

# DNV GL

## CERTIFICATE OF CONFORMITY

- [2] **EQUIPMENT OR PROTECTED SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC**
- [3] Certificate of Conformity Number: **DNV 16 ATEX 7695X**
- [4] Equipment: **AMETEK ASOMA 682T-HP Process Analyzer**
- [5] Applicant – Manufacturer or Authorized representative: **AMETEK Process Instruments**
- [6] Address: **150 Freeport Rd.  
Pittsburgh, PA  
USA**
- [7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres defined in Annex II to the directive.
- [9] Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to the applicable requirements of:  
**EN 60079-0:2012/A11:2013 and EN 60079-2:2014, EN 60079-7:2015/A1 2018, EN 60079-11:2012 and the applicable parts of IEC 60079-14:2007**
- [10] If the sign “X” is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This Certificate of Conformity relates only to the design, examinations and tests of the specified equipment.
- [12] The marking of the equipment shall include the following:



**II 3 G Ex db eb nA pzc [ib] IIB T\* Gc or Ex db eb nA pzc [ib] IIB+H2 T\* Gc or Ex db eb nA pzc [ib] IIC T\* Gc Or**

**Ex db eb nA pzc [ib] mb IIB T\* Gc or Ex db eb nA pzc [ib] mb IIB+H2 T\* Gc or Ex db eb nA pzc [ib] mb IIC T\* Gc May also include “nC”. See Table 1 for markings and Tamb.**

Houston, 2019-07-01  
for DNV GL Business Assurance USA

Mark Coppler  
*Sr. Product Certification Specialist*

Al Engler  
*Technical Reviewer*

[13] **Schedule**

[14] Certificate of Conformity No.: DNV 16 ATEX 7695X

**Certificate History**

Revision	Description	Report no.	Issue date
-	Original certificate	2016-9306	2019-07-01

[15] **Description of Equipment:**

The AMETEK ASOMA 682T-HP Process Analyzer is an instrument that uses a non-contacting X-ray method to analyze a process that flows in a pipe between the X-ray source and the receiver. The electrical portions of the unit and a pipe for the process to flow through are installed in an IP 66 stainless steel enclosure that is pressurized with leakage compensation. The unit has an infallible containment system. The pressurization is controlled manually by an Expo MiniPurge Ex pz controller. The power and signal wiring from the purged enclosure are installed in two or more Ex e termination boxes. There are provisions for intrinsic safety barriers to be mounted inside the Ex pz enclosure to provide intrinsically safe signal connections. Optional densitometers are offered that are mounted outside of the enclosure and are Ex protected.

**Type Identification:**

AMETEK 682T-HP

**Electrical Data:**

115-230 VAC 50-60 Hz 3A (7A with optional Air Conditioner)

**Purge data:**

Protective Gas.....Air  
 Enclosure Internal Free Volume ..... 212 ltr. + 10%  
 Minimum Purging Flow Rate.....225 l/min  
 Minimum Purge Time..... 15 Minutes  
 Minimum Overpressure..... 0.625 mbar  
 Maximum Overpressure..... 10 mbar  
 Maximum Leakage Rate..... 20 l/min  
 Minimum Supply Pressure.....4.0 bar  
 Maximum Supply Pressure.....5.0 bar  
 Maximum Process Pressure ..... 35 bar  
 Maximum Process Flow..... 208 l/min  
 Process Temperature .....(See table 1)

**Intrinsic Safety Parameters for signal connections:**

As marked on certified intrinsic safety barriers inside Ex pz enclosure.

**Degree of protection (IP Code):**

IP 66

**Ambient temperature:** (See table 1)

**Table 1 - ratings (text to enter in the label fields)**

Ex rating	Max process Temp	Notes
Ex db eb nA pzc [ib] IIC T2 Gc 0°C ≤ Ta ≤ +50°C	240°C with 5MBTU Cooler	Note 1,6
Ex db eb nA pzc [ib] IIC T3 Gc 0°C ≤ Ta ≤ +50°C	200°C with 5MBTU Cooler	Note 2,6
Ex db eb nA pzc [ib] IIC T3 Gc 0°C ≤ Ta ≤ +50°C	180°C with 5MBTU Cooler	Note 3,6
Ex db eb nA pzc [ib] IIC T3 Gc 0°C ≤ Ta ≤ +50°C	125°C with 5MBTU Cooler	Note 4,6
Ex db eb nA pzc [ib] IIC T4 Gc 0°C ≤ Ta ≤ +55°C	100°C with 5MBTU Cooler	Note 5,6
Ex db eb nA pzc [ib] IIC T4 Gc 0°C ≤ Ta ≤ +50°C	110°C with 1.5MBTU Cooler	Note 5,6
Ex db eb nA pzc [ib] IIC T4 Gc 0°C ≤ Ta ≤ +50°C	50°C	Note 5,6
Ex db eb nA pzc [ib] IIC T4 Gc 0°C ≤ Ta ≤ +25°C	110°C	Note 5,6

Certificate of Conformity No.: DNV 16 ATEX 7695X

For all Ex ratings, if item 47 (Thermo Fisher density meter) is included, the gas group will be IIB+H2. If items 51 and 52 (Coriolis transmitter and meter) are included, the gas group will be IIB. If air conditioner is included, "nC" is added to the marking string after "nA".

Note 1: Item 44, 47 and 52 (Density meter and Coriolis meter options) not available.

Note 2: Item 44 and 47 Density meter options not available. Tcode is to be T2 when item 52 (Coriolis meter option) is included.

Note 3 Item 44 Density meter not allowed. Max Process Temp with item 47 Density meter = 180°C.

Note 4 Max Process Temp with item 44 Density meter = 125°C.

Note 5 Item 44, 47 and 52 (Density meter and Coriolis meter options) may be included without impacting ratings.

Note 6 If item 56 (Disconnect Unit) is included, "mb" is added to the marking string after "[ib]" as follows:

Ex db eb pxb [ib] mb IIB T\* Gc or

Ex db eb pxb [ib] mb IIB+H2 T\* Gc or

Ex db eb pxb [ib] mb IIC T\* Gc

\*Tamb - see Table 1

[16] **Project No.:** PRJC-449463-2013-PRC-USA

**Descriptive documents**

Number	Title	Rev	Date
9700-140-VE	682T-HP ATEX Zone 2 (pz) Certification drawing	A	2019/06/23
9000-223-VE	Model 682T-HP Sulfur Analyzer ATEX Zone 2 (pzc) User Manual	C	2019 June

**Routine Test(s):**

Routine leakage and functional tests of EN 60079-2

Routine infallible containment test of EN 60079-2

Routine dielectric tests of EN 60079-7

[17] **Special conditions for safe use:**

1. The pressure of the sample system lines inside the Ex pz enclosure shall be externally limited to a maximum pressure of 35 bar and the flow rate limited to 208 liters/minute.
2. Oxygen content of the process fluid shall not exceed 2% (V/V) and the Upper Explosive Limit shall not exceed 80%.
3. The equipment shall be installed so the risk of mechanical impact on the display is low. To avoid electrostatic charge, wipe the main and purge controller displays with a damp cloth only.
4. Before installing this unit in a Zone 2 area, the button cell in the battery board of the PLC must be removed and taken from the hazardous area. This cell is only for memory retention during extended storage and transport periods. Do not reinstall the cell unless the unit is in a non-hazardous area

[18] **Essential Health and Safety Requirements:**

See clause 9 of this certificate

END OF CERTIFICATE