

**16:1**  
**6:1**

*Leica*

LEICA Z6 APOA

# Leica Zoom Systems

Technical Information

Living up to Life

ryf ag



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*Leica*

MICROSYSTEMS

# Leica Z6 APO & Z16 APO, Z6 APO A & Z16 APO A

## Technical Data, Performance Characteristics



| Zoom system  | Leica Z6 APO   | Leica Z16 APO   | Leica Z6 APO A  | Leica Z16 APO A   |
|--|--|---|---|---|
| Type   | Apochromatic zoom system with central beam path, lead-free | Apochromatic zoom system with central beam path, lead-free          | Apochromatic zoom system with central beam path, lead-free, motorized functions | Apochromatic zoom system with central beam path, lead-free, motorized functions |
| Zoom   | 6.3:1  | 16:1  | 6.3:1, motorized  | 16:1, motorized   |
| Zoom factor  | 0.57× – 3.6×   | 0.57× – 9.2×  | 0.57× – 3.6×  | 0.57× – 9.2×  |
| Built-in iris diaphragm  | for adjusting the depth of field                           | for adjusting the depth of field                                    | for adjusting the depth of field, motorized                                     | for adjusting the depth of field, motorized                                     |
| Switchable approachable positions for repetitive tasks   | 0.57 / 0.8 / 1 / 1.25 / 1.6 / 2 / 2.5 / 3.2 / 3.6          | 0.57 / 0.8 / 1 / 1.25 / 1.6 / 2 / 2.5 / 3.2 / 4 / 5 / 6.3 / 8 / 9.2 | continuously motorized and approachable positions                               | continuously motorized and approachable positions                               |
| Zoom travel speed  | –  | –   | 1.6 s for zoom range  | 2.5 s for zoom range  |
| <b>Visual data with 1× planapochromatic objective / 10× eyepieces / 1.25× Y tube</b>                           |  |   |   |   |
| Magnification  | 7.1× – 45×   | 7.1× – 115×   | 7.1× – 45×  | 7.1× – 115×   |
| Resolution   | 60 – 351 Lp/mm   | 51 – 336 Lp/mm  | 60 – 351 Lp/mm  | 51 – 336 Lp/mm  |
| Visible structural width   | 8.3 – 1.4 μm   | 9.8 – 1.49 μm   | 8.3 – 1.4 μm  | 9.8 – 1.49 μm   |
| Numerical aperture   | 0.02 – 0.117 nA  | 0.017 – 0.112 nA  | 0.02 – 0.117 nA   | 0.017 – 0.112 nA  |
| Object field Ø   | 32.3 mm – 5.1 mm   | 32.3 mm – 2.0 mm  | 32.3 mm – 5.1 mm  | 32.3 mm – 2.0 mm  |
| Depth of field (diaphragm open)  | 3.1 mm – 0.09 mm   | 3.8 mm – 0.05 mm  | 3.1 mm – 0.09 mm  | 3.8 mm – 0.05 mm  |
| Depth of field (diaphragm closed)  | 18.1 mm – 0.4 mm   | 18.4 mm – 0.4 mm  | 18.1 mm – 0.4 mm  | 18.4 mm – 0.4 mm  |
| <b>Visual data with 2× planapochromatic objective / 40× eyepieces / 1.25× Y tube</b>                           |  |   |   |   |
| Magnification  | 57× – 360×   | 57× – 920×  | 57× – 360×  | 57× – 920×  |
| Resolution   | 120 – 702 Lp/mm  | 102 – 672 Lp/mm   | 120 – 702 Lp/mm   | 102 – 672 Lp/mm   |
| Visible structural width   | 4.2 – 0.7 μm   | 4.9 – 0.74 μm   | 4.2 – 0.7 μm  | 4.9 – 0.74 μm   |
| Numerical aperture   | 0.04 – 0.234 nA  | 0.034 – 0.224 nA  | 0.04 – 0.234 nA   | 0.034 – 0.224 nA  |
| Object field Ø   | 4.2 mm – 0.67 mm   | 4.2 mm – 0.26 mm  | 4.2 mm – 0.67 mm  | 4.2 mm – 0.26 mm  |
| <b>Data with Leica DFC490 digital camera / 1× planapochromatic objective / AS tube / 0.63× video objective</b> |  |   |   |   |
| Magnification Chip: Object   | 0.36× – 2.3×   | 0.36× – 5.8×  | 0.36× – 2.3×  | 0.36× – 5.8×  |
| Digital resolution*  | 33.3 – 210 Lp/mm   | 33.3 – 336 Lp/mm  | 33.3 – 210 Lp/mm  | 33.3 – 336 Lp/mm  |
| Object field projected onto chip   | 24.5 mm × 18.4 mm / 3.9 mm × 2.9 mm                        | 24.5 mm × 18.4 mm / 1.5 mm × 1.14 mm                                | 24.5 mm × 18.4 mm / 3.9 mm × 2.9 mm   | 24.5 mm × 18.4 mm / 1.5 mm × 1.14 mm  |
| Depth of field (diaphragm open)  | 1.06 mm – 0.03 mm  | 1.4 mm – 0.03 mm  | 1.06 mm – 0.03 mm   | 1.4 mm – 0.03 mm  |
| Depth of field (diaphragm closed)  | 10.7 mm – 0.26 mm  | 10.9 mm – 0.3 mm  | 10.7 mm – 0.26 mm   | 10.9 mm – 0.3 mm  |



| <b>Optical accessories</b>                                 | <b>Leica Z6 APO &amp; Z6 APO</b>  | <b>Leica Z6 APO A &amp; Z16 APO A</b>   |
|--|---|---|
| Objectives   | <ul style="list-style-type: none"> <li>– planapochromatic 1×, 0.5×, 0.8×, 2×, 5×</li> <li>– achromatic objectives M series 0.63×, 0.5×, 0.32×, lead-free</li> </ul>   | <ul style="list-style-type: none"> <li>– planapochromatic 1×, 0.5×, 0.8×, 2×, 5×</li> <li>– achromatic objectives M series 0.63×, 0.5×, 0.32×, lead-free</li> </ul>   |
| Working distance   | <ul style="list-style-type: none"> <li>– 97 mm (planapochromat 1×)</li> <li>– 187 mm (planapochromat 0.5×)</li> <li>– 112 mm (planapochromat 0.8×)</li> <li>– 39 mm (planapochromat 2×)</li> <li>– 19 mm (planapochromat 5.0×)</li> </ul> | <ul style="list-style-type: none"> <li>– 97 mm (planapochromat 1×)</li> <li>– 187 mm (planapochromat 0.5×)</li> <li>– 112 mm (planapochromat 0.8×)</li> <li>– 39 mm (planapochromat 2×)</li> <li>– 19 mm (planapochromat 5.0×)</li> </ul> |
| Fine focusing  | 10-mm path, optional  | 10-mm path, motorized and integrated  |
| Binocular tubes, ergonomics                                | <ul style="list-style-type: none"> <li>– inclined and straight binocular tubes</li> <li>– apochromatic ErgoTube® 10° – 50° with synchronous interpupillary distance adjustment</li> <li>– various ErgoModules® (optional)</li> </ul>      | <ul style="list-style-type: none"> <li>– inclined and straight binocular tubes</li> <li>– apochromatic ErgoTube® 10° – 50° with synchronous interpupillary distance adjustment</li> <li>– various ErgoModules® (optional)</li> </ul>      |
|  | <i>ErgoTube® and ErgoModule® are registered in the United States Patent and Trademark Office</i>  | <i>ErgoTube® and ErgoModule® are registered in the United States Patent and Trademark Office</i>  |
| Interpupillary distance                                    | 55 mm – 75 mm   | 55 mm – 75 mm   |
| Ergonomic wide-field eyepieces for persons wearing glasses | 10×/23, 16×/15, 25×/9.5, 40×/6, distortion-free plug-on eyecups to protect against infections   | 10×/23, 16×/15, 25×/9.5, 40×/6, distortion-free plug-on eyecups to protect against infections   |
| Electrical Interface                                       |   | RS232, USB via motorized focus  |

# Optical Data – Visual Data with Y Tube 1.25×

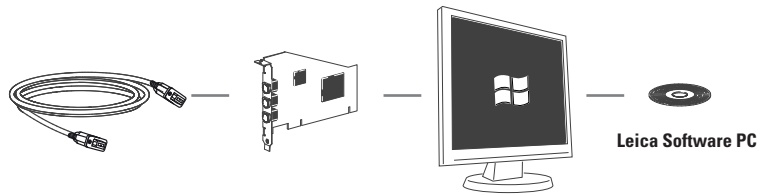
| Objectives        |               | 1× planapochromat |                | 0.5× planapochromat |                | 0.8× planapochromat |                | 2× planapochromat |                | 5× planapochromat |                |
|-------------------|---------------|-------------------|----------------|---------------------|----------------|---------------------|----------------|-------------------|----------------|-------------------|----------------|
| Working distances |               | 97 mm             |                | 187 mm              |                | 112 mm              |                | 39 mm             |                | 20 mm             |                |
| Eyepieces         | Zoom position | Total mag.        | Object field Ø | Total mag.          | Object field Ø | Total mag.          | Object field Ø | Total mag.        | Object field Ø | Total mag.        | Object field Ø |
|                   |               | ×                 | mm             | ×                   | mm             | ×                   | mm             | ×                 | mm             | ×                 | mm             |
| 10×/23B           | 0.57          | 7.1               | 32.3           | 3.6                 | 64.6           | 5.7                 | 40.4           | 14.3              | 16.1           | 35.6              | 6.5            |
|                   | 0.8           | 10                | 23.0           | 5                   | 46.0           | 8                   | 28.8           | 20                | 11.5           | 50                | 4.6            |
|                   | 1             | 12.5              | 18.4           | 6.3                 | 36.8           | 10                  | 23.0           | 25                | 9.2            | 62.5              | 3.7            |
|                   | 1.25          | 15.6              | 14.7           | 7.8                 | 29.4           | 12.5                | 18.4           | 31.3              | 7.4            | 78.1              | 2.9            |
|                   | 1.6           | 20                | 11.5           | 10                  | 23.0           | 16                  | 14.4           | 40                | 5.8            | 100               | 2.3            |
|                   | 2             | 25                | 9.2            | 12.5                | 18.4           | 20                  | 11.5           | 50                | 4.6            | 125               | 1.8            |
|                   | 2.5           | 31.3              | 7.4            | 15.6                | 14.7           | 25                  | 9.2            | 62.5              | 3.7            | 156.3             | 1.5            |
|                   | 3.2           | 40                | 5.8            | 20                  | 11.5           | 32                  | 7.2            | 80                | 2.9            | 200               | 1.2            |
|                   | 3.6           | 45                | 5.1            | 22.5                | 10.2           | 36                  | 6.4            | 90                | 2.6            | 225               | 1.0            |
|                   | 4             | 50                | 4.6            | 25                  | 9.2            | 40                  | 5.8            | 100               | 2.3            | 250               | 0.9            |
|                   | 5             | 62.5              | 3.7            | 31.3                | 7.4            | 50                  | 4.6            | 125               | 1.8            | 312.5             | 0.7            |
|                   | 6.3           | 78.8              | 2.9            | 39.4                | 5.8            | 63                  | 3.7            | 157.5             | 1.5            | 393.8             | 0.6            |
| 8                 | 100           | 2.3               | 50             | 4.6                 | 80             | 2.9                 | 200            | 1.2               | 500            | 0.5               |                |
| 9.2               | 115           | 2.0               | 57.5           | 4.0                 | 92             | 2.5                 | 230            | 1.0               | 575            | 0.4               |                |
| 16×/15B           | 0.57          | 11.4              | 21.1           | 5.7                 | 42.1           | 9.1                 | 26.3           | 22.8              | 10.5           | 57                | 4.2            |
|                   | 0.8           | 16                | 15.0           | 8                   | 30.0           | 12.8                | 18.8           | 32                | 7.5            | 80                | 3.0            |
|                   | 1             | 20                | 12.0           | 10                  | 24.0           | 16                  | 15.0           | 40                | 6.0            | 100               | 2.4            |
|                   | 1.25          | 25                | 9.6            | 12.5                | 19.2           | 20                  | 12.0           | 50                | 4.8            | 125               | 1.9            |
|                   | 1.6           | 32                | 7.5            | 16                  | 15.0           | 25.6                | 9.4            | 64                | 3.8            | 160               | 1.5            |
|                   | 2             | 40                | 6.0            | 20                  | 12.0           | 32                  | 7.5            | 80                | 3.0            | 200               | 1.2            |
|                   | 2.5           | 50                | 4.8            | 25                  | 9.6            | 40                  | 6.0            | 100               | 2.4            | 250               | 1.0            |
|                   | 3.2           | 64                | 3.8            | 32                  | 7.5            | 51.2                | 4.7            | 128               | 1.9            | 320               | 0.8            |
|                   | 3.6           | 72                | 3.3            | 36                  | 6.7            | 57.6                | 4.2            | 144               | 1.7            | 360               | 0.7            |
|                   | 4             | 80                | 3.0            | 40                  | 6.0            | 64                  | 3.8            | 160               | 1.5            | 400               | 0.6            |
|                   | 5             | 100               | 2.4            | 50                  | 4.8            | 80                  | 3.0            | 200               | 1.2            | 500               | 0.5            |
|                   | 6.3           | 126               | 1.9            | 63                  | 3.8            | 100.8               | 2.4            | 252               | 1.0            | 630               | 0.4            |
| 8                 | 160           | 1.5               | 80             | 3.0                 | 128            | 1.9                 | 320            | 0.8               | 800            | 0.3               |                |
| 9.2               | 184           | 1.3               | 92             | 2.6                 | 147.2          | 1.6                 | 368            | 0.7               | 920            | 0.3               |                |
| 25×/9.5B          | 0.57          | 17.8              | 13.3           | 8.91                | 26.7           | 14.3                | 16.7           | 35.6              | 6.7            | 89                | 2.7            |
|                   | 0.8           | 25                | 9.5            | 12.5                | 19.0           | 20                  | 11.9           | 50                | 4.8            | 125               | 1.9            |
|                   | 1             | 31.3              | 7.6            | 15.6                | 15.2           | 25                  | 9.5            | 62.5              | 3.8            | 156               | 1.5            |
|                   | 1.25          | 39.1              | 6.1            | 19.5                | 12.2           | 31.3                | 7.6            | 78.1              | 3.0            | 195               | 1.2            |
|                   | 1.6           | 50                | 4.8            | 25                  | 9.5            | 40                  | 5.9            | 100               | 2.4            | 250               | 1.0            |
|                   | 2             | 62.5              | 3.8            | 31.3                | 7.6            | 50                  | 4.8            | 125               | 1.9            | 313               | 0.8            |
|                   | 2.5           | 78.1              | 3.0            | 39.1                | 6.1            | 62.5                | 3.8            | 156               | 1.5            | 391               | 0.6            |
|                   | 3.2           | 100               | 2.4            | 50                  | 4.8            | 80                  | 3.0            | 200               | 1.2            | 500               | 0.5            |
|                   | 3.6           | 113               | 2.1            | 56.3                | 4.2            | 90                  | 2.6            | 225               | 1.1            | 562               | 0.4            |
|                   | 4             | 125               | 1.9            | 62.5                | 3.8            | 100                 | 2.4            | 250               | 1.0            | 625               | 0.4            |
|                   | 5             | 156               | 1.5            | 78.1                | 3.4            | 125                 | 1.9            | 313               | 0.8            | 781               | 0.3            |
|                   | 6.3           | 197               | 1.2            | 98.4                | 2.4            | 158                 | 1.5            | 394               | 0.6            | 984               | 0.2            |
| 8                 | 250           | 1.0               | 125            | 1.9                 | 200            | 1.2                 | 500            | 0.5               | 1250           | 0.2               |                |
| 9.2               | 288           | 0.8               | 144            | 1.6                 | 230            | 1.0                 | 575            | 0.4               | 1438           | 0.2               |                |
| 40×/6B            | 0.57          | 28.5              | 8.4            | 14.3                | 16.8           | 22.8                | 10.5           | 57                | 4.2            | 143               | 1.7            |
|                   | 0.8           | 40                | 6.0            | 20                  | 12.0           | 32                  | 7.5            | 80                | 3.0            | 200               | 1.2            |
|                   | 1             | 50                | 4.8            | 25                  | 9.6            | 40                  | 6.0            | 100               | 2.4            | 250               | 1.0            |
|                   | 1.25          | 62.5              | 3.8            | 31.3                | 7.7            | 50                  | 4.8            | 125               | 1.9            | 313               | 0.8            |
|                   | 1.6           | 80                | 3.0            | 40                  | 6.0            | 64                  | 3.8            | 160               | 1.5            | 400               | 0.6            |
|                   | 2             | 100               | 2.4            | 50                  | 4.8            | 80                  | 3.0            | 200               | 1.2            | 500               | 0.5            |
|                   | 2.5           | 125               | 1.9            | 62.5                | 3.8            | 100                 | 2.4            | 250               | 1.0            | 625               | 0.4            |
|                   | 3.2           | 160               | 1.5            | 80                  | 3.0            | 128                 | 1.9            | 320               | 0.8            | 800               | 0.3            |
|                   | 3.6           | 180               | 1.3            | 90                  | 2.7            | 144                 | 1.7            | 360               | 0.7            | 900               | 0.3            |
|                   | 4             | 200               | 1.2            | 100                 | 2.4            | 160                 | 1.5            | 400               | 0.6            | 1000              | 0.2            |
|                   | 5             | 250               | 1.0            | 125                 | 1.9            | 200                 | 1.2            | 500               | 0.5            | 1250              | 0.2            |
|                   | 6.3           | 315               | 0.8            | 158                 | 1.5            | 252                 | 1.0            | 630               | 0.4            | 1575              | 0.2            |
| 8                 | 400           | 0.6               | 200            | 1.2                 | 320            | 0.8                 | 800            | 0.3               | 2000           | 0.1               |                |
| 9.2               | 460           | 0.5               | 230            | 1.0                 | 368            | 0.7                 | 920            | 0.3               | 2300           | 0.1               |                |

Z6 APO / Z6 APO A: Zoom 0.57× – 3.6×  
 Z16 APO / Z16 APO A: Zoom 0.57× – 9.2×

# Major User Segments

| <b>General</b>                       |  |
|--------------------------------------|--|
| Documentation                        | <ul style="list-style-type: none"> <li>– Parallax-free precise imaging</li> <li>– Ideal for multi-focus applications</li> </ul>                              |
| Polarization                         | – Axial imaging for true polarization colors   |
| Measuring, analysis                  | – Parallax-free precise imaging  |
| <b>Technology, industry</b>          |  |
| OEM                                  | Checking the production flow, detection of position and orientation  |
| Semiconductor industry               | <ul style="list-style-type: none"> <li>– Testing, checking, sorting semiconductor components</li> <li>– Inspecting gallium arsenide wafers (GaAs)</li> </ul> |
| Microelectronics                     | Inspecting flex circuits and inkjet print heads  |
| Fiber optic cable technology         | <ul style="list-style-type: none"> <li>– Aligning fiber optic cables</li> <li>– Inspecting laser diodes</li> </ul>   |
| Measuring and test facilities        | Materials testing and measuring, placement of test probes  |
| Metalworking industry                | Quality control, testing metallographic specimens, documentation   |
| Plastics industry                    | <ul style="list-style-type: none"> <li>– Structural examinations of thin sections</li> <li>– Polarization-optical testing</li> </ul>                         |
| Gemology                             | Inspection and classification of diamonds and gemstones  |
| Implants                             | Control of coated stents (vascular supports) and catheters   |
| Criminology                          | Sorting and documentation of trace materials such as fibers, human and animal hair, ammunition and documents (counterfeit). Documentation of impressions.    |
| <b>Natural science, life science</b> |  |
| Biology                              | Examination and documentation of illnesses, pests and ecological damages to plants   |
| Geology                              | Testing petrological thin sections in polarized light  |
| Medicine                             | Examination and documentation of histological thin sections  |
| Education, training                  | Observing and demonstrating processes  |
| Entomology                           | Documentation of beetles and insects   |
| Pathology                            | Documenting organs   |

# ARTICLE DESCRIPTIONS

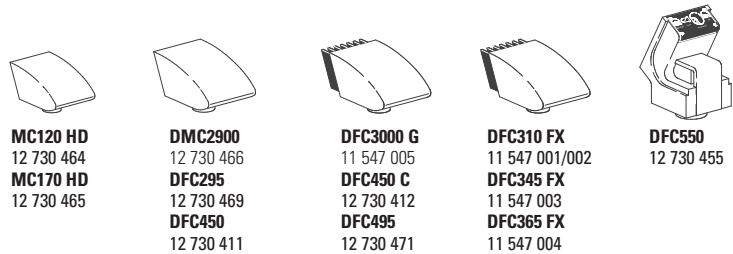


## Cable

11 600 269, FW-b-b  
11 600 254, FW-a-b  
12 730 211, HDMI-cable  
12 730 496, USB3-cable

## PC Cards

12 730 446, FW-b, Notebook Kit  
12 730 447, FW-b, PCI express Low Profile  
12 730 495, USB3, PCI express Low Profile



**MC120 HD**  
12 730 464  
**MC170 HD**  
12 730 465

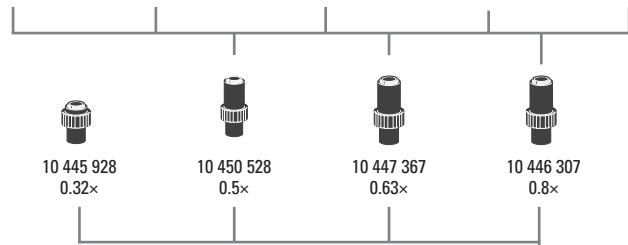
**DMC2900**  
12 730 466  
**DFC295**  
12 730 469  
**DFC450**  
12 730 411

**DFC3000 G**  
11 547 005  
**DFC450 C**  
12 730 412  
**DFC495**  
12 730 471

**DFC310 FX**  
11 547 001/002  
**DFC345 FX**  
11 547 003  
**DFC365 FX**  
11 547 004



**DFC550**  
12 730 455



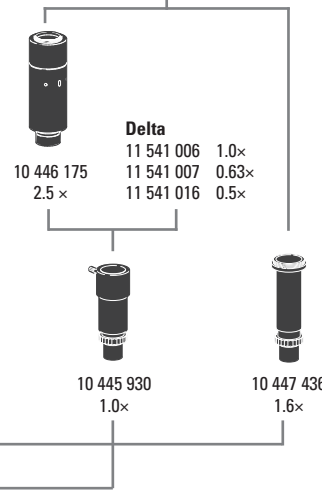
10 445 928  
0.32x

10 450 528  
0.5x

10 447 367  
0.63x

10 446 307  
0.8x

**HC**  
11 541 510 1.0x  
11 541 543 0.7x  
11 541 544 0.55x  
10 450 622 0.4x



10 450 317  
1.0x

10 445 930  
1.0x

10 447 436  
1.6x

| Name      | MPixel | Sensor | Size   | Pixel-Size | Cooling | Interface   | C-Mount*   |
|-----------|--------|--------|--------|------------|---------|-------------|------------|
| MC120 HD  | 2.5    | CMOS-c | 1/2.3" | 2.35 µm    | No      | USB2 + HD   | 0.4x-0.5x  |
| MC170 HD  | 5      | CMOS-c | 1/2.3" | 3.34 µm    | No      | USB2 + HD   | 0.4x-0.5x  |
| DMC2900   | 3      | CMOS-c | 1/2"   | 3.2 µm     | No      | USB3        | 0.5x-0.55x |
| DFC295    | 3      | CMOS-c | 1/2"   | 3.2 µm     | No      | FWb         | 0.5x-0.55x |
| DFC450    | 5      | CCD-c  | 2/3"   | 3.4 µm     | No      | FWb         | 0.63x      |
| DFC450 C  | 5      | CCD-c  | 2/3"   | 3.4 µm     | Yes     | FWb + Sync  | 0.63x      |
| DFC495    | 8      | CCD-c  | 2/3"   | 2.7 µm     | Yes     | FWb + Sync  | 0.63x      |
| DFC550    | 12.5   | CCD-c  | 2/3"   | 6.45 µm    | Yes     | FWb + Sync  | 0.63x      |
| DFC3000 G | 1.3    | CCD-m  | 1/3"   | 3.75 µm    | No      | USB3 + Sync | 0.35x      |
| DFC310 FX | 1.4    | CCD-c  | 2/3"   | 6.45 µm    | Yes     | FWb + Sync  | 0.63x      |
| DFC345 FX | 2      | CCD-m  | 1/2"   | 4.4 µm     | Yes     | FWb + Sync  | 0.5x       |
| DFC365 FX | 1.4    | CCD-m  | 2/3"   | 6.45 µm    | Yes     | FWb + Sync  | 0.63x      |

-c: color / -m: monochrome / \* recommended

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## Digital camera systems

12 730 464 Leica MC120 HD camera kit  
12 730 465 Leica MC170 HD camera kit  
12 730 466 Leica DMC2900 camera kit  
12 730 469 Leica DFC295 camera kit  
12 730 411 Leica DFC450 camera kit  
12 730 412 Leica DFC450 C camera kit  
12 730 471 Leica DFC495 camera kit  
12 730 455 Leica DFC550 camera kit

11 547 005 Leica DFC3000 G camera kit  
11 547 002 Leica DFC310 FX camera kit  
11 547 003 Leica DFC345 FX camera kit  
11 547 004 Leica DFC365 FX camera kit  
12 730 054 Leica IC D camera kit  
12 730 060 Leica IC 3D camera kit  
12 730 216 Leica IC80 HD camera (incl. USB-cable and Leica Software) not recommended for MZ10 F / M165 FC / M205 FA  
12 730 228 Leica Stand-alone-kit (USB power pack, HDMI-cable, SD-card, HD RC remote control) for IC80 HD  
12 730 229 Palm or foot switch with 2 m cable for IC80 HD

## Digitale camera system accessories

11 600 269 FireWire cable, FW-b-b, 2.5 m, 9-pin to 9-pin  
11 600 254 FireWire cable, FW-a-b, 2.5 m, 6-pin to 9-pin  
12 730 211 HDMI-cable, 3 m, HDMI both ends  
12 730 496 USB3-cable, 2.5 m StandardA to Micro-B  
12 730 446 FW-b, Notebook Kit (includes PCcard Express, power supply: 100 - 240 V, 24 W, adapter FW-b-a)  
12 730 447 FW-b, PCI express card Low Profile  
12 730 495 USB3, PCI express card Low Profile

## Phototubes and C-mounts

10 447 319 Adapter T2, Canon EOS  
10 447 436 1.6x DLSR tube with T2 thread (APS-C sensor)  
10 446 175 2.5x DLSR tube with T2 thread (24x36 mm sensor)  
10 445 928 0.32x video objektive with C-mount for 1/3" digital cameras  
10 450 528 0.5x video objektive with C-mount for 1/2" digital cameras  
10 447 367 0.63x video objektive with C-mount for 2/3" digital cameras  
10 446 307 0.8x video objektive with C-mount for 2/3" digital cameras  
10 445 930 1.0x video-/photo objektive  
10 450 317 1.0x C-mount adapter for HC

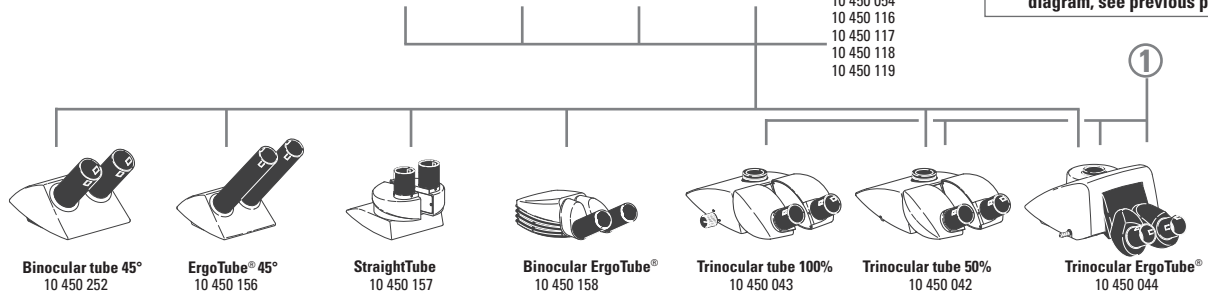
Connection to main diagram  
next page

# ARTICLE DESCRIPTIONS

- 10x 10 450 630
- 16x 10 450 631
- 25x 10 450 632
- 40x 10 450 633

- Graticules**  
 10 450 054  
 10 450 116  
 10 450 117  
 10 450 118  
 10 450 119

For connection to the camera diagram, see previous page



- Eyepieces and graticules**
- 10 450 630 Wide-field eyepieces for eyeglass wearers 10x/23, distortionfree, dioptic correction, with eyecups\*
  - 10 450 631 Wide-field eyepieces for eyeglass wearers 16x/15, distortionfree, dioptic correction, with eyecups\*
  - 10 450 632 Wide-field eyepieces for eyeglass wearers 25x/9.5, distortionfree, dioptic correction, with eyecups\*
  - 10 450 633 Wide-field eyepieces for eyeglass wearers 40x/6, distortionfree, dioptic correction, with eyecups\*

\* replaceable

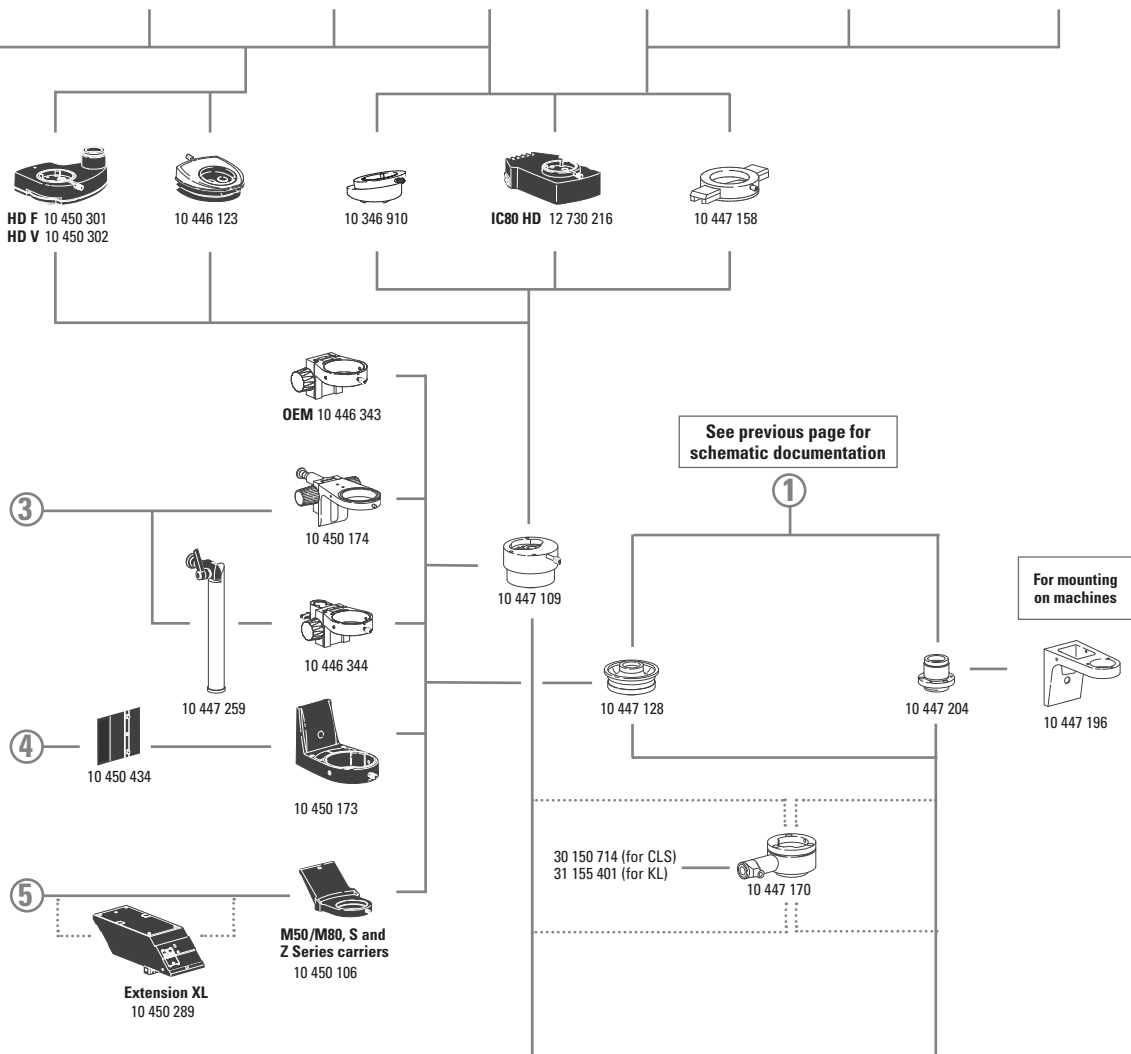
- 10 450 054 Graticule for encoded M series
- 10 450 116 Graticule, 5 mm / 0.05 mm
- 10 450 117 Graticule, 10 mm / 0.1 mm
- 10 450 118 Graticule, 100 Div. / 0.001
- 10 450 119 Graticule, crosshair

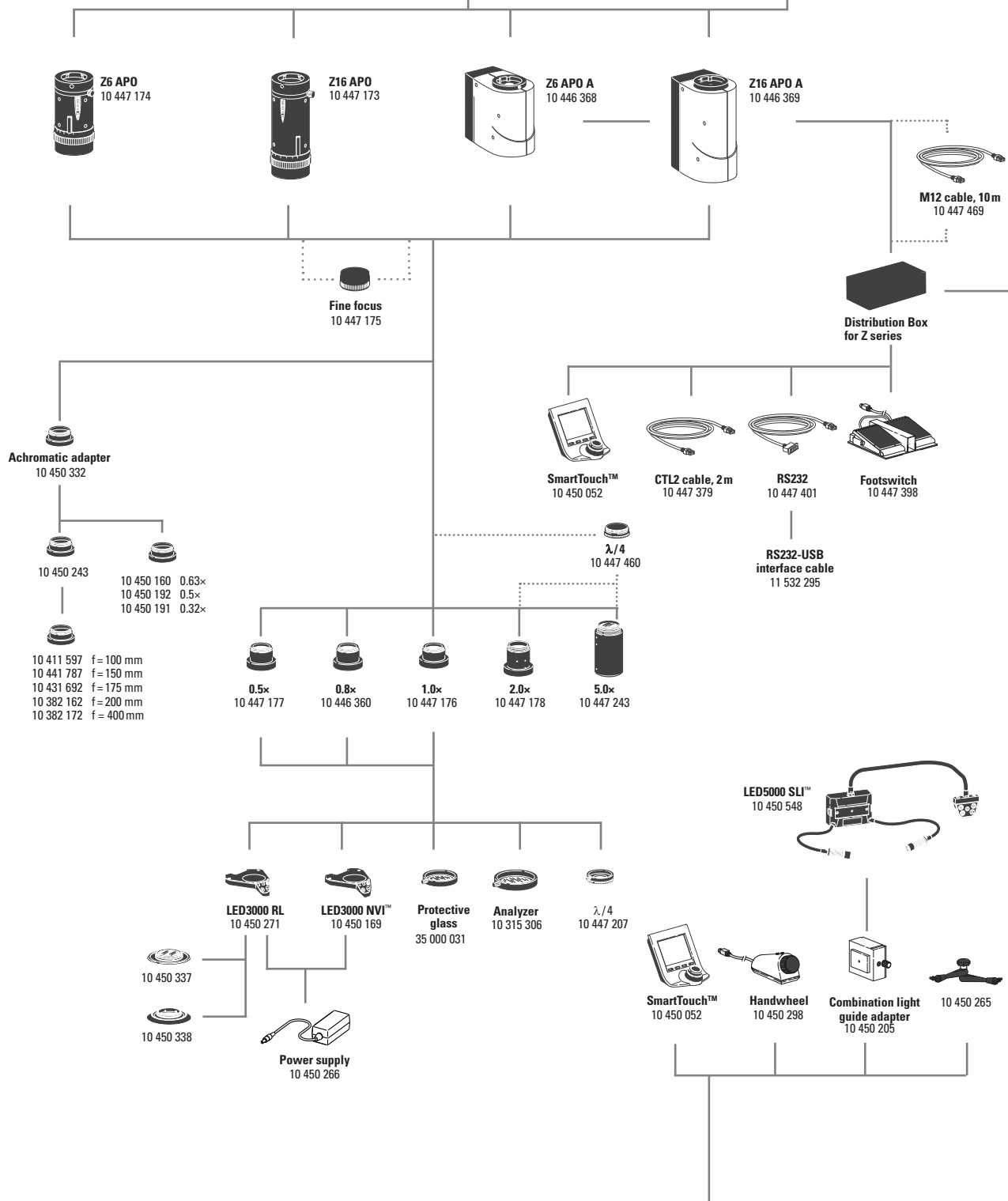
## Tubes, ergonomics and integrated camera modules

- 10 450 252 Inclined binocular tube, 45° viewing angle
- 10 450 156 Binocular ErgoTube® with 45° viewing angle and long tubes, extension factor 1.6x
- 10 450 157 Straight binocular tube with 90° viewing angle
- 10 450 158 Binocular ErgoTube® with variable viewing angle 10° – 50°
- 10 450 042 Trinocular video- / phototube 50%, 30° viewing angle
- 10 450 043 Trinocular video- / phototube 100%, 30° viewing angle
- 10 450 044 Trinocular video- / phototube 100%, 5° – 45° viewing angle
- 10 446 123 ErgoWedge® 5° – 25° (not to be used with trinocular tubes)
- 10 346 910 ErgoWedge® ±15 (not to be used with trinocular tubes)
- 10 450 301 Video- / phototube HD F, 50/50 %
- 10 450 302 Video- / phototube HD V, 0/100%, 50/50%, 100/0%
- 12 730 216 Leica IC80 HD camera kit
- 10 447 158 Filter slide housing with 2 filter slides

## Microscope carriers and accessories

- 10 446 343 Focusing arm for probers
- 10 450 174 Tilttable focusing arm
- 10 446 344 Focusing arm for columns Ø 25mm to bonders
- 10 447 259 Photo column, inclinable, Ø 25 mm
- 10 450 173 Microscope carrier for focusing drive 10 450 217
- 10 450 106 Microscope carrier, compatible with M50 / M80, S and Z series
- 10 447 109 Y tube for tubes of the Leica M series, tube factor 1.25x, light distribution 50 / 50
- 10 447 128 A tube
- 10 447 196 Carrier to AS tube on machines
- 10 447 204 AS tube





### Zoom systems and accessories

- 10 447 174 Leica Z6 APO 6.3:1 apochromatic zoom system
- 10 447 173 Leica Z16 APO 16:1 apochromatic zoom system
- 10 446 368 Leica Z6 APO A 6.3:1 motorized zoom system, apochromatic, with distribution box and M12 cable
- 10 446 369 Leica Z16 APO A 16:1 motorized zoom system, apochromatic, with distribution box and M12 cable

### Objectives and optical accessories

- 10 447 175 Fine focusing (for Z6 APO / Z16 APO only), 10 mm travel distance
- 10 447 177 0.5× planapochromatic objective
- 10 446 360 0.8× planapochromatic objective
- 10 447 176 1× planapochromatic objective
- 10 447 178 2× planapochromatic objective
- 10 447 243 5× Planapochromatic objective
- 10 450 332 Adapter for M series achromatic objectives
- 10 450 191 0.32× achromatic objective
- 10 450 192 0.5× achromatic objective
- 10 450 160 0.63× achromatic objective
- 10 450 243 Adapter for LWD achromatic objectives
- 10 411 597 Achromatic objective f = 100 mm
- 10 441 787 Achromatic objective f = 150 mm
- 10 431 692 Achromatic objective f = 175 mm
- 10 382 162 Achromatic objective f = 200 mm
- 10 382 172 Achromatic objective f = 400 mm

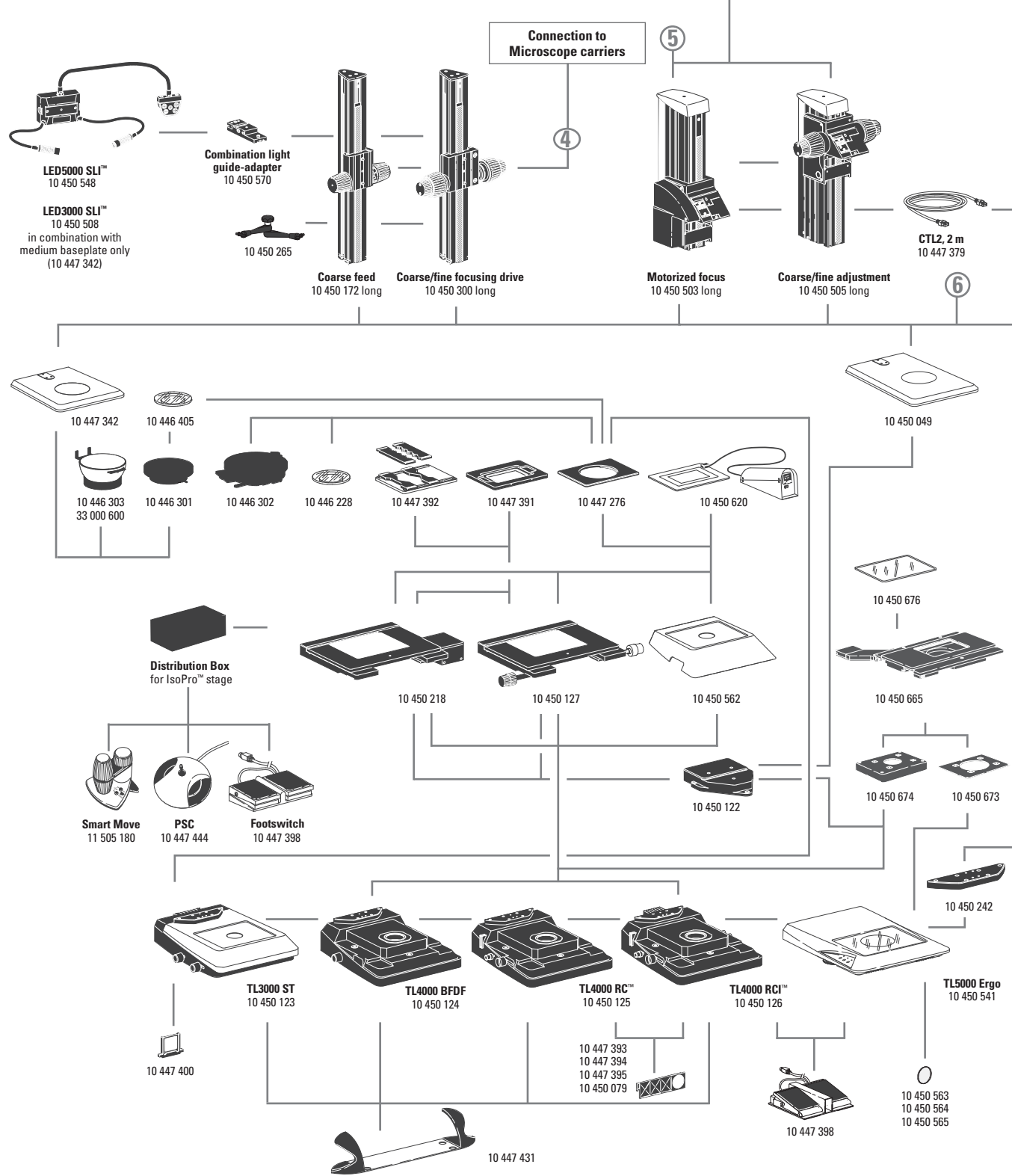
- 35 000 031 Protective glass for planapochromatic objectives
- 10 315 306 Analyzer in rotating mount
- 10 447 207 Quarter-wave plate, Ø 58 mm
- 10 447 460 Quarter-wave plate for 2.0 × and 5.0 ×

### Illumination

- 10 450 271 LED3000 RL – ring illuminator, Ø 58 mm objectives, 24 power LEDs, 5600 K color temperature, optimized LED auxiliary lens, selectable segments, optimized for 60–150 mm working distance
- 10 450 337 Polarization set for Leica LED3000 RL
- 10 450 338 Diffuser for Leica LED3000 RL
- 10 450 169 LED3000 NVI™ – vertical illuminator for Ø 58 mm objectives, for 60–150 mm working distance”
- 10 450 508 LED3000 SLI™, spotlight illumination, double-armed gooseneck 300 mm long, 2 power LEDs, 5600 K color temperature, control unit on separate gooseneck, incl. diffuser pair
- 10 450 548 LED5000 SLI™, spotlight illumination, double-armed gooseneck 500 mm long, with 2 power LEDs, 5600 K color temperature, control unit on separate gooseneck, incl. diffuser pair
- 10 450 570 Combination light guide-adaptor to focusing columns of the routine M series, for LED3000 SLI™ and LED3000 MCI™
- 10 450 205 Combination light guide-adaptor to focusing columns of the high-performance M series, for LED5000 SLI™
- 10 450 266 Power supply for LED3000 / LED5000

- 10 447 170 Coaxial illumination Z-series
- 31 155 401 Light guide, TL bases, coax & NV-ill - 1m
- 30 150 703 Flex light guide 1-arm TVC 9/1000





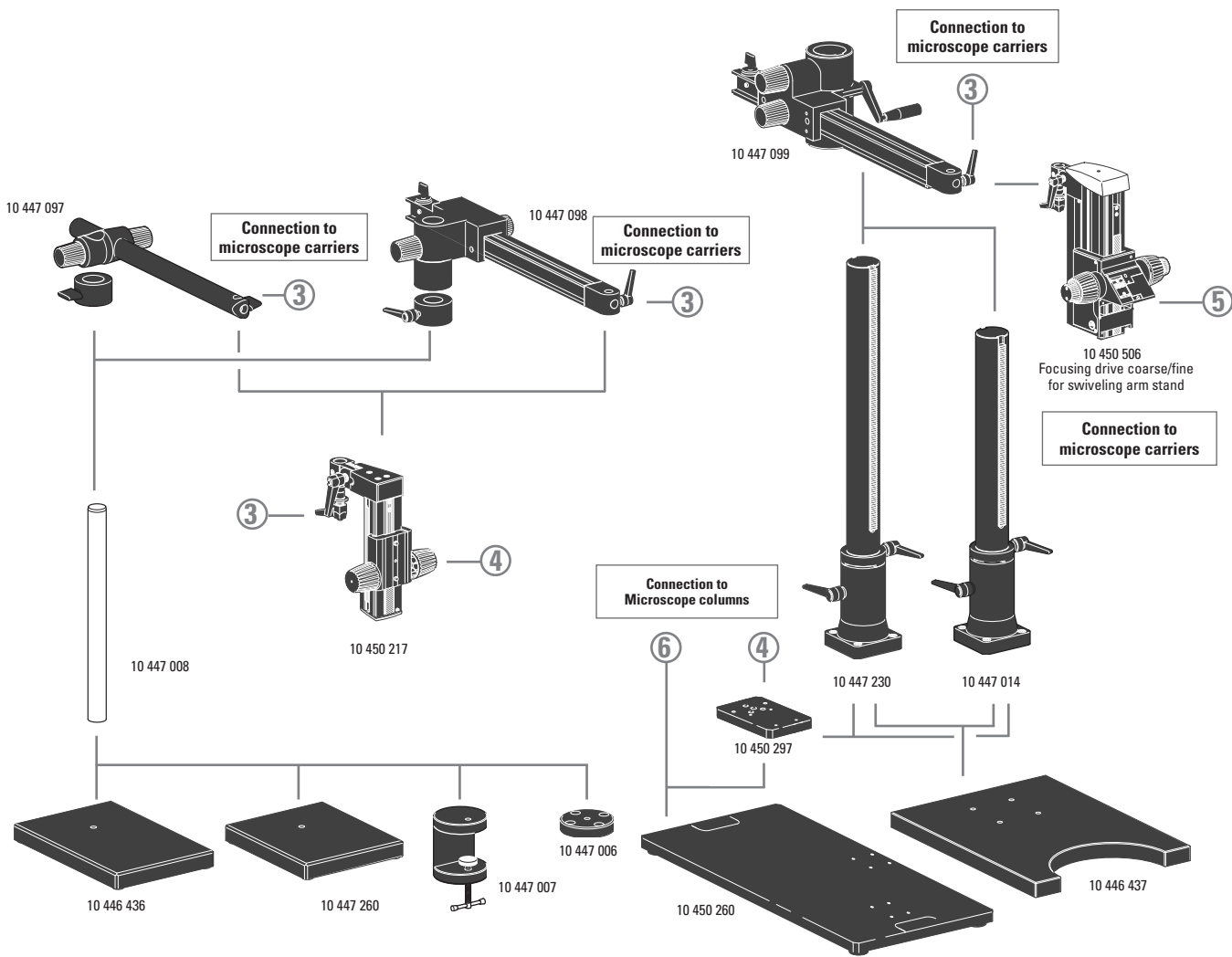
### Incident light and transmitted light bases

- 10 447 342 Incident light base medium
- 10 450 049 Incident light base large
- 10 450 123 Transmitted light base TL3000 ST with bright field (HF) and single-sided dark field (DF)
- 10 450 124 Transmitted light base TL4000 BFDf for external cold-light sources with HF and circular DF
- 10 450 125 Transmitted light base TL4000 RC™ for external cold-light sources with HF, single-sided DF and Rottermann Contrast™ (RC)
- 10 450 126 Transmitted-light base TL4000 RCI™ with integrated halogen illumination
- 10 450 541 Transmitted light base TL5000 Ergo with integrated LED illumination, automatic contrasting, HF, double-sided DF and RC
- 10 450 242 Standard adapter plate between column and transmitted light base
- 10 450 434 Spacer for routine columns on high-performance bases

### Stages

- 10 450 562 Standard stage for TL4000 BFDf, TL4000 RC™ and TL4000 RCI™
- 10 450 665 Scanning stage with linear motors and absolute measuring system
- 10 450 673 Stage Adapter for TL5000 Ergo
- 10 450 674 Stage Adapter for TL4000 Series
- 10 450 676 Glas insert for scanning stage 10 450 665
- 10 450 127 Leica IsoPro™ manual mechanical stage for TL4000 BFDf, TL4000 RC™, TL4000 RCI™ transmitted-light bases and incident light base (with adapter 10 450 122)
- 10 450 218 Leica IsoPro™ motorized mechanical stage for TL BFDf, TL RC™, TL RCI™ transmitted-light bases and incident light base (with adapter 10 450 122)
- 10 450 122 Adapter between mechanical stage and incident light base 10 450 049
- 10 450 620 Leica MATS TL heating stage insert with control unit for TL transmitted light bases
- 10 447 276 Adapter for stages with  $\varnothing 120$  mm
- 10 447 391 Stage for LifeOnStage accessories
- 10 447 392 Universal carrier for Petri dishes, specimen slides (up to four) etc.

- 10 446 301 Gliding stage,  $\varnothing 120$  mm
- 10 446 302 Polarization stage,  $\varnothing 120$  mm
- 10 382 130 Attachable mechanical stage for polarization stage
- 10 361 719 Sensitive-tint plate for Pol rotating stage
- 10 446 303 Cup stage,  $\varnothing 120$  mm
- 33 000 600 Cup stage,  $\varnothing 120$  mm, surface  $\varnothing 150$  mm, revolving
- 10 446 228 Glass stage plate with Pol,  $\varnothing 120$  mm
- 10 450 058 Stage plate, b/w for TL bases
- 10 450 059 Replacement knobs for IsoPro™ manual mechanical stage



### Focusing drives

- 10 450 172 Coarse focusing drive with profile column 500 mm
- 10 450 300 Coarse/fine focusing drive with profile column 500 mm
- 10 450 505 Coarse/fine focusing drive with profile column 620 mm
- 10 450 503 Motorized focus with profile column 620 mm
- 10 450 289 XL extension – for viewing large specimens

- 10 450 265 Arm for fastening LED spotlights
- 10 447 369 CTL2 cable, 2 m

### Filter

- 10 447 400 Daylight filter for TL3000 ST base
- 10 447 394 BG38 filter for TL4000 RC™/ RCI™ transmitted-light base
- 10 447 395 UV filter for TL4000 RC™/ RCI™ base
- 10 447 393 ND filter (neutral density filter) for TL4000 RC™/ RCI™ base
- 10 450 079 Daylight filter for TL4000 RCI™ base

### Controls

- 11 505 180 Leica SmartMove control unit for Leica IsoPro™ motorized mechanical stage
- 10 447 444 Leica PSC control unit for Leica IsoPro™ motorized mechanical stage
- 10 450 052 SmartTouch™, external control unit with integr. touchscreen for status control and control of all settings and functions
- 10 450 298 Manual controller for motorized focus
- 10 447 398 Footswitch for motorized stereomicroscopes
- 10 447 401 PC interface for Motor focus RS232, 3 m
- 11 532 295 RS232-USB interface cable
- 33 000 038 USB cable for TL base RCI 1.8 m

### Ergonomic accessories

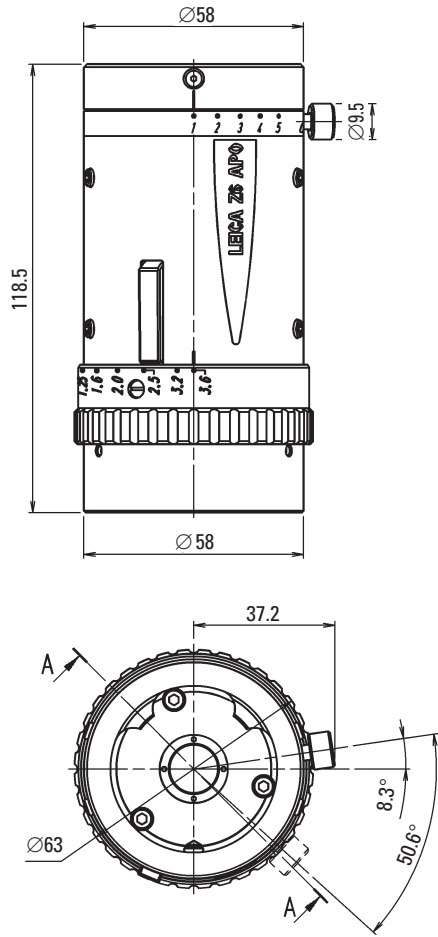
- 10 447 431 Leica ErgoRest (handrest for fatigue-free work)

### Swiveling arm stands

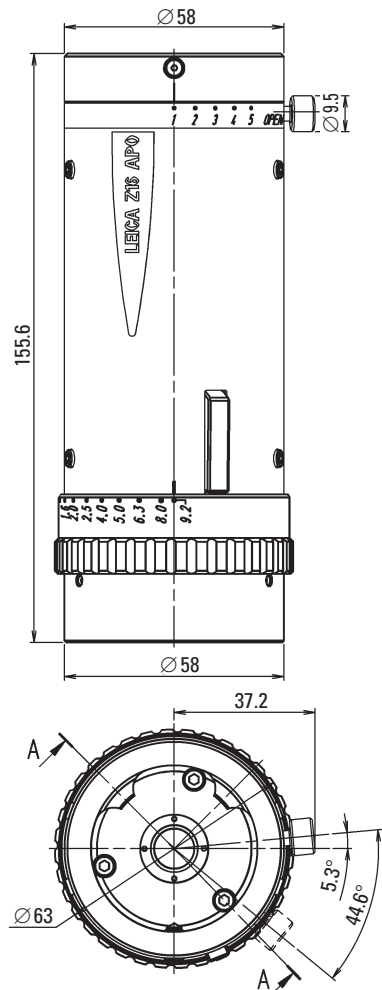
- 10 447 260 Baseplate, small
- 10 446 436 Baseplate, medium
- 10 447 008 Vertical column 470 / 35 mm
- 10 447 097 Horizontal arm ESD
- 10 447 098 Horizontal arm standard
- 10 447 006 Flange
- 10 447 007 Stage clamp
- 10 446 437 Baseplate, large
- 10 447 230 Vertical column 800 / 57 mm
- 10 447 014 Vertical column 560 / 57 mm
- 10 447 099 Horizontal arm, large
- 10 450 217 Focusing drive with inclinable column
- 10 450 506 Focusing drive coarse/fine for swiveling arm stand
- 10 450 260 Universal plate XL for specimens up to 300 x 300 mm
- 10 450 297 Adapter for universal plate 10 450 260 for all swinging-arm columns

# Leica Z6 APO & Z16 APO

## Dimensions of Zoom System, Coaxial Incident Light Housing

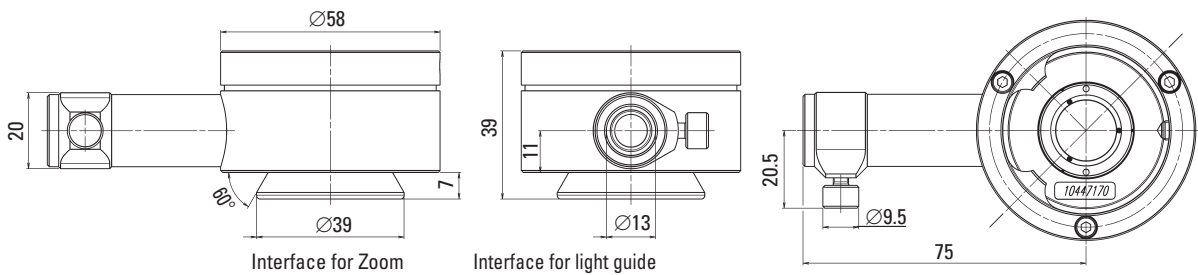


**Leica Z6 APO**



**Leica Z16 APO**

### Coaxial Incident Light Housing

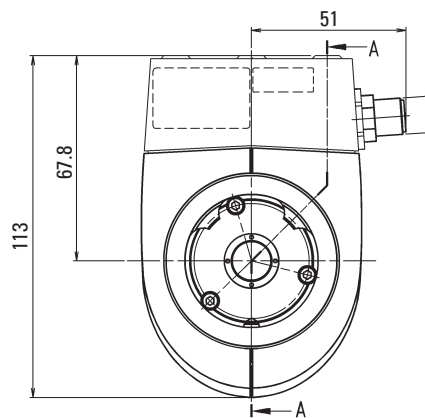
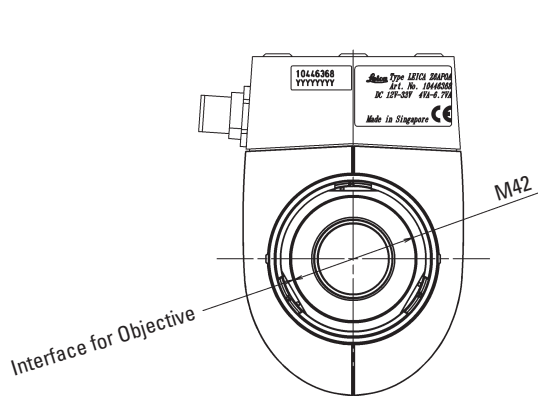
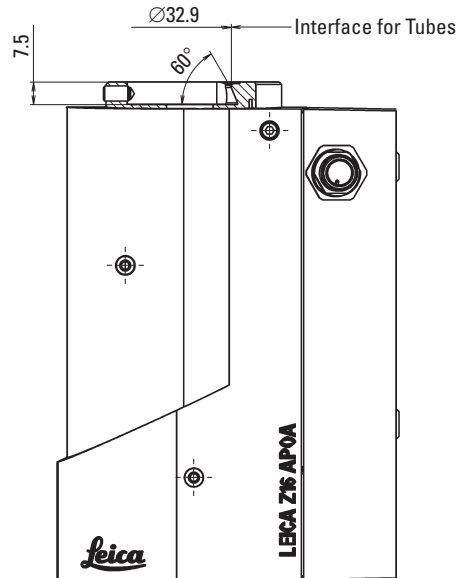
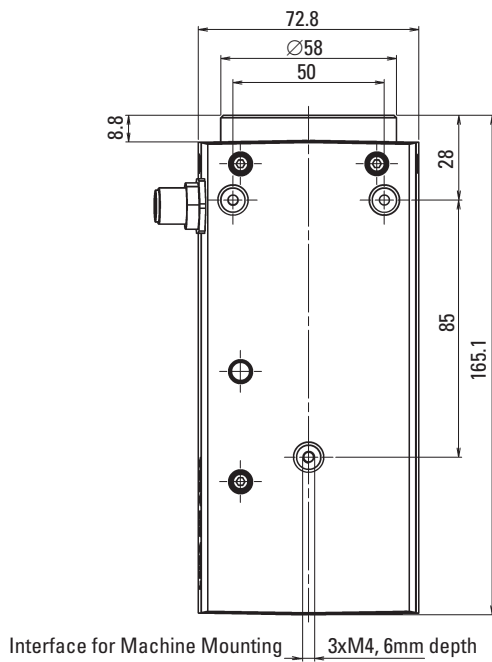
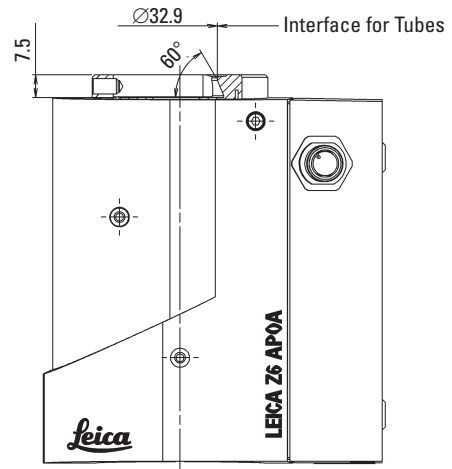
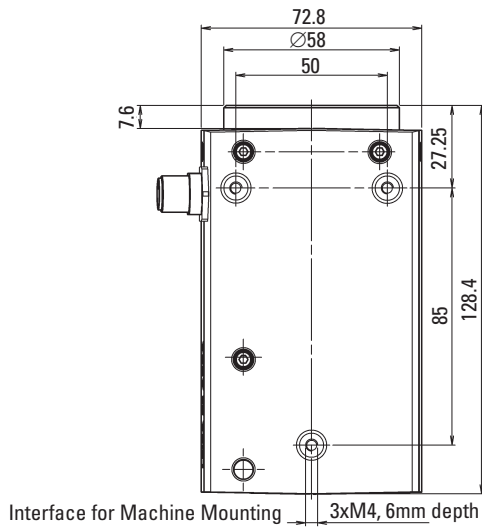


Interface for Zoom

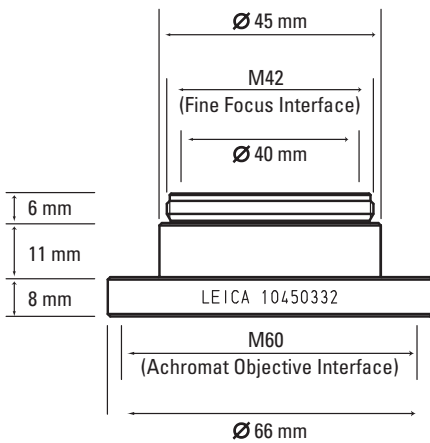
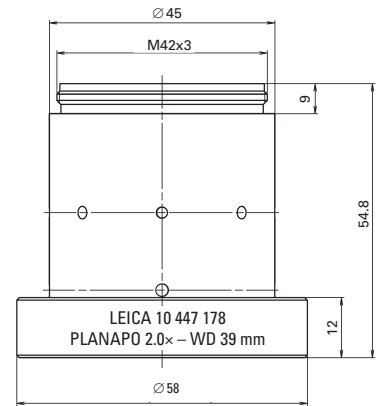
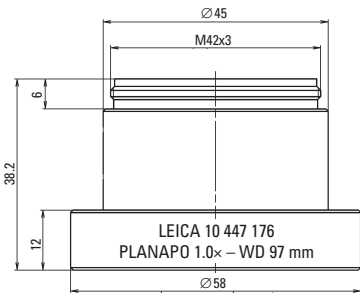
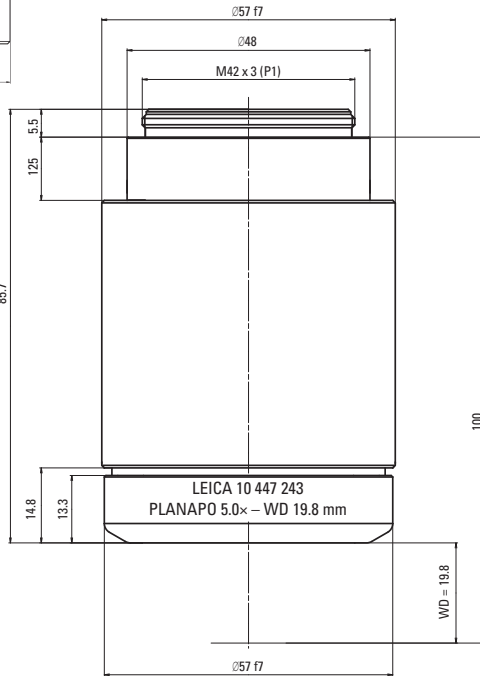
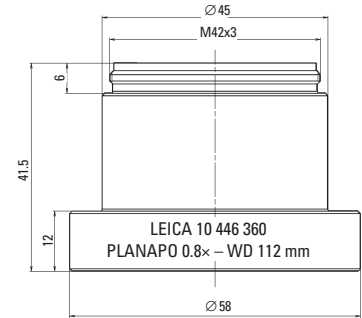
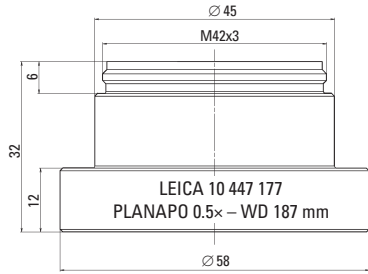
Interface for light guide

# Leica Z6 APO A & Z16 APO A

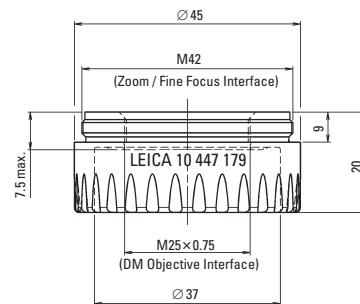
## Dimensions of Zoom System



# Dimensions of Objectives, Adapters

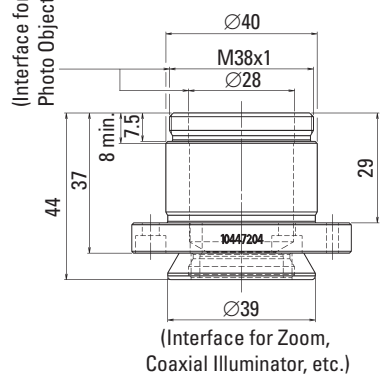
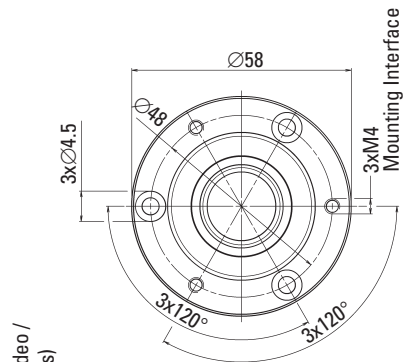


**Achromat Objective Interface**

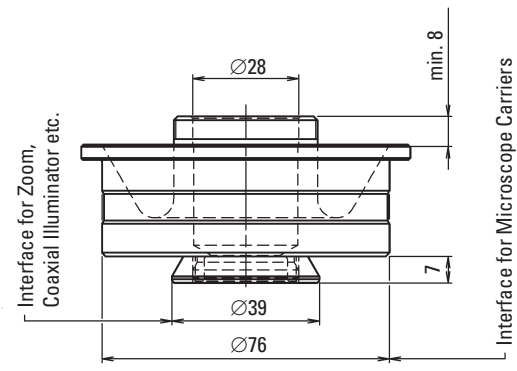
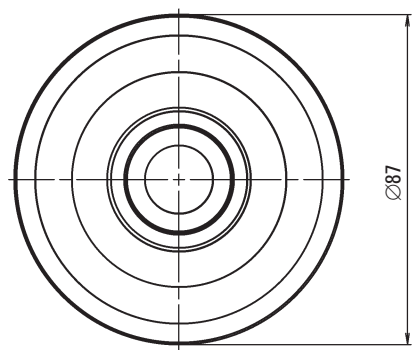


**DM Objective Interface**

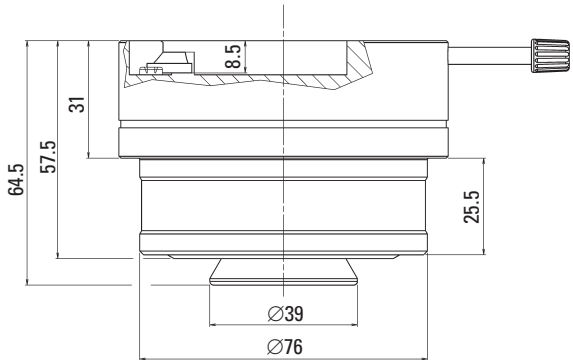
# Dimensions des tubes



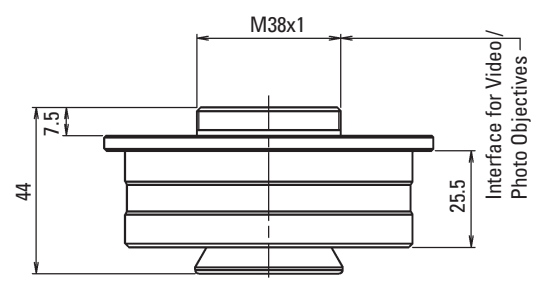
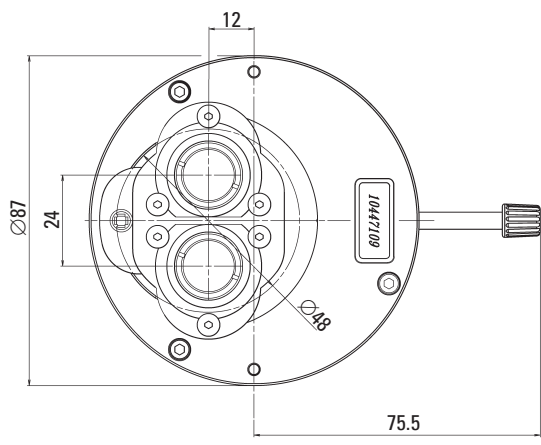
**Tube AS**



**Tube A**



**Tube Y**





The statement by Ernst Leitz in 1907, “*With the User, For the User,*” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

Leica Microsystems operates globally in three divisions, where we rank with the market leaders.

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#### LIFE SCIENCE DIVISION

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems’ customers at the leading edge of science.

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#### INDUSTRY DIVISION

The Leica Microsystems Industry Division’s focus is to support customers’ pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

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#### MEDICAL DIVISION

The Leica Microsystems Medical Division’s focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

