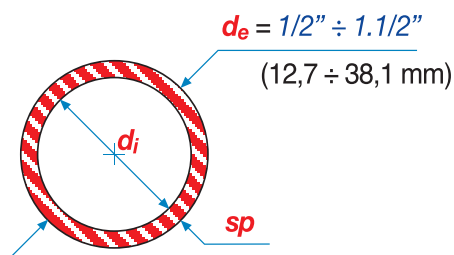
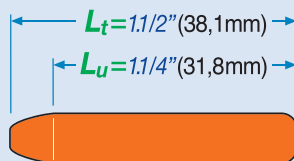


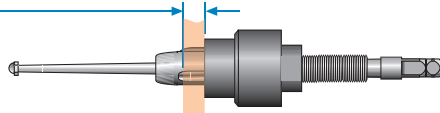
## MG/800

Tube expansion  
with adjustable reach  
for low thickness tube sheets

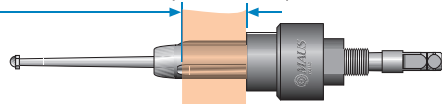
With 1.1/2"  
short rolls



$SP_{min} = 1/2" (12,7 \text{ mm})$



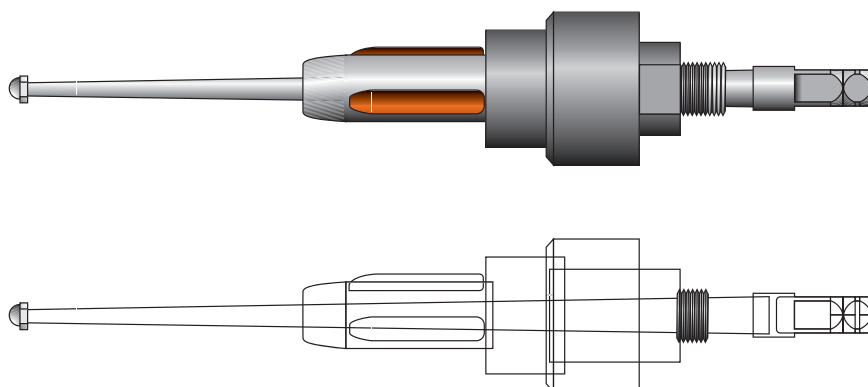
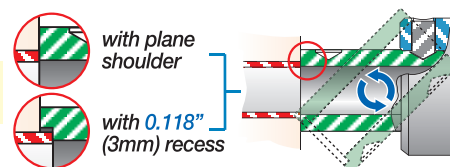
$SP_{max} = 1.1/2" (38,1 \text{ mm})$



Sample code for  
ordering tube expanders  
 $d_e 1" - 14 \text{ B.W.G.}$

Reversible  
thrust collar design

MG-849



With 1.1/2"  
short rolls

**MG/800**

| <div><div>de</div><div>inches</div><div>mm</div></div> | Tube                              |              |       |              |       | Expansion     |               | Tube expander | Rolls  | Mandrel | <div><div><div></div></div><div>inches</div><div>mm</div></div> |
|--------------------------------------------------------|-----------------------------------|--------------|-------|--------------|-------|---------------|---------------|---------------|--------|---------|-----------------------------------------------------------------|
|                                                        | B.W.G.                            | sp<br>inches | mm    | di<br>inches | mm    | inches        | mm            | Cod.          | Cod.   | Cod.    |                                                                 |
| <div>1/2"</div> <div>(12,7)</div>                      | 14                                | 0.083        | 2,10  | 0.334        | 8,4   | 0.324 ÷ 0.374 | 8,2 ÷ 9,5     | MG-797        | MR-797 | MM-797  | <div>3/8"</div> <div>(9,5)</div>                                |
|                                                        | 15                                | 0.072        | 1,82  | 0.356        | 9,0   | 0.348 ÷ 0.398 | 8,8 ÷ 10,1    | MG-799        | MR-1   | MM-799  |                                                                 |
|                                                        | 16                                | 0.065        | 1,65  | 0.370        | 9,4   | 0.360 ÷ 0.410 | 9,1 ÷ 10,4    | MG-801        | MR-1   | MM-1    |                                                                 |
|                                                        | 17                                | 0.058        | 1,47  | 0.384        | 9,7   | 0.374 ÷ 0.424 | 9,5 ÷ 10,7    | MG-803        | MR-2   | MM-1    |                                                                 |
|                                                        | 18                                | 0.049        | 1,24  | 0.402        | 10,2  | 0.392 ÷ 0.447 | 9,9 ÷ 11,3    | MG-805        | MR-3   | MM-2    |                                                                 |
|                                                        | 20                                | 0.035        | 0,88  | 0.430        | 10,9  | 0.420 ÷ 0.480 | 10,7 ÷ 12,1   | MG-807        | MR-4   | MM-3    |                                                                 |
| <div>5/8"</div> <div>(15,9)</div>                      | 12                                | 0.109        | 2,76  | 0.407        | 10,3  | 0.392 ÷ 0.447 | 9,9 ÷ 11,3    | MG-805        | MR-3   | MM-2    | <div>3/8"</div> <div>(9,5)</div>                                |
|                                                        | 13                                | 0.095        | 2,41  | 0.435        | 11,0  | 0.425 ÷ 0.480 | 10,8 ÷ 12,1   | MG-807        | MR-4   | MM-3    |                                                                 |
|                                                        | 14                                | 0.083        | 2,10  | 0.459        | 11,6  | 0.449 ÷ 0.509 | 11,4 ÷ 12,9   | MG-809        | MR-4   | MM-4    |                                                                 |
|                                                        | 15                                | 0.072        | 1,82  | 0.481        | 12,2  | 0.471 ÷ 0.536 | 11,9 ÷ 13,6   | MG-811        | MR-5   | MM-5    |                                                                 |
|                                                        | 16                                | 0.065        | 1,65  | 0.495        | 12,5  | 0.485 ÷ 0.550 | 12,3 ÷ 13,9   | MG-813        | MR-6   | MM-5    |                                                                 |
|                                                        | 17                                | 0.058        | 1,47  | 0.509        | 12,9  | 0.499 ÷ 0.564 | 12,6 ÷ 14,3   | MG-815        | MR-6   | MM-6    |                                                                 |
|                                                        | 18                                | 0.049        | 1,24  | 0.527        | 13,3  | 0.517 ÷ 0.572 | 13,1 ÷ 14,5   | MG-817        | MR-7   | MM-7    |                                                                 |
|                                                        | 19                                | 0.042        | 1,06  | 0.541        | 13,7  | 0.522 ÷ 0.582 | 13,2 ÷ 14,7   | MG-819        | MR-7   | MM-6    |                                                                 |
|                                                        | 20                                | 0.035        | 0,88  | 0.555        | 14,1  | 0.536 ÷ 0.596 | 13,6 ÷ 15,1   | MG-819-SP     | MR-7   | MM-8    |                                                                 |
|                                                        | 21                                | 0.032        | 0,81  | 0.561        | 14,2  |               |               |               |        |         |                                                                 |
|                                                        | 22                                | 0.028        | 0,71  | 0.569        | 14,4  |               |               |               |        |         |                                                                 |
|                                                        | <div>3/4"</div> <div>(19,0)</div> | 10           | 0.134 | 3,40         | 0.482 | 12,2          | 0.471 ÷ 0.536 | 11,9 ÷ 13,6   | MG-811 | MR-5    |                                                                 |
| 11                                                     |                                   | 0.120        | 3,04  | 0.510        | 12,9  | 0.499 ÷ 0.564 | 12,6 ÷ 14,3   | MG-815        | MR-6   | MM-6    |                                                                 |
| 12                                                     |                                   | 0.109        | 2,76  | 0.532        | 13,5  | 0.522 ÷ 0.582 | 13,2 ÷ 14,7   | MG-819        | MR-7   | MM-6    |                                                                 |
| 13                                                     |                                   | 0.095        | 2,41  | 0.560        | 14,2  | 0.550 ÷ 0.615 | 13,9 ÷ 15,6   | MG-821        | MR-8   | MM-8    |                                                                 |
| 14                                                     |                                   | 0.083        | 2,10  | 0.584        | 14,8  | 0.574 ÷ 0.639 | 14,5 ÷ 16,2   | MG-823        | MR-9   |         |                                                                 |
| 15                                                     |                                   | 0.072        | 1,82  | 0.606        | 15,3  | 0.596 ÷ 0.661 | 15,1 ÷ 16,7   | MG-825        | MR-10  |         |                                                                 |
| 16                                                     |                                   | 0.065        | 1,65  | 0.620        | 15,7  | 0.605 ÷ 0.685 | 15,3 ÷ 17,4   | MG-827        | MR-10  | MM-9    |                                                                 |
| 17                                                     |                                   | 0.058        | 1,47  | 0.634        | 16,1  | 0.619 ÷ 0.699 | 15,7 ÷ 17,7   | MG-829        | MR-11  |         |                                                                 |
| 18                                                     |                                   | 0.049        | 1,24  | 0.652        | 16,5  |               |               |               |        |         |                                                                 |
| 19                                                     |                                   | 0.042        | 1,06  | 0.666        | 16,9  | 0.642 ÷ 0.722 | 16,3 ÷ 18,3   | MG-831        | MR-12  |         |                                                                 |
| 20                                                     |                                   | 0.035        | 0,88  | 0.680        | 17,2  |               |               |               |        |         |                                                                 |
| 21                                                     |                                   | 0.032        | 0,81  | 0.686        | 17,4  |               |               |               |        |         |                                                                 |
| 22                                                     |                                   | 0.028        | 0,71  | 0.694        | 17,6  |               |               |               |        |         |                                                                 |

# MG/800

With 1.1/2"  
short rolls

| <i>d<sub>e</sub></i><br>inches<br>mm | Tube   |                           |                                      |                                      |                                      | Expansion     |             | Tube expander | Rolls | Mandrel | <br>inches<br>mm |
|--------------------------------------|--------|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------|-------------|---------------|-------|---------|-----------------------------------------------------------------------------------------------------|
|                                      | B.W.G. | <i>sp</i><br>inches<br>mm | <i>d<sub>i</sub></i><br>inches<br>mm | <i>d<sub>i</sub></i><br>inches<br>mm | <i>d<sub>i</sub></i><br>inches<br>mm | inches        | mm          | Cod.          | Cod.  | Cod.    |                                                                                                     |
| 7/8"<br>(22,2)                       | 10     | 0.134                     | 3,40                                 | 0.607                                | 15,4                                 | 0.596 ÷ 0.661 | 15,1 ÷ 16,7 | MG-825        | MR-10 | MM-8    | 3/8"<br>(9,5)                                                                                       |
|                                      | 11     | 0.120                     | 3,04                                 | 0.635                                | 16,1                                 | 0.619 ÷ 0.699 | 15,7 ÷ 17,7 | MG-829        | MR-11 | MM-9    |                                                                                                     |
|                                      | 12     | 0.109                     | 2,76                                 | 0.657                                | 16,6                                 | 0.642 ÷ 0.722 | 16,3 ÷ 18,3 | MG-831        | MR-12 | MM-10   |                                                                                                     |
|                                      | 13     | 0.095                     | 2,41                                 | 0.685                                | 17,4                                 | 0.670 ÷ 0.750 | 17,0 ÷ 19,0 | MG-833        | MR-13 | MM-11   |                                                                                                     |
|                                      | 14     | 0.083                     | 2,10                                 | 0.709                                | 18,0                                 | 0.685 ÷ 0.774 | 17,4 ÷ 19,6 | MG-835        | MR-14 | MM-12   |                                                                                                     |
|                                      | 15     | 0.072                     | 1,82                                 | 0.731                                | 18,5                                 | 0.712 ÷ 0.801 | 18,0 ÷ 20,3 | MG-837        | MR-15 | MM-13   |                                                                                                     |
|                                      | 16     | 0.065                     | 1,65                                 | 0.745                                | 18,9                                 | 0.726 ÷ 0.815 | 18,4 ÷ 20,7 | MG-839        | MR-16 | MM-14   |                                                                                                     |
|                                      | 17     | 0.058                     | 1,47                                 | 0.759                                | 19,2                                 |               |             |               |       |         |                                                                                                     |
|                                      | 18     | 0.049                     | 1,24                                 | 0.777                                | 19,7                                 | 0.740 ÷ 0.829 | 18,8 ÷ 21,0 | MG-843        | MR-17 | MM-15   |                                                                                                     |
|                                      |        |                           |                                      |                                      |                                      |               |             |               |       |         |                                                                                                     |
| 1"<br>(25,4)                         | 8      | 0.165                     | 4,19                                 | 0.670                                | 17,0                                 | 0.655 ÷ 0.735 | 16,6 ÷ 18,6 | MG-841        | MR-13 | MM-9    | 3/8"<br>(9,5)                                                                                       |
|                                      | 9      | 0.148                     | 3,75                                 | 0.704                                | 17,8                                 | 0.685 ÷ 0.774 | 17,4 ÷ 19,6 | MG-835        | MR-14 | MM-10   |                                                                                                     |
|                                      | 10     | 0.134                     | 3,40                                 | 0.732                                | 18,5                                 | 0.712 ÷ 0.801 | 18,0 ÷ 20,3 | MG-837        | MR-15 | MM-11   |                                                                                                     |
|                                      | 11     | 0.120                     | 3,04                                 | 0.760                                | 19,3                                 | 0.740 ÷ 0.829 | 18,8 ÷ 21,0 | MG-843        | MR-16 | MM-12   |                                                                                                     |
|                                      | 12     | 0.109                     | 2,76                                 | 0.782                                | 19,8                                 | 0.763 ÷ 0.852 | 19,3 ÷ 21,6 | MG-845        | MR-17 | MM-13   |                                                                                                     |
|                                      | 13     | 0.095                     | 2,41                                 | 0.810                                | 20,5                                 | 0.791 ÷ 0.880 | 20,0 ÷ 22,3 | MG-847        | MR-18 | MM-14   |                                                                                                     |
|                                      | 14     | 0.083                     | 2,10                                 | 0.834                                | 21,1                                 | 0.810 ÷ 0.909 | 20,5 ÷ 23,0 | MG-849        | MR-19 | MM-15   |                                                                                                     |
|                                      | 15     | 0.072                     | 1,82                                 | 0.856                                | 21,7                                 |               |             |               |       |         |                                                                                                     |
|                                      | 16     | 0.065                     | 1,65                                 | 0.870                                | 22,1                                 | 0.837 ÷ 0.936 | 21,2 ÷ 23,7 | MG-851        | MR-20 | MM-16   |                                                                                                     |
|                                      | 17     | 0.058                     | 1,47                                 | 0.884                                | 22,4                                 |               |             |               |       |         |                                                                                                     |
|                                      | 18     | 0.049                     | 1,24                                 | 0.902                                | 22,9                                 | 0.865 ÷ 0.964 | 21,9 ÷ 24,4 | MG-855        | MR-21 | MM-17   |                                                                                                     |
|                                      | 19     | 0.042                     | 1,06                                 | 0.916                                | 23,2                                 |               |             |               |       |         |                                                                                                     |
|                                      | 20     | 0.035                     | 0,89                                 | 0.930                                | 23,6                                 |               |             |               |       |         |                                                                                                     |
| 1.1/8"<br>(28,5)                     | 8      | 0.165                     | 4,19                                 | 0.795                                | 20,1                                 | 0.776 ÷ 0.875 | 19,7 ÷ 22,2 | MG-853        | MR-20 | MM-13   | 3/8"<br>(9,5)                                                                                       |
|                                      | 9      | 0.148                     | 3,75                                 | 0.829                                | 21,0                                 | 0.810 ÷ 0.909 | 20,5 ÷ 23,0 | MG-849        | MR-18 | MM-14   |                                                                                                     |
|                                      | 10     | 0.134                     | 3,40                                 | 0.857                                | 21,7                                 | 0.837 ÷ 0.936 | 21,2 ÷ 23,7 | MG-851        | MR-19 | MM-15   |                                                                                                     |
|                                      | 11     | 0.120                     | 3,04                                 | 0.885                                | 22,4                                 | 0.865 ÷ 0.964 | 21,9 ÷ 24,4 | MG-855        | MR-21 | MM-16   |                                                                                                     |
|                                      | 12     | 0.109                     | 2,76                                 | 0.907                                | 23,0                                 | 0.883 ÷ 0.982 | 22,4 ÷ 24,9 | MG-857        | MR-22 | MM-17   |                                                                                                     |
|                                      | 13     | 0.095                     | 2,41                                 | 0.935                                | 23,7                                 | 0.916 ÷ 1.015 | 23,2 ÷ 25,7 | MG-859        | MR-23 | MM-18   |                                                                                                     |
|                                      | 14     | 0.083                     | 2,10                                 | 0.959                                | 24,3                                 | 0.935 ÷ 1.044 | 23,7 ÷ 26,5 | MG-861        | MR-24 | MM-19   |                                                                                                     |
|                                      | 15     | 0.072                     | 1,82                                 | 0.981                                | 24,9                                 | 0.962 ÷ 1.071 | 24,4 ÷ 27,2 | MG-863        | MR-25 | MM-20   |                                                                                                     |
|                                      | 16     | 0.065                     | 1,65                                 | 0.995                                | 25,2                                 |               |             |               |       |         |                                                                                                     |
|                                      | 17     | 0.058                     | 1,47                                 | 1.009                                | 25,6                                 | 0.990 ÷ 1.099 | 25,1 ÷ 27,9 | MG-867        | MR-26 | MM-21   |                                                                                                     |
|                                      | 18     | 0.049                     | 1,24                                 | 1.027                                | 26,0                                 |               |             |               |       |         |                                                                                                     |
|                                      |        |                           |                                      |                                      |                                      |               |             |               |       |         |                                                                                                     |

With 1.1/2"  
short rolls

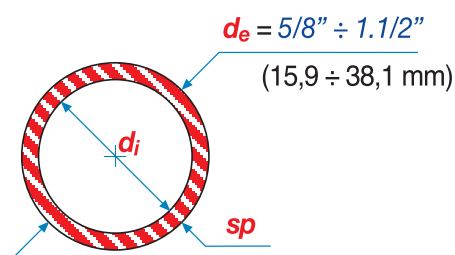
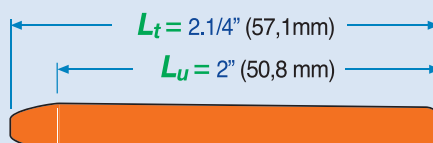
**MG/800**

| <b>d<sub>e</sub></b><br><i>inches</i><br><i>mm</i> | <b>Tube</b>                    |                                         |           |                                                    |           | <b>Expansion</b> |               | <b>Tube expander</b> | <b>Rolls</b>  | <b>Mandrel</b> | <br><i>inches</i><br><i>mm</i>     |
|----------------------------------------------------|--------------------------------|-----------------------------------------|-----------|----------------------------------------------------|-----------|------------------|---------------|----------------------|---------------|----------------|-----------------------------------------------------------------------------------------------------------------------|
|                                                    | <b>B.W.G.</b>                  | <b>sp</b><br><i>inches</i><br><i>mm</i> | <i>mm</i> | <b>d<sub>i</sub></b><br><i>inches</i><br><i>mm</i> | <i>mm</i> | <i>inches</i>    | <i>mm</i>     | <i>Cod.</i>          | <i>Cod.</i>   | <i>Cod.</i>    |                                                                                                                       |
| <b>1.1/4"</b><br><b>(31,8)</b>                     | 8                              | 0.165                                   | 4,19      | 0.920                                              | 23,3      | 0.901 ÷ 1.010    | 22,8 ÷ 25,6   | <b>MG-865</b>        | MR-25         | MM-15          | <br><b>1/2"</b><br><b>(12,7)</b> |
|                                                    | 9                              | 0.148                                   | 3,75      | 0.954                                              | 24,2      | 0.935 ÷ 1.044    | 23,7 ÷ 26,5   | <b>MG-861</b>        | MR-23         |                |                                                                                                                       |
|                                                    | 10                             | 0.134                                   | 3,40      | 0.982                                              | 24,9      | 0.962 ÷ 1.071    | 24,4 ÷ 27,2   | <b>MG-863</b>        | MR-24         |                |                                                                                                                       |
|                                                    | 11                             | 0.120                                   | 3,04      | 1.010                                              | 25,6      | 0.990 ÷ 1.099    | 25,1 ÷ 27,9   | <b>MG-867</b>        | MR-26         | MM-16          |                                                                                                                       |
|                                                    | 12                             | 0.109                                   | 2,76      | 1.032                                              | 26,2      | 1.013 ÷ 1.122    | 25,7 ÷ 28,5   | <b>MG-869</b>        | MR-27         |                |                                                                                                                       |
|                                                    | 13                             | 0.095                                   | 2,41      | 1.060                                              | 26,9      | 1.041 ÷ 1.150    | 26,4 ÷ 29,2   | <b>MG-871</b>        | MR-28         | MM-17          |                                                                                                                       |
|                                                    | 14                             | 0.083                                   | 2,10      | 1.084                                              | 27,5      | 1.060 ÷ 1.169    | 26,9 ÷ 29,6   | <b>MG-873</b>        | MR-29         |                |                                                                                                                       |
|                                                    | 15                             | 0.072                                   | 1,82      | 1.106                                              | 28,0      | 1.087 ÷ 1.196    | 27,6 ÷ 30,3   | <b>MG-875</b>        | MR-30         | MM-17          |                                                                                                                       |
|                                                    | 16                             | 0.065                                   | 1,65      | 1.120                                              | 28,4      |                  |               |                      |               |                |                                                                                                                       |
|                                                    | 17                             | 0.058                                   | 1,47      | 1.134                                              | 28,8      | 1.115 ÷ 1.224    | 28,3 ÷ 31,0   | <b>MG-879</b>        | MR-30         | MM-18          |                                                                                                                       |
| <b>1.3/8"</b><br><b>(34,9)</b>                     | 8                              | 0.165                                   | 4,19      | 1.045                                              | 26,5      | 1.026 ÷ 1.135    | 26,0 ÷ 28,8   | <b>MG-877</b>        | MR-31         | MM-17          | <br><b>1/2"</b><br><b>(12,7)</b> |
|                                                    | 9                              | 0.148                                   | 3,75      | 1.079                                              | 27,4      | 1.060 ÷ 1.169    | 26,9 ÷ 29,6   | <b>MG-873</b>        | MR-29         |                |                                                                                                                       |
|                                                    | 10                             | 0.134                                   | 3,40      | 1.107                                              | 28,1      | 1.087 ÷ 1.196    | 27,6 ÷ 30,3   | <b>MG-875</b>        | MR-30         |                |                                                                                                                       |
|                                                    | 11                             | 0.120                                   | 3,04      | 1.135                                              | 28,8      | 1.115 ÷ 1.224    | 28,3 ÷ 31,0   | <b>MG-879</b>        | MR-30         | MM-18          |                                                                                                                       |
|                                                    | 12                             | 0.109                                   | 2,76      | 1.157                                              | 29,3      | 1.133 ÷ 1.242    | 28,7 ÷ 31,5   | <b>MG-881</b>        | MR-32         |                |                                                                                                                       |
|                                                    | 13                             | 0.095                                   | 2,41      | 1.185                                              | 30,1      | 1.160 ÷ 1.275    | 29,4 ÷ 32,3   | <b>MG-883</b>        | MR-33         | MM-19          |                                                                                                                       |
|                                                    | 14                             | 0.083                                   | 2,10      | 1.209                                              | 30,7      | 1.179 ÷ 1.294    | 29,9 ÷ 32,8   | <b>MG-885</b>        | MR-34         |                |                                                                                                                       |
|                                                    | 15                             | 0.072                                   | 1,82      | 1.231                                              | 31,2      |                  |               |                      |               |                |                                                                                                                       |
|                                                    | 16                             | 0.065                                   | 1,65      | 1.245                                              | 31,6      | 1.206 ÷ 1.321    | 30,6 ÷ 33,5   | <b>MG-887</b>        | MR-35         |                |                                                                                                                       |
|                                                    | <b>1.1/2"</b><br><b>(38,1)</b> | 8                                       | 0.165     | 4,19                                               | 1.170     | 29,7             | 1.145 ÷ 1.260 | 29,0 ÷ 32,0          | <b>MG-889</b> | MR-34          |                                                                                                                       |
| 9                                                  |                                | 0.148                                   | 3,75      | 1.204                                              | 30,5      | 1.177 ÷ 1.294    | 29,9 ÷ 32,8   | <b>MG-885</b>        | MR-34         |                |                                                                                                                       |
| 10                                                 |                                | 0.134                                   | 3,40      | 1.232                                              | 31,2      | 1.206 ÷ 1.321    | 30,6 ÷ 33,5   | <b>MG-887</b>        | MR-35         | MM-20          |                                                                                                                       |
| 11                                                 |                                | 0.120                                   | 3,04      | 1.260                                              | 32,0      | 1.235 ÷ 1.350    | 31,3 ÷ 34,2   | <b>MG-891</b>        | MR-36         |                |                                                                                                                       |
| 12                                                 |                                | 0.109                                   | 2,76      | 1.282                                              | 32,5      | 1.257 ÷ 1.372    | 31,9 ÷ 34,8   | <b>MG-893</b>        | MR-37         |                |                                                                                                                       |
| 13                                                 |                                | 0.095                                   | 2,41      | 1.310                                              | 33,2      | 1.285 ÷ 1.400    | 32,6 ÷ 35,5   | <b>MG-895</b>        | MR-37         | MM-21          |                                                                                                                       |
| 14                                                 |                                | 0.083                                   | 2,10      | 1.334                                              | 33,8      |                  |               |                      |               |                |                                                                                                                       |
| 15                                                 |                                | 0.072                                   | 1,82      | 1.356                                              | 34,4      | 1.331 ÷ 1.446    | 33,8 ÷ 36,7   | <b>MG-897</b>        | MR-38         |                |                                                                                                                       |
| 16                                                 |                                | 0.065                                   | 1,65      | 1.370                                              | 34,8      |                  |               |                      |               |                |                                                                                                                       |
| 17                                                 |                                | 0.058                                   | 1,47      | 1.384                                              | 35,1      | 1.331 ÷ 1.472    | 33,8 ÷ 37,3   | <b>MG-899</b>        | MR-38         | MM-22          |                                                                                                                       |
| 18                                                 |                                | 0.049                                   | 1,24      | 1.402                                              | 35,6      |                  |               |                      |               |                |                                                                                                                       |
| 19                                                 |                                | 0.042                                   | 1,06      | 1.416                                              | 35,9      |                  |               |                      |               |                |                                                                                                                       |
| 20                                                 |                                | 0.035                                   | 0,88      | 1.444                                              | 36,3      |                  |               |                      |               |                |                                                                                                                       |

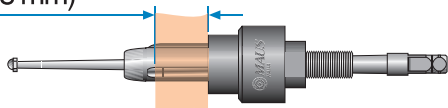
## MG/800

Tube expansion  
with adjustable reach  
for medium thickness tube sheets

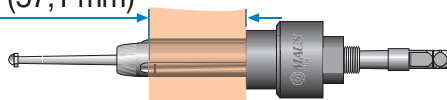
With 2.1/4"  
long rolls



$SP_{min} = 1.1/4" (31,8 \text{ mm})$



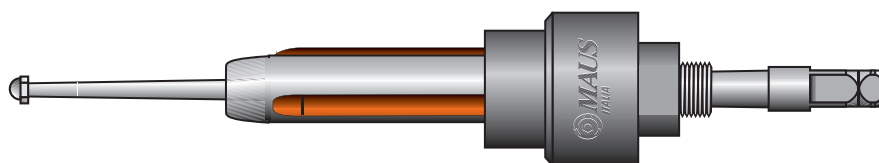
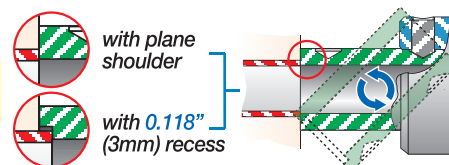
$SP_{max} = 2.1/4" (57,1 \text{ mm})$



Sample code for  
ordering tube expanders  
 $d_e 1" - 14 \text{ B.W.G.}$

Reversible  
thrust collar design

MG-850



With 2.1/4"  
long rolls

**MG/800**

| <i>d<sub>e</sub></i><br>inches<br>mm | Tube   |                     |       |                                |      | Expansion     |             | Tube expander    | Rolls   | Mandrel | <br>inches<br>mm |
|--------------------------------------|--------|---------------------|-------|--------------------------------|------|---------------|-------------|------------------|---------|---------|-------------------------------------------------------------------------------------------------------|
|                                      | B.W.G. | <i>sp</i><br>inches | mm    | <i>d<sub>i</sub></i><br>inches | mm   | inches        | mm          | Cod.             | Cod.    | Cod.    |                                                                                                       |
| <b>5/8"</b><br>(15,8)                | 14     | 0.083               | 2,10  | 0.459                          | 11,6 | 0.449 ÷ 0.509 | 11,4 ÷ 12,9 | <b>MG-810</b>    | MR-4-A  | MM-4    | <b>3/8"</b><br>(9,5)                                                                                  |
|                                      | 15     | 0.072               | 1,82  | 0.481                          | 12,2 | 0.471 ÷ 0.536 | 11,9 ÷ 13,6 | <b>MG-812</b>    | MR-5-A  | MM-5    |                                                                                                       |
|                                      | 16     | 0.065               | 1,65  | 0.495                          | 12,5 | 0.485 ÷ 0.550 | 12,3 ÷ 13,9 | <b>MG-814</b>    | MR-6-A  | MM-5    |                                                                                                       |
|                                      | 17     | 0.058               | 1,47  | 0.509                          | 12,9 | 0.499 ÷ 0.564 | 12,6 ÷ 14,3 | <b>MG-816</b>    | MR-6-A  | MM-6    |                                                                                                       |
|                                      | 18     | 0.049               | 1,24  | 0.527                          | 13,3 | 0.517 ÷ 0.572 | 13,1 ÷ 14,5 | <b>MG-818</b>    | MR-7-A  | MM-7    |                                                                                                       |
|                                      | 19     | 0.042               | 1,06  | 0.541                          | 13,7 | 0.522 ÷ 0.582 | 13,2 ÷ 14,7 | <b>MG-820</b>    | MR-7-A  | MM-6    |                                                                                                       |
|                                      | 20     | 0.035               | 0,88  | 0.555                          | 14,1 | 0.536 ÷ 0.596 | 13,6 ÷ 15,1 | <b>MG-820-SP</b> | MR-7-A  | MM-8    |                                                                                                       |
|                                      | 21     | 0.032               | 0,81  | 0.561                          | 14,2 |               |             |                  |         |         |                                                                                                       |
| 22                                   | 0.028  | 0,71                | 0.569 | 14,4                           |      |               |             |                  |         |         |                                                                                                       |
| <b>3/4"</b><br>(19,0)                | 10     | 0.134               | 3,40  | 0.482                          | 12,2 | 0.471 ÷ 0.536 | 11,9 ÷ 13,6 | <b>MG-812</b>    | MR-5-A  | MM-5    | <b>3/8"</b><br>(9,5)                                                                                  |
|                                      | 11     | 0.120               | 3,05  | 0.510                          | 12,9 | 0.499 ÷ 0.564 | 12,6 ÷ 14,3 | <b>MG-816</b>    | MR-6-A  | MM-6    |                                                                                                       |
|                                      | 12     | 0.109               | 2,76  | 0.532                          | 13,5 | 0.522 ÷ 0.582 | 13,2 ÷ 14,7 | <b>MG-820</b>    | MR-7-A  | MM-6    |                                                                                                       |
|                                      | 13     | 0.095               | 2,41  | 0.560                          | 14,2 | 0.550 ÷ 0.615 | 13,9 ÷ 15,6 | <b>MG-822</b>    | MR-8-A  | MM-8    |                                                                                                       |
|                                      | 14     | 0.083               | 2,10  | 0.584                          | 14,8 | 0.574 ÷ 0.639 | 14,5 ÷ 16,2 | <b>MG-824</b>    | MR-9-A  |         |                                                                                                       |
|                                      | 15     | 0.072               | 1,82  | 0.606                          | 15,3 | 0.596 ÷ 0.661 | 15,1 ÷ 16,7 | <b>MG-826</b>    | MR-10-A | MM-9    |                                                                                                       |
|                                      | 16     | 0.065               | 1,65  | 0.620                          | 15,7 | 0.605 ÷ 0.685 | 15,3 ÷ 17,4 | <b>MG-828</b>    | MR-10-A |         |                                                                                                       |
|                                      | 17     | 0.058               | 1,47  | 0.634                          | 16,1 | 0.619 ÷ 0.699 | 15,7 ÷ 17,7 | <b>MG-830</b>    | MR-11-A |         |                                                                                                       |
|                                      | 18     | 0.049               | 1,24  | 0.652                          | 16,5 |               |             |                  |         |         |                                                                                                       |
|                                      | 19     | 0.042               | 1,06  | 0.666                          | 16,9 | 0.642 ÷ 0.722 | 16,3 ÷ 18,3 | <b>MG-832</b>    | MR-12-A |         |                                                                                                       |
|                                      | 20     | 0.035               | 0,88  | 0.680                          | 17,2 |               |             |                  |         |         |                                                                                                       |
|                                      | 21     | 0.032               | 0,81  | 0.686                          | 17,4 |               |             |                  |         |         |                                                                                                       |
|                                      | 22     | 0.028               | 0,71  | 0.694                          | 17,6 |               |             |                  |         |         |                                                                                                       |

# MG/800

With 2.1/4"  
long rolls

| <i>d<sub>e</sub></i><br>inches<br>mm | Tube   |                     |      |                                |      | Expansion     |             | Tube expander | Rolls   | Mandrel | <br>inches<br>mm |
|--------------------------------------|--------|---------------------|------|--------------------------------|------|---------------|-------------|---------------|---------|---------|-----------------------------------------------------------------------------------------------------|
|                                      | B.W.G. | <i>sp</i><br>inches | mm   | <i>d<sub>i</sub></i><br>inches | mm   | inches        | mm          | Cod.          | Cod.    | Cod.    |                                                                                                     |
| <b>7/8"</b><br>(22,2)                | 10     | 0.134               | 3,40 | 0.607                          | 15,4 | 0.596 ÷ 0.661 | 15,1 ÷ 16,7 | <b>MG-826</b> | MR-10-A | MM-8    | 3/8"<br>(9,5)                                                                                       |
|                                      | 11     | 0.120               | 3,04 | 0.635                          | 16,1 | 0.619 ÷ 0.699 | 15,7 ÷ 17,7 | <b>MG-830</b> | MR-11-A | MM-9    |                                                                                                     |
|                                      | 12     | 0.109               | 2,76 | 0.657                          | 16,6 | 0.642 ÷ 0.722 | 16,3 ÷ 18,3 | <b>MG-832</b> | MR-12-A | MM-10   |                                                                                                     |
|                                      | 13     | 0.095               | 2,41 | 0.685                          | 17,4 | 0.670 ÷ 0.750 | 17,0 ÷ 19,0 | <b>MG-834</b> | MR-13-A | MM-11   |                                                                                                     |
|                                      | 14     | 0.083               | 2,10 | 0.709                          | 18,0 | 0.685 ÷ 0.774 | 17,4 ÷ 19,6 | <b>MG-836</b> | MR-14-A | MM-12   |                                                                                                     |
|                                      | 15     | 0.072               | 1,82 | 0.731                          | 18,5 | 0.712 ÷ 0.801 | 18,0 ÷ 20,3 | <b>MG-838</b> | MR-15-A |         |                                                                                                     |
|                                      | 16     | 0.065               | 1,65 | 0.745                          | 18,9 | 0.726 ÷ 0.815 | 18,4 ÷ 20,7 | <b>MG-840</b> | MR-15-A |         |                                                                                                     |
|                                      | 17     | 0.058               | 1,47 | 0.759                          | 19,2 |               |             |               |         |         |                                                                                                     |
|                                      | 18     | 0.049               | 1,24 | 0.777                          | 19,7 | 0.740 ÷ 0.829 | 18,8 ÷ 21,0 | <b>MG-844</b> | MR-16-A |         |                                                                                                     |
|                                      |        |                     |      |                                |      |               |             |               |         |         |                                                                                                     |
| <b>1"</b><br>(25,4)                  | 8      | 0.165               | 4,19 | 0.670                          | 17,0 | 0.665 ÷ 0.735 | 16,6 ÷ 18,6 | <b>MG-842</b> | MR-13-A | MM-9    | 3/8"<br>(9,5)                                                                                       |
|                                      | 9      | 0.148               | 3,75 | 0.704                          | 17,8 | 0.685 ÷ 0.774 | 17,4 ÷ 19,6 | <b>MG-836</b> | MR-14-A | MM-11   |                                                                                                     |
|                                      | 10     | 0.134               | 3,40 | 0.732                          | 18,5 | 0.712 ÷ 0.801 | 18,0 ÷ 20,3 | <b>MG-838</b> | MR-15-A |         |                                                                                                     |
|                                      | 11     | 0.120               | 3,04 | 0.760                          | 19,3 | 0.740 ÷ 0.829 | 18,8 ÷ 21,0 | <b>MG-844</b> | MR-16-A |         |                                                                                                     |
|                                      | 12     | 0.109               | 2,76 | 0.782                          | 19,8 | 0.763 ÷ 0.852 | 19,3 ÷ 21,6 | <b>MG-846</b> | MR-17-A | MM-12   |                                                                                                     |
|                                      | 13     | 0.095               | 2,41 | 0.810                          | 20,5 | 0.791 ÷ 0.880 | 20,0 ÷ 22,3 | <b>MG-848</b> | MR-18-A |         |                                                                                                     |
|                                      | 14     | 0.083               | 2,10 | 0.834                          | 21,1 | 0.810 ÷ 0.909 | 20,5 ÷ 23,0 | <b>MG-850</b> | MR-18-A |         |                                                                                                     |
|                                      | 15     | 0.072               | 1,82 | 0.856                          | 21,7 |               |             |               |         |         |                                                                                                     |
|                                      | 16     | 0.065               | 1,65 | 0.870                          | 22,1 | 0.837 ÷ 0.936 | 21,2 ÷ 23,7 | <b>MG-852</b> | MR-19-A |         |                                                                                                     |
|                                      | 17     | 0.058               | 1,47 | 0.884                          | 22,4 |               |             |               |         |         |                                                                                                     |
|                                      | 18     | 0.049               | 1,24 | 0.902                          | 22,9 |               |             |               |         |         |                                                                                                     |
|                                      | 19     | 0.042               | 1,06 | 0.916                          | 23,2 | 0.865 ÷ 0.964 | 21,9 ÷ 24,4 | <b>MG-856</b> | MR-21-A |         |                                                                                                     |
|                                      | 20     | 0.035               | 0,88 | 0.930                          | 23,6 |               |             |               |         |         |                                                                                                     |
| <b>1.1/8"</b><br>(28,5)              | 8      | 0.165               | 4,19 | 0.795                          | 20,1 | 0.776 ÷ 0.875 | 19,7 ÷ 22,2 | <b>MG-854</b> | MR-20-A |         | 3/8"<br>(9,5)                                                                                       |
|                                      | 9      | 0.148               | 3,75 | 0.829                          | 21,0 | 0.810 ÷ 0.909 | 20,5 ÷ 23,0 | <b>MG-850</b> | MR-18-A |         |                                                                                                     |
|                                      | 10     | 0.134               | 3,40 | 0.857                          | 21,7 | 0.837 ÷ 0.936 | 21,2 ÷ 23,7 | <b>MG-852</b> | MR-19-A | MM-13   |                                                                                                     |
|                                      | 11     | 0.120               | 3,04 | 0.885                          | 22,4 | 0.865 ÷ 0.964 | 21,9 ÷ 24,4 | <b>MG-856</b> | MR-21-A |         |                                                                                                     |
|                                      | 12     | 0.109               | 2,76 | 0.907                          | 23,0 | 0.883 ÷ 0.982 | 22,4 ÷ 24,9 | <b>MG-858</b> | MR-21-A |         |                                                                                                     |
|                                      | 13     | 0.095               | 2,41 | 0.935                          | 23,7 | 0.916 ÷ 1.015 | 23,2 ÷ 25,7 | <b>MG-860</b> | MR-22-A | MM-14   |                                                                                                     |
|                                      | 14     | 0.083               | 2,10 | 0.959                          | 24,3 | 0.935 ÷ 1.044 | 23,7 ÷ 26,5 | <b>MG-862</b> | MR-23-A |         |                                                                                                     |
|                                      | 15     | 0.072               | 1,82 | 0.981                          | 24,9 | 0.962 ÷ 1.071 | 24,4 ÷ 27,2 | <b>MG-864</b> | MR-24-A | MM-15   |                                                                                                     |
|                                      | 16     | 0.065               | 1,65 | 0.995                          | 25,2 |               |             |               |         |         |                                                                                                     |
|                                      | 17     | 0.058               | 1,47 | 1.009                          | 25,6 |               |             |               |         |         |                                                                                                     |
|                                      | 18     | 0.049               | 1,24 | 1.027                          | 26,0 | 0.990 ÷ 1.099 | 25,1 ÷ 27,9 | <b>MG-868</b> | MR-26-A | MM-16   |                                                                                                     |
|                                      |        |                     |      |                                |      |               |             |               |         |         |                                                                                                     |

With 2.1/4"  
long rolls

**MG/800**

| <b>d<sub>e</sub></b><br><i>inches</i><br><i>mm</i> | <b>Tube</b>                    |                                         |           |                                                    |           | <b>Expansion</b> |               | <b>Tube expander</b> | <b>Rolls</b>  | <b>Mandrel</b> | <br><i>inches</i><br><i>mm</i> |       |
|----------------------------------------------------|--------------------------------|-----------------------------------------|-----------|----------------------------------------------------|-----------|------------------|---------------|----------------------|---------------|----------------|-------------------------------------------------------------------------------------------------------------------|-------|
|                                                    | <b>B.W.G.</b>                  | <b>sp</b><br><i>inches</i><br><i>mm</i> | <i>mm</i> | <b>d<sub>i</sub></b><br><i>inches</i><br><i>mm</i> | <i>mm</i> | <i>inches</i>    | <i>mm</i>     | <i>Cod.</i>          | <i>Cod.</i>   | <i>Cod.</i>    |                                                                                                                   |       |
| <b>1.1/4"</b><br><b>(31,8)</b>                     | 8                              | 0.165                                   | 4,19      | 0.920                                              | 23,3      | 0.901 ÷ 1.010    | 22,8 ÷ 25,6   | <b>MG-866</b>        | MR-25-A       | MM-15          | 1/2"<br>(12,7)                                                                                                    |       |
|                                                    | 9                              | 0.148                                   | 3,75      | 0.954                                              | 24,2      | 0.935 ÷ 1.044    | 23,7 ÷ 26,5   | <b>MG-862</b>        | MR-23-A       |                |                                                                                                                   |       |
|                                                    | 10                             | 0.134                                   | 3,40      | 0.982                                              | 24,9      | 0.962 ÷ 1.071    | 24,4 ÷ 27,2   | <b>MG-864</b>        | MR-24-A       |                |                                                                                                                   |       |
|                                                    | 11                             | 0.120                                   | 3,04      | 1.010                                              | 25,6      | 0.990 ÷ 1.099    | 25,2 ÷ 27,9   | <b>MG-868</b>        | MR-26-A       | MM-16          |                                                                                                                   |       |
|                                                    | 12                             | 0.109                                   | 2,76      | 1.032                                              | 26,2      | 1.013 ÷ 1.122    | 25,7 ÷ 28,5   | <b>MG-870</b>        | MR-27-A       |                |                                                                                                                   |       |
|                                                    | 13                             | 0.095                                   | 2,41      | 1.060                                              | 26,9      | 1.041 ÷ 1.150    | 26,4 ÷ 29,2   | <b>MG-872</b>        | MR-28-A       | MM-17          |                                                                                                                   |       |
|                                                    | 14                             | 0.083                                   | 2,10      | 1.084                                              | 27,5      | 1.060 ÷ 1.169    | 26,9 ÷ 29,6   | <b>MG-874</b>        | MR-29-A       |                |                                                                                                                   |       |
|                                                    | 15                             | 0.072                                   | 1,82      | 1.106                                              | 28,0      | 1.087 ÷ 1.196    | 27,6 ÷ 30,3   | <b>MG-876</b>        | MR-30-A       | MM-17          |                                                                                                                   |       |
|                                                    | 16                             | 0.065                                   | 1,65      | 1.120                                              | 28,4      | 1.115 ÷ 1.224    | 28,3 ÷ 31,0   | <b>MG-880</b>        | MR-30-A       | MM-18          |                                                                                                                   |       |
|                                                    | 17                             | 0.058                                   | 1,47      | 1.134                                              | 28,8      |                  |               |                      |               |                |                                                                                                                   |       |
| <b>1.3/8"</b><br><b>(34,9)</b>                     | 8                              | 0.165                                   | 4,19      | 1.045                                              | 26,5      | 1.026 ÷ 1.135    | 26,0 ÷ 28,8   | <b>MG-878</b>        | MR-31-A       | MM-17          | 1/2"<br>(12,7)                                                                                                    |       |
|                                                    | 9                              | 0.148                                   | 3,75      | 1.079                                              | 27,4      | 1.060 ÷ 1.169    | 26,9 ÷ 29,6   | <b>MG-874</b>        | MR-29-A       |                |                                                                                                                   |       |
|                                                    | 10                             | 0.134                                   | 3,40      | 1.107                                              | 28,1      | 1.087 ÷ 1.196    | 27,6 ÷ 30,3   | <b>MG-876</b>        | MR-30-A       |                |                                                                                                                   |       |
|                                                    | 11                             | 0.120                                   | 3,04      | 1.135                                              | 28,8      | 1.115 ÷ 1.224    | 28,3 ÷ 31,0   | <b>MG-880</b>        | MR-30-A       | MM-18          |                                                                                                                   |       |
|                                                    | 12                             | 0.109                                   | 2,76      | 1.157                                              | 29,3      | 1.133 ÷ 1.242    | 28,7 ÷ 31,5   | <b>MG-882</b>        | MR-32-A       |                |                                                                                                                   |       |
|                                                    | 13                             | 0.095                                   | 2,41      | 1.185                                              | 30,1      | 1.160 ÷ 1.275    | 29,4 ÷ 32,3   | <b>MG-884</b>        | MR-33-A       | MM-19          |                                                                                                                   |       |
|                                                    | 14                             | 0.083                                   | 2,10      | 1.209                                              | 30,7      | 1.179 ÷ 1.294    | 29,9 ÷ 32,8   | <b>MG-886</b>        | MR-34-A       | MM-20          |                                                                                                                   |       |
|                                                    | 15                             | 0.072                                   | 1,82      | 1.231                                              | 31,2      | 1.206 ÷ 1.321    | 30,6 ÷ 33,5   | <b>MG-888</b>        | MR-35-A       |                |                                                                                                                   |       |
|                                                    | 16                             | 0.065                                   | 1,65      | 1.245                                              | 31,6      |                  |               |                      |               |                |                                                                                                                   |       |
|                                                    | <b>1.1/2"</b><br><b>(38,1)</b> | 8                                       | 0.165     | 4,19                                               | 1.170     | 29,7             | 1.145 ÷ 1.260 | 29,0 ÷ 32,0          | <b>MG-890</b> | MR-34-A        |                                                                                                                   | MM-19 |
| 9                                                  |                                | 0.148                                   | 3,75      | 1.204                                              | 30,5      | 1.177 ÷ 1.294    | 29,9 ÷ 32,8   | <b>MG-886</b>        | MR-34-A       |                |                                                                                                                   |       |
| 10                                                 |                                | 0.134                                   | 3,40      | 1.232                                              | 31,2      | 1.206 ÷ 1.321    | 30,6 ÷ 33,5   | <b>MG-888</b>        | MR-35-A       |                |                                                                                                                   |       |
| 11                                                 |                                | 0.120                                   | 3,04      | 1.260                                              | 32,0      | 1.235 ÷ 1.350    | 31,3 ÷ 34,2   | <b>MG-892</b>        | MR-36-A       | MM-20          |                                                                                                                   |       |
| 12                                                 |                                | 0.109                                   | 2,76      | 1.282                                              | 32,5      | 1.257 ÷ 1.372    | 31,9 ÷ 34,8   | <b>MG-894</b>        | MR-37-A       |                |                                                                                                                   |       |
| 13                                                 |                                | 0.095                                   | 2,41      | 1.310                                              | 33,2      | 1.285 ÷ 1.400    | 32,6 ÷ 35,5   | <b>MG-896</b>        | MR-37-A       | MM-21          |                                                                                                                   |       |
| 14                                                 |                                | 0.083                                   | 2,10      | 1.334                                              | 33,8      | 1.331 ÷ 1.446    | 33,8 ÷ 36,7   | <b>MG-898</b>        | MR-38-A       |                |                                                                                                                   |       |
| 15                                                 |                                | 0.072                                   | 1,82      | 1.356                                              | 34,4      |                  |               |                      |               |                |                                                                                                                   |       |
| 16                                                 |                                | 0.065                                   | 1,65      | 1.370                                              | 34,8      | 1.331 ÷ 1.472    | 33,8 ÷ 37,3   | <b>MG-800</b>        | MR-38-A       | MM-22          |                                                                                                                   |       |
| 17                                                 |                                | 0.058                                   | 1,47      | 1.384                                              | 35,1      |                  |               |                      |               |                |                                                                                                                   |       |
| 18                                                 |                                | 0.049                                   | 1,24      | 1.402                                              | 35,6      |                  |               |                      |               |                |                                                                                                                   |       |
| 19                                                 |                                | 0.042                                   | 1,06      | 1.416                                              | 35,9      |                  |               |                      |               |                |                                                                                                                   |       |
| 20                                                 | 0.035                          | 0,88                                    | 1.430     | 36,3                                               |           |                  |               |                      |               |                |                                                                                                                   |       |