

OUR SERVICES

Individual illumination jobs and sensor solutions

Micro workspaces
Image processing systems

Development and manufacture of customer specific component assemblies

Micro-optics > optical calculations > energy & irradiation paths
Mechanics > mechanical prototypes > null series > series
Electronics > circuit board layout and assembly > software

Fibre optic assemblies in special areas

Environmental conditions
Temperature, humidity, chemical influences liquids, gases, electrical shock, EMC

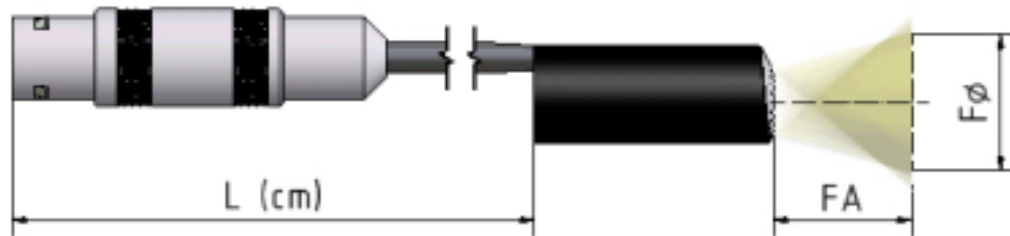
Optical guides for laser beam processing

Digitised, controllable light sources
Components for analysis technology
Optoelectronic assemblies for computer peripheries
Conversion of electrical, optical and mechanical characteristic curves into optical signals.

Areas of application

Microscopes and micro workplace illumination, image processing illumination, visual inspection, inspection tasks. Automation for manufacturing systems, filling stations, assembly lines, tool machines, packaging machines, printing machines...





Temperature resistant

<90°C

Adapter for all light sources with quick coupling KLQ06.00

LEMOSA plugs, light sources with active light emission >Ø6mm

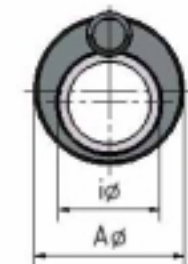
		V2A stainless steel	V2A stainless steel	V2A stainless steel	Black anodised aluminium	Black anodised aluminium
Ring body		V2A stainless steel	V2A stainless steel	V2A stainless steel	Black anodised aluminium	Black anodised aluminium
Shielding of the light supply		Silicone hose	PVC hose	PVC hose	PVC hose	PVC hose
Light guide type		Hard clad	Acrylic	Acrylic/quartz	Acrylic	Acrylic
Ring light interior diameter	iØ	7	7	7	12	17
Ring light exterior diameter	AØ	9	12	12	18	23
Ring light length	RL	81	81	81	43	43
Focal distance, working distance	FA	10	10	10	25	25-30
Light spot diameter	FØ	15	15	15	25	20
Number of light spots, resolution	PR	24	24	24	24	24
Light emission	PØ	0.2	0.5	0.5	0.5	0.5

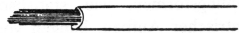
DIFFUSED RING LIGHT HOMOGENEOUS

		RG7D	RG7D	RG7D	RG12D	RG17D
Light guide length, supply in cm	0100				217729	
	0300	224893			214013	221452
	0500				219008	
	0600				219820	
	0700				219006	
	1000	224708	224000			
	3000					

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- Reflection - bright field - lighting for CCD cameras
- Near shadowless lighting of the object to be observed.
- In near-field range - ideally illuminate the smallest objects
- Cold light, no heat development at light emission
- True colour, long-term stabilised light sources
- Wide dispersing light emission - homogeneous brightness distribution





Light supply line sheath depending on application

MP- protective hose

MP



Material	Aluminium with plastic covering
temperature	-20°C to +80°C
Colours	black
Properties	very flexible, high tensile with high peak compressive strength

Flat cable coil - silicone protective hose

MS



Material	Protective hose stainless steel with silicone rubber sheath
temperature	-60°C to +180°C
Colours	grey
Properties	Silicone rubber sheath can be sterilised, is water-tight, and to a large extent resistant to chemicals and solvents, is stress-relieved and very flexible.

PVC hose

PC



Material	Polyvinylchloride (PVC)
temperature	up to approx. 70° C
Colours	black

Stainless steel protective hose

VA















Material	Stainless steel 1.4301
temperature	600°C
Colours	dark grey
Properties	Media resistance conforms to 1.4301 material

Alu- protective hose

AL

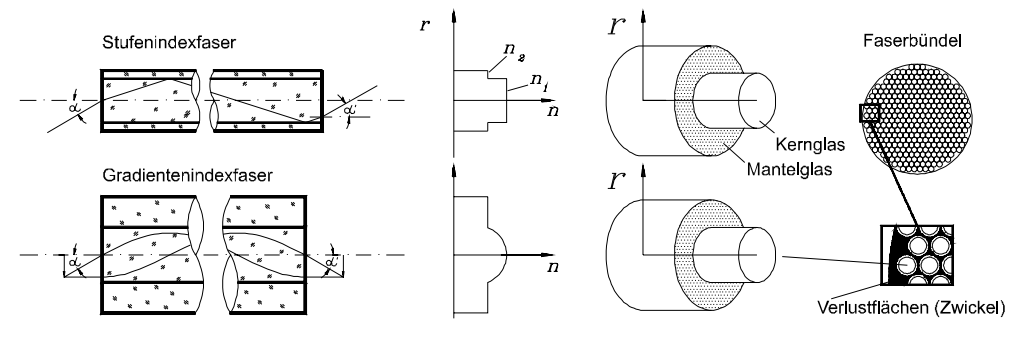
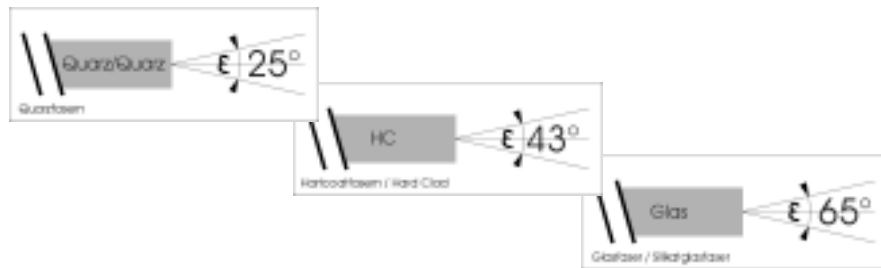


Material	Aluminium
temperature	-60°C to +180°C
Colours	silver
Properties	anti-kink protection

Decabon pipe		DK
	Material	Interior pipe made of double-sided coated overlapping aluminium foil, exterior sheath made of high density polyurethane (HD-PE)
	temperature	-25°C to +65°C
	Colours	black (standard)
	Properties	It can be easily formed by hand, retains its shape and does not spring back. It can be bent several times without damage.
PE protective hose		PE
 	Material	PE protective hose
	temperature	-0°C to +80°C
	Colours	black
	Properties	resistant to acids, alkalis and salt solutions / break and impact resistant
Tecalan protective hose		TC
	Material	Tecalan
	temperature	For continuous load -60°C to +100°C, for short-term loading to +130°C
	Colours	black
PU protective hose		PU
 	Material	Electrical discharge protective PU hose
	temperature	-40°C to +80°C
	Colours	black, blue, white
	Properties	High rupture stress, very good stability against cold, oils, fats, acids, alkalis and salt solutions; hardness: Shore A 98 Working pressure, temperature dependent! 12bar at 24°C 5bar at 66°C
PTFE coiled hose		PTFE
  	Material	PTFE coiled hose with glass fibre braiding
	temperature	-70°C to +260°C
	Colours	black
	Properties	non-flammable, chemical resistant
Silicone hose		SL
 	Material	Silicone hose
	temperature	-60°C to +200°C, short-term +260° C
	Colours	grey, black, transparent
	Properties	very flexible, acid and alkali resistant, Shore hardness A 55 ± 5°, autoclavable, ethylene oxide, light scent, non-toxic
PVC hose with fabric insert		GPVC
	Material	PVC hose with natural fabric insert
	temperature	-20°C to +65°C
	Colours	transparent
	Properties	permanently transparent, comfortable flexibility, good aging resistance, KTW approved, food materials approved according to RAL-E71

Fibre type	Acrylic fibre (Polymer Optical Fibre)	Glass fibre silicate glass fibre	Hardcoat fibre hard clad	Quartz fibre	Quartz fibre
Profile	Index step fibre (Si)	Index step fibre (Si)	Index step fibre (Si)	Index step fibre (Si)	Gradient fibre (Gi)
ØD Fibre exterior diameter	250µm 500µm 750µm 1000µm	30µm 50µm 70µm	125µm 225µm 425µm 630µm	155µm 250µm 270µm 415µm	125µm 140µm
Ød Fibre core diameter	240µm 490µm 740µm 990µm	27µm 47µm 67µm	100µm 200µm 400µm 600µm	105µm 200µm 200µm 320µm	85µm 100µm
NA Numerical Aperture	0.47	0.54	0.37	0.22	0.2
2α=ε Light exit angle	56°	65°	43°	25°	~25°
% Damping losses	200dB/km 3.4%/m at 580nm	200dB/km 4.5%/m at 820nm	10dB/km 0.002%/m (at 820 nm)	≥14db/km at 820nm	1dB/km at 13000nm
C° Temperature resistance	92	600	125	300	125

Light exit angle ϵ for various fibre materials



Faseroptik Henning GmbH

Neumarkter Straße 29

D 90584 Allersberg / Germany

Tel. 0049 (0)9176 / 58-0

Fax 0049 (0)9176 / 58-70

kontakt@faseroptik-henning.de

www.faseroptik-henning.de