



Certificate of Compliance

Certificate: 80127301

Master Contract: 153857

Project: 80127301

Date Issued: September 23, 2022

Issued to: Vega Grieshaber KG
Am Hohenstein 113
Schiltach, Baden-Wurttemberg 77761
Germany
Attention: Mr. Markus Dieterle

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by:

Rupesh Kale

PRODUCTS

CLASS 2258 02 – Process Control Equipment - For Hazardous Locations

Class I, Division 1 Groups A, B, C, D; T6...T1;
Class I Zone 0/1, 1 Ex db IIC T6...T1 Ga/Gb, Gb

Class II, Division 1 Groups E, F, G;
Zone 20, 20/21, 20/22 21 Ex ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db
Dual Seal
Type 4X/6P, IP66/68

CLASS 2258 03 – PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

Class I, Division 2 Groups A, B, C, D; T6...T1;

Class II Division 2 Groups E, F, G, T*;
Class III, T*;





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Dual Seal
Type 4X/6P, IP66/68

CLASS 2258 82 – Process Control Equipment - For Hazardous Locations - Certified to US Standards

Class I, Division 1 Groups A, B, C, D; T6...T1;
Class I Zone 0/1, 1 AEx db IIC T6...T1 Ga/Gb, Gb

Class II, Division 1 Groups E, F, G;
Zone 20, 20/21, 20/22 21 AEx ta, ta/tb, ta/tc, tb IIIC T* Da, Da/Db, Da/Dc, Db
Dual Seal
Type 4X/6P, IP66/68

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive - Systems-For Hazardous Locations-Certified to U.S. Standards

Class I, Division 2 Groups A, B, C, D; T6...T1;

Class II Division 2 Groups E, F, G, T*;
Class III, T*;
Dual Seal
Type 4X/6P, IP66/68

Please refer to “Thermal Data” section for Ambient/process temperature and temperature class table.

VEGAPULS 6X Series

The VEGAPULS 6X is a level-measuring device based on microwave technology and used to detect the distance between the product surface and the sensor.

The VEGAPULS 6X can be installed either in zones 0/1, 1 with Ex db (Flameproof) protection, in zones 20, 20/21, 21 with Ex t (Dustproof) protection or in Class I Division 2, Class II Division 2 and Class III with Nonincendive type of protection.

It can be assembled with either one of the four different types of antennas versions available.

- a. Plastic horn antenna (B)
- b. Thread with integrated antenna (T)
- c. Flange with plastic plating (F)
- d. Flange with lens antenna (C)

EPL Ga/Gb equipment / Class I Division 1 equipment

Electrical equipment for explosive atmospheres is to be implemented in the boundary wall of the hazardous area separating zone 0 from zone 1. The measuring probe/antenna is mounted in zone 0 (EPL Ga) and the electronic housing is mounted in zone 1 (EPL Gb). These explosive atmospheres are separated by a glass fused metallic pane between enclosure and the antenna system.

EPL Gb equipment / Class I Division 1 equipment

The electronics housing and the antenna system with the mechanical fixing element are installed in zone 1.

Class I Division 2 equipment



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The electronics housing and the antenna system with the mechanical fixing element are installed in Class I Division 2 environment.

EPL Da equipment / Class II Division 1 equipment

The electronics housing and the antennas with the mechanical fixing element are installed in explosion-endangered areas of zone 20, in areas requiring instruments of EPL Da.

EPL Da/Db equipment / Class II Division 1 equipment

The electronics housing is installed in hazardous areas of zone 21 requiring instruments of EPL Db. The process connection element is installed in the separating wall, which separates areas requiring instruments of EPL Db with EPL Da. The antenna system with the mechanical fixing element is installed in hazardous areas of zone 20.

EPL Db equipment / Class II Division 1 or Division 2 equipment / Class III equipment

The electronics housing and the antenna system with the mechanical fixing element are installed in explosion-endangered areas of zone 21/22, in areas requiring instruments of EPL Db/Dc.

Nomenclature:

PS6X(Z)(*).a-b-c-de-f-g-hi-j-k-l-m-no-p-q-r-s-t-u

(Z) = not used or digit codes (for example SI) for soft labeling, *not relevant for approval*

(*) = 1 or 2 digit code for internal production control, *not relevant for approval*

a	Sensor Generation #
2	Second Generation
b	Application #
*	one digit code for preselection purposes, not relevant for approval
c	Radar Technology
W	80 GHz
de	Process fitting / Material
XX	universal, plastic horn antenna / PP/PBT
XC	Mounting strap, length: 170mm / 316L/316L
XD	Mounting strap, length: 300 mm / 316/316L
**	other process connection which complies with international or national standards
f	Antenna version #
B	plastic horn antenna
T	Thread with integrated antenna
F	Flange with plastic plating
C	Flange with lens antenna
g	Additional equipment #
X	without
K	Purging air connection
V	Purging air connection with reflux valve
l	Antenna system DD lacquered
hi	Material / Seal / Process temperature
AA	PEEK / FKM (SHS FPM 70C3 GLT) / -40...+150°C #
AB	PEEK / FKM (SHS FPM 70C3 GLT) / -40...+200°C #
AC	PEEK / FFKM (Kalrez 6230) / -15...+150°C #
AD	PEEK / FFKM (Kalrez 6230) / -15...+250°C #



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AE	PEEK / FFKM (Kalrez 6375) / -20...+150°C #
AF	PEEK / FFKM (Kalrez 6375) / -20...+250°C #
AG	PEEK / FFKM (Perlast G75B) / -15...+150°C #
AH	PEEK / FFKM (Perlast G75B) / -15...+250°C #
AJ	PEEK / FFKM (Perlast G74S) / -15...+150°C #
AK	PEEK / FFKM (Perlast G74S) / -15...+250°C #
AL	PEEK / EPDM (Ap 302) / -40...+150°C #
AL	PEEK / EPDM (A+P 70.10-02) / -55...+150°C #
AT	PP / PP / -40...+80°C #
AU	PP / FKM (SHS FPM 70C3 GLT) / -40...+80°C #
AV	PP / EPDM (COG AP310) / -40...+80°C #
AW	PTFE / PTFE / -60...+150°C #
A4	PTFE / PTFE / -60...+200°C #
AX	PTFE / PTFE / -196...+200°C #
AY	PTFE (8mm) / PTFE / -60...+150°C #
A5	PTFE (8mm) / PTFE / -60...+200°C #
AZ	PTFE (8mm) / PTFE / -196...+200°C #
A2	PFA (8mm) / PFA / -40...+150°C #
A3	PFA (8mm) / PFA / -40...+200°C #
j	Housing / Protection
A	Aluminium single chamber / IP66/IP68 (0.2bar)
H	Special colour aluminium single chamber / IP66/IP68 (0.2bar)
D	Aluminium double chamber / IP66/IP68 (0.2bar)
S	Special colour aluminium double chamber / IP66/IP68 (0.2bar)
V	Stainless steel single chamber (precision casting) / IP66/IP68 (0.2 bar)
W	Stainless steel double chamber / IP66/IP68 (0.2bar)
k	Cable entry / Connection
D	M20x1.5 / Blind plug
I	M20x1.5 / without
N	½NPT / Blind plug
Q	½NPT / without
*	other certified connection or cable gland suitable for the application
l	Display and operation
X	without
A	Display/adjustment module PLICSCOM
F	without; lid with inspection window
B	Display/adjustment module PLICSCOM, laterally mounted
K	Display/adjustment module PLICSCOM, with Bluetooth
L	Display/adjustment module PLICSCOM, laterally mounted, with Bluetooth
m	Electronics
H	two-wire 4...20 mA/HART
A	two-wire 4...20 mA/HART with overvoltage protection
no	Explosion Protection
n	=one-digit code for internal production control



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*E	Flameproof (XP)
*R	Protection by Enclosure (DIP)
*J	Flameproof (XP) + Protection by Enclosure (DIP)
*A	Nonincendive Equipment (NI)
p	SIL certified; #
X	without
*	with
q	IT security (IEC 62443-4-2); #
X	without
*	with
r	Approved as overfill protection; #
X	without
*	with
s	Foodstuff / Pharmaceutical certificate; #
X	without
*	with (FDA, EG 1935/2004)
t	Ship approval; #
X	without
*	with
u	Second Line of Defense #
X	without
S	with (for Ex-db)

- Not relevant for the type of protection considered under this project.

Electrical Data:

Voltage, V= 12 to 35 V DC,
Current, I= 21.5 mA



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Thermal Data:

Type of Protection: Explosion-proof (XP) / Flameproof (Ex-d)

Antenna Type (Code)	Versions	Process Temperature (Zone 0)	Ambient Temperature (Zone 1)		Temperature Class
			With blind cover Ts*=-60°C to +80°C	With Window Cover Ts*=-50°C to +80°C	
Plastic Horn Antenna (B)	80 °C Only with glass pane	Aluminium & Stainless Steel -40°C to +80°C	Aluminium & Stainless Steel -60°C to +75°C	Aluminium & Stainless Steel -50°C to +75°C	T6 T5 T4 T3...T1
Thread with integrated antenna (T)	Only with Glass pane G3/4" ATS 150 °C 3/4" NPT ATS 150 °C G1" ATS 150 °C 1" NPT ATS 150 °C G1 1/2" ATS 150 °C 1 1/2" NPT ATS 150 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C	Aluminium -60°C to +75°C -60°C to +70°C -60°C to +59°C -60°C to +52°C Stainless Steel -60°C to +74°C -60°C to +67°C -60°C to +50°C -60°C to +41°C	Aluminium -50°C to +75°C -50°C to +70°C -50°C to +59°C -50°C to +52°C Stainless Steel -50°C to +75°C -50°C to +67°C -50°C to +50°C -50°C to +41°C	Aluminium T6 T5 T4 T3...T1 Stainless Steel T6 T5 T4 T3...T1
	Only with Glass pane G1 1/2" ATS 200 °C 1 1/2" NPT ATS 200 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +195°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +195°C	Aluminium -60°C to +75°C -60°C to +72°C -60°C to +67°C -60°C to +62°C Stainless Steel -60°C to +75°C -60°C to +73°C -60°C to +63°C -60°C to +54°C	Aluminium -50°C to +75°C -50°C to +72°C -50°C to +67°C -50°C to +62°C Stainless Steel -50°C to +75°C -50°C to +73°C -50°C to +63°C -50°C to +54°C	Aluminium T6 T5 T4 T3...T1 Stainless Steel T6 T5 T4 T3...T1
	Only with Glass pane G3/4" ATS 250 °C 3/4" NPT ATS 250 °C G1" ATS 250 °C 1" NPT ATS 250 °C G1 1/2" ATS 250 °C 1 1/2" NPT ATS 250 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +195°C -60°C to +250°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +195°C -60°C to +250°C	Aluminium -60°C to +75°C -60°C to +72°C -60°C to +64°C -60°C to +60°C -60°C to +54°C Stainless Steel -60°C to +75°C -60°C to +70°C -60°C to +60°C -60°C to +54°C -60°C to +44°C	Aluminium -50°C to +75°C -50°C to +72°C -50°C to +64°C -50°C to +60°C -50°C to +54°C Stainless Steel -50°C to +75°C -50°C to +70°C -50°C to +60°C -50°C to +54°C -50°C to +44°C	Aluminium T6 T5 T4 T3 T2...T1 Stainless Steel T6 T5 T4 T3 T2...T1



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Antenna Type (Code)	Versions	Process Temperature (Zone 0)	Ambient Temperature (Zone 1)		Temperature Class	
			With blind cover Ts*=-60°C to +80°C	With Window Cover Ts*=-50°C to +80°C		
Flange with plastic plating (F)	Only with Glass pane PULS6X ATS DN25 150 °C PULS6X ATS DN50 150 °C PULS6X ATS DN80 150 °C	Aluminium -60°C to +80°C -60°C to +95°C	Aluminium -60°C to +75°C -60°C to +70°C	Aluminium -50°C to +75°C -50°C to +70°C	Aluminium T6 T5	
		-60°C to +130°C -60°C to +150°C	-60°C to +59°C -60°C to +53°C	-50°C to +59°C -50°C to +53°C	T4 T3...T1	
		Stainless Steel -60°C to +80°C -60°C to +95°C	Stainless Steel -60°C to +74°C -60°C to +70°C	Stainless Steel -50°C to +74°C -50°C to +70°C	Stainless Steel T6 T5	
		-60°C to +130°C -60°C to +150°C	-60°C to +58°C -60°C to +51°C	-50°C to +58°C -50°C to +51°C	T4 T3...T1	
		Only with Glass pane PULS6X ATS DN25 200 °C PULS6X ATS DN50 200 °C PULS6X ATS DN80 200 °C	Aluminium -60°C to +80°C -60°C to +95°C	Aluminium -60°C to +75°C -60°C to +71°C	Aluminium -50°C to +75°C -50°C to +71°C	Aluminium T6 T5
			-60°C to +130°C -60°C to +195°C	-60°C to +62°C -60°C to +62°C	-50°C to +62°C -50°C to +62°C	T4 T3...T1
	Stainless Steel -60°C to +80°C -60°C to +95°C		Stainless Steel -60°C to +75°C -60°C to +70°C	Stainless Steel -50°C to +75°C -50°C to +70°C	Stainless Steel T6 T5	
	-60°C to +130°C -60°C to +195°C		-60°C to +61°C -60°C to +54°C	-50°C to +61°C -50°C to +54°C	T4 T3...T1	
	Aluminium -196°C to +80°C -196°C to +95°C -196°C to +130°C -196°C to +195°C		Aluminium -30°C to +75°C -30°C to +71°C	Aluminium -20°C to +75°C -20°C to +71°C	Aluminium -20°C to +75°C -20°C to +71°C	Aluminium T6 T5
			-30°C to +62°C -30°C to +62°C	-20°C to +62°C -20°C to +62°C	-20°C to +62°C -20°C to +62°C	T4 T3...T1
		Stainless Steel -196°C to +80°C -196°C to +95°C	Stainless Steel -30°C to +75°C -30°C to +70°C	Stainless Steel -20°C to +75°C -20°C to +70°C	Stainless Steel T6 T5	
		-196°C to +130°C -196°C to +195°C	-30°C to +61°C -30°C to +54°C	-20°C to +61°C -20°C to +54°C	T4 T3...T1	



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Antenna Type (Code)	Versions	Process Temperature (Zone 0)	Ambient Temperature (Zone 1)		Temperature Class
			With blind cover Ts* = -60°C to +80°C	With Window Cover Ts* = -50°C to +80°C	
Flange with lens antenna (C)	Only with glass pane Flange Version 150 °C Swivel version 150 °C Cam lock version 150 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C	Aluminium -60°C to +75°C -60°C to +72°C -60°C to +65°C -60°C to +61°C Stainless Steel -60°C to +75°C -60°C to +70°C -60°C to +59°C -60°C to +52°C	Aluminium -50°C to +75°C -50°C to +72°C -50°C to +65°C -50°C to +61°C Stainless Steel -50°C to +75°C -50°C to +70°C -50°C to +59°C -50°C to +52°C	Aluminium T6 T5 T4 T3...T1 Stainless Steel T6 T5 T4 T3...T1
	Only with glass pane Flange Version 200 °C Swivel version 200 °C Cam lock version 200 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C -60°C to +195°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C -60°C to +195°C	Aluminium -60°C to +75°C -60°C to +72°C -60°C to +67°C -60°C to +65°C -60°C to +61°C Stainless Steel -60°C to +75°C -60°C to +73°C -60°C to +66°C -60°C to +61°C -60°C to +54°C	Aluminium -50°C to +75°C -50°C to +72°C -50°C to +67°C -50°C to +65°C -50°C to +61°C Stainless Steel -50°C to +75°C -50°C to +73°C -50°C to +66°C -50°C to +61°C -50°C to +54°C	Aluminium T6 T5 T4 T3 T2...T1 Stainless Steel T6 T5 T4 T3 T2...T1
	Only with glass pane Flange Version 250 °C Swivel version 250 °C Cam lock version 250 °C	Aluminium -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C -60°C to +250°C Stainless Steel -60°C to +80°C -60°C to +95°C -60°C to +130°C -60°C to +150°C -60°C to +250°C	Aluminium -60°C to +75°C -60°C to +72°C -60°C to +67°C -60°C to +65°C -60°C to +61°C Stainless Steel -60°C to +75°C -60°C to +73°C -60°C to +66°C -60°C to +61°C -60°C to +54°C	Aluminium -50°C to +75°C -50°C to +72°C -50°C to +67°C -50°C to +65°C -50°C to +61°C Stainless Steel -50°C to +75°C -50°C to +73°C -50°C to +66°C -50°C to +61°C -50°C to +54°C	Aluminium T6 T5 T4 T3 T2...T1 Stainless Steel T6 T5 T4 T3 T2...T1

Ts* = Service temperature range for the empty enclosure.



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Type of Protection: Dust Ignition proof (DIP) / Dust-proof Ex-t / Nonincendive (NI)

EPL Da equipment - Complete equipment (antenna and enclosure) installed in zone 20 (surrounded by 200mm dust)/Division 1:

- Maximum permitted ambient/process temperature **65°C**
- Maximum temperature rise considered on the internal component with the fault condition: **+35 K**
- Maximum surface temperature = 65 °C +35 K = **T100°C**

EPL Db equipment - Complete equipment (antenna and enclosure) in zone 21 (without dust layer)/Division 1:

- Maximum permitted ambient/process temperature **65 °C**
- Surface temperature = ambient/process temperature **+35 K**
- Maximum surface temperature = 65 °C +35 K = **T100 °C**



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EPL Da/Db equipment – Enclosure installed in zone 21 without a layer of dust, antenna installed in zone 20:
 Temperature rise: +35 K

Electronic Enclosure Material	Permitted process temperature range in Zone 20 at the antenna side	Permitted ambient temperature range in zone 21 at the electronic enclosure	Maximum surface temperature	
Plastic Horn Antenna (B)				
Aluminium	-40°C to 76°C	-40°C to 65°C	+100°C	
Stainless Steel	-40°C to 76°C	-40°C to 65°C	+100°C	
Thread with Integrated Antenna (T)**				
Aluminium	-60°C to 130°C	-40°C to 57°C	+132°C	
	-60°C to 130°C	-40°C to 65°C	+132°C	
	-60°C to 150°C	-40°C to 48°C	+152°C	
	-60°C to 195°C	-40°C to 62°C	+197°C*	
	-60°C to 195°C	-40°C to 63°C	+197°C*	
Stainless Steel	-60°C to 250°C	-40°C to 55°C	+252°C*	
	-60°C to 130°C	-40°C to 47°C	+132°C	
	-60°C to 130°C	-40°C to 65°C	+132°C	
	-60°C to 150°C	-40°C to 34°C	+152°C	
	-60°C to 195°C	-40°C to 49°C	+197°C*	
Stainless Steel	-60°C to 195°C	-40°C to 56°C	+197°C*	
	-60°C to 250°C	-40°C to 45°C	+252°C*	
	Flange with plastic plating (F)**			
	Aluminium	-60°C to 130°C	-40°C to 57°C	+132°C
		-60°C to 130°C	-40°C to 65°C	+132°C
-60°C to 150°C		-40°C to 48°C	+152°C	
-60°C to 195°C		-40°C to 62°C	+197°C*	
Stainless Steel	-60°C to 130°C	-40°C to 47°C	+132°C	
	-60°C to 130°C	-40°C to 65°C	+132°C	
	-60°C to 150°C	-40°C to 34°C	+152°C	
	-60°C to 195°C	-40°C to 49°C	+197°C*	
Flange with lens antenna (C)**				
Aluminium	-40°C to 130°C	-40°C to 65°C	+132°C	
	-40°C to 150°C	-40°C to 58°C	+152°C	
	-40°C to 195°C	-40°C to 62°C	+197°C*	
	-40°C to 195°C	-40°C to 63°C	+197°C*	
	-40°C to 250°C	-40°C to 55°C	+252°C*	
Stainless Steel	-40°C to 130°C	-40°C to 57°C	+132°C	
	-40°C to 130°C	-40°C to 65°C	+132°C	
	-40°C to 150°C	-40°C to 48°C	+152°C	
	-40°C to 195°C	-40°C to 49°C	+197°C*	
	-40°C to 195°C	-40°C to 56°C	+197°C*	
Stainless Steel	-40°C to 250°C	-40°C to 45°C	+252°C*	

* Marked temperature classes are not allowed for following locations:



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- Equipment installed in Class III locations, Nonincendive type of protection.
- Equipment installed in Class II locations where the location is classified due to organic dusts that may dehydrate or carbonize.

** Please refer to Safety instructions (Document number 66226 for DIP and 66228 for NI type of protection) to select appropriate temperature range based on the Enclosure housing type.

APPLICABLE REQUIREMENTS

Standard number	Title
CAN/CSA C22.2 No. 61010-1-12 + UPD1:2015, UPD2:2016, AMD 1-18	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
CAN/CSA C22.2 No. 60079-0:2019	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA C22.2 No. 60079-1:16 (R2021)	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA C22.2 No. 60079-26:16 (R2021)	Explosive atmospheres — Part 26: Equipment with Equipment Protection Level (EPL) Ga
CAN/CSA C22.2 No. 60079-31:15 (R2020)	Explosive atmospheres — Part 31: Equipment dust ignition protection by enclosure “t”
CAN/CSA C22.2 No. 60079-40:20	Explosive atmospheres — Part 40: Requirements for process sealing between flammable process fluids and electrical systems
CAN/CSA C22.2 No. 25-17	Enclosures for use in Class II, Division 1, Groups E, F, and G hazardous locations
CAN/CSA C22.2 No. 30:20	Explosion-proof equipment
CAN/CSA C22.2 No. 213-17	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 61010-1-2018 <i>Third Edition</i>	Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements
ANSI/UL 60079-0-2020 <i>Seventh Edition</i>	Explosive Atmospheres – Part 0: Equipment – General Requirements
ANSI/UL 60079-1-2020 <i>Seventh Edition</i>	Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/UL 60079-26-2017 <i>Third Edition</i>	Explosive Atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
ANSI/UL 60079-31-2015 <i>Second Edition</i>	Explosive Atmospheres – Part 31: Equipment Dust Ignition Protection by Enclosure “t”
ANSI/UL 122701-2021 <i>Third Edition</i>	Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids
ANSI/UL 121201-2021 <i>Ninth Edition</i>	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
FM 3600:2022	Examination Standard for Electrical Equipment for Use in Hazardous (Classified) Locations – General Requirements
FM 3615:2022	Examination Standard for Explosionproof Electrical Equipment – General Requirements
FM 3616:2022	Examination Standard for Dust-Ignitionproof Electrical Equipment – General Requirements



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MARKINGS

The manufacturer is required to apply the following markings:


- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The markings are applied on labels to the radar sensor housing in accordance with controlled document VEGAPULS 6X VEGAZW-6-73203 Rev. 07. The metallic label is either screwed/riveted or adhered to the enclosures. For an adhesive labels, a self-adhesive color laser foil (Colour Laser Film Black/White 11) manufactured by Schreiner Group GmbH & CO KG is used. These printed self-adhesive films are UL Recognized to Canadian requirements (PGDQ8) and UL Recognized (PGDQ2) and suitable for indoor and outdoor use on the enclosure (both Aluminium (Coated/Uncoated) and Stainless Steel) at an ambient temperature range of -40 °C to +100 °C. The marking plate is affixed to the exterior of the product.

The following markings are provided on the nameplate.

- Manufacturer's name: "Vega Grieshaber KG", or CSA Master Contract Number "153857", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model designation: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date, or serial number, traceable to year and month of manufacture.
- Enclosure ratings: As specified in the PRODUCTS section, above.
- The CSA Mark, as shown on the Certificate of Conformity.
- The CSA Mark, with or without the "C" and "US" indicators, as shown on the Certificate of Conformity.
- The designation "CSA 22CA80127301X" for "C" indicator, "CSA 22CA80127301" for "US" indicator.
- Hazardous Location designation: As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
- Method of Protection markings (Ex – markings): As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Zone" may be abbreviated "ZN".
- Temperature code: As specified in the THERMAL DATA section, above.
- The manufacturing location shall be identified if the equipment can be produced in more than one facility.
- Terminal Designations shall be permanently marked adjacent to each field wiring terminal.
- ISO 60417, Symbol 5019  shall be permanently marked adjacent to the equipment ground (protective conductor) terminal.
- The word "DUAL SEAL"



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- Rated maximum working pressure
- Rated process temperature range
- The words: “WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS” and “AVERTISSEMENT - RISQUE DE CHARGE ÉLECTROSTATIQUE POTENTIEL - VOIR LES INSTRUCTIONS”, or suitable equivalent.
- “WARNING – DO NOT OPEN WHEN EXPLOSIVE ATMOSPHERE IS PRESENT” and “ATTENTION – NE PAS OUVRIR EN PRÉSENCE D’UNE ATMOSPHÈRE EXPLOSIVE”, or suitable equipment.
- “WARNING – AN EXPLOSIONPROOF SEAL SHALL BE INSTALLED WITHIN 50MM OF THE ENCLOSURE AVERTISSEMENT – UN SCHELLEMENT DOIT ETRE INSTALLE A MOINS DE 50MM DU BOITIER.”, or suitable equivalent.

Conditions of Acceptability:

1. The device may only be powered by a power supply unit with a limited energy electric circuit max. 35 Vdc output in accordance with CAN/CSA-C22.2 No. 61010-1-12 / UL Std. No. 61010-1 (3rd Edition) chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
2. Equipment is only to be installed by trained personal in accordance to the installation, set-up, operation and maintenance of comparable devices and certified as being capable of such.
3. The nonmetallic enclosure parts of this equipment may become a spark ignition hazard in the presence of static electricity. The enclosure shall be cleaned only with a damp cloth, and the equipment shall be mounted to avoid building static electric charge from nonconductive process flow, strong air currents, or other potential charging through friction.
4. The flameproof joints are not intended to be repaired by the end user.
5. The temperature of cable entry point and branching point can be more than +60 °C, temperature-resistant connecting cables shall be used. please see instruction/installation manual before installation.
6. Entry devices installed in the equipment shall be of a technical standard that complies with the applicable requirements in this certificate. They shall be suited for the operating conditions and have a separate examination certificate. The special conditions specified for the entry device shall be complied with, and they shall be included in the type test, if necessary.
7. When cable glands or plugging connections are used their IP and Type rating must meet the installation requirements of CEC, Section 18, and NEC, Section 500 for installation in Zone and Division for methods of protection ‘Ex t’ and ‘Class II / Class III’.
8. VEGAPULS 6X was tested for the following process seals for the given process pressure as per CSA C22.2 No. 60079-40 and UL 122701 and passed without any leakage.

Type of Antenna	Tested Process Pressure (Based on primary seal)	Primary Seal considered
Plastic Horn Antenna (B)	-1 to +2 bar	PTFE TFM 1600 cover
Thread with integrated antenna (T)	-1 to +40 bar	Double O-rings
Flange with plastic plating (F)	-1 to +25 bar	Welded glass pane
Flange with lens antenna (C)	-1 to +3 bar	PTFE TFM 1600 cover

9. When the VEGAPULS 6X devices are used in Class II locations which are classified due to organic dusts that may dehydrate or carbonize, maximum ignition temperature/temperature class should not exceed the ignition temperature of the specific rated dust or 165 °C, whichever is lower.
10. In the case when an explosive atmosphere occurs in the ambient or/and in the process, The assessment of the equipment is based on the following atmospheric conditions:



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- pressure 80 kPa (0,8 bar) to 110 kPa (1,1 bar); and
- air with normal oxygen content, typically 21 % v/v.

The equipment is suitable for installation inside the process with the following process temperature and pressure ranges dependent on the model under the end user's responsibility.



Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80127301	2022-09-23	Original cCSA _{US} Certification for Radar sensor types VEGAPULS 6X Series. CLASS 2258-02, 2258-03, 2258-82, and 2258-83.

