LED sightglass light fittings completely in stainless steel for use in hazardous areas Series EdelEx d LED / PowerLED



Sightglass light fitting type EdelEx d PowerLED Sch K1, 7 W, 24 V AC/DC, Ex d op is IIC T6 Gb, Ex tb IIIC T80°C, IP 65/67, Ex II 2 G + D, mounted onto circular sightglass to DIN 28120, PN 10, DN 125.



Sightglass light fitting type EdelEx d LED R50 K1, 2 W, 24 V AC/DC, Ex d IIC T6 Gb, Ex t IIIC T80°C Db, IP65/67, Ex II 2 G + D, with intermediate flange collar fixation "R", mounted onto a screwed sightglass similar to DIN 11851, PN 6, DN 50.

Equipped with state-of-the-art LED technology, with an uncompromising design and the reputed MAX MÜLLER quality, the series EdelEx LED / PowerLED offer to the producers and users of all stainless steel process equipment the following important advantages:

For the purchasing department:

- **Highly competitive prices** due to value-engineered design and efficient manufacturing
- **Short lead times** due to large stock

For the design or plant engineer:

- **Supreme efficiency**: Light output of ~980 Lumen with power consumption of only 7 W (EdelEx d PowerLED)
- **Super-compact design** providing for **brilliant illumination**
- LED light source with **life span of up to 40'000 operating hours**
- **UV-free and cold** light output, avoiding undesired heat emissions to temperature sensitive media
- **Particularly designed for the powerful lighting out** of **stainless steel** vessels, reactors, mixers, fermentors, containers and related process equipment **in hazardous areas** in the pharmaceutical, bio-chemical, chemical, cosmetic and food processing industries
- For **sterile and "clean rooms" applications**
- Versatile design enabling the light fittings to be used as a combination "view **and** light through **one** assembly" or for use as a separate light fitting in a two port system, already from DN 50
- **Easy installation** due to 2 different fixation systems (tilting hinge "Sch" / "Sch 1" or flange collar "R") on:
  - Circular sightglasses to DIN 28120 / 28121 or similar
  - Screwed sightglasses similar to DIN 11851
  - Metal fused sightglasses
- Light fittings may be **installed in any position without restriction**
- ATEX equipment protection level (EPL): Gb (zones 1 and 2) and Db (zones 21and 22)
- Admitted for ambient temperatures from - 20 °C to + 40 °C

Operating conditions:
Completely **independent** of internal vessel pressure and vacuum. There is **no restriction** on the mounting position of the light fitting.

Electrical data:
See overleaf.

Enclosure protection degree:
IP 65 / 67, dust tight and jetwater-proof as well as protected against the effects of temporary immersion to EN 60529 / DIN VDE 0470 part 1.

Construction and materials:
Housing, lensholderring, fixation elements and cover **in stainless steel**. Cable gland M16, in vertical position, type designation "K1", (standard delivery) or in horizontal position (designation "K2"). Connection terminals up to 2,5 mm^2. Additional earth terminal 4 mm^2 external to the housing. Built-in LED module. EdelEx d PowerLED available with concentrated ("spot" version; standard) or wide ("flood" version) beam of light, depending on your needs.

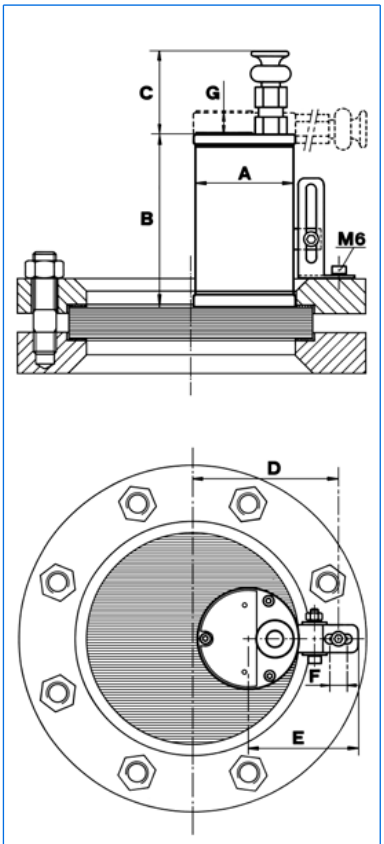
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Europe's largest sightglass light fitting programme!
Perfect, thoroughly engineered solutions from one hand!
Always an interesting, technically advanced idea ahead!

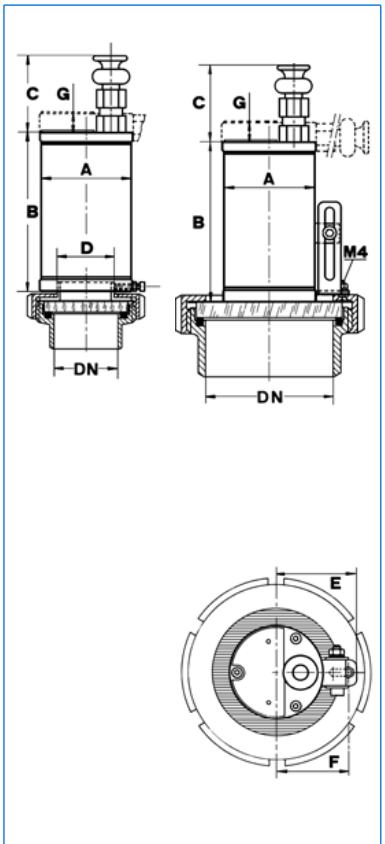
Survey on types
Technical data
Mounting possibilities
Dimensions

Type designation	EdelEx d LED	EdelEx d PowerLED
Nominal rating (W)	2	7
Terminal voltage (V)	24 V AC / DC	24 V AC / DC 230-240 V AC
Light source	LED	LED “flood” or “spot”
Weight [1] (kg)	1,65	2,10
Ignition protection type to EN 60079-0 / 60079-1 / 60079-28 / 60079-31	Ex d IIC Gb Ex t IIIC Db	Ex d op is IIC Gb Ex tb IIIC Db
Explosion groups	IIC / IIIC	
Temperature class G / D [2]	T6 / T80°C	
ATEX	Ex II 2 G + D	

[1] The indicated weight only refers to the light fitting.
Weight of the fixations: “Sch / Sch 1”: 0,06 kg, “R”: 0,08 kg
[2] T_a = - 20°C / + 40°C



Fixation “Sch”



Fixation “R” (left), “Sch 1” (right)

Mounting:

- On circular sightglasses to or similar to DIN 28120/ 28121:
  DN 50 – DN 200: With tilting hinge “Sch”
- On screwed sightglasses similar to DIN 11851:
  DN 50 / DN 65: With intermediate flange collar “R” in AISI 304 (DN size should be specified on ordering)
  From DN 80: With tilting hinge “Sch 1” onto the grooved collar nut

Sightglasses to DIN 28120

DN	A	B	C	D	E	F	G
50	77	128	63	67	81	12	13
80	77	128	63	77	81	12	13
100	77	128	63	90	81	12	13
125	77	128	63	102	81	12	13
150	77	128	63	115	81	12	13
200	77	128	63	140	81	12	13

Sightglasses similar to DIN 11851

DN	A	B	C	D	E	F	G
50	77	128	63	44	59	–	13
65	77	128	63	44	59	–	13
80	77	128	63	–	59	47	13
100	77	128	63	–	59	57	13
125	77	128	63	–	59	69	13
150	77	128	63	–	59	82	13

Branch office / exclusive agent:

Do you wish for more information about our wide range of light fittings for use in hazardous and safe areas, about our range of circular sightglasses to DIN 28120/28121, screwed sightglasses similar to DIN 11851, rectangular or D-ended sightglasses, pipeline flow indicators, hinged sightglasses with or without illumination, centrally or sideways operated wipers, spraying devices, camera systems for hazardous areas or our complete sight and lightglass units VETROLUX®? Are you interested in other types, special versions or different protection degrees? If yes, please contact us, our branch office or our local agents – it is our business! You will find the necessary information on our sales network on the Internet.

All dimensions in mm. Subject to changes without preliminary notice.

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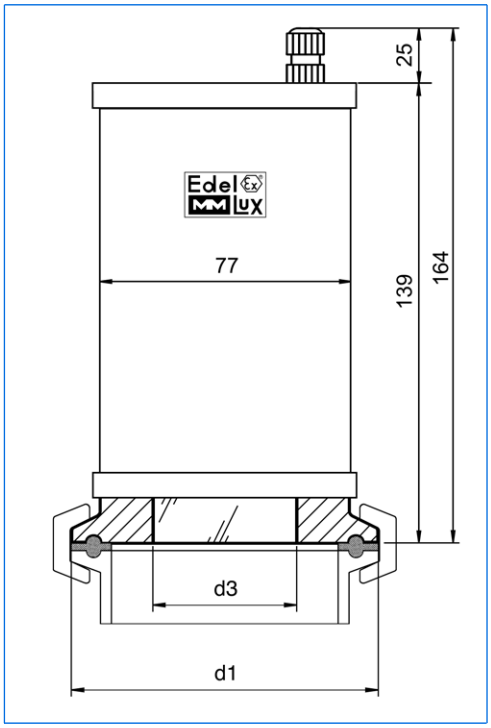
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Hazardous sightglass light fittings from stainless steel

Series EdelEx STERI-LINE for metal fused sightglasses for Triclamp fittings series metaClamp®



Sightglass light fitting, type EdelEx STERI-LINE 20 dH, 24 V, 20 W, Ex d IIC T4 Gb, Ex t IIIC T130°C Db IP67, Ex II 2 G + D, on metal fused sightglass, DN 100



Dimensions with mounted sightglass light fitting type EdelEx STERI-LINE

All dimensions in mm. Subject to changes without preliminary notice.

Application:
On metal fused sightglasses for Triclamp fittings to DIN 32676 / ISO 2852 for the optimal illumination of small and pilot reactors as well as vessels for sterile and aseptic applications, mainly in the pharmaceutical, biotechnological, cosmetic and food processing industries.
On demand also available for mounting on metal fused sightglasses for Triclamp fittings in aseptic version to DIN 11864-3.

Advantages:
- Brilliant and glare free illumination
- Easy installation
- Extremely small dimensions
- High security
- For sterile applications

Light fitting series EdelEx STERI-LINE (for use in hazardous areas):

Type designation	EdelEx 5 dH	EdelEx 10 dH	EdelEx 20 dH	EdelEx d LED	EdelEx d PowerLED
Nominal rating (W)	5	10	20	2	7
Terminal voltage (V)	24, 36, 42, 115, 230, 240 V AC with integrated transformer 12 V AC / DC without integrated transformer		12 / 24 V AC / DC without integrated transformer	24 V AC / DC	24 V AC / DC 230–240 V AC
Light source	Halogene			LED	
Housing	Stainless steel				
Protection mode	IP 65				IP 65 / 67
	Dust tight and protected against the effects of temporary immersion to EN 60529 / DIN VDE 0470 part 1				
Ignition protection type to EN 60079-0 / 60079-1 / 60079-28 [1] / 60079-31	Ex d IIC Gb Ex t IIIC Db				Ex d op is IIC Gb Ex tb IIIC Db
Explosion groups	IIC / IIIC				
Temperature classes G / D [2]	T6 / T80°C	T4 / T130°C		T6 / T80°C	
ATEX	Ex II 2 G + D				

[1] Only for type EdelEx d PowerLED [2] T_a = –20°C / +40°C (T_a up to +60°C on request)

For technical details see data sheet EdelEx 5 dH / 10 dH / 20 dH and EdelEx d LED / PowerLED

Metal fused sightglass:
- Approvals: A3 Standard for food processing
- Test base: DGRL 97 / 23 / EG, AD 2000 standards, DIN 7079-1 May 1999
- Materials to VdTÜV specifications and the respective DIN/EN standards
- Glass quality: Borosilicate glass to DIN 7080
- Certificates to DIN EN 10204 may be supplied against extra charge
- Pressure: –1 to 10 / 16 bar (see table)
- Temperatures: Ring materials: 1.4462: –30°C to +280°C
  2.4602 / 2.4610: –60°C to +300°C

Dimensions:

Nominal diameter (DN)		d1	d3	Max. operating pressure (bar)
(mm)	(inch)			
25 / 32 / 40	1", 1½"	50,5	25	16
50	2"	64	30	16
-	2½"	77,5	34	16
65	3"	91	35	10
80	3½"	106	35	10
100	4"	119	35	10

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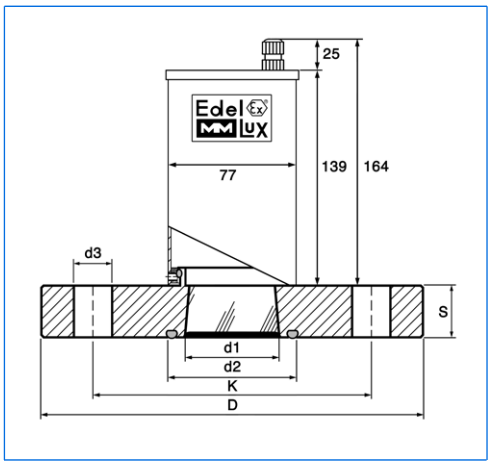
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Hazardous sightglass light fittings from stainless steel for sterile applications

Series EdelEx STERI-LINE on metal fused sight-glass flanges for sterile processes



Sightglass light fitting type EdelEx STERI-LINE 20 dH, 24 V, 20 W, Ex d IIC T4 Gb, Ex t IIIC T130°C Db IP67, Ex II 2 G + D, on metal fused sightglass flange



Dimensions with mounted sightglass light fitting

Branch office / exclusive agent:

All dimensions in mm. Subject to changes without preliminary notice.

Application:
On metal fused sightglass flanges for mounting onto
- base flanges to DIN 28117 or similar
- weldnecks with flat face

for the optimal illumination of small and pilot reactors as well as vessels for sterile and aseptic applications, mainly in the pharmaceutical, biotechnological, cosmetic and food processing industries.

IMPORTANT: Only for use with parallel flat face flanges without seal recess. We recommend the use of Belleville spring washers, 2 pcs. for each connection hole.

Advantages:
- Brilliant and glare free illumination
- Extremely small dimensions
- Aseptic
- High security
- Easy installation
- CIP and SIP cleaning possible

Light fitting series EdelEx STERI-LINE (for use in hazardous areas):

Type designation	EdelEx 5 dH	EdelEx 10 dH	EdelEx 20 dH	EdelEx d LED	EdelEx d PowerLED
Nominal rating (W)	5	10	20	2	7
Terminal voltage (V)	24, 36, 42, 115, 230, 240 V AC with integrated transformer 12 V AC / DC without integrated transformer		12 / 24 V AC / DC without integrated transformer	24 V AC / DC	24 V AC / DC 230–240 V AC
Light source	Halogene			LED	
Housing	Stainless steel				
Protection mode	IP 65				IP 65 / 67
	Dust tight and protected against the effects of temporary immersion to EN 60529 / DIN VDE 0470 part 1				
Ignition protection type to EN 60079-0 / 60079-1 / 60079-28 [1] / 60079-31	Ex d IIC Gb Ex t IIIC Db				Ex d op is IIC Gb Ex tb IIIC Db
Explosion groups	IIC / IIIC				
Temperature classes G / D [2]	T6 / T80°C	T4 / T130°C		T6 / T80°C	
ATEX	Ex II 2 G + D				

[1] Only for type EdelEx d PowerLED [2] T_a = –20°C / +40°C (T_a up to +60°C on request)

For technical details see data sheet EdelEx 5 dH / 10 dH / 20 dH and EdelEx d LED / PowerLED

Metal fused sightglass flange:
- TÜV-approval to the pressure vessel guideline as part of a pressure vessel (for material duplex stainless steel 1.4462)
- Test base: DGRL 97 / 23 / EG, AD 2000 standards, DIN 7079-1 May 1999
- Materials to VdTÜV specifications and the respective DIN/EN standards
- Glass quality: Borosilicate glass to DIN 7080
- Certificates to DIN EN 10204 may be supplied against extra charge
- Pressure: –1 to 16 bar
- Temperatures: Ring materials: 1.4462: –30°C to +280°C; 2.4602 / 2.4605 / 2.4610: –60°C to +300°C

Dimensions:

DN*	PN	D	K	S	d1	d2	d3	Number of holes	O-Ring**	Spring washer**
50	16	165	125	21	38	66	18	4	58,74 x 3,53	31,5/16,3x1,25
65	16	185	145	23	38	86	18	4	78,97 x 3,53	31,5/16,3x1,25

* Larger nominal diameters on request ** Not contained in our delivery

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