 | 18,80 | 21,06  | 843                  | R-16   | 844             | R-16-A | M-12    | 3/8            | 9,5  |                   |                               |
| 18      | 0,049 | 1,24       | 0,777 | 19,74 | 0,740   | 0,829 | 18,80           | 21,06 | 843   | R-16   | 844                  | R-16-A | M-12            | 3/8    | 9,5     |                |      |                   |                               |
| 1       | 25,4  | 8          | 0,165 | 4,19  | 0,670   | 17,02 | 0,655           | 0,735 | 16,64 | 18,67  | 841                  | R-13   | 842             | R-13-A | M-9     | 3/8            | 9,5  | K60-400           | TES3000 G1000 or TESMini2 ES2 |
|         |       | 9          | 0,148 | 3,76  | 0,704   | 17,88 | 0,685           | 0,774 | 17,40 | 19,66  | 835                  | R-14   | 836             | R-14-A | M-11    | 3/8            | 9,5  |                   |                               |
|         |       | 10         | 0,134 | 3,40  | 0,732   | 18,59 | 0,712           | 0,801 | 18,08 | 20,35  | 837                  | R-15   | 838             | R-15-A | M-11    | 3/8            | 9,5  |                   |                               |
|         |       | 11         | 0,120 | 3,05  | 0,760   | 19,30 | 0,740           | 0,829 | 18,80 | 21,06  | 843                  | R-16   | 844             | R-16-A | M-12    | 3/8            | 9,5  |                   |                               |
|         |       | 12         | 0,109 | 2,77  | 0,782   | 19,86 | 0,763           | 0,852 | 19,38 | 21,64  | 845                  | R-17   | 846             | R-17-A | M-12    | 3/8            | 9,5  | K50-400           |                               |
|         |       | 13         | 0,095 | 2,41  | 0,810   | 20,57 | 0,791           | 0,880 | 20,09 | 22,35  | 847                  | R-18   | 848             | R-18-A | M-12    | 3/8            | 9,5  |                   |                               |
|         |       | 14         | 0,083 | 2,11  | 0,834   | 21,18 | 0,810           | 0,909 | 20,57 | 23,09  | 849                  | R-18   | 850             | R-18-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 15         | 0,072 | 1,83  | 0,856   | 21,74 | 0,837           | 0,936 | 21,26 | 23,77  | 851                  | R-19   | 852             | R-19-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 16         | 0,065 | 1,65  | 0,870   | 22,10 | 0,837           | 0,936 | 21,26 | 23,77  | 851                  | R-19   | 852             | R-19-A | M-13    | 3/8            | 9,5  | K50-600           |                               |
|         |       | 17         | 0,058 | 1,47  | 0,884   | 22,45 | 0,865           | 0,964 | 21,97 | 24,49  | 855                  | R-21   | 856             | R-21-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 18         | 0,049 | 1,24  | 0,902   | 22,91 | 0,865           | 0,964 | 21,97 | 24,49  | 855                  | R-21   | 856             | R-21-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 19         | 0,042 | 1,07  | 0,916   | 23,27 | 0,865           | 0,964 | 21,97 | 24,49  | 855                  | R-21   | 856             | R-21-A | M-13    | 3/8            | 9,5  |                   |                               |
| 1-1/8   | 28,5  | 20         | 0,035 | 0,89  | 0,930   | 23,62 | 0,865           | 0,964 | 21,97 | 24,49  | 855                  | R-21   | 856             | R-21-A | M-13    | 3/8            | 9,5  | K60-400           | TES3000 G1000 or TESMini2 DU1 |
|         |       | 8          | 0,165 | 4,19  | 0,795   | 20,19 | 0,776           | 0,875 | 19,71 | 22,23  | 853                  | R-20   | 854             | R-20-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 9          | 0,148 | 3,76  | 0,829   | 21,06 | 0,810           | 0,909 | 20,57 | 23,09  | 849                  | R-18   | 850             | R-18-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 10         | 0,134 | 3,40  | 0,857   | 21,77 | 0,837           | 0,936 | 21,26 | 23,77  | 851                  | R-19   | 852             | R-19-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 11         | 0,120 | 3,05  | 0,885   | 22,48 | 0,865           | 0,964 | 21,97 | 24,49  | 855                  | R-21   | 856             | R-21-A | M-13    | 3/8            | 9,5  |                   |                               |
|         |       | 12         | 0,109 | 2,77  | 0,907   | 23,04 | 0,883           | 0,982 | 22,43 | 24,94  | 857                  | R-21   | 858             | R-21-A | M-14    | 1/2            | 12,7 |                   |                               |
|         |       | 13         | 0,095 | 2,41  | 0,935   | 23,75 | 0,916           | 1,015 | 23,27 | 25,78  | 859                  | R-22   | 860             | R-22-A | M-14    | 1/2            | 12,7 |                   |                               |
|         |       | 14         | 0,083 | 2,11  | 0,959   | 24,36 | 0,935           | 1,044 | 23,75 | 26,52  | 861                  | R-23   | 862             | R-23-A | M-15    | 1/2            | 12,7 |                   |                               |
|         |       | 15         | 0,072 | 1,83  | 0,981   | 24,92 | 0,962           | 1,071 | 24,43 | 27,20  | 863                  | R-24   | 864             | R-24-A | M-15    | 1/2            | 12,7 |                   |                               |
|         |       | 16         | 0,065 | 1,65  | 0,995   | 25,27 | 0,962           | 1,071 | 24,43 | 27,20  | 863                  | R-24   | 864             | R-24-A | M-15    | 1/2            | 12,7 |                   |                               |
| 1-1/4   | 31,7  | 17         | 0,058 | 1,47  | 1,009   | 25,63 | 0,990           | 1,099 | 25,15 | 27,91  | 867                  | R-26   | 868             | R-26-A | M-16    | 1/2            | 12,7 | K60-400           | TES3000 G1000 or TESMini2 DU1 |
|         |       | 18         | 0,049 | 1,24  | 1,027   | 26,09 | 0,990           | 1,099 | 25,15 | 27,91  | 867                  | R-26   | 868             | R-26-A | M-16    | 1/2            | 12,7 |                   |                               |
|         |       | 8          | 0,165 | 4,19  | 0,92    | 23,37 | 0,901           | 1,010 | 22,89 | 25,65  | 865                  | R-25   | 866             | R-25-A | M-15    | 1/2            | 12,7 |                   |                               |
|         |       | 9          | 0,148 | 3,76  | 0,954   | 24,23 | 0,935           | 1,044 | 23,75 | 26,52  | 861                  | R-23   | 862             | R-23-A | M-15    | 1/2            | 12,7 |                   |                               |
|         |       | 10         | 0,134 | 3,40  | 0,982   | 24,94 | 0,962           | 1,071 | 24,43 | 27,20  | 863                  | R-24   | 864             | R-24-A | M-15    | 1/2            | 12,7 |                   |                               |
|         |       | 11         | 0,120 | 3,05  | 1,010   | 25,65 | 0,990           | 1,099 | 25,15 | 27,91  | 867                  | R-26   | 868             | R-26-A | M-16    | 1/2            | 12,7 |                   |                               |
|         |       | 12         | 0,109 | 2,77  | 1,032   | 26,21 | 1,013           | 1,122 | 25,73 | 28,50  | 869                  | R-27   | 870             | R-27-A | M-16    | 1/2            | 12,7 |                   |                               |
|         |       | 13         | 0,095 | 2,41  | 1,060   | 26,92 | 1,041           | 1,150 | 26,44 | 29,21  | 871                  | R-28   | 872             | R-28-A | M-17    | 1/2            | 12,7 |                   |                               |
|         |       | 14         | 0,083 | 2,11  | 1,084   | 27,53 | 1,060           | 1,169 | 26,92 | 29,69  | 873                  | R-29   | 874             | R-29-A | M-17    | 1/2            | 12,7 |                   |                               |
|         |       | 15         | 0,072 | 1,83  | 1,106   | 28,09 | 1,087           | 1,196 | 27,61 | 30,38  | 875                  | R-30   | 876             | R-30-A | M-17    | 1/2            | 12,7 |                   |                               |
|         |       | 16         | 0,065 | 1,65  | 1,12    | 28,45 | 1,087           | 1,196 | 27,61 | 30,38  | 875                  | R-30   | 876             | R-30-A | M-17    | 1/2            | 12,7 |                   |                               |
|         |       | 17         | 0,058 | 1,47  | 1,134   | 28,80 | 1,115           | 1,224 | 28,32 | 31,09  | 879                  | R-30   | 880             | R-30-A | M-18    | 1/2            | 12,7 |                   |                               |
|         |       | 18         | 0,049 | 1,24  | 1,152   | 29,26 | 1,115           | 1,224 | 28,32 | 31,09  | 879                  | R-30   | 880             | R-30-A | M-18    | 1/2            | 12,7 |                   |                               |

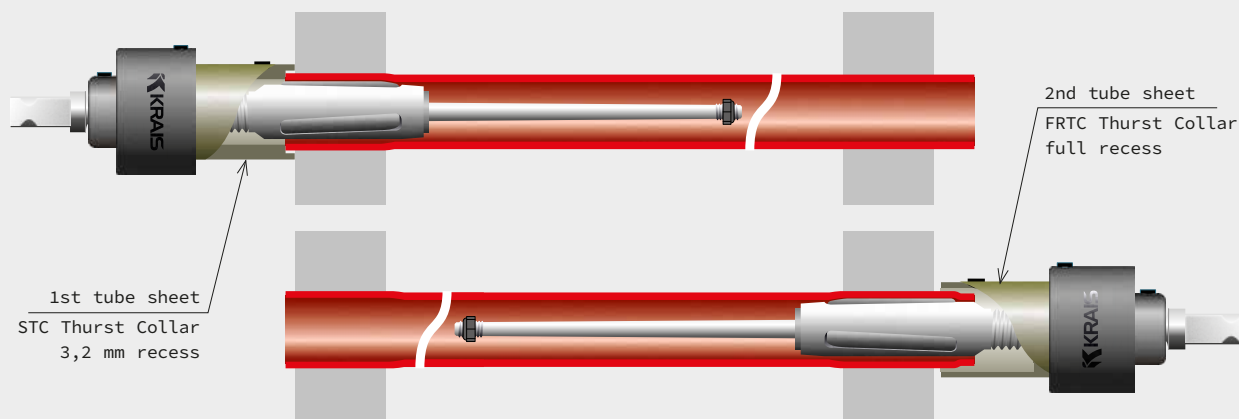
## 800 Series

| TUBE OD |       | TUBE GAUGE |       |       | TUBE ID |       | EXPANSION RANGE |       |            |             | TUBE SHEET THICKNESS |               |                 |               | MANDREL     | MANDREL SQUARE |      | PNEUMATIC MOTOR * | ELECTRIC MOTOR *             |
|---------|-------|------------|-------|-------|---------|-------|-----------------|-------|------------|-------------|----------------------|---------------|-----------------|---------------|-------------|----------------|------|-------------------|------------------------------|
|         |       |            |       |       |         |       |                 |       |            |             | 1/2 TO 1-1/2"        |               | 1-1/4 TO 2-1/4" |               |             |                |      |                   |                              |
|         |       |            |       |       |         |       | [INCH]          | [MM]  | [BWG]      | [INCH]      | [MM]                 | [INCH]        | [MM]            | MIN           |             | MAX            | MIN  |                   |                              |
| 1-3/8   | 34,9  | 8          | 0,165 | 4,19  | 1,045   | 26,54 | 1,026           | 1,135 | 26,06      | 28,83       | <b>877</b>           | <b>R-31</b>   | <b>878</b>      | <b>R-31-A</b> | <b>M-17</b> | 1/2            | 12,7 | K60-250           | TES3000 G400 or TESMini2 DU1 |
|         |       | 9          | 0,148 | 3,76  | 1,079   | 27,41 | 1,060           | 1,169 | 26,92      | 29,69       | <b>873</b>           | <b>R-29</b>   | <b>874</b>      | <b>R-29-A</b> | <b>M-17</b> | 1/2            | 12,7 |                   |                              |
|         |       | 10         | 0,134 | 3,40  | 1,107   | 28,12 | 1,087           | 1,196 | 27,61      | 30,38       | <b>875</b>           | <b>R-30</b>   | <b>876</b>      | <b>R-30-A</b> | <b>M-17</b> | 1/2            | 12,7 |                   |                              |
|         |       | 11         | 0,120 | 3,05  | 1,135   | 28,83 | 1,115           | 1,224 | 28,32      | 31,09       | <b>879</b>           | <b>R-30</b>   | <b>880</b>      | <b>R-30-A</b> | <b>M-18</b> | 1/2            | 12,7 |                   |                              |
|         |       | 12         | 0,109 | 2,77  | 1,157   | 29,39 | 1,133           | 1,242 | 28,78      | 31,55       | <b>881</b>           | <b>R-32</b>   | <b>882</b>      | <b>R-32-A</b> | <b>M-18</b> | 1/2            | 12,7 | K60-400           |                              |
|         |       | 13         | 0,095 | 2,41  | 1,185   | 30,10 | 1,160           | 1,275 | 29,46      | 32,39       | <b>883</b>           | <b>R-33</b>   | <b>884</b>      | <b>R-33-A</b> | <b>M-19</b> | 1/2            | 12,7 |                   |                              |
|         |       | 14         | 0,083 | 2,11  | 1,209   | 30,71 | 1,179           | 1,294 | 29,95      | 32,87       | <b>885</b>           | <b>R-34</b>   | <b>886</b>      | <b>R-34-A</b> | <b>M-20</b> | 1/2            | 12,7 |                   |                              |
|         |       | 15         | 0,072 | 1,83  | 1,231   | 31,27 | 1,206           | 1,321 | 30,63      | 33,55       | <b>887</b>           | <b>R-35</b>   | <b>888</b>      | <b>R-35-A</b> | <b>M-20</b> | 1/2            | 12,7 |                   |                              |
| 1-1/2   | 38,1  | 16         | 0,065 | 1,65  | 1,245   | 31,62 | 1,206           | 1,321 | 30,63      | 33,55       | <b>887</b>           | <b>R-35</b>   | <b>888</b>      | <b>R-35-A</b> | <b>M-20</b> | 1/2            | 12,7 | K60-250           | TES3000 G400 or TESMini2 DU1 |
|         |       | 8          | 0,165 | 4,19  | 1,170   | 29,72 | 1,145           | 1,260 | 29,08      | 32,00       | <b>889</b>           | <b>R-34</b>   | <b>890</b>      | <b>R-34-A</b> | <b>M-19</b> | 1/2            | 12,7 |                   |                              |
|         |       | 9          | 0,148 | 3,76  | 1,204   | 30,58 | 1,179           | 1,294 | 29,95      | 32,87       | <b>885</b>           | <b>R-34</b>   | <b>886</b>      | <b>R-34-A</b> | <b>M-20</b> | 1/2            | 12,7 |                   |                              |
|         |       | 10         | 0,134 | 3,40  | 1,232   | 31,29 | 1,206           | 1,321 | 30,63      | 33,55       | <b>887</b>           | <b>R-35</b>   | <b>888</b>      | <b>R-35-A</b> | <b>M-20</b> | 1/2            | 12,7 |                   |                              |
|         |       | 11         | 0,120 | 3,05  | 1,260   | 32,00 | 1,235           | 1,350 | 31,37      | 34,29       | <b>891</b>           | <b>R-36</b>   | <b>892</b>      | <b>R-36-A</b> | <b>M-20</b> | 1/2            | 12,7 | K60-400           |                              |
|         |       | 12         | 0,109 | 2,77  | 1,282   | 32,56 | 1,257           | 1,372 | 31,93      | 34,85       | <b>893</b>           | <b>R-37</b>   | <b>894</b>      | <b>R-37-A</b> | <b>M-20</b> | 1/2            | 12,7 |                   |                              |
|         |       | 13         | 0,095 | 2,41  | 1,310   | 33,27 | 1,285           | 1,400 | 32,64      | 35,56       | <b>895</b>           | <b>R-37</b>   | <b>896</b>      | <b>R-37-A</b> | <b>M-21</b> | 1/2            | 12,7 |                   |                              |
|         |       | 14         | 0,083 | 2,11  | 1,334   | 33,88 | 1,285           | 1,400 | 32,64      | 35,56       | <b>895</b>           | <b>R-37</b>   | <b>896</b>      | <b>R-37-A</b> | <b>M-21</b> | 1/2            | 12,7 |                   |                              |
|         |       | 15         | 0,072 | 1,83  | 1,356   | 34,44 | 1,331           | 1,446 | 33,81      | 36,73       | <b>897</b>           | <b>R-38</b>   | <b>898</b>      | <b>R-38-A</b> | <b>M-21</b> | 1/2            | 12,7 | K60-400           |                              |
|         |       | 16         | 0,065 | 1,65  | 1,370   | 34,80 | 1,331           | 1,446 | 33,81      | 36,73       | <b>897</b>           | <b>R-38</b>   | <b>898</b>      | <b>R-38-A</b> | <b>M-21</b> | 1/2            | 12,7 |                   |                              |
|         |       | 17         | 0,058 | 1,47  | 1,384   | 35,15 | 1,331           | 1,472 | 33,81      | 37,39       | <b>899</b>           | <b>R-38</b>   | <b>900</b>      | <b>R-38-A</b> | <b>M-22</b> | 1/2            | 12,7 |                   |                              |
|         |       | 18         | 0,049 | 1,24  | 1,402   | 35,61 | 1,331           | 1,472 | 33,81      | 37,39       | <b>899</b>           | <b>R-38</b>   | <b>900</b>      | <b>R-38-A</b> | <b>M-22</b> | 1/2            | 12,7 |                   |                              |
| 19      | 0,042 | 1,07       | 1,416 | 35,97 | 1,331   | 1,472 | 33,81           | 37,39 | <b>899</b> | <b>R-38</b> | <b>900</b>           | <b>R-38-A</b> | <b>M-22</b>     | 1/2           | 12,7        | K60-400        |      |                   |                              |
| 20      | 0,035 | 0,89       | 1,430 | 36,32 | 1,331   | 1,472 | 33,81           | 37,39 | <b>899</b> | <b>R-38</b> | <b>900</b>           | <b>R-38-A</b> | <b>M-22</b>     | 1/2           | 12,7        |                |      |                   |                              |

\* Motor recommendation applies only to most popular cases with a standard percentage of the wall reduction. The recommendation can be different for thicker tube sheet, harder and exotic metal tube and a higher percentage of wall reduction.

### RECOMMENDATION

Recommended selection of thrust collars when rolling pipes from both sides to prevent the formation of stresses.



# 800-5 Five Roll Series

The 800-5 Series is designed with five rolling elements, making it ideal for thin-walled tubes. Rolls are available in two lengths. It is highly recommended for expanding tubes in condensers, coolers, heat exchangers, surface condensers, and FinFan coolers.



## WORKING RANGE

| TUBE ID          | TUBE OD        | TUBE SHEET     |
|------------------|----------------|----------------|
| 12,98 - 36,68 MM | 15,8 - 38,1 MM | 12,7 - 57,1 MM |
| 0,509" - 1,440"  | 5/8" to 1-1/2" | 1/2" to 2-1/4" |

## ADDITIONAL INFORMATION



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| TUBE OD |      | TUBE GAUGE |        | TUBE ID |        | EXPANSION RANGE |       |       |       | TUBE SHEET THICKNESS |          |                  |          | MANDREL  | MANDREL SQUARE |        | PNEUMATIC MOTOR * | ELECTRIC MOTOR * |                                |
|---------|------|------------|--------|---------|--------|-----------------|-------|-------|-------|----------------------|----------|------------------|----------|----------|----------------|--------|-------------------|------------------|--------------------------------|
|         |      |            |        |         |        |                 |       |       |       | 1/2" TO 1-1/2"       |          | 1-1/4" TO 2-1/4" |          |          |                |        |                   |                  |                                |
|         |      |            |        |         |        | [INCH]          |       | [MM]  |       | 12,7 TO 38,1 MM      |          | 31,7 TO 57,1MM   |          |          |                |        |                   |                  |                                |
| [INCH]  | [MM] | [BWG]      | [INCH] | [MM]    | [INCH] | [MM]            | MIN   | MAX   | MIN   | MAX                  | TOOL NO. | ROLL NO.         | TOOL NO. | ROLL NO. |                | [INCH] | [MM]              |                  |                                |
| 5/8     | 15,8 | 17         | 0,058  | 1,47    | 0,509  | 12,93           | 0,499 | 0,564 | 12,67 | 14,33                | 815-5    | R-4-5            | 816-5    | R-4-A-5  | M-816-5        | 3/8    | 9,5               | K50-1250         | TES3000 G1000 or TESMini2 DUO  |
|         |      | 18         | 0,049  | 1,24    | 0,527  | 13,39           | 0,517 | 0,572 | 13,13 | 14,53                | 817-5    | R-4-5            | 818-5    | R-4-A-5  | M-9            | 3/8    | 9,5               |                  |                                |
|         |      | 19         | 0,042  | 1,07    | 0,541  | 13,74           | 0,522 | 0,582 | 13,26 | 14,78                | 819-5    | R-4-5            | 820-5    | R-4-A-5  | M-820-5        | 3/8    | 9,5               |                  |                                |
|         |      | 20         | 0,035  | 0,89    | 0,555  | 14,10           | 0,536 | 0,596 | 13,61 | 15,14                | 819-5[S] | R-4-5            | 820-5[S] | R-4-A-5  | 820-5[S]       | 3/8    | 9,5               |                  |                                |
|         |      | 21         | 0,032  | 0,81    | 0,561  | 14,25           | 0,536 | 0,596 | 13,61 | 15,14                | 819-5[S] | R-4-5            | 820-5[S] | R-4-A-5  | 820-5[S]       | 3/8    | 9,5               |                  |                                |
|         |      | 22         | 0,028  | 0,71    | 0,569  | 14,45           | 0,536 | 0,596 | 13,61 | 15,14                | 819-5[S] | R-4-5            | 820-5[S] | R-4-A-5  | 820-5[S]       | 3/8    | 9,5               |                  |                                |
| 3/4     | 19,0 | 13         | 0,095  | 2,41    | 0,560  | 14,22           | 0,550 | 0,615 | 13,97 | 15,62                | 821-5    | R-5-5            | 822-5    | R-5-A-5  | M-822-5        | 3/8    | 9,5               | K50-600          | TES3000 + G1450 TesMini2 + ES2 |
|         |      | 14         | 0,083  | 2,11    | 0,584  | 14,83           | 0,574 | 0,639 | 14,58 | 16,23                | 823-5    | R-6-5            | 824-5    | R-6-A-5  | M-824-5        | 3/8    | 9,5               |                  |                                |
|         |      | 15         | 0,072  | 1,83    | 0,606  | 15,39           | 0,590 | 0,661 | 14,99 | 16,79                | 825-5    | R-7-5            | 826-5    | R-7-A-5  | M-826-5        | 3/8    | 9,5               |                  |                                |
|         |      | 16         | 0,065  | 1,65    | 0,620  | 15,75           | 0,605 | 0,685 | 15,37 | 17,40                | 827-5    | R-7-5            | 828-5    | R-7-A-5  | M-13           | 3/8    | 9,5               |                  |                                |
|         |      | 17         | 0,058  | 1,47    | 0,634  | 16,10           | 0,619 | 0,699 | 15,72 | 17,75                | 829-5    | R-7-5            | 830-5    | R-7-A-5  | M-830-5        | 3/8    | 9,5               | K50-1250         | TES3000 G1000 or TESMini2 DUO  |
|         |      | 18         | 0,049  | 1,24    | 0,652  | 16,56           | 0,619 | 0,699 | 15,72 | 17,75                | 829-5    | R-7-5            | 830-5    | R-7-A-5  | M-830-5        | 3/8    | 9,5               |                  |                                |
|         |      | 19         | 0,042  | 1,07    | 0,666  | 16,92           | 0,642 | 0,722 | 16,31 | 18,34                | 831-5    | R-9-5            | 832-5    | R-9-A-5  | M-13           | 3/8    | 9,5               |                  |                                |
|         |      | 20         | 0,035  | 0,89    | 0,680  | 17,27           | 0,642 | 0,722 | 16,31 | 18,34                | 831-5    | R-9-5            | 832-5    | R-9-A-5  | M-13           | 3/8    | 9,5               |                  |                                |
|         |      | 21         | 0,032  | 0,81    | 0,686  | 17,42           | 0,642 | 0,722 | 16,31 | 18,34                | 831-5    | R-9-5            | 832-5    | R-9-A-5  | M-13           | 3/8    | 9,5               |                  |                                |
|         |      | 22         | 0,028  | 0,71    | 0,694  | 17,63           | 0,642 | 0,722 | 16,31 | 18,34                | 831-5    | R-9-5            | 832-5    | R-9-A-5  | M-13           | 3/8    | 9,5               |                  |                                |
| 7/8     | 22,2 | 13         | 0,095  | 2,41    | 0,685  | 17,40           | 0,670 | 0,750 | 17,02 | 19,05                | 833-5    | R-9-5            | 834-5    | R-9-A-5  | M-14-3/8       | 3/8    | 9,5               | K50-600          | TES3000 G1450 or TESMini2 ES2  |
|         |      | 14         | 0,083  | 2,11    | 0,709  | 18,01           | 0,685 | 0,774 | 17,40 | 19,66                | 835-5    | R-10-5           | 836-5    | R-10-A-5 | M-15           | 3/8    | 9,5               |                  |                                |
|         |      | 16         | 0,065  | 1,65    | 0,745  | 18,92           | 0,726 | 0,815 | 18,44 | 20,70                | 839-5    | R-11-5           | 840-5    | R-11-A-5 | M-840-5        | 3/8    | 9,5               |                  |                                |
|         |      | 17         | 0,058  | 1,47    | 0,759  | 19,28           | 0,740 | 0,829 | 18,80 | 21,06                | 843-5    | R-11-5           | 844-5    | R-11-A-5 | M-17-3/8       | 3/8    | 9,5               | K50-1250         | TES3000 G1000 or TESMini2 DUO  |
|         |      | 18         | 0,049  | 1,24    | 0,777  | 19,74           | 0,740 | 0,829 | 18,80 | 21,06                | 843-5    | R-11-5           | 844-5    | R-11-A-5 | M-17-3/8       | 3/8    | 9,5               |                  |                                |
|         |      | 19         | 0,042  | 1,07    | 0,791  | 20,09           | 0,763 | 0,852 | 19,38 | 21,64                | 845-5    | R-11-5           | 846-5    | R-11-A-5 | M-18-3/8       | 3/8    | 9,5               |                  |                                |
|         |      | 20         | 0,035  | 0,89    | 0,805  | 20,45           | 0,763 | 0,852 | 19,38 | 21,64                | 845-5    | R-11-5           | 846-5    | R-11-A-5 | M-18-3/8       | 3/8    | 9,5               |                  |                                |
|         |      | 21         | 0,032  | 0,81    | 0,811  | 20,60           | 0,763 | 0,852 | 19,38 | 21,64                | 845-5    | R-11-5           | 846-5    | R-11-A-5 | M-18-3/8       | 3/8    | 9,5               |                  |                                |
|         |      | 22         | 0,028  | 0,71    | 0,819  | 20,80           | 0,763 | 0,852 | 19,38 | 21,64                | 845-5    | R-11-5           | 846-5    | R-11-A-5 | M-18-3/8       | 3/8    | 9,5               |                  |                                |
|         |      |            |        |         |        |                 |       |       |       |                      |          |                  |          |          |                |        |                   |                  |                                |

# 800-5 Five Roll Series

| TUBE OD |       | TUBE GAUGE |       |       | TUBE ID |       | EXPANSION RANGE |       |       |        | TUBE SHEET THICKNESS |          |                  |          | MANDREL  | MANDREL SQUARE |      | PNEUMATIC MOTOR * | ELECTRIC MOTOR *                          |
|---------|-------|------------|-------|-------|---------|-------|-----------------|-------|-------|--------|----------------------|----------|------------------|----------|----------|----------------|------|-------------------|-------------------------------------------|
|         |       |            |       |       |         |       |                 |       |       |        | 1/2" TO 1-1/2"       |          | 1-1/4" TO 2-1/4" |          |          |                |      |                   |                                           |
|         |       |            |       |       |         |       | [INCH]          | [MM]  | [BWG] | [INCH] | [MM]                 | [INCH]   | [MM]             | MIN      |          | MAX            | MIN  |                   |                                           |
| 1       | 25,4  | 12         | 0,109 | 2,77  | 0,782   | 19,86 | 0,763           | 0,852 | 19,38 | 21,64  | 845-5                | R-11-5   | 846-5            | R-11-A-5 | M-18-3/8 | 3/8            | 9,5  | K50-600           | TES3000<br>G1450<br>or<br>TESMini2 ES2    |
|         |       | 13         | 0,095 | 2,41  | 0,810   | 20,57 | 0,791           | 0,880 | 20,09 | 22,35  | 847-5                | R-13-5   | 848-5            | R-13-A-5 | M-18-3/8 | 3/8            | 9,5  |                   |                                           |
|         |       | 14         | 0,083 | 2,11  | 0,834   | 21,18 | 0,810           | 0,909 | 20,57 | 23,09  | 849-5                | R-12-5   | 850-5            | R-12-A-5 | M-850-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 15         | 0,072 | 1,83  | 0,856   | 21,74 | 0,837           | 0,936 | 21,26 | 23,77  | 851-5                | R-14-5   | 852-5            | R-14-A-5 | M-852-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 16         | 0,065 | 1,65  | 0,87    | 22,10 | 0,837           | 0,936 | 21,26 | 23,77  | 851-5                | R-13-5   | 852-5            | R-13-A-5 | M-852-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 17         | 0,058 | 1,47  | 0,884   | 22,45 | 0,865           | 0,964 | 21,97 | 24,49  | 855-5                | R-13-5   | 856-5            | R-13-A-5 | M-856-5  | 3/8            | 9,5  | K50-1250          | TES3000<br>G1000<br>or<br>TESMini2<br>DU0 |
|         |       | 18         | 0,049 | 1,24  | 0,902   | 22,91 | 0,865           | 0,964 | 21,97 | 24,49  | 855-5                | R-13-5   | 856-5            | R-13-A-5 | M-856-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 19         | 0,042 | 1,07  | 0,916   | 23,27 | 0,865           | 0,964 | 21,97 | 24,49  | 855-5                | R-13-5   | 856-5            | R-13-A-5 | M-856-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 20         | 0,035 | 0,89  | 0,93    | 23,62 | 0,865           | 0,964 | 21,97 | 24,49  | 855-5                | R-13-5   | 856-5            | R-13-A-5 | M-856-5  | 3/8            | 9,5  |                   |                                           |
|         |       | 21         | 0,032 | 0,81  | 0,936   | 23,77 | 0,883           | 0,982 | 22,43 | 24,94  | 857-5                | R-15-5   | 858-5            | R-15-A-5 | M-21-3/8 | 3/8            | 9,5  |                   |                                           |
| 22      | 0,028 | 0,71       | 0,944 | 23,98 | 0,883   | 0,982 | 22,43           | 24,94 | 857-5 | R-15-5 | 858-5                | R-15-A-5 | M-21-3/8         | 3/8      | 9,5      |                |      |                   |                                           |
| 1-1/8   | 28,5  | 12         | 0,109 | 2,77  | 0,907   | 23,04 | 0,883           | 0,982 | 22,43 | 24,94  | 857-5                | R-15-5   | 858-5            | R-15-A-5 | M-21-3/8 | 3/8            | 9,5  | K60-400           | TES3000<br>+ G1000<br>TESMini2<br>+ DU1   |
|         |       | 13         | 0,095 | 2,41  | 0,935   | 23,75 | 0,916           | 1,015 | 23,27 | 25,78  | 859-5                | R-16-5   | 860-5            | R-16-A-5 | M-860-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 14         | 0,083 | 2,11  | 0,959   | 24,36 | 0,935           | 1,044 | 23,75 | 26,52  | 861-5                | R-17-5   | 862-5            | R-17-A-5 | M-862-5  | 1/2            | 12,7 |                   |                                           |
| 1-1/4   | 31,7  | 15         | 0,072 | 1,83  | 1,106   | 28,09 | 1,087           | 1,196 | 27,61 | 30,38  | 875-5                | R-21-5   | 876-5            | R-21-A-5 | M-876-5  | 1/2            | 12,7 | K60-400           | TES3000<br>G1000<br>or<br>TESMini2<br>DU1 |
|         |       | 16         | 0,065 | 1,65  | 1,120   | 28,45 | 1,087           | 1,196 | 27,61 | 30,38  | 875-5                | R-21-5   | 876-5            | R-21-A-5 | M-876-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 17         | 0,058 | 1,47  | 1,134   | 28,80 | 1,115           | 1,231 | 28,32 | 31,27  | 879-5                | R-21-5   | 880-5            | R-21-A-5 | M-880-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 18         | 0,049 | 1,24  | 1,152   | 29,26 | 1,115           | 1,231 | 28,32 | 31,27  | 879-5                | R-21-5   | 880-5            | R-21-A-5 | M-880-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 19         | 0,042 | 1,07  | 1,166   | 29,62 | 1,115           | 1,231 | 28,32 | 31,27  | 879-5                | R-21-5   | 880-5            | R-21-A-5 | M-880-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 20         | 0,035 | 0,89  | 1,180   | 29,97 | 1,115           | 1,231 | 28,32 | 31,27  | 879-5                | R-21-5   | 880-5            | R-21-A-5 | M-880-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 21         | 0,032 | 0,81  | 1,186   | 30,12 | 1,115           | 1,231 | 28,32 | 31,27  | 879-5                | R-21-5   | 880-5            | R-21-A-5 | M-880-5  | 1/2            | 12,7 |                   |                                           |
| 22      | 0,028 | 0,71       | 1,194 | 30,33 | 1,115   | 1,231 | 28,32           | 31,27 | 879-5 | R-21-5 | 880-5                | R-21-A-5 | M-880-5          | 1/2      | 12,7     |                |      |                   |                                           |
| 1-3/8   | 34,9  | 12         | 0,109 | 2,77  | 1,157   | 29,39 | 1,133           | 1,242 | 28,78 | 31,55  | 881-5                | R-21-5   | 882-5            | R-21-A-5 | M-882-5  | 1/2            | 12,7 | K60-250           |                                           |
|         |       | 14         | 0,083 | 2,11  | 1,209   | 30,71 | 1,179           | 1,294 | 29,95 | 32,87  | 885-5                | R-23-5   | 886-5            | R-23-A-5 | M-882-5  | 1/2            | 12,7 |                   |                                           |
| 1-1/2   | 38,1  | 17         | 0,058 | 1,47  | 1,384   | 35,15 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 | K60-900           | TES3000<br>G1000<br>or<br>TESMini2 ES2    |
|         |       | 18         | 0,049 | 1,24  | 1,402   | 35,61 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 19         | 0,042 | 1,07  | 1,416   | 35,97 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 20         | 0,035 | 0,89  | 1,430   | 36,32 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 21         | 0,032 | 0,81  | 1,436   | 36,47 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 |                   |                                           |
|         |       | 22         | 0,028 | 0,71  | 1,444   | 36,68 | 1,331           | 1,472 | 33,81 | 37,39  | 899-5                | R-29-5   | 900-5            | R-29-A-5 | M-900-5  | 1/2            | 12,7 |                   |                                           |

\* Motor recommendation applies only to most popular cases with a standard percentage of the wall reduction. The recommendation can be different for thicker tube sheet, harder and exotic metal tube and a higher percentage of wall reduction.

## RECOMMENDATION

For the thin wall tube, it is recommended to use 5 roll expanders with bottle rolls (BL) type rolls and BL type thrust collar to prevent the tube to be retracted inside the thrust collar making the tube projection uneven or even effectively jammed the tube inside collar.

