

|                                 |     |     |
|---------------------------------|-----|-----|
| VHM<br>K05-K20                  | 35° | HSC |
| <i>New</i><br>AlCr-X<br>Coating | 90° |     |
| HRc<br>65                       |     |     |

### End mills, long neck

For HSC of steels, stainless steels, titanium alloys, heat-treated and hardened steels 45 - 65 HRc

### Schafffräser, überlaufhals

Für die HSC von Werkzeugstählen, harten Gusswerkstoffen, gehärtetem und vergütetem Stählen mit Härten von 45 - 65 HRc

Example: Order code HELN 235 003-01004

| d-Code | d x N | x D | H L |
|--------|-------|-----|-----|
|--------|-------|-----|-----|



Hard-cut

|   |                        |   |
|---|------------------------|---|
| P | HRc < 24               | ○ |
|   | HRc 24 - 35            | ◎ |
|   | HRc > 35               | ⊙ |
| H | HRc 45 - 55            | ◎ |
|   | HRc 56 - 60            | ⊙ |
|   | HRc > 60               | ○ |
| M | Stainless steel        | ◎ |
| K | Cast iron              | ○ |
| N | Copper alloy           | ○ |
| S | Titanium alloy         | ◎ |
|   | High-temperature alloy | ○ |

|                  |                 |        |   |  |
|------------------|-----------------|--------|---|--|
| <b>003-01004</b> | 0.3 x N 1 x C 4 | 0.4 50 | ◇ |  |
| <b>003-02004</b> | 0.3 x N 2 x C 4 | 0.4 50 | ◇ |  |
| <b>003-03004</b> | 0.3 x N 3 x C 4 | 0.4 50 | ◇ |  |

|                  |                 |        |   |  |
|------------------|-----------------|--------|---|--|
| <b>004-02004</b> | 0.4 x N 2 x C 4 | 0.6 50 | ◇ |  |
| <b>004-04004</b> | 0.4 x N 4 x C 4 | 0.6 50 | ◇ |  |

|                  |                 |        |   |  |
|------------------|-----------------|--------|---|--|
| <b>005-02004</b> | 0.5 x N 2 x C 4 | 0.7 50 | ● |  |
| <b>005-04004</b> | 0.5 x N 4 x C 4 | 0.7 50 | ● |  |
| <b>005-06004</b> | 0.5 x N 6 x C 4 | 0.7 50 | ◇ |  |

|                  |                 |        |   |  |
|------------------|-----------------|--------|---|--|
| <b>006-04004</b> | 0.6 x N 4 x C 4 | 0.9 50 | ● |  |
| <b>006-06004</b> | 0.6 x N 6 x C 4 | 0.9 50 | ● |  |

|                  |                 |        |   |  |
|------------------|-----------------|--------|---|--|
| <b>008-04004</b> | 0.8 x N 4 x C 4 | 1.2 50 | ● |  |
| <b>008-06004</b> | 0.8 x N 6 x C 4 | 1.2 50 | ● |  |
| <b>008-08004</b> | 0.8 x N 8 x C 4 | 1.2 50 | ◇ |  |

|                  |                  |        |   |   |
|------------------|------------------|--------|---|---|
| <b>010-04004</b> | 1.0 x N 4 x C 4  | 1.5 50 | ● | ● |
| <b>010-06004</b> | 1.0 x N 6 x C 4  | 1.5 50 | ● | ● |
| <b>010-08004</b> | 1.0 x N 8 x C 4  | 1.5 50 | ● | ● |
| <b>010-10004</b> | 1.0 x N 10 x C 4 | 1.5 50 | ◇ | ◇ |
| <b>010-12004</b> | 1.0 x N 12 x C 4 | 1.5 50 | ◇ | ◇ |

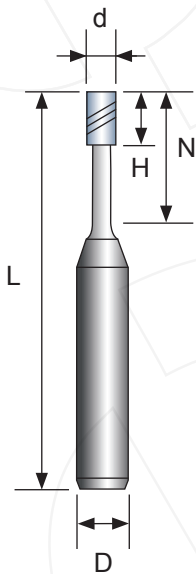
|                  |                  |        |   |   |
|------------------|------------------|--------|---|---|
| <b>015-06004</b> | 1.5 x N 6 x C 4  | 2.3 50 | ● | ● |
| <b>015-08004</b> | 1.5 x N 8 x C 4  | 2.3 50 | ● | ● |
| <b>015-12004</b> | 1.5 x N 12 x C 4 | 2.3 50 | ● | ● |
| <b>015-16004</b> | 1.5 x N 16 x C 4 | 2.3 60 | ◇ | ◇ |

|                  |                  |        |   |   |
|------------------|------------------|--------|---|---|
| <b>020-08004</b> | 2.0 x N 8 x C 4  | 3.0 50 | ● | ● |
| <b>020-10004</b> | 2.0 x N 10 x C 4 | 3.0 50 | ◇ | ◇ |
| <b>020-12004</b> | 2.0 x N 12 x C 4 | 3.0 50 | ● | ● |
| <b>020-16004</b> | 2.0 x N 16 x C 4 | 3.0 60 | ● | ● |
| <b>020-20004</b> | 2.0 x N 20 x C 4 | 3.0 60 | ◇ | ◇ |

|                  |                  |        |  |   |
|------------------|------------------|--------|--|---|
| <b>030-12006</b> | 3.0 x N 12 x C 6 | 4.5 50 |  | ● |
| <b>030-16006</b> | 3.0 x N 16 x C 6 | 4.5 60 |  | ● |
| <b>030-20006</b> | 3.0 x N 20 x C 6 | 4.5 60 |  | ● |
| <b>030-25006</b> | 3.0 x N 25 x C 6 | 4.5 60 |  | ◇ |

|                  |                  |        |  |   |
|------------------|------------------|--------|--|---|
| <b>040-12006</b> | 4.0 x N 12 x C 6 | 6.0 50 |  | ● |
| <b>040-16006</b> | 4.0 x N 16 x C 6 | 6.0 60 |  | ● |
| <b>040-20006</b> | 4.0 x N 20 x C 6 | 6.0 60 |  | ● |
| <b>040-25006</b> | 4.0 x N 25 x C 6 | 6.0 60 |  | ◇ |

Cutting data, P42



Tolerance / Toleranz

| Range     | Diameter   |
|-----------|------------|
| d < 1     | 0 / -0.015 |
| 1 ≤ d < 8 | 0 / -0.02  |