

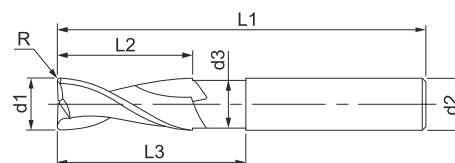
# M2-FF23U



- ◆ Двухзубая копировальная фреза с занижением диаметра шейки и угловым радиусом
- ◆ Центральная режущая кромка
- ◆ Для общего применения



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3  | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)            |
|-------|-----|----|------|-----|----|-----|--------------------------------|
| 3,0   | 50  | 5  | 3,0  | 2,9 | 20 | 0,3 | <b>M2-FF23U-030/05C03M R03</b> |
| 4,0   | 60  | 6  | 4,0  | 3,9 | 30 | 0,4 | <b>M2-FF23U-040/06C04M R04</b> |
| 5,0   | 75  | 8  | 5,0  | 4,9 | 40 | 0,5 | <b>M2-FF23U-050/08C05M R05</b> |
| 6,0   | 90  | 10 | 6,0  | 5,9 | 50 | 0,5 | <b>M2-FF23U-060/10C06M R05</b> |
| 8,0   | 100 | 14 | 8,0  | 7,8 | 60 | 0,5 | <b>M2-FF23U-080/14C08M R05</b> |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | d3  | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)            |
|-------|-----|----|------|-----|----|-----|--------------------------------|
| 3,0   | 103 | 6  | 3,0  | 2,9 | 30 | 0,3 | <b>M2-FF23U-030/06C03L R03</b> |
| 4,0   | 103 | 8  | 4,0  | 3,9 | 40 | 0,4 | <b>M2-FF23U-040/08C04L R04</b> |
| 5,0   | 125 | 10 | 5,0  | 4,9 | 70 | 0,5 | <b>M2-FF23U-050/10C05L R05</b> |
| 6,0   | 135 | 12 | 6,0  | 5,9 | 80 | 0,5 | <b>M2-FF23U-060/12C06L R05</b> |
| 8,0   | 150 | 16 | 8,0  | 7,8 | 90 | 0,5 | <b>M2-FF23U-080/16C08L R05</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

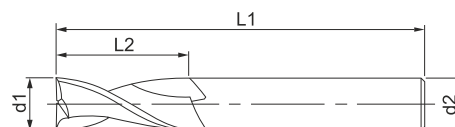
# M2-FF33



- ◆ Двухзубая концевая фреза
- ◆ Центральная режущая кромка
- ◆ Для обработки твёрдых материалов



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 3,0   | 50 | 4  | 3,0  | <b>M2-FF33-030/04C03S</b> | —                         |
| 3,5   | 50 | 4  | 4,0  | <b>M2-FF33-035/04C04S</b> | —                         |
| 3,8   | 50 | 5  | 4,0  | <b>M2-FF33-038/05C04S</b> | —                         |
| 4,0   | 50 | 5  | 4,0  | <b>M2-FF33-040/05C04S</b> | —                         |
| 4,5   | 50 | 6  | 6,0  | <b>M2-FF33-045/06C06S</b> | <b>M2-FF33-045/06W06S</b> |
| 4,8   | 50 | 6  | 6,0  | <b>M2-FF33-048/06C06S</b> | <b>M2-FF33-048/06W06S</b> |
| 5,0   | 50 | 6  | 6,0  | <b>M2-FF33-050/06C06S</b> | <b>M2-FF33-050/06W06S</b> |
| 5,5   | 50 | 7  | 6,0  | <b>M2-FF33-055/07C06S</b> | <b>M2-FF33-055/07W06S</b> |
| 5,7   | 50 | 7  | 6,0  | <b>M2-FF33-057/07C06S</b> | <b>M2-FF33-057/07W06S</b> |
| 6,0   | 50 | 7  | 6,0  | <b>M2-FF33-060/07C06S</b> | <b>M2-FF33-060/07W06S</b> |
| 6,5   | 60 | 8  | 8,0  | <b>M2-FF33-065/08C08S</b> | <b>M2-FF33-065/08W08S</b> |
| 6,7   | 60 | 8  | 8,0  | <b>M2-FF33-067/08C08S</b> | <b>M2-FF33-067/08W08S</b> |
| 7,0   | 60 | 8  | 8,0  | <b>M2-FF33-070/08C08S</b> | <b>M2-FF33-070/08W08S</b> |
| 7,7   | 60 | 8  | 8,0  | <b>M2-FF33-077/08C08S</b> | <b>M2-FF33-077/08W08S</b> |
| 8,0   | 60 | 9  | 8,0  | <b>M2-FF33-080/09C08S</b> | <b>M2-FF33-080/09W08S</b> |
| 8,5   | 60 | 9  | 10,0 | <b>M2-FF33-085/09C10S</b> | <b>M2-FF33-085/09W10S</b> |
| 8,7   | 60 | 10 | 10,0 | <b>M2-FF33-087/10C10S</b> | <b>M2-FF33-087/10W10S</b> |
| 9,0   | 60 | 10 | 10,0 | <b>M2-FF33-090/10C10S</b> | <b>M2-FF33-090/10W10S</b> |
| 9,7   | 70 | 11 | 10,0 | <b>M2-FF33-097/11C10S</b> | <b>M2-FF33-097/11W10S</b> |
| 10,0  | 70 | 11 | 10,0 | <b>M2-FF33-100/11C10S</b> | <b>M2-FF33-100/11W10S</b> |
| 11,0  | 70 | 12 | 12,0 | <b>M2-FF33-110/12C12S</b> | <b>M2-FF33-110/12W12S</b> |
| 11,7  | 70 | 12 | 12,0 | <b>M2-FF33-117/12C12S</b> | <b>M2-FF33-117/12W12S</b> |
| 12,0  | 70 | 12 | 12,0 | <b>M2-FF33-120/12C12S</b> | <b>M2-FF33-120/12W12S</b> |
| 13,0  | 70 | 14 | 14,0 | <b>M2-FF33-130/14C14S</b> | <b>M2-FF33-130/14W14S</b> |
| 14,0  | 75 | 14 | 14,0 | <b>M2-FF33-140/14C14S</b> | <b>M2-FF33-140/14W14S</b> |

## Короткая серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 15,0  | 75  | 16 | 16,0 | <b>M2-FF33-150/16C16S</b> | <b>M2-FF33-150/16W16S</b> |
| 15,7  | 75  | 16 | 16,0 | <b>M2-FF33-157/16C16S</b> | <b>M2-FF33-157/16W16S</b> |
| 16,0  | 75  | 16 | 16,0 | <b>M2-FF33-160/16C16S</b> | <b>M2-FF33-160/16W16S</b> |
| 17,7  | 82  | 18 | 18,0 | <b>M2-FF33-177/18C18S</b> | <b>M2-FF33-177/18W18S</b> |
| 18,0  | 82  | 18 | 18,0 | <b>M2-FF33-180/18C18S</b> | <b>M2-FF33-180/18W18S</b> |
| 19,7  | 82  | 20 | 20,0 | <b>M2-FF33-197/20C20S</b> | <b>M2-FF33-197/20W20S</b> |
| 20,0  | 92  | 20 | 20,0 | <b>M2-FF33-200/20C20S</b> | <b>M2-FF33-200/20W20S</b> |
| 22,0  | 92  | 22 | 22,0 | <b>M2-FF33-220/22C22S</b> | —                         |
| 25,0  | 104 | 25 | 25,0 | <b>M2-FF33-250/25C25S</b> | <b>M2-FF33-250/25W25S</b> |

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 3,0   | 57  | 7  | 6,0  | <b>M2-FF33-030/07C06M</b> | <b>M2-FF33-030/07W06M</b> |
| 3,5   | 57  | 7  | 6,0  | <b>M2-FF33-035/07C06M</b> | <b>M2-FF33-035/07W06M</b> |
| 4,0   | 57  | 8  | 6,0  | <b>M2-FF33-040/08C06M</b> | <b>M2-FF33-040/08W06M</b> |
| 4,5   | 57  | 8  | 6,0  | <b>M2-FF33-045/08C06M</b> | <b>M2-FF33-045/08W06M</b> |
| 5,0   | 57  | 10 | 6,0  | <b>M2-FF33-050/10C06M</b> | <b>M2-FF33-050/10W06M</b> |
| 5,5   | 57  | 10 | 6,0  | <b>M2-FF33-055/10C06M</b> | <b>M2-FF33-055/10W06M</b> |
| 6,0   | 57  | 10 | 6,0  | <b>M2-FF33-060/10C06M</b> | <b>M2-FF33-060/10W06M</b> |
| 7,0   | 63  | 13 | 8,0  | <b>M2-FF33-070/13C08M</b> | <b>M2-FF33-070/13W08M</b> |
| 8,0   | 63  | 16 | 8,0  | <b>M2-FF33-080/16C08M</b> | <b>M2-FF33-080/16W08M</b> |
| 9,0   | 72  | 16 | 10,0 | <b>M2-FF33-090/16C10M</b> | <b>M2-FF33-090/16W10M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M2-FF33-100/22C10M</b> | <b>M2-FF33-100/22W10M</b> |
| 12,0  | 83  | 22 | 12,0 | <b>M2-FF33-120/22C12M</b> | <b>M2-FF33-120/22W12M</b> |
| 14,0  | 83  | 22 | 14,0 | <b>M2-FF33-140/22C14M</b> | <b>M2-FF33-140/22W14M</b> |
| 16,0  | 92  | 26 | 16,0 | <b>M2-FF33-160/26C16M</b> | <b>M2-FF33-160/26W16M</b> |
| 18,0  | 92  | 26 | 18,0 | <b>M2-FF33-180/26C18M</b> | <b>M2-FF33-180/26W18M</b> |
| 20,0  | 104 | 32 | 20,0 | <b>M2-FF33-200/32C20M</b> | <b>M2-FF33-200/32W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

**Длинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 5,0   | 60  | 19 | 6,0  | <b>M2-FF33-050/19C06L</b> | <b>M2-FF33-050/19W06L</b> |
| 6,0   | 75  | 30 | 6,0  | <b>M2-FF33-060/30C06L</b> | <b>M2-FF33-060/30W06L</b> |
| 8,0   | 75  | 30 | 8,0  | <b>M2-FF33-080/30C08L</b> | <b>M2-FF33-080/30W08L</b> |
| 10,0  | 75  | 30 | 10,0 | <b>M2-FF33-100/30C10L</b> | <b>M2-FF33-100/30W10L</b> |
| 12,0  | 100 | 45 | 12,0 | <b>M2-FF33-120/45C12L</b> | <b>M2-FF33-120/45W12L</b> |
| 14,0  | 100 | 45 | 14,0 | <b>M2-FF33-140/45C14L</b> | <b>M2-FF33-140/45W14L</b> |
| 16,0  | 100 | 45 | 16,0 | <b>M2-FF33-160/45C16L</b> | <b>M2-FF33-160/45W16L</b> |
| 18,0  | 110 | 45 | 18,0 | <b>M2-FF33-180/45C18L</b> | <b>M2-FF33-180/45W18L</b> |
| 20,0  | 110 | 45 | 20,0 | <b>M2-FF33-200/45C20L</b> | <b>M2-FF33-200/45W20L</b> |
| 25,0  | 120 | 45 | 25,0 | <b>M2-FF33-250/45C25L</b> | <b>M2-FF33-250/45W25L</b> |

**Сверхдлинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 5,0   | 75  | 30 | 6,0  | <b>M2-FF33-050/30C06X</b> | <b>M2-FF33-050/30W06X</b> |
| 6,0   | 100 | 40 | 6,0  | <b>M2-FF33-060/40C06X</b> | <b>M2-FF33-060/40W06X</b> |
| 8,0   | 100 | 40 | 8,0  | <b>M2-FF33-080/40C08X</b> | <b>M2-FF33-080/40W08X</b> |
| 10,0  | 100 | 40 | 10,0 | <b>M2-FF33-100/40C10X</b> | <b>M2-FF33-100/40W10X</b> |
| 12,0  | 150 | 75 | 12,0 | <b>M2-FF33-120/75C12X</b> | <b>M2-FF33-120/75W12X</b> |
| 14,0  | 150 | 75 | 14,0 | <b>M2-FF33-140/75C14X</b> | <b>M2-FF33-140/75W14X</b> |
| 16,0  | 150 | 75 | 16,0 | <b>M2-FF33-160/75C16X</b> | <b>M2-FF33-160/75W16X</b> |
| 18,0  | 150 | 75 | 18,0 | <b>M2-FF33-180/75C18X</b> | <b>M2-FF33-180/75W18X</b> |
| 20,0  | 150 | 75 | 20,0 | <b>M2-FF33-200/75C20X</b> | <b>M2-FF33-200/75W20X</b> |
| 25,0  | 150 | 75 | 25,0 | <b>M2-FF33-250/75C25X</b> | <b>M2-FF33-250/75W25X</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

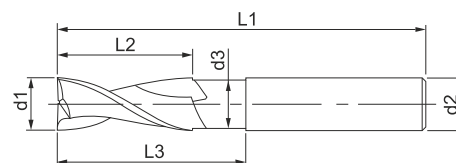
# M2-FF33U



- ◆ Двухзубая концевая фреза с занижением диаметра шейки
- ◆ Центральная режущая кромка
- ◆ Для общего применения



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|------|----|----------------------------|----------------------------|
| 3,00  | 58  | 10 | 6,0  | 2,8  | 19 | <b>M2-FF33U-030/10C06M</b> | <b>M2-FF33U-030/10W06M</b> |
| 4,00  | 58  | 13 | 6,0  | 3,8  | 22 | <b>M2-FF33U-040/13C06M</b> | <b>M2-FF33U-040/13W06M</b> |
| 5,00  | 58  | 15 | 6,0  | 4,8  | 25 | <b>M2-FF33U-050/15C06M</b> | <b>M2-FF33U-050/15W06M</b> |
| 6,00  | 58  | 16 | 6,0  | 5,7  | 28 | <b>M2-FF33U-060/16C06M</b> | <b>M2-FF33U-060/16W06M</b> |
| 8,00  | 64  | 22 | 8,0  | 7,7  | 34 | <b>M2-FF33U-080/22C08M</b> | <b>M2-FF33U-080/22W08M</b> |
| 10,00 | 73  | 25 | 10,0 | 9,6  | 40 | <b>M2-FF33U-100/25C10M</b> | <b>M2-FF33U-100/25W10M</b> |
| 12,00 | 84  | 26 | 12,0 | 11,6 | 42 | <b>M2-FF33U-120/26C12M</b> | <b>M2-FF33U-120/26W12M</b> |
| 14,00 | 84  | 26 | 14,0 | 13,6 | 46 | <b>M2-FF33U-140/26C14M</b> | <b>M2-FF33U-140/26W14M</b> |
| 16,00 | 93  | 30 | 16,0 | 15,6 | 53 | <b>M2-FF33U-160/30C16M</b> | <b>M2-FF33U-160/30W16M</b> |
| 18,00 | 93  | 30 | 18,0 | 17,6 | 53 | <b>M2-FF33U-180/30C18M</b> | <b>M2-FF33U-180/30W18M</b> |
| 20,00 | 104 | 40 | 20,0 | 19,6 | 64 | <b>M2-FF33U-200/40C20M</b> | <b>M2-FF33U-200/40W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

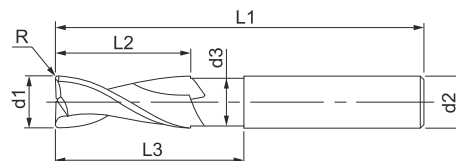
# M2-FA22U



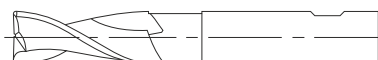
- ◆ Двухзубая концевая фреза с занижением диаметра шейки, угловым радиусом
- ◆ Центральная режущая кромка
- ◆ Для чернового фрезерования алюминия (полированные канавки)



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Длинная серия

| d1h9 | L1 | L2 | d2h6 | d3   | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|----|----|------|------|----|-----|-------------------------|-------------------------|
| 3,0  | 50 | 4  | 3,0  | 2,7  | 14 | 0,3 | M2-FA22U-030/04C03L R03 | —                       |
| 3,0  | 50 | 4  | 3,0  | 2,7  | 14 | 1,0 | M2-FA22U-030/04C03L R1  | —                       |
| 4,0  | 50 | 5  | 4,0  | 3,7  | 16 | 0,4 | M2-FA22U-040/05C04L R04 | —                       |
| 4,0  | 50 | 5  | 4,0  | 3,7  | 16 | 1,0 | M2-FA22U-040/05C04L R1  | —                       |
| 5,0  | 54 | 6  | 5,0  | 4,6  | 18 | 0,5 | M2-FA22U-050/06C05L R05 | —                       |
| 5,0  | 54 | 6  | 5,0  | 4,6  | 18 | 1,0 | M2-FA22U-050/06C05L R1  | —                       |
| 6,0  | 58 | 7  | 6,0  | 5,5  | 21 | 0,5 | M2-FA22U-060/07C06L R05 | M2-FA22U-060/07W06L R05 |
| 6,0  | 58 | 7  | 6,0  | 5,5  | 21 | 1,0 | M2-FA22U-060/07C06L R1  | M2-FA22U-060/07W06L R1  |
| 8,0  | 63 | 9  | 8,0  | 7,4  | 27 | 0,5 | M2-FA22U-080/09C08L R05 | M2-FA22U-080/09W08L R05 |
| 8,0  | 63 | 9  | 8,0  | 7,4  | 27 | 1,0 | M2-FA22U-080/09C08L R1  | M2-FA22U-080/09W08L R1  |
| 10,0 | 72 | 11 | 10,0 | 9,2  | 32 | 0,5 | M2-FA22U-100/11C10L R05 | M2-FA22U-100/11W10L R05 |
| 10,0 | 72 | 11 | 10,0 | 9,2  | 32 | 1,0 | M2-FA22U-100/11C10L R1  | M2-FA22U-100/11W10L R1  |
| 12,0 | 83 | 12 | 12,0 | 11,0 | 38 | 0,5 | M2-FA22U-120/12C12L R05 | M2-FA22U-120/12W12L R05 |
| 12,0 | 83 | 12 | 12,0 | 11,0 | 38 | 1,5 | M2-FA22U-120/12C12L R15 | M2-FA22U-120/12W12L R15 |
| 14,0 | 88 | 14 | 14,0 | 13,0 | 42 | 1,0 | M2-FA22U-140/14C14L R1  | M2-FA22U-140/14WC14L R1 |
| 14,0 | 88 | 14 | 14,0 | 13,0 | 42 | 2,0 | M2-FA22U-140/14C14L R2  | M2-FA22U-140/14W14L R2  |
| 16,0 | 93 | 16 | 16,0 | 15,0 | 44 | 1,0 | M2-FA22U-160/16C16L R1  | M2-FA22U-160/16W16L R1  |
| 16,0 | 93 | 16 | 16,0 | 15,0 | 44 | 2,0 | M2-FA22U-160/16C16L R2  | M2-FA22U-160/16W16L R2  |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Сверхдлинная серия

| d1h9 | L1  | L2 | d2h6 | d3/L3   | R   | ЦИЛИНДРИЧЕСКИЙ (НА)            | WELDON (НВ)                    |
|------|-----|----|------|---------|-----|--------------------------------|--------------------------------|
| 3,0  | 75  | 4  | 3,0  | 2,7/32  | 0,3 | <b>M2-FA22U-030/04C03L R03</b> | —                              |
| 3,0  | 75  | 4  | 3,0  | 2,7/32  | 1,0 | <b>M2-FA22U-030/04C03L R1</b>  | —                              |
| 4,0  | 75  | 5  | 4,0  | 3,7/36  | 0,4 | <b>M2-FA22U-040/05C04X R04</b> | —                              |
| 4,0  | 75  | 5  | 4,0  | 3,7/36  | 1,0 | <b>M2-FA22U-040/05C04L R1</b>  | —                              |
| 5,0  | 75  | 6  | 5,0  | 4,6/40  | 0,5 | <b>M2-FA22U-050/06C05X R05</b> | —                              |
| 5,0  | 75  | 6  | 5,0  | 4,6/40  | 1,0 | <b>M2-FA22U-050/06C05X R1</b>  | —                              |
| 6,0  | 80  | 7  | 6,0  | 5,5/44  | 0,5 | <b>M2-FA22U-060/07C06X R05</b> | <b>M2-FA22U-060/07W06X R05</b> |
| 6,0  | 80  | 7  | 6,0  | 5,5/44  | 1,0 | <b>M2-FA22U-060/07C06X R1</b>  | <b>M2-FA22U-060/07W06X R1</b>  |
| 8,0  | 100 | 9  | 8,0  | 7,4/54  | 0,5 | <b>M2-FA22U-080/09C08X R05</b> | <b>M2-FA22U-080/09W08X R05</b> |
| 8,0  | 100 | 9  | 8,0  | 7,4/54  | 1,0 | <b>M2-FA22U-080/09C08X R1</b>  | <b>M2-FA22U-080/09W08X R1</b>  |
| 10,0 | 100 | 11 | 10,0 | 9,2/60  | 0,5 | <b>M2-FA22U-100/11C10X R05</b> | <b>M2-FA22U-100/11W10X R05</b> |
| 10,0 | 100 | 11 | 10,0 | 9,2/60  | 1,0 | <b>M2-FA22U-100/11C10X R1</b>  | <b>M2-FA22U-100/11W10X R1</b>  |
| 12,0 | 120 | 12 | 12,0 | 11,0/75 | 0,5 | <b>M2-FA22U-120/12C12X R05</b> | <b>M2-FA22U-120/12W12X R05</b> |
| 12,0 | 120 | 12 | 12,0 | 11,0/75 | 1,5 | <b>M2-FA22U-120/12C12X R15</b> | <b>M2-FA22U-120/12W12X R15</b> |
| 14,0 | 130 | 14 | 14,0 | 13,0/82 | 1,0 | <b>M2-FA22U-140/14C14X R1</b>  | <b>M2-FA22U-140/14W14X R1</b>  |
| 14,0 | 130 | 14 | 14,0 | 13,0/82 | 2,0 | <b>M2-FA22U-140/14C14X R2</b>  | <b>M2-FA22U-140/14W14X R2</b>  |
| 16,0 | 150 | 16 | 16,0 | 15,0/92 | 1,0 | <b>M2-FA22U-160/16C16X R1</b>  | <b>M2-FA22U-160/16W16X R1</b>  |
| 16,0 | 150 | 16 | 16,0 | 15,0/92 | 2,0 | <b>M2-FA22U-160/16C16X R2</b>  | <b>M2-FA22U-160/16W16X R2</b>  |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

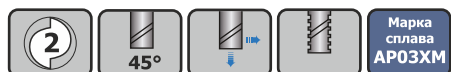
# M2-FA64



- ◆ Двухзубая концевая фреза со стружко-разделительными насечками на ленточке
- ◆ Центральная режущая кромка
- ◆ Для черновой обработки алюминия (полированные канавки)



DIN6535 HB (WELDON)



## Длинная серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA) | WELDON (HB)        |
|-------|----|----|------|---------------------|--------------------|
| 4,0   | 54 | 8  | 6,0  | M2-FA64-040/08C06L  | M2-FA64-040/08W06L |
| 5,0   | 54 | 9  | 6,0  | M2-FA64-050/09C06L  | M2-FA64-050/09W06L |
| 6,0   | 54 | 10 | 6,0  | M2-FA64-060/10C06L  | M2-FA64-060/10W06L |
| 8,0   | 58 | 12 | 8,0  | M2-FA64-080/12C08L  | M2-FA64-080/12W08L |
| 10,0  | 66 | 14 | 10,0 | M2-FA64-100/14C10L  | M2-FA64-100/14W10L |
| 12,0  | 73 | 16 | 12,0 | M2-FA64-120/16C12L  | M2-FA64-120/16W12L |
| 14,0  | 75 | 18 | 14,0 | M2-FA64-140/18C14L  | M2-FA64-140/18W14L |
| 16,0  | 82 | 22 | 16,0 | M2-FA64-160/22C16L  | M2-FA64-160/22W16L |
| 18,0  | 84 | 24 | 18,0 | M2-FA64-180/24C18L  | M2-FA64-180/24W18L |
| 20,0  | 92 | 26 | 20,0 | M2-FA64-200/26C20L  | M2-FA64-200/26W20L |

## Сверхдлинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA) | WELDON (HB)        |
|-------|-----|----|------|---------------------|--------------------|
| 4,0   | 57  | 11 | 6,0  | M2-FA64-040/11C06X  | M2-FA64-040/11W06X |
| 5,0   | 57  | 13 | 6,0  | M2-FA64-050/13C06X  | M2-FA64-050/13W06X |
| 6,0   | 57  | 13 | 6,0  | M2-FA64-060/13C06X  | M2-FA64-060/13W06X |
| 8,0   | 63  | 19 | 8,0  | M2-FA64-080/19C08X  | M2-FA64-080/19W08X |
| 10,0  | 72  | 22 | 10,0 | M2-FA64-100/22C10X  | M2-FA64-100/22W10X |
| 12,0  | 83  | 22 | 12,0 | M2-FA64-120/22C12X  | M2-FA64-120/22W12X |
| 14,0  | 83  | 26 | 14,0 | M2-FA64-140/26C14X  | M2-FA64-140/26W14X |
| 16,0  | 92  | 32 | 16,0 | M2-FA64-160/32C16X  | M2-FA64-160/32W16X |
| 18,0  | 92  | 32 | 18,0 | M2-FA64-180/32C18X  | M2-FA64-180/32W18X |
| 20,0  | 104 | 38 | 20,0 | M2-FA64-200/38C20X  | M2-FA64-200/38W20X |



# M2-FA74



- ◆ Двухзубая концевая фреза
- ◆ Центральная режущая кромка
- ◆ Для обработки алюминия (полированные канавки)



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 3,0   | 54 | 6  | 6,0  | <b>M2-FA74-030/06C06S</b> | <b>M2-FA74-030/06W06S</b> |
| 4,0   | 54 | 8  | 6,0  | <b>M2-FA74-040/08C06S</b> | <b>M2-FA74-040/08W06S</b> |
| 6,0   | 54 | 10 | 6,0  | <b>M2-FA74-060/10C06S</b> | <b>M2-FA74-060/10W06S</b> |
| 8,0   | 58 | 12 | 8,0  | <b>M2-FA74-080/12C08S</b> | <b>M2-FA74-080/12W08S</b> |
| 10,0  | 66 | 14 | 10,0 | <b>M2-FA74-100/14C10S</b> | <b>M2-FA74-100/14W10S</b> |
| 12,0  | 73 | 16 | 12,0 | <b>M2-FA74-120/16C12S</b> | <b>M2-FA74-120/16W12S</b> |
| 14,0  | 78 | 18 | 14,0 | <b>M2-FA74-140/18C14S</b> | <b>M2-FA74-140/18W14S</b> |
| 16,0  | 82 | 22 | 16,0 | <b>M2-FA74-160/22C16S</b> | <b>M2-FA74-160/22W16S</b> |
| 18,0  | 84 | 24 | 18,0 | <b>M2-FA74-180/24C18S</b> | <b>M2-FA74-180/24W18S</b> |
| 20,0  | 92 | 26 | 20,0 | <b>M2-FA74-200/26C20S</b> | <b>M2-FA74-200/26W20S</b> |

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 3,0   | 57  | 8  | 6,0  | <b>M2-FA74-030/08C06M</b> | <b>M2-FA74-030/08W06M</b> |
| 4,0   | 57  | 11 | 6,0  | <b>M2-FA74-040/11C06M</b> | <b>M2-FA74-040/11W06M</b> |
| 5,0   | 57  | 13 | 6,0  | <b>M2-FA74-050/13C06M</b> | <b>M2-FA74-050/13W06M</b> |
| 6,0   | 57  | 13 | 6,0  | <b>M2-FA74-060/13C06M</b> | <b>M2-FA74-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M2-FA74-080/19C08M</b> | <b>M2-FA74-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M2-FA74-100/22C10M</b> | <b>M2-FA74-100/22W10M</b> |
| 12,0  | 83  | 22 | 12,0 | <b>M2-FA74-120/22C12M</b> | <b>M2-FA74-120/22W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M2-FA74-140/26C14M</b> | <b>M2-FA74-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M2-FA74-160/32C16M</b> | <b>M2-FA74-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M2-FA74-180/32C18M</b> | <b>M2-FA74-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M2-FA74-200/38C20M</b> | <b>M2-FA74-200/38W20M</b> |

**Длинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 80  | 22 | 6,0  | <b>M2-FA74-060/22C06L</b> | <b>M2-FA74-060/22W06L</b> |
| 8,0   | 80  | 28 | 8,0  | <b>M2-FA74-080/28C08L</b> | <b>M2-FA74-080/28W08L</b> |
| 10,0  | 100 | 33 | 10,0 | <b>M2-FA74-100/33C10L</b> | <b>M2-FA74-100/33W10L</b> |
| 12,0  | 100 | 42 | 12,0 | <b>M2-FA74-120/42C12L</b> | <b>M2-FA74-120/42W12L</b> |
| 14,0  | 100 | 48 | 14,0 | <b>M2-FA74-140/48C14L</b> | <b>M2-FA74-140/48W14L</b> |
| 16,0  | 121 | 53 | 16,0 | <b>M2-FA74-160/53C16L</b> | <b>M2-FA74-160/53W16L</b> |
| 18,0  | 121 | 53 | 18,0 | <b>M2-FA74-180/53C18L</b> | <b>M2-FA74-180/53W18L</b> |
| 20,0  | 121 | 53 | 20,0 | <b>M2-FA74-200/53C20L</b> | <b>M2-FA74-200/53W20L</b> |

**Сверхдлинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 10,0  | 100 | 40 | 10,0 | <b>M2-FA74-100/40C10X</b> | <b>M2-FA74-100/40W10X</b> |
| 12,0  | 150 | 45 | 12,0 | <b>M2-FA74-120/45C12X</b> | <b>M2-FA74-120/45W12X</b> |
| 14,0  | 150 | 48 | 14,0 | <b>M2-FA74-140/48C14X</b> | <b>M2-FA74-140/48W14X</b> |
| 16,0  | 150 | 65 | 16,0 | <b>M2-FA74-160/65C16X</b> | <b>M2-FA74-160/65W16X</b> |
| 18,0  | 150 | 65 | 18,0 | <b>M2-FA74-180/65C18X</b> | <b>M2-FA74-180/65W18X</b> |
| 20,0  | 150 | 68 | 20,0 | <b>M2-FA74-200/68C20X</b> | <b>M2-FA74-200/68W20X</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

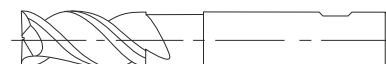
# M2-FA74U



- ◆ Двухзубая концевая фреза с занижением шейки
- ◆ Центральная режущая кромка
- ◆ Для обработки алюминия (полированные канавки)



DIN6535 HB (WELDON)



## Короткая серия

| d1h9 | L2 | L3 | L1 | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|------|----|----|----|------|------|----------------------------|----------------------------|
| 3,0  | 6  | 16 | 54 | 2,8  | 6,0  | <b>M2-FA74U-030/06C06S</b> | <b>M2-FA74U-030/06W06S</b> |
| 4,0  | 8  | 18 | 54 | 3,8  | 6,0  | <b>M2-FA74U-040/08C06S</b> | <b>M2-FA74U-040/08W06S</b> |
| 6,0  | 10 | 18 | 54 | 5,5  | 6,0  | <b>M2-FA74U-060/10C06S</b> | <b>M2-FA74U-060/10W06S</b> |
| 8,0  | 12 | 21 | 58 | 7,5  | 8,0  | <b>M2-FA74U-080/12C08S</b> | <b>M2-FA74U-080/12W08S</b> |
| 10,0 | 14 | 24 | 66 | 9,5  | 10,0 | <b>M2-FA74U-100/14C10S</b> | <b>M2-FA74U-100/14W10S</b> |
| 12,0 | 16 | 28 | 73 | 11,0 | 12,0 | <b>M2-FA74U-120/16C12S</b> | <b>M2-FA74U-120/16W12S</b> |
| 14,0 | 18 | 30 | 75 | 13,0 | 14,0 | <b>M2-FA74U-140/18C14S</b> | <b>M2-FA74U-140/18W14S</b> |
| 16,0 | 22 | 32 | 82 | 15,0 | 16,0 | <b>M2-FA74U-160/22C16S</b> | <b>M2-FA74U-160/22W16S</b> |
| 18,0 | 24 | 50 | 84 | 17,0 | 18,0 | <b>M2-FA74U-180/24C18S</b> | <b>M2-FA74U-180/24W18S</b> |
| 20,0 | 26 | 50 | 92 | 19,0 | 20,0 | <b>M2-FA74U-200/26C20S</b> | <b>M2-FA74U-200/26W20S</b> |

## Средняя серия

| d1h9 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|------|----|----|-----|------|------|----------------------------|----------------------------|
| 3,0  | 8  | 21 | 57  | 2,8  | 6,0  | <b>M2-FA74U-030/08C06M</b> | <b>M2-FA74U-030/08W06M</b> |
| 4,0  | 11 | 21 | 57  | 3,8  | 6,0  | <b>M2-FA74U-040/11C06M</b> | <b>M2-FA74U-040/11W06M</b> |
| 5,0  | 13 | 21 | 57  | 4,8  | 6,0  | <b>M2-FA74U-050/13C06M</b> | <b>M2-FA74U-050/13W06M</b> |
| 6,0  | 13 | 21 | 57  | 5,5  | 6,0  | <b>M2-FA74U-060/13C06M</b> | <b>M2-FA74U-060/13W06M</b> |
| 8,0  | 19 | 27 | 63  | 7,5  | 8,0  | <b>M2-FA74U-080/19C08M</b> | <b>M2-FA74U-080/19W08M</b> |
| 10,0 | 22 | 32 | 72  | 9,5  | 10,0 | <b>M2-FA74U-100/22C10M</b> | <b>M2-FA74U-100/22W10M</b> |
| 12,0 | 26 | 38 | 83  | 11,0 | 12,0 | <b>M2-FA74U-120/26C12M</b> | <b>M2-FA74U-120/26W12M</b> |
| 14,0 | 26 | 42 | 83  | 13,0 | 14,0 | <b>M2-FA74U-140/26C14M</b> | <b>M2-FA74U-140/26W14M</b> |
| 16,0 | 32 | 44 | 92  | 15,0 | 16,0 | <b>M2-FA74U-160/32C16M</b> | <b>M2-FA74U-160/32W16M</b> |
| 18,0 | 32 | 50 | 92  | 17,0 | 18,0 | <b>M2-FA74U-180/32C18M</b> | <b>M2-FA74U-180/32W18M</b> |
| 20,0 | 38 | 54 | 104 | 19,0 | 20,0 | <b>M2-FA74U-200/38C20M</b> | <b>M2-FA74U-200/38W20M</b> |

## Длинная серия

| d1h9 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)        | WELDON (НВ)                |
|------|----|----|-----|------|------|----------------------------|----------------------------|
| 6,0  | 7  | 17 | 80  | 5,5  | 6,0  | <b>M2-FA74U-060/07C06L</b> | <b>M2-FA74U-060/07W06L</b> |
| 6,0  | 22 | 31 | 80  | 5,5  | 6,0  | <b>M2-FA74U-060/22C06L</b> | <b>M2-FA74U-060/22W06L</b> |
| 8,0  | 28 | 40 | 80  | 7,5  | 8,0  | <b>M2-FA74U-080/28C08L</b> | <b>M2-FA74U-080/28W08L</b> |
| 10,0 | 33 | 43 | 100 | 9,5  | 10,0 | <b>M2-FA74U-100/33C10L</b> | <b>M2-FA74U-100/33W10L</b> |
| 12,0 | 35 | 45 | 100 | 11,0 | 12,0 | <b>M2-FA74U-120/35C12L</b> | <b>M2-FA74U-120/35W12L</b> |
| 14,0 | 36 | 46 | 100 | 13,0 | 14,0 | <b>M2-FA74U-140/36C14L</b> | <b>M2-FA74U-140/36W14L</b> |
| 16,0 | 38 | 51 | 121 | 15,0 | 16,0 | <b>M2-FA74U-160/38C16L</b> | <b>M2-FA74U-160/38W16L</b> |
| 18,0 | 38 | 51 | 121 | 17,0 | 18,0 | <b>M2-FA74U-180/38C18L</b> | <b>M2-FA74U-180/38W18L</b> |
| 20,0 | 45 | 74 | 121 | 19,0 | 20,0 | <b>M2-FA74U-200/45C20L</b> | <b>M2-FA74U-200/45W20L</b> |

## Сверхдлинная серия

| d1h9 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)        | WELDON (НВ)                |
|------|----|----|-----|------|------|----------------------------|----------------------------|
| 10   | 40 | 50 | 100 | 9,2  | 10,0 | <b>M2-FA74U-100/40C10X</b> | <b>M2-FA74U-100/40W10X</b> |
| 12   | 45 | 55 | 150 | 11,0 | 12,0 | <b>M2-FA74U-120/45C12X</b> | <b>M2-FA74U-120/45W12X</b> |
| 14   | 45 | 60 | 150 | 13,0 | 14,0 | <b>M2-FA74U-140/45C14X</b> | <b>M2-FA74U-140/45W14X</b> |
| 16   | 32 | 99 | 150 | 15,0 | 16,0 | <b>M2-FA74U-160/32C16X</b> | <b>M2-FA74U-160/32W16X</b> |
| 16   | 65 | 99 | 150 | 15,0 | 16,0 | <b>M2-FA74U-160/65C16X</b> | <b>M2-FA74U-160/65W16X</b> |
| 18   | 65 | 99 | 150 | 17,0 | 18,0 | <b>M2-FA74U-180/65C18X</b> | <b>M2-FA74U-180/65W18X</b> |
| 20   | 68 | 99 | 150 | 19,0 | 20,0 | <b>M2-FA74U-200/68C20X</b> | <b>M2-FA74U-200/68W20X</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

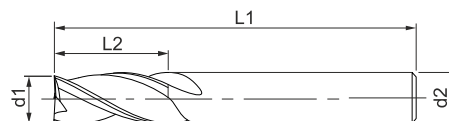
# M3-FF13



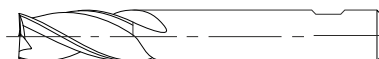
- ◆ Трёхзубая концевая фреза
- ◆ Центральная режущая кромка
- ◆ Для обработки стали, чугуна и мягких материалов



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 3,0   | 38 | 12 | 3,0  | <b>M3-FF13-030/12C03S</b> | —                         |
| 3,5   | 50 | 12 | 4,0  | <b>M3-FF13-035/12C04S</b> | —                         |
| 3,8   | 50 | 12 | 4,0  | <b>M3-FF13-038/12C04S</b> | —                         |
| 4,0   | 50 | 12 | 4,0  | <b>M3-FF13-040/12C04S</b> | —                         |
| 4,5   | 50 | 12 | 5,0  | <b>M3-FF13-045/12C05S</b> | —                         |
| 4,8   | 50 | 12 | 5,0  | <b>M3-FF13-048/12C05S</b> | —                         |
| 5,0   | 50 | 14 | 5,0  | <b>M3-FF13-050/14C05S</b> | —                         |
| 5,5   | 50 | 14 | 6,0  | <b>M3-FF13-055/14C06S</b> | <b>M3-FF13-055/14W06S</b> |
| 5,7   | 50 | 14 | 6,0  | <b>M3-FF13-057/14C06S</b> | <b>M3-FF13-057/14W06S</b> |
| 6,0   | 50 | 14 | 6,0  | <b>M3-FF13-060/14C06S</b> | <b>M3-FF13-060/14W06S</b> |
| 6,5   | 60 | 16 | 7,0  | <b>M3-FF13-065/16C07S</b> | —                         |
| 6,7   | 60 | 16 | 7,0  | <b>M3-FF13-067/16C07S</b> | —                         |
| 7,0   | 60 | 18 | 7,0  | <b>M3-FF13-070/18C07S</b> | —                         |
| 7,7   | 60 | 18 | 8,0  | <b>M3-FF13-077/18C08S</b> | <b>M3-FF13-077/18W08S</b> |
| 8,0   | 60 | 18 | 8,0  | <b>M3-FF13-080/18C08S</b> | <b>M3-FF13-080/18W08S</b> |
| 8,7   | 60 | 18 | 9,0  | <b>M3-FF13-087/18C09S</b> | —                         |
| 9,0   | 60 | 18 | 9,0  | <b>M3-FF13-090/18C09S</b> | —                         |
| 9,7   | 70 | 20 | 10,0 | <b>M3-FF13-097/20C10S</b> | <b>M3-FF13-097/20W10S</b> |
| 10,0  | 70 | 20 | 10,0 | <b>M3-FF13-100/20C10S</b> | <b>M3-FF13-100/20W10S</b> |
| 11,0  | 70 | 20 | 11,0 | <b>M3-FF13-110/20C11S</b> | —                         |
| 11,7  | 70 | 20 | 12,0 | <b>M3-FF13-117/20C12S</b> | <b>M3-FF13-117/20W12S</b> |
| 12,0  | 70 | 20 | 12,0 | <b>M3-FF13-120/20C12S</b> | <b>M3-FF13-120/20W12S</b> |
| 13,0  | 70 | 20 | 13,0 | <b>M3-FF13-130/20C13S</b> | —                         |
| 14,0  | 75 | 25 | 14,0 | <b>M3-FF13-140/25C14S</b> | <b>M3-FF13-140/25W14S</b> |
| 15,0  | 75 | 25 | 15,0 | <b>M3-FF13-150/25C15S</b> | —                         |



## Короткая серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 15,7  | 75  | 25 | 16,0 | <b>M3-FF13-157/25C16S</b> | <b>M3-FF13-157/25W16S</b> |
| 16,0  | 75  | 25 | 16,0 | <b>M3-FF13-160/25C16S</b> | <b>M3-FF13-160/25W16S</b> |
| 17,7  | 100 | 32 | 18,0 | <b>M3-FF13-177/32C18S</b> | <b>M3-FF13-177/32W18S</b> |
| 18,0  | 100 | 32 | 18,0 | <b>M3-FF13-180/32C18S</b> | <b>M3-FF13-180/32W18S</b> |
| 19,7  | 100 | 32 | 20,0 | <b>M3-FF13-197/32C20S</b> | <b>M3-FF13-197/32W20S</b> |
| 20,0  | 100 | 32 | 20,0 | <b>M3-FF13-200/32C20S</b> | <b>M3-FF13-200/32W20S</b> |
| 22,0  | 104 | 32 | 22,0 | <b>M3-FF13-220/32C22S</b> | —                         |
| 25,0  | 104 | 32 | 25,0 | <b>M3-FF13-250/32C25S</b> | <b>M3-FF13-250/32W25S</b> |

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 3,0   | 57  | 14 | 6,0  | <b>M3-FF13-030/14C06M</b> | <b>M3-FF13-030/14W06M</b> |
| 3,5   | 57  | 14 | 6,0  | <b>M3-FF13-035/14C06M</b> | <b>M3-FF13-035/14W06M</b> |
| 4,0   | 57  | 15 | 6,0  | <b>M3-FF13-040/15C06M</b> | <b>M3-FF13-040/15W06M</b> |
| 4,5   | 57  | 15 | 6,0  | <b>M3-FF13-045/15C06M</b> | <b>M3-FF13-045/15W06M</b> |
| 5,0   | 57  | 16 | 6,0  | <b>M3-FF13-050/16C06M</b> | <b>M3-FF13-050/16W06M</b> |
| 5,5   | 57  | 17 | 6,0  | <b>M3-FF13-055/17C06M</b> | <b>M3-FF13-055/17W06M</b> |
| 6,0   | 57  | 19 | 6,0  | <b>M3-FF13-060/19C06M</b> | <b>M3-FF13-060/19W06M</b> |
| 7,0   | 63  | 23 | 8,0  | <b>M3-FF13-070/23C08M</b> | <b>M3-FF13-070/23W08M</b> |
| 8,0   | 63  | 25 | 8,0  | <b>M3-FF13-080/25C08M</b> | <b>M3-FF13-080/25W08M</b> |
| 9,0   | 72  | 26 | 10,0 | <b>M3-FF13-090/26C10M</b> | <b>M3-FF13-090/26W10M</b> |
| 10,0  | 72  | 28 | 10,0 | <b>M3-FF13-100/28C10M</b> | <b>M3-FF13-100/28W10M</b> |
| 12,0  | 83  | 32 | 12,0 | <b>M3-FF13-120/32C12M</b> | <b>M3-FF13-120/32W12M</b> |
| 14,0  | 83  | 36 | 14,0 | <b>M3-FF13-140/36C14M</b> | <b>M3-FF13-140/36W14M</b> |
| 16,0  | 92  | 38 | 16,0 | <b>M3-FF13-160/38C16M</b> | <b>M3-FF13-160/38W16M</b> |
| 18,0  | 92  | 40 | 18,0 | <b>M3-FF13-180/40C18M</b> | <b>M3-FF13-180/40W18M</b> |
| 20,0  | 104 | 42 | 20,0 | <b>M3-FF13-200/42C20M</b> | <b>M3-FF13-200/42W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

**Длинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 75  | 30 | 6,0  | <b>M3-FF13-060/30C06L</b> | <b>M3-FF13-060/30W06L</b> |
| 8,0   | 75  | 30 | 8,0  | <b>M3-FF13-080/30C08L</b> | <b>M3-FF13-080/30W08L</b> |
| 10,0  | 75  | 30 | 10,0 | <b>M3-FF13-100/30C10L</b> | <b>M3-FF13-100/30W10L</b> |
| 12,0  | 100 | 45 | 12,0 | <b>M3-FF13-120/45C12L</b> | <b>M3-FF13-120/45W12L</b> |
| 16,0  | 100 | 45 | 16,0 | <b>M3-FF13-160/45C16L</b> | <b>M3-FF13-160/45W16L</b> |
| 18,0  | 100 | 45 | 18,0 | <b>M3-FF13-180/45C16L</b> | <b>M3-FF13-180/45W16L</b> |
| 20,0  | 150 | 65 | 20,0 | <b>M3-FF13-200/65C20L</b> | <b>M3-FF13-200/65W20L</b> |

**Сверхдлинная серия**

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 100 | 40 | 6,0  | <b>M3-FF13-060/40C06X</b> | <b>M3-FF13-060/40W06X</b> |
| 8,0   | 100 | 40 | 8,0  | <b>M3-FF13-080/40C08X</b> | <b>M3-FF13-080/40W08X</b> |
| 10,0  | 100 | 40 | 10,0 | <b>M3-FF13-100/40C10X</b> | <b>M3-FF13-100/40W10X</b> |
| 12,0  | 150 | 75 | 12,0 | <b>M3-FF13-120/75C12X</b> | <b>M3-FF13-120/75W12X</b> |
| 16,0  | 150 | 75 | 16,0 | <b>M3-FF13-160/75C16X</b> | <b>M3-FF13-160/75W16X</b> |
| 18,0  | 150 | 75 | 18,0 | <b>M3-FF13-180/75C18X</b> | <b>M3-FF13-180/75W18X</b> |
| 20,0  | 150 | 90 | 20,0 | <b>M3-FF13-200/90C20X</b> | <b>M3-FF13-200/90W20X</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

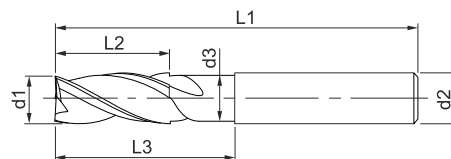
# M3-FF13U



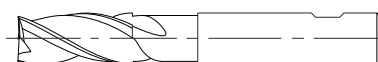
- ◆ Трёхзубая концевая фреза с занижением диаметра шейки
- ◆ Центральная режущая кромка
- ◆ Для общего применения



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|------|----|----------------------------|----------------------------|
| 3,0   | 58  | 8  | 6,0  | 2,8  | 12 | <b>M3-FF13U-030/08C06M</b> | <b>M3-FF13U-030/08W06M</b> |
| 4,0   | 58  | 11 | 6,0  | 3,8  | 16 | <b>M3-FF13U-040/11C06M</b> | <b>M3-FF13U-040/11W06M</b> |
| 5,0   | 58  | 13 | 6,0  | 4,8  | 19 | <b>M3-FF13U-050/13C06M</b> | <b>M3-FF13U-050/13W06M</b> |
| 6,0   | 58  | 13 | 6,0  | 5,7  | 19 | <b>M3-FF13U-060/13C06M</b> | <b>M3-FF13U-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | 7,8  | 27 | <b>M3-FF13U-080/19C08M</b> | <b>M3-FF13U-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | 9,8  | 32 | <b>M3-FF13U-100/22C10M</b> | <b>M3-FF13U-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | 11,8 | 38 | <b>M3-FF13U-120/26C12M</b> | <b>M3-FF13U-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | 13,8 | 38 | <b>M3-FF13U-140/26C14M</b> | <b>M3-FF13U-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | 15,7 | 44 | <b>M3-FF13U-160/32C16M</b> | <b>M3-FF13U-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | 17,7 | 44 | <b>M3-FF13U-180/32C18M</b> | <b>M3-FF13U-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | 19,7 | 54 | <b>M3-FF13U-200/38C20M</b> | <b>M3-FF13U-200/38W20M</b> |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|------|----|----------------------------|----------------------------|
| 6,0   | 75  | 22 | 6,0  | 5,7  | 31 | <b>M3-FF13U-060/22C06L</b> | <b>M3-FF13U-060/22W06L</b> |
| 8,0   | 75  | 27 | 8,0  | 7,8  | 38 | <b>M3-FF13U-080/27C08L</b> | <b>M3-FF13U-080/27W08L</b> |
| 10,0  | 100 | 33 | 10,0 | 9,8  | 43 | <b>M3-FF13U-100/33C10L</b> | <b>M3-FF13U-100/33W10L</b> |
| 12,0  | 100 | 42 | 12,0 | 11,8 | 52 | <b>M3-FF13U-120/42C12L</b> | <b>M3-FF13U-120/42W12L</b> |
| 14,0  | 100 | 45 | 14,0 | 13,8 | 55 | <b>M3-FF13U-140/45C14L</b> | <b>M3-FF13U-140/45W14L</b> |
| 16,0  | 120 | 45 | 16,0 | 15,7 | 60 | <b>M3-FF13U-160/45C16L</b> | <b>M3-FF13U-160/45W16L</b> |
| 18,0  | 120 | 45 | 18,0 | 17,7 | 62 | <b>M3-FF13U-180/45C18L</b> | <b>M3-FF13U-180/45W18L</b> |
| 20,0  | 150 | 65 | 20,0 | 19,7 | 80 | <b>M3-FF13U-200/65C20L</b> | <b>M3-FF13U-200/65W20L</b> |



# M3-FF14



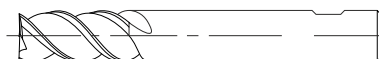
- ◆ Трёхзубая концевая фреза общего назначения
- ◆ Центральная режущая кромка
- ◆ Для общего применения



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 3,0   | 57  | 8  | 6,0  | <b>M3-FF14-030/08C06M</b> | <b>M3-FF14-030/08W06M</b> |
| 3,5   | 57  | 11 | 6,0  | <b>M3-FF14-035/11C06M</b> | <b>M3-FF14-035/11W06M</b> |
| 4,0   | 57  | 11 | 6,0  | <b>M3-FF14-040/11C06M</b> | <b>M3-FF14-040/11W06M</b> |
| 4,5   | 57  | 13 | 6,0  | <b>M3-FF14-045/13C06M</b> | <b>M3-FF14-045/13W06M</b> |
| 5,0   | 57  | 13 | 6,0  | <b>M3-FF14-050/13C06M</b> | <b>M3-FF14-050/13W06M</b> |
| 5,5   | 57  | 13 | 6,0  | <b>M3-FF14-055/13C06M</b> | <b>M3-FF14-055/13W06M</b> |
| 6,0   | 57  | 13 | 6,0  | <b>M3-FF14-060/13C06M</b> | <b>M3-FF14-060/13W06M</b> |
| 7,0   | 63  | 16 | 8,0  | <b>M3-FF14-070/16C08M</b> | <b>M3-FF14-070/16W08M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M3-FF14-080/19C08M</b> | <b>M3-FF14-080/19W08M</b> |
| 9,0   | 72  | 19 | 10,0 | <b>M3-FF14-090/19C10M</b> | <b>M3-FF14-090/19W10M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M3-FF14-100/22C10M</b> | <b>M3-FF14-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M3-FF14-120/26C12M</b> | <b>M3-FF14-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M3-FF14-140/26C14M</b> | <b>M3-FF14-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M3-FF14-160/32C16M</b> | <b>M3-FF14-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M3-FF14-180/32C18M</b> | <b>M3-FF14-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M3-FF14-200/38C20M</b> | <b>M3-FF14-200/38W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

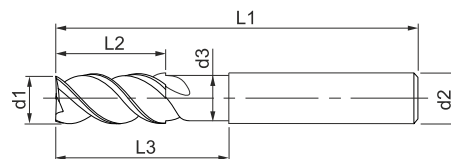
# M3-FH69U



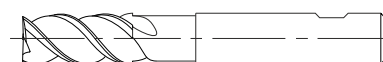
- ◆ Трёхзубая концевая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, HPC
- ◆ Для обработки стали, чугуна, а также высоколегированных сталей до 44 HRC



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | L3 | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|----|------|------|----------------------------|----------------------------|
| 6,0   | 57  | 13 | 21 | 5,50 | 6,0  | <b>M3-FH69U-060/13C06M</b> | <b>M3-FH69U-060/13W06M</b> |
| 8,0   | 63  | 19 | 30 | 7,5  | 8,0  | <b>M3-FH69U-080/19C08M</b> | <b>M3-FH69U-080/19W08M</b> |
| 10,0  | 72  | 22 | 32 | 9,5  | 10,0 | <b>M3-FH69U-100/22C10M</b> | <b>M3-FH69U-100/22W10M</b> |
| 12,0  | 83  | 26 | 40 | 11,5 | 12,0 | <b>M3-FH69U-120/26C12M</b> | <b>M3-FH69U-120/26W12M</b> |
| 14,0  | 88  | 28 | 42 | 13,4 | 14,0 | <b>M3-FH69U-140/28C14M</b> | <b>M3-FH69U-140/28W14M</b> |
| 16,0  | 92  | 32 | 45 | 15,0 | 16,0 | <b>M3-FH69U-160/32C16M</b> | <b>M3-FH69U-160/32W16M</b> |
| 18,0  | 98  | 36 | 50 | 17,0 | 18,0 | <b>M3-FH69U-180/36C18M</b> | <b>M3-FH69U-180/36W18M</b> |
| 20,0  | 104 | 38 | 55 | 19,0 | 20,0 | <b>M3-FH69U-200/38C20M</b> | <b>M3-FH69U-200/38W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

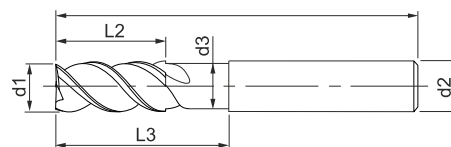
# M3-FH89U



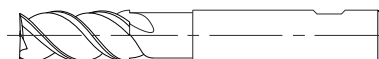
- ◆ Трёхзубая концевая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, НРС
- ◆ Центральные режущие кромки
- ◆ Для обработки алюминия (полированные канавки)



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | ЦИЛИНДРИЧЕСКИЙ (HA) | WELDON (HB)         |
|-------|-----|----|------|------|----|---------------------|---------------------|
| 3,0   | 57  | 8  | 6,0  | 2,8  | 13 | M3-FH89U-030/08C06M | M3-FH89U-030/08W06M |
| 4,0   | 57  | 11 | 6,0  | 3,8  | 16 | M3-FH89U-040/11C06M | M3-FH89U-040/11W06M |
| 5,0   | 57  | 13 | 6,0  | 4,8  | 18 | M3-FH89U-050/13C06M | M3-FH89U-050/13W06M |
| 6,0   | 57  | 13 | 6,0  | 5,7  | 18 | M3-FH89U-060/13C06M | M3-FH89U-060/13W06M |
| 8,0   | 63  | 21 | 8,0  | 7,7  | 25 | M3-FH89U-080/21C08M | M3-FH89U-080/21W08M |
| 10,0  | 72  | 22 | 10,0 | 9,7  | 30 | M3-FH89U-100/22C10M | M3-FH89U-100/22W10M |
| 12,0  | 83  | 26 | 12,0 | 11,7 | 36 | M3-FH89U-120/26C12M | M3-FH89U-120/26W12M |
| 14,0  | 88  | 28 | 14,0 | 13,7 | 38 | M3-FH89U-140/28C14M | M3-FH89U-140/28W14M |
| 16,0  | 92  | 36 | 16,0 | 15,7 | 42 | M3-FH89U-160/36C16M | M3-FH89U-160/36W16M |
| 18,0  | 98  | 38 | 18,0 | 17,7 | 48 | M3-FH89U-180/38C18M | M3-FH89U-180/38W18M |
| 20,0  | 104 | 41 | 20,0 | 19,7 | 52 | M3-FH89U-200/41C20M | M3-FH89U-200/41W20M |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

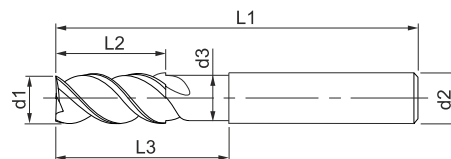
# M3-FH99U



- ◆ Трёхзубая концевая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, HPC
- ◆ Центральная режущая кромка
- ◆ Для обработки нержавеющей стали и титана



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|------|----|----------------------------|----------------------------|
| 3,0   | 57  | 8  | 6,0  | 2,8  | 13 | <b>M3-FH99U-030/08C06M</b> | <b>M3-FH99U-030/08W06M</b> |
| 4,0   | 57  | 11 | 6,0  | 3,8  | 16 | <b>M3-FH99U-040/11C06M</b> | <b>M3-FH99U-040/11W06M</b> |
| 5,0   | 57  | 13 | 6,0  | 4,8  | 18 | <b>M3-FH99U-050/13C06M</b> | <b>M3-FH99U-050/13W06M</b> |
| 6,0   | 57  | 13 | 6,0  | 5,7  | 18 | <b>M3-FH99U-060/13C06M</b> | <b>M3-FH99U-060/13W06M</b> |
| 8,0   | 63  | 21 | 8,0  | 7,7  | 25 | <b>M3-FH99U-080/21C08M</b> | <b>M3-FH99U-080/21W08M</b> |
| 10,0  | 72  | 22 | 10,0 | 9,7  | 30 | <b>M3-FH99U-100/22C10M</b> | <b>M3-FH99U-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | 11,7 | 36 | <b>M3-FH99U-120/26C12M</b> | <b>M3-FH99U-120/26W12M</b> |
| 14,0  | 88  | 28 | 14,0 | 13,7 | 38 | <b>M3-FH99U-140/28C14M</b> | <b>M3-FH99U-140/28W14M</b> |
| 16,0  | 92  | 36 | 16,0 | 15,7 | 42 | <b>M3-FH99U-160/36C16M</b> | <b>M3-FH99U-160/36W16M</b> |
| 18,0  | 98  | 38 | 18,0 | 17,7 | 48 | <b>M3-FH99U-180/38C18M</b> | <b>M3-FH99U-180/38W18M</b> |
| 20,0  | 104 | 41 | 20,0 | 19,7 | 52 | <b>M3-FH99U-200/41C20M</b> | <b>M3-FH99U-200/41W20M</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

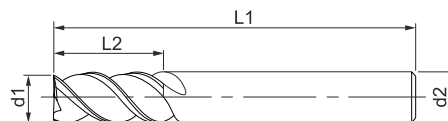
# M3-FA34



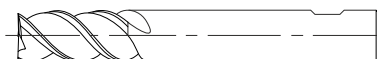
- ◆ Трёхзубая концевая фреза с полированными канавками
- ◆ Полированные канавки
- ◆ Для обработки цветных металлов и пластика



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Длинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA) | WELDON (HB)        |
|-------|-----|----|------|---------------------|--------------------|
| 3,0   | 58  | 8  | 6,0  | M3-FA34-030/08C06L  | M3-FA34-030/08W06L |
| 4,0   | 58  | 11 | 6,0  | M3-FA34-040/11C06L  | M3-FA34-040/11W06L |
| 5,0   | 58  | 13 | 6,0  | M3-FA34-050/13C06L  | M3-FA34-050/13W06L |
| 6,0   | 58  | 13 | 6,0  | M3-FA34-060/13C06L  | M3-FA34-060/13W06L |
| 8,0   | 64  | 19 | 8,0  | M3-FA34-080/19C08L  | M3-FA34-080/19W08L |
| 10,0  | 72  | 22 | 10,0 | M3-FA34-100/22C10L  | M3-FA34-100/22W10L |
| 12,0  | 83  | 26 | 12,0 | M3-FA34-120/26C12L  | M3-FA34-120/26W12L |
| 14,0  | 83  | 26 | 14,0 | M3-FA34-140/26C14L  | M3-FA34-140/26W14L |
| 16,0  | 92  | 32 | 16,0 | M3-FA34-160/32C16L  | M3-FA34-160/32W16L |
| 18,0  | 92  | 32 | 18,0 | M3-FA34-180/32C18L  | M3-FA34-180/32W18L |
| 20,0  | 105 | 38 | 20,0 | M3-FA34-200/38C20L  | M3-FA34-200/38W20L |

## Сверхдлинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA) | WELDON (HB)        |
|-------|-----|----|------|---------------------|--------------------|
| 4,0   | 63  | 19 | 6,0  | M3-FA34-040/19C06X  | M3-FA34-040/19W06X |
| 5,0   | 68  | 24 | 6,0  | M3-FA34-050/24C06X  | M3-FA34-050/24W06X |
| 6,0   | 68  | 24 | 6,0  | M3-FA34-060/24C06X  | M3-FA34-060/24W06X |
| 8,0   | 88  | 38 | 8,0  | M3-FA34-080/38C08X  | M3-FA34-080/38W08X |
| 10,0  | 95  | 45 | 10,0 | M3-FA34-100/45C10X  | M3-FA34-100/45W10X |
| 12,0  | 110 | 53 | 12,0 | M3-FA34-120/53C12X  | M3-FA34-120/53W12X |
| 14,0  | 110 | 53 | 14,0 | M3-FA34-140/53C14X  | M3-FA34-140/53W14X |
| 16,0  | 123 | 63 | 16,0 | M3-FA34-160/63C16X  | M3-FA34-160/63W16X |
| 18,0  | 123 | 63 | 18,0 | M3-FA34-180/63C18X  | M3-FA34-180/63W18X |
| 20,0  | 141 | 75 | 20,0 | M3-FA34-200/75C20X  | M3-FA34-200/75W20X |

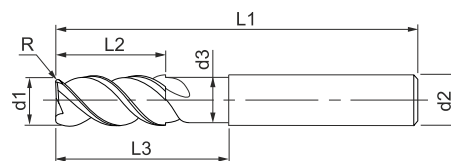
# M3-FA44U



- ◆ Трёхзубая концевая фреза с занижением диаметра шейки, угловым радиусом
- ◆ Центральная режущая кромка
- ◆ Для скоростной обработки алюминия (полированные канавки)



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Длинная серия

| d1h9 | L1  | L2 | d2h6 | d3/L3   | R   | ЦИЛИНДРИЧЕСКИЙ (HA)            | WELDON (HB)                    |
|------|-----|----|------|---------|-----|--------------------------------|--------------------------------|
| 6,0  | 57  | 16 | 6,0  | 5,8/21  | –   | <b>M3-FA44U-060/16C06L</b>     | <b>M3-FA44U-060/16W06L</b>     |
| 6,0  | 57  | 16 | 6,0  | 5,8/21  | 0,5 | <b>M3-FA44U-060/16C06L R05</b> | <b>M3-FA44U-060/16W06L R05</b> |
| 8,0  | 63  | 19 | 8,0  | 7,8/27  | –   | <b>M3-FA44U-080/19C08L</b>     | <b>M3-FA44U-080/19W08L</b>     |
| 8,0  | 63  | 19 | 8,0  | 7,8/27  | 0,5 | <b>M3-FA44U-080/19C08L R05</b> | <b>M3-FA44U-080/19W08L R05</b> |
| 10,0 | 72  | 22 | 10,0 | 9,8/32  | –   | <b>M3-FA44U-100/22C10L</b>     | <b>M3-FA44U-100/22W10L</b>     |
| 10,0 | 72  | 22 | 10,0 | 9,8/32  | 1,0 | <b>M3-FA44U-100/22C10L R1</b>  | <b>M3-FA44U-100/22W10L R1</b>  |
| 12,0 | 83  | 26 | 12,0 | 11,8/38 | –   | <b>M3-FA44U-120/26C12L</b>     | <b>M3-FA44U-120/26W12L</b>     |
| 12,0 | 83  | 26 | 12,0 | 11,8/38 | 1,0 | <b>M3-FA44U-120/26C12L R1</b>  | <b>M3-FA44U-120/26W12L R1</b>  |
| 14,0 | 88  | 30 | 14,0 | 13,7/44 | –   | <b>M3-FA44U-140/30C14L</b>     | <b>M3-FA44U-140/30W14L</b>     |
| 14,0 | 88  | 30 | 14,0 | 13,7/44 | 1,0 | <b>M3-FA44U-140/30C14L R1</b>  | <b>M3-FA44U-140/30W14L R1</b>  |
| 16,0 | 92  | 32 | 16,0 | 15,7/44 | –   | <b>M3-FA44U-160/32C16L</b>     | <b>M3-FA44U-160/32W16L</b>     |
| 16,0 | 92  | 32 | 16,0 | 15,7/44 | 1,5 | <b>M3-FA44U-160/32C6L R15</b>  | <b>M3-FA44U-160/32W16L R15</b> |
| 18,0 | 100 | 36 | 18,0 | 17,7/50 | –   | <b>M3-FA44U-180/36C18L</b>     | <b>M3-FA44U-180/36W18L</b>     |
| 18,0 | 100 | 36 | 18,0 | 17,7/50 | 1,5 | <b>M3-FA44U-180/36C18L R15</b> | <b>M3-FA44U-180/36W18L R15</b> |
| 20,0 | 104 | 38 | 20,0 | 19,7/54 | –   | <b>M3-FA44U-200/38C20L</b>     | <b>M3-FA44U-200/38W20L</b>     |
| 20,0 | 104 | 38 | 20,0 | 19,7/54 | 1,5 | <b>M3-FA44U-200/38C20L R15</b> | <b>M3-FA44U-200/38W20L R15</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

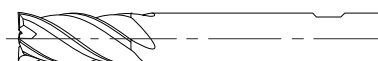
# M4-FF13



- ◆ Четырёхзубая фреза
- ◆ Центральные режущие кромки
- ◆ Для обработки высоколегированных сталей до 44 HRC



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 3,0   | 50 | 6  | 3,0  | <b>M4-FF13-030/06C03S</b> | —                         |
| 3,5   | 50 | 7  | 4,0  | <b>M4-FF13-035/07C04S</b> | —                         |
| 4,0   | 50 | 8  | 4,0  | <b>M4-FF13-040/08C04S</b> | —                         |
| 4,5   | 50 | 8  | 6,0  | <b>M4-FF13-045/08C06S</b> | <b>M4-FF13-045/08W06S</b> |
| 5,0   | 50 | 10 | 6,0  | <b>M4-FF13-050/10C06S</b> | <b>M4-FF13-050/10W06S</b> |
| 5,5   | 50 | 10 | 6,0  | <b>M4-FF13-055/10C06S</b> | <b>M4-FF13-055/10W06S</b> |
| 6,0   | 50 | 12 | 6,0  | <b>M4-FF13-060/12C06S</b> | <b>M4-FF13-060/12W06S</b> |
| 6,5   | 58 | 14 | 8,0  | <b>M4-FF13-065/14C08S</b> | <b>M4-FF13-065/14W08S</b> |
| 7,0   | 58 | 14 | 8,0  | <b>M4-FF13-070/14C08S</b> | <b>M4-FF13-070/14W08S</b> |
| 8,0   | 58 | 16 | 8,0  | <b>M4-FF13-080/16C08S</b> | <b>M4-FF13-080/16W08S</b> |
| 9,0   | 58 | 16 | 10,0 | <b>M4-FF13-090/16C10S</b> | <b>M4-FF13-090/16W10S</b> |
| 10,0  | 66 | 18 | 10,0 | <b>M4-FF13-100/18C10S</b> | <b>M4-FF13-100/18W10S</b> |
| 11,0  | 66 | 18 | 12,0 | <b>M4-FF13-110/18C12S</b> | <b>M4-FF13-110/18W12S</b> |
| 12,0  | 73 | 20 | 12,0 | <b>M4-FF13-120/20C12S</b> | <b>M4-FF13-120/20W12S</b> |
| 13,0  | 73 | 20 | 14,0 | <b>M4-FF13-130/20C14S</b> | <b>M4-FF13-130/20W14S</b> |
| 14,0  | 75 | 22 | 14,0 | <b>M4-FF13-140/22C14S</b> | <b>M4-FF13-140/22W14S</b> |
| 15,0  | 75 | 22 | 16,0 | <b>M4-FF13-150/22C16S</b> | <b>M4-FF13-150/22W16S</b> |
| 16,0  | 82 | 26 | 16,0 | <b>M4-FF13-160/26C16S</b> | <b>M4-FF13-160/26W16S</b> |
| 18,0  | 82 | 26 | 18,0 | <b>M4-FF13-180/26C18S</b> | <b>M4-FF13-180/26W18S</b> |
| 20,0  | 92 | 30 | 20,0 | <b>M4-FF13-200/30C20S</b> | <b>M4-FF13-200/30W20S</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА) | WELDON (НВ)        |
|-------|-----|----|------|---------------------|--------------------|
| 3,0   | 57  | 8  | 6,0  | M4-FF13-030/08C06M  | M4-FF13-030/08W06M |
| 3,5   | 57  | 10 | 6,0  | M4-FF13-035/10C06M  | M4-FF13-035/10W06M |
| 4,0   | 57  | 11 | 6,0  | M4-FF13-040/11C06M  | M4-FF13-040/11W06M |
| 4,5   | 57  | 11 | 6,0  | M4-FF13-045/11C06M  | M4-FF13-045/11W06M |
| 5,0   | 57  | 13 | 6,0  | M4-FF13-050/13C06M  | M4-FF13-050/13W06M |
| 5,5   | 57  | 13 | 6,0  | M4-FF13-055/13C06M  | M4-FF13-055/13W06M |
| 6,0   | 57  | 13 | 6,0  | M4-FF13-060/13C06M  | M4-FF13-060/13W06M |
| 6,5   | 63  | 16 | 8,0  | M4-FF13-065/16C08M  | M4-FF13-065/16W08M |
| 7,0   | 63  | 16 | 8,0  | M4-FF13-070/16C08M  | M4-FF13-070/16W08M |
| 8,0   | 63  | 19 | 8,0  | M4-FF13-080/19C08M  | M4-FF13-080/19W08M |
| 9,0   | 72  | 19 | 10,0 | M4-FF13-090/19C10M  | M4-FF13-090/19W10M |
| 10,0  | 72  | 22 | 10,0 | M4-FF13-100/22C10M  | M4-FF13-100/22W10M |
| 12,0  | 83  | 26 | 12,0 | M4-FF13-120/26C12M  | M4-FF13-120/26W12M |
| 14,0  | 83  | 26 | 14,0 | M4-FF13-140/26C14M  | M4-FF13-140/26W14M |
| 16,0  | 92  | 32 | 16,0 | M4-FF13-160/32C16M  | M4-FF13-160/32W16M |
| 18,0  | 92  | 32 | 18,0 | M4-FF13-180/32C18M  | M4-FF13-180/32W18M |
| 20,0  | 104 | 38 | 20,0 | M4-FF13-200/38C20M  | M4-FF13-200/38W20M |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА) | WELDON (НВ)        |
|-------|-----|----|------|---------------------|--------------------|
| 3,0   | 57  | 19 | 6,0  | M4-FF13-030/19C06L  | M4-FF13-030/19W06L |
| 4,0   | 57  | 19 | 6,0  | M4-FF13-040/19C06L  | M4-FF13-040/19W06L |
| 5,0   | 75  | 30 | 6,0  | M4-FF13-050/30C06L  | M4-FF13-050/30W06L |
| 6,0   | 75  | 30 | 6,0  | M4-FF13-060/30C06L  | M4-FF13-060/30W06L |
| 8,0   | 75  | 30 | 8,0  | M4-FF13-080/30C08L  | M4-FF13-080/30W08L |
| 10,0  | 75  | 30 | 10,0 | M4-FF13-100/30C10L  | M4-FF13-100/30W10L |
| 12,0  | 100 | 45 | 12,0 | M4-FF13-120/45C12L  | M4-FF13-120/45W12L |
| 14,0  | 100 | 45 | 14,0 | M4-FF13-140/45C14L  | M4-FF13-140/45W14L |
| 16,0  | 100 | 45 | 16,0 | M4-FF13-160/45C16L  | M4-FF13-160/45W16L |
| 18,0  | 100 | 45 | 18,0 | M4-FF13-180/45C18L  | M4-FF13-180/45W18L |
| 20,0  | 100 | 45 | 20,0 | M4-FF13-200/45C20L  | M4-FF13-200/45W20L |
| 25,0  | 120 | 45 | 25,0 | M4-FF13-250/45C25L  | M4-FF13-250/45W25L |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



## Сверхдлинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 4,0   | 75  | 25 | 6,0  | <b>M4-FF13-040/25C06X</b> | <b>M4-FF13-040/25W06X</b> |
| 4,0   | 75  | 30 | 6,0  | <b>M4-FF13-040/30C06X</b> | <b>M4-FF13-040/30W06X</b> |
| 6,0   | 100 | 40 | 6,0  | <b>M4-FF13-060/40C06X</b> | <b>M4-FF13-060/40W06X</b> |
| 8,0   | 100 | 40 | 8,0  | <b>M4-FF13-080/40C08X</b> | <b>M4-FF13-080/40W08X</b> |
| 10,0  | 100 | 40 | 10,0 | <b>M4-FF13-100/40C10X</b> | <b>M4-FF13-100/40W10X</b> |
| 10,0  | 125 | 60 | 10,0 | <b>M4-FF13-100/60C10X</b> | <b>M4-FF13-100/60W10X</b> |
| 12,0  | 150 | 45 | 12,0 | <b>M4-FF13-120/45C12X</b> | <b>M4-FF13-120/45W12X</b> |
| 12,0  | 150 | 65 | 12,0 | <b>M4-FF13-120/65C12X</b> | <b>M4-FF13-120/65W12X</b> |
| 12,0  | 150 | 75 | 12,0 | <b>M4-FF13-120/75C12X</b> | <b>M4-FF13-120/75W12X</b> |
| 14,0  | 150 | 75 | 14,0 | <b>M4-FF13-140/75C14X</b> | <b>M4-FF13-140/75W14X</b> |
| 16,0  | 150 | 65 | 16,0 | <b>M4-FF13-160/65C16X</b> | <b>M4-FF13-160/65W16X</b> |
| 16,0  | 150 | 75 | 16,0 | <b>M4-FF13-160/75C16X</b> | <b>M4-FF13-160/75W16X</b> |
| 16,0  | 150 | 90 | 16,0 | <b>M4-FF13-160/90C16X</b> | <b>M4-FF13-160/90W16X</b> |
| 18,0  | 150 | 65 | 18,0 | <b>M4-FF13-180/65C18X</b> | <b>M4-FF13-180/65W18X</b> |
| 18,0  | 150 | 75 | 18,0 | <b>M4-FF13-180/75C18X</b> | <b>M4-FF13-180/75W18X</b> |
| 20,0  | 150 | 65 | 20,0 | <b>M4-FF13-200/65C20X</b> | <b>M4-FF13-200/65W20X</b> |
| 20,0  | 150 | 75 | 20,0 | <b>M4-FF13-200/75C20X</b> | <b>M4-FF13-200/75W20X</b> |
| 20,0  | 150 | 90 | 20,0 | <b>M4-FF13-200/90C20X</b> | <b>M4-FF13-200/90W20X</b> |
| 25,0  | 150 | 75 | 25,0 | <b>M4-FF13-250/75C25X</b> | <b>M4-FF13-250/75W25X</b> |
| 25,0  | 150 | 90 | 25,0 | <b>M4-FF13-250/90C25X</b> | <b>M4-FF13-250/90W25X</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

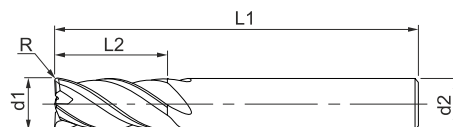
# M4-FF33



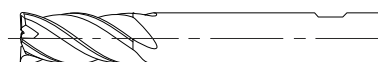
- ◆ Четырёхзубая копировальная фреза
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки стали и чугуна



DIN6535 HA (ЦИЛИНДРИЧЕСКАЯ)



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|----|----|------|-----|-------------------------------|-------------------------------|
| 4,0   | 50 | 10 | 6,0  | 0,5 | <b>M4-FF33-040/10C06S R05</b> | <b>M4-FF33-040/10W06S R05</b> |
| 4,0   | 50 | 10 | 6,0  | 1,0 | <b>M4-FF33-040/10C06S R1</b>  | <b>M4-FF33-040/10W06S R1</b>  |
| 5,0   | 50 | 10 | 6,0  | 0,5 | <b>M4-FF33-050/10C06S R05</b> | <b>M4-FF33-050/10W06S R05</b> |
| 5,0   | 50 | 10 | 6,0  | 1,0 | <b>M4-FF33-050/10C06S R1</b>  | <b>M4-FF33-050/10W06S R1</b>  |
| 6,0   | 50 | 10 | 6,0  | 0,5 | <b>M4-FF33-060/10C06S R05</b> | <b>M4-FF33-060/10W06S R05</b> |
| 6,0   | 50 | 10 | 6,0  | 1,0 | <b>M4-FF33-060/10C06S R1</b>  | <b>M4-FF33-060/10W06S R1</b>  |
| 6,0   | 50 | 10 | 6,0  | 1,5 | <b>M4-FF33-060/10C06S R15</b> | <b>M4-FF33-060/10W06S R15</b> |
| 8,0   | 58 | 10 | 8,0  | 0,5 | <b>M4-FF33-080/10C08S R05</b> | <b>M4-FF33-080/10W08S R05</b> |
| 8,0   | 58 | 10 | 8,0  | 1,0 | <b>M4-FF33-080/10C08S R1</b>  | <b>M4-FF33-080/10W08S R1</b>  |
| 8,0   | 58 | 10 | 8,0  | 1,5 | <b>M4-FF33-080/10C08S R15</b> | <b>M4-FF33-080/10W08S R15</b> |
| 10,0  | 66 | 15 | 10,0 | 0,5 | <b>M4-FF33-100/15C10S R05</b> | <b>M4-FF33-100/15W10S R05</b> |
| 10,0  | 66 | 15 | 10,0 | 1,0 | <b>M4-FF33-100/15C10S R1</b>  | <b>M4-FF33-100/15W10S R1</b>  |
| 10,0  | 66 | 15 | 10,0 | 2,0 | <b>M4-FF33-100/15C10S R2</b>  | <b>M4-FF33-100/15W10S R2</b>  |
| 12,0  | 73 | 15 | 12,0 | 0,5 | <b>M4-FF33-120/15C12S R05</b> | <b>M4-FF33-120/15W12S R05</b> |
| 12,0  | 73 | 15 | 12,0 | 1,0 | <b>M4-FF33-120/15C12S R1</b>  | <b>M4-FF33-120/15W12S R1</b>  |
| 12,0  | 73 | 15 | 12,0 | 2,0 | <b>M4-FF33-120/15C12S R2</b>  | <b>M4-FF33-120/15W12S R2</b>  |
| 14,0  | 73 | 15 | 14,0 | 0,5 | <b>M4-FF33-140/15C14S R05</b> | <b>M4-FF33-140/15W14S R05</b> |
| 14,0  | 73 | 15 | 14,0 | 1,0 | <b>M4-FF33-140/15C14S R1</b>  | <b>M4-FF33-140/15W14S R1</b>  |
| 14,0  | 73 | 15 | 14,0 | 2,0 | <b>M4-FF33-140/15C14S R2</b>  | <b>M4-FF33-140/15W14S R2</b>  |
| 16,0  | 75 | 20 | 16,0 | 1,0 | <b>M4-FF33-160/20C16S R1</b>  | <b>M4-FF33-160/20W16S R1</b>  |
| 16,0  | 75 | 20 | 16,0 | 2,0 | <b>M4-FF33-160/20C16S R2</b>  | <b>M4-FF33-160/20W16S R2</b>  |
| 16,0  | 75 | 20 | 16,0 | 3,0 | <b>M4-FF33-160/20C16S R3</b>  | <b>M4-FF33-160/20W16S R3</b>  |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Короткая серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)   | WELDON (HB)           |
|-------|----|----|------|-----|-----------------------|-----------------------|
| 18,0  | 82 | 20 | 18,0 | 1,0 | M4-FF33-180/20C18S R1 | M4-FF33-180/20W18S R1 |
| 18,0  | 82 | 20 | 18,0 | 2,0 | M4-FF33-180/20C18S R2 | M4-FF33-180/20W18S R2 |
| 18,0  | 82 | 20 | 18,0 | 3,0 | M4-FF33-180/20C18S R3 | M4-FF33-180/20W18S R3 |
| 20,0  | 93 | 20 | 20,0 | 1,0 | M4-FF33-200/20C20S R1 | M4-FF33-200/20W20S R1 |
| 20,0  | 93 | 20 | 20,0 | 2,0 | M4-FF33-200/20C20S R2 | M4-FF33-200/20W20S R2 |
| 20,0  | 93 | 20 | 20,0 | 3,0 | M4-FF33-200/20C20S R3 | M4-FF33-200/20W20S R3 |

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)    | WELDON (HB)            |
|-------|-----|----|------|-----|------------------------|------------------------|
| 4,0   | 58  | 20 | 6,0  | 0,5 | M4-FF33-040/20C06M R05 | M4-FF33-040/20W06M R05 |
| 4,0   | 58  | 20 | 6,0  | 1,0 | M4-FF33-040/20C06M R1  | M4-FF33-040/20W06M R1  |
| 5,0   | 58  | 20 | 6,0  | 0,5 | M4-FF33-050/20C06M R05 | M4-FF33-050/20W06M R05 |
| 5,0   | 58  | 20 | 6,0  | 1,0 | M4-FF33-050/20C06M R1  | M4-FF33-050/20W06M R1  |
| 6,0   | 75  | 30 | 6,0  | 0,5 | M4-FF33-060/30C06M R05 | M4-FF33-060/30W06M R05 |
| 6,0   | 75  | 30 | 6,0  | 1,0 | M4-FF33-060/30C06M R1  | M4-FF33-060/30W06M R1  |
| 6,0   | 75  | 30 | 6,0  | 1,5 | M4-FF33-060/30C06M R15 | M4-FF33-060/30W06M R15 |
| 8,0   | 75  | 30 | 8,0  | 0,5 | M4-FF33-080/30C08M R05 | M4-FF33-080/30W08M R05 |
| 8,0   | 75  | 30 | 8,0  | 1,0 | M4-FF33-080/30C08M R1  | M4-FF33-080/30W08M R1  |
| 8,0   | 75  | 30 | 8,0  | 1,5 | M4-FF33-080/30C08M R15 | M4-FF33-080/30W08M R15 |
| 10,0  | 75  | 35 | 10,0 | 0,5 | M4-FF33-100/35C10M R05 | M4-FF33-100/35W10M R05 |
| 10,0  | 75  | 35 | 10,0 | 1,0 | M4-FF33-100/35C10M R1  | M4-FF33-100/35W10M R1  |
| 10,0  | 75  | 35 | 10,0 | 2,0 | M4-FF33-100/35C10M R2  | M4-FF33-100/35W10M R2  |
| 12,0  | 100 | 45 | 12,0 | 0,5 | M4-FF33-120/45C12M R05 | M4-FF33-120/45W12M R05 |
| 12,0  | 100 | 45 | 12,0 | 1,0 | M4-FF33-120/45C12M R1  | M4-FF33-120/45W12M R1  |
| 12,0  | 100 | 45 | 12,0 | 2,0 | M4-FF33-120/45C12M R2  | M4-FF33-120/45W12M R2  |
| 14,0  | 100 | 45 | 14,0 | 0,5 | M4-FF33-140/45C14M R05 | M4-FF33-140/45W14M R05 |
| 14,0  | 100 | 45 | 14,0 | 1,0 | M4-FF33-140/45C14M R1  | M4-FF33-140/45W14M R1  |
| 14,0  | 100 | 45 | 14,0 | 2,0 | M4-FF33-140/45C14M R2  | M4-FF33-140/45W14M R2  |
| 16,0  | 100 | 50 | 16,0 | 1,0 | M4-FF33-160/50C16M R1  | M4-FF33-160/50W16M R1  |
| 16,0  | 100 | 50 | 16,0 | 2,0 | M4-FF33-160/50C16M R2  | M4-FF33-160/50W16M R2  |
| 16,0  | 100 | 50 | 16,0 | 3,0 | M4-FF33-160/50C16M R3  | M4-FF33-160/50W16M R3  |
| 18,0  | 100 | 50 | 18,0 | 1,0 | M4-FF33-180/50C18M R1  | M4-FF33-180/50W18M R1  |
| 18,0  | 100 | 50 | 18,0 | 2,0 | M4-FF33-180/50C18M R2  | M4-FF33-180/50W18M R2  |
| 18,0  | 100 | 50 | 18,0 | 3,0 | M4-FF33-180/50C18M R3  | M4-FF33-180/50W18M R3  |
| 20,0  | 120 | 55 | 20,0 | 1,0 | M4-FF33-200/55C20M R1  | M4-FF33-200/55W20M R1  |
| 20,0  | 120 | 55 | 20,0 | 2,0 | M4-FF33-200/55C20M R2  | M4-FF33-200/55W20M R2  |
| 20,0  | 120 | 55 | 20,0 | 3,0 | M4-FF33-200/55C20M R3  | M4-FF33-200/55W20M R3  |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)    | WELDON (HB)            |
|-------|-----|----|------|-----|------------------------|------------------------|
| 4,0   | 75  | 25 | 6,0  | 0,5 | M4-FF33-040/25C06L R05 | M4-FF33-040/25W06L R05 |
| 4,0   | 75  | 25 | 6,0  | 1,0 | M4-FF33-040/25C06L R1  | M4-FF33-040/25W06L R1  |
| 5,0   | 75  | 30 | 6,0  | 0,5 | M4-FF33-050/30C06L R05 | M4-FF33-050/30W06L R05 |
| 5,0   | 75  | 30 | 6,0  | 1,0 | M4-FF33-050/30C06L R1  | M4-FF33-050/30W06L R1  |
| 6,0   | 100 | 40 | 6,0  | 0,5 | M4-FF33-060/40C06L R05 | M4-FF33-060/40W06L R05 |
| 6,0   | 100 | 40 | 6,0  | 1,0 | M4-FF33-060/40C06L R1  | M4-FF33-060/40W06L R1  |
| 6,0   | 100 | 40 | 6,0  | 1,5 | M4-FF33-060/40C06L R15 | M4-FF33-060/40W06L R15 |
| 8,0   | 100 | 40 | 8,0  | 0,5 | M4-FF33-080/40C08L R05 | M4-FF33-080/40W08L R05 |
| 8,0   | 100 | 40 | 8,0  | 1,0 | M4-FF33-080/40C08L R1  | M4-FF33-080/40W08L R1  |
| 8,0   | 100 | 40 | 8,0  | 1,5 | M4-FF33-080/40C08L R15 | M4-FF33-80/40W08L R15  |
| 10,0  | 100 | 50 | 10,0 | 0,5 | M4-FF33-100/50C10L R05 | M4-FF33-100/50W10L R05 |
| 10,0  | 100 | 50 | 10,0 | 1,0 | M4-FF33-100/50C10L R1  | M4-FF33-100/50W10L R1  |
| 10,0  | 100 | 50 | 10,0 | 2,0 | M4-FF33-100/50C10L R2  | M4-FF33-100/50W10L R2  |
| 12,0  | 150 | 75 | 12,0 | 0,5 | M4-FF33-120/75C12L R05 | M4-FF33-120/75W12L R05 |
| 12,0  | 150 | 75 | 12,0 | 1,0 | M4-FF33-120/75C12L R1  | M4-FF33-120/75W12L R1  |
| 12,0  | 150 | 75 | 12,0 | 2,0 | M4-FF33-120/75C12L R2  | M4-FF33-120/75W12L R2  |
| 14,0  | 150 | 75 | 14,0 | 0,5 | M4-FF33-140/75C14L R05 | M4-FF33-140/75W14L R05 |
| 14,0  | 150 | 75 | 14,0 | 1,0 | M4-FF33-140/75C14L R1  | M4-FF33-140/75W14L R1  |
| 14,0  | 150 | 75 | 14,0 | 2,0 | M4-FF33-140/75C14L R2  | M4-FF33-140/75W14L R2  |
| 16,0  | 150 | 75 | 16,0 | 1,0 | M4-FF33-160/75C16L R1  | M4-FF33-160/75W16L R1  |
| 16,0  | 150 | 75 | 16,0 | 2,0 | M4-FF33-160/75C16L R2  | M4-FF33-160/75W16L R2  |
| 16,0  | 150 | 75 | 16,0 | 3,0 | M4-FF33-160/75C16L R3  | M4-FF33-160/75W16L R3  |
| 18,0  | 150 | 75 | 18,0 | 1,0 | M4-FF33-180/75C18L R1  | M4-FF33-180/75W18L R1  |
| 18,0  | 150 | 75 | 18,0 | 2,0 | M4-FF33-180/75C18L R2  | M4-FF33-180/75W18L R2  |
| 18,0  | 150 | 75 | 18,0 | 3,0 | M4-FF33-180/75C18L R3  | M4-FF33-180/75W18L R3  |
| 20,0  | 150 | 75 | 20,0 | 1,0 | M4-FF33-200/75C20L R1  | M4-FF33-200/75W20L R1  |
| 20,0  | 150 | 75 | 20,0 | 2,0 | M4-FF33-200/75C20L R2  | M4-FF33-200/75W20L R2  |
| 20,0  | 150 | 75 | 20,0 | 3,0 | M4-FF33-200/75C20L R3  | M4-FF33-200/75W20L R3  |

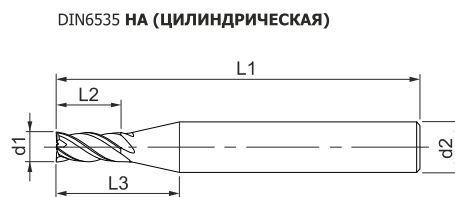
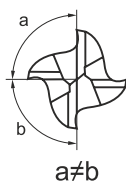


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

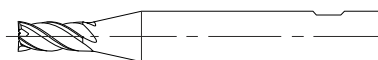
# M4-FD18



- ◆ Четырёхзубая фреза усиленная шейка
- ◆ Антивибрационная геометрия, НРС
- ◆ Для обработки стали, чугуна и жаропрочных материалов



DIN6535 HB (WELDON)



## Короткая серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 4  | 10 | 50 | 6,0  | <b>M4-FD18-030/04C06S</b> | <b>M4-FD18-030/04W06S</b> |
| 4,0  | 6  | 12 | 50 | 6,0  | <b>M4-FD18-040/06C06S</b> | <b>M4-FD18-040/06W06S</b> |
| 5,0  | 8  | 14 | 50 | 6,0  | <b>M4-FD18-050/08C06S</b> | <b>M4-FD18-050/08W06S</b> |
| 6,0  | 9  | –  | 50 | 6,0  | <b>M4-FD18-060/09C06S</b> | <b>M4-FD18-060/09W06S</b> |

## Средняя серия

| d1h9 | L2  | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|-----|----|----|------|---------------------------|---------------------------|
| 3,0  | 6,0 | 16 | 56 | 6,0  | <b>M4-FD18-030/06C06M</b> | <b>M4-FD18-030/06W06M</b> |
| 4,0  | 8,0 | 18 | 56 | 6,0  | <b>M4-FD18-040/08C06M</b> | <b>M4-FD18-040/08W06M</b> |
| 5,0  | 10  | 20 | 56 | 6,0  | <b>M4-FD18-050/10C06M</b> | <b>M4-FD18-050/10W06M</b> |
| 6,0  | 12  | –  | 56 | 6,0  | <b>M4-FD18-060/12C06M</b> | <b>M4-FD18-060/12W06M</b> |

## Длинная серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 9  | 19 | 67 | 6,0  | <b>M4-FD18-030/09C06L</b> | <b>M4-FD18-030/09W06L</b> |
| 4,0  | 12 | 22 | 67 | 6,0  | <b>M4-FD18-040/12C06L</b> | <b>M4-FD18-040/12W06L</b> |
| 5,0  | 15 | 25 | 67 | 6,0  | <b>M4-FD18-050/15C06L</b> | <b>M4-FD18-050/15W06L</b> |
| 6,0  | 18 | –  | 67 | 6,0  | <b>M4-FD18-060/18C06L</b> | <b>M4-FD18-060/18W06L</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Сверхдлинная серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 12 | 22 | 80 | 6,0  | <b>M4-FD18-030/12C06X</b> | <b>M4-FD18-030/12W06X</b> |
| 4,0  | 16 | 26 | 80 | 6,0  | <b>M4-FD18-040/16C06X</b> | <b>M4-FD18-040/16W06X</b> |
| 5,0  | 20 | 30 | 80 | 6,0  | <b>M4-FD18-050/20C06X</b> | <b>M4-FD18-050/20W06X</b> |
| 6,0  | 24 | –  | 80 | 6,0  | <b>M4-FD18-060/24C06X</b> | <b>M4-FD18-060/24W06X</b> |

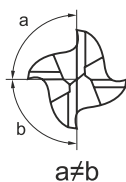


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

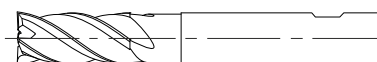
# M4-FD18U



- ◆ Четырёхзубая фреза усиленная HPC
- ◆ Антивибрационная геометрия
- ◆ Для обработки стали, чугуна и жаропрочных материалов



DIN6535 HB (WELDON)



## Короткая серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 3,0   | 6  | 16 | 54  | 2,8  | 6,0  | <b>M4-FD18U-030/06C06S</b> | <b>M4-FD18U-030/06W06S</b> |
| 4,0   | 8  | 18 | 54  | 3,8  | 6,0  | <b>M4-FD18U-040/08C06S</b> | <b>M4-FD18U-040/08W06S</b> |
| 5,0   | 9  | 18 | 54  | 4,8  | 6,0  | <b>M4-FD18U-050/09C06S</b> | <b>M4-FD18U-050/09W06S</b> |
| 6,0   | 10 | 18 | 54  | 5,5  | 6,0  | <b>M4-FD18U-060/10C06S</b> | <b>M4-FD18U-060/10W06S</b> |
| 7,0   | 12 | 21 | 58  | 6,5  | 8,0  | <b>M4-FD18U-070/12C08S</b> | <b>M4-FD18U-070/12W08S</b> |
| 8,0   | 12 | 21 | 58  | 7,5  | 8,0  | <b>M4-FD18U-080/12C08S</b> | <b>M4-FD18U-080/12W08S</b> |
| 9,0   | 14 | 24 | 66  | 8,5  | 10,0 | <b>M4-FD18U-090/14C10S</b> | <b>M4-FD18U-090/14W10S</b> |
| 10,0  | 14 | 24 | 66  | 9,5  | 10,0 | <b>M4-FD18U-100/14C10S</b> | <b>M4-FD18U-100/14W10S</b> |
| 11,0  | 16 | 28 | 73  | 10,5 | 12,0 | <b>M4-FD18U-110/16C12S</b> | <b>M4-FD18U-110/16W12S</b> |
| 12,0  | 16 | 28 | 73  | 11,0 | 12,0 | <b>M4-FD18U-120/16C12S</b> | <b>M4-FD18U-120/16W12S</b> |
| 13,0  | 16 | 28 | 73  | 12,0 | 14,0 | <b>M4-FD18U-130/16C14S</b> | <b>M4-FD18U-130/16W14S</b> |
| 14,0  | 18 | 30 | 75  | 13,0 | 14,0 | <b>M4-FD18U-140/18C14S</b> | <b>M4-FD18U-140/18W14S</b> |
| 16,0  | 22 | 32 | 82  | 15,0 | 16,0 | <b>M4-FD18U-160/22C16S</b> | <b>M4-FD18U-160/22W16S</b> |
| 18,0  | 24 | 50 | 90  | 17,0 | 18,0 | <b>M4-FD18U-180/24C18S</b> | <b>M4-FD18U-180/24W18S</b> |
| 20,0  | 26 | 50 | 92  | 19,0 | 20,0 | <b>M4-FD18U-200/26C20S</b> | <b>M4-FD18U-200/26W20S</b> |
| 25,0  | 32 | 55 | 102 | 24,0 | 25,0 | <b>M4-FD18U-250/32C25S</b> | <b>M4-FD18U-250/32W25S</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Средняя серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HА) | WELDON (HВ)         |
|-------|----|----|-----|------|------|---------------------|---------------------|
| 3,0   | 8  | 21 | 57  | 2,8  | 6,0  | M4-FD18U-030/08C06M | M4-FD18U-030/08W06M |
| 4,0   | 11 | 21 | 57  | 3,8  | 6,0  | M4-FD18U-040/11C06M | M4-FD18U-040/11W06M |
| 5,0   | 13 | 21 | 57  | 4,8  | 6,0  | M4-FD18U-050/13C06M | M4-FD18U-050/13W06M |
| 6,0   | 13 | 21 | 57  | 5,5  | 6,0  | M4-FD18U-060/13C06M | M4-FD18U-060/13W06M |
| 7,0   | 19 | 27 | 63  | 6,5  | 8,0  | M4-FD18U-070/19C08M | M4-FD18U-070/19W08M |
| 8,0   | 19 | 27 | 63  | 7,5  | 8,0  | M4-FD18U-080/19C08M | M4-FD18U-080/19W08M |
| 9,0   | 22 | 32 | 72  | 8,5  | 10,0 | M4-FD18U-090/22C10M | M4-FD18U-090/22W10M |
| 10,0  | 22 | 32 | 72  | 9,5  | 10,0 | M4-FD18U-100/22C10M | M4-FD18U-100/22W10M |
| 12,0  | 26 | 38 | 83  | 11,0 | 12,0 | M4-FD18U-120/26C12M | M4-FD18U-120/26W12M |
| 13,0  | 26 | 42 | 83  | 12,0 | 14,0 | M4-FD18U-130/26C14M | M4-FD18U-130/26W14M |
| 14,0  | 26 | 42 | 83  | 13,0 | 14,0 | M4-FD18U-140/26C14M | M4-FD18U-140/26W14M |
| 16,0  | 32 | 44 | 92  | 15,0 | 16,0 | M4-FD18U-160/32C16M | M4-FD18U-160/32W16M |
| 18,0  | 32 | 50 | 94  | 17,0 | 18,0 | M4-FD18U-180/32C18M | M4-FD18U-180/32W18M |
| 20,0  | 38 | 54 | 104 | 19,0 | 20,0 | M4-FD18U-200/38C20M | M4-FD18U-200/38W20M |
| 25,0  | 38 | 60 | 108 | 24,0 | 25,0 | M4-FD18U-250/38C25M | M4-FD18U-250/38W25M |

## Длинная серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HА) | WELDON (HВ)         |
|-------|----|----|-----|------|------|---------------------|---------------------|
| 3,0   | 8  | 22 | 80  | 2,8  | 6,0  | M4-FD18U-030/08C06L | M4-FD18U-030/08W06L |
| 4,0   | 11 | 22 | 80  | 3,8  | 6,0  | M4-FD18U-040/11C06L | M4-FD18U-040/11W06L |
| 5,0   | 21 | 31 | 80  | 4,8  | 6,0  | M4-FD18U-050/21C06L | M4-FD18U-050/21W06L |
| 6,0   | 22 | 31 | 80  | 5,5  | 6,0  | M4-FD18U-060/22C06L | M4-FD18U-060/22W06L |
| 7,0   | 28 | 40 | 80  | 6,5  | 8,0  | M4-FD18U-070/28C08L | M4-FD18U-070/28W08L |
| 8,0   | 28 | 40 | 80  | 7,5  | 8,0  | M4-FD18U-080/28C08L | M4-FD18U-080/28W08L |
| 9,0   | 33 | 43 | 100 | 8,5  | 10,0 | M4-FD18U-090/33C10L | M4-FD18U-090/33W10L |
| 10,0  | 33 | 43 | 100 | 9,5  | 10,0 | M4-FD18U-100/33C10L | M4-FD18U-100/33W10L |
| 12,0  | 42 | 52 | 100 | 11,0 | 12,0 | M4-FD18U-120/42C12L | M4-FD18U-120/42W12L |
| 14,0  | 43 | 60 | 100 | 13,0 | 14,0 | M4-FD18U-140/43C14L | M4-FD18U-140/43W14L |
| 16,0  | 45 | 62 | 121 | 15,0 | 16,0 | M4-FD18U-160/45C16L | M4-FD18U-160/45W16L |
| 18,0  | 45 | 62 | 121 | 17,0 | 18,0 | M4-FD18U-180/45C18L | M4-FD18U-180/45W18L |
| 20,0  | 50 | 74 | 128 | 19,0 | 20,0 | M4-FD18U-200/50C20L | M4-FD18U-200/50W20L |
| 25,0  | 50 | 74 | 132 | 24,0 | 25,0 | M4-FD18U-250/50C25L | M4-FD18U-250/50W25L |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



## Сверхдлинная серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)        | WELDON (НВ)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 10,0  | 40 | 50 | 100 | 9,2  | 10,0 | <b>M4-FD18U-100/40C10X</b> | <b>M4-FD18U-100/40W10X</b> |
| 12,0  | 45 | 55 | 150 | 11,0 | 12,0 | <b>M4-FD18U-120/45C12X</b> | <b>M4-FD18U-120/45W12X</b> |
| 14,0  | 48 | 60 | 150 | 13,0 | 14,0 | <b>M4-FD18U-140/48C14X</b> | <b>M4-FD18U-140/48W14X</b> |
| 15,0  | 53 | 99 | 150 | 14,0 | 16,0 | <b>M4-FD18U-150/53C16X</b> | <b>M4-FD18U-150/53W16X</b> |
| 16,0  | 65 | 99 | 150 | 15,0 | 16,0 | <b>M4-FD18U-160/65C16X</b> | <b>M4-FD18U-160/65W16X</b> |
| 18,0  | 65 | 99 | 150 | 17,0 | 18,0 | <b>M4-FD18U-180/65C18X</b> | <b>M4-FD18U-180/65W18X</b> |
| 20,0  | 68 | 99 | 151 | 19,0 | 20,0 | <b>M4-FD18U-200/68C20X</b> | <b>M4-FD18U-200/68W20X</b> |
| 25,0  | 75 | 99 | 157 | 24,0 | 25,0 | <b>M4-FD18U-250/75C25X</b> | <b>M4-FD18U-250/75W25X</b> |

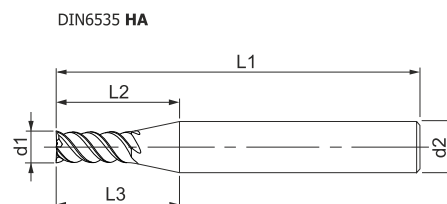
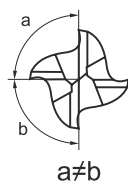


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

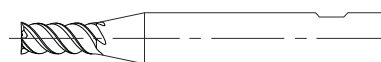
# M4-FD19



- ◆ Четырѐхзубая фреза усиленная
- ◆ Антивибрационная геометрия, НРС
- ◆ Для обработки нержавеющей стали и титана (полированные канавки)



DIN6535 HB



## Короткая серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 4  | 10 | 50 | 6,0  | <b>M4-FD19-030/04C06S</b> | <b>M4-FD19-030/04W06S</b> |
| 4,0  | 6  | 12 | 50 | 6,0  | <b>M4-FD19-040/06C06S</b> | <b>M4-FD19-040/06W06S</b> |
| 5,0  | 8  | 14 | 50 | 6,0  | <b>M4-FD19-050/08C06S</b> | <b>M4-FD19-050/08W06S</b> |
| 6,0  | 9  | —  | 50 | 6,0  | <b>M4-FD19-060/09C06S</b> | <b>M4-FD19-060/09W06S</b> |

## Средняя серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 6  | 16 | 56 | 6,0  | <b>M4-FD19-030/06C06M</b> | <b>M4-FD19-030/06W06M</b> |
| 4,0  | 8  | 18 | 56 | 6,0  | <b>M4-FD19-040/06C06M</b> | <b>M4-FD19-040/06W06M</b> |
| 5,0  | 10 | 20 | 56 | 6,0  | <b>M4-FD19-050/10C06M</b> | <b>M4-FD19-050/10W06M</b> |
| 6,0  | 12 | —  | 56 | 6,0  | <b>M4-FD19-060/12C06M</b> | <b>M4-FD19-060/12W06M</b> |

## Длинная серия

| d1h9 | L2 | L3 | L1 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (HB)               |
|------|----|----|----|------|---------------------------|---------------------------|
| 3,0  | 9  | 19 | 67 | 6,0  | <b>M4-FD19-030/09C06L</b> | <b>M4-FD19-030/09W06L</b> |
| 4,0  | 12 | 22 | 67 | 6,0  | <b>M4-FD19-040/12C06L</b> | <b>M4-FD19-040/12W06L</b> |
| 5,0  | 15 | 25 | 67 | 6,0  | <b>M4-FD19-050/15C06L</b> | <b>M4-FD19-050/15W06L</b> |
| 6,0  | 18 | —  | 67 | 6,0  | <b>M4-FD19-060/18C06L</b> | <b>M4-FD19-060/18W06L</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Сверхдлинная серия

| d1h9 | L2   | L3   | L1   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)       | WELDON (НВ)               |
|------|------|------|------|------|---------------------------|---------------------------|
| 3,0  | 12,0 | 22,0 | 80,0 | 6,0  | <b>M4-FD19-030/12C06X</b> | <b>M4-FD19-030/12W06X</b> |
| 4,0  | 16,0 | 26,0 | 80,0 | 6,0  | <b>M4-FD19-040/16C06X</b> | <b>M4-FD19-040/16W06X</b> |
| 5,0  | 20,0 | 30,0 | 80,0 | 6,0  | <b>M4-FD19-050/20C06X</b> | <b>M4-FD19-050/20W06X</b> |
| 6,0  | 24,0 | —    | 80,0 | 6,0  | <b>M4-FD19-060/24C06X</b> | <b>M4-FD19-060/24W06X</b> |

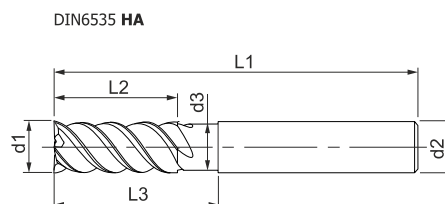
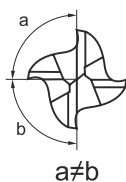
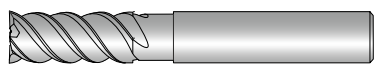


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

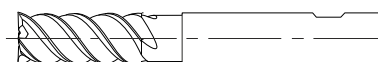
# M4-FD19U



- ◆ Четырёхзубая фреза усиленная
- ◆ Антивибрационная геометрия, НРС
- ◆ Обработка нержавеющей стали и титана (полированные канавки)



DIN6535 HB



## Короткая серия

| d1h10 | L2 | L3 | L1 | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)        | WELDON (HB)                |
|-------|----|----|----|------|------|----------------------------|----------------------------|
| 4,0   | 8  | 18 | 54 | 3,8  | 6,0  | <b>M4-FD19U-040/08C06S</b> | <b>M4-FD19U-040/08W06S</b> |
| 6,0   | 10 | 18 | 54 | 5,5  | 6,0  | <b>M4-FD19U-060/10C06S</b> | <b>M4-FD19U-060/10W06S</b> |
| 8,0   | 12 | 21 | 58 | 7,5  | 8,0  | <b>M4-FD19U-080/12C08S</b> | <b>M4-FD19U-080/12W08S</b> |
| 10,0  | 14 | 24 | 66 | 9,5  | 10,0 | <b>M4-FD19U-100/14C10S</b> | <b>M4-FD19U-100/14W10S</b> |
| 12,0  | 16 | 28 | 73 | 11,0 | 12,0 | <b>M4-FD19U-120/16C12S</b> | <b>M4-FD19U-120/16W12S</b> |
| 14,0  | 18 | 30 | 75 | 13,0 | 14,0 | <b>M4-FD19U-140/18C14S</b> | <b>M4-FD19U-140/18W14S</b> |
| 16,0  | 22 | 32 | 82 | 15,0 | 16,0 | <b>M4-FD19U-160/22C16S</b> | <b>M4-FD19U-160/22W16S</b> |
| 18,0  | 24 | 50 | 84 | 17,0 | 18,0 | <b>M4-FD19U-180/24C18S</b> | <b>M4-FD19U-180/24W18S</b> |
| 20,0  | 26 | 50 | 92 | 19,0 | 20,0 | <b>M4-FD19U-200/26C20S</b> | <b>M4-FD19U-200/26W20S</b> |

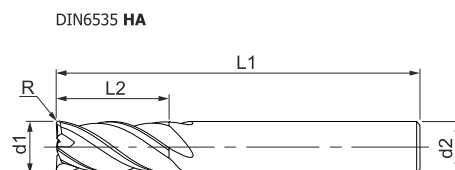
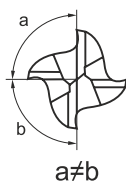
## Средняя серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (НА)        | WELDON (HB)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 4,0   | 11 | 21 | 57  | 3,8  | 6,0  | <b>M4-FD19U-040/11C06M</b> | <b>M4-FD19U-040/11W06M</b> |
| 6,0   | 13 | 21 | 57  | 5,5  | 6,0  | <b>M4-FD19U-060/13C06M</b> | <b>M4-FD19U-060/13W06M</b> |
| 8,0   | 19 | 27 | 63  | 7,5  | 8,0  | <b>M4-FD19U-080/19C08M</b> | <b>M4-FD19U-080/19W08M</b> |
| 10,0  | 22 | 32 | 72  | 9,5  | 10,0 | <b>M4-FD19U-100/22C10M</b> | <b>M4-FD19U-100/22W10M</b> |
| 12,0  | 26 | 38 | 83  | 11,5 | 12,0 | <b>M4-FD19U-120/26C12M</b> | <b>M4-FD19U-120/26W12M</b> |
| 14,0  | 26 | 42 | 83  | 13,0 | 14,0 | <b>M4-FD19U-140/26C14M</b> | <b>M4-FD19U-140/26W14M</b> |
| 16,0  | 32 | 44 | 92  | 15,0 | 16,0 | <b>M4-FD19U-160/32C16M</b> | <b>M4-FD19U-160/32W16M</b> |
| 18,0  | 32 | 50 | 92  | 17,0 | 18,0 | <b>M4-FD19U-180/32C18M</b> | <b>M4-FD19U-180/32W18M</b> |
| 20,0  | 38 | 54 | 104 | 19,0 | 20,0 | <b>M4-FD19U-200/38C20M</b> | <b>M4-FD19U-200/38W20M</b> |

# M4-FD28

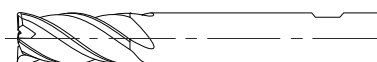


- ◆ Четырёхзубая фреза с угловым радиусом
- ◆ Антивибрационная геометрия, HPC
- ◆ Для чистовой обработки стали, чугуна, а также для обработки закалённых сталей до 50 HRC



DIN6535 HA

DIN6535 HB



## Средняя серия

| d1h10 | L2 | L1 | d2h6 | R    | ЦИЛИНДРИЧЕСКИЙ (HA)            | WELDON (HB)                    |
|-------|----|----|------|------|--------------------------------|--------------------------------|
| 4,0   | 11 | 57 | 6,0  | 0,25 | <b>M4-FD28-040/11C06M R025</b> | <b>M4-FD28-040/11W06M R025</b> |
| 4,0   | 11 | 57 | 6,0  | 0,5  | <b>M4-FD28-040/11C06M R05</b>  | <b>M4-FD28-040/11W06M R05</b>  |
| 4,0   | 11 | 57 | 6,0  | 1,0  | <b>M4-FD28-040/11C06M R1</b>   | <b>M4-FD28-040/11W06M R1</b>   |
| 5,0   | 13 | 57 | 6,0  | 0,5  | <b>M4-FD28-050/13C06M R05</b>  | <b>M4-FD28-050/13W06M R05</b>  |
| 5,0   | 13 | 57 | 6,0  | 1,0  | <b>M4-FD28-050/13C06M R1</b>   | <b>M4-FD28-050/13W06M R1</b>   |
| 5,0   | 13 | 57 | 6,0  | 1,5  | <b>M4-FD28-050/13C06M R15</b>  | <b>M4-FD28-050/13W06M R15</b>  |
| 6,0   | 13 | 57 | 6,0  | 0,5  | <b>M4-FD28-060/13C06M R05</b>  | <b>M4-FD28-060/13W06M R05</b>  |
| 6,0   | 13 | 57 | 6,0  | 1,0  | <b>M4-FD28-060/13C06M R1</b>   | <b>M4-FD28-060/13W06M R1</b>   |
| 6,0   | 13 | 57 | 6,0  | 1,5  | <b>M4-FD28-060/13C06M R15</b>  | <b>M4-FD28-060/13W06M R15</b>  |
| 6,0   | 13 | 57 | 6,0  | 2,0  | <b>M4-FD28-060/13C06M R2</b>   | <b>M4-FD28-060/13W06M R2</b>   |
| 8,0   | 19 | 63 | 8,0  | 0,5  | <b>M4-FD28-080/19C08M R05</b>  | <b>M4-FD28-080/19W08M R05</b>  |
| 8,0   | 19 | 63 | 8,0  | 1,0  | <b>M4-FD28-080/19C08M R1</b>   | <b>M4-FD28-080/19W08M R1</b>   |
| 8,0   | 19 | 63 | 8,0  | 1,5  | <b>M4-FD28-080/19C08M R15</b>  | <b>M4-FD28-080/19W08M R15</b>  |
| 8,0   | 19 | 63 | 8,0  | 2,0  | <b>M4-FD28-080/19C08M R2</b>   | <b>M4-FD28-080/19W08M R2</b>   |
| 10,0  | 22 | 72 | 10,0 | 0,3  | <b>M4-FD28-100/22C10M R03</b>  | <b>M4-FD28-100/22W10M R03</b>  |
| 10,0  | 22 | 72 | 10,0 | 0,5  | <b>M4-FD28-100/22C10M R05</b>  | <b>M4-FD28-100/22W10M R05</b>  |
| 10,0  | 22 | 72 | 10,0 | 1,0  | <b>M4-FD28-100/22C10M R1</b>   | <b>M4-FD28-100/22W10M R1</b>   |
| 10,0  | 22 | 72 | 10,0 | 1,5  | <b>M4-FD28-100/22C10M R15</b>  | <b>M4-FD28-100/22W10M R15</b>  |
| 10,0  | 22 | 72 | 10,0 | 2,0  | <b>M4-FD28-100/22C10M R2</b>   | <b>M4-FD28-100/22W10M R2</b>   |
| 12,0  | 26 | 83 | 12,0 | 0,5  | <b>M4-FD28-120/26C12M R05</b>  | <b>M4-FD28-120/26W12M R05</b>  |
| 12,0  | 26 | 83 | 12,0 | 1,0  | <b>M4-FD28-120/26C12M R1</b>   | <b>M4-FD28-120/26W12M R1</b>   |
| 12,0  | 26 | 83 | 12,0 | 1,5  | <b>M4-FD28-120/26C12M R15</b>  | <b>M4-FD28-120/26W12M R15</b>  |
| 12,0  | 26 | 83 | 12,0 | 2,0  | <b>M4-FD28-120/26C12M R2</b>   | <b>M4-FD28-120/26W12M R2</b>   |
| 14,0  | 26 | 83 | 14,0 | 1,0  | <b>M4-FD28-140/26C14M R1</b>   | <b>M4-FD28-140/26W14M R1</b>   |

## Средняя серия

| d1h10 | L2 | L1  | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|----|-----|------|-----|-------------------------------|-------------------------------|
| 14,0  | 26 | 83  | 14,0 | 1,5 | <b>M4-FD28-140/26C14M R15</b> | <b>M4-FD28-140/26W14M R15</b> |
| 14,0  | 26 | 83  | 14,0 | 2,0 | <b>M4-FD28-140/26C14M R2</b>  | <b>M4-FD28-140/26W14M R2</b>  |
| 16,0  | 32 | 92  | 16,0 | 1,0 | <b>M4-FD28-160/32C16M R1</b>  | <b>M4-FD28-160/32W16M R1</b>  |
| 16,0  | 32 | 92  | 16,0 | 1,5 | <b>M4-FD28-160/32C16M R15</b> | <b>M4-FD28-160/32W16M R15</b> |
| 16,0  | 32 | 92  | 16,0 | 2,0 | <b>M4-FD28-160/32C16M R2</b>  | <b>M4-FD28-160/32W16M R2</b>  |
| 16,0  | 32 | 92  | 16,0 | 2,5 | <b>M4-FD28-160/32C16M R25</b> | <b>M4-FD28-160/32W16M R25</b> |
| 18,0  | 32 | 92  | 18,0 | 1,0 | <b>M4-FD28-180/32C18M R1</b>  | <b>M4-FD28-180/32W18M R1</b>  |
| 18,0  | 32 | 92  | 18,0 | 1,5 | <b>M4-FD28-180/32C18M R15</b> | <b>M4-FD28-180/32W18M R15</b> |
| 18,0  | 32 | 92  | 18,0 | 2,5 | <b>M4-FD28-180/32C18M R25</b> | <b>M4-FD28-180/32W18M R25</b> |
| 20,0  | 38 | 104 | 20,0 | 1,0 | <b>M4-FD28-200/38C20M R1</b>  | <b>M4-FD28-200/38W20M R1</b>  |
| 20,0  | 38 | 104 | 20,0 | 1,5 | <b>M4-FD28-200/38C20M R15</b> | <b>M4-FD28-200/38W20M R15</b> |
| 20,0  | 38 | 104 | 20,0 | 2,0 | <b>M4-FD28-200/38C20M R2</b>  | <b>M4-FD28-200/38W20M R2</b>  |
| 20,0  | 38 | 104 | 20,0 | 2,5 | <b>M4-FD28-200/38C20M R25</b> | <b>M4-FD28-200/38W20M R25</b> |
| 20,0  | 38 | 104 | 20,0 | 3,0 | <b>M4-FD28-200/38C20M R3</b>  | <b>M4-FD28-200/38W20M R3</b>  |
| 20,0  | 38 | 104 | 20,0 | 4,0 | <b>M4-FD28-200/38C20M R4</b>  | <b>M4-FD28-200/38W20M R4</b>  |
| 20,0  | 38 | 104 | 20,0 | 5,0 | <b>M4-FD28-200/38C20M R5</b>  | <b>M4-FD28-200/38W20M R5</b>  |

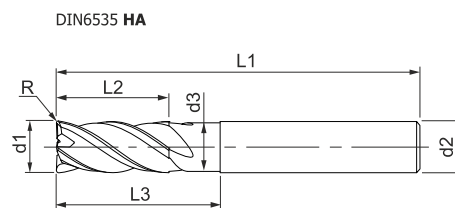
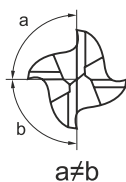


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

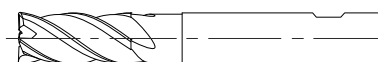
# M4-FV23U



- ◆ Четырёхзубая копировальная фреза с занижением диаметра шейки и угловым радиусом
- ◆ Антивибрационная геометрия, HPS
- ◆ Центральные режущие кромки
- ◆ Для общего применения



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|-------|-----|----|------|------|----|-----|-------------------------|-------------------------|
| 3,0   | 50  | 4  | 3,0  | 2,7  | 14 | 0,3 | M4-FV23U-030/04C03M R03 | —                       |
| 3,0   | 50  | 4  | 3,0  | 2,7  | 14 | 1,0 | M4-FV23U-030/04C03M R1  | —                       |
| 4,0   | 50  | 5  | 4,0  | 3,7  | 16 | 0,4 | M4-FV23U-040/05C04M R04 | —                       |
| 4,0   | 50  | 5  | 4,0  | 3,7  | 16 | 1,0 | M4-FV23U-040/05C04M R1  | —                       |
| 5,0   | 54  | 6  | 5,0  | 4,6  | 18 | 0,5 | M4-FV23U-050/06C05M R05 | —                       |
| 5,0   | 54  | 6  | 5,0  | 4,6  | 18 | 1,0 | M4-FV23U-050/06C05M R1  | —                       |
| 6,0   | 57  | 7  | 6,0  | 5,5  | 21 | 0,5 | M4-FV23U-060/07C06M R05 | M4-FV23U-060/07W06M R05 |
| 6,0   | 57  | 7  | 6,0  | 5,5  | 21 | 1,0 | M4-FV23U-060/07C06M R1  | M4-FV23U-060/07W06M R1  |
| 6,0   | 57  | 7  | 6,0  | 5,5  | 21 | 1,5 | M4-FV23U-060/07C06M R15 | M4-FV23U-060/07W06M R15 |
| 8,0   | 63  | 9  | 8,0  | 7,4  | 27 | 0,5 | M4-FV23U-080/09C08M R05 | M4-FV23U-080/09W08M R05 |
| 8,0   | 63  | 9  | 8,0  | 7,4  | 27 | 1,0 | M4-FV23U-080/09C08M R1  | M4-FV23U-080/09W08M R1  |
| 8,0   | 63  | 9  | 8,0  | 7,4  | 27 | 1,5 | M4-FV23U-080/09C08M R15 | M4-FV23U-080/09W08M R15 |
| 8,0   | 63  | 9  | 8,0  | 7,4  | 27 | 2,0 | M4-FV23U-080/09C08M R2  | M4-FV23U-080/09W08M R2  |
| 10,0  | 72  | 11 | 10,0 | 9,2  | 32 | 0,5 | M4-FV23U-100/11C10M R05 | M4-FV23U-100/11W10M R05 |
| 10,0  | 72  | 11 | 10,0 | 9,2  | 32 | 1,0 | M4-FV23U-100/11C10M R1  | M4-FV23U-100/11W10M R1  |
| 10,0  | 72  | 11 | 10,0 | 9,2  | 32 | 1,5 | M4-FV23U-100/11C10M R15 | M4-FV23U-100/11W10M R15 |
| 10,0  | 72  | 11 | 10,0 | 9,2  | 32 | 2,0 | M4-FV23U-100/11C10M R2  | M4-FV23U-100/11W10M R2  |
| 12,0  | 83  | 12 | 12,0 | 11,0 | 38 | 0,5 | M4-FV23U-120/12C12M R05 | M4-FV23U-120/12W12M R05 |
| 12,0  | 83  | 12 | 12,0 | 11,0 | 38 | 1,0 | M4-FV23U-120/12C12M R1  | M4-FV23U-120/12W12M R1  |
| 12,0  | 83  | 12 | 12,0 | 11,0 | 38 | 1,5 | M4-FV23U-120/12C12M R15 | M4-FV23U-120/12W12M R15 |
| 12,0  | 83  | 12 | 12,0 | 11,0 | 38 | 2,0 | M4-FV23U-120/12C12M R2  | M4-FV23U-120/12W12M R2  |
| 16,0  | 92  | 16 | 16,0 | 15,0 | 44 | 2,0 | M4-FV23U-160/16C16M R2  | M4-FV23U-160/16W16M R2  |
| 20,0  | 104 | 20 | 20,0 | 18,5 | 50 | 2,5 | M4-FV23U-200/20C20M R25 | M4-FV23U-200/20W20M R25 |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | d3   | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|-------|-----|----|------|------|----|-----|-------------------------|-------------------------|
| 3,0   | 75  | 4  | 3,0  | 2,7  | 32 | 0,3 | M4-FV23U-030/04C03L R03 | —                       |
| 3,0   | 75  | 4  | 3,0  | 2,7  | 32 | 1,0 | M4-FV23U-030/04C03L R1  | —                       |
| 4,0   | 75  | 5  | 4,0  | 3,7  | 36 | 0,4 | M4-FV23U-040/05C04L R04 | —                       |
| 4,0   | 75  | 5  | 4,0  | 3,7  | 36 | 1,0 | M4-FV23U-040/05C04L R1  | —                       |
| 5,0   | 75  | 6  | 5,0  | 4,6  | 40 | 0,5 | M4-FV23U-050/06C05L R05 | —                       |
| 5,0   | 75  | 6  | 5,0  | 4,6  | 40 | 1,0 | M4-FV23U-050/06C05L R1  | —                       |
| 6,0   | 80  | 7  | 6,0  | 5,5  | 44 | 0,5 | M4-FV23U-060/07C06L R05 | M4-FV23U-060/07W06L R05 |
| 6,0   | 80  | 7  | 6,0  | 5,5  | 44 | 1,0 | M4-FV23U-060/07C06L R1  | M4-FV23U-060/07W06L R1  |
| 6,0   | 80  | 7  | 6,0  | 5,5  | 44 | 1,5 | M4-FV23U-060/07C06L R15 | M4-FV23U-060/07W06L R15 |
| 8,0   | 100 | 9  | 8,0  | 7,4  | 54 | 0,5 | M4-FV23U-080/09C08L R05 | M4-FV23U-080/09W08L R05 |
| 8,0   | 100 | 9  | 8,0  | 7,4  | 54 | 1,0 | M4-FV23U-080/09C08L R1  | M4-FV23U-080/09W08L R1  |
| 8,0   | 100 | 9  | 8,0  | 7,4  | 54 | 1,5 | M4-FV23U-080/09C08L R15 | M4-FV23U-080/09W08L R15 |
| 8,0   | 100 | 9  | 8,0  | 7,4  | 54 | 2,0 | M4-FV23U-080/09C08L R2  | M4-FV23U-080/09W08L R2  |
| 10,0  | 100 | 11 | 10,0 | 9,2  | 60 | 0,5 | M4-FV23U-100/11C10L R05 | M4-FV23U-100/11W10L R05 |
| 10,0  | 100 | 11 | 10,0 | 9,2  | 60 | 1,0 | M4-FV23U-100/11C10L R1  | M4-FV23U-100/11W10L R1  |
| 10,0  | 100 | 11 | 10,0 | 9,2  | 60 | 1,5 | M4-FV23U-100/11C10L R15 | M4-FV23U-100/11W10L R15 |
| 10,0  | 100 | 11 | 10,0 | 9,2  | 60 | 2,0 | M4-FV23U-100/11C10L R2  | M4-FV23U-100/11W10L R2  |
| 12,0  | 120 | 12 | 12,0 | 11,0 | 75 | 0,5 | M4-FV23U-120/12C12L R05 | M4-FV23U-120/12W12L R05 |
| 12,0  | 120 | 12 | 12,0 | 11,0 | 75 | 1,0 | M4-FV23U-120/12C12L R1  | M4-FV23U-120/12W12L R1  |
| 12,0  | 120 | 12 | 12,0 | 11,0 | 75 | 1,5 | M4-FV23U-120/12C12L R15 | M4-FV23U-120/12W12L R15 |
| 12,0  | 120 | 12 | 12,0 | 11,0 | 75 | 2,0 | M4-FV23U-120/12C12L R2  | M4-FV23U-120/12W12L R2  |
| 16,0  | 150 | 16 | 16,0 | 15,0 | 92 | 2,0 | M4-FV23U-160/16C16L R2  | M4-FV23U-160/16W16L R2  |
| 20,0  | 150 | 20 | 20,0 | 18,5 | 92 | 2,5 | M4-FV23U-200/20C20L R25 | M4-FV23U-200/20W20L R25 |



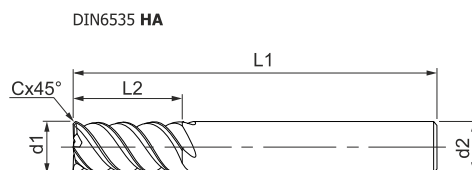
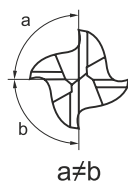
Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



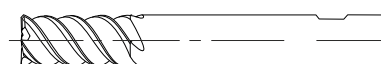
# M4-FV45



- ◆ Четырёхзубая фреза с упрочняющей фаской
- ◆ Антивибрационная геометрия, HPS
- ◆ Для полустойчивой обработки стали, чугуна и жаропрочных материалов



DIN6535 HA



DIN6535 HB



## Короткая серия

| d1h9 | L1 | L2 | d2h6 | Cx45° | ЦИЛИНДРИЧЕСКИЙ (HA)            | WELDON (HB)                    |
|------|----|----|------|-------|--------------------------------|--------------------------------|
| 4,0  | 54 | 8  | 6,0  | 0,05  | <b>M4-FV45-040/08C06S C005</b> | <b>M4-FV45-040/08W06S C005</b> |
| 5,0  | 54 | 9  | 6,0  | 0,05  | <b>M4-FV45-050/09C06S C005</b> | <b>M4-FV45-050/09W06S C005</b> |
| 6,0  | 54 | 10 | 6,0  | 0,05  | <b>M4-FV45-060/10C06S C005</b> | <b>M4-FV45-060/10W06S C005</b> |
| 8,0  | 58 | 12 | 8,0  | 0,1   | <b>M4-FV45-080/12C08S C01</b>  | <b>M4-FV45-080/12W08S C01</b>  |
| 10,0 | 66 | 14 | 10,0 | 0,1   | <b>M4-FV45-100/14C10S C01</b>  | <b>M4-FV45-100/14W10S C01</b>  |
| 12,0 | 73 | 16 | 12,0 | 0,15  | <b>M4-FV45-120/16C12S C015</b> | <b>M4-FV45-120/16W12S C015</b> |
| 14,0 | 75 | 18 | 14,0 | 0,15  | <b>M4-FV45-140/18C14S C015</b> | <b>M4-FV45-140/18W14S C015</b> |
| 16,0 | 82 | 22 | 16,0 | 0,2   | <b>M4-FV45-160/22C16S C02</b>  | <b>M4-FV45-160/22W16S C02</b>  |
| 18,0 | 84 | 24 | 18,0 | 0,2   | <b>M4-FV45-180/24C18S C02</b>  | <b>M4-FV45-180/24W18S C02</b>  |
| 20,0 | 92 | 26 | 20,0 | 0,2   | <b>M4-FV45-200/26C20S C02</b>  | <b>M4-FV45-200/26W20S C02</b>  |

## Средняя серия

| d1h9 | L1  | L2 | d2h6 | Cx45° | ЦИЛИНДРИЧЕСКИЙ (HA)            | WELDON (HB)                    |
|------|-----|----|------|-------|--------------------------------|--------------------------------|
| 4,0  | 57  | 11 | 6,0  | 0,05  | <b>M4-FV45-040/11C06M C005</b> | <b>M4-FV45-040/11W06M C005</b> |
| 5,0  | 57  | 13 | 6,0  | 0,05  | <b>M4-FV45-050/13C06M C005</b> | <b>M4-FV45-050/13W06M C005</b> |
| 6,0  | 57  | 13 | 6,0  | 0,05  | <b>M4-FV45-060/13C06M C005</b> | <b>M4-FV45-060/13W06M C005</b> |
| 8,0  | 63  | 19 | 8,0  | 0,1   | <b>M4-FV45-080/19C08M C01</b>  | <b>M4-FV45-080/19W08M C01</b>  |
| 10,0 | 72  | 22 | 10,0 | 0,1   | <b>M4-FV45-100/22C10M C01</b>  | <b>M4-FV45-100/22W10M C01</b>  |
| 12,0 | 83  | 26 | 12,0 | 0,15  | <b>M4-FV45-120/26C12M C015</b> | <b>M4-FV45-120/26W12M C015</b> |
| 14,0 | 83  | 26 | 14,0 | 0,2   | <b>M4-FV45-140/26C14M C015</b> | <b>M4-FV45-140/26W14M C015</b> |
| 16,0 | 92  | 32 | 16,0 | 0,2   | <b>M4-FV45-160/32C16M C02</b>  | <b>M4-FV45-160/32W16M C02</b>  |
| 18,0 | 92  | 32 | 18,0 | 0,2   | <b>M4-FV45-180/32C18M C02</b>  | <b>M4-FV45-180/32W18M C02</b>  |
| 20,0 | 104 | 38 | 20,0 | 0,2   | <b>M4-FV45-200/38C20M C02</b>  | <b>M4-FV45-200/38W20M C02</b>  |

## Длинная серия

| d1h9 | L1  | L2 | d2h6 | Cx45° | ЦИЛИНДРИЧЕСКИЙ (HA)            | WELDON (HB)                    |
|------|-----|----|------|-------|--------------------------------|--------------------------------|
| 4,0  | 62  | 16 | 6,0  | 0,05  | <b>M4-FV45-040/16C06L C005</b> | <b>M4-FV45-040/16W06L C005</b> |
| 5,0  | 62  | 17 | 6,0  | 0,05  | <b>M4-FV45-050/17C06L C005</b> | <b>M4-FV45-050/17W06L C005</b> |
| 6,0  | 62  | 18 | 6,0  | 0,05  | <b>M4-FV45-060/18C06L C005</b> | <b>M4-FV45-060/18W06L C005</b> |
| 8,0  | 68  | 24 | 8,0  | 0,1   | <b>M4-FV45-080/24C08L C01</b>  | <b>M4-FV45-080/24W08L C01</b>  |
| 10,0 | 80  | 30 | 10,0 | 0,1   | <b>M4-FV45-100/30C10L C01</b>  | <b>M4-FV45-100/30W10L C01</b>  |
| 12,0 | 93  | 36 | 12,0 | 0,15  | <b>M4-FV45-120/36C12L C015</b> | <b>M4-FV45-120/36W12L C015</b> |
| 14,0 | 99  | 42 | 14,0 | 0,15  | <b>M4-FV45-140/42C14L C015</b> | <b>M4-FV45-140/42W14L C015</b> |
| 16,0 | 108 | 48 | 16,0 | 0,2   | <b>M4-FV45-160/48C16L C02</b>  | <b>M4-FV45-160/48W16L C02</b>  |
| 18,0 | 114 | 54 | 18,0 | 0,2   | <b>M4-FV45-180/54C18L C02</b>  | <b>M4-FV45-180/54W18L C02</b>  |
| 20,0 | 126 | 60 | 20,0 | 0,2   | <b>M4-FV45-200/60C20L C02</b>  | <b>M4-FV45-200/60W20L C02</b>  |

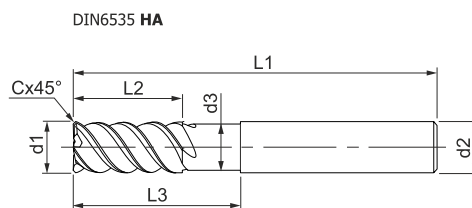
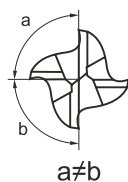
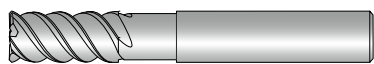


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

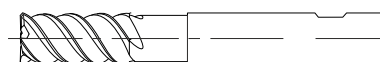
# M4-FV47U



- ◆ Четырёхзубая фреза с упрочняющей фаской
- ◆ Антивибрационная геометрия, HPS
- ◆ Для полустойковой обработки стали, чугуна и жаропрочных материалов



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | Cx45° | ЦИЛИНДРИЧЕСКИЙ (HA)      | WELDON (HB)              |
|------|-----|----|------|------|----|-------|--------------------------|--------------------------|
| 6,0  | 58  | 7  | 6,0  | 5,8  | 20 | 0,05  | M4-FV47U-060/07C06M C005 | M4-FV47U-060/07W06M C005 |
| 8,0  | 63  | 9  | 8,0  | 7,8  | 25 | 0,1   | M4-FV47U-080/09C08M C01  | M4-FV47U-080/09W08M C01  |
| 10,0 | 72  | 11 | 10,0 | 9,7  | 30 | 0,1   | M4-FV47U-100/11C10M C01  | M4-FV47U-100/11W10M C01  |
| 12,0 | 83  | 13 | 12,0 | 11,7 | 35 | 0,15  | M4-FV47U-120/13C12M C015 | M4-FV47U-120/13W12M C015 |
| 14,0 | 88  | 15 | 14,0 | 13,7 | 42 | 0,2   | M4-FV47U-140/15C14M C02  | M4-FV47U-140/15W14M C02  |
| 16,0 | 93  | 17 | 16,0 | 15,7 | 45 | 0,2   | M4-FV47U-160/17C16M C02  | M4-FV47U-160/17W16M C02  |
| 18,0 | 98  | 19 | 18,0 | 17,7 | 50 | 0,2   | M4-FV47U-180/19C18M C02  | M4-FV47U-180/19W18M C02  |
| 20,0 | 105 | 21 | 20,0 | 19,7 | 55 | 0,2   | M4-FV47U-200/21C20M C02  | M4-FV47U-200/21W20M C02  |

## Длинная серия

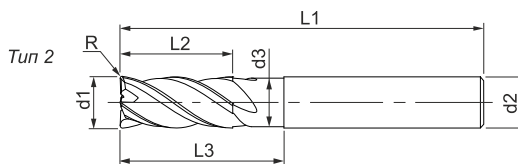
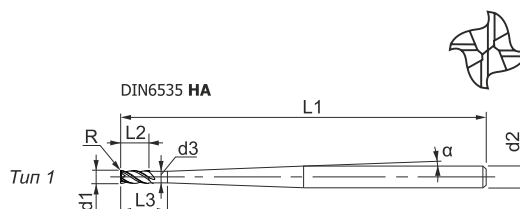
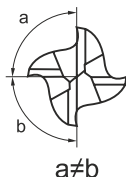
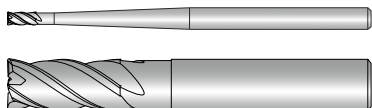
| d1h9 | L1  | L2 | d2h6 | d3   | L3 | Cx45° | ЦИЛИНДРИЧЕСКИЙ (HA)      | WELDON (HB)              |
|------|-----|----|------|------|----|-------|--------------------------|--------------------------|
| 6,0  | 70  | 7  | 6,0  | 5,8  | 30 | 0,05  | M4-FV47U-060/07C06L C005 | M4-FV47U-060/07W06L C005 |
| 8,0  | 80  | 9  | 8,0  | 7,8  | 40 | 0,1   | M4-FV47U-080/09C08L C01  | M4-FV47U-080/09W08L C01  |
| 10,0 | 84  | 11 | 10,0 | 9,7  | 45 | 0,1   | M4-FV47U-100/11C10L C01  | M4-FV47U-100/11W10L C01  |
| 12,0 | 97  | 13 | 12,0 | 11,7 | 50 | 0,15  | M4-FV47U-120/13C12L C015 | M4-FV47U-120/13W12L C015 |
| 14,0 | 108 | 15 | 14,0 | 13,7 | 55 | 0,2   | M4-FV47U-140/15C14L C02  | M4-FV47U-140/15W14L C02  |
| 16,0 | 115 | 17 | 16,0 | 15,7 | 65 | 0,2   | M4-FV47U-160/17C16L C02  | M4-FV47U-160/17W16L C02  |
| 18,0 | 122 | 19 | 18,0 | 17,7 | 70 | 0,2   | M4-FV47U-180/19C18L C02  | M4-FV47U-180/19W18L C02  |
| 20,0 | 130 | 21 | 20,0 | 19,7 | 80 | 0,2   | M4-FV47U-200/21C20L C02  | M4-FV47U-200/21W20L C02  |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M4-FV52U

- ◆ Четырёхзубая фреза с занижением диаметра шейки и угловым радиусом
- ◆ Антивибрационная геометрия, HPS
- ◆ Центральные режущие кромки
- ◆ Для полуставовой обработки холодноштампованных сталей с HRC 54-60



## Короткая серия

| d1h9 | L1 | L2 | d2h6 | d3  | L3 | α°  | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|----|----|------|-----|----|-----|-----|-------------------------|-------------------------|
| 3,0  | 45 | 5  | 6,0  | 2,9 | 6  | 20° | 0,2 | M4-FV52U-030/05C06S R02 | M4-FV52U-030/05W06S R02 |
| 4,0  | 58 | 6  | 6,0  | 3,9 | 8  | 15° | 0,3 | M4-FV52U-040/06C06S R03 | M4-FV52U-040/06W06S R03 |
| 6,0  | 60 | 8  | 6,0  | 5,9 | 16 |     | 0,4 | M4-FV52U-060/06C06S R04 | M4-FV52U-060/06W06S R04 |
| 8,0  | 70 | 10 | 8,0  | 7,8 | 25 |     | 0,7 | M4-FV52U-080/10C08S R07 | M4-FV52U-080/10W08S R07 |
| 10,0 | 75 | 12 | 10,0 | 9,8 | 30 |     | 0,8 | M4-FV52U-100/12C10S R08 | M4-FV52U-100/12W10S R08 |

## Средняя серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | α°  | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|-----|----|------|------|----|-----|-----|-------------------------|-------------------------|
| 3,0  | 54  | 5  | 6,0  | 2,9  | 12 | 20° | 0,2 | M4-FV52U-030/05C06M R02 | M4-FV52U-030/05W06M R02 |
| 4,0  | 58  | 6  | 6,0  | 3,9  | 16 | 15° | 0,3 | M4-FV52U-040/06C06M R03 | M4-FV52U-040/06W06M R03 |
| 6,0  | 70  | 8  | 6,0  | 5,9  | 25 |     | 0,4 | M4-FV52U-060/08C06M R04 | M4-FV52U-060/08W06M R04 |
| 8,0  | 80  | 10 | 8,0  | 7,8  | 40 |     | 0,7 | M4-FV52U-080/10C08M R07 | M4-FV52U-080/10W08M R07 |
| 10,0 | 100 | 12 | 10,0 | 9,8  | 60 |     | 0,8 | M4-FV52U-100/12C10M R08 | M4-FV52U-100/12W10M R08 |
| 12,0 | 90  | 14 | 12,0 | 11,8 | 45 |     | 1,0 | M4-FV52U-120/14C12M R1  | M4-FV52U-120/14W12M R1  |

## Длинная серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | α°  | R    | ЦИЛИНДРИЧЕСКИЙ (HA)      | WELDON (HB)              |
|------|-----|----|------|------|----|-----|------|--------------------------|--------------------------|
| 3,0  | 58  | 5  | 6,0  | 2,9  | 18 | 20° | 0,15 | M4-FV52U-030/05C06L R015 | M4-FV52U-030/05W06L R015 |
| 4,0  | 67  | 6  | 6,0  | 3,9  | 24 | 15° | 0,3  | M4-FV52U-040/06C06L R03  | M4-FV52U-040/06W06L R03  |
| 6,0  | 75  | 8  | 6,0  | 5,9  | 35 |     | 0,4  | M4-FV52U-060/08C06L R04  | M4-FV52U-060/08W06L R04  |
| 8,0  | 100 | 10 | 8,0  | 7,8  | 60 |     | 0,5  | M4-FV52U-080/10C08L R05  | M4-FV52U-080/10W08L R05  |
| 10,0 | 120 | 12 | 10,0 | 9,8  | 80 |     | 0,5  | M4-FV52U-100/12C10L R05  | M4-FV52U-100/12W10L R05  |
| 12,0 | 137 | 14 | 12,0 | 11,8 | 90 |     | 0,5  | M4-FV52U-120/14C12L R05  | M4-FV52U-120/14W12L R05  |

## Сверхдлинная серия

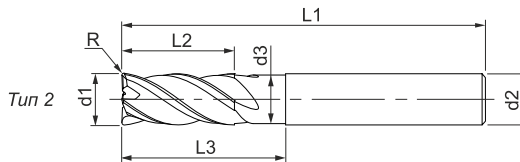
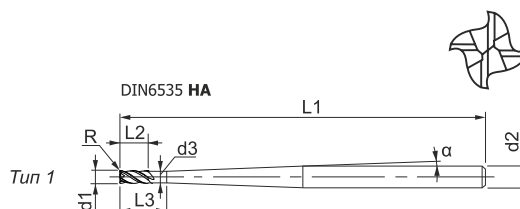
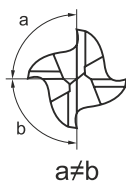
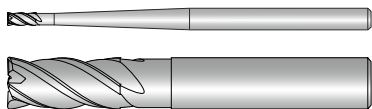
| d1h9 | L1 | L2  | d2h6 | d3  | L3 | $\alpha^\circ$ | R    | ЦИЛИНДРИЧЕСКИЙ (HA)      | WELDON (HB)              |
|------|----|-----|------|-----|----|----------------|------|--------------------------|--------------------------|
| 3,0  | 67 | 5,0 | 6,0  | 2,9 | 24 | 20°            | 0,15 | M4-FV52U-030/05C06X R015 | M4-FV52U-030/05W06X R015 |
| 4,0  | 72 | 6,0 | 6,0  | 3,9 | 36 | 15°            | 0,2  | M4-FV52U-040/06C06X R02  | M4-FV52U-040/06W06X R02  |
| 6,0  | 80 | 8,0 | 6,0  | 5,9 | 45 |                | 0,25 | M4-FV52U-060/08C06X R025 | M4-FV52U-060/08W06X R025 |



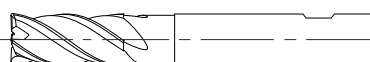
Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M4-FV53U

- ◆ Четырёхзубая фреза с занижением диаметра шейки и угловым радиусом
- ◆ Антивибрационная геометрия, HPS
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки горячештампованных сталей с HRC 48-54



DIN6535 HB



## Короткая серия

| d1h9 | L1 | L2 | d2h6 | d3   | L3 | α°  | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|----|----|------|------|----|-----|-----|-------------------------|-------------------------|
| 3,0  | 45 | 5  | 6,0  | 2,9  | 9  | 20° | 0,2 | M4-FV53U-030/05C06S R02 | M4-FV53U-030/05W06S R02 |
| 4,0  | 58 | 6  | 6,0  | 3,9  | 11 | 15° | 0,3 | M4-FV53U-040/06C06S R03 | M4-FV53U-040/06W06S R03 |
| 6,0  | 60 | 8  | 6,0  | 5,9  | 16 |     | 0,4 | M4-FV53U-060/08C06S R04 | M4-FV53U-060/08W06S R04 |
| 8,0  | 70 | 10 | 8,0  | 7,8  | 25 |     | 0,7 | M4-FV53U-080/10C08S R07 | M4-FV53U-080/10W08S R07 |
| 10,0 | 75 | 12 | 10,0 | 9,8  | 30 |     | 0,8 | M4-FV53U-100/12C10S R08 | M4-FV53U-100/12W10S R08 |
| 12,0 | 90 | 14 | 12,0 | 11,8 | 45 |     | 1,0 | M4-FV53U-120/14C12S R1  | M4-FV53U-120/14W12S R1  |

## Средняя серия

| d1h9 | L1  | L2 | d2h6 | d3  | L3 | α°  | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|-----|----|------|-----|----|-----|-----|-------------------------|-------------------------|
| 3,0  | 54  | 5  | 6,0  | 2,9 | 12 | 20° | 0,2 | M4-FV53U-030/05C06M R02 | M4-FV53U-030/05W06M R02 |
| 4,0  | 58  | 6  | 6,0  | 3,9 | 16 | 15° | 0,3 | M4-FV53U-040/06C06M R03 | M4-FV53U-040/06W06M R03 |
| 6,0  | 70  | 8  | 6,0  | 5,9 | 25 |     | 0,4 | M4-FV53U-060/08C06M R04 | M4-FV53U-060/08W06M R04 |
| 8,0  | 80  | 10 | 8,0  | 7,8 | 40 |     | 0,7 | M4-FV53U-080/10C08M R07 | M4-FV53U-080/10W08M R07 |
| 10,0 | 100 | 12 | 10,0 | 9,8 | 60 |     | 0,8 | M4-FV53U-100/12C10M R08 | M4-FV53U-100/12W10M R08 |

## Длинная серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | α°  | R    | ЦИЛИНДРИЧЕСКИЙ (HA)      | WELDON (HB)              |
|------|-----|----|------|------|----|-----|------|--------------------------|--------------------------|
| 3,0  | 58  | 5  | 6,0  | 2,9  | 18 | 20° | 0,15 | M4-FV53U-030/05C06L R015 | M4-FV53U-030/05W06L R015 |
| 4,0  | 67  | 6  | 6,0  | 3,9  | 24 | 15° | 0,3  | M4-FV53U-040/06C06L R03  | M4-FV53U-040/06W06L R03  |
| 6,0  | 75  | 8  | 6,0  | 5,9  | 35 |     | 0,4  | M4-FV53U-060/08C06L R04  | M4-FV53U-060/08W06L R04  |
| 8,0  | 100 | 10 | 8,0  | 7,8  | 60 |     | 0,5  | M4-FV53U-080/10C08L R05  | M4-FV53U-080/10W08L R05  |
| 10,0 | 120 | 12 | 10,0 | 9,8  | 80 |     | 0,5  | M4-FV53U-100/12C10L R05  | M4-FV53U-100/12WC10L R05 |
| 12,0 | 137 | 14 | 12,0 | 11,8 | 90 |     | 0,5  | M4-FV53U-120/14C12L R05  | M4-FV53U-120/14W12L R05  |

## Сверхдлинная серия

| d1h9 | L1 | L2 | d2h6 | d3  | L3 | $\alpha^\circ$ | R    | ЦИЛИНДРИЧЕСКИЙ (НА)      | WELDON (НВ)              |
|------|----|----|------|-----|----|----------------|------|--------------------------|--------------------------|
| 3,0  | 67 | 5  | 6,0  | 2,9 | 24 | 20°            | 0,15 | M4-FV53U-030/05C06X R015 | M4-FV53U-030/05W06X R015 |
| 4,0  | 72 | 6  | 6,0  | 3,9 | 36 | 15°            | 0,20 | M4-FV53U-040/06C06X R02  | M4-FV53U-040/06W06X R02  |
| 6,0  | 80 | 8  | 6,0  | 5,9 | 45 |                | 0,25 | M4-FV53U-060/08C06X R025 | M4-FV53U-060/08W06X R025 |

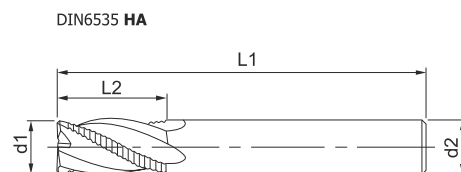


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

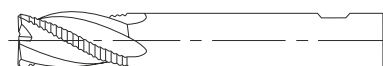
# M4-FG04



- ◆ Четырёхзубая гибридная фреза
- ◆ Центральные режущие кромки
- ◆ Объединяет в себе черновую и чистовую геометрию, обработка стали, чугуна, цветных металлов



DIN6535 **HA**



DIN6535 **HB**



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 4,0   | 57  | 11 | 6,0  | <b>M4-FG04-040/11C06M</b> | <b>M4-FG04-040/11W06M</b> |
| 5,0   | 57  | 13 | 6,0  | <b>M4-FG04-050/13C06M</b> | <b>M4-FG04-050/13W06M</b> |
| 6,0   | 57  | 13 | 6,0  | <b>M4-FG04-060/13C06M</b> | <b>M4-FG04-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M4-FG04-080/19C08M</b> | <b>M4-FG04-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M4-FG04-100/22C10M</b> | <b>M4-FG04-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M4-FG04-120/26C12M</b> | <b>M4-FG04-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M4-FG04-140/26C14M</b> | <b>M4-FG04-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M4-FG04-160/32C16M</b> | <b>M4-FG04-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M4-FG04-180/32C18M</b> | <b>M4-FG04-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M4-FG04-200/38C20M</b> | <b>M4-FG04-200/38W20M</b> |



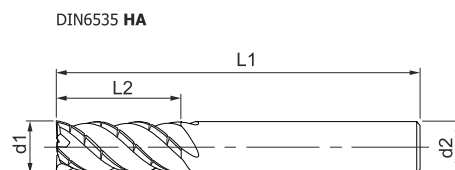
Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



# M4-FR64

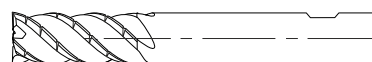


- ◆ Четырёхзубая фреза со стружко-разделительными насечками на ленточке
- ◆ Центральные режущие кромки
- ◆ Для полустойкой обработки стали, чугуна, цветных металлов



DIN6535 HA

DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 4,0   | 57  | 11 | 6,0  | <b>M4-FR64-040/11C06M</b> | <b>M4-FR64-040/11W06M</b> |
| 5,0   | 57  | 13 | 6,0  | <b>M4-FR64-050/13C06M</b> | <b>M4-FR64-050/13W06M</b> |
| 6,0   | 57  | 13 | 6,0  | <b>M4-FR64-060/13C06M</b> | <b>M4-FR64-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M4-FR64-080/19C08M</b> | <b>M4-FR64-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M4-FR64-100/22C10M</b> | <b>M4-FR64-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M4-FR64-120/26C12M</b> | <b>M4-FR64-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M4-FR64-140/26C14M</b> | <b>M4-FR64-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M4-FR64-160/32C16M</b> | <b>M4-FR64-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M4-FR64-180/32C18M</b> | <b>M4-FR64-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M4-FR64-200/38C20M</b> | <b>M4-FR64-200/38W20M</b> |

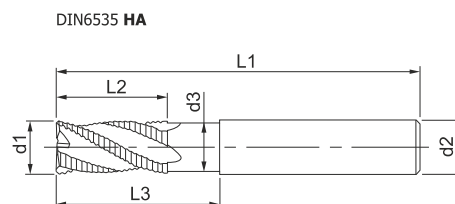


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

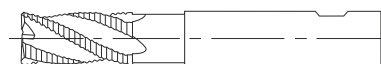
# M4-FR58U



- ◆ Четырёхзубая черновая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, НРС
- ◆ Центральные режущие кромки
- ◆ Для общего применения



DIN6535 HB



## Средняя серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 4,0   | 11 | 21 | 57  | 5,5  | 6,0  | <b>M4-FR58U-040/11C06M</b> | <b>M4-FR58U-040/11W06M</b> |
| 5,0   | 13 | 21 | 57  | 5,5  | 6,0  | <b>M4-FR58U-050/13C06M</b> | <b>M4-FR58U-050/13W06M</b> |
| 6,0   | 13 | 21 | 57  | 5,5  | 6,0  | <b>M4-FR58U-060/13C06M</b> | <b>M4-FR58U-060/13W06M</b> |
| 8,0   | 16 | 27 | 63  | 7,5  | 8,0  | <b>M4-FR58U-080/16C08M</b> | <b>M4-FR58U-080/16W08M</b> |
| 10,0  | 22 | 32 | 72  | 9,5  | 10,0 | <b>M4-FR58U-100/22C10M</b> | <b>M4-FR58U-100/22W10M</b> |
| 12,0  | 26 | 38 | 83  | 11,5 | 12,0 | <b>M4-FR58U-120/26C12M</b> | <b>M4-FR58U-120/26W12M</b> |
| 14,0  | 26 | 38 | 83  | 13,2 | 14,0 | <b>M4-FR58U-140/26C14M</b> | <b>M4-FR58U-140/26W14M</b> |
| 16,0  | 32 | 42 | 92  | 15,0 | 16,0 | <b>M4-FR58U-160/32C16M</b> | <b>M4-FR58U-160/32W16M</b> |
| 18,0  | 38 | 50 | 100 | 16,0 | 18,0 | <b>M4-FR58U-180/38C18M</b> | <b>M4-FR58U-180/38W18M</b> |
| 20,0  | 38 | 55 | 108 | 19,0 | 20,0 | <b>M4-FR58U-200/38C20M</b> | <b>M4-FR58U-200/38W20M</b> |
| 25,0  | 45 | 65 | 122 | 24,0 | 25,0 | <b>M4-FR58U-250/45C25M</b> | <b>M4-FR58U-250/45W25M</b> |

## Длинная серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 6,0   | 18 | 29 | 65  | 5,5  | 6,0  | <b>M4-FR58U-060/18C06L</b> | <b>M4-FR58U-060/18W06L</b> |
| 8,0   | 24 | 39 | 75  | 7,5  | 8,0  | <b>M4-FR58U-080/24C08L</b> | <b>M4-FR58U-080/24W08L</b> |
| 10,0  | 30 | 40 | 80  | 9,2  | 10,0 | <b>M4-FR58U-100/30C10L</b> | <b>M4-FR58U-100/30W10L</b> |
| 12,0  | 36 | 48 | 93  | 11,2 | 12,0 | <b>M4-FR58U-120/36C12L</b> | <b>M4-FR58U-120/36W12L</b> |
| 14,0  | 36 | 48 | 93  | 13,2 | 14,0 | <b>M4-FR58U-140/36C14L</b> | <b>M4-FR58U-140/36W14L</b> |
| 16,0  | 42 | 60 | 110 | 15,0 | 16,0 | <b>M4-FR58U-160/42C16L</b> | <b>M4-FR58U-160/42W16L</b> |
| 18,0  | 42 | 60 | 110 | 17,0 | 18,0 | <b>M4-FR58U-180/42C18L</b> | <b>M4-FR58U-180/42W18L</b> |
| 20,0  | 45 | 65 | 126 | 19,0 | 20,0 | <b>M4-FR58U-200/45C20L</b> | <b>M4-FR58U-200/45W20L</b> |

## Сверхдлинная серия

| d1h10 | L2 | L3 | L1  | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|----|----|-----|------|------|----------------------------|----------------------------|
| 6,0   | 24 | 40 | 80  | 5,5  | 6,0  | <b>M4-FR58U-060/24C06X</b> | <b>M4-FR58U-060/24W06X</b> |
| 8,0   | 28 | 50 | 100 | 7,5  | 8,0  | <b>M4-FR58U-080/28C08X</b> | <b>M4-FR58U-080/28W08X</b> |
| 10,0  | 36 | 40 | 100 | 9,2  | 10,0 | <b>M4-FR58U-100/36C10X</b> | <b>M4-FR58U-100/36W10X</b> |
| 12,0  | 42 | 80 | 150 | 11,2 | 12,0 | <b>M4-FR58U-120/42C12X</b> | <b>M4-FR58U-120/42W12X</b> |
| 14,0  | 42 | 80 | 150 | 13,2 | 14,0 | <b>M4-FR58U-140/42C14X</b> | <b>M4-FR58U-140/42W14X</b> |
| 16,0  | 48 | 80 | 150 | 15,0 | 16,0 | <b>M4-FR58U-160/48C16X</b> | <b>M4-FR58U-160/48W16X</b> |
| 18,0  | 48 | 80 | 150 | 17,0 | 18,0 | <b>M4-FR58U-180/48C18X</b> | <b>M4-FR58U-180/48W18X</b> |
| 20,0  | 48 | 80 | 150 | 19,0 | 20,0 | <b>M4-FR58U-200/48C20X</b> | <b>M4-FR58U-200/48W20X</b> |

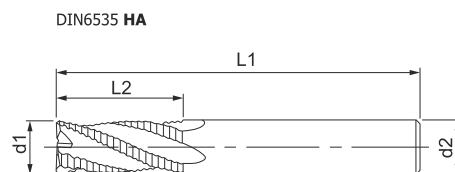


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

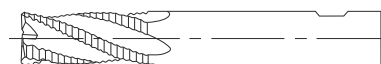
# M4-FR92



- ◆ Четырёхзубая черновая фреза
- ◆ Центральные режущие кромки
- ◆ Для общего применения



DIN6535 HB



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 4,0   | 54 | 6  | 6,0  | <b>M4-FR92-040/06C06S</b> | <b>M4-FR92-040/06W06S</b> |
| 5,0   | 54 | 8  | 6,0  | <b>M4-FR92-050/08C06S</b> | <b>M4-FR92-050/08W06S</b> |
| 6,0   | 54 | 8  | 6,0  | <b>M4-FR92-060/08C06S</b> | <b>M4-FR92-060/08W06S</b> |
| 8,0   | 58 | 11 | 8,0  | <b>M4-FR92-080/11C08S</b> | <b>M4-FR92-080/11W08S</b> |
| 10,0  | 66 | 13 | 10,0 | <b>M4-FR92-100/13C10S</b> | <b>M4-FR92-100/13W10S</b> |
| 12,0  | 73 | 16 | 12,0 | <b>M4-FR92-120/16C12S</b> | <b>M4-FR92-120/16W12S</b> |
| 14,0  | 75 | 16 | 14,0 | <b>M4-FR92-140/16C14S</b> | <b>M4-FR92-140/16W14S</b> |
| 16,0  | 82 | 19 | 16,0 | <b>M4-FR92-160/19C16S</b> | <b>M4-FR92-160/19W16S</b> |
| 18,0  | 84 | 19 | 18,0 | <b>M4-FR92-180/19C18S</b> | <b>M4-FR92-180/19W18S</b> |
| 20,0  | 92 | 19 | 20,0 | <b>M4-FR92-200/19C20S</b> | <b>M4-FR92-200/19W20S</b> |

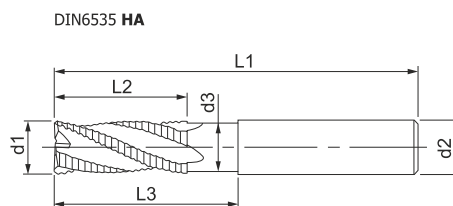
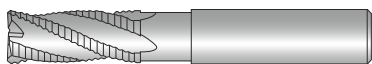
## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 4,0   | 57  | 8  | 6,0  | <b>M4-FR92-040/08C06M</b> | <b>M4-FR92-040/08W06M</b> |
| 5,0   | 57  | 10 | 6,0  | <b>M4-FR92-050/10C06M</b> | <b>M4-FR92-050/10W06M</b> |
| 6,0   | 57  | 13 | 6,0  | <b>M4-FR92-060/13C06M</b> | <b>M4-FR92-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M4-FR92-080/19C08M</b> | <b>M4-FR92-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M4-FR92-100/22C10M</b> | <b>M4-FR92-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M4-FR92-120/26C12M</b> | <b>M4-FR92-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M4-FR92-140/26C14M</b> | <b>M4-FR92-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M4-FR92-160/32C16M</b> | <b>M4-FR92-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M4-FR92-180/32C18M</b> | <b>M4-FR92-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M4-FR92-200/38C20M</b> | <b>M4-FR92-200/38W20M</b> |
| 25,0  | 121 | 45 | 25,0 | <b>M4-FR92-250/45C20M</b> | <b>M4-FR92-250/45W20M</b> |

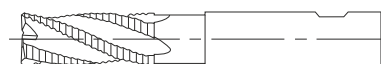
# M4-FR92U



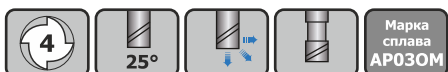
- ◆ Четырёхзубая черновая фреза с занижением диаметра шейки
- ◆ Центральные режущие кромки
- ◆ Для общего применения



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d3   | L3 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|----|------|----------------------------|----------------------------|
| 6,0   | 62  | 13 | 5,7  | 18 | 6,0  | <b>M4-FR92U-060/13C06M</b> | <b>M4-FR92U-060/13W06M</b> |
| 8,0   | 68  | 20 | 7,7  | 24 | 8,0  | <b>M4-FR92U-080/20C08M</b> | <b>M4-FR92U-080/20W08M</b> |
| 10,0  | 80  | 25 | 9,7  | 30 | 10,0 | <b>M4-FR92U-100/25C10M</b> | <b>M4-FR92U-100/25W10M</b> |
| 12,0  | 93  | 30 | 11,7 | 36 | 12,0 | <b>M4-FR92U-120/30C12M</b> | <b>M4-FR92U-120/30W12M</b> |
| 14,0  | 100 | 35 | 13,7 | 42 | 14,0 | <b>M4-FR92U-140/35C14M</b> | <b>M4-FR92U-140/35W14M</b> |
| 16,0  | 108 | 40 | 15,7 | 48 | 16,0 | <b>M4-FR92U-160/40C16M</b> | <b>M4-FR92U-160/40W16M</b> |
| 18,0  | 115 | 45 | 17,6 | 54 | 18,0 | <b>M4-FR92U-180/45C18M</b> | <b>M4-FR92U-180/45W18M</b> |
| 20,0  | 126 | 50 | 19,6 | 60 | 20,0 | <b>M4-FR92U-200/50C20M</b> | <b>M4-FR92U-200/50W20M</b> |

## Длинная серия

| d1h10 | L1  | L2 | d3   | L3 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|------|----|------|----------------------------|----------------------------|
| 6,0   | 80  | 15 | 5,8  | 30 | 6,0  | <b>M4-FR92U-060/15C06L</b> | <b>M4-FR92U-060/15W06L</b> |
| 8,0   | 85  | 21 | 7,8  | 42 | 8,0  | <b>M4-FR92U-080/21C08L</b> | <b>M4-FR92U-080/21W08L</b> |
| 10,0  | 100 | 28 | 9,7  | 48 | 10,0 | <b>M4-FR92U-100/28C10L</b> | <b>M4-FR92U-100/28W10L</b> |
| 12,0  | 110 | 36 | 11,7 | 56 | 12,0 | <b>M4-FR92U-120/36C12L</b> | <b>M4-FR92U-120/36W12L</b> |
| 14,0  | 110 | 42 | 13,7 | 56 | 14,0 | <b>M4-FR92U-140/42C14L</b> | <b>M4-FR92U-140/42W14L</b> |
| 16,0  | 125 | 48 | 15,6 | 68 | 16,0 | <b>M4-FR92U-160/48C16L</b> | <b>M4-FR92U-160/48W16L</b> |
| 18,0  | 125 | 52 | 17,6 | 74 | 18,0 | <b>M4-FR92U-180/52C18L</b> | <b>M4-FR92U-180/52W18L</b> |
| 20,0  | 140 | 60 | 19,6 | 84 | 20,0 | <b>M4-FR92U-200/60C20L</b> | <b>M4-FR92U-200/60W20L</b> |

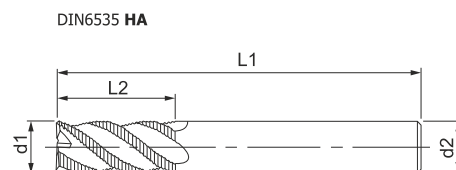


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

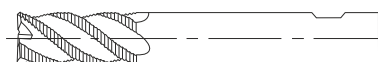
# M4-FR94



- ◆ Четырёхзубая черновая фреза
- ◆ Центральные режущие кромки
- ◆ Для общего применения



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 53  | 13 | 6,0  | <b>M4-FR94-060/13C06M</b> | <b>M4-FR94-060/13W06M</b> |
| 8,0   | 64  | 19 | 8,0  | <b>M4-FR94-080/19C08M</b> | <b>M4-FR94-080/19W08M</b> |
| 10,0  | 73  | 22 | 10,0 | <b>M4-FR94-100/22C10M</b> | <b>M4-FR94-100/22W10M</b> |
| 12,0  | 84  | 26 | 12,0 | <b>M4-FR94-120/26C12M</b> | <b>M4-FR94-120/26W12M</b> |
| 14,0  | 84  | 26 | 14,0 | <b>M4-FR94-140/26C14M</b> | <b>M4-FR94-140/26W14M</b> |
| 16,0  | 93  | 32 | 16,0 | <b>M4-FR94-160/32C16M</b> | <b>M4-FR94-160/32W16M</b> |
| 18,0  | 93  | 32 | 18,0 | <b>M4-FR94-180/32C18M</b> | <b>M4-FR94-180/32W18M</b> |
| 20,0  | 105 | 38 | 20,0 | <b>M4-FR94-200/38C20M</b> | <b>M4-FR94-200/38W20M</b> |
| 25,0  | 121 | 45 | 25,0 | <b>M4-FR94-250/45C25M</b> | <b>M4-FR94-250/45W25M</b> |

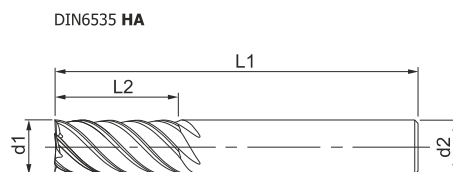


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

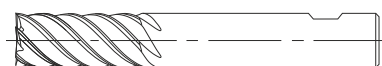
# M6-FF15



- ◆ Шестизубая фреза
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки стали с высокой скоростью резания, чугуна и жаропрочных материалов



DIN6535 HA



DIN6535 HB



Марка сплава  
AR030M

## Средняя серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 6,0   | 57 | 13 | 6,0  | <b>M6-FF15-060/13C06M</b> | <b>M6-FF15-060/13W06M</b> |
| 8,0   | 63 | 19 | 8,0  | <b>M6-FF15-080/19C08M</b> | <b>M6-FF15-080/19W08M</b> |
| 10,0  | 72 | 22 | 10,0 | <b>M6-FF15-100/22C10M</b> | <b>M6-FF15-100/22W10M</b> |

## Длинная серия

| d1h10 | L1 | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|----|----|------|---------------------------|---------------------------|
| 6,0   | 62 | 18 | 6,0  | <b>M6-FF15-060/18C06L</b> | <b>M6-FF15-060/18W06L</b> |
| 8,0   | 68 | 24 | 8,0  | <b>M6-FF15-080/24C08L</b> | <b>M6-FF15-080/24W08L</b> |
| 10,0  | 80 | 30 | 10,0 | <b>M6-FF15-100/30C10L</b> | <b>M6-FF15-100/30W10L</b> |

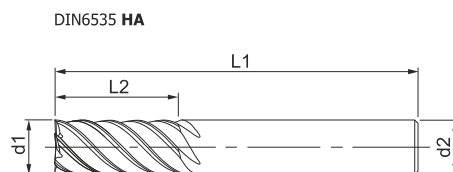


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

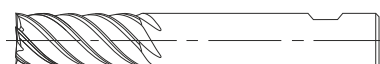
# M6-FF16



- ◆ Шестизубая фреза
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки стали, чугуна и цветных металлов



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 57  | 13 | 6,0  | <b>M6-FF16-060/13C06M</b> | <b>M6-FF16-060/13W06M</b> |
| 8,0   | 63  | 19 | 8,0  | <b>M6-FF16-080/19C08M</b> | <b>M6-FF16-080/19W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M6-FF16-100/22C10M</b> | <b>M6-FF16-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M6-FF16-120/26C12M</b> | <b>M6-FF16-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M6-FF16-140/26C14M</b> | <b>M6-FF16-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M6-FF16-160/32C16M</b> | <b>M6-FF16-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M6-FF16-180/32C18M</b> | <b>M6-FF16-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M6-FF16-200/38C20M</b> | <b>M6-FF16-200/38W20M</b> |



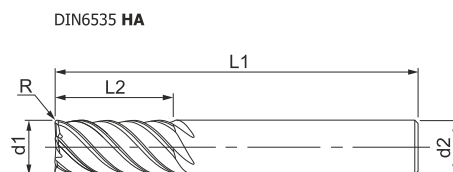
Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



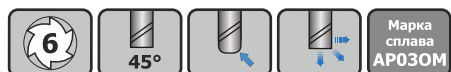
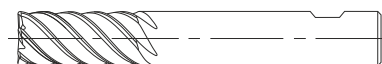
# M6-FF24



- ◆ Шестизубая фреза с угловым радиусом
- ◆ Центральные режущие кромки
- ◆ Для чистового скоростного фрезерования стали, чугуна, нержавеющей стали



DIN6535 HB



## Короткая серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|----|----|------|-----|-------------------------------|-------------------------------|
| 5,0   | 54 | 10 | 6,0  | –   | <b>M6-FF24-050/10C06S</b>     | <b>M6-FF24-050/10W06S</b>     |
| 5,0   | 54 | 10 | 6,0  | 1,0 | <b>M6-FF24-050/10C06S R1</b>  | <b>M6-FF24-050/10W06S R1</b>  |
| 6,0   | 54 | 10 | 6,0  | –   | <b>M6-FF24-060/10C06S</b>     | <b>M6-FF24-060/10W06S</b>     |
| 6,0   | 54 | 10 | 6,0  | 1,0 | <b>M6-FF24-060/10C06S R1</b>  | <b>M6-FF24-060/10W06S R1</b>  |
| 8,0   | 58 | 12 | 8,0  | –   | <b>M6-FF24-080/12C08S</b>     | <b>M6-FF24-080/12W08S</b>     |
| 8,0   | 58 | 12 | 8,0  | 1,0 | <b>M6-FF24-080/12C08S R1</b>  | <b>M6-FF24-080/12W08S R1</b>  |
| 10,0  | 66 | 14 | 10,0 | –   | <b>M6-FF24-100/14C10S</b>     | <b>M6-FF24-100/14W10S</b>     |
| 10,0  | 66 | 14 | 10,0 | 1,5 | <b>M6-FF24-100/14C10S R15</b> | <b>M6-FF24-100/14W10S R15</b> |
| 12,0  | 73 | 16 | 12,0 | –   | <b>M6-FF24-120/16C12S</b>     | <b>M6-FF24-120/16W12S</b>     |
| 12,0  | 73 | 16 | 12,0 | 1,5 | <b>M6-FF24-120/16C12S R15</b> | <b>M6-FF24-120/16W12S R15</b> |

## Средняя серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|----|----|------|-----|-------------------------------|-------------------------------|
| 5,0   | 57 | 13 | 6,0  | –   | <b>M6-FF24-050/13C06M</b>     | <b>M6-FF24-050/13W06M</b>     |
| 5,0   | 57 | 13 | 6,0  | 1,0 | <b>M6-FF24-050/13C06M R1</b>  | <b>M6-FF24-050/13W06M R1</b>  |
| 6,0   | 57 | 13 | 6,0  | –   | <b>M6-FF24-060/13C06M</b>     | <b>M6-FF24-060/13W06M</b>     |
| 6,0   | 57 | 13 | 6,0  | 1,0 | <b>M6-FF24-060/13C06M R1</b>  | <b>M6-FF24-060/13W06M R1</b>  |
| 8,0   | 63 | 19 | 8,0  | –   | <b>M6-FF24-080/19C08M</b>     | <b>M6-FF24-080/19W08M</b>     |
| 8,0   | 63 | 19 | 8,0  | 1,0 | <b>M6-FF24-080/19C08M R1</b>  | <b>M6-FF24-080/19W08M R1</b>  |
| 10,0  | 72 | 22 | 10,0 | –   | <b>M6-FF24-100/22C10M</b>     | <b>M6-FF24-100/22W10M</b>     |
| 10,0  | 72 | 22 | 10,0 | 1,5 | <b>M6-FF24-100/22C10M R15</b> | <b>M6-FF24-100/22W10M R15</b> |
| 12,0  | 83 | 26 | 12,0 | –   | <b>M6-FF24-120/26C12M</b>     | <b>M6-FF24-120/26W12M</b>     |
| 12,0  | 83 | 26 | 12,0 | 1,5 | <b>M6-FF24-120/26C12M R15</b> | <b>M6-FF24-120/26W12M R15</b> |

## Длинная серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|----|----|------|-----|-------------------------------|-------------------------------|
| 5,0   | 62 | 18 | 6,0  | –   | <b>M6-FF24-050/18C06L</b>     | <b>M6-FF24-050/18W06L</b>     |
| 5,0   | 62 | 18 | 6,0  | 1,0 | <b>M6-FF24-050/18C06L R1</b>  | <b>M6-FF24-050/18W06L R1</b>  |
| 6,0   | 62 | 18 | 6,0  | –   | <b>M6-FF24-060/18C06L</b>     | <b>M6-FF24-060/18W06L</b>     |
| 6,0   | 62 | 18 | 6,0  | 1,0 | <b>M6-FF24-060/18C06L R1</b>  | <b>M6-FF24-060/18W06L R1</b>  |
| 8,0   | 68 | 24 | 8,0  | –   | <b>M6-FF24-080/24C08L</b>     | <b>M6-FF24-080/24W08L</b>     |
| 8,0   | 68 | 24 | 8,0  | 1,0 | <b>M6-FF24-080/24C08L R1</b>  | <b>M6-FF24-080/24W08L R1</b>  |
| 10,0  | 80 | 30 | 10,0 | –   | <b>M6-FF24-100/30C10L</b>     | <b>M6-FF24-100/30W10L</b>     |
| 10,0  | 80 | 30 | 10,0 | 1,5 | <b>M6-FF24-100/30C10L R15</b> | <b>M6-FF24-100/30W10L R15</b> |
| 12,0  | 93 | 36 | 12,0 | –   | <b>M6-FF24-120/36C12L</b>     | <b>M6-FF24-120/36W12L</b>     |
| 12,0  | 93 | 36 | 12,0 | 1,5 | <b>M6-FF24-120/36C12L R15</b> | <b>M6-FF24-120/36W12L R15</b> |

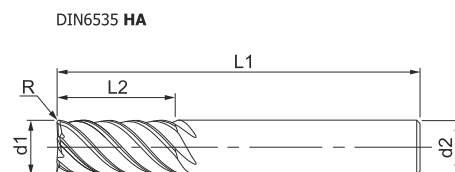


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

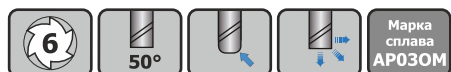
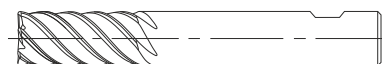
# M6-FF25



- ◆ Шестизубая фреза с угловым радиусом
- ◆ Центральные режущие кромки
- ◆ Для чистового скоростного фрезерования стали, чугуна, нержавеющей стали



DIN6535 HB



## Средняя серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)    | WELDON (HB)            |
|-------|----|----|------|-----|------------------------|------------------------|
| 5,0   | 57 | 13 | 6,0  | –   | M6-FF25-050/13C06M     | M6-FF25-050/13W06M     |
| 5,0   | 57 | 13 | 6,0  | 0,5 | M6-FF25-050/13C06M R05 | M6-FF25-050/13W06M R05 |
| 6,0   | 57 | 13 | 6,0  | –   | M6-FF25-060/13C06M     | M6-FF25-060/13W06M     |
| 6,0   | 57 | 13 | 6,0  | 1,0 | M6-FF25-060/13C06M R1  | M6-FF25-060/13W06M R1  |
| 8,0   | 63 | 16 | 8,0  | –   | M6-FF25-080/16C08M     | M6-FF25-080/16W08M     |
| 8,0   | 63 | 16 | 8,0  | 1,0 | M6-FF25-080/16C08M R1  | M6-FF25-080/16W08M R1  |
| 10,0  | 72 | 19 | 10,0 | –   | M6-FF25-100/19C10M     | M6-FF25-100/19W10M     |
| 10,0  | 72 | 19 | 10,0 | 1,5 | M6-FF25-100/19C10M R15 | M6-FF25-100/19W10M R15 |
| 12,0  | 83 | 22 | 12,0 | –   | M6-FF25-120/22C12M     | M6-FF25-120/22W12M     |
| 12,0  | 83 | 22 | 12,0 | 1,5 | M6-FF25-120/22C12M R15 | M6-FF25-120/22W12M R15 |
| 14,0  | 83 | 22 | 14,0 | –   | M6-FF25-140/22C14M     | M6-FF25-140/22W14M     |
| 14,0  | 83 | 22 | 14,0 | 1,5 | M6-FF25-140/22C14M R15 | M6-FF25-140/22W14M R15 |

## Длинная серия

| d1h10 | L1 | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)    | WELDON (HB)            |
|-------|----|----|------|-----|------------------------|------------------------|
| 6,0   | 62 | 18 | 6,0  | –   | M6-FF25-060/18C06L     | M6-FF25-060/18W06L     |
| 6,0   | 62 | 18 | 6,0  | 1,0 | M6-FF25-060/18C06L R1  | M6-FF25-060/18W06L R1  |
| 8,0   | 68 | 24 | 8,0  | –   | M6-FF25-080/24C08L     | M6-FF25-080/24W08L     |
| 8,0   | 68 | 24 | 8,0  | 1,0 | M6-FF25-080/24C08L R1  | M6-FF25-080/24W08L R1  |
| 10,0  | 80 | 30 | 10,0 | –   | M6-FF25-100/30C10L     | M6-FF25-100/30W10L     |
| 10,0  | 80 | 30 | 10,0 | 1,5 | M6-FF25-100/30C10L R15 | M6-FF25-100/30W10L R15 |
| 12,0  | 93 | 36 | 12,0 | –   | M6-FF25-120/36C12L     | M6-FF25-120/36W12L     |
| 12,0  | 93 | 36 | 12,0 | 1,5 | M6-FF25-120/36C12L R15 | M6-FF25-120/36W12L R15 |
| 14,0  | 99 | 42 | 14,0 | –   | M6-FF25-140/42C14L     | M6-FF25-140/42W14L     |
| 14,0  | 99 | 42 | 14,0 | 1,5 | M6-FF25-140/42C14L R15 | M6-FF25-140/42W14L R15 |

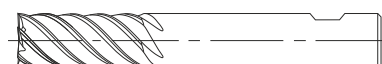
# M6-FF34



- ◆ Шестизубая фреза
- ◆ Центральные режущие кромки
- ◆ Для чистового скоростного фрезерования стали, нержавеющей стали и жаропрочных материалов



DIN6535 HB



## Длинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 8,0   | 75  | 24 | 8,0  | <b>M6-FF34-080/24C08L</b> | <b>M6-FF34-080/24W08L</b> |
| 10,0  | 90  | 32 | 10,0 | <b>M6-FF34-100/32C10L</b> | <b>M6-FF34-100/32W10L</b> |
| 12,0  | 100 | 36 | 12,0 | <b>M6-FF34-120/36C12L</b> | <b>M6-FF34-120/36W12L</b> |
| 14,0  | 105 | 38 | 14,0 | <b>M6-FF34-140/38C14L</b> | <b>M6-FF34-140/38W14L</b> |
| 16,0  | 110 | 40 | 16,0 | <b>M6-FF34-160/40C16L</b> | <b>M6-FF34-160/40W16L</b> |
| 18,0  | 115 | 42 | 18,0 | <b>M6-FF34-180/42C18L</b> | <b>M6-FF34-180/42W18L</b> |
| 20,0  | 120 | 45 | 20,0 | <b>M6-FF34-200/45C20L</b> | <b>M6-FF34-200/45W20L</b> |

## Сверхдлинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 8,0   | 80  | 28 | 8,0  | <b>M6-FF34-080/28C08X</b> | <b>M6-FF34-080/28W08X</b> |
| 10,0  | 100 | 32 | 10,0 | <b>M6-FF34-100/32C10X</b> | <b>M6-FF34-100/32W10X</b> |
| 12,0  | 100 | 40 | 12,0 | <b>M6-FF34-120/40C12X</b> | <b>M6-FF34-120/40W12X</b> |
| 14,0  | 105 | 50 | 14,0 | <b>M6-FF34-140/50C14X</b> | <b>M6-FF34-140/50W14X</b> |
| 16,0  | 115 | 56 | 16,0 | <b>M6-FF34-160/56C16X</b> | <b>M6-FF34-160/56W16X</b> |
| 18,0  | 130 | 64 | 18,0 | <b>M6-FF34-180/64C18X</b> | <b>M6-FF34-180/64W18X</b> |
| 20,0  | 150 | 75 | 20,0 | <b>M6-FF34-200/75C20X</b> | <b>M6-FF34-200/75W20X</b> |

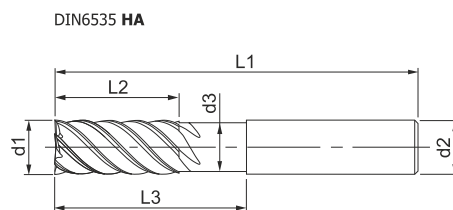


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

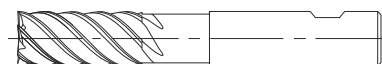
# M6-FH69U



- ◆ Шестизубая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, HPC
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки стали и нержавеющей



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | L3 | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        | WELDON (HB)                |
|-------|-----|----|----|------|------|----------------------------|----------------------------|
| 6,0   | 57  | 13 | 21 | 5,50 | 6,0  | <b>M6-FH69U-060/13C06M</b> | <b>M6-FH69U-060/13W06M</b> |
| 8,0   | 63  | 19 | 30 | 7,5  | 8,0  | <b>M6-FH69U-080/19C08M</b> | <b>M6-FH69U-080/19W08M</b> |
| 10,0  | 72  | 22 | 32 | 9,5  | 10,0 | <b>M6-FH69U-100/22C10M</b> | <b>M6-FH69U-100/22W10M</b> |
| 12,0  | 83  | 26 | 40 | 11,5 | 12,0 | <b>M6-FH69U-120/26C12M</b> | <b>M6-FH69U-120/26W12M</b> |
| 14,0  | 88  | 28 | 42 | 13,4 | 14,0 | <b>M6-FH69U-140/28C14M</b> | <b>M6-FH69U-140/28W14M</b> |
| 16,0  | 92  | 32 | 45 | 15,0 | 16,0 | <b>M6-FH69U-160/32C16M</b> | <b>M6-FH69U-160/32W16M</b> |
| 18,0  | 98  | 36 | 50 | 17,0 | 18,0 | <b>M6-FH69U-180/36C18M</b> | <b>M6-FH69U-180/36W18M</b> |
| 20,0  | 104 | 38 | 54 | 19,0 | 20,0 | <b>M6-FH69U-200/38C20M</b> | <b>M6-FH69U-200/38W20M</b> |
| 25,0  | 122 | 42 | 65 | 24,0 | 25,0 | <b>M6-FH69U-250/42C25M</b> | <b>M6-FH69U-250/42W25M</b> |

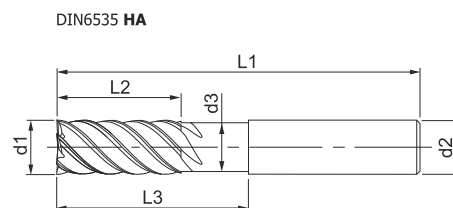


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M6-FH79U



- ◆ Шестизубая фреза с занижением диаметра шейки
- ◆ Антивибрационная геометрия, HPC
- ◆ Для полустойковой обработки стали, чугуна, нержавеющей, титана и титановых сплавов



## Средняя серия

| d1h10 | L1  | L2 | L3 | d3   | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)        |
|-------|-----|----|----|------|------|----------------------------|
| 6,0   | 57  | 13 | 21 | 5,5  | 6,0  | <b>M6-FH79U-060/13C06M</b> |
| 8,0   | 63  | 19 | 27 | 7,5  | 8,0  | <b>M6-FH79U-080/19C08M</b> |
| 10,0  | 72  | 22 | 32 | 9,5  | 10,0 | <b>M6-FH79U-100/22C10M</b> |
| 12,0  | 83  | 26 | 40 | 11,5 | 12,0 | <b>M6-FH79U-120/26C12M</b> |
| 14,0  | 88  | 28 | 42 | 13,5 | 14,0 | <b>M6-FH79U-140/28C14M</b> |
| 16,0  | 92  | 32 | 45 | 15,0 | 16,0 | <b>M6-FH79U-160/32C16M</b> |
| 18,0  | 98  | 36 | 50 | 17,0 | 18,0 | <b>M6-FH79U-180/36C18M</b> |
| 20,0  | 104 | 38 | 54 | 19,0 | 20,0 | <b>M6-FH79U-200/38C20M</b> |
| 25,0  | 122 | 42 | 65 | 24,0 | 25,0 | <b>M6-FH79U-250/42C25M</b> |

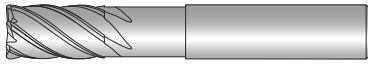
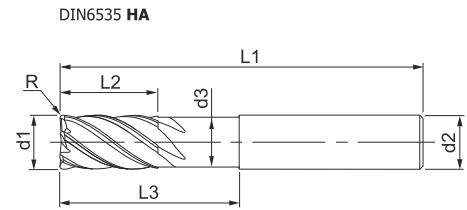
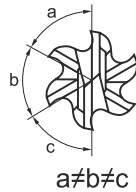


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M6-FV52U



- ◆ Шестизубая фреза с занижением диаметра шейки и угловым радиусом
- ◆ Антивибрационная геометрия, НРС
- ◆ Центральные режущие кромки
- ◆ Для полустиховой обработки холодноштампованных сталей с HRC 54-60



## Средняя серия

| d1h9 | L1 | L2 | d2h6 | d3  | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (НА)            |
|------|----|----|------|-----|----|-----|--------------------------------|
| 6,0  | 70 | 8  | 6,0  | 5,9 | 33 | 0,4 | <b>M6-FV52U-060/08C06M R04</b> |
| 8,0  | 80 | 10 | 8,0  | 7,8 | 43 | 0,7 | <b>M6-FV52U-080/10C08M R07</b> |

## Сверхдлинная серия

| d1h9 | L1  | L2 | d2h6 | d3  | L3 | R    | ЦИЛИНДРИЧЕСКИЙ (НА)             |
|------|-----|----|------|-----|----|------|---------------------------------|
| 6,0  | 80  | 10 | 6,0  | 5,9 | 43 | 0,25 | <b>M6-FV52U-060/10C06X R025</b> |
| 8,0  | 100 | 12 | 8,0  | 7,8 | 63 | 0,5  | <b>M6-FV52U-080/12C08X R05</b>  |

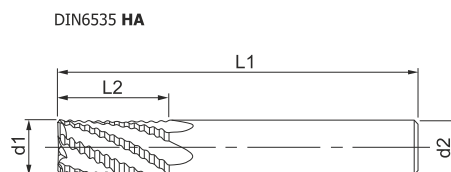


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M6-FR32



- ◆ Шестизубая черновая фреза
- ◆ Центральные режущие кромки
- ◆ Для черновой обработки закалённых сталей до 54 HRC



## Средняя серия

| d1h10 | L1  | L2 | d1h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 6,0   | 57  | 16 | 6,0  | <b>M6-FR32-060/16C06M</b> | <b>M6-FR32-060/16W06M</b> |
| 8,0   | 63  | 16 | 8,0  | <b>M6-FR32-080/16C08M</b> | <b>M6-FR32-080/16W08M</b> |
| 10,0  | 72  | 22 | 10,0 | <b>M6-FR32-100/22C10M</b> | <b>M6-FR32-100/22W10M</b> |
| 12,0  | 83  | 26 | 12,0 | <b>M6-FR32-120/26C12M</b> | <b>M6-FR32-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M6-FR32-140/26C14M</b> | <b>M6-FR32-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M6-FR32-160/32C16M</b> | <b>M6-FR32-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M6-FR32-180/32C18M</b> | <b>M6-FR32-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M6-FR32-200/38C20M</b> | <b>M6-FR32-200/38W20M</b> |



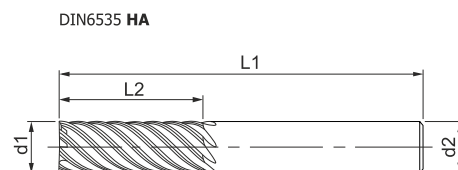
Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия



# M8-FF15



- ◆ Восьмизубая фреза
- ◆ Центральные режущие кромки
- ◆ Для чистовой обработки с высокой скоростью резания



DIN6535 HA

DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 12,0  | 83  | 26 | 12,0 | <b>M8-FF15-120/26C12M</b> | <b>M8-FF15-120/26W12M</b> |
| 14,0  | 83  | 26 | 14,0 | <b>M8-FF15-140/26C14M</b> | <b>M6-FF15-140/26W14M</b> |
| 16,0  | 92  | 32 | 16,0 | <b>M8-FF15-160/32C16M</b> | <b>M8-FF15-160/32W16M</b> |
| 18,0  | 92  | 32 | 18,0 | <b>M8-FF15-180/32C18M</b> | <b>M6-FF15-180/32W18M</b> |
| 20,0  | 104 | 38 | 20,0 | <b>M8-FF15-200/38C20M</b> | <b>M8-FF15-200/38W20M</b> |
| 25,0  | 121 | 45 | 25,0 | <b>M8-FF15-250/45C25M</b> | <b>M6-FF15-250/45W25M</b> |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | ЦИЛИНДРИЧЕСКИЙ (HA)       | WELDON (HB)               |
|-------|-----|----|------|---------------------------|---------------------------|
| 12,0  | 93  | 36 | 12,0 | <b>M8-FF15-120/36C12L</b> | <b>M8-FF15-120/36W12L</b> |
| 14,0  | 93  | 36 | 14,0 | <b>M8-FF15-140/36C14L</b> | <b>M6-FF15-140/36W14L</b> |
| 16,0  | 108 | 48 | 16,0 | <b>M8-FF15-160/48C16L</b> | <b>M8-FF15-160/48W16L</b> |
| 18,0  | 108 | 48 | 18,0 | <b>M8-FF15-180/48C18L</b> | <b>M6-FF15-180/48W18L</b> |
| 20,0  | 126 | 60 | 20,0 | <b>M8-FF15-200/60C20L</b> | <b>M8-FF15-200/60W20L</b> |
| 25,0  | 180 | 99 | 25,0 | <b>M8-FF15-250/99C25L</b> | <b>M6-FF15-250/99W25L</b> |

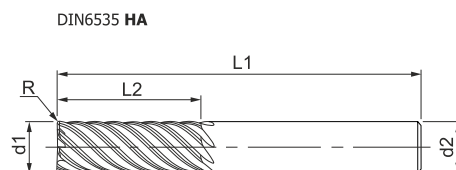


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

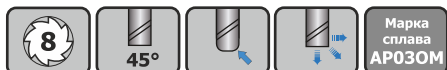
# M8-FF24



- ◆ Восьмизубая фреза с угловым радиусом
- ◆ Центральные режущие кромки
- ◆ Для чистового скоростного фрезерования стали, чугуна
- ◆ Возможно фрезерование нержавеющей стали и жаропрочки



DIN6535 HB



## Короткая серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|-----|----|------|-----|-------------------------------|-------------------------------|
| 16,0  | 82  | 20 | 16,0 | –   | <b>M8-FF24-160/20C16S</b>     | <b>M8-FF24-160/20W16S</b>     |
| 16,0  | 82  | 20 | 16,0 | 2,0 | <b>M8-FF24-160/20C16S R2</b>  | <b>M8-FF24-160/20W16S R2</b>  |
| 20,0  | 92  | 25 | 20,0 | –   | <b>M8-FF24-200/25C20S</b>     | <b>M8-FF24-200/25W20S</b>     |
| 20,0  | 92  | 25 | 20,0 | 2,0 | <b>M8-FF24-200/25C20S R2</b>  | <b>M8-FF24-200/25W20S R2</b>  |
| 25,0  | 100 | 32 | 25,0 | –   | <b>M8-FF24-250/32C25S</b>     | <b>M8-FF24-250/32W25S</b>     |
| 25,0  | 100 | 32 | 25,0 | 2,5 | <b>M8-FF24-250/32C25S R25</b> | <b>M8-FF24-250/32W25S R25</b> |

## Средняя серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|-----|----|------|-----|-------------------------------|-------------------------------|
| 16,0  | 92  | 32 | 16,0 | –   | <b>M8-FF24-160/32C16M</b>     | <b>M8-FF24-160/32W16M</b>     |
| 16,0  | 92  | 32 | 16,0 | 2,0 | <b>M8-FF24-160/32C16M R2</b>  | <b>M8-FF24-160/32W16M R2</b>  |
| 20,0  | 104 | 38 | 20,0 | –   | <b>M8-FF24-200/38C20M</b>     | <b>M8-FF24-200/38W20M</b>     |
| 20,0  | 104 | 38 | 20,0 | 2,0 | <b>M8-FF24-200/38C20M R2</b>  | <b>M8-FF24-200/38W20M R2</b>  |
| 25,0  | 121 | 45 | 25,0 | –   | <b>M8-FF24-250/45C25M</b>     | <b>M8-FF24-250/45W25M</b>     |
| 25,0  | 121 | 45 | 25,0 | 2,5 | <b>M8-FF24-250/45C25M R25</b> | <b>M8-FF24-250/45W25M R25</b> |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (НА)           | WELDON (НВ)                   |
|-------|-----|----|------|-----|-------------------------------|-------------------------------|
| 16,0  | 108 | 48 | 16,0 | –   | <b>M8-FF24-160/48C16L</b>     | <b>M8-FF24-160/48W16L</b>     |
| 16,0  | 108 | 48 | 16,0 | 2,0 | <b>M8-FF24-160/48C16L R2</b>  | <b>M8-FF24-160/48W16L R2</b>  |
| 20,0  | 126 | 60 | 20,0 | –   | <b>M8-FF24-200/60C20L</b>     | <b>M8-FF24-200/60W20L</b>     |
| 20,0  | 126 | 60 | 20,0 | 2,0 | <b>M8-FF24-200/60C20L R2</b>  | <b>M8-FF24-200/60W20L R2</b>  |
| 25,0  | 180 | 92 | 25,0 | –   | <b>M8-FF24-250/92C25L</b>     | <b>M8-FF24-250/92W25L</b>     |
| 25,0  | 180 | 92 | 25,0 | 2,5 | <b>M8-FF24-250/92C25L R25</b> | <b>M8-FF24-250/92W25L R25</b> |

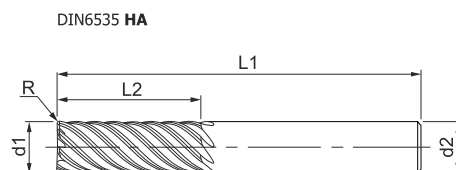


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

# M8-FF25



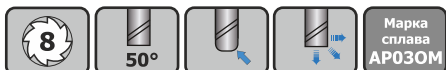
- ◆ Восьмизубая фреза с угловым радиусом
- ◆ Центральные режущие кромки
- ◆ Для чистового скоростного фрезерования стали, чугуна
- ◆ Возможно фрезерование нержавеющей стали и жаропрочки



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)           | WELDON (HB)                   |
|-------|-----|----|------|-----|-------------------------------|-------------------------------|
| 16,0  | 92  | 26 | 16,0 | –   | <b>M8-FF25-160/26C16M</b>     | <b>M8-FF25-160/26W16M</b>     |
| 16,0  | 92  | 26 | 16,0 | 2,0 | <b>M8-FF25-160/26C16M R2</b>  | <b>M8-FF25-160/26W16M R2</b>  |
| 18,0  | 92  | 26 | 18,0 | –   | <b>M8-FF25-180/26C18M</b>     | <b>M8-FF25-180/26W18M</b>     |
| 18,0  | 92  | 26 | 18,0 | 2,0 | <b>M8-FF25-180/26C18M R2</b>  | <b>M8-FF25-180/26W18M R2</b>  |
| 20,0  | 104 | 32 | 20,0 | –   | <b>M8-FF25-200/32C20M</b>     | <b>M8-FF25-200/32W20M</b>     |
| 20,0  | 104 | 32 | 20,0 | 2,0 | <b>M8-FF25-200/32C20M R2</b>  | <b>M8-FF25-200/32W20M R2</b>  |
| 25,0  | 121 | 45 | 25,0 | –   | <b>M8-FF25-250/45C25M</b>     | <b>M8-FF25-250/45W25M</b>     |
| 25,0  | 121 | 45 | 25,0 | 2,5 | <b>M8-FF25-250/45C25M R25</b> | <b>M8-FF25-250/45W25M R25</b> |

## Длинная серия

| d1h10 | L1  | L2 | d2h6 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)          | WELDON (HB)                   |
|-------|-----|----|------|-----|------------------------------|-------------------------------|
| 16,0  | 108 | 48 | 16,0 | –   | <b>M8-FF25-160/48C16L</b>    | <b>M8-FF25-160/48W16L</b>     |
| 16,0  | 108 | 48 | 16,0 | 2,0 | <b>M8-FF25-160/48C16L R2</b> | <b>M8-FF25-160/48W16L R2</b>  |
| 18,0  | 114 | 54 | 18,0 | –   | <b>M8-FF25-180/54C18L</b>    | <b>M8-FF25-180/54W18L</b>     |
| 18,0  | 114 | 54 | 18,0 | 2,0 | <b>M8-FF25-180/54C18L R2</b> | <b>M8-FF25-180/54W18L R2</b>  |
| 20,0  | 126 | 60 | 20,0 | –   | <b>M8-FF25-200/60C20L</b>    | <b>M8-FF25-200/60W20L</b>     |
| 20,0  | 126 | 60 | 20,0 | 2,0 | <b>M8-FF25-200/60C20L R2</b> | <b>M8-FF25-200/60W20L R2</b>  |
| 25,0  | 180 | 92 | 25,0 | –   | <b>M8-FF25-250/92C25L</b>    | <b>M8-FF25-250/92W25L</b>     |
| 25,0  | 180 | 92 | 25,0 | 2,5 | <b>M8-FF25-250/92C25L R2</b> | <b>M8-FF25-250/92W25L R25</b> |

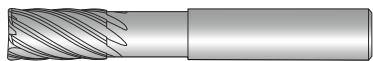
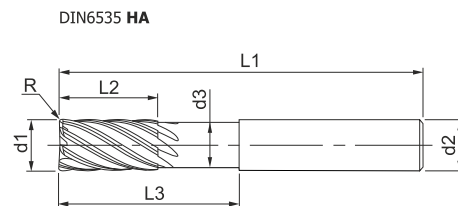
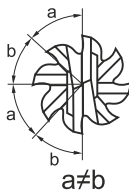


Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия

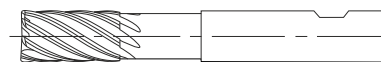
# M8-FV52U



- ◆ Восьмизубая фреза с занижением диаметра шейки и угловым радиусом
- ◆ Антивибрационная геометрия, HPS
- ◆ Центральные режущие кромки
- ◆ Для полустойкой обработки холодноштампованных сталей с HRC 54-60



DIN6535 HA



DIN6535 HB



## Средняя серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|-----|----|------|------|----|-----|-------------------------|-------------------------|
| 10,0 | 100 | 12 | 10,0 | 9,8  | 65 | 0,5 | M8-FV52U-100/12C10M R05 | M8-FV52U-100/12W10M R05 |
| 10,0 | 100 | 12 | 10,0 | 9,8  | 65 | 0,8 | M8-FV52U-100/12C10M R08 | M8-FV52U-100/12W10M R08 |
| 10,0 | 100 | 12 | 10,0 | 9,8  | 65 | 1,0 | M8-FV52U-100/12C10M R1  | M8-FV52U-100/12W10M R1  |
| 12,0 | 120 | 14 | 12,0 | 11,8 | 75 | 0,5 | M8-FV52U-120/14C12M R05 | M8-FV52U-120/14W12M R05 |
| 12,0 | 120 | 14 | 12,0 | 11,8 | 75 | 0,8 | M8-FV52U-120/14C12M R08 | M8-FV52U-120/14W12M R08 |
| 12,0 | 120 | 14 | 12,0 | 11,8 | 75 | 1,0 | M8-FV52U-120/14C12M R1  | M8-FV52U-120/14W12M R1  |

## Длинная серия

| d1h9 | L1  | L2 | d2h6 | d3   | L3 | R   | ЦИЛИНДРИЧЕСКИЙ (HA)     | WELDON (HB)             |
|------|-----|----|------|------|----|-----|-------------------------|-------------------------|
| 10,0 | 120 | 12 | 10,0 | 9,8  | 85 | 0,5 | M8-FV52U-100/12C10L R05 | M8-FV52U-100/12W10L R05 |
| 10,0 | 120 | 12 | 10,0 | 9,8  | 85 | 0,8 | M8-FV52U-100/12C10L R08 | M8-FV52U-100/12W10L R08 |
| 10,0 | 120 | 12 | 10,0 | 9,8  | 85 | 1,0 | M8-FV52U-100/12C10L R1  | M8-FV52U-100/12W10L R1  |
| 12,0 | 135 | 14 | 12,0 | 11,8 | 95 | 0,5 | M8-FV52U-120/14C12L R05 | M8-FV52U-120/14W12L R05 |
| 12,0 | 135 | 14 | 12,0 | 11,8 | 95 | 0,8 | M8-FV52U-120/14C12L R08 | M8-FV52U-120/14W12L R08 |
| 12,0 | 135 | 14 | 12,0 | 11,8 | 95 | 1,0 | M8-FV52U-120/14C12L R1  | M8-FV52U-120/14W12L R1  |



Возможно изготовление инструмента по размерам заказчика и с другим видом износостойкого покрытия