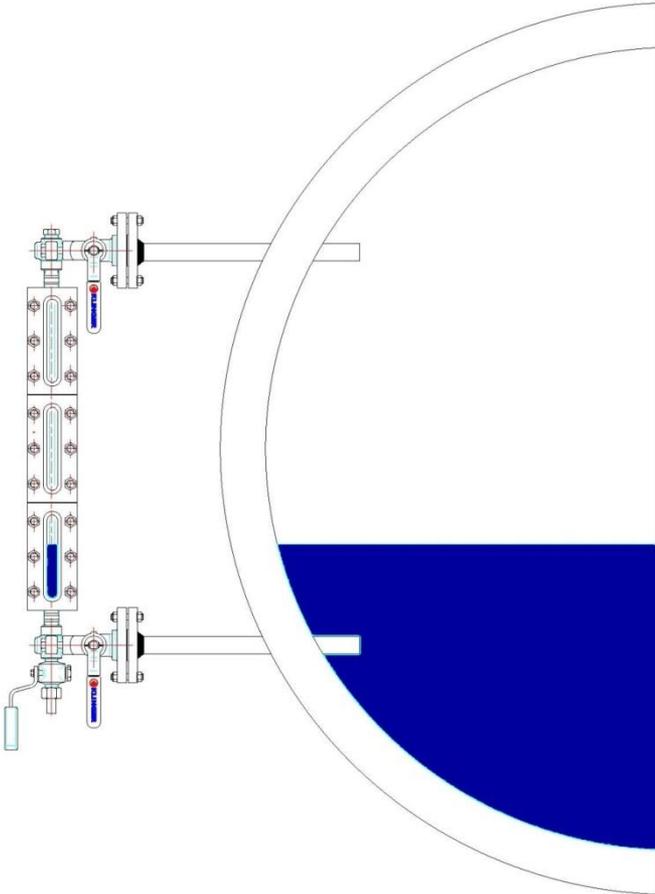




KLINGER ITALY

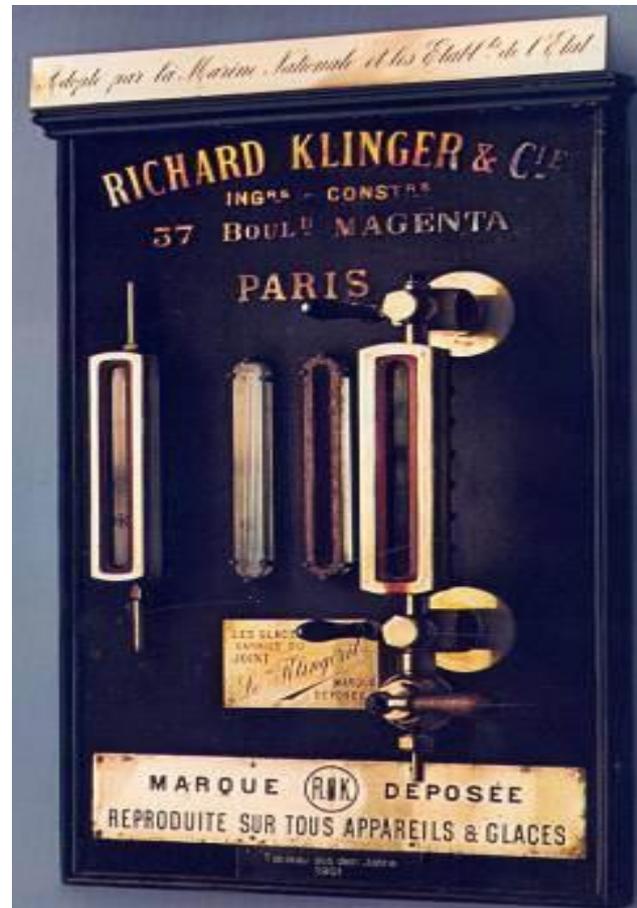
GLASS LEVEL GAUGES



GLASS LEVEL GAUGES

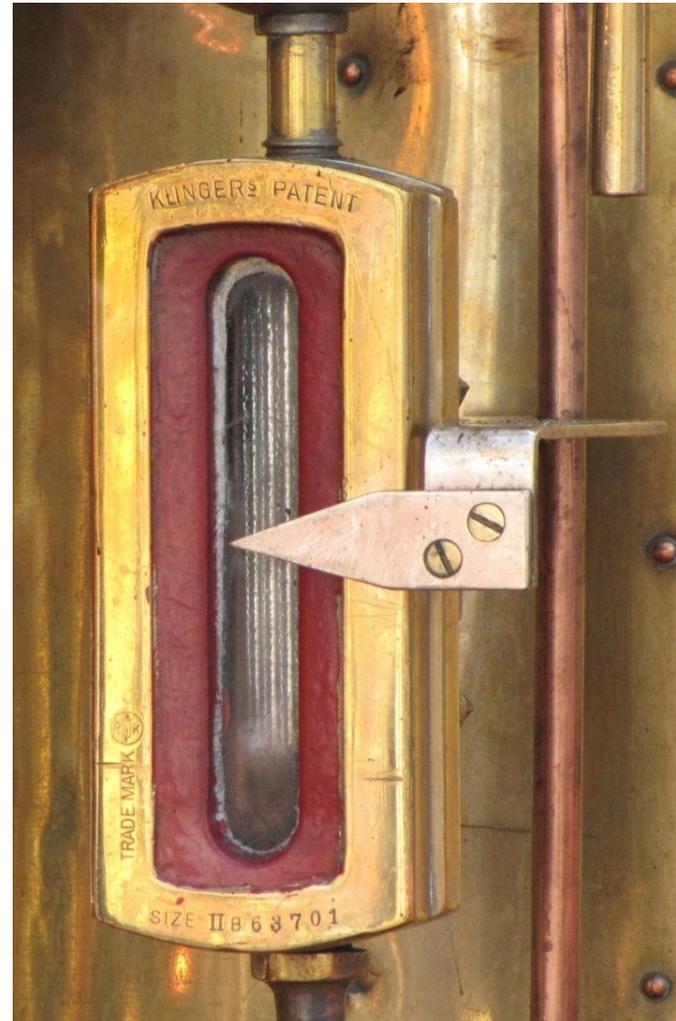
Everywhere liquid
levels have to be
directly read and defined

Glass level gauges were invented and patented in 1888 by Richard Klinger, the founder of the Group of independent KLINGER companies



The first great step into business was at the world exhibition 1901 in Paris

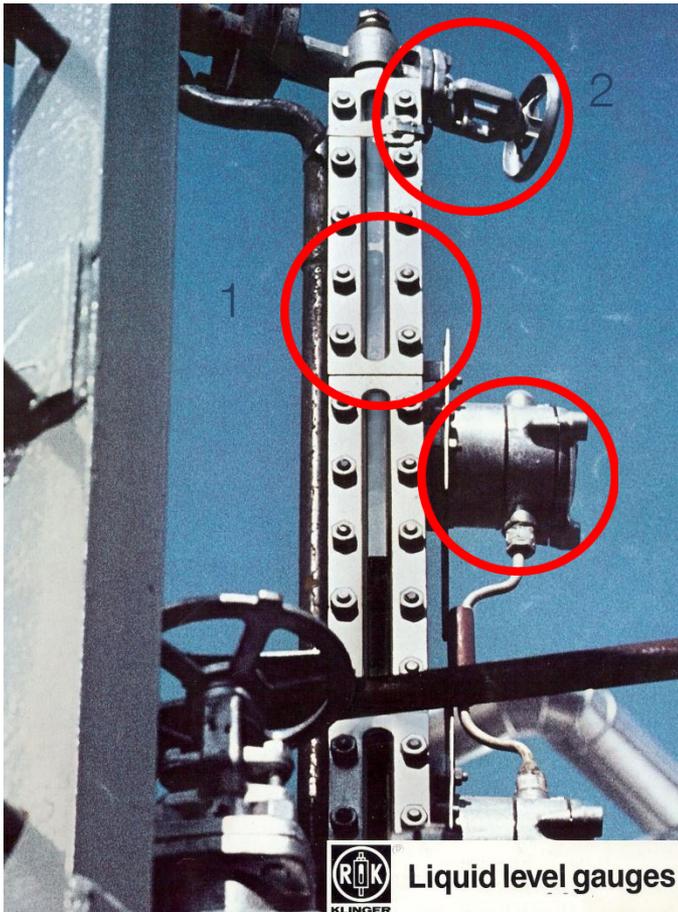
Original KLINGER Level Gauges are used from many years!



MAIN ADVANTAGES

- 1 – Direct view of the fluid level
- 2 – Suitable for steam application
- 3 – No electronic signal, no fault
- 4 – Cheaper solution to check the fluid level
- 5 – Easy maintenance
- 6 – Very long life in service

MAIN COMPONENTS



1 – BODY LEVEL GAUGES

With Glasses (Reflex or Transparent)

2 – VALVES OR COCKS

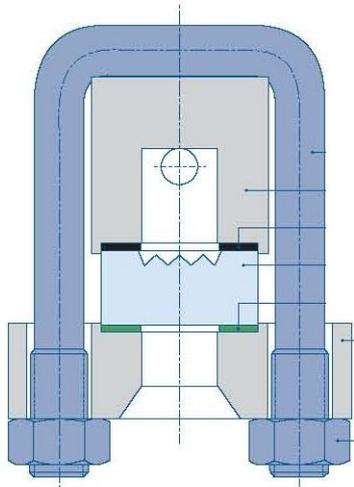
To isolate the Level Gauge body
from the utility

3 – ACCESSORIES

Illuminator Unit
No frost Device
Mica Shields
Heating Tracing

REFLEX

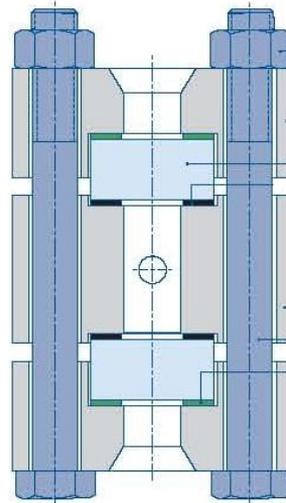
(process & steam)



Different Refraction
with Liquid and Gas
(or steam)

TRANSPARENT

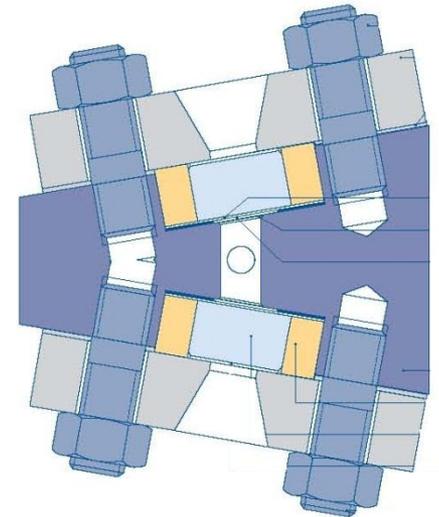
(process & steam)



Direct vision through the
two glasses (back
illumination available)

BICOLOUR

(steam)



Different colours between
Water (Green) and Steam
(Red). Back illuminated.

PROCESS APPLICATION

REFLEX:

WATER, CLEAN LIQUID AND COLOURED
FLUID

TRANSPARENT:

VISCOUS, DIRTY AND UNCOLOURED
FLUID, INTERFACE SERVICE AND
AGGRESSIVE FLUID (PROTECTED GLASS)

STEAM APPLICATION

REFLEX

UP TO 32 bar

TRANSPARENT

UP TO 120 bar

BICOLOUR

UP TO 225 bar

Range of Production – PROCESS application

PROCESS APPLICATION FOR GLASS LEVEL GAUGES						
Level Gauge Type	Max Working Pressure (Bar)	Max Working Temperature (C°)	Klinger Level Gauge Model	Klinger Gauge Valve Model		Klinger Level Gauge RATING / Max Pressure
REFLEX	25	400	R 25	DG	Offset RAV	PN 25 / ANSI 150
	100	400	R 100	DG	Offset RAV	PN 100 / ANSI 600
	160	400	R 160	DG	Offset RAV	PN 160 / ANSI 900
	250	400	R 250		Offset RAV	PN 250 / ANSI 1500
	63	400	UOR Large Chamber	DG	Offset RAV	PN 63 / ANSI 400
	400	120	A 400	DVK2.IT		PN 400 / ANSI 2500
TRANSPARENT	16	185	R-D (glass)	D		PN 16
	50	400	T 50	DG	Offset RAV	PN 50 / ANSI 300
	100	400	T 100	DG	Offset RAV	PN 100 / ANSI 600
	160	400	T 160	DG	Offset RAV	PN 160 / ANSI 900
	160	400	T 160-XS	DG	Offset RAV	PN 160 / ANSI 900
	250	400	T 250		Offset RAV	PN 250 / ANSI 1500
	63	400	UOT Large Chamber	DG	Offset RAV	PN 63 / ANSI 400
WELD-PAD	100	400	UWR / UWT	Not Applicable		PN 100 / ANSI 600
	100	400	USR / UST	Not Applicable		PN 100 / ANSI 600

Range of Production – STEAM application

STEAM APPLICATION FOR GLASS LEVEL GAUGES						
Level Gauge Type	Max Working Pressure (Bar) SATURATED STEAM	Max Working Temperature (C°)	Klinger Level Gauge Model	Klinger Gauge Valve Model		
REFLEX	32	239	K	D		
	20	215	R 25	D		
	22	219	R 100	D		
	32	239	R 160	D		
TRANSPARENT	10	185	R-D (glass)	D		
	15	202	T 50	D		
	30	235	T 100	D		
	40	252	T 160	D	DA	
	40	252	T 160-XS	D	DA	
	60	270	T 160-XS	DA		
	85	298	T 85	DA	DVK2.IT	Offset RAV 957 Seal welded
	85	298	TA 120	DA		
	120	323	TA 120	DVK2.IT		
BICOLOUR	225		KTA - 225	DVK2		
	180	356	KTA	DVK2		
	75	291	KT - 75	DVK 2	DA	
	25	225	KT - 25	D	DA	

MATERIALS

FS/H CARBON STEEL

- ASTM A105N as standard
- LF2 available for low temperature service at - 46°C

M/H WETTED PART STAINLESS STEEL

OTHERS IN CARBON STEEL

- AISI 316L and ASTM A105N as standard

M STAINLESS STEEL

- AISI 316L as standard

ALLOY, PLASTIC OR OTHER MATERIALS ARE AVAILABLE

MATERIALS

GASKET in contact with media

- Klinger REINFORCED GRAPHITE type PSM (Single tang insert in 316) or for high pressure “PDM” (Double tang inserts in 316)
- PTFE and other material on request

ORIGINAL GAUGE KLINGER GLASSES

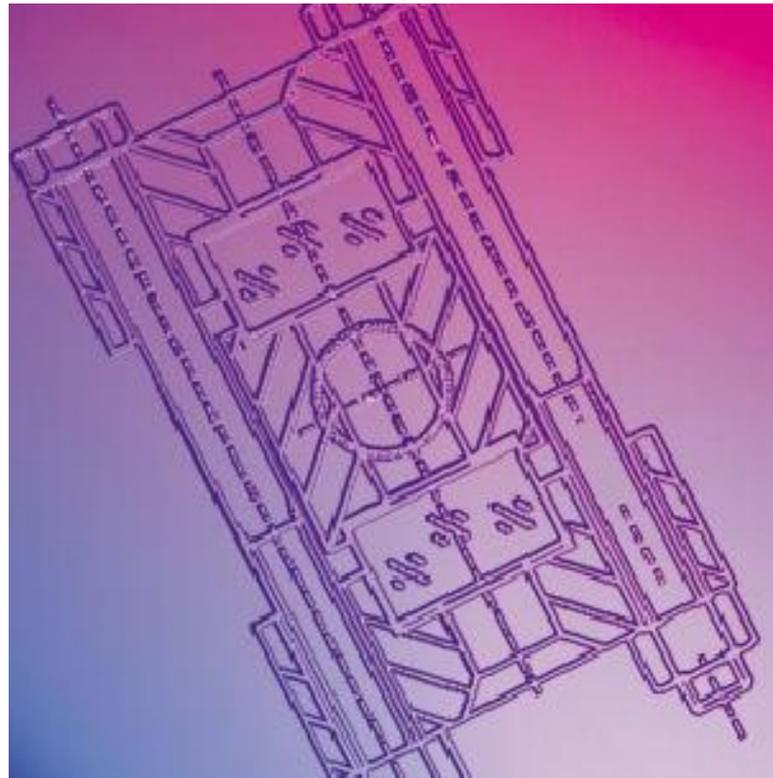
- “Extra-hard” borosilicate glass, according to DIN 7081
- NEW OPTION: ANTISTICK GLASSES

VALVE AND COCKS

- FS/H , M/H, M and other on request.

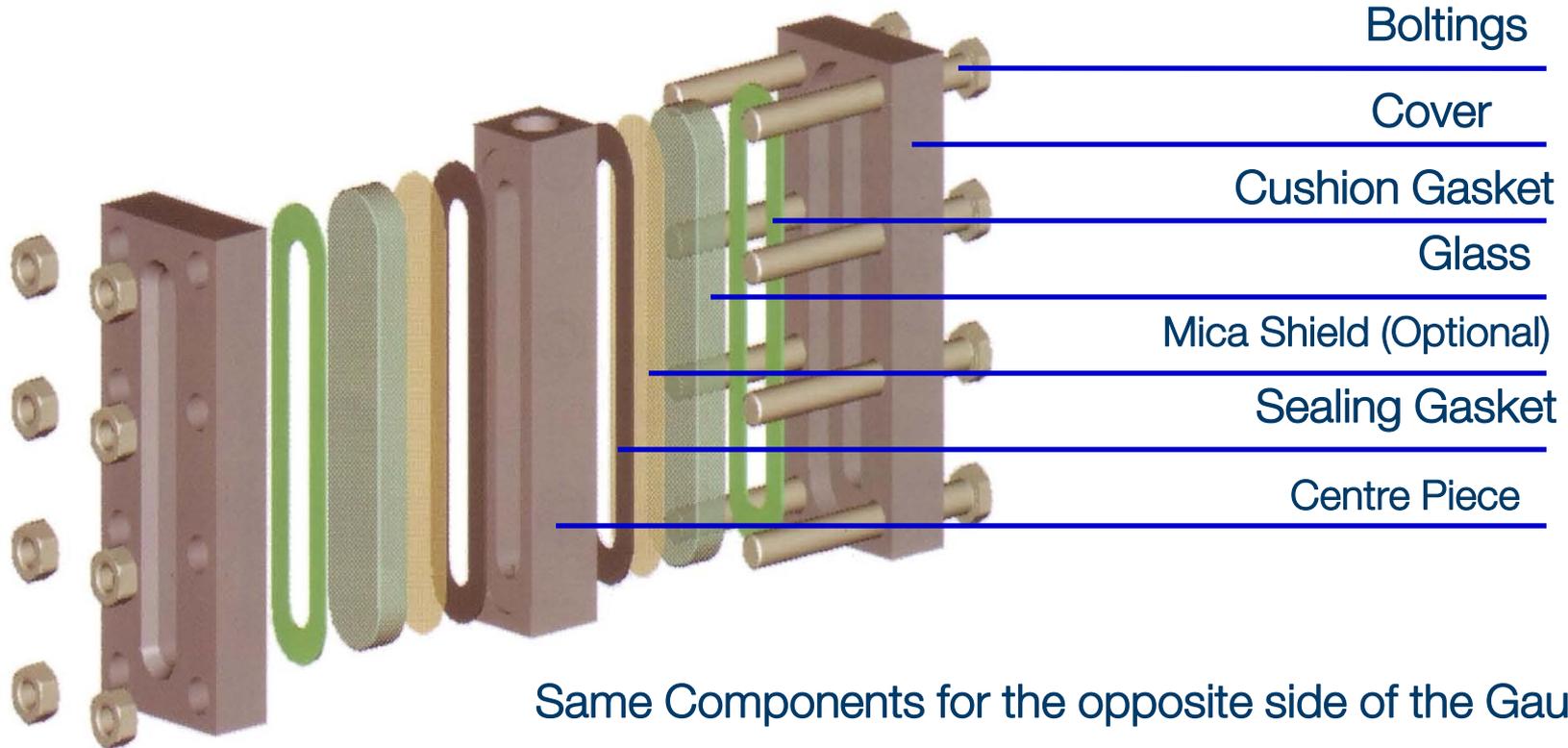
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TRANSPARENT LEVEL GAUGES



Transparent Level Gauge

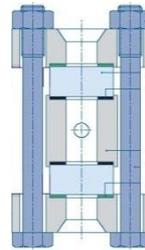
For steam and process applications



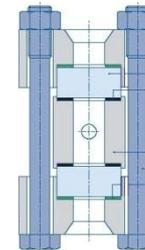
Same Components for the opposite side of the Gauge

- T50 PN50
- T100 PN100
- T160 PN160
- T250 PN250

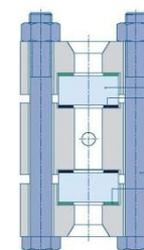
T50



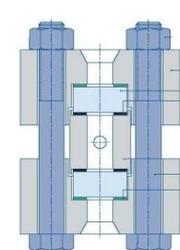
T100



T160

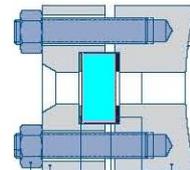


T250

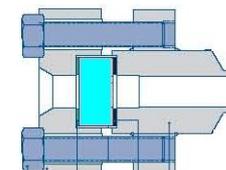


- UWT PN100 ((Weld-On))
- UST PN100 ((Weld-On))
- UOT PN64 (Large Chamber)

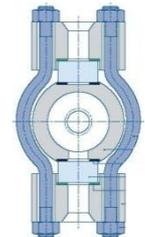
UWT



UST

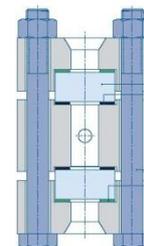


UOT

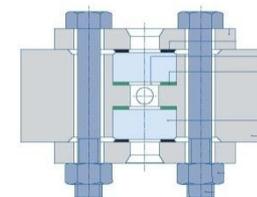


- T 160-XS Steam 60 Bar
- T 85 Steam 85 Bar
- TA 120 Steam 120 Bar

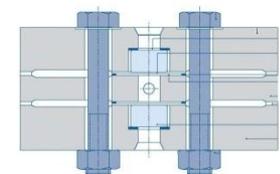
T160 -XS



T85

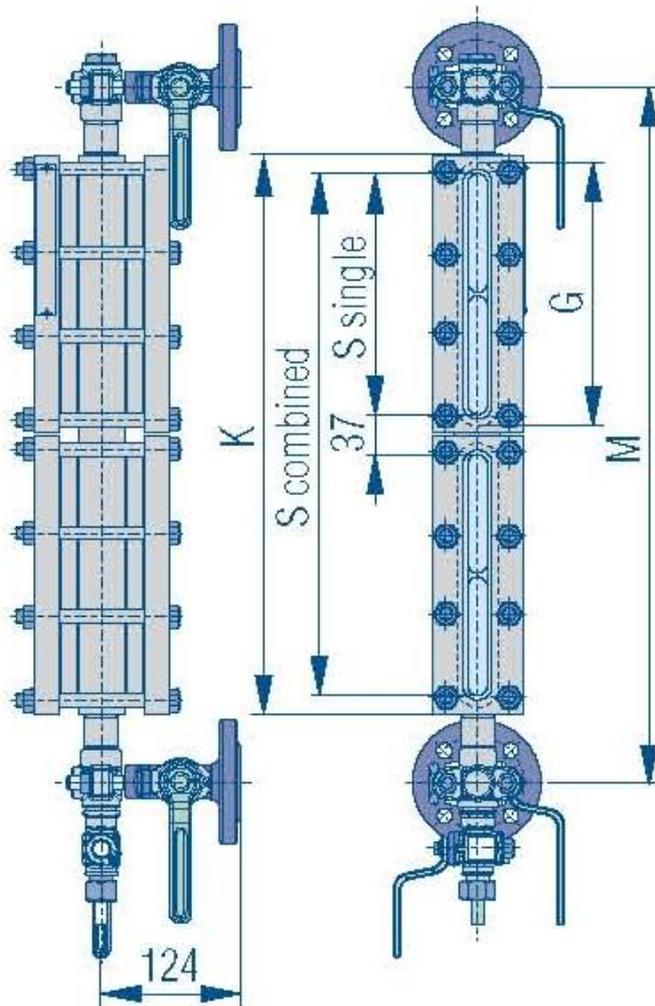


TA120



Transparent Level Gauge

For steam and process applications



TRASPARENT T50

Process: PN50/ANSI 300 T 400°C
Steam: Bar 15 T 202°C

Material FS/H – M/H – M – Other on request

Mica or Kel-F shields for glass protection

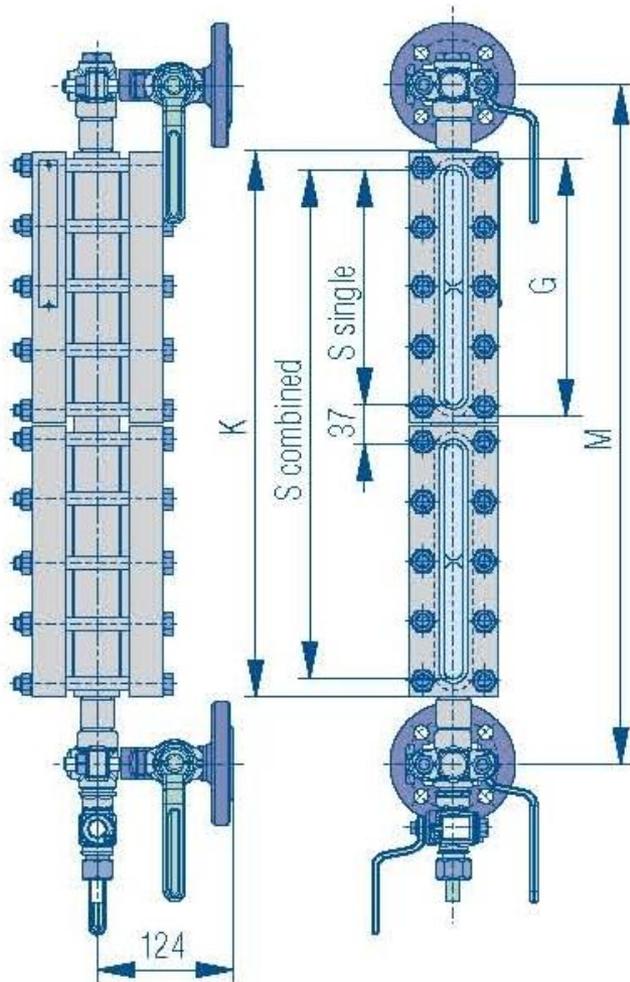
Standard Sizes from I to 7 x IX

Suitable for shut-off Fittings:

- D Cock on Steam
- DG Cock on Process
- RAV 956/957 on Process
- RAV 946/947 on Process

Transparent Level Gauge

For steam and process applications



TRASPARENT T100

Process: PN100/ANSI 600 T 400°C

Steam: Bar 30 T 235°C

Material FS/H – M/H – M – Other on request

Mica or Kel-F shields for glass protection

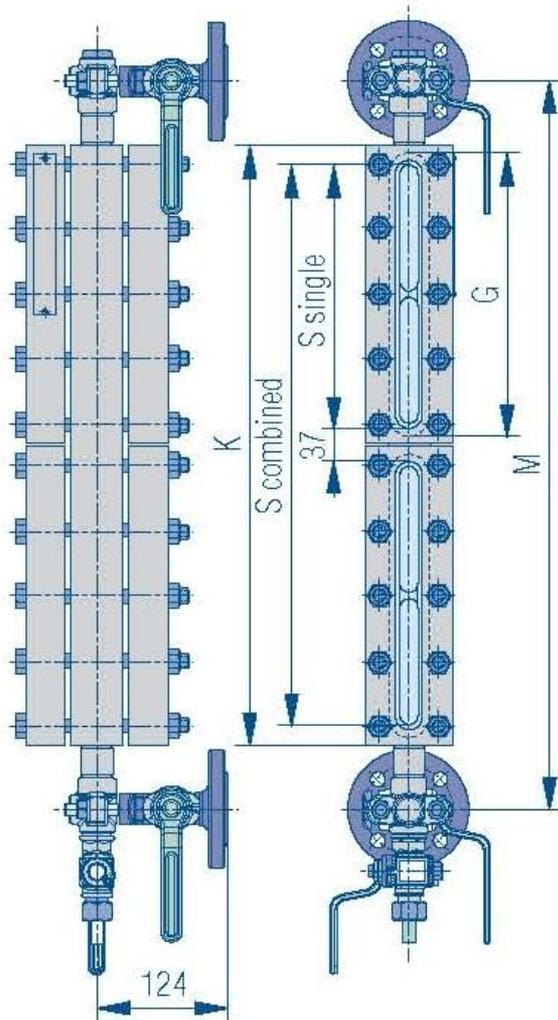
Standard Sizes from I to 7 x IX

Suitable for shut-off Fittings:

- D Cock on Steam
- DG Cock on Process
- RAV 956/957 on Process
- RAV 946/947 on Process

Trasparent Level Gauge

For steam and process applications



TRASPARENT T160

Process:
PN160/ANSI 900 T 400°C
Steam:
Bar 40 T 252°C

Material FS/H – M/H – M –
Other on request

Mica or Kel-F shields for glass protection

Standard Sizes from I to 7 x IX

Suitable for shut-off Fittings:

- D Cock on Steam
- DG Cock on Process
- RAV 956/957 on Process
- RAV 946/947 on Process

Transparent Level Gauge

For process applications



TRASPARENT T250

High Pressure

Process: PN250/ANSI 1500 T 400°C

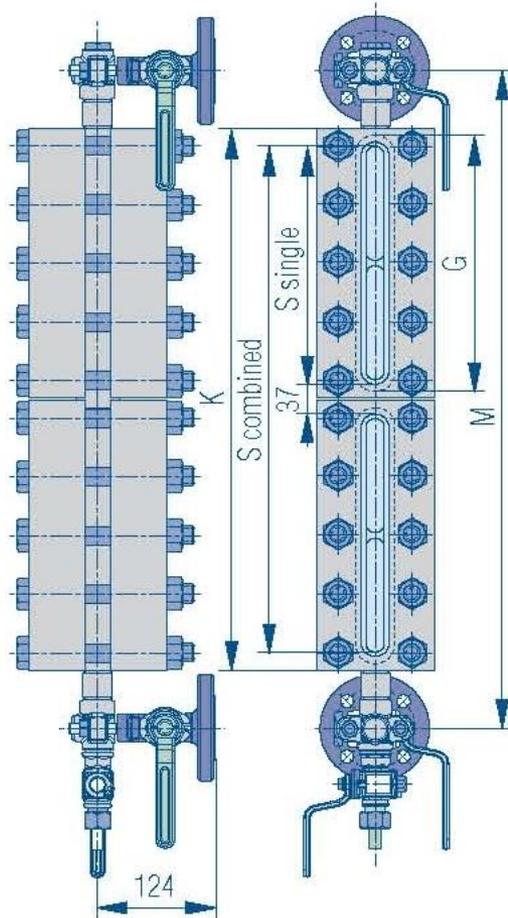
Material FS/H – M/H – M – Other on request

Mica or Kel-F shields for glass protection

Standard Sizes from I to 7 x IX

Suitable for shut-off Fittings:

- DG Cock on Process
- RAV 956/957 on Process
- RAV 946/947 on Process

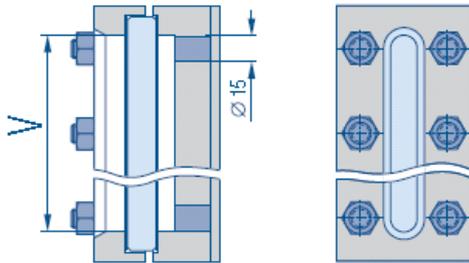


Transparent Level Gauge

For process applications

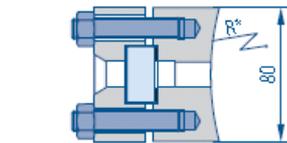


TRASPARENT UWT - UST



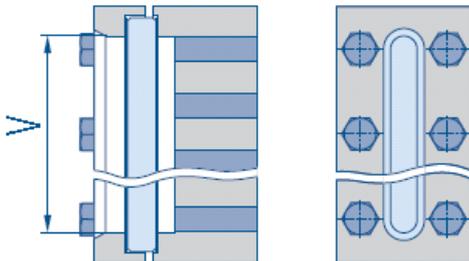
Direct welding to the tanks Radiuous back to be defined

Process: PN100/ANSI 600 T 400°C



Material FS/H – M/H – M – Others on request

Standard Sizes from I to IX
(Available with multiple sections too)



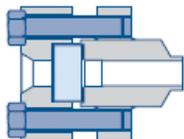
Mica or Kel-F shields for glass protection

Also available

UWT-A PN50

BODY 70x30 mm

GLASS "A"



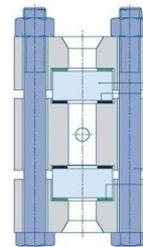
Trasparent Level Gauge

Only for process applications



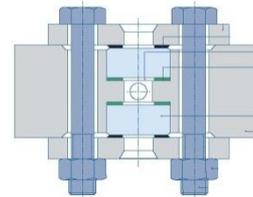
- T 160-XS
Steam 60 Bar

T160 -XS



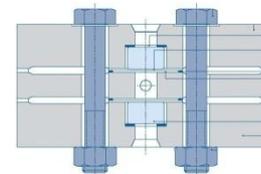
- T 85
Steam 85 Bar

T85



- TA 120
Steam 120 Bar

TA120



Transparent Level Gauge

Only for process applications



TRASPARENT T160-XS

Medium Pressure

Material: FS/H

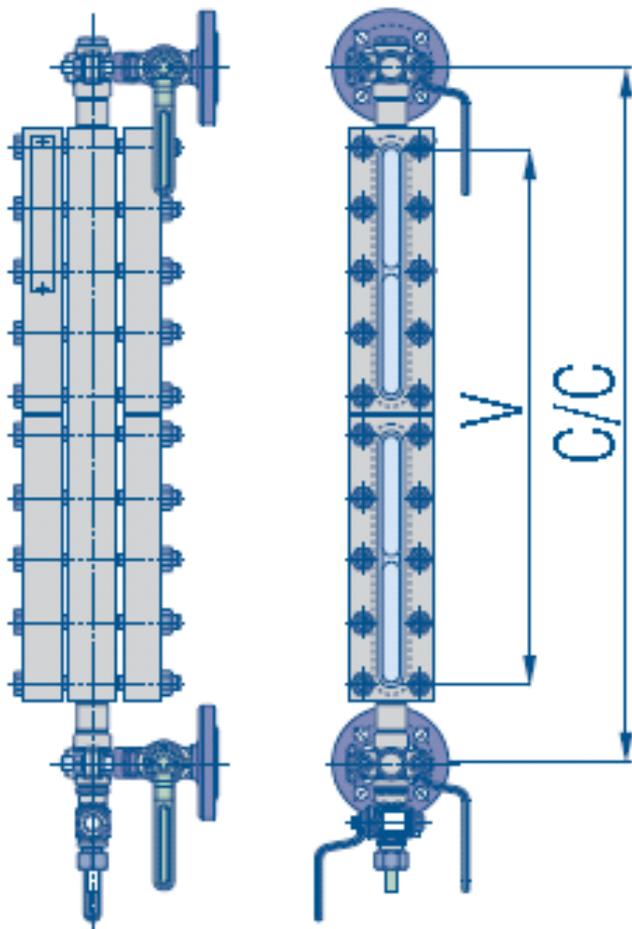
Mica shields

Standard Sizes: from I to 7 x IX

Back Illuminator on request

Suitable for shut-off Fittings:

- D Cock up to 40 Bar
- DA Cock up to 60 Bar
- RAV 957

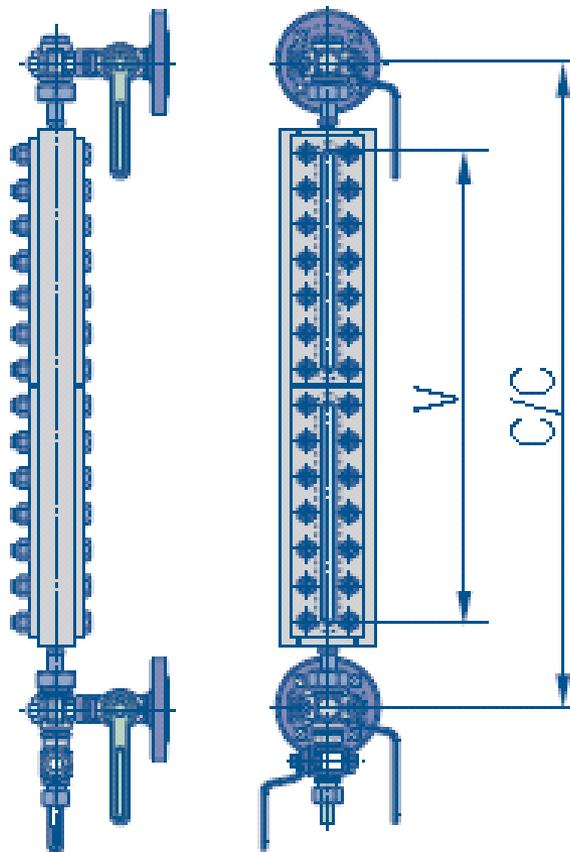


Trasparent Level Gauge

Only for process applications



TRASPARENT T85



High Pressure

Steam: 85 Bar / T 298°C

Material: FS/H

Mica shields

Standard Sizes: from II to 7 x IX

Back Illuminator on request

Suitable for shut-off Fittings:

- DA Cock
- RAV 957
- DVK-2

Transparent Level Gauge

Only for process applications



TRASPARENT TA120

High Pressure

Steam: 120 Bar / T 323°C

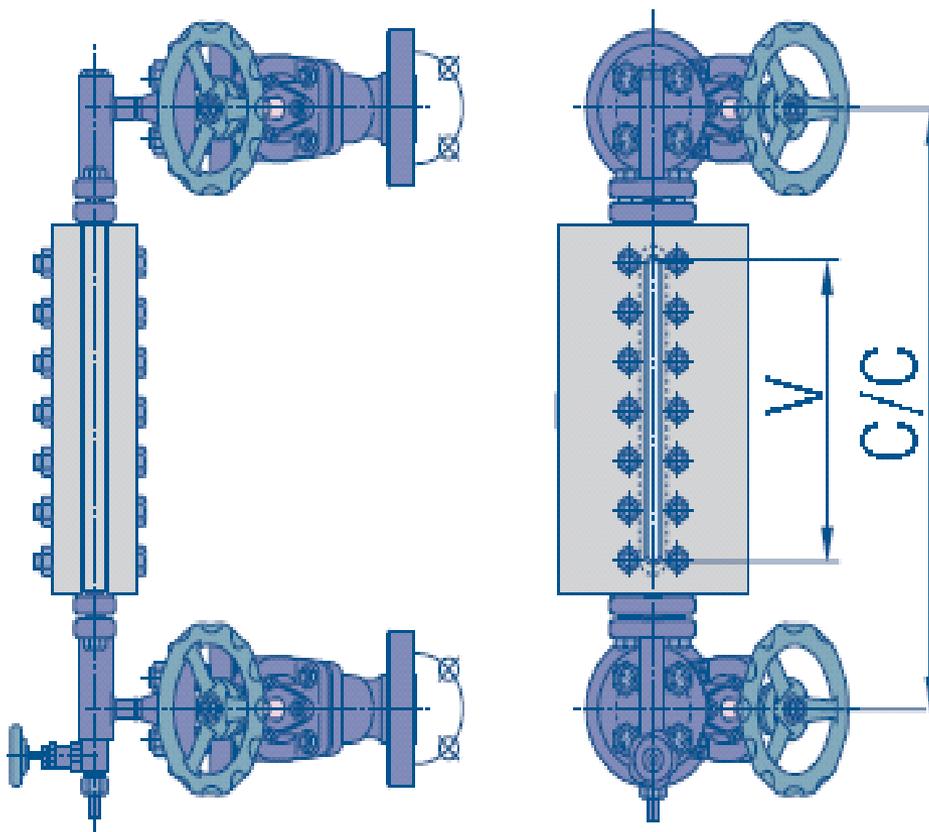
Material: FS/H

Mica shields

Standard Sizes from III to IX

Back Illuminator on request

Suitable for shut-off Fittings:
- DVK-2





THANK YOU
FOR YOUR ATTENTION