List of available objectives at the CFH-IU

Information is scrapped from micro-shop.zeiss.com on April 19, 2023 07:29

1. Objective Fluar 2.5x/0.12 M27

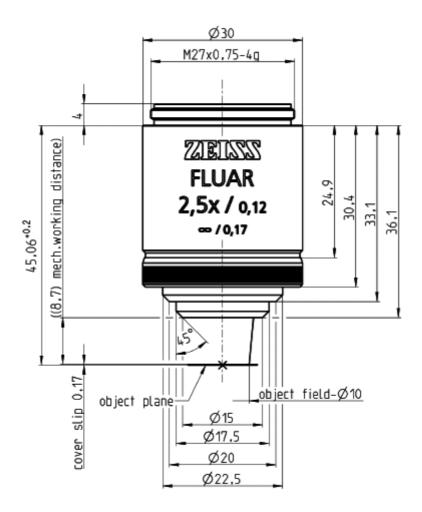
1.1 Characteristics:

This objective is suitable for a field of view diameter of 25 mm. It is used as an overview objective for confocal microscopy.

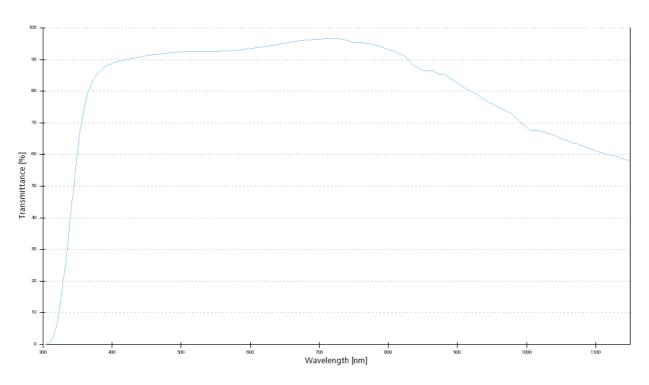
Magnification Numerical Aperture Free Working Distance [mm] Coverglass Thickness [mm] Thread Type Immersion Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris Optical System
Free Working Distance [mm] Coverglass Thickness [mm] Thread Type Immersion Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris
Coverglass Thickness [mm] Thread Type Immersion Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris
Thread Type Immersion Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris
Immersion Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris
Field of View [mm] Parfocal Length [mm] Long Distance Correction Ring Iris
Parfocal Length [mm] Long Distance Correction Ring Iris
Long Distance Correction Ring Iris
Correction Ring Iris
lris
Optical System
Flatness
Color Correction
Biomedical Applications
Fluorescence
- Multichannel
- Ultraviolet Transmission
- Infra Red Transmission
BrightField
DIC [Differential Interference Contrast]
High Contrast DIC
PlasDIC
Phase Contrast
VAREL Contrast
Hoffman Modulation Contrast
Polarization Contrast
Materials (Reflected Light) Applications
BrightField
BrightField/DarkField
Reflected Light DIC
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	High Contrast DIC
	DIC with circular polarized light
	Total Interference Contrast
	Polarization Contrast
Options	Options
	Definite Focus.2
	Confocal Microscopy
* * * * *	- Ultra Violet
* * *	- VIS (visible light)
	- NLO-IR / 2 Photon
	Total Internal Reflection Fluorescence
	Apotome
	Microdissection

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



1.3 Transmittance Curve:



Fluar These objectives have been designed especially for qualitative and quantitative analysis of ion movements and for particularly critical fluorescence methods (e.g. chromosome studies in human and cytogenetics). These objectives are distinguished by high numerical apertures and highest transmission at wavelengths even of 340 nm. Field flattening is sufficient up to a field of 20 mm.

1.5 Objective Description:

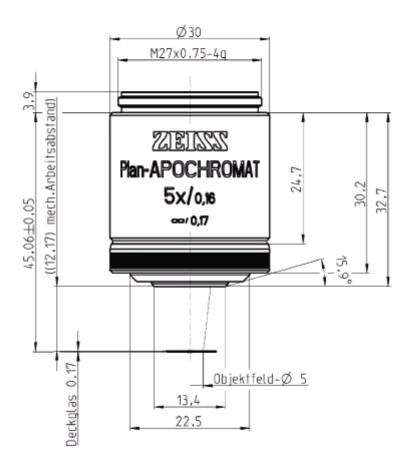
Objective Fluar 2.5x/0.12 M27 (FWD=8.7mm)

2 Objective "Plan-Apochromat" 5x/0.16 M27

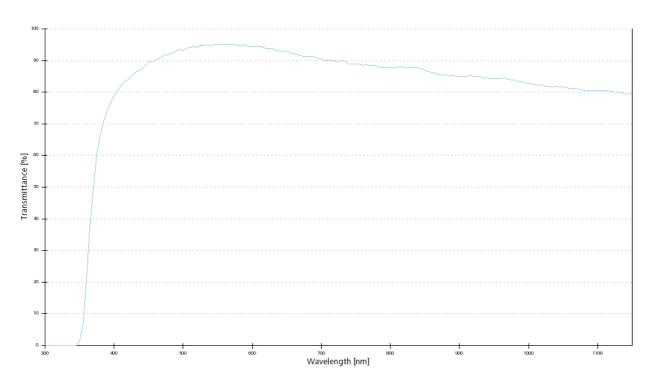
Magnification	5x
Numerical Aperture	0.16
Free Working Distance [mm]	12.1
Coverglass Thickness [mm]	0.17
Thread Type	M27x0.75
Immersion	Without Immersion
Field of View [mm]	25
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	* * * *
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options	Options
Definite Focus.2	* * * *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

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2.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

2.5 **Objective Description:**

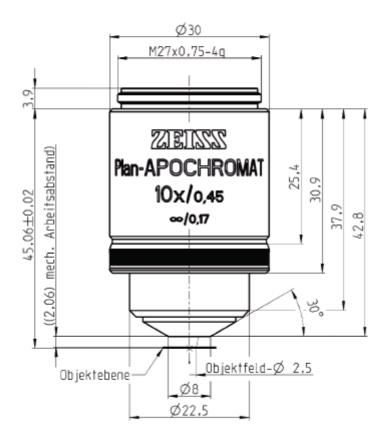
Objective Plan-Apochromat 5x/0.16 M27 (FWD=12.1mm)

3 Objective "Plan-Apochromat" 10x/0.45 M27

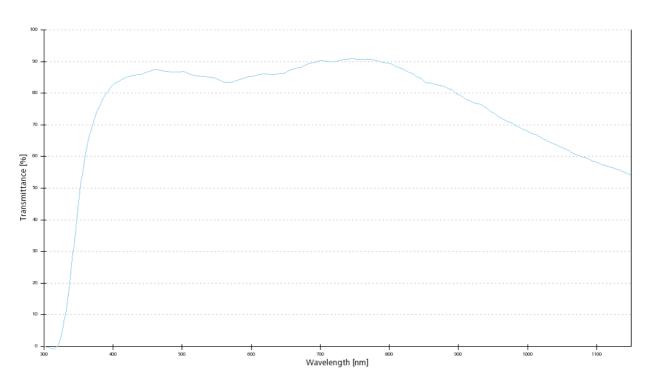
Magnification	10x
Numerical Aperture	0.45
Free Working Distance [mm]	2.0
Coverglass Thickness [mm]	0.17
Thread Type	M27x0.75
Immersion	Without Immersion
Field of View [mm]	25
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
	orrected System (ICS)
Flatness	* * * * *
Color Correction	* * * * *
	medical Applications
Fluorescence	
- Multichannel	* * * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	* * * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications Materials (Reflected	ed Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options	Options
Definite Focus.2	* * *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



3.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

3.5 Objective Description:

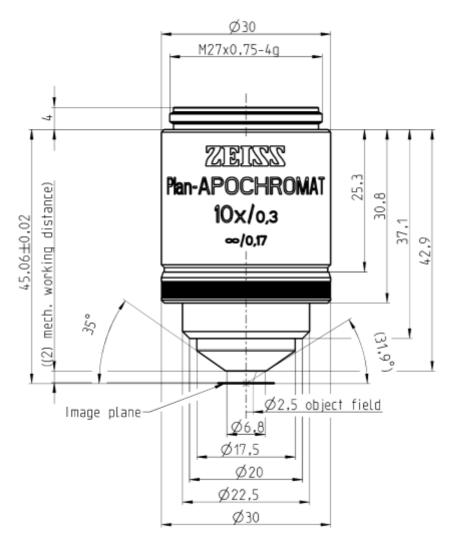
Objective Plan-Apochromat 10x/0.45 M27 (FWD=2.1mm)

4 Objective "Plan-Apochromat" 10x/0.3 M27

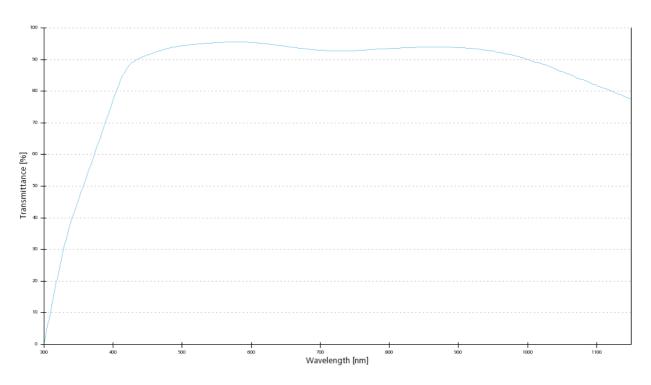
Numerical Aperture 0.3 Free Working Distance [mm] 2.0 Coverglass Thickness [mm] 0.17 Thread Type M27x0.75 Immersion Without Immersion Field of View [mm] 25 Parfocal Length [mm] 45.06 Long Distance 45.06 Correction Ring 1ris Optical System Infinity Color Corrected System (ICS) Flatness ***** Color Correction ***** Color Correction ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence Image: Contrast Signifield Image: Contrast Signifield DIC [Differential Interference Contrast] Image: Contrast DIC PlasDIC Phase Contrast VAREL Contrast VAREL Contrast Hoffman Modulation Contrast Materials (Reflected Light) Applications BrightField EngletField Image: Contrast Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField Image: Contrast Image: Contrast Materials (Reflected Light) Contrast	Magnification	10x
Free Working Distance [mm] 2.0 Coverglass Thickness [mm] 0.17 Thread Type M27x0.75 Immersion Without Immersion Field of View [mm] 25 Parfocal Length [mm] 45.06 Long Distance 6 Correction Ring 1ris Optical System Infinity Color Corrected System (ICS) Flatness ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence Image: State		
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Thread Type M27x0.75 Immersion Without Immersion Field of View [mm] 25 Parfocal Length [mm] 45.06 Long Distance Correction Ring Optical System Infinity Color Corrected System (ICS) Flatness ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence Imit - Multichannel ***** - Ultraviolet Transmission ***** BightField Imit DIC [Differential Interference Contrast] Imit Plant High Contrast PlasDIC Phase Contrast VAREL Contrast Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField BrightField BrightField Imit Plant Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField Imit Plant Brigh		
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Field of View [mm]25Parfocal Length [mm]45.06Long DistanceCorrection RingIrisOptical SystemInfinity Color Corrected System (ICS)Flatness*****Color Correction*****Color Correction*****Biomedical ApplicationsBiomedical ApplicationsFluorescenceImage: Contrast Strain- Ultraviolet Transmission*****DIC [Differential Interference Contrast]Image: Contrast StrainPhase ContrastVAREL ContrastHoffman Modulation ContrastMaterials (Reflected Light) Applications BrightFieldBrightFieldMaterials (Reflected Light) Applications Contrast StrainMaterials (Reflected Light DIC High Contrast DIC DIC with circular polarized lightTotal Interference ContrastPolarization Contrast DIC DIC with circular polarized lightDIC with circular polarized lightTotal Interference ContrastOptionsOptions		
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Iris Optical System Infinity Color Corrected System (ICS) Flatness ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence • - Multichannel **** - Ultraviolet Transmission **** - Ultraviolet Transmission **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField • DIC [Differential Interference Contrast] • High Contrast DIC • Phase Contrast • VAREL Contrast • Hoffman Modulation Contrast • Polarization Contrast • Materials (Reflected Light) Applications BrightField BrightField • BrightField • BrightField • DIC (Differential Light) Applications Materials (Reflected Light) Applications BrightField • BrightField • BrightField • BrightField • BrightF		
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Flatness ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence Image: Color Correction - Multichannel ***** - Ultraviolet Transmission ***** - Infra Red Transmission ***** BrightField Image: Color Correction DIC [Differential Interference Contrast] Image: Contrast PlasDIC PlasDIC Phase Contrast VAREL Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField ErightField DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField ErightField DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarization Contrast Options	Iris	
Flatness ***** Color Correction ***** Biomedical Applications Biomedical Applications Fluorescence Image: Color Correction - Multichannel ***** - Ultraviolet Transmission ***** - Infra Red Transmission ***** BrightField Image: Color Correction DIC [Differential Interference Contrast] Image: Contrast PlasDIC PlasDIC Phase Contrast VAREL Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField ErightField DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField ErightField DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarization Contrast Options	Optical System	Infinity Color Corrected System (ICS)
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Fluorescence - Multichannel - Ultraviolet Transmission - Infra Red Transmission ***** BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField Differential Interference Contrast Phase Contrast NAREL Contrast Delarization Contrast Materials (Reflected Light) Applications BrightField BrightField Dic with circular polarized light Total Interference Contrast Polarization Contrast Options	Color Correction	* * * *
- Multichannel ***** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField Interference Contrast] DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarized Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast	Biomedical Applications	Biomedical Applications
- Ultraviolet Transmission * * * * - Infra Red Transmission * * * * BrightField Image: Contrast DIC [Differential Interference Contrast] Image: Contrast DIC High Contrast DIC PlasDIC Phase Contrast VAREL Contrast VAREL Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField BrightField DIC High Contrast DIC DIC DIT Materials (Reflected Light) Applications BrightField BrightField DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polarization Contrast Options Options	Fluorescence	
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BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	- Ultraviolet Transmission	* * * *
DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	- Infra Red Transmission	* * * *
High Contrast DICPlasDICPhase ContrastVAREL ContrastVAREL ContrastHoffman Modulation ContrastPolarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastOptionsOptions	BrightField	
PlasDIC Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	DIC [Differential Interference Contrast]	
Phase ContrastVAREL ContrastHoffman Modulation ContrastPolarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	High Contrast DIC	
VAREL ContrastHoffman Modulation ContrastPolarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	PlasDIC	
Hoffman Modulation ContrastPolarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	Phase Contrast	
Polarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	VAREL Contrast	
Materials (Reflected Light) ApplicationsMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptionsOptions	Hoffman Modulation Contrast	
BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Polarization Contrast	
BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	BrightField	
High Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	BrightField/DarkField	
DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Reflected Light DIC	
Total Interference ContrastPolarization ContrastOptionsOptions	High Contrast DIC	
Polarization Contrast Options Options	DIC with circular polarized light	
Options Options	Total Interference Contrast	
	Polarization Contrast	
Definite Focus.2 * * * *	Options	Options
	Definite Focus.2	* * * *

Confocal Microscopy	
- Ultra Violet	* * * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



4.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

4.5 **Objective Description:**

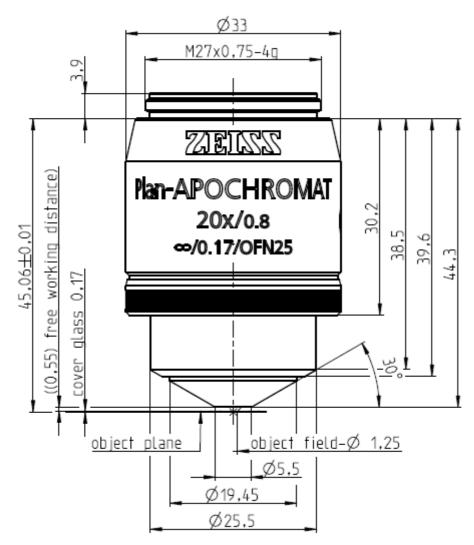
Objective Plan-Apochromat 10x/0.3 M27 (FWD=2.0mm)

5 Objective Plan-Apochromat 20x/0.8 M27

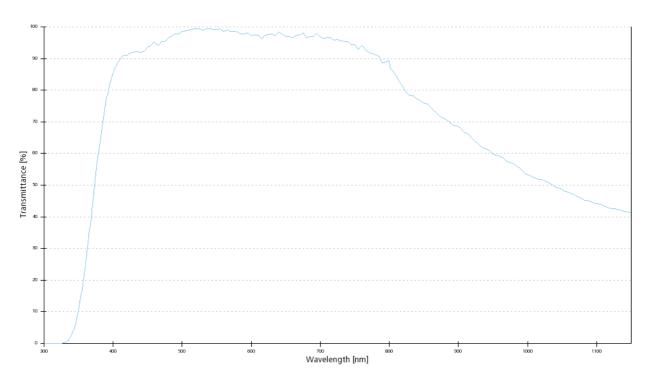
Coverglass Thickness [mm] Thread Type M27x Immersion Field of View [mm]	
Free Working Distance [mm] Coverglass Thickness [mm] Thread Type M27x Immersion Field of View [mm]	0.55 0.17 0.75 sion 25
Coverglass Thickness [mm] Thread Type M27x Immersion Field of View [mm]	0.75 sion 25
Thread TypeM27xImmersionWithout ImmerField of View [mm]	sion 25
Immersion Without Immer Field of View [mm] Field of View [mm]	25
Field of View [mm]	25
Parfocal Length [mm] 4	5.06
Long Distance	
Correction Ring	
Iris	
Optical System Infinity Color Corrected System	ICS)
	* * *
Color Correction * *	* * *
Biomedical Applications Biomedical Applicat	ions
Fluorescence	
- Multichannel **	* * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission *	* * *
BrightField	
DIC [Differential Interference Contrast] **	* * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications Materials (Reflected Light) Applicat	ions
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options Opt	ions
Definite Focus.2	* *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

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5.5 **Objective Description:**

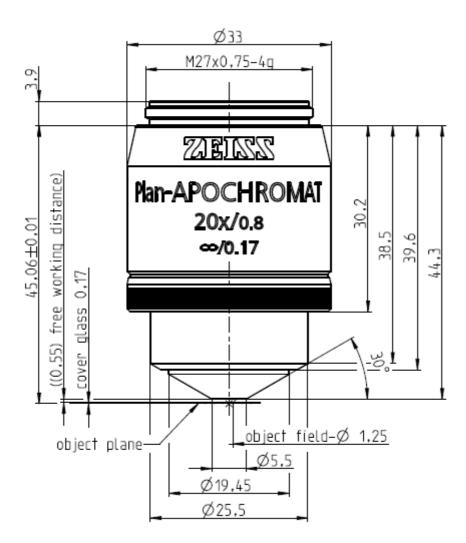
Objective Plan-Apochromat 20x/0.8 M27 (FWD=0.55mm), incl. Cover glasses, high performance, CG=0.17mm, box with 100 pc Lead-free

6 Objective Plan-Apochromat 20x/0.8 M27

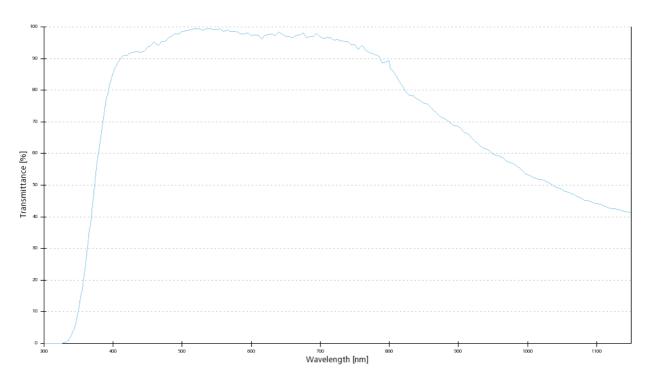
Magnification	20x
Numerical Aperture	0.8
Free Working Distance [mm]	0.55
Coverglass Thickness [mm]	0.17
Thread Type	M27x0.75
Immersion	Without Immersion
Field of View [mm]	25
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	* * * *
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	* * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options	Options
Definite Focus.2	* *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



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6.5 **Objective Description**:

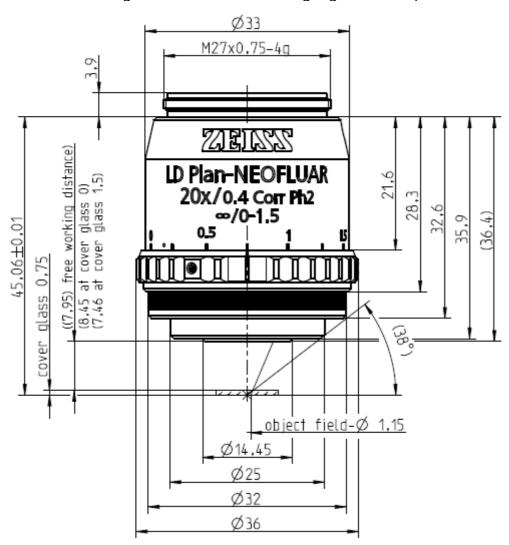
Objective Plan-Apochromat 20x/0.8 M27 (FWD=0.55mm), incl. Cover glasses, high performance, CG=0.17mm, box with 100 pc

7 Objective LD Plan-Neofluar 20x/0.4 Corr Ph2 M27

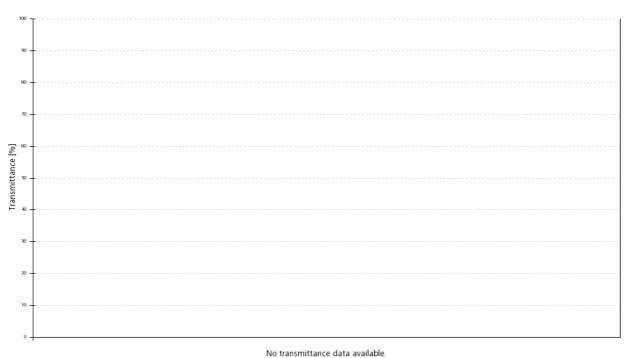
Numerical Aperture 0.4 Free Working Distance [mm] 7.9 at cover glass 0.75 Coverglass Thickness [mm] 0 - 1.5 Thread Type M27x0.75 Immersion Without Immersion Field of View [mm] 23 Parfocal Length [mm] 45.06 Long Distance Immersion Correction Ring Infinity Color Corrected System (ICS) Optical System Infinity Color Corrected System (ICS) Optical System Infinity Color Corrected System (ICS) Flatness **** Color Correction **** Biomedical Applications Biomedical Applications Fluorescence Image: State Stat	Magnification	20x
Free Working Distance [mm]7.9 at cover glass 0.75Coverglass Thickness [mm]0 - 1.5Thread TypeM27x0.75ImmersionWithout ImmersionField of View [mm]23Parfocal Length [mm]45.06Long DistanceImmersionCorrection RingImmersionCorrection RingImmersionCorrection RingImmersionSecond Correction****Color Correction****Biomedical ApplicationsBiomedical ApplicationsFlatness****- Ultraviolet Transmission****- Ultraviolet Transmission****BrightFieldImmersionDIC [Differential Interference Contrast]Phase ContrastHoffman Modulation ContrastPh 2VAREL ContrastPh 2VAREL ContrastPh 2VAREL ContrastPh 2DIC main fieldImmersionBrightFieldImmersionDifferential Interference ContrastPh 2VAREL ContrastPh 2VAREL ContrastPh 2VAREL ContrastPh 2VAREL ContrastPh 2DIC mith circular polarized lightTotal Interference ContrastPolarization ContrastPh 2Polarization ContrastPolarization Contrast<		
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Long Distance Correction Ring Iris Optical System Infinity Color Corrected System (ICS) Flatness Flatness Color Correction **** Color Correction **** Biomedical Applications Biomedical Applications Fluorescence - Multichannel **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC PlasDIC Phase Contrast Phase Contrast Phase Contrast Phase Contrast Phase Contrast Phase Contrast BrightField <	Field of View [mm]	23
Correction Ring Iris Optical System Infinity Color Corrected System (ICS) Flatness **** Color Correction **** Biomedical Applications Biomedical Applications Fluorescence • - Multichannel **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField • DIC [Differential Interference Contrast] • High Contrast DIC • Phase Contrast Ph 2 VAREL Contrast Ph 2 VAREL Contrast Ph 2 VAREL Contrast Ph 2 Polarization Contrast Materials (Reflected Light) Applications BrightField • BrightField • DIC (Differential Interference Contrast • Polarization Contrast • Polarization Contrast • Polarization Contrast • DIC mith circular polarized light • Total Interference Contrast • Polarization Contrast • Polarization Co	Parfocal Length [mm]	45.06
Iris Optical System Infinity Color Corrected System (ICS) Flatness **** Color Correction **** Biomedical Applications Biomedical Applications Fluorescence Image: Color Correction - Multichannel **** - Ultraviolet Transmission **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField Image: Color Corrected System (ICS) DIC [Differential Interference Contrast] Image: Color Corrected System (ICS) Phase Contrast DIC Image: Color Corrected System (ICS) Phase Contrast Ph 2 VAREL Contrast Ph 2 VAREI Contrast Ph 2 VAREI Contrast Ph 2 VAREI Contrast Ph 2 VAREI Contrast Ph 2 DIC with circular polarized light Contrast DIC Materials (Reflected Light) Applications BrightField BrightField DIC </td <td>Long Distance</td> <td></td>	Long Distance	
Optical SystemInfinity Color Corrected System (ICS)Flatness****Color Correction****Biomedical ApplicationsBiomedical ApplicationsFluorescence- Multichannel****- Ultraviolet Transmission****- Infra Red Transmission****BrightFieldDIC [Differential Interference Contrast]High Contrast DICPhase ContrastPh 2VAREL ContrastPolarization ContrastMaterials (Reflected Light) ApplicationsMaterials (Reflected Light) ApplicationsBrightFieldBrightFieldDIC with circular polarized lightTotal Interference ContrastPolarization ContrastPolarization ContrastDIC with circular polarized lightTotal Interference ContrastPolarization ContrastPolarization ContrastPolarized DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization Contrast <td>Correction Ring</td> <td></td>	Correction Ring	
Flatness **** Color Correction **** Biomedical Applications Biomedical Applications Fluorescence Image: Control Contr	Iris	
Color Correction **** Biomedical Applications Biomedical Applications Fluorescence Image: Color Correction - Multichannel **** - Multichannel **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField Image: Color Correction DIC [Differential Interference Contrast] Image: Contrast DIC PlasDIC Image: Contrast DIC Phase Contrast Ph 2 VAREL Contrast Ph 2 Materials (Reflected Light) Applications Materials (Reflected Light) Applications BrightField Image: Color Col	Optical System	Infinity Color Corrected System (ICS)
Biomedical Applications Biomedical Applications Fluorescence Image: Constraint of the second sec	Flatness	****
Fluorescence - Multichannel - Ultraviolet Transmission - Infra Red Transmission **** BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField BrightField BrightField DIC with circular polarized light Total Interference Contrast Polarization Contrast Polarization Contrast Polariza	Color Correction	* * * *
- Multichannel **** - Ultraviolet Transmission **** - Infra Red Transmission **** BrightField Image: Contrast State Sta	Biomedical Applications	Biomedical Applications
- Ultraviolet Transmission * * * * - Infra Red Transmission * * * * BrightField Image: Contrast of Con	Fluorescence	
 Infra Red Transmission *** BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast Phase Contrast Phase Contrast Phase Contrast Phase Contrast Polarization Contrast BrightField BrightField BrightField BrightField BrightField BrightField DIC Materials (Reflected Light) Applications BrightField BrightField DIC with circular polarized light Total Interference Contrast Options Options 	- Multichannel	* * * *
BrightField DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast Polarization Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	- Ultraviolet Transmission	* * * *
DIC [Differential Interference Contrast] High Contrast DIC PlasDIC Phase Contrast Phase Contrast Phase Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	- Infra Red Transmission	* * *
High Contrast DIC PlasDIC Phase Contrast Phase Contrast VAREL Contrast Hoffman Modulation Contrast Polarization Contrast Materials (Reflected Light) Applications BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Options Options	BrightField	
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Polarization ContrastMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	VAREL Contrast	
Materials (Reflected Light) ApplicationsMaterials (Reflected Light) ApplicationsBrightFieldBrightField/DarkFieldReflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptionsOptions	Hoffman Modulation Contrast	
BrightField BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Polarization Contrast	
BrightField/DarkField Reflected Light DIC High Contrast DIC DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
Reflected Light DICHigh Contrast DICDIC with circular polarized lightTotal Interference ContrastPolarization ContrastOptionsOptions	BrightField	
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DIC with circular polarized light Total Interference Contrast Polarization Contrast Options Options	Reflected Light DIC	
Total Interference ContrastPolarization ContrastOptionsOptions	High Contrast DIC	
Polarization Contrast Options Options	DIC with circular polarized light	
Options Options	Total Interference Contrast	
· · · · ·	Polarization Contrast	
Definite Focus.2 * *	•	Options
	Definite Focus.2	* *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



7.3 Transmittance Curve:



LD Plan-Neofluar The version of the EC Plan-Neofluar objectives with extra long working distance to be used at the inverted research microscope Axiovert 200. Beside the well-known, fluorescence of all EC Plan-Neofluar objectives the LD versions have a correction collar to adjust the objective to different cover glass thicknesses from 0 to 1.5 mm. They can of course be used in all known contrast techniques such as Brightfield, Phase contrast, DIC and PlasDIC.

7.5 **Objective Description:**

Objective LD Plan-Neofluar 20x/0.4 Corr Ph2 M27 (CG=0-1.5mm) (FWD=8.4mm at CG=0mm and FWD=7.4mm at CG=1.5mm)

8 Objective LD LCI Plan-Apochromat 25x/0.8 Imm Corr DIC M27

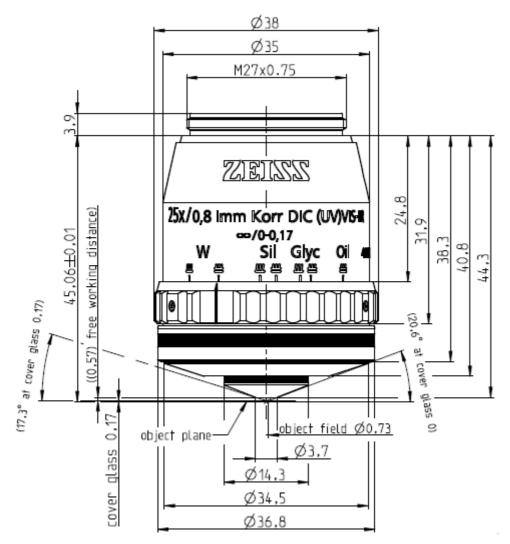
8.1 Characteristics:

This objective has a high Strehl ratio, especially for Superresolution Microscopy. The rating of the option Definite Focus.2 is valid for use with water, glycerine or oil immersion.

Magnification	25x
Numerical Aperture	0.8
Free Working Distance [mm]	0.57 at cover glass 0.17
Coverglass Thickness [mm]	0 - 0.17
Thread Type	M27x0.75
Immersion	Water, Silicone oil, Glycerine and Oil
Field of View [mm]	18
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	****
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	* * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	

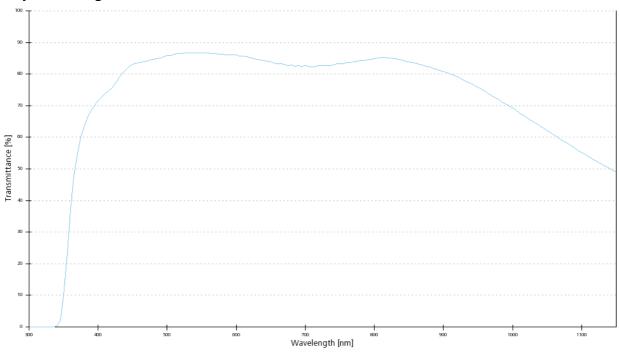
	Polarization Contrast
Options	Options
* * * *	Definite Focus.2
	Confocal Microscopy
* * * *	- Ultra Violet
* * * * *	- VIS (visible light)
* *	- NLO-IR / 2 Photon
	Total Internal Reflection Fluorescence
	Apotome
	Microdissection

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



8.3 Transmittance Curve:

Note: Please note that due to production tolerances, the given values are typical only and not guaranteed.



8.4 **Objective Class:**

LCI Plan-Apochromat These objectives have been specifically designed for Life Cell Imaging techniques and are designed for the temperature interval between 23° and 37°C. The 25x/0.8 can be used with the immersion mediums water, glycerine and oil. A single correction collar permits simple and convenient compensation for spherical aberration caused, for example, by different cover slip thicknesses, temperature drift or immersion media with a different refractive index, adjustable between water and glycerine. For the examination of living objects, water is particularly suitable as immersion medium. Furthermore, cleaning is extremely easy. For critical fluorescence examinations, cleaned glycerol is the ideal immersion medium, as it has very low autofluorescence. Therefore, glycerol and water should be preferred for the microscopy of living objects, since these are found in a medium with a similar refractive index. The Refractive Index Mismatch indicates the deviation of the actually available refractive index from the one that the objective has been calculated for. This deviation too can be compensated for by means of the correction collar. Used with inverted microscopes, multi-immersion objectives are ideal for the limited compensation of non-standard glass bottom thicknesses (D < 0,17) or the popular use of water as immersion medium with a slightly lower numerical aperture than oilimmersion objectives. Special emphasis has been placed on good accessibility of the optical axis with micromanipulators.

8.5 **Objective Description:**

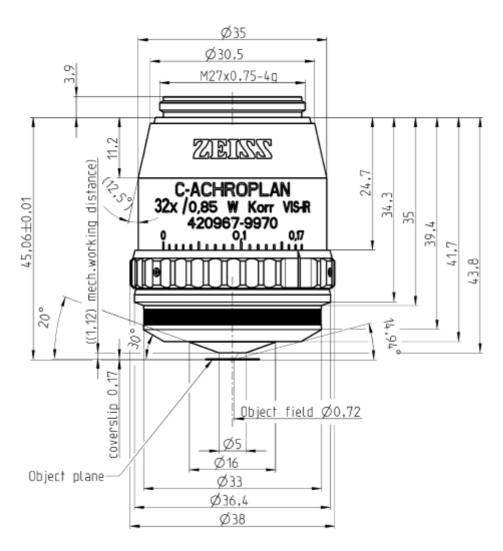
Objective LD LCI Plan-Apochromat 25x/0.8 Imm Corr DIC M27 for oil, water, silicone oil or glycerine immersion (CG=0-0.17mm) (FWD=0.57mm at CG=0.17mm) incl. Immersol 518 F, oiler 20 ml With serial number. Strehl ratio >90%.

9 Objective "C-Achroplan" 32x/0.85 W Corr M27

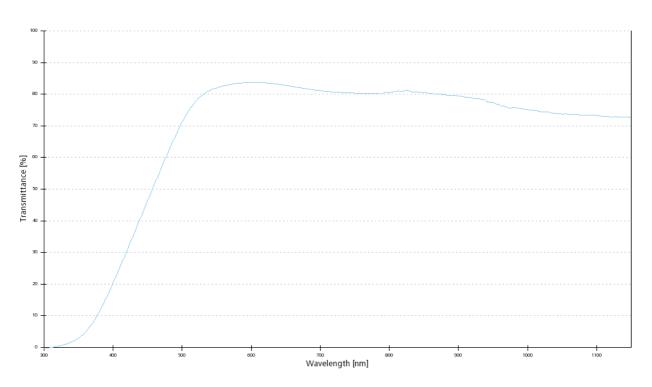
ation	Magnification
erture	Numerical Aperture
[mm]	Free Working Distance [mm]
[mm] 0 -	Coverglass Thickness [mm]
Type M27x	Thread Type
ersion W	Immersion
[mm]	Field of View [mm]
[mm] 4	Parfocal Length [mm]
tance	Long Distance
Ring	Correction Ring
Iris	Iris
vstem Infinity Color Corrected System	Optical System
tness	Flatness
ection	Color Correction
ations Biomedical Applicat	Biomedical Applications
cence	Fluorescence
annel	- Multichannel
ission	- Ultraviolet Transmission
ission	- Infra Red Transmission
tField	BrightField
trast]	DIC [Differential Interference Contrast]
st DIC	High Contrast DIC
asDIC	PlasDIC
ntrast	Phase Contrast
ntrast	VAREL Contrast
ntrast	Hoffman Modulation Contrast
ntrast	Polarization Contrast
ations Materials (Reflected Light) Applicat	Materials (Reflected Light) Applications
tField	BrightField
<pre>kField</pre>	BrightField/DarkField
nt DIC	Reflected Light DIC
st DIC	High Contrast DIC
light	DIC with circular polarized light
ntrast	Total Interference Contrast
ntrast	Polarization Contrast
otions Opt	Options
ocus.2	Definite Focus.2

	Confocal Microscopy
	- Ultra Violet
* *	- VIS (visible light)
* * * *	- NLO-IR / 2 Photon
	Total Internal Reflection Fluorescence
	Apotome
	Microdissection

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



9.3 Transmittance Curve:



C-Achroplan These are objectives for transmitted-light routine microscopy and epifluorescence microscopy with visible-light excitation. Special Achroplan W (water) objectives are provided for applications in physiology. Thanks to their excellent image flatness across visual field diameters of 23 mm, Achroplan objectives are ideal for photomicrography in routine microscopy.

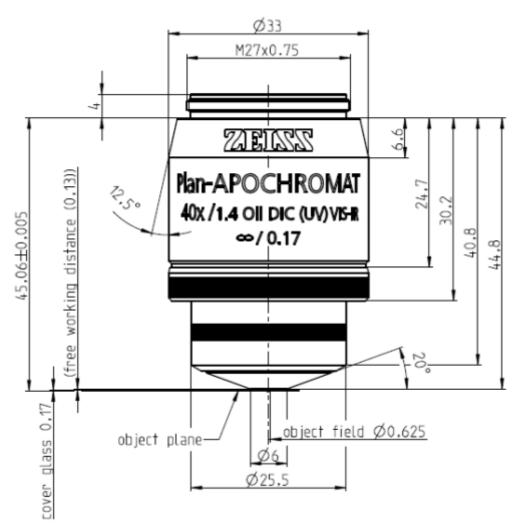
9.5 **Objective Description:**

Objective C-Achroplan 32x/0.85 W Corr M27 VIS-IR, (FWD=1.1mm at CG=0.17mm) (CG=0-0.17mm)

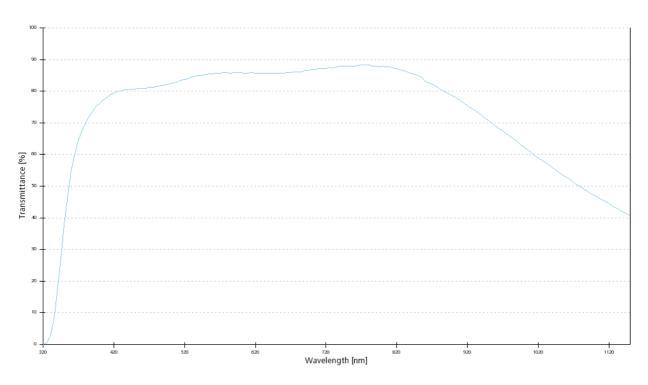
Magnification	40x
Numerical Aperture	1.4
Free Working Distance [mm]	0.13
Coverglass Thickness [mm]	0.17
Thread Type	M27x0.75
Immersion	Oil
Field of View [mm]	25
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	* * * *
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
[Differential Interference Contrast]	* * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
erials (Reflected Light) Applications N	1aterials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options	Options
Definite Focus.2	* * *

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



10.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

10.5 Objective Description:

Objective Plan-Apochromat 40x/1.4 Oil DIC M27 (FWD=0.13mm), (UV)VIS-IR, incl. Immersol 518 F, oiler 20 ml and cover glasses, high performance, CG=0.17 mm, box with 100 pc.

11 Objective LD LCI Plan-Apochromat 40x/1.2 Imm Corr DIC M27

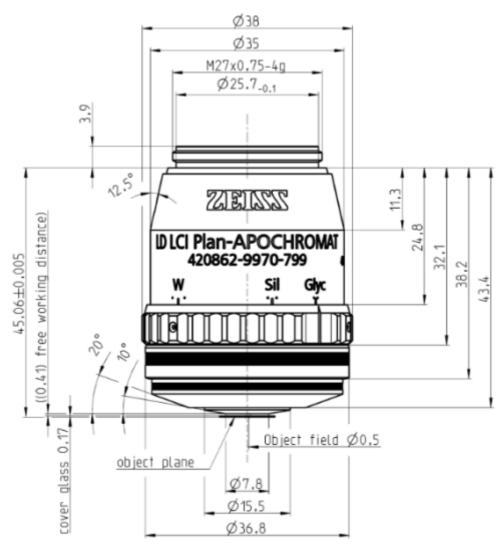
11.1 Characteristics:

This objective has a high Strehl ratio, especially for Superresolution Microscopy. The rating of the option Definite Focus.2 is valid for use with water immersion.

rating of the option Definite Focus.2 is valid	for use with water immersion.
Magnification	40x
Numerical Aperture	1.2
Free Working Distance [mm]	0.41 at cover glass 0.17
Coverglass Thickness [mm]	0.15 - 0.19
Thread Type	M27x0.75
Immersion	Water, Silicone oil and Glycerine
Field of View [mm]	18
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	* * * *
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	* * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	

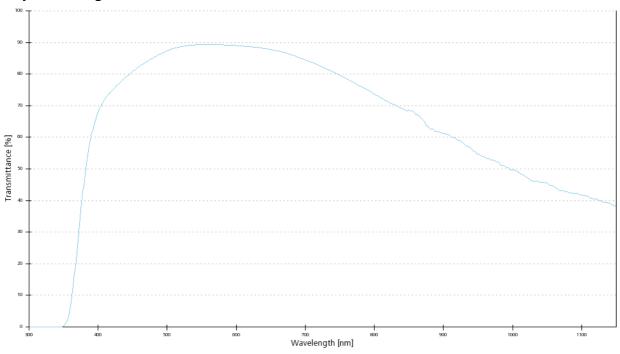
Options	Options
Definite Focus.2	* * *
Confocal Microscopy	
- Ultra Violet	* * * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



11.3 Transmittance Curve:

Note: Please note that due to production tolerances, the given values are typical only and not guaranteed.



11.4 Objective Class:

LCI Plan-Apochromat These objectives have been specifically designed for Life Cell Imaging techniques and are designed for the temperature interval between 23° and 37°C. The 25x/0.8 can be used with the immersion mediums water, glycerine and oil. A single correction collar permits simple and convenient compensation for spherical aberration caused, for example, by different cover slip thicknesses, temperature drift or immersion media with a different refractive index, adjustable between water and glycerine. For the examination of living objects, water is particularly suitable as immersion medium. Furthermore, cleaning is extremely easy. For critical fluorescence examinations, cleaned glycerol is the ideal immersion medium, as it has very low autofluorescence. Therefore, glycerol and water should be preferred for the microscopy of living objects, since these are found in a medium with a similar refractive index. The Refractive Index Mismatch indicates the deviation of the actually available refractive index from the one that the objective has been calculated for. This deviation too can be compensated for by means of the correction collar. Used with inverted microscopes, multi-immersion objectives are ideal for the limited compensation of non-standard glass bottom thicknesses (D < 0,17) or the popular use of water as immersion medium with a slightly lower numerical aperture than oilimmersion objectives. Special emphasis has been placed on good accessibility of the optical axis with micromanipulators.

11.5 Objective Description:

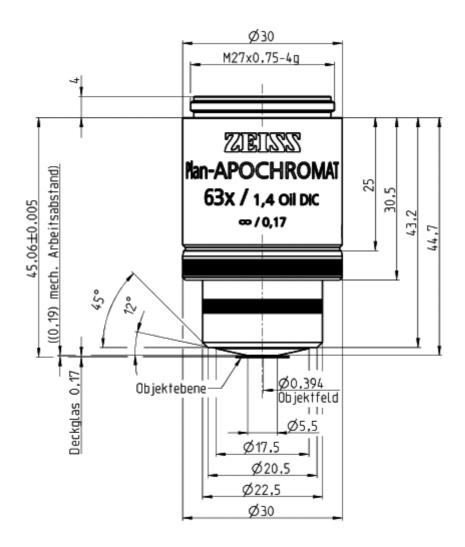
Objective LD LCI Plan-Apochromat 40x/1.2 Imm Corr DIC M27 for water, silicon oil or glycerine immersion (CG=0.15-0.19mm) (FWD=0.41mm at CG=0.17mm) incl. Immersol G, bottle 20 ml and Cover glasses, high performance, CG=0.17mm, box with 100 pc With serial number. Strehl ratio >90%.

12 Objective Plan-Apochromat 63x/1.4 Oil DIC M27

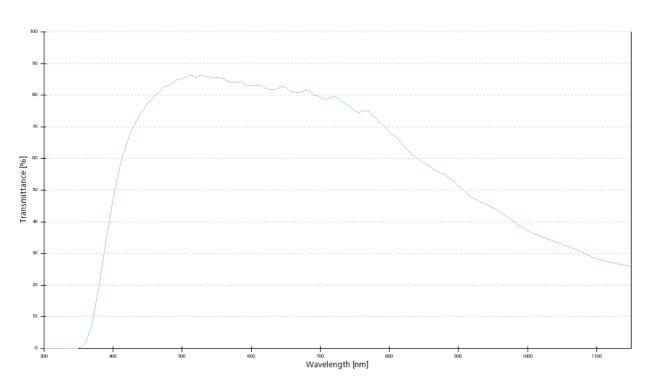
6	Magnification
1	Numerical Aperture
0.	Free Working Distance [mm]
0.	Coverglass Thickness [mm]
M27x0.	Thread Type
(Immersion
	Field of View [mm]
45.	Parfocal Length [mm]
	Long Distance
	Correction Ring
	Iris
Infinity Color Corrected System (IC	Optical System
* * * *	Flatness
* * * ;	Color Correction
Biomedical Applicatio	Biomedical Applications
	Fluorescence
* * * *	- Multichannel
* 7	- Ultraviolet Transmission
* * 1	- Infra Red Transmission
	BrightField
* * * ;	DIC [Differential Interference Contrast]
	High Contrast DIC
	PlasDIC
	Phase Contrast
	VAREL Contrast
	Hoffman Modulation Contrast
	Polarization Contrast
Materials (Reflected Light) Applicatio	Materials (Reflected Light) Applications
	BrightField
	BrightField/DarkField
	Reflected Light DIC
	High Contrast DIC
	DIC with circular polarized light
	Total Interference Contrast
	Polarization Contrast
Optio	Options
* :	Definite Focus.2

	Confocal Microscopy
* * *	- Ultra Violet
* * * * *	- VIS (visible light)
* *	- NLO-IR / 2 Photon
	Total Internal Reflection Fluorescence
	Apotome
	Microdissection

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



12.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

12.5 Objective Description:

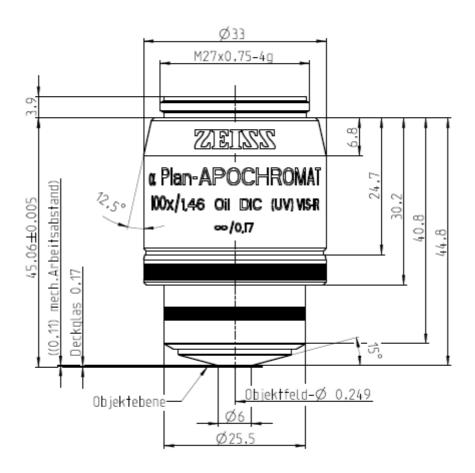
Objective Plan-Apochromat 63x/1.4 Oil DIC M27 (FWD=0.19mm), incl. Immersol 518 F, oiler 20ml and Cover glasses, high performance, CG=0.17mm, box with 100 pc.

13 Objective α Plan-Apochromat 100x/1.46 Oil DIC M27

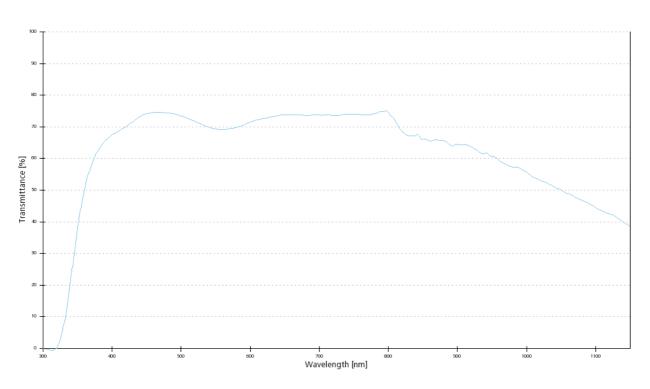
Magnification	100x
Numerical Aperture	1.46
Free Working Distance [mm]	0.11
Coverglass Thickness [mm]	0.17
Thread Type	M27x0.75
Immersion	Oil
Field of View [mm]	25
Parfocal Length [mm]	45.06
Long Distance	
Correction Ring	
Iris	
Optical System	Infinity Color Corrected System (ICS)
Flatness	* * * *
Color Correction	* * * *
Biomedical Applications	Biomedical Applications
Fluorescence	
- Multichannel	* * * *
- Ultraviolet Transmission	* * *
- Infra Red Transmission	* * * *
BrightField	
DIC [Differential Interference Contrast]	* * * *
High Contrast DIC	
PlasDIC	
Phase Contrast	
VAREL Contrast	
Hoffman Modulation Contrast	
Polarization Contrast	
Materials (Reflected Light) Applications	Materials (Reflected Light) Applications
BrightField	
BrightField/DarkField	
Reflected Light DIC	
High Contrast DIC	
DIC with circular polarized light	
Total Interference Contrast	
Polarization Contrast	
Options	Options
Definite Focus.2	*

Confocal Microscopy	
- Ultra Violet	* * *
- VIS (visible light)	* * * * *
- NLO-IR / 2 Photon	* * * *
Total Internal Reflection Fluorescence	
Apotome	
Microdissection	

Note: All measures in [mm]mech. Arbeitsabstand = mechanical working distanceDeckglas = cover glassObjektebene = object planeObjektfeld = object fieldAusleuchtung = illuminationProbenzugänglichkeit = specimen accessibility



13.3 Transmittance Curve:



Plan-Apochromat SF25 This first-class series of objectives with excellent correction and extremely high apertures provide a maximum of resolving power, color purity, contrast and image flatness for observation and photomicrography. The enormous resolving power reveals structures that otherwise can not be discerned. As image brightness in fluorescence microscopy increases with the power of four of numerical aperture, Plan Apochromat objectives are excellently suited to fluorescence applications.

13.5 Objective Description:

Objective alpha Plan-Apochromat 100x/1.46 Oil DIC M27 (FWD=0.10mm), (UV)VIS-IR, incl. Immersol 518 F, oiler 20ml and Cover glasses, high performance, CG=0.17mm, box with 100 pc.