



**PRODUCT DESCRIPTION**

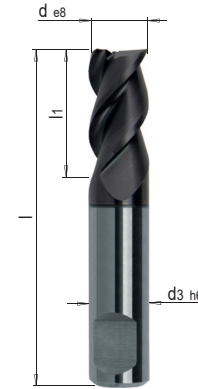
» End milling cutter with centre cut

**MATERIAL**

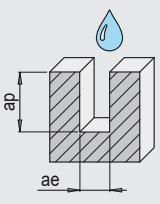
» Carbide, TiAlN multi-layer coated



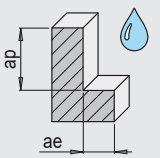
| Z | d3 | l  | l1 | C     | d   | No.              | EUR |
|---|----|----|----|-------|-----|------------------|-----|
| 3 | 3  | 38 | 2  | 0.025 | 1   | WZF 122383P/ 1   | < > |
| 3 | 3  | 38 | 3  | 0.025 | 1.5 | WZF 122383P/ 1,5 | < > |
| 3 | 6  | 45 | 4  | 0.025 | 2   | WZF 122383P/ 2   | < > |
| 3 | 6  | 45 | 5  | 0.05  | 2.5 | WZF 122383P/ 2,5 | < > |
| 3 | 6  | 45 | 6  | 0.05  | 3   | WZF 122383P/ 3   | < > |
| 3 | 6  | 45 | 6  | 0.05  | 3.5 | WZF 122383P/ 3,5 | < > |
| 3 | 6  | 45 | 7  | 0.05  | 4   | WZF 122383P/ 4   | < > |
| 3 | 6  | 45 | 8  | 0.05  | 4.5 | WZF 122383P/ 4,5 | < > |
| 3 | 6  | 45 | 8  | 0.05  | 5   | WZF 122383P/ 5   | < > |
| 3 | 6  | 45 | 8  | 0.05  | 5.5 | WZF 122383P/ 5,5 | < > |
| 3 | 6  | 45 | 10 | 0.05  | 6   | WZF 122383P/ 6   | < > |
| 3 | 8  | 55 | 13 | 0.1   | 8   | WZF 122383P/ 8   | < > |
| 3 | 10 | 55 | 16 | 0.1   | 10  | WZF 122383P/10   | < > |



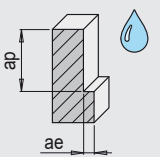
## REFERENCE VALUES FOR SLOTTING

| WZF 122383P<br>WZF 122483P<br>WZF 12144P   | Material | Strength               | Vc <sup>1</sup><br>m/min. | d                      |       |       |       |       |       |
|--|----------|------------------------|---------------------------|------------------------|-------|-------|-------|-------|-------|
|  |          |                        |                           | 4                      | 6     | 8     | 10    | 12    | 16    |
|  |          |                        |                           | fz <sup>2</sup> (mm/z) |       |       |       |       |       |
|  <p>ap = 1 x d<br/>ap = 1 x d</p> | 1.1730   | 640 N/mm <sup>2</sup>  | 120                       | 0.025                  | 0.037 | 0.050 | 0.062 | 0.075 | 0.100 |
|  | 1.2083   | 780 N/mm <sup>2</sup>  | 80                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |
|  | 1.2085   | 1080 N/mm <sup>2</sup> | 80                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |
|  | 1.2162   | 660 N/mm <sup>2</sup>  | 120                       | 0.025                  | 0.037 | 0.050 | 0.062 | 0.075 | 0.100 |
|  | 1.2311   | 1080 N/mm <sup>2</sup> | 90                        | 0.022                  | 0.033 | 0.044 | 0.055 | 0.066 | 0.088 |
|  | 1.2312   | 1080 N/mm <sup>2</sup> | 90                        | 0.022                  | 0.033 | 0.044 | 0.055 | 0.066 | 0.088 |
|  | 1.2316   | 1010 N/mm <sup>2</sup> | 80                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |
|  | 1.2343   | 780 N/mm <sup>2</sup>  | 100                       | 0.025                  | 0.037 | 0.050 | 0.062 | 0.075 | 0.100 |
|  | 1.2379   | 780 N/mm <sup>2</sup>  | 80                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |
|  | 1.2714HH | 1350 N/mm <sup>2</sup> | 60                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |
|  | 1.2767   | 830 N/mm <sup>2</sup>  | 90                        | 0.022                  | 0.033 | 0.044 | 0.055 | 0.066 | 0.088 |
|  | 1.2842   | 775 N/mm <sup>2</sup>  | 90                        | 0.022                  | 0.033 | 0.044 | 0.055 | 0.066 | 0.088 |
|  | Steel    | 1400 N/mm <sup>2</sup> | 60                        | 0.018                  | 0.030 | 0.040 | 0.050 | 0.060 | 0.080 |

## REFERENCE VALUES FOR ROUGHING


| WZF 122383P<br>WZF 122483P<br>WZF 12144P  | Material | Strength               | Vc <sup>1</sup><br>m/min. | d                      |       |       |       |       |       |
|---|----------|------------------------|---------------------------|------------------------|-------|-------|-------|-------|-------|
|   |          |                        |                           | 4                      | 6     | 8     | 10    | 12    | 16    |
|   |          |                        |                           | fz <sup>2</sup> (mm/z) |       |       |       |       |       |
|  <p>ap = 0.5 x d<br/>ap = 1 x d</p> | 1.1730   | 640 N/mm <sup>2</sup>  | 140                       | 0.033                  | 0.044 | 0.061 | 0.077 | 0.094 | 0.110 |
|   | 1.2083   | 780 N/mm <sup>2</sup>  | 90                        | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2085   | 1080 N/mm <sup>2</sup> | 90                        | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2162   | 660 N/mm <sup>2</sup>  | 140                       | 0.030                  | 0.040 | 0.055 | 0.070 | 0.085 | 0.100 |
|   | 1.2311   | 1080 N/mm <sup>2</sup> | 100                       | 0.024                  | 0.032 | 0.044 | 0.056 | 0.068 | 0.080 |
|   | 1.2312   | 1080 N/mm <sup>2</sup> | 110                       | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2316   | 1010 N/mm <sup>2</sup> | 90                        | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2343   | 780 N/mm <sup>2</sup>  | 110                       | 0.030                  | 0.040 | 0.055 | 0.070 | 0.085 | 0.100 |
|   | 1.2379   | 780 N/mm <sup>2</sup>  | 90                        | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2714HH | 1350 N/mm <sup>2</sup> | 70                        | 0.023                  | 0.030 | 0.041 | 0.053 | 0.064 | 0.075 |
|   | 1.2767   | 830 N/mm <sup>2</sup>  | 110                       | 0.029                  | 0.038 | 0.052 | 0.067 | 0.081 | 0.095 |
|   | 1.2842   | 775 N/mm <sup>2</sup>  | 110                       | 0.030                  | 0.040 | 0.055 | 0.070 | 0.085 | 0.100 |
|   | Steel    | 1400 N/mm <sup>2</sup> | 70                        | 0.017                  | 0.022 | 0.030 | 0.039 | 0.047 | 0.055 |

## REFERENCE VALUES FOR FINISH MILLING

| WZF 122383P<br>WZF 122483P<br>WZF 12144P   | Material | Strength               | Vc <sup>1</sup><br>m/min. | d                      |       |       |       |       |       |
|--|----------|------------------------|---------------------------|------------------------|-------|-------|-------|-------|-------|
|  |          |                        |                           | 4                      | 6     | 8     | 10    | 12    | 16    |
|  |          |                        |                           | fz <sup>2</sup> (mm/z) |       |       |       |       |       |
|  <p>ap = 0.1 x d<br/>ap = 1.5 x d</p> | 1.1730   | 640 N/mm <sup>2</sup>  | 225                       | 0.026                  | 0.033 | 0.044 | 0.061 | 0.072 | 0.088 |
|  | 1.2083   | 780 N/mm <sup>2</sup>  | 150                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2085   | 1080 N/mm <sup>2</sup> | 150                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2162   | 660 N/mm <sup>2</sup>  | 225                       | 0.024                  | 0.030 | 0.040 | 0.055 | 0.065 | 0.080 |
|  | 1.2311   | 1080 N/mm <sup>2</sup> | 170                       | 0.019                  | 0.024 | 0.032 | 0.044 | 0.052 | 0.064 |
|  | 1.2312   | 1080 N/mm <sup>2</sup> | 170                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2316   | 1010 N/mm <sup>2</sup> | 150                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2343   | 780 N/mm <sup>2</sup>  | 180                       | 0.024                  | 0.030 | 0.040 | 0.055 | 0.065 | 0.080 |
|  | 1.2379   | 780 N/mm <sup>2</sup>  | 150                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2714HH | 1350 N/mm <sup>2</sup> | 110                       | 0.018                  | 0.023 | 0.030 | 0.041 | 0.049 | 0.060 |
|  | 1.2767   | 830 N/mm <sup>2</sup>  | 170                       | 0.023                  | 0.029 | 0.038 | 0.052 | 0.062 | 0.076 |
|  | 1.2842   | 775 N/mm <sup>2</sup>  | 170                       | 0.024                  | 0.030 | 0.040 | 0.055 | 0.065 | 0.080 |
|  | Steel    | 1400 N/mm <sup>2</sup> | 110                       | 0.014                  | 0.018 | 0.024 | 0.033 | 0.039 | 0.048 |

1) Vc: cutting speed (m/min.)

2) fz: feed per cut (mm per tooth)

 You can find further materials and cutting values in the cutting data calculator.