# 2022 Versions

广 西 梧 州 裕 康 仪 器 有 限 责 任 公 司

**Guangxi Wuzhou Yucon Instrument Company Ltd**

# 致力研发光学显微镜头
# 打造洞察微观世界慧眼

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YUCON instrument products are mainly used in trace inspection, biological inspection, industrial semiconductor inspection, microelectronics, optical applications and related laboratory project research and development and other fields.

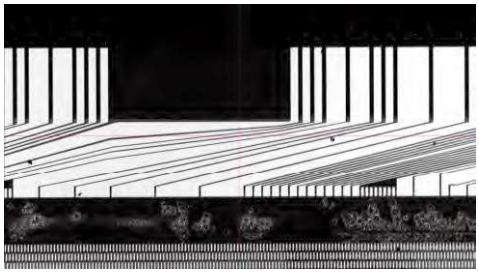
# SPZ0745

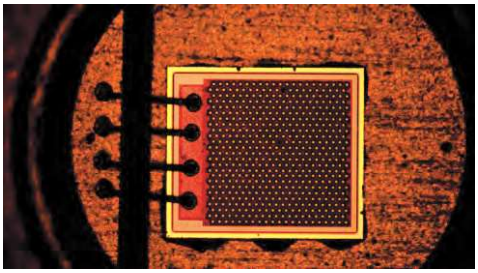
## Standard continuous zoom video microscope

## Main application scope

Digital imaging observation, detection and measurement in electronic equipment, semiconductor, LCD, LED and other fields

- With coaxial lamp
- With fine adjustment
- Zoom positioning
- Optional CCD connector
- Optional objective lens

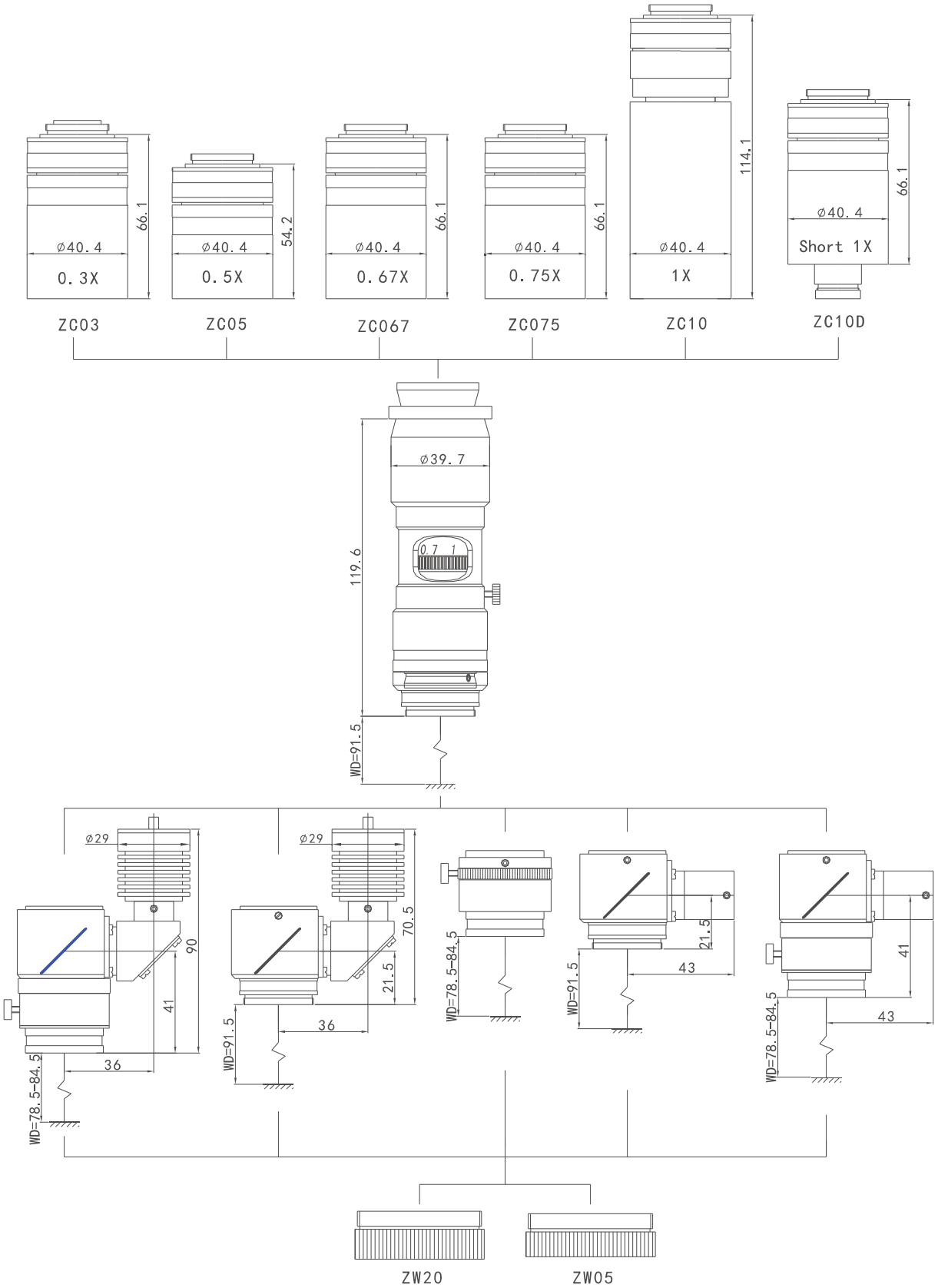




### SPZ0745 Video Range Comparison Table

| Supplemental len | | | 1XCCD | | | | | | 0.67XCCD | | | | | | 0.5XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia |
| 1X Objective WD=90 | Mag | | 0.7X～4.5X | | | | | | 0.469X～3.015X | | | | | | 0.35X～2.25X | | | | | |
| | FOV | 1/3″ | 6.86 | 5.14 | 8.57 | 1.07 | 0.8 | 1.33 | 10.23 | 7.68 | 12.79 | 1.59 | 1.19 | 1.99 | 13.71 | 10.29 | 17.14 | 2.13 | 1.6 | 2.67 |
| | | 1/2″ | 9.14 | 6.86 | 11.43 | 1.42 | 1.07 | 1.78 | 13.65 | 10.23 | 17.06 | 2.12 | 1.59 | 2.65 | 18.29 | 13.71 | 22.86 | 2.84 | 2.13 | 3.56 |
| | | 2/3″ | 12.57 | 9.43 | 15.71 | 1.96 | 1.47 | 2.44 | | | | | | | | | | | | |
| 2X Objective WD=32 | Mag | | 1.4X～9.0X | | | | | | 0.938X～6.03X | | | | | | 0.7X～4.5X | | | | | |
| | FOV | 1/3″ | 3.43 | 2.57 | 4.29 | 0.53 | 0.4 | 0.67 | 5.12 | 3.84 | 6.40 | 0.80 | 0.60 | 1.00 | 6.86 | 5.14 | 8.57 | 1.07 | 0.8 | 1.33 |
| | | 1/2″ | 4.57 | 3.43 | 5.71 | 0.71 | 0.53 | 0.89 | 6.82 | 5.12 | 8.53 | 1.06 | 0.80 | 1.33 | 9.14 | 6.86 | 11.43 | 1.42 | 1.07 | 1.78 |
| | | 2/3″ | 6.29 | 4.57 | 7.86 | 0.98 | 0.73 | 1.22 | | | | | | | | | | | | |
| | Mag | | 0.5XCCD curved adapter | | | | | | 0.3XCCD | | | | | | | | | | | |
| 1X Objective WD=90 | | | 0.35X～2.25X | | | | | | 0.21X～1.35X | | | | | | | | | | | |
| | FOV | 1/3″ | 13.71 | 10.29 | 17.14 | 2.13 | 1.6 | 2.67 | 22.86 | 17.14 | 28.57 | 3.56 | 2.67 | 4.44 | | | | | | |
| | | 1/2″ | 18.29 | 13.71 | 22.86 | 2.84 | 2.13 | 3.56 | | | | | | | | | | | | |

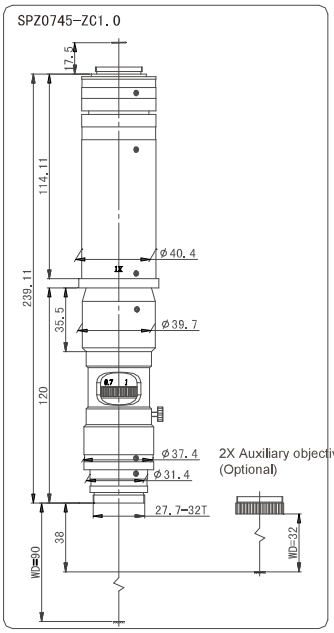
## SPZ0745 Series



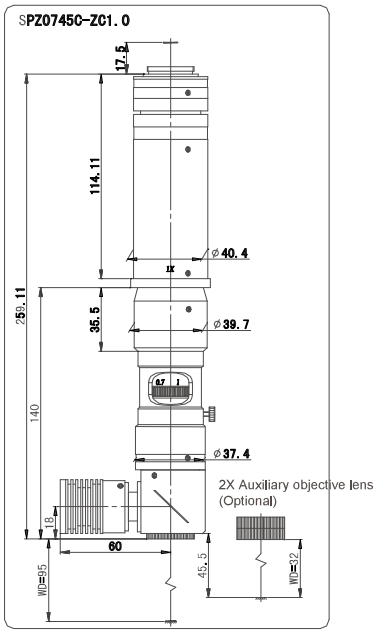
## SPZ0745-ZC1.0 with 6mm fine-tuning additional objective lens

| Objective | Mag | Working distance (mm) | FOV(mm) | NA | Resolution | DOF | Distortion | Max Compatible CCD |
|---|---|---|---|---|---|---|---|---|
| F83mm | 5.4X | 66.5±3 | 0.88X0.66 | 0.0819 | 4.1um | 0.09mm | 0.09% | 2/3″ |
| | 2.0X | | 2.4X1.8 | 0.0567 | 5.9um | 0.35mm | 0.12% | |
| | 0.8X | | 6.0X4.5 | 0.0283 | 11.8um | 1.76mm | 0.25% | |
| F100mm | 4.5X | 81.5±3 | 1.06X0.8 | 0.069 | 4.8um | 0.12mm | 0.08% | 2/3″ |
| | 1.73X | | 2.77X2.08 | 0.0476 | 7.0um | 0.48mm | 0.14% | |
| | 0.7X | | 6.86X5.14 | 0.0239 | 14.0um | 2.39mm | 0.17% | |
| F110mm | 4.0X | 93±3 | 1.2X0.9 | 0.0617 | 5.4um | 0.16mm | 0.08% | 2/3″ |
| | 1.5X | | 3.2X2.4 | 0.0427 | 7.8um | 0.62mm | 0.19% | |
| | 0.62X | | 7.74X5.80 | 0.0213 | 15.7um | 3.02mm | 0.28% | |
| F120mm | 3.7X | 103.5±3 | 1.30X0.97 | 0.0531 | 6.3um | 0.20mm | 0.09% | 2/3″ |
| | 1.4X | | 3.42X2.57 | 0.0391 | 8.5um | 0.73mm | 0.12% | |
| | 0.58X | | 8.27X6.20 | 0.0195 | 17.2um | 3.53mm | 0.14% | |
| F133mm | 3.4X | 116.5±3 | 1.41X1.05 | 0.0481 | 6.9um | 0.24mm | 0.08% | 2/3″ |
| | 1.3X | | 3.69X2.76 | 0.0355 | 9.4um | 0.86mm | 0.10% | |
| | 0.53X | | 9.05X6.79 | 0.0177 | 18.9um | 4.26mm | 0.08% | |
| F155mm | 2.9X | 139.5±3 | 1.65X1.24 | 0.0413 | 8.1um | 0.33mm | 0.10% | 2/3″ |
| | 1.1X | | 4.36X3.27 | 0.0305 | 11.0um | 1.19mm | 0.09% | |
| | 0.45X | | 10.6X8 | 0.0152 | 22.0um | 5.84mm | 0.14% | |
| F180mm | 2.5X | 164.3±3 | 1.92X1.44 | 0.0356 | 9.4um | 0.44mm | 0.10% | 2/3″ |
| | 0.96X | | 5.0X3.75 | 0.0263 | 12.7um | 1.58mm | 0.08% | |
| | 0.38X | | 12.6X9.47 | 0.0131 | 25.6um | 8.03mm | 0.20% | |
| F200mm | 2.2X | 185.5±3 | 2.18X1.63 | 0.0319 | 10.5um | 0.56mm | 0.10% | 2/3″ |
| | 0.85X | | 5.64X4.23 | 0.0236 | 14.2um | 1.99mm | 0.08% | |
| | 0.35X | | 13.7X10.3 | 0.0118 | 28.4um | 9.68mm | 0.21% | |
| F225mm | 2.0X | 206±3 | 2.4X1.8 | 0.0303 | 11.0um | 0.66mm | 0.09% | 2/3″ |
| | 0.76X | | 6.31X4.73 | 0.0211 | 15.9um | 2.49mm | 0.08% | |
| | 0.32X | | 15X11.2 | 0.0101 | 31.9um | 11.9mm | 0.25% | |

SPZ0745-ZC1.0




SPZ0745C-ZC1.0

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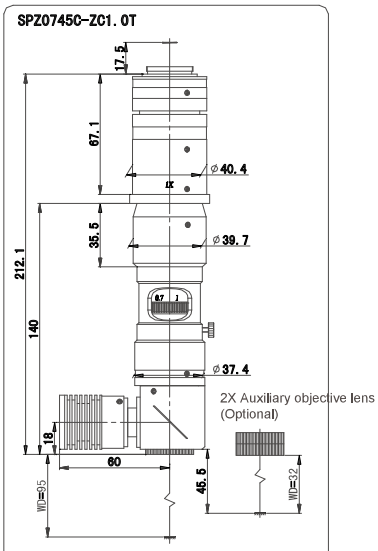


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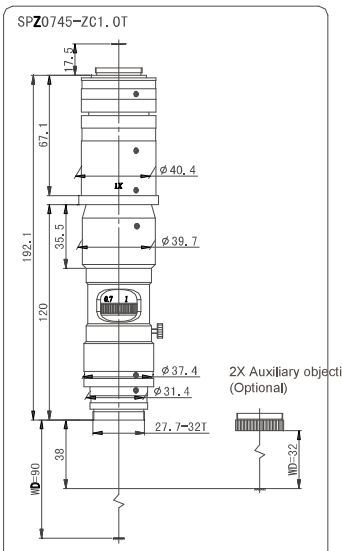


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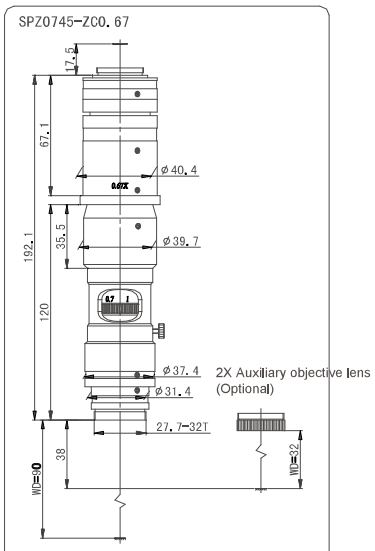
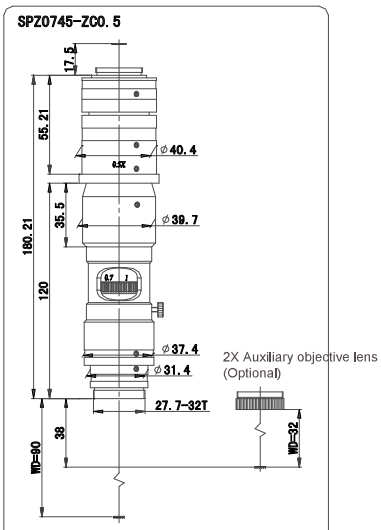



SPZ0745-ZC0.5

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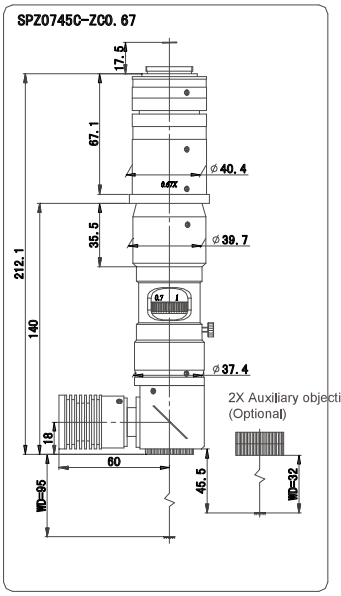


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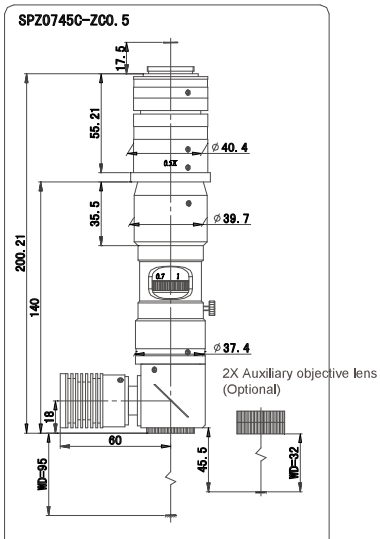


# SPZD0745

## Universal continuous zoom video microscope

## Field of view comparison table

| Supplemental lens | | | 1XCCD | | | | | | 0.7XCCD | | | | | | 0.57XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | | | | High Mag | | | | | | High Mag | | |
| | | | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal |
| 1X Objective | Big manification | | 0.7X～4.5X | | | | | | 0.49X～3.15X | | | | | | 0.399X～2.565X | | | | | |
| | FOV | 1/3″ | 6.86 | 5.14 | 8.57 | 1.07 | 0.8 | 1.33 | 9.80 | 7.35 | 12.24 | 1.52 | 1.14 | 1.90 | 12.03 | 9.02 | 15.04 | 1.87 | 1.40 | 2.34 |
| | | 1/2″ | 9.14 | 6.86 | 11.43 | 1.42 | 1.07 | 1.78 | 13.06 | 9.80 | 16.33 | 2.03 | 1.52 | 2.54 | 16.04 | 12.03 | 20.05 | 2.50 | 1.87 | 3.12 |
| | | 2/3″ | 12.57 | 9.43 | 15.71 | 1.96 | 1.47 | 2.44 | | | | | | | | | | | | |

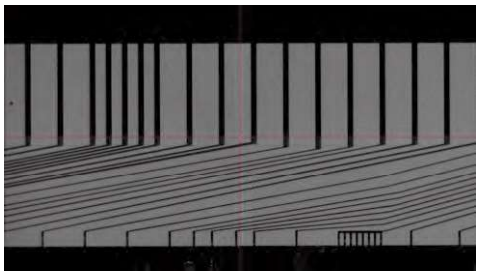
| Supplemental lens | | | 0.5XCCD | | | | | | 0.4XCCD | | | | | | 0.3XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | |
| | | | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal |
| 1X Objective | Big manification | | 0.35X～2.25X | | | | | | 0.28X～1.8X | | | | | | 0.21X～1.35X | | | | | |
| | FOV | 1/3″ | 13.71 | 10.29 | 17.14 | 2.13 | 1.6 | 2.67 | 17.14 | 12.86 | 21.43 | 2.67 | 2.0 | 3.33 | 22.86 | 17.14 | 28.57 | 3.56 | 2.67 | 4.44 |
| | | 1/2″ | 18.29 | 13.71 | 22.86 | 2.84 | 2.13 | 3.56 | 22.86 | | | | | | | | | | | |

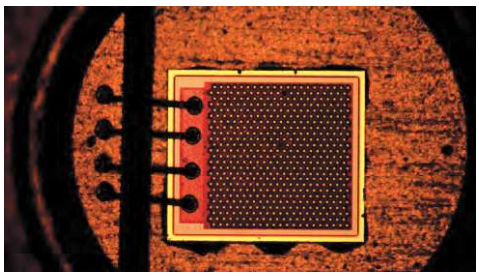
## Main application

Electronic equipment, semiconductor, LCD, LED and other fields of digital imaging observation, inspection and measurement

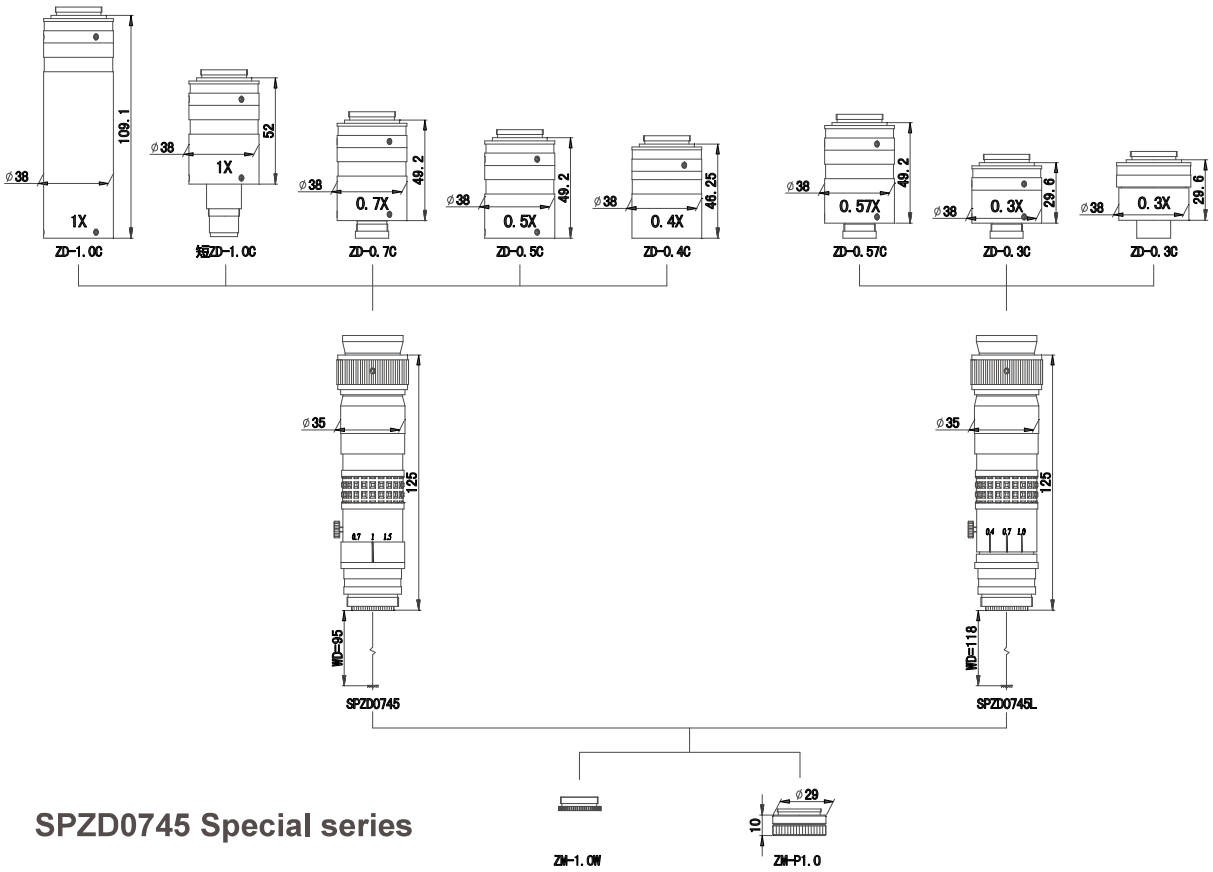
## Product features:

1.Coaxial confocal in the whole zoom process
2. The matching size of the host is ℄35mm, and the adapter can be 40mm, 45mm, 50mm
3. Standard C interface (the distance from the bearing surface to the CCD target surface is 17.526mm), or CS interface can be added
4. CCD threaded interface is 1 inch 32 buckles
5. Infinite metallographic lens with standard thread
6. It can be connected to LED adjustable light source or LED coaxial lighting, etc



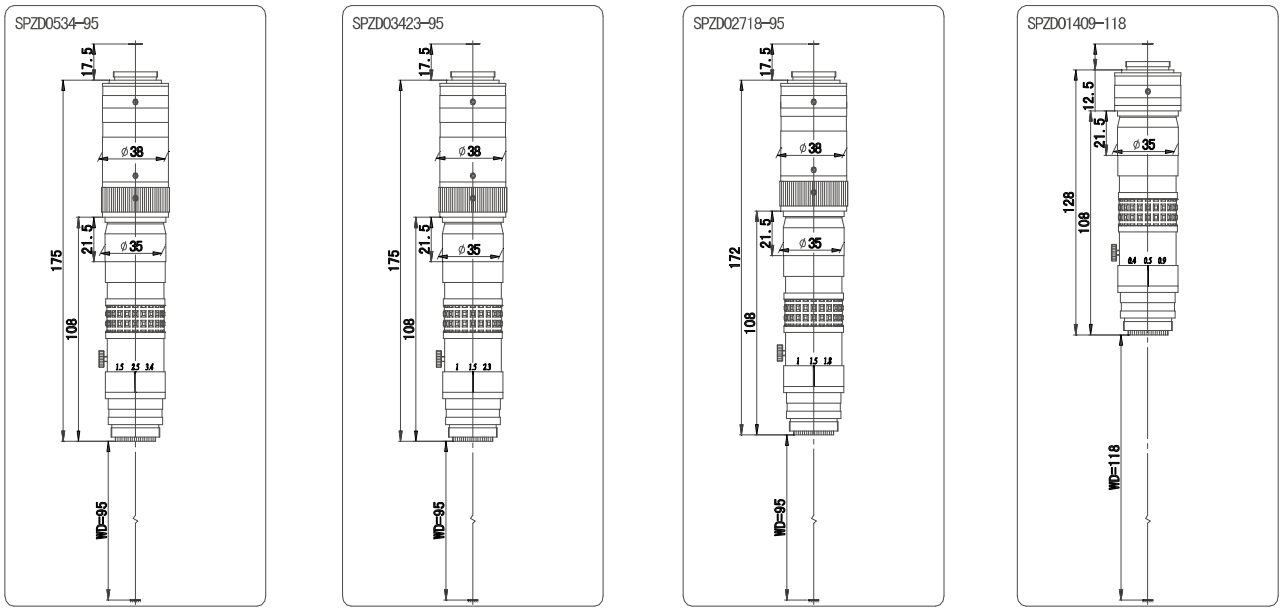


## SPZD0745 Universal series




## SPZD0745 Special series



# SPZF0763

High zoom ratio continuous zoom video microscope

Comparison table of field of view (under the condition of conventional 1X objective lens)

| Supplemental lens | | | 0.5XCCD | | | | | | 1XCCD | | | | | | 1.3XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | |
| | | | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal | L | W | Diagonal |
| | Magnification | | 0.35X～3.15X | | | | | | 0.7X～6.3X | | | | | | 0.91X～8.19X | | | | | |
| 1x Objective WD=90/95 | FOV | 1/3″ | 13.71 | 10.29 | 17.14 | 1.52 | 1.14 | 1.9 | 6.86 | 5.14 | 8.57 | 0.76 | 0.57 | 0.95 | 5.27 | 3.96 | 6.59 | 0.59 | 0.44 | 0.73 |
| | | 1/2″ | 18.29 | 13.71 | 22.86 | 2.03 | 1.52 | 2.54 | 9.14 | 6.86 | 11.43 | 1.02 | 0.76 | 1.27 | 7.03 | 5.27 | 8.79 | 0.78 | 0.59 | 0.98 |
| | | 2/3″ | | | | | | | 12.57 | 9.43 | 15.71 | 1.40 | 1.05 | 1.75 | 9.67 | 7.25 | 12.09 | 1.07 | 0.81 | 1.34 |

| Supplemental lens | | | 1.42XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | |
| | | | L | W | Diagonal | L | W | Diagonal |
| | Magnification | | 0.994X～8.946X | | | | | |
| 1X Objective WD=90/95 | FOV | 1/3″ | 4.83 | 3.62 | 6.04 | 0.54 | 0.40 | 0.67 |
| | | 1/2″ | 6.44 | 4.83 | 8.05 | 0.72 | 0.54 | 0.89 |
| | | 2/3″ | 8.85 | 6.64 | 11.07 | 0.98 | 0.74 | 1.23 |

## Product features:

1.Coaxial confocal in the whole zoom process

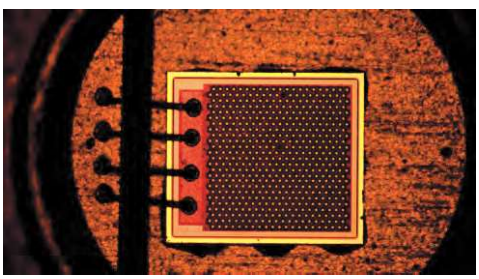
2. The matching size of the host is ✆40mm, and the adapter can be 45mm or 50mm

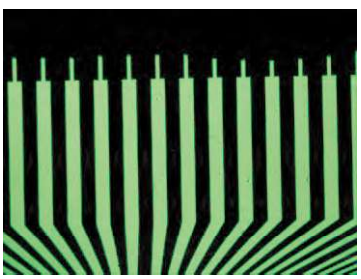
3. Standard C interface (the distance from the bearing surface to the CCD target surface is 17.526mm), or CS interface can be added

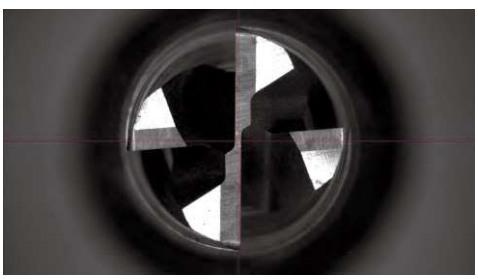
4. CCD threaded interface is 1 inch 32 buckles

5. Infinite metallographic lens with standard thread

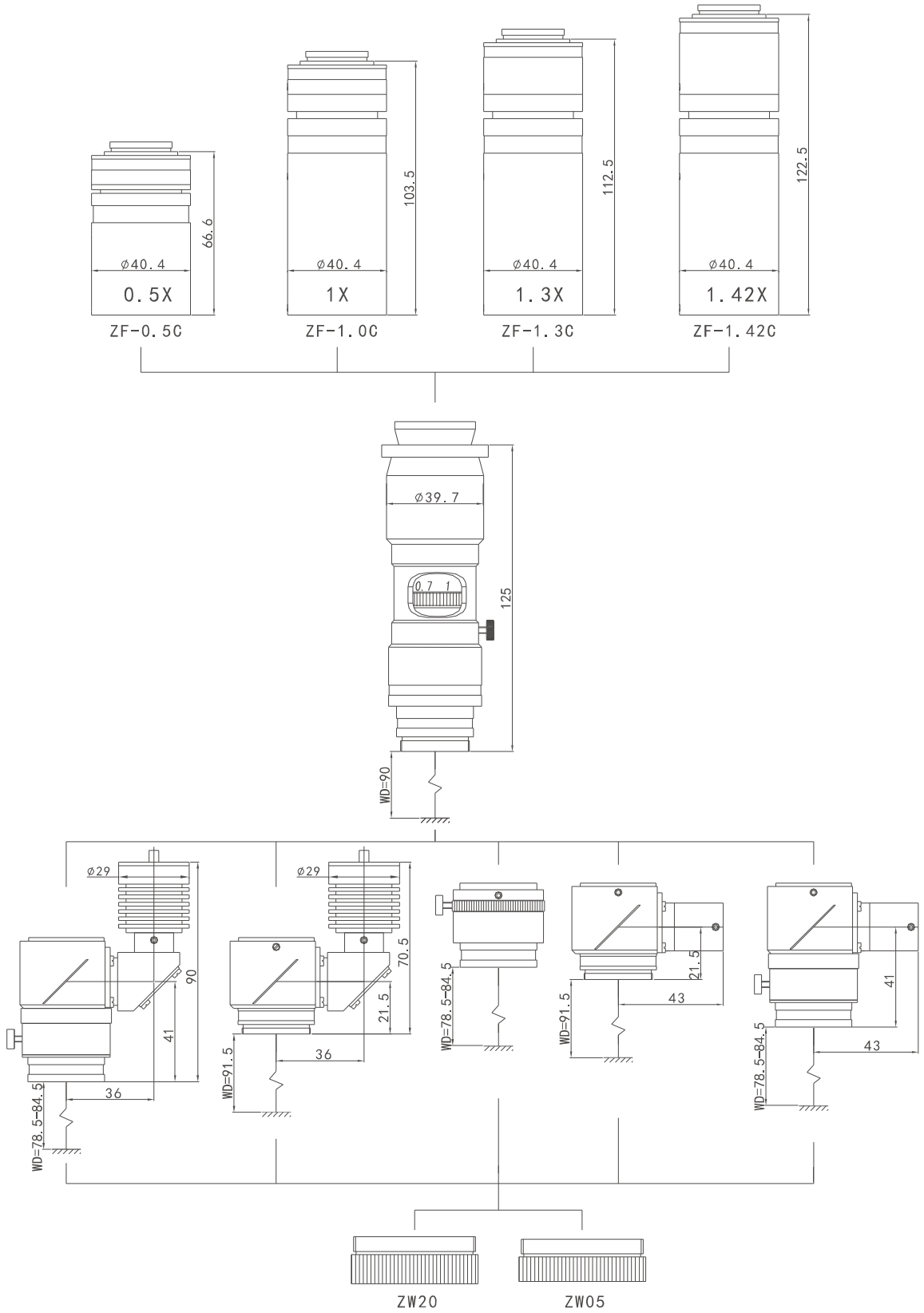
6. It can be connected to LED adjustable light source or LED coaxial lighting, etc







## SPZF0763 Series



## SPZM0745

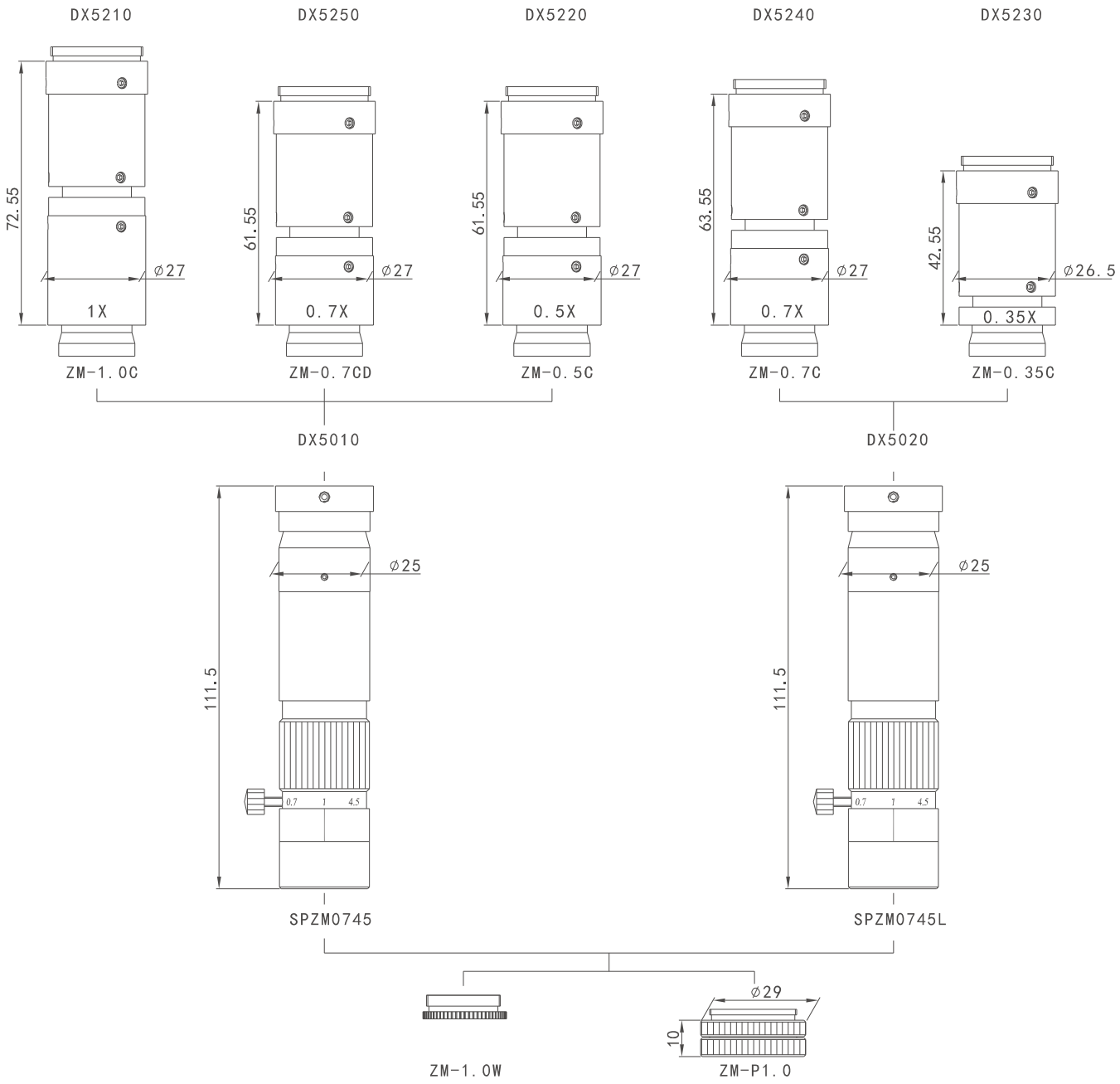
Fine continuous zoom video microscope 【ultra small,

6 optical magnification, multiple working distances】

SPZM0745 special series specification

| Model | Magnification | Working distance mm | FOV (mm) | Mag compatible camera |
|---|---|---|---|---|
| SPZM0534-95 | 0.5X～3.4X | 95 | 12.9×9.96～1.9×1.4 | 1/2″ CCD |
| SPZM0426-118 | 0.4X～2.6X | 118 | 16×12～2.5×1.9 | 1/2″ CCD |
| SPZM03423-95 | 0.34X～2.3 | 95 | 18.8×14.1～2.8×2.1 | 1/2″ CCD |
| SPZM0213-118 | 0.2X～1.3X | 118 | 24×18～3.7×2.8 | 1/3″ CCD |
| SPZM01812-175 | 0.18X～1.2X | 175 | 26.7×20～4×3 | 1/3″ CCD |
| SPZM01409-175 | 0.14X～0.9X | 175 | 34.3×25.7～5.3×4 | 1/3″ CCD |
| SPZM01409-220 | 0.14X～0.9X | 220 | 34.3×25.7～5.3×4 | 1/3″ CCD |
| SPZM0426C-80 | 0.4X～2.6X | 80 | 16×12～2.5×1.9 | 1/2″ CCD |
| SPZM0426C-118 | 0.4X～2.6X | 118 | 16×12～2.5×1.9 | 1/2″ CCD |
| SPZM0426C-174 | 0.4X～2.6X | 174 | 16×12～2.5×1.9 | 1/2″ CCD |
| SPZM01510C-182 | 0.15X～1.0X | 182 | 32×24～4.8×3.6 | 1/3″ CCD |
| SPZM0850CZ-80 | 0.8X～5.0X | 80 | 11×8.3～1.8×1.3 | 2/3″ CCD |
| SPZM0426CZ-80 | 0.4X～2.6X | 80 | 16×12～2.5×1.9 | 1/2″ CCD |
| SPZM0745-95 | 0.7X～4.5X | 95 | 12.6×9.4～2×1.5 | 2/3″ CCD |
| SPZM0945-90 | 0.9X～4.5X | 90 | 9.8×7.3～2×1.5 | 2/3″ CCD |
| SPZM0945d-90 | 0.9X～4.5X | 90 | 9.8×7.3～2×1.5 | 2/3″ CCD |
| SPZM0425C-80 | 0.4X～2.5X | 80 | 16×12～2.9×1.9 | 1/2″ CCD |
| SPZM0745-80 | 0.7X～4.5X | 80 | 12.6×9.4～2×1.5 | 2/3″ CCD |
| SPZM0425-92 | 0.4X～2.5X | 92 | 16×12～2.9×1.9 | 1/2″ CCD |
| SPZM0745-92 | 0.7X～4.5X | 92 | 12.6×9.4～2×1.5 | 2/3″ CCD |
| SPZM0745-90 | 0.7X～4.5X | 88.5～91.5 | 12.6×9.4～2×1.5 | 2/3″ CCD |
| SPZM035225-100 | 0.35X～2.25X | 100～103 | 18.2×13.7～2.8×2.1 | 1/2″ CCD |
| SPZM04530-155 | 0.45X～3.0X | 153～156 | 19.6×14.6～2.9×2.2 | 2/3″ CCD |
| SPZM0425-80 | 0.4X～2.5X | 78.5～81.5 | 16×12～2.9×1.9 | 1/2″ CCD |
| SPZM0745Ce-90 | 0.7X～4.5X | 88.5～91.5 | 9.1×6.9～1.4×1.1 | 1/2″ CCD |
| SPZM035225cf-100 | 0.35X～2.25X | 100～103 | 18.2×13.7～2.8×2.1 | 1/2″ CCD |

## SPZM0745 Universal series



## SPZM0745-95/SPZM0745-118 FOV Range table:

| Supplemental lens | | | 1XCCD | | | | | | 0.7XCCD | | | | | | 0..5XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia |
| 1X objective WD=95 | Magnification | | 0.7X～4.5X | | | | | | 0.49X～3.15X | | | | | | 0.35X～2.25X | | | | | |
| | FOV | 1/3″ | 6.86 | 5.14 | 8.57 | 1.07 | 0.8 | 1.33 | 9.80 | 7.35 | 12.24 | 1.52 | 1.14 | 1.90 | 13.71 | 10.29 | 17.14 | 2.13 | 1.6 | 2.67 |
| | | 1/2″ | 9.14 | 6.86 | 11.43 | 1.42 | 1.07 | 1.78 | 13.06 | 9.80 | 16.33 | 2.03 | 1.52 | 2.54 | 18.29 | 13.71 | 22.86 | 2.84 | 2.13 | 3.56 |
| | | 2/3″ | 12.57 | 9.43 | 15.71 | 1.96 | 1.47 | 2.44 | 17.96 | 13.47 | 22.45 | 2.79 | 2.10 | 3.49 | | | | | | |

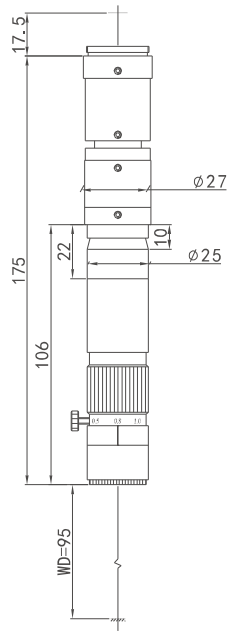
| Supplemental lens | | | 0.7XCCD | | | | | | 0.35XCCD | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | | | | | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | | | | | | |
| 1X objective WD=118 | Magnification | | 0.4X～2.6X | | | | | | 0.2X～1.3X | | | | | | | | | | | |
| | FOV | 1/3″ | 12 | 9 | 15 | 1.84 | 1.38 | 2.3 | 24 | 18 | 30 | 3.69 | 2.77 | 4.61 | | | | | | |
| | | 1/2″ | 16 | 12 | 20 | 2.46 | 1.84 | 3.07 | | | | | | | | | | | | |

## SPZM0745 Special series

### SPZM0534-95

Main specification

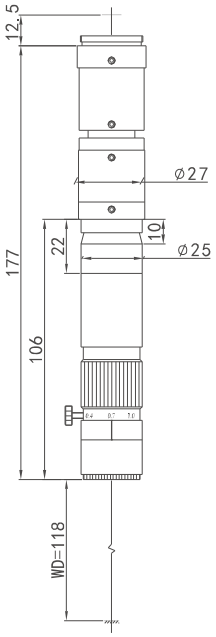
| | |
|---|---|
| Mag | 0.5X～3.4X |
| Working distance | 95mm |
| FOV | 12.8X9.6～1.9X1.4 |
| CCD | 1/2"CCD |




### SPZM0426-118

Main specification

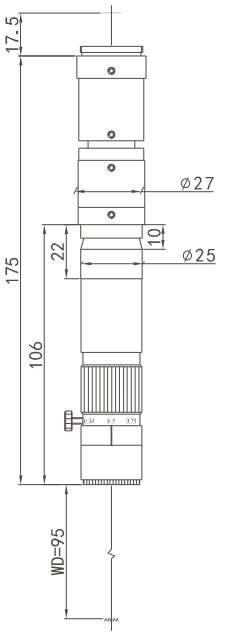
| | |
|---|---|
| Mag | 0.4X～2.6X |
| Working distance | 118mm |
| FOV | 16X12～2.5X1.9 |
| CCD | 1/2"CCD |




### SPZM03423-95

Main specification

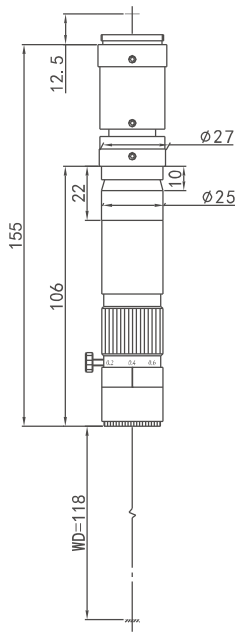
| | |
|---|---|
| Mag | 0.34X～2.3X |
| Working distance | 95mm |
| FOV | 18.8X14.1～2.8X2.1 |
| CCD | 1/2"CCD |



## SPZM0213-118

Main specification

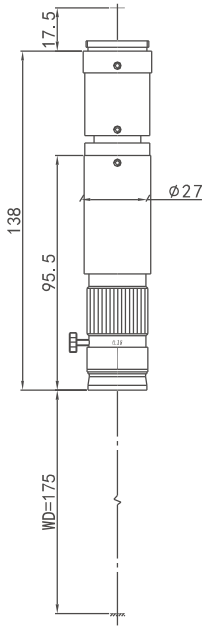
| | |
|---|---|
| Mag | 0.2X～1.3X |
| Working distance | 118mm |
| FOV | 24X18～3.7X2.8 |
| CCD | 1/3"CCD |




## SPZM081812-175

Main specification

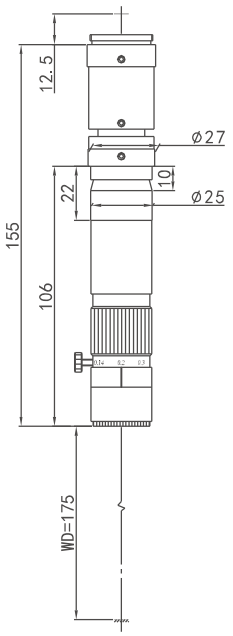
| | |
|---|---|
| Mag | 0.18X～1.2X |
| Working distance | 175mm |
| FOV | 26.7X20～4X3 |
| CCD | 1/3"CCD |




## SPZM01409-175

Main specification

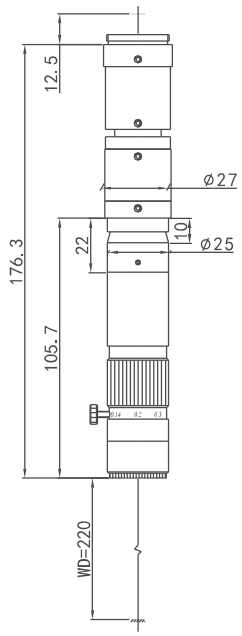
| | |
|---|---|
| Mag | 0.14X～0.9X |
| Working distance | 175mm |
| FOV | 34.3X25.7～5.3X4 |
| CCD | 1/3"CCD |




## SPZM01409-220

Main specification

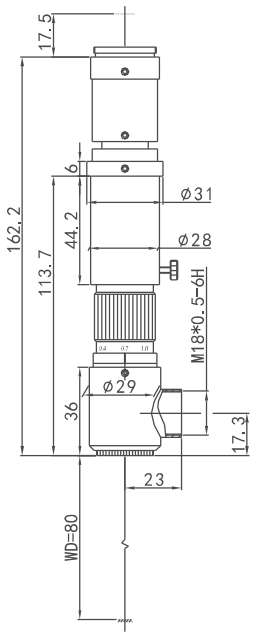
| | |
|---|---|
| Mag | 0.14X～0.9X |
| Working distance | 220mm |
| FOV | 34.3X25.7～5.3X4 |
| CCD | 1/3"CCD |




## SPZM0426C-80

Main specification

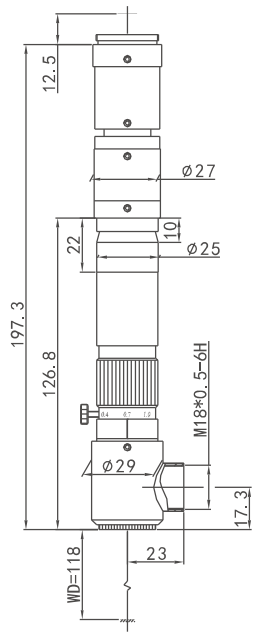
| | |
|---|---|
| Mag | 0.4X～2.6X |
| Working distance | 80mm |
| FOV | 12X9～1.8X1.4 |
| CCD | 1/2"CCD |




## SPZM0426C-118

Main specification

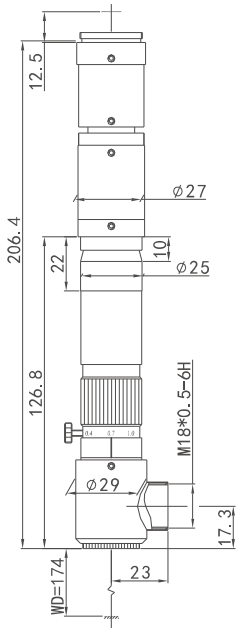
| | |
|---|---|
| Mag | 0.4X～2.6X |
| Working distnace | 118mm |
| FOV | 16X12～2.5X1.9 |
| CCD | 1/2"CCD |



## SPZM0426C-174

Main specification

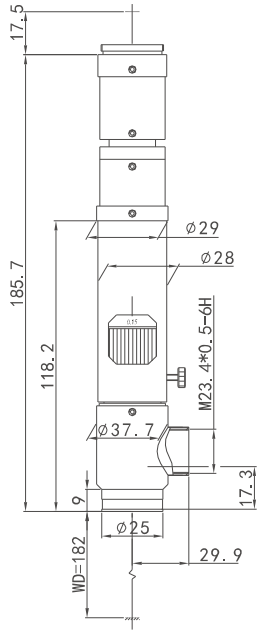
| | |
|---|---|
| Mag | 0.4X～2.6X |
| Working distance | 174mm |
| FOV | 16X12～2.5X21.9 |
| CCD | 1/2"CCD |




## SPZM01510C-182

Main specification

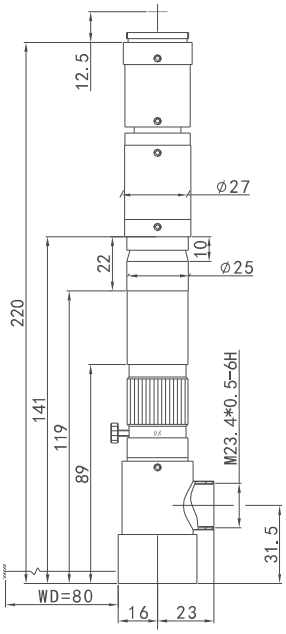
| | |
|---|---|
| Mag | 0.15X～1X |
| Working distance | 182mm |
| FOV | 32X24～4.8X3.6 |
| CCD | 1/3"CCD |




## SPZM0850CZ-80

Main specification

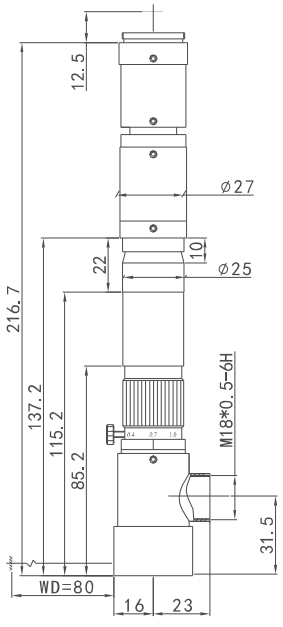
| | |
|---|---|
| Mag | 0.8X～5X |
| Working distance | 80mm |
| FOV | 11X8.3～1.8X1.3 |
| CCD | 2/3"CCD |




## SPZM0426CZ-80

Main specification

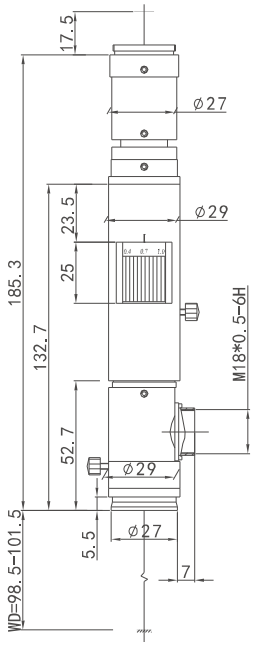
| | |
|---|---|
| Mag | 0.4X～2.6X |
| Working distance | 80mm |
| FOV | 16X12～2.5X1.9 |
| CCD | 1/3"CCD |




## SPZM035225cf-100

Main specification

| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 100～103mm |
| FOV | 18.2X13.7～2.8X2.1 |
| CCD | 1/2"CCD |



# SPZP0835

## Short continuous zoom video microscope

【Composite Ultrashort Optical System and Precision Mechanical Structure】

## SPZP0835 FOV Range table

| Supplemental lens | | | 1XCCD | | | | | | 0.5XCCD | | | | | | 0.3XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | | Low Mag | | | High Mag | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia |
| 1X Objective WD=80 | Magnification | | 0.8X～3.5X | | | | | | 0.4X～1.8X | | | | | | 0.25X～1.05X | | | | | |
| | FOV | 1/3″ | 6.0 | 4.5 | 7.5 | 1.37 | 1.03 | 1.71 | 12.0 | 9.0 | 15.0 | 2.74 | 2.06 | 3.43 | 20.0 | 15.0 | 25.0 | 4.57 | 3.43 | 5.71 |
| | | 1/2″ | 8.0 | 6.0 | 10.0 | 1.83 | 1.37 | 2.29 | 16.0 | 12.0 | 20.0 | 3.66 | 2.74 | 4.57 | | | | | | |
| 2X Objecive WD=32 | Magnification | | 1.6X～7.0X | | | | | | 0.8X～3.5X | | | | | | 0.5X～2.1X | | | | | |
| | FOV | 1/3″ | 3.0 | 2.25 | 3.75 | 0.69 | 0.51 | 0.86 | 6.0 | 4.5 | 7.5 | 1.37 | 1.03 | 1.71 | 10.0 | 7.5 | 12.5 | 2.29 | 1.71 | 2.86 |
| | | 1/2″ | 4.0 | 3.0 | 5.0 | 0.91 | 0.69 | 1.14 | 8.0 | 6.0 | 10.0 | 1.83 | 1.37 | 2.29 | | | | | | |

## Product features:

1. The objective lens is continuously 0.8X-3.5X

2. The length of eyetube 116-150mm

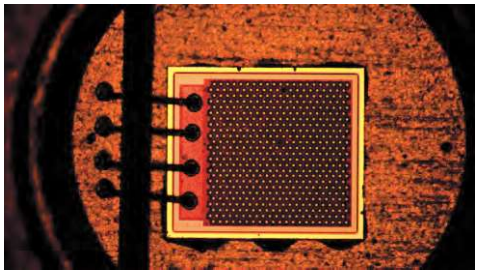
3. Zoom positioning

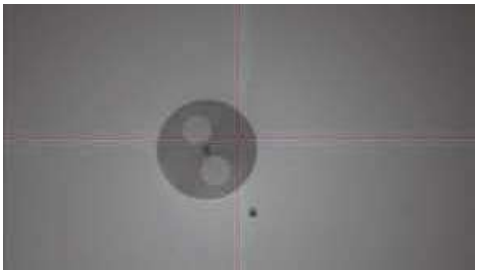
4. It can be connected to standard thread infinite metallographic lens

5. Optional CCD connector

6. Optional objective lens

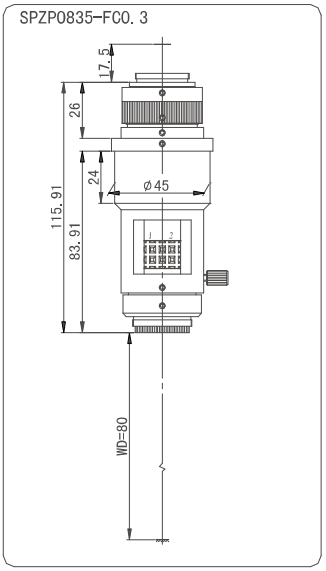
7. It can be connected with LED adjustable light ring lamp or LED coaxial lighting



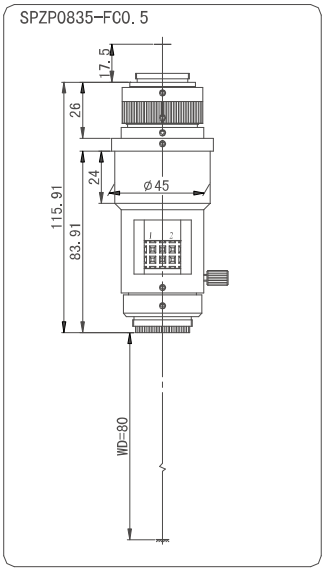


## SPZP0835 Series

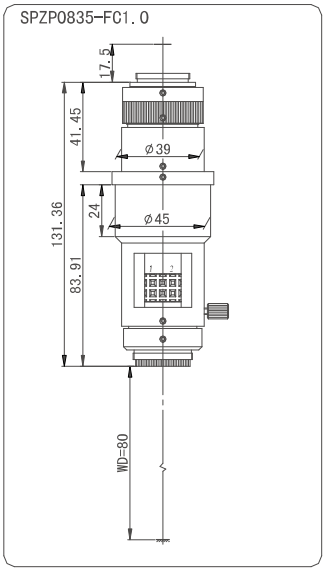
SPZP0835-FC0.3



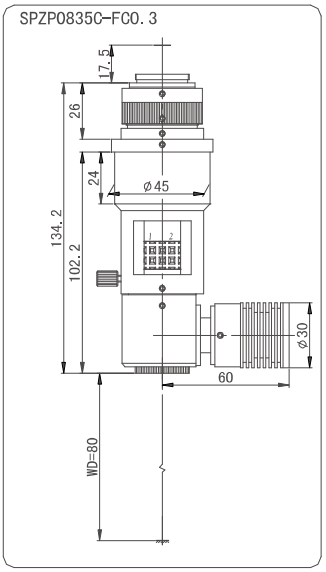

SPZP0835-FC0.5



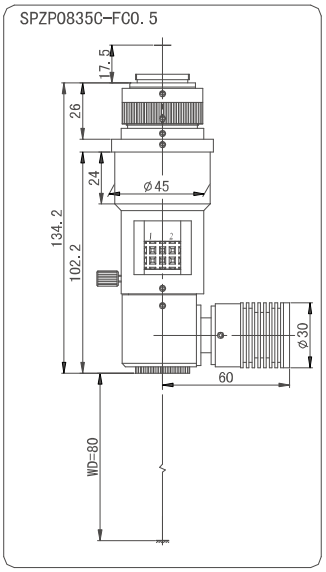

SPZP0835-FC1.0



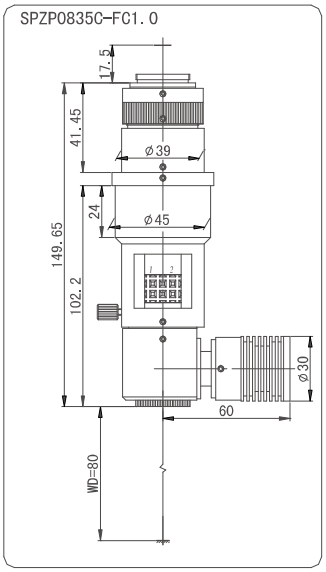

SPZP0835C-FC0.3




SPZP0835C-FC0.5




SPZP0835C-FC1.0



# SPZR0850

【High Resolution】 Stereo zoom video microscope【High resolution, basic type 17%, high definition 15%】

## SPZR0850/ SPZR0850C FOV range table

| Supplemental lens | | | 1XCCD | | | | | | 1XCCD | | | | | | 0. 75XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | Hihg Mag | | | Low Mag | | | Hihg Mag | | | Low Mag | | | Hihg Mag | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia |
| 1X objective WD=80 | Magnification | | 0. 8X～5. 0X | | | | | | 0. 8X～5. 0X | | | | | | 0. 6X～3. 75X | | | | | |
| | FOV | 1/3″ | 6.0 | 4.5 | 7.5 | 0.96 | 0.72 | 1.2 | 6.0 | 4.5 | 7.5 | 0.96 | 0.72 | 1.2 | 8 | 6 | 10 | 1.28 | 0.96 | 1.6 |
| | | 1/2″ | 8.0 | 6.0 | 10 | 1.28 | 0.96 | 1.6 | 8.0 | 6.0 | 10 | 1.28 | 0.96 | 1.6 | 10.67 | 8 | 13.33 | 1.71 | 1.28 | 2.13 |
| | | 2/3″ | 11 | 8.25 | 13.75 | 1.76 | 1.32 | 2.2 | 11 | 8.25 | 13.75 | 1.76 | 1.32 | 2.2 | 14.67 | 11 | 18.33 | 2.35 | 1.76 | 2.93 |

| Supplemental lens | | | 0. 5XCCD | | | | | | 0. 36XCCD | | | | | | 0. 22XCCD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Low Mag | | | Hihg Mag | | | Low Mag | | | | | | Low Mag | | | Hihg Mag | | |
| | | | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia | L | W | Dia |
| 1X objective WD=80 | Magnification | | 0. 4X～2. 5X | | | | | | 0. 288X～1. 8X | | | | | | 0. 176X～1. 1X | | | | | |
| | FOV | 1/3″ | 12 | 9 | 15 | 1.92 | 1.44 | 2.4 | 16.67 | 12.5 | 20.83 | 2.67 | 2.0 | 3.33 | 27.27 | 20.45 | 34.09 | 4.36 | 3.27 | 5.45 |
| | | 1/2″ | 16 | 12 | 20 | 2.56 | 1.92 | 3.2 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

### Specification

| Product name | SPZR0850 zooming series | | |
|---|---|---|---|
| Magnification | 0. 8X～5. 0X | (Zoom ratio :6.25:1) | |
| Working distance | 80±2mm | | |
| Mag | 0. 8X | 1. 7X | 5. 0X |
| NA | 0. 03 | 0. 057 | 0. 082 |
| Resolution(um) | 11. 3 | 5. 9 | 4. 1 |
| DOF(mm) | 1. 67 | 0. 35 | 0. 1 |
| Distortion | 0. 28% | 0. 24% | 0. 07% |
| Max compatible CCD | 2/3"CCD | | |
| Install | C adapter | | |

Note: 1、Depth of field is the calculated value equivalent to 320 TV lines for 1/2 "CCD cameras (allowable disorder circle on imaging surface: 40um). 2、Resolution refers to the theoretical resolution at the wavelength of 550nm. 3、Distortion is the edge value of the maximum compatible camera.

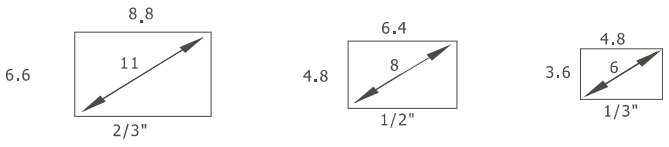
**Select appropriate magnification**

It can be obtained according to the following formula:

Total magnification=magnification of mirror body X magnification of CCD connector

Object field diameter=diagonal size of CCD imaging target plane/objective magnification/multiple of CCD connector

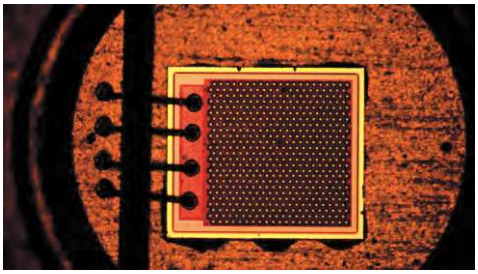
Element size of CCD camera (unit: mm)

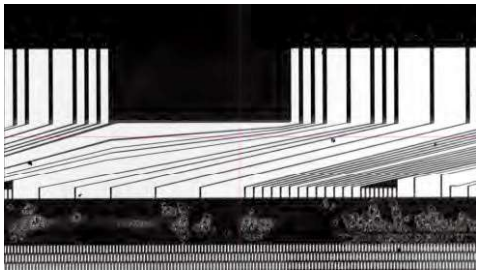



Digital magnification=diagonal size of display screen of display/diagonal size of target surface of CCD camera

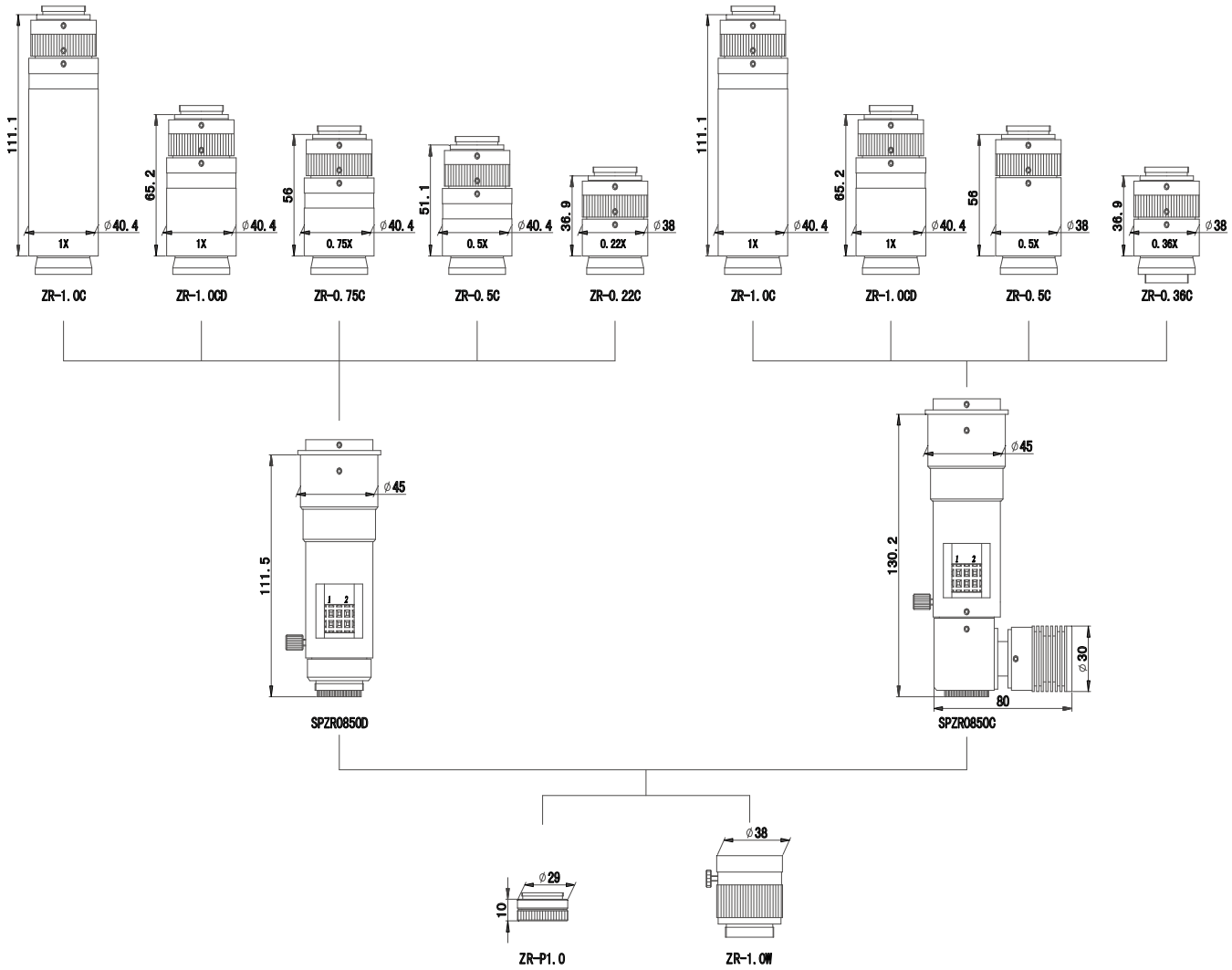
Example: digital mag of 8"monitor with 1/3" CCD camera $=\frac{8\times25.4}{6}=33.87$

17"monitor with 1/3" CCD camera $=\frac{17\times25.4}{6}=71.97$





## SPZR0850 Series



# SPZT6070

Special stereo zoom video microscope

【Low magnification, long working distance, large field of view, fine adjustment of objective lens】

## SPZT6070 Special series parameters

| Item NO. | Mag | Working distance mm | FOV | Maz compatible CCD | NA | Resolution | FOD mm | Distortion |
|---|---|---|---|---|---|---|---|---|
| SPZT6070C | 0.35X～2.25X | 80 | 18.3x13.7～2.8x2.1 | 1/2″ CCD | 0.03～0.08 | 11.2～4 | 3.4～0.2 | 0.86%～0.1% |
| SPZT6070C-A | 0.35X～2.25X | 95.8 | 18.3x13.7～2.8x2.1 | 1/2″ CCD | 0.023～0.07 | 14.5～4.8 | 4.9～0.25 | 0.58%～0.08% |
| SPZT6070C-B | 0.8X～5.0X | 80 | 8x6～1.3x1 | 1/2″ CCD | 0.003～0.08 | 11.2～4 | 1.7～0.1 | 0.28%～0.07% |
| SPZT6070C-C | 0.7X～4.5X | 80 | 9.1x6.9～1.4x1.1 | 1/2″ CCD | 0.011～0.03 | 31～11.2 | 30.3～1.6 | 0.5%～0.25% |
| SPZT6070C-E | 0.3X～1.8X | 175 | 21.3x16～3.6x2.7 | 1/2″ CCD | 0.012～0.03 | 28～9.3 | 11.1～0.6 | 0.2%～0.1% |
| SPZT6070DW | 0.35X～2.25X | 48.5～51.5 | 18.3x13.7～2.8x2.1 | 1/2″ CCD | 0.023～0.07 | 14.5～4.8 | 4.3～0.22 | 0.8%～0.1% |
| SPZT6070DW-2 | 0.35X～2.25X | 90 | 18.3x13.7～2.8x2.1 | 1/2″ CCD | 0.023～0.07 | 14.5～4.8 | 4.3～0.22 | 0.8%～0.1% |
| SPZT6070D-4 | 0.35X～2.25X | 91.8～94.8 | 18.3x13.7～2.8x2.1 | 1/2″ CCD | 0.023～0.07 | 14.5～4.8 | 4.3～0.22 | 0.8%～0.1% |
| SPZT6070-E | 0.4X～2.6X | 75～81 | 16x12～2.5x1.8 | 1/2″ CCD | 0.025～0.076 | 13.1～4.4 | 4～0.2 | 0.62%～0.14% |
| SPZT6070-F | 0.15X～1.0X | 123～129 | 32x24～4.8x3.6 | 1/3″ CCD | 0.018～0.05 | 19～6.3 | 14.8～0.7 | 0.32%～0.17% |
| SPZT6070-Fa | 0.15X～1.0X | 114.3～118.3 | 32x24～4.8x3.6 | 1/3″ CCD | 0.018～0.053 | 19～6.3 | 14.8～0.7 | 0.32%～0.1% |
| SPZT6070-Fb | 0.35X～2.25X | 114.3～118.3 | 18.2x13.7～2.84x2.13 | 1/2″ CCD | 0.019～0.056 | 17.5～6 | 5.8～0.3 | 0.22%～0.14% |
| SPZT6070-G | 0.15X～1.0X | 123～129 | 32x24～4.8x3.6 | 1/3″ CCD | 0.018～0.05 | 19～6.3 | 14.8～0.7 | 0.32%～0.17% |
| SPZT6070C-H | 0.7X～4.5X | 80 | 12.57x9.4～2x1.5 | 2/3″ CCD | 0.028～0.081 | 11.9～4.1 | 2.04～0.1 | 0.86%～0.1% |
| SPZT6070C-K | 0.2～1.3 | 113 | 24x18～3.7x2.8 | 1/3″CCD | 0.018～0.053 | 18.6～16.3 | 11.1～0.58 | 0.24%～0.1% |
| SPZT6070C-M | 0.6～4.0 | 75 | 10.3x7.6～1.6x1.2 | 1/1.8″CCD | 0.028～0.082 | 11.9～4.1 | 2.3～0.12 | 0.8%～0.2% |

Note: 1、Depth of field is the calculated value equivalent to 320 TV lines for 1/2 "CCD cameras (allowable disorder circle on imaging surface: 40um).
2、Resolution refers to the theoretical resolution at the wavelength of 550nm.

## Product features:

1. Coaxial confocal in the whole zoom process, fine adjustment of objective lens (W type optional)

2. The zoom objective lens magnified by 0.7X-4.5X, and ratio is 6.4:1

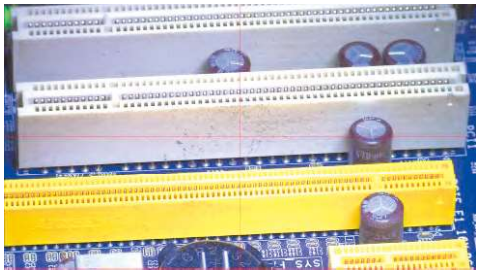
3. Working distance: 80mm, 90mm, 175mm, (126-136) mm

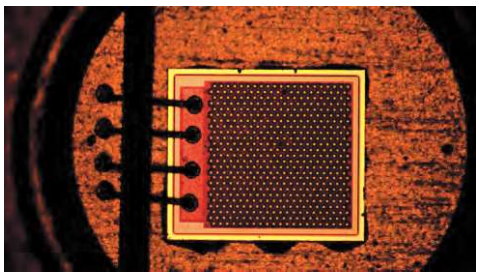
4. Matching size of main engine 39.7mm, 45mm

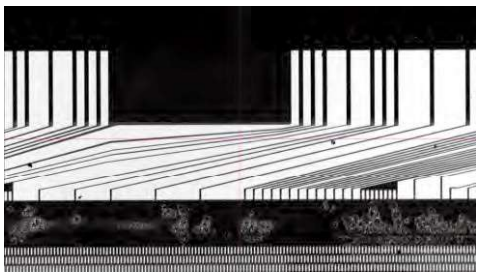
5. Standard C interface, or CS interface

6. Infinite metallographic lens with standard thread

7. It can be connected to LED adjustable ring light source or LED coaxial lighting, etc



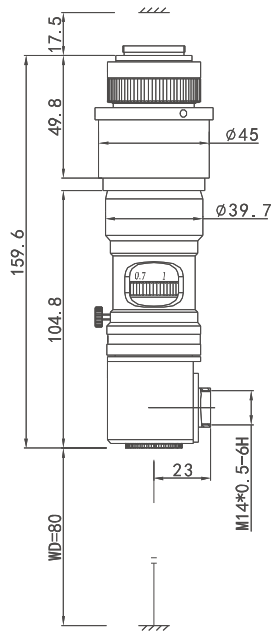




## SPZT6070C

Main specification

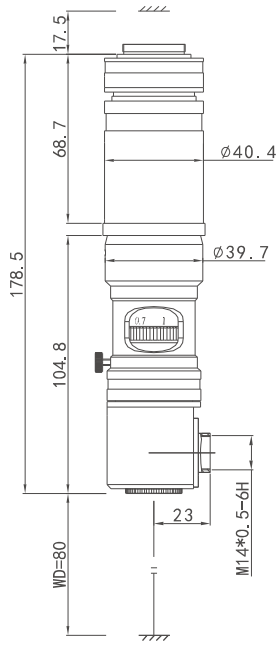
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Woring distance | 80mm |
| FOV | 18.3X13.7～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070C-A

Main specification

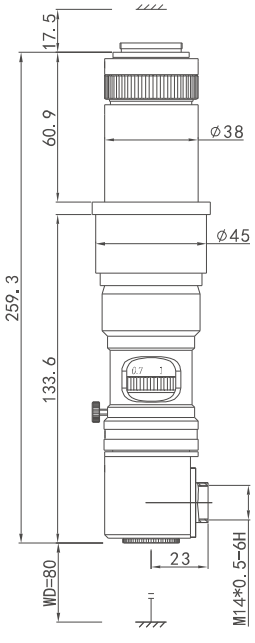
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 80mm |
| FOV | 18.3X13.7～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070C-B

Main specification

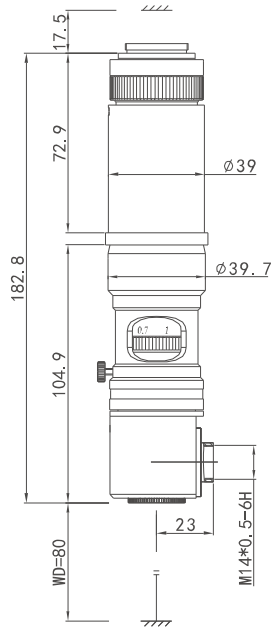
| | |
|---|---|
| Mag | 0.8X～5.0X |
| Working distance | 80mm |
| FOV | 8X6～1.3X1 |
| CCD | 1/2"CCD |




## SPZT6070C-C

Main specification

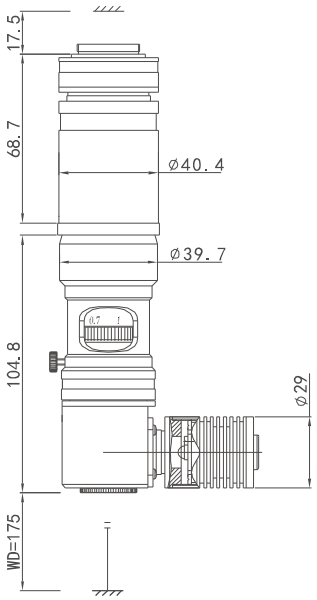
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 80mm |
| FOV | 9.1X6.9～1.4X1.1 |
| CCD | 1/2"CCD |



## SPZT6070C-E

Main specification

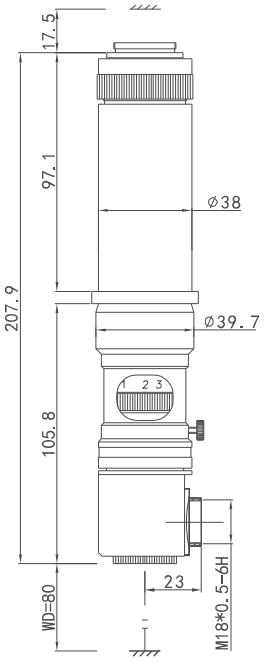
| | |
|---|---|
| Mag | 0.3X～1.8X |
| Working distance | 175mm |
| FOV | 21.3X16～3.6X2.7 |
| CCD | 1/2"CCD |




## SPZT6070C-H

Main specification

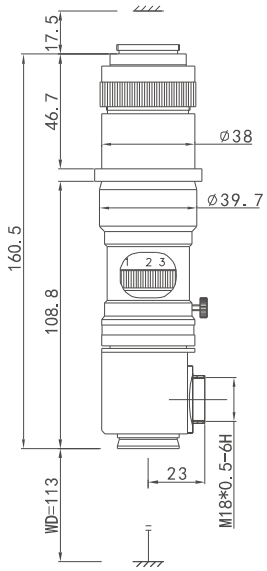
| | |
|---|---|
| Mag | 0.7X～14.5X |
| Woring distance | 80mm |
| FOV | 12.6X9.4～0.6X0.5 |
| CCD | 2/3"CCD |




## SPZT6070C-K

Main specification

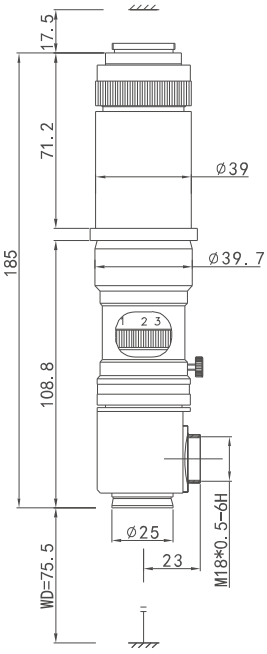
| | |
|---|---|
| Mag | 0.2X～1.3X |
| Working distance | 113mm |
| FOV | 2.77X3.67～18X24 |
| CCD | 1/3"CCD |




## SPZT6070C-M

Main specification

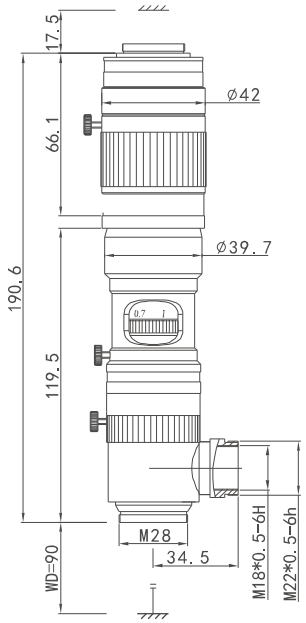
| | |
|---|---|
| Mag | 0.6X～41.0X |
| Working distance | 75.5mm |
| FOV | 0.9X1.2～6X8 |
| CCD | 1/3"CCD |



## SPZT6070D

Main specification

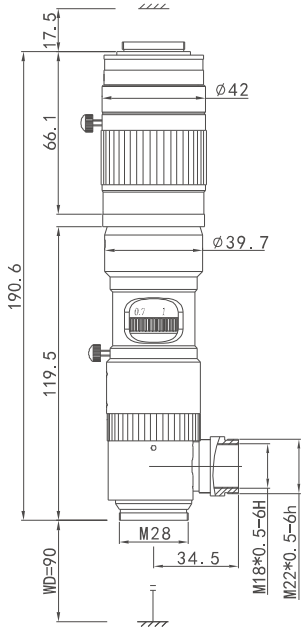
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 90mm |
| FOV | 18.3X13.7～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070D-2

Main specification

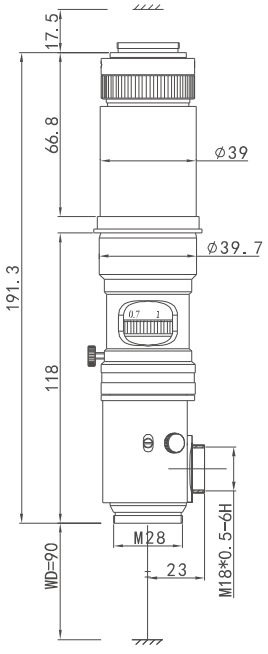
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 90mm |
| FOV | 18.3X13.7～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070D-4

Main specification

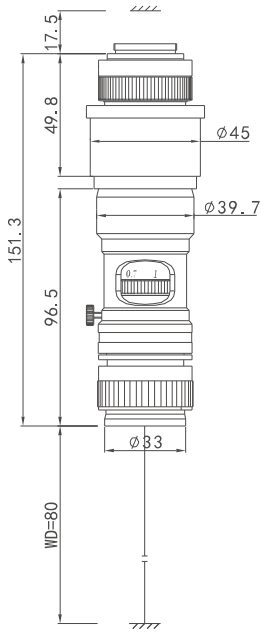
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 90mm |
| FOV | 18.3X13.74～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070E

Main specification

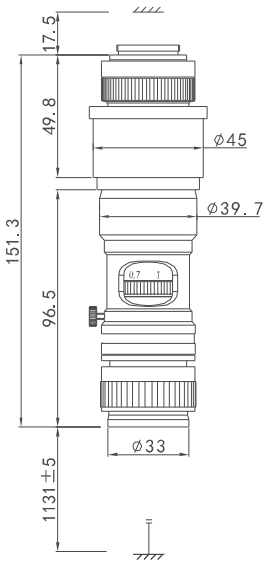
| | |
|---|---|
| Mag | 0.7X～2.6X |
| Working distance | 80mm |
| FOV | 16X12～2.5X1.8 |
| CCD | 1/2"CCD |



## SPZT6070F

Main specification

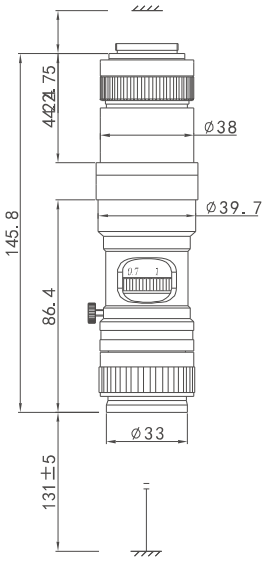
| | |
|---|---|
| Mag | 0.15X～1.0X |
| Working distance | 131±5mm |
| FOV | 32X24～1.8X3.6 |
| CCD | 1/3"CCD |




## SPZT6070G

Main specification

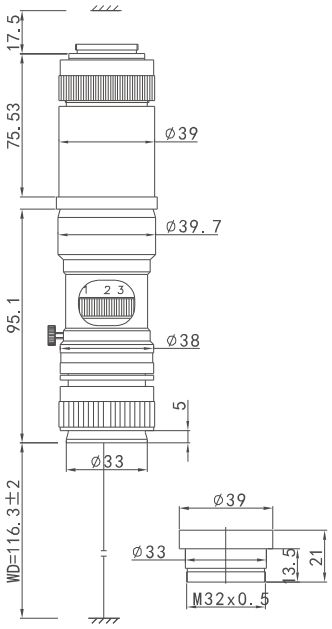
| | |
|---|---|
| Mag | 0.15X～1.0X |
| Working distance | 131±5mm |
| FOV | 32X24～1.8X3.6 |
| CCD | 1/3"CCD |




## SPZT6070F-B

Main specification

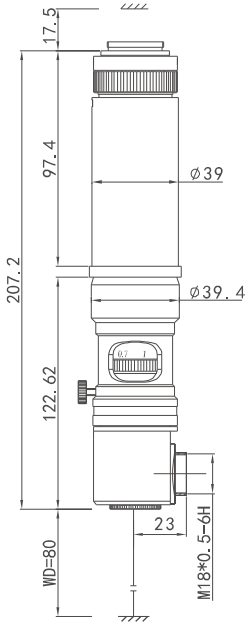
| | |
|---|---|
| Mag | 0.35X～2.25X |
| Working distance | 116.3±2mm |
| FOV | 18.3X13.7～2.8X2.1 |
| CCD | 1/2"CCD |




## SPZT6070H

Main specification

| | |
|---|---|
| Mab | 0.7X～4.5X |
| Working distance | 80mm |
| FOV | 9.1X6.8～1.4X1.1 |
| CCD | 1/2"CCD |




Long working distance, large field of view

Zoom ratio: 1:6.5 compatible with 1/2 camera

## SPZT6070 Special series parameters

| Item NO. | Mag | Woring distance mm | FOV | Max compatible CCD | NA | Resolution | FOD mm | Distortion |
|---|---|---|---|---|---|---|---|---|
| SPZT6130 | 0.18X～1.1X | 115 | 26.7x20～4.4x3.3 | 1/3″ CCD | 0.018～0.05 | 18.1～6.4 | 12.3～0.7 | 0.38%～0.18% |
| SPZT6130-A | 0.15X～1.0X | 118 | 32x24～4.8x3.6 | 1/3″ CCD | 0.018～0.05 | 18.1～6.4 | 14.1～0.76 | 0.12%～0.1% |
| SPZT6130-B | 0.15X～1.0X | 118 | 32x24～4.8x3.6 | 1/3″ CCD | 0.018～0.05 | 18.1～6.4 | 14.1～0.76 | 0.12%～0.1% |
| SPZT6130-D | 0.2X～1.0X | 205 | 32x24～6.4x4.8 | 1/2″ CCD | 0.018～0.07 | 18.6～8 | 11.1～0.95 | 0.25%～0.04% |
| SPZT6130-E | 0.18X～1.2X | 130 | 35.6x26.7～5.3x4 | 1/2″ CCD | 0.016～0.048 | 21～7 | 13.8～0.7 | 0.47%～0.2% |
| SPZT6130-F | 0.15X～1.0X | 118 | 42.7x32～6.4x4.8 | 1/2″ CCD | 0.013～0.03 | 25.2～11.2 | 20.4～1.8 | 0.6%～0.07% |
| SPZT6130-M | 0.1X～0.65X | 220 | 64x48～9.8x7.3 | 1/2″ CCD | 0.01～0.027 | 34～12.3 | 40.5～2.2 | 0.15%～0.02% |
| SPZT6130-N | 0.17X～1.08X | 130 | 35.7x26.8～5.9x4.4 | 1/2″ CCD | 0.016～0.048 | 21～7 | 14.7～0.77 | 0.69%～0.14% |
| SPZT6130-G | 0.16X～0.8X | 288 | 40x30～8x6 | 1/2″ CCD | 0.013～0.03 | 25.2～11.2 | 18.7～1.6 | 0.2%～0.03% |
| SPZT6130-H | 0.06X～0.4X | 388 | 106x80～16x12 | 1/2″ CCD | 0.0005～0.016 | 62.4～20.8 | 123.9～6.2 | 0.5%～0.05% |
| SPZT6130-K | 0.12X～0.8X | 175 | 53x40～8x6 | 1/2″ CCD | 0.011～0.03 | 31～11.2 | 30.3～1.6 | 0.5%～0.25% |
| SPZT6130K-E | 0.105～0.7 | 234.5 | 61x45.7～9.1x6.9 | 1/2″ CCD | 0.01～0.029 | 33.5～11.5 | 35.8～2 | 0.45%～0.08% |
| SPZT6130BGW | 0.08～0.54 | 221.5 | 60x45～8.9x6.7 | 1/3″ CCD | 0.011～0.03 | 31～11.2 | 30.3～1.6 | 0.5%～0.25% |
| SPZT6130MBA | 0.068～0.45 | 245 | 71.6x53.7～8x10.7 | 1/3″ CCD | 0.008～0.024 | 42～14 | 74～3.5 | 1.8%～0.14% |
| SPZT6130MM | 0.1～0.65 | 408 | 71.7x59.2～11.0x8.2 | 1/1.8″ CCD | 0.0005～0.014 | 70～24 | 83～4.3 | 1%～0.08% |
| SPZT6130P | 0.135～0.9 | 174 | 4x5.3～26.7x35.6 | 1/3″ CCD | 0.012～0.036 | 28～9.3 | 24～1.2 | 0.8%～0.07% |

Note: 1、Depth of field is the calculated value equivalent to 320 TV lines for 1/2 "CCD cameras (allowable disorder circle on imaging surface: 40um). 2、Resolution refers to the theoretical resolution at the wavelength of 550nm.

## Product features:

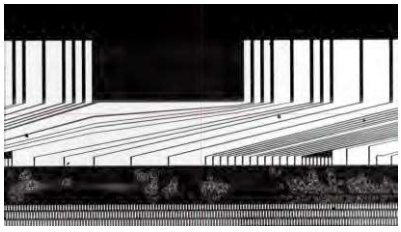
1. Coaxial confocal in the whole zoom process

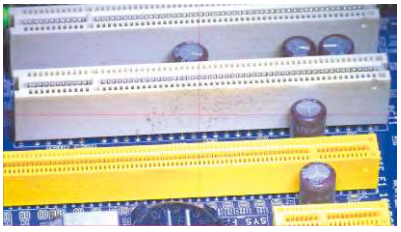
2. Matching size of main engine 39.7mm, 45mm

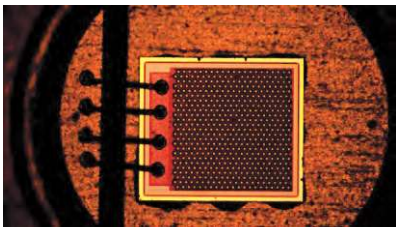
3. Standard C interface, or CS interface

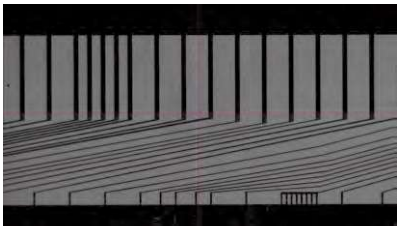
4. It can be connected to LED adjustable ring light source or LED coaxial lighting, etc

5. It can be connected with axial diffusion lighting





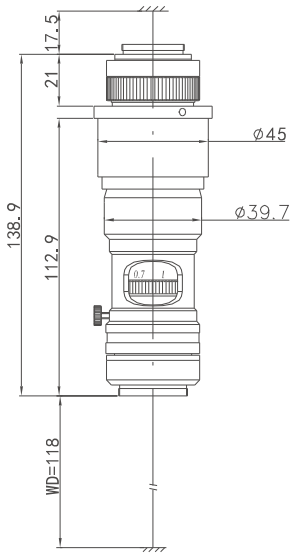




## SPZT6130

Main specification

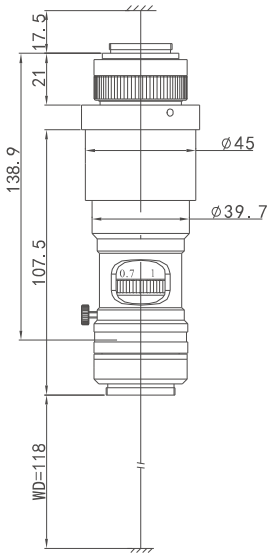
| | |
|---|---|
| Mag | 0.18X～1.1X |
| Working distance | 118mm |
| FOV | 3.27X4.36～20X26.67 |
| CCD | 1/3"CCD |




## SPZT6130-A

Main specification

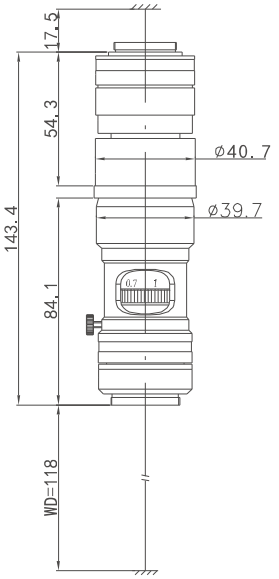
| | |
|---|---|
| Mag | 0.15X～1.0X |
| Working distance | 118mm |
| FOV | 3.6X4.8～24X32 |
| CCD | 1/3"CCD |




## SPZT6130-B

Main specification

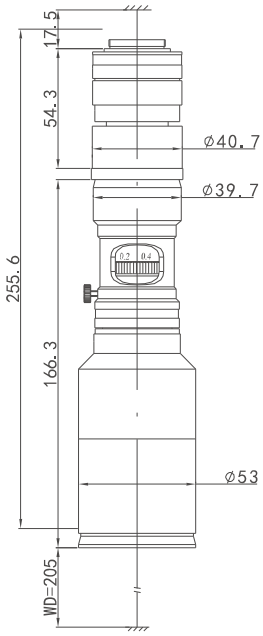
| | |
|---|---|
| Mag | 0.15X～1.0X |
| Working distance | 118mm |
| FOV | 3.6X4.8～24X32 |
| CCD | 1/3"CCD |




## SPZT6130-D

Main specification

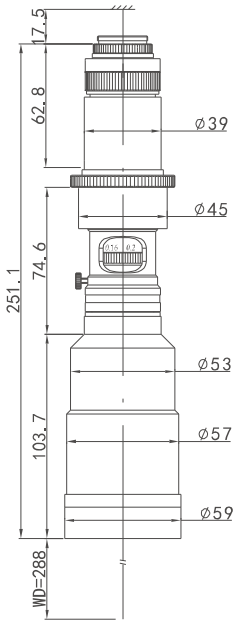
| | |
|---|---|
| Mag | 0.2X～1.0X |
| Working distance | 205mm |
| FOV | 32X24～6.4X4.8 |
| CCD | 1/2"CCD |



## SPZT6130-G

Main specification

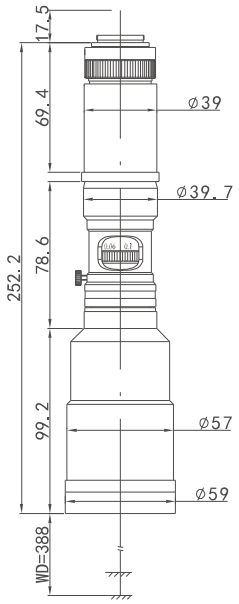
| | |
|---|---|
| Mag | 0.16X～0.8X |
| Working distance | 288mm |
| FOV | 40X30～8X6 |
| CCD | 1/2"CCD |




## SPZT6130-H

Main specification

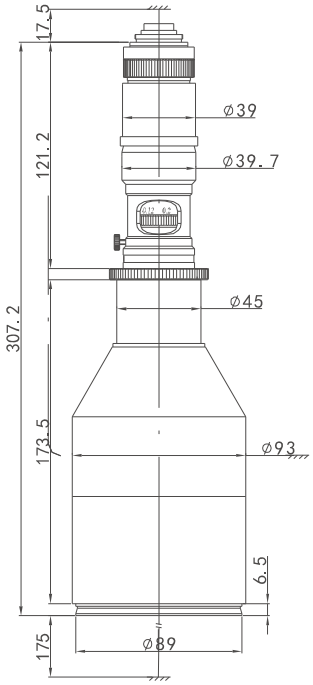
| | |
|---|---|
| Mag | 0.06X～0.4X |
| Working distance | 388mm |
| FOV | 106X80～16X12 |
| CCD | 1/2"CCD |




## SPZT6130-K

Main specification

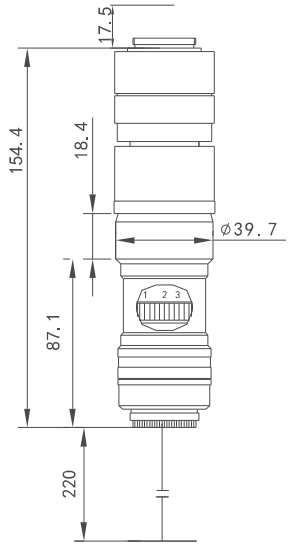
| | |
|---|---|
| Mag | 0.12X～0.8X |
| Working distance | 175mm |
| FOV | 53X40～8X6 |
| CCD | 1/2"CCD |



## SPZT6130mab

Main specification

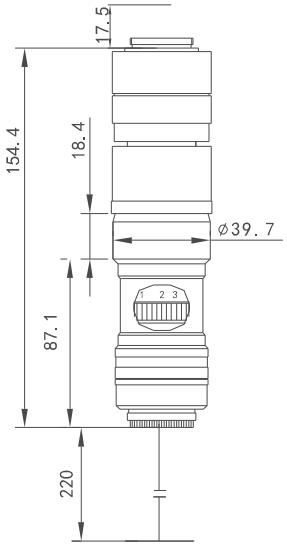
| | |
|---|---|
| Mag | 0.12X～0.8X |
| Working distance | 220mm |
| FOV | 6X6.4～40X30 |
| CCD | 1/3"CCD |




## SPZT6130mad

Main specification

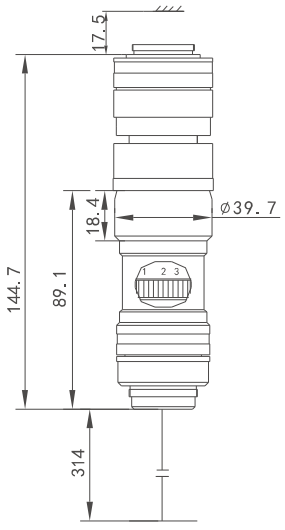
| | |
|---|---|
| Mag | 0.22X～1.4X |
| Working distance | 106.8mm |
| FOV | 3.42X2.57～21.8X16.4 |
| CCD | 1/3"CCD |




## SPZT6130mg

Main specification

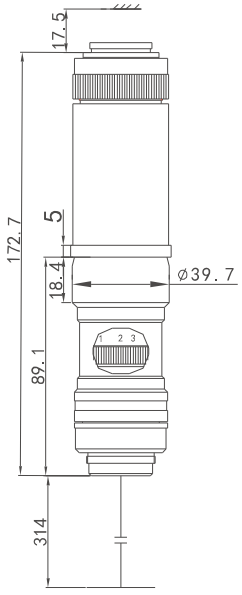
| | |
|---|---|
| Mag | 0.054X～0.36X |
| Working distance | 314mm |
| FOV | 13.3X10～88.8X66.6 |
| CCD | 1/3"CCD |




## SPZT6130mgd

Main specification

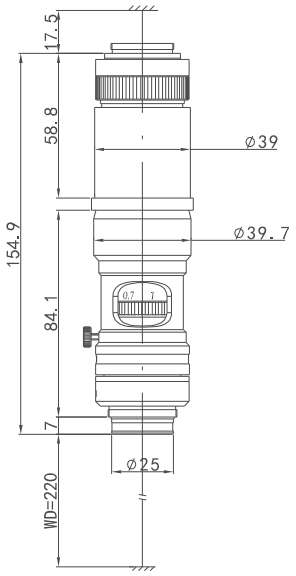
| | |
|---|---|
| Mag | 0.16X～1.0X |
| Working distance | 314mm |
| FOV | 4.8X3.6～30X22.5 |
| CCD | 1/3"CCD |



## SPZT6130-E

Main specification

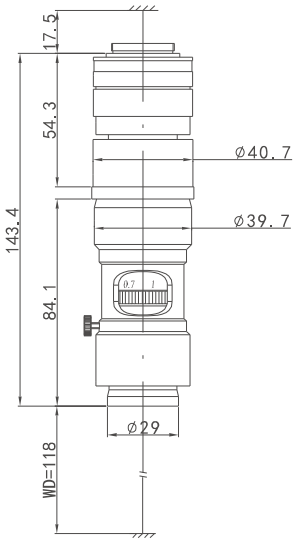
| | |
|---|---|
| Mag | 0.18X～1.2X |
| Working distance | 130mm |
| FOV | 35.6X26.7～5.3X4 |
| CCD | 1/2"CCD |




## SPZT6130-F

Main specification

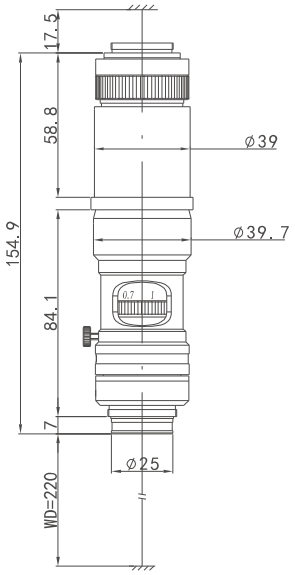
| | |
|---|---|
| Mag | 0.15X～1.0X |
| Working distance | 118mm |
| FOV | 42.7X32～6.4X4.8 |
| CCD | 1/2"CCD |




## SPZT6130-M

Main specification

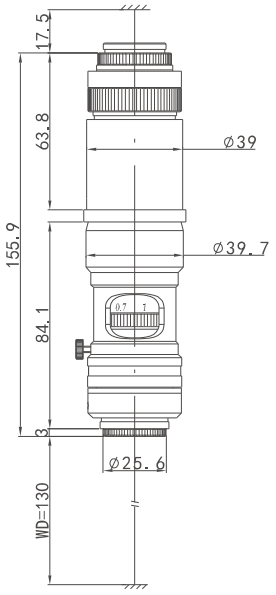
| | |
|---|---|
| Mag | 0.1X～0.65X |
| Working distance | 220mm |
| FOV | 64X48～9.8X7.3 |
| CCD | 1/2"CCD |




## SPZT6130-N

Main specification

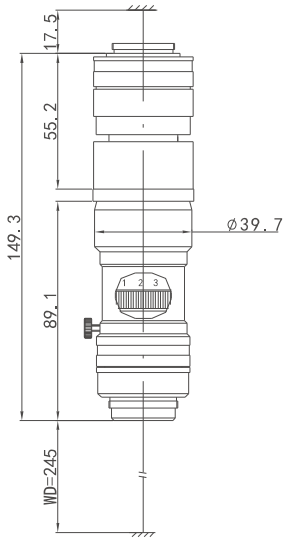
| | |
|---|---|
| Mag | 0.179X～1.08X |
| Working distance | 130mm |
| FOV | 35.7X26.8～5.9X4.4 |
| CCD | 1/2"CCD |



## SPZT6130MBA

Main specification

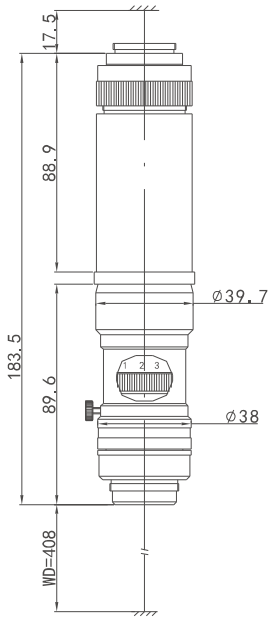
| | |
|---|---|
| Mag | 0.067X～0.45X |
| Working distance | 242mm |
| FOV | 53.73X71.64～8X10.67 |
| CCD | 1/3"CCD |




## SPZT6130MM

Main specification

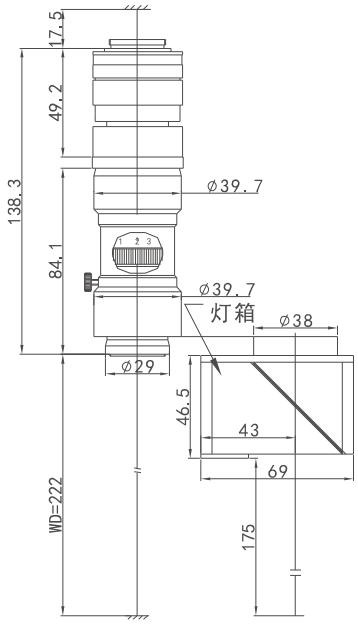
| | |
|---|---|
| Mag | 0.1X～0.65X |
| Working distance | 108mm |
| FOV | 71.7X59.2～11X8.2 |
| CCD | 1/1.8"CCD |




## SPZT6130BGW

Main specification

| | |
|---|---|
| Mag | 0.08X～0.54X |
| Working distance | 221.5mm |
| FOV | 6.67X8.89～45X60 |
| CCD | 1/3"CCD |

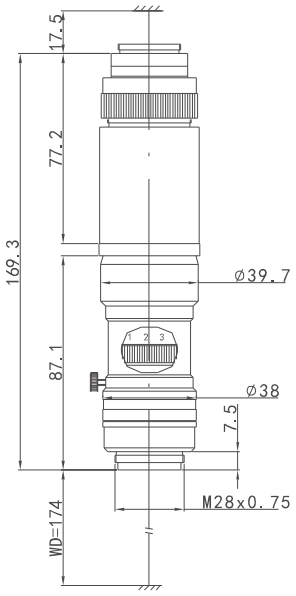



Axial spread illumination

## SPZT6130P

Main specification

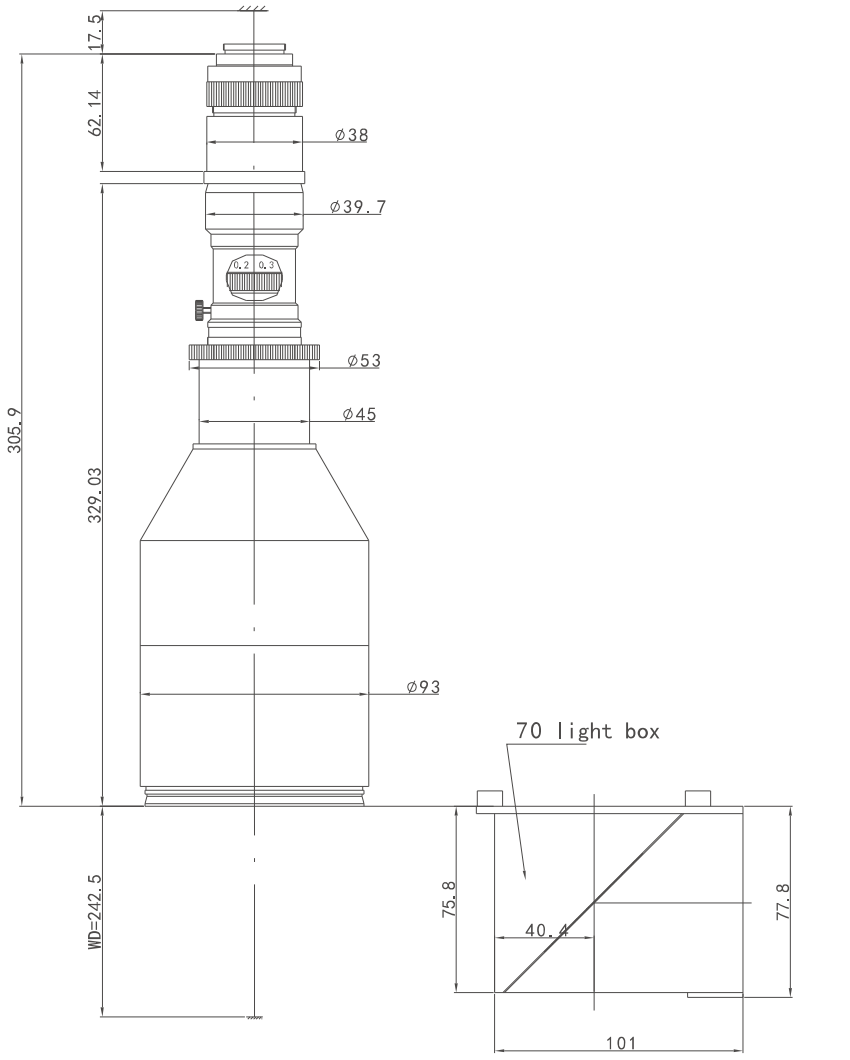
| | |
|---|---|
| Mag | 0.135X～0.9X |
| Working distance | 174mm |
| FOV | 4X5.33～26.67X35.56 |
| CCD | 1/3"CCD |



SPZT6130Ke

Main specification

| | |
|---|---|
| Mag | 0.105X～0.7X |
| Working distance | 235.5mm |
| FOV | 5.14X6.86～34.29X45.71 |
| CCD | 1/2"CCD |




Axial spread illumination

# SPZ6160

Double clamp compact micro adjustment video microscope

## SPZ6160 Series specification

| Item NO. | Mag | Working distance mm | FOV （1/3"CCD > （mm） | Mag compatible CCD | NA | Resolution μm | FOD mm | Distortion % |
|---|---|---|---|---|---|---|---|---|
| SPZ.6160b | 0.25X～1.5X | 102-108 | 19.2X14.4～3.2X2.4 | 1/3″ | 0.016～0.052 | 6.4～20.8 | 0.5～10 | 0.12～0.22 |
| SPZ.6160Cb | 0.3X～2X | 83～89 | 16X12～2.4X1.8 | 1/3″ | 0.021～0.069 | 4.8～15.6 | 0.28～6.2 | 0.1～0.66 |
| SPZ.6160d | 0.25X～1.5X | 121.5～127.5 | 19.2X14.4～3.2X2.4 | 1/3″ | 0.016～0.052 | 6.4～20.8 | 0.5～10 | 0.12～0.3 |
| SPZ.6160Cd | 0.4X～2.5X | 76.7～82.7 | 12X9～1.92X1.44 | 1/3″ | 0.022～0.069 | 4.8～15.2 | 0.2～4.5 | 0.1～0.46 |
| SPZ.6160e | 0.25X～1.5X | 101.6～107.6 | 19.2X14.4～3.2X2.4 | 1/3″ | 0.016～0.052 | 6.4～20.8 | 0.5～10 | 0.12～0.22 |
| SPZ.6160Ce | 0.3X～2X | 82.5～88.5 | 16X12～2.4X1.8 | 1/3″ | 0.021～0.069 | 4.8～15.6 | 0.28～6.2 | 0.1～0.66 |

### Product features:

1. Coaxial confocal in the whole zoom process

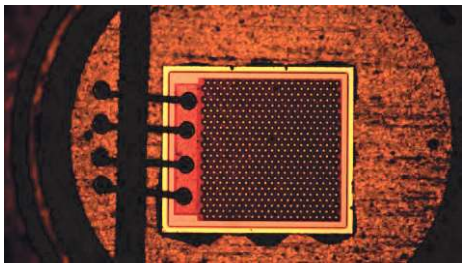
2. Double clamping position

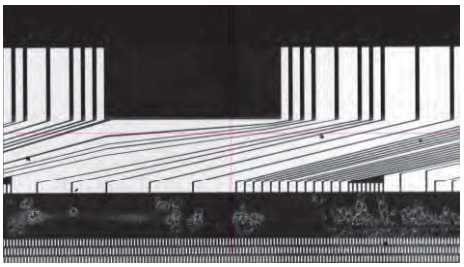
3. Standard C interface, or CS interface

4. Fine adjustment objective ±3mm

5. Edge field of view becomes smaller

6. Compact structure

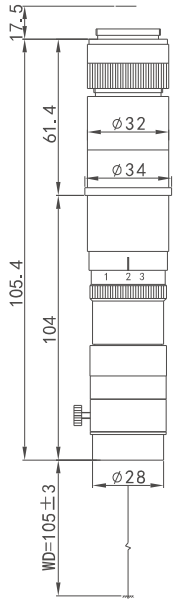




## SPZ6160b

Main specification

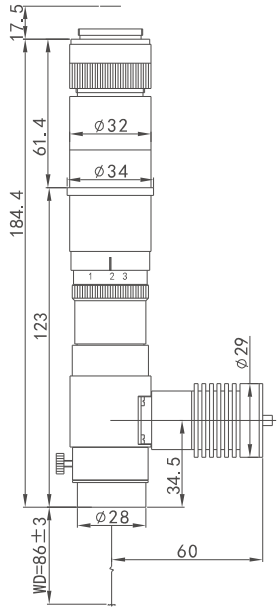
| | |
|---|---|
| Mag | 0.25X～1.5X |
| Working distance | 102-108mm |
| FOV | 19.2X14.4～3.2X2.4 |
| CCD | 1/3"CCD |




## SPZ6160Cb

Main specification

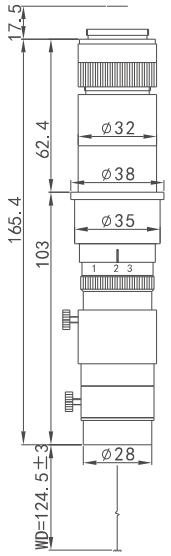
| | |
|---|---|
| Mag | 0.3X～2X |
| Working distance | 83-89mm |
| FOV | 16X12～2.4X1.8 |
| CCD | 1/3"CCD |




## SPZ6160d

Main specification

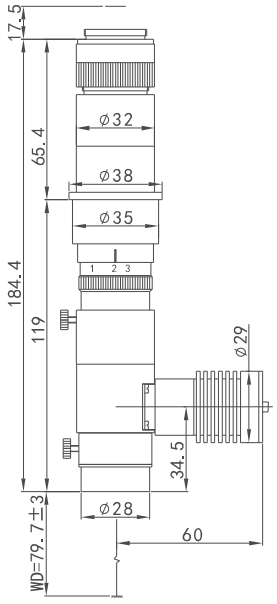
| | |
|---|---|
| Mag | 0.25X-1.5X |
| Working distance | 121.5-127.5mm |
| FOV | 19.2X14.4～3.2X2.4 |
| CCD | 1/3"CCD |




## SPZ6160Cd

Main specification

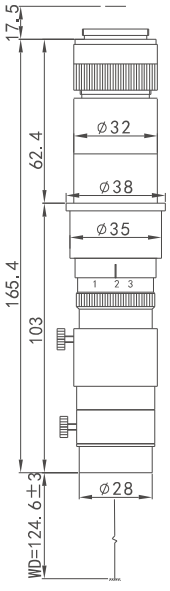
| | |
|---|---|
| Mag | 0.4X-2.5X |
| Working distance | 76.7-82.7mm |
| FOV | 12X9～1.9X1.44 |
| CCD | 1/3"CCD |




## SPZ6160e

Main specification

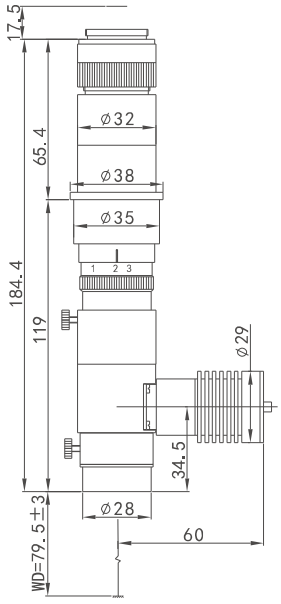
| | |
|---|---|
| Mag | 0.25X-1.5X |
| Working distance | 101.6-107.6mm |
| FOV | 19.2X14.4～3.2X2.4 |
| CCD | 1/3"CCD |




## SPZ6160Ce

Main specification

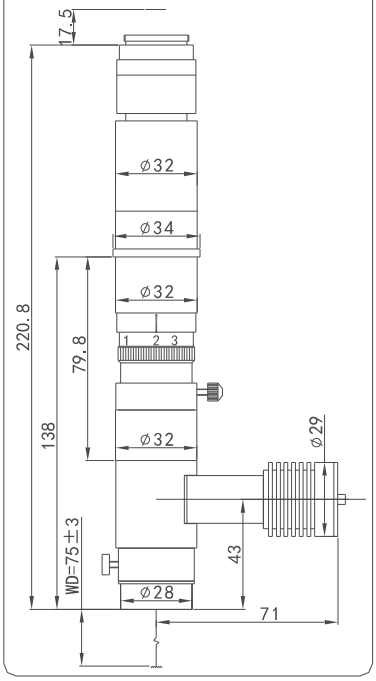
| | |
|---|---|
| Mag | 0.3X-2X |
| Working distance | 82.5-88.5mm |
| FOV | 16X12～2.4X1.8 |
| CCD | 1/3"CCD |



## SPZ6160C

Main specification

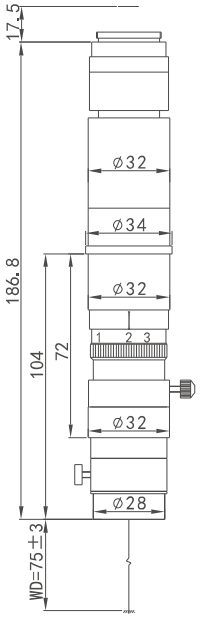
| | |
|---|---|
| Mag | 0.8X～5.0X |
| Working distance | 72 -78mm |
| FOV | 6.4X4.8～0.96X0.72 |
| CCD | 1/3"CCD |




## SPZ6160

Main specification

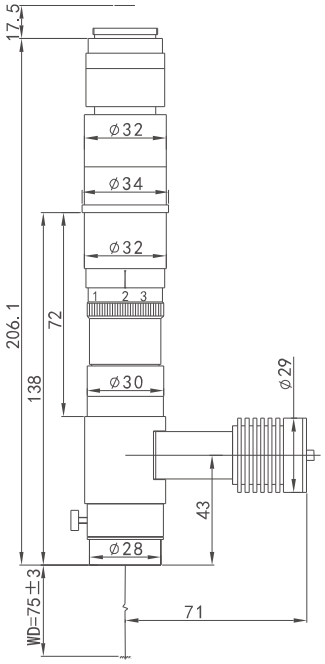
| | |
|---|---|
| Mag | 0.8X～5.0X |
| Working distance | 72- 78mm |
| FOV | 6.4X4.8～0.96X0.72 |
| CCD | 1/3"CCD |




## SPZ6160Chd

Main specification

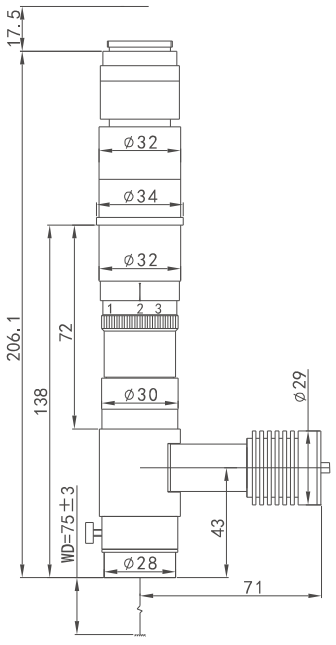
| | |
|---|---|
| Mag | 0.55X- 3.7X |
| Working distance | 72 -78mm |
| FOV | 8.7Á6.5 -1.3Á1.0 |
| CCD | 1/3"CCD |




## SPZ6160Cf

Main specification

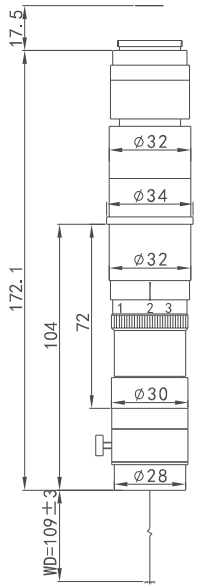
| | |
|---|---|
| Mag | 0.42X -2.8X |
| Working distance | 72 78mm |
| FOV | 11.4Á8.57 1.7Á1.28 |
| CCD | 1/3"CCD |




## SPZ616f

Main specification

| | |
|---|---|
| Mag | 0.3X -1.93X |
| Working distance | 106 -112mm |
| FOV | ～16Á12 2.48Á1.86 |
| CCD | 1/3"CCD |



## SPZT [Special Item]

### Video microscope

【Multiple magnification, working distance, field of view and fine adjustment functions are optional】

## SPZT Special series

| Item No. | Mag | Working distance mm | FOV | Max copatible CCD | NA | Resolution | FOD | Distortion |
|---|---|---|---|---|---|---|---|---|
| SPZT6110Cd | 0.4X～2.5X | 75.5 | 16x12～2.6x1.9 | 1/2″CCD | 0.011～0.03 | 31～11.2 | 3.4～0.2 | 0.5%～0.25% |
| SPZT9010F | 0.18X～1.6X | 653.5 | 39.8x29.5～4.5x3.3 | 1/1.8″CCD | 0.004～0.014 | 83.5～23.8 | 55.5～1.7 | 0.2%～0.1% |
| SPZT9010F-A | 0.2X～1.8X | 593.4 | 35.9x26.6～4x3 | 1/1.8″CCD | 0.004～0.016 | 76.2～21 | 45.4～1.4 | 0.2%～0.1% |
| SPZT9010H | 1.4X～12.5X | 55.5 | 6.3x4.7～0.7x0.5 | 2/3″CCD | 0.031～0.1 | 10.8～3.2 | 0.92～0.03 | 0.53%～0.14% |
| SPZT010-QH | 0.7X～4.5X | 90±2 | 12.6x9.4～2x1.5 | 2/3″CCD | 0.02～0.08 | 16.9～4.2 | 2.85～0.08 | 0.22%～0.06% |
| SPZT6150 | 0.7X～4.8X | 108 | 18.3x13.7～2.7x2 | 1″CCD | 0.021～0.06 | 15.5～5.5 | 30.3～1.6 | 0.019～0.11% |

Note: 1、Depth of field is the calculated value equivalent to 320 TV lines for 1/2 "CCD cameras (allowable disorder circle on imaging surface: 40um). 2、Resolution refers to the theoretical resolution at the wavelength of 550nm.
3、Distortion is the edge value of the maximum compatible camera.

### Product features

1. Coaxial confocal and fine adjustment of objective lens in the whole zoom process

2. Zoom ratio: 6.4:1, 6.7:1, 6.25:1, 5:1

3. Matching dimensions of main engine: ∅25, ∅29, ∅39.7

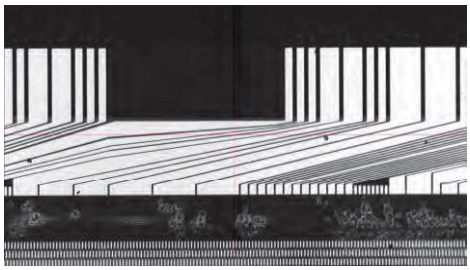
4. Standard C interface, or CS interface

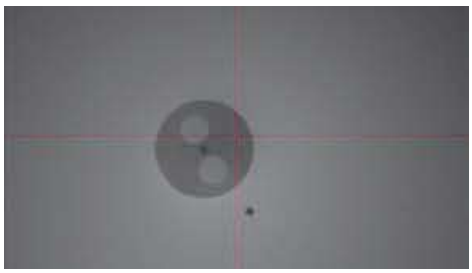
5. It can be connected to standard thread infinite metallographic lens

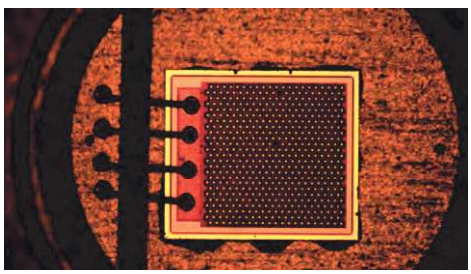
6. It can be connected with LED adjustable ring lamp or LED coaxial lighting

### Application

- Electronic equipment semiconductor
- LCD observation and detection
- LED observation and detection



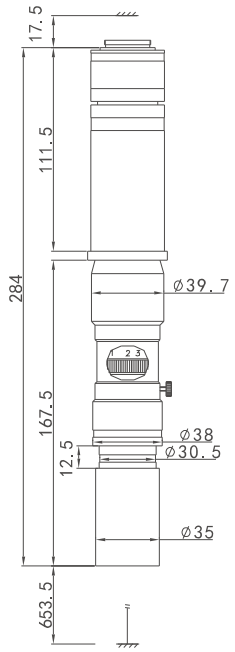




## SPZT9010F

Main specification

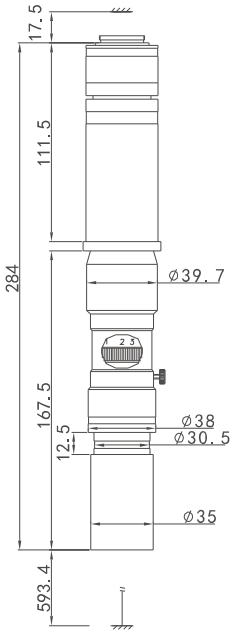
| | |
|---|---|
| Mag | 0.18X～1.6X |
| Working distance | 650mm |
| FOV | 2.25X3～20X26.67 |
| CCD | 1/3"CCD |




## SPZT6130FA

Main specification

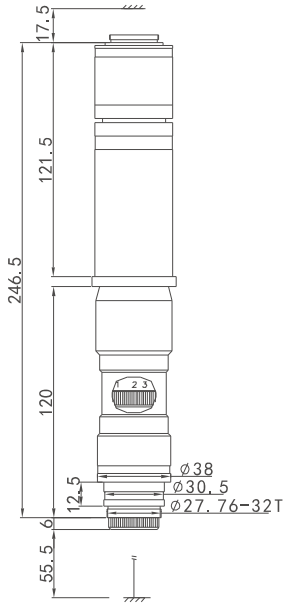
| | |
|---|---|
| Mag | 0.2X～1.8X |
| Working distance | 590mm |
| FOV | 35.9X26.6～3X4 |
| CCD | 1/1.8"CCD |




## SPZT9010H

Main specification

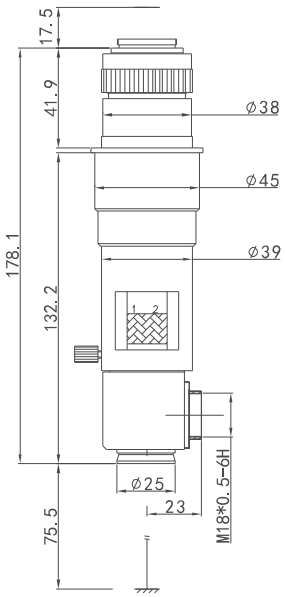
| | |
|---|---|
| Mag | 1.4X～12.5X |
| Working distance | 55.5mm |
| FOV | 6.3X4.7～0.7X0.5 |
| CCD | 2/3"CCD |




## SPZT6110Cd

Main specification

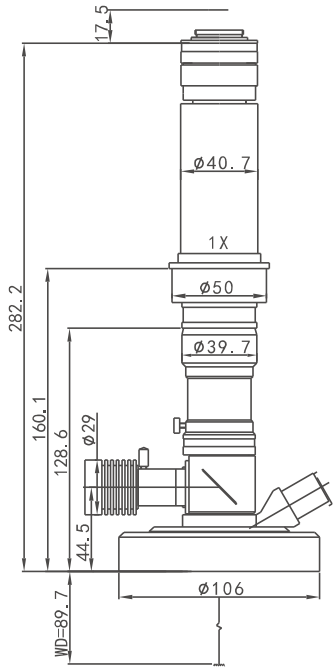
| | |
|---|---|
| Mag | 0.4X～2.5X |
| Working distance | 75.5mm |
| FOV | 16X12～2.6X1.9 |
| CCD | 1/2"CCD |



## SPZTQHZ010C

Main specification

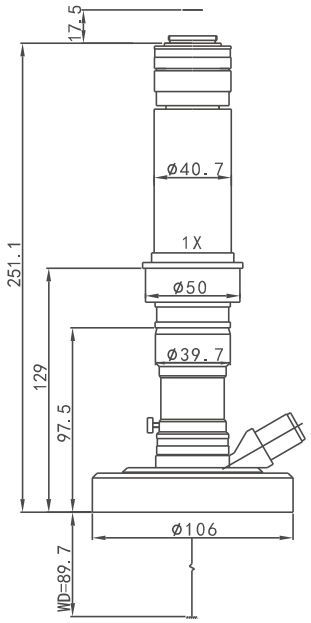
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 89.7mm |
| FOV | 12.6X9.4～2X1.5 |
| CCD | 2/3"CCD |




## SPZTQHZ010

Main specification

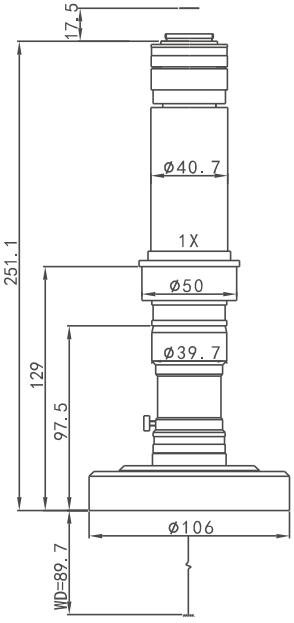
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 89.7mm |
| FOV | 12.6X9.4～2X1.5 |
| CCD | 2/3"CCD |




## SPZTQHZ600

Main specification

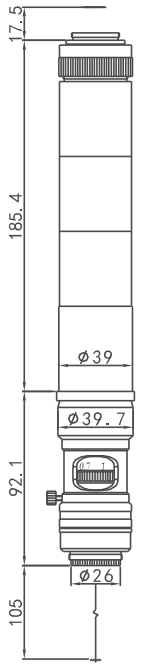
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 89.7mm |
| FOV | 12.6X9.4～2X1.5 |
| CCD | 2/3"CCD |




## SPZT6150

Main specification

| | |
|---|---|
| Mag | 0.72X～4.8X |
| Working distance | 105mm |
| FOV | 18.3X13.7～2X2.7 |
| CCD | 1/3"CCD |



# SPF0820

Small stereo variable ultra clear
microscope series

## Product features

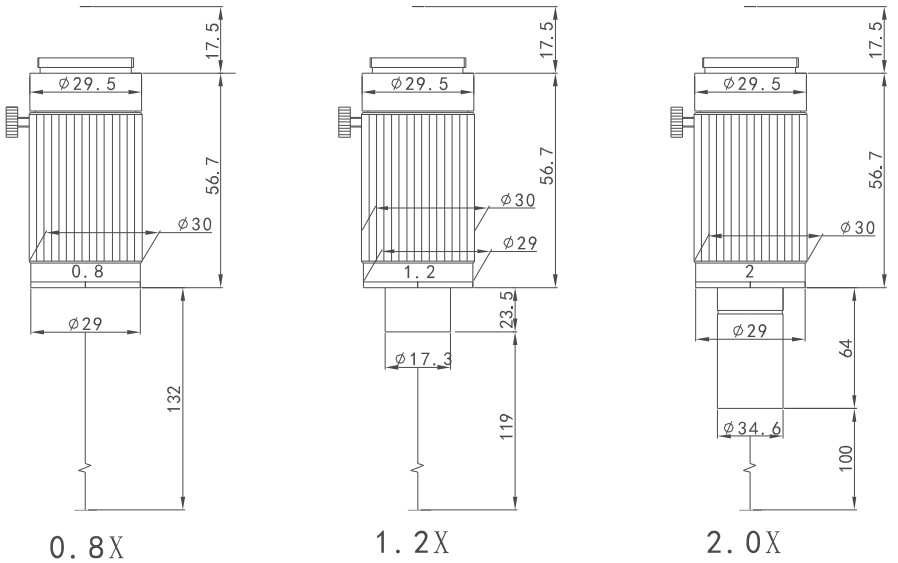
- ●High resolution image super clear
- ●Zoom coaxial confocal
- ●Magnification 0.8X-2.0X
- ●Working distance 100mm-132mm
- ●Compatible with 1/2 " CCD

**Specification**

| Product Name | SPF00820 | | |
|---|---|---|---|
| Total Mag | 0. 8X～2. 0X （ Ratio 6. 4:1） | | |
| Working distance | 100±132mm | | |
| Field of view | 6. 0×4. 5~2. 4×1. 8 | | |
| Mag | 0. 8X | 1. 2X | 2. 0X |
| NA | 0. 05 | 0. 055 | 0. 065 |
| Resolution(um) | 6. 7 | 6. 1 | 5. 1 |
| FOD (mm) | 0. 5 | 0. 3 | 0. 15 |
| Distortion | 0. 08% | 0. 07% | 0. 07% |
| Max compatible CCD | 1/2"CCD | | |
| Instal | C adpater | | |

Note: 1、Depth of field is the calculated value equivalent to 320 TV lines for 1/2 "CCD cameras (allowable disorder circle on imaging surface: 40um). 2、Resolution refers to the theoretical resolution at the wavelength of 550nm. 3、Distortion is the edge value of the maximum compatible camera.

SPF0820




0.8X　　1.2X　　2.0X

## SPVW、SPZW

Horizontal lens series

## Specification

| Item No. | Mag | Working distance | FOV 1/3"CCD (mm) | Max compatible CCD | NA | Resolution | FOD mm | Distortion (%) |
|---|---|---|---|---|---|---|---|---|
| SPVW. 070C-41W | 0. 7X | 41. 3 | 5. 14X6. 85 | 1/3″ | 0. 04 | 9. 6 | 0. 86 | 0. 25 |
| SPVW. 20C-33W | 2X | 33. 2 | 1. 8X2. 4 | 1/2″ | 0. 052 | 4. 2 | 0. 13 | 0. 23 |
| SPZW. 1030C-41CW | 1X～3X | 41. 3 | 4. 8X3. 6～1. 6X1. 2 | 1/3″ | 0. 04～0. 056 | 8. 3～6 | 1～0. 23 | 0. 1～0. 16 |
| SPZW. 1534C-41W | 1. 5X～3. 4X | 41. 3 | 4. 26X3. 2～1. 88X1. 41 | 1/2″ | 0. 046～0. 058 | 7. 3～5. 7 | 0. 57～0. 2 | 0. 05～0. 08 |

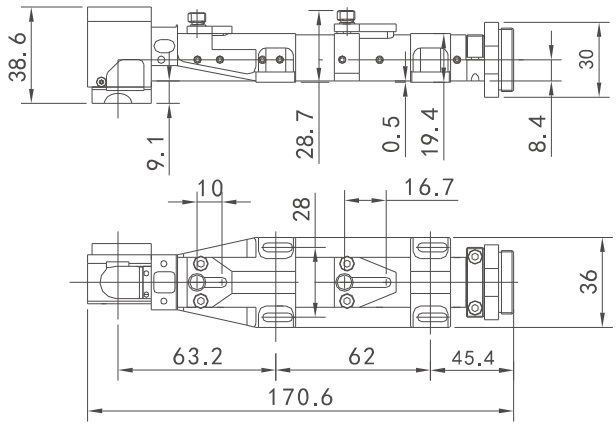
## Product introduction

SPZW series are respectively fixed power video microscope and variable power video microscope for horizontal observation. They are specially integrated plane mounted. The milk is stably fixed on the working platform, and the variable power locking is firm, especially suitable for high-speed running equipment.

## Product features

- **Horizontal observation**
- **Zoom coaxial confocal**
- **Axial plane installation and fixation**
- **Multiple combined magnification field of view is optional**

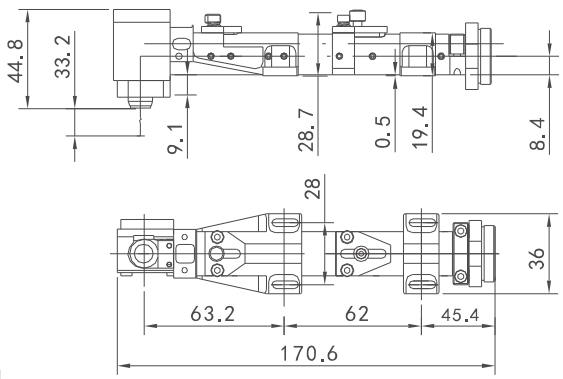
**SPVW.070C-41W fixed magnification horizontal len**




Specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0. 7X | 41. 3mm | 9. 6um | 0. 86mm | 0. 25% | 1/3" |

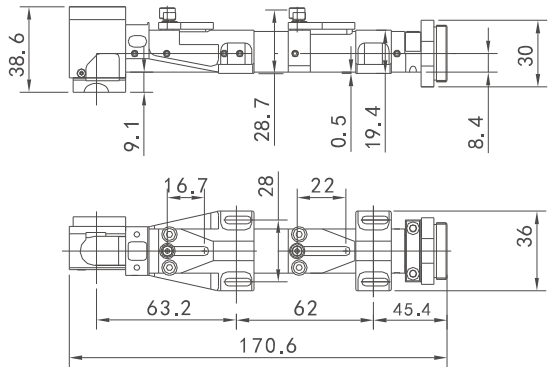
## SPVW.20C-33W fixed power horizontal len




Specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 2X | 33.2mm | 4.2um | 0.13mm | 0.23% | 1/2" |

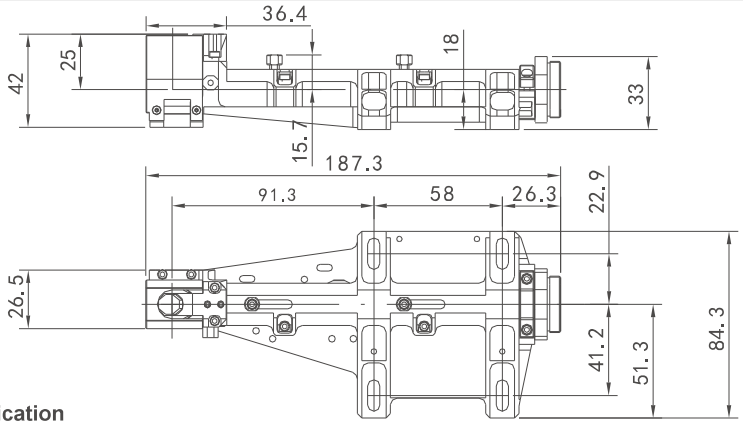
## SPVW.1030C-41W fixed power horizontal len




Specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1X-3X | 41.3mm | 8..3-6um | 1-0.23mm | 0.1%-0.16% | 1/3" |

## SPVW.1534C-41W fixed power horizontal len




Specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.5X-3.4X | 41.3mm | 7.3-5.7um | 0.7mm | 0.05%-0.08% | 1/2" |

High-precision 1-second fast zoom objective with electric fine-tuning optional

**Produdct Features**

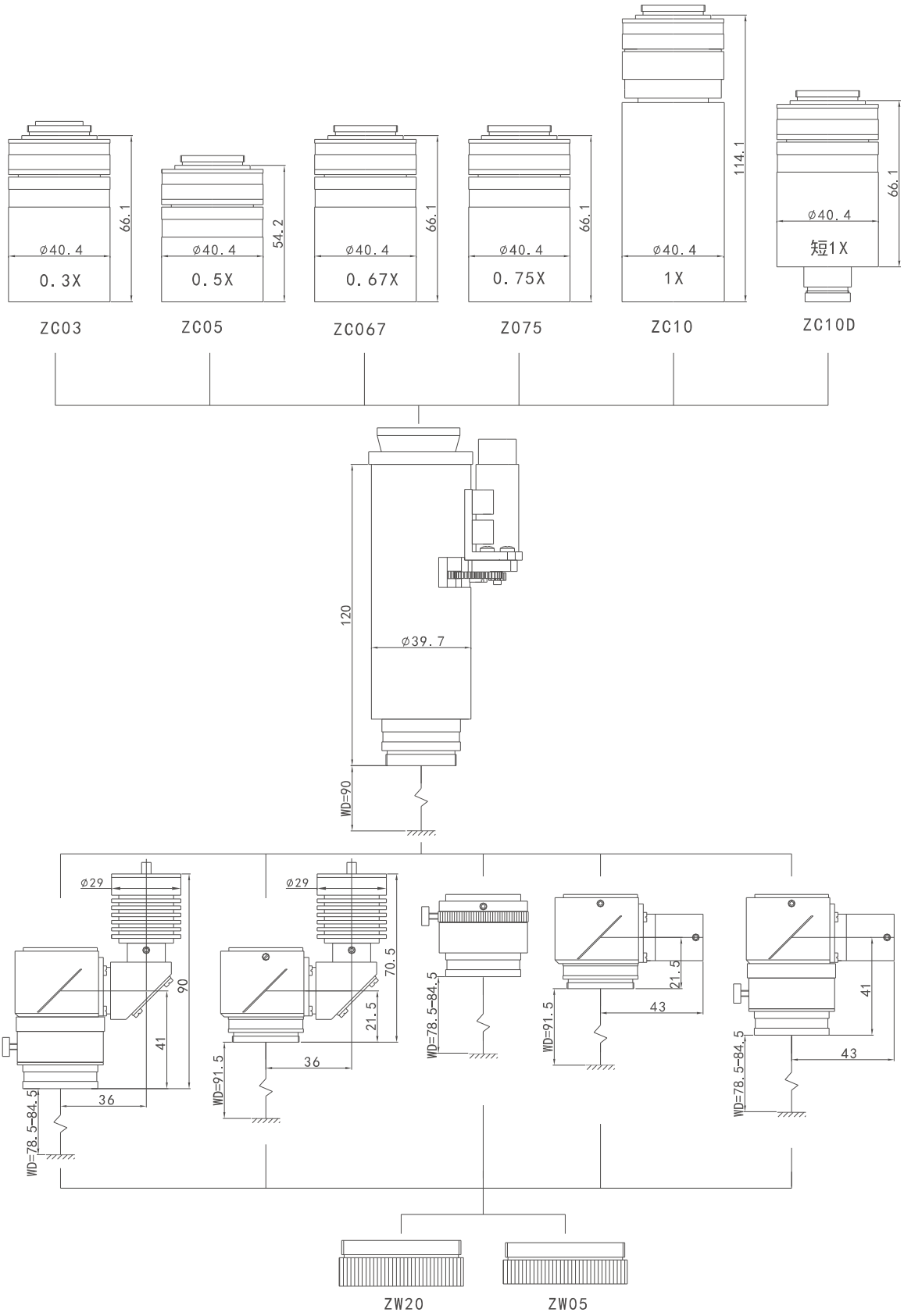
This series is the motorized control mode series of all continuous zoom microscopes of our company. It is especially suitable for repeated selection and use of precise and same magnification imaging observation, comparison, inspection and measurement on site. The high-precision 1-second fast zooming, and the magnification of the microscope is controlled by the motor. Through the serial line, the PC can be used for stepless zooming and precise positioning control of the cover microscope, and at the same time, it can also control the LED ring light illumination.

## Technical specifications

- High precision 1 second fast zoom
- Coaxial confocal in the whole zoom process
- Imported servo motor (accuracy 1/1.5 million) or optional stepping motor
- Single or multiple LED lighting control is optional
- Focus and fine adjustment stroke of objective lens ± 3mm
- Regulated power supply: DC12V/1A
- Servo control box, 102 × eighty-eight × 38mm

### SP-E electric Series

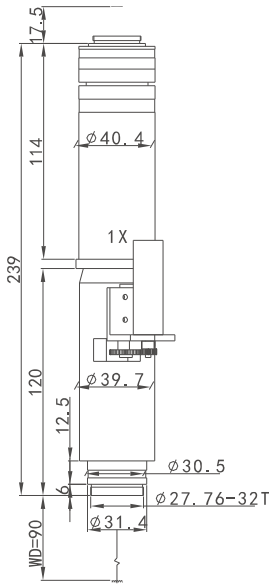
| Item No. | Mag | Working distance | Field of view | Max compatible CCD |
|---|---|---|---|---|
| SPZT6180 | 0.4X～2.5X | 90 | 16×12～2.6×1.9 | 1/2″CCD |
| SPZT6180A | 0.4X～2.5X | 90 | 16×12～2.6×1.9 | 1/2″CCD |
| SPZT6180B | 0.4X～2.5X | 70～76 | 16×12～2.6×1.9 | 1/2″CCD |
| SPZT6180C | 0.4X～2.5X | 113.5 | 16×12～2.6×1.9 | 1/2″CCD |
| SPZT6180b | 0.25X～1.6X | 87.5 | 19.2×14.4～3×2.25 | 1/3″CCD |
| SPZT6180d | 0.25X～1.6X | 87.5 | 19.2×14.4～3×2.25 | 1/3″CCD |
| SPZT6180e | 0.07X～0.45X | 169 | 51.4×68.6～8×10.7 | 1/3″CCD |
| SPZT6180g | 0.15X～1.35X | 152.2 | 24×32～2.7×3.6 | 1/3″CCD |
| SPZT6180Y | 0.7X～4.5X | 180 | 9.1×6.7～1.4×1.1 | 1/2″CCD |
| SP0745EW | 0.7X～4.5X | 90 | 6.8×5.1～1.1×0.8 | 1/2″CCD |
| SP0745EBW | 0.7X～4.5X | 90 | 9.1×6.7～1.4×1.1 | 1/2″CCD |


ø40.4
0.3X
66.1
ZC03
ø40.4
0.5X
54.2
ZC05
ø40.4
0.67X
66.1
ZC067
ø40.4
0.75X
66.1
ZC075
ø40.4
1X
114.1
ZC10
ø40.4
短1X
66.1
ZC10D
120
ø39.7
WD=90
ø29
90
41
36
WD=78.5-84.5
ø29
70.5
21.5
36
WD=91.5
WD=78.5-84.5
21.5
43
WD=91.5
41
43
WD=78.5-84.5
ZW20
ZW05

## SPZT6180

Main specification

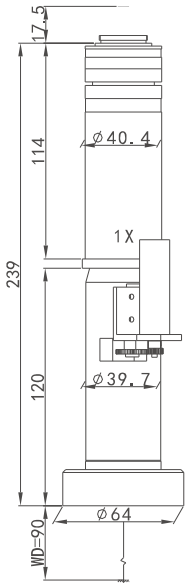
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 90mm |
| FOV | 9.1X6.7～1.4X1.1 |
| CCD | 1/2"CCD |




## SPZT6180A

Main specification

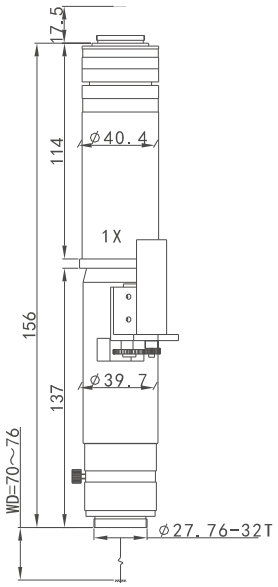
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 90mm |
| FOV | 9.1X6.7～1.4X1.1 |
| CCD | 1/2"CCD |




## SPZT6180B

Main specification

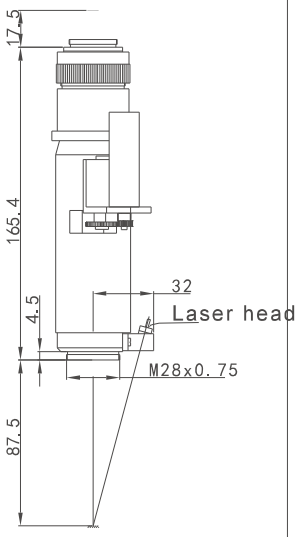
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 90mm |
| FOV | 9.1X6.7～1.4X1.1 |
| CCD | 1/2"CCD |




## SPZT6180b

Main specification

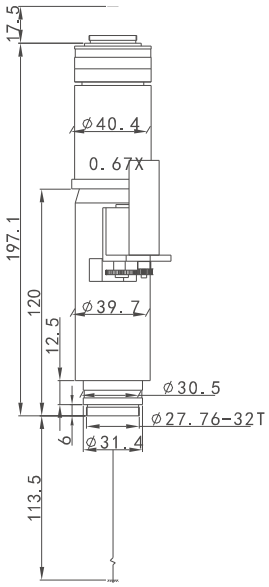
| | |
|---|---|
| Mag | 0.25X～1.6X |
| Working distance | 87.5mm |
| FOV | 14.4X19.2～2.25X3 |
| CCD | 1/3"CCD |




## SPZT6180C

Main specification

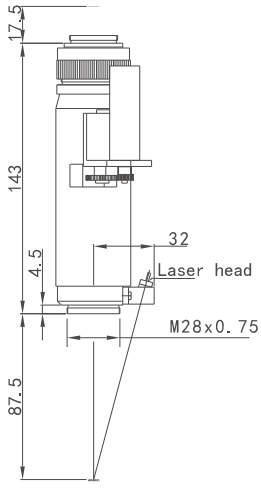
| | |
|---|---|
| Mag | 0.4X～2.5X |
| Working distance | 90mm |
| FOV | 16X12～2.6X11.92 |
| CCD | 1/2"CCD |




## SPZT6180d

Main specification

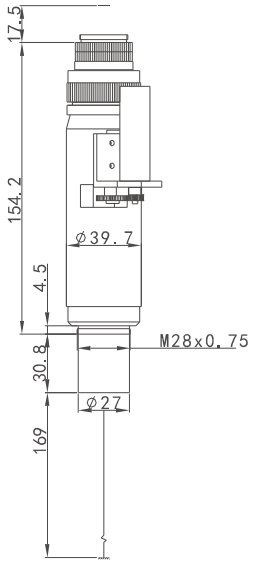
| | |
|---|---|
| Mag | 0.25X～1.6X |
| Working distance | 87.5mm |
| FOV | 14.4X19.2～2.25X3 |
| CCD | 1/3"CCD |



## SPZT6180e

Main specification

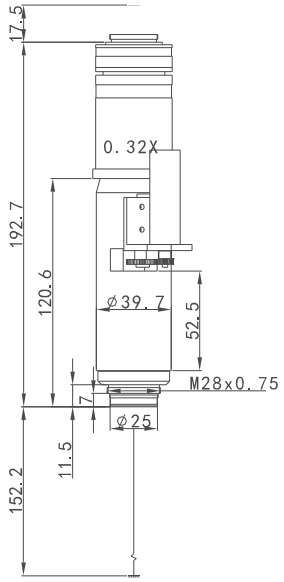
| | |
|---|---|
| Mag | 0.07X～0.45X |
| Working distance | 139mm |
| FOV | 51.4X68.6～2.6X10.7 |
| CCD | 1/3"CCD |




## SPZT9010g

Main specification

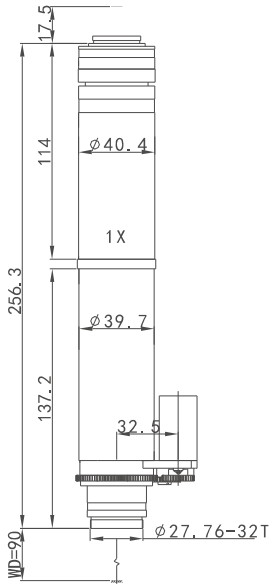
| | |
|---|---|
| Mag | 0.15X～1.35X |
| Working distance | 152.2mm |
| FOV | 24X32～2.7X3.6 |
| CCD | 1/3"CC |




## SPZ0745EW

Main specification

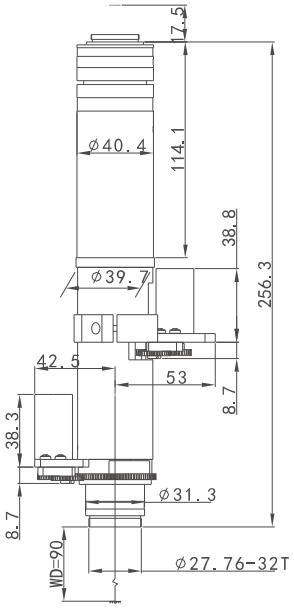
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 90mm |
| FOV | 6.85X5.14～1.06X0.8 |
| CCD | 1/3"CCD |




## SP0745EBW

Main specification

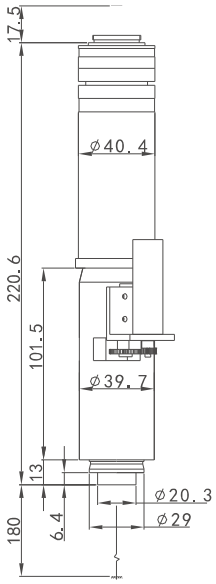
| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 90mm |
| FOV | 9.1X6.7～1.4X1.1 |
| CCD | 1/2"CCD |




## SPZT6180y

Main specification

| | |
|---|---|
| Mag | 0.7X～4.5X |
| Working distance | 180mm |
| FOV | 9.1X6.7～1.4X1.1 |
| CCD | 1/2"CCD |



# SPZB

## 【Ultra long stereo zoom】Video camera

**【Composite Ultrashort Optical System and Precision Mechanical Structure】**

## Functions and features

### Electric type

Objects with a distance of 400mm to 1600mm can be observed through the electric zoom,

●Large depth of field, small distortion, and extra long working distance

### Manual type

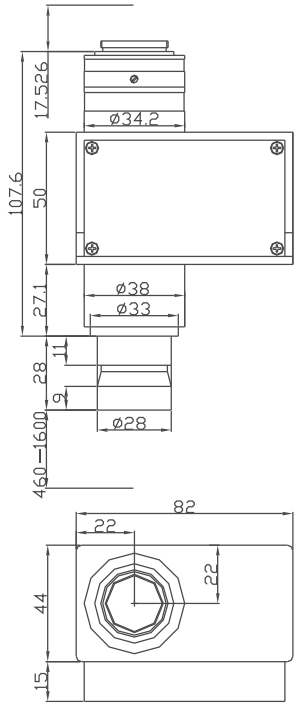
Objects with a distance of 100mm to 900mm can be observed through the electric zoom,

●Large depth of field, small distortion, and extra long working distance

**Optical parameters**

| Item No. | Functions | Magnfication | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPZB1200-E | Electric zoom | 0. 065—0. 29X | 1600--400mm | 76--21um | 130--8mm | 0. 08% | 1/2″ |
| SPZB800 | Manual zoom | 0. 064—0. 52X | 900--100mm | 74--14um | 130--3mm | 0. 15% | 1/2″ |

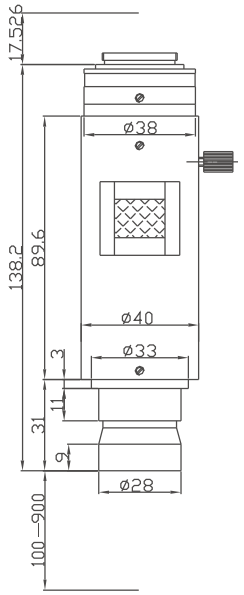
SPZB electric stereo zoom len




Parameter

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0. 065—0. 29X | 1600—400mm | 76—21um | 130—8mm | 0. 08% | 1/2″ |

SPZB Manual stereo zoom len




Parameter

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0. 064—0. 52X | 900—100mm | 74—14um | 130—3mm | 0. 15% | 1/2″ |

## SP3D0745-S45

manual 3D video microscope

- 45° O bservation module
- 0.7-4.5X objective zoom
- Fine adjustment of objective lens
- Working distance 20mm

# SP3D0745-A30

Electric 3D video microscope

- 30°Observation module
- 0.7-4.5X Zoom range
- Fine adjustment of objective lens
- Working distance 32mm
- Independent control box 104×77×30mm
- Rotation frequency 4r/min-2r/min
- Built in lighting
- Standard C adapter

## SP3D1050-3E45

- 45 °observation module
- Electric zoom 1.0X-5.0X
- Electric rotation
- 380mm X 280mm X 35mm Stage
- Independent control box 104mm X 77mm X 30mm
- Speed 4r/min-2r/min
- Working distance 20mm
- Standard C interface

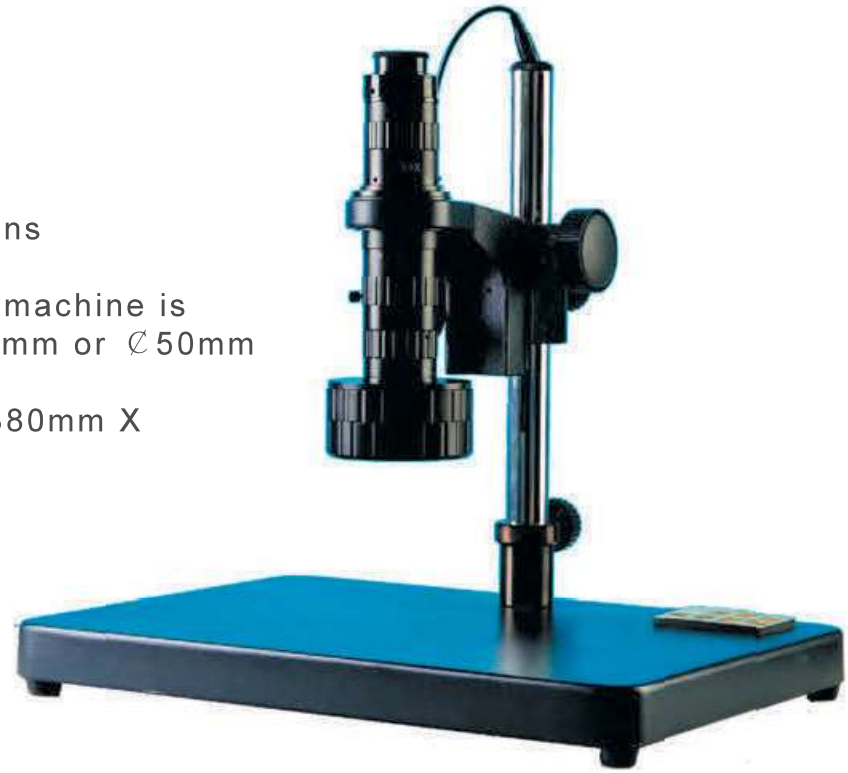
## SP3D0745W1-A45

- Continuous magnification of objective lens 0.7X-4.5X
- Working distance 20mm
- The mobile phone or computer with corresponding software can be controlled wirelessly
- Big base of all-in-one machine (built-in control box) 380mm X 280mm X 35mm
- Rotating speed 4r/min-2r/min

## SP3D0745T-A45

- 90 °camera adapter
- Host multiplying ratio 0.7X-4.5X
- Working distance 20mm
- Wireless control (mobile phone or computer with corresponding software)
- Big base of all-in-one machine (built-in control box) 380mm X 280mm X 35mm
- Rotating speed 4r/min-2r/min

## SP3D1050-3W45



- Manual rotation
- Fine adjustment of objective lens
- 45 °observation module
- The matching size of the main machine is ℄40mm, and the adapter is ℄45mm or ℄50mm
- Standard C interface
- Dimming integrated platform, 380mm X 280mm X 35mm

| | | |
|---|---|---|
| CCD adapter | 1XCCD | 0. 5XCCD |
| Magnification | 0. 7X~4. 5X | 0. 35X~2. 25X |
| Field of view | 12.75×9.4 ~1.95×1.47 | 13. 71×10. 29 ~2. 13×1. 6 |
| Working distance | 45°20/30°32 | 45°20/30°32 |
| Max compatible CCD | 2/3″ CCD | 1/2″ CCD |

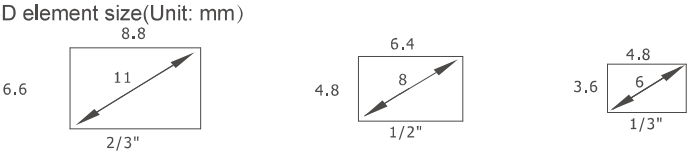
Calculation method of total magnification:

Different configuration magnification can be obtained by the following formula:

Total Mag=Lens Mag X CCD adapter Mag X Digital Mag

Object field diameter=diagonal size of CCD camera target plane/objective magnification/CCD adapter Mag

CCD element size(Unit: mm)



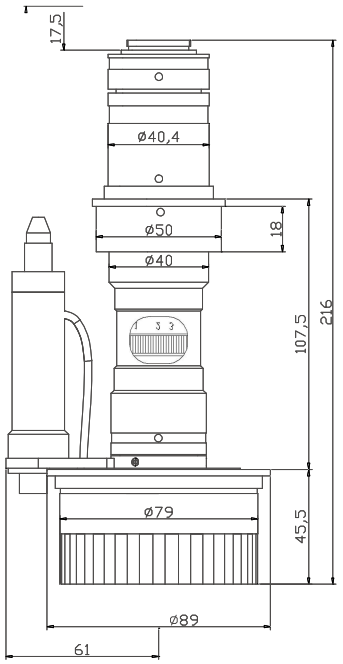

Digital Mag =diagonal size of display screen/diagonal size of CCD camera target

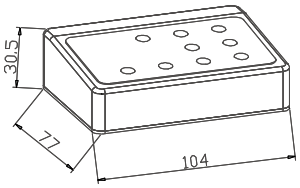
Example: digital mag of 8"monitor with 1/3" CCD camera $=\frac{8\times25.4}{6}=33.87$

17"monitor with 1/3" CCD camera $=\frac{17\times25.4}{6}=71.97$

Dimensions

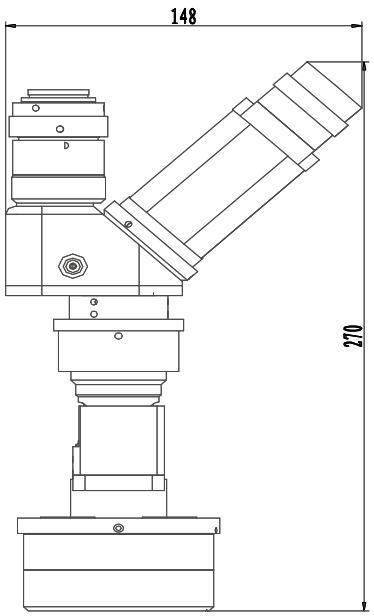
3D

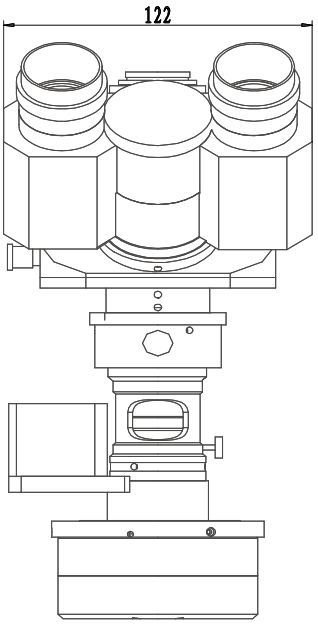



Independent control box

Trinocular 3D



# SP3D-C standard 3D stereo zoom video microscope

## Product introduction

SP3D-C 3D stereo zoom video microscope adopts advanced optical system and precision mechanical mechanism, and the zoom process is coaxial confocal
It is suitable for digital imaging observation, detection and measurement in electronic equipment, semiconductor, LCD, LED and other fields. The optical technology with large depth of field is adopted, which has a strong stereoscopic sense and high contrast. It is especially suitable for observing the processing quality of components, such as ball, electrical connector, metal hole interior, side wall, etc. through electric, rotary observation and other accessories.

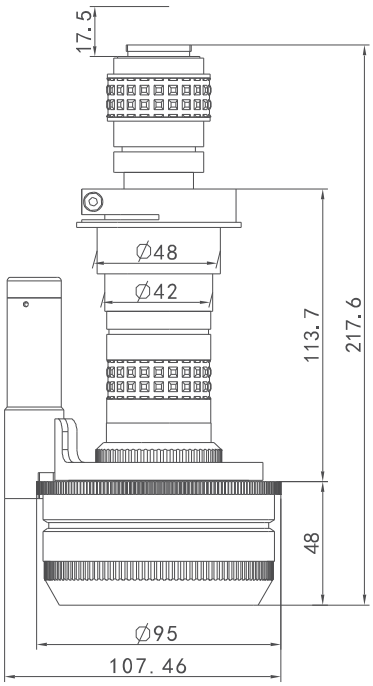
## SP3D-50300C

- Overall magnification 50X-300X
- Working distance 20mm
- 45 ° observation module
- Fine adjustment of objective lens
- Standard C interface
- Matching size ℄45mm or ℄50mm
- Adjustable built-in light source
- Rotating speed 4r/min-2r/min
- Independent small control, 104mm * 77mm * 30mm, input 12V5A

## Optional Accessories

- Integrated machine large base (built-in control box) DK2, overall dimension 380 * 280 * 35, main column ℄ 25mm
- Integrated machine small base (built-in control box) DK3, overall dimension 262 * 212 * 35, main column ℄ 25mm
- Independent small control box XK1, overall dimension 104 * 77 * 30
- It can be equipped with 3D rotators with different viewing angles and different working
- distances; The manufacturer will provide accurate data separately.

| Optional Features / Basic model | Total Mag | Reflectio module |
|---|---|---|
| SP3D-25150C (0.5XCCD) | 25X-150X ( 17″ monitor 1/3″CCD) | 45° / 30° / 50 ° |
| SP3D-50300C (1XCCD) | 50X-300X ( 17″ monitor 1/3″CCD) | 45° / 30 ° / 50 ° |




## SP3D-S25150C

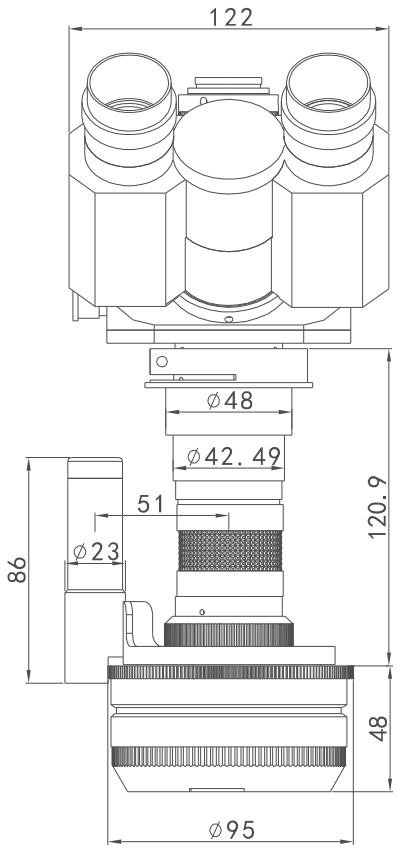
- Manual rotation
- Fine adjustment of objective lens
- Built in ring light source
- Continuous magnification of the whole machine 25X-150X
- Working distance 17mm/20mm/32mm
- Observation module 50 °/45 °/30 °
- Standard C interface
- Matching size ℄ 48 or ℄ 50

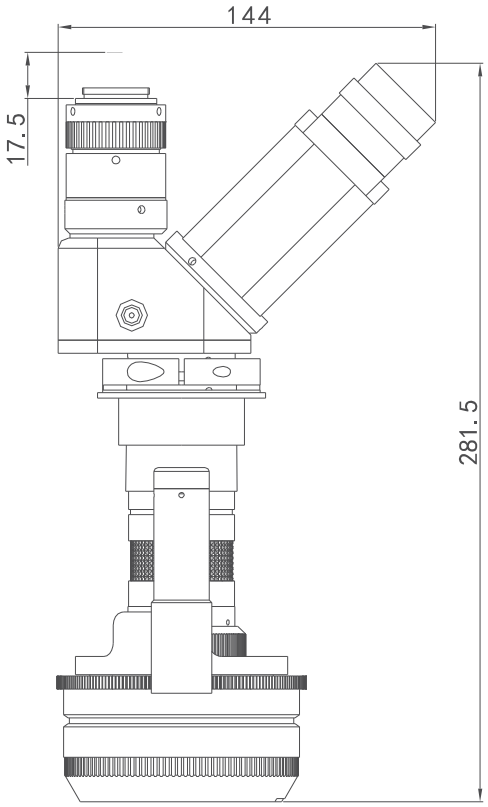
## SP3D-30300C

- Overall magnification 50X-300X (according to 17 "monitor 1/3" CCD)
- Fine adjustment of objective lens
- Working distance 17mm/20mm/32mm
- Observation module 50 °/45 °/30 °
- Rotating speed 4r/min-2r/min
- Big base of all-in-one machine (built-in control box) 380mm X 280mm X 35mm
- Input AC85V-265V, 50Hz - 60Hz,
- Output 12V, 5A transformer source

## SP3D-50300CT

- Both photography and binocular observation
- Fine adjustment of objective lens
- Host multiplying ratio 1X-5X
- Eyepiece 10X
- CCD adapter 0.5X
- Outline 270mmX145mmx122mm
- Working distance 17mm/20mm/32mm
- Observation module 50 °/45 °/30 °
- Rotating speed 4r/min-2r/min



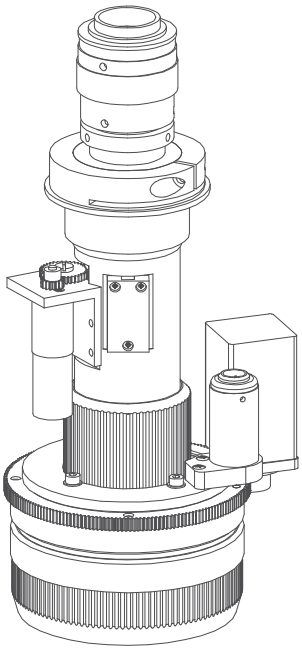



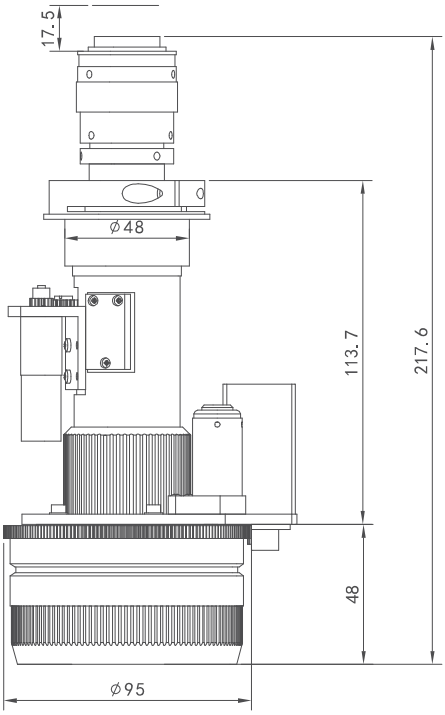
## SP3D-EC50300451

- 45 ° observation module
- Overall magnification 50-300X
- DC motor
- 380mm × 280mm × 35mm workbench (optional)
- Independent control box 104mm × 77mm × 30mm
- Rotating speed 4r/min-2r/min
- Working distance 20mm
- Standard C interface

## SP3D-EC50300452

- 45 °observation module
- Overall magnification 50-300X
- Real time control of stepping motor
- 380mm × 280mm × 35mm workbench (optional)
- Independent control box 104mm × 77mm × 30mm
- Rotating speed 0r/min-15r/min
- Working distance 20mm
- Standard C interface





## SP3D-Z 3D video microscope 【Intelligent control all-in-one machine】

### 【Integrated intelligent control】 functions introduction

- The rotation angle, speed, positive and negative rotation are numerically controlled by software, and common fixed angle values are set
- The platform is numerically controlled by software, that is, the measured object is moved quantitatively to achieve accurate operation and positioning
- Through the numerical control of the above host and working platform by software, the repeated accuracy of the measured state is achieved, and the efficiency is improved
- Imported DC motor, integrated control of single chip microcomputer, easy to upgrade performance


【Main technical specifications】

- Objective lens continuous magnification 0.7X-4.5X, magnification ratio: 6.4:1 Objective lens continuous magnification 1X-5X magnification ratio: 5:1
- The total magnification with 1X CCD can be expanded to 50X-300X, and the total magnification with 0.5X CCD can be expanded to 25X-1
- Working distance: 20 at 45 °, 32 at 30 °
- The matching size of the host is 40mm, and the adapter is 45mm or 50mm
- Standard C interface (the distance from the bearing surface to the CCD target surface is 17.55mm). CS interface can also be added.

【Optional Accessories】

- CCD connector 3DC10.0, 3DC0.5
- Integrated machine large base (built-in control box) DK2, overall dimension 380 * 280 * 35, main column 25mm

## SPY

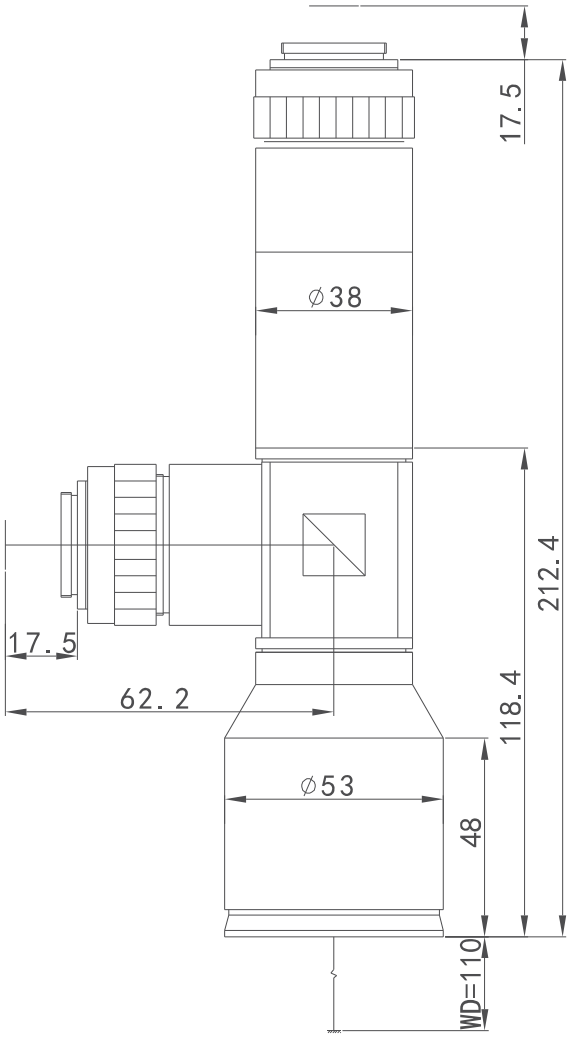
Large field bilateral telecentric Lens

- Double telecentric design
- Low distortion
- Large depth of field
- Large field of view

**SPY Large vision telecentric series specification:**

| Item No. | Working distance | Mag | FOV 1/2CCD | Valid FNO | FOD | Resolution | Distortion | Telecentric | O/I | Max compatible CCD |
|---|---|---|---|---|---|---|---|---|---|---|
| SPY85-017 | 85 | 0.17X | 37.6x28.2 | 8 | 23.5 | 31.5 | 0.20% | <0.1 | 294.2 | 1/2″ |
| SPY108-020 | 108 | 0.2X | 32x24 | 8 | 16 | 26.84 | 0.09% | <0.05 | 278.5 | 1/2″ |
| SPY108-017 | 108 | 0.17X | 37.6x28.2 | 8 | 22 | 31.7 | 0.09% | <0.05 | 314.3 | 1/2″ |
| SPY110-035 | 110.8 | 0.35X | 25.1x18.8 | 8 | 5 | 15 | 0.07% | <0.2 | 301.7 | 2/3″ |
| SPY110-026 | 110.8 | 0.26X | 24.6x18.4 | 5.5 | 7 | 15 | 0.10% | <0.08 | 268 | 1/2″ |
| SPY156-008 | 156 | 0.08X | 80x60 | 8 | 100 | 67 | 0.08% | <0.08 | 517.2 | 1/2″ |
| SPY156-011 | 156 | 0.11X | 80x60 | 8 | 15 | 48 | 0.08% | <0.08 | 524.2 | 2/3″ |
| SPY159-040 | 159.5 | 0.4X | 16x12 | 10 | 2.5 | 16.8 | 0.20% | <0.1 | 354.3 | 1/1.8″ |
| SPY171-010 | 171 | 0.1X | 64x48 | 8 | 64 | 54 | 0.08% | <0.08 | 516 | 1/2″ |
| SPY177-030 | 177 | 0.3X | 21.3x16 | 8～25 | 6.4 | 16.2 | 0.05% | <0.05 | 361.9 | 1/2″ |

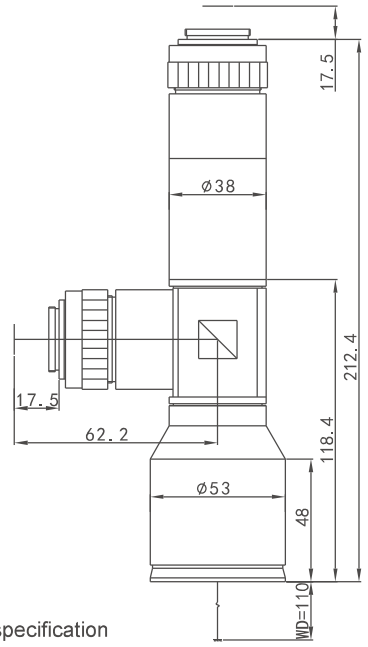
| | |
|---|---|
| Working distance | It is the distance from the front end of the lens barrel to the observed object |
| Valid FNO: | Effective F NO displays the brightness of the lens at a limited distance in actual use. Effective F NO=objective magnification/2NA |
| FOD： | It is assumed that 1/2 "CCD camera is equivalent to the calculated value of 320 horizontal TV lines (the allowable disordered circle on the imaging surface: 40um) |
| Resolution | Measure the indiscernible distance between two points Resolution=0661 X λ/NA |
| Distortion | Curved image generated by linear objects outside the optical axis when imaging through the system belongs to lens aberration |
| O/I | Conjugate distance of optical system. Distance between object surface and CCD target surface.0/1 minus the working distance and C interface size of 17.53mm is the length of the len |




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.2X | 110mm | 26.8um | 8mm | 0.16% | 1/2" |
| 0.8X | 110mm | 10um | 0.7mm | 0.17% | 2/3" |

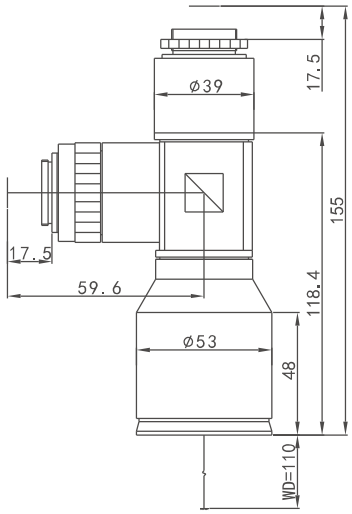
## SPY11002/08




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.2X | 110mm | 26.8um | 8mm | 0.16% | 1/2" |
| 0.8X | 110mm | 10um | 0.7mm | 0.17% | 2/3" |

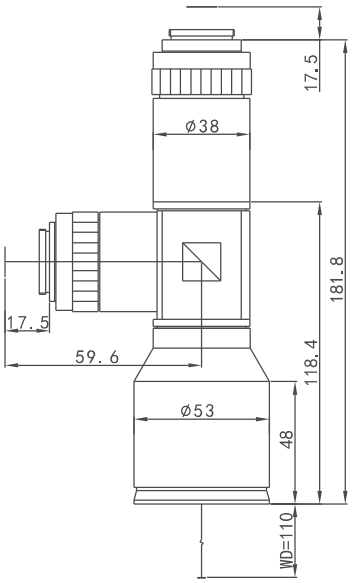
## SPY11003/03




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.3X | 105-120mm | 17.8um | 3.5mm | 0.11% | 2/3" |

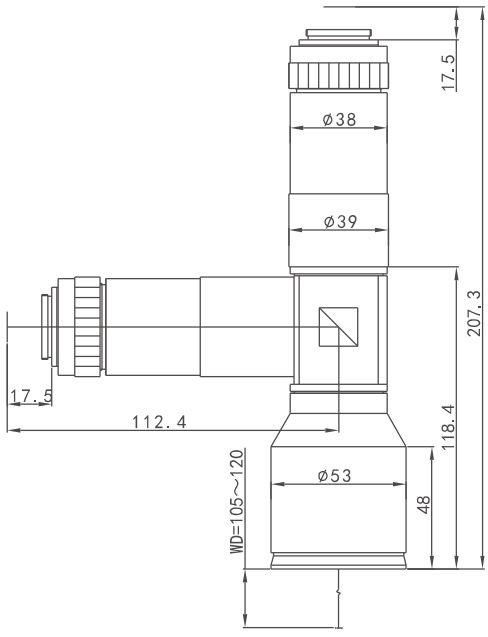
## SPY11003/12




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.3X | 110mm | 17.8um | 3.5mm | 0.11% | 2/3" |
| 1.2X | 110mm | 8.6um | 0.4mm | 0.1% | 2/3" |

## SPY11003/04



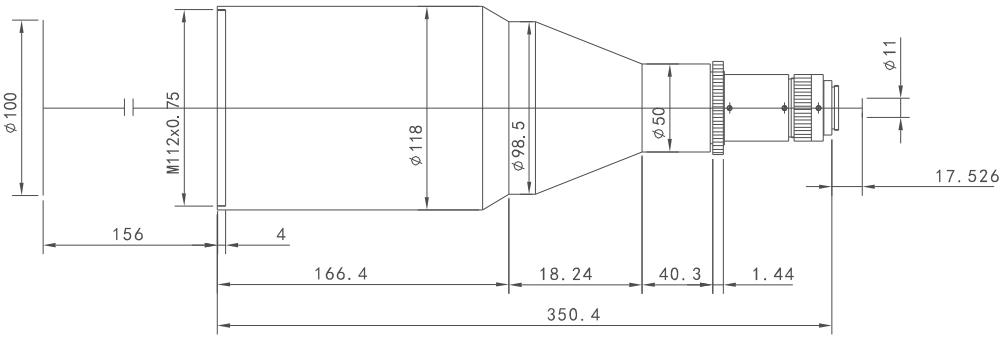

Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.4X | 105-120mm | 17.6um | 2.5mm | 0.2% | 2/3" |

## Advantages of bi-telecentric lenses

- Perfect magnification stability
- Deeper depth of field
- Detector uniform illumination
- No parallax with optical correction
- High resolution
- Ultra low chair

**SPY159-011 Telecentric Lens**




**Optical specification**

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.11X | 156mm | 48um | 15mm | 0.08% | 2/3″ |

## Parallel light source series

- Improve the edge contrast of the detected image
- Design principle of precise telecentric system

## Parallel light source series telecentric backlight illuminator

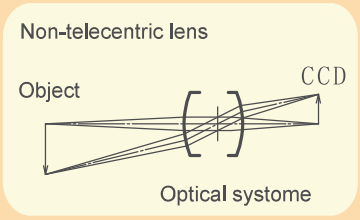
Product features

- Improve the edge contrast of the detected image
- Design principle of precise telecentric system
- Optical fiber or LEDD point light source, and light source input can be integrated
- With adjusting aperture, the color temperature remains unchanged
- Straight beam, horizontal angle and coaxial angle are optional
- Reduce diffuse reflection and improve image sharpness
- Greatly improve the lighting effect
- CCD threaded interface is 1 inch 32 buckles

Specification of parallel light source:

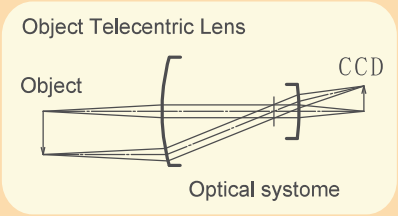
| Model | P105 | P105W | P84 | P52 | P44 | P44D | P44W | P19 |
|---|---|---|---|---|---|---|---|---|
| Spot | 100 | 100 | 80 | 50 | 44 | 44 | 44 | 19 |
| W stands for horizontal, D stands for coaxial light source | | | | | | | | |

## Optical system characteristics



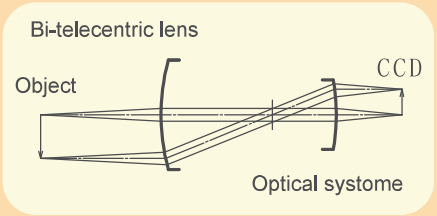

advantage:
- Small overall dimensions
- Small and medium lens, easy to process, thus saving cost

Disadvantages:
- When the object moves back and forth relative to the lens within the depth of field, the imaging size or position of the object may change. If coaxial lighting is required, the lens still needs to be large




Advantages:
- Within the depth of field, even if the surface of the object rises or falls or moves back and forth relative to the lens, the size and shape of the object remain unchanged
- Small volume with coaxial lighting system

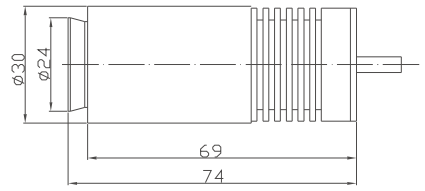
Disadvantages:
- The lens size is larger than ordinary lens




Advantages:
In addition to the advantage of the object's telecenter, the imaging edge in the image side with large field of view can still be measured by software algorithm even if the image is not aligned and blurred, but the center of the blurred edge remains unchanged

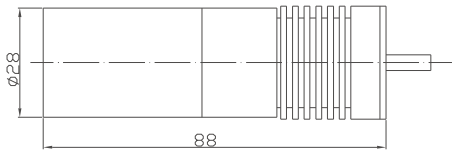
Disadvantages:
Large lens diameter, higher cost and price than other lenses

## P18 Parallel light source



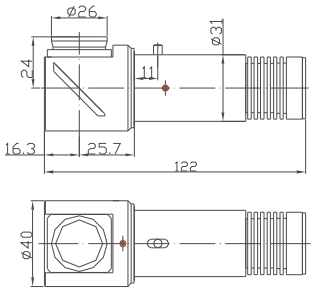

| Model | Adaptive lens | Spot |
|---|---|---|
| P18 | >0.1X | 18 |

## P19 Parallel light source



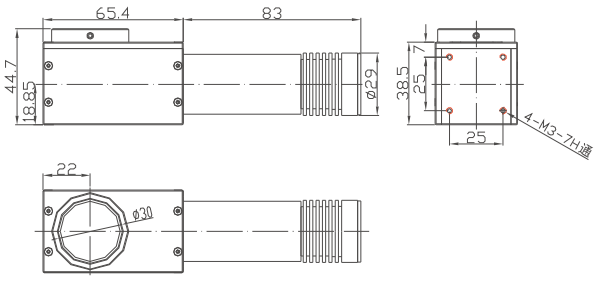

| Model | Adaptive lens | Spot |
|---|---|---|
| P19 | >0.1X | 19 |

## Horizontal parallel light source



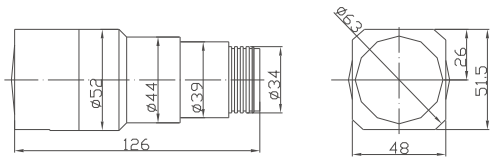

| Model | Adaptive lens | Spot |
|---|---|---|
| P19 | >0.1X | 19 |

## Coaxial parallel light source



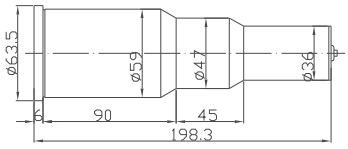

| Model | Adaptive lens | Spot |
|---|---|---|
| P19D | >0.1X | 19 |

## P44 parallel light source



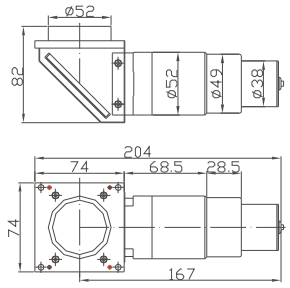

| Model | Adaptive lens | Spot |
|---|---|---|
| P44 | >0.1X | 44 |

## P52 parallel light source



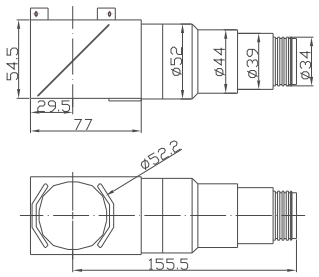

| Model | Adaptive lens | Spot |
|---|---|---|
| P52 | >0.1X | 50 |

P44 Horizontal parallel light source



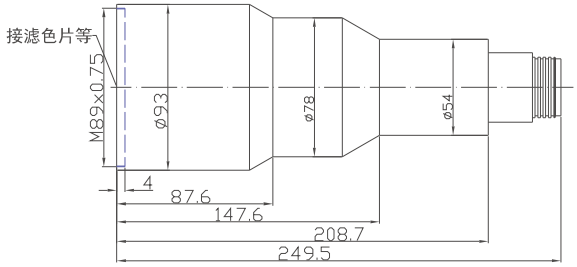

| Model | Adaptive lens | Spot |
|---|---|---|
| P44W | >0.1X | 44 |

P44D Coaxial parallel light source



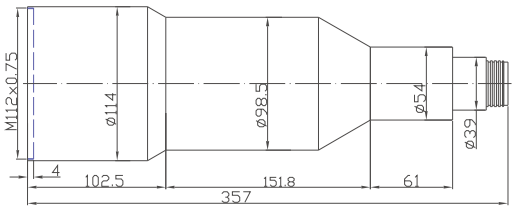

| Model | Adaptive lens | Spot |
|---|---|---|
| P44D | >0.1X | 44 |

P84 Parallel light source



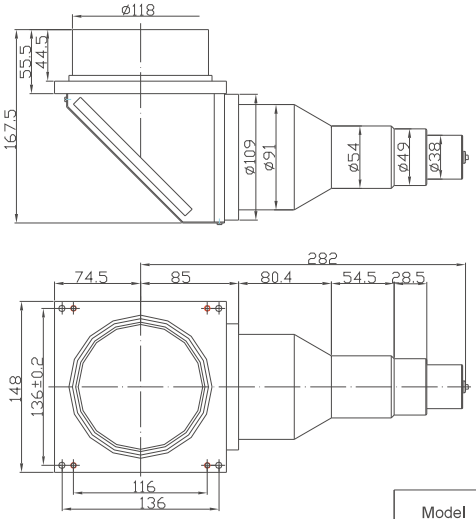

| Model | Adaptive lens | Spot |
|---|---|---|
| P84 | >0.1X | 80 |

P105 Parallel light source




| Model | Adaptive lens | Spot |
|---|---|---|
| P105 | ≤0.1X | 100 |

P105W Horizontal parallel light source




| Model | Adaptive lens | Spot |
|---|---|---|
| P105W | ≤0.1X | 100 |

# SPV-Y

## Objective Telecentric Lens

## SPV-Y party telecentric lens

### Product introduction

SPV-Y object side telecentric lens library has a variety of specifications and models, including different magnification, working distance, coaxial lighting, steering observation and two-way observation. SPV-Y object side telecentric lens can eliminate parallax or perspective error, that is, eliminate the changes in object size when the object is moved, provide optimized measurement accuracy, and is suitable for systems requiring variable working distance to obtain high sugar measurement.
Equipped with various LED auxiliary light sources, it is widely used in machine vision equipment fields such as measurement, observation, positioning, etc.

- Standard C interface (the distance from the bearing surface to the CCD target surface is 17.55mm)
- Can add CS interface

**SPV Objective telecentric len (Y stands for object-side telecentricity, C stands for coaxial light)**

| Model | Mag | Working distance mm | FOD mm | Objective resolution um | Distortion (%) | Lens Length mm | Max copatible CCD |
|---|---|---|---|---|---|---|---|
| SPV12Y-200 | 2.0X | 12.5 | 0.2 | 6.5 | 0.03% | 47.3 | 2/3″ |
| SPV29YW-300 | 3.0X | 29 | 0.07 | 3.7 | 0.35% | 72.3 | 2/3″ |
| SPV35YC-040 | 0.4X | 35 | 55 | 18.6 | 0.50% | 143.3 | 1/3″ |
| SPV40YC-200a | 2.0X | 40 | 0.35 | 8.8 | 0.20% | 92.6 | 1/2″ |
| SPV40YC-300 | 3.0X | 40 | 0.35 | 8.8 | 0.11% | 111.3 | 1/2″ |
| SPV40YC-100 | 1.0X | 45 | 1.1 | 9.9 | 0.08% | 102.2 | 1/2″ |
| SPV48YC-150 | 1.5X | 48 | 0.59 | 7.5 | 0.05% | 178.1 | 1/2″ |
| SPV48YC-400 | 4.0X | 48 | 0.17 | 6.1 | 0.13% | 139.7 | 1/2″ |
| SPV50YC-125 | 1.25X | 50 | 1.33 | 10.1 | 0.19% | 86.9 | 1/2″ |
| SPV65Y-040 | 0.4 | 65 | 2.5 | 16.7 | 0.25% | 119.7 | 1/2.5″ |
| SPV55YC-060 | 0.6X | 55 | 2.2 | 12 | 0.07% | 132.8 | 1/2″ |
| SPV65YC-080 | 0.8X | 65 | 1.2 | 18 | 0.08% | 66.4 | 1/2″ |
| SPV65YC-100 | 1.0X | 65 | 1.0 | 18 | 0.18% | 72.4 | 1/2″ |
| SPV65YC-150 | 1.5X | 65 | 0.3 | 7.0 | 0.20% | 77.6 | 2/3″ |
| SPV60YC-300b | 3.0X | 60 | 0.2 | 5.5 | 0.20% | 147.2 | 1/2″ |
| SPV65Y-400 | 4.0X | 65 | 0.18 | 6.1 | 0.36% | 128.6 | 2/3″ |
| SPV65Y-060 | 0.6X | 65 | 2.3 | 12 | 0.15% | 92.1 | 1/2″ |
| SPV65Y-080 | 0.8X | 65 | 1.6 | 10.1 | 0.05% | 93.8 | 1/2″ |
| SPV65YC-080 | 0.8X | 65 | 1.2 | 18.0 | 0.08% | 66.4 | 1/2″ |
| SPV65YC-100 | 1.0X | 65 | 1.0 | 18.0 | 0.18% | 72.4 | 1/1.8″ |
| SPV65Y-100d | 1.0X | 65 | 0.45 | 7.6 | 0.27% | 90.2 | 1/1.8″ |
| SPV65Y-150 | 1.5X | 65 | 0.67 | 8.4 | 0.48% | 109.3 | 2/3″ |
| SPV65YC-150 | 1.5X | 65 | 0.3 | 7.0 | 0.2% | 77.6 | 2/3″ |
| SPV65Y-200 | 2.0X | 65 | 0.67 | 11.2 | 0.27% | 109.3 | 2/3″ |
| SPV65YC-200 | 2.0X | 65 | 0.4 | 6.8 | 0.33% | 85.5 | 1/2″ |
| SPV65Y-300 | 3.0X | 65 | 0.22 | 5.6 | 0.30% | 109.3 | 2/3″ |
| SPV65Y-300b | 3.0X | 65 | 0.22 | 5.6 | 0.30% | 109.3 | 2/3″ |
| SPV65Y-300 | 3.0X | 65 | 0.26 | 6.7 | 0.33% | 109.3 | 2/3″ |
| SPV65Y-600 | 6.0X | 65 | 0.1 | 4.8 | 0.15% | 119 | 2/3″ |
| SPV75Y-100 | 1.0X | 75 | 0.4 | 7.1 | 0.24% | 78.6 | 1/2″ |
| SPV75Y-150 | 1.5X | 75 | 0.3 | 7.0 | 0.2% | 90.1 | 2/3″ |
| SPV75Y-400 | 4.0X | 75 | 0.25 | 8.4 | 0.33% | 153.4 | 2/3″ |
| SPV92Y-100 | 1.0X | 92 | 0.5 | 8.5 | 0.21% | 180.6 | 1″ |
| SPV94YCZ-070 | 0.7X | 94 | 1.1 | 13.4 | 0.23% | 112.8 | 1/1.8″ |
| SPV95Y-100 | 1.0X | 95 | 1.1 | 9.6 | 0.61% | 81.7 | 1/1.8″ |
| SPV95Y-300 | 3.0X | 95 | 0.26 | 6.7 | 0.44% | 126.2 | 2/3″ |
| SPV100Y-100 | 1.0X | 100 | 0.7 | 5.9 | 0.39% | 95 | 1/2″ |
| SPV100YC-125 | 1.25X | 100 | 0.9 | 9.6 | 0.24% | 133.9 | 1/2″ |
| SPV105YC-200 | 2.0X | 105 | 0.33 | 5.6 | 0.21% | 130.8 | 1/2″ |
| SPV108Y-250 | 2.5X | 108 | 0.29 | 6.1 | 0.40% | 133.9 | 2/3″ |

**SPV Objective telecentric len (Y stands for object-side telecentricity, C stands for coaxial light )**

| Model | Mag | Working distance mm | FOD mm | Objective Resolution um | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV110Y-040 | 0.4X | 110 | 5 | 19 | 0.07% | 88.2 | 1/2″ |
| SPV110YC-050 | 0.5X | 110 | 1.7 | 14.1 | 0.14% | 102.7 | 1/2″ |
| SPV110YCZ-060 | 0.6X | 110 | 1.6 | 16.5 | 0.3 | 104 | 1/1.8″ |
| SPV110Y-070 | 0.7X | 110 | 1.1 | 13.4 | 0.3% | 94.5 | 1/1.8″ |
| SPV110YC-070 | 0.7X | 110 | 1.1 | 13.4 | 0.3% | 93.8 | 1/1.8″ |
| SPV110YCZ-070 | 0.7X | 110 | 1.1 | 13.4 | 0.3% | 104.8 | 1/1.8″ |
| SPV110Y-075 | 0.75X | 110 | 0.8 | 11 | 0.10% | 148 | 1″ |
| SPV110YG-080Q | 0.8X | 110 | 0.4 | 6.8 | 0.45% | 102 | 2/3″ |
| SPV110Y-080d | 0.8X | 110 | 0.6 | 8.7 | 0.13% | 148.5 | 2/3″ |
| SPV110YC-080 | 0.8X | 110 | 2 | 13.4 | 0.15% | 116 | 1/2″ |
| SPV110YCZ-080 | 0.8X | 110 | 0.9 | 12 | 0.3% | 99 | 1/1.8″ |
| SPV110Y-100g | 1.0X | 110 | 0.4 | 6.7 | 0.29% | 103.4 | 2/3″ |
| SPV110YC-140 | 1.4X | 110 | 1 | 8.4 | 0.16% | 83.3 | 1/3″ |
| SPV110YG-150Q | 1.5X | 110 | 0.2 | 5 | 0.54% | 110.4 | 2/3″ |
| SPV110YC-150 | 1.5X | 110 | 0.74 | 9.3 | 0.31% | 109.4 | 1/2″ |
| SPV110Y-150 | 1.5X | 110 | 0.5 | 7 | 0.30% | 130.2 | 2/3″ |
| SPV110YG-200Q | 2.0X | 110 | 0.13 | 4.5 | 0.33% | 115.5 | 2/3″ |
| SPV110YC-200d | 2.0X | 110 | 0.36 | 6 | 0.18% | 131.6 | 1/2″ |
| SPV110Y-200 | 2.0X | 110 | 0.5 | 8.4 | 0.22% | 118.8 | 1/2″ |
| SPV110YC-200 | 2.0X | 110 | 0.5 | 8.4 | 0.22% | 118.8 | 1/2″ |
| SPV110YC-200a | 2.0X | 110 | 0.36 | 6 | 0.18% | 131.6 | 1/2″ |
| SPV110YC-250 | 2.5X | 110 | 0.4 | 8 | 0.50% | 102.5 | 1/2″ |
| SPV110Y-250 | 2.5X | 110 | 0.4 | 8 | 0.50% | 102.5 | 1/2″ |
| SPV110YC-250a | 2.5X | 110 | 0.8 | 16.8 | 0.20% | 147.2 | 1/2″ |
| SPV110YC-300 | 3.0X | 110 | 0.53 | 13.4 | 0.14% | 147.2 | 1/2″ |
| SPV110YC-300a | 3.0X | 110 | 0.53 | 13.4 | 0.14% | 142 | 1/2″ |
| SPV110YC-300a | 3.0X | 110 | 0.26 | 6.5 | 0.25% | 141.5 | 2/3″ |
| SPV110YC-400 | 4.0X | 110 | 0.18 | 6.4 | 0.15% | 164.1 | 2/3″ |
| SPV110YC-500 | 5.0X | 110 | 0.21 | 8.6 | 0.12% | 173.1 | 1/2″ |
| SPV123Y-300 | 3.0X | 123 | 0.2 | 6.1 | 0.20% | 139.5 | 1/2″ |
| SPV124YC-100 | 1.0X | 124 | 1.2 | 10.8 | 0.25% | 116.9 | 1/2″ |
| SPV127YC-200 | 2.0X | 127 | 0.3 | 9.5 | 0.30% | 132.4 | 1/1.8″ |
| SPV140YC-160 | 1.6X | 140 | 0.63 | 8.4 | 0.28% | 128.2 | 1/2″ |
| SPV146YCa-080 | 0.8X | 146 | 2.6 | 18.1 | 0.15% | 130.8 | 2/3″ |
| SPV146YCb-080 | 0.8X | 146 | 1.35 | 9.2 | 0.22% | 130.8 | 2/3″ |
| SPV150YC-045 | 0.45X | 150 | 2.4 | 18.0 | 0.24% | 107.9 | 1/2″ |
| SPV150Y-050a | 0.5X | 150 | 2 | 16.8 | 0.19% | 89.7 | 1/1.8″ |
| SPV150Y-060 | 0.6X | 150 | 2.2 | 11 | 0.40% | 112.6 | 1/2″ |
| SPV150YC-060 | 0.6X | 150 | 2.2 | 11 | 0.06% | 112.6 | 1/2″ |

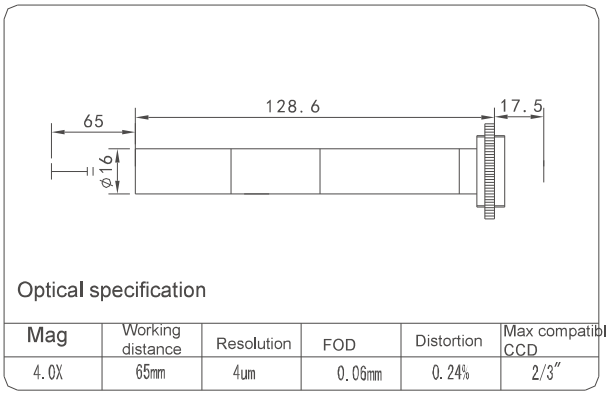
**SPV Objective telecentric len (Y stands for object-side telecentricity, C stands for coaxial light )**

| Model | Mag | Working distance mm | FOD mm | Objective Resolution | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV150Y-080 | 0.8X | 150 | 0.7 | 5.3 | 0.34% | 107.8 | 1/2″ |
| SPV150YC-090 | 0.9X | 150 | 1.2 | 9.1 | 0.25% | 141.9 | 1/2″ |
| SPV150YC-100a | 1.0X | 150 | 0.6 | 10 | 0.15% | 125 | 1/3″ |
| SPV150YC-125 | 1.25X | 150 | 0.9 | 10.5 | 0.22% | 135.5 | 1/2″ |
| SPV150Y-150 | 1.5X | 150 | 0.86 | 11 | 0.21% | 103.4 | 1/2″ |
| SPV150YC-200 | 2.0X | 150 | 0.5 | 9.5 | 0.29% | 130.3 | 1/2″ |
| SPV150YC-200a | 2.0X | 150 | 0.5 | 9.5 | 0.29% | 130.3 | 1/2″ |
| SPV150YC-250 | 2.5X | 150 | 0.4 | 8.4 | 0.10% | 152 | 1/2″ |
| SPV150YC-300T | 3.0X | 150 | 0.38 | 10 | 0.18% | 165.6 | 1/2″ |
| SPV150YC-400 | 4.0X | 150 | 0.27 | 9.2 | 0.08% | 197.3 | 2/3″ |
| SPV156Y-080 | 0.8X | 156 | 1.25 | 8.4 | 0.25% | 132 | 2/3″ |
| SPV156Y-080a | 0.8X | 156 | 1.5 | 10.3 | 0.22% | 151.5 | 2/3″ |
| SPV156YC-080 | 0.8X | 156 | 2.6 | 18.1 | 0.25% | 130.8 | 2/3″ |
| SPV156YC-090 | 0.9X | 156 | 1.2 | 9.1 | 0.22% | 141.9 | 1/2″ |
| SPV156YC-080a | 0.8X | 156 | 2.5 | 16.8 | 0.22% | 132 | 2/3″ |
| SPV156YC-080b | 0.8X | 156 | 1.35 | 9.2 | 0.22% | 132 | 2/3″ |
| SPV156YC-080c | 0.8X | 156 | 1.25 | 8.4 | 0.22% | 132 | 2/3″ |
| SPV162Y-080c | 0.8X | 162 | 1.5 | 10.2 | 0.25% | 124 | 1/2″ |
| SPV170Y-070 | 0.7X | 170 | 1.5 | 8.9 | 0.25% | 144.1 | 2/3″ |
| SPV170Y-150 | 1.5X | 170 | 0.88 | 11.2 | 0.15% | 133 | 1/2″ |
| SPV185Y-045 | 0.45X | 180 | 3.3 | 12.6 | 0.24% | 114.4 | 1/2″ |
| SPV180YC-250 | 2.5X | 180 | 0.44 | 9.3 | 0.20% | 150.3 | 1/2″ |
| SPV180YC-250a | 2.5X | 180 | 0.44 | 9.3 | 0.20% | 173.1 | 1/2″ |
| SPV183YC-150 | 1.5X | 183 | 1.1 | 15 | 0.20% | 156.6 | 1/2″ |
| SPV183YC-200 | 2.0X | 183 | 0.9 | 15 | 0.16% | 215 | 1/2″ |
| SPV183YC-200L | 2.0X | 183 | 0.9 | 15 | 0.16% | 215 | 1/2″ |
| SPV185YC-200 | 2.0X | 185 | 0.6 | 10.7 | 0.16% | 144.4 | 1/2″ |
| SPV198Y-100 | 1.0X | 198 | 1.7 | 14.6 | 0.31% | 94 | 1/2″ |
| SPV200Y-100 | 1.0X | 200 | 1.7 | 14.6 | 0.29% | 94.8 | 1/2″ |
| SPV200YC-125 | 1.25X | 200 | 1.4 | 14 | 0.19% | 151.9 | 1/2″ |
| SPV200YC-150 | 1.5X | 200 | 0.82 | 10.35 | 0.24% | 141.9 | 1/2″ |
| SPV202Y-100 | 1.0X | 202 | 1 | 8.4 | 0.18% | 170.2 | 2/3″ |
| SPV208Y-100 | 1.0X | 208 | 1.7 | 14.6 | 0.28% | 99.2 | 1/2″ |
| SPV215Y-100 | 1.0X | 215 | 1.6 | 13.5 | 0.40% | 105 | 1/2″ |
| SPV220YC-150 | 1.5X | 220 | 1.1 | 15 | 0.20% | 139.1 | 1/2″ |
| SPV220YC-200 | 2.0X | 220 | 0.9 | 15 | 0.16% | 197.4 | 1/2″ |
| SPV230Y-100b | 1.0X | 230 | 1.7 | 14.6 | 0.22% | 108.3 | 1/2″ |
| SPV250Y-100 | 1.0X | 250 | 1.6 | 13.4 | 0.20% | 119.9 | 1/2″ |
| SPV250Y-125 | 1.25X | 250 | 1.6 | 13.4 | 0.20% | 119.9 | 1/2″ |

**SPV Objective telecentric len (Y stands for object-side telecentricity, C stands for coaxial light )**

| Model | Mag | Working distance mm | FOD mm | Objecive Resolution | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV280Y-100 | 1.0X | 280 | 1.3 | 11.2 | 0.34% | 164.8 | 2/3″ |
| SPV300YC-100a | 1.0X | 300 | 0.75 | 12.7 | 0.25% | 157.6 | 1/2″ |
| SPV300Y-300 | 3.0X | 300 | 0.4 | 11.2 | 0.10% | 217.6 | 2/3″ |
| SPV330Y-100 | 1.0X | 330 | 1.4 | 12.2 | 0.24% | 200.5 | 2/3″ |
| SPV400YC-100 | 1.0X | 400 | 1.9 | 16 | 0.30% | 163.8 | 2/3″ |
| SPV400YC-125 | 1.25X | 400 | 1.9 | 16 | 0.30% | 163.8 | 2/3″ |
| SPV480Y-125 | 1.25X | 480 | 2.2 | 23 | 0.22% | 156.9 | 1/2″ |
| SPV480YC-125 | 1.25X | 480 | 2.2 | 23 | 0.22% | 159.8 | 1/2″ |
| SPV547Y-075 | 0.75X | 547 | 3.9 | 25 | 0.40% | 165.8 | 1/2″ |
| SPV623Y-125 | 1.25X | 623 | 2.4 | 25.6 | 0.30% | 203.8 | 1/2″ |

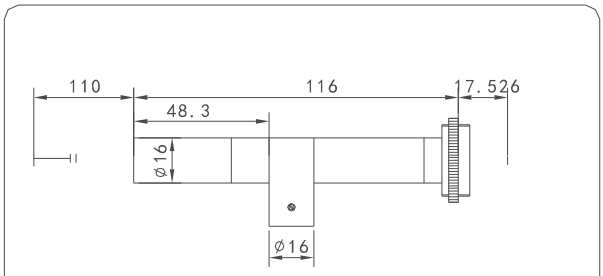
SPV65Y-400 telecentric len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 4.0X | 65mm | 4um | 0.06mm | 0.24% | 2/3" |

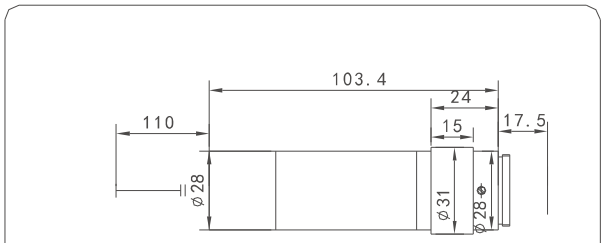
SPV110YC-080 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.8X | 110mm | 13.4um | 2mm | 0.4% | 1/2" |

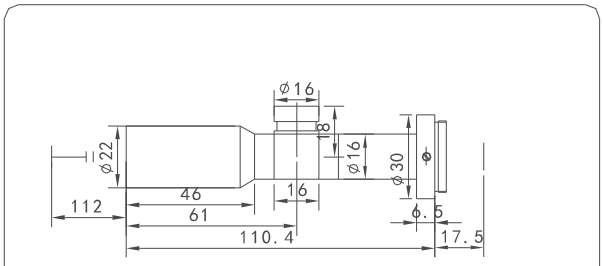
SPV110Y-100g Telecentric len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.0X | 110mm | 6.7um | 0.4mm | 0.2% | 2/3 |

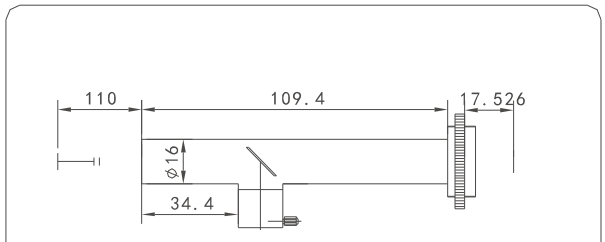
SPV110YC-150 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.5X | 110mm | 5um | 0.2mm | 0.54% | 2/3 |

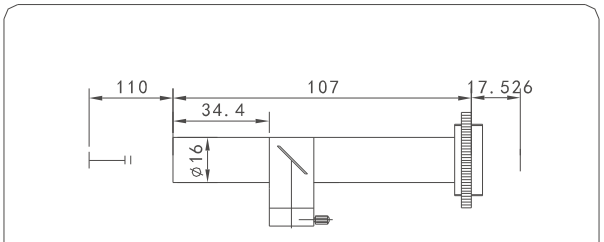
SPV110YC-150 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.5X | 110mm | 9.3um | 0.74mm | 0.31% | 1/2" |

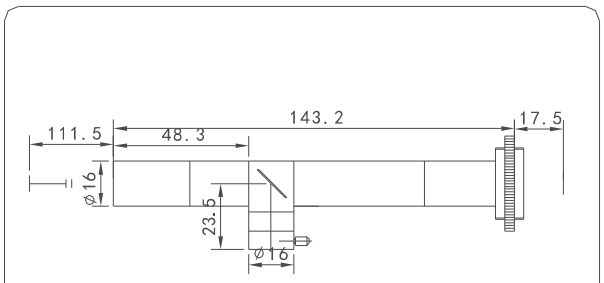
SPV110-200 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 2.0X | 110mm | 6.0um | 0.36mm | 0.18% | 1/2" |

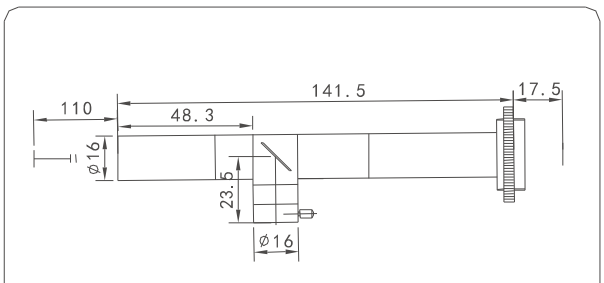
SPV110YC-200 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 2.0X | 110mm | 4.5um | 0.13mm | 0.33% | 2/3 |

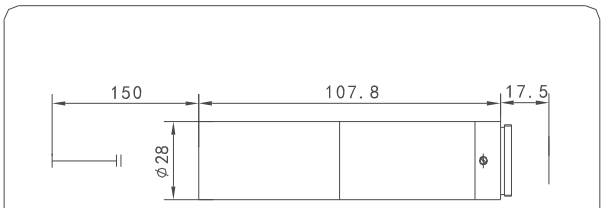
SPV110YC-300a Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 3.0X | 110mm | 6.5um | 0.26mm | 0.25% | 2/3 |

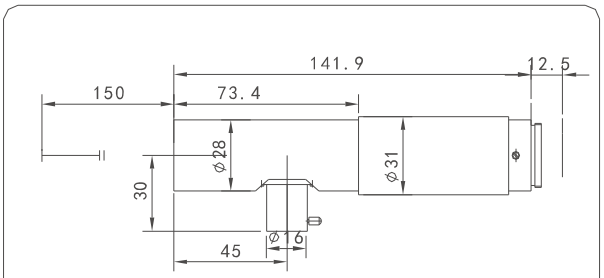
SPV150Y-080a Telecentric len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.8X | 150mm | 5.3um | 0.7mm | 0.34% | 1/2" |

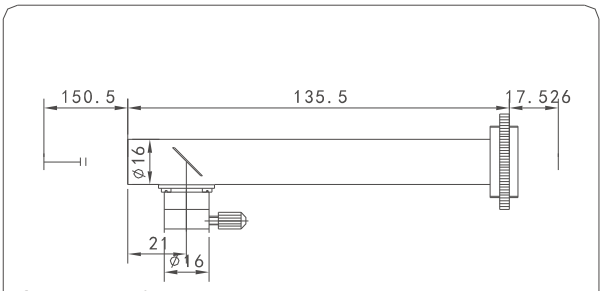
SPV150YC-090 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.9X | 150mm | 9.1um | 1.2mm | 0.25% | 1/2 |

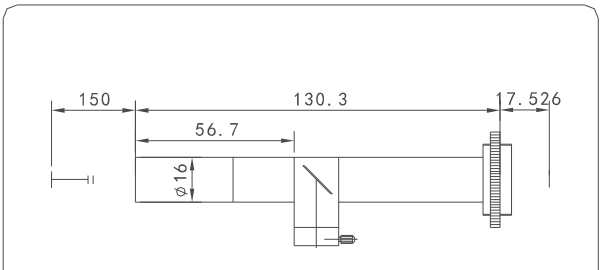
SPV150YC-100 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.0X | 150mm | 10.5um | 1.2mm | 0.39% | 1/2" |

SPV150YC-200 Telecentric coaxial len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 2.0X | 150mm | 6.0um | 0.36mm | 0.18% | 1/2" |

# SPV

## Fixed magnification lens（Standard 、 customized）

Fixed monocular magnification lens（Standard 、 customized）

## SPV Standard type fixed magnification single tube microscope

| Model | Mag | Working distance | FOD mm | Objective resolution | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV65-050a | 0.5X | 65 | 1.9 | 15.7 | 0.21% | 93.7 | 1/2″ |
| SPV65Cb-100 | 1.0X | 65 | 1 | 11.2 | 0.21% | 114.6 | 1/1.8″ |
| SPV65-100q | 1.0X | 65 | 0.3 | 5.5 | 0.40% | 70 | 1/2″ |
| SPV65C-100b | 1.0X | 65 | 1 | 11.2 | 0.12% | 114.6 | 1/1.8″ |
| SPV65-150 | 1.5X | 65 | 0.67 | 8.4 | 0.48% | 109.3 | 2/3″ |
| SPV65C-200 | 2.0X | 65 | 0.4 | 6.8 | 0.33% | 85.5 | 1/2″ |
| SPV65-200 | 2.0X | 65 | 0.67 | 11.2 | 0.27% | 109.3 | 2/3″ |
| SPV65-300b | 3.0X | 65 | 0.22 | 5.6 | 0.30% | 109.3 | 2/3″ |
| SPV65-300 | 3.0X | 65 | 0.26 | 6.7 | 0.33% | 109.3 | 2/3″ |
| SPV65-400a | 4.0X | 65 | 0.06 | 4 | 0.24% | 142.6 | 2/3″ |
| SPV65C-600 | 6.0X | 65 | 0.1 | 4.8 | 0.50 | 162.7 | 1/2″ |
| SPV110-060 | 0.6X | 110 | 0.9 | 8.8 | 0.12% | 89.6 | 1/1.8″ |
| SPV110-070 | 0.7X | 110 | 0.55 | 6.5 | 0.16% | 68.8 | 1/2″ |
| SPV110-080d | 0.8X | 110 | 0.6 | 8.7 | 0.13% | 148.5 | 2/3″ |
| SPV110-080 | 0.8X | 110 | 2 | 14 | 0.48% | 116 | 1/2″ |
| SPV110C-080 | 0.8X | 110 | 1.25 | 8.4 | 0.40% | 80.5 | 1/3″ |
| SPV110C-080 | 0.8X | 110 | 2 | 13.4 | 0.15% | 116 | 1/2″ |
| SPV110-090 | 0.9X | 110 | 2 | 15 | 0.24% | 113.7 | 1/1.8″ |
| SPV110-100a | 1.0X | 110 | 1.1 | 9.5 | 0.21% | 104.1 | 1/2″ |
| SPV110C-100a | 1.0X | 110 | 1.1 | 9.5 | 0.21% | 104.1 | 1/2″ |
| SPV110-100f | 1.0X | 110 | 0.76 | 12.8 | 0.32% | 99.2 | 2/3″ |

## SPV Standard fixed monocular microscope

| Model | Mag | Working distance | FOD mm | Resolution um | Distortion | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV110-100 | 1.0X | 110 | 1.4 | 11.5 | 0.11% | 85 | 1/2″ |
| SPV110C-120 | 1.2X | 110 | 1 | 11 | 0.21% | 113.2 | 1/2″ |
| SPV110-140 | 1.4X | 110 | 1.07 | 8.4 | 0.16% | 83.3 | 1/3″ |
| SPV110C-140 | 1.4X | 110 | 1 | 8.4 | 0.16% | 83.3 | 1/3″ |
| SPV110C-150q | 1.5X | 110 | 0.6 | 8.4 | 0.24% | 117.3 | 1/1.8″ |
| SPV110C-150 | 1.5X | 110 | 0.74 | 9.3 | 0.31% | 109.4 | 1/2″ |
| SPV110-150 | 1.5X | 110 | 0.5 | 7 | 0.30% | 130.2 | 2/3″ |
| SPV110-200q | 2.0X | 110 | 0.5 | 8.4 | 0.23% | 135.8 | 2/3″ |
| SPV110C-200q | 2.0X | 110 | 0.5 | 8.4 | 0.23% | 135.8 | 2/3″ |
| SPV110-200 | 2.0X | 110 | 0.5 | 8.4 | 0.22% | 118.8 | 1/2″ |
| SPV110C-200 | 2.0X | 110 | 0.4 | 7.2 | 0.26% | 143.2 | 1/2″ |
| SPV110C-200 | 2.0X | 110 | 0.5 | 8.4 | 0.22% | 118.8 | 1/2″ |
| SPV110C-200a | 2.0X | 110 | 0.36 | 6 | 0.18% | 131.6 | 1/2″ |
| SPV110C-250 | 2.5X | 110 | 0.4 | 8 | 0.50% | 102.5 | 1/2″ |
| SPV110-250 | 2.5X | 110 | 0.4 | 8 | 0.50% | 102.5 | 1/2″ |
| SPV110C-250a | 2.5X | 110 | 0.8 | 16.8 | 0.20% | 147.2 | 1/2″ |
| SPV110C-300 | 3.0X | 110 | 0.53 | 13.4 | 0.14% | 147.2 | 1/2″ |
| SPV110C-300a | 3.0X | 110 | 0.53 | 13.4 | 0.14% | 142 | 1/2″ |
| SPV110-300 | 3.0X | 110 | 0.26 | 6.7 | 0.50% | 134.3 | 1/2″ |
| SPV110-400 | 4.0X | 110 | 0.2 | 6.7 | 0.25% | 153.4 | 1/2″ |
| SPV110-030 | 0.3X | 150 | 3 | 19.4 | 0.20% | 73.8 | 1/2″ |
| SPV150-050a | 0.5X | 150 | 2 | 16.8 | 0.19% | 89.7 | 1/1.8″ |
| SPV150-100q | 1.0X | 150 | 1.3 | 11.2 | 0.30% | 105 | 1/1.8″ |
| SPV150C-100q | 1.0X | 150 | 1.3 | 11.2 | 0.30% | 105 | 1/1.8″ |
| SPV150-200a | 2.0X | 150 | 0.5 | 9.5 | 0.30% | 130.3 | 1/2″ |
| SPV150C-200a | 2.0X | 150 | 0.5 | 9.5 | 0.29% | 130.3 | 1/3″ |
| SPV150C-060 | 0.6X | 150 | 2.5 | 14 | 0.27% | 117.1 | 1/2.5″ |
| SPV150-070a | 0.7X | 150 | 0.7 | 8.4 | 0.25% | 75.7 | 1/2″ |
| SPV150-120 | 1.2X | 150 | 1 | 11 | 0.52% | 91.5 | 2/3″ |
| SPV150C-150 | 1.5X | 150 | 0.7 | 9.6 | 0.29% | 112.7 | 1/2″ |
| SPV150-150q | 1.5X | 150 | 0.7 | 9.6 | 0.27% | 118.3 | 1/1.8″ |
| SPV150C-150q | 1.5X | 150 | 0.7 | 9.6 | 0.27% | 118.3 | 1/1.8″ |
| SPV150-016 | 0.16X | 150 | 25 | 34 | 0.08% | 80.5 | 1/2″ |
| SPV150-060 | 0.6X | 150 | 2.2 | 11 | 0.40% | 112.6 | 1/2″ |
| SPV150C-060 | 0.6X | 150 | 2.2 | 11 | 0.06% | 112.6 | 1/2″ |
| SPV150C-125 | 1.25X | 150 | 0.9 | 10.5 | 0.22% | 135.5 | 1/2″ |
| SPV150-150 | 1.5X | 150 | 0.86 | 11 | 0.21% | 103.4 | 1/2″ |
| SPV150C-200 | 2.0X | 150 | 0.5 | 9.5 | 0.29% | 130.3 | 1/2″ |
| SPV150C-250 | 2.5X | 150 | 0.4 | 8.4 | 0.10% | 152 | 1/2″ |

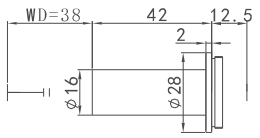
## SPV Customized fixed monocular microscope (short working distance)

| Model | Mag | Working distance mm | FOD mm | Resolution μm | Distortion (%) | Len length mm | Mag compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV10-200 | 2.0X | 10.5 | 0.2 | 6.5 | 0.3% | 49 | 2/3″ |
| SPV10-600 | 6.0X | 10.5 | 0.04 | 2.5 | 0.3% | 47 | 2/3″ |
| SPV10C-600 | 6.0X | 10.5 | 0.04 | 2.5 | 0.3% | 46.3 | 2/3″ |
| SPV25C-600 | 6.0X | 25 | 0.05 | 2.8 | 0.30% | 180.7 | 1/2″ |
| SPV25C-1000 | 10X | 25 | 0.03 | 2.8 | 0.25% | 180.7 | 1/2″ |
| SPV29-070L | 0.7X | 29 | 3 | 19 | 0.24% | 58.1 | 1/1.8″ |
| SPV30-050 | 0.5X | 30 | 4 | 16.8 | 0.14% | 101.4 | 1/2″ |
| SPV30-100 | 1.0X | 30 | 0.3 | 4.8 | 0.08% | 34 | 2/3″ |
| SPV32-800 | 8.0X | 32 | 0.05 | 3.4 | 0.20% | 173.7 | 2/3″ |
| SPV38-070 | 0.7X | 38 | 2.5 | 15 | 0.30% | 42 | 1/1.8″ |
| SPV38-050 | 0.5X | 38 | 2.6 | 11.2 | 0.25% | 42 | 1/2″ |
| SPV40C-050T | 0.5X | 40 | 4.4 | 18.6 | 0.07% | 171.3 | 1/2″ |
| SPV40-100 | 1.0X | 40 | 1.1 | 9.9 | 0.22% | 95.7 | 1/1.8″ |
| SPV50-040 | 0.4X | 50 | 4.3 | 14.6 | 0.11% | 94.4 | 1/3″ |
| SPV50C-050 | 0.5X | 50 | 4 | 16.8 | 0.40% | 130.84 | 1/2″ |
| SPV50-050 | 0.5X | 50 | 2.6 | 11.2 | 0.50% | 103.6 | 1/2″ |
| SPV50-070 | 0.7X | 50 | 3 | 19 | 0.24% | 42 | 1/1.8″ |
| SPV50-100 | 1.0X | 50.5 | 0.6 | 10 | 0.53% | 46.7 | 1/1.8″ |
| SPV50Z-100 | 1.0X | 50.5 | 0.6 | 10 | 0.53% | 54.3 | 1/1.8″ |
| SPV50C-200 | 2.0X | 50 | 0.4 | 7.5 | 0.16% | 98.4 | 1/1.8″ |

## SPV Customized fixed monocular microscope (short working distance)

| Model | Mag | Working distance mm | FOD mm | Resolution μm | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV50-500 | 5.0X | 50 | 0.1 | 4.8 | 0.21% | 134.4 | 2/3″ |
| SPV56Z-030F | 0.3X | 56 | 3.6 | 19 | 0.1% | 103.3 | 1/2″ |
| SPV60C-400 | 4.0X | 60 | 0.15 | 6 | 0.50% | 132.7 | 2/3″ |
| SPV65-028 | 0.28X | 65.4 | 4.4 | 20.8 | 0.35% | 59 | 1/3″ |
| SPV65-100 | 1.0X | 65 | 0.74 | 12.4 | 0.18% | 85.4 | 2/3″ |
| SPV65Z-100 | 1.0X | 65 | 0.7 | 12.0 | 0.13% | 77.1 | 1/1.8″ |
| SPV65-150 | 1.5X | 65 | 0.3 | 7.0 | 0.2% | 77.6 | 2/3″ |
| SPV65-200 | 2.0X | 65 | 0.17 | 5.9 | 0.23% | 81.4 | 2/3″ |
| SPV65-300 | 3.0X | 65 | 0.1 | 5.1 | 0.12% | 97 | 2/3″ |
| SPV65-400 | 4.0X | 65 | 0.06 | 4.5 | 0.17% | 103.4 | 2/3″ |
| SPV65-600 | 6.0X | 65 | 0.04 | 4.0 | 0.14% | 103.4 | 2/3″ |
| SPV68-050 | 0.5X | 68 | 4 | 16.8 | 0.11% | 65.8 | 1/2″ |
| SPV68-250 | 2.5X | 68 | 0.35 | 7.5 | 0.35% | 127 | 2/3″ |
| SPV70-050 | 0.5X | 70 | 4 | 16.8 | 0.11% | 77.1 | 1/2″ |
| SPV70-100a | 1.0X | 70 | 0.9 | 8 | 0.30% | 75.1 | 1/2″ |
| SPV70-100 | 1.0X | 70 | 1 | 8.5 | 0.14% | 67.4 | 2/3″ |
| SPV76-023 | 0.23X | 76 | 10 | 21 | 0.46% | 50.5 | 1/2″ |
| SPV95-022 | 0.22X | 95 | 18 | 33 | 1.70% | 49.1 | 2/3″ |
| SPV95-033 | 0.33X | 95 | 4 | 11.2 | 0.10% | 88.5 | 1/2″ |
| SPV95-050 | 0.5X | 95 | 5 | 21 | 0.33% | 42.4 | 1/2″ |
| SPV100C-050T | 0.5X | 100 | 4.4 | 18.6 | 0.07% | 168.3 | 1/2″ |
| SPV100C-500 | 5.0X | 100 | 0.21 | 8.6 | 0.12% | 173.1 | 1/2″ |
| SPV80-036 | 0.36X | 80 | 5.5 | 16.8 | 0.23% | 71 | 1/2″ |
| SPV80-050 | 0.5X | 80 | 2.9 | 12 | 0.25% | 94.4 | 1/2″ |
| SPV80-050a | 0.5X | 80 | 4 | 20 | 0.70% | 66.9 | 1″ |
| SPV81C-050 | 0.5X | 80 | 2.5 | 12.5 | 0.30% | 139.6 | 1/1.8″ |
| SPV84-050 | 0.5X | 85 | 2 | 8.6 | 0.10% | 58.8 | 1/1.8″ |
| SPV80-060 | 0.6X | 80 | 1.6 | 16.1 | 0.70% | 84 | 1/2″ |
| SPV80-070 | 0.7X | 80 | 1.9 | 11.2 | 0.30% | 109.3 | 1/2″ |
| SPV80C-100 | 1.0X | 80 | 1.1 | 9.2 | 0.20% | 88 | 1/1.8″ |
| SPV85-050 | 0.5X | 85 | 4.2 | 18.3 | 0.10% | 58.8 | 1/1.8″ |
| SPV85-100 | 1.0X | 85 | 1.0-2.1 | 9.6-14.1 | 0.11% | 94 | 1/2″ |
| SPV86-023 | 0.23X | 86 | 13 | 25.8 | 0.20% | 107.4 | 1/1.8″ |
| SPV88-030 | 0.3X | 88 | 5 | 14.6 | 0.23% | 52.5 | 1/2″ |
| SPV90C-500 | 5.0X | 90 | 0.08 | 4.8 | 0.48% | | 2/3″ |
| SPV90-500 | 5.0X | 90 | 0.11 | 4.8 | 0.15% | 127 | 1/2″ |
| SPV92-050 | 0.5X | 92 | 3 | 25 | 0.14% | 58.3 | 1/2″ |

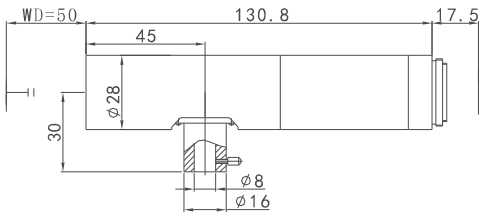
SPV38-050 Fixed len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.5X | 38mm | 11.2um | 2.6mm | 0.25% | 1/2" |

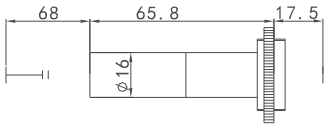
SPV50C-050 Fixed magnification coaxial lens




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.5X | 50mm | 16.8um | 4mm | 0.4% | 1/2"" |

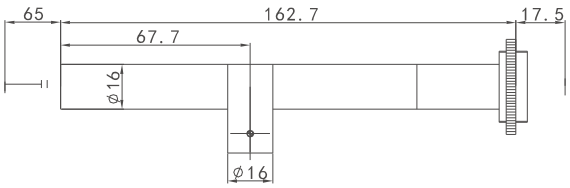
SPV68-050 Fixed len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.5X | 68mm | 16.8um | 4mm | 0.11% | 1/2" |

SPV65C-600 Fixed magnification coaxial lens




Optical specification

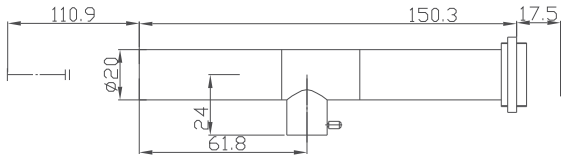
| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 6.0X | 65mm | 4.8um | 0.1mm | 0.5% | 1/2"" |

SPV65-20C

## SPV Customized fixed magnification monocular microscope (short working distance)

| Model | Mag | Working distance | FOD mm | Resolution μm | Distortion (%) | Len length mm | Max compatib CCD |
|---|---|---|---|---|---|---|---|
| SPV101-150 | 1.5X | 101 | 0.3 | 7 | 0.2% | 69.4 | 2/3″ |
| SPV109-200 | 2.0X | 109 | 0.4 | 7 | 0.41% | 162.3 | 2/3″ |
| SPV113-100 | 1.0X | 113 | 0.5 | 8.5 | 0.12% | 205.4 | 1″ |
| SPV116-015 | 0.15X | 116 | 26 | 33.6 | 0.25% | 74.5 | 1/2″ |
| SPV117C-050 | 0.5X | 117 | 3.5 | 14.6 | 0.20% | 154.4 | 1/2″ |
| SPV120-150 | 1.5X | 120 | 0.63 | 8 | 0.35% | 89.1 | 1/2″ |
| SPV127-020 | 0.2X | 127 | 20 | 33.6 | 0.08% | 107.4 | 1/2″ |
| SPV130-050a | 0.5X | 130 | 3.6 | 16 | 0.42% | 62.7 | 1/2″ |
| SPV130-050 | 0.5X | 130 | 2.5 | 11.2 | 0.05% | 115.4 | 1/2″ |
| SPV130-060 | 0.6X | 130 | 3 | 15 | 0.12% | 93.3 | 1/2″ |
| SPV130C-060 | 0.6X | 130 | 3 | 15 | 0.40% | 93.3 | 1/2″ |
| SPV130C-100 | 1.0X | 130 | 0.63 | 10.6 | 0.30% | 114 | 1/1.8″ |
| SPV130-100L | 1.0X | 130 | 0.4 | 7.5 | 0.34% | 94.2 | 1/2″ |
| SPV136-045 | 0.45X | 136 | 5.5 | 21.5 | 0.28% | 60.6 | 2/3″ |
| SPV140-055 | 0.55X | 140 | 3-5 | 17-23 | 0.25% | 75.5 | 1/2″ |

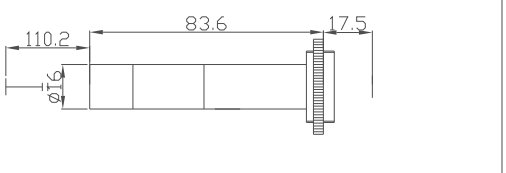
### SPV110C-040Coaxial lens




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.4X | 110mm | 19um | 5mm | 0.07% | 1/2″ |

### SPV110-050 Fixed magnification len




Optical specification

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.5X | 110mm | 18.5um | 4.4mm | 0.05% | 1/1.8″ |

SPV450-0.7X

SPV400-1X

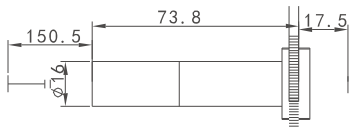
**SPV Customized fixed magnification monocular microscope (short working distance)**

| Model | Mag | Working distance mm | FOD mm | Resolution μm | Distortion (%) | Len length mm | Max copatible CCD |
|---|---|---|---|---|---|---|---|
| SPV150-030 | 0.3X | 151 | 3 | 19.4 | 0.20% | 73.8 | 1/2″ |
| SPV150-060 | 0.6X | 151 | 2 | 18.5 | 0.50% | 71.5 | 2/3″ |
| SPV151C-300 | 3.0X | 151 | 0.3 | 8.4 | 0.14% | 170.2 | 2/3″ |
| SPV151-300 | 3.0X | 151 | 0.3 | 8.4 | 0.14% | 166.8 | 2/3″ |
| SPV157-008 | 0.08X | 157 | 50 | 33.6 | 0.10% | 101.6 | 1/2″ |
| SPV160-030 | 0.3X | 160 | 4 | 20.7 | 0.07% | 59.7 | 2/3″ |
| SPV163-015 | 0.15X | 163 | 60 | 76 | 0.63% | 53.1 | 1/2″ |
| SPV170-010 | 0.1X | 170 | 90 | 76 | 0.61% | 30 | 1/3″ |
| SPV175-050 | 0.5X | 175 | 3.0-15 | 16.8-33 | 0.33% | 75.5 | 1/3″ |
| SPV175-080a | 0.8X | 175 | 1.5-2.5 | 12.1-15 | 0.33% | 91.4 | 1/2″ |
| SPV175C-100 | 1.0X | 175 | 1.7 | 14.5 | 0.20% | 127 | 1/2″ |
| SPV175Cb-125 | 1.25X | 175 | 0.5 | 9.6 | 0.25% | 130(142) | 1/1.8″ |
| SPV181-030 | 0.3X | 180 | 4.5 | 22.4 | 0.14% | 79.3 | 2/3″ |
| SPV180-050 | 0.5X | 180 | 2.9 | 12.5 | 0.14% | 133.4 | 1/2″ |
| SPV180C-300 | 3.0X | 180 | 0.38 | 10 | 0.10% | 186.7 | 2/3″ |
| SPV180C-400 | 4.0X | 180 | 0.31 | 11 | 0.11% | 206.4 | 2/3″ |
| SPV208C-080T | 0.8X | 208 | 2.5 | 16.8 | 0.20% | 166.1 | 1/1.8″ |
| SPV200-050 | 0.5X | 200 | 3.2 | 13.5 | 0.30% | 130.7 | 1/2″ |
| SPV208C-080 | 0.8X | 208 | 2.5 | 16.8 | 0.20% | 150 | 1/1.8″ |
| SPV218-011 | 0.11X | 218 | 65.2 | 61.1 | 0.08% | 74.5 | 1/2″ |
| SPV218C-070 | 0.7X | 218 | 3 | 17.6 | 0.23% | 135.4 | 1/2″ |
| SPV230-030 | 0.3X | 230 | 4.4 | 22.4 | 0.33% | 63.4 | 1/2″ |
| SPV230-50 | 0.5X | 230 | 4 | 16.8 | 0.15% | 73.5 | 1/2″ |
| SPV240C-070 | 0.7X | 240 | 3 | 17.6 | 0.19% | 142.2 | 1/2″ |
| SPV507-075 | 0.75X | 507 | 3.5 | 23 | 0.18% | 148.6 | 1/2″ |
| SPV703-090 | 0.9X | 703 | 3.4 | 26 | 0.20% | 206.7 | 1/1.8″ |
| SPV2246-010 | 0.1X | 2246 | 119 | 101 | 0.19% | 114.7 | 1/3″ |
| SPV2500-003 | 0.03X | 2500 | 200 | 223 | 0.04% | 83.6 | 1/3″ |
| SPV250-100 | 1.0X | 250 | 1.6 | 13.4 | 0.20% | 119.9 | 1/2″ |

## SPV Customized fixed magnification monocular microscope (short working distance)

| Model | Mag | Working distance | FOD mm | Resolution μm | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPV507-075 | 0.75X | 507 | 3.5 | 23 | 0.18% | 148.6 | 1/2″ |
| SPV703-090 | 0.9X | 703 | 3.4 | 26 | 0.20% | 206.7 | 1/1.8″ |
| SPV2246-010 | 0.1X | 2246 | 119 | 101 | 0.19% | 114.7 | 1/3″ |
| SPV2500-003 | 0.03X | 2500 | 200 | 223 | 0.04% | 83.6 | 1/3″ |
| SPV250-100 | 1.0X | 250 | 1.6 | 13.4 | 0.20% | 119.9 | 1/2″ |
| SPV250-050 | 0.5X | 250 | 4 | 16.8 | 0.15% | 73.5 | 1/2″ |
| SPV250C-125 | 1.25X | 250 | 1.3 | 14.6 | 0.32% | 130 | 1/2″ |
| SPV250-125 | 1.25X | 251 | 1.2 | 15 | 0.44% | 131.4 | 2/3″ |
| SPV250C-150 | 1.5X | 251 | 0.9 | 11.8 | 0.21% | 156.6 | 1/2″ |
| SPV254C-400 | 4.0X | 254 | 0.45 | 15.2 | 0.16% | 238.8 | 1/2″ |
| SPV260-100a | 1.0X | 260 | 0.8 | 13.4 | 0.25% | 120 | 2/3″ |
| SPV283-030 | 0.3X | 283 | 8.5 | 22.4 | 0.27% | 65.2 | 1/2″ |
| SPV300C-080 | 0.8X | 301 | 2.5 | 16.8 | 0.20% | 148.7 | 1/1.8″ |
| SPV310C-150 | 1.5X | 310 | 1.5 | 19.6 | 0.26% | 151.4 | 1/2″ |
| SPV320-150 | 1.5X | 320 | 0.5 | 13.5 | 0.11% | 153.2 | 2/3″ |
| SPV362-050 | 0.5X | 362 | 2.2 | 18.7 | 0.11% | 93.7 | 1/2″ |
| SPV350-050 | 0.5X | 350 | 4.5 | 20.2 | 0.52% | 76.8 | 2/3″ |
| SPV350C-070 | 0.7X | 350 | 3.6 | 21.2 | 0.23% | 137.3 | 1/2″ |
| SPV380C-070 | 0.7X | 380 | 3.6 | 21.2 | 0.32% | 131.9 | 1/2″ |
| SPV450-070 | 0.7X | 450 | 3 | 18.5 | 0.18% | 137.4 | 1/2″ |
| SPV507-075 | 0.75X | 507 | 3.5 | 23 | 0.18% | 148.6 | 1/2″ |

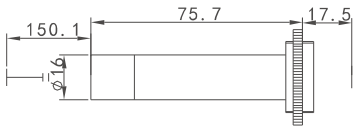
**SPV150-030 Fixed magnification len**




**Optical specification**

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.3X | 150mm | 19.4um | 3mm | 0.2% | 1/2″ |

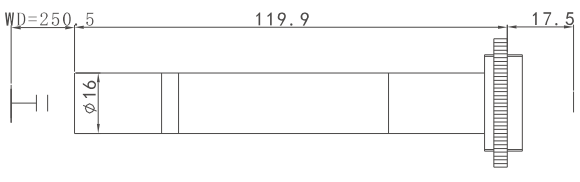
**SPV150-070a Fixed magnification len**




**Optical specification**

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.7X | 150mm | 8.4um | 0.7mm | 0.25% | 1/2″ |

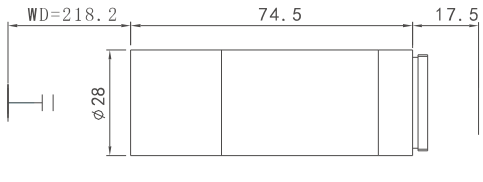
**SPV250-100 Fixed magnification len**




**Optical specification**

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 1.0X | 250mm | 13.4um | 1.6mm | 0.2% | 1/2″ |

**SPV218-011 Fixed magnification len**




**Optical specification**

| Mag | Working distance | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.11X | 218mm | 60.1um | 65.2mm | 0.08% | 1/2″ |

# SPVM

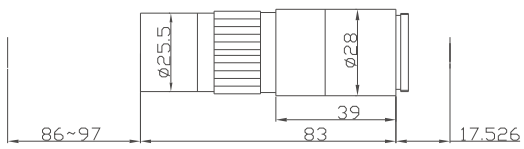
## Macro adjustable lens

### Product features:

- High resolution, large depth of field
- Standard C interface, adjustable working distance
- The imaging picture is clear and uniform, and the structure is compact
- The lens has strong applicability and high cost performance

| Model | Mag | Working distance mm | FOD mm | Resolution μm | Distortion (%) | Len length mm | Max compatible CCD |
|---|---|---|---|---|---|---|---|
| SPVM02636 | 0.26X-0.36X | 128-144.5 | 12-7.8 | 28-24.2 | 0.18% | 45 | 1/2″ |
| SPVM04864 | 0.48X-0.64X | 131-154.5 | 3.0-5.0 | 17.5-23.5 | 0.25% | 75.5 | 1/2″ |
| SPVM06995 | 0.69X-0.95X | 152-192 | 1.5-2.5 | 12.1-15 | 0.33% | 91.4 | 1/2″ |
| SPVM080/110 | 0.8X-1.1X | 80-100 | 1.0-2.1 | 9.6-14.3 | 0.11% | 94 | 1/2″ |
| SPVM06996 | 0.69X-0.96X | 80-91.5 | 1.3-1.7 | 9.8-12 | 0.22% | 80.5 | 1/2″ |
| SPVM06809 | 0.68-0.9X | 86-97 | 1.3-2.1 | 10.5-12.5 | 0.22% | 83 | 1/2″ |
| SPVM06587 | 0.65-0.87 | 92-106 | 1.5-2.4 | 11.2-13.6 | 0.18% | 85.5 | 1/2″ |
| SPVM02663 | 0.26-0.63 | 137-285 | 3-15 | 16.8-33 | 0.33% | 75.5 | 1/3 |

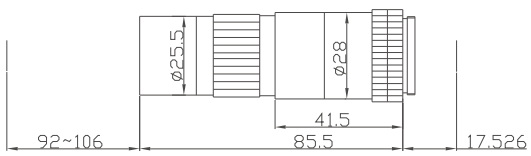
SPVM06809




Optical specification

| Mag | Working distance mm | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.68—0.9X | 86—97mm | 10.5—12.5um | 1.3—2.1mm | 0.22% | 1/2″ |

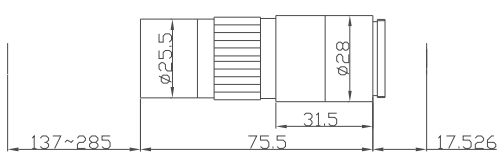
SPVM06587




Optical specification

| Mag | Working distance mm | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.65—0.87X | 92—106mm | 11.2—13.6um | 1.5—2.4mm | 0.18% | 1/2″ |

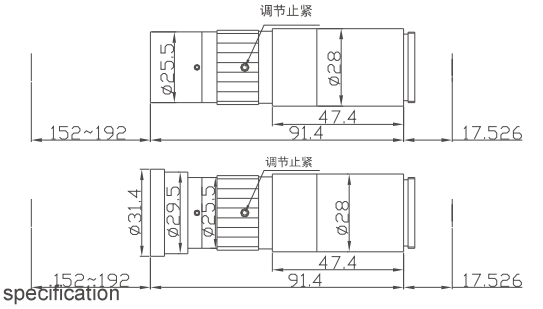
SPVM02663




Optical specification

| Mag | Working distance mm | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.26—0.63X | 137—285mm | 16.8—33um | 3—15mm | 0.33% | 1/3″ |

SPVM06995




Optical specification

| Mag | Working distance mm | Resolution | FOD | Distortion | Max compatible CCD |
|---|---|---|---|---|---|
| 0.69—0.95X | 152—192mm | 12.1—15um | 1.5—2.5mm | 0.33% | 1/2″ |

## Special parallel stereo microscope series [customization acception]

【 Ophthalmology, oral cavity, vaginal parasitology or industrial use 】

# Special parallel stereo microscope series

## 【Ophthalmic, oral, vaginal or industrial】

### Product introduction

The special parallel stereo microscope series adopts the world's mainstream optical system and building block mechanical mechanism, with large depth of field and large cleaning range,
Multiple lens zoom modes, flexible installation methods, direct viewing, 30 degree and 45 degree observation modules. Our company is specially designed for imaging observation in electronic machinery industry, medical surgery and other fields. Various LED or optical fiber lighting can be used to meet the needs of observing different objects.

- Conventional model
- Special models
- Gear shifting and doubling model
- Additional objective lens

**Continuous zoom model, such as PZ601, where P represents parallel light path, Z represents continuous zoom three eye and four-way image observation: horizontal camera interface and four-way observation adapter binocular observation head: 30 °, 45 °, 90 °, 180 ° variable**

**For example, PDS501, where D refers to gear shifting and 5 refers to fifth gear**

**PW200, PW250, PW300, PW400, PW175, parallel zoom objective**

## Main product

| Model | Name | Binocular | Name | Auxiliary Objective | Name |
|---|---|---|---|---|---|
| PZ601 | Zoom len | T101 | 30° Binocular head | PW200 | F200 Objective |
| PZ602 | Zoom len with light | T102 | 45° Binocular head | PW250 | F250 Objective |
| PDS501 | 5 steps zoom len | T103 | F125 Vertical binocular head | PW300 | F300 Objective |
| PDS502 | 5 steps zoom len with light | T104 | F175 Vertical binocular head | PW350 | F350 Objective |
| PDS301 | 3 steps zoom len | T105 | 30° Binocular head (With pupillary distance adjusting frame) | PW400 | F400 Objective |
| PDS302 | 5 steps zoom len with light | T106 | 45° Binocular head (With pupillary distance adjusting frame) | PW175 | F175 Objective |
| | | T107 | F125 Vertical binocular head (With pupillary distance adjusting frame) | PW160 | F160 Objective |
| | | T108 | F175 Vertical binocular head (With pupillary distance adjusting frame) | | |

## Main optical specification

| Model | Objective | Binocular Head | Objective Mag*FOV | Mag | FOV |
|---|---|---|---|---|---|
| PZS601 PZS602 | PW175 | T101 | 10*22 | 4.6X～30X | 43.4～6.6 |
| | | T102 T104 | 16X16 | 7.4X～48X | 34.7～5.3 |
| | | T103 | 16X16 | 4.8X～31X | 53～8 |
| | PW200 | T101 | 10*22 | 4X～26X | 50～7.7 |
| | | T102 T104 | 16X16 | 6.4X～41.6X | 40～6.1 |
| | | T103 | 16X16 | 4.2X～27X | 61.5～9.4 |
| | PW250 | T101 T102 | 10*22 | 3.2X～20.8X | 62.5～9.6 |
| | | T104 | 16X16 | 5.1X～33.3X | 50～7.6 |
| | | T103 | 16X16 | 3.3X～21 8X | 76.8～11 8 |

| Model | Objective | Binocular Head | Objective Mag*FOV | Mag | FOV |
|---|---|---|---|---|---|
| PZS601 PZS602 | PW300 | T101 | 10*22 | 2.6X～17.3X | 75～11.5 |
| | | T102 T104 | 16X16 | 4.2X～27.7X | 60～9.1 |
| | | T103 | 16X16 | 2.8X～18X | 92.2～14.1 |
| | PW350 | T101 | 10*22 | 2.3X～15X | 86.8～13.2 |
| | | T102 T104 | 16X16 | 3.7X～24X | 69.4～10.6 |
| | | T103 | 16X16 | 2.4X～15.5X | 106～16 |
| | PW400 | T101 T102 | 10*22 | 2X～13X | 100～15.4 |
| | | T104 | 16X16 | 3.2X～20.8X | 80～12.2 |
| | | T103 | 16X16 | 2.1X～13.5X | 123～18.8 |

| Model | Objective | Binocular Head | Objective Mag*FOV | Mag | FOV |
|---|---|---|---|---|---|
| PDS501 PDS502 | PW175 | T101 T102 | 10*22 | 4.3X、6.8X、10.8X、17.3X、27.2X | 46.5、29.4、18.5、11.5、7.4 |
| | | T104 | 16X16 | 6.8X、10.8X、17.3X、27.2X、43.5X | 37.2、23.5、14.8、9.2、5.9 |
| | | T103 | 10*22 | 3.1X、4.8X、7.6X、12.1X、19.0X | 66.4、42.0、26.4、16.4、10.6 |
| | | | 16X16 | 4.8X、7.6X、12.1X、19.0X、30.4X | 53.1、33.5、21.1、13.1、8.4 |
| | PW200 | T101 T102 T104 | 10*22 | 3.8X、6.0X、9.5X、15.2X、23.8X | 52.6、33.3、21.1、13.1、8.4 |

## 180° Hinged binocular tube

Ergonomically designed, the observation angle can be adjusted according to various needs to meet the needs of comfortable body position operation. With proprietary pupil distance adjustment technology, the hand-held pull and single hand wheel knob can be freely adjusted in both directions for medical disinfection and isolation

## T105 30° Binocular

The binocular is fixed at 30 °, and it is equipped with all stereo optical lenses of SPAC. Different host interfaces can also be customized as required

## T102 45° Binocular

The binocular tube is fixed at 45 °, and different host interfaces can be configured, with a magnification field of 10 * 22

## T103 Vertical binocular

Usually when the optical lens is very tilted In this case, it can provide a straight viewing angle, such as a medical assistant len

## T106 binocular telescope

The lens barrel can rotate 360 degrees for visual observation, and can be equipped with

10X eyepiece 22 field of view

20X eyepiece 13 field of view

| Model | Name | Angle | Mag* FOV | focal length | Interpupillary mm | Remarks |
|---|---|---|---|---|---|---|
| T109 | Vrticulartion adjustable binocular head | 0-180° | 10*22 | 200 | 50~75 | Customizable |
| T101 | 30° Binocular | 30° | 10*22 | 175 | 50~75 | |
| T102 | 45° Binocualr | 45° | 10*22 | 175 | 50~75 | |
| T103 | F125° Vertical binocuar | 90° | 10*22 | 125 | 50~75 | |
| T104 | F175° Vertical binocuar | 90° | 10*22 | 175 | 50~75 | |

## Fully balanced zoom objective

● The patented SPAC PDW01 zoom objective lens has good zoom balance, which can be achieved by simply turning the knob. It can focus at any position within the range of 200mm to 300mm at any time, reducing equipment interruption and adjustment time, and maintaining high efficiency and concentration

● Customized focusing knob is carefully designed, which can be placed on the left, right or center as required

Micro adjust objective

F200

- The fine adjustment objective lens is the help for the whole series of objective lenses. The adjustable distance range reaches 13mm, which is an ideal choice for simple and quick operation

- Full series of objective lenses 160mm-400mm in various specifications, with high resolution and large depth of field clearly visible

F400

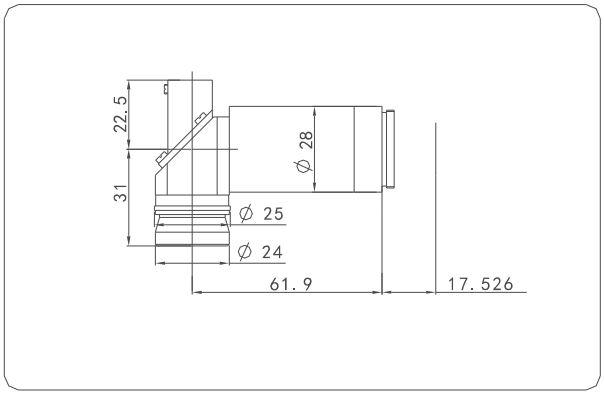
| Objective | Name | Focal length | Working distance | Fine adjustment range |
|---|---|---|---|---|
| PWD01 | Zoom objective | 268-360 | 200-300 | |
| PW160 | F160 Objective | 160 | 150 | |
| PW160T | F160 Fine adjustment objective | 160 | 160 | 13mm |
| PW175 | F175 Objective | 175 | 165 | |
| PW175T | F175 Fine adjustment objective | 175 | 175 | 13mm |
| PW200 | F200 Objective | 200 | 190 | |
| PW200T | F200 Fine adjustment objective | 200 | 200 | |
| PW250 | F250 Objective | 250 | 240 | |
| PW250T | F250 Fine adjustment objective | 250 | 250 | 13mm |
| PW300 | F300 Objective | 300 | 300 | |
| PW300T | F300 Fine adjustment objective | 300 | 300 | |
| PW350 | F350 Objective | 350 | 245 | |
| PW350T | F350 Fine adjustment objective | 350 | 350 | 13mm |
| PW400 | F400 Objective | 400 | 400 | |
| PW400T | F400Fine adjustment objective | 400 | 400 | 13mm |

# Dual camera multi-channel lens

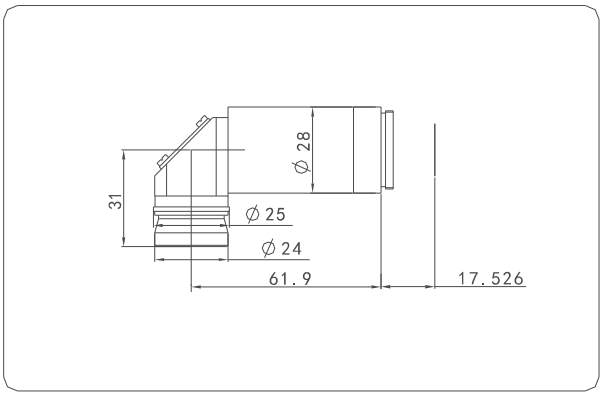
## SWF200W(1X)

- Compatible with 2/3 "CCD
- Optional five steps metallographic objective lens: 2X, 5X, 10X, 20X, 50X, 100X

SWF200W (1X) metallographic lens coaxial elbow joint



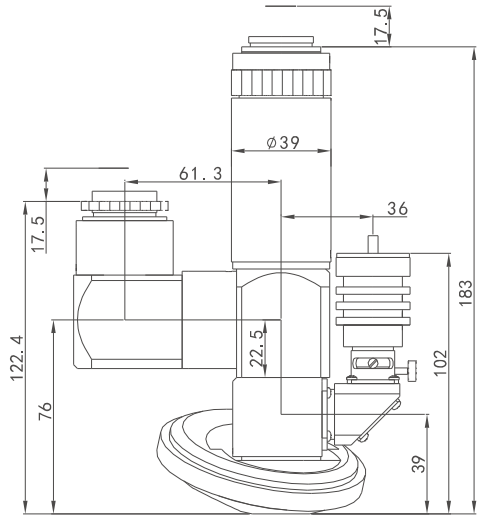

SWF200W (1X) metallographic lens elbow joint

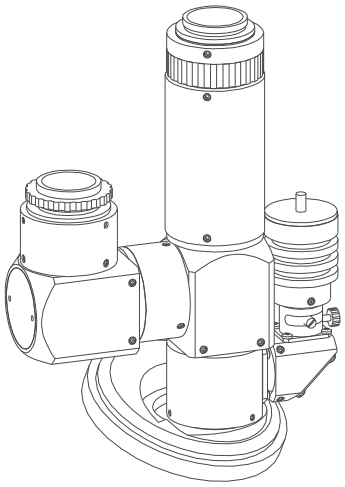



## SWF200CTa(1X)

- Dual camera compatibility
- Compatible with 1/2 "CCD
- Five gear metallographic objective lens: 2X, 5X, 10X, 20X, 50X, 100X

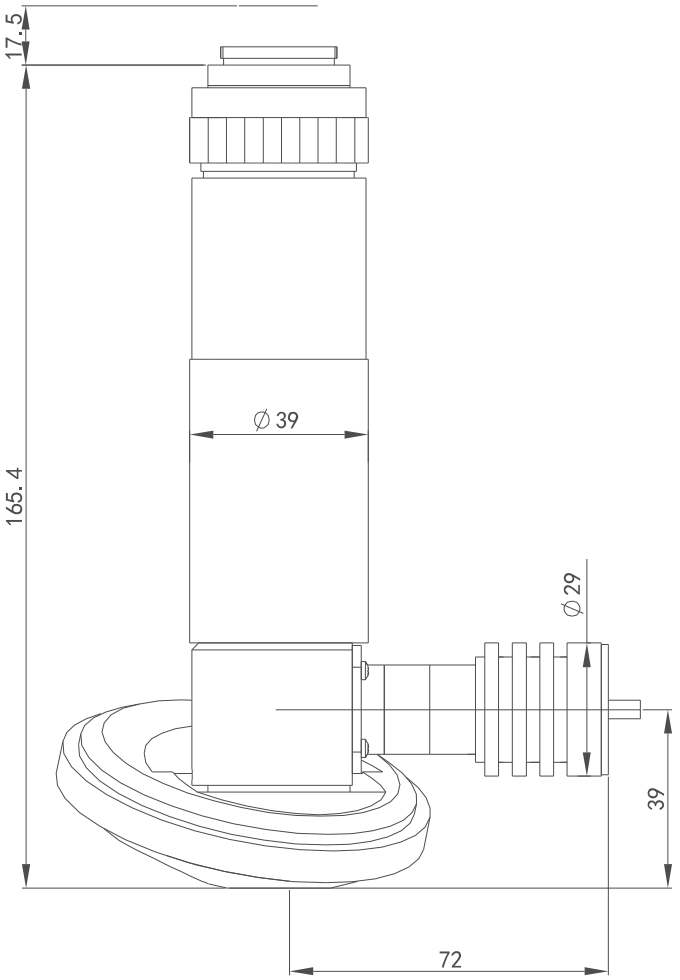
## SWF200CTa(1X)

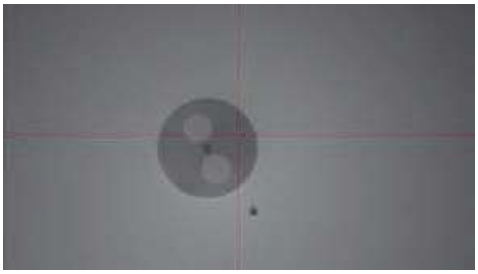


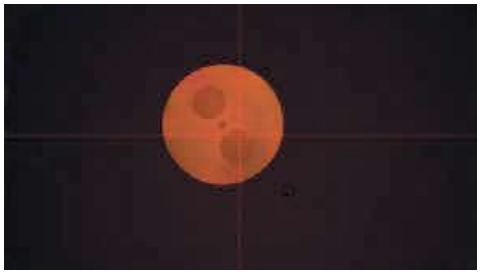



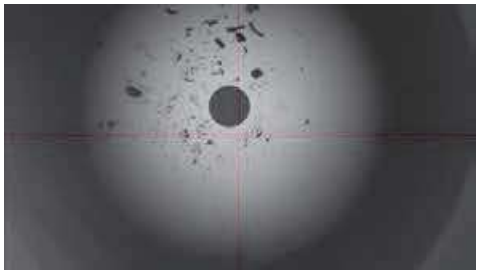
- Five steps metallographic objective lens: 2X, 5X, 10X, 20X, 50X, 100X
- Compatible with 1/2 "CCD

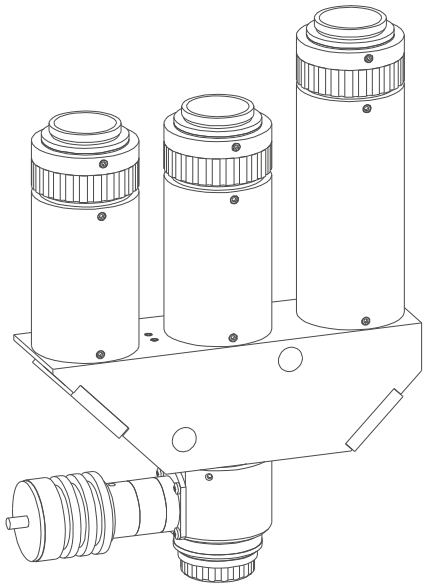
SWF200CT(1X)



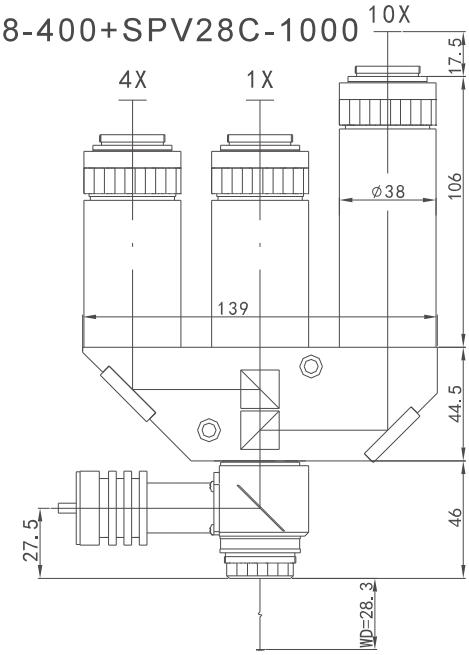



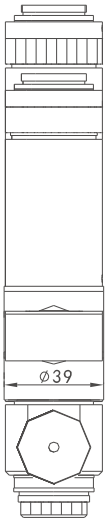






SPV28C-100+SPV28-400+SPV28C-1000




Optical specification

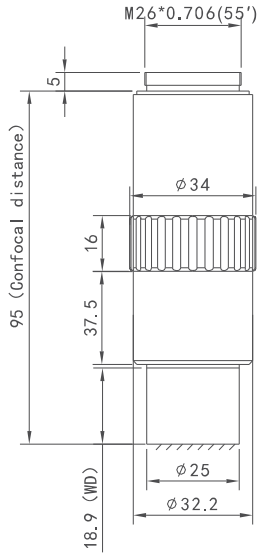
| Mag | Working distance | Resolution | FOD | Distortion | Max copatitble CCD |
|---|---|---|---|---|---|
| 1.0X | 28.3mm | 7.4um | 0.4mm | 0.11% | 1/2" |
| 4.0X | 28.3mm | 4.0um | 0.06mm | 0.14% | 2/3" |
| 10X | 28.3mm | 2.2um | 0.02mm | 0.25% | 2/3" |

## ZJW 95mm metallographic long working distance bright field objectives

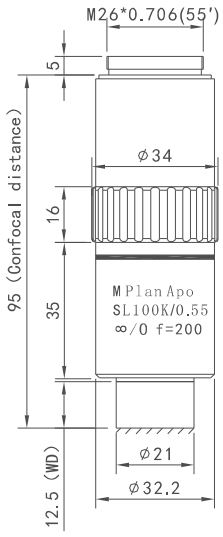
- Visible light imaging
- Infinite optical system, tube diameter focal length 200mm
- Objective lens thread M26 × 0.706


| M PLAN APOL | N. A. | W. D. | Focal length | D.F. | Resolution | Field of view | |
|---|---|---|---|---|---|---|---|
| | | | | | | objective (WF10/24) | 1/2″ CCD camera |
| ZJW02 | 0. 055 | 34. 6 | 100 | 91 μ | 5 μ | Φ12 | 2. 4×3. 2 |
| ZJW05 | 0. 14 | 45 | 40 | 14 μ | 2 μ | Φ4. 8 | 0. 96×1. 28 |
| ZJW10 | 0. 28 | 34 | 20 | 3. 5 μ | 1 μ | Φ2. 4 | 0. 48×0. 64 |
| ZJW20 | 0. 29 | 30. 8 | 10 | 3. 5 μ | 1 μ | Φ1. 2 | 0. 24×0. 32 |
| ZJW50 | 0. 42 | 20. 5 | 4 | 1. 6 μ | 0. 7 μ | Φ0. 45 | 0. 10×0. 13 |
| ZJW100 | 0. 55 | 12. 5 | 2 | 0. 9 μ | 0. 5 μ | Φ0. 24 | 0. 05×0. 06 |

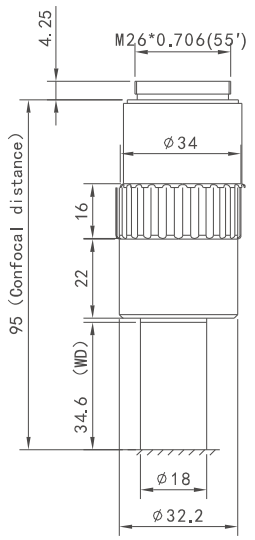

**95mm metallographic long working distance 50X bright field objectives**



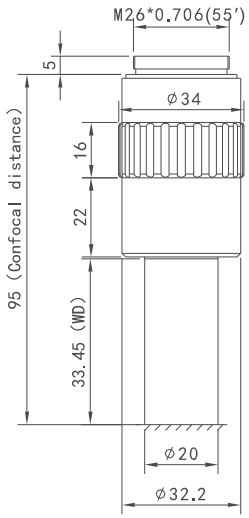

**95mm metallographic super long working distance AP0100X bright field objectives**



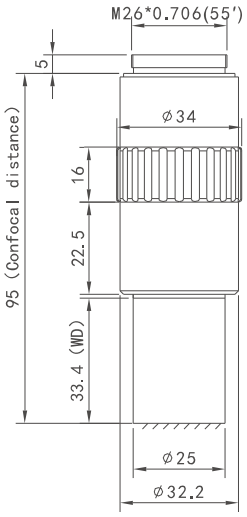
**95mm metallographic super long working distance 2X bright field objectives**



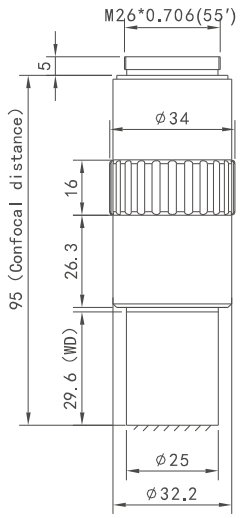

**95mm metallographic super long working distance 5X bright field objectives**




**95mm metallographic super long working distance 10X bright field objectives**




**95mm metallographic super long working distance 20X bright field objectives**



## FA Fixed focus lens

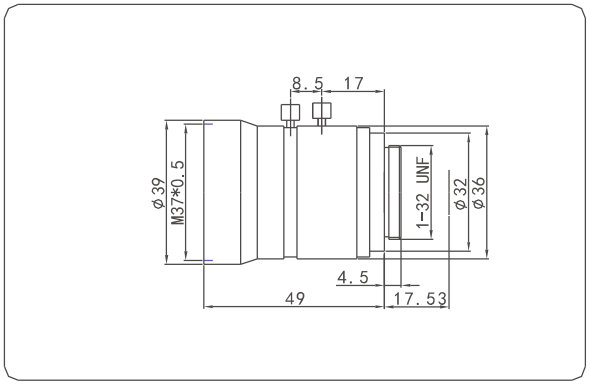
High resolution optical design, compatible with mainstream 10MP industrial cameras,
It is applicable to a 10 megapixel camera with a pixel size of 3.45um and above and a maximum compatible chip size of 1 ". The overall distortion is less than 1%. Minimum distortion as low as 0.025%



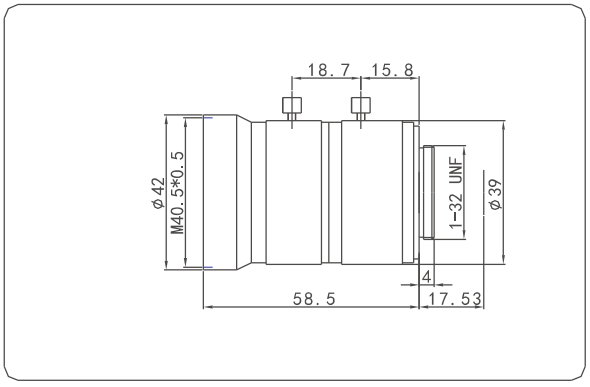
**Technical parameter**

| Model | Focal length | Relative aperture D/F | Filter installation | Distortion | Weight（kg） | CCD | Field of view angle |
|---|---|---|---|---|---|---|---|
| FA10035/8mp/C | 100 | 1:3.5 | M40.5*0.5P | 0.025% | 0.16 | 1 | 7.2°X5.5° |
| | | | | | | 2/3 | 5°X3.8° |
| | | | | | | 1/1.8 | 4.1°X3.1° |
| | | | | | | 1/2 | 3.7°X2.8° |
| MV1648/3mp/C | 16-48 | 1:4.8 | M35.5*0.5P | 0.25% | 0.128 | 2/3 | 30°X22.7°-11.2°X8.5° |
| | | | | | | 1/1.8 | 24.7°X18.6°-9.2°X6.9° |
| | | | | | | 1/2 | 22°X16.4°-8.2°X6.1° |
| FA2514/10mp/C | 25 | 1:1.4 | M30.5*0.5P | 0.05% | 0.082 | 1 | 29.3°X22° |
| | | | | | | 2/3 | 20.2°X15.1° |
| | | | | | | 1/1.8 | 16.5°X12.4° |
| | | | | | | 1/2 | 14.5°X10.5° |
| FA1216/5mp/C | 12 | 1:1.6 | M30.5*0.5P | 0.1% | 0.095 | 2/3 | 39.1°X29.8° |
| | | | | | | 1/1.8 | 32.4°X24.6° |
| | | | | | | 1/2 | 28.9°X21.9° |
| FA2014/8mp/C | 20 | 1:1.4 | M37.5*0.5P | 0.05% | 0.135 | 1 | 33.4°X25.2° |
| | | | | | | 2/3 | 30°X17.4° |
| | | | | | | 1/1.8 | 24.5°X14.2° |
| | | | | | | 1/2 | 21.3°X12.3° |
| FA5014/8mp/C | 50 | 1:1.4 | M34*0.5P | 0.1% | 0.112 | 1 | 14.5°X10.8° |
| | | | | | | 2/3 | 10°X7.5° |
| | | | | | | 1/1.8 | 8.2°X6.2° |
| | | | | | | 1/2 | 7.3°X5.5° |
| FA7528/10mp/C | 75 | 1:2.8 | M37*0.5P | 0.05% | 0.11 | 1 | 9.72°X7.23° |
| | | | | | | 2/3 | 6.7°X5.02° |
| | | | | | | 1/1.8 | 5.5°X4.01° |
| | | | | | | 1/2 | 4.9°X3.7° |
| FA1614/10mp/C | 16 | 1:1.4 | M33*0.5P | 0.05% | 0.11 | 1 | 44.6°X33.6° |
| | | | | | | 2/3 | 30°X23.2° |
| | | | | | | 1/1.8 | 24.7°X18.6° |
| | | | | | | 1/2 | 21.8°X16.4° |
| FA3517/5mp/C | 35 | 1:1.7 | M30.5*0.5P | 0.05% | 0.068 | 2/3 | 14.4°X10.8° |
| | | | | | | 1/1.8 | 11.8°X8.8° |
| | | | | | | 1/2 | 10.5°X7.9° |

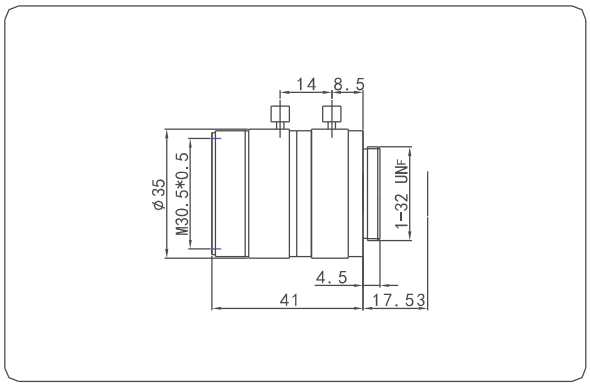
FA7528/10mp/C




FA10035/8mp/C




FA1216/5mp/C

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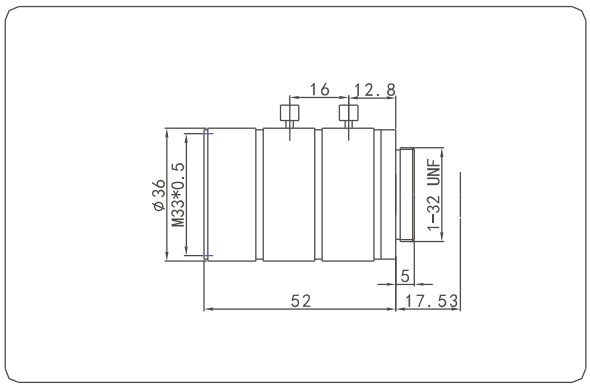


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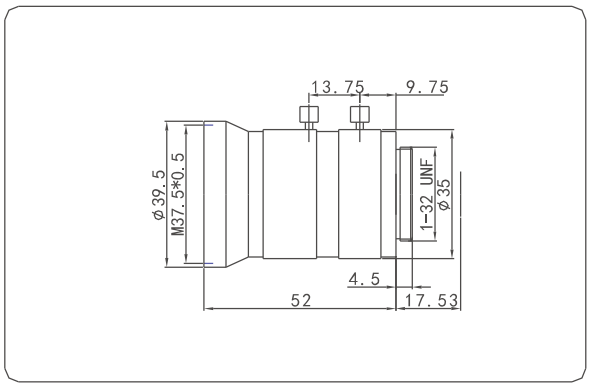


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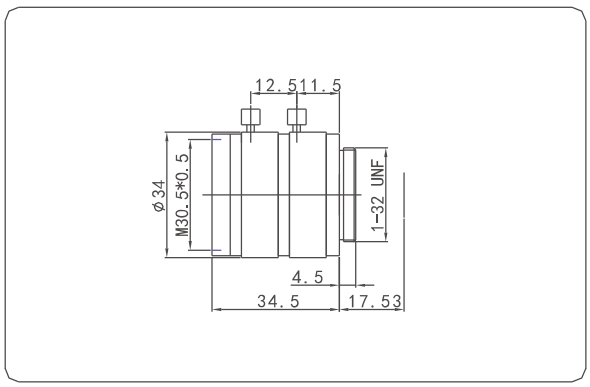
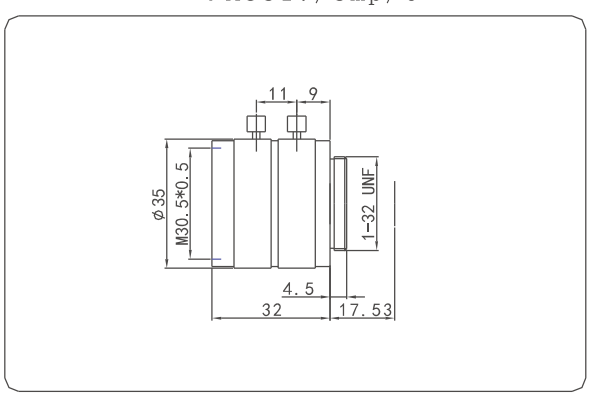
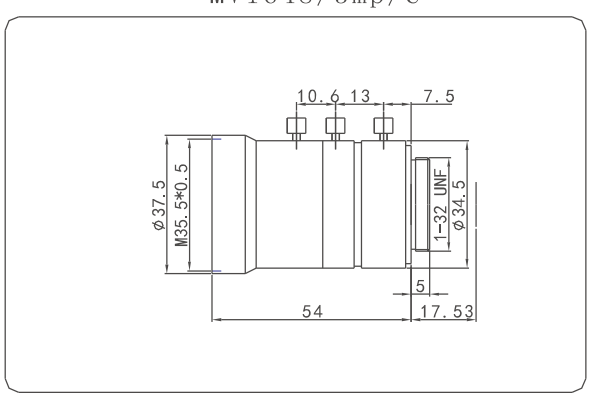



FA3517/5mp/C

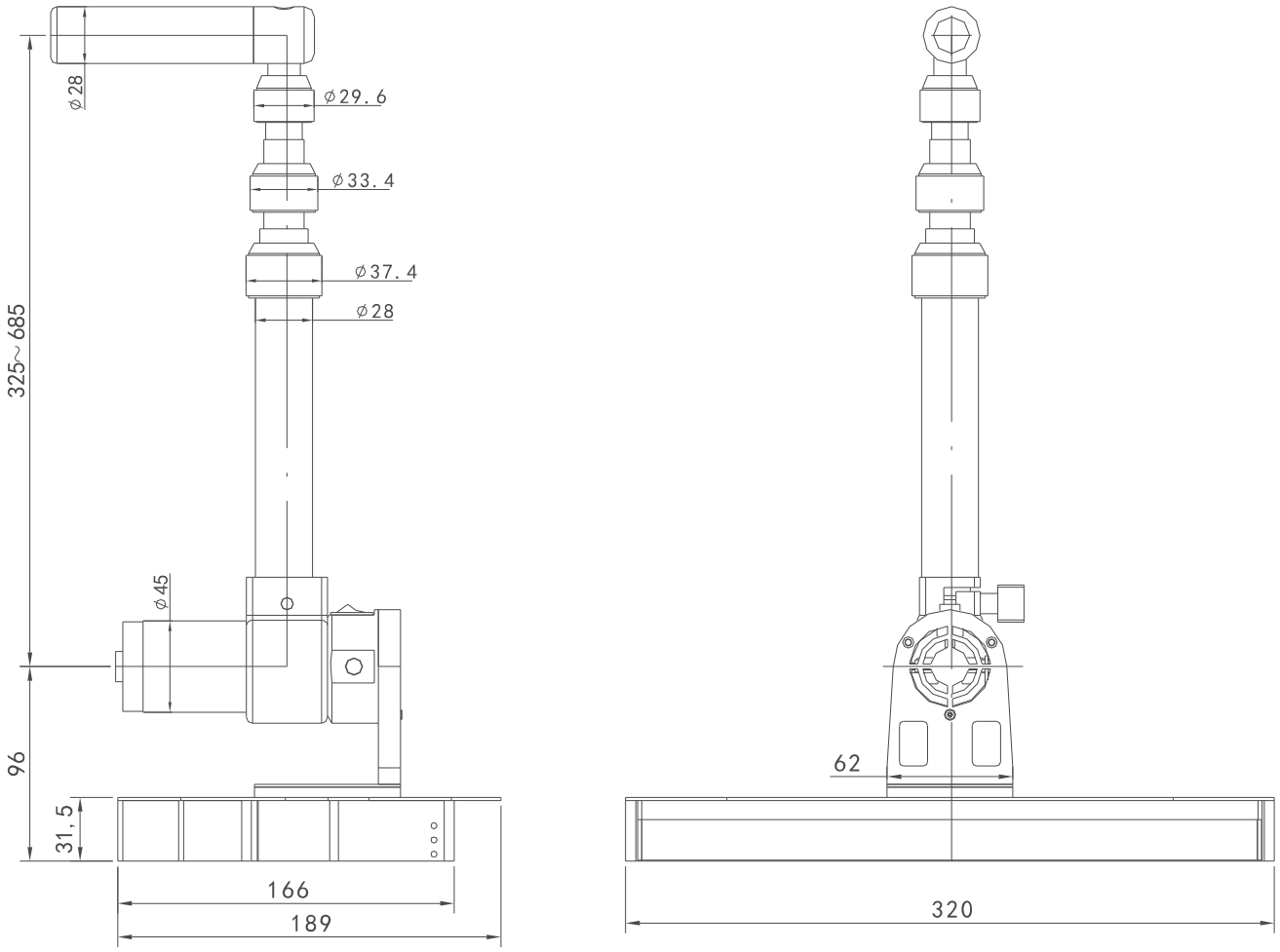



MV1648/3mp/C



# SPFL-2 super bright wide footprint survey lamp

Adopt high-tech LED new technology and composite optical flat design, the light is distributed linearly and evenly, and the search site has a large footprint
50cm away from the light source, it can reach 120cm irradiation range,
It is widely applicable to field ground or plane footprints
Trace survey, search and shooting




## Product specifications:

Standard light source: LED
Standard color temperature: 6000K (4000K-7000K optional)
Light intensity: continuously adjustable
Optical light type: flat light
Irradiation area: ≥ 2.5 square meters
Constant current and constant voltage charging adapter: DC12V
External lithium battery: it can be used continuously for 5 hours with one charge
Internal lithium battery: it can be used continuously for 1.5 hours after one charge
The minimum height of the tie rod is 325mm, and the maximum height is 685mm
Volume: 320X189X136mm
Weight: 2.5KG

# Axial diffuse lighting

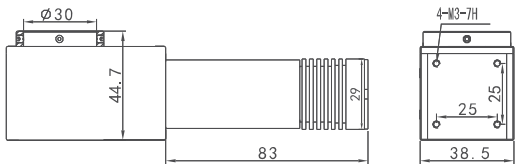
- Suitable for detecting highly reflective objects
- No shadow, uniform and flat lighting effect
- Optional power supply: DC12V or DC24V

## Axial diffuse lighting

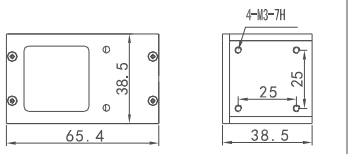
- Very suitable for detecting highly reflective objects
- No shadow, uniform, flat lighting effect
- DC12V and 24V optional power supply

| Model | Size L*W*T | LED | Diffuse field of view (mm) | Install size (mm) | Color |
|---|---|---|---|---|---|
| SP2528-0016DX | 63*33*32 | 30 | 25*28 | 2M4-16 Portrait | White/red/blue/infrared (850/940) |
| SP2528-285DX | 63*33*38.2 | 30 | 25*28 | Φ28.5 | White/red/blue/infrared (850/940) |
| SP3232-1616DX | 65*37.5*37.5 | 30 | 32*32.5 | 4M3-16*16 spacing | White/red/blue/infrared (850/940) |
| SP3235-2525DX | 65.4*38.5*38.5 | 30 | 32.5*35.6 | 4M3-25*25 spacing | White/red/blue/infrared (850/940) |
| SP3235-230DXF | 65.4*38.5*38.5 | 30 | 32.5*35.6 | Φ30 | White/red/blue/infrared (850/940) |
| SP3235-2525DXP | 148.4*38.5*44.7 | 30 | 32.5*35 | 4M3-25*25 spacing | White/red/blue/infrared (850/940) |
| SP3235-28DX | 65.4*38.5*44.7 | 30 | 32.5*35 | Φ28 | White/red/blue/infrared (850/940) |

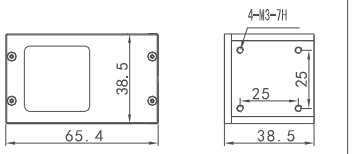
SP3235-30DXP



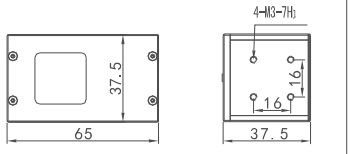

SP3235-2525DX



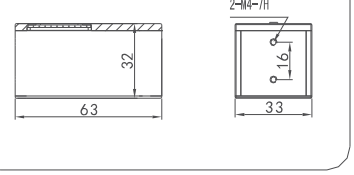

SP3235-2525DXF



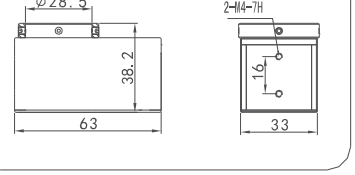

SP3232-1616DX



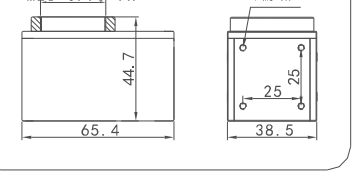

SP2528-1600DX



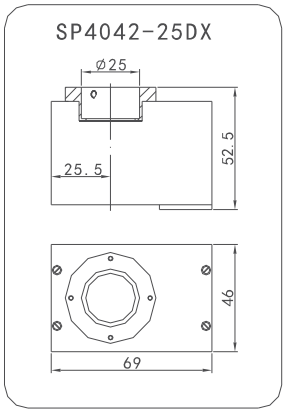

SP2528-285DX

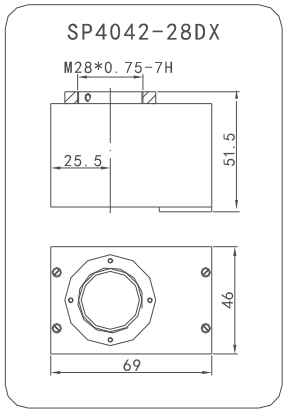


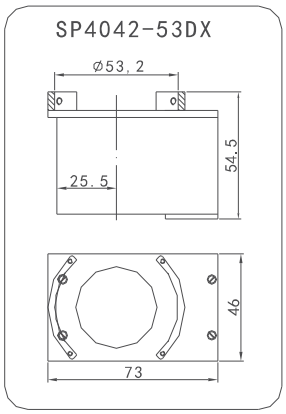

SP3235-28DX

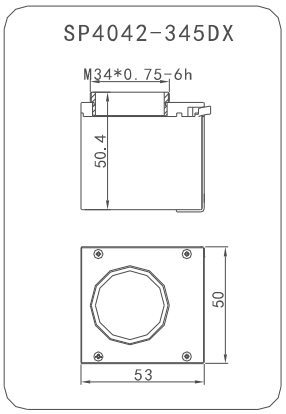


| Model | Size L*W*T | LED | Diffuse field of view (mm) | Install size （mm） | Color |
|---|---|---|---|---|---|
| SP4042-25DX | 69*46*52.5 | 48 | 40*41.5 | Φ25 | White/red/blue/infrared （850/940） |
| SP4042-28DX | 69*46*51.5 | 48 | 40*41.5 | M28*0.75 | White/red/blue/infrared （850/940） |
| SP4042-34DX | 53*50*50.4 | 48 | 40*14.5 | Φ29.5 | White/red/blue/infrared （850/940） |
| SP4042-53DX | 73*46*54.5 | 48 | 40*41.5 | Φ53.2 | White/red/blue/infrared （850/940） |

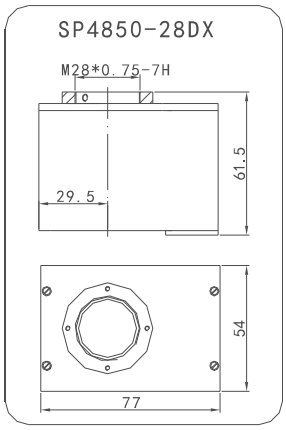


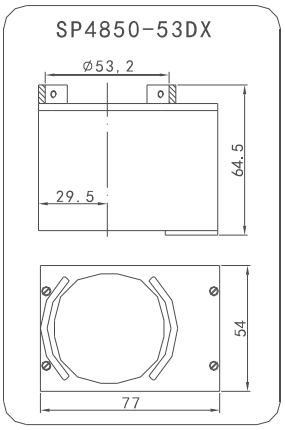



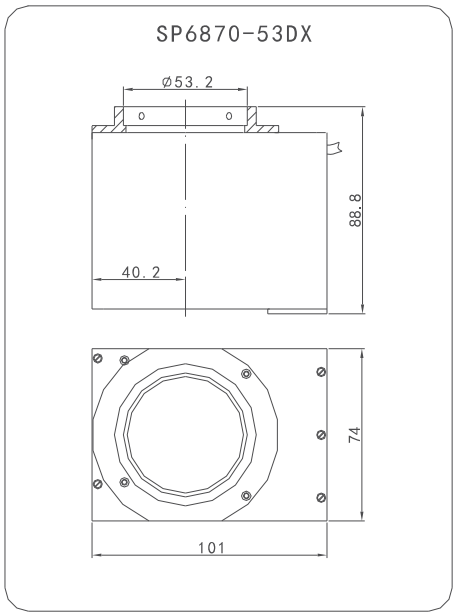



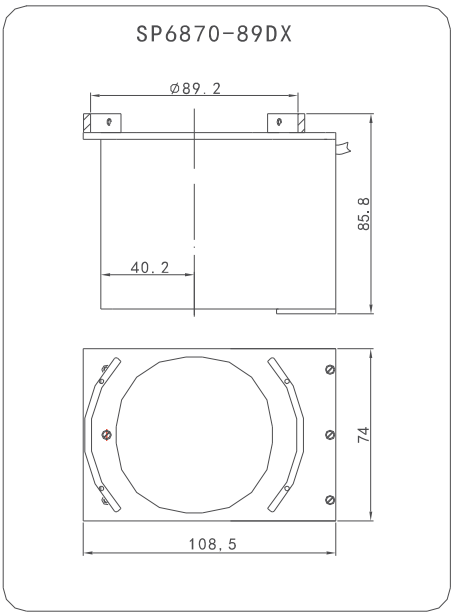
| Model | Size L*W*T | LED | Diffuse field of view (mm) | Install size（mm） | Color |
|---|---|---|---|---|---|
| SP4850-28DX | 77*54*61.5 | 60 | 48*50 | M28*0.75 | White/red/blue/infrared （850/940） |
| SP4850-53DX | 77*54*64.5 | 60 | 48*50 | Φ53.2 | White/red/blue/infrared （850/940） |



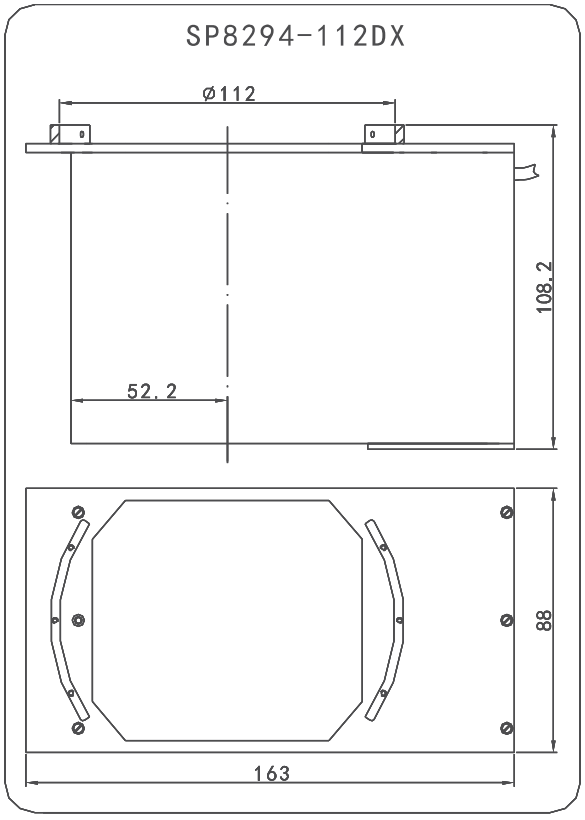




| Model | Size L*W*T | LED | Diffuse field of view (mm) | Install size（mm） | Color |
|---|---|---|---|---|---|
| SP6870-53DX | 101*74*88.8 | W96, R100 | 68*70 | Φ53.2 | White/red/blue/infrared （850/940） |
| SP6870-89DX | 108.5*74*85.8 | W96, R100 | 68*70 | Φ89.2 | White/red/blue/infrared （850/940） |



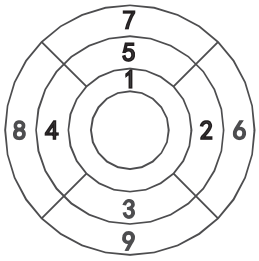
| Model | Size L*W*T | LED | Diffuse field of view (mm) | Install size（mm） | Color |
|---|---|---|---|---|---|
| SP8294-112DX | 163*88*108. 2 | 120 | 82*94 | Φ112 | White/red/blue/infrared（850/940） |



## 【LED ring illuminator】

| LED Ring illumination | Model | Installation inner diameter | Shape |
|---|---|---|---|
| Zone LED ring lamp 12V | LED-HF02 | Φ31.5 | Φ64X24 |
| Single control LED ring lamp 100V-220V | LED-H01 | Φ64 | Φ75X24 |
| Polarizer/polarizer ring lamp | LED-HP01 | Φ31.5 | Φ64X24 |
| 9 Zone LED ring lamp 24V | LED-HF09 | Φ31.5 | Φ116X67 |

- Ideal for reflective lighting
- Color temperature 6400K
- Polarizer/detector can be equipped
- It can be divided into four or nine areas to provide light control, with control panel




## 【High brightness coaxial LED point light source lighting】

- Large angle bright LED, superior to halogen lamp
- 8mm built-in lighting port or compact M18 * 0.5 threaded interface
- Simple and compact structure, small volume and easy installation
- Multiple colors and brightness options
- DC12V power supply
- Working temperature 0-40 ℃ Heat dissipation structure: service life up to 50000 hours

(Non guaranteed value according to the use environment)

| Application |
|---|
| Coaxial telecentric lens |
| Detection of high reflector surface |
| LCD PCB detection |
| Smooth surface defect gap |

## 【LED pattern projector】

- The pattern can be projected at various angles and distances
- Built in control circuit, stable output
- Turning in voltage 3.5V
- Adjustable brightness
- Provide customized multiple standard reticle patterns
- Working temperature 0-60 ℃, service life; 50000 hours
- Size: 20mm outer diameter, 160mm long
- Optional projection distance with control panel

Lighting accessories series

## 【Trigger dimmer SDY-12C】

| | |
|---|---|
| Application | Get high-quality photography effect, extend the life of lamp beads, and accurately digitally remember the brightness value |
| Function: | Manual knob adjustment or PC serial port control; Trigger flash; Flash brightness can be set 1-255 bars by computer program |
| Input: | 24V/1A |
| Output | 12V |

## 【Button type dimming constant current power supply SDY-12A】

| | |
|---|---|
| Application: | Mainly used for LED light source |
| Input: | AC110V-240V |
| Output: | DC12V |
| The output power : | 0-3W |

## 【Rotary dimming power supply SDY-12X】

| | |
|---|---|
| Application: | Mainly used for LED light source |
| Input: | AC140V-220V |
| Output: | DC12V |
| The output power : | 0-3W |

## Regulated power supply SDY-12

| | |
|---|---|
| Application: | Mainly matched with motor |
| Input: | AC110V-240V |
| Output: | DC12V，5A |

# CM-100 Comparison microscope series

CM-100 comparison microscope is a kind of special microscope. Its principle is to present the image of an object in the field of view of the same group of eyepieces through optical amplification and multiple imaging methods, and then use the field of view cutting, docking, and overlapping to enable the operator to conduct macro or micro comparison of two or more objects in multiple directions.

This product is an ideal instrument for public security, procuratorial, court and school teaching. It is widely used to compare bullets, tool marks, fingerprints, seals, characters, currency, etc. It is also suitable for archaeology, banking, electronics, agriculture and other departments that need to compare and identify objects.

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