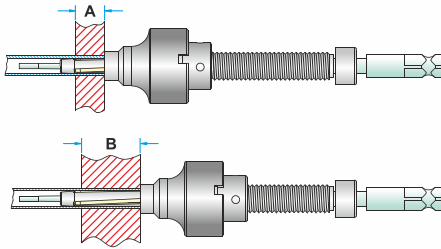


Tube Expander for Heat Exchanger and Condenser

T - 800 / 1200 Series - 3 Rollers



800 Series



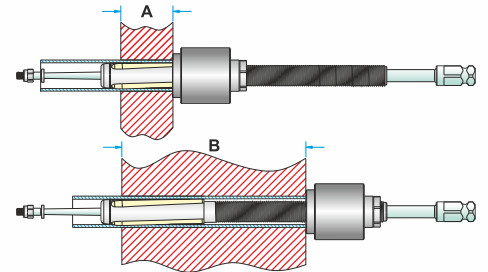
| T800 Series | Adjustable Range | |
|------------------|------------------|-----------------|
| | Roller Length | Min. Max. |
| 1.1/2" (38.1 mm) | 1/2" (12.7mm) | 1.1/2" (38.1mm) |
| 2.1/4" (57.1 mm) | 1.1/4" (31.7mm) | 2.1/4" (57.1mm) |

| Tube O.D. BWG | Tube I.D. | | Min I.D. Tube Tool Enters | | Max Tool Expansion | | 800 Series Expander With | | | | Mandrel Models | 1200 Series Expander With | | | | Mandrel Models | |
|---------------------|--------------|-------|---------------------------------|-------|--------------------------|-------|--------------------------|----------|------------------------|----------|-------------------|---------------------------|----------|------------------------|----------|-------------------|---------|
| | | | | | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | |
| | | | | | | | Expander | Roll Set | Expander | Roll Set | | Expander | Roll Set | Expander | Roll Set | | |
| | | | | | | | Model | Model | Model | Model | | Model | Model | Model | Model | | |
| 1/2"-14 | 0.334 | 8.4 | 0.324 | 8.23 | 0.374 | 9.50 | T-797 | TR-797 | - | - | TM-797 | T-1197 | TR-797 | - | - | TM-1197 | |
| | -15 | 0.356 | 9.0 | 0.349 | 8.84 | 0.398 | 10.11 | T-799 | TR-1 | - | - | TM-799 | T-1199 | TR-1 | - | - | TM-1199 |
| | -16 | 0.370 | 9.4 | 0.360 | 9.14 | 0.410 | 10.41 | T-801 | TR-1 | - | - | TM-1 | T-1201 | TR-1 | - | - | TM-51 |
| | -17 | 0.384 | 9.7 | 0.374 | 9.50 | 0.424 | 10.77 | T-803 | TR-2 | - | - | TM-1 | T-1203 | TR-2 | - | - | TM-51 |
| | -18 | 0.402 | 10.2 | 0.392 | 9.96 | 0.447 | 11.35 | T-805 | TR-3 | - | - | TM-2 | T-1205 | TR-3 | - | - | TM-52 |
| | -20 | 0.430 | 10.9 | 0.406 | 10.80 | 0.461 | 11.7 | T-805S | TR-3 | - | - | TM-3 | T-1205S | TR-3 | - | - | TM-53 |
| 5/8"-12 | 0.407 | 10.3 | 0.392 | 9.96 | 0.447 | 11.35 | T-805 | TR-3 | - | - | TM-2 | T-1205 | TR-3 | - | - | TM-52 | |
| | -13 | 0.435 | 11.0 | 0.425 | 10.79 | 0.480 | 12.19 | T-807 | TR-4 | - | - | TM-3 | T-1207 | TR-4 | - | - | TM-53 |
| | -14 | 0.459 | 11.6 | 0.449 | 11.40 | 0.509 | 12.90 | T-809 | TR-4 | T-810 | TR-4-A | TM-4 | T-1209 | TR-4 | T-1210 | TR-4-A | TM-54 |
| | -15 | 0.481 | 12.2 | 0.471 | 11.96 | 0.536 | 13.61 | T-811 | TR-5 | T-812 | TR-5-A | TM-5 | T-1211 | TR-5 | T-1212 | TR-5-A | TM-55 |
| | -16 | 0.495 | 12.5 | 0.485 | 12.32 | 0.550 | 13.97 | T-813 | TR-6 | T-814 | TR-6-A | TM-5 | T-1213 | TR-6 | T-1214 | TR-6-A | TM-55 |
| | -17 | 0.509 | 12.9 | 0.499 | 12.67 | 0.564 | 14.32 | T-815 | TR-6 | T-816 | TR-6-A | TM-6 | T-1215 | TR-6 | T-1216 | TR-6-A | TM-56 |
| | -18 | 0.527 | 13.3 | 0.517 | 13.13 | 0.572 | 14.53 | T-817 | TR-7 | T-818 | TR-7-A | TM-7 | T-1217 | TR-7 | T-1218 | TR-7-A | TM-57 |
| | -19 | 0.541 | 13.7 | 0.522 | 13.26 | 0.582 | 14.7 | T-819 | TR-7 | T-820 | TR-7-A | TM-6 | T-1219 | TR-7 | T-1220 | TR-7-A | TM-56 |
| | -20 | 0.555 | 14.1 | 0.536 | 13.6 | 0.596 | 15.1 | T-819S | TR-7 | T-820S | TR-7-A | TM-8 | T-1219S | TR-7 | T-1220S | TR-7-A | TM-58 |
| | -21 | 0.561 | 14.2 | 0.536 | 13.6 | 0.596 | 15.1 | T-819S | TR-7 | T-820S | TR-7-A | TM-8 | T-1219S | TR-7 | T-1220S | TR-7-A | TM-58 |
| 3/4"-10 | 0.482 | 12.2 | 0.471 | 11.96 | 0.536 | 13.61 | T-811 | TR-5 | T-812 | TR-5-A | TM-5 | T-1211 | TR-5 | T-1212 | TR-5-A | TM-55 | |
| | -11 | 0.510 | 12.9 | 0.499 | 12.67 | 0.564 | 14.32 | T-815 | TR-6 | T-816 | TR-6-A | TM-6 | T-1215 | TR-6 | T-1216 | TR-6-A | TM-56 |
| | -12 | 0.532 | 13.5 | 0.522 | 13.26 | 0.582 | 14.70 | T-819 | TR-7 | T-820 | TR-7-A | TM-6 | T-1219 | TR-7 | T-1220 | TR-7-A | TM-56 |
| | -13 | 0.560 | 14.2 | 0.550 | 13.97 | 0.615 | 15.62 | T-821 | TR-8 | T-822 | TR-8-A | TM-8 | T-1221 | TR-8 | T-1222 | TR-8-A | TM-58 |
| | -14 | 0.584 | 14.8 | 0.574 | 14.58 | 0.639 | 16.23 | T-823 | TR-9 | T-824 | TR-9-A | TM-8 | T-1223 | TR-8 | T-1224 | TR-8-A | TM-58 |
| | -15 | 0.606 | 15.3 | 0.596 | 15.14 | 0.661 | 16.79 | T-825 | TR-10 | T-826 | TR-10-A | TM-8 | T-1225 | TR-8 | T-1226 | TR-8-A | TM-58 |
| | -16 | 0.620 | 15.7 | 0.605 | 15.37 | 0.685 | 17.40 | T-827 | TR-10 | T-828 | TR-10-A | TM-9 | T-1227 | TR-10 | T-1228 | TR-10-A | TM-59 |



1200 Series

| T1200 Series | Adjustable Range | | |
|------------------|------------------|-----------------|-------------------|
| | Roller Length | Reach | Min. Max. |
| 1.1/2" (38.1mm) | Standard | 1.1/2" (38.1mm) | 6" (152.4 mm) |
| | A | 1.1/2" (38.1mm) | 8" (203.1 mm) |
| | B | 1.1/2" (38.1mm) | 10" (253.8 mm) |
| 2.1/4" (57.1 mm) | Standard | 2.1/4" (57.1mm) | 6.3/4" (171.4 mm) |
| | A | 2.1/4" (57.1mm) | 8.3/4" (222.1 mm) |
| | B | 2.1/4" (57.1mm) | 10.3/4 (323.6 mm) |



Longer reaches available upon request in 2 inch (50.8 mm) increments

| Tube O.D. BWG | Tube I.D. | | Min I.D. Tube Tool Enters | | Max Tool Expansion | | 800 Series Expander With | | | | Mandrel Models | 1200 Series Expander With | | | | Mandrel Models |
|---------------|-----------|------|---------------------------|-------|--------------------|-------|--------------------------|----------------|------------------------|----------------|----------------|---------------------------|----------------|------------------------|----------------|----------------|
| | | | | | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | |
| | | | | | | | Expander Model | Roll Set Model | Expander Model | Roll Set Model | | Expander Model | Roll Set Model | Expander Model | Roll Set Model | |
| 3/4"-17 | 0.634 | 16.1 | 0.619 | 15.72 | 0.699 | 17.75 | T-829 | TR-11 | T-830 | TR-11-A | TM-9 | T-1229 | TR-11 | T-1230 | TR-11-A | TM-59 |
| -18 | 0.652 | 16.5 | 0.619 | 15.72 | 0.699 | 17.75 | T-829 | TR-11 | T-830 | TR-11-A | TM-9 | T-1229 | TR-11 | T-1230 | TR-11-A | TM-59 |
| -19 | 0.666 | 16.9 | 0.642 | 16.3 | 0.722 | 18.3 | T-831 | TR-12 | T-832 | TR-12-A | TM-9 | T-1231 | TR-12 | T-1232 | TR-12-A | TM-59 |
| -20 | 0.680 | 17.2 | 0.642 | 16.3 | 0.722 | 18.3 | T-831 | TR-12 | T-832 | TR-12-A | TM-9 | T-1231 | TR-12 | T-1232 | TR-12-A | TM-59 |
| -21 | 0.686 | 17.4 | 0.642 | 16.3 | 0.722 | 18.3 | T-831 | TR-12 | T-832 | TR-12-A | TM-9 | T-1231 | TR-12 | T-1232 | TR-12-A | TM-59 |
| -22 | 0.694 | 17.6 | 0.642 | 16.3 | 0.722 | 18.3 | T-831 | TR-12 | T-832 | TR-12-A | TM-9 | T-1231 | TR-12 | T-1232 | TR-12-A | TM-59 |
| 7/8"-10 | 0.607 | 15.4 | 0.596 | 15.1 | 0.661 | 16.7 | T-825 | TR-10 | T-826 | TR-10-A | TM-8 | T-1225 | TR-10 | T-1226 | TR-10-A | TM-58 |
| -11 | 0.635 | 16.1 | 0.619 | 15.7 | 0.699 | 17.7 | T-829 | TR-11 | T-830 | TR-11-A | TM-9 | T-1229 | TR-11 | T-1230 | TR-11-A | TM-59 |
| -12 | 0.657 | 16.6 | 0.642 | 16.3 | 0.722 | 18.3 | T-831 | TR-12 | T-832 | TR-12-A | TM-9 | T-1231 | TR-12 | T-1232 | TR-12-A | TM-59 |
| -13 | 0.685 | 17.4 | 0.670 | 17.0 | 0.750 | 19.0 | T-833 | TR-13 | T-834 | TR-13-A | TM-10 | T-1233 | TR-13 | T-1234 | TR-13-A | TM-60 |
| -14 | 0.709 | 18.0 | 0.685 | 17.5 | 0.774 | 19.6 | T-835 | TR-14 | T-836 | TR-14-A | TM-11 | T-1235 | TR-14 | T-1236 | TR-14-A | TM-61 |
| -15 | 0.731 | 18.5 | 0.712 | 18.0 | 0.801 | 20.3 | T-837 | TR-15 | T-838 | TR-15-A | TM-11 | T-1237 | TR-15 | T-1238 | TR-15-A | TM-61 |
| -16 | 0.745 | 18.9 | 0.726 | 18.4 | 0.815 | 20.7 | T-839 | TR-15 | T-840 | TR-15-A | TM-12 | T-1239 | TR-15 | T-1240 | TR-15-A | TM-62 |
| -17 | 0.759 | 19.2 | 0.740 | 18.8 | 0.829 | 21.0 | T-843 | TR-16 | T-844 | TR-16-A | TM-12 | T-1243 | TR-16 | T-1244 | TR-16-A | TM-62 |
| -18 | 0.777 | 19.7 | 0.740 | 18.8 | 0.829 | 21.0 | T-843 | TR-16 | T-844 | TR-16-A | TM-12 | T-1243 | TR-16 | T-1244 | TR-16-A | TM-62 |
| 1"-8 | 0.670 | 17.0 | 0.655 | 16.6 | 0.735 | 18.6 | T-841 | TR-13 | T-842 | TR-13-A | TM-9 | T-1241 | TR-13 | T-1242 | TR-13-A | TM-59 |
| -9 | 0.704 | 17.8 | 0.685 | 17.4 | 0.774 | 19.6 | T-835 | TR-14 | T-836 | TR-14-A | TM-11 | T-1235 | TR-14 | T-1236 | TR-14-A | TM-61 |
| -10 | 0.732 | 18.5 | 0.712 | 18.0 | 0.801 | 20.3 | T-837 | TR-15 | T-838 | TR-15-A | TM-11 | T-1237 | TR-15 | T-1238 | TR-15-A | TM-61 |
| -11 | 0.760 | 19.3 | 0.740 | 18.8 | 0.829 | 21.0 | T-843 | TR-16 | T-844 | TR-16-A | TM-12 | T-1243 | TR-16 | T-1244 | TR-16-A | TM-62 |
| -12 | 0.782 | 19.8 | 0.763 | 19.3 | 0.852 | 21.6 | T-845 | TR-17 | T-846 | TR-17-A | TM-12 | T-1245 | TR-17 | T-1246 | TR-17-A | TM-62 |
| -13 | 0.810 | 20.5 | 0.791 | 20.0 | 0.880 | 22.3 | T-847 | TR-18 | T-848 | TR-18-A | TM-12 | T-1247 | TR-18 | T-1248 | TR-18-A | TM-62 |
| -14 | 0.834 | 21.1 | 0.810 | 20.5 | 0.909 | 23.0 | T-849 | TR-18 | T-850 | TR-18-A | TM-13 | T-1249 | TR-18 | T-1250 | TR-18-A | TM-63 |
| -15 | 0.856 | 21.7 | 0.837 | 21.2 | 0.936 | 23.7 | T-851 | TR-19 | T-852 | TR-19-A | TM-13 | T-1251 | TR-19 | T-1252 | TR-19-A | TM-63 |
| -16 | 0.870 | 22.1 | 0.837 | 21.2 | 0.936 | 23.7 | T-851 | TR-19 | T-852 | TR-19-A | TM-13 | T-1251 | TR-19 | T-1252 | TR-19-A | TM-63 |

Tube Expander for Heat Exchanger and Condenser

T - 800 / 1200 Series - 3 Rollers



800 Series

| T800 Series | Adjustable Range | |
|-----------------|------------------|------------------|
| Roller Length | Min. | Max. |
| 1.1/2" (38.1mm) | 1/2" (12.7mm) | 1.1/2" (38.1mm) |
| 2.1/4" (57.1mm) | 1.1/4" (31.7mm) | 2.1/4" (57.1 mm) |

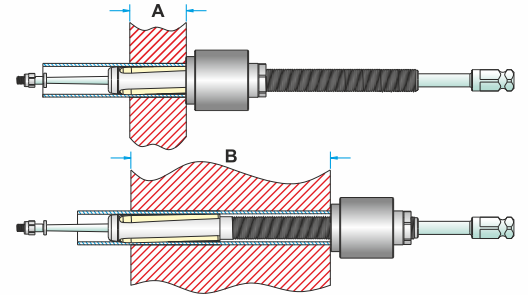
| Tube O.D. BWG | Tube I.D. | | Min I.D. Tube Tool Enters | | Max Tool Expansion | | 800 Series Expander With | | | | Mandrel Models | 1200 Series Expander With | | | | Mandrel Models |
|---------------------|--------------|------|---------------------------------|------|--------------------------|------|--------------------------|----------|------------------------|----------|-------------------|---------------------------|----------|------------------------|----------|-------------------|
| | | | | | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | |
| | | | | | | | Expander | Roll Set | Expander | Roll Set | | Expander | Roll Set | Expander | Roll Set | |
| | | | | | | | Model | Model | Model | Model | | Model | Model | Model | Model | |
| -17 | 0.884 | 22.4 | 0.865 | 21.9 | 0.964 | 24.4 | T-855 | TR-21 | T-856 | TR-21-A | TM-13 | T-1255 | TR-21 | T-1256 | TR-21-A | TM-63 |
| -18 | 0.902 | 22.9 | 0.865 | 21.9 | 0.964 | 24.4 | T-855 | TR-21 | T-856 | TR-21-A | TM-13 | T-1255 | TR-21 | T-1256 | TR-21-A | TM-63 |
| -19 | 0.916 | 23.2 | 0.865 | 21.9 | 0.964 | 24.4 | T-855 | TR-21 | T-856 | TR-21-A | TM-13 | T-1255 | TR-21 | T-1256 | TR-21-A | TM-63 |
| -20 | 0.930 | 23.6 | 0.865 | 21.9 | 0.964 | 24.4 | T-855 | TR-21 | T-856 | TR-21-A | TM-13 | T-1255 | TR-21 | T-1256 | TR-21-A | TM-63 |
| 1.1/8"-8 | 0.795 | 20.1 | 0.776 | 19.7 | 0.875 | 22.2 | T-853 | TR-20 | T-854 | TR-20-A | TM-13 | T-1253 | TR-20 | T-1254 | TR-21-A | TM-63 |
| -9 | 0.829 | 21.0 | 0.810 | 20.5 | 0.909 | 23.0 | T-849 | TR-18 | T-850 | TR-18-A | TM-13 | T-1249 | TR-18 | T-1250 | TR-18-A | TM-63 |
| -10 | 0.857 | 21.7 | 0.837 | 21.2 | 0.936 | 23.7 | T-851 | TR-19 | T-852 | TR-19-A | TM-13 | T-1251 | TR-19 | T-1252 | TR-19-A | TM-63 |
| -11 | 0.885 | 22.4 | 0.865 | 21.9 | 0.964 | 24.4 | T-855 | TR-21 | T-856 | TR-21-A | TM-13 | T-1255 | TR-21 | T-1256 | TR-21-A | TM-63 |
| -12 | 0.907 | 23.0 | 0.883 | 22.4 | 0.982 | 24.9 | T-857 | TR-21 | T-858 | TR-21-A | TM-14 | T-1257 | TR-21 | T-1258 | TR-21-A | TM-64 |
| -13 | 0.935 | 23.7 | 0.916 | 23.2 | 1.015 | 25.7 | T-859 | TR-22 | T-860 | TR-22-A | TM-14 | T-1259 | TR-22 | T-1260 | TR-22-A | TM-64 |
| -14 | 0.959 | 24.3 | 0.935 | 23.7 | 1.044 | 26.5 | T-861 | TR-23 | T-862 | TR-23-A | TM-15 | T-1261 | TR-23 | T-1262 | TR-23-A | TM-65 |
| -15 | 0.981 | 24.9 | 0.962 | 24.4 | 1.071 | 27.2 | T-863 | TR-24 | T-864 | TR-24-A | TM-15 | T-1263 | TR-24 | T-1264 | TR-24-A | TM-65 |
| -16 | 0.995 | 25.2 | 0.962 | 24.4 | 1.071 | 27.2 | T-863 | TR-24 | T-864 | TR-24-A | TM-15 | T-1263 | TR-24 | T-1264 | TR-24-A | TM-65 |
| -17 | 1.009 | 25.6 | 0.990 | 25.1 | 1.099 | 27.9 | T-867 | TR-26 | T-868 | TR-26-A | TM-16 | T-1267 | TR-26 | T-1268 | TR-26-A | TM-66 |
| -18 | 1.027 | 26.0 | 0.990 | 25.1 | 1.099 | 27.9 | T-867 | TR-26 | T-868 | TR-26-A | TM-16 | T-1267 | TR-26 | T-1268 | TR-26-A | TM-66 |
| 1.1/4"-8 | 0.920 | 23.3 | 0.901 | 22.8 | 1.010 | 25.6 | T-865 | TR-25 | T-866 | TR-25-A | TM-15 | T-1265 | TR-25 | T-1266 | TR-25-A | TM-65 |
| -9 | 0.954 | 24.2 | 0.935 | 23.7 | 1.044 | 26.5 | T-861 | TR-23 | T-862 | TR-23-A | TM-15 | T-1261 | TR-23 | T-1262 | TR-23-A | TM-65 |
| -10 | 0.982 | 24.9 | 0.962 | 24.4 | 1.071 | 27.2 | T-863 | TR-24 | T-864 | TR-24-A | TM-15 | T-1263 | TR-24 | T-1264 | TR-24-A | TM-65 |
| -11 | 1.010 | 25.6 | 0.990 | 25.1 | 1.099 | 27.9 | T-867 | TR-26 | T-868 | TR-26-A | TM-16 | T-1267 | TR-26 | T-1268 | TR-26-A | TM-66 |
| -12 | 1.032 | 26.2 | 1.013 | 25.7 | 1.122 | 28.5 | T-869 | TR-27 | T-870 | TR-27-A | TM-16 | T-1269 | TR-27 | T-1270 | TR-27-A | TM-66 |
| -13 | 1.060 | 26.9 | 1.041 | 26.4 | 1.150 | 29.2 | T-871 | TR-28 | T-872 | TR-28-A | TM-17 | T-1271 | TR-28 | T-1272 | TR-28-A | TM-67 |
| -14 | 1.084 | 27.5 | 1.060 | 26.9 | 1.169 | 29.6 | T-873 | TR-29 | T-874 | TR-29-A | TM-17 | T-1273 | TR-29 | T-1274 | TR-29-A | TM-67 |
| -15 | 1.106 | 28.0 | 1.087 | 27.6 | 1.196 | 30.3 | T-875 | TR-30 | T-876 | TR-30-A | TM-17 | T-1275 | TR-30 | T-1276 | TR-30-A | TM-67 |
| -16 | 1.120 | 28.4 | 1.087 | 27.6 | 1.196 | 30.3 | T-875 | TR-30 | T-876 | TR-30-A | TM-17 | T-1275 | TR-30 | T-1276 | TR-30-A | TM-67 |



1200 Series

| T1200 Series | Adjustable Range | | |
|------------------|------------------|-----------------|-------------------|
| | Roller Length | Reach | Min. Max. |
| 1.1/2" (38.1mm) | Standard | 1.1/2" (38.1mm) | 6" (152.4 mm) |
| | A | 1.1/2" (38.1mm) | 8" (203.1 mm) |
| | B | 1.1/2" (38.1mm) | 10" (253.8 mm) |
| 2.1/4" (57.1 mm) | Standard | 2.1/4" (57.1mm) | 1.1/2" (38.1 mm) |
| | A | 2.1/4" (57.1mm) | 8.3/4" (222.1 mm) |
| | B | 2.1/4" (57.1mm) | 10.3/4 (323.6 mm) |

Longer reaches available upon request in 2 inch (50.8 mm) increments



| Tube O.D. BWG | Tube I.D. | | Min I.D. Tube Tool Enters | | Max Tool Expansion | | 800 Series Expander With | | | | Mandrel Models | 1200 Series Expander With | | | | Mandrel Models | |
|---------------------|--------------|-------|---------------------------------|-------|--------------------------|-------|--------------------------|-------------------|------------------------|-------------------|-------------------|---------------------------|-------------------|------------------------|-------------------|-------------------|-------|
| | | | | | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | 1 1/2" (38 mm) rolls | | 2 1/4" (57.1 mm) rolls | | | |
| | | | | | | | Expander Model | Roll Set Model | Expander Model | Roll Set Model | | Expander Model | Roll Set Model | Expander Model | Roll Set Model | | |
| 1.1/4"-17 | 1.134 | 28.8 | 1.115 | 28.3 | 1.224 | 31.0 | T-879 | TR-30 | T-880 | TR-30-A | TM-18 | T-1279 | TR-30 | T-1280 | TR-30-A | TM-68 | |
| | -18 | 1.152 | 29.2 | 1.115 | 28.3 | 1.224 | 31.0 | T-879 | TR-30 | T-880 | TR-30-A | TM-18 | T-1279 | TR-30 | T-1280 | TR-30-A | TM-68 |
| 1.3/8"-8 | 1.045 | 26.5 | 1.026 | 26.0 | 1.135 | 28.8 | T-877 | TR-31 | T-878 | TR-31-A | TM-17 | T-1277 | TR-30 | T-1278 | TR-31-A | TM-67 | |
| | -9 | 1.079 | 27.4 | 1.060 | 26.9 | 1.169 | 29.6 | T-873 | TR-29 | T-874 | TR-29-A | TM-17 | T-1273 | TR-29 | T-1274 | TR-29-A | TM-67 |
| | -10 | 1.107 | 28.1 | 1.087 | 27.6 | 1.196 | 30.3 | T-875 | TR-30 | T-876 | TR-30-A | TM-17 | T-1275 | TR-30 | T-1276 | TR-30-A | TM-67 |
| | -11 | 1.135 | 28.8 | 1.115 | 28.3 | 1.224 | 31.0 | T-879 | TR-30 | T-880 | TR-30-A | TM-18 | T-1279 | TR-30 | T-1280 | TR-30-A | TM-68 |
| | -12 | 1.157 | 29.3 | 1.133 | 28.7 | 1.242 | 31.5 | T-881 | TR-32 | T-882 | TR-32-A | TM-18 | T-1281 | TR-32 | T-1282 | TR-32-A | TM-68 |
| | -13 | 1.185 | 30.1 | 1.160 | 29.4 | 1.275 | 32.3 | T-883 | TR-33 | T-884 | TR-33-A | TM-19 | T-1283 | TR-33 | T-1284 | TR-33-A | TM-69 |
| | -14 | 1.209 | 30.7 | 1.179 | 29.9 | 1.294 | 32.8 | T-885 | TR-34 | T-886 | TR-34-A | TM-20 | T-1285 | TR-34 | T-1286 | TR-34-A | TM-70 |
| | -15 | 1.231 | 31.2 | 1.206 | 30.6 | 1.321 | 33.5 | T-887 | TR-35 | T-888 | TR-35-A | TM-20 | T-1287 | TR-35 | T-1288 | TR-35-A | TM-70 |
| 1.1/2"-8 | 1.170 | 29.7 | 1.145 | 29.0 | 1.260 | 32.0 | T-889 | TR-34 | T-890 | TR-34-A | TM-19 | T-1289 | TR-34 | T-1290 | TR-34-A | TM-69 | |
| | -9 | 1.204 | 30.5 | 1.177 | 29.9 | 1.294 | 32.8 | T-885 | TR-34 | T-886 | TR-34-A | TM-20 | T-1285 | TR-34 | T-1286 | TR-34-A | TM-70 |
| | -10 | 1.232 | 31.2 | 1.206 | 30.6 | 1.321 | 33.5 | T-887 | TR-35 | T-888 | TR-35-A | TM-20 | T-1287 | TR-35 | T-1288 | TR-35-A | TM-70 |
| | -11 | 1.260 | 32.0 | 1.235 | 31.3 | 1.350 | 34.2 | T-891 | TR-36 | T-892 | TR-36-A | TM-20 | T-1291 | TR-36 | T-1292 | TR-36-A | TM-70 |
| | -12 | 1.282 | 32.5 | 1.257 | 31.9 | 1.372 | 34.8 | T-893 | TR-37 | T-894 | TR-37-A | TM-20 | T-1293 | TR-37 | T-1294 | TR-37-A | TM-70 |
| | -13 | 1.310 | 33.2 | 1.285 | 32.6 | 1.400 | 35.5 | T-895 | TR-37 | T-896 | TR-37-A | TM-21 | T-1295 | TR-37 | T-1296 | TR-37-A | TM-71 |
| | -14 | 1.334 | 33.8 | 1.285 | 32.6 | 1.400 | 35.5 | T-895 | TR-37 | T-896 | TR-37-A | TM-21 | T-1295 | TR-37 | T-1296 | TR-37-A | TM-71 |
| | -15 | 1.356 | 34.4 | 1.331 | 33.8 | 1.446 | 36.7 | T-897 | TR-38 | T-898 | TR-38-A | TM-21 | T-1297 | TR-37 | T-1298 | TR-37-A | TM-71 |
| | -16 | 1.370 | 34.8 | 1.331 | 33.8 | 1.446 | 36.7 | T-897 | TR-38 | T-898 | TR-38-A | TM-21 | T-1297 | TR-37 | T-1298 | TR-37-A | TM-71 |
| | -17 | 1.384 | 35.1 | 1.331 | 33.8 | 1.472 | 37.3 | T-899 | TR-38 | T-900 | TR-38-A | TM-22 | T-1299 | TR-38 | T-1300 | TR-38-A | TM-72 |
| -18 | 1.402 | 35.6 | 1.331 | 33.8 | 1.472 | 37.3 | T-899 | TR-38 | T-900 | TR-38-A | TM-22 | T-1299 | TR-38 | T-1300 | TR-38-A | TM-72 | |
| -19 | 1.416 | 35.9 | 1.331 | 33.8 | 1.472 | 37.3 | T-899 | TR-38 | T-900 | TR-38-A | TM-22 | T-1299 | TR-38 | T-1300 | TR-38-A | TM-72 | |
| -20 | 1.430 | 36.3 | 1.331 | 33.8 | 1.472 | 37.3 | T-899 | TR-38 | T-900 | TR-38-A | TM-22 | T-1299 | TR-38 | T-1300 | TR-38-A | TM-72 | |