

Table 2 Values of T on the axis of the pipe for various α , P and z

| P | α | z | | | | | | | | |
|-----|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | -3 | -2 | -1 | -0.5 | 0 | 0.5 | 1 | 2 | 3 |
| 1 | 0 | 1.0156 | 1.0095 | 0.9533 | 0.8228 | 0.5400 | 0.2447 | 0.0956 | 0.0234 | 0.0156 |
| | 2 | 1.0092 | 1.0032 | 0.9441 | 0.8122 | 0.5276 | 0.2340 | 0.0886 | 0.0175 | 0.0092 |
| | 5 | 1.0028 | 0.9964 | 0.9348 | 0.7999 | 0.5131 | 0.2213 | 0.0789 | 0.0106 | 0.0028 |
| | 10 | 1.0008 | 0.9941 | 0.9310 | 0.7944 | 0.5064 | 0.2158 | 0.0750 | 0.0082 | 0.0008 |
| 5 | 0 | 1.0156 | 1.0130 | 0.9807 | 0.8864 | 0.6359 | 0.3280 | 0.1463 | 0.0348 | 0.0156 |
| | 2 | 1.0092 | 1.0064 | 0.9673 | 0.8620 | 0.6001 | 0.2947 | 0.1233 | 0.0248 | 0.0092 |
| | 5 | 1.0028 | 0.9985 | 0.9490 | 0.8292 | 0.5539 | 0.2541 | 0.0968 | 0.0140 | 0.0028 |
| | 10 | 1.0008 | 0.9954 | 0.9393 | 0.8110 | 0.5290 | 0.2334 | 0.0844 | 0.0099 | 0.0008 |
| 10 | 0 | 1.0156 | 1.0146 | 1.0008 | 0.9434 | 0.7426 | 0.4390 | 0.2243 | 0.0595 | 0.0156 |
| | 2 | 1.0092 | 1.0082 | 0.9866 | 0.9116 | 0.6847 | 0.3763 | 0.1766 | 0.0394 | 0.0092 |
| | 5 | 1.0028 | 1.0003 | 0.9636 | 0.8621 | 0.6039 | 0.2976 | 0.1225 | 0.0197 | 0.0028 |
| | 10 | 1.0008 | 0.9967 | 0.9486 | 0.8307 | 0.5570 | 0.2564 | 0.0972 | 0.0124 | 0.0008 |
| 20 | 0 | 1.0156 | 1.0151 | 1.0133 | 0.9976 | 0.8896 | 0.6398 | 0.4021 | 0.1465 | 0.0156 |
| | 2 | 1.0092 | 1.0091 | 1.0040 | 0.9721 | 0.8199 | 0.5377 | 0.3046 | 0.0904 | 0.0092 |
| | 5 | 1.0028 | 1.0021 | 0.9835 | 0.9149 | 0.6965 | 0.3892 | 0.1838 | 0.0372 | 0.0028 |
| | 10 | 1.0008 | 0.9985 | 0.9641 | 0.8662 | 0.6117 | 0.3046 | 0.1260 | 0.0190 | 0.0008 |

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