



Special action

# HF EVO

18.9 - 20.12.2018

**Highest reliability and flexibility in all conditions**



🇬🇧 Get 1 free Osawa sport snood with just €200 order

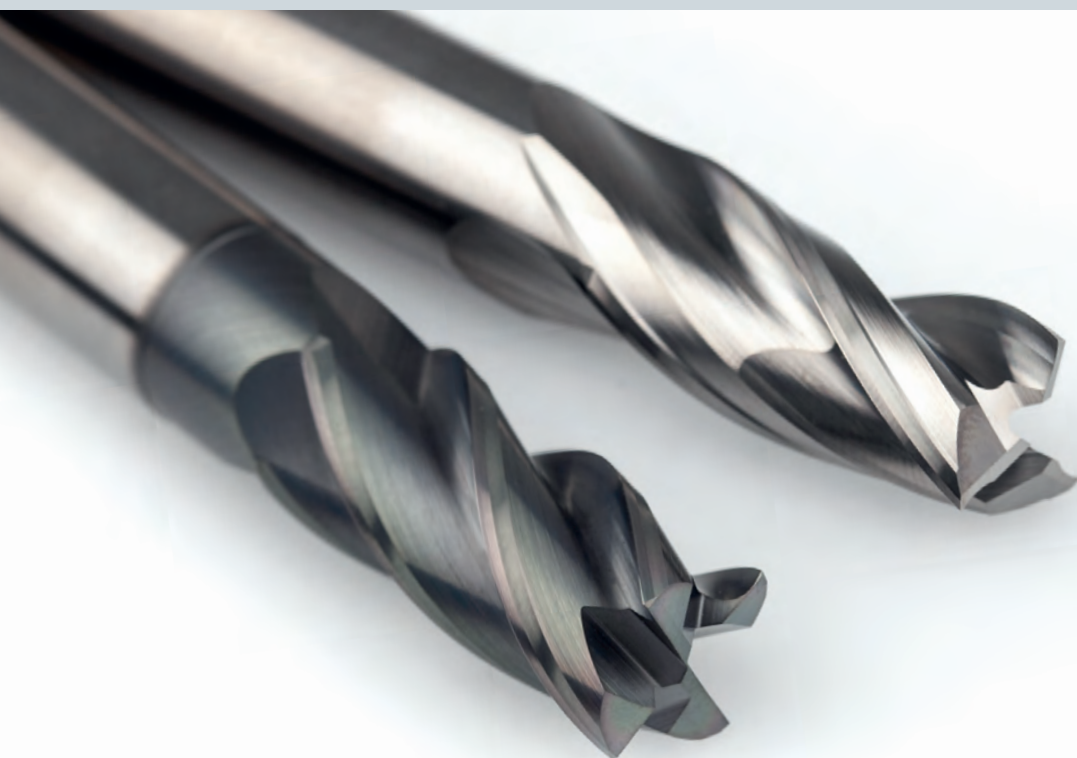
🇩🇪 1 Halswärmer als Geschenk mit nur 200€ Bestellung

🇫🇷 1 Écharpe en cadeau avec une commande de 200€

🇪🇸 1 Braga de cuello Osawa de regalo con un pedido mínimo de 200€



 **OSAWA**  
DRILLS & END MILLS



## HF UNI - HF ALU

VARIABLE HELIX AND UNEQUAL PITCH UNIVERSAL PURPOSE

🇬🇧 HF EVOLution is the Osawa family of micrograin carbide endmills for universal application with coatings and cutting edges specifically designed for high performance machining of all ISO materials.

The HF EVOLution endmills are available in a broad range of types, lengths and radii. They are the ideal tools for both mass production and small batch manufacturing, thanks to the outstanding performance delivered and the universal applicability.

🇫🇷 HF EVOLution est la ligne Osawa de fraises universelles en carbure micrograin avec dépouilles et revêtements spécifiques pour l'usinage de haute performance de tous les matériaux de l'échelle ISO.

Les fraises HF EVOLution sont disponibles dans une large gamme, longueurs et rayons. Ce sont des outils aussi bien pour les grandes séries que pour la production de prototypes, grâce à leur excellence de rendement et leur polyvalence.

🇩🇪 HF EVOLution heißt die Linie der Universalfräser aus mikrokörnigem Hartmetall von Osawa, mit Schneidekanten und spezifischen Beschichtungen zur Hochleistungsbearbeitung von allen Materialien der ISO-Skala. Die Fräser HF EVOLution sind in einer reichen Auswahl an Typologien, Längen und Torusradien erhältlich.

Mit ihren ausgezeichneten Leistungen und dem universellen Einsatz sind sie die idealen Werkzeuge, sowohl für die Serienproduktion großer Mengen als auch für die Herstellung kleiner Lose.

🇪🇸 HF EVOLution es la línea de fresas universales de metal duro microgranulado con inclinación y revestimientos específicos para el mecanizado de alto rendimiento de todos los materiales de la escala ISO.

Las fresas HF EVOLution están disponibles en una amplia gama de tipologías, longitudes y radios tóricos. Son las herramientas ideales tanto para las superproducciones en serie como para la producción de pequeños lotes, gracias a la excelencia del rendimiento y la universalidad de empleo.



GENERAL  
CATALOGUE

## HF UNI - VH/UP - Square

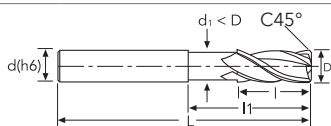
HF840 - catalogue page 390

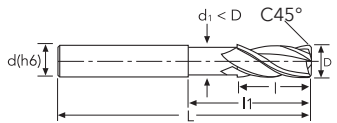


HF440 - catalogue page 394



HF441 - catalogue page 399



|  |      |       |  |    | HF840 |        |    |    |       |     | HF440  | HF441  |
|-----------------------------------------------------------------------------------|------|-------|--|----|-------|--------|----|----|-------|-----|--------|--------|
| P                                                                                 |      |       |  |    |       | ★      |    |    |       |     | ★      | ★      |
| M                                                                                 |      |       |  |    |       | ★      |    |    |       |     | ★      | ★      |
| K                                                                                 |      |       |  |    |       | ★      |    |    |       |     | ★      | ★      |
| N                                                                                 |      |       |  |    |       |        |    |    |       |     |        |        |
| S                                                                                 |      |       |  |    |       | ★      |    |    |       |     | ★      | ★      |
| H                                                                                 |      |       |  |    |       |        |    |    |       |     |        |        |
| D                                                                                 | C45° | d(h6) |  | l  | L     | €      | l  | l1 | d1    | L   | €      | €      |
| 3                                                                                 | 0.10 | 6     |  | 9  | 57    | 13,97  | 9  | 15 | 2.80  | 57  | 14,04  | 14,04  |
| 4                                                                                 | 0.10 | 6     |  | 11 | 57    | 13,97  | 11 | 18 | 3.80  | 57  | 14,04  | 14,04  |
| 5                                                                                 | 0.10 | 6     |  | 13 | 57    | 13,97  | 13 | 19 | 4.80  | 57  | 14,04  | 14,04  |
| 6                                                                                 | 0.10 | 6     |  | 13 | 57    | 13,97  | 13 | 20 | 5.80  | 57  | 14,04  | 14,04  |
| 8                                                                                 | 0.20 | 8     |  | 20 | 64    | 19,78  | 20 | 26 | 7.80  | 64  | 19,89  | 19,89  |
| 10                                                                                | 0.20 | 10    |  | 22 | 72    | 29,23  | 22 | 30 | 9.80  | 72  | 29,38  | 29,38  |
| 12                                                                                | 0.20 | 12    |  | 26 | 83    | 37,68  | 26 | 36 | 11.80 | 83  | 37,85  | 37,85  |
| 14                                                                                | 0.30 | 14    |  | 32 | 90    | 50,37  | 32 | 36 | 13.70 | 90  | 50,58  | 50,58  |
| 16                                                                                | 0.30 | 16    |  | 32 | 92    | 65,70  | 32 | 42 | 15.70 | 92  | 65,96  | 65,96  |
| 18                                                                                | 0.30 | 18    |  | 32 | 92    | 91,75  | 32 | 42 | 17.70 | 92  |        | 92,19  |
| 20                                                                                | 0.40 | 20    |  | 38 | 104   | 106,49 | 38 | 50 | 19.70 | 104 | 107,01 | 107,17 |

## HF UNI - VH/UP - Roughing

HF844 - catalogue page 405



|               |             |            |            |      |         |       |
|---------------|-------------|------------|------------|------|---------|-------|
| OSAWA<br>NORM | MG<br>PV300 | <40<br>HRC | VH 36°/39° | C45° | HR FINE | Z4 UP |
|---------------|-------------|------------|------------|------|---------|-------|

HF444 - catalogue page 409

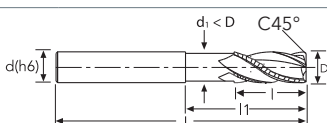


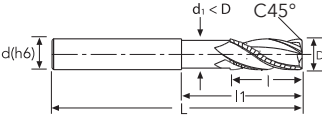
|               |             |            |            |      |         |       |
|---------------|-------------|------------|------------|------|---------|-------|
| OSAWA<br>NORM | MG<br>PV300 | <40<br>HRC | VH 36°/39° | C45° | HR FINE | Z4 UP |
|---------------|-------------|------------|------------|------|---------|-------|

HF445 - catalogue page 413



|               |             |            |            |      |         |       |
|---------------|-------------|------------|------------|------|---------|-------|
| OSAWA<br>NORM | MG<br>PV300 | <40<br>HRC | VH 36°/39° | C45° | HR FINE | Z4 UP |
|---------------|-------------|------------|------------|------|---------|-------|



|                                                                                   |      |       |  |    |     |        |    |    |       |       |        |        |  |
|-----------------------------------------------------------------------------------|------|-------|--|----|-----|--------|----|----|-------|-------|--------|--------|--|
|  |      |       |  |    |     | HF844  |    |    |       | HF444 |        | HF445  |  |
| P                                                                                 |      |       |  |    | ★   |        |    |    | ★     |       | ★      |        |  |
| M                                                                                 |      |       |  |    | ★   |        |    |    | ★     |       | ★      |        |  |
| K                                                                                 |      |       |  |    | ★   |        |    |    | ★     |       | ★      |        |  |
| N                                                                                 |      |       |  |    |     |        |    |    |       |       |        |        |  |
| S                                                                                 |      |       |  |    | ★   |        |    |    | ★     |       | ★      |        |  |
| H                                                                                 |      |       |  |    |     |        |    |    |       |       |        |        |  |
| D                                                                                 | C45° | d(h6) |  | l  | L   | €      | l  | l1 | d1    | L     | €      | €      |  |
| 6                                                                                 | 0.10 | 6     |  | 16 | 57  | 23,60  | 13 | 20 | 5.80  | 57    | 23,60  | 23,60  |  |
| 8                                                                                 | 0.20 | 8     |  | 20 | 64  | 26,86  | 20 | 26 | 7.80  | 64    | 26,86  | 26,86  |  |
| 10                                                                                | 0.20 | 10    |  | 22 | 72  | 38,26  | 22 | 30 | 9.80  | 72    | 38,27  | 38,27  |  |
| 12                                                                                | 0.20 | 12    |  | 26 | 83  | 53,73  | 26 | 36 | 11.80 | 83    | 53,73  | 53,73  |  |
| 14                                                                                | 0.20 | 14    |  | 26 | 83  | 62,86  | 26 | 36 | 13.70 | 83    | 62,86  | 66,00  |  |
| 16                                                                                | 0.30 | 16    |  | 32 | 92  | 77,08  | 32 | 42 | 15.70 | 92    | 77,08  | 80,93  |  |
| 18                                                                                | 0.30 | 18    |  | 32 | 92  | 102,25 |    |    |       |       |        |        |  |
| 20                                                                                | 0.40 | 20    |  | 38 | 104 | 127,03 | 38 | 50 | 19.70 | 104   | 127,04 | 129,86 |  |

## HF UNI - VH/UP - Corner radius

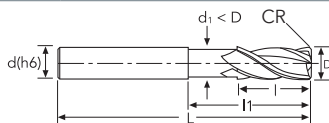
HF842 - catalogue page 421

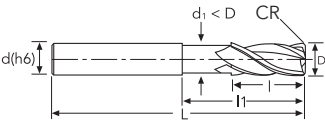


HF442 - catalogue page 425



HF443 - catalogue page 430



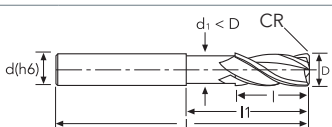
|  |      |       |  |    |     |        | HF842 |    |       |     |        | HF442  | HF443 |
|-----------------------------------------------------------------------------------|------|-------|--|----|-----|--------|-------|----|-------|-----|--------|--------|-------|
| P                                                                                 |      |       |  |    |     | ★      |       |    |       |     | ★      | ★      |       |
| M                                                                                 |      |       |  |    |     | ★      |       |    |       |     | ★      | ★      |       |
| K                                                                                 |      |       |  |    |     | ★      |       |    |       |     | ★      | ★      |       |
| N                                                                                 |      |       |  |    |     |        |       |    |       |     |        |        |       |
| S                                                                                 |      |       |  |    |     | ★      |       |    |       |     | ★      | ★      |       |
| H                                                                                 |      |       |  |    |     |        |       |    |       |     |        |        |       |
| D                                                                                 | CR   | d(h6) |  | l  | L   | €      | l     | l1 | d1    | L   | €      | €      |       |
| 3                                                                                 | 0.30 | 6     |  |    |     |        | 9     | 15 | 2.80  | 57  | 15,35  | 15,35  |       |
| 3                                                                                 | 0.50 | 6     |  |    |     |        | 9     | 15 | 2.80  | 57  | 15,35  | 15,35  |       |
| 4                                                                                 | 0.30 | 6     |  | 11 | 57  | 15,35  | 11    | 18 | 3.80  | 57  | 15,35  | 15,35  |       |
| 4                                                                                 | 0.50 | 6     |  | 11 | 57  | 15,35  | 11    | 18 | 3.80  | 57  | 15,35  | 15,35  |       |
| 5                                                                                 | 0.30 | 6     |  | 13 | 57  | 15,35  | 13    | 19 | 4.80  | 57  |        |        |       |
| 5                                                                                 | 0.50 | 6     |  | 13 | 57  | 15,35  | 13    | 19 | 4.80  | 57  | 15,35  | 15,35  |       |
| 6                                                                                 | 0.30 | 6     |  | 13 | 57  | 15,35  | 13    | 20 | 5.80  | 57  |        |        |       |
| 6                                                                                 | 0.50 | 6     |  | 13 | 57  | 15,35  | 13    | 20 | 5.80  | 57  | 15,35  | 15,35  |       |
| 6                                                                                 | 1.00 | 6     |  | 13 | 57  | 15,35  | 13    | 20 | 5.80  | 57  | 15,35  | 15,35  |       |
| 8                                                                                 | 0.50 | 8     |  | 20 | 64  | 21,76  | 20    | 26 | 7.80  | 64  | 21,76  | 21,76  |       |
| 8                                                                                 | 1.00 | 8     |  | 20 | 64  | 21,76  | 20    | 26 | 7.80  | 64  | 21,76  | 21,76  |       |
| 10                                                                                | 0.50 | 10    |  | 22 | 72  | 32,15  | 22    | 30 | 9.80  | 72  | 32,15  | 32,15  |       |
| 10                                                                                | 1.00 | 10    |  | 22 | 72  | 32,15  | 22    | 30 | 9.80  | 72  | 32,15  | 32,15  |       |
| 12                                                                                | 0.50 | 12    |  | 26 | 83  | 41,45  | 26    | 36 | 11.80 | 83  | 41,45  | 41,45  |       |
| 12                                                                                | 1.00 | 12    |  | 26 | 83  | 41,45  | 26    | 36 | 11.80 | 83  | 41,45  | 41,45  |       |
| 12                                                                                | 2.00 | 12    |  | 26 | 83  | 41,45  |       |    |       |     |        |        |       |
| 12                                                                                | 3.00 | 12    |  | 26 | 83  | 41,45  |       |    |       |     |        |        |       |
| 14                                                                                | 1.00 | 14    |  | 26 | 83  | 55,41  | 26    | 36 | 13.70 | 83  | 55,41  | 55,41  |       |
| 16                                                                                | 1.00 | 16    |  | 32 | 92  | 72,25  | 32    | 42 | 15.70 | 92  | 72,25  | 72,25  |       |
| 16                                                                                | 2.00 | 16    |  | 32 | 92  | 72,25  | 32    | 42 | 15.70 | 92  | 72,25  |        |       |
| 16                                                                                | 3.00 | 16    |  | 32 | 92  | 72,25  |       |    |       |     |        |        |       |
| 20                                                                                | 1.00 | 20    |  | 38 | 104 | 111,55 | 38    | 50 | 19.70 | 104 | 111,55 | 112,89 |       |
| 20                                                                                | 2.00 | 20    |  | 38 | 104 | 111,55 | 38    | 50 | 19.70 | 104 | 111,55 |        |       |
| 20                                                                                | 3.00 | 20    |  | 38 | 104 | 117,13 |       |    |       |     |        |        |       |

## HF UNI - VH/UP - Corner radius

HF942 - catalogue page 438



HF943 - catalogue page 442



|    |      |       |    |     |  | HF942  | HF943  |
|----|------|-------|----|-----|--|--------|--------|
| P  |      |       |    |     |  | ★      | ★      |
| M  |      |       |    |     |  | ★      | ★      |
| K  |      |       |    |     |  | ★      | ★      |
| N  |      |       |    |     |  |        |        |
| S  |      |       |    |     |  | ★      | ★      |
| H  |      |       |    |     |  |        |        |
| D  | CR   | d(h6) | I  | L   |  | €      | €      |
| 4  | 0.10 | 6     | 19 | 75  |  | 19,30  | 20,37  |
| 5  | 0.10 | 6     | 19 | 75  |  | 19,30  | 20,37  |
| 6  | 0.10 | 6     | 25 | 75  |  | 19,30  | 20,37  |
| 8  | 0.20 | 8     | 30 | 75  |  | 26,28  | 27,56  |
| 10 | 0.20 | 10    | 40 | 100 |  | 42,61  | 44,32  |
| 12 | 0.30 | 12    | 45 | 100 |  | 56,36  | 58,07  |
| 16 | 0.30 | 16    | 65 | 125 |  | 113,86 | 116,85 |
| 20 | 0.30 | 20    | 65 | 125 |  | 163,54 | 166,74 |

HF642 - catalogue page 446



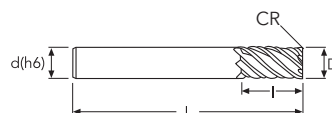
HF643 - catalogue page 449



HF742 - catalogue page 452

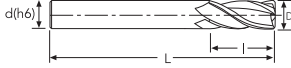


HF743 - catalogue page 455

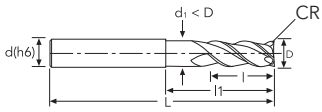


|    |      |       |    |     |  | HF642  | HF643  |    |     | HF742  | HF743  |
|----|------|-------|----|-----|--|--------|--------|----|-----|--------|--------|
| P  |      |       |    |     |  | ★      | ★      |    |     | ★      | ★      |
| M  |      |       |    |     |  | ★      | ★      |    |     | ★      | ★      |
| K  |      |       |    |     |  | ★      | ★      |    |     | ★      | ★      |
| N  |      |       |    |     |  |        |        |    |     |        |        |
| S  |      |       |    |     |  | ★      | ★      |    |     | ★      | ★      |
| H  |      |       |    |     |  |        |        |    |     |        |        |
| D  | CR   | d(h6) | I  | L   |  | €      | €      | I  | L   | €      | €      |
| 6  | 0.10 | 6     | 13 | 57  |  | 19,02  | 20,06  | 25 | 75  | 22,58  | 23,63  |
| 8  | 0.20 | 8     | 20 | 64  |  | 27,15  | 28,40  | 25 | 75  | 29,43  | 30,69  |
| 10 | 0.20 | 10    | 22 | 72  |  | 35,49  | 37,16  | 38 | 100 | 43,80  | 45,47  |
| 12 | 0.30 | 12    | 26 | 83  |  | 50,11  | 51,79  | 45 | 100 | 57,11  | 58,79  |
| 16 | 0.30 | 16    | 32 | 92  |  | 80,60  | 83,52  | 55 | 125 | 116,33 | 119,26 |
| 20 | 0.30 | 20    | 38 | 104 |  | 136,90 | 140,04 | 65 | 125 | 163,14 | 166,28 |

## HF ALU - UP - Square

| HFAL4 - catalogue page 498                                                        |       |    |     |  | <div> <div>OSAWA NORM</div> <div>ALU</div> <div>MG BR</div> <div>40°</div> <div>SQUARE</div> <div>Z4 UP</div> </div> |  |
|-----------------------------------------------------------------------------------|-------|----|-----|--|----------------------------------------------------------------------------------------------------------------------|--|
|  |       |    |     |  |                                                                                                                      |  |
|  |       |    |     |  | HFAL4                                                                                                                |  |
| P                                                                                 |       |    |     |  |                                                                                                                      |  |
| M                                                                                 |       |    |     |  |                                                                                                                      |  |
| K                                                                                 |       |    |     |  |                                                                                                                      |  |
| N                                                                                 |       |    |     |  | ★                                                                                                                    |  |
| S                                                                                 |       |    |     |  |                                                                                                                      |  |
| H                                                                                 |       |    |     |  |                                                                                                                      |  |
| D(e8)                                                                             | d(h6) | l  | L   |  | €                                                                                                                    |  |
| 3                                                                                 | 6     | 9  | 57  |  | 13,97                                                                                                                |  |
| 4                                                                                 | 6     | 12 | 57  |  | 13,97                                                                                                                |  |
| 5                                                                                 | 6     | 13 | 57  |  | 13,97                                                                                                                |  |
| 6                                                                                 | 6     | 13 | 57  |  | 13,97                                                                                                                |  |
| 8                                                                                 | 8     | 20 | 64  |  | 19,78                                                                                                                |  |
| 10                                                                                | 10    | 22 | 72  |  | 29,24                                                                                                                |  |
| 12                                                                                | 12    | 26 | 83  |  | 37,69                                                                                                                |  |
| 14                                                                                | 14    | 32 | 90  |  | 50,38                                                                                                                |  |
| 16                                                                                | 16    | 32 | 92  |  | 65,69                                                                                                                |  |
| 20                                                                                | 20    | 38 | 104 |  | 106,48                                                                                                               |  |

## HF ALU - UP - Corner radius

| HFAL3 - catalogue page 501                                                          |      |       |     |     | <div> <div>OSAWA NORM</div> <div>ALU</div> <div>MG POLISHED</div> <div>30°</div> <div>RADIUS</div> <div>Z3 UP</div> </div> |  |
|-------------------------------------------------------------------------------------|------|-------|-----|-----|----------------------------------------------------------------------------------------------------------------------------|--|
|  |      |       |     |     |                                                                                                                            |  |
|  |      |       |     |     | HFAL3                                                                                                                      |  |
| P                                                                                   |      |       |     |     |                                                                                                                            |  |
| M                                                                                   |      |       |     |     |                                                                                                                            |  |
| K                                                                                   |      |       |     |     |                                                                                                                            |  |
| N                                                                                   |      |       |     |     | ★                                                                                                                          |  |
| S                                                                                   |      |       |     |     |                                                                                                                            |  |
| H                                                                                   |      |       |     |     |                                                                                                                            |  |
| D                                                                                   | CR   | d(h6) | l   | L   | €                                                                                                                          |  |
| 2                                                                                   | 0.10 | 6     | 6.5 | 50  | 15,14                                                                                                                      |  |
| 3                                                                                   | 0.10 | 6     | 9   | 50  | 15,14                                                                                                                      |  |
| 4                                                                                   | 0.10 | 6     | 12  | 50  | 15,14                                                                                                                      |  |
| 5                                                                                   | 0.10 | 6     | 15  | 50  | 15,14                                                                                                                      |  |
| 6                                                                                   | 0.10 | 6     | 20  | 60  | 17,39                                                                                                                      |  |
| 8                                                                                   | 0.10 | 8     | 20  | 64  | 24,56                                                                                                                      |  |
| 10                                                                                  | 0.10 | 10    | 22  | 75  | 34,80                                                                                                                      |  |
| 12                                                                                  | 0.10 | 12    | 25  | 75  | 46,05                                                                                                                      |  |
| 14                                                                                  | 0.10 | 14    | 32  | 90  | 67,94                                                                                                                      |  |
| 16                                                                                  | 0.10 | 16    | 32  | 90  | 85,90                                                                                                                      |  |
| 20                                                                                  | 0.10 | 20    | 38  | 100 | 126,33                                                                                                                     |  |

**[www.osawa.it](http://www.osawa.it)**