

## Hand-held Indirect Ophthalmoscope, MONOCULAR

An unusually compact instrument, which is recommended for visits and mobile use.



- **Durable metal construction.** Long working life.
- **Built-in interference red-free filter.** Improves contrast.
- **All optical components made of coated optical glass.** Precise image and high light intensity.
- **Adjustable light beam.** Useful for small pupils.
- **Can be used with one hand.** Easy to reach all the controls with the thumb.
- **+3 D lens attachment.** An aid to accommodation, magnifies the image.
- **Add-on binocular attachment available.** Instrument can be up-dated for binocular use.

Available for use with a 3.5V rechargeable handle or 6V cord handle with desk transformer EN50 or portable mPack.  
The 6V version is recommended for incorporation into ophthalmic examination units.

<b>MONOCULAR Hand-held Indirect Ophthalmoscope</b>	3.5V	6V
with +3D lens attachment and orbit rest extension	<b>C-002.33.001</b>	<b>C-004.33.001</b>
XHL Xenon Halogen spare bulb	<b>X-002.88.050</b>	<b>X-004.88.081</b>
+3D lens attachment only		<b>C-000.33.101</b>
Orbit rest extension only		<b>C-000.33.104</b>

## Hand-held Indirect Ophthalmoscope, BINOCULAR

The addition of the binocular attachment to the Hand-held Indirect Ophthalmoscope makes stereoscopic examination possible. PD selection from 54 to 74 mm.



- **Symmetrical selection of PD.** Quick and easy to adjust.
- **Multi-coated precision optics.** Exceptional image quality.

Available for use with a 3.5V rechargeable handle or 6V cord handle with desk transformer EN 50 or mPack.  
The 6V version is recommended for incorporation into ophthalmic examination units.

<b>BINOCULAR Hand-held Indirect Ophthalmoscope</b>	3.5V	6V
with +3D lens attachment and orbit rest extension	<b>C-002.33.002</b>	<b>C-004.33.002</b>
XHL Xenon Halogen spare bulb	<b>X-002.88.050</b>	<b>X-004.88.081</b>
Binocular attachment only		<b>C-000.33.106</b>



**HEINE SIGMA 150® Binocular Indirect Ophthalmoscope**  
**Ophthalmoscope for spectacle and headband, US Pat. 5,815,241**

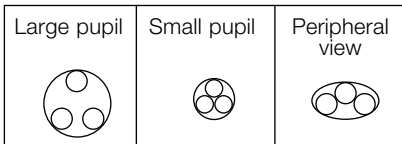


- ↳ Ultra light
- ↳ For any pupil size
- ↳ Dust proof

The Spectacle Indirect Ophthalmoscope for any pupil size. Two separate controls let you select the **ideal setting for parallax and convergence to suit any pupil**. The illumination beam can be adjusted by  $\pm 3^\circ$  to eliminate reflexes.

- ↳ **6V/5W XHL Xenon Halogen bulb.** Bright, white light.
- ↳ **Illumination beam adjustable  $\pm 3^\circ$ .** Eliminates reflexes.
- ↳ **Integrated red-free filter.** Versatile, fully-equipped.
- ↳ **Detachable blue and yellow filters.** For Fluorescence Angioscopy.
- ↳ **Dust proof.** Maintenance-free.
- ↳ **P.D. selection from 48 to 74 mm.** Suits any user.
- ↳ **Optics on swivel mount.** Unrestricted view.
- ↳ **Extremely light, 90 g without frame.** Light and comfortable.
- ↳ **Carbon Fiber Instrument Frame.** Light but very durable.
- ↳ **Large and small apertures.**

Simplified diagram of various beam configurations:  
Large pupil – small pupil – peripheral view



<b>SIGMA 150</b>	6V
with S-Frame spectacle frame, retaining cord, cleaning fluid	<b>C-004.33.350</b>

<b>SIGMA 150 M2</b>	
same as SIGMA 150, but with a small pinhole aperture, with S-Frame spectacle frame, retaining cord, cleaning fluid	<b>C-004.33.355</b>



**S-Frame:** For more Information see page 100.



<b>SIGMA 150 K</b>	
The SIGMA 150 as Head-worn Indirect Ophthalmoscope. Comfortable headband with soft cushions, adjustable for height and width	<b>C-004.33.325</b>

<b>SIGMA 150 KC</b>	
like the SIGMA 150K, except with transformer E8 and brightness control directly on the headband	<b>C-004.33.342</b>

<b>SIGMA 150 K M2</b>	
same as SIGMA 150K, but with a small pinhole aperture	<b>C-004.33.335</b>



<b>Accessories</b>	
S-Frame for SIGMA 150 and 150 M2 Indirect Ophthalmoscope	<b>C-000.33.036</b>
Teaching mirror	<b>C-000.33.302</b>
Blue filter	<b>C-000.33.313</b>
Yellow filter	<b>C-000.33.314</b>
Diffusor	<b>C-000.33.315</b>
Case for filters, empty	<b>C-000.33.316</b>

XHL Xenon Halogen spare bulb 6V/5W	<b>X-004.88.093</b>
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## HEINE SIGMA 150® Sets



Set complete with **SIGMA 150 or 150M2 Spectacle Indirect Ophthalmoscope**, (specify when ordering), with S-Frame, 1 Scleral depressor large, 1 Scleral depressor small, A.R. 20D Ophthalmoscopy-lens, Teaching mirror, cobalt blue filter, yellow filter, diffusor and 1 spare bulb, in carrying-case with:

mPack with plug-in transformer (incl. 90° Angled Adapter),

**C-281.40.670**



Set complete with **SIGMA 150 K Head-worn indirect Ophthalmoscope**, 1 Scleral depressor large, 1 Scleral depressor small, A.R. 20D Ophthalmoscopy-lens, Teaching mirror, cobalt blue filter, yellow filter, diffusor and 1 spare bulb, in hard case with:

EN50 with Rheostat Control Module (incl. 90° Angled Adapter, 2m Connecting Cord, Instrument Support)

**C-278.40.300**

EN50-m with mPack (incl. 90° Angled Adapter, 2m Connecting Cord, Instrument Support)

**C-278.40.302**

mPack with plug-in transformer (incl. 90° Angled Adapter)

**C-278.40.670**



## HEINE OMEGA 500® Binocular Indirect Ophthalmoscope

### A new Dimension in Comfort, Performance and Flexibility



The evolution of the Binocular Indirect Ophthalmoscope. Patented **“Synchronized Adjustment of Convergence and Parallax”** for high quality, stereoscopic fundus images through any pupil size.

- ∴ Built on the **market-leading optical performance** of the OMEGA 180, the OMEGA 500 has been optimized for even better views of the fundus. Multi-coated illumination system, featuring a new XHL Xenon Halogen Technology bulb, reduces corneal reflexes and ensures clear, high-resolution images of the fundus which are up to 100 % brighter.
- ∴ **Enhanced Small Pupil Function** – the Patented “Synchronized Adjustment of Convergence and Parallax System” (US.Patent # 4,684,227), which allows for the precise selection of observation and illumination optics for any pupil size, has been optimized for even better functionality in small pupils down to 1.0mm.
- ∴ **30 % lighter** than the OMEGA 180.
- ∴ **Reduced Volume.** 20 % less volume than OMEGA 180.
- ∴ **Registered Design.**

#### Technical Specifications:

Apertures and Filters

Can be “locked” into a desired position.

Adjustment Levers:

Also feature a “Friction-Clutch” (“Safety-Clutch”) to protect mechanisms from forced adjustment while in the “lock” position.

Increased PD Range:

From 46–74 mm.

Soft Touch Controls:

All key adjustment controls feature soft touch surfaces for precise and positive adjustment control.

∴ For any pupil size

∴ Patented Synchr. Adjustment

∴ Exceptionally light

∴ Dust proof



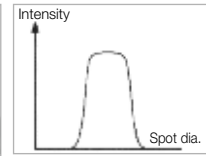
Separate fine-tuning of the illumination beam  $\pm 4^\circ$  in addition to synchronized convergence and parallax adjustment.



HEINE Diffuser, 3 Integrated Spot Sizes: small spot, medium and large. 3 Integrated Filters: Red-free, Cobalt Blue and Yellow filters.



Arrangement and positioning of all adjustment controls ensure intuitive functionality. Dustproof housing and aluminium chassis assure durability and reliability.



The HEINE diffuser can be selected to provide soft light, simplifying the examination and reducing glare and reflexes but maintaining excellent light intensity. Can be combined with all filters.

## HEINE OMEGA 500® Headband



- ∴ **Articulating Hinge** provides vertical adjustment of the rear band of the headband for individual placement. Secure and perfect fit for all shapes and sizes.
- ∴ **New Ergonomic design** for optimal weight transfer across the surface of the entire headband (no pressure points).
- ∴ **New softer, more malleable material.** Provides even and comfortable fit of the headband.
- ∴ **Calibrated Overband Position** ensures optics are in true horizontal position for precise adjustment and alignment.
- ∴ **Integrated cables** in overband eliminates the usual “cable loop” from instrument to headband.
- ∴ **Increased Cushion Area:** 40 % more cushion area than on OMEGA 180.
- ∴ **Registered Design.**

#### Technical Specifications:

HC 50 Headband Rheostat:

Easily mounted on the left or right sides of the headband.

Integrated flip-up adjustment:

To raise optics out of the line of sight. Can be mounted on the left or right side of the headband. Optics can be flipped and locked at 0°, 12.5°, 47.5°, 60° degrees.

Mechanically reinforced adjustment mechanisms:

For durability and precise adjustment of the headband.

## HEINE Synchronized Convergence and Parallax Adjustment System |

## U.S. Patent # 4,684,227



[ 01 ]



[ 02 ]



[ 03 ]

The advanced, patented One-Step Small and Variable Pupil Control maximizes stereopsis in dilated pupils and allows for the instant adjustment of the optical system to ensure fully illuminated, stereoscopic views through pupils as small as 1 mm in diameter.

∴ **Dilated Pupil.** In the case of a dilated pupil, the HEINE Synchronized Convergence and Parallax Adjustment System adjusts the left and right observation paths as far apart as possible (large angle of Convergence) providing for maximum stereopsis (depth perception). The illumination beam is automatically positioned as high as possible relative to the observation plane (creating a large angle of parallax) in order to maximize illumination and minimize unwanted reflections (Illustration 1).

∴ **Undilated Pupils and viewing in the Periphery.** In cases of pupils that can not, or should not be dilated, a binocular view with full illumination is not possible without adjustments of the optical system (Illustration 2).

By adjusting the Small and Variable Pupil Control Lever located on the bottom of the OMEGA Series instruments, the angle of convergence between left and right observation paths is reduced and the angle of parallax (light path) is automatically reduced in one, simple step. The observer can now enjoy a fully illuminated, binocular view with excellent stereopsis (Illustration 3) even through a pupil as small as 1 mm in diameter, or in cases where the pupil appears as an ellipse as a result of viewing the periphery.



HEINE OMEGA 500® Binocular Indirect Ophthalmoscope



<b>OMEGA 500 Ophthalmoscope</b>	6V
OMEGA 500 with XHL Xenon Halogen bulb (5W) on Headband (not including HC50 Headband Rheostat)	<b>C-004.33.500</b>
same, with HC 50 Headband Rheostat	<b>C-004.33.502</b>
XHL Xenon Halogen spare bulb 6V, 5W, standard equipment	<b>X-004.88.111</b>
XHL Xenon Halogen spare bulb 6V, 10W, optional for twice the brightness (reduces operating time)	<b>X-004.88.104</b>
Extension Cord Cinch, 2m	<b>C-000.33.510</b>
Connecting Cord OMEGA500 to EN50/mPack/transformer HC50, 1,6 m	<b>X-000.99.667</b>
HC50 Headband Rheostat (without transformer)	<b>X-095.16.323</b>
Teaching mirror	<b>C-000.33.209</b>

**OMEGA500 Kits**

Recommended Product Order Configurations to ensure the most flexibility the OMEGA500/EN50 System has to offer. The following kits include main system elements but no carrying cases or ancillary accessories.

**OMEGA500 Kits**

consisting of OMEGA500, HC50 Headband Rheostat mounted on Headband

	6V
<b>Kit 1:</b> with Transformer	<b>C-004.33.531</b>
<b>Kit 2:</b> with EN50 complete (incl. EN50 Rheostat Control Module, Extension Cord Cinch 2m, 90° Angled Adaptor, Instrument Support)	<b>C-004.33.532</b>
<b>Kit 3:</b> with mPack and Transformer (incl. 90° Angled Adaptor)	<b>C-004.33.533</b>
<b>Kit 4:</b> with EN50-m (incl. mPack, Extension Cord Cinch 2m, 90° Angled Adaptor, Instrument Support)	<b>C-004.33.534</b>

HEINE OMEGA 500® Sets



Set complete with **OMEGA 500 Head worn Indirect Ophthalmoscope**, 1 Scleral depressor large, 1 Scleral depressor small, A.R. 20D Ophthalmoscopy-lens, Pad with 50 fundus charts, Teaching mirror, 1 spare bulb, in hard case with:

HC50 Headband Control with plug-in transformer	<b>C-275.40.320</b>
EN50 with Rheostat Control Module, HC50 Headband Control (incl. 90° Angled Adapter, 2m Extension Cord Cinch, Instrument Support)	<b>C-275.40.300</b>
EN50-m with mPack, HC50 Headband Control (incl. 90° Angled Adapter, 2m Extension Cord Cinch, Instrument Support)	<b>C-275.40.302</b>
mPack with plug-in transformer, HC50 Headband Control (incl. 90° Angled Adapter)	<b>C-275.40.670</b>

## HEINE OMEGA 500® UNPLUGGED

### with headband battery (rechargeable) - mPack UNPLUGGED



∴ 100% freedom of movement

∴ Low weight

∴ LED charge status indicator

100% freedom of movement – no cable connections!

The OMEGA500 ophthalmoscope with mPack UNPLUGGED rechargeable battery allows one-of-a-kind mobility without restriction or hindrance caused by cables, cords, or similar connections. In addition, the OMEGA500 with mPack UNPLUGGED is the lightest indirect ophthalmoscope of its kind on the market!

- ∴ **Rechargeable battery integrated on the headband.** No interfering cable connections.
- ∴ **Lightweight with balanced weight distribution.** High level of comfort. Lightweight and compact.
- ∴ **LED charge status indicator.** LED indication of remaining operating time.
- ∴ Can be recharged by **wall- or plug-in transformer.**
- ∴ **Direct operation possible while charging** through the use of the mobile plug-in transformer.
- ∴ **Charging time.** 2 hours.
- ∴ **mPack UNPLUGGED rechargeable battery.** Operating time 2 hours (with standard lamp 6 V, 5 W).
- ∴ **Intelligent charging system.** Automatic changeover from operating to charging mode (in the wall unit). Battery-friendly charging.
- ∴ **Top safety standards.** Integrated charge and performance checks during operation. Lithium polymer technology (selected non-flammable materials). UL-compliant.
- ∴ **System compatibility with mPack** for even greater capacity.



#### OMEGA 500 UNPLUGGED Kits

Consists of OMEGA 500, HC50 headband Control, XHL Xenon Halogen bulb 5W:

**Kit 5:** with plug-in Transformer UNPLUGGED, 1x mPack UNPLUGGED C-004.33.535

**Kit 6:** with Wall unit EN50 UNPLUGGED, 2x mPack UNPLUGGED C-004.33.536

XHL Xenon Halogen Spare bulb 6V, 5W, standard X-004.88.111

XHL Xenon Halogen Spare bulb 6V, 10W, optional for twice the brightness (reduces operating time) X-004.88.104

Extension Cord transformer UNPLUGGED, 2 m X-000.99.668

## HEINE OMEGA 500® UNPLUGGED Set



Set complete with **OMEGA 500 Head worn Indirect Ophthalmoscope**,  
1 Scleral depressor large, 1 Scleral depressor small, A.R. 20D  
Ophthalmoscopy-lens, Pad with 50 fundus charts, Teaching mirror,  
1 spare bulb, in hard case with:

mPack UNPLUGGED and plug-in transformer UNPLUGGED C-282.40.670



## HEINE OMEGA 200® Ophthalmoscope

### Head-worn Indirect Ophthalmoscope with integrated teaching mirrors



The instrument of choice for teaching and operating rooms.

- ∴ **Integrated teaching mirrors left and right.** Identical images for the examiner and two observers.
- ∴ **Synchronized adjustment of illumination and observation beams.** Instant adjustment allows stereoscopic examination through pupils down to 1.2 mm in diameter.
- ∴ **Separate fine-tuning of the illumination beam  $\pm 4^\circ$ .** Ideal for difficult examinations (e.g. in the periphery.)
- ∴ **Quick-action hinged optics.** The optics swing into the stand-by position. When released, they return to exactly the same position as before.
- ∴ **Light weight.** Ensures maximum comfort in long-term use.
- ∴ **Multi-coated precision optics.** Exceptional quality of image and illumination without UV and IR.
- ∴ **Complete range of accessories.** Individually-selected instrument kits possible.

<b>OMEGA 200 Ophthalmoscope</b>	6V
OMEGA 200 with XHL Xenon Halogen bulb and connecting cord (160 cm)	<b>C-004.33.210</b>
XHL Xenon Halogen spare bulb	<b>X-004.88.068</b>
Connection / extension cord 160 cm	<b>X-000.99.207</b>



Soft comfortable headband with cushions, adjustable for height and width. Aluminum frame, durable and dustproof.



Separate fine-tuning of the illumination beam  $\pm 4^\circ$  in addition to synchronized convergence and parallax adjustment.



3 different apertures, integrated red-free and cobalt blue filters.



Instant adjustment for any pupil size. Aluminum optical frame and dustproof housing assure durability and reliability.



Integrated teaching mirrors with identical images for the examiner and 2 observers.

## HEINE OMEGA 200® Set



Set complete with **OMEGA 200 Head worn Indirect Ophthalmoscope**, 1 Scleral depressor large, 1 Scleral depressor small, A.R. 20D Ophthalmoscopy-lens, Pad with 50 fundus charts, 1 spare bulb, in hard case with:

EN 15 transformer with brightness control	<b>C-162.40.300</b>
EN50 with Rheostat Control Module (incl. 90° Angled Adapter, 2m Connecting Cord, Instrument Support)	<b>C-276.40.300</b>
EN50-m with mPack (incl. 90° Angled Adapter, 2m Connecting Cord, Instrument Support)	<b>C-276.40.302</b>
mPack with plug-in transformer (incl. 90° Angled Adapter)	<b>C-276.40.670</b>

## HEINE Video OMEGA 2C®

### Binocular Indirect Video Ophthalmoscope



The only Binocular Indirect Video Ophthalmoscope on the market designed from the ground up for video application. Ideally suited for teaching, research, patient clarification, digital patient history, and telemedicine.

- ∴ **High-resolution A-Cam camera.** CCD 470,000 Pixel, 460 lines.
- ∴ **Image sensor.** 1/2" CCD, color.
- ∴ **Fully integrated camera system.** No external brackets or prisms.
- ∴ **100 % dustproof system.** No maintenance required.
- ∴ **Water-proof camera head.** Can be placed in disinfectant solution (but cannot be autoclaved).
- ∴ **Optics specially-developed.** Maximum brightness.
- ∴ **Focus adjustable for any working distance.** From 250 to 800 mm.
- ∴ **Automatic white balance.**
- ∴ **Automatic light metering at the center of the image.** Reduction in reflections.
- ∴ **Automatic light boost.** Boost function for examinations with low lighting.
- ∴ **Processor will connect to various output devices, such as: VCR's, digital printers, PC's with image capture software.**
- ∴ **Compact.** Lightweight design (65 g, camera head without cable, complete 250 g).
- ∴ **Video OMEGA 2C can be supplied without a camera for use with user's own "C"-mount CCD cameras.**
- ∴ **Connecting cable.** 3 m.
- ∴ **Brilliant image with an S-VHS monitor.**
- ∴ **FBAS (composite) and Y/C (SVHS) outputs.** Extensive compatibility and high image quality.
- ∴ **Optional PAL or NTSC format.** Please specify when ordering.

#### Video OMEGA 2C Set

Complete with headband, A-Cam camera and processor, Video cable, S-VHS cable, EN50 with Rheostat Control Module, replacement bulb, large and small scleral depressors, AR 20D lens, and carrying case.

**C-175.40.618**

Video OMEGA 2C, Optics, headband and bulb, without accessories.  
Instrument with C-Mount, without A-Cam camera and processor

**C-004.33.214**

Video OMEGA 2C, Optics, headband and replacement bulb,  
without accessories. Instrument with A-Cam camera and processor

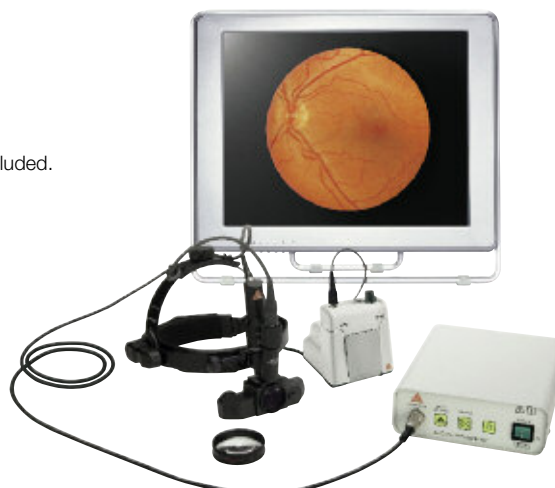
**C-004.33.212**

A-Cam camera with processor (available systems: PAL or NTSC,  
please specify when ordering)

**C-000.33.223**

More information available on request.

Monitor not included.





## HEINE A.R.<sup>®</sup> Aspheric Ophthalmoscopy Lenses



- ∴ **Lens curvature matches that of the retina.** Perfect, distortion-free retinal image.
- ∴ **Advanced triple multicoating.** Reduced reflection, excellent light transmission.
- ∴ **Large diameter.** Significant increase in field of view without magnification loss.

### Ophthalmoscopy Lens with case

16D, 54 mm dia.	C-000.17.225
20D, 50 mm dia.	C-000.17.228
30D, 46 mm dia.	C-000.17.231

## HEINE Aspheric Ophthalmoscopy Lenses



- ∴ **Aspheric surfaces.** Reduced distortion of the periphery.
- ∴ **Triple-coated.** Reduced reflection, good light transmission.
- ∴ **Moulded crown glass.** Excellent value.

### Ophthalmoscopy Lens with case

16D, 50 mm dia.	C-000.17.210
20 D, 50 mm dia.	C-000.17.206
30 D, 40 mm dia.	C-000.17.213

## Model Eyes

### HEINE Ophthalmoscope Trainer



This model eye was developed for the teaching environment. It is the first adjustable model from HEINE to mimic the human eye. Precise, durable and with a multitude of uses, it simplifies the learning process and encourages the student to practice with the ophthalmoscope.

- ∴ **Refractive error.** Can be set in 1-dpt. steps from -10 to +10 dpt.
- ∴ **Diameter of pupil.** Variable 2, 3, 4, 5, 6, 8 mm.
- ∴ **Aspheric optical glass lens.** F = 18 mm. Lens curvature matches that of the retina.
- ∴ **Trainer body.** Made of metal – extremely stable and durable.
- ∴ **Angle of examination.** Variable.

### Model Eye

Ophthalmoscope Trainer	C-000.33.010
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### Model Eyes

#### HEINE Skia/Retinoscope Trainer



This model eye is ideal for teaching and practice. The pupil diameter and refractive error can be set exactly and are therefore reproducible. The front holder accepts up to two trial lenses. The cyl. can be read of the graduated scale.

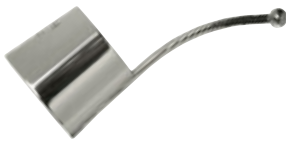
- ∴ **Refractive error.** Can be set to any value in steps of 0.5 dpt from -7 to +6 dpt.
- ∴ **Scale.** 0° – 180° for cyl. determination.
- ∴ **Diameter of pupil.** Variable 2, 3, 4, 5, 6, 8 mm.
- ∴ **Optics.** Optical glass achromatic lens F = 32 mm.
- ∴ **Trainer body.** Made of metal – extremely stable and durable.
- ∴ **Angle of examination.** Variable.

#### Model Eye

Skia/Retinoscope Trainer

C-000.33.011

### Scleral-Depressor



#### Scleral-Depressor

large

C-000.17.300

small

C-000.17.301

### Fundus-Charts



#### Fundus-Charts

Pad with 50 pcs.

C-000.33.208

### Extension Cord



Extension Cord Cinch, 2 m for OMEGA 200

C-004.33.206

### Combi-Case



Features a deep, dense foam insert to protect instruments, and can be worn over the shoulder or as a backpack (removable straps included).

Combi-case

C-079.03.000

Hard case (not shown)

C-079.00.000