



Process lighting and visual control systems

Sightglass luminaires

Camera-systems

Light- and sightglass combination

Sightglass fittings

Sightglass discs and accessories



The observation of process procedures in pressure and vacuum vessels, tanks, reactors, filters and other plant requires efficient illumination and unobstructed view into them.

Both are provided by the Lumiglas Program:
Lumiglas stands for Light and Sight, i.e. for optimum visual control.

This combination of light and sightglass, developed by Papenmeier is the ideal solution for the user; *the additional entry for the second sightglass fitting with separate light and sight ports is avoided.*

Lower costs – higher security!

Lumiglas is well proven internationally, in particular in Explosion hazardous areas of the chemical and allied process industries.



Lumiglas means:

Individual solution to each application coupled with cost saving mass produced components.

A closely knit world wide distributor network ensures an optimum customer service base.

The company operates a formal manufacturing quality assurance policy, audited and certificated.

All Lumiglas products have to undergo through testing under operating conditions before being certified as qualitatively fit for longterm practical use.

Since 1996, the Papenmeier company's Ex-Range has had the additional certification of approval by DMT to the standard EG-Guidelines 94/9/EG.

Certificate No.: DMT 00 ATEX ZQS/E101

ATEX: Stainless Steel-Lumiglas Luminaire 'ESL 25-Ex', Ex II 2G EEx d II C T4-T6

- Suitable for Explosion hazardous areas
- Temperature Class: to T6 (depending on power rating)
- Ambient temperature: up to 60° C
- IIC (all explosion classes)
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 25 and for screwed sightglass Fittings DIN 11851 from DN 65
- Operating Voltage: 12 V, 24 V, 120 V, 230 V
- Power, depending on voltage: up to 20 W
- Secured by hinged bracket or adapter flange
(Also available as model 'USL 05 Ex' (Mini-Ex) in aluminium)

CE 0158



CE 0158

ATEX: Lumiglas Luminaire 'USL 06-Ex' Ex II 2G EEx d, de..., IIC T3...T4

- Suitable for Explosion hazardous areas
- Temperature Class: to T4 (depending on power rating)
- Ambient temperature: up to 60° C
- IIC (all explosion classes)
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 50 and for screwed sightglass Fittings DIN 11851 from DN 65
- Operating Voltage/Power: Volt: alternative 12, 24, 120, 230, 240 Watt: up to 50, depending on voltage
- Electric connection: Version I: resin cast gland/cable tail Version II: terminal box and cable gland
- Secured by hinged bracket or adapter flange
Also available in stainless steel, as model 'ESL 26-Ex'

Lumiglas Luminaire 'USL 07-Ex' EEx d, de..., IIC T3...T4

- Suitable for Explosion hazardous areas
- Temperature Class: to T4 (depending on power rating)
- Ambient temperature: up to 60° C
- IIC (all explosion classes)
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 50 and for screwed sightglass Fittings DIN 11851 from DN 100
- Operating Voltage/Power: Volt: alternative 12, 24, 120, 230, 240 Watt: up to 75, depending on voltage
- Electric connection: Version I: resin cast gland/cable tail Version II: terminal box and cable gland
- Secured by twin brackets



UL + cUL listed: Lumiglas Luminaire 'USL 08-Ex', T4A, T3B

- Suitable for Explosion hazardous areas
- Temperature Class: to T3B
- Ambient temperature: up to 40° C
- Ignition protection: Class 1, Div. 1 & 2
- Explosion Group: C & D, Wet Conditions
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 50 and for screwed sightglass Fittings DIN 11851 from DN 100
- Operating Voltage: 120 V
- Power rating: up to 100 W
- Secured by twin brackets

Lumiglas VISULEX Ex-Camera-System

Either: K 06-Ex: Camera with solid objective lens, individually adjustable, or: K 07-Ex: Camera with zoom lens, with remote control

- Color-CCD-Camera, 1/3" CCD-Sensor, 1,2 Lux sensitivity to light
- The system consists of: 'pressure tight enclosure'-body with integrated Color-Camera, 2-wire-transmitter, electronics. Direct installation at the object, e.g. at a reactor, in Zone 1 or 2
- EEx d IIC...T6
- The camera-data are transmitted through twisted-a-pair cables, up to a length of max. 1000 m, into the Non Ex Hazardous Area
- In the Non Ex Hazardous Area the control unit is installed with an integrated 2-Wire-Receiver, mains connection, electronics and Video-Output to the control monitor
- Color-Video-Industry-Monitor
- Mains connection 230V/50 H





Sightglass Fitting DIN 28120 with Lumistar Luminaire

- Combined with glass wiper type I

Sightglass Fitting style MV with Stainless Lumistar Luminaire ME

- An All-Stainless-Steel combination of Lumistar Luminaire and screwed sightglass to DIN 11851 (Diary Style)
- Operating Voltage: 24 V
- Power: up to 50 W
- Nominal sizes: DN 65 to DN 125



Sightglass Fitting DIN 28120 combined with Luminaire USL 07

- Depending on fitting size, as lighting port or combined light and sight port

Sightglass Fitting DIN 28120 (DN 50) combined with Luminaire USL 05 as lighting port

- Fastening by means of hinged bracket



Hinged Light-Sightglass combination 'ESKS' and 'SKS'

- Complete rapid opening 'balanced lid' hinged sight port assembly
- Ideal as sampling and additive product access port
- Operating Voltage: 24 V
- Power rating: up to 100 W
- Outer dia. of weld flange: 250 and 335 mm
- Version SKS is hinged access/inspection port without Luminaire
- Optionally available with all contact parts in stainless steel



Lumiglas Luminaire 'Lumistar'

- The classic 'half moon' version for combined sight and lightglass
- Suits circular sightglass Fittings style DIN 28120 or similar
- Nominal Dia: DN 50 to DN 200
- Operating voltage: 24 V
- Power, depending on size:
Halogen Filament Lamp 20 W, 50 W or 100 W
- Luminaire is attached to the sightglass cover flange – depending on model – by two or four screws
- Standard product fitted with push button switch

Lumiglas-Luminaire 'SLM' and 'ME' (stainless steel)

- A version of the 'Lumistar' adapted for use with screwed sightglasses style DIN 11851 or similar
- Nominal Dia: DN 65 to DN 125
- Operating voltage: 24 V
- Power, depending on size:
Halogen Filament Lamp 20 W, 50 W or 100 W
- Luminaire is fastened to branch nozzle by slotted cover nut
- Standard product fitted with push button switch



Lumiglas Luminaire 'USL 01', 'USL 02', 'USL 03', 'USL 13', 'USL 15'

- Fully Sealed Sight Glass Luminaires with cover glass, super compact, all stainless
- Suits all sightglass Fittings from size DN 25
- Operating Voltage/Power:
 - USL 01: 12V, 24 V: 5 W/20 W
 - USL 02: 120 V: 20 W/50 W
 - USL 03: 12 V, 24 V: 20 W/50 W
 - USL 13: 12 V, 24 V, 120 V: 20 W/50 W
 - USL 15: 12 V, 24 V, 120 V: 20 W, 50 W, 100 W; with PB-trafo: 120 V, 230 V: 5 W/20 W
- Secured to sightglass flange by stainless hinged bracket

Lumiglas Luminaire 'USL 05'

- Fully Sealed Sight Glass Luminaire with cover glass
- Compact yet powerful light
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 50 and for screwed sightglass Fittings DIN 11851 from DN 25
- Operating Voltage/Power:
 - 24 V Halogen Filament Lamp 20 W, 50 W (without internal transformer)
 - 120 V/230 V Halogen Filament Lamp 12 W/5 W (with internal transformer)
- Secured to sightglass flange by stainless hinged bracket



Lumiglas Luminaire 'USL 06' and 'USL 07'

- Fully Sealed Sight Glass Luminaires with cover glass
- Suits circular sightglass Fittings to DIN 28120/28121 or similar from size DN 50 and for screwed sightglass Fittings DIN 11851 from DN 65, USL 07 from DN 100
- Operating Voltage: 12 V, 24 V, 120 V, 230 V
- Power, dependant on operating voltage, up to 100 W
- 'USL 06' secured by stainless hinged bracket, 'USL 07' by twin brackets fastened to sightglass cover flange
- Luminaire 'USL 07' has a particularly large light exit and reflector
- The 'USL 06' is also available as stainless steel 'ESL 26'



Circular Sightglass Fitting Style DIN 28120 or similar

- Circular pad flange for welding into or onto vessel wall
- Complete with gaskets, glass disc and stud/bolts
- Nominal sizes: DN 50 to DN 200
- Viewing Diameter: 80 to 225 mm
- Operating Temperature: 280° C with Borosilicate Glass to DIN 7080; 150° C with Soda Lime Glass DIN 8902
- Materials: stainless, carbon steels and specials
- Custom built versions

Circular Sightglass Fitting Style DIN 28121 or similar

- Circular flange assembly for bolting straight onto weld pad/nozzle flange
- Complete with fully gasketed glass disc
- Nominal sizes: DN 40 to DN 200
- Viewing Diameter: 48 to 150 mm
- Operating Temperature: 200° C with Borosilicate Glass to DIN 7080; 150° C with Soda Lime Glass DIN 8902
- Materials: stainless, carbon steels and specials
- Custom built versions

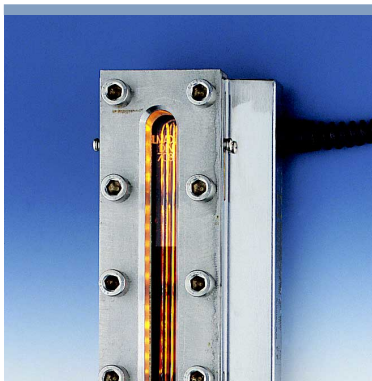


Double Safety Sight Glass

- Circular flange assembly ready for bolting straight onto weld pad/nozzle flange
- Glass discs separated by spacer ring and independent seals
- If damage occurs to one disc, the other maintains service under full operating conditions
- Nominal sizes: DN 50 to DN 200
- Viewing Diameter: 50 to 175 mm
- Operating Temperature: 280° C with Borosilicate Glass to DIN 7080; 150° C with Soda Lime Glass DIN 8902
- Materials: stainless, carbon steels and specials
- Custom built versions, e. g. with built in heating

Screwed Sight Glass Fitting MV

- DIN 11851 style for welding into or onto vessel wall
- Complete with glass disc, gaskets and slotted cover nut
- Nominal sizes: DN 50 to DN 150
- Viewing Diameter: 50 to 150 mm
- Operating Temperature: 280° C with Borosilicate Glass to DIN 7080; 150° C with Soda Lime Glass DIN 8902
- Materials: stainless steel and special steels
- Custom built versions



Rectangular Sightglass Fittings

- For welding into or onto vessel wall
- Complete with fully gasketed glass plate and bolting
- Sizes: 250 to 1000 mm long, 70 mm wide, viewing slot 18 mm
- Operating Temperature: 243° C with Borosilicate Glass to DIN 7081; 100° C with Soda Lime Glass DIN 8903
- Materials: stainless and carbon steel
- Custom built versions

Luminaire REL 01 (Ex)

- Lumiglas-Luminaire (Ex) for Rectangular Sightglass Fittings, longitude 250 mm, separately available
- Operating temperature: up to 90° C
- Datasheet 07.80



Circular Glass Discs for Pressure duty

- Soda Lime Glass to DIN 8902
Temperature: to 150° C
- Borosilicate Glass to DIN 7080
Temperature: to 280° C
- Quartz Glass
Temperature: to 1000° C
- Glass discs with wiper hole
- Special versions
- Metal fused sight glasses

Longitudinal Glass Plates for Pressure duty

- For use with rectangular sightglass Fittings
- Soda Lime Glass to DIN 8903
Temperature: to 150° C
- Borosilicate Glass to DIN 7081
Temperature: to 243° C
- Optionally with flat or reflex surface
- Special versions



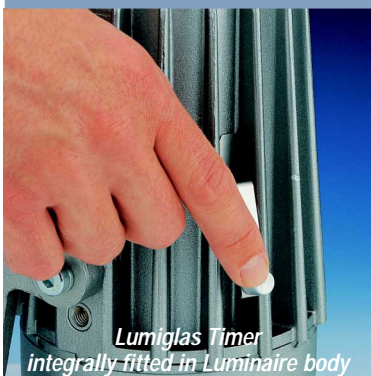
Glass Wiper Type I
max. pressure 6 bar



Glass Wiper Type II
pressure rating same as whole fitting



Spray device
for sightglass assemblies



Lumiglas Timer
integrally fitted in Luminaire body



EEx Time Delay switch
with push button switch



EEx Time Delay unit II
with p.b. and continuous mode selector switches

NEW: Ex-luminaires for vehicle equipment and Ex-Camera-System for process observation

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