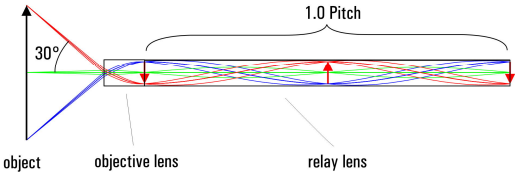
GRIN Endoscopic Rod Lens Systems

GRIN endoscopic systems, which combine a GRIN objective lens, a GRIN relay lens and a GRIN eyepiece. Combining the system with a prism enables the change of the direction of view. Standard diameters are 0.35, 0.5, 1.0 und 2.0 mm. We offer the systems in two different principle design options:

Design A:
The objective lens creates a reduced intermediate image at the exit surface of the objective lens, which will be imaged by the relay lens 1:1 (if the lens length of the relay lens is a multiple of the period) or -1:1 (if the lens length of the relay lens is an odd multiple of the half period) to the exit surface of the relay lens.

schematic view design A



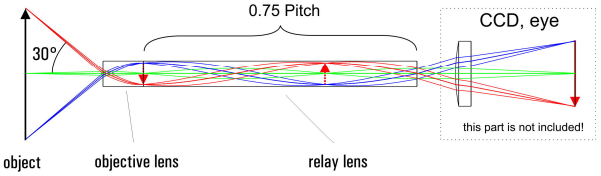
possible working distances (please specify):
0.35 mm diameter: 5 mm,
0.5 to 2.0 mm diameter: 5 mm, 10 mm and infinity
other working distances on request

possible pitch lengths:

diameter	Relay pitch	System length [mm]	Image orientation
0.35	0.5	approx. 8.2	inverted to like design A
	1.0	approx. 15.7	like design A
	1.5	approx. 23.1	inverted to like design A
0.50	0.5	approx. 16.3	inverted to like design A
	1.0	approx. 31.4	like design A
	1.5	approx. 46.5	inverted to like design A
1.00	0.5	approx. 24.7	inverted to like design A
	1.0	approx. 47.0	like design A
	1.5	approx. 69.4	inverted to like design A
2.00	0.5	approx. 55.5	inverted to like design A
	1.0	approx. 105.8	like design A
	1.5	approx. 156.0	inverted to like design A

Design B:
The objective lens creates a reduced intermediate image at the exit surface of the objective lens, which will be imaged by the relay lens at infinity. Such a lens system is a complete endoscopic imaging system. It allows the direct observation with the human eye or the use of a conventional camera system (including camera lens): camera and camera lens are not included!

schematic view design B

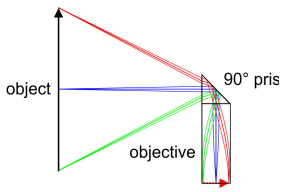


possible working distances (please specify):
0.35 mm diameter: 5 mm,
0.5 to 2.0 mm diameter: 5 mm, 10 mm and infinity
other working distances on request

possible pitch lengths:

diameter	Relay pitch	System length [mm]	Image orientation
0.35	0.75	approx. 12.0	like design B
	1.25	approx.19.4	inverted to like design B
	1.75	approx. 26.9	like design B
0.5	0.75	approx. 23.8	like design B
	1.25	approx.38.9	inverted to like design B
	1.75	approx. 54.0	like design B
1.00	0.75	approx. 35.9	like design B
	1.25	approx. 58.2	inverted to like design B
	1.75	approx. 80.6	like design B
2.00	0.75	approx. 80.7	like design B
	1.25	approx. 130.9	inverted to like design

Both versions are available with a 90° change of view by attaching a prism to the objective.



Order example:

GT – ERLS – d – wd – p	
GT	GRINTECH
ERLS	Endoscopic Rod Lens System
d	Diameter: 0.35, 0.50, 1.00 or 2.00 mm
wd	Working distance: 5, 10 mm or infinity
p	Relay pitch: 0.50, 0.75, 1.00, 1.25, 1.50 or 1.75

For tolerances, handling and storage see page 22

We are happy to advise you. Please contact us.

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