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MSA	Voltage	Size mm	Kg
19.115	Dual 115 - 230 V	155 x 172 x 55	1.235

Multifunctional portable touchscreen tester FLASHTEST specifically designed **for the control of watches and quartz mechanisms.**

This precision device is easy to handle and is intended to test analogue quartz watches and movements with both closed and open watchcases.

Measurements and functions :

- Measuring tension of unloaded batteries from 0 to 19.999 V (BATTERY)
- Measuring tension of batteries under load from 0 to 19.999 V (BATTERY)
- Measuring the movement supply voltage (1.5 V or 3.0 V) (BATTERY)
- Measuring the coil resistance (COIL)
- Unjamming the wheel trains (TURBO)
- Measuring (gain/loss) the stability of the rate of analogue quartz watches (ACCURACY)
- Checking the correct functioning of the circuit : electrical impulse and consumption of the electric circuit (CIRCUIT)
- Measuring the consumption of a watch during its operation. (CIRCUIT)

Display : colour touchscreen 48 x 36 mm.

Delivered with 2 precision probes , 1 adaptor 12 V (input 115 - 230 V AC / output 12 V DC), 1 9 V battery and 1 operating manual.

Spare part :

MSA	Item	Kg
19.115-A	Pair of probes	0.071

Accessory :

MSA	Item	Kg
19.108-E	Calibration device	0.043



MSA	Size mm	Kg
19.106	60 x 105 x 28	0.225

PULSE is an electronic device for **testing the electronic parts (coil/circuit) of analogic quartz watch movements.**

Delivered with 1 battery 9 V and multi-lingual operating instructions.



MSA	Size mm	Kg
19.107	60 x 105 x 28	0.235

TURBO is an electronic device for **testing the mechanical parts (wheel train) of analogic quartz watch movements.**

Do not use it for testing mechanical watches.

Delivered with 1 battery 9 V and multi-lingual operating instructions.

ECOLINE



MSA	Size mm	Kg
19.000	100 x 70 x 40	0.115

Universal battery tester suitable for any type of batteries from 1.5 to 22.5 V : 1.5 V type AA, AAA button, lithium 3 V, Photo 6 V, 9 V, etc.).

Delivered with operating instructions.



MSA	Size mm	Kg
19.100	80 x 160 x 40	0.475

Multifunction watch tester. It measures battery voltage, resistances and current consumption.

Delivered with batteries and operating instructions.

ECOLINE



MSA	Size mm	Kg
19.105	85 x 150 x 55	0.250

Battery, coil and electronic function tester for analogical quartz watches.

Delivered with 1 battery 9 V and operating instructions.



MSA	Voltage	Size mm	Kg
19.158	230 V	260 x 150 x 130	1.500
19.158-110	120 V	260 x 150 x 130	1.500

NEW TECH HANDY II tester for **quartz watches**.

Measurement possibilities : rate accuracy, consumption, coil resistance, isolation and battery voltage. For repair service, the watchmaker needs a test instrument with a simple way to perform all electrical measurements and tests on quartz watches. The instrument provides all measuring and test facilities required in a professional search for defects in quartz watches. Operation is very easy, due to largely automated measurement functions, the functional layout of operating elements and the highly readable results and parameters on an illuminated display.

Available accessories : see page 19-8.

Spare parts :

MSA	Items
19.158-A	Measuring cable with 2 probes, pair
19.160-B	Mobile probe, pair



MSA	Voltage	Size mm	Kg
19.152	230 V	290 x 170 x 180	2.800
19.152-110	120 V	290 x 170 x 180	2.800

ANALYZER Q1 tester for **quartz watches**. This apparatus is the perfect test instrument to be used quickly and efficiently in the repair service, but also for analysis in the sales department and the watch-testing laboratory. New technologies provide extended test and measurement facilities, allowing a professional troubleshooting of quartz watches. Measuring cycles are largely automated. The combined rotating/push button provides a simple and quick parameter setting. The ergonomic and functional layout of the operating elements and the large LCD display are user-friendly.

Available accessories : see page 19-8.



MSA	Voltage	Size mm	Kg
19.153	230 V	290 x 170 x 180	3.800
19.153-110	120 V	290 x 170 x 180	3.800

Fast and efficient tester ANALYZER TWIN for **quartz and mechanical watches**.

Large measurement possibilities (new : generator and impulse analysis) and controls allowing fast and professional troubleshooting of quartz and mechanical watches. The measurement process is widely made automatically for a fast and efficient operation. Additional measurement modes provide a way to measure watches with special escapements. The instrument, based on the "all-in-one" concept, only requires a very small work area. Colour display TFT ¼. Large VGA.

Available accessories : see page 19-8.

WITSCHI ® testers for quartz and mechanical watches :

Performances	NEW TECH HANDY II	ANALYZER Q1	ANALYZER TWIN
	MSA19.158	MSA19.152	MSA19.153
Mechanical watches tests			✓
Rate measurement	✓	✓	✓
Measurement of current consumption	✓	✓	✓
Module supply with variable voltage	✓	✓	✓
Motor coil and isolation test	✓	✓	✓
Watch battery test	✓	✓	✓
Display of the chopping rate of motor pulses		✓	✓
Display of the motor pulse by LED	✓	✓	✓
Inductive (magnetic) signal sensor	✓	✓	✓
Acoustic signal sensor	✓	✓	✓
Capacitive signal sensor	✓	✓	✓
Digital LCD display	✓		✓
Graphic LCD display		✓	✓
GPS Interface for check adjustment or synchronisation of the time base		✓	✓
RS 232 interfaces	✓	✓	✓
Long time analysis		✓	✓
Result printout	✓	✓	✓
Saving of the measuring results	Optional software	Optional software	
Accessory	MSA19.158	MSA19.152	MSA19.153
Thermo printer MSA19.203	✓	✓	✓



MSA	Voltage	Casing size mm	Kg
19.202	100 - 240 V	197 x 164 x 130	1.700

WATCH EXPERT G4 tester, an economic measuring instrument ideally suited for testing mechanical watches. The diagram is displayed noiselessly on the new, illuminated LCD graphic display. Measured values for rate deviation, amplitude and beat error are automatically calculated and displayed numerically.

As with all other instruments, the beat number of all common watches can be automatically recognised.

Different measuring modes can be selected for watches with special escapements. Mobile in all testing positions, the microphone is used with movements and watches, with or without bracelets.

Available accessories : see page 19-8.

Spare part :

MSA	Item	Kg
19.157-M	Microphone	1.300



MSA	Microphone	Voltage	Casing size mm	Kg
19.130 (Pict.)	With	100-240 V / 50-60 Hz	225 x 85 x 191	3.100
19.131	Without	100-240 V / 50-60 Hz	225 x 85 x 191	2.900

CHRONOSCOPE S1 tester for **mechanical watches**.

This device is a reliable measuring instrument for efficient and professional tests in the repair service and quality control in the industrial area. The operating concept is simple, comfortable and contemporary through the various touch and wiper functions on the touchscreen.

Automatic test sequences in 2 to 6 different measuring positions on the microphone Micromat S (accessory).

The new instructive TWINSCOPE mode visualizes simultaneously the beat noises of Tic and Tac. VARIO test mode for a clear long-term representation of the quality and stability of rate accuracy, amplitude and beat error.

Measurement possibilities :

Rate deviation, amplitude and beat error of mechanical watches. Diagram recording of the beat noises. Accuracy of quartz and tuning fork watches (optional).

Beat number :

Automatic selection of all common beat numbers. Manual selection of any beat number between 3'600 to 72'000 b/h and 360'000 b/h.

Delivered with 1 manual microphone, 1 network adapter and 1 operating instructions.

Available accessories : see page 19-8.

Accessories :

MSA	Items
19.150-A	Complete barrel
19.150-B	Microphone
19.155-B	Automatic microphone
19.155-H	USB Hub, 4 outputs



MSA	Microphone	Voltage	Casing size mm	Kg
19.188	With	100 - 240 V	266 x 213 x 43	2.100

Tester CHRONOSCOPE X1 for mechanical watches suitable for Manufacturing, After Sales Service and Watch-test lab. Thanks to microphone Micromat C, test cycles can be made up to 10 different measuring positions.

It provides 4 different display modes as well as a graphical display of beat noises.

Measurement possibilities :

Rate deviation, amplitude and beat error of mechanical watches. Diagram of the beat noises.

Beat Number :

Automatic selection of all common beat numbers and manual selection for the non-common beat numbers. Adjustment for all beat number range between 3'600 to 72'000 b/h. Different measuring modes: standard, for watches with Swiss escapement, for watches with coaxial escapement, for watches with AP escapement, with specific amplitude filter for the measurement of watches with the Swiss escapement and for Chronograph "Foudroyante".

Delivered with 1 automatic microphone Micromat C, 1 network adapter, 1 protection cover and 1 operating instructions.

Available accessories : see page 19-8.

WITSCHI® testers for mechanical watches :

Performances	WATCH EXPERT G4	CHRONOSCOPE S1	CHRONOSCOPE X1
	MSA19.202	MSA19.130 and MSA19.131	MSA19.188
Diagram tracing	✓	✓	✓
VARIO display mode	✓	✓	✓
Visualization of the beat noises (Scope)		✓	✓
Acoustic measurement	✓	✓	✓
Number of measuring channels	1	1	
Automatic microphone		Optional	✓
Built in LCD display	✓	✓	✓
GPS interface (check/adjustment of the time base)	✓	✓	✓
RS 232 interface	✓	✓	Network, USB + COM1
Number of measuring programs and parameter sets		20	99
Result printout	✓	✓	✓
WiCoTrace (SQL data base)			Optional software
Saving of the measuring results	With software Auto-Print	With software Auto-Print	With software Auto-Print
Fourier analysis (spectral analysis)		Optional software	Optional software
Accessoire	MSA19.202	MSA19.130	MSA19.188
Thermo printer MSA19.203	✓	✓	✓



MSA	Voltage	Size mm	Kg
19.155-C	230 V	115 x 125 x 215	1.700

MICROMAT C is a modular measuring system for **mechanical watches**.

Intelligent equipment upon automatic measuring cycles. With the motorized microphone MICROMAT C and the appropriate PC software up to 10 test systems with independent measuring channels can be realised. It is an ideal working station for adjusting and examining small series in production and also in the repair service.

Measurement possibilities :

- Rate accuracy, amplitude and beat error
- Continuous diagram recording or graphic display of the beat noises
- Execution of the measurements in a definable interval during a certain period. Graphically display of the measurement results over the complete period
- Localisation of the balance wheel's unbalanced error
- Tests of watches with a power reserve of several days (up to 12.5 days).

Compatible accessories with WITSCHI® testers :

	MSA 19.152	MSA 19.153	MSA 19.130	MSA 19.131	MSA 19.157	MSA 19.158	MSA 19.188
MSA19.203 Thermo pinter 740RS232	✓		✓	✓	✓	✓	✓
MSA19.112 Acoustic protection hood for microphones			✓	✓			
MSA19.146-A Movement holder	✓					✓	
MSA19.150-B Microphone		✓	✓	✓	✓		✓
MSA19.155-B Automatic microphone Micromat S			✓	✓			
MSA19.157-A Network adaptor	✓	✓	✓	✓	✓	✓	✓
MSA19.158-A Measuring cable with probes, pair	✓					✓	
MSA19.160-B Mobile probe, pair	✓					✓	
MSA19.178 Switchbox 4 automatic	✓		✓	✓	✓	✓	✓
MSA19.179 Software Auto-Print	✓		✓	✓	✓	✓	
MSA19.184 Optoelectronic captor			✓	✓	✓		✓
MSA19.185 Clamping microphone			✓	✓	✓		✓
MSA19.188-P Touchscreen stylus							✓

witschi



MSA	Voltage	Size mm	Kg
19.155-B	220 V	115 x 125 x 220	1.650
19.155-B110	110 V	115 x 125 x 220	1.650

MICROMAT S automatic microphone for CHRONOSCOPE S1 control device. Automatic rate measurement in 6 positions.

witschi



MSA	Voltage	Size mm	Kg
19.203	100 - 240 V	112.5 x 200 x 125	X.XXX

Thermo printer JB01-SLK-TE25-Sfor WITSCHI® testers.

Spare part :

MSA	Item
19.134-P	Thermo paper, Ø 51 x 60 mm

HOROTEC®
S W I S S



MSA	Kg
19.198	0.043

Protection kit of movement on a microphone.
Composed of a support and an anti-dust cover for a microphone WITSCHI®.
Delivered without microphone or movement.



MSA	Voltage
19.214	90 - 240 V

MTG-1100 tester for **mechanical watches**.

This device is a simple type tester. It is equipped with a simple microphone and a 4.3" high-resolution digital coloured LCD screen. There are three keys to operate. The diagram display is horizontal. It also has all the basic test functions. This is the most affordable model available, compact and easy to use. See options on page 19 12.

 This device is not available on the Swiss market.



MSA	Voltage
19.213	90 - 240 V

MTG-2200 tester for **mechanical watches**.

This device is an economic tester. It is equipped with a standard microphone and a 5" high-resolution digital coloured LCD screen. There are three keys to operate. The tester has all the basic test functions. It has three display models of diagram of beat noises. This is the most affordable model available, compact and easy to use.

See options on page 19 12.

i This device is not available on the Swiss market.



Functions :

- Measuring of beat rate (sec/day)
- Measuring the beat error of mechanical watches (m/s)
- Diagram of the beat noises
- Beat error : automatic selection of all common beat numbers. Manual selection of less common beat numbers
- Amplitude measurement range from 90° to 350°, lift angle selection from 30° to 60° with a resolution of 0.1°
- Measurement time over a period of more than 32 hours
- 6 positions programmed with test report
- Customizable testing programs
- "Pause" and "Shift" functions to stop measuring and view the previous one
- TYAPS signal processing unit which automatically controls the signal level and filters side noise
- Oscillator quartz TCXO of very high quality for time base: +/-0.1 sec/day
- Very high quality Quartz oscillator TCXO: +/-0.1 sec/day
- Display of the results on a LCD colour screen 7" (153 x 86 mm).

Delivered with a 6-position microphone ROTOMIC-1, 1 network adapter, 1 protection cover and 1 operating instructions.

i This device is not available on the Swiss market.

MSA	Version	Voltage	Dim. boîtier mm	Kg
19.175	With microphone	90 - 240 V	240 x 195 x 135	2.320
19.175-A	Without microphone	90 - 240 V	240 x 195 x 135	X.XOXX

MTG-5000 tester for **mechanical watches**. Complete multifunction version for professional use, ideal for efficient and fast tests during production, after sales service and watch-test lab.



MSA
19.175-B

Microphone AUTOMIC-2.

i This device is not available on the Swiss market.



MSA	Voltage	Size mm	Kg
19.177	220 V	155 x 165 x 65	1.030

Thermo printer THERMOPRINT for MTG testers.

Spare part :

MSA	Item
19.177-A	Thermo paper, Ø 30 x 57 mm

i This device is not available on the Swiss market.



MSA	Size mm
19.349	135 x 289 x 225

Watch winder for 2 watches. Noiseless, reliable and modern design with large transparent windows.

Winding function : clockwise and anti-clockwise, automatic (bi-directional).

4 timer modes (TPD=Turns Per Day) :

A : 650 TPD, 13 cycles, 50 turns per cycle, then rest.

Each cycle takes 110 minutes.

B : 900 TPD, 18 cycles, 50 turns per cycle, then rest.

Each cycle takes 80 minutes.

C : 1200 TPD, 24 cycles, 50 turns per cycle, then rest.

Each cycle takes 60 minutes.

D : 1500 TPD, 30 cycles, 50 turns per cycle, then rest.

Each cycle takes 48 minutes.



MSA	Size mm
19.353	140 x 148 x 178

Watch winder for 1 watch. Noiseless, reliable and modern design with a large transparent window.

4 timer modes (TPD=Turns Per Day) :

A : 650 TPD, rotates 5 min., rest 75 min., then new cycle.

B : 900 TPD, rotates 5 min., rest 55 min., then new cycle.

C : 1200 TPD, rotates 5 min., rest 40 min., then new cycle.

D : 1500 TPD, rotates 5 min., rest 30 min., then new cycle.



MSA	Size mm	Kg
19.367	151 x 151 x 143	0.580

Watch winder for 1 watch. Noiseless, reliable and modern design with a large transparent window and a blue lighting spread by LED.

Operation :

1 Winding function : clockwise and anti-clockwise, automatic (bi-directional).

4 timer modes (TPD=Turns Per Day) :

- A :** 1440 TPD, rotating clockwise during 6 minutes, rest during 30 minutes. The cycle is repeated automatically.
- B :** 1440 TPD, rotating anti-clockwise during 6 minutes, rest during 30 minutes. The cycle is repeated automatically.
- C :** 5760 TPD, rotating clockwise during 20 minutes, rest during 10 minutes, then anti-clockwise rotating during 20 minutes, rest during 10 minutes. The cycle is repeated automatically.
- D :** 2152 TPD, rotating clockwise during 10 minutes, then anti-clockwise rotating during 10 minutes. This cycle runs during 3 hours continuously and stops during 9 hours. Once the 9-hour rest is completed, the cycle is repeated automatically.

MSA	Size mm	Kg
19.363	167 x 138 x 243	1.175



Watch winder for 2 watches. Noiseless, reliable and modern design with large transparent windows.

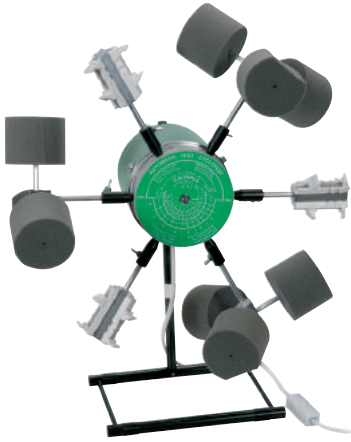
Operation :

Winding function : clockwise and anti-clockwise, automatic (bi-directional).

4 timer modes :

- A :** Auto rotate during 33 seconds, rest during 12 minutes.
- B :** Auto rotate during 10 minutes, rest during 90 minutes.
- C :** Auto rotate during 30 minutes, rest during 3 hours.
- D :** Auto rotate 1 hour, rest during 3 hours.

It functions with an AC adapter 110 - 220 V, included with the unit.



MSA	Apparatus	Voltage	Kg
19.205	REGLOMAT Final-Test	220 V	2.780
19.205-110	REGLOMAT Final-Test	110 V	2.780
19.305 (Pict.)	CYCLOTEST Automatic-Test	220 V	2.905
19.305-110	CYCLOTEST Automatic-Test	110 V	2.905

Rotation apparatus for 18 watches including :

- 3 arms with clips for 9 watches without bracelets
- 3 arms with foam for 9 watches with bracelets.

The REGLOMAT apparatus (1 rpm) tests the following : slow winding, power on wrist, shock tests, calendar and detects hidden defects.

The CYCLOTEST apparatus (4 rpm) tests the following : accelerated winding, wheel (and pinion) speed, and power reserve.



MSA	Apparatus	Voltage	Kg
19.206 (Pict.)	REGLOMAT Final-Test	220 V	2.780
19.206-110	REGLOMAT Final-Test	110 V	2.780
19.306	CYCLOTEST Automatic-Test	220 V	2.905
19.306-110	CYCLOTEST Automatic-Test	110 V	2.905

Rotation apparatus for 20 watches including :

- 2 arms with clips for 6 watches without bracelets
- 2 arms with foams for 6 watches with bracelets
- 2 arms with springs for 8 watches with bracelets.

The REGLOMAT apparatus (1 rpm) tests the following : slow winding, power on wrist, shock tests, calendar and detects hidden defects.

The CYCLOTEST apparatus (4 rpm) tests the following : accelerated winding, winding speed and power reserve.

Spare parts for MSA19.205, 19.206, 19.305 and 19.306 :

MSA	Items
19.201-A	Arm with spring for 1 watch with bracelet
19.201-B	Arm with clips for 2 watches without bracelets
19.205-A	Arm with clips for 3 watches without bracelets
19.205-B	Arm with foams for 3 watches with bracelets
19.205-C	Arm with springs for 4 watches with bracelet
19.205-E	Foam without arm



MSA19.201-A



MSA19.201-B



MSA19.205-A



MSA19.205-B



MSA19.205-C



MSA19.205-E



MSA	Models	Rotation	Voltage	Kg
19.450	Without arms	1 or 4 rpm	100 - 240 V	10.500
19.451 (1)	6 arms	1 or 4 rpm	100 - 240 V	11.000

CYCLOMOTION watch winder for automatic watch winding and for work testing.

Noiseless motor equipped with a clutch system suitable for heavy and big watches. It is controlled by soft touch keys on the front plate.

Maximum capacity : 24 watches (6 arms for 4 wrist watches each).

Rotation speeds : 1 or 4 rpm.

Spare parts :

MSA	Items
19.450-A	Arm for 2 watches with bracelet
19.450-B	Arm for 4 watches with bracelet
19.450-C	Arm for 2 watches with bracelet
19.450-D	Arm for 4 watches with bracelet
19.450-E	Arm for 4 watches without bracelet
19.450-F	Wall mounting kit



MSA19.450-A



MSA19.450-B



MSA19.450-C



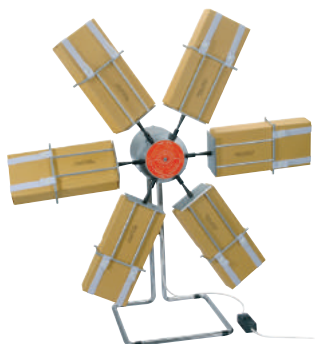
MSA19.450-D



MSA19.450-E



MSA19.450-F



MSA	Rotation	Voltage	Kg
19.320	4 rpm	220 V	8.000

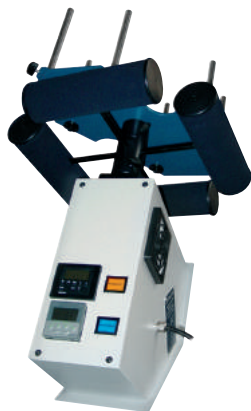
Watch winder for 60 watches including :

- 6 arms with 6 boxes for 10 watches without bracelets or 10 movements.

The CYCLOTEST tests the following : winding acceleration, winding speed and power reserve.

Spare parts :

MSA	Items
19.320-B	Button for closing the rubber MSA19.320-E
19.320-C	Box for 10 watches or movements
19.320-E	Rubber for holding the box MSA19.320-C
19.320-EB	Rubber with 2 buttons for holding the box MSA19.320-C

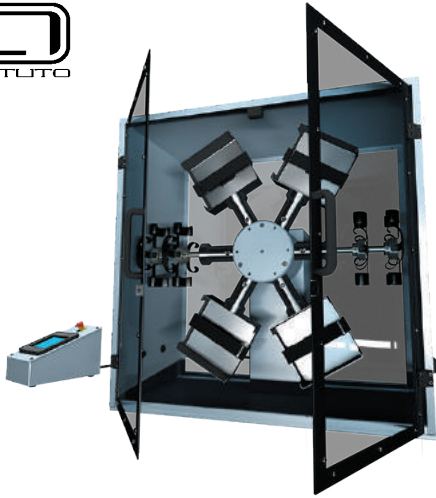


MSA	Voltage	Size cm	Kg
19.372	230 V	55 x 40 x 45	13.000

Watch winder CLINAX for automatic watch winding in small series. Ideal for small production, after sales service and for shops for keeping watches wound.

Week mode programme with time switch or full time mode.

Capacity : up to 60 watches without bracelets or movements and/or 16 watches with bracelets.



MSA	Voltage	Size cm	Kg
19.370	230 V	56 x 60 x 33	37.000
19.370-110	115 V	56 x 60 x 33	37.000

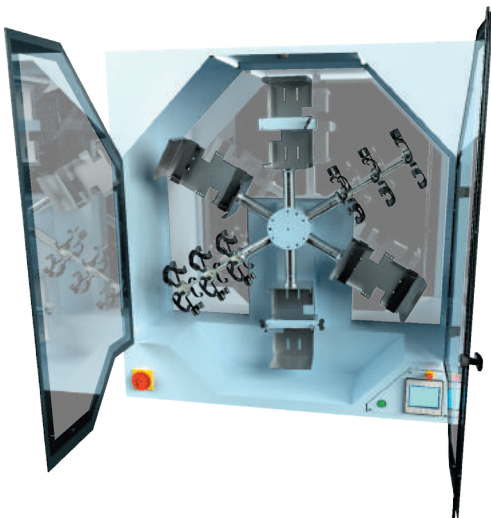
Watch winder DUOTEST 48 for automatic watch winding and for work testing.

Gives real acceleration undergone by the wearer wrist. Noiseless and sturdy, it is suitable for workshop and sales points and can be installed in safe box. Week mode programme with time switch or full time mode.

Capacity : 48 watches with or without bracelets (storage box and lid available 130 x 130 mm at 4 compartments, non included).

Speed : 1 or 4 rpm.

Opening the door automatically stops the machine.



MSA	Voltage	Size cm	Kg
19.399	230 V/50 Hz	110 x 110 x 50	128.000
19.399-110	115 V/50 Hz	110 x 110 x 50	128.000

DUOTEST 4 apparatus for winding automatic watches and for working tests.

Reproduces accurately the undergone accelerations by the watches when worn on the wrist. Programmable in weekly, timer, stopwatch or continual mode. Sturdy and silent.

Capacity : 300 watches without bracelet or 90 watches with bracelet.

Rotation frequency : 1 or 4 rpm.

It stops with the opening of the door. Provided with key locking.



MSA	Voltage	Size cm	Kg
19.371	220 V	110 x 48 x 49	63.000

STANDARD III apparatus for the industrial winding and shock tests of watches. It works on an optimized balance mode to reduce winding time. Programmable in weekly, timer or continual mode.

Capacity : up to 250 watches.

Rotation frequency : 15 to 36 cycles/minute.

It stops by opening the hood.

Torque limiter with release in case of overload.



MSA	Voltage	Size cm	Kg
19.376	220 V	138 x 48 x 49	98.000

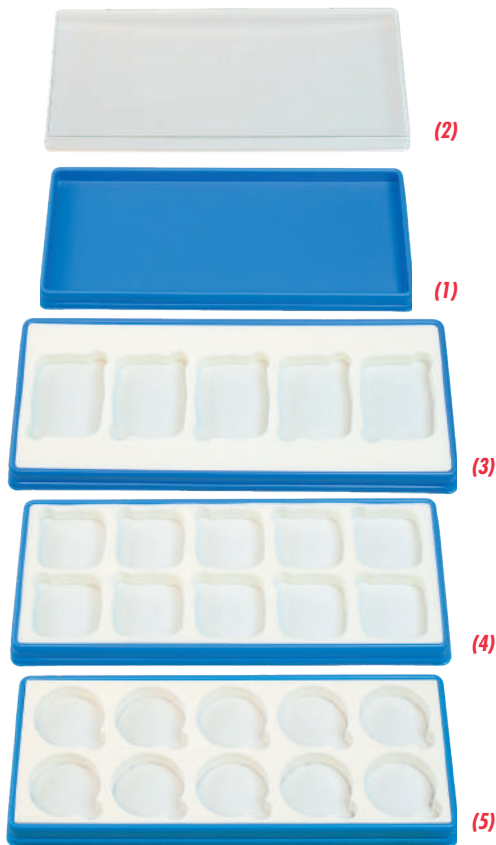
SUPER E apparatus for the industrial winding and shock tests of automatic watches. It works on an optimized balance mode to reduce winding time. Programmable in weekly, timer or continual mode.

Capacity : 500 to 860 watches or movements.

Rotation frequency : 15 to 36 cycles/minute.

It stops with the opening of the door.

Torque limiter with release in case of overload.



MSA	Items	Size mm
19.373-F (1)	Blue plastic container	312 x 128 x 23
19.374-F (2)	Transparent cover	312 x 128 x 18

Available cut foams :

MSA	Shape	Cases	Size mm	Notches
19.373-A	Rectangular	8	70 x 50	Without
19.373-B (3)	Television	5	66 x 53	2
19.373-C (4)	Television	10	51 x 50.5	1
19.373-E	TV + Bracelet	5+1	51 x 50.5	1
19.374-A	Round	10	50	1
19.374-B	Round	10	40	1
19.374-C (5)	Round	10	45	1
19.374-D	Round	10	48	1
19.374-E	Watch + Bracelet	2	-	Without

Blue plastic container with cut foams in different shapes.
To be used with apparatus MSA19.370, 19.371, 19.372, 19.376 and 19.399.

For watches with or without bracelets and movements.
Transparent PET cover MSA19.374-F delivered separately.

 Containers with foam and covers delivered separately.



MSA	Size mm	Kg
19.373-D	330 x 165 x 40	6.400

Blue plastic container with cut foam (case shape : television with 2 notches 62 x 55 mm) and transparent cover.
To be used with apparatus MSA19.370, 19.371, 19.372, 19.376 and 19.399 (according to tray holder).



MSA	Size mm	Kg
19.373	240 x 110 x 20	6.400

Green plastic container (10 compartments) and transparent lid with protection foams.
To be used with apparatus MSA19.370, 19.371, 19.372, 19.376 and 19.399 (according to tray holder).



MSA	Voltage	Kg
19.449	100 - 240 V	2.000

Waterproof tester by vacuum VACUPRO.
 Bubbles are formed on the watch to indicate the exact location of the leak.
Delivered with 1 battery 9 V and 5 most common worldwide adaptors.



125 bar
 Water



MSA	Size mm	Kg
19.448	280 x 110 x 200	6.400

Waterproof tester DIVER 125 up to 125 bar.
 Rugged anodized aluminium construction.
 Chamber size : Ø 63 x 50 mm.

10 bar
Water



MSA	Model	Size mm	Kg
19.406	Standard	200 x 170 x 270	3.500

CALYPSO waterproof tester up to 10 bar used with **water**. The pressure is generated by a **manual pump**. Cylinder Ø 80 mm suitable for 2 watches.

MSA	Model	Size mm	Kg
19.424	Plus	200 x 170 x 270	3.500

CALYPSO waterproof tester up to 10 bar used with **water**.

Suitable for both air admission by a **manual pump or compressor** (not delivered).

On compressor mode, the pressure adjustment inside the cylinder Ø 80 mm (for 2 watches) is made with an air-gate located in front of the tester.

10 bar

Water



MSA	Model	Size mm	Kg
19.425	Minus	200 x 170 x 270	3.500

CALYPSO waterproof tester up to 10 bar used with **water**. Cylinder Ø 80 mm for 2 watches. To be used with **a compressor** (not included). The pressure adjustment is made with an air-gate located in front of the tester.

Spare parts for MSA 19.406, 19.424 and 19.425 :

MSA	Items
19.406-A	Round gasket between cylinder/cover, Ø 70 mm
19.406-B	Cover screw
19.406-C	Plexiglas cylinder, ext. Ø 80 mm
19.406-D	Plexiglas cylinder, ext. Ø 70 mm
19.406-E	Round gasket between cylinder/cover, Ø 80 mm
19.406-F	Waterproof gasket for the central broach



-0.2 to -0.8 bar

0.2 to 10 bar



MSA	Voltage	Size mm	Kg
19.187	230 V	245 x 240 x 240	6.700
19.187-110	120 V	245 x 240 x 240	6.700

PROOFMASTER M waterproof tester, suitable for manufacturing, after sales service and watch-test lab. Analyzes watch deformation **under pressure and/or vacuum**.

- Automatic cycle of complete test, intuitive operation with colour touch screen (TFT colour 320 x 240 pixels)
- 9 pre-defined and 45 free program-mable tests such as pressure, tolerance, measuring time and test sequences with up to 3 different pressures, from -0.8 up to +10 bar
- The Leak Finder allows the localization of the watch leakage in water
- Quick Select activates the program of optimal test by the characteristics of the watch
- USB interfaces for connection to a computer and RS 232 to connect the printer MSA19.203 (see page 19-8). Compressor delivered separately (see page 19-27).



-0.2 to -0.8 bar

0.2 to 10 bar



MSA	Voltage	Size mm	Kg
19.183	220 V	245 x 240 x 240	6.100
19.183-110	120 V	245 x 240 x 240	6.100

PROOFMASTER S waterproof tester, suitable for manufacturing, after sales service and watch-test lab. Analyzes watch deformation **under pressure and/or vacuum**.

- 7 pre-defined universal programs and 10 individual freely programmable tests such as pressure, tolerance, measuring time and test sequences with 1 or 2 pressures
- RS 232 interface to connect the printer MSA19.203 (see page 19-8). Compressor delivered separately (see page 19-27).

 Greiner vibrograf

-0.7 bar
10 bar

 Air



MSA	Voltage	Size mm	Kg
19.407	Dual 115 - 230 V	320 x 250 x 280	7.500

POSEIDON LT100 high-tech waterproof tester with the following characteristics :

- Universal use with all types of watches with or without bracelets
- The test starts automatically under **vacuum and pressure**
- Automatic determination of stabilisation and measuring time for reliable results
- With colour display in 8 languages. Indication of the results in numerical way as well as in analogical colour diagram
- 12 available programs including 7 individually programmable from -0.7 to 10 bar
- RS 232 interface for printout of certificate.

Compressor delivered separately (see page 19-27).

 Greiner vibrograf

-0.7 bar

 Air



MSA	Voltage	Size mm	Kg
19.403	110 - 230 V	210 x 260 x 260	3.200

LEAK-CHECKER PRIME waterproof tester for testing leaks up 0.7 bar vacuum.

- No additional compressor needed thanks to integrated pump
- Suitable for any type of watches, included very small ceramic timepieces
- Results displayed on a colour capacity touchscreen 5" TFT (800 x 480 pixels)
- Printout the results on a thermo printer.



MSA	Voltage	Size mm	Kg
19.129	115 - 230 V	260 x 170 x 110	1.000

Thermo printer MARTEL 7830 suitable for all GREINER® waterproof testers.

Spare part :

MSA	Item
19.167-B	Thermo paper, width 57 mm

ROVER Seiler

40 bar

Water



MSA	Size mm	Kg
19.416	250 x 270 x 250	7.000

NATATOR 40 waterproof tester up to 40 bar. Suitable for after sales service single test. Doesn't require any electric plug in.

Stainless steel tank Ø 65 x 650 mm. After the **water** filling (maximum 0.2 L), the lid with window is locked. The control is made using the lateral handle, which will be screwed until the desired pressure indicated on the manometer.

No compressor required.

ROVER Seiler

125 bar

Water



MSA	Size mm	Kg
19.429	310 x 330 x 300	12.000

NATATOR 125 waterproof tester up to 125 bar. Suitable for after sales service single test. Doesn't require any electric plug in.

Stainless steel tank Ø 80 x 65 mm. After the water filling (maximum 0.33 L), the lid is locked. The control is made by using the lateral handle, which will be screwed until the desired pressure indicated on the manometer.

No compressor required.

Elma

-0.8 bar

Air



MSA	Voltage	Size mm	Kg
19.402	100 - 240 V	Ø 155 x 315	3.500

The LEAK CONTROLLER 2000 waterproof tester produces a pressure difference between the interior and the exterior of the watch, thanks to a **built-in vacuum**. The 1µ precision dial comparator records each variation on the watch case and indicates its pressure compensation. The equipment is almost mechanical, which allows even the tests of cheap watches with deformable glasses (no risk of glass breaking). Do not require any maintenance.



10 bar

Water



MSA	Size mm	Kg
19.456	XX x XX x XX	X.XXX

Waterproof tester WPL 610 up to 10 bar used with **water**.

Indicates the leak of the watch without any risk of water penetration. For watches up to Ø 60 mm.

Delivered without watch holder.

Accessories :

MSA	Items
19.456-A (1)	Watch holder for 1 watch
19.456-B (2)	Watch holder for 2 watches



(1)



(2)

Σ
SIGMA ELECTRONIC SA
swiss precision instruments

-0.75 bar
10, 20, 30 and 50 bar

Air



MSA	Versions	Voltage	Size mm	Kg
19.442	-0.75...10 bar	90 - 270 V	210 x 310 x 220	6.700
19.443	-0.75...20 bar	90 - 270 V	210 x 310 x 220	7.400
19.444	-0.75...30 bar	90 - 270 V	210 x 310 x 220	10.200
19.445	-0.75...50 bar	90 - 270 V	210 x 310 x 220	11.000

SM-8850 high performance waterproof tester. Measuring chamber specially built to reduce the **air** filling time during high-pressure tests, while increasing the available space for large-sided watches. The measuring head positions automatically the watch for the test. A LCD display indicates the test results. With RS 232 interface for optional BIXOLON printer (see below).

Compressor delivered separately.

Σ
SIGMA ELECTRONIC SA
swiss precision instruments



MSA	Versions	Use for tester	Kg
19.433	2x one way	MSA19.443	4.280
19.434	2x two ways	MSA19.443	4.280
19.440-1	3.8x two ways	MSA19.444	9.500

High pressure booster able to produce 20 or 30 bar (output) from a compressed air network (producing at least 9 bar) or from a compressor.

Specifications :

MSA	Maximum pressure input	Maximum pressure output
19.433	16 bar	30 bar
19.434	10 bar	20 bar
19.440-1	10 bar	35 bar

BIXOLON®



MSA	Voltage	Size mm	Kg
19.170	100 - 240 V	160 x 239 x 157	2.400

Printer SRP-275II compatible with all waterproof testers. Use plain paper.

Accessories :

MSA	Items
19.170-C	Printer cable RS-232 for MSA19.44x
19.170-D	Paper roll, width 76 mm, length 44 metres
19.170-E	Cartridge

» **Compressors. The models with tank release the air under pressure immediately ; waterproof tests proceed quicker.**

16 bar
40 dB



MSA	Voltage	Capacity	Size mm	Kg
19.455	230 V	50 litres/minute	500 x 460 x 600	30.000

Compressor ABSOLUTE AIR with automatic draining, high performance (50 Hz/0.34 kW) and very quiet. 25 litre tank.

11 bar
45 dB



MSA	Voltage	Capacity	Kg
19.409	230 V	10 litres/minute	32.000
19.409-110	115 V	10 litres/minute	32.000
19.409-W*	230 V	10 litres/minute	32.000

* With automatic draining

JUNAIR 6-10 compressor with safety valve, water separator and 10-litre stainless steel tank.

Delivered in a cardboard box : 50 x 50 cm, height 58 cm.

Accessories :

MSA	Items
19.409-H	Compressor oil, 500 ml
19.409-T	"T" fitting for air-flue

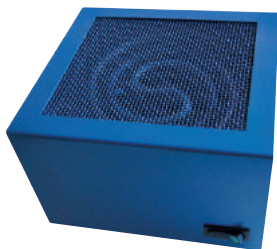
10 bar



MSA	Voltage	Size mm	Kg
19.435	220 V	312 x 144 x 213	10.700
19.435-110	110 V	312 x 144 x 213	10.700

GAST compressor (50 Hz/ 0.12 kW) compact, reliable and practically do not require any maintenance. Generates clean air, without dust and oil. Pressure up to 10 bar in 25 seconds, directly driven by the waterproof tester.

» **Hot air drier.**



MSA	Voltage	Size mm	Kg
19.750	220 V	190 x 175 x 120	2.810
19.750-110	110 V	190 x 175 x 120	2.810

T8 drier with hot air ventilator for drying watches, jewellery, etc. Power 600 W.

» **Automatic cleaning machine VIBRATO.**



MSA	Kg
19.705	63.000

With its modern and secure design, the fully automatic cleaning machine Horotec® VIBRATO has been developed for cleaning movement components and any other small watch parts.

- Certified ATEX according to the European directive 2014/34 UE (ATEX 2014) in IIB T4 class
- Ensures maximum safety and allows the use of watchmakers solvents such as rectified benzene
- Its conception with 6 baths (including 1 adjustable ultrasonic tank) + forced air heating system offers unrivalled flexibility and efficiency
- The only machine enabling watchmakers to use it for washing, drying and epilame coating in 1 cycle.

The several possibilities of movements of the basket and the speed adjustment from 1 up to 1200 rpm guarantee maximum care and efficiency.

The drying process is optimized to avoid residues of "dry drops".

The machine is equipped with a 7" touch-screen display to manage all operations. Its intuitive and ergonomic presentation allows an easy-to-use interface by the operator.

The wash programming, baths management and various configurations are made directly on the touch-screen.

Ditto for the management of possible failures, which facilitates the after-sales service on-site by the user himself.

A USB2 input allows implementing configurations and wash programs remotely.

A rear exit is provided to connect the VIBRATO to an external exhaust or an active carbon filter.

The machine is compatible with all existing baskets Ø 80 mm.

Approval institute	TÜV SÜD Schweiz AG
ATEX certification	EX h b IIB T4 Gc
Number of baths	6 (including 1 ultrasound)
Drying station	1 forced air station (adjustable up to 65° C)
Cleaning baskets	Ø 80 mm, up to 5 baskets height 10 mm
Cleaning actions	Rotation, oscillation, vertical agitation, ultrasound
Rotation speed	From 0 up to 1200 rpm / Adjustable acceleration
Vertical oscillation	Up to 10 mm, adjustable
Ultrasound	50 W adjustable from 10 to 100%, 40 KHz with "Sweep" function
Principle	Turntable with 7 positions
Interface	7" touch-screen display
Size W x D x H	480 x 480 x 860 mm
Voltage	230 V or 115 V

Spare parts :

MSA	Items
19.708	Active carbon filter
19.715	Filter for MSA19.708

Accessories :

MSA	Items
19.705-A	Vapour collector, for connecting to an external aspiration
19.706	Portable surveying instrument PPM atex certified, with charger 230 V
19.711	Glass tank with cover, Ø 114 x height 175 mm

» **Baskets for cleaning machine, in polished stainless steel 304.**



MSA	Ø mm
19.572	80

Lower basket holder.
Useful height 44 mm, total 53 mm.



MSA	Ø mm
19.544	80

Lower basket holder.
Useful height 66 mm, total 74 mm.



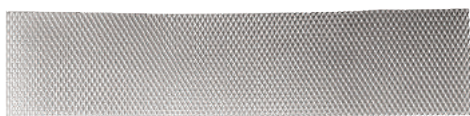
MSA	Ø mm
19.705-P	80

Aluminium upper basket holder.
Height 3.20 mm ; mesh 0.20 mm.



MSA	Ø mm
19.795	80

Cover for cleaning basket.
Height 3.20 mm, mesh 0.20 mm.



MSA	Size mm
19.563	300 x 70

Wave-breaker for glass beakers of cleaning machines.



MSA	Ø mm
19.794	80

Cleaning basket without separation.
Useful height 26 mm, total 30.5 mm.



MSA	Ø mm
19.790	80

Cleaning basket without separation.
Useful height 10 mm, total 14 mm.



MSA	Ø mm
19.791	80

Cleaning basket with 4 separations.
Useful height 10 mm, total 14 mm, steel sheet separations thickness 0.5 mm.



MSA	Ø mm
19.792	80

Cleaning basket with 8 separations.
Useful height 10 mm, total 14 mm, steel sheet separations thickness 0.5 mm.



MSA	Ø mm
19.793	80

Cleaning basket with 12 separations + centre Ø 40 mm.
Useful height 10 mm, total 14 mm, steel sheet separations thickness 0.5 mm.

» Ultrasonic cleaning machines.

SONOSWISS®



Models 220 V

MSA	Type	Volume (L)	Int. size (tank)	Power	Heating	Handles	Drain	Cover	MSA
19.660	SW 1	0.80	190 x 85 x 60	35 W	Without	Without	Without	Without	19.660-110
19.661 (1)	SW 1H	0.80	190 x 85 x 60	95 W	With	Without	Without	Without	19.661-110
19.662	SW 3	2.75	240 x 137 x 100	85 W	Without	With	Without	Without	19.662-110
19.663 (2)	SW 3H	2.75	240 x 137 x 100	285 W	With	With	Without	Without	19.663-110
19.671	SW 3H	2.75	240 x 137 x 100	285 W	With	With	With	Without	19.671-110
19.664 (3)	SW 6H	5.75	300 x 150 x 150	600 W	With	With	With	Without	19.664-110
19.665	SW 12H	12.75	300 x 240 x 200	1100 W	With	With	With	Without	19.665-110
19.666	SW 30H	28.00	500 x 300 x 200	1600 W	With	With	With	Without	19.666-110
19.667	SW 45H	45.00	500 x 300 x 300	2100 W	With	With	With	Without	19.667-110
19.668	SW 90H	90.00	600 x 500 x 300	3000 W	With	With	With	Without	19.668-110

Models 110 V

New SONOSWISS® ultrasonic units for fine cleaning of jewellery and watches (worn or repaired, in shop stock or workshop).

The modern ultrasonic cleaning technology of these devices meets the high demands of today and exceeds all conventional ultrasonic cleaning methods. It is suitable for the cleaning process itself and for further rinsing baths.

Features and advantages :

- Useful and practical accessories. The cover can also serve as drop-off collecting basin for the wet basket
- Connection for drain duct at the back, therefore the workplace can be chosen with or without a wash basin. Comfortable operating switch on the unit side
- The tanks, all made of stainless steel, allows hygienic cleaning and disinfection (if required) of the unit surfaces
- Waterproof operating panel. The operating elements themselves are protected against splash water (in addition any spilled water is guided along the sides).

» Accessories for SONOSWISS® ultrasonic cleaning machines.



MSA	Items
19.660-A	Plastic cover for MSA19.660 and 19.661
19.662-A	Plastic cover for MSA19.662, 19.663 and 19.671
19.664-A	Plastic cover for MSA19.664
19.665-A	Plastic cover for MSA19.665
19.666-A	Plastic cover for MSA19.666
19.667-A	Stainless steel cover for MSA19.667
19.668-A	Stainless steel cover for MSA19.668
19.669-A	Plastic cover for MSA19.669 and 19.670

The cover, **delivered without basket**, can also be used as a tray for the wet basket.



MSA	Items
19.660-B	Stainless steel basket for MSA19.660 and 19.661
19.662-B	Stainless steel basket for MSA19.662, 19.663 and 19.671
19.664-B	Stainless steel basket for MSA19.664
19.665-B	Stainless steel basket for MSA19.665
19.666-B	Stainless steel basket for MSA19.666
19.667-B	Stainless steel basket for MSA19.667
19.668-B	Stainless steel basket for MSA19.668
19.669-B	Stainless steel basket for MSA19.669 and 19.670



MSA	Items
19.655	Stainless steel immersion basket, Ø 59 x 60 mm
19.680	Stainless steel immersion basket, Ø 78 x 60 mm



MSA	Items
19.612	Stainless steel tray for 2 beakers, for MSA19.660 and 19.661
19.652	Stainless steel tray for 2 beakers, for MSA19.662 and 19.663
19.681	Stainless steel tray for 2 beakers, for MSA19.664, 19.665 and 19.666



MSA	Items
19.633-C	Flexible plastic jewellery rack with 8 adjustable hooks



(1)



(2)

MSA	Items
19.614 (1)	Glass beaker with cover and ring, Ø 80 mm
19.640-F (1)	Glass beaker with cover and ring, Ø 95 mm
19.682 (2)	Set of 2 glass beakers 600 ml with lids and tray for MSA19.660 and 19.661
19.683	Lid for glass beaker MSA19.640-F



EQUIPPED WITH BASKETS Ø 80 mm



MSA19.563

MSA19.565

MSA19.572

MSA	Voltage	Size mm	Kg
19.545	230 V	430 x 430 x 610	32.900

VIBRASONIC ACS-900 ultrasonic cleaning machine with 4 baths (2x pre-rinsing, rinsing et drying). Fully automatic and electronically activated alternative rotation.

Suitable with accessories Ø 80 mm.

Spare parts :

MSA	Item
19.550-C220*	Ultrasonic circuit 220 V
19.550-U	Ultrasonic tank

Contents (Ø 80 mm) :

MSA	Items	Kg
19.550-U*	Ultrasonic tank	-
19.551*	Glass beaker (3x)	0.485
19.553*	Lid for glass beakers (4x)	0.033
19.563*	Wave-breaker for glass beakers (3x), 300 x 70 mm	0.029
19.565*	Upper basket holder	0.100
19.572*	Lower basket holder	0.037

* Delivered with the machine



MSA19.561

MSA19.566

MSA19.567

MSA19.568

MSA19.569

MSA19.570

MSA19.571

Optional accessories available for MSA19.540 in Ø 80 mm :

MSA	Items	Kg
19.561	Upper basket holder with clamp (also suitable for Ø 64 mm)	0.027
19.566	Upper special basket holder	0.118
19.567	Metal basket with 12 divisions, height 10 mm	0.033
19.568	Metal basket with 8 divisions, height 10 mm	0.029
19.569	Metal basket without divisions, height 10 mm	0.018
19.570	Metal basket with 4 divisions, height 10 mm	0.024
19.571	Metal cover for metal baskets	0.030
19.585	Assortment of metal baskets MSA19.569 (1x) and 19.570 (3x), with 1 lid MSA19.571 + 2 basket holders MSA19.565 and 19.572	X.XXX



MSA19.574



MSA19.580



MSA19.581



MSA19.582



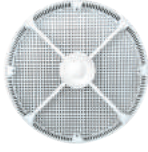
MSA19.586



MSA19.589



MSA19.598



MSA19.575



MSA19.592



MSA19.593



MSA19.591



MSA19.578



MSA19.579



MSA19.576



MSA19.599



MSA19.594



MSA19.597



MSA19.577



MSA19.595



MSA19.573



MSA19.542



MSA19.584

Optional accessories available for MSA19.540 in \varnothing 80 mm :

MSA	Items
19.574	Plastic basket without divisions, height 8 mm
19.574-D	Plastic basket without divisions, height 8 mm, double wall
19.580	Plastic basket without divisions + 1 basket MSA19.557, height 8 (14) mm
19.581	Plastic basket without divisions + 1 basket MSA19.556, height 8 (14) mm
19.582	Plastic basket without divisions + 1 basket MSA19.562, height 8 (14) mm
19.586	Plastic basket without divisions, height 16 mm
19.589	Plastic basket without divisions, height 24 mm
19.598	Plastic basket with 4 divisions, height 8 mm
19.575	Plastic basket with 4 divisions, height 8 mm
19.587	Plastic basket with 4 divisions, height 8 mm, double wall
19.592	Plastic basket with 4 divisions, height 8 mm for 2 main plates \varnothing 25 mm
19.593	Plastic basket with 4 divisions, height 8 mm for 4 main plates \varnothing 31 mm
19.591	Plastic basket with 4 divisions, height 8 mm for 2 main plates \varnothing 38 mm
19.591-D	Plastic basket with 4 divisions, height 8 mm for 2 main plates \varnothing 38 mm, double wall
19.596	Plastic basket with 4 divisions, height 16 mm
19.578	Plastic basket with 6 divisions + 2 baskets MSA19.564, height 8 mm
19.579	Plastic basket with 6 divisions + 2 baskets MSA19.564 + 2 capsules MSA19.552, height 8 mm
19.576	Plastic basket with 8 divisions, height 8 mm
19.583	Plastic basket with 8 divisions, height 8 mm, double wall
19.599	Plastic basket with 8 divisions, height 8 mm, tight mesh
19.594	Plastic basket with 8 divisions + centre \varnothing 39 mm, height 8 mm
19.594-D	Plastic basket with 8 divisions + centre \varnothing 39 mm, height 8 mm, double wall
19.597	Plastic basket with 8 divisions, height 32 mm
19.577	Plastic basket with 12 divisions, height 8 mm
19.577-D	Plastic basket with 12 divisions, height 8 mm, double wall
19.595	Plastic basket with 16 divisions, height 8 mm
19.595-D	Plastic basket with 16 divisions, height 8 mm, double wall
19.573	Plastic cover for basket
19.590	Long plastic division for baskets MSA19.575 / 19.576
19.542	Metal basket with 2 divisions, height 10 mm
19.584	Metal basket with 9 divisions + centre \varnothing 40 mm, height 10 mm



EQUIPPED WITH BASKETS Ø 64 MM



MSA19.552



MSA19.554



MSA19.555



MSA19.556



MSA19.557



MSA19.558



MSA19.559



MSA19.560



MSA19.563

MSA	Voltage	Size mm	Kg
19.550	220 V	420 x 420 x 560	29.000
19.550-110	110 V	420 x 420 x 560	29.000

VIBRASONIC ACS-900 ultrasonic cleaning machine with 4 baths (2x pre-rinsing, rinsing et drying). Fully automatic and electronically activated alternative rotation. Suitable with accessories **Ø 64 mm**.

Spare parts for ACS 900 :

MSA	Items
19.550-C110	Ultrasonic circuit 110 V
19.550-C220	Ultrasonic circuit 220 V
19.550-U	Ultrasonic tank

Contents (Ø 64 mm) :

MSA	Items	Kg
19.550-U	Ultrasonic tank	-
19.551	Glass beaker (3x)	0.485
19.552	Pair of plastic capsules (3x), Ø 22 x 6 mm	0.001
19.553	Cover for glass beakers (4x)	0.033
19.554	Upper basket holder	0.050
19.555	Lower basket holder	0.026
19.556	Metal basket with 4 divisions (2x), height 15 mm	0.020
19.557	Metal basket without divisions, height 15 mm	0.014
19.558	Metal cover for baskets MSA19.556 and 19.557	0.013
19.559	Support with 1 axis for 5 movement holders	0.065
19.560	Movement holder for 3 movements (5x)	0.010
19.563	Wave-breaker for glass beakers (3x), 300 x 70 mm	0.029



MSA19.541



MSA19.561



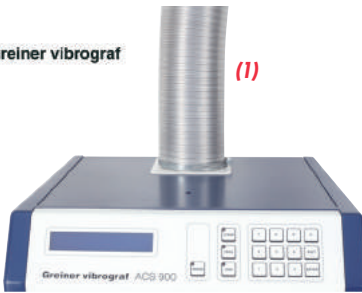
MSA19.562



MSA19.564

Special optional accessories available for MSA19.550 in Ø 64 mm :

MSA	Items	Kg
19.541	Movement holder for 6 movements	X.XXX
19.561	Upper basket holder with clamp (also suitable for Ø 80 mm)	0.027
19.562	Basket with 5 divisions, height 14 mm	0.022
19.564	Basket with lid, Ø 20 x height 13 mm	0.005



Special optional accessories available for MSA19.540 and 19.550 :

MSA	Items	
19.540-A (1)	Flexible hose, length 20...100 cm	
19.540-B (1)	Flexible hose, length 50...250 cm	
19.540-P	Hose clamp	
19.540-R	Fitting with screws	



(1)



(2)

Special optional accessories available for MSA19.545 in Ø 80 mm :

MSA	Items	Kg
19.549 (1)	Basket for 14 large dimensions main plates, thickness from 0.90 to 1.60 mm	0.090
19.549 (2)	Set of main plates supports for MSA19.549	0.005

Special baskets for cleaning large dimensions main plates.

Simple, fast and secure main plates fixing.



MSA19.531



MSA19.726



MSA19.725



MSA19.727

Other accessories for cleaning machines :

MSA	Items	
19.531	Brass cleaning basket with screw-on cover without division, Ø 14 - height 8.30 mm	
19.726	Brass cleaning basket with screw-on cover without division, Ø 14 - height 9.50 mm	
19.725	Brass cleaning basket with screw-on cover without division, Ø 16 - height 12.50 mm	
19.727	Brass cleaning basket with screw-on cover without division, Ø 23 - height 12.50 mm	



MSA	Size mm	Kg
19.712 (1)	322 x 365 x 330	9.000
19.713 (2)	322 x 365 x 330	9.000

Professional steam cleaner PXRVP PRO.

Its use is recommended in watchmaking and jewellery for the cleaning of all types of parts. Polishing residues, resin, oil, etc., are easily eliminated and without any toxic products thanks to the adjustable steam jet from 0 to 10 bar. The device has an integrated anti-limestone system and the steam can be generated without any fear by the public water supply.

The steam production is constant with a very low-pressure drop even in a continuous service. The device also allows generating wet or dry steam (by selection).

Delivered with 1 flexible hand piece (1.3 metres) and 3 hoses of different sizes.

Note: when ordering, remember to define the filling mode of the device.

- Version (1) : using the 5-litre water supply tank provided.
- Version (2) : via a direct connection to the public water mains supply.

In both cases, the hot filling is possible.

Option :

MSA	Item
19.712-01	Pedal

i Delivered without pedal.

Colour	Stainless steel
Steam production	Continuous flow
Boiler stem temperature	171° C
Heating time	5 minutes
Pressure (bar)	10 bar
Boiler power consumption (W)	3200
Boiler volume (litres)	2
Steam EVI (gr./min.)	36 gr./min. minimum regulation - 76 gr./min. maximum regulation
Boiler material	Stainless steel AISI 304
Steam regulation on steam hose	No
Total power consumption (W)	3200
Voltage	230 V - 50 Hz
Tank capacity (litres)	5

Water level alarm	Visual and acoustic
Pressure indicator	Visual
Hot water injection + steam (gr./min.)	173 gr./min. minimum regulation - 224 gr./min. maximum regulation
Water pump power	48 W
Low tension voltage on handgrip	9 V
Power cable	7 metres
Certification reached	CE



MSA	Type	Voltage	Chamber size mm
19.740	P100	220-240 V / 50 Hz	290 x 205 x 90
19.741	P200 without gaz	220-240 V / 50 Hz	305 x 300 x 110
19.742	P200 with gaz	220-240 V / 50 Hz	305 x 300 x 110
19.743	C100 without gaz	220-240 V / 50 Hz	330 x 310 x 120
19.744	C100 with gaz	220-240 V / 50 Hz	330 x 310 x 120
19.745	C200 without gaz	220-240 V / 50 Hz	490 x 355 x 150
19.746	C200 with gaz	220-240 V / 50 Hz	490 x 355 x 150
19.747	C250 without gaz	220-240 V / 50 Hz	490 x 285 x 150
19.748	C250 with gaz	220-240 V / 50 Hz	490 x 285 x 150

MULTIVAC® professional chamber machine.

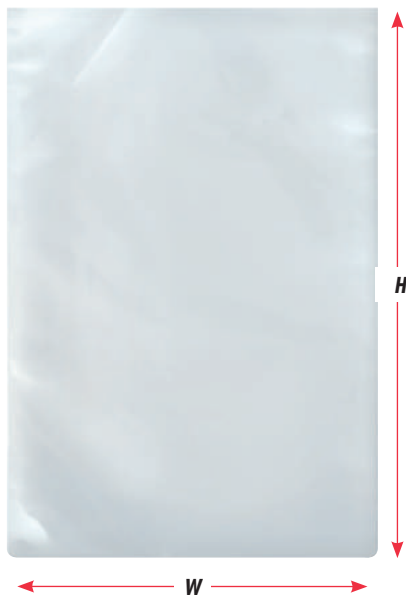
Equipment	MSA19.740 (1)	MSA19.741 (1)	MSA19.742 (1+2)	MSA19.743 (1)	MSA19.744 (1+2)	MSA19.745 (1)	MSA19.746 (1+2)	MSA19.747 (1)	MSA19.748 (1)
Sealing bar	Snap-in 205 mm	Snap-in 305 mm	Snap-in 305 mm	305 mm	305 mm	465 mm	465 mm	465 mm (2 parallel bars)	465 mm (2 parallel bars)
Double sealing with underside pre-cutting	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm	1x 3 mm / 1x 1 mm on the 2 bars	1x 3 mm / 1x 1 mm on the 2 bars
Vacuum pump	4 m3/h	8 m3/h	8 m3/h	MRP 15	MRP 15	MRP 25	MRP 25	MRP 25	MRP 25
Filling plates in resin	✓ (2 pieces)	✓ (2 pieces)	✓ (2 pieces)	✓	✓	✓	✓	✓	✓
Transparent plexiglas cover	✓	✓	✓						
Window control in the safety glass lid				✓	✓	✓	✓	✓	✓
Electronic control	MCB 01	MCB 01	MCB 01	MC06-K20	MC06-K20	MC06-K20	MC06-K20	MC06-K20	MC06-K20
Automatic progressive atmosphere	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vacuum quick-stop button				✓	✓	✓	✓	✓	✓

Accessories :

- (1) Mobile stand, 4 wheels (2 swivels), with pouch shelf
- (2) Gas flushing system

Spare parts :

MSA	Items
19.738	Nitrogen pressure regulator with 2-metre hose
19.739	Argon pressure regulator with 2-metre hose



1000
pieces

MSA	Size W x H mm
17.706-100X250	100 x 250
17.706-100X300	100 x 300
17.706-120X120	120 x 120
17.706-120X160	120 x 160
17.706-120X200	120 x 200
17.706-120X270	120 x 270
17.706-120X300	120 x 300
17.706-120X400	120 x 400
17.706-130X180	130 x 180
17.706-130X200	130 x 200
17.706-130X280	130 x 280
17.706-130X300	130 x 300
17.706-130X380	130 x 380
17.706-140X200	140 x 200
17.706-140X210	140 x 210
17.706-140X270	140 x 270
17.706-150X180	150 x 180
17.706-150X200	150 x 200
17.706-150X230	150 x 230
17.706-150X260	150 x 260
17.706-160X200	160 x 200
17.706-160X300	160 x 300
17.706-165X210	165 x 210
17.706-165X250	165 x 250
17.706-170X250	170 x 250

MSA	Size W x H mm
17.706-170X400	170 x 400
17.706-180X230	180 x 230
17.706-180X240	180 x 240
17.706-180X250	180 x 250
17.706-180X260	180 x 260
17.706-180X280	180 x 280
17.706-180X350	180 x 350
17.706-200X220	200 x 220
17.706-200X250	200 x 250
17.706-200X300	200 x 300
17.706-200X350	200 x 350
17.706-200X400	200 x 400
17.706-200X500	200 x 500
17.706-200X600	200 x 600
17.706-220X300	220 x 300
17.706-225X350	225 x 350
17.706-230X380	230 x 380
17.706-250X280	250 x 280
17.706-250X300	250 x 300
17.706-250X350	250 x 350
17.706-250X400	250 x 400
17.706-260X350	260 x 350
17.706-270X300	270 x 300
17.706-300X300	300 x 300
17.706-300X350	300 x 350
17.706-300X400	300 x 400
17.706-320X320	320 x 320

Special plastic bag (PA/PE 20/70) for vacuum packaging machines.

Packaging : 1'000 pieces.

500
pieces

MSA	Size W x H mm
17.706-250X500	250 x 500
17.706-250X600	250 x 600
17.706-260X450	260 x 450
17.706-300X500	300 x 500
17.706-300X600	300 x 600
17.706-300X700	300 x 700

Special plastic bag (PA/PE 20/70) for vacuum packaging machines.

Packaging : 500 pieces.

MSA	Version	Voltage	Size mm	Kg
19.850	Up to 12 benches	220 V	500 x 700 x 800	100.000

AIRcenter is a system which combines air pressure and vacuum in 1 machine adapted to final watch assembling as well as the after sales service using small and medium quantity of air. All-in-one concept, which doesn't require fixed air main masonry and electricity settlement. Flexible and easy to move wherever in the watch shop. Bench air supply is made with soft pipes and individual pedal for each work place. Oil free motor which gives high air quality. It functions without using any pedals.



(1)

Technical data :

- Air pressure max. : 8 bar
- Vacuum : 800 mbar
- Air tank volume : 16 L
- Vacuum tank volume : 40 L
- Noise level : 50 dB
- Connections : 2x AC and 1x vacuum.
- Delivered with air drier MSA19.850-02 (1).

i This machine is only available on the Swiss market.

Accessories :

MSA	Items
19.850-01	Recovery bowl 1/2
19.850-02 (1)	Air drier FX1, 470 x 350 x 495 mm
19.850-03	Pre-filter DD10-3/8
19.850-04	Pre-filter PD10-3/8
19.850-05	Standard filter 1/4
19.850-06	Standard filter 1/2
19.850-07	Pressure reducer 1/4 with manometer
19.850-08	Pressure reducer 1/2 with manometer
19.850-09	Filter for pressure reducer 1/4
19.850-10	Filter for pressure reducer 1/2
19.850-11	Automatic drain
19.833	Air proof vacuum pencil
19.834	Transparent hose, Ø 14x12 mm x 1 metre
19.812	Transparent PVC hose, Ø int. 6 x Ø 10 mm x 1 metre
19.826	Black hose, Ø 6x4 mm x 1 metre
19.817	Blower
24.523	Double swan-neck
19.816	Stand with base and fixing screws



i Other compatible accessories : brushes, Teflon® nozzles, fittings... see pages 19-43 and 19-44.



48 dB

VACUUM
FUNCTION



System with **vacuum**. Oil free engine, very noiseless and compatible for use in a white room.

Technical data :

- Flow 2300 litres/hour
- Absolute empty value : 80 mbar
- Pressure 1 bar uninterrupted (maximum 2.8 bar).

Illustrated :

MSA	Versions	Voltage	Size mm	Kg
19.808 (Pict.)	2 work stations	220 V	295 x 200 x 220	8.300
19.808-110	2 work stations	110 V	295 x 200 x 220	8.300

Delivered with :

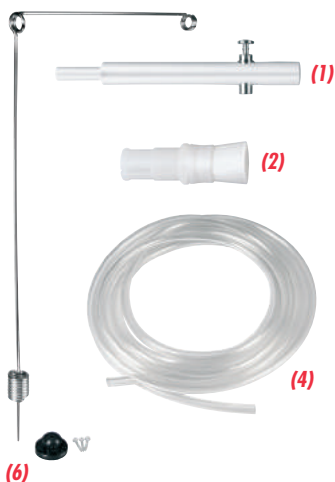
- 2 vacuum pencils MSA19.811 (1)
- 2 soft brushes MSA19.813 (2)
- 2 PVC hoses Ø 10 mm (2x 3 metres) MSA19.812 (4)
- 2 screw-on supports MSA19.816, with bases and fixing screws, height 37 cm (6).

Not illustrated :

MSA	Versions	Voltage	Size mm	Kg
19.807	1 work station	220 V	295 x 200 x 220	8.300
19.807-110	1 work station	110 V	295 x 200 x 220	8.300

Delivered with :

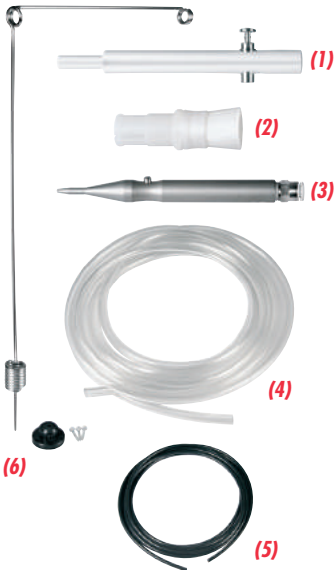
- 1 vacuum pencil MSA19.811 (1)
- 1 soft brush MSA19.813 (2)
- 1 PVC hose Ø 10 mm (3 metres) MSA19.812 (4)
- 1 screw-on support MSA19.816, with base and fixing screws, height 37 cm (6).





48 dB

**DOUBLE FUNCTION
AIR PRESSURE
AND VACUUM**



MSA	Versions	Voltage	Size mm	Kg
19.820	1 work station	220 V	295 x 200 x 220	9.400
19.820-110	1 work station	110 V	295 x 200 x 220	9.400

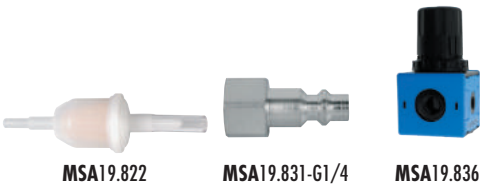
System with **double function air pressure and vacuum**. Oil free engine, very noiseless and compatible for use in a white room. 1 work station with 2 foot switches and 1 recovery bowl.

Technical data :

- Flow 2300 litres/hour
- Absolute empty value : 80 mbar
- Pressure 1 bar uninterrupted (maximum 2.8 bar).

Delivered with :

- 1 vacuum pencil MSA19.811 (1)
- 1 soft brush MSA19.813 (2)
- 1 blower MSA19.817 (3)
- 1 PVC hose Ø 10 mm (3 metres) MSA19.812 (4)
- 1 black hose Ø 6 mm (3 metres) MSA19.826 (5)
- 2 screw-on supports MSA19.816, with bases and fixing screws, height 37 cm (6).



MSA19.822

MSA19.831-G1/4

MSA19.836



MSA19.875-C



MSA19.838



MSA19.808-T

Accessories for MSA19.807, 19.808, 19.820 and 19.850 :

Regulation, filtration :

MSA	Items
19.822	Pump filter
19.831	Cartridge filter, Ø 225 x L750 mm
19.831-G1/4	End piece for quick fitting G 1/4
19.836	Female regulator Transair
19.875-C	Male manometer 1/8 Transair
19.838	Mini-ball valve 2/2 instant in-line, Ø 10 mm
19.808-P	Pedal for MSA19.807 and 19.808
19.808-T	Transformer 110 - 230 V for MSA19.808



Accessories :

MSA	Items
19.811	Vacuum pencil, Ø 10 x L90 mm
19.817	Blower
19.833	Air proof vacuum pencil for MSA19.850 only
19.846-10 (1)	Suction end piece for vacuum pencil, Ø 10 mm
19.846-15 (1)	Suction end piece for vacuum pencil, Ø 15 mm
19.846-20 (1)	Suction end piece for vacuum pencil, Ø 20 mm
19.846-25 (1)	Suction end piece for vacuum pencil, Ø 25 mm
19.813 (2)	Soft brush white nylon, Ø 10 mm
19.867 (2)	Soft brush white nylon, Ø 25 mm
19.868 (2)	Soft brush white nylon, Ø 35 mm
19.814	Hard brush blue nylon, Ø 10 mm
19.847	Very hard brush red nylon, Ø 10 mm
19.819	Marten-hair brush, Ø 10 mm
19.823	Brush white nylon, Ø 15 mm
19.825	Badger-hair brush, Ø 10 mm
19.832	Marten-hair brush, Ø 15 mm
19.824	Thin long beak 25 mm, Ø 2.3 mm
19.824-A	Thin short beak 15 mm, Ø 2.3 mm
19.821	Beak 45° with nylon filter
19.829	Medium short beak 15 mm, Ø 4 mm
19.829-A	Medium short beak 15 mm, Ø 6 mm

Connections :

MSA	Items
19.816	Stand with base and fixing screws
19.815	"Y" fitting, Ø 6 mm
19.828-A (1)	Straight fitting, Ø 6 mm
19.828-B (1)	Straight fitting, Ø 10 mm
19.827-A	"T" fitting, Ø 6 - 6 - 6 mm
19.827-B (2)	"T" fitting, Ø 10 - 10 - 10 mm
19.827-C (2)	"T" fitting, Ø 14 - 14 - 14 mm
19.827-D (2)	"T" fitting, Ø 12 - 12 - 12 mm
19.830	Straight male fitting D6 for blower, M5
19.830-B (3)	90° angle fitting, Ø 10 mm
19.830-D (3)	90° angle fitting, Ø 14 mm
19.830-G1/4	Quick fitting G 1/4, Ø 6 mm
19.839-A (4)	Reducer, 10-6 mm
19.839-B (4)	Reducer, 14-10 mm
19.839-C (4)	Reducer, 12-6 mm
19.812	Transparent PVC hose, Ø int. 6 x Ø 10 mm x 1 metre
19.851	Black hose with fittings input/output, Ø int. 5.5 x Ø 8 mm x 1 metre
19.826	Black hose, Ø 6x4 mm x 1 metre
19.834	Transparent hose, Ø 14x12 mm x 1 metre



MSA19.840



MSA19.841



MSA19.842



MSA19.848



(5)

Connections (continued) :

MSA	Items
19.840	Soft black PVC hose, Ø 10x7 mm x 1 metre
19.841	Semi-rigid white polyamide hose, Ø 4x2.7 mm x 25 metres
19.842	Soft black PVC hose, Ø 4x2.5 mm x 1 metre
19.848	Soft grey hose, Ø 12x8 mm x 1 metre
19.835-A (5)	Hose plug Ø 6 mm
19.835-B (5)	Hose plug Ø 10 mm
19.835-C (5)	Hose plug Ø 14 mm
19.835-D (5)	Hose plug Ø 12 mm



MSA	Version	Size mm	Kg
19.875	1 work station	160 x 220 x 85	0.935

Air flow/vacuum device for 1 work station.
This device requires a compressor to operate.
The integrated Venturi system transforms the forced air in vacuum.

Livré avec :

- 1 pedal MSA19.875-B
 - 1 filter MSA19.875-A
 - 1 hose Ø 6 mm MSA19.826, length 3 metres
 - 1 hose Ø 8 mm MSA19.851, length 3 metres.
- Delivered without vacuum pen.

Accessories :

MSA	Items
19.811	Vacuum pen
19.813	White nylon soft brush, Ø 10 mm
19.814	Blue nylon hard brush, Ø 10 mm
19.819	Marten hair brush, Ø 10 mm
19.825	Badger hair brush, Ø 10 mm
19.823	White nylon brush, Ø 15 mm
19.832	Marten hair brush, Ø 15 mm
19.816	Stand for vacuum pen
19.875-A	Filter
19.875-B	Pedal
19.875-C	Male manometer 1/8 Transair

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55/57 dB



MSA	Versions	Voltage	Size mm	Kg
19.800	1 work station	220 V	190 x 220 x 120	5.800
19.800-110	1 work station	110 V	190 x 220 x 120	5.800

VACUUM system for dusts and tiny glass dusts of watch cases. Oil free motor, noiseless and suitable for use in white room.

Technical data :

- Maximum output volume 3.2-4.0 m³/hour
- final vacuum : 150 mbar
- vacuum continuity work : 250 mbar absolute.

Delivered with :

- 1 vacuum pencil
- 1 soft brush
- 1 PVC pipe Ø 10 mm (unit in metre)
- 1 screw-on support MSA19.816, with base and fixing screws, height 37 cm.



MSA	Voltage	Size mm	Kg
19.770	Dual 110 - 220 V	150 x 165 x 178	1.200

Automatic dispenser TS250, which accurately and consistently dispenses low, medium and high viscosity fluids and adhesives thanks to syringes of 10 ml. This dispensing system includes digital display timer allowing a deposit time precision of 0.001 second. Works in manual, sequence and automatic modes and is able to dispense in drops, lines and pot filling.

Technical data :

DUAL power source 110 - 220 V, air source maximum 6.9 bar (100 PSI) and applicable air pressure 0.1-6.9 bar (1-100 PSI).

Delivered with foot switch, 1 syringe barrel stand, 1 connection kit for syringes 10 ml, 1 assortment of syringes, air hose and operation instructions.

Dispensing tips for MSA19.770 :

MSA	Points	Colour	Ø mm
19.770-A015	Metal 90°	Lavender	0.15
19.770-A020	"	Transparent	0.20
19.770-A025	"	Red	0.25
19.770-A033	"	Orange	0.33
19.770-A041	"	Blue	0.41
19.770-A051	"	Purple	0.51
19.770-A061	"	Pink	0.61
19.770-A084	"	Green	0.84
19.770-A137	"	Amber	1.37
19.770-A160	"	Olive	1.60
19.770-B015	Metal 45°	Lavender	0.15
19.770-B020	"	Transparent	0.20
19.770-B025	"	Red	0.25
19.770-B033	"	Orange	0.33
19.770-B041	"	Blue	0.41
19.770-B051	"	Purple	0.51
19.770-B061	"	Pink	0.61
19.770-B084	"	Green	0.84
19.770-B137	"	Amber	1.37
19.770-B160	"	Olive	1.60
19.770-C020	Conical plastic	Transparent	0.20
19.770-C025	"	Red	0.25
19.770-C041	"	Blue	0.41
19.770-C061	"	Pink	0.61
19.770-C084	"	Green	0.84
19.770-C119	"	Grey	1.19
19.770-C160	"	Olive	1.60
19.770-M007	Straight metal	Green	0.07
19.770-M010	"	Yellow	0.10
19.770-M015	"	Lavender	0.15
19.770-M020	"	Transparent	0.20
19.770-M025	"	Red	0.25
19.770-M033	"	Orange	0.33
19.770-M041	"	Blue	0.41
19.770-M051	"	Purple	0.51
19.770-M061	"	Pink	0.61
19.770-M084	"	Green	0.84
19.770-M137	"	Amber	1.37
19.770-M160	"	Olive	1.60





Accessory :

MSA	Item
19.770-KIT	Assortment of tips in a box

Adapters and syringes for MSA19.770 :



MSA	Items
19.760-0	Cap for MSA19.760-Q, 30 pieces
19.760-Q	Transparent syringe 10 ml
19.760-R	Black syringe 10 ml
19.760-S	End cap for MSA19.760-Q-R, 773-03, 775-S, 50 pieces
19.772	Syringe holder
19.773-03	Transparent syringe 3 ml
19.773-03-B	Cap for MSA19.773-03
19.773-03-P	Piston for MSA19.773-03, 50 pieces
19.774-03	Adapter for syringe MSA19.773-03 + hose 90 cm
19.774-04	O'Ring gasket for adapter 3 ml
19.775-05	O'Ring gasket for adapter 5 ml
19.775-10	O'Ring gasket for adapter 10 ml
19.775-S	Transparent syringe 5 ml
19.775-05-B	Cap for MSA19.775-S
19.775-05-P	Piston for MSA19.775-S, 50 pieces
19.775-A	Adapter for syringe MSA19.775-S + hose 90 cm
19.775-B	Adapter for syringes MSA19.760-x + hose 90 cm

LOCTITE



MSA	Voltage	Size mm	Kg
19.761	Dual 110 - 220 V	192 x 210 x 90	3.000

Volumetric dosing machine. The timing and the dosing rate are freely programmable. It is possible to take the product directly from a bottle or other recipient.

Technical data :

DUAL power source 110 - 220 V (different cable for 110 V network) and consumption of 10 W.

Delivered with dosing box, several types of pipes and the corresponding adapters and a user's manual.

LOCTITE



MSA	Voltage	Size mm	Kg
19.762	220 V	305 x 525 x 575	17.000 (controller) 12.000 (chamber)

The UVALOC 1000 UV Cure Chamber is a high-performance modular curing system consisting of a cure chamber, lamp housing, and controller. The key feature of this unit is the lamp intensity is continually monitored and a low-level output condition can be established to ensure optimal curing performance. The chamber has rack levels to accommodate a slide-in tray that allows for easy positioning of parts of various heights at the level of optimum exposure. A perforated aluminium plate allows positioning of customized part holders. The lamp is shielded by a timed control shutter that eliminates UV exposure to operators during loading or unloading of parts. A safety door switch prevents opening while exposure is in progress. The cure time is controlled by the built-in timer and can be operated in a continuous or timed mode. The exposure cycle is triggered by footswitch, panel mount start button, or PLC interface.

Spare parts :

MSA	Items	Kg
19.762-A	UVA bulb (iron doped)	0.100
19.762-B	UVC standard bulb (pure mercury vapour)	0.100
19.762-C	Ampoule UV / lumière visible (gallium doped)	0.100

Technical data : power supply 220 V, consumption 1200 W and emission spectrum from 200 to 400 nm.

Delivered with 1 controller, 1 UV cure chamber, 1 connection cord of the lamp housing, 1 power cable, 1 foot switch and 1 user's manual.

LOCTITE



MSA	Voltage	Size mm	Kg
19.763	220 V	220 x 300 x 472	11.500

The UVALOC 400 System is suitable for the UVA and visible light curing of Loctite® UV products. It can be used at workstations such as in shops and laboratories. It is used for manual loading or inline integration. The lamp's emission spectrum (UVA + visible light) and radiant power capacity have been designed specifically to meet the requirements of UV-curable Loctite® adhesives. The UVALOC 400 System is a modular system. It includes a power unit with integrated power switch, hour counter and ballast as well as a stand, a lamp house with the bulb, the reflector and the ignition capacitor/starter unit. The system includes no timer, so the curing time has to be controlled with an external timer to ensure precise repeatability of curing results. The work surface is covered by a special silicone rubber mat, which resists UV deterioration and chemical attack. The average working life of the lamp is 1000 hours.

Technical data : power supply 220 V AC / 50 Hz, consumption 450 W, warm-up time of UV lamp 3 minutes, intensity 60 mW/cm² and emission spectrum from 350 to 400 nm.

Delivered with 1 power cable, 1 pair of gloves and safety spectacles, 1 silicone shoe, 1 protection curtain with assembly components and 1 user's manual.

Spare parts :

MSA	Items	Kg
19.763-A	UVA bulb of 400 W	0.100
19.763-B	Anti-UV goggles	0.040



MSA	Voltage	Size mm	Kg
19.751	220 V	255 x 155 x 485	5.800
19.751-110	110 V	255 x 155 x 485	5.800

Apparatus for polymerisation of UV-active adhesives and resins. Suitable for optics, jewellery and watch industries as well as Watch Lab, workshop and small series for sealing case glasses. It is equipped with a safety device, which stops UV radiation in case the drawer is opened.

Technical data : power source 220 or 110 V (upon request), consumption 75 W and emission spectrum from 350 to 400 nm.



MSA	Voltage	Size mm	Kg
19.765	220 V	215 x 240 x 100	1.800
19.765-110	110 V	215 x 240 x 100	1.800

UV lamp tunnel for fast drying Watch glass UV glue.
Power 36W.

Delivered with 4 tubes of 9 W (should work simultaneously).

3 programmable timing modes :

- Position (I) : 90 seconds
- Position (II) : 120 seconds
- Position (O) : Permanent

Spare part :

MSA	Item	Kg
19.765-A	9 W UV tube	0.030



MSA	Voltage	Size mm	Kg
19.910	Dual 115 - 230 V	155 x 172 x 55	1.235

Electronic device for the detection of magnetism in μ Tesla, demagnetization and control of magnetic remanence of watches, movements, tools and watch parts.

Functions :

- Magnetism detection
- Demagnetization
- Automatic mode activated
- Activate or deactivate the sound
- Connected to the power sector 115 - 230 V
- Operates on the battery
- 1. Compass mode display.
2. Calibration of the north of the compass
- Return to the main menu
- Parameters/settings
- Selection between silent or sound mode
- Display of the hardware and software version
- Resetting the sensors
- Activate or deactivate the automatic mode.

Sensors : there are 5 sensors and one of them is located in the centre of the detection surface. The others are located in the corners of a 1.5 cm square. They can measure the magnetism force as well as the position. A dot on the LCD screen shows a sensor with its position and the dot size is proportional to the magnetic force.

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MSA	Voltage	Size mm	Kg
19.901	220 V	230 x 180 x 120	1.170
19.901-110	110 V	230 x 180 x 120	1.170

ANTIMAG 2 device for demagnetizing watches and small watch parts.

Delivered with operating instructions.

 Greiner vibrograf



MSA	Voltage	Size mm	Kg
19.902	220 V	130 x 195 x 140	2.500
19.902-110	110 V	130 x 195 x 140	2.500

MAGNOMATIC powerful device for demagnetizing watches, small watch parts and tools. The mentioned objects are demagnetized efficiently without mechanically affecting the delicate parts such as hairsprings. Simple, reliable and fast handling.

Delivered with operating instructions.

 witschi



MSA	Voltage	Size mm	Kg
19.186	220 V	135 x 62 x 137	0.400
19.186-110	110 V	135 x 62 x 137	0.400

The device TESLASCOPE II performs the tests for a successful demagnetisation and detection of the magnetic state of mechanical watches in a single step.

The Telescope includes a convenient, freestanding support, allowing watches with or without wristlet, movements and steel watch parts of small dimensions to be easily tested. The evaluation of the measurements takes place by red and green LED's. The magnetisation degree is represented strengthen-dependently over several LED's.

Delivered with operating instructions.

» **Magnetism detector device.**

 Greiner vibrograf



MSA	Voltage	Kg
19.182	220 V	0.220

MAGNOTEST II high sensibility device for detection of magnetism in watches and other small watch parts.
Delivered with operating instructions.