

# 02



PIN VICES

02 - 2

CUTTING BROACHES

02 - 8

ASSORTMENT OF CUTTING BROACHES

02 - 10

SMOOTHING BROACHES

02 - 11

Pin vices are used to firmly hold items such as winding stems, cutting and smoothing broaches, drills, taps, wires, screws, etc.  
 Choosing a square or hexagonal head model will assure you a tighter fit.



MSA	Tightening	Length	Kg
02.001-01	0...1.50 mm	70 mm	0.022
02.001-02 *	0...1.80 mm	80 mm	0.025
02.001-03	0...2.30 mm	90 mm	0.030
02.001-04 *	0...2.80 mm	100 mm	0.040
02.001-05	0...3.00 mm	110 mm	0.050
02.001-06 *	0...3.50 mm	120 mm	0.060
02.001-07	0...4.00 mm	130 mm	0.080
02.001-08 *	0...5.00 mm	140 mm	0.094

Pin vice with fluted hollow brass handle and square head to prevent rolling on bench.

Delivered with 2 steel chucks.

\* In assortments MSA02.026 and MSA02.027



ASSORTMENT

MSA	Kg
02.026	0.212

Assortment of 4 pin vices MSA02.001-02, -04, -06 and -08.

Delivered in 1 plastic pouch.



MSA	Kg
02.027	0.422

Assortment of 5 brass pin vices, 4 with square head (MSA02.001-02 /-04 /-06 /-08) and 1 with round head (MSA02.021).

Delivered in 1 wooden box.



MSA	Tightening	Length	Kg
02.015-01	0...1.50 mm	70 mm	0.022
02.015-02	0...1.80 mm	80 mm	0.022
02.015-03	0...2.30 mm	90 mm	0.030
02.015-04	0...2.80 mm	100 mm	0.040
02.015-05	0...3.00 mm	110 mm	0.040
02.015-06	0...3.50 mm	120 mm	0.040
02.015-07	0...4.00 mm	130 mm	0.080
02.015-08	0...5.00 mm	140 mm	0.094

Pin vice with fluted hollow nickel-plated handle and square head to prevent rolling on bench.

Provided with 2 steel chucks.



MSA	Tightening	Length	Kg
02.002-01	0...1.50 mm	70 mm	0.020
02.002-02	0...1.80 mm	80 mm	0.020
02.002-03	0...2.30 mm	90 mm	0.030
02.002-04	0...2.80 mm	100 mm	0.040
02.002-05	0...3.00 mm	110 mm	0.045
02.002-06	0...3.50 mm	120 mm	0.060
02.002-07	0...4.00 mm	130 mm	0.070
02.002-08	0...5.00 mm	140 mm	0.093

Pin vice with fluted hollow brass handle and round head. Provided with 2 steel chucks.



MSA	Tightening	Length	Kg
02.003-01	0...0.80 mm	80 mm	0.012
02.003-02	0...0.80 mm	90 mm	0.015
02.003-03	0...0.80 mm	100 mm	0.015
02.003-04	0...0.80 mm	110 mm	0.015
02.003-05	0...0.80 mm	120 mm	0.017

Pin vice with fluted hollow brass, thin handle Ø 5 mm and round head. Provided with 1 steel chuck.



MSA	Tightening	Length	Kg
02.014-02	0.00...0.80 mm	80 mm	0.013
02.014-04	0.00...1.00 mm	100 mm	0.025
02.014-06	1.40...2.50 mm	120 mm	0.025

Pin vice with fluted hollow brass handle and round head. Delivered with 1 steel chuck.



MSA	Tightening	Length	Kg
02.021 *	0...0.70 mm	110 mm	0.015

Thin pin vice with conical and fluted brass handle and round head. Provided with 1 steel chuck.

\* In assortment MSA02.027



MSA	Tightening	Length	Kg
02.005	0...2.50 mm	100 mm	0.033

Double-ended pin vice with fluted nickel-plated handle and 2 round heads. Provided with 2 steel 4-lip chucks.



MSA	Tightening	Length	Kg
02.012	0...2.80 mm	110 mm	0.038

Double-ended pin vice with fluted hollow nickel-plated handle and 2 knurled round heads.

Provided with 2 steel 4-lip chucks.



MSA	Tightening	Length	Kg
02.016 *	0 ... 0.70 mm	110 mm	0.015

Thin pin vice with conical fluted nickel-plated handle and round head. Provided with 1 steel chuck.

\* See assortment MSA02.025



MSA	Tightening	Length	Kg
02.020-01	0 ... 1.50 mm	70 mm	0.020
02.020-02	0 ... 1.80 mm	80 mm	0.020
02.020-03 *	0 ... 2.30 mm	90 mm	0.025
02.020-04 *	0 ... 2.80 mm	100 mm	0.030
02.020-05	0 ... 3.00 mm	110 mm	0.045
02.020-06	0 ... 3.50 mm	120 mm	0.050
02.020-08	0 ... 5.00 mm	140 mm	0.096

Pin vice with fluted hollow nickel-plated handle and round head. Provided with 2 steel chucks.

\* See assortment MSA02.025



**ASSORTMENT**

MSA	Kg
02.025	0.088

Assortment of 3 pin vices with fluted hollow nickel-plated handles and round heads.

Contents : MSA02.016, 02.020-03 and 02.020-04.

Delivered in 1 plastic pouch.



Ø 6 mm

MSA	Tightening	Length	Kg
02.017	0.80 ... 1.50 mm	60 mm	0.009

Pin vice with fluted hollow nickel-plated handle and round head. Provided with 1 steel chuck.



Ø 7 mm

MSA	Tightening	Length	Kg
02.018	1.80 ... 3.00 mm	62 mm	0.018

Pin vice with fluted hollow nickel-plated handle and round head. Provided with 1 steel chuck.



Ø 2.35 mm

MSA	Tightening	Length	Kg
02.035	0 ... 1.20 mm	55 mm	0.005

Pin vice with black finished adapter and round head. For manual use on a lathe or a drilling machine. Provided with 1 steel chuck.



Ø 2.35 mm

MSA	Model	Tightening	Length	Kg
02.036	Medium	0.00 ... 1.00 - 0.90 ... 1.60 - 1.50 ... 2.40 mm	80 mm	0.028
02.037	Large	0.00 ... 1.30 - 1.10 ... 2.30 - 1.70 ... 3.00 mm	80 mm	0.028

Pin vice with black finished adapter and round head. For manual use on a lathe or a drilling machine.

Delivered with 3 interchangeable steel chucks.



MSA	Tightening	Length	Kg
<b>02.099</b>	0...1.00 mm	50 mm	0.008

Mini cutting broaches holder pin vice with fluted hollow handle made of aluminium.  
Provided with 1 steel chuck.



MSA	Ø crowns	Model	Length	Kg
<b>02.008-01</b>	3...5 mm	<b>Small</b>	75 mm	0.031
<b>02.008-02</b>	4...6 mm	<b>Medium</b>	75 mm	0.031
<b>02.008-03</b>	5...7 mm	<b>Large</b>	75 mm	0.031

Winding crowns pin vice with knurled nickel-plated handle. Specially made for winding watches.



MSA	Tightening	Length	Kg
<b>02.098</b>	0...1.10 mm	60 mm	0.013

Mini cutting broaches holder pin vice with knurled hollow handle made of black steel and round head.  
Provided with 1 steel chuck.



MSA	Tightening	Length	Kg
<b>02.004</b>	0...2.80 mm	110 mm	0.040

Double-ended pin vice with fluted hollow nickel-plated handle and 2 hexagonal heads to prevent rolling on bench.  
Provided with 2 steel 4-lip chucks.



MSA	Tightening	Length	Kg
<b>02.050</b>	1.40...2.80 mm	107 mm	0.039

Double-ended pin vice with fluted hollow nickel-plated handle and 2 knurled round heads.  
Provided with 2 identical steel chucks with 4 cutters.



MSA	Length	Kg
<b>02.007</b>	110 mm	0.015

Forked pin vice with knurled nickel-plated handle.  
Provided with a sliding locker for an easy and quick tightening with one hand.



MSA	Tightening	Length	Kg
<b>02.030</b>	0...1.50 mm	110 mm	0.031

Crown pin vice with knurled hollow nickel-plated handle.  
Provided with a sliding locker for an easy and quick tightening with one hand.



MSA	Ø	Length	Kg
02.022-075	0.75 mm	120 mm	0.048
02.022-080	0.80 mm	120 mm	0.048
02.022-090	0.90 mm	120 mm	0.048
02.022-100	1.00 mm	120 mm	0.048
02.022-120	1.20 mm	120 mm	0.048
02.022-125	1.25 mm	120 mm	0.048
02.022-130	1.30 mm	120 mm	0.048
02.022-140	1.40 mm	120 mm	0.048
02.022-145	1.45 mm	120 mm	0.048
02.022-150	1.50 mm	120 mm	0.048
02.022-160	1.60 mm	120 mm	0.048
02.022-170	1.70 mm	120 mm	0.048
02.022-175	1.75 mm	120 mm	0.048
02.022-180	1.80 mm	120 mm	0.048
02.022-200	2.00 mm	120 mm	0.048
02.022-220	2.20 mm	120 mm	0.048
02.022-250	2.50 mm	120 mm	0.048
02.022-300	3.00 mm	120 mm	0.048
02.022-350	3.50 mm	120 mm	0.048

Pin vice for barrel staff with hollow nickel-plated hexagonal handle.  
 Provided with a sliding locker for an easy and quick tightening with one hand.



MSA	Ø	Length	Kg
02.006-020	0.20 mm	115 mm	0.017
02.006-025	0.25 mm	115 mm	0.017
02.006-030	0.30 mm	115 mm	0.017
02.006-035	0.35 mm	115 mm	0.017
02.006-040	0.40 mm	115 mm	0.017
02.006-045	0.45 mm	115 mm	0.017
02.006-050	0.50 mm	115 mm	0.017
02.006-055	0.55 mm	115 mm	0.017
02.006-060	0.60 mm	115 mm	0.017
02.006-065	0.65 mm	115 mm	0.017
02.006-070	0.70 mm	115 mm	0.017
02.006-075	0.75 mm	115 mm	0.017
02.006-080	0.80 mm	115 mm	0.017
02.006-085	0.85 mm	115 mm	0.017
02.006-090	0.90 mm	115 mm	0.017
02.006-095	0.95 mm	115 mm	0.017
02.006-100	1.00 mm	115 mm	0.017
02.006-110	1.10 mm	115 mm	0.017
02.006-120	1.20 mm	115 mm	0.017

Balance screws hardened steel pin vice, knurled nickel-plated handle.  
 Provided with a sliding locker for an easy and quick tightening with one hand.

The drill is a piercing tool operated by a threaded block.



MSA	Model	Tightening	Length	Kg
02.009-R	2 chucks	0 + 0...2.30 mm	110 mm	0.030

Drill or drill holder for piercing. The tool has a series of helicoidally grooves and is turned by moving a threaded block alternately up and down.

**Knurled broaches.**



MSA	Ø	Length	Kg
02.023	8 mm	114 mm	0.038

Knurled steel broach for use with P 4.5 type SCHAUBLIN chucks. Precise tightening and steady.

*Delivered without chucks.*

**Accessories :**

MSA	Item	Kg
03.875-100	Chuck P 4.5 type, Ø 1.00 mm	0.002
03.875-150	Chuck P 4.5 type, Ø 1.50 mm	0.002
03.875-160	Chuck P 4.5 type, Ø 1.60 mm	0.002
03.875-200	Chuck P 4.5 type, Ø 2.00 mm	0.002
03.875-235	Chuck P 4.5 type, Ø 2.35 mm	0.002
03.875-250	Chuck P 4.5 type, Ø 2.50 mm	0.002
03.875-300	Chuck P 4.5 type, Ø 3.00 mm	0.002
03.875-400	Chuck P 4.5 type, Ø 4.00 mm	0.002



MSA	Ø	Length	Kg
02.019	6 mm	105 mm	0.026

Knurled steel broach for manual use or mounted on a lathe. Precise tightening and steady.

*Delivered with 4 easily interchangeable tightening chucks Ø 0.80, 1.00, 1.20 and 1.50 mm.*

**Spare parts :**

MSA	Item	Kg
02.019-080	(1) Tightening chuck Ø 0.80 mm	0.001
02.019-100	Tightening chuck Ø 1.00 mm	0.001
02.019-120	Tightening chuck Ø 1.20 mm	0.001
02.019-150	Tightening chuck Ø 1.50 mm	0.001
02.019-A	(2) Broach	0.020

**Accessories :**

MSA	Item	Kg
02.019-060	Tightening chuck Ø 0.60 mm	0.001
02.019-200	Tightening chuck Ø 2.00 mm	0.001



MSA	Ø	Length	Kg
02.029	4.70 mm	105 mm	0.020

Knurled steel broach for use with STAR staking tools.

*Delivered with 1 adjustment ring and 4 easily interchangeable tightening chucks Ø 0.80, 1.00, 1.20 and 1.50 mm.*

**Spare parts :**

MSA	Item	Kg
02.019-080	(1) Tightening chuck Ø 0.80 mm	0.001
02.019-100	Tightening chuck Ø 1.00 mm	0.001
02.019-120	Tightening chuck Ø 1.20 mm	0.001
02.019-150	Tightening chuck Ø 1.50 mm	0.001
02.029-B	(2) Broach	0.015
02.029-BG	(3) Adjusting ring	0.003

**Accessories :**

MSA	Item	Kg
02.019-060	Tightening chuck Ø 0.60 mm	0.001
02.019-200	Tightening chuck Ø 2.00 mm	0.001

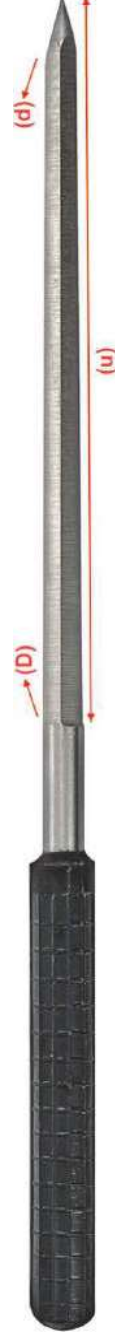
The cutting broaches are used for enlarging holes. They have a 5-sided tapered shaft (pentagonal section) with sharp cutting edges.



MSA	No.	Total length (L)	Useful length (u)	Ø (D)	Ø (d)	Kg
02.100-01	01	162 mm	107 mm	5.75 mm	4.80 mm	0.030
02.100-02	02	160 mm	105 mm	5.50 mm	4.50 mm	0.030
02.100-04	04	158 mm	104 mm	5.25 mm	4.30 mm	0.030
02.100-08	08	156 mm	103 mm	5.00 mm	4.10 mm	0.030
02.100-12	12	154 mm	102 mm	4.75 mm	3.80 mm	0.030
02.100-16	16	151 mm	100 mm	4.50 mm	3.60 mm	0.030
02.100-18	18	149 mm	99 mm	4.25 mm	3.40 mm	0.030
02.100-22	22	147 mm	98 mm	4.00 mm	3.10 mm	0.030
02.100-26	26	145 mm	97 mm	3.75 mm	2.70 mm	0.030
02.100-28	28	142 mm	96 mm	3.50 mm	2.60 mm	0.030
02.100-30	30	140 mm	95 mm	3.25 mm	2.40 mm	0.030
02.100-31	31	138 mm	93 mm	3.00 mm	2.20 mm	0.030
02.100-32	32	135 mm	91 mm	2.90 mm	2.10 mm	0.020
02.100-35	35	132 mm	89 mm	2.80 mm	2.05 mm	0.020
02.100-36	36	129 mm	87 mm	2.70 mm	2.00 mm	0.020
02.100-38	38	127 mm	85 mm	2.60 mm	1.90 mm	0.020
02.100-40	40	125 mm	82 mm	2.50 mm	1.80 mm	0.020
02.100-41	41	122 mm	80 mm	2.40 mm	1.75 mm	0.020
02.100-42	42	119 mm	78 mm	2.30 mm	1.70 mm	0.020
02.100-44	44	116 mm	76 mm	2.20 mm	1.60 mm	0.020
02.100-45	45	113 mm	74 mm	2.10 mm	1.50 mm	0.020
02.100-46	46	110 mm	72 mm	2.00 mm	1.40 mm	0.020
02.100-48	48	107 mm	70 mm	1.90 mm	1.30 mm	0.020
02.100-49	49	104 mm	68 mm	1.80 mm	1.20 mm	0.010
02.100-51	51	101 mm	65 mm	1.70 mm	1.15 mm	0.010
02.100-52	52	98 mm	63 mm	1.60 mm	1.10 mm	0.010
02.100-53	53	95 mm	61 mm	1.50 mm	1.00 mm	0.010
02.100-54	54	92 mm	59 mm	1.40 mm	0.90 mm	0.010
02.100-55	55	89 mm	57 mm	1.30 mm	0.80 mm	0.010
02.100-56	56	86 mm	54 mm	1.20 mm	0.70 mm	0.010
02.100-58	58	83 mm	52 mm	1.10 mm	0.63 mm	0.010
02.100-60	60	80 mm	50 mm	1.00 mm	0.57 mm	0.010
02.100-62	62	77.5 mm	48 mm	0.95 mm	0.54 mm	0.010
02.100-64	64	75 mm	47 mm	0.90 mm	0.50 mm	0.010
02.100-65	65	72.5 mm	46 mm	0.85 mm	0.48 mm	0.010
02.100-66	66	70.5 mm	44 mm	0.80 mm	0.45 mm	0.001
02.100-68	68	68 mm	42 mm	0.75 mm	0.41 mm	0.001
02.100-70	70	66 mm	41 mm	0.70 mm	0.37 mm	0.001
02.100-71	71	64 mm	40 mm	0.65 mm	0.34 mm	0.001
02.100-72	72	62 mm	38 mm	0.60 mm	0.30 mm	0.001
02.100-74	74	60 mm	37 mm	0.55 mm	0.28 mm	0.001
02.100-75	75	58 mm	36 mm	0.50 mm	0.25 mm	0.001
02.100-76	76	56 mm	34 mm	0.45 mm	0.20 mm	0.001
02.100-78	78	54 mm	33 mm	0.40 mm	0.15 mm	0.001
02.100-79	79	52 mm	32 mm	0.35 mm	0.13 mm	0.001
02.100-80	80	50 mm	31 mm	0.30 mm	0.10 mm	0.001

5-sided conical cutting broach, without handle, made of tool steel. The taper is 1:100. The numbers correspond to the measurements from the English screw-plate (Stubs) and in mm. Size (D) is measured slightly below largest portion of cutting edges.





MSA	No.	Useful length (u)	Ø (D)	Ø (d)	Kg
02.170-01	01	107 mm	5.75 mm	4.80 mm	0.035
02.170-02	02	105 mm	5.50 mm	4.50 mm	0.025
02.170-04	04	104 mm	5.25 mm	4.30 mm	0.020
02.170-08	08	103 mm	5.00 mm	4.10 mm	0.020
02.170-12	12	102 mm	4.75 mm	3.80 mm	0.020
02.170-16	16	100 mm	4.50 mm	3.60 mm	0.015
02.170-18	18	99 mm	4.25 mm	3.40 mm	0.015
02.170-22	22	98 mm	4.00 mm	3.10 mm	0.010
02.170-26	26	97 mm	3.75 mm	2.70 mm	0.010
02.170-28	28	96 mm	3.50 mm	2.60 mm	0.010
02.170-30	30	95 mm	3.25 mm	2.40 mm	0.010
02.170-31	31	93 mm	3.00 mm	2.20 mm	0.005
02.170-32	32	91 mm	2.90 mm	2.10 mm	0.005
02.170-35	35	89 mm	2.80 mm	2.05 mm	0.005
02.170-36	36	87 mm	2.70 mm	2.00 mm	0.004
02.170-38	38	85 mm	2.60 mm	1.90 mm	0.004
02.170-40	40	82 mm	2.50 mm	1.80 mm	0.004
02.170-41	41	80 mm	2.40 mm	1.75 mm	0.003
02.170-42	42	78 mm	2.30 mm	1.70 mm	0.003
02.170-44	44	76 mm	2.20 mm	1.60 mm	0.003
02.170-45	45	74 mm	2.10 mm	1.50 mm	0.002
02.170-46	46	72 mm	2.00 mm	1.40 mm	0.002
02.170-48	48	70 mm	1.90 mm	1.30 mm	0.002
02.170-49	49	68 mm	1.80 mm	1.20 mm	0.001
02.170-51	51	65 mm	1.70 mm	1.15 mm	0.001
02.170-52	52	63 mm	1.60 mm	1.10 mm	0.001
02.170-53	53	61 mm	1.50 mm	1.00 mm	0.001
02.170-54	54	59 mm	1.40 mm	0.90 mm	0.001
02.170-55	55	57 mm	1.30 mm	0.80 mm	0.001
02.170-56	56	54 mm	1.20 mm	0.70 mm	0.001
02.170-58	58	52 mm	1.10 mm	0.63 mm	0.001
02.170-60	60	50 mm	1.00 mm	0.57 mm	0.001
02.170-64	64	47 mm	0.90 mm	0.50 mm	0.001
02.170-66	66	44 mm	0.80 mm	0.45 mm	0.001
02.170-70	70	41 mm	0.70 mm	0.37 mm	0.001
02.170-72	72	38 mm	0.60 mm	0.30 mm	0.001
02.170-75	75	36 mm	0.50 mm	0.25 mm	0.001
02.170-78	78	33 mm	0.40 mm	0.15 mm	0.001
02.170-80	80	31 mm	0.30 mm	0.10 mm	0.001
02.170-020	020	20 mm	0.20 mm	0.07 mm	0.001
02.170-015	015	18 mm	0.15 mm	0.05 mm	0.001
02.170-010	010	17 mm	0.10 mm	0.0 mm	0.001
02.170-008	008	16 mm	0.08 mm	0.03 mm	0.001
02.170-005	005	15 mm	0.05 mm	0.02 mm	0.001

5-sided conical cutting broach, with plastic handle, made of tool steel. The taper is 1:100. The numbers correspond to the measurements from the English screw-plate (Stubs) and in mm. Size (D) is measured slightly below largest portion of cutting edges.

## ASSORTMENT OF CUTTING BROACHES



MSA	Packaging size	Kg
<b>02.155</b>	60 x 44 mm	0.010

Assortment of 12 extra thin cutting broaches with plastic handle.  
*Contents : Ø 0.05, 0.08, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40, 0.45, 0.50 and 0.55 mm.*



MSA	Packaging size	Kg
<b>02.151</b>	133 x 60 mm	0.010

Assortment of 6 5-sided cutting broaches with plastic handle.  
*Contents : Ø 0.40, 0.60, 0.80, 1.00, 1.20 and 1.40 mm.*



MSA	Packaging size	Kg
<b>02.150</b>	133 x 60 mm	0.013

Assortment of 6 5-sided cutting broaches with plastic handle.  
*Contents : Ø 0.60, 0.80, 1.00, 1.30, 1.60 and 2.00 mm.*



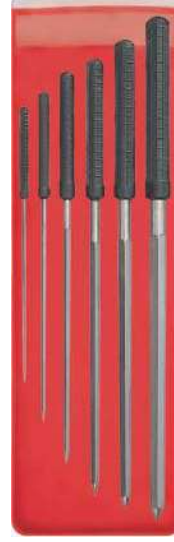
MSA	Packaging size	Kg
<b>02.152</b>	152 x 15 x 15 mm	0.029

Assortment of 6 5-sided cutting broaches with plastic handle.  
*Contents : Ø 0.70, 1.00, 1.50, 2.00, 2.50 and 3.00 mm.*



MSA	Packaging size	Kg
<b>02.153</b>	152 x 15 x 15 mm	0.030

Assortment of 6 5-sided cutting broaches with plastic handle.  
*Contents : Ø 1.20, 1.50, 1.80, 2.20, 2.50 and 3.00 mm.*



MSA	Packaging size	Kg
<b>02.161</b>	205 x 65 mm	0.112

Assortment of 6 5-sided cutting broaches with plastic handle. Large models for watches, alarm clocks and clocks.  
*Contents : Ø 1.50, 2.20, 3.00, 4.00, 5.50 and 7.00 mm.*



MSA	Packaging size	Kg
<b>02.160</b>	205 x 65 mm	0.110

Assortment of 6 5-sided cutting broaches with plastic handle. Large models for alarm clocks and clocks.  
*Contents : Ø 2.20, 2.50, 3.00, 4.00, 5.00 and 6.00 mm.*



MSA	Packaging size	Kg
<b>02.162</b>	250 x 75 mm	0.330

Assortment of 4 5-sided cutting broaches with plastic handle. Large models for alarm clocks and clocks.  
*Contents : Ø 7.00, 8.00, 9.25 and 10.50 mm.*

Smoothing broaches are used for polishing the holes.



MSA	No.	Useful length (u)	Ø (D)	Ø (d)	Kg
02.250-01	01	107 mm	5.75 mm	4.80 mm	0.035
02.250-02	02	105 mm	5.50 mm	4.50 mm	0.035
02.250-04	04	104 mm	5.25 mm	4.30 mm	0.035
02.250-08	08	103 mm	5.00 mm	4.10 mm	0.035
02.250-12	12	102 mm	4.75 mm	3.80 mm	0.035
02.250-16	16	100 mm	4.50 mm	3.60 mm	0.030
02.250-18	18	99 mm	4.25 mm	3.40 mm	0.030
02.250-22	22	98 mm	4.00 mm	3.10 mm	0.030
02.250-26	26	97 mm	3.75 mm	2.70 mm	0.030
02.250-28	28	96 mm	3.50 mm	2.60 mm	0.030
02.250-30	30	95 mm	3.25 mm	2.40 mm	0.025
02.250-31	31	93 mm	3.00 mm	2.20 mm	0.025
02.250-32	32	91 mm	2.90 mm	2.10 mm	0.025
02.250-35	35	89 mm	2.80 mm	2.05 mm	0.025
02.250-36	36	87 mm	2.70 mm	2.00 mm	0.025
02.250-38	38	85 mm	2.60 mm	1.90 mm	0.020
02.250-40	40	82 mm	2.50 mm	1.80 mm	0.020
02.250-41	41	80 mm	2.40 mm	1.75 mm	0.020
02.250-42	42	78 mm	2.30 mm	1.70 mm	0.020
02.250-44	44	76 mm	2.20 mm	1.60 mm	0.020
02.250-45	45	74 mm	2.10 mm	1.50 mm	0.015
02.250-46	46	72 mm	2.00 mm	1.40 mm	0.015
02.250-48	48	70 mm	1.90 mm	1.30 mm	0.015
02.250-49	49	68 mm	1.80 mm	1.20 mm	0.015
02.250-51	51	65 mm	1.70 mm	1.15 mm	0.015
02.250-52	52	63 mm	1.60 mm	1.10 mm	0.010
02.250-53	53	61 mm	1.50 mm	1.00 mm	0.010
02.250-54	54	59 mm	1.40 mm	0.90 mm	0.010
02.250-55	55	57 mm	1.30 mm	0.80 mm	0.010
02.250-56	56	54 mm	1.20 mm	0.70 mm	0.010
02.250-58	58	52 mm	1.10 mm	0.63 mm	0.001
02.250-60	60	50 mm	1.00 mm	0.57 mm	0.001
02.250-64	64	47 mm	0.90 mm	0.50 mm	0.001
02.250-66	66	44 mm	0.80 mm	0.45 mm	0.001
02.250-70	70	41 mm	0.70 mm	0.37 mm	0.001
02.250-72	72	38 mm	0.60 mm	0.30 mm	0.001
02.250-75	75	36 mm	0.50 mm	0.25 mm	0.001
02.250-78	78	33 mm	0.40 mm	0.15 mm	0.001
02.250-80	80	31 mm	0.30 mm	0.10 mm	0.001

Smoothing broach, with plastic handle, made of tool steel. The taper is 1:100. The numbers correspond to the measurements from the English screw-plate (Stubs) and in mm. Size (D) is measured slightly below largest portion of cutting edges.



**ASSORTMENT**

**MSA**

**02.221**

Packaging size

133 x 60 mm

Kg

0.010

Assortment of 6 smoothing broaches with plastic handle.  
Contents : Ø 0.40, 0.60, 0.80, 1.00, 1.20 and 1.40 mm.



**ASSORTMENT**

**MSA**

**02.220**

Packaging size

133 x 60 mm

Kg

0.013

Assortment of 6 smoothing broaches with plastic handle.  
Contents : Ø 0.60, 0.80, 1.00, 1.30, 1.60 and 2.00 mm.

Assortments of smoothing broaches in wooden box.



**MSA22.567**

**See chapter 22.**



**MSA22.571**

**See chapter 22.**

# 03



SPECIALIZED WATCH MAKING TOOLS

LATHES

RIVETING STAKES

DRILL MACHINES

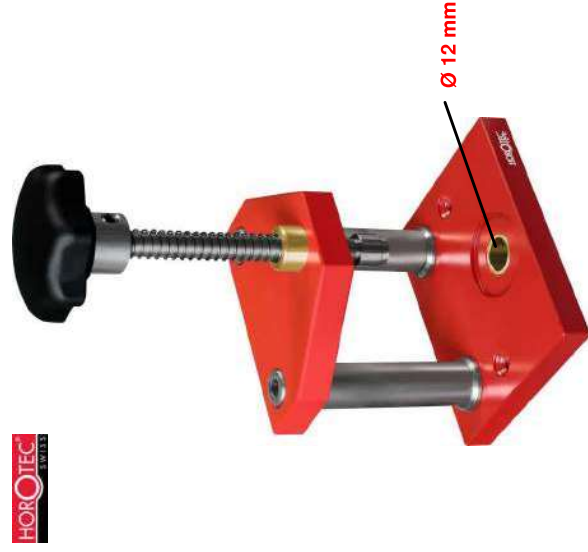
03 - 2

03 - 11

03 - 15

03 - 16

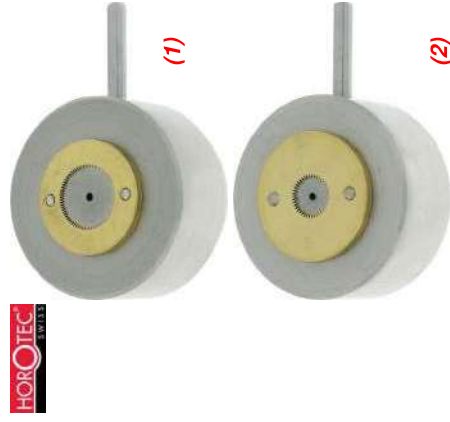
Tools for locking/unlocking oscillating weight bolts.  
Calibres 2892... and 7750...



MSA	For calibres	Kg
03.676-2892	ETA 2892 - 2893 - 2894 - 2895	0.665
03.676-7750	ETA 7750 - 7751 - 7753	0.665

Press for locking/unlocking oscillation weight bolts. The broach is mounted on spring for a fast and precise job. The broach is interchangeable and easily disassembled by unscrewing the head.

Delivered without movement holder MSA03.678-xxx or MSA03.680-xxx.



MSA	For calibres	Kg
03.680-2892 (1)	ETA 2892 - 2893 - 2894 - 2895 - 2896 - 2897	0.078
03.680-7750 (2)	ETA 7700 - 7750 - A07111 - A07161 - A07271	0.079

Support for assembling/disassembling the oscillating weight bolts.

Spare part :

MSA	Item	Kg
03.676-A	Guide staff Ø 4 mm	0.001



MSA	For calibres	Kg
03.678-2892 (1)	ETA 2892 - 2893 - 2894 - 2895	0.070
03.678-7750 (2)	ETA 7750 - 7751 - 7753	0.090

Base holder for MSA03.676-2892 and 03.676-7750.



MSA	For calibres	Kg
03.679-2892	ETA 2892 - 2893 - 2894 - 2895	0.090
03.679-7750	ETA 7750 - 7751 - 7753	0.110

Broach for MSA03.676-xxxx and 03.677-xxxx.

Tools for assembling/disassembling oscillating weight bolts, screw-on pushers, screw-on tubes and battery covers.



MSA	MSA	Kg
<b>03.675</b>		0.170

Tool for locking/unlocking oscillating weight bolts.  
Delivered with 2 interchangeable snap-on keys (MSA03.620-2892 and 03.620-7750) and a detailed user's manual.

**Spare parts :**

MSA	Item	Kg
<b>03.620-2892</b>	Key for calibres 2892, 2893, 2894 and 2895	0.008
<b>03.620-7750</b>	Key for calibres 2000-1, 7750, 7751 and 7753	0.008
<b>03.620-A</b>	Hexagonal handle compatible with all illustrated keys	0.060



MSA	Size	Kg
<b>03.622</b>	120 x 70 x 35 mm	0.448

Tool for assembling/disassembling screw-on pushers and tubes.

**Contents :**

- 1 plate
  - 1 hexagonal handle MSA03.620-A
  - 13 interchangeable keys MSA03.620-01, -02, -03, -04, -05, -06, -07, -08, -203, -207, -P3, -P27 and -P39.
- See next page for details of spare parts.



MSA	Size	Kg
<b>03.623</b>	120 x 70 x 35 mm	0.460

Tool for locking/unlocking oscillating weight bolts and assembling/disassembling screw-on pushers and tubes.

**Contents :**

- 1 plate
  - 1 hexagonal handle MSA03.620-A
  - 15 interchangeable keys MSA03.620-01, -02, -03, -04, -05, -06, -07, -08, -203, -207, -2892, -7750, -P3, -P27 and -P39.
- See next page for details of spare parts.



MSA	Size	Kg
<b>03.621</b>	120 x 70 x 35 mm	0.496

Tool for locking/unlocking oscillating weight bolts and assembling/disassembling screw-on pushers, screw-on tubes and battery covers.

**Contents :**

- 1 plate
  - 1 hexagonal handle MSA03.620-A
  - 18 interchangeable keys MSA03.620-01, -02, -03, -04, -05, -06, -07, -08, -203, -207, -2892, -7750, -GENT, -LADY, -MED, -P3, -P27 and -P39.
- See below the details of spare parts.

**Spare parts for screwing tubes :**

MSA	Item	Kg
<b>03.620-01</b>	Key for tubes MSA65.001, Ø 1.50 mm	0.005
<b>03.620-02</b>	Key for tubes MSA65.002, Ø 1.80 mm	0.005
<b>03.620-03</b>	Key for tubes MSA65.003, Ø 2.65 mm	0.005
<b>03.620-04</b>	Key for tubes MSA65.004, Ø 2.75 mm	0.005
<b>03.620-05</b>	Key for tubes MSA65.005, Ø 2.95 mm	0.005
<b>03.620-06</b>	Key for tubes MSA65.006, Ø 3.00 mm	0.005
<b>03.620-07</b>	Key for tubes MSA65.007, Ø 3.00 mm	0.005
<b>03.620-08</b>	Key for tubes OM SEAM.	0.005

**Spare parts for screwing pushers :**

MSA	Item	Kg
<b>03.620-203</b>	Key for pushers MSA61.203 /,703	0.005
<b>03.620-207</b>	Key for pushers MSA61.207 /,707	0.005
<b>03.620-P27</b>	Key for pushers type P27	0.006
<b>03.620-P3</b>	Key for pushers type P3	0.006
<b>03.620-P39</b>	Key for pushers type P39	0.006

**Spare parts for oscillating weight bolts :**

MSA	Item	Kg
<b>03.620-2892</b>	Key for calibres 2892, 2893, 2894 and 2895	0.008
<b>03.620-7750</b>	Key for calibres 2000-1, 7750, 7751 and 7753	0.008

**Spare parts for Swatch® battery covers :**

MSA	Item	Kg
<b>03.620-GENT</b>	Key for Gent watches	0.015
<b>03.620-LADY</b>	Key for Lady watches	0.015
<b>03.620-MED</b>	Key for Medium watches	0.015

**Spare part :**

MSA	Item	Kg
<b>03.620-A</b>	Hexagonal handle compatible with all illustrated keys	0.060



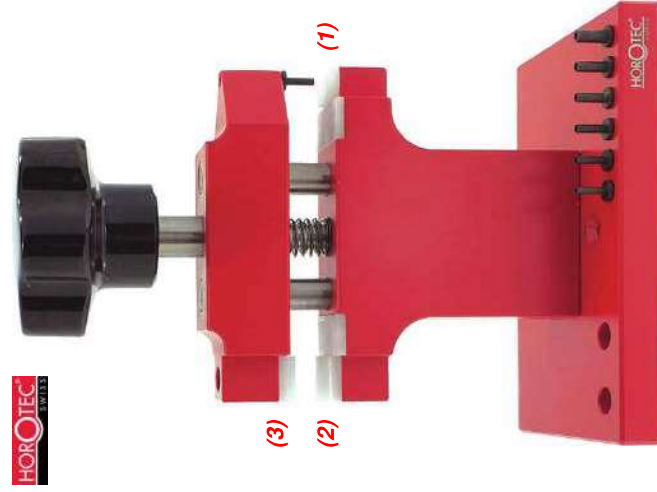
Ø

MSA	Type	Internal Ø	Kg
<b>03.653-P3</b>	P3	<b>3.00 mm</b>	0.060
<b>03.653-P27</b>	P27	<b>3.50 mm</b>	0.060
<b>03.653-P39</b>	P39	<b>3.60 mm</b>	0.060

Tool for screw/unscrew fluted pusher tubes.  
Aluminium handle.



Press for fitting/removing press-in pushers and crown tubes.



MSA	Size	Kg
03.657	100 x 60 x 142 mm	0.480

Press for fitting/removing press-in pushers and crown tubes easily and without damage.

Delivered with 7 stakes, external Ø from 1.55 to 2.95 mm.

Spare parts :

MSA	Item	Kg
03.654-A	(1) Stake Ø ext. 2.95 - Ø int. 1.55 mm	0.001
03.654-B	Stake Ø ext. 2.65 - Ø int. 1.55 mm	0.001
03.654-C	Stake Ø ext. 2.45 - Ø int. 1.55 mm	0.001
03.654-D	Stake Ø ext. 2.15 - Ø int. 1.55 mm	0.001
03.654-E	Stake Ø ext. 1.95 - Ø int. 1.55 mm	0.001
03.654-F	Stake Ø ext. 1.75 - Ø int. 1.55 mm	0.001
03.654-G	Stake Ø ext. 1.55 - Ø int. 1.55 mm	0.001
03.654-H	(2) Removing support	0.001
03.656-A	(3) Lower fitting support	0.001
03.656-B	(4) Upper fitting support	0.001



Keys for screw/unscrew pushers.



MSA	Internal Ø	Kg
03.655	3.10 mm	0.007

Steel key for screw/unscrew the chronograph pushers MSA61.207 and 61.707.

Nice black finish.

Keys for screw/unscrew the tubes of screw-on crowns.



MSA	For tubes	External Ø	Kg
03.665-01	MSA65.001	1.60 mm	0.006
03.665-02	MSA65.002	1.90 mm	0.006
03.665-03	MSA65.003	2.65 mm	0.006
03.665-04	MSA65.004	2.70 mm	0.006
03.665-05	MSA65.005	2.90 mm	0.006
03.665-06	MSA65.006	3.05 mm	0.006

Steel key for screw/unscrew the tubes of screw-on crowns to assure waterproof of diving watches.  
Nice black finish.

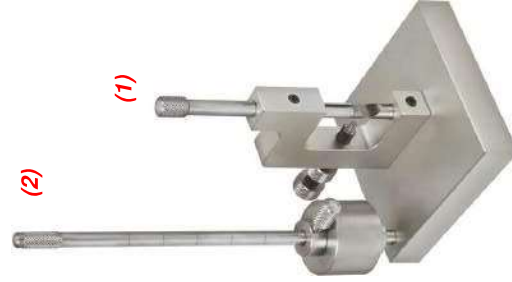
**Crowns extractor.**



MSA	Size	Kg
<b>03.604</b>	40 x 15 x 25 mm	0.023

Crowns extractor with adjustment screw.

**Tools for lanterning canon pinions.**



MSA	Size	Kg
<b>03.005</b>	50 x 50 x 120 mm	0.317

Press for lanterning canon pinions with hard metal beaks and sliding ring mounted on grooved broach.

*This press can be used in 2 different ways :*

*(1) - With the standard broach for single use.*

*(2) - With the grooved scale broach and 1 screwed sliding ring for height punch adjustment.*

**Spare parts :**

MSA	Item	Kg
<b>03.005-A</b>	Punch stem with weight	-
<b>03.005-B</b>	Broach with beak, L54 x Ø 4 mm + Lower beak, L16 x Ø 4 mm	0.008



MSA	Size	Kg
<b>03.004</b>	97 x 7 x 45 mm	0.135

Tool for lanterning canon pinions, fixable on a vice.

Tools for hairspring collets.



MSA	Ø	Kg	MSA	Ø	Kg
03.101-03	0.30 mm	0.006	03.101-08	0.80 mm	0.006
03.101-04	0.40 mm	0.006	03.101-09	0.90 mm	0.006
03.101-05	0.50 mm	0.006	03.101-10	1.00 mm	0.006
03.101-06	0.60 mm	0.006	03.101-12	1.20 mm	0.006
03.101-07	0.70 mm	0.006			

Broaches for hairspring collets with nickel-plated brass knurled handle.  
Length 98 mm.



MSA	External Ø	Ø hole	Length	Kg
03.102-11	1.10 mm	0.45 mm	95 mm	0.010
03.102-16	1.60 mm	0.55 mm	95 mm	0.010
03.102-21	2.10 mm	0.75 mm	95 mm	0.010

Tool for turning and setting hairspring collets with nickel-plated brass knurled handle.



PAIR

MSA	Spatulas width	Total length	Kg
03.103-E	1.80 mm	95 mm	0.015
03.103-C	2.50 mm	115 mm	0.022
03.103-D	3.00 mm	120 mm	0.024

Pair of hairspring collets levers with nickel-plated brass knurled handle.

Truing callipers.



MSA	Size	Kg
03.415	85 x 70 mm	0.260

Truing calliper on base.

Poising tool.



MSA	Size	Kg
03.419	80 x 50 x 45 mm	0.300

Poising tool with spirit level Ø 18 mm and 2 adjustable feet. Delivered with 2 ruby jaws MSA03.419-A, length 15 mm.

Spare parts :

MSA	Item	Kg
03.419-A	Ruby jaw	0.001
03.419-B	Wooden box	0.175



Tools for stud holding and for setting balance screws.



MSA	Size	Kg
03.200	Ø 40 x 9 mm	0.106

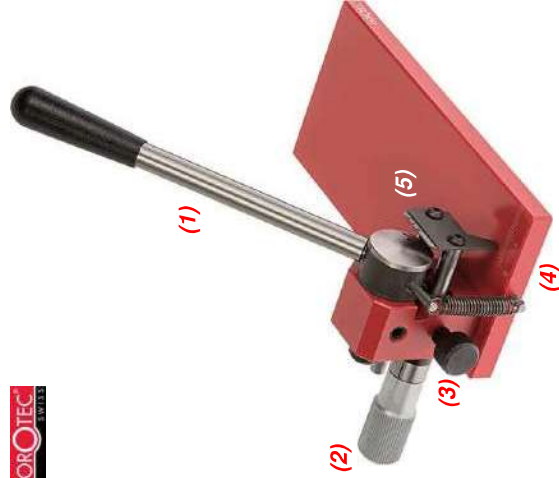
Tool for stud holding, used for fixing the stud on the balance-spring.



MSA	Size	Kg
03.424	Ø 40 x 7 mm	0.030

Nickel-plated brass tool with holes for setting the balances, with 12 holes from Ø 0.5 to 2.5 mm.

Tools for winding stems.



MSA	Base size	Kg
03.602	60 x 118 mm	0.353

Tool for shortening winding stems, allowing the length setting of stems in serial production.

Description :

- (1) - Lever with ergonomic handle with 1 return spring
- (2) - Micrometric screw graduated to 1/10 mm for precise setting of cut length
- (3) - Blocking screw to always keep the same length during cutting in serial production
- (4) - Base equipped with a small ruler with divisions from 0 to 15 mm
- (5) - Side pierced with 3 holes suitable for stems Ø 0.90, 1.00 and 1.20 mm.

Spare parts :

MSA	Item	Kg
03.602-A	Spring	0.001
03.602-B	Knife	0.016





MSA	Ø	Kg	MSA	Ø	Kg
03.600-08	0.80 mm	0.030	03.600-13	1.30 mm	0.030
03.600-09	0.90 mm	0.030	03.600-14	1.40 mm	0.030
03.600-10	1.00 mm	0.030	03.600-15	1.50 mm	0.030
03.600-11	1.10 mm	0.030	03.600-16	1.60 mm	0.030
03.600-12	1.20 mm	0.030			

Tool for shortening winding stems, with knurled handle. Provided with a stop for regular cutting.  
Length 70 mm.



MSA	MSA	Kg
03.603		-

Tool for oiling the winding stems. Allows a perfect, clean and quick greasing for all types of stems.

**Spare part :**

MSA	Item	Kg
03.603-A	Cup with felt	-

**Other tools.**



MSA	Size	Kg
03.006	127 x 80 mm	1.050

Tool used to check the perfect straightness of stems. This tool is usually placed in a vice.

Delivered without American chuck. See MSA03.839-x (page 03-16).



MSA	Length	Kg
03.010	115 mm	0.011

Lantern-chuck. Tool to hold the screw by its head used to shorten or round and polish the screw thread end.

Delivered with 3 heads of different diameters.

**Spare parts :**

MSA	Item	Kg
03.010-040	Head for Ø 0.40 mm	0.001
03.010-060	Head for Ø 0.60 mm	0.001
03.010-080	Head for Ø 0.80 mm	0.001



MSA	Size	Kg
03.310	Ø 25 x 19 mm	0.022

Tool for closing barrel covers.



Ø 1.55 mm



MSA	Kg
<b>03.011</b>	0.008

Tool for shockproof spring Novodiac.  
For calibres ETA 2801 - 2824-2 - 2834-2 - 2836-2 - 6497.



Ø 1.45 mm



MSA	Kg
<b>03.012</b>	0.008

Tool for shockproof spring Novodiac.  
For calibres ETA 2660 - 2671 - 2688.



MSA	Kg
<b>03.015</b>	0.008

Tool for pressing out the stud from the stud support ETACHRON.



MSA	Kg
<b>03.014</b>	0.008

Tool for turning the stud and the regulator pins block ETACHRON.



MSA	Kg
<b>03.016</b>	0.008

Tool for opening the dial bolts (fastener split pin).  
Mirror polished tip.



MSA	Size	Kg
<b>03.018</b>	Ø 6 x 61.50 mm	0.017

Corrector tool with black POM tip.

**Spare part :**

MSA	Item	Kg
<b>03.018-A</b>	Black POM tip	0.002

Special lathes for polishing pivots.



MSA	Type	Version
<b>03.452</b>	<b>(1)</b>	With 3 broaches MSA 03.467, MSA03.474 and MSA03.475
<b>03.454</b>	<b>108</b>	With 4 broaches MSA03.467, MSA03.468, MSA03.469 and MSA03.475

Nickel-plated brass pivoting tool with 3 broaches (24 notches and 48 lanterns) or 4 broaches (36 notches and 72 lanterns).  
Delivered in a wooden box.

#### Spare broaches for **MSA03.452** and **MSA03.454** :

MSA	Item
<b>03.467</b>	Type 123 : Broach with conical notched disk. For seconds $\varnothing$ 0.15 - 0.30 mm
<b>03.468</b>	Broach with lantern and notched disk. For pivots $\varnothing$ 0.04 - 0.10 mm
<b>03.469</b>	Type 125 : Broach with lantern and notched disk. For pivots $\varnothing$ 0.10 - 0.15 mm
<b>03.474</b>	Type 126 : Broach with lantern and notched disk. For pivots $\varnothing$ 0.04 - 0.15 mm
<b>03.475</b>	Type 127 : Broach with lantern and notched disk. For pivots $\varnothing$ 0.16 - 0.36 mm

#### Spare parts for **MSA03.452** and **MSA03.454** :

MSA	Item
<b>03.425-A</b>	Type 131 : Pivot gauge $\varnothing$ 0.05 - 0.40 mm
<b>03.425-B</b>	Type 131a : Pivot gauge $\varnothing$ 0.40 - 0.80 mm
<b>03.425-C</b>	Type 131b : Pivot gauge $\varnothing$ 0.80 - 1.20 mm
<b>03.470</b>	Type 119 : Supplement for sliding puppet
<b>03.472</b>	Type 135 : Pulley with fork
<b>03.473</b>	Type 135a : Fork
<b>03.476</b>	Type 118a : Broach with notched disks for pivots $\varnothing$ 0.38 - 0.76 mm
<b>03.477</b>	Type 117a : Broach with notched disks for pivots $\varnothing$ 0.38 - 1.00 mm
<b>03.478</b>	Type 118 : Broach with notched disks for pivots $\varnothing$ 0.38 - 1.20 mm
<b>03.479</b>	Type 122 : Cylinder for broaches MSA03.468, 03.469 and 03.474
<b>03.481</b>	Type 155a : Bow for hand work
<b>03.484</b>	Type 155 : Bow for hand work, spring steel

???



MSA

03.483

Lathe for polishing screws.

Contents :

- 1 wooden box
- 1 lathe with chuck and broach : body 8 mm, Ø 5 mm
- 4 grinding wheels Ø 50 mm : 1 cast iron, 1 bronze, 1 boxwood and 1 tin
- 1 set of 22 chucks : body 5 mm from Ø 0,40 to 2.50 mm
- 1 set of 12 lanterns : body 5 mm from Ø 0.30 to 2.50 mm.



American chucks.



MSA	Ø	Kg	MSA	Ø	Kg
03.840-0.3	0.30 mm	0.090	03.840-2.0	2.00 mm	0.090
03.840-0.4	0.40 mm	0.090	03.840-2.2	2.20 mm	0.090
03.840-0.5	0.50 mm	0.090	03.840-2.3	2.30 mm	0.090
03.840-0.6	0.60 mm	0.090	03.840-2.4	2.40 mm	0.090
03.840-0.7	0.70 mm	0.090	03.840-2.5	2.50 mm	0.090
03.840-0.8	0.80 mm	0.090	03.840-2.6	2.60 mm	0.090
03.840-0.9	0.90 mm	0.090	03.840-2.7	2.70 mm	0.090
03.840-1.0	1.00 mm	0.090	03.840-2.8	2.80 mm	0.090
03.840-1.1	1.10 mm	0.090	03.840-2.9	2.90 mm	0.090
03.840-1.2	1.20 mm	0.090	03.840-3.0	3.00 mm	0.090
03.840-1.3	1.30 mm	0.090	03.840-3.5	3.50 mm	0.090
03.840-1.4	1.40 mm	0.090	03.840-4.0	4.00 mm	0.090
03.840-1.5	1.50 mm	0.090	03.840-4.5	4.50 mm	0.090
03.840-1.6	1.60 mm	0.090	03.840-4.6	4.60 mm	0.090
03.840-1.7	1.70 mm	0.090	03.840-5.0	5.00 mm	0.090
03.840-1.8	1.80 mm	0.090	03.840-6.0	6.00 mm	0.090
03.840-1.9	1.90 mm	0.090	03.840-7.0	7.00 mm	0.090

B8 american chuck.



MSA	Ø	Kg	MSA	Ø	Kg
03.839-030	0.30 mm	0.060	03.839-200	2.00 mm	0.060
03.839-050	0.50 mm	0.060	03.839-210	2.10 mm	0.060
03.839-060	0.60 mm	0.060	03.839-220	2.20 mm	0.060
03.839-070	0.70 mm	0.060	03.839-230	2.30 mm	0.060
03.839-080	0.80 mm	0.060	03.839-240	2.40 mm	0.060
03.839-090	0.90 mm	0.060	03.839-250	2.50 mm	0.060
03.839-100	1.00 mm	0.060	03.839-260	2.60 mm	0.060
03.839-110	1.10 mm	0.060	03.839-270	2.70 mm	0.060
03.839-120	1.20 mm	0.060	03.839-280	2.80 mm	0.060
03.839-130	1.30 mm	0.060	03.839-290	2.90 mm	0.060
03.839-140	1.40 mm	0.060	03.839-300	3.00 mm	0.060
03.839-150	1.50 mm	0.060	03.839-350	3.50 mm	0.060
03.839-160	1.60 mm	0.060	03.839-400	4.00 mm	0.060
03.839-170	1.70 mm	0.060	03.839-450	4.50 mm	0.060
03.839-180	1.80 mm	0.060	03.839-500	5.00 mm	0.060
03.839-190	1.90 mm	0.060			

American chuck B6/128.

**Chucks P 4.5 type.**



Ø 4.50 mm

MSA	Ø	Kg
03.875-060	0.60 mm	0.002
03.875-100	1.00 mm	0.002
03.875-150	1.50 mm	0.002
03.875-160	1.60 mm	0.002
03.875-200	2.00 mm	0.002
03.875-235	2.35 mm	0.002
03.875-250	2.50 mm	0.002
03.875-300	3.00 mm	0.002
03.875-400	4.00 mm	0.002

Tightening chuck 4.5 type.

**Carriers.**



MSA	Size	Kg
03.838	40 x 16 x 12 mm	0.060

Set of 12 small carriers with block.  
 Ø 0.25, 0.30, 0.35, 0.40, 0.45, 0.50, 0.65, 0.70, 0.75, 0.85, 0.95 and 1.05 mm.

**Belts for the lathes illustrated on previous pages.**



MSA	Ø	Length	Kg
03.890-2	2 mm	1 m	0.015
03.890-3	3 mm	1 m	0.015
03.890-4	4 mm	1 m	0.015
03.890-5	5 mm	1 m	0.015
03.890-6	6 mm	1 m	0.015
03.890-7	7 mm	1 m	0.015
03.890-8	8 mm	1 m	0.015
03.890-10	10 mm	1 m	0.015
03.890-12	12 mm	1 m	0.015

Belt in polyurethane.



MSA	Ø	Length	Kg
03.891-4	4 mm	1 m	0.018
03.891-5	5 mm	1 m	0.018
03.891-6	6 mm	1 m	0.018

Green POLYCORD belt.

Riveting stakes and hole plates are in tempered stainless steel. Used for riveting, unriveting or holing small pieces. "V" shape slots are suitable to remove pinions or any other watch components.



(1)



(2)

MSA	Size	Number of holes	Ø holes	Kg
<b>03.901</b>	53 x 15 mm	24	0.50...2.20 mm	0.030
<b>03.902</b>	53 x 15 mm	36	0.50...2.50 mm	0.026

Hardened steel riveting stake with 24 calibrated holes from Ø 0.50 to 2,20 mm or 36 calibrated holes from Ø 0.50 to 2.50 mm.



MSA	Size	Number of holes	Ø holes	Kg
<b>03.903</b>	50 x 15 mm	36	0.50...2.50 mm	0.025

Brass riveting stake with 36 calibrated holes from Ø 0.50 to 2.50 mm.



MSA	Size	Number of holes	Ø holes	Kg
<b>03.904</b>	72 x 15 mm	20	0.50...2.50 mm	0.030

Hardened steel riveting stake, with 20 calibrated holes from Ø 0.50 to 2.50 mm, 2 "V" shape slots and 5 notches of different dimensions.



MSA	Size	Number of holes	Ø holes	Kg
<b>03.905</b>	40 x 40 x 40 mm	36	0.30...10.00 mm	0.378

Hardened steel riveting stake, universal cubic shape, with 36 calibrated holes from Ø 0.30 to 10.00 mm and 16 slots with different shapes and dimensions.

For watches, alarm clocks and wall clocks.



MSA	Size	Number of holes	Ø holes	Kg
<b>03.906</b>	46 x 46 x 15 mm	15	0.80...6.50 mm	0.196

Polished hardened steel riveting stake, hexagonal shape, with 15 calibrated holes from Ø 0.80 to 6.50 mm and 4 slots of different dimensions.

Holes : Ø 0.80 - 1.00 - 1.20 - 1.50 - 2.00 - 2.30 - 2.70 - 3.00 - 3.20 - 3.70 - 4.00 - 4.50 - 5.50 - 6.00 - 6.50 mm.

Slots : 0.30 - 0.50 - 0.70 - 0.90 mm.

High-precision sensitive drilling machine **SERVO**.



MSA	Voltage	Kg
03.300	220 V	9.500

The SERVO 7150 is a high-speed benchtop micro drilling machine.

Easy-to-use, very precise, it is equipped as standard with a spindle taking the B-8 chucks.

- Continuously adjustable speeds by potentiometer integrated in the frame.
- With thyristor-controlled variable speed motor
- Removable protective cover on the belt
- Built-in switch in the frame
- Hardened and rectified spindle
- Drilling lever with adjustable angular position and graduated ring
- Depth micrometric stop
- Front dial indicator for measuring the spindle travel
- Lighting.

*Technical data :*

<i>Drilling capacity in steel</i>	3 mm
<i>Continuous spindle speeds</i>	200...20'000 rpm
<i>Spindle travel</i>	38 mm
<i>Distance spindle - column</i>	89 mm
<i>Distance table - spindle nose</i>	0...130 mm
<i>Table area</i>	182 x 300 mm
<i>Total height</i>	342 mm

**Optional :**

MSA	Item
03.300-A	Self-tightening chuck with chuck holder die, tightening 0...3 mm / Ø 24 x L44 mm

Bench-top drill machine **PROXXON®**.



MSA	Voltage	Kg
03.301	230 V (50 - 60 Hz)	3.300

Bench-top drill machine PROXXON® TBM 220.

Plane-milled worktable made of cast aluminium (220 x 120mm) with adjustable fence and scale as well as threaded holes for securing the MICRO compound table KT 70.

- Solid steel column (20 x 340mm)
- Cast aluminium console with guides and spindle-worked adjustments
- Very high-quality motor, extremely quiet and very durable
- Belt transmission with 3 speeds. The movement of the belts provides 3 speeds and triple torque at low speeds
- Feed lever with adjustable depth scale.
- Delivered with 6 tightening chucks Ø 1.00, 1.50, 2.00, 2.40, 3.00 and 3.20 mm.

*Technical data :*

<i>Power supply</i>	230 V (50 - 60Hz)
<i>Motor power</i>	85 W
<i>Spindle speeds</i>	1'800, 4'700 and 8'500 rpm
<i>Throat depth, column to drill spindle</i>	140 mm
<i>Spindle travel</i>	30 mm

- 3/8" threading for fixing a toothed tightening chuck

**Optional :**

MSA	Item
03.301-T	Micro-coordinate table KT 70, 200 x 70 x 42 mm

# 04



HAMMERS

04 - 2

ANVILS

04 - 4

SAW FRAMES

04 - 5

SAW BLADES

04 - 6

TAPS AND DRAW PLATES

04 - 7

Hammers for watchmaker.



MSA	Head length	Total length	Kg
04.007	35 mm	193 mm	0.020
04.001	50 mm	195 mm	0.052
04.002	60 mm	210 mm	0.052
04.006	67 mm	218 mm	0.050
04.003	70 mm	230 mm	0.052
04.004	80 mm	230 mm	0.123

Hammer with forged polished steel flat head, conic shape on one side and "V" shape for riveting on the other.

*Delivered with a wooden handle, ideal for lightweight precise watch making work.*



MSA	Head length	Total length	Kg
04.008	70 mm	230 mm	0.070

Hammer with forged polished steel flat head, conic shape on one side and "V" shape for riveting on the other.

*Delivered with a plastic handle, ideal for lightweight precise watch making work.*



MSA	Head length	Total length	Kg
04.010	52 mm	235 mm	0.123

Hammer with cylindrical head made of polished brass Ø 16 mm, flat shape on one side and dome shape on the other.

*Delivered with a wooden handle.*



MSA	Head length	Total length	Kg
04.011	52 mm	235 mm	0.110

Hammer with cylindrical head made of polished brass Ø 16 mm, flat shape on one side and dome shape on the other.

*Delivered with a plastic handle.*



MSA	Head length	Total length	Kg
04.012	65 mm	230 mm	0.090

Hammer with cylindrical head made of brass Ø 16 mm and 2 inserts in white Delrin (flat/conical).

*Delivered with a synthetic beige handle.*

Spare parts :

MSA	Item	Kg
04.012-A	Flat insert in white Delrin®	0.004
04.012-B	Conical insert in white Delrin®	0.004



MSA	Head length	Total length	Kg
04.020	75 mm	230 mm	0.106

Watchmakers hammer for riveting with steel head, flat and round shape (Ø 10 mm) on one side and "V" shape (width 2 mm) on the other.

*Delivered with a wooden handle.*

**Mallets for watchmaker.**



MSA	Head size	Total length	Kg
<b>04.200</b>	Ø 30 x 70 mm	220 mm	0.085

Robust beech wood mallet, ideal for flattening metals without scraping.



MSA	Head size	Total length	Kg
<b>04.210</b>	Ø 30 x Ø 10 x 73 mm	225 mm	0.073

Robust beech wood mallet with conic shape head, ideal for flattening metals without scraping.

**Hammer handles.**



MSA	Length	Kg
<b>04.102</b>	<b>240 mm</b>	0.060
<b>04.103</b>	<b>260 mm</b>	0.060

Wooden handle for chase hammers, with straight oval shape.



MSA	Head	Length	Kg
<b>04.104</b>	<b>11 x 11 mm</b>	235 mm	0.035
<b>04.105</b>	<b>11 x 13 mm</b>	245 mm	0.038
<b>04.106</b>	<b>11 x 14 mm</b>	255 mm	0.042

Wooden handle for watchmakers' hammer.



MSA	Size	Hardness	Kg
<b>04.061</b>	110 x 68 x 75 mm	55 HRC*	0.670

Anvil with 2 horns, made of hardened and galvanized steel on cast iron base.  
For forging, riveting or stamping.

\* HRC : *Hardness Rockwell Scale "C"*



MSA	Size	Hardness	Kg
<b>04.062</b>	105 x 30 x 42 mm	55 HRC*	0.550

Bench-anvil with 2 horns, made of forged and hardened steel.  
For forging, riveting or stamping.

\* HRC : *Hardness Rockwell Scale "C"*



MSA	Size	Hardness	Kg
<b>04.063</b>	60 x 60 x 20 mm	60 HRC*	0.570
<b>04.064</b>	80 x 80 x 20 mm	60 HRC*	1.000
<b>04.065</b>	100 x 100 x 20 mm	60 HRC*	1.570

Square-shaped anvil, made of hardened rectified steel.  
For forging, riveting or stamping.

\* HRC : *Hardness Rockwell Scale "C"*





MSA	Depth	Kg
04.311-075	75 mm	0.140

Rigid steel fixed saw frame with plastic handle.



**FIXED**

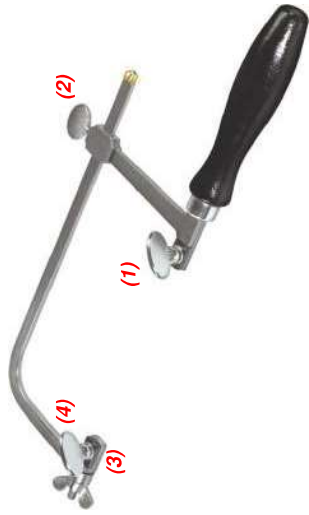


MSA	Depth	Kg
04.316-075	75 mm	0.175
04.316-100	100 mm	0.185

Rigid stainless steel adjustable saw frame with plastic handle.  
Steel tension screw to tighten the saw blades.



**ADJUSTABLE**



MSA	Depth	Kg
04.315-060	60 mm	0.150
04.315-070	70 mm	0.150
04.315-080	80 mm	0.153
04.315-100	100 mm	0.170
04.315-120	120 mm	0.180
04.315-150	150 mm	0.190
04.315-200	200 mm	0.210

Saw frame made of rigid and resistant steel, with black varnished wooden handle.

Delivered with 1 toothed plate and fixing screws to firmly hold the saw blades in place. Tension screw to tighten the saw blades.



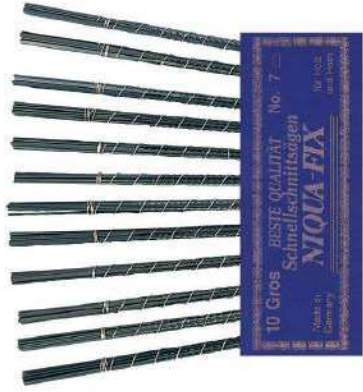
MSA	Depth	Kg
04.310-060	60 mm	0.140
04.310-070	70 mm	0.145
04.310-080	80 mm	0.150
04.310-100	100 mm	0.155
04.310-120	120 mm	0.165
04.310-150	150 mm	0.174
04.310-200	200 mm	0.194

Saw frame made of rigid and resistant steel, with black varnished wooden handle.

Delivered with 1 toothed plate and fixing screws to firmly hold the saw blades in place.

**Spare parts for MSA04.310-x and MSA04.315-x :**

MSA	Item	Kg
04.310-A	(1) Saw blades screw	0.007
04.310-B	(2) Upper screw	0.005
04.310-C	(3) Fixing plate for saw blades	0.002
04.310-D	(4) Washer for saw blades	0.001



MSA	No.	Length	Kg
04.402-2/0	2/0	130 mm	0.01€
04.402-0	0	130 mm	0.02€
04.402-1	1	130 mm	0.02€
04.402-2	2	130 mm	0.02€
04.402-3	3	130 mm	0.03€
04.402-4	4	130 mm	0.03€
04.402-5	5	130 mm	0.04€

Saw blade NIQUA-FIX® for wood.  
 Delivered in a bag with 1 gross (144 pieces).  
 Note : 2/0 (fine)...12 (coarse).

MSA	No.	Length	Kg
04.402-6	6	130 mm	0.04€
04.402-7	7	130 mm	0.05€
04.402-8	8	130 mm	0.06€
04.402-9	9	130 mm	0.07€
04.402-10	10	130 mm	0.08€
04.402-11	11	130 mm	0.09€
04.402-12	12	130 mm	0.10€



MSA	No.	Length	Kg
04.420-8/0	8/0	130 mm	0.01€
04.420-7/0	7/0	130 mm	0.01€
04.420-6/0	6/0	130 mm	0.01€
04.420-5/0	5/0	130 mm	0.01€
04.420-4/0	4/0	130 mm	0.01€
04.420-3/0	3/0	130 mm	0.01€
04.420-2/0	2/0	130 mm	0.01€
04.420-0	0	130 mm	0.01€

Saw blade SUPER PIKE® for metal.  
 Delivered in a bag with 1 gross (144 pieces).  
 Note : 8/0 (fine)...8 (coarse).

MSA	No.	Length	Kg
04.420-1	1	130 mm	0.01€
04.420-2	2	130 mm	0.01€
04.420-3	3	130 mm	0.01€
04.420-4	4	130 mm	0.01€
04.420-5	5	130 mm	0.01€
04.420-6	6	130 mm	0.01€
04.420-8	8	130 mm	0.01€



**ASSORTMENT**

MSA	Kg
04.420-A	0.022

Assortment of saw blades SUPER PIKE® for metal.  
 Delivered in a plastic pouch with the numbers 6/0, 4/0, 3/0, 2/0, 1 and 3 (12 pieces per number).



MSA	Ø nominal	Pitch mm	Ø shank mm	Total length mm	Useful length mm	External Ø mm	Ø drilling steel mm	Ø drilling brass mm	Kg
04.524-030	S 0.30	0.080	1.00	22	2.0	0.32	0.24	0.24	0.001
04.524-035	S 0.35	0.090	1.00	22	2.0	0.37	0.28	0.28	0.001
04.524-040	S 0.40	0.100	1.00	22	2.5	0.42	0.33	0.32	0.001
04.524-050	S 0.50	0.125	1.00	22	3.0	0.52	0.43	0.40	0.001
04.524-060	S 0.60	0.150	1.00	22	3.5	0.63	0.51	0.49	0.001
04.524-070	S 0.70	0.175	1.50	25	4.5	0.73	0.59	0.57	0.001
04.524-080	S 0.80	0.200	1.50	25	5.0	0.83	0.67	0.65	0.001
04.524-090	S 0.90	0.225	1.50	25	5.5	0.93	0.75	0.73	0.001
04.524-100	S 1.00	0.250	1.50	25	6.0	1.04	0.83	0.81	0.001
04.524-110	S 1.10	0.250	1.50	25	7.0	1.14	0.93	0.91	0.001
04.524-120	S 1.20	0.250	1.50	25	7.0	1.24	1.03	1.01	0.002
04.524-130	S 1.30	0.300	1.50	25	8.0	1.34	1.09	1.07	0.002
04.524-140	S 1.40	0.300	2.00	30	8.5	1.44	1.19	1.17	0.002
04.524-150	S 1.50	0.300	2.00	30	10	1.54	1.29	1.27	0.002
04.524-160	M 1.60	0.350	2.00	30	10	1.64	1.32	1.30	0.002
04.524-170	M 1.70	0.350	2.00	30	10	1.74	1.42	1.40	0.002
04.524-180	M 1.80	0.350	2.00	30	10	1.84	1.52	1.50	0.002
04.524-200	M 2.00	0.400	3.00	35	13	2.07	1.68	1.65	0.002
04.524-220	M 2.20	0.450	3.00	35	13	2.27	1.84	1.80	0.002
04.524-230	M 2.30	0.400	3.00	35	13	2.37	1.98	1.95	0.002
04.524-240	M 2.40	0.450	3.00	40	15	2.47	2.04	2.00	0.002
04.524-250	M 2.50	0.450	3.00	40	15	2.57	2.14	2.10	0.002
04.524-260	M 2.60	0.450	3.00	40	15	2.67	2.24	2.20	0.002
04.524-300	M 3.00	0.500	4.00	40	16	3.09	2.60	2.50	0.002
04.524-350	M 3.50	0.600	4.00	40	17	3.59	3.01	2.90	0.002
04.524-400	M 4.00	0.700	5.00	50	20	4.10	3.42	3.30	0.002
04.524-450	M 4.50	0.750	5.00	50	20	4.60	3.87	3.75	0.002
04.524-500	M 5.00	0.800	6.00	55	25	5.10	4.35	4.20	0.002
04.524-600	M 6.00	1.000	6.00	55	25	6.12	5.15	5.00	0.002

Machine tap HSS 50/3G N1HS for steel and brass material suitable for through and blind holes. Good break resistance. For lathe and tapping machines.



MSA	Ø nominal	Pitch mm	Ø	Kg
04.526-02	M2.5	0.25 mm	10 mm (L 70 mm)	0.040
04.526-04	M3.0	0.35 mm	10 mm (L 70 mm)	0.040

Tap HSS on support key.



MSA	Ø nominal	Pitch mm	Kg
04.525-01	M 2.50	0.20 mm	0.002
04.525-02	M 2.50	0.25 mm	0.002
04.525-03	M 2.80	0.20 mm	0.002
04.525-04	M 3.00	0.35 mm	0.002

Tap HSS for through holes. Good break resistance.



MSA	Number	Ø nominal	Kg
04.550-S0.60	40/3G	S 0.60	0.002
04.550-S0.70	40/3G	S 0.70	0.002
04.550-S0.90	40/3G	S 0.90	0.002
04.550-S1.00	40/3G	S 1.00	0.002
04.550-S1.10	40/3G	S 1.10	0.002
04.550-S1.50	40/3G	S 1.50	0.002

Machine tap HSS for brass.



MSA	Ø nominal	Kg
04.542-030	S 0.30	0.002
04.542-035	S 0.35	0.002
04.542-040	S 0.40	0.002
04.542-050	S 0.50	0.002
04.542-060	S 0.60	0.002
04.542-070	S 0.70	0.002
04.542-080	S 0.80	0.002
04.542-090	S 0.90	0.002
04.542-100	S 1.00	0.002
04.542-110	S 1.10	0.002
04.542-120	S 1.20	0.002

Tap for blind holes.



MSA	External Ø x thickness mm	Ø nominal	Pitch mm	Kg
04.541-M1.20	16 x 5	M 1.20	0.25	0.006

ASCO drawplate HSS.