



03

FRESE SEMISFERICHE

BALL NOSE END MILLS

FRAISE CYLINDRIQUE HÉMISPHERIQUE

KUGELFRÄSER

FRESA Z2 SEMISFERICA – Serie Normale

EN Z2 BALL NOSE END MILL | Normal series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Normale

DE Z2 KUGELFRÄSER | Normale Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Serie Normale



SERIE NORMALE – Normal Series

Ref.	Dimensione - Dimension (mm)			
2 Taglienti (Z2)	Dc	d	Lc	L
MBS-H2010	1	3	2	38
MBS-H2010-d4	1	4	2	50
MBS-H2015	1,5	3	3	38
MBS-H2015-d4	1,5	4	3	50
MBS-H2020	2	3	4	38
MBS-H2020-d4	2	4	4	50
MBS-H2025	2,5	3	5	38
MBS-H2030	3	3	6	38
MBS-H2030-d4	3	4	6	50
MBS-H2040	4	4	8	50
MBS-H2050	5	5	10	50
MBS-H2060	6	6	12	50
MBS-H2070	7	8	15	60
MBS-H2080	8	8	15	60
MBS-H2100	10	10	20	75
MBS-H2120	12	12	20	75
MBS-H2140	14	14	25	90
MBS-H2160	16	16	25	100
MBS-H2180	18	18	30	100
MBS-H2200	20	20	30	100

FRESA Z2 SEMISFERICA – Serie Lunga / Extralunga

EN Z2 BALL NOSE END MILL | Long/Extra Long series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Longue/Extra Longue

DE Z2 KUGELFRÄSER | Lange/Extra Lange Serie

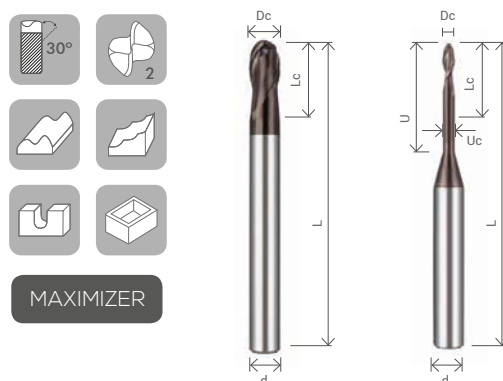
IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Serie Lunga



Serie Extra Lunga



SERIE LUNGA - Long Series

Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	U/C	U	Lc	L
MBS-H2010L	1	3	0,9	6	2	60
MBS-H2150L	1,5	3	1,4	8	3	60
MBS-H2020L	2	3	1,9	8	3	60
MBS-H2025L	2,5	3	2,4	12	3	60
MBS-H2030L	3	3	—	—	4	60
MBS-H2040L	4	4	—	—	5	80
MBS-H2050L	5	5	—	—	6	80
MBS-H2060L	6	6	—	—	8	80
MBS-H2080L	8	8	—	—	12	100
MBS-H2100L	10	10	—	—	15	100
MBS-H2120L	12	12	—	—	15	100
MBS-H2140L	14	14	—	—	20	150
MBS-H2160L	16	16	—	—	20	150
MBS-H2180L	18	18	—	—	25	150
MBS-H2200L	20	20	—	—	25	150

SERIE EXTRA LUNGA - Extra Long Series

Ref.	Dimensione - Dimension (mm)			
2 Taglienti (Z2)	Dc	d	Lc	L
MBS-H2030LL	3	3	6	75
MBS-H2030XL	3	3	6	100
MBS-H2040LL	4	4	6	100
MBS-H2050LL	5	5	6	100
MBS-H2060LL	6	6	15	100
MBS-H2060LLL	6	6	15	150
MBS-H2060LLLL	6	6	30	200
MBS-H2080LL	8	8	25	150
MBS-H2080LLL	8	8	50	200
MBS-H2100LL	10	10	25	150
MBS-H2100LLL	10	10	50	200
MBS-H2120LL	12	12	25	150
MBS-H2120LLL	12	12	25	200
MBS-H2140LL	14	14	50	200
MBS-H2160LL	16	16	50	200

FRESA Z4 SEMISFERICA – Serie Normale / Lunga

EN Z4 BALL NOSE END MILL | Normal/LONG Series

FR Z4 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Normale/Longue

DE Z4 KUGELFRÄSER | Normale/Lange Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Serie Normale



Serie Lunga



SERIE NORMALE - Normal Series

Ref.	Dimensione - Dimension (mm)			
4 Taglienti (Z4)	Dc	d	Lc	L
MBS-H4030	3	3	6	38
MBS-H4040	4	4	8	50
MBS-H4050	5	5	10	50
MBS-H4060	6	6	12	50
MBS-H4080	8	8	15	60
MBS-H4100	10	10	20	75
MBS-H4120	12	12	20	75
MBS-H4140	14	14	25	90
MBS-H4160	16	16	25	100
MBS-H4180	18	18	30	100
MBS-H4200	20	20	30	100

SERIE LUNGA - Long Series

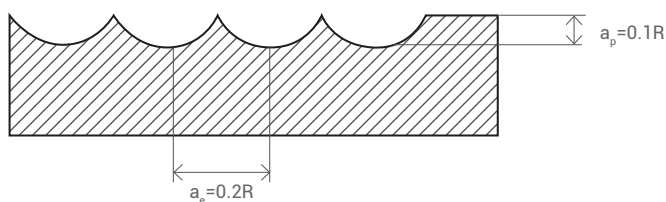
Ref.	Dimensione - Dimension (mm)			
4 Taglienti (Z4)	Dc	d	Lc	L
MBS-H4030L	3	3	4	60
MBS-H4040L	4	4	5	80
MBS-H4050L	5	5	6	80
MBS-H4060L	6	6	8	80
MBS-H4080L	8	8	12	100
MBS-H4100L	10	10	15	100
MBS-H4120L	12	12	15	100
MBS-H4160L	16	16	20	150
MBS-H4200L	20	20	25	150

MBS-H

Fresa Semisferica

Materiale pezzo Workpiece material	Cast iron, Carbon steel, Alloy steel -30 HRC		Stainless steel		Pre-hardened steel, Quenched and tempered steel -40HRC		Pre-hardened steel, Quenched and tempered steel -50HRC		Hardened steel 56-62HRC	
Diametro Ø mm Diameter Ø mm	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)
1.0	40000	960	22300	240	32000	385	25000	330	22280	295
1.5	32000	1020	16500	255	24000	435	19000	330	16700	295
2.0	24000	1080	11150	275	16000	480	13000	330	11140	295
2.5	15500	1150	5550	445	8000	665	6500	450	5570	385
3.0	15500	1150	5550	445	8000	665	6500	450	5570	385
4.0	11500	1150	5550	445	8000	665	6500	450	5570	385
5.0	9500	1270	4450	445	6400	665	5000	455	4455	405
6.0	8000	1270	3700	470	5300	700	4200	470	3715	420
8.0	6000	1575	2750	550	4000	850	3200	535	2785	465
10	4800	1455	2200	520	3200	785	2500	535	2230	465
12	4000	1330	1850	520	2650	740	2100	505	1855	450
14	3500	1300	1550	500	2400	730	1800	475	1670	425
16	3000	1270	1350	455	2000	725	1600	455	1395	395
18	2700	1200	1250	455	1800	700	1400	425	1275	375
20	2400	1150	1100	445	1600	675	1250	400	1115	360

Massima
profondità di
taglio
Max. Cutting
depth



FRESA Z2 SEMISFERICA – Scarico ribassato – Codolo Ø4

EN Z2 BALL NOSE END MILL | SHANK Ø4 | Reduced neck

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Col réduit

DE Z2 KUGELFRÄSER | Lange/Reduzierter Hals

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Scarico ribassato



CODOLO D4 – Shank d4

Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	U/C	U	Lc	L
MBN-H2010-04-d4	1	4	0,95	4	1,5	50
MBN-H2010-06-d4	1	4	0,95	6	1,5	50
MBN-H2010-08-d4	1	4	0,95	8	1,5	50
MBN-H2010-10-d4	1	4	0,95	10	1,5	50
MBN-H2010-12-d4	1	4	0,95	12	1,5	60
MBN-H2010-16-d4	1	4	0,95	16	1,5	60
MBN-H2010-20-d4	1	4	0,95	20	1,5	60
MBN-H2015-04-d4	1,5	4	1,42	4	2	50
MBN-H2015-06-d4	1,5	4	1,42	6	2	50
MBN-H2015-08-d4	1,5	4	1,42	8	2	50
MBN-H2015-10-d4	1,5	4	1,42	10	2	50
MBN-H2015-12-d4	1,5	4	1,42	12	2	60
MBN-H2015-16-d4	1,5	4	1,42	16	2	60
MBN-H2015-20-d4	1,5	4	1,42	20	2	60
MBN-H2015-25-d4	1,5	4	1,42	25	2	60
MBN-H2020-06-d4	2	4	1,92	6	3	50
MBN-H2020-08-d4	2	4	1,92	8	3	50

CODOLO D4 – Shank d4

Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	U/C	U	Lc	L
MBN-H2020-10-d4	2	4	1,92	10	3	50
MBN-H2020-12-d4	2	4	1,92	12	3	60
MBN-H2020-16-d4	2	4	1,92	16	3	60
MBN-H2020-20-d4	2	4	1,92	20	3	60
MBN-H2020-25-d4	2	4	1,92	25	3	80
MBN-H2020-30-d4	2	4	1,92	30	3	80
MBN-H2020-35-d4	2	4	1,92	35	3	80
MBN-H2020-40-d4	2	4	1,92	40	3	80
MBN-H2030-08-d4	3	4	2,9	8	5	50
MBN-H2030-10-d4	3	4	2,9	10	5	50
MBN-H2030-12-d4	3	4	2,9	12	5	60
MBN-H2030-16-d4	3	4	2,9	16	5	60
MBN-H2030-20-d4	3	4	2,9	20	5	60
MBN-H2030-25-d4	3	4	2,9	25	5	80
MBN-H2030-30-d4	3	4	2,9	30	5	80
MBN-H2030-35-d4	3	4	2,9	35	5	80
MBN-H2030-40-d4	3	4	2,9	40	5	80

FRESA Z2 SEMISFERICA – Scarico ribassato – Codolo Ø6

EN Z2 BALL NOSE END MILL | SHANK Ø6 | Reduced neck

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Col réduit

DE Z2 KUGELFRÄSER | Lange/Reduzierter Hals

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Scarico Ribassato



MAXIMIZER



CODOLO D6 – Shank d6

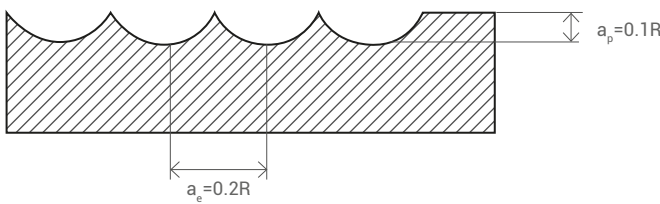
Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	U/C	U	Lc	L
MBN-H2010-U05	1	6	0,95	5	1,5	55
MBN-H2010-U08	1	6	0,95	8	1,5	57
MBN-H2010-U10	1	6	0,95	10	1,5	57
MBN-H2010-U12	1	6	0,95	12	1,5	65
MBN-H2010-U15	1	6	0,95	15	1,5	65
MBN-H2010-U20	1	6	0,95	20	1,5	65
MBN-H2015-U05	1,5	6	1,42	5	2	57
MBN-H2015-U08	1,5	6	1,42	8	2	57
MBN-H2015-U10	1,5	6	1,42	10	2	57
MBN-H2015-U12	1,5	6	1,42	12	2	65
MBN-H2015-U15	1,5	6	1,42	15	2	65
MBN-H2015-U20	1,5	6	1,42	20	2	65
MBN-H2020-U06	2	6	1,92	6	3	57
MBN-H2020-U08	2	6	1,92	8	3	57
MBN-H2020-U10	2	6	1,92	10	3	57
MBN-H2020-U12	2	6	1,92	12	3	57
MBN-H2020-U14	2	6	1,92	14	3	57
MBN-H2020-U16	2	6	1,92	16	3	60
MBN-H2020-U20	2	6	1,92	20	3	60
MBN-H2020-U25	2	6	1,92	25	3	60
MBN-H2020-U30	2	6	1,92	30	3	75
MBN-H2020-U35	2	6	1,92	35	2	75
MBN-H2020-U40	2	6	1,92	40	3	80
MBN-H2020-U50	2	6	1,92	50	3	100
MBN-H2025-U20	2,5	6	2,4	20	4	60

CODOLO D6 – Shank d6

Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	U/C	U	Lc	L
MBN-H2025-U30	2,5	6	2,4	30	4	80
MBN-H2025-U40	2,5	6	2,4	40	4	80
MBN-H2030-U09	3	6	2,9	9	5	60
MBN-H2030-U12	3	6	2,9	12	5	60
MBN-H2030-U15	3	6	2,9	15	5	60
MBN-H2030-U20	3	6	2,9	20	5	60
MBN-H2030-U25	3	6	2,9	25	5	65
MBN-H2030-U30	3	6	2,9	30	5	80
MBN-H2030-U35	3	6	2,9	35	5	80
MBN-H2030-U40	3	6	2,9	40	5	80
MBN-H2030-U50	3	6	2,9	50	5	100
MBN-H2040-U10	4	6	3,9	10	6	57
MBN-H2040-U12	4	6	3,9	12	6	60
MBN-H2040-U16	4	6	3,9	16	6	60
MBN-H2040-U20	4	6	3,9	20	6	60
MBN-H2040-U25	4	6	3,9	25	6	65
MBN-H2040-U30	4	6	3,9	30	6	80
MBN-H2040-U35	4	6	3,9	35	6	80
MBN-H2040-U40	4	6	3,9	40	6	80
MBN-H2040-U50	4	6	3,9	50	6	100
MBN-H2050-U20	5	6	4,8	20	7	60
MBN-H2050-U30	5	6	4,8	30	7	80
MBN-H2050-U40	5	6	4,8	40	7	80
MBN-H2050-U50	5	6	4,8	50	7	100

MBN-H

Fresa semisferica con scarico ribassato

Materiale pezzo Workpiece material		Acciaio pretemprato, Acciaio temprato 40-50HRC Pre-hardened steel, Hardened steel 40-50HRC				Acciaio temprato 50-62HRC Hardened steel 50-62HRC			
Diametro Ø mm Diameter Ø mm	Lunghezza Effettiva Effective length(mm)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Ap (mm)	Ae (mm)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Ap (mm)	Ae (mm)
1	5	16000	200	0.05	0.10	11500	150	0.05	0.10
	12	14000	135	0.01	0.03	9800	75	0.01	0.03
2	10	10000	275	0.08	0.16	5500	175	0.08	0.16
	14	10000	275	0.06	0.16	5500	175	0.06	0.16
	16	10000	250	0.02	0.10	5500	150	0.02	0.10
	35	8000	175	0.02	0.05	5500	125	0.01	0.05
2.5	20	5500	175	0.02	0.05	5000	125	0.01	0.05
3	9	7500	400	0.15	0.30	4000	200	0.15	0.30
	15	6500	250	0.05	0.20	3000	150	0.05	0.20
	20	6500	250	0.02	0.10	3000	150	0.02	0.05
	40	5000	200	0.02	0.1	2500	100	0.02	0.05
4	12	6000	400	0.20	0.40	3000	200	0.20	0.40
	20	5000	250	0.10	0.20	2500	100	0.10	0.20
5	20	4000	250	0.25	0.50	3000	100	0.20	0.2
Massima profondità di taglio Max. Cutting depth									
									

FRESA Z2 SEMISFERICA CONICA

Serie Normale/Lunga/Extra lunga

EN Z2 BALL NOSE END MILL | Conical form | Normal/Long/Extra Long Series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Normale/Longues/Extra Longues

DE Z2 KUGELFRÄSER | Normale/Lange/Extra Lange Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

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DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Serie Normale/Lunga/Extra lunga



CONICA - Conical

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2010-20	1	6	20	1,5	60
MBC-H2010-30	1	6	30	1,5	65
MBC-H2010L-40	1	6	40	1,5	80
MBC-H2010L-50	1	6	50	1,5	100
MBC-H2010XL-60	1	6	60	1,5	108
MBC-H2010XL-70	1	6	70	1,5	108
MBC-H2015-20	1,5	6	20	2	60
MBC-H2015-30	1,5	6	30	2	65
MBC-H2015L-40	1,5	6	40	2	80
MBC-H2015XL-50	1,5	6	50	2	100
MBC-H2015XL-60	1,5	6	60	2	108
MBC-H2015XL-70	1,5	6	70	2	108
MBC-H2020-20	2	6	20	3	60
MBC-H2020-25	2	6	25	6	60
MBC-H2020-30	2	6	30	6	65
MBC-H2020L-40	2	6	40	3	80
MBC-H2020XL-50	2	6	50	3	100
MBC-H2020XL-60	2	6	60	3	108
MBC-H2020XL-70	2	6	70	3	108
MBC-H2030-20	3	6	20	7	60
MBC-H2030-30	3	6	30	7	65

CONICA - Conical

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2030L-40	3	6	40	5	80
MBC-H2030L-50	3	6	50	5	100
MBC-H2030XL-60	3	6	60	5	108
MBC-H2030XL-70	3	6	70	5	108
MBC-H2040-20	4	6	20	8	60
MBC-H2040-25	4	6	25	8	60
MBC-H2040-30	4	6	30	8	65
MBC-H2040L-40	4	6	40	6	80
MBC-H2040L-50	4	6	50	6	100
MBC-H2040XL-60	4	6	60	6	108
MBC-H2040XL-70	4	6	70	6	108
MBC-H2040-50	4	8	50	8	100
MBC-H2050L-50	5	6	50	7	100
MBC-H2050-41	5	8	41	12	90
MBC-H2050-60	5	8	60	12	90
MBC-H2060-33	6	8	33	14	90
MBC-H2060L-50	6	8	50	9	100
MBC-H2060-50	6	10	50	12	100
MBC-H2100-60	10	16	60	20	150
MBC-H2120-60	12	16	60	20	150

FRESA Z2 SEMISFERICA CONICA 1°

Serie Normale/Lunga/Extra lunga

EN Z2 BALL NOSE END MILL 1° | Conical form | Normal/Long/Extra Long Series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE 1° | Serie Normale/Longues/Extra Longues

DE Z2 KUGELFRÄSER 1° | Normale/Lange/Extra Lange Serien

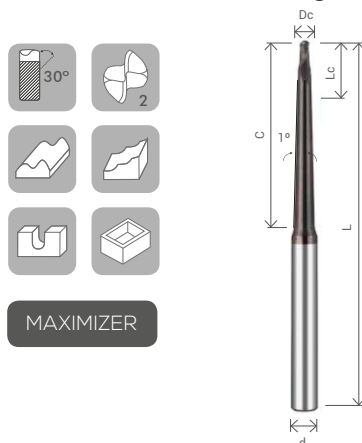
IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

CONICA 1° - Serie Normale/Lunga/Extra lunga



CONICA 1° - Serie Normale/Lunga/Extra lunga

CONICAL 1° - Normal/Long/Extra long Series

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2010-C20x1°	1	6	20	1,5	60
MBC-H2010-C30x1°	1	6	30	1,5	65
MBC-H2010L-C40x1°	1	6	40	1,5	80
MBC-H2010XL-C50x1°	1	6	50	1,5	100
MBC-H2010XL-C60x1°	1	6	60	1,5	108
MBC-H2010XL-C70x1°	1	6	70	1,5	108
MBC-H2015-C20x1°	1,5	6	20	2	60
MBC-H2015-C30x1°	1,5	6	30	2	65
MBC-H2015XL-C30x1°	1,5	6	30	2	108
MBC-H2015L-C40x1°	1,5	6	40	2	80
MBC-H2015L-C43x1°	1,5	6	43	2	108
MBC-H2015XL-C50x1°	1,5	6	50	2	100
MBC-H2015XL-C53x1°	1,5	6	53	2	108
MBC-H2015XL-C63x1°	1,5	6	63	2	108
MBC-H2015XL-C70x1°	1,5	6	70	2	108
MBC-H2015XL-C85x1°	1,5	6	85	2	150
MBC-H2020-C20x1°	2	6	20	3	60
MBC-H2020-C30x1°	2	6	30	3	65
MBC-H2020L-C30x1°	2	6	30	3	80
MBC-H2020XL-C30x1°	2	6	30	3	108
MBC-H2020L-C40x1°	2	6	40	3	80
MBC-H2020XL-C43x1°	2	6	43	3	108
MBC-H2020XL-C50x1°	2	6	50	3	100

CONICA 1° - Serie Normale/Lunga/Extra lunga

CONICAL 1° - Normal/Long/Extra long Series

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2020XL-C53x1°	2	6	53	3	108
MBC-H2020XL-C63x1°	2	6	63	3	108
MBC-H2020XL-C70x1°	2	6	70	3	108
MBC-H2020XL-C85x1°	2	6	85	3	150
MBC-H2030-C20x1°	3	6	20	5	60
MBC-H2030-C30x1°	3	6	30	5	65
MBC-H2030XL-C35x1°	3	6	35	5	108
MBC-H2030L-C40x1°	3	6	40	5	80
MBC-H2030XL-C44x1°	3	6	44	5	108
MBC-H2030XL-C50x1°	3	6	50	5	100
MBC-H2030XL-C55x1°	3	6	55	5	108
MBC-H2030XL-C65x1°	3	6	65	5	108
MBC-H2030XL-C75x1°	3	6	75	5	108
MBC-H2030XL-C85x1°	3	6	85	5	150
MBC-H2040-C20x1°	4	6	20	6	60
MBC-H2040-C30x1°	4	6	30	6	65
MBC-H2040XL-C35x1°	4	6	35	6	108
MBC-H2040L-C40x1°	4	6	40	6	80
MBC-H2040XL-C45x1°	4	6	45	6	108
MBC-H2040XL-C50x1°	4	6	50	6	100
MBC-H2040XL-C55x1°	4	6	55	6	108
MBC-H2040XL-C65x1°	4	6	65	6	108
MBC-H2040XL-C70x1°	4	6	70	6	150

FRESA Z2 SEMISFERICA CONICA 1,5°

Serie Normale/Lunga/Extra lunga

EN Z2 BALL NOSE END MILL 1,5° | Conical form | Normal/Long/Extra Long Series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE 1,5° | Serie Normale/Longues/Extra Longues

DE Z2 KUGELFRÄSER 1,5° | Normale/Lange/Extra Lange Serien

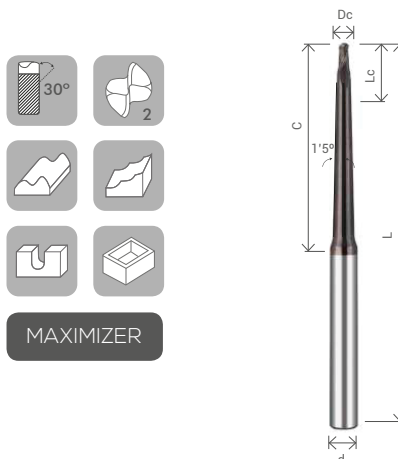
IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

CONICA 1,5° -Serie Normale/Lunga/Extra lunga



CONICA 1,5° - Serie Normale/Lunga/Extra lunga

CONICAL 1,5° - Normal/Long/Extra long Series

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2010-C20x1,5°	1	6	20	1,5	60
MBC-H2010-C30x1,5°	1	6	30	1,5	65
MBC-H2010L-C40x1,5°	1	6	40	1,5	80
MBC-H2010XL-C50x1,5°	1	6	50	1,5	100
MBC-H2010XL-C60x1,5°	1	6	60	1,5	108
MBC-H2010XL-C70x1,5°	1	6	70	1,5	108
MBC-H2015-C20x1,5°	1,5	6	20	2	60
MBC-H2015-C30x1,5°	1,5	6	30	2	65
MBC-H2015XL-C30x1,5°	1,5	6	30	2	108
MBC-H2015L-C40x1,5°	1,5	6	40	2	80
MBC-H2015L-C43x1,5°	1,5	6	43	2	108
MBC-H2015XL-C50x1,5°	1,5	6	50	2	100
MBC-H2015XL-C53x1,5°	1,5	6	53	2	108
MBC-H2015XL-C63x1,5°	1,5	6	63	2	108
MBC-H2015XL-C70x1,5°	1,5	6	70	2	108
MBC-H2015XL-C85x1,5°	1,5	6	85	2	150
MBC-H2020-C20x1,5°	2	6	20	3	60
MBC-H2020-C30x1,5°	2	6	30	3	65
MBC-H2020L-C30x1,5°	2	6	30	3	80
MBC-H2020XL-C30x1,5°	2	6	30	3	108
MBC-H2020L-C40x1,5°	2	6	40	3	80

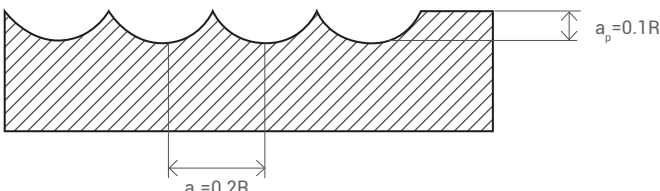
CONICA 1,5° - Serie Normale/Lunga/Extra lunga

CONICAL 1,5° - Normal/Long/Extra long Series

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-H2020XL-C40x1,5°	2	6	40	3	108
MBC-H2020XL-C50x1,5°	2	6	50	3	100
MBC-H2020XL-C53x1,5°	2	6	53	3	108
MBC-H2020XL-C63x1,5°	2	6	63	3	108
MBC-H2020XL-C70x1,5°	2	6	70	3	108
MBC-H2020XL-C84x1,5°	2	6	84	3	150
MBC-H2030-C20x1,5°	3	6	20	5	60
MBC-H2030-C30x1,5°	3	6	30	5	65
MBC-H2030XL-C35x1,5°	3	6	35	5	108
MBC-H2030L-C40x1,5°	3	6	40	5	80
MBC-H2030XL-C44x1,5°	3	6	44	5	108
MBC-H2030XL-C50x1,5°	3	6	50	5	100
MBC-H2030XL-C55x1,5°	3	6	55	5	108
MBC-H2030XL-C65x1,5°	3	6	65	5	108
MBC-H2030XLL-C65x1,5°	3	6	65	5	150
MBC-H2040-C20x1,5°	4	6	20	6	60
MBC-H2040-C30x1,5°	4	6	30	6	65
MBC-H2040-C35x1,5°	4	6	35	6	108
MBC-H2040L-C40x1,5°	4	6	40	6	80
MBC-H2040XL-C45x1,5°	4	6	45	6	108

MBC-H

Fresa semisferica conica 1° e 1,5°

Materiale pezzo Workpiece material		Acciaio pretemprato, Acciaio temprato 40-50HRC Pre-hardened steel, Hardened steel 40-50HRC				Acciaio temprato 50-62HRC Hardened steel 50-62HRC			
Diametro Ø mm Diameter Ø mm	Lunghezza Effettiva Effective length(mm)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Ap (mm)	Ae (mm)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Ap (mm)	Ae (mm)
1	20	22000	450	0.02	0.1	22000	345	0.02	0.1
1.5	20	20000	750	0.03	0.15	20000	700	0.03	0.15
2	20	18000	1000	0.05	0.2	18000	800	0.05	0.2
	40	18000	750	0.03	0.2	18000	600	0.05	0.2
3	30	16000	1200	0.1	0.3	16000	960	0.1	0.3
	50	16000	850	0.03	0.3	16000	680	0.03	0.3
4	30	14000	1400	0.15	0.4	14000	1120	0.15	0.4
	60	14000	1100	0.1	0.4	14000	880	0.1	0.4
5	60	11700	1400	0.25	0.5	11700	880	0.25	0.5
Massima profondità di taglio Max. Cutting depth									

FRESA Z2 SEMISFERICA - Per temprati fino 55 HRC

Serie Normale/Lunga/Extra lunga

EN Z2 BALL NOSE END MILL | for Hard Cutting 55 HRC | Normal/Long/Extra Long Series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Normale/Longues/Extra Longues

DE Z2 KUGELFRÄSER | Normale/Lange/Extra Lange Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 52-55 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 52-55 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 52-55 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 52-55 HRC.

Serie Normale/Lunga/Extra lunga



SERIE NORMALE/LUNGA/EXTRA LUNGA

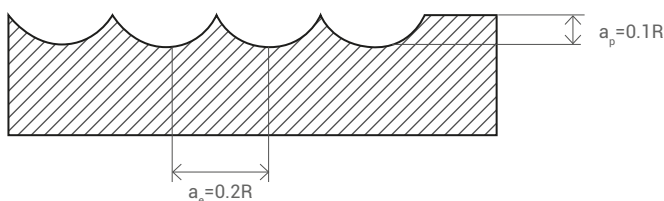
Normal/Long/Extra long Series

Ref.	Dimensione - Dimension (mm)			
2 Taglienti (Z2)	Dc	d	Lc	L
MBS-AT2060	6	6	12	50
MBS-AT2060L	6	6	8	80
MBS-AT2060LLL	6	6	15	100
MBS-AT2080	8	8	15	60
MBS-AT2080L	8	8	12	100
MBS-AT2100	10	10	20	72
MBS-AT2100L	10	10	15	100
MBS-AT2120	12	12	20	75
MBS-AT2120L	12	12	15	100

MBS-AT

Materiale pezzo Workpiece material	Cast iron, Carbon steel, Alloy steel -30 HRC		Stainless steel		Pre-hardened steel, Quenched and tempered steel -40HRC		Pre-hardened steel, Quenched and tempered steel -50HRC		Hardened steel 56-62HRC	
Diametro Ø mm Diameter Ø mm	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)
1.0	40000	960	22300	240	32000	385	25000	330	22280	295
1.5	32000	1020	16500	255	24000	435	19000	330	16700	295
2.0	24000	1080	11150	275	16000	480	13000	330	11140	295
2.5	15500	1150	5550	445	8000	665	6500	450	5570	385
3.0	15500	1150	5550	445	8000	665	6500	450	5570	385
4.0	11500	1150	5550	445	8000	665	6500	450	5570	385
5.0	9500	1270	4450	445	6400	665	5000	455	4455	405
6.0	8000	1270	3700	470	5300	700	4200	470	3715	420
8.0	6000	1575	2750	550	4000	850	3200	535	2785	465
10	4800	1455	2200	520	3200	785	2500	535	2230	465
12	4000	1330	1850	520	2650	740	2100	505	1855	450
14	3500	1300	1550	500	2400	730	1800	475	1670	425
16	3000	1270	1350	455	2000	725	1600	455	1395	395
18	2700	1200	1250	455	1800	700	1400	425	1275	375
20	2400	1150	1100	445	1600	675	1250	400	1115	360

Massima
profondità
di taglio
Max. Cutting
depth



FRESA Z2 SEMISFERICA CONICA 1° / 1,5°

Per temprati fino 55 HRC

- EN** Z2 BALL NOSE END MILL | TAPER 1° | for Hard Cutting 55 HRC | Conical form | Normal/Long/Extra Long Series
- FR** Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | Serie Normale/Longues/Extra Longues
- DE** Z2 KUGELFRÄSER | Normale/Lange/Extra Lange Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 52-55 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 52-55 HRC.

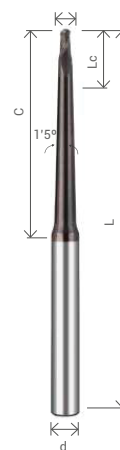
FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 52-55 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 52-55 HRC.

Conica 1°



Conica 1,5°



CONICA 1° - Serie Normale/Lunga/Extra lunga

CONICAL 1° - Normal/Long/Extra long series

Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-AT2060XL-C35x1°	6	8	35	9	108
MBC-AT2060XL-C48x1°	6	8	48	9	108
MBC-AT2060XL-C55x1°	6	8	55	9	108
MBC-AT2060XL-C70x1°	6	8	70	9	108
MBC-AT2060XL-C73x1°	6	8	73	9	150
MBC-AT2080XL-C48x1°	8	10	48	10	108
MBC-AT2080XL-C55x1°	8	10	55	10	108
MBC-AT2080XL-C70x1°	8	10	70	10	108
MBC-AT2080XXL-C70x1°	8	10	70	10	150

CONICA 1,5° - Serie Lunga/Extra lunga

CONICAL 1,5° - Long/Extra long series

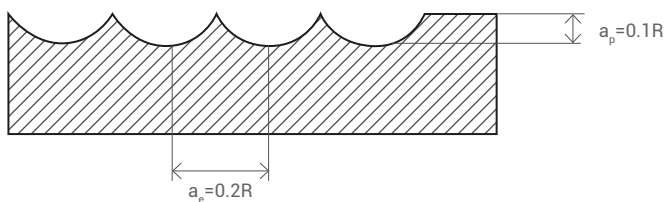
Ref.	Dimensione - Dimension (mm)				
2 Taglienti (Z2)	Dc	d	C	Lc	L
MBC-AT2060XL-C35x1,5°	6	8	35	9	108
MBC-AT2060XL-C48x1,5°	6	8	48	9	108
MBC-AT2060XXL-C48x1,5°	6	8	48	9	150
MBC-AT2080XL-C48x1,5°	8	10	48	10	108
MBC-AT2080XXL-C48x1,5°	8	10	48	10	150

MBC-AT

Fresa Semisferica

Materiale pezzo Workpiece material	Cast iron, Carbon steel, Alloy steel -30 HRC		Stainless steel		Pre-hardened steel, Quenched and tempered steel -40HRC		Pre-hardened steel, Quenched and tempered steel -50HRC		Hardened steel 56-62HRC	
Diametro Ø mm Diameter Ø mm	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)
1.0	40000	960	22300	240	32000	385	25000	330	22280	295
1.5	32000	1020	16500	255	24000	435	19000	330	16700	295
2.0	24000	1080	11150	275	16000	480	13000	330	11140	295
2.5	15500	1150	5550	445	8000	665	6500	450	5570	385
3.0	15500	1150	5550	445	8000	665	6500	450	5570	385
4.0	11500	1150	5550	445	8000	665	6500	450	5570	385
5.0	9500	1270	4450	445	6400	665	5000	455	4455	405
6.0	8000	1270	3700	470	5300	700	4200	470	3715	420
8.0	6000	1575	2750	550	4000	850	3200	535	2785	465
10	4800	1455	2200	520	3200	785	2500	535	2230	465
12	4000	1330	1850	520	2650	740	2100	505	1855	450
14	3500	1300	1550	500	2400	730	1800	475	1670	425
16	3000	1270	1350	455	2000	725	1600	455	1395	395
18	2700	1200	1250	455	1800	700	1400	425	1275	375
20	2400	1150	1100	445	1600	675	1250	400	1115	360

Massima
profondità di
taglio
Max. Cutting
depth



FRESA Z2 SEMISFERICA - Serie Normale / Serie Lunga

Per temprati fino 62 HRC

EN Z2 BALL NOSE END MILL | for HARD CUTTING 62 HRC | Normal/Long Series

FR Z2 FRAISE CYLINDRIQUE HÉMISPHERIQUE | 62 HRC | Serie Normale/Longue

DE Z2 KUGELFRÄSER | 62 HRC | Normale/Lange Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 62 HRC. EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 62 HRC. FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 62 HRC. DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 62 HRC.	Serie Normale	Serie Lunga
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SERIE NORMALE - Normal series

Ref.	Dimensione - Dimension (mm)						
2 Taglienti (Z2)	Dc	d	U/C	C	U	Lc	L
MBH-H2020	2	6	-	20	-	3	60
MBH-H2030	3	6	-	20	-	5	60
MBH-H2040	4	6	-	20	-	6	60
MBH-H2050	5	6	4,8	-	20	10	60
MBH-H2060	6	6	5,8	-	20	12	60
MBH-H2080	8	8	7,8	-	20	12	80
MBH-H2100	10	10	9,8	-	22	10	75
MBH-H2120	12	12	11,8	-	24	12	75
MBH-H2160	16	16	15,8	-	40	20	92

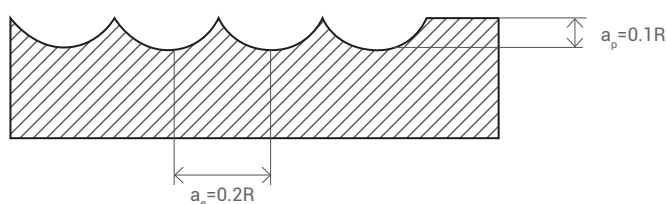
SERIE LUNGA - Long series

Ref.	Dimensione - Dimension (mm)						
2 Taglienti (Z2)	Dc	d	U/C	C	U	Lc	L
MBH-H2020L	2	6	-	40	-	3	80
MBH-H2030L	3	6	-	40	-	5	80
MBH-H2040L	4	6	-	40	-	6	80
MBH-H2050L	5	6	4,8	-	20	10	80
MBH-H2060L	6	6	5,8	-	20	12	80
MBH-H2080L	8	8	7,8	-	20	12	100
MBH-H2100L	10	10	9,8	-	22	10	100
MBH-H2120L	12	12	11,8	-	24	12	100
MBH-H2160L	16	16	15,8	-	40	20	150

MBH-H

Materiale pezzo Workpiece material	Cast iron, Carbon steel, Alloy steel -30 HRC		Stainless steel		Pre-hardened steel, Quenched and tempered steel -40HRC		Pre-hardened steel, Quenched and tempered steel -50HRC		Hardened steel 56-62HRC	
Diametro Ø mm Diameter Ø mm	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/ minute)
1.0	40000	960	22300	240	32000	385	25000	330	22280	295
1.5	32000	1020	16500	255	24000	435	19000	330	16700	295
2.0	24000	1080	11150	275	16000	480	13000	330	11140	295
2.5	15500	1150	5550	445	8000	665	6500	450	5570	385
3.0	15500	1150	5550	445	8000	665	6500	450	5570	385
4.0	11500	1150	5550	445	8000	665	6500	450	5570	385
5.0	9500	1270	4450	445	6400	665	5000	455	4455	405
6.0	8000	1270	3700	470	5300	700	4200	470	3715	420
8.0	6000	1575	2750	550	4000	850	3200	535	2785	465
10	4800	1455	2200	520	3200	785	2500	535	2230	465
12	4000	1330	1850	520	2650	740	2100	505	1855	450
14	3500	1300	1550	500	2400	730	1800	475	1670	425
16	3000	1270	1350	455	2000	725	1600	455	1395	395
18	2700	1200	1250	455	1800	700	1400	425	1275	375
20	2400	1150	1100	445	1600	675	1250	400	1115	360

Massima
profondità
di taglio
Max.
Cutting
depth



MICROFRESA Z2 SEMISFERICA - Serie Normale

Scarico ribassato Codolo Ø4

EN Z2 BALL NOSE MICRO END MILL | SHANK Ø4 | Reduced neck - Normal Series

FR Z2 MICROFRAISE CYLINDRIQUE HÉMISPHERIQUE | Col réduit - Serie Normale

DE Z2 MIKROKUGELFRÄSER | Reduzierter Hals - Normale Serien

IT Acciaio, acciaio inossidabile, ghisa, rame, titanio e acciai temprati fino a 35-45 HRC.

EN Steel, stainless steel, cast iron, copper, titanium and hardened steels up to 35-45 HRC.

FR Acier, acier inoxydable, fonte grise, cuivre, titane et acier jusqu'à 35-45 HRC.

DE Stahl, Rostfreier Stahl, Gubeisen, Kupfer, Titan, Gehärteter stahl 35-45 HRC.

Serie Normale



Scarico Ribassato



SERIE NORMALE - Normal Series

Ref.	Dimensione - Dimension (mm)			
2 Taglienti (Z2)	Dc	d	Lc	L
MBS-M2002	0,2	4	0,4	50
MBS-M2003	0,3	4	0,6	50
MBS-M2004	0,4	4	0,8	50
MBS-M2005	0,5	4	1	50
MBS-M2006	0,6	4	1,2	50
MBS-M2007	0,7	4	1,4	50
MBS-M2008	0,8	4	1,6	50
MBS-M2009	0,9	4	1,8	50

SCARICO RIBASSATO - Reduced neck

Ref.	Dimensione - Dimension (mm)					
2 Taglienti (Z2)	Dc	d	Uc	U	Lc	L
MBS-M2005-04	0,5	4	0,48	4	0,7	50
MBS-M2005-06	0,5	4	0,48	6	0,7	50
MBS-M2006-04	0,6	4	0,57	4	0,9	50
MBS-M2006-06	0,6	4	0,57	6	0,9	50
MBS-M2006-08	0,6	4	0,57	8	0,9	50
MBS-M2008-06	0,8	4	0,76	6	1,2	50
MBS-M2008-08	0,8	4	0,76	8	1,2	50
MBS-M2008-10	0,8	4	0,76	10	1,2	50
MBS-M2012-06	1,2	4	1,15	6	1,8	50
MBS-M2012-08	1,2	4	1,15	8	1,8	50
MBS-M2012-10	1,2	4	1,15	10	1,8	50

MBS-M

Materiale pezzo Workpiece material	Cast iron, Carbon steel, Alloy steel -30 HRC		Stainless steel		Pre-hardened steel, Quenched and tempered steel -40HRC		Pre-hardened steel, Quenched and tempered steel -50HRC		Hardened steel 56-62HRC	
Diametro Ø mm Diameter Ø mm	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)	Rotante (minimo -1) Rotating (minimum -1)	Avanzamento (mm/minuto) Feed (mm/minute)
1.0	40000	960	22300	240	32000	385	25000	330	22280	295
1.5	32000	1020	16500	255	24000	435	19000	330	16700	295
2.0	24000	1080	11150	275	16000	480	13000	330	11140	295
2.5	15500	1150	5550	445	8000	665	6500	450	5570	385
3.0	15500	1150	5550	445	8000	665	6500	450	5570	385
4.0	11500	1150	5550	445	8000	665	6500	450	5570	385
5.0	9500	1270	4450	445	6400	665	5000	455	4455	405
6.0	8000	1270	3700	470	5300	700	4200	470	3715	420
8.0	6000	1575	2750	550	4000	850	3200	535	2785	465
10	4800	1455	2200	520	3200	785	2500	535	2230	465
12	4000	1330	1850	520	2650	740	2100	505	1855	450
14	3500	1300	1550	500	2400	730	1800	475	1670	425
16	3000	1270	1350	455	2000	725	1600	455	1395	395
18	2700	1200	1250	455	1800	700	1400	425	1275	375
20	2400	1150	1100	445	1600	675	1250	400	1115	360

Massima
profondità
di taglio
Max. Cutting
depth

