V-Flange manual valve remote monitoring system

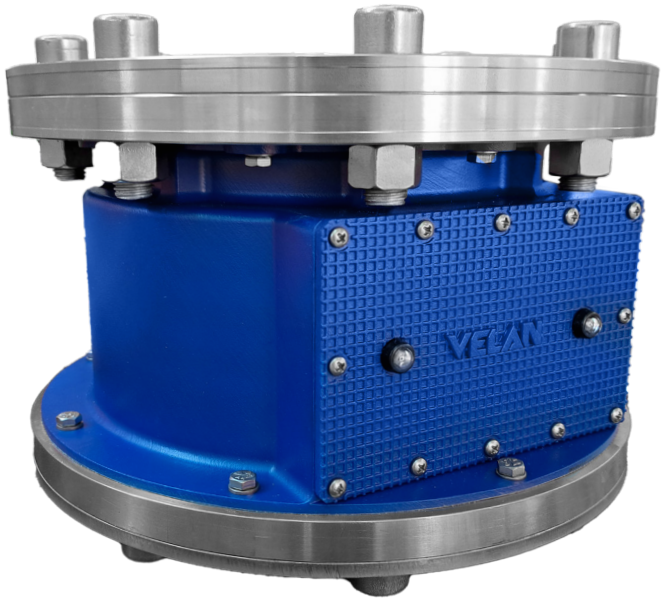
Quick sheet

VF25, VF30, VF35, and VF40

For valve sizes: NPS 6–24 (DN 150–600), ASME Classes 150–2500

V-Flange is an advanced and reliable remote monitoring system designed specifically for quarter-turn valves. This innovative solution combines a robust on-valve device with an intuitive cloud dashboard, offering comprehensive monitoring without the need for an external power supply or wired connection for data transmission.

Its advanced features and cloud integration ensure that end-users have all the information needed to maintain optimal valve performance and extended lifecycle, all the while reducing the need for manned inspections and interventions.



Technical specifications

Dimensions after installation diameter x height	Minimum: 300 x 200 mm Maximum: 560 x 250 mm
Operating temperature	-22 to 140°F (-30 to 60°C)
Angle resolution	15° for intermediate apertures 2° for 0°/90°
Mechanical interface	ISO 5211
Connectivity	4G LTE Cat 1 (LTE-FDD/LTE-TDD#/GSM#/GPRS#/EDGE#) Geolocalization TLS 1.3 ciphered transmission
Certifications	ATEX II 3G Ex ic

Design features

- **Seamless integration:** V-Flange is compatible with all ISO 5211 flanged valves, ensuring easy installation and broad applicability.
- **Power and data independence:** The system operates on internal batteries, lasting up to 5 years, and transmits data using an LTE modem, eliminating the need for wired power or data connections.
- **Comprehensive monitoring:** The dedicated electronic components and the intuitive dashboard for monitoring are the keys improve the maintenance cycles of manual valves and optimize their performance.

Monitoring capabilities

- **Operation counter:** Keeps a record of the number of actions (opening and closing), along with the time the valve has been operative.
- **Vibration levels:** Monitors and logs vibration data to identify potential mechanical issues. The sensors also determine and record the orientation of the valve installation.
- **Environmental characteristics:** Collects data on temperature, noise, and other environmental parameters at the valve installation site.

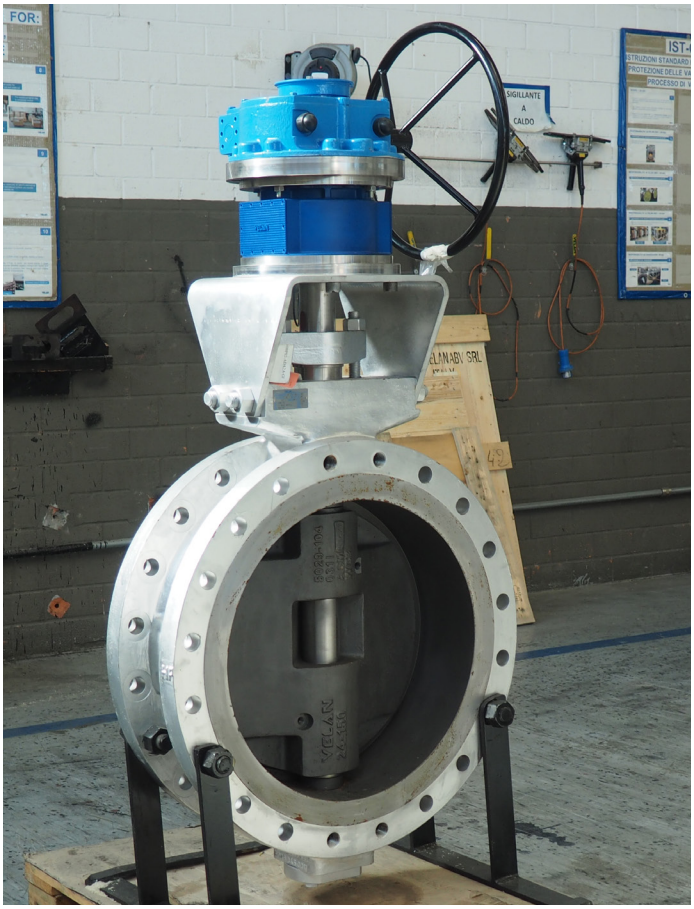
Valve coverage

Size NPS DN	ASME Class 150	300	600	900	1500	2500
6 150	–	–	VF25	VF25	VF25	VF25
8 200	VF25	VF25	VF25	VF25	VF25	VF30
10 250	VF25	VF25	VF25	VF25	VF30	VF30
12 300	VF25	VF25	VF25	VF30	VF30	VF35
14 350	VF25	VF25	VF25	VF30	VF35	VF35
16 400	VF25	VF25	VF30	VF30	VF35	VF40
18 450	VF30	VF30	VF30	VF35	VF40	–
20 500	VF30	VF30	VF35	VF35	VF40	–
22 550	VF30	VF30	VF35	VF40	–	–
24 600	VF35	VF35	VF40	VF40	–	–

Cloud platform

V-Flange transmits data using the state of art on crypto-graphic protocols (TLS 1.3); data is kept on a cyber-secure cloud platform, where it is organized and displayed in an easy-to-understand format. Key functionalities of the cloud platform include:

- **Data visualization:** Detailed graphs and charts are generated to visualize valve performance and environmental conditions.
- **Maintenance scheduling:** The condition of the valve is assessed, and necessary inspections or maintenance is recommended in accordance with best practices indicated in the valve's Installation, operation and maintenance (IOM) manual.
- **Notification:** Analyze sensor data to determine the valve operating condition and automatically identify and notify the user about any abnormal conditions that may require intervention.



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