

SIGHT GLASSES

For Viewing
Inside of Closed
Systems

Tube Turns Technologies, Inc.



SIGHT

GLASSES

The SIGHT GLASS is rugged and simple in construction, assuring long service and minimal maintenance

The structural frame consists of an upper and a lower forged flange between which is fitted the sight lens. Both flanges normally are made of carbon steel: for corrosive services, the upper flange is of carbon steel and the lower of Type 304, 304L, 316, 316L stainless steel. The upper flange can also be furnished in stainless steel if required. External faces of both flanges have a 45° chamfer that provides maximum viewing area, and mating faces have carefully machined lens recesses that assure proper alignment and avoid loading the glass in bending, torsion or shear.

The 3/4" thick lens is of special borosilicate glass known to have a high degree of chemical, mechanical and thermal stability. Of annular edge design, the lens has a raised, flat rim that provides sufficient gasket surface area for effective sealing. The circular shape affords full 360° visibility without distortion

TWO TYPES OF LENSES

Lenses for Sight Glasses are furnished in two styles; tempered for non-corrosive applications up to 500°F where higher strength is desirable; and annealed for service up to 400° involving corrosives that could attack tempered glass, e.g., hot phosphoric acid and caustic soda solutions

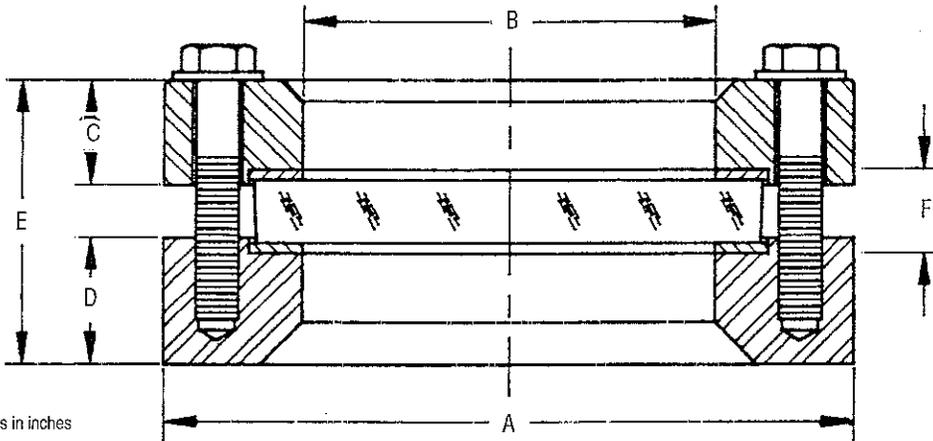
Resilient sheet gaskets are placed between the lens and flange surfaces to avoid concentrated stress and further promote uniform distribution of the clamping load

Sight Glasses are available in 4", 6" and 8" sizes. Other sizes and materials are available to order

INSTALLATION IS QUICK AND EASY

Sight Glasses are shipped as complete assemblies. They are installed simply by disassembling the unit, fillet-welding the lower flange directly to the vessel shell, replacing the lens and gasket, and tightening the clamp bolts in the usual sequence for making flange connections. Use of a torque wrench is suggested; recommended bolt torques for Sight Glasses are given in the table shown. Only sufficient clamping force to effect the seal should be applied since excessive force can distort the assembly and produce local stress concentrations

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All dimensions in inches

NOM SIZE	FLANGES					BOLTING				GLASS		MAX. OPERATING TEMPERATURE AND PRESSURE (PSI)*		APPROX LBS	WT.
	OUTSIDE DIA OF FLANGE A	DIA OF VIEW AREA B	THICKNESS OF UPPER FLANGE C	THICKNESS OF LOWER FLANGE D	OVERALL LENGTH E	DIA OF BOLT CIRCLE	NUMBER OF BOLTS	DIA OF BOLTS	BOLT TORQUE FT/LB	DIA OF LENS	THICKNESS OF LENS F	MAX. OPERATING TEMPERATURE AND PRESSURE (PSI)*			
												ANNEALED (400°F)	TEMPERED (500°F)		
4	5.750	2.88	1.13	1.25	3.00	4.75	6	0.38	8	4.00	0.75	150	450	15	
6	8.125	4.88	1.25	1.50	3.38	6.88	6	0.50	18	6.00	0.75	60	180	25	
8	10.500	7.25	1.25	1.50	3.38	9.25	8	0.50	20	8.38	0.75	30	90	35	

* Pressure based on glass rating
Temperature differentials of more than 200°F throughout the glass are not recommended

STANDARD MATERIALS
 Upper Flange: SA105/SA516-70
 Lower Flange: SA105/SA516-70, SA182/SA240 type 304, 304L, 316, 316L
 Bolts: SA325/SA193-B7
 Gaskets: 1/8" Composition Sheet, other materials available on request.
 Glass: 3/4" annular edge borosilicate, annealed or tempered
 Tempered glass is not recommended for service where glass may be chemically attacked.

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