

>> **Wooden eyeglasses.**



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.017-1	1	10.0x	0.015	00.017-3	3	3.5x	0.015
00.017-1.5	1.5	6.5x	"	00.017-3.5	3.5	3.0x	"
00.017-2	2	5.0x	"	00.017-4	4	2.5x	"
00.017-2.5	2.5	4.0x	"				

**Pear wood** eyeglass with screwed bezel.  
Removable lens ø 22 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.018-1	1	10.0x	0.015	00.018-3	3	3.5x	0.015
00.018-1.5	1.5	6.5x	"	00.018-3.5	3.5	3.0x	"
00.018-2	2	5.0x	"	00.018-4	4	2.5x	"
00.018-2.5	2.5	4.0x	"				

**Cherry wood** eyeglass with screwed bezel.  
Removable lens ø 22 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.019-1	1	10.0x	0.015	00.019-3	3	3.5x	0.015
00.019-1.5	1.5	6.5x	"	00.019-3.5	3.5	3.0x	"
00.019-2	2	5.0x	"	00.019-4	4	2.5x	"
00.019-2.5	2.5	4.0x	"				

**Box wood** eyeglass with screwed bezel.  
Removable lens ø 22 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.020-1	1	10.0x	0.015	00.020-3	3	3.5x	0.015
00.020-1.5	1.5	6.5x	"	00.020-3.5	3.5	3.0x	"
00.020-2	2	5.0x	"	00.020-4	4	2.5x	"
00.020-2.5	2.5	4.0x	"				

**Plane tree wood** eyeglass with screwed bezel.  
Removable lens ø 22 mm.

>> **Standard Eyeglasses.**



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.015-1	1	10.0x	0.027	00.015-3	3	3.5x	0.027
00.015-1.5	1.5	6.5x	"	00.015-3.5	3.5	3.0x	"
00.015-2	2	5.0x	"	00.015-4	4	2.5x	"
00.015-2.5	2.5	4.0x	"				

**Standard aluminium** eyeglass with classic shape and screwed aluminium bezel. Perfect finish, lightweight and sturdy. Red surface coating.  
Removable lens ø 22 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.016-1	1	10.0x	0.025	00.016-3	3	3.5x	0.025
00.016-1.5	1.5	6.5x	"	00.016-3.5	3.5	3.0x	"
00.016-2	2	5.0x	"	00.016-4	4	2.5x	"
00.016-2.5	2.5	4.0x	"				

**Standard black plastic** eyeglass with screwed aluminium bezel. Nice finish, unbreakable, very light and sturdy.  
Removable lens ø 22 mm.

> On request and from 50 pieces (assorted magnifications), the eyeglasses MSA 00.015-xx and 00.016-xx are available with different colours, personalized and lens ø 25 mm (instead of ø 22 mm).



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.001-1	1	10.0x	0.012	00.001-3	3	3.5x	0.012
00.001-1.5	1.5	6.5x	"	00.001-3.5	3.5	3.0x	"
00.001-2	2	5.0x	"	00.001-4	4	2.5x	"
00.001-2.5	2.5	4.0x	"				

**Standard** black plastic ASCO eyeglass with screwed aluminium bezel. Nice finish, polished black exterior and matt interior.  
Blued removable lens ø 25 mm.



MSA	Magnif.	Kg	MSA	Magnif.	Kg
00.005-12X	12x	0.010	00.005-17X	17x	0.010
00.005-15X	15x	"	00.005-20X	20x	"

Black plastic double lens **control** loupe with double rings. Nice finish, lightweight.  
Removable lenses ø 13 and 22.5 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.002-1	1	10.50x	0.009	00.002-3	3	4.25x	0.009
00.002-1.5	1.5	7.75x	"	00.002-3.5	3.5	3.75x	"
00.002-2	2	5.75x	"	00.002-4	4	3.50x	"
00.002-2.5	2.5	5.00x	"				

**Standard** black plastic eyeglass with classic shape and screwed bezel. Nice finish, lightweight.  
Removable lens ø 22.5 mm.



MSA	Agr.	Lens ø mm	Kg	MSA	Agr.	Lens ø mm	Kg
00.006-10X	10x	14	0.015	00.006-20X	20x	14	0.015
00.006-12X	12x	"	"	00.006-25X	25x	12	"
00.006-16X	16x	"	"				

**Black plastic achromatic ASCO triple lens control loupe** with 3 blued highly luminous lenses. Provides wide range of vision complete with screwed aluminium bezel. Nice finish, polished black exterior and matt interior.



MSA	Magnification	Kg
00.003-10X	10x	0.015
00.003-14X	14x	"

Black plastic **aplanatic** double control eyeglass ASCO "extra large" with two convex lenses and screwed aluminium ring. Nice finish, polished black exterior and matt interior.  
Removable lens ø 25 mm.



MSA	Magnif.	Lens. ø mm	Kg
00.023-08x	8x	22	0.117

Oblique eyeglass for measuring F+C, ø 22mm, achromatic, triple lenses corrected.  
Scale 15mm divided in 0.1 mm.



MSA	Magnif.	Kg	MSA	Magnif.	Kg
00.004-10X	10x	0.013	00.004-16X	16x	0.013
00.004-12X	12x	"	00.004-20X	20x	"

Black plastic **aplanatic** double control eyeglass ASCO with two blued convex lenses (best possible optical correction for limited distortion or colour blurring) and screwed aluminium bezel. Nice finish, polished black exterior and matt interior.  
Removable lens ø 14 mm.



MSA	ø mm	Kg
00.007	30	0.008
00.014	23	0.005

Stainless steel wire eyeglass holder. Gives to watchmaker both hands free. Adaptable to any type of eyeglass.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.008-1	1	10.0x	0.015	00.008-2	2	5.0x	"
00.008-1.5	1.5	7.0x	"	00.008-2.5	2.5	4.0x	"

Unbreakable **standard** hand eyeglass in black plastic, large vision field, with side hole.  
Lens ø 30 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.009-1.5	1.5	7.7x	0.012	00.009-3	3	4.4x	0.012
00.009-2	2	6.0x	"	00.009-3.5	3.5	3.8x	"
00.009-2.5	2.5	5.0x	"	00.009-4	4	3.5x	"

**Standard** eyeglass. Black plastic with classic shape and nice finish.  
Lens ø 23.5 mm.



MSA	Magnification	Kg
00.010-12	12x	0.017

Black plastic double lens **control** eyeglass "extra large" with two lenses and a screwed bezel. Nice finish, lightweight.  
Removable lenses ø 16 and 23.5 mm.



MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.011-1	1	10.0x	0.010	00.011-2.5	2.5	7.0x	0.010
00.011-1.5	1.5	9.1x	"	00.011-3	3	5.6x	"
00.011-2	2	7.7x	"	00.011-4	4	3.5x	"

Black plastic **aplanatic** eyeglass, classic shape with screwed bezel. Nice finish, lightweight.  
Removable lens ø 22 mm.

**ECO LINE**



MSA	Magnification	Lens ø mm	Kg
00.021	10x	25	0.017

**Standard** eyeglass in black plastic with **LED light**.

» **Spectacle loupes.**



ARY spring clip eyeglass for **small** spectacles. Lightweight, removable and pivots upwards when not needed. Four rubber covered clamps and easy to bend to fit any spectacle frame. The spring clip is removable and can be delivered separately.  
Lens ø 23 mm.  
Weight in Kg: eyeglass 0.025 and spring clip 0.004.



ARY spring clip eyeglass for **standard** for **maxi sized** spectacles. Lightweight, removable and pivots upwards when not needed. Four rubber covered clamps and easy to bend to fit any spectacle frame. The spring clip is removable and can be delivered separately.  
Lens ø 23 mm.  
Weight in Kg: eyeglass 0.027 and spring clip 0.005.



**Eyeglasses for right eye with mini spring clip :**

MSA	N°	Magnif.	Kg	MSA	N°	Magnif.	Kg
00.099D-1	1	10.0x	0.025	00.099D-3	3	3.5x	0.025
00.099D-1.5	1.5	6.5x	"	00.099D-3.5	3.5	3.0x	"
00.099D-2	2	5.0x	"	00.099D-4	4	2.5x	"
00.099D-2.5	2.5	4.0x	"				

**Replacement spring clip :**

MSA	Item
00.099D-A1	Single MINI spring clip, right side

**Eyeglasses for left eye with mini spring clip :**

MSA	N°	Magnif.	Kg	MSA	N°	Magnif.	Kg
00.099G-1	1	10.0x	0.025	00.099G-3	3	3.5x	0.025
00.099G-1.5	1.5	6.5x	"	00.099G-3.5	3.5	3.0x	"
00.099G-2	2	5.0x	"	00.099G-4	4	2.5x	"
00.099G-2.5	2.5	4.0x	"				

**Replacement spring clip :**

MSA	Item
00.099G-A1	Single MINI spring clip, left side

**Eyeglasses for right eye with standard spring clip :**

MSA	N°	Agr.	Kg	MSA	N°	Agr.	Kg
00.100D-1	1	10.0x	0.027	00.100D-3	3	3.5x	0.027
00.100D-1.5	1.5	6.5x	"	00.100D-3.5	3.5	3.0x	"
00.100D-2	2	5.0x	"	00.100D-4	4	2.5x	"
00.100D-2.5	2.5	4.0x	"				

**Replacement spring clips :**

MSA	Item
00.100D-A	Single standard spring clip, right side
00.100D-A1	Single MAXI spring clip, right side

**Eyeglasses for left eye with standard spring clip :**

MSA	N°	Magnif.	Kg	MSA	N°	Magnif.	Kg
00.100G-1	1	10.0x	0.027	00.100G-3	3	3.5x	0.027
00.100G-1.5	1.5	6.5x	"	00.100G-3.5	3.5	3.0x	"
00.100G-2	2	5.0x	"	00.100G-4	4	2.5x	"
00.100G-2.5	2.5	4.0x	"				

**Replacement spring clips :**

MSA	Item
00.100G-A	Griffe standard seule, à gauche
00.100G-A1	Griffe MAXI seule, à gauche

MSA	Kg
00.100	0.005

Additional ARY loupe for MSA 00.099 and 00.100 loupes. Increases magnification from 6.5x to 7x. Simply press to fix it.



MSA	Mgn.*	Lens ø mm	Kg	MSA	Mgn.*	Lens ø mm	Kg
00.012-1	10x	15	0.050	00.012-2.5	4x	24	0.050
00.012-1.5	7x	24	"	00.012-3.5	3x	"	"
00.012-2	5x	"	"				

Lateral eyeglass, simple and lightweight (right and left eye).  
Delivered in plastic storage case with a variety of clamps  
for spectacle frames from 1.60 to 6.35 mm.  
**Mgn.\*** : magnification



MSA	Magnif.	Kg	MSA	Magnif.	Kg
00.255-1.5	1.5x	0.021	00.255-2.5	2.5x	0.021
00.255-2	2.0x	"	00.255-3	3.0x	"

Binocular magnifiers for spectacles on hinge. The 2 supports  
are covered with rubber.  
Delivered in a synthetic case.



MSA	Magnification	Lens ø mm	Kg
00.013-01	5x-10x-15x	24/15	0.050
00.013-02	4x-10x-14x	"	"
00.013-03	5x-7x-12x	24/24	"
00.013-04	4x-7x-11x	"	0.050
00.013-05	3x-7x-10x	"	"
00.013-06	3x-5x-8x	"	"

Double lateral spectacle eyeglass, lightweight (right and  
left eye). Each model allows 3 different magnifications by  
combining the lenses.  
Delivered in a plastic storage case with a variety of  
clamps for spectacle frames from 1.60 to 6.35 mm.

**ECOLINE**



MSA	Magnification	Kg
00.258	1.5x-2.5x-3.5x	0.174

Binocular magnifiers on metal hinge. Also suitable for  
people who wear optical glasses.  
Delivered in synthetic case with cleaning cloth.



MSA	Magnif.	Kg	MSA	Magnif.	Kg
00.256-2	2.0x	0.100	00.256-3	3.0x	0.100
00.256-2.5	2.5x	"			

Binocular with plastic frame. Suitable for people wearing  
spectacles.  
Delivered in a plastic box with 1 cleaning cloth.

**Replacement acrylic resin dioptrés for MSA 00.256 :**

MSA	Magnif.	Kg	MSA	Magnif.	Kg
00.257-2	2.0x	0.012	00.257-3	3.0x	0.012
00.257-2.5	2.5x	"			

Size : 74 x 28 mm.

**> See chapter PERF.**



» **Binocular OptiVISOR® with high quality mobile visor and rounded edges, folding visor rise on hinges, adjustable headband using button and comfortable front part furnished. Frontal part furnished with leather doubled of felt. Can be worn over spectacles.**



MSA	Nr.	Magnif.	Kg
00.250-02	2	1.50x	0.240
00.250-03	3	1.75x	"
00.250-04	4	2.00x	"
00.250-05	5	2.50x	"
00.250-07	7	2.75x	"
00.250-10	10	3.50x	"

**Replacement binocular plates for MSA 00.250 (size 103 x 38 mm) :**

MSA	Nr.	Magnif.	Kg	MSA	Nr.	Magnif.	Kg
00.251-02	2	1.50x	0.031	00.251-05	5	2.50x	0.031
00.251-03	3	1.75x	"	00.251-07	7	2.75x	"
00.251-04	4	2.00x	"	00.251-10	10	3.50x	"



MSA	o lens mm
00.252	36

Auxiliary lens 2.5x for binocular MSA 00.250. Can be mounted on right or left side.

**ECOLINE**



MSA	Magnification	Kg
00.242	1.8, 2.3, 3.7 et 4.8x	0.185

Non-reflecting binocular with multiple magnification and folding internal lens. Headband with easy Velcro attachment.

Magnification : 1.8, 2.3, 3.7 and 4.8x.

» **The binoculars with headband are recommended for all long duration works.**

**ECOLINE**



MSA	Size mm	Kg
00.245	290 x 215 x 65	0.500

Binocular with light with adjustable headband and folded lens.

Delivered in box containing the magnifier and a small plastic box of 4 interchangeable acrylic double lenses. 2 AAA batteries included.

**Replacement parts :**

MSA	Items
00.245-B	Box with 4 interchangeable lenses
00.245-1.2	Double lens only 1.2x
00.245-1.8	Double lens only 1.8x
00.245-2.5	Double lens only 2.5x
00.245-3.5	Double lens only 3.5x

MSA	Size mm	Kg
00.246	220 x 280 x 65	0.604

Binocular with removable frontal 3 LED lamp (lasts approximately 50,000 hours), adjustable headband and folding ocular plate. Multiple adjustable positions for frontal lamp: approximately 30° to the left or right and 90° up or down.

**Delivered with a plastic box containing 4 ocular interchangeable plates** in acrylic resin. Functions with 3 AAA batteries not included.

**Replacement parts :**

MSA	Items
00.246-A	3 LED lamp only
00.246-B	Box with 4 ocular plates
00.246-1.5	Ocular plate 1.5x
00.246-2.0	Ocular plate 2.0x
00.246-2.5	Ocular plate 2.5x
00.246-3.5	Ocular plate 3.5x





MSA	Size mm	Kg
00.248	220 x 280 x 65	0.372

Binocular with frontal lamp, adjustable headband and folding ocular plate.

**Delivered with a plastic box containing 4 ocular interchangeable plates** in acrylic resin. Functions with 2 AA batteries not included.

**Replacement parts :**

MSA	Items
00.248-A	Lamp only
00.248-B	Case with 4 ocular plates
00.248-1.2	Ocular plate 1.2x
00.248-1.8	Ocular plate 1.8x
00.248-2.5	Ocular plate 2.5x
00.248-3.5	Ocular plate 3.5x



» The triplet loupes for diamonds have 3 lenses, linked to obtain an increased, clear and very fine image. Inclusions of diamonds are definitely visible with this type of loupe.



MSA	Magnif.	Lens ø mm	Kg
00.297	10x	18	0.050

Triplet loupe provided with 3 special lenses for stones examination. Gilded finish.

Delivered in 1 leather case and 1 cardboard box.



MSA	Magnif.	Lens ø mm	Kg
00.298	10x	18	0.050

Triplet loupe provided with 3 special lenses for stones examination. Black satin-like finish, reduced reflects.

Delivered in 1 leather case and 1 cardboard box.



MSA	Magnif.	Lens ø mm	Kg
00.299	10x	18	0.050

Triplet loupe provided with 3 special lenses for stones examination. Chromed finish.

Delivered in 1 leather case and 1 cardboard box.



MSA	Magnif.	Lens ø mm	Kg
00.300-20	20x	18	0.034

Triplet loupe for stones examination. Black enameled metal mounting, nickel-plated brass hull, reduced reflects.

Delivered in 1 leather case and 1 cardboard box.

**ECOLINE**



MSA	Magnif.	Lens ø mm	Kg
00.303	10x	18	0.046

Triplet loupe for stones examination. Chromed finish. Delivered in plastic box.

**ECOLINE**



MSA	Magnif.	Lens ø mm	Kg
00.304	20x	20.5	0.056

Triplet loupe for stones examination. Chromed finish. Black plastic body and chromed brass cover. Delivered in plastic box.

» **Hand or on stand loupes.**



MSA	Magnif.	Lens. ø mm	Length mm	Kg
00.500	3.5x	50	155	0.079
00.501	3.5x	60	160	0.094
00.502	2.5x	90	208	0.198

Control loupe with hexagonal plastic handle.



MSA	Magnif.	Lens. ø mm	Length mm	Kg
00.505	2x	100	285	1.780

Control loupe on stand with flexible arm, mounted on a stable cast iron base, for free hands work. Length 285 mm.

**ECOLINE**



MSA	Magnif.	Lens. ø mm	Kg
00.506	2.5x-5x	90/22	0.499

Loupe on stand with flexible arm and 2 LEDs. Length 360 mm.

**ECOLINE**



MSA	Magnif.	Lens. ø mm	Kg
00.507	2.25x-5x	107/22	0.450

Loupe on stand with flexible arm and 2 LEDs. Length 360 mm.

**ECOLINE**



MSA	Magnif.	Lens. ø mm	Length mm	Kg
00.511	40x	21	132	0.090

Hand loupe with 2 LEDs.  
Length 132 mm.

**ECOLINE**



MSA	Magnif.	Lens. ø mm	Length mm	Kg
00.512	15x	37	132	0.060

Hand loupe with 2 LEDs.  
Length 132 mm.

» Control mirror.



MSA	Mirror ø mm	Length mm	Kg
00.280	30	210	0.022

Control mirror to inspect the difficult places of access, hexagonal metal handle.

» Safety spectacles.

» See chapter 26.



» NOVEX® RZ series with illumination. Several accessories, illustrated on pages 00 23 to 00 26, are deliverable in option.



MSA	Type	Voltage	Kg
00.287	Binocular	220 V	7.900
00.289	Trinocular	220 V	8.950
00.289-110	Trinocular	110 V	8.950

Binocular or trinocular stereoscopic microscope NOVEX® RZ series. The trinocular is equipped with a vertical tube for connection of a video camera/photo and delivered with 1 C mounting for a CCD camera.

**Binocular head:** oblique at 45° rotating at 360° and adjustable inter-pupillary distance from 52 to 80 mm. Dioptic adjustment on both tubes.

**Stand:** Chrome plated pillar 260 mm / ø 30 mm mounted on an alloy metal base with stove hardened off-white lacquer.

**Illumination:** Incident halogen 6 V - 10 W, adjustable intensity with daylight filter with reflector and transmitted daylight fluorescent 5 W - 6400° K, with adjustable light intensity using 1 or 2 translucent glasses. Integrated transformer. Complete with a 2 position switch and 1 network cable.

**Wide field eyepieces:** WF 10x/20 (with eyeshades).

**Objective:** zoom from 0.65x to 4.5x, zoom ratio 1:7.

**Working distance:** 95 mm.

**Magnification:** from 6.5x to 45x (field of view 31 to 4.4 mm).

**Including:** black/white stage plate, 2 translucent glasses, 2 clamps, dustcover and polystyrene box.

**Replacement fluorescent bulb 5 W - 6400° K for transmitted illumination:**

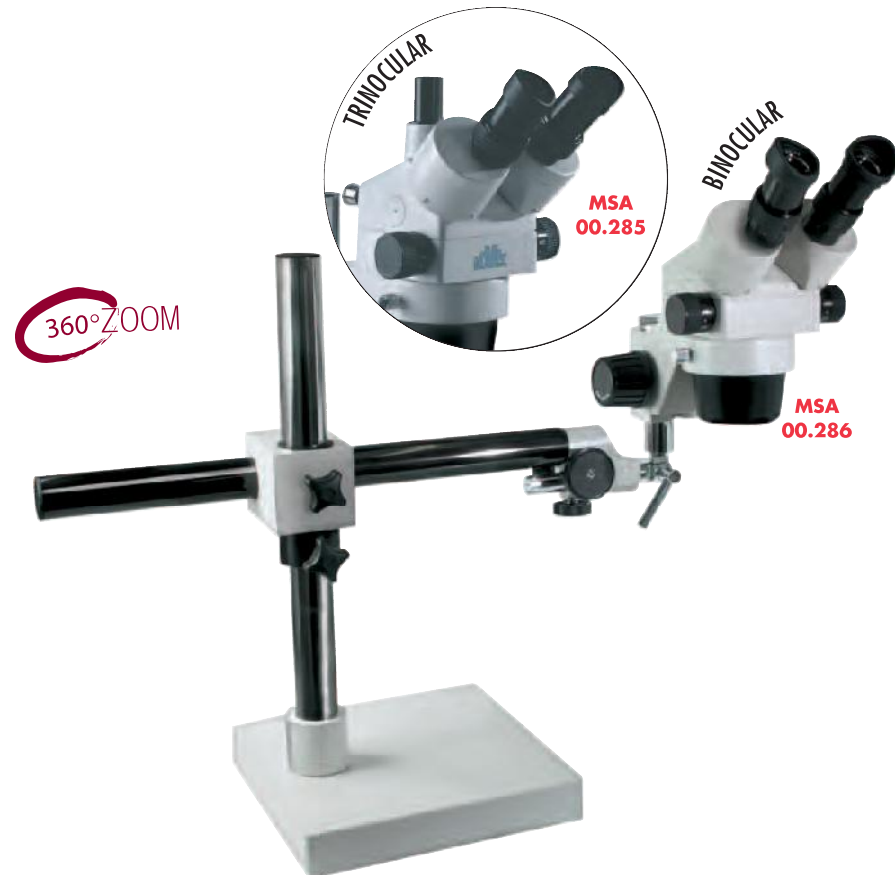
MSA	Kg
00.289-A	0.026

**Replacement halogen bulb 6 V - 10 W with reflector for incident illumination:**

MSA	Kg
00.289-B	0.020



» NOVEX® RZ series without illumination. Several accessories, illustrated on pages 00 23 to 00 26, are deliverable in option.



MSA	Type	Kg
00.286	Binocular with stand	24.300
00.285	Trinocular with stand	24.700

Binocular or trinocular stereoscopic microscope NOVEX® RZ series. The trinocular is equipped with a vertical tube for connection of a video camera/photo and delivered with 1 C mounting for a CCD camera.

**Binocular head :** oblique at 45° rotating at 360° and adjustable inter-pupillary distance from 52 to 80 mm. Dioptric adjustment on both tubes.

**Stand :** Chrome plated pillar 500 mm / ø 38 mm and 1 directional arm mounted on a base of 255 x 255 mm especially weighed. The maximum distance between the pillar and the optical axis is 660 mm.

**Illumination :** without.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** zoom from 0.65x to 4.5x, ratio zoom 1:7.

**Magnification :** from 6.5x to 45x (field of view 31 to 4.4 mm).

» NOVEX® RZ series without illumination. Several accessories, illustrated on pages 00 23 to 00 26, are deliverable in option.



MSA	Type	Kg
00.284	Binocular (Pict.)	6.750
00.288	Trinocular	7.050

Binocular or trinocular stereoscopic microscope NOVEX® RZ series. The trinocular is equipped with a vertical tube for connection of a video camera/photo and delivered with 1 C mounting for a CCD camera.

**Binocular head :** oblique at 45° rotating at 360° and adjustable inter-pupillary distance from 52 to 80 mm. Dioptric adjustment on both tubes.

**Stand :** Chrome plated pillar 260 mm / ø 30 mm mounted on an alloy metal base with stove hardened off-white lacquer.

**Illumination :** without.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** zoom from 0.65x to 4.5x, ratio zoom 1:7.

**Working distance :** 95 mm.

**Magnification :** from 6.5x to 45x (field of view 31 to 4.4 mm).

**Including :** black/white stage plate, 2 clamps, dustcover and polystyrene box.

» **NOVEX® P series.**



MSA	Voltage	Kg
00.290	220 V	3.100
00.290-110	110 V	"

Stereoscopic microscope NOVEX® P series.

**Binocular head :** oblique at 45° rotating **at 360°** and adjustable inter-pupillary distance from 55 to 75 mm. One tube has a dioptré adjustment facility. Maximum object height is 30 mm.

**Illumination :** Transmitted and incident halogen illumination 12 V - 10 W which can be used individually or simultaneously. Integrated transformer. Complete with a 3 position switch and 1 network cable.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** 1x and 3x on a rotating revolver.

**Magnification :** 10x/30x (field of view 20 and 6.7 mm).

**Including :** black/white and frosted stage plates, 2 clamps, dustcover and polystyrene box.

**Replacement halogen bulb 12 V - 10 W for incident and transmitted illumination :**

MSA	Kg
00.290-C	0.020



MSA	Kg
00.290-A	0.170

Attachable dark field attachment. Suitable for examination of transparent and colourless objects, as for example precious stones, contact lenses, etc. For all microscopes with transmitted illumination.



MSA	Kg
00.290-B	0.032

Directional tweezers to hold precious stones, for microscope MSA 00.290.



» **NOVEX® P series.**



MSA	Voltage	Kg
00.283	220 V	3.080
00.283-110	110 V	"

Stereoscopic microscope NOVEX® P series.

**Binocular head :** oblique at 45° rotating **at 360°** and adjustable inter-pupillary distance from 55 to 75 mm. One tube has a dioptré adjustment facility. Maximum object height is 30 mm.

**Illumination :** transmitted or incident halogen illumination 12 V - 10 W (it can be used individually or simultaneously). Integrated transformer. Complete with a 3 position switch and 1 network cable.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** 2x and 4x on a rotating revolver.

**Magnification :** 20x/40x (field of view 10 and 5 mm).

**Including :** black/white and frosted stage plates, 2 clamps, dustcover and polystyrene box.

**Replacement halogen bulb 12 V - 10 W for incident and transmitted illumination :**

MSA	Kg
00.290-C	0.020

» NOVEX® AP series.



MSA	Voltage	Kg
00.282	220 V	2.930
00.282-110	110 V	"

Stereoscopic microscope NOVEX® AP series.

**Binocular head :** oblique at 45° rotating with dioptic adjustment and adjustable inter-pupillary distance from 55 to 75 mm.

**Illumination :** by incidence and by transmitting of 12 V - 10 W (it cannot be used simultaneously). Integrated transformer. Complete with a 2 position switch and 1 network cable.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** 1x and 3x on a rotating revolver.

**Magnification :** 10x/30x (field of view 20 and 6.7 mm).

**Including :** black/white and frosted stage plates, 2 clamps, dustcover and polystyrene box.

**Replacement bulb 12 V - 10 W for incident or transmitted illumination :**

MSA	Kg
00.282-A	0.002

» NOVEX® AP series.



MSA	Voltage	Kg
00.281	220 V	2.615
00.281-110	110 V	"

Stereoscopic microscope NOVEX® AP series.

**Binocular head :** oblique at 45° rotating with dioptic adjustment and adjustable inter-pupillary distance from 55 to 75 mm.

**Illumination :** by incidence and by transmitting of 12 V - 10 W (it cannot be used simultaneously). Integrated transformer. Complete with a 2 position switch and 1 network cable.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Objective :** 2x sliding.

**Magnification :** 20x (field of view 10 mm).

**Including :** black/white and frosted stage plates, 2 clamps, dustcover and polystyrene box.

**Replacement bulb 12 V - 10 W for incident or transmitted illumination :**

MSA	Kg
00.282-A	0.002



MSA	Magnification	Distance mm	Kg
00.281-A	1x	50	0.100
00.281-B	2x	75	"
00.281-C	3x	60	"
00.281-D	4x	55	"
00.281-E	6x	35	"

Pair of optional objectives, adaptable on the microscope MSA 00.281. The working distance varies according to the magnification.

» NOVEX® AR-ZOOM series.



MSA	Type	Voltage	Kg
00.262	Binocular (Pict.)	220 V	5.370
00.262-110	Binocular	110 V	"
00.263	Trinocular	220 V	5.705
00.263-110	Trinocular	110 V	"

Binocular or trinocular stereoscopic microscope NOVEX® AR-ZOOM series. The trinocular is equipped with a 3<sup>rd</sup> vertical tube for the installation, thanks to an adapter, of a video camera/photo.

**Binocular head :** oblique at 45° rotating at 360° and adjustable inter-pupillary distance from 50 to 80 mm. Zoom ratio 1:4 and dioptric adjustment on both tubes.

**Illumination :** by incidence and by transmitting halogen of 12 V - 10 W provided with 1 daylight filter. Integrated transformer. Complete with a 2 position switch and 1 network cable.

**Wide field eyepieces :** WF 10x/20 (with eyeshades).

**Working distance :** 8.5 mm.

**Magnification :** from 10x to 40x (field of view 22 to 5.5 mm).

**Including :** black/white and frosted stage plates, 2 clamps, dustcover and polystyrene box.

**Replacement halogen bulb 12 V - 10 W for incident illumination :**

MSA	Kg
00.262-A	0.020

**Replacement halogen bulb 12 V - 10 W for transmitted illumination :**

MSA	Kg
00.290-C	0.020



» Cameras and software.



MSA	Voltage	Kg
00.291-A	220 V	2.360
00.291-C	110 V	"

Colour video camera PAL for microscopes.

**Pick-up element :** CCC 1/2" Sony® with 795 (H) x 596 (V) lines.

**Resolution :** 470 horizontal lines, mode raised 580 lines, 440.000 pixels.

**Minimum illumination :** 0.3 Lux at F 1.2-5600° K for daylight and 0.003 Lux at F 0.8-5600° K for obscure or minimal light.

**Shutter control :** automatic or manual from 1/50 to 1/120.000 seconds. Delivered in a transport box with cables for screen connection and accessories.

MSA	Kg
00.291-F	0.170

Software to capture images on PC via the camera and to create animations of short duration. Converts the audio/video analogical signal into numerical signal via USB port. Compatible composite, analogical entry S-Video and PAL/SECAM/NTSC.

**Minimum configuration recommended :**

- PC with USB port
- Pentium 233MMX ; RAM 32MB
- Sound card
- Windows 98 /ME/XP/2000.



MSA	Size	Kg
00.291-G	50 x 42 x 42	0.170

Mini video camera PAL for microscopes.

**Pick-up element :** CCC 1/3 "with 512 (H) x 582 (V) lines.

**Resolution :** More than 380 horizontal lines, 290.000 pixels.

**Minimum illumination :** 0.1 Lux.

**Shutter control :** automatic or manual 1/100.000 second. Delivered in a plastic box with cables for screen connection and accessories.





MSA	Kg
00.291-H	0.708

Digital camera for microscopes.  
**Pick-up element :** CMOS 1/2".  
**Resolution :** 1.3 mega-pixels.  
**Frame rate :** from 1 to 12 images/second.  
**Interface :** USB 2.0. Delivered in box with cables for screen connection and accessories. Images analysis software (install CD-ROM ImageFocus® included) allowing :  
 - real time visualization and image capture with the format 1280 X 1024 pixels at 300 dpi  
 - picture saving in TIFF\*, JPEG\*, BMP, GIF, PCX, PNG formats (\*required format for measuring function)  
 - annotate images with text and labels  
 - calibration function of microscopes objectives and camera  
 - perform measurements (linear/rectangle/ellipse/angle)  
 - enhancement features on saved images  
 - zoom function  
 - printing saved images.

MSA	Kg
00.350	1.500

Digital microscope camera for shooting pictures and videos in real time. Delivered with stand. Magnification from 10x until 200x. Manual focus from 10 mm to infinite Automatic white balance. Used for quality control and After sales Sce.  
**Resolution :** 1.3 mega-pixels.  
 Video or picture : 1280 x 1024, 480 x 320, 160 x 120.  
**Lighting :** Equipped with 8 LEDs.  
**Interface :** USB 1.1 or 2.0 (software settlement included).  
**Computer System requirements :**  
 - Windows Vista, XP (doesn't work with MAC)  
 - Pentium®4, AMD Athlon® or faster (Dualcore)  
 - Hard drive 100 MB  
 - 16 bit Colour Display Adaptor  
 - RAM 512 MB minimum  
 - CD-ROM drive.

**Accessories :**

MSA	Items
00.350-C	Camera only
00.350-S	Stand only

» Ring-illuminators.



MSA	LED	Dist. mm	Voltage	Kg
00.265	56	55-120	220 V	"
00.265-110	56	55-120	110 V	"

Ring illuminator with white LED 4300° K, adjustable intensity from 10 to 100% and variable working distance. Assembly without adapter on MSA 00.275 and 00.276. It can be also used with microscopes MSA 00.284, 00.285, 00.286, 00.287, 00.288 and 00.289 :  
 - Without additional objective, use adapter MSA 00.293-L  
 - With additional objective, use adapter MSA 00.293-K.

110 V VERSION NOT AVAILABLE



MSA	Voltage	Kg
00.284-A	220 V	0.765

Fluorescent ring illuminator by incidence 7 W - 6400° K with long life non-replaceable lamp (> 5000 hours). Daylight type, not-adjustable intensity. Assembly on MSA 00.284, 00.285, 00.286, 00.287, 00.288 and 00.289 :  
 - Without additional objective, no adapter is necessary  
 - With additional objective, use adapter MSA 00.293-K.

110 V VERSION NOT AVAILABLE



MSA	Voltage	Kg
00.284-E	220 V	1.450

Fluorescent ring illuminator by incidence 7 W - 5200°K. Working distance from 30 to 160 mm. Non adjustable intensity. Assembly without adapter on MSA 00.275 and 00.276. It can be also used with microscopes MSA 00.284, 00.285, 00.286, 00.287, 00.288 and 00.289 :  
 - Without additional objective, use adapter MSA 00.293-L  
 - With additional objective, use adapter MSA 00.293-M



MSA	Hours	Kg
00.284-M	50	0.034
00.284-N	1000	"

Halogen bulb 12 V-100 W for the light sources MSA 00.292, 00.293, 00.294 and 00.295.



MSA	Kg
00.284-P	0.033

Fluorescent annular bulb 7 W for ring illuminator MSA 00.284-E.

» Objectives and adapters.



MSA	Magnification	Distance mm	Kg
00.284-C	0.75x	110	0.093
00.284-G	0.50x	160	"
00.284-D	0.40x	225	"

Additional objective to change the working distances which vary according to the selected magnification. Assembly on all the microscopes with binocular or trinocular head of RZ series, illustrated on pages 00 14 to 00 17.



MSA	Magnification	Distance mm	Kg
00.284-L	0.75x	97	0.082
00.284-F	0.50x	150	"
00.284-H	0.30x	250	"

Additional objective to change the working distances of microscopes EUROMEX® MSA 00.275 and 00.276. The working distance varies according to the selected magnification.



MSA	Objective	Use	Kg
00.293-K	With	For MSA 00.294, 00.264, 00.265 and 00.284-A	0.023
00.293-L	Without	For MSA 00.294, 00.264, 00.265 and 00.284-E	"
00.293-M	With	For MSA 00.284-E	"

Ring-adapter for the mounting of lightings. Its use is dependent on the assembled objectives on the microscopes and the type of annular lighting.

» WALDMANN® universal lamps.



MSA	Type	Voltage	Ballast	Tube ref.	Size mm	Kg
00.619 (1)	SN 118	220 V	Conventional	840	308 x 118 x 70	3.300
00.629	SN 118	"	"	954	"	3.300
00.617 (2)	SN 136	"	Conventional	860	485 x 118 x 70	3.700
00.620	SNE 118	"	Electronic	860	"	3.000
00.618	SNE 136	"	Electronic	954	"	3.400
00.618-110	SNE 136	110 V	"	860	485 x 118 x 70	3.400
00.638	SNE 136	"	Conventional	954	430 x 400 x 70	3.400
00.628	STE 136	220 V	"	840	555 x 75 x 50	3.000

WALDMANN® universal lamps suitable for all types of work benches. Modern energy-saving technology combined with high light output, anti-glare mechanism, diffuser and daylight source; turned on with 1 switch. Comfortable and easy positioning due to an articulated steel lighting grey coloured mast (430 mm) and arm (400 mm). Fixing with universal base (other fixing bases or clamps deliverable in option, see accessories below).

Replacement parts :

MSA	Items
00.617-A	Fluorescent tube 860 daylight for MSA 00.617 and 00.618
00.617-B	Standard bench base for Lamps MSA 00.617, 00.618, 00.619, 00.620, 00.629
00.617-C	Fluorescent tube 840 daylight for MSA 00.617 and 00.618
00.617-D	Hiding protection plate for MSA 00.617 and 00.618.

Replacement parts :

MSA	Items
00.619-A	Fluorescent tube 860 daylight for MSA 00.619 and 00.620
00.619-B	Fluorescent tube 840 daylight for MSA 00.619 and 00.628
00.621	Adaptable magnifier 3 dioptries for MSA 00.617, 00.618, 00.619 and 00.620
00.629-A	Osram Deluxe tube 18W/954 for MSA 00.629 and 00.618.

WALDMANN® magnifier lamps.

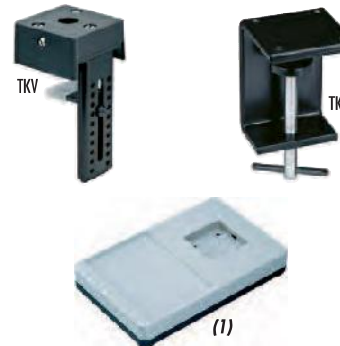


MSA	Type	Voltage	Head size mm	Kg
00.622	SNL 319	220 V	298 x 194 x 64	4.500

WALDMANN® magnifier lamp with 2 lighting options, with or without shadow. The large field magnifier in polished glass of 3 dioptries ensures an optimal vision. 3 fluorescent tubes TC-S9 W, neutral white light, low energy consumption and low heat release; turned on with 2 switches. Articulated steel lighting grey coloured mast (430 mm) and arm (400 mm). Conventional ballast (electronic ballast available on request). Fixing with universal base (other fixing bases or clamps deliverable in option, see accessories on page 00 28).

Replacement parts :

MSA	Items
00.622-A	Fluorescent tube neutral white 840
00.622-B	Fluorescent tube daylight 860



Accessories for lamps MSA 00.617... 00.623 :

MSA	Items
00.608	Black bench clamp TKV, opening from 67 to 139 mm
00.608-A	Black bench clamp TK1, opening from 0 to 45 mm
00.608-B	Black bench clamp TK1, opening from 0 to 65 mm
00.608-C	Black bench clamp TK1, opening from 65 to 135 mm
00.608-D	Black bench clamp TK1, opening from 95 to 165 mm
00.627	Grey bench base 300 x 200 x 70mm (1)



MSA	Type	Voltage	Dioptries	Kg
00.623-3.5	LRE122	220 V	3.5	2.700
00.623-4	LRE122	"	4.0	2.900
00.623-6	LRE122	"	6.0	2.800

WALDMANN® magnifier lamp. Ultramodern technology for this powerful, variable and distortion-free lighting, variable with little distortion. Circular fluorescent tube T-R 16 22 W, neutral white light, provides a light intensity 50% higher than conventional light sources. Different magnifiers adapt quickly according to requirements of each working station, lockable with security clamp; turned on with a switch. Articulated steel lighting grey coloured mast (430 mm) and arm (400 mm). Electronic ballast. Fixing with universal base (other fixing bases or clamps deliverable in option, see accessories on page 00 28).

Lens ø 120 mm, ø head 250 mm.

Replacement parts :

MSA	Items
00.623-A	Round fluorescent tube 840 neutral white for MSA 00.623-x
00.624-3.5	Magnifier 3.5 dioptries for MSA 00.623-3.5
00.624-4	Magnifier 4.0 dioptries for MSA 00.623-4
00.624-6	Magnifier 6.0 dioptries for MSA 00623-6