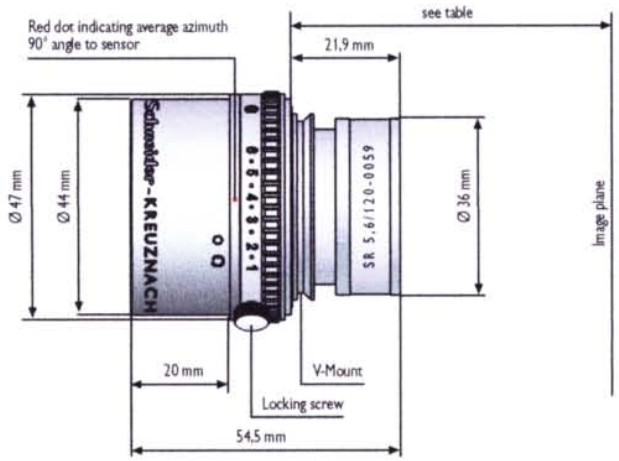
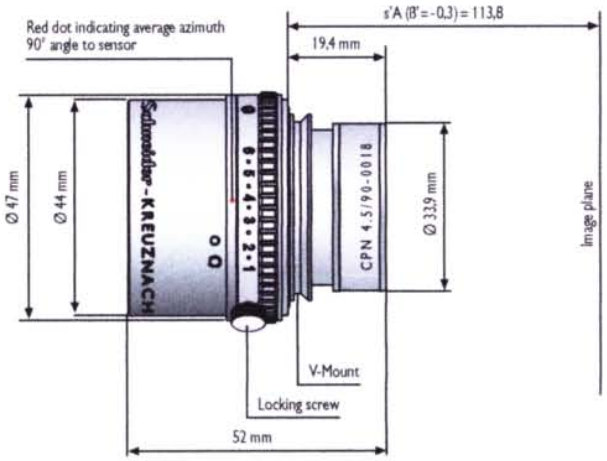
Lens data

Schneider KREUZNACH

Makro-Symmar 5.6/120



Apo-Componon 4.5/90



Lens data

	Focal length	Max aperture	Sensor pixel size nominal	Image circle	Nominal magnification	Magnification range	Distortion typical	Code No.
CPN 4.5/90-0018	90 mm	F 4.5	9 µm / 5 µm	90 mm / 62 mm	0.3 X	0.20 X - 0.40 X	0.2 %	1004531
SR 5.6/120-0058	120 mm	F 5.9	7 µm / 5 µm	90 mm / 62 mm	1 X	0.88 X - 1.13 X	0.1 %	1002647
SR 5.6/120-0059	120 mm	F 5.9	7 µm / 5 µm	90 mm / 62 mm	0.75 X	0.63 X - 0.88 X	0.1 %	1002648
SR 5.6/120-0060	120 mm	F 5.9	7 µm / 5 µm	90 mm / 62 mm	0.5 X	0.38 X - 0.63 X	0.1 %	1002650
SR 5.6/120-0061	120 mm	F 5.9	7 µm / 5 µm	90 mm / 62 mm	0.33 X	0.26 X - 0.38 X	0.1 %	1004611

Lens	Mount type	Working distance (at nom. mag.)	Object-to-image distance	Flange-to-image distance	Filter thread	Weight
CPN 4.5/90-0018	V-mount	362 mm	508 mm	114 mm	M 40.5 x 0.5	140 g
SR 5.6/120-0058	V-mount	212 mm	481 mm	236 mm	M 40.5 x 0.5	170 g
SR 5.6/120-0059	V-mount	252 mm	490 mm	205 mm	M 40.5 x 0.5	170 g
SR 5.6/120-0060	V-mount	333 mm	539 mm	174 mm	M 40.5 x 0.5	170 g
SR 5.6/120-0061	V-mount	453 mm	638 mm	153 mm	M 40.5 x 0.5	170 g

クロニクス株式会社

〒163-0913　東京都新宿区西新宿2-3-1新宿モノリス13階D

TEL: 03-5322-7191 / FAX: 03-5322-7790

E-mail: sales@chronix.co.jp

URL: www.chronix.co.jp

Lenses for line scan applications

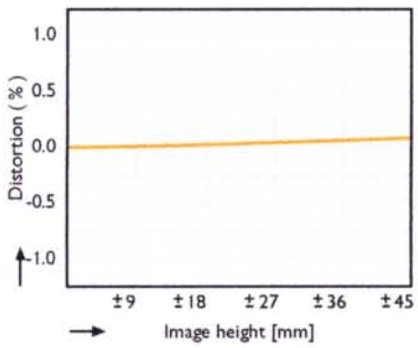
シュナイダー社
高解像度ラインスキャンレンズ

The line scan image capture method is useful and efficient for many web and other surface inspection applications. When choosing an appropriate camera, correct lens selection is vital to achieve the desired system performance. The size of the linear array sensor in the camera determines the minimum required image circle of the lens and the size of the sensor's pixels determines a particular optical imaging resolution. The desired object resolution defines the necessary magnification ratio for the optical system. These application specific parameters allow you to choose the most suitable lens to meet all requirements with respect to image size and quality.

Today's high-performance lenses must follow the technology trend toward smaller pixel sizes and increased sensor resolution. This typically results in larger array sizes and more stringent requirements concerning MTF (Modulation Transfer Function).

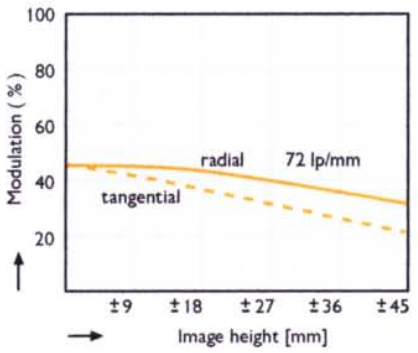
Makro-Symmar lenses are designed for industrial machine vision applications and satisfy even the most stringent requirements of next generation 12k line scan applications. Four different versions of Makro-Symmar lenses and one Apo-Compnon lens cover a magnification ratio range from 0.2X to 2.0X by using the lens either in standard or retro position. An extension tube together with a special helical mount is used to adjust the focus precisely. Focus as well as iris adjustment are lockable to ensure system stability even in the presence of vibration. A tilt alignment tool can be used to adjust the sensor's orientation with respect to the optical axis of the lens. The V-mount interface allows alignment of the lens for the best average azimuth position with respect to the linear array.

Distortion
(SR 5.6/120)



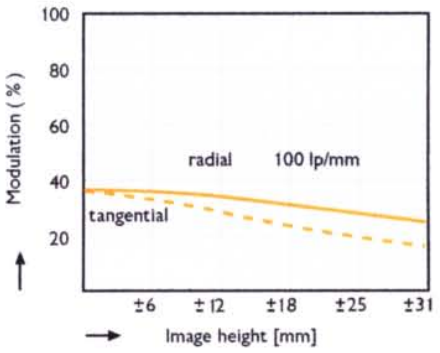
Distortion over the image height.

Modulation Transfer Function
(SR 5.6/120)



The MTF shows the contrast over the image height for a test pattern with 72 lp/mm.

Modulation Transfer Function
(SR 5.6/120)



The MTF shows the contrast over the image height for a test pattern with 100 lp/mm.

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Further information on the data sheet on: www.schneiderkreuznach.com/industrialoptics