Italia

CERTIFICATE

TYPE EXAMINATION CERTIFICATE

[1]

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Type Examination Certificate number:

TÜV IT 25 ATEX 0284 X Rev.1

[4] Equipment or Protective System: **V-FLANGE Industrial Valve Monitoring System**

[5] Manufacturer: **VELAN ABV S.r.l.**

[6] Address: Via Romana Ovest 27B - 55016 Porcari (LU) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] TÜV Italia certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R 25 EX 069 Rev.1.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018; EN 60079-11:2012

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 3G Ex ic IIB T3 Gc

This certificate may only be reproduced in its entirety and without any change, schedule included.

Issue date: 05th February 2026

TÜV Italia S.r.l.

Alberto Carelli

Industry Service - Real Estate & Infrastructure
Managing Director

This document is not valid without official signature and logo. The internal reference code is 722375751.

Italia

[13] **SCHEDULE**

[14] **TYPE EXAMINATION CERTIFICATE**
no. TÜV IT 25 ATEX 0284 X Rev.1

Certificate History

Revision:	Description:	Report rev.:	Issue Date:
-	First issue	-	25/08/2025
1	Correction of the marking with IIB gas group and updating of the listed documents	1	05/02/2026

[15] **Description of equipment**

V-Flange is a monitoring system for quarter-turn valves.
V-Flange is composed of a physical part, consisting of a stub with a joint suitable for transferring the motion from the operator to the valve, a set of electronic components for monitoring and a battery pack for power supply; data are transmitted via an integrated LTE modem.
V-Flange gives the valve the ability to memorize the number of manoeuvres performed, monitor the level of vibrations to which it is subjected, determine the orientation of its installation, any disassembly and the environmental characteristics of the place where the valve is installed (temperature, noise, and brightness). This information is obtained by processing the data collected by the sensor network integrated in the stub.
Using data collected from the sensor network, the V-Flange firmware determines where the valve is in its life cycle.
By comparing the ideal situation that should exist at that stage of life with current measurements, it can determine if there are any abnormal conditions, so as to inform whether the valve needs to be serviced.
The device is designed as intrinsically safe and can be installed in potentially explosive environments, classified in accordance with the ATEX directive as Zone 2 Gas.
The device can also be installed in non-hazardous areas.
Power is provided by a battery pack consisting of two primary 3.6V 19Ah lithium thionyl chloride cells and a supercapacitor.

Product identification

The mechanical interfaces for connecting the valve and actuator are flanged, in accordance with the ISO 5211 standard. There are six sizes of device, depending on the size of the flange for connecting the valve and actuator:

Model	Dimensions [mm]
V-Flange F25	300 x 300 x 270
V-Flange F30	350 x 350 x 270
V-Flange F35	415 x 415 x 270
V-Flange F40	475 x 475 x 270
V-Flange F48	560 x 560 x 270
V-Flange F60	686 x 686 x 270

Italia

[13] **SCHEDULE**

[14] **TYPE EXAMINATION CERTIFICATE**
no. TÜV IT 25 ATEX 0284 X Rev.1

Product code:

The identification code of each model is made up of five (5) alphanumeric fields:

VF	**ff**	**ddd**	**hhh**	**xxx**
Product code	Interface flange size	Stem diameter of the valve to be equipped	Protrusion of the valve stem to be equipped	Letters for variant configuration

Rated characteristics

Ambient temperature range	-30°C…+60°C
Main Power supply	2x Parallel Primary Lithium battery 3.6V, 19Ah, size D type ER34615 + supercapacitor type 1520
Max Power consumption	3.6V dc, max 100 mA
IP degree of enclosure	IP 66 (EN 60529)
Material of enclosure electronic board	Nylon PA12, Vapour Smoothing finished and painted
Wireless communication	Modem cat. LTE/GSM/GPRS/EDGE Max transmitted power 23dBm (200mW)

Warning label

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

[16] **Report no.** R 25 EX 069 Rev.1

Routine tests

None.

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

- The operating ambient temperature range is -30°C…+60°C.
- Installation, maintenance and use must be carried out in a manner suitable to prevent the accumulation of electrostatic charges on the equipment because the surface resistance of the material with which the housing is made is greater than 10^9 Ω.

Italia

[13] **SCHEDULE**

[14] **TYPE EXAMINATION CERTIFICATE**
no. TÜV IT 25 ATEX 0284 X Rev.1

- Use only batteries approved by the equipment manufacturer and listed in the instruction manual.

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

Assured by compliance with the standards set out in the [9].

[19] **Drawings and Documents**

Listed documents (prot. 722375751)

Title:	Description:	Pag:	Rev:	Date:
V-Flange - Nota Tecnica	Technical note and risk analysis	67	1.2	26/01/2026
NPVFCE001 + NPVFHAZARD001	Nameplate	1	0	07/10/2024
VFIOM-REV03-ATEX	Instruction manual and safety notes	17	03	13/01/2026
V-FLANGE-MB-A01-Doc	Main board SCH + PCB + BOM	Zip file CRC32: E93ED01D	B E.C.00	09/07/2025
V-FLANGE-COM-A01-Doc	Communication board SCH + PCB + BOM	Zip file CRC32: 8A3EAF1B	A E.C.01	09/07/2025

One copy of all documents is kept in TÜV Italia files

TÜV Italia • Gruppo TÜV SÜD • Viale Fulvio Testi, 280/6 • 20126 Milano • Italia • www.tuvsud.com/it