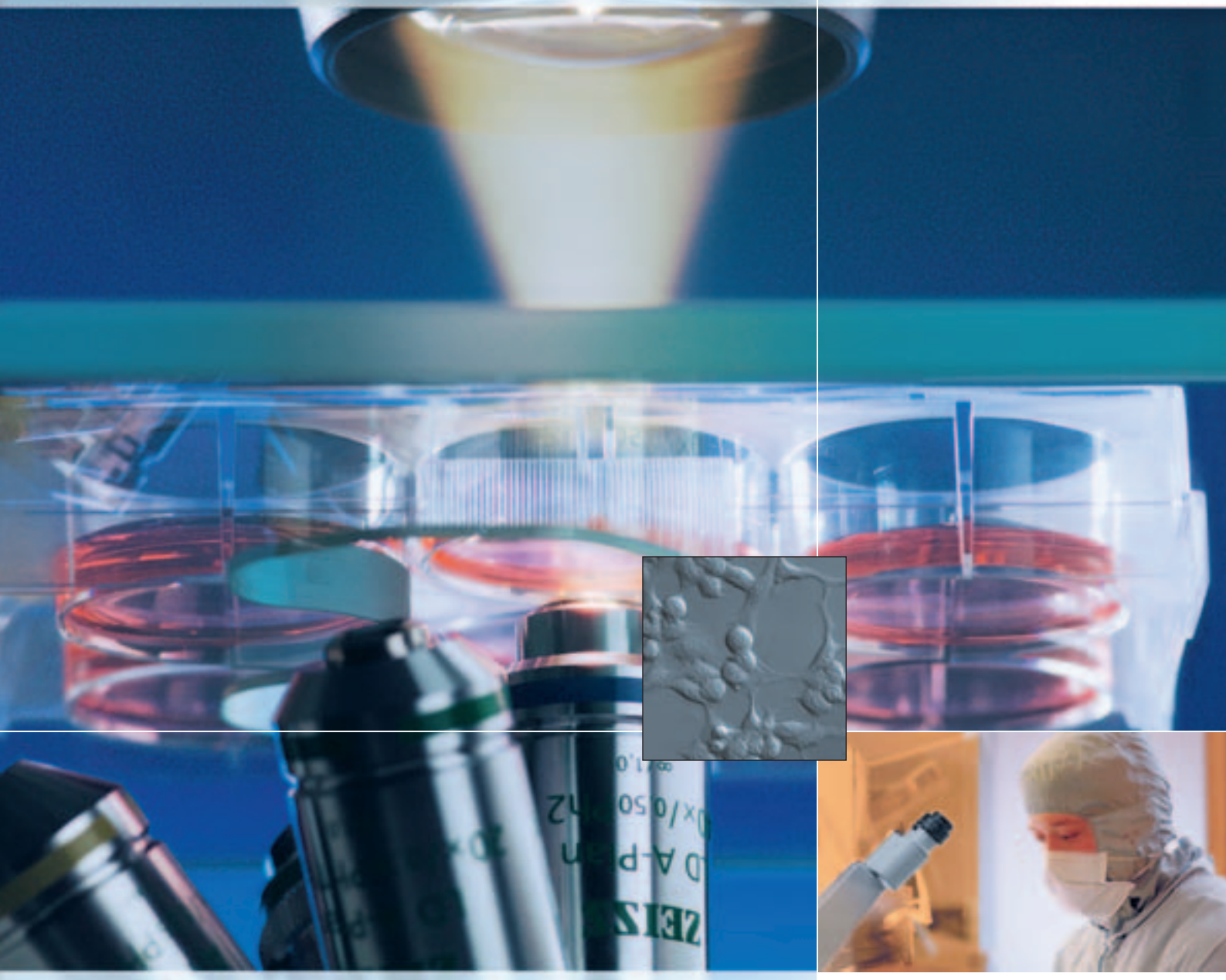
Axiovert 40
Number One In Its Class



The routine inverted microscope for cell biology

ZEISS

We make it visible.

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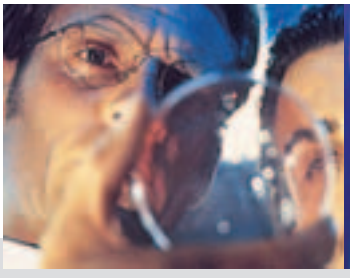
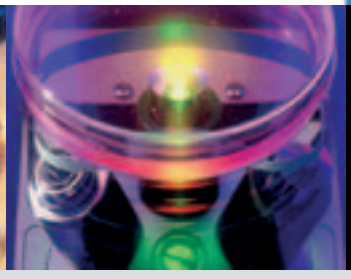
Quality and Performance. Demands become a reality.

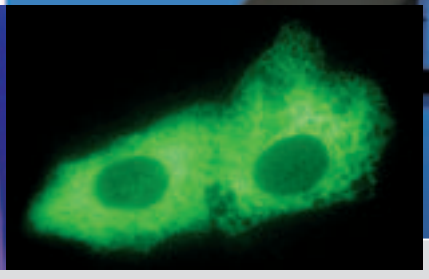
Confronted with the increasing demands of your laboratory's routine applications, you can't afford to compromise on quality. Nor can you afford to settle for less than the best in the optical tools you use. This is where an innovative inverted microscope, the Axiovert 40, steps in, setting new standards of quality. Its superior optical performance and exceptionally wide range of functionalities place it at the top of its class. In terms of flexibility, operating comfort, stand stability and component quality, it is obvious that the Axiovert 40 is another outstanding Carl Zeiss microscope. A microscope that meets the demands of professionals who:

- work primarily with living cells
- place exceptional demands on performance and functionality
- want a more cost-effective and efficient microscope in the lab
- appreciate flexible and easy upgrading options
- expect an investment in a microscope to be a safe investment.

What does this mean for you? Axiovert 40 is the perfect microscope to deliver the added performance and quality that you need to make your demands become reality – and, above all, at a price that makes high quality an affordable standard. Axiovert 40 – the best inverted microscope in its category.








40
A ıovert 40 C
ZEISS

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The Optical System. Simply the Best.

Axiovert 40 – inverted microscope technology that offers you much more than you have ever expected from a microscope in this category. You will be impressed by the outstanding quality, and functionality, the wide range of excellent objectives, and the sophisticated fluorescence. And you will also appreciate the brilliance of the well-known transmitted light contrasting techniques right up to the innovative and unique PlasDIC, which is cost efficient and provides the best possible contrast.

The Optics

ICS – **I**nfinity **C**olor-Corrected **S**ystem – provides the basis for the wide range of Carl Zeiss objectives, ensuring outstanding performance in all contrasting techniques. With the Axiovert 40, you can choose from a broad spectrum of objectives: CP-Achromat and LD A-Plan from the attractive Long Distance series right up to the high-performance objectives from the Plan-Neofluar series. Another benefit of Carl Zeiss optics: more light for more contrast. A powerful 35 watt lamp improves the brightness in transmitted light in all contrasting techniques. With a lifetime of over 800 hours, this halogen lamp is long lasting, too.

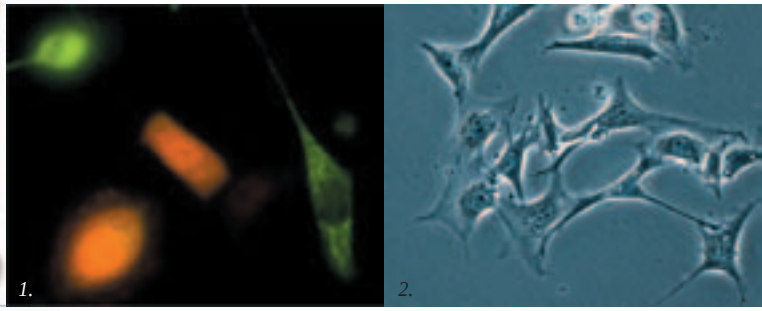
Fluorescence

For all applications based on GFP (**G**reen **F**luorescent **P**roteins) and other live cell fluorophors, you can attain exceptionally high fluorescence standards using the Axiovert 40 CFL. A significant benefit: even more stray light can be eliminated thanks to the newly developed 3-position reflector mount. As a result, you enjoy even better contrast, and for a quick exchange of filter sets: just Push&Click.

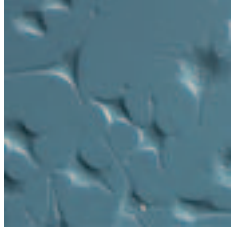
Contrasting Techniques for Thin Specimens

Axiovert 40 offers two effective techniques for applications with thin specimens: brightfield for the brilliant contrasting of naturally colored specimens such as plant protoplasts, and phase contrast for colorless thin cells or cell branches. The phase diaphragm is centerable, and can be used for a wide variety of purposes. Simple post-centering enables adaptation to the meniscus with small volumes of culture media, e.g. with multi-wells.

1. HeLa cells with different fluorophors. R. Brack-Werner, Institut für Molekulare Virologie, GSF Neuherberg.



2. 3T3 cells, phase contrast. B. Busse, In Vitro Systems & Services GmbH, Göttingen.

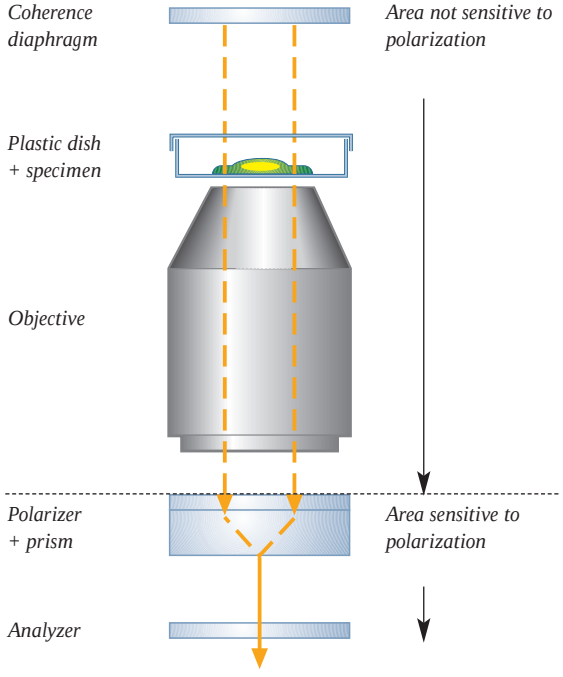


PlasDIC – the patented relief contrast technique for routine lab applications. Its outstanding benefit: the specimen area is located outside the polarization-sensitive zone. PlasDIC is the first differential interference technique based on polarization optics that permits the use of plastic vessels.

The Innovation: PlasDIC

In addition to VAREL (variable relief contrast), Carl Zeiss is now offering an innovative and unique technique: PlasDIC, the first differential contrasting technique tailored to routine laboratory applications. The result: impressive relief effect and needle-sharp contrast across the whole specimen area, even on thick areas, that were a problem up to now. A significant gain in information! The contrast setting is variable and can be optimally adapted to your specimen. In addition, as with Nomarski DIC, different levels can be focused. PlasDIC is the technique of choice for thick structures such as cell aggregates and cell clusters (e.g. apoptosis stages). With its unique design, PlasDIC can be used with cells grown in standard plastic vessels, where cells often thrive. Conclusion: PlasDIC is an ingenious, innovative and cost-effective technique setting new and exciting standards in routine inverted microscopy.

The PlasDIC principle



The contrasting techniques in transmitted light

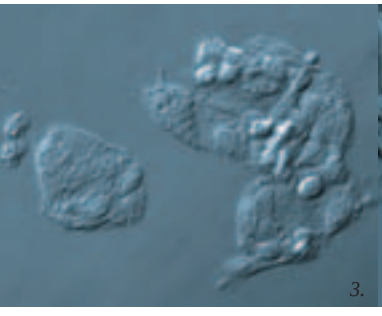
Thin specimens and specimen areas:

- Brightfield
- Phase contrast

Thick specimens and specimen areas:

- VAREL (variable relief contrast)
- PlasDIC (innovative differential interference contrast)

3. With the help of PlasDIC, you can identify different levels and details of the specimen. HEK cells after transfection. C. Lücking, Institut für Neurogenetik, Klinikum Großhadern.



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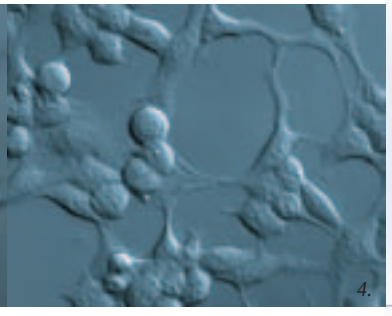

4.

4. HEK cells. C. Lücking, Institut für Neurogenetik, Klinikum Großhadern.

Know-how from Carl Zeiss: the right PlasDIC slider for every objective.

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Form and Function. The Perfect Relationship.

High throughput of cell and tissue specimens – laboratory applications require precision and reliability in workflows that are not often similar or identical but must also be carried out under great time and budget pressures. With its numerous features, Axiovert 40 is ideal for these situations. The size and weight of its stand is tailored to meet the realities of day-to-day lab work, the stability is outstanding and the quality, first-class. In other words: Axiovert 40 provides a wealth of impressive features that make working in the lab easier, more efficient and more cost-effective.

With Axiovert 40 you can can easily switch your viewing angle from the cultivation vessel (macro positioning) to the tube and back again.

Operating Ease

The Axiovert 40 is easy to operate. A large glass stage ensures free view of the nosepiece and makes it possible to identify the specimen quickly. The large surface of all our stages makes it safe to handle a variety of culture vessels. Of particular importance, when different culture vessels are used, is the sliding condenser. It enables you to adapt the microscope to large vessels such as roller bottles quickly and easily. Three contrasting techniques in one objective – e.g. brightfield, phase contrast and PlasDIC – guarantee fast and precise specimen analysis. It's also fast and easy to change magnifications.

Operating Comfort

Concentrated work at the microscope necessitates a relaxed and upright posture – a requirement that the Axiovert 40 easily fulfills. The Siedentopf tube offers two viewing heights, so that observation is always comfortable. Yet another ergonomical benefit is provided by the intelligent design. You can easily switch between viewing the specimen

1. *Practical: When using large cultivation vessels, simply push the condenser back.*

1.

2.

2. *Exchanging the reflector modules for fluorescence: just Push&Click.*

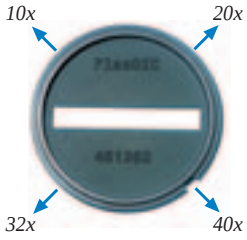
No unnecessary manipulation: With PlasDIC it is not necessary to adjust the condenser when changing the objective.

on the stage for macro positioning, and viewing of the specimen through the microscope – an essential prerequisite for successful routine applications. In addition, the camera does not block your view since it is mounted to Axiovert 40 via a front port.

Stability

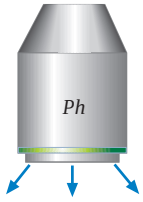
Durable, sturdy, expertly made and simple to operate: it's easy to see that Axiovert 40 has been designed for your benefit. The successful pyramid shape with its low center of gravity provides rock-solid stability and vibration-free work that is unique in this category. This, of course, is critical for documentation and a must for micromanipulation.

1 diaphragm – 4 magnifications



PlasDIC:
All magnifications without changing the diaphragm.

1 objective – 3 contrasting techniques



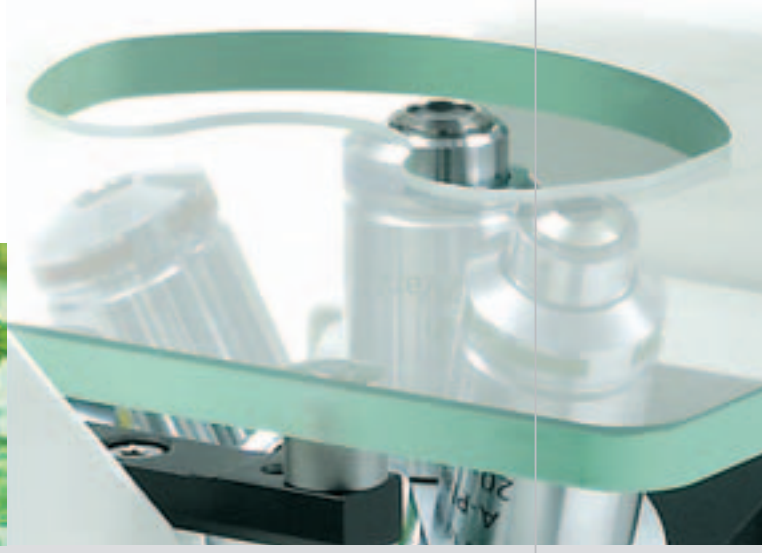
A-Plan 10x
LD A-Plan 20x
LD A-Plan 32x
LD A-Plan 40x

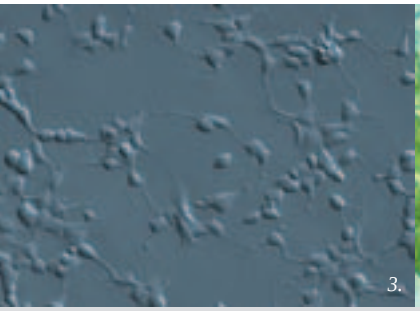
Brightfield *Phase contrast* *PlasDIC*

A-Plan 10x
LD A-Plan 20x
LD A-Plan 32x
LD A-Plan 40x

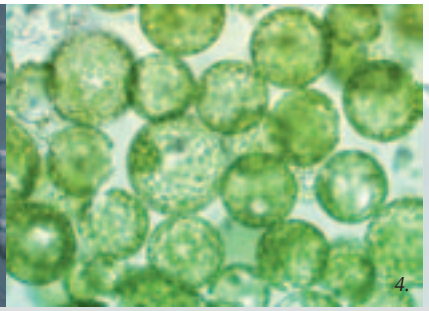
Brightfield *Phase contrast* *VAREL*

Easier and faster operation, more flexibility: With one objective you can use three contrasting techniques in transmitted light.





3.



4.

3. HEK cells, PlasDIC. C. Lücking, Institut für Neurogenetik, Klinikum Großhadern.

4. Tobacco protoplasts in brightfield. H.-U. Koop, Institut für Botanik and Zellbiologie, LMU München.

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Flexible for Upgrades. Prepared for the Future.

In routine laboratory applications, a lot is expected of your microscope. Demands are constantly changing. Consequently, innovative microscope technology must be versatile, flexible and upgradable. Just like Axiovert 40. Completely integrated within the Carl Zeiss microscope systems, this inverted microscope allows for easy upgrade options. This means that you only invest in the equipment that you need today while having the freedom to upgrade at any time for future applications – right up to a digital imaging system.

Technical Upgrades

Highly flexible and exceptionally versatile: the Axiovert 40 combines outstanding performance with high-end options such as: variable components, objective options, sophisticated fluorescence and the innovative PlasDiC. Three different condensers, specimen stage, specimen stage glass, object guide, a wide range of mounting frames for various culture vessels, and temperature-controlled components – an impressive proof that Axiovert 40 is based on flexibility and versatility.

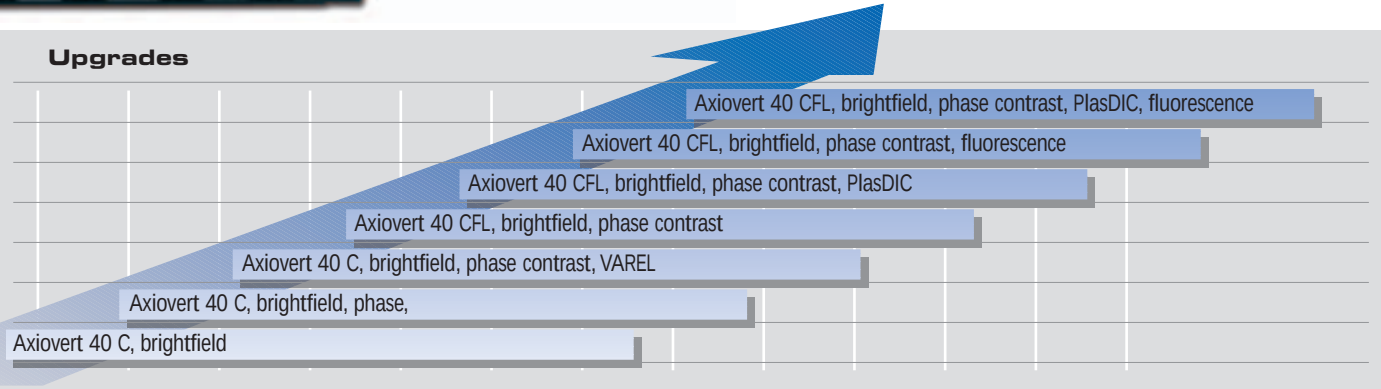
Mounting frames

	Axiovert 40 C	Axiovert 40 CFL
Camera mount	•	•
Brightfield	•	•
Phase contrast	∘	∘
VAREL	∘	∘
PlasDIC		∘
Fluorescence		∘

• basic equipment
∘ optional

Numerous options for a wide range of applications with a choice of mounting frames, ensures that many kinds of cultivation vessels can be held securely.

Upgrades



Cameras

Axiovert 40 can accept all types of cameras: SLR, video, digital compact consumer cameras and digital microscope cameras. If your requirements are demanding, you have the powerful range of digital cameras from the AxioCam family at your disposal. Cameras made by Carl Zeiss: superior image and color quality for a wide array of applications.

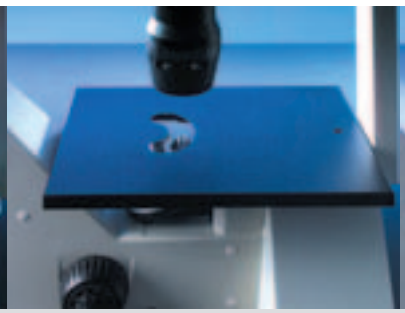
Image Processing

Cost-effectiveness is part of the package: cameras from the AxioCam MR series come equipped with basic software. It provides you with everything you need to document your images fast and efficiently via PC – from camera control and optimal depiction of dynamic range to data storage in selectable standard formats. If you want more than the basic software: AxioVision provides you with high-end software for sophisticated image processing, image analysis and image archiving. With its wealth of customized modules, this power package is your gateway to a world of countless possibilities.

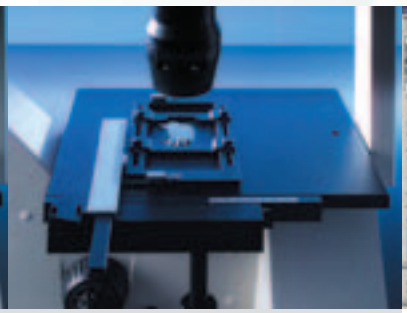
Documentation yes or no? With Axiovert 40 it's easy to document your results since both versions of the stand come equipped with a front port – making Axiovert 40 unique in its category. And you are free to decide on your camera of choice: simply select the suitable adapter.

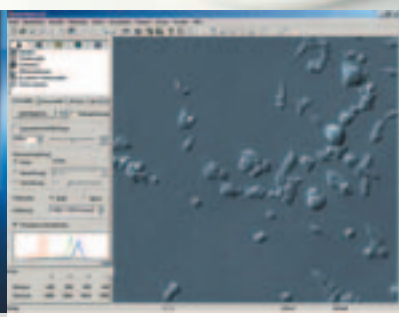
Glass stage

Specimen stage



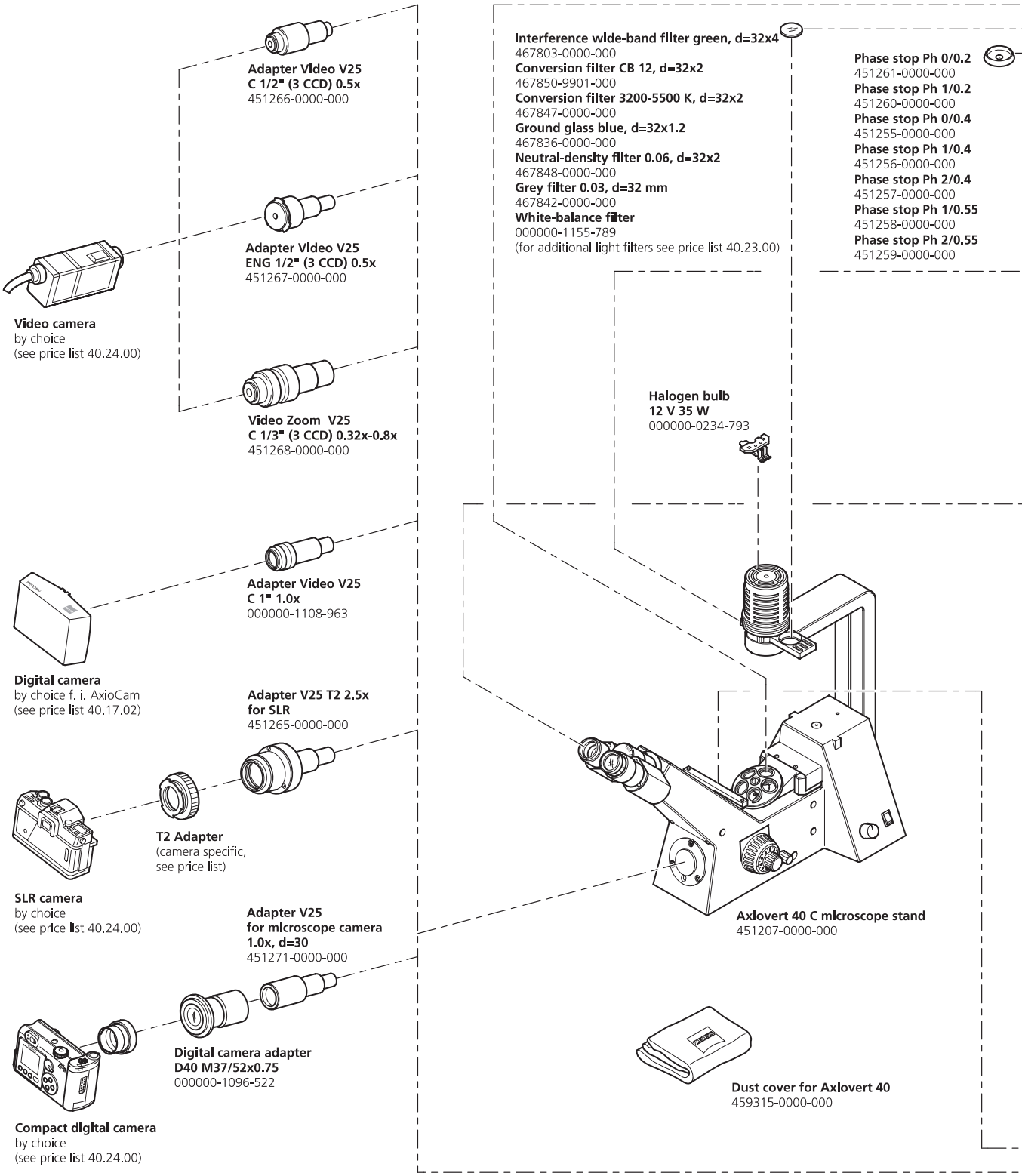
Object guide

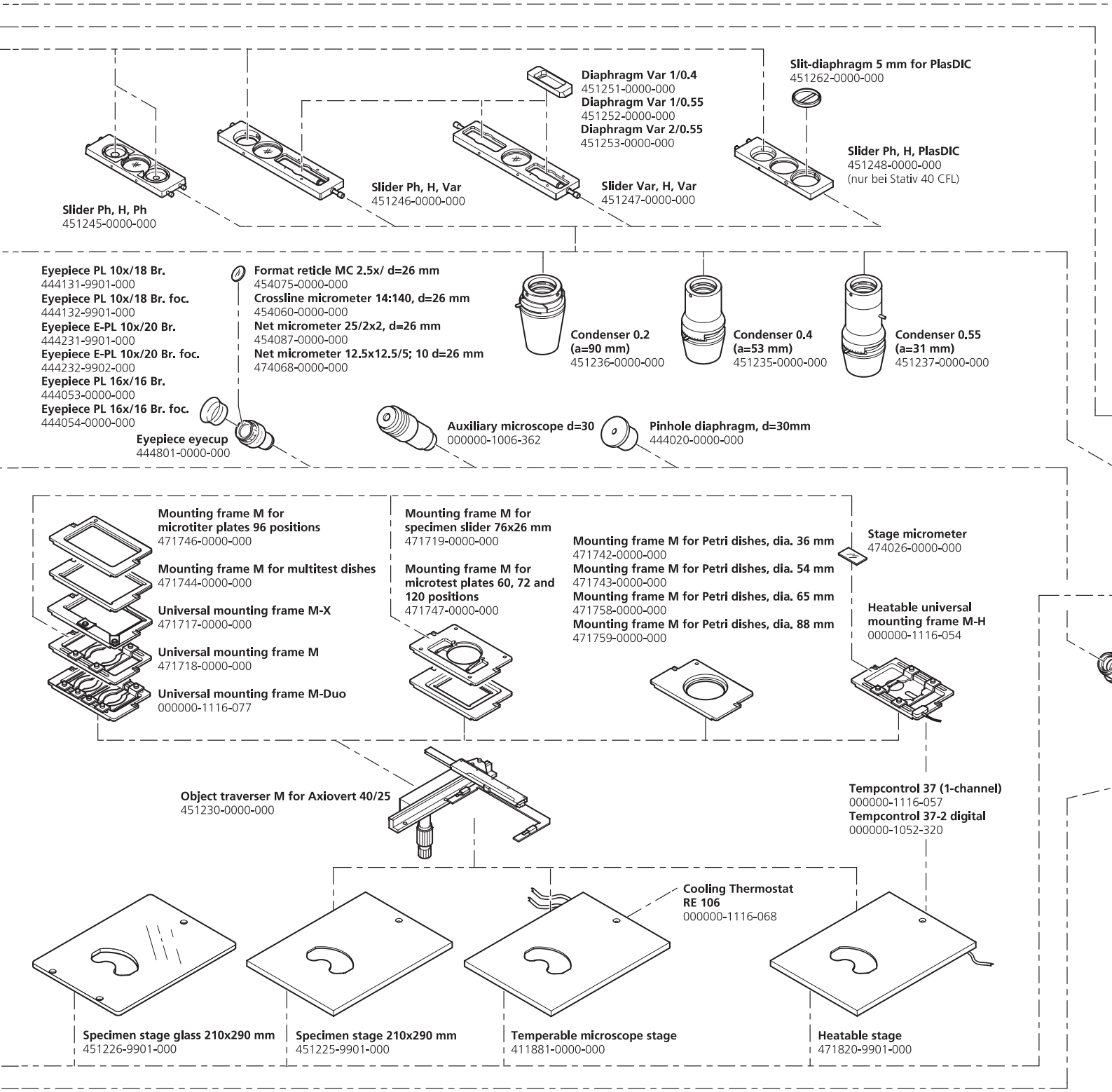




Transparent for optimum view of the objective, sturdy or sophisticated: stage solutions for Axiovert 40.

The System Behind Axiovert 40.




Slider Ph, H, Ph
451245-0000-000
Slider Ph, H, Var
451246-0000-000
Diaphragm Var 1/0.4
451251-0000-000
Diaphragm Var 1/0.55
451252-0000-000
Diaphragm Var 2/0.55
451253-0000-000
Slider Var, H, Var
451247-0000-000
Slit-diaphragm 5 mm for PlasDIC
451262-0000-000
Slider Ph, H, PlasDIC
451248-0000-000
(nur bei Stativ 40 CFL)
Eyepiece PL 10x/18 Br.
444131-9901-000
Eyepiece PL 10x/18 Br. foc.
444132-9901-000
Eyepiece E-PL 10x/20 Br.
444231-9901-000
Eyepiece E-PL 10x/20 Br. foc.
444232-9902-000
Eyepiece PL 16x/16 Br.
444053-0000-000
Eyepiece PL 16x/16 Br. foc.
444054-0000-000
Eyepiece eyecup
444801-0000-000
Format reticle MC 2.5x/ d=26 mm
454075-0000-000
Crossline micrometer 14:140, d=26 mm
454060-0000-000
Net micrometer 25/2x2, d=26 mm
454087-0000-000
Net micrometer 12.5x12.5/5; 10 d=26 mm
474068-0000-000
Condenser 0.2
(a=90 mm)
451236-0000-000
Condenser 0.4
(a=53 mm)
451235-0000-000
Condenser 0.55
(a=31 mm)
451237-0000-000
Auxiliary microscope d=30
000000-1006-362
Pinhole diaphragm, d=30mm
444020-0000-000
Mounting frame M for
microtiter plates 96 positions
471746-0000-000
Mounting frame M for multitest dishes
471744-0000-000
Universal mounting frame M-X
471717-0000-000
Universal mounting frame M
471718-0000-000
Universal mounting frame M-Duo
000000-1116-077
Mounting frame M for
specimen slider 76x26 mm
471719-0000-000
Mounting frame M for
microtest plates 60, 72 and
120 positions
471747-0000-000
Mounting frame M for Petri dishes, dia. 36 mm
471742-0000-000
Mounting frame M for Petri dishes, dia. 54 mm
471743-0000-000
Mounting frame M for Petri dishes, dia. 65 mm
471758-0000-000
Mounting frame M for Petri dishes, dia. 88 mm
471759-0000-000
Stage micrometer
474026-0000-000
Heatable universal
mounting frame M-H
000000-1116-054
Object traverser M for Axiovert 40/25
451230-0000-000
Tempcontrol 37 (1-channel)
000000-1116-057
Tempcontrol 37-2 digital
000000-1052-320
Cooling Thermostat
RE 106
000000-1116-068
Specimen stage glass 210x290 mm
451226-9901-000
Specimen stage 210x290 mm
451225-9901-000
Temperable microscope stage
411881-0000-000
Heatable stage
471820-9901-000

Coverglass cap d=0.17-0.6
000000-1016-757
(for LD "A-Plan" 32x and 40x)

Objective CP-"Achromat" 5x/0.12
440920-0000-000
Objective CP-"Achromat" 10x/0.25
440930-0000-000
Objective CP "Achromat" 10x/0.25 Ph 1
440931-0000-000

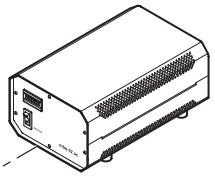
Objective "A-Plan" 2.5x/0,06
000000-1113-114
Objective "A-Plan" 5x/0.12
441020-0000-000
Objective "A-Plan" 10x/0.25
441030-0000-000
Objective "A-Plan" 5x/0.12 Ph 0
000000-1018-589
Objective "A-Plan" 10x/0.25 Ph 1
441031-0000-000
Objective "A-Plan" 10x/0.25 Ph 1 Var 1
000000-1020-863

Objective LD "A-Plan" 20x/0.30 Ph 1
000000-1006-591
Objective LD "A-Plan" 32x/0.40 Ph 1
000000-1006-593
Objective LD "A-Plan" 40x/0.50 Ph 2
000000-1006-595
Objective LD "A-Plan" 20x/0.30 Ph 1 Var 1
000000-1006-592
Objective LD "A-Plan" 32x/0.35 Ph 1 Var 1
000000-1006-594
Objective LD "A-Plan" 40x/0.50 Ph 2 Var 2
000000-1006-596

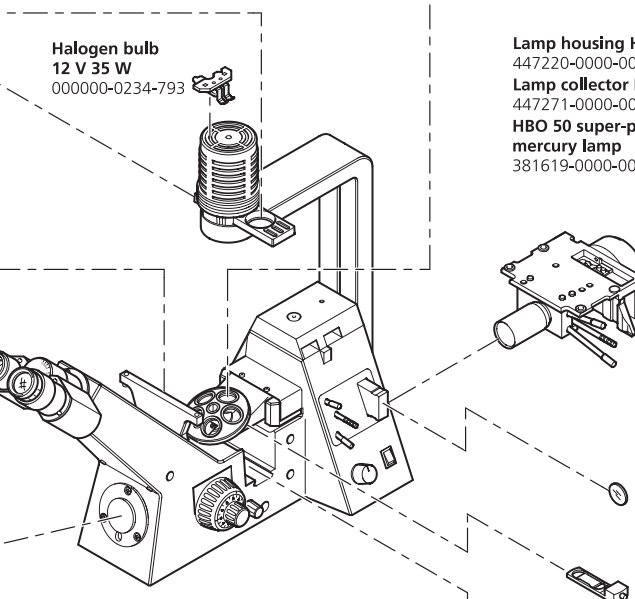
Objective "Plan-Neofluar" 2.5x/0.075
000000-1113-113
Objective "Plan-Neofluar" 5x/0.15
440320-0000-000
Objective "Plan-Neofluar" 10x/0.30
440330-0000-000
Objective "Plan-Neofluar" 5x/0.15 Ph 1
440321-0000-000
Objective "Plan-Neofluar" 10x/0.30 Ph 1
440331-0000-000
Objective LD "Plan-Neofluar" 20x/0.40 korr.
441340-9970-000
Objective LD "Plan-Neofluar" 40x/0.60 korr.
441350-9970-000
Objective LD "Plan-Neofluar" 63x/0.75 korr.
441370-9970-000
Objective LD "Plan-Neofluar" 20x/0.40 korr. Ph 2
441341-9970-000
Objective LD "Plan-Neofluar" 40x/0.60 korr. Ph 2
441351-9970-000
Objective LD "Plan-Neofluar" 63x/0.75 korr. Ph 2
441371-9970-000

Halogen bulb
12 V 35 W
000000-0234-793

Lamp housing HBO 50 with socket
447220-0000-000
Lamp collector HBO 50/SF 20
447271-0000-000
HBO 50 super-pressure mercury lamp
381619-0000-000



Transformer mbq 52 ac-z for HBO 50ac
000000-1113-833



FL incident-light equipment for "Axiovert" 40 CFL
451241-0000-000

Axiovert 40 CFL microscope stand
451211-0000-000

Grey filter 0.06, d=25x2
447835-0000-000
Grey filter 0.25, d=25x2
447836-0000-000

PlasDIC slider A-Plan 10x
444500-0000-000
PlasDIC slider LD A-Plan 20x
444501-0000-000

PlasDIC slider LD A-Plan 32x
444503-0000-000
PlasDIC slider LD A-Plan 40x
444502-0000-000

Reflector module FL P&C
000000-1046-281

Analyzer module P&C for transmitted light
000000-1050-958

Optovar module 1.25x P&C
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Optovar module 1.6x P&C
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Optovar module 2.5x P&C
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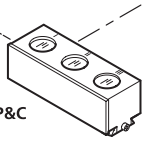
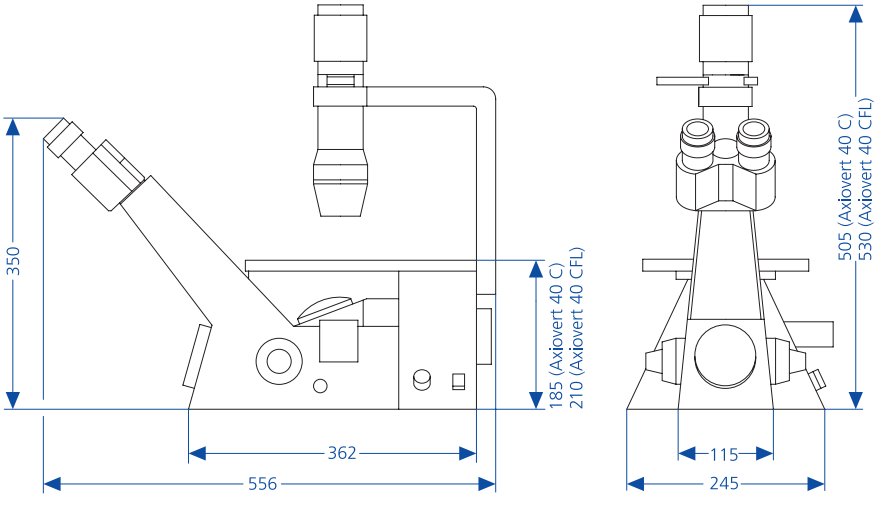


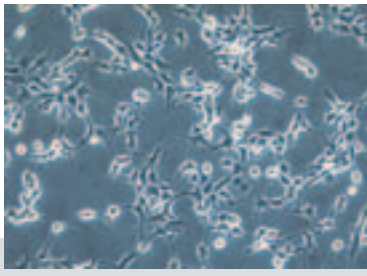
3-position reflector slider P&C
451243-0000-000

Filter set 10 shift free
488010-0000-000
Filter set 15 shift free
488015-0000-000
Filter set 49 shift free
488049-0000-000
(for additional filter sets see price list 40.23.00)

A Convincing Performance.
All the Data, All the Facts.

Stands	Axiovert 40 C for transmitted light, fixed camera port, 5-position nosepiece, stage height 185 mm
	Axiovert 40 CFL for transmitted light, fixed camera port, 5-position nosepiece with 3 slots for PlasDIC sliders, stage height 210 mm, upgradable with PlasDIC and fluorescence
Contrasting techniques	Axiovert 40 C: brightfield, phase contrast, VAREL
	Axiovert 40 CFL: brightfield, phase contrast, VAREL, PlasDIC and reflected light fluorescence
Objectives	CP-Achromat, A-Plan, LD A-Plan, Achroplan, Plan-Neofluar, LD Plan-Neofluar
Eyepieces	PL 10x/18 Br., 10x/18 Br. foc.
	E-PL 10x/20 Br., 10x/20 Br. foc.
Stages	specimen stage, specimen stage glass, heatable and temperable microscope stages
Documentation	Cameras: SLR, digital compact, digital cameras from the AxioCam family, video
	Adapters: for many models of cameras
	Software: camera software, AxioVision





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The Plus Points.

Your Benefits at a Glance.

++ Designed to satisfy your requirements: the Axiovert 40 inverted microscope for routine applications in cell and molecular biology

++ Leading optics: uncompromising Carl Zeiss quality

++ Easy operation: ergonomic design, variable viewing height thanks to the Siedentopf principle

++ Innovative technique: PlasDIC, the differential interference contrasting technique for routine applications

++ Brilliant fluorescence: new 3-position slider Push&Click for greater elimination of stray light

++ Efficient illumination: 35 W halogen lamp with more than a 800-hour lifetime

++ Optimal view: the optional specimen stage glass with free view of nosepiece

++ Exceptional stability

++ Sturdy: long-lasting, robust mechanics

++ Flexible upgrading: ready for future demands

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