

### GENERAL NOTE – FLOW INDICATOR PRODUCTION

Sight glass indicators are pieces of equipment used to observe the flow of a fluid in a pipe.

Comprising a flanged body, completely machined as a single piece, with two pieces of glass held in place by two flanges, the sight glass indicator may contain a floating or static flow indicator, which allows for instant, safe monitoring of flow inside the pipe. On request, special versions for pressures and temperatures specified by the customer can be produced for use in a wide variety of industrial applications.

All of Blu Zac products have been designed to satisfy the requests and specific requirements of the customer, including high pressure applications.



### APPLICATION

- Steam mains
- Tracing lines
- Turbines
- Marine applications
- Presses

### CONNECTIONS

Buttweld	BW	ANSI B16.25
Flanged	FLG	ANSI B16.5

### SIZES

from 3/8" to 4"

### GLASS LIMITING CONDITIONS ( according to Glass DIN 7080 )









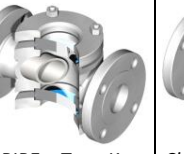
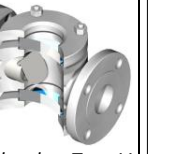
Size	3/8" form to 2"	3" and 4"
Max Working Pressure	51bar	51bar
Max Working Temperature	280°C	280°C

### BODY LIMITING CONDITIONS ( according to ASME B16.34 )

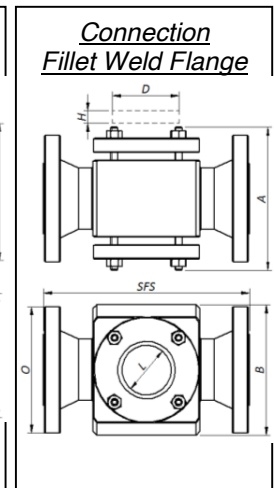
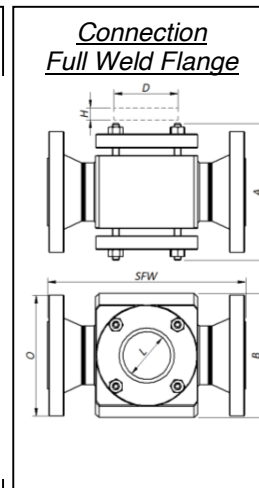
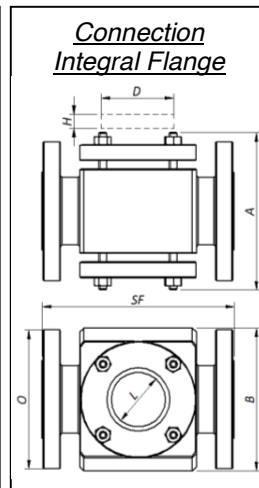
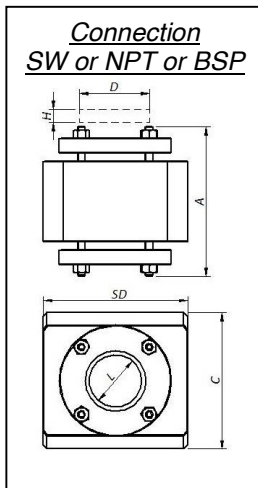
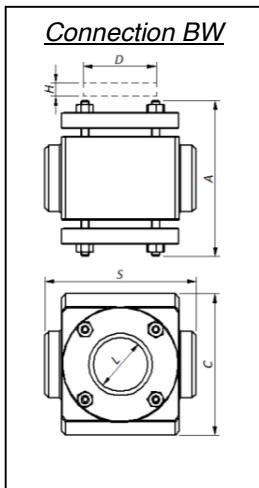
Body Material	A105 A350 LF2	A182 F304 A182 F316	A182 F304L A182 F316L	A182 F11 Cl.2 A182 F22 Cl.3	A182 F44	A182 F51 A182 F53
PMA: Max allowable pressure	51bar at 385°C	51bar at 500°C	41bar at 350°C	51bar at 450°C	51bar at 500°C	51bar at 500°C
TMA: max allowable temperature	400°C at 30bar	530°C at 35bar	400°C at 35bar	530°C at 35bar	530°C at 35bar	530°C at 35bar
PMO: max working pressure	51bar at 385°C	51bar at 500°C	41bar at 350°C	51bar at 450°C	51bar at 500°C	51bar at 500°C
TMO: max working temperature	400°C at 30bar	530°C at 35bar	400°C at 35bar	530°C at 35bar	530°C at 35bar	530°C at 35bar

Note 1: The Flow indicator max limiting condition are the same of Glass pressure and temperature value.

### GENERAL NOTE – FLOW INDICATOR CONSTRUCTION

CONNECTION	 BW	 Flanged				
GLASS	 1 Glass for each side	 2 Glass for each side				
INDICATOR	 Without – Type X	 LUG – Type Y	 BOAL – Type Z	 ROTOR – Type W	 PIPE – Type K	 Check valve Type V

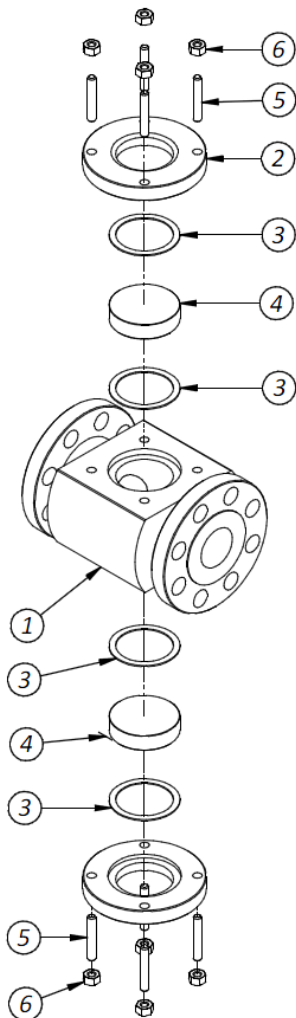
Size	S (mm)	SD (mm)	SF (mm)	SFS (mm)		SFW (mm)		A (mm)	B (mm)	C (mm)	D (mm)	H (mm)	L (mm)	O (mm)		Wt (Kg)		
				150RF	300RF	150RF	300RF							150RF	300RF	BW	150RF	300RF
3/8"	90	70	-	-	-	-	-	120	60	60	40	12	30	-	-	2	-	-
1/2"	90	70	140	150	160	190	200	120	95	60	40	12	30	89	95	2,1	4,5	5,3
3/4"	90	70	140	155	165	200	205	120	117	60	40	12	30	98	117	2,1	6,1	7,6
1"	110	80	160	170	180	225	235	130	124	70	50	12	37	108	124	2,9	7	8,8
1.1/4"	125	100	175	195	210	245	260	160	133	90	70	20	45	127	133	5,5	7,8	10
1.1/2"	125	100	175	205	215	255	265	160	133	90	70	20	45	127	133	5,5	8,4	11,4
2"	170	140	230	240	250	300	315	190	170	170	80	20	65	152	165	14	25	27
2.1/2"	170		310			315	325	210	190	170	80	20	65	178	190			
3"	180		310			325	345	210	210	170	80	20	65	190	210			
4"	180		350			335	355	240	255	170	80	20	65	229	254			



DIMENSION TOLLERANCE		
SIZE	DIMENSION	
	S & SF	A & B & O
3/8" to 1.1/2"	± 1	± 3
2" to 4"	± 1	± 5

POS	DESCRIPTION	MATERIALS	MATERIALS	MATERIALS	MATERIALS	MATERIALS	SPARES
1	Body	ASTM A105	ASTM A350 LF2	ASTM A182 F304	ASTM A182 F316	ASTM A182 F22 Cl.3	
2	Cover	ASTM A105	ASTM A350 LF2	ASTM A182 F304	ASTM A182 F316	ASTM A182 F22 Cl.3	
3	Gasket Seat	Graphite	Graphite	Graphite	Graphite	Graphite	X
4	Glass	Borosilicate Temperate	Borosilicate Temperate	Borosilicate Temperate	Borosilicate Temperate	Borosilicate Temperate	X
5	Stud	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B8	ASTM A193 B16	
6	Nuts	ASTM A194 Gr.2H	ASTM A194 Gr.4	ASTM A194 Gr.8	ASTM A194 Gr.8	ASTM A194 Gr.7	

Note 1: Other Materials and Dimensions on Request



#### HOW TO INSTALL:

Sight glass indicator can work in any position, however it should be preferably installed in horizontal line.

#### HOW TO DO MAINTENANCE:

1. Before starting, wear the required safety equipment and follow all plant safety procedures.
2. Stop the main line to make sure that no residues of dangerous waste fluid could be emitted.
3. Unscrew the studs(5) and nuts(6), then remove the flanges(2), gaskets(3) and glass(4).
4. Thoroughly clean the inside of the body and the glass. Inspect thoroughly to check for any damage; if the glass is damaged it must be replaced with a new one.
7. Replace: gaskets(3)
8. Reposition the flanges(2), then screw the studs(5) and nuts(6).
9. Slowly start the plant and check if there are any line losses.
10. Apply a label to the trap with the maintenance date.

#### ORDER CODE

i.e. GM 2" 150RF A105 – Type X  
GM 3" BW-XS A182 F316 – Type W