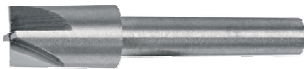


Hard metal end mills.



ASSORTMENT



Ø 2.35 mm



Ø 0.60 mm

(a)



MSA	Size	Kg
22.566	125 x 81 x 50 mm	0.260

Assortment of 12 hard metal end mills and 11 steel pivots. The pivots work as a guide in the hole and the end mills trim the desired part. The pivots are interchangeable with every end mill. It can be used by hand or on a press. *Delivered in a wooden box.*

** Items in the assortment MSA22.566*

Spare end mills :

MSA	Item	Kg
22.566-F100	End mill, Ø 1.00 x L20 mm, angle 2°	0.001
22.566-F120 *	End mill, Ø 1.20 x L20 mm, angle 2°	0.001
22.566-F150 *	End mill, Ø 1.50 x L20 mm, angle 2°	0.001
22.566-F175 *	End mill, Ø 1.75 x L20 mm, angle 2°	0.001
22.566-F180	End mill, Ø 1.80 x L20 mm, angle 2°	0.001
22.566-F200 *	End mill, Ø 2.00 x L20 mm, angle 2°	0.001
22.566-F225 *	End mill, Ø 2.25 x L20 mm, angle 2°	0.001
22.566-F250 *	End mill, Ø 2.50 x L20 mm, angle 2°	0.001
22.566-F275 *	End mill, Ø 2.75 x L20 mm, angle 2°	0.001
22.566-F300 *	End mill, Ø 3.00 x L20 mm, angle 2°	0.001
22.566-F325 *	End mill, Ø 3.25 x L20 mm, angle 2°	0.002
22.566-F350 *	End mill, Ø 3.50 x L20 mm, angle 2°	0.002
22.566-F375 *	End mill, Ø 3.75 x L20 mm, angle 2°	0.002
22.566-F400 *	End mill, Ø 4.00 x L20 mm, angle 2°	0.002

Spare pivots :

MSA	Item	Kg
22.566-P040	Pivot, Ø 0.40 (a) x L24.50 mm	0.001
22.566-P050 *	Pivot, Ø 0.50 (a) x L24.50 mm	0.001
22.566-P060 *	Pivot, Ø 0.60 (a) x L24.50 mm	0.001
22.566-P070 *	Pivot, Ø 0.70 (a) x L24.50 mm	0.001
22.566-P080 *	Pivot, Ø 0.80 (a) x L24.50 mm	0.001
22.566-P090 *	Pivot, Ø 0.90 (a) x L24.50 mm	0.001
22.566-P100 *	Pivot, Ø 1.00 (a) x L24.50 mm	0.001
22.566-P110 *	Pivot, Ø 1.10 (a) x L24.50 mm	0.001
22.566-P120 *	Pivot, Ø 1.20 (a) x L24.50 mm	0.001
22.566-P130 *	Pivot, Ø 1.30 (a) x L24.50 mm	0.001
22.566-P140 *	Pivot, Ø 1.40 (a) x L24.50 mm	0.001
22.566-P150 *	Pivot, Ø 1.50 (a) x L24.50 mm	0.001

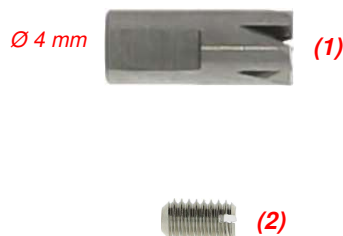
Spare tool holder :

MSA	Item	Kg
22.568 *	Pivot, Ø 4.70 x L90 mm	0.011

Hard metal screw shoulder end mills with 5 cutters.



ASSORTMENT



MSA	Size	Kg
22.590	80 x 35 x 10 mm	0.060

Assortment of 16 hard metal screw shoulder end mills with 5 cutters, allowing the adjustment of the shoulder height of chronographer screws. Each end mill is easily replaceable thanks to a side screw holding it.

* Items in the assortment MSA22.590

Spare parts :

MSA	Item	Kg
22.590-030	(1) End mill Ø 0.30 mm	0.002
22.590-035	End mill Ø 0.35 mm	0.002
22.590-040	End mill Ø 0.40 mm	0.002
22.590-045	End mill Ø 0.45 mm	0.002
22.590-050 *	End mill Ø 0.50 mm	0.002
22.590-055 *	End mill Ø 0.55 mm	0.002
22.590-060 *	End mill Ø 0.60 mm	0.002
22.590-065 *	End mill Ø 0.65 mm	0.002
22.590-070 *	End mill Ø 0.70 mm	0.002
22.590-075 *	End mill Ø 0.75 mm	0.002
22.590-080 *	End mill Ø 0.80 mm	0.002
22.590-085 *	End mill Ø 0.85 mm	0.002
22.590-090 *	End mill Ø 0.90 mm	0.002
22.590-095 *	End mill Ø 0.95 mm	0.002
22.590-100 *	End mill Ø 1.00 mm	0.002
22.590-105	End mill Ø 1.05 mm	0.002
22.590-110 *	End mill Ø 1.10 mm	0.002
22.590-115	End mill Ø 1.15 mm	0.002
22.590-120 *	End mill Ø 1.20 mm	0.002
22.590-125	End mill Ø 1.25 mm	0.002
22.590-130 *	End mill Ø 1.30 mm	0.002
22.590-140 *	End mill Ø 1.40 mm	0.002
22.590-150 *	End mill Ø 1.50 mm	0.002
22.590-160	End mill Ø 1.60 mm	0.002
22.590-170	End mill Ø 1.70 mm	0.002
22.590-180	End mill Ø 1.80 mm	0.002
22.590-190	End mill Ø 1.90 mm	0.002
22.590-A	Plate	0.036
22.590-C	(2) Side screw	0.001

Double ended wheel countersinks.



ASSORTMENT

MSA	Kg
22.560	0.030

Assortment of 4 hardened steel double ended wheel countersinks. Wheels diameter : 1.80-2.10 / 2.50-3.00 / 3.50-4.00 / 4.50-5.00 mm. Delivered in a plastic pouch.

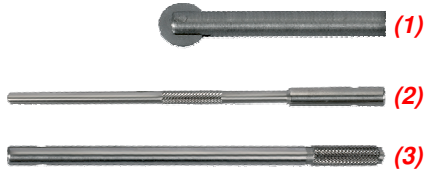
Spare parts :

MSA	Item	Kg
22.560-01	Double ended wheel countersink, Ø 1.80-2.10 mm	0.010
22.560-02	Double ended wheel countersink, Ø 2.50-3.00 mm	0.010
22.560-03	Double ended wheel countersink, Ø 3.50-4.00 mm	0.010
22.560-04	Double ended wheel countersink, Ø 4.50-5.00 mm	0.010

Wheel countersinks.



ASSORTMENT



MSA	Size	Kg
22.559	125 x 81 x 50 mm	0.265

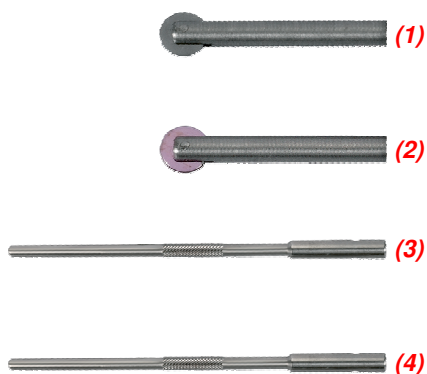
Assortment of 14 wheel countersinks specially conceived to release the mouldings (collets, screw openings, etc.), mounted on a conical handle.
 Delivered in a wooden box with :
 - 2 tool holders MSA22.564-030 and MSA22.564-047 (for use by hand or on a press)
 - 14 wheel countersinks (2 of each diameter)

Spare parts :

MSA	Item	Kg
22.562-150	(1) HM wheel countersinks Ø 1.50 mm, length 25 mm, angle 1°	0.001
22.562-200	HM wheel countersinks Ø 2.00 mm, length 25 mm, angle 1°	0.001
22.562-250	HM wheel countersinks Ø 2.50 mm, length 25 mm, angle 1°	0.001
22.562-300	HM wheel countersinks Ø 3.00 mm, length 25 mm, angle 1°	0.001
22.562-350	HM wheel countersinks Ø 3.50 mm, length 25 mm, angle 1°	0.001
22.562-400	HM wheel countersinks Ø 4.00 mm, length 25 mm, angle 1°	0.001
22.562-450	HM wheel countersinks Ø 4.50 mm, length 25 mm, angle 1°	0.001
22.564-030	(2) Tools holder Ø 3.00 mm, length 100 mmm Manual use	0.008
22.564-047	(3) Tools holder Ø 4.70 mm, length 90 mmm Use on a press	0.012



ASSORTMENT



MSA	Size	Kg
22.565	125 x 81 x 50 mm	0.290

Assortment of 14 wheel countersinks containing :
 - 7 hard metal wheel countersinks, specially conceived to release the mouldings (collets, screw openings, etc.), mounted on a conical handle
 - 7 ruby wheel countersinks for polishing mouldings, mounted on a conical handle. It can be used with or without lubricants. Using the ruby wheel countersinks guarantees a smothering surface than ever.
 Both countersinks must be used successively (1st : tungsten carbide / 2nd : ruby) to obtain a perfect polish.

Delivered in a wooden box with 2 tool holders MSA22.564-030 and MSA22.564-047 (for use by hand or on a press).

Spare parts :

MSA	Item	Kg
22.562-150	(1) HM wheel countersinks Ø 1.50 mm, length 25 mm, angle 1°	0.001
22.562-200	HM wheel countersinks Ø 2.00 mm, length 25 mm, angle 1°	0.001
22.562-250	HM wheel countersinks Ø 2.50 mm, length 25 mm, angle 1°	0.001
22.562-300	HM wheel countersinks Ø 3.00 mm, length 25 mm, angle 1°	0.001
22.562-350	HM wheel countersinks Ø 3.50 mm, length 25 mm, angle 1°	0.001
22.562-400	HM wheel countersinks Ø 4.00 mm, length 25 mm, angle 1°	0.001
22.562-450	HM wheel countersinks Ø 4.50 mm, length 25 mm, angle 1°	0.001
22.563-150	(2) Ruby wheel countersinks Ø 1.50 mm, length 25 mm, angle 1°	0.001
22.563-200	Ruby wheel countersinks Ø 2.00 mm, length 25 mm, angle 1°	0.001
22.563-250	Ruby wheel countersinks Ø 2.50 mm, length 25 mm, angle 1°	0.001
22.563-300	Ruby wheel countersinks Ø 3.00 mm, length 25 mm, angle 1°	0.001
22.563-350	Ruby wheel countersinks Ø 3.50 mm, length 25 mm, angle 1°	0.001
22.563-400	Ruby wheel countersinks Ø 4.00 mm, length 25 mm, angle 1°	0.001
22.563-450	Ruby wheel countersinks Ø 4.50 mm, length 25 mm, angle 1°	0.001
22.564-030	(3) Tools holder Ø 3.00 mm, length 100 mmm Manual use	0.008
22.564-047	(4) Tools holder Ø 4.70 mm, length 90 mmm Use on a press	0.012

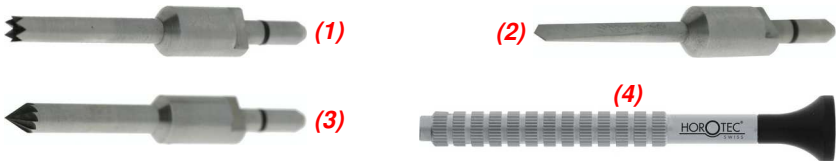
End mills for removing burrs and bevelling.



ASSORTMENT

MSA	Size	Kg
22.577	130 x 105 x 25 mm	0.123

Assortment of 12 hard metal end mills for removing burrs and bevelling.
Delivered with an aluminium handle in a plastic box.



Spare parts :

MSA	Item	Kg
22.577-11	End mill for deburring screws ends, Ø 0.90 mm	0.002
22.577-12	End mill for deburring screws ends, Ø 1.30 mm	0.002
22.577-05 (1)	End mill for deburring screws ends, Ø 2.50 mm	0.002
22.577-07	End mill for deburring screws ends (4 teeth), Ø 3 mm	0.002
22.577-06	End mill for deburring screws ends, Ø 4 mm	0.003
22.577-08	End mill for deburring screws ends (4 teeth), Ø 4 mm	0.003
-	-	-
22.577-09	End mill for beveling, Ø 1.00 mm	0.001
22.577-10 (2)	End mill for beveling, Ø 2.00 mm	0.001
22.577-03	End mill for beveling, Ø 3.00 mm	0.002
22.577-04	End mill for beveling, Ø 4.00 mm	0.002
-	-	-
22.577-01 (3)	Conical end mill, Ø 3.00 mm	0.002
22.577-02	Conical end mill, Ø 4.50 mm	0.003
-	-	-
22.577-A (4)	Handle	0.011

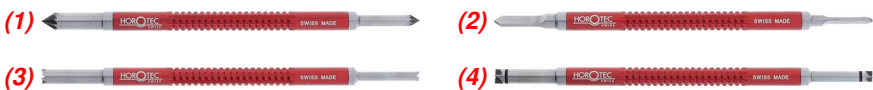


ASSORTMENT

MSA	Size	Kg
22.578	122 x 70 x 30 mm	0.126

Assortment of 6 hard metal double end mills for removing burrs and bevelling (Hardness Rockwell 62-64).

Delivered with an aluminium anodised red handle in a wooden box.



Spare parts :

MSA	Item	Kg
22.578-01 (1)	Conical double end mill, Ø 3.00-4.50 mm	0.007
22.578-02 (2)	Double end mill for bevelling, Ø 3.00-4.00 mm	0.006
22.578-05	Double end mill for bevelling, Ø 1.00-2.00 mm	0.002
22.578-03 (3)	Double end mill for deburring screws ends, Ø 2.50-4.00 mm	0.006
22.578-06	Double end mill for deburring screws ends, Ø 0.90-1.30 mm	0.002
22.578-04 (4)	End mill for deburring with 4 teeth, Ø 3.00-4.00 mm	0.007