

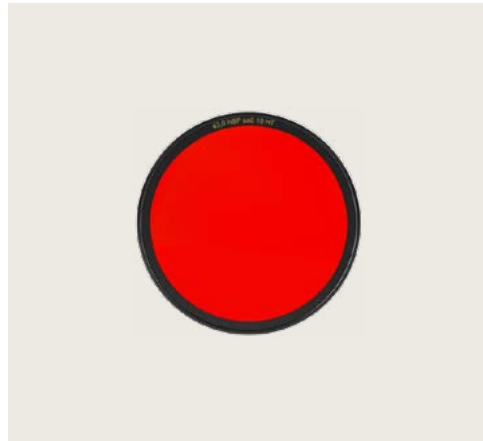
## Schneider-Kreuznach Products

Jos. Schneider Optische Werke GmbH is a worldwide acclaimed manufacturer of high performance lenses and filters as well as optical and mechanical components for industrial applications. Schneider-Kreuznach stands for cutting-edge technology engineered in Germany.

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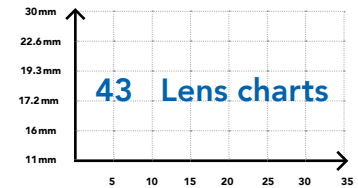


### 38 Customized Solutions



## Lenses

When it comes to optical and precision mechanical components for machine vision, we set the standard. In addition to our extensive standard portfolio of ruggedized lenses, we also provide custom lens solutions for even more ruggedized options. Custom fixed aperture and motorized iris options are also available for many lenses on request.



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# TOURMALINE

Maximum performance up to 1.3"

### Key Features:

- 1.3" (24mm) max. Sensor size
- Resolution down to 2.4µ pixel size
- 8 focal lengths: 16 mm – 50 mm
- Initial aperture: F2 – F2.8
- C-Mount and TFL-Mount available
- Ruggedized version and motorized iris available
- Low chief ray angle suitable for all SONY Pregius™ generations

### Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Traffic and surveillance

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
TOURMALINE 2.8/16 C	2.8–16	16	C	1.3" (24mm)	standard	39 x 71.1	204	M49 x 0.75 *	1084232	Download <a href="#">↓</a>
TOURMALINE 2.8/16 TFL	2.8–16	16	TFL	1.3" (24mm)	standard	39 x 71.1	204	M49 x 0.75 *	1098691	Download <a href="#">↓</a>
TOURMALINE 2.0/20 C	2.0–16	20	C	1.3" (24mm)	standard	48 x 62.9	450	M35.5 x 0.5	1056472	Download <a href="#">↓</a>
TOURMALINE 2.0/20 TFL	2.0–16	20	TFL	1.3" (24mm)	standard	48 x 62.9	450	M35.5 x 0.5	1098778	Download <a href="#">↓</a>
TOURMALINE 2.0/24 C	2.0–16	24	C	1.3" (24mm)	standard	40 x 41.5	120	M37 x 0.75	1071371	Download <a href="#">↓</a>
TOURMALINE 2.0/24 C-MI	2.0–16	24	C	1.3" (24mm)	motorized iris	50 x 41.5	164	M37 x 0.75	1076613	Download <a href="#">↓</a>
TOURMALINE 2.0/24 TFL	2.0–16	24	TFL	1.3" (24mm)	standard	40 x 41.5	120	M37 x 0.75	1098692	Download <a href="#">↓</a>
TOURMALINE 2.0/35 C	2.0–22	35	C	1.3" (24mm)	standard	41 x 55.5	160	M37 x 0.75	1006219	Download <a href="#">↓</a>
TOURMALINE 2.0/35 C-MI	2.0–22	35	C	1.3" (24mm)	motorized iris	50 x 55.5	204	M37 x 0.75	1076612	Download <a href="#">↓</a>
TOURMALINE 2.0/35 TFL	2.0–22	35	TFL	1.3" (24mm)	standard	41 x 55.5	160	M37 x 0.75	1098690	Download <a href="#">↓</a>
TOURMALINE 2.8/40 C	2.8–22	40	C	1.3" (24mm)	standard	34 x 48.3	78	M30.5 x 0.5	1101717	Download <a href="#">↓</a>
TOURMALINE 4.0/45 C	4.0–22	45	C	1.3" (24mm)	standard	34 x 51.6	78	M30.5 x 0.5	1101715	Download <a href="#">↓</a>
TOURMALINE 2.8/50 C	2.8–32	50	C	1.3" (24mm)	standard	34 x 52.6	135	M30.5 x 0.5	1001976	Download <a href="#">↓</a>
TOURMALINE 2.8/50 C-R	2.8–32	50	C	1.3" (24mm)	ruggedized	34 x 52.6	135	M30.5 x 0.5	1062882	Download <a href="#">↓</a>
TOURMALINE 2.8/50 C-MI	2.8–32	50	C	1.3" (24mm)	motorized iris	50 x 52.6	179	M30.5 x 0.5	1076168	Download <a href="#">↓</a>
TOURMALINE 2.8/50 TFL	2.8–32	50	TFL	1.3" (24mm)	standard	34 x 52.6	135	M30.5 x 0.5	1098689	Download <a href="#">↓</a>
TOURMALINE 4.0/60 C	4.0–22	60	C	1.3" (24mm)	standard	34 x 63.2	135	M30.5 x 0.5	1101716	Download <a href="#">↓</a>

\*Optional filter adapter is required

# AQUAMARINE

The budget solution for up to 1.3"

## Key Features:

- 1.3" (24mm) max. Sensor size
- 2 focal lengths: 28 mm and 35 mm
- Initial aperture: F2
- C-Mount and TFL-Mount available
- Ruggedized version and motorized iris available for 28 mm lens

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Traffic and surveillance

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
AQUAMARINE 2.0/28 C	2.0-16	28	C	1.3" (24mm)	standard	34 x 38.3	78	M30.5 x 0.5	1001972	<a href="#">Download</a> ↓
AQUAMARINE 2.0/28 C-R	2.0-16	28	C	1.3" (24mm)	ruggedized	34 x 38.3	78	M30.5 x 0.5	1062857	<a href="#">Download</a> ↓
AQUAMARINE 2.0/28 C-MI	2.0-16	28	C	1.3" (24mm)	motorized iris	50 x 38.3	122	M30.5 x 0.5	1061456	<a href="#">Download</a> ↓
AQUAMARINE 2.0/28 TFL	2.0-16	28	TFL	1.3" (24mm)	standard	34 x 38.3	85	M30.5 x 0.5	1098688	<a href="#">Download</a> ↓
AQUAMARINE 2.0/35 C	2.0-16	35	C	1.3" (24mm)	standard	34 x 44.6	90	M30.5 x 0.5	1075451	<a href="#">Download</a> ↓
AQUAMARINE 2.0/35 TFL	2.0-16	35	TFL	1.3" (24mm)	standard	34 x 44.6	90	M30.5 x 0.5	1098687	<a href="#">Download</a> ↓

# JADE

The new machine vision standard for up to 1.2"

## Key Features:

- 1.2" (19.3mm) max. Sensor size
- 5 focal lengths: 12mm – 50mm
- Initial aperture: F2.8
- C-Mount
- Very high resolution down to 2.4 $\mu$  pixel size
- Low chief ray angle suitable for all SONY Pregius™ generations

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Robotic Vision

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
JADE 2.8/12 C	2.8–22	12	C	1.2" (19.3mm)	standard	50 x 57.8	167	M62 x 0.75 *	1099612	<a href="#">Download</a> ↓
JADE 2.8/16 C	2.8–22	16	C	1.2" (19.3mm)	standard	40 x 57.5	154	M37 x 0.75	1099214	<a href="#">Download</a> ↓
JADE 2.8/25 C	2.8–16	25	C	1.2" (19.3mm)	standard	34 x 36.4	76	M30.5 x 0.5	1098480	<a href="#">Download</a> ↓
JADE 2.8/35 C	2.8–22	35	C	1.2" (19.3mm)	standard	34 x 40.8	124	M30.5 x 0.5	1098000	<a href="#">Download</a> ↓
JADE 2.8/50 C	2.8–22	50	C	1.2" (19.3mm)	standard	34 x 58	169	M30.5 x 0.5	1098905	<a href="#">Download</a> ↓

\*Optional filter adapter is required

# TOPAZ

## The specialists for long working distances

### Key Features:

- 1.2" (19.3 mm) max. Sensor size (TOPAZ 2.4/6.5: 1.1")
- 6 focal lengths available: 6.5mm – 50mm
- Initial aperture: F2 – F2.8 | Motorized iris available
- C-Mount
- Optimized for long working distances up to infinity
- Low chief ray angle suitable for all SONY Pregius™ generations

### Typical applications:

- Traffic
- Surveillance
- Long distance imaging

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
TOPAZ 2.4/6.5 C	2.4–16	6.5	C	1.1" (17.6 mm)	standard	55 x 50.2	165	M82 x 0.75 *	1088899	<a href="#">Download</a> ↓
TOPAZ 2.4/6.5 C-MI	2.4–16	6.5	C	1.1" (17.6mm)	motorized iris	55 x 50.2	225	M82 x 0.75 *	1100923	<a href="#">Download</a> ↓
TOPAZ 2.8/12 C	2.8–22	12	C	1.2" (19.3mm)	standard	50 x 58	167	M62 x 0.75 *	1103137	<a href="#">Download</a> ↓
TOPAZ 2.0/25 C	2.0–16	25	C	1.2" (19.3mm)	standard	34 x 40.2	86	M30.5 x 0.5	1081347	<a href="#">Download</a> ↓
TOPAZ 2.0/25 C-MI	2.0–16	25	C	1.2" (19.3mm)	motorized iris	50 x 40.2	146	M30.5 x 0.5	1088585	<a href="#">Download</a> ↓
TOPAZ 2.0/30 C	2.0–16	30	C	1.2" (19.3mm)	standard	34 x 40.5	87	M30.5 x 0.5	1078946	<a href="#">Download</a> ↓
TOPAZ 2.0/30 C-MI	2.0–16	30	C	1.2" (19.3mm)	motorized iris	50 x 40.5	147	M30.5 x 0.5	1084646	<a href="#">Download</a> ↓
TOPAZ 2.0/38 C	2.0–16	38	C	1.2" (19.3mm)	standard	34 x 48	133	M30.5 x 0.5	1076930	<a href="#">Download</a> ↓
TOPAZ 2.0/38 C-MI	2.0–16	38	C	1.2" (19.3mm)	motorized iris	50 x 48	193	M30.5 x 0.5	1084666	<a href="#">Download</a> ↓
TOPAZ 2.0/50 C	2.0–16	50	C	1.2" (19.3mm)	standard	34 x 56.6	156	M30.5 x 0.5	1079220	<a href="#">Download</a> ↓
TOPAZ 2.0/50 C-MI	2.0–16	50	C	1.2" (19.3mm)	motorized iris	50 x 56.6	216	M30.5 x 0.5	1084649	<a href="#">Download</a> ↓

\*Optional filter adapter is required

# OPAL


Maximum performance for up to 1.1"

## Key Features:

- 1.1" (17.6mm) max. Sensor size
- Focal length: 12 mm
- Initial aperture: F2.8
- C-Mount
- Very high resolution down to 2.4 $\mu$  pixel size
- Low chief ray angle suitable for all SONY Pregius™ generations

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Robotic Vision

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
OPAL 2.8/12 C	2.8–22	12	C	1.1" (17.6mm)	standard	42 x 57.3	145	M40.5 x 0.5	1093543	Download 



# TURQUOISE

The established standard for up to 1"

## Key Features:

- 1" (16mm) max. Sensor size
- 3 focal lengths: 10mm, 16mm and 70mm
- Initial aperture: F1.8 – F2.2
- C-Mount
- Ruggedized version and motorized iris available

## Typical applications:

- 2D/3D metrology
- Robotics vision
- Industrial automation
- Traffic and surveillance

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
TURQUOISE 1.9/10 C	1.9–16	10	C	1" (16mm)	standard	37.3 x 50.2	136	M62 x 0.75 *	1001978	<a href="#">Download</a> ↓
TURQUOISE 1.9/10 C-R	1.9–16	10	C	1" (16mm)	ruggedized	37.3 x 50.2	136	M62 x 0.75 *	1060005	<a href="#">Download</a> ↓
TURQUOISE 1.9/10 C-MI	1.9–16	10	C	1" (16mm)	motorized iris	50 x 50.2	180	M62 x 0.75 *	1061374	<a href="#">Download</a> ↓
TURQUOISE 1.8/16 C	1.8–11	16	C	1" (16mm)	standard	34 x 44.7	102	M30.5 x 0.5	1001482	<a href="#">Download</a> ↓
TURQUOISE 1.8/16 C-R	1.8–11	16	C	1" (16mm)	ruggedized	34 x 44.7	102	M30.5 x 0.5	1058928	<a href="#">Download</a> ↓
TURQUOISE 1.8/16 C-MI	1.8–11	16	C	1" (16mm)	motorized iris	50 x 44.7	146	M30.5 x 0.5	1061375	<a href="#">Download</a> ↓
TURQUOISE 2.2/70 C	2.2–32	70	C	1" (16mm)	standard	42 x 77.8	200	M40.5 x 0.5	1014593	<a href="#">Download</a> ↓
TURQUOISE 2.2/70 C-R	2.2–32	70	C	1" (16mm)	ruggedized	42 x 77.8	200	M40.5 x 0.5	1062874	<a href="#">Download</a> ↓
TURQUOISE 2.2/70 C-MI	2.2–32	70	C	1" (16mm)	motorized iris	50 x 77.8	244	M40.5 x 0.5	1061457	<a href="#">Download</a> ↓

\*Optional filter adapter is required

Compact Lenses

# CITRINE

The established standard for up to 2/3"

### Key Features:

- 2/3" (11 mm) max. Sensor size
- 6 focal lengths: 4.8mm – 35mm
- Initial apertures: F1.4 – F1.9
- C-Mount
- Ruggedized and stabilized versions and motorized iris available

### Typical applications:

- 2D/3D metrology
- Robotics vision
- Industrial automation
- Traffic and surveillance

\*Optional filter adapter is required

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
CITRINE 1.8/4.8 C	1.8–11	4.8	C	2/3" (11 mm)	standard	37.3 x 44.5	105	M62 x 0.75 *	1001955	<a href="#">Download</a> ↓
CITRINE 1.8/4.8 C-R	1.8–11	4.8	C	2/3" (11 mm)	ruggedized	37.3 x 44.5	105	M62 x 0.75 *	1058930	<a href="#">Download</a> ↓
CITRINE 1.8/4.8 C-S	1.8–11	4.8	C	2/3" (11 mm)	stabilized	37.3 x 44.5	105	M62 x 0.75 *	1062311	<a href="#">Download</a> ↓
CITRINE 1.8/4.8 C-MI	1.8–11	4.8	C	2/3" (11 mm)	motorized iris	50 x 44.5	149	M62 x 0.75 *	1061448	<a href="#">Download</a> ↓
CITRINE 1.4/8 C	1.4–11	8	C	2/3" (11 mm)	standard	34 x 37.5	90	M30.5 x 0.5	1001919	<a href="#">Download</a> ↓
CITRINE 1.4/8 C-R	1.4–11	8	C	2/3" (11 mm)	ruggedized	34 x 37.5	90	M30.5 x 0.5	1062858	<a href="#">Download</a> ↓
CITRINE 1.4/8 C-S	1.4–11	8	C	2/3" (11 mm)	stabilized	34 x 37.5	90	M30.5 x 0.5	1068951	<a href="#">Download</a> ↓
CITRINE 1.4/8 C-MI	1.4–11	8	C	2/3" (11 mm)	motorized iris	50 x 37.5	134	M30.5 x 0.5	1061449	<a href="#">Download</a> ↓
CITRINE 1.4/12 C	1.4–11	12	C	2/3" (11 mm)	standard	34 x 48.5	99	M30.5 x 0.5	1001951	<a href="#">Download</a> ↓
CITRINE 1.4/12 C-R	1.4–11	12	C	2/3" (11 mm)	ruggedized	34 x 48.5	99	M30.5 x 0.5	1062859	<a href="#">Download</a> ↓
CITRINE 1.4/12 C-S	1.4–11	12	C	2/3" (11 mm)	stabilized	34 x 48.5	99	M30.5 x 0.5	1070118	<a href="#">Download</a> ↓
CITRINE 1.4/12 C-MI	1.4–11	12	C	2/3" (11 mm)	motorized iris	50 x 48.5	143	M30.5 x 0.5	1061450	<a href="#">Download</a> ↓
CITRINE 1.4/17 C	1.4–11	17	C	2/3" (11 mm)	standard	34 x 37.7	85	M30.5 x 0.5	1001957	<a href="#">Download</a> ↓
CITRINE 1.4/17 C-R	1.4–11	17	C	2/3" (11 mm)	ruggedized	34 x 37.7	85	M30.5 x 0.5	1062860	<a href="#">Download</a> ↓
CITRINE 1.4/17 C-S	1.4–11	17	C	2/3" (11 mm)	stabilized	34 x 37.7	85	M30.5 x 0.5	1070117	<a href="#">Download</a> ↓
CITRINE 1.4/17 C-MI	1.4–11	17	C	2/3" (11 mm)	motorized iris	50 x 37.7	129	M30.5 x 0.5	1061451	<a href="#">Download</a> ↓
CITRINE 1.4/23 C	1.4–11	23	C	2/3" (11 mm)	standard	34 x 40.6	95	M30.5 x 0.5	1001917	<a href="#">Download</a> ↓
CITRINE 1.4/23 C-R	1.4–11	23	C	2/3" (11 mm)	ruggedized	34 x 40.6	95	M30.5 x 0.5	1062871	<a href="#">Download</a> ↓
CITRINE 1.4/23 C-MI	1.4–11	23	C	2/3" (11 mm)	motorized iris	50 x 40.6	139	M30.5 x 0.5	1061452	<a href="#">Download</a> ↓
CITRINE 1.9/35 C	1.9–16	35	C	2/3" (11 mm)	standard	34 x 38.5	92	M30.5 x 0.5	1001960	<a href="#">Download</a> ↓
CITRINE 1.9/35 C-R	1.9–16	35	C	2/3" (11 mm)	ruggedized	34 x 38.5	92	M30.5 x 0.5	1062872	<a href="#">Download</a> ↓
CITRINE 1.9/35 C-MI	1.9–16	35	C	2/3" (11 mm)	motorized iris	50 x 38.5	136	M30.5 x 0.5	1061453	<a href="#">Download</a> ↓

# ONYX

Fast and perfect for low light and high speed applications

## Key Features:

- 1" (16 mm) max. Sensor size
- Focal length: 25 mm
- Extremely fast lens with F0.95
- C-Mount

## Typical applications:

- Bioluminescence
- Fluorescence
- High speed imaging
- Low light applications

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
ONYX 0.95/25 C	0.95–11	25	C	1" (16mm)	standard	49 x 48.6	240	M39 x 0.5	12101	<a href="#">Download</a> ↓

# SYLVINE

## Bilateral telecentricity at its best

### Key Features:

- 2/3" (11 mm) max. Sensor size
- Very high resolution down to 2.4 $\mu$  pixel size
- 5 magnifications available: 0.2x – 1x
- C-Mount
- Bilateral telecentric design

### Typical applications:

- High precision measurement
- Tube inspection
- Jewel inspection
- Micro defect detection

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
SYLVINE 0.14/1.0x C	0.14	1.0x	C	2/3" (11 mm)	standard	82 x 223.8	1490	M58 x 0.75	35850	<a href="#">Download</a> ↓
SYLVINE 0.07/0.5x C	0.07	0.5x	C	2/3" (11 mm)	standard	82 x 267.7	2150	M58 x 0.75	35851	<a href="#">Download</a> ↓
SYLVINE 0.05/0.33x C	0.05	0.33x	C	2/3" (11 mm)	standard	82 x 228	1600	M58 x 0.75	35852	<a href="#">Download</a> ↓
SYLVINE 0.03/0.25x C	0.03	0.25x	C	2/3" (11 mm)	standard	82 x 253.8	2000	M62 x 0.75	35853	<a href="#">Download</a> ↓
SYLVINE 0.03/0.2x C	0.03	0.2x	C	2/3" (11 mm)	standard	88 x 289.4	2600	M77 x 0.75	35854	<a href="#">Download</a> ↓

# CHAROITE

The standard SWIR lens for 2/3"

## Key Features:

- 2/3" (11 mm) max. Sensor size
- Focal length: 23 mm
- Initial aperture: F1.4
- C-Mount
- SWIR (800–1800 nm) optimized

## Typical applications:

- Solar cell inspection
- Food sorting
- Agriculture observation
- Geology analysis

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
CHAROITE 1.4/23 C	1.4–11	23	C	2/3" (11 mm)	standard	34 x 40.6	95	M30.5 x 0.5	1063163	Download 

# CUPRITE

## The benchmark for SWIR

### Key Features:

- 25mm max. Sensor size
- Focal length: 50mm
- Very high resolution down to 5µ pixel size
- Initial aperture: F2.8
- C-Mount and V48-Mount available
- SWIR (800–1800nm) optimized

### Typical applications:

- Solar cell inspection
- Food sorting
- Agriculture observation
- Geology analysis

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
CUPRITE 2.8/50 V48	2.8–16	50	V48	25.4mm	standard	55 x 60.4	297	M43 x 0.75	1087723	<a href="#">Download</a> ↓
CUPRITE 2.8/50 C	2.8–16	50	C	25.4mm	standard	56 x 69.8	418	M43 x 0.75	1088501	<a href="#">Download</a> ↓

# CRYOLITE


## The flexible SWIR solution

### Key Features:

- 43.2mm max. Sensor size
- Focal length: 40mm
- Initial aperture: F2.8
- Compatible to the V38-Mount System
- SWIR (800–1800nm) optimized

### Typical applications:

- Solar cell inspection
- Food sorting
- Agriculture observation
- Geology analysis

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
CRYOLITE 2.8/40 V38	2.8–16	40	V38	43.2mm	standard	47 x 38.9	108	M37 x 0.75	1063164	Download 

# THULITE

High performance for sensors up to 2"

## Key Features:

- 2" (32mm) max. Sensor size
- 3 focal lengths: 35mm, 50mm, 75mm
- Very high resolution down to 2.4μ pixel size
- Initial aperture: F2.8
- M42 and TFL-Mount available
- Covering a wide working distance range

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Robotic Vision



Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
THULITE 2.8/35 M42X0.75	2.8	35	M42x0.75	2" (32mm)	standard	56 x 41.6	209	M43 x 0.75	1101847	<a href="#">Download</a> ↓
THULITE 2.8/35 M42X1	2.8	35	M42x1	2" (32mm)	standard	56 x 41.6	209	M43 x 0.75	1101848	<a href="#">Download</a> ↓
THULITE 2.8/35 TFL	2.8	35	TFL	2" (32mm)	standard	56 x 41.3	211	M43 x 0.75	1101846	<a href="#">Download</a> ↓
THULITE 2.8/50 M42X0.75-LD	2.8	50	M42x0.75	2" (32mm)	standard	56 x 62	345	M43 x 0.75	1101279	<a href="#">Download</a> ↓
THULITE 2.8/50 M42X0.75-SD	2.8	50	M42x0.75	2" (32mm)	standard	56 x 61.8	345	M43 x 0.75	1101280	<a href="#">Download</a> ↓
THULITE 2.8/50 M42X1-LD	2.8	50	M42x1	2" (32mm)	standard	56 x 62	345	M43 x 0.75	1101281	<a href="#">Download</a> ↓
THULITE 2.8/50 M42X1-SD	2.8	50	M42x1	2" (32mm)	standard	56 x 61.8	345	M43 x 0.75	1101282	<a href="#">Download</a> ↓
THULITE 2.8/50 TFL-LD	2.8	50	TFL	2" (32mm)	standard	56 x 64.5	358	M43 x 0.75	1101276	<a href="#">Download</a> ↓
THULITE 2.8/50 TFL-SD	2.8	50	TFL	2" (32mm)	standard	56 x 64.3	358	M43 x 0.75	1101277	<a href="#">Download</a> ↓
THULITE 2.8/75 M42X0.75-LD	2.8	75	M42x0.75	2" (32mm)	standard	56 x 85	430	M46 x 0.75	1101707	<a href="#">Download</a> ↓
THULITE 2.8/75 M42X0.75-SD	2.8	75	M42x0.75	2" (32mm)	standard	56 x 84.7	430	M46 x 0.75	1101708	<a href="#">Download</a> ↓
THULITE 2.8/75 M42X1-LD	2.8	75	M42x1	2" (32mm)	standard	56 x 85	430	M46 x 0.75	1101709	<a href="#">Download</a> ↓
THULITE 2.8/75 M42X1-SD	2.8	75	M42x1	2" (32mm)	standard	56 x 84.7	430	M46 x 0.75	1101710	<a href="#">Download</a> ↓
THULITE 2.8/75 TFL-LD	2.8	75	TFL	2" (32mm)	standard	56 x 87.5	443	M46 x 0.75	1101705	<a href="#">Download</a> ↓
THULITE 2.8/75 TFL-SD	2.8	75	TFL	2" (32mm)	standard	56 x 87.1	443	M46 x 0.75	1101706	<a href="#">Download</a> ↓



# EMERALD
















The standard for large sensors

## Key Features:

- Image circle: 43.2mm – 90mm
- 5 focal lengths: 28mm – 135mm
- Initial apertures: F2.2 – F5.6
- F-Mount and V48-Mount available
- Covering a wide working distance range

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- Web inspection
- Factory automation

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
EMERALD 2.8/28 F-SD	2.8–22	28	F	43.2mm	standard	65 x 99.1	517	M62 x 0.75	1071609	<a href="#">Download</a> 
EMERALD 2.8/28 V48-SD	2.8–22	28	V48	43.2mm	standard	65 x 99.1	523	M62 x 0.75	1071611	<a href="#">Download</a> 
EMERALD 2.8/28 F-LD	2.8–22	28	F	43.2mm	standard	65 x 98.7	510	M62 x 0.75	1071606	<a href="#">Download</a> 
EMERALD 2.8/28 V48-LD	2.8–22	28	V48	43.2mm	standard	65 x 98.7	522	M62 x 0.75	1071610	<a href="#">Download</a> 
EMERALD 2.2/50 F	2.2–16	50	F	43.2mm	standard	59.6 x 43.2	196	M43 x 0.75	1062672	<a href="#">Download</a> 
EMERALD 2.2/50 V48	2.2–16	50	V48	43.2mm	standard	55 x 43.2	202	M43 x 0.75	1070074	<a href="#">Download</a> 
EMERALD 4.0/60 F	4.0–16	60	F	62.5mm	standard	59.6 x 43.2	262	M43 x 0.75	1085115	<a href="#">Download</a> 
EMERALD 4.0/60 V48	4.0–16	60	V48	62.5mm	standard	55 x 43.2	197	M43 x 0.75	1086887	<a href="#">Download</a> 
EMERALD 4.0/80 F	4.0–16	80	F	43.2mm	standard	59.6 x 62.6	439	M43 x 0.75	1085723	<a href="#">Download</a> 
EMERALD 4.0/80 V48	4.0–16	80	V48	82mm	standard	55 x 43.2	204	M43 x 0.75	1086888	<a href="#">Download</a> 
EMERALD 2.8/100 F-SD	2.8–22	100	F	43.2mm	standard	60 x 98.2	441	M43 x 0.75	1064881	<a href="#">Download</a> 
EMERALD 2.8/100 V48-SD	2.8–22	100	V48	43.2mm	standard	55 x 68.4	317	M43 x 0.75	1070119	<a href="#">Download</a> 
EMERALD 2.9/100 F-LD	2.9–22	100	F	43.2mm	standard	60 x 101	442	M43 x 0.75	1070506	<a href="#">Download</a> 
EMERALD 2.9/100 V48-LD	2.9–22	100	V48	43.2mm	standard	55 x 68.4	318	M43 x 0.75	1073834	<a href="#">Download</a> 
EMERALD 5.6/135 V48	5.6–22	135	V48	90mm	standard	55 x 63	t.b.d.	M49 x 0.75	1104199	<a href="#">Download</a> 

# PYRITE

The universal lens solution – Image circle 30mm–100mm

## Key Features:

- 11 focal lengths: 28mm – 120mm
- Initial apertures: F2.8 – F5.6
- Lenses for specific magnifications available
- V38-Mount, compatible to the V38 mounting system
- Very low distortion and high resolution
- Covering a wide working distance range
- Small and compact design

## Typical applications:

- Machine Vision
- AOI (Automated Optical Inspection)
- FPD/PCB inspection
- Logistics

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
PYRITE 2.8/28 V38	2.8–16	28	V38	30	standard	46 x 33.9	99	M37 x 0.75	1097781	<a href="#">Download</a> ↓
PYRITE 2.8/35 V38	2.8–22	35	V38	30	standard	46 x 36.5	108	M37 x 0.75	1097782	<a href="#">Download</a> ↓
PYRITE 2.8/40 V38	2.8–22	40	V38	43.2	standard	46 x 39	102	M37 x 0.75	1097232	<a href="#">Download</a> ↓
PYRITE 4.0/45 V38	4.0–32	45	V38	43.2	standard	46 x 36.5	94	M37 x 0.75	1097783	<a href="#">Download</a> ↓
PYRITE 2.8/50 V38	2.8–32	50	V38	43.2	standard	46 x 39.3	107	M37 x 0.75	1097301	<a href="#">Download</a> ↓
PYRITE 4.0/60 V38	4.0–32	60	V38	62.5	standard	46 x 41.8	114	M37 x 0.75	1097302	<a href="#">Download</a> ↓
PYRITE 4.0/80 V38	4.0–45	80	V38	82	standard	46 x 42	109	M37 x 0.75	1097276	<a href="#">Download</a> ↓
PYRITE 5.6/80/1.0x V38	5.6–45	80	V38	100	standard	46 x 47	130	M37 x 0.75	1097785	<a href="#">Download</a> ↓
PYRITE 4.5/85/0.5x-2.0x V38	4.5–8	85	V38	62.5	standard	48.5 x 48	270	M37 x 0.75	1072517	<a href="#">Download</a> ↓
PYRITE 4.5/90 V38	4.5–64	90	V38	90	standard	46 x 48	134	M37 x 0.75	1097789	<a href="#">Download</a> ↓
PYRITE 4.5/90/0.3x V38	4.5–64	90	V38	90	standard	46 x 52	129	M40.5 x 0.5	1097784	<a href="#">Download</a> ↓
PYRITE 5.6/100 V38	5.6–64	100	V38	100	standard	46 x 40	174	M37 x 0.75	1097303	<a href="#">Download</a> ↓
PYRITE 5.6/120/1.0x V38	5.6–64	120	V38	90	standard	46 x 54.7	164	M40.5 x 0.5	1097277	<a href="#">Download</a> ↓
PYRITE 5.6/120/0.75x V38	5.6–64	120	V38	90	standard	46 x 54.7	164	M40.5 x 0.5	1097786	<a href="#">Download</a> ↓
PYRITE 5.6/120/0.5x V38	5.6–64	120	V38	90	standard	46 x 54.7	164	M40.5 x 0.5	1097787	<a href="#">Download</a> ↓
PYRITE 5.6/120/0.33x V38	5.6–64	120	V38	90	standard	46 x 54.7	164	M40.5 x 0.5	1097788	<a href="#">Download</a> ↓

# PYRITE – LIQUID FOCUS LENSES

The universal lens solution<sup>2</sup>

## Key Features:

- Focus tunable liquid lens included
- Large working distance range
- Fast focus within milliseconds
- Large image circle

## Typical applications:

- Machine Vision
- Package sorting/logistic
- Bar code reading
- Quality control



Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
PYRITE 4.0/60 C-LF	4.0–32	60	C	24	liquid lens focus	47** x 71	280	M37 x 0.75	1102613	Download <a href="#">↓</a>
PYRITE 4.0/60 TFL-LF	4.0–32	60	TFL	32	liquid lens focus	47** x 71	280	M37 x 0.75	1102615	Download <a href="#">↓</a>
PYRITE 4.0/80 C-LF	4.0–45	80	C	24	liquid lens focus	47** x 96	310	M37 x 0.75	1102609	Download <a href="#">↓</a>
PYRITE 4.0/80 TFL-LF	4.0–45	80	TFL	36	liquid lens focus	47** x 96	310	M37 x 0.75	1102611	Download <a href="#">↓</a>

\*\*Plus 23mm with connector of the liquid lens

# ZIRCONIA

The budget solution for high end line scan

## Key Features:

- Image circle: 62.5mm – 82mm
- High resolution down to 5µ pixel size
- 6 magnifications available: 0.1x – 2.0x
- Optimized for specific magnifications
- V48-Mount for easy installation
- Best azimuth marking
- Version with beamsplitter available

## Typical applications:

- FPD inspection
- PCB inspection
- High resolution defect detection
- Quality assurance

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
ZIRCONIA 0.01/0.1x V48	0.01	0.1x	V48	62.5mm	standard	55 x 63	246	M46 x 0.75	1101929	<a href="#">Download</a> ↓
ZIRCONIA 0.03/0.2x V48	0.03	0.2x	V48	62.5mm	standard	55 x 63	246	M46 x 0.75	1073622	<a href="#">Download</a> ↓
ZIRCONIA 0.05/0.5x V48	0.05	0.5x	V48	62.5mm	standard	55 x 64.4	250	M46 x 0.75	1076966	<a href="#">Download</a> ↓
ZIRCONIA 0.07/0.7x V48	0.07	0.7x	V48	62.5mm	standard	55 x 68.7	250	M46 x 0.75	1078947	<a href="#">Download</a> ↓
ZIRCONIA 0.09/1.0x V48	0.09	1.0x	V48	62.5mm	standard	55 x 65.1	250	M46 x 0.75	1078948	<a href="#">Download</a> ↓
ZIRCONIA XL 0.03/0.33x V48	0.03	0.33x	V48	82mm	standard	55 x 60.5	242	M46 x 0.75	1079651	<a href="#">Download</a> ↓
ZIRCONIA XL 0.10/2.0x V48	0.1	2.0x	V48	82mm	standard	55 x 63.7	250	M46 x 0.75	1078872	<a href="#">Download</a> ↓
ZIRCONIA XL 0.10/2.0x V48-BS	0.1	2.0x	V48	82mm	with beamsplitter	95 x 104.6	560	–	1078988	<a href="#">Download</a> ↓

# SAPPHIRE

The standard for 12k / 16k line scan

## Key Features:

- Image circle: 62.5mm – 82mm
- Extremely high resolution down to 3.5µ pixel size
- 11 magnifications available: 0.07x – 2.0x
- Optimized for specific magnifications
- V70-Mount for easy installation
- Version with Beamsplitter available
- Best azimuth marking

## Typical applications:

- FPD inspection
- PCB inspection
- High resolution defect detection
- AOI (Automated Optical Inspection)

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
SAPPHIRE 0.007/0.07x V70	0.007	0.07x	V70	62.5mm	standard	75 x 102.7	735	M52 x 0.75	1068013	<a href="#">Download</a> ↓
SAPPHIRE 0.02/0.23x V70	0.02	0.23x	V70	62.5mm	standard	75 x 98.2	700	M52 x 0.75	1071819	<a href="#">Download</a> ↓
SAPPHIRE 0.03/0.29x V70	0.03	0.29x	V70	62.5mm	standard	75 x 98.3	700	M52 x 0.75	1071818	<a href="#">Download</a> ↓
SAPPHIRE 0.04/0.35x V70	0.04	0.35x	V70	62.5mm	standard	75 x 97.5	830	M52 x 0.75	1068012	<a href="#">Download</a> ↓
SAPPHIRE 0.05/0.5x V70	0.05	0.5x	V70	62.5mm	standard	75 x 100.1	700	M52 x 0.75	1071189	<a href="#">Download</a> ↓
SAPPHIRE 0.06/0.7x V70	0.06	0.7x	V70	62.5mm	standard	75 x 98.3	810	M52 x 0.75	1071190	<a href="#">Download</a> ↓
SAPPHIRE 0.08/0.875x V70	0.08	0.875x	V70	62.5mm	standard	75 x 98.1	720	M52 x 0.75	1076452	<a href="#">Download</a> ↓
SAPPHIRE 0.09/1.143x V70	0.09	1.143x	V70	62.5mm	standard	75 x 150.8	750	M58 x 0.75	1076453	<a href="#">Download</a> ↓
SAPPHIRE 0.10/1.75x V70	0.1	1.75x	V70	62.5mm	standard	75 x 91.5	688	M40.5 x 0.5	1068014	<a href="#">Download</a> ↓
SAPPHIRE 0.10/1.75x V70-BS	0.1	1.75x	V70	62.5mm	with beamsplitter	95 x 122	935	–	1073347	<a href="#">Download</a> ↓
SAPPHIRE XL 0.09/1.43x V70	0.09	1.43x	V70	82mm	standard	75 x 149.8	840	M58 x 0.75	1076096	<a href="#">Download</a> ↓
SAPPHIRE XL 0.10/2.0x V70	0.1	2.0x	V70	82mm	standard	75 x 149	840	M58 x 0.75	1076451	<a href="#">Download</a> ↓

# DIAMOND









High magnification for 12k and 16k linescan applications

## Key Features:

- Image circle: 62.5 mm – 82 mm
- Extremely high resolution down to 3.5 $\mu$  pixel size
- 5 magnifications available: 2.6x – 5.2x
- Optimized for specific magnifications
- V-Mount for easy installation
- Best azimuth marking
- Versions with beamsplitter available

## Typical applications:

- FPD inspection
- PCB inspection
- Micro defect detection
- AOI (Automated Optical Inspection)

Name	Aperture	Focal length (mm)	Mount	Sensor size	Type	Size D x L (mm x mm)	Weight (g)	Filter thread	Code	Datasheet
DIAMOND 0.13/2.6x V70	0.13	2.6x	V70	62.5mm	on request	75 x 132.4	1140	M40.5 x 0.5	1078039	Download 
DIAMOND 0.12/2.6x V70-BS	0.12	2.6x	V70	62.5mm	with beamsplitter	95 x 157.5	1350	–	1076949	Download 
DIAMOND 0.17/3.5x V90	0.17	3.5x	V90	62.5mm	on request	95 x 174	2008	M40.5 x 0.5	1076963	Download 
DIAMOND 0.16/3.5x V90-BS	0.16	3.5x	V90	62.5mm	with beamsplitter	95 x 204.5	2260	–	1079718	Download 
DIAMOND 0.22/5.2x V70	0.22	5.2x	V70	62.5mm	on request	75 x 142	1030	M58 x 0.75	1079320	Download 
DIAMOND 0.22/5.2x V70-BS	0.22	5.2x	V70	62.5mm	with beamsplitter	95 x 168.1	1252	M58 x 0.75	1081873	Download 
DIAMOND XL 0.16/3.33x V90-BS	0.16	3.33x	V90	82mm	with beamsplitter	95 x 208.2	1900	–	1098892	Download 
DIAMOND XL 0.21/5.0x V70-BS	0.21	5.0x	V70	82mm	with beamsplitter	95 x 168.1	1170	M58 x 0.75	1099014	Download 

## Filters

Schneider-Kreuznach optical filters are high performance technical filters that have been adapted to the requirement of industrial users in research, engineering production. These filters feature improved optical quality, are provided with detailed technical parameters, and have passed a strict quality assurance process.

**24 BANDPASS**

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**27 LONGPASS**

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**20 COLOR**

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**25 NARROW BANDPASS**

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**28 NEUTRAL DENSITY**

---

**31 PROTECTION**

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**26 SHORTPASS**

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**29 POLARIZER**

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### Technical Terms

































Abbreviation	Meaning
BP	BANDPASS
NBP	NARROW BANDPASS
SP	SHORTPASS
LP	LONGPASS
ND	NEUTRAL DENSITY
IFK	Polarizing Film
AUF	Polarizer
HT	High Transmission
E	Single Layer Coated
MRC	Multi Resistant Coating

# BANDPASS

Transmits a defined wavelength range

## Key Features:

- Average transmission 95 %
- Steep slopes
- Wavelength tolerance +/- 1 nm
- Ultra low reflection
- Deep blocking / high OD

Color	Name	Status	Order name	Wavelength range, 50%–50% [nm]	Center wavelength [nm]	Bandwidth [nm]	Datasheet
	BP 465-70 HT	standard	BP 465-70 HT	430-500	465	70	<a href="#">Download</a> 
	BP 490 -180 HT	on request	BP 490 -180 HT	400-580	490	180	<a href="#">Download</a> 
	BP 515-270 HT	on request	BP 515-270 HT	380-650	515	270	<a href="#">Download</a> 
	BP 520-280 HT	on request	BP 520-280 HT	380-660	520	280	<a href="#">Download</a> 
	BP 540-80 HT	standard	BP 540-80 HT	495-580	540	80	<a href="#">Download</a> 
	BP 540-300 HT	standard	BP 540-300 HT	390-690	540	300	<a href="#">Download</a> 
	VIS-85 HT	on request	VIS-85 HT	420-640 / 830-870	530 / 850	220 / 40	<a href="#">Download</a> 
	BP 575-170 HT	standard	BP 575-170 HT	495-660	575	170	<a href="#">Download</a> 
	BP 590-50 HT	standard	BP 590-50 HT	565-615	590	50	<a href="#">Download</a> 
	BP 590-200 HT	on request	BP 590-200 HT	495-690	590	200	<a href="#">Download</a> 
	BP 635-50 HT	standard	BP 635-50 HT	610-660	635	50	<a href="#">Download</a> 
	BP 640-100 HT	on request	BP 640-100 HT	590-690	640	100	<a href="#">Download</a> 
	BP 660-60 HT	standard	BP 660-60 HT	630-690	660	60	<a href="#">Download</a> 
	BP 680-100 HT	on request	BP 680-100 HT	630-730	680	100	<a href="#">Download</a> 
	BP 850-80 HT	standard	BP 850-80 HT	810-890	850	80	<a href="#">Download</a> 
	BP 865-100 HT	standard	BP 865-100 HT	815-915	865	100	<a href="#">Download</a> 












# NARROW BANDPASS

Transmits a small defined wavelength range

## Key Features:

- Average transmission 90 %
- Steep slopes
- Wavelength tolerance +/- 3 nm
- Deep blocking / high OD









Color	Name	Status	Order name	Wavelength range, 50%–50% [nm]	Center wavelength [nm]	Bandwidth [nm]	Datasheet
	NBP 405-15 HT	on request	NBP 405-15 HT	398-412	405	15	<a href="#">Download</a> ↓
 <b>NEW</b>	NBP 450-40 HT	standard	NBP 450-40 HT	433-466	450	40	<a href="#">Download</a> ↓
	NBP 457-20 HT	on request	NBP 457-20 HT	447-467	457	10	<a href="#">Download</a> ↓
	NBP 488-20 HT	on request	NBP 488-20 HT	478-498	488	20	<a href="#">Download</a> ↓
	NBP 532-20 HT	on request	NBP 532-20 HT	522-542	532	20	<a href="#">Download</a> ↓
	NBP 635-20 HT	standard	NBP 635-20 HT	625-645	635	20	<a href="#">Download</a> ↓
	NBP 660-10 HT	standard	NBP 660-10 HT	655-665	660	10	<a href="#">Download</a> ↓
	NBP 810-45 HT	on request	NBP 810-45 HT	788-832	810	45	<a href="#">Download</a> ↓
	NBP 830-20 HT	on request	NBP 830-20 HT	820-840	830	20	<a href="#">Download</a> ↓

# SHORTPASS

Blocks longwave light down to the cut-off-wavelength

## Key Features:

- Average transmission 95 %
- Steep slopes
- Wavelength tolerance +/- 1 nm
- Ultra low reflection
- Deep blocking / high OD

Color	Name	Status	Order name	Cut-off wavelength, 50% [nm]	Type	Datasheet
	SP 460 HT	on request	SP 460 HT	460	interference	<a href="#">Download</a> ↓
	SP 515 HT	on request	SP 515 HT	515	interference	<a href="#">Download</a> ↓
	SP 615 HT	on request	SP 615 HT	615	interference	<a href="#">Download</a> ↓
	SP 700 (489)	standard	489 E	700	absorption	<a href="#">Download</a> ↓
	SP 730 HT	on request	SP 730 HT	730	interference	<a href="#">Download</a> ↓
	SP 760 HT	on request	SP 760 HT	760	interference	<a href="#">Download</a> ↓
	SP 790 HT	on request	SP 790 HT	790	interference	<a href="#">Download</a> ↓
	SP 850 HT	on request	SP 850 HT	850	interference	<a href="#">Download</a> ↓

# LONGPASS

Blocks shortwave light up to the cut-on-wavelength

## Key Features:

- Average transmission 95 %
- Steep slopes
- Wavelength tolerance +/- 1 nm
- Ultra low reflection
- Deep blocking/ high OD









Color	Name	Status	Order name	Cut-on wavelength, 50% [nm]	Type	Datasheet
	LP 365 (010)	standard	010 E	365	interference	<a href="#">Download</a> ↓
	LP 400 HT	on request	LP 400 HT	400	interference	<a href="#">Download</a> ↓
	LP 430 HT	standard	LP 430 HT	430	interference	<a href="#">Download</a> ↓
	LP 460 HT	on request	LP 460 HT	460	interference	<a href="#">Download</a> ↓
	LP 495 HT	on request	LP 495 HT	495	interference	<a href="#">Download</a> ↓
	LP 515 HT	on request	LP 515 HT	515	interference	<a href="#">Download</a> ↓
	LP 530 HT	on request	LP 530 HT	530	interference	<a href="#">Download</a> ↓
	LP 565 HT	on request	LP 565 HT	565	interference	<a href="#">Download</a> ↓
	LP 590 HT	on request	LP 590 HT	590	interference	<a href="#">Download</a> ↓
	LP 600 (090)	standard	LP 090 E	600	absorption	<a href="#">Download</a> ↓
	LP 610 HT	on request	LP 610 HT	610	interference	<a href="#">Download</a> ↓
	LP 625 (091)	standard	091 E	625	absorption	<a href="#">Download</a> ↓
	LP 630 HT	on request	LP 630 HT	630	interference	<a href="#">Download</a> ↓
	LP 695 (092)	standard	092	695	absorption	<a href="#">Download</a> ↓
	LP 695 HT	on request	LP 695 HT	695	interference	<a href="#">Download</a> ↓
	LP 725 HT	on request	LP 725 HT	725	interference	<a href="#">Download</a> ↓
	LP 765 HT	standard	LP 765 HT	765	interference	<a href="#">Download</a> ↓
	LP 775 (098)	standard	098	775	absorption	<a href="#">Download</a> ↓
	LP 780 HT	on request	LP 780 HT	780	interference	<a href="#">Download</a> ↓
	LP 820 HT	standard	LP 820 HT	820	interference	<a href="#">Download</a> ↓
	LP 825 (093)	standard	093	825	absorption	<a href="#">Download</a> ↓
	LP 850 HT	on request	LP 850 HT	850	interference	<a href="#">Download</a> ↓
	LP 900 HT	standard	LP 900 HT	900	interference	<a href="#">Download</a> ↓

# NEUTRAL DENSITY

Reduces brightness without effecting the colors

## Key Features:

- Insensitive to angle of incidence
- Decreases brightness without changing depth of field
- Stackable, combine ND filters to achieve OD needed
- Even attenuation avoids effects on color balance









Color	Neutral Density	Status	Order name	Optical density	Transmission average [%]	Bandwidth [nm]	Datasheet
	ND 0.6	standard	802	0.6	25.0	/	Download 
	ND 0.9	standard	803	0.9	12.5	/	Download 
	ND 1.8	standard	806	1.8	1.6	/	Download 
	ND 3.0	standard	810	3.0	0.15	/	Download 

# POLARIZER

Reduces reflections and increases contrast

## Key Features:

- Reduces reflections, increases contrast
- High extinction ratio
- Pre-cut custom shapes for polarizing films on request











Color	Name	Status	Order name	Transmission [%]	Extinction ratio	Thickness [mm]	Wavelength range [nm]	Datasheet
	Linear Polarizing Glass	standard	AUF	34	>10,000:1	2.7	420-750	Download 
	Linear Polarizing Glass	standard	AUF MRC	34	>10,000:1	2.7	420-750	Download 
	Linear Polarizing Film	standard	IFK P-W 76 0.3	30	>10,000:1	0.3	430-780	Download 
	Linear Polarizing Film	standard	IFK P-W 64 0.4	30	>40,000:1	0.4	430-780	Download 

# COLOR

## Absorbs unwanted wavelengths

### Key Features:

- AR coating available
- Insensitive to angle of incidence
- Large CA, absence of vignetting
- Improves contrast
- Isolates colors













Color	Name	Status	Order name	Cut-on wavelength [nm]	Color	Filter type	Wavelength range [nm]	Datasheet
	LP 600 (090)	standard	090 E	600	Light Red	Longpass	420-750	Download 
	LP 625 (091)	standard	091 E	625	Red	Longpass	420-750	Download 
	LP 695 (092)	standard	092	695	Red	Longpass	430-780	Download 
	LP 775 (098)	standard	098	775	IR Pass	Longpass	430-780	Download 
	LP 825 (093)	standard	093	825	IR Pass	Longpass	430-780	Download 

# PROTECTION

Blocks unwanted Wavelengths and protects lens and sensor against dirt and external influences

## Key Features:

- High transmission
- Low reflection
- Cost effective protection of sensible units
- High reproducibility

Color	Name	Status	Order name	Description	Color	Filter type	Wavelength range [nm]	Datasheet
	LP 365 (010)	standard	010 E	UV-Cut	Neutral	Longpass	420-750	Download 
	BP 540-300 HT	standard	BP 540-300 HT	UV/IR-Cut	Neutral	Bandpass	420-750	Download 
	SP 700 (489)	standard	489 E	IR-Cut	Neutral	Shortpass	430-780	Download 
	BP 515-270 HT	on request	BP 515-270 HT	UV/IR-Cut	Neutral	Bandpass	430-780	Download 
	BP 520-280 HT	on request	BP 520-280 HT	UV/IR-Cut	Neutral	Bandpass	430-780	Download 
	VIS-85 HT	on request	VIS-85 HT	VIS + BP 850	Neutral	Bandpass	420-640nm / 830-870 nm	Download 

## Accessories

Build up the ideal optical system for your individual application.

**33 UNIFOC**

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**35 FILTER HOLDERS**

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**37 OTHERS**

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**34 EXTENSION TUBES**

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**36 ADAPTERS**

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# UNIFOC

## The external focusing device

### Key Features:

- Easy handling
- Ideal for industrial applications
- High stability
- Combinable with other accessories















































Name	ID	Length [mm]	Mount	Drawing
UNIFOC 5 V38/C 19.2-24.2mm	1011634	19.2-24.2	V38 / C	<a href="#">Download</a> ↓
UNIFOC 7 V38/V38 20-27 mm	1001041	20-27	V38 / V38	<a href="#">Download</a> ↓
UNIFOC 7 V38/M58x0.75 20-27 mm	1054532	20-27	V38 / M58x0.75	<a href="#">Download</a> ↓
UNIFOC 12 V38/V38 17.4-29.4mm	11726	17.4-29.4	V38 / V38	<a href="#">Download</a> ↓
UNIFOC 22 V48/V70 15.6-37.6mm	1075304	15.6-37.6	V48 / V70	<a href="#">Download</a> ↓
UNIFOC 25 L/M42x0.75 18.8-44.5 mm	39549	18.8-44.5	Leica / T2	<a href="#">Download</a> ↓
UNIFOC 25 L/M58x0.75 18.8-44.5 mm	13048	18.8-44.5	Leica / M58x0.75	<a href="#">Download</a> ↓

# EXTENSION TUBES

The tool to adapt the magnification

## Key Features:

- Easy handling
- Ideal for industrial applications
- High stability
- Combinable with other accessories

Name	ID	Length [mm]	Mount	Drawing
EXTENSION TUBE C/C 5mm	39316	5	C / C	Download 
 EXTENSION TUBE C/C 7 mm	1105140	7	C / C	Download 
EXTENSION TUBE C/C 8mm	39315	8	C / C	Download 
EXTENSION TUBE C/C 10mm	39312	10	C / C	Download 
 EXTENSION TUBE TFL/TFL 5mm	1105130	5	TFL / TFL	Download 
 EXTENSION TUBE TFL/TFL 7 mm	1105131	7	TFL / TFL	Download 
 EXTENSION TUBE TFL/TFL 8mm	1105132	8	TFL / TFL	Download 
 EXTENSION TUBE TFL/TFL 10mm	1105133	10	TFL / TFL	Download 
EXTENSION TUBE V38/V38 6mm	20176	6	V38 / V38	Download 
EXTENSION TUBE V38/V38 8mm	20177	8	V38 / V38	Download 
EXTENSION TUBE V38/V38 10mm	20178	10	V38 / V38	Download 
EXTENSION TUBE V38/V38 25mm	20179	25	V38 / V38	Download 
EXTENSION TUBE V38/V38 50mm	20154	50	V38 / V38	Download 
EXTENSION TUBE V38/V38 75mm	20155	75	V38 / V38	Download 
 EXTENSION TUBE M42x0.75/M42x0.75 5mm	1105879	5	M42x0.75 / M42x0.75	Download 
 EXTENSION TUBE M42x0.75/M42x0.75 10mm	1105880	10	M42x0.75 / M42x0.75	Download 
EXTENSION TUBE M42x0.75/M42x0.75 25mm	41643	25	M42x0.75 / M42x0.75	Download 
 EXTENSION TUBE M42x1/M42x1 5mm	1105877	5	M42x1 / M42x1	Download 
 EXTENSION TUBE M42x1/M42x1 10mm	1105878	10	M42x1 / M42x1	Download 
EXTENSION TUBE V48/V48 10mm	1072661	10	V48 / V48	Download 
EXTENSION TUBE V48/V48 25mm	1072651	25	V48 / V48	Download 
EXTENSION TUBE V48/V48 50mm	1072662	50	V48 / V48	Download 
EXTENSION TUBE M58x0.75/M58x0.75 10mm	13051	10	M58x0.75	Download 
EXTENSION TUBE M58x0.75/M58x0.75 25mm	13050	25	M58x0.75	Download 
EXTENSION TUBE M72x0.75/M72x0.75 5mm	1072420	5	M72x0.75 / M72x0.75	Download 
EXTENSION TUBE M72x0.75/M72x0.75 10mm	1072421	10	M72x0.75 / M72x0.75	Download 
EXTENSION TUBE M72x0.75/M72x0.75 25mm	26406	25	M72x0.75 / M72x0.75	Download 
EXTENSION TUBE M72x0.75/M72x0.75 50mm	1054733	50	M72x0.75 / M72x0.75	Download 
EXTENSION TUBE M72x0.75/M72x0.75 100mm	1079483	100	M72x0.75 / M72x0.75	Download 
EXTENSION TUBE M90x1/M90x1 10mm	1084875	10	M90x1 / M90x1	Download 
EXTENSION TUBE M90x1/M90x1 25mm	1084876	25	M90x1 / M90x1	Download 
EXTENSION TUBE M90x1/M90x1 50mm	1084877	50	M90x1 / M90x1	Download 
EXTENSION TUBE M90x1/M90x1 100mm	1084878	100	M90x1 / M90x1	Download 
EXTENSION TUBE M95x1/M95x1 10mm	1077290	10	M95x1 / M95x1	Download 
EXTENSION TUBE M95x1/M95x1 25mm	1062892	25	M95x1 / M95x1	Download 
EXTENSION TUBE M95x1/M95x1 50mm	1062893	50	M95x1 / M95x1	Download 
EXTENSION TUBE M95x1/M95x1 100mm	1062894	100	M95x1 / M95x1	Download 

# FILTER HOLDERS

For lenses without integrated filter thread

## Key Features:

- Easy handling
- Ideal for industrial applications
- High stability
- Combineable with other accessories

Name	ID	Length [mm]	Mount	Drawing
FILTER HOLDER M49x0.75/39 3.5mm	1086400	3.5	M49x0.75 / 39	<a href="#">Download</a> ↓
FILTER HOLDER M62x0.75/37 4.5mm	14604	4.3	M62x0.75 / 37	<a href="#">Download</a> ↓
FILTER HOLDER M62x0.75/50 3.8mm	1099613	3.8	M62x0.75 / 50	<a href="#">Download</a> ↓
FILTER HOLDER M82x0.75/55 4.8mm	1078041	4.8	M82x0.75 / 55	<a href="#">Download</a> ↓

# ADAPTERS

The tool to adapt the lens to any camera

## Key Features:

- Easy handling
- Ideal for industrial applications
- High stability
- Combineable with other accessories

Name	ID	Length [mm]	Mount	Drawing
ADAPTER C/CS 5mm	25081	5	C / CS	Download <a href="#">↓</a>
ADAPTER C/M42x1 5.5mm	1075817	5.5	C / M42x1	Download <a href="#">↓</a>
ADAPTER TFL/M42x1 5.5mm	1104101	5.5	TFL / M42x1	Download <a href="#">↓</a>
ADAPTER V38/C 6.5mm	20052	6.5	V38 / C	Download <a href="#">↓</a>
ADAPTER V38/TFL 6.5mm	1098491	6.5	V38 / TFL	Download <a href="#">↓</a>
ADAPTER V38/L 6.5mm	20054	6.5	V38 / Leica	Download <a href="#">↓</a>
ADAPTER V38/M42x0.75 6.5mm	20053	6.5	V38 / M42x0.75	Download <a href="#">↓</a>
ADAPTER V38/M42x1 6.5mm	20059	6.5	V38 / M42x1	Download <a href="#">↓</a>
ADAPTER V38/M42x1 35mm	1001692	35	V38 / M42x1	Download <a href="#">↓</a>
ADAPTER V38/M58x0.75 10mm	1018385	10	V38 / M58x0.75	Download <a href="#">↓</a>
ADAPTER V38/F 9.3mm	21610	9.3	V38 / F	/
ADAPTER M42x0.75/C 5.5mm	41629	5.5	T2 / C	Download <a href="#">↓</a>
ADAPTER M42x0.75/F	21591	10	T2 / F	/
ADAPTER M42x0.75/M42x1 9.5mm	21592	9.5	T2 / M42x1	Download <a href="#">↓</a>
ADAPTER V48/C 8.5mm	1072650	8.5	V48 / C	Download <a href="#">↓</a>
ADAPTER V48/TFL 8.5mm	1098492	8.5	V48 / TFL	Download <a href="#">↓</a>
ADAPTER V48/M42x0.75 8.5mm	1072652	8.5	V48 / M42x0.75	Download <a href="#">↓</a>
ADAPTER V48/M42x1 8.5mm	1072660	8.5	V48 / M42x1	Download <a href="#">↓</a>
ADAPTER V48/M58x0.75 10mm	1072659	10	V48 / M58x0.75	Download <a href="#">↓</a>
ADAPTER M50x0.75/L 31.5mm	17231	31.5	M50x0.75 / Leica	Download <a href="#">↓</a>
ADAPTER M58x0.75/M72x0.75 2mm	13052	2	M58 / M72x0.75	Download <a href="#">↓</a>
ADAPTER M58x0.75/M95x1 4mm	1062891	4	M58 / M95x1	Download <a href="#">↓</a>
ADAPTER M58x0.75/M90x1 4mm	1084880	4	M58x0.75 / M90x1.0	Download <a href="#">↓</a>
ADAPTER V70/M72x0.75 10mm	1072419	10	V70 / M72x0.75	Download <a href="#">↓</a>
ADAPTER M72x0.75/M42x1 6mm	1079515	6	M72x0.75 / M42x1.0	Download <a href="#">↓</a>
ADAPTER M72x0.75/M58x0.75 6mm	1075556	6	M72x0.75 / M58x0.75	Download <a href="#">↓</a>
ADAPTER M72x0.75/M90x1 4mm	1084879	4	M72x0.75 / M90x1	Download <a href="#">↓</a>
ADAPTER M72x0.75/M95x1 4mm	1077013	4	M72x0.75 / M95x1	Download <a href="#">↓</a>
ADAPTER V90/M95x1 10mm	1077293	10	V90 / M95x1	Download <a href="#">↓</a>
ADAPTER M95x1/M72x0.75 6.6mm	1077295	6.6	M95x1 / M72x0.75	Download <a href="#">↓</a>
ADAPTER M95x1/M90x1 6.6mm	1084889	6.6	M95x1 / M90x1	Download <a href="#">↓</a>
ADAPTER V38/M37x0.75 3.5mm	1100587	19.5	V38 / M37x0.75	Download <a href="#">↓</a>
ADAPTER V38/M40.5x0.5 3.5mm	1100588	23.5	V38 / M40.5x0.5	Download <a href="#">↓</a>

## OTHERS

Name	ID	Description	Drawing
TELECENTRIC CLAMP	36378	Robust mounting clamp for telecentric lenses	<a href="#">Download</a> ↓
V38 ASSEMBLY KIT	20042	Spare screws and Allen key	/

## Customized Solutions

Like no other manufacturer Schneider-Kreuznach understand the exact requirements that optical components for industrial applications have to meet. We know that precision, quality and reliability form the basis for long-term solutions.

Whether standard industrial optics or custom-made solutions – we guarantee the absolute precision and uniformity of our products. Mature designs and already legendary optical expertise ensure tailored solutions which combine mechanical robustness, reliability, and maximum precision in reproduction.

It works thanks to our decades of experience with extremely tight tolerances. We even go so far as to develop and produce our own production and measuring systems when there are no such accurate devices on the market.

### Complete vertical integration

- Production of optics
- Coatings
- Production of mechanics
- Clean room assembly
- Quality assurance



### We offer

Full service: From planning to development to series production

Customized lenses

Mechanical and optical adaptations on our standard lenses

Customized filters

Special coatings for filters or lenses

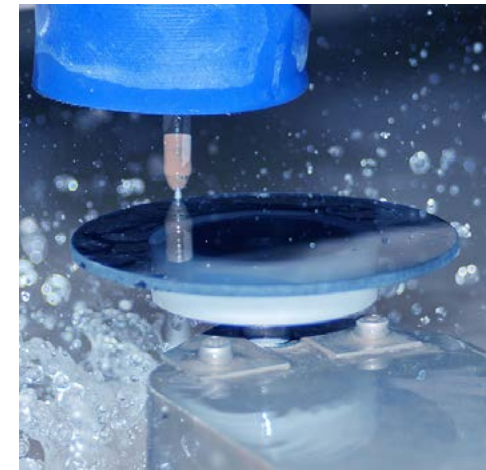
Lenses with integrated filters

Optical Filters in special sizes and outlines

Mechanics

Optical components as cylindrical lenses

Pre-cuts



### Precise pre-cuts with Micro Water-Jet

Micro water-jet cutting is a non-thermal cutting process. It provides the finest cut surfaces that are not affected by heat. With our micro water-jet cutter almost all shapes of filters can be cut according to your specification.

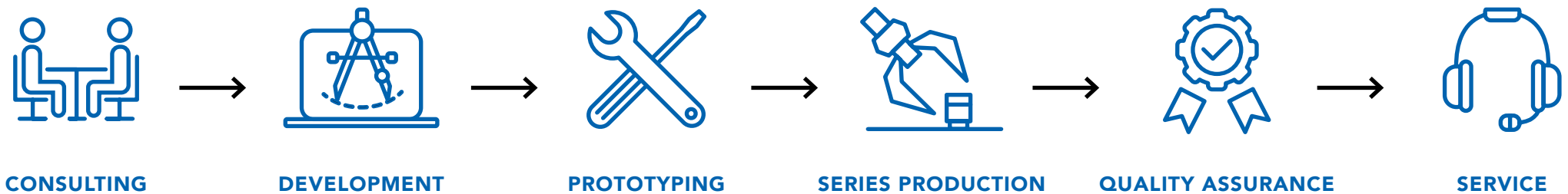
### High precision cylindric lens elements

A cylindric lens element is an optical element with at least one cylindrically shaped surface. Cylindric lens elements are used in optical metrology and laser scanning but also in cinematographic lenses for wide screen imaging and projection.

## We create solutions for our customers

Beyond our standard range of lenses, optical filters and systems, some projects require customized products. Having development and production on site enables us to serve our customers with the best solution for their most challenging projects. From customized adaptations of our standard products up to the full development of imaging solutions, we collaborate closely with the customer. We design and produce the optics according to your requirements.

## The customized Solution Process



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Jos. Schneider Optische Werke GmbH  
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further notice.

Version 04/May 2023



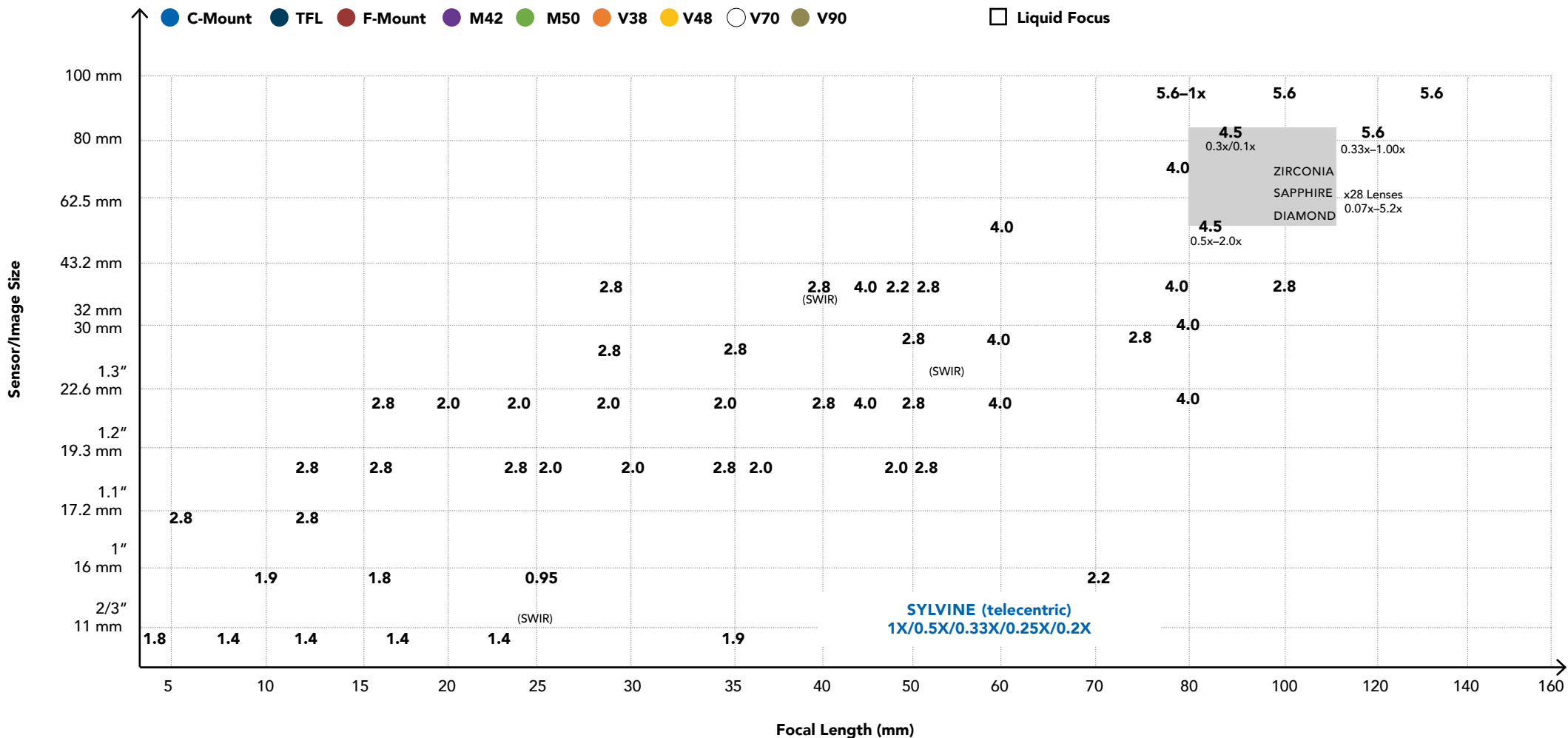
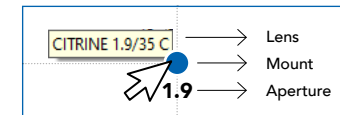
[www.schneiderkreuznach.com](http://www.schneiderkreuznach.com)



# Appendix

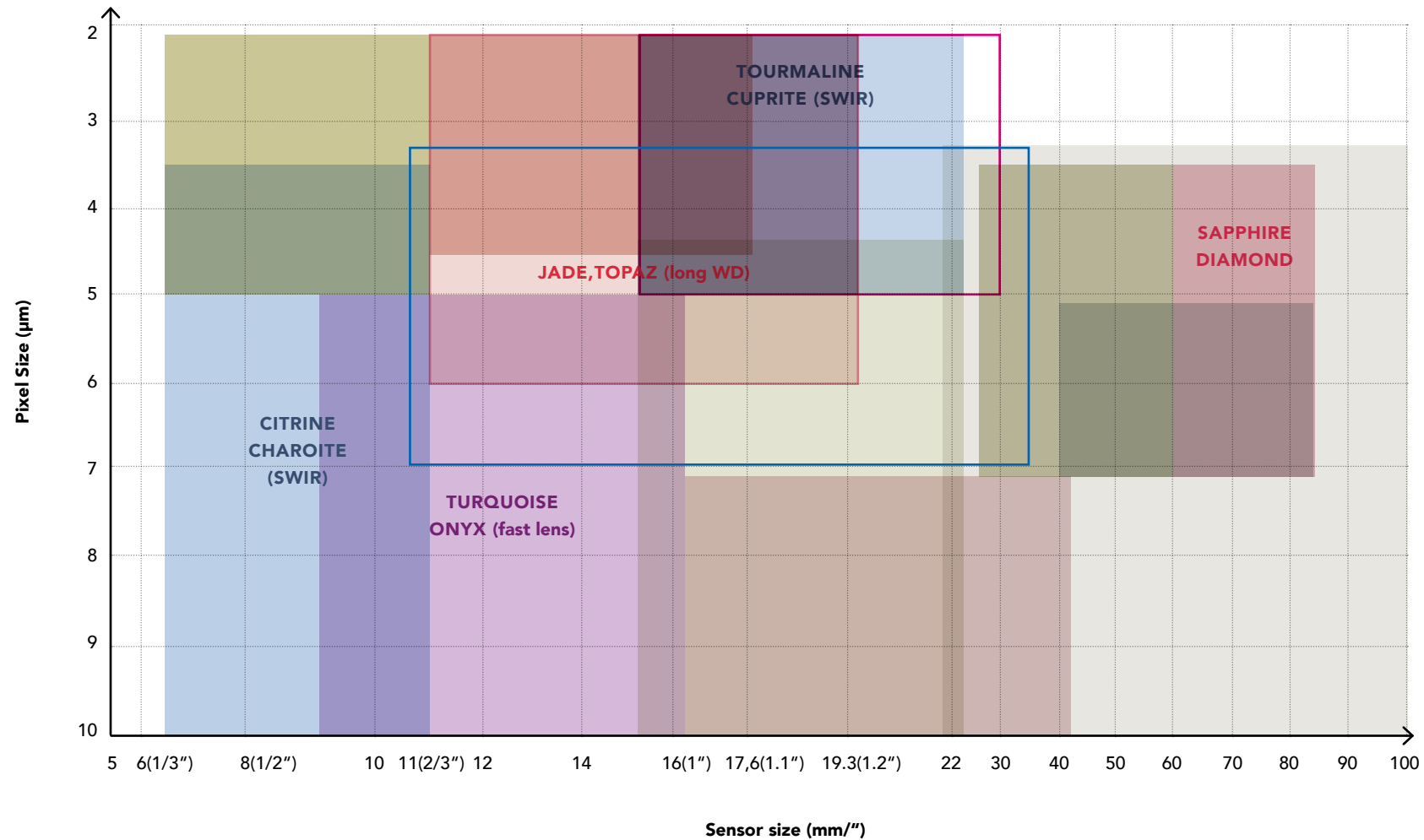
# Lens Chart

Ratio of image size an focal length.



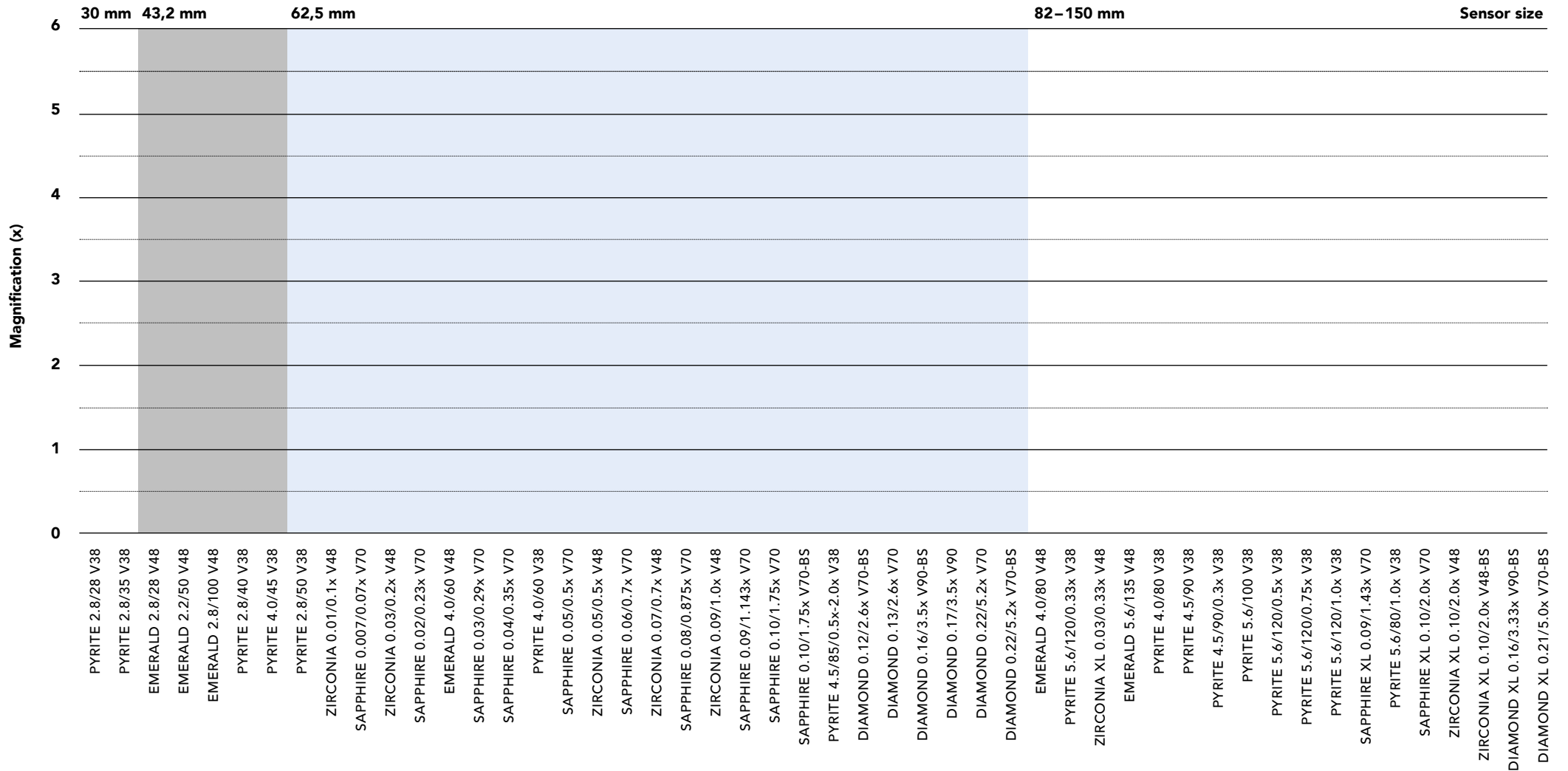
# Resolution vs. sensor sizes

Suitability of the lens families in terms of sensor and pixel size.



# Magnification vs. Image size

Magnification range of the large format lenses.



AQUAMARINE

TOPAZ

TOURMALINE

TURQUOISE

CITRINE

OPAL

JADE

PYRITE

PYRITE – LIQUID FOCUS

ONYX

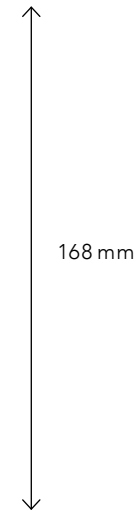
## Size comparison

Please note: the average values are used for the lenses shown, individual models may be larger or smaller.

CHAROITE

CRYOLITE

CUPRITE



THULITE

EMERALD

ZIRCONIA

SAPPHIRE

DIAMOND

SYLVINE