

NEW

COMAC:

Comparison Microscope for forensic comparison investigations



A new concept for comparison investigation of forensic objects. The COMAC with its modular design in conjunction with high optical and mechanical quality sets new standards in investigation of evidence. The modular concept allows easy adaptation of special object holders, illumination systems and documentation units.

COMAC for forensic comparison investigation, such as



- ◆ Documents
- ◆ Tool marks
- ◆ Cartridges and Bullets
- ◆ Banknotes and coins
- ◆ Illegally produced tablets (Ecstasy, PMA, synthetic amphetamines, etc.)

Technical specification:

COMAC basic outfit:

- Stand, warp resistance construction, anthracite-coloured base plate with insert for investigation objects:
 - comparison bridge with height adjustment
 - coaxial coarse/fine drive for height adjustment of the X/Y stages, travel 50 mm, mechanical object adjustment, travel 60 mm
 - controls for operation of coarse/fine adjustment on both sides
- Optical comparison bridge consisting of:
 - controls to adjust overlap images and split image comparison
 - full field-of-view for right or left image
 - objective changer for macro optics
 - built-in macro objectives, working distance 130 mm
 - up-right image
 - zoom objective for magnification area 2,5x - 72x with fixed working distance
 - field of view 85 mm - 3 mm

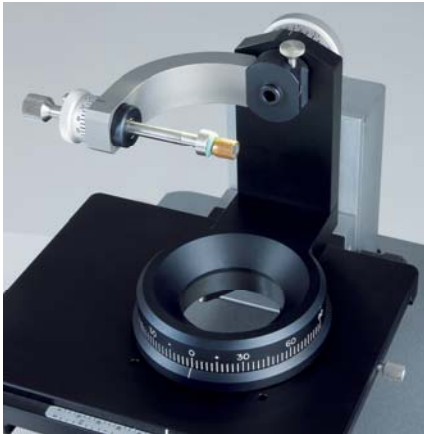


Step-free height adjustment providing high working distance

Magnification table

Scale Zoom wheel	with			with		
	objective factor 1x	Magni- fication	Field of view in mm	objective factor 6x	Magni- fication	Field of view in mm
2,5x	1x	≈ 2,5x	∅ 85	6x	≈ 15	∅ 14
3x	1x	≈ 3x	∅ 70	6x	≈ 18	∅ 11.6
4x	1x	≈ 4x	∅ 52,5	6x	≈ 24	∅ 8.75
5x	1x	≈ 5x	∅ 42	6x	≈ 30	∅ 7
7x	1x	≈ 7x	∅ 30	6x	≈ 42	∅ 5
9x	1x	≈ 9x	∅ 23	6x	≈ 54	∅ 3.8
11x	1x	≈ 11x	∅ 19	6x	≈ 66	∅ 3.1
12x	1x	≈ 12x	∅ 17.5	6x	≈ 72	∅ 3

Dimensions:	basic system:	630x350x580 mm (lxwxh)
Weight:	basic system:	45 kg
Power supply:		220-240V/50Hz or 110-120V/60Hz



Bullet holder set with bullet holder



Bullet holder set with cartridge holder



Tool mark stage with plasticine holder

- Inclined binocular tube with automatic focus compensation when changing the interpupillary distance
- Optical port for digital or video camera
- Pair of eyepieces 10x/20 with adjustable diopter and eyecups, suitable for spectacle wearers
- Mechanical stages with coaxial drive and fixing clamps, movement in X = 70 mm, in Y = 70mm, object surface 149x190 mm and glass insert, mm and inch scale in X and Y for reproducibility
- Adaptation for transmitted light deflection unit
- Dust cover

Accessories for basic outfit:

- Illumination unit for 2 cold light sources:
 - 2 cold light sources 150W, reflector lamp, electronic adjustment of lamp output, continuously variable, mains voltage 230V/50Hz (optional 115V/60Hz)
 - 2 light guides, single arm, flexible with effective light-up area of $d = 10$ mm on outlet, length 1200 mm
 - 360° rotatable illumination ring and adapter with swivel arm for flexible light guides support
 - Spare reflector lamp 150W
- Object holders:
 - Cartridge holder set complete with:
 - bullet holder with set of plasticine holders, $d = 5, 10, 15$ and 20 mm, including air gun holder
 - 5 set of supports for cartridge cases, $\varnothing 5, 8, 11, 15$ and 25 mm
 - scale for object rotation, tilting and holder rotation
 - 2 universal supports with three-point fixing clamp for objects up to $\varnothing 22$ mm
 - 2 grip holders for round objects, like screw drivers, key cylinder, air gun ammunition, wire, etc.
 - 2 holders with plasticine for deformed parts and bullets
 - 2 stages for tool marks, $\varnothing = 120$ mm, with rip profile and 45° incline, 360° rotating device with positioning fixture for set incline, adaptation possibility for tool support
 - Tool support fitting universal holder, grip holder and plasticine support for tool marks rotating stage
- Documentation:
 - Still digital cameras up to 12 mio pixel resolution
 - Live digital camera with FireWire connection for 5.0 or 3.3 mio pixel resolution
 - C-Mount connection for optical camera adapter
 - optical adapter (MDC) for digital camera with C-Mount connection
- Document examination:
 - 2 transmitted light deflection units to connect flexible light guides for transmitted light examinations
 - Object stages for documents up to 280x280 mm, with paper weights, table top for left stage adjustable $\pm 5^\circ$
 - Complementary colour effect: red/green filter set, with connection for the flexible light guides for surface light examination of documents in overlap comparison



Tool mark stage with three-point fixing clamp



Tool mark stage with grip holder



Digital camera PAGB33 or PAGB50 for Live image with PIA-6000 Software



A wide choice of illumination systems, like fibre-optics, LED ring-light, shape converter, vertical light, etc. are available.



Accessory case with inserts providing handy arrangement

Projectina AG
Dammstrasse 2, Postfach
CH-9435 Heerbrugg
Schweiz/Switzerland
Telefon +41-71-727 28 00
Telefax +41-71-727 28 28
E-mail: projectina@projectina.ch
Internet: www.projectina.ch