

For Ammonia (R717) and Halocarbon Refrigerants

Features

- Suitable for ASME Code Vessels
- 1000 PSI/69 bar Working Pressure Limit
- SA36 Steel Construction Standard
- Available in Stainless Steel
- Suitable for Low Temperature Applications (-60°F /-51°C)
- 1100A–Canadian Registered (All Provinces)–CRN0F0829.2C



Description

The Phillips® Level Eye® is a reliable, industrial-type sight glass. The reflex lens indicates the true level of liquid present without requiring a second lens. The lens appears dark in the presence of liquid and clear when liquid is not present. Both reflex and clear lenses are suitable for refrigerant vessels such as receivers, intercoolers, suction accumulators, oil separators, surge drums, oil pots, columns, and liquid line indicators.

The standard length frost shield allows clear vision with refrigerant temperatures down to -20°F /-29°C, and a 1" longer frost shield is available for refrigerant temperatures below -20°F /-29°C.

Design Function

The Series 1100 Level Eye is machined from SA36 material, as specified in Section VIII, Division I of the ASME Boiler & Pressure Vessel Code. The housing may be welded directly into ASME Code vessels. The welding end is dimensioned to a nominal 1 1/2" IPS schedule 80 pipe. The weld neck or threaded neck is dimensioned to nominal 1 1/2" schedule 80 pipe. All retainers are annealed 416 stainless steel forgings. Type 304 stainless steel housings are also available in a 2" length.

The 1101 clear lens and 1101R reflex lens are both made of borosilicate glass. Both are used with a neoprene rubber gasket on the inside and a fiber buffer gasket on the outside (between the glass and the retainer). The maximum temperature differential for all glass is 477°F; the maximum temperature for the gaskets is 250°F. The maximum working pressure is 1000 PSI.

For applications below -20° /-29°C refer to figure UCS-66.01 of the ASME Code. Rupture of the glass in tests occurred in excess of 14,000 PSI. The Phillips Series 1100A and 1100 Level Eye is in compliance with the intent of the ASME Boiler & Pressure Vessel Code, Section VIII, Division I.

Level Eye® Assemblies and Parts

LEVEL EYE® ASSEMBLIES

Housing Style/Mat'l	Part Number *	Housing Length	Connection Geometry	Weight (lb)
Weld, SA36	1100	2"	Square End	1-1/2
	1100A	3"	Square End	2
	1100C	2"	Saddle Milled	1-1/2
	1100L	4"	Square End	3
	1100LC	4"	Saddle Milled	3
Weld, 304SS	1100S	2"	Square End	1-1/2
	1100LS	4"	Square End	3
Threaded, SA36	1100AT	3"	1-1/2" MPT	2
	1100T	4"	1-1/2" MPT	3
Thd'd Steel Forging	1100V	1-1/2"	2" MPT	1-1/2

* For complete part number, specify:

- **Lens:** Clear lens (Blank) or Reflex lens ("R")
- **Frost Shield:** No shield (Blank), Standard ("N"), or Extended ("NX")
- **Gasket Material:** Standard neoprene gasket (Blank) or PTFE gasket ("T")

Examples:

4" stainless steel Level Eye® with reflex lens, extended frost shield and PTFE gasket is 1100LS-RNXT

2" saddle milled Level Eye® with clear lens and standard frost shield is 1100C-N

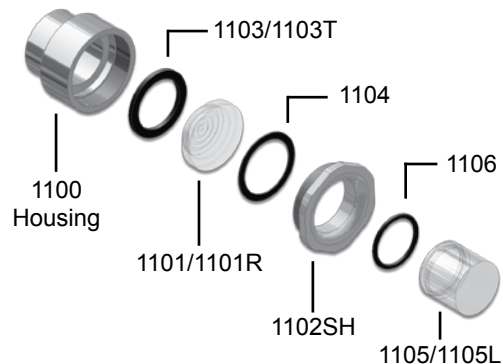
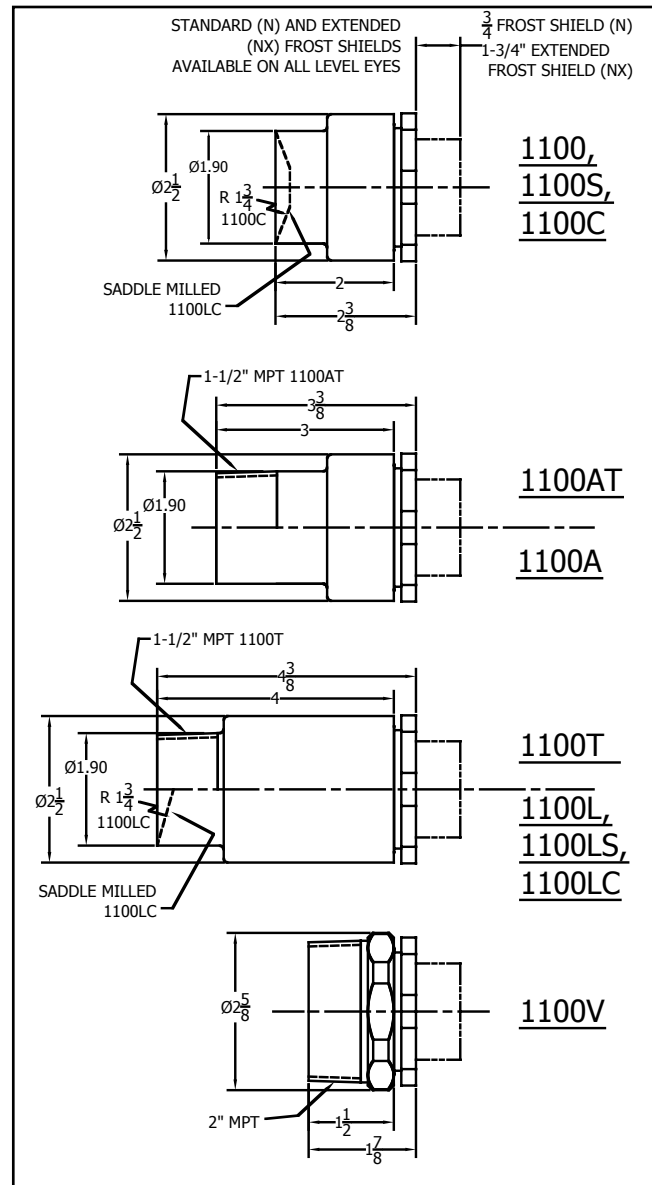
PARTS

Part Type	Part Number	Description
Housings, Weld, SA36	1100H	2" Long Housing, Square End
	1100AH	3" Long Housing, Square End
	1100CH	2" Long Housing, Saddle Milled
	1100LH	4" Long Housing, Square End
	1100LCH	4" Long Housing, Saddle Milled
Housings, Weld, 304SS	1100SH	2" Long Housing, Square End
	1100LSH	4" Long Housing, Square End
Housings, Threaded, SA36	1100ATH	3" Long Housing, 1-1/2" MPT
	1100TH	4" Long Housing, 1-1/2" MPT
Housing, Threaded Steel Forging	1100VH	1-1/2" Long Housing, 2" MPT
Lenses	1101	Clear Lens, Tempered Glass
	1101R	Reflex Lens, Tempered Glass
Retainer	1102SH	Retainer, Forged 416SS Hex
Gaskets & O-Rings	1103	Gasket, Neoprene
	1103T	Gasket, PTFE
	1104	Gasket, Vulcanized Fiber
	1106	O-Ring, Neoprene
Frost Shields	1105	Frost Shield, Acrylic, Standard Length (N)
	1105L	Frost Shield, Acrylic, Extended Length (NX)

INSTRUCTIONS

1. Verify proper assembly order as shown in exploded drawing (right).
2. Tighten 1102SH retainer to 30-40 ft-lbs torque.

LEVEL EYE® CONFIGURATIONS



H. A. Phillips & Co.

1612 Louise Drive
 South Elgin, IL 60177-2242 U.S.A.
 Phone: (630) 377-0050 • Fax: (630) 377-2706
 E-mail: info@haphillips.com
 or visit us @ www.haphillips.com

