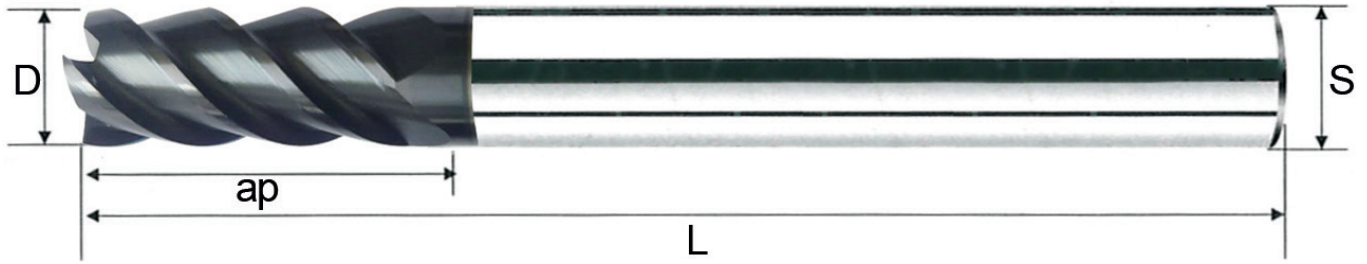
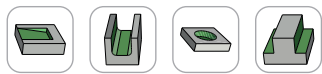


# Schaftfräser 4 Schneiden Typ PMH



**P M K H**

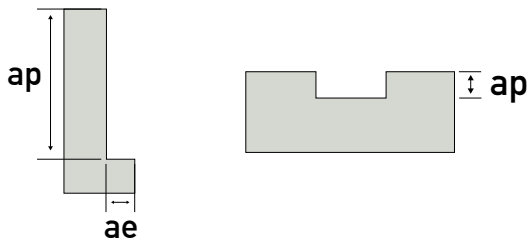
UMG 0,4µm TOP ARCO 45° HRC 65



| Anwendung            |      |
|----------------------|------|
| Schlichten           | ja   |
| Mittlere Bearbeitung | ja   |
| Schruppen            | nein |

| D                            | Toleranz |
|------------------------------|----------|
| $\varnothing < 3$            | 0 - 0,02 |
| $3 \geq \varnothing \leq 10$ | 0 - 0,03 |
| $\varnothing > 10$           | 0 - 0,04 |

| Durchmesser (mm) | Schruppen mm/Z | Schlichten mm/Z |
|------------------|----------------|-----------------|
| 1                | 0,008-0,017    | 0,006-0,015     |
| 1,5              | 0,008-0,017    | 0,006-0,015     |
| 2                | 0,009-0,020    | 0,010-0,017     |
| 2,5              | 0,010-0,025    | 0,012-0,020     |
| 3                | 0,012-0,027    | 0,015-0,025     |
| 3,5              | 0,015-0,030    | 0,020-0,030     |
| 4                | 0,025-0,040    | 0,040-0,040     |
| 5                | 0,025-0,040    | 0,040-0,040     |
| 5,5              | 0,030-0,042    | 0,047-0,055     |
| 6                | 0,035-0,045    | 0,055-0,065     |
| 8                | 0,040-0,060    | 0,060-0,070     |
| 10               | 0,045-0,070    | 0,070-0,080     |
| 12               | 0,050-0,080    | 0,080-0,100     |
| 14               | 0,060-0,085    | 0,090-0,100     |
| 16               | 0,070-0,100    | 0,100-0,105     |
| 18               | 0,075-0,105    | 0,100-0,105     |
| 20               | 0,075-0,110    | 0,100-0,105     |
| 25               | 0,095-0,130    | 0,120-0,125     |



## Umfangsfräsen

$$ae = 0,5xD$$

$$ap = 1,0xD$$

## Vollnut-Fräsen

$$ap = 1,0xD$$

| Material                                   | allemeine Baustähle | Automaten-stähle | unlegierte Vergütungsstähle | unlegierte Vergütungsstähle |
|--|---------------------|------------------|-----------------------------|-----------------------------|
| Zugfestigkeit / Härte in N/mm <sup>2</sup> | <500                | <850             | 700-850                     | 850-1000                    |
| Vc (m/min) Schlichten                      | 250                 | 240              | 200                         | 190                         |
| Vc (m/min) Schrappen                       | 210                 | 200              | 160                         | 150                         |

| Material                                   | legierte Vergütungsstähle | gehärtete Stähle | rostfreie Stähle, austenitisch | Gusseisen (GGG/.GT) | Sonder-/ Titanlegierungen |
|--|---------------------------|------------------|--------------------------------|---------------------|---------------------------|
| Zugfestigkeit / Härte in N/mm <sup>2</sup> | 850-1000                  | <55-60HRC        | <700                           | <180HB              | <850                      |
| Vc (m/min) Schlichten                      | 180                       | 55               | 200                            | 160                 | 100                       |
| Vc (m/min) Schrappen                       | 150                       | 50               | 160                            | 130                 | 80                        |

| Bezeichnung             | Materialhärte | Durchmesser (D) | Zustelltiefe (ap) | Schaft-durchmesser (S) | Gesamtlänge (L) |
|-------------------------|---------------|-----------------|-------------------|------------------------|-----------------|
| PMHD1R0ap3F0S4L50Z4     | PMH           | 1               | 3                 | 4                      | 50              |
| PMHD1,5R0ap4F0S4L50Z4   | PMH           | 1,5             | 4                 | 4                      | 50              |
| PMHD2R0ap6F0S4L50Z4     | PMH           | 2               | 6                 | 4                      | 50              |
| PMHD2,5R0ap8F0S4L50Z4   | PMH           | 2,5             | 8                 | 4                      | 50              |
| PMHD3R0ap8F0S3L50Z4     | PMH           | 3               | 8                 | 3                      | 50              |
| PMHD3R0ap8F0S4L50Z4     | PMH           | 3               | 8                 | 4                      | 50              |
| PMHD3,5R0ap8F0S4L50Z4   | PMH           | 3,5             | 8                 | 4                      | 50              |
| PMHD4R0ap10F0S4L50Z4    | PMH           | 4               | 10                | 4                      | 50              |
| PMHD5R0ap13F0S5L50Z4    | PMH           | 5               | 13                | 5                      | 50              |
| PMHD5R0ap13F0S6L50Z4    | PMH           | 5               | 13                | 6                      | 50              |
| PMHD5,5R0ap15F0S6L50Z4  | PMH           | 5,5             | 15                | 6                      | 50              |
| PMHD6R0ap15F0S6L50Z4    | PMH           | 6               | 15                | 6                      | 50              |
| PMHD8R0ap20F0S8L60Z4    | PMH           | 8               | 20                | 8                      | 60              |
| PMHD3R0ap12F0S3L75Z4    | PMH           | 3               | 12                | 3                      | 75              |
| PMHD4R0ap15F0S4L75Z4    | PMH           | 4               | 15                | 4                      | 75              |
| PMHD5R0ap20F0S5L75Z4    | PMH           | 5               | 20                | 5                      | 75              |
| PMHD6R0ap20F0S6L75Z4    | PMH           | 6               | 20                | 6                      | 75              |
| PMHD8R0ap25F0S8L75Z4    | PMH           | 8               | 25                | 8                      | 75              |
| PMHD9R0ap25F0S10L75Z4   | PMH           | 9               | 25                | 10                     | 75              |
| PMHD10R0ap25F0S10L75Z4  | PMH           | 10              | 25                | 10                     | 75              |
| PMHD12R0ap30F0S12L75Z4  | PMH           | 12              | 30                | 12                     | 75              |
| PMHD14R0ap32F0S14L80Z4  | PMH           | 14              | 32                | 14                     | 80              |
| PMHD3R0ap12F0S3L100Z4   | PMH           | 3               | 12                | 3                      | 100             |
| PMHD4R0ap16F0S4L100Z4   | PMH           | 4               | 16                | 4                      | 100             |
| PMHD5R0ap20F0S5L100Z4   | PMH           | 5               | 20                | 5                      | 100             |
| PMHD6R0ap25F0S6L100Z4   | PMH           | 6               | 25                | 6                      | 100             |
| PMHD8R0ap35F0S8L100Z4   | PMH           | 8               | 35                | 8                      | 100             |
| PMHD10R0ap40F0S10L100Z4 | PMH           | 10              | 40                | 10                     | 100             |
| PMHD12R0ap45F0S12L100Z4 | PMH           | 12              | 45                | 12                     | 100             |
| PMHD14R0ap45F0S14L100Z4 | PMH           | 14              | 45                | 14                     | 100             |
| PMHD16R0ap45F0S16L100Z4 | PMH           | 16              | 45                | 16                     | 100             |
| PMHD18R0ap45F0S18L100Z4 | PMH           | 18              | 45                | 18                     | 100             |
| PMHD20R0ap45F0S20L100Z4 | PMH           | 20              | 45                | 20                     | 100             |
| PMHD25R0ap45F0S25L100Z4 | PMH           | 25              | 45                | 25                     | 100             |
| PMHD6R0ap25F0S6L150Z4   | PMH           | 6               | 25                | 6                      | 150             |
| PMHD8R0ap35F0S8L150Z4   | PMH           | 8               | 35                | 8                      | 150             |
| PMHD10R0ap45F0S10L150Z4 | PMH           | 10              | 45                | 10                     | 150             |
| PMHD12R0ap45F0S12L150Z4 | PMH           | 12              | 45                | 12                     | 150             |
| PMHD14R0ap45F0S14L150Z4 | PMH           | 14              | 45                | 14                     | 150             |
| PMHD16R0ap50F0S16L150Z4 | PMH           | 16              | 50                | 16                     | 150             |
| PMHD18R0ap50F0S18L150Z4 | PMH           | 18              | 50                | 18                     | 150             |
| PMHD20R0ap55F0S20L150Z4 | PMH           | 20              | 55                | 20                     | 150             |
| PMHD25R0ap60F0S25L150Z4 | PMH           | 25              | 60                | 25                     | 150             |