

Valmet Industrial Internet

Using ValvesNow

2.0

The copyright to this publication is owned by Valmet Flow Control Inc. or its affiliates ("Valmet"). This publication may not be reproduced without permission and is intended for use by Valmet's customers only. Valmet reserves the right to make changes to information contained in this publication without prior notice, and the customer should in all cases consult Valmet to determine whether any such changes have been made.

Hardware and software products supplied by Valmet, including those referred to in this publication, are exclusively subject to the terms of written contracts between Valmet and its customer. Unless otherwise set forth in such contract, nothing in this publication including, without limitation, any statements regarding capacity, suitability for use, or performance of such products, shall be deemed to constitute a warranty or commitment for any purpose nor shall it be considered as part of such contract or giving rise to any liability by Valmet.

In particular, copyright and any other intellectual property rights to software applications described in this publication are vested in Valmet and/or its third-party licensors, as applicable. The license to such software is governed exclusively by the terms of the written Software License Agreement between the customer/user and Valmet, and any access, installation or use of such software shall be deemed to constitute acceptance of the terms of Valmet's Software License Agreement.

The name "Valmet", Valmet's product names and the Valmet logo are proprietary trademarks of Valmet Corporation and/or its subsidiaries. Any other trademarks, product names, company names and logos are the property of their respective owners.

© 2026 Valmet Flow Control Inc.

All rights reserved.



Valmet Flow Control Inc.
www.valmet.com/flowcontrol

Contents

1	ValvesNow	4
2	Using ValvesNow	4
2.1	Opening ValvesNow	4
2.2	Home page	5
2.3	Navigation between pages.....	5
2.4	Filtering the report content.....	5
2.5	Positioner changes	8
2.6	Colors in ValvesNow report	9
3	ValvesNow calculations.....	9
3.1	Valve severity	9
3.2	Automated analysis	9
3.3	Operation style	11
3.4	Control type	11
4	User interface.....	12
4.1	Summarization.....	12
4.1.1	Home page	12
4.1.2	Summary page.....	13
4.1.3	Severity page	13
4.2	Analysis category pages	14
4.2.1	Control page	14
4.2.2	Mechanical page	15
4.2.3	Operation page.....	15
4.2.4	Environment page	16
4.2.5	Status page	16
4.3	Drill through	17
4.3.1	Tag view page.....	17
4.3.2	Trend view page (Tag view subpage)	18

1 ValvesNow

ValvesNow is an automatic cloud-based valve performance analysis environment. It collects diagnostic data from Neles digital valve controllers on a daily basis and performs a comprehensive valve performance analysis weekly. The analysis pinpoints the worst acting devices and prioritizes valve issues for entire valve fleet.

2 Using ValvesNow

2.1 Opening ValvesNow

The ValvesNow application is opened in Valmet Customer Portal via the Process analytics menu. ValvesNow is a web application and is used with an internet browser. Supported browsers: Chrome (v. 90.0) and other Chromium based browsers (v.90.0).

Date/time format in ValvesNow pages follows the language setting of the web browser.

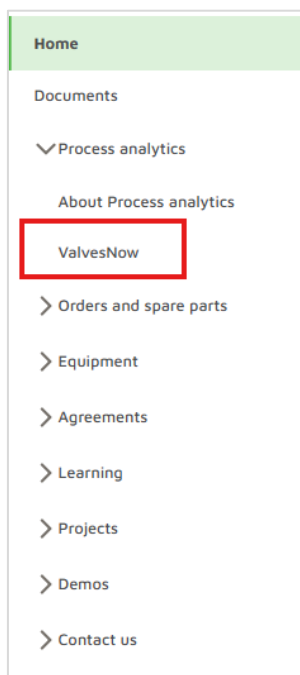


Figure 1. Navigation menu in Valmet Customer Portal

2.2 Home page

The Home page of ValvesNow summarizes the latest valve performance analysis results.

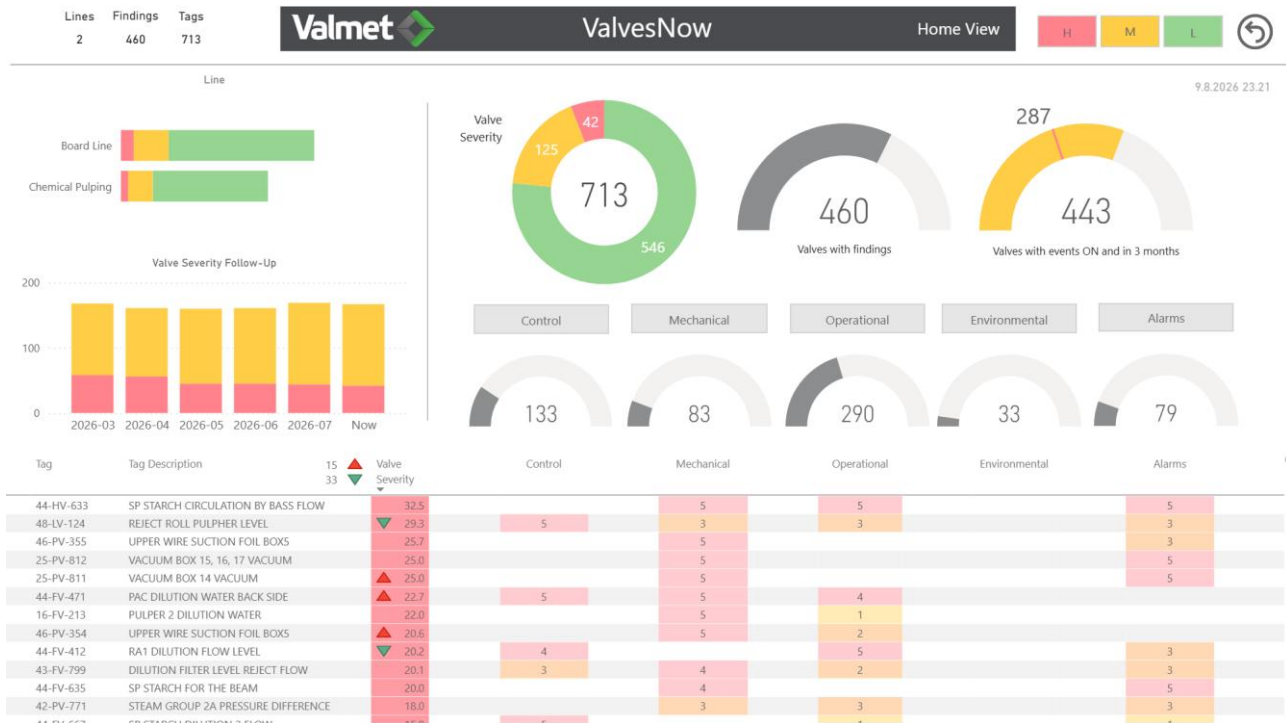


Figure 2. Home page of ValvesNow.

2.3 Navigation between pages

ValvesNow application contains several report pages to visualize the analysis results in different viewpoints. Navigation to the pages is done using the tabs in bottom of the ValvesNow application.



Figure 3. Page navigation.

Navigation back to the previous page can be done with the  icon on the top left corner of the page.

2.4 Filtering the report content

There are multiple different options to filter the content shown in the report pages.

Filtering by the visuals in report pages

Almost any object in the report can be clicked to filter the content with that selection. For example, on the *Home page* clicking the *Mechanical* button will filter the page to show only valves with mechanical findings.

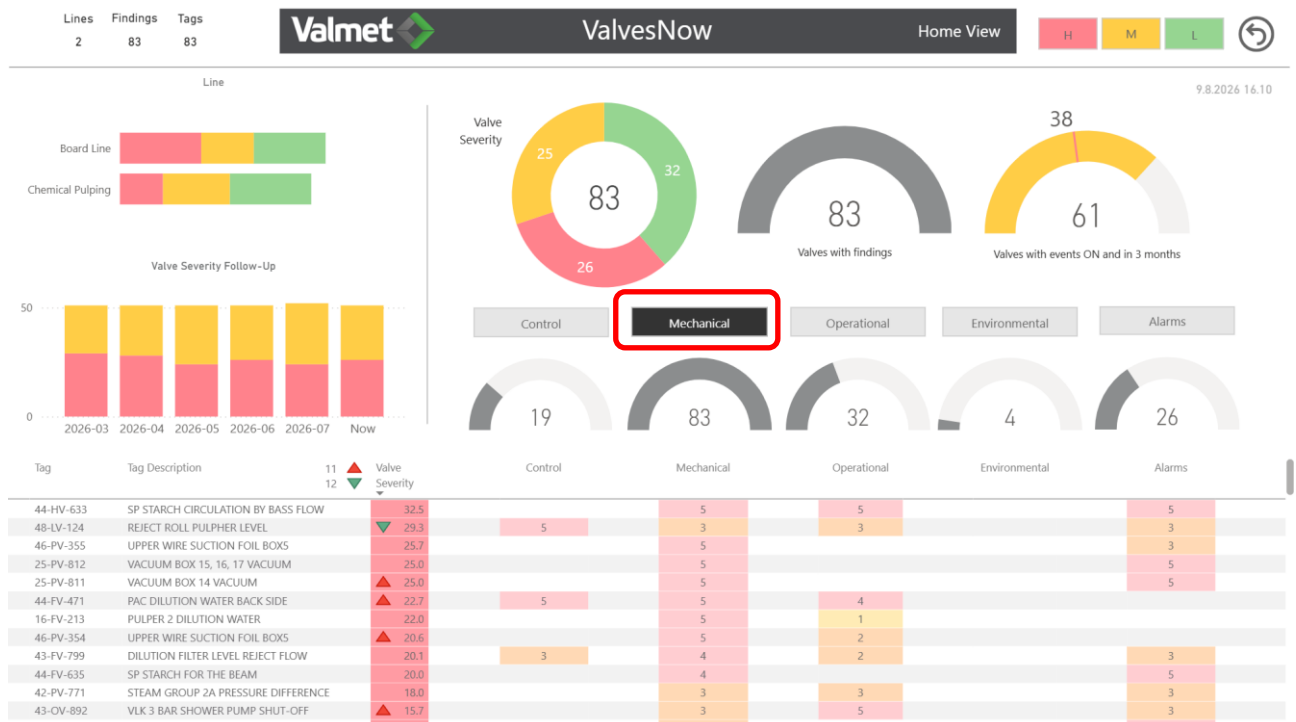


Figure 4. Mechanical button clicked, and the report content is filtered.

Multiple filter selections can be made by pressing down the **Control** button before clicking the next object. This way it is possible to show for example all the mechanical issues in valves located in a specific process area.

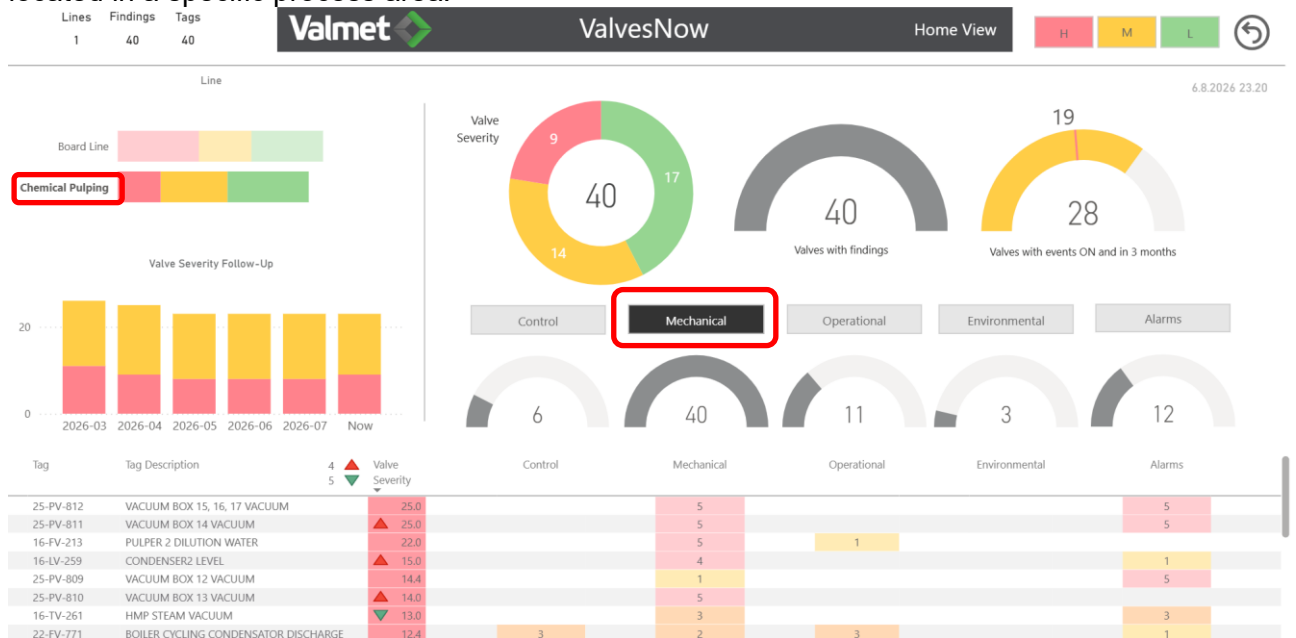


Figure 5. Production line Chemical Pulping clicked while pressing the Ctrl button. Two filters active.

Each page has two severity filtering fields. First is located on the column row of the main table. For mechanical page this is top left as seen in Figure 6. This selection filters increasing or decreasing severity devices, depending on which arrow is selected.

The other is found on the right of top bar. Here L (Low), M (Medium) or H (High) can be selected. This filters the page to show only devices in that severity criticality class.

Figure 6 shows the M (Medium) criticality devices that have increasing severity and at least

one current mechanical finding as it's on the Mechanical page.

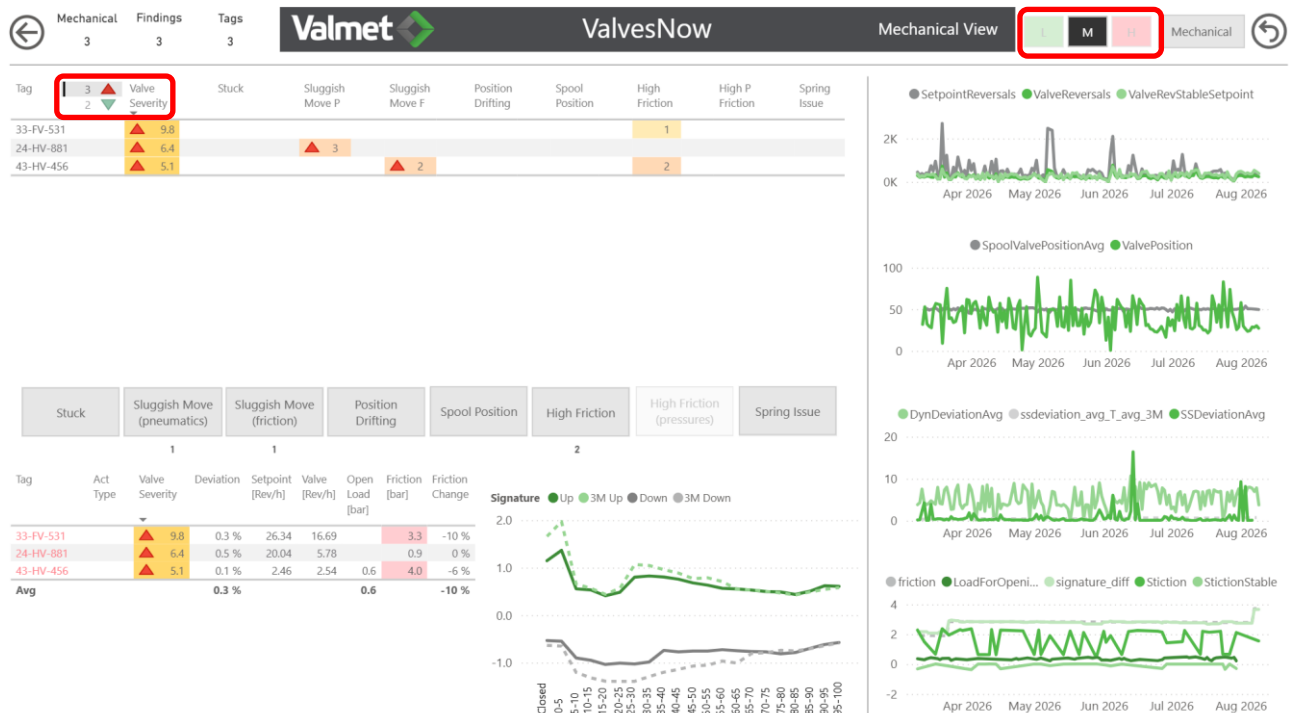


Figure 6. Medium, increasing severity devices. Two filters active.

Filtering by the data fields

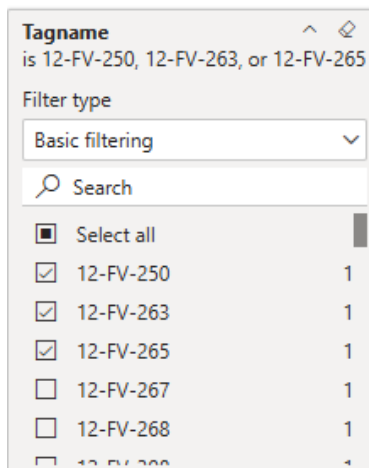
Filtering can also be done using the list of filters right to the report. These filters affect all the pages. Filters can be opened by clicking the arrow.



Figure 7. Opening the Filters panel.

Filtering is possible for example by production line, actuator type or tag name.

Filtering can be done by selecting the values from the list under the filter like in the picture below.



Tagname
is 12-FV-250, 12-FV-263, or 12-FV-265

Filter type
Basic filtering

Search

☒ Select all

☒ 12-FV-250 1

☒ 12-FV-263 1

☒ 12-FV-265 1

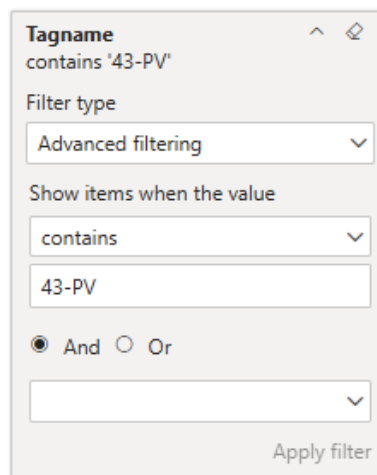
☐ 12-FV-267 1

☐ 12-FV-268 1

☐ 12-FV-269 1

Figure 8. Filtering by selecting values.

It is also possible to do more advanced filtering by selecting *Filter type*. Below is an example of showing only valves with tag name containing '43-PV'. *Apply filter* button needs to be pressed to make the filter active.



Tagname
contains '43-PV'

Filter type
Advanced filtering

Show items when the value
contains

43-PV

☒ And ☐ Or

Apply filter

Figure 9. Advanced filtering.

Resetting the filters

All the filters in a page can be reset by pressing the  icon in the top right corner of the page.

2.5 Positioner change

If a positioner has been changed in a tag during the last 3 months, it is expressed in Home and Summary pages with a red diamond icon. When the mouse is moved to that row, the change date is shown as a tooltip.

Tag	Tag Description	Valve Severity
46-PV-355	44-FV-667	18.2
42-PV-771	Positioner type Revision Criticality REFERENCE	18.0
 44-FV-667	ND9000 4	15.9
42-LV-802	CONDENCE TANK 8 LEVELS	15.9
54-FV-503	GEAR 3 FLOW	15.8
43-OV-892	VLK 3 BAR SHOWER PUMP SHUT-OFF	15.7

Figure 10. Positioner change indication in Home and Summary pages.

Positioner change is also shown in Tag view page with a red background for the tag name and a tooltip.

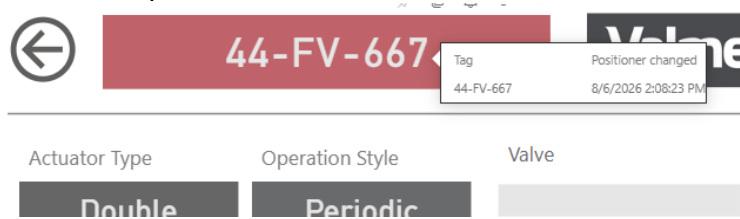


Figure 11. Positioner change indication in Tag view page.

2.6 Colors in ValvesNow report

ValvesNow report includes different color sets.

Severity is expressed in all the report pages with three different colors. The colors are red for high severity (> 10), yellow for medium severity (> 4 and < 10) and green for low severity (< 4).



Findings of automated analysis are shown with numbers 1-5, expressing how strong the symptoms are. These findings are shown in all the report pages with the following colors:



3 ValvesNow calculations

3.1 Valve severity

Valve severity is a weighted sum of all the issues found from the device data. The severity is used to prioritize the valve issues. Valve severity is a unitless value expressing how many and how severe issues are found from device data.

3.2 Automated analysis

The table below describes the issues the automated ValvesNow analysis is finding from the data. Each of these issues get a value between 0 to 5 for every device, expressing how strong the symptoms are. The results are divided into five main categories: control findings, mechanical findings, operational findings, environmental findings and alarm grading.

Issue	Category	Description
Strong control	Control	Control loop oscillation, where valve is asked to move rather big back and forth movements.
Oscillation	Control	Control loop oscillation, where valve is asked to move excessive amount of small back and forth movements.
Overshoot	Control	Valve has overshooting behavior. It takes few back and forth movements to find required position or valve is making larger movement than setpoint.
Sluggish control	Control	Valve is reluctant to control actions, not reacting to all small setpoint changes.
Hunting	Control	Valve unit is oscillating by its own (unstable positioner).
High friction	Mechanical	High values in friction related diagnostic measures.
High friction P	Mechanical	Abnormally high values in friction related diagnostic measures (pressure sensor drifted or corrupted).
Sluggish move P	Mechanical	Sluggish reactions to control actions (or valve stuck) due to pneumatic issues.
Sluggish move F	Mechanical	Sluggish reactions to control actions (or valve stuck) due to friction.
Stuck	Mechanical	Valve is stuck and doesn't move.
Position drifting	Mechanical	Valve movement is not reaching or is exceeding calibrated open and/or closed position.
Spool position	Mechanical	Abnormally high or low spool position or drastic change.
Spring issue	Mechanical	Single acting actuator malfunction.
Bottle neck	Operational	Valve is operating near max openings and might limit process capacity.
Small opening	Operational	Valve is operating with rather small opening angles causing excessive wearing and power lost in pumping.
Fully open	Operational	Valve has been fully open most of the time.
Fully closed	Operational	Valve has been fully closed most of the time.
Pressure off	Environmental	Supply pressure has been off or pressure level is low.
Pressure drop	Environmental	Sudden pressure drops in supply pressure during movement.
Pressure high	Environmental	Device has recorded very high or incorrect values for supply pressure.
Pressure break	Environmental	Supply pressure has spiked or stayed off.
Pressure change	Environmental	Supply pressure has changed drastically in long- or short-time window.
Temp high	Environmental	Device has experienced extremely high temperature values.
Temp low	Environmental	Device has experienced extremely low temperature values.
Alarm status	Alarms	Severity of alarms related to other than valve stuck indications.
Alarm stuck	Alarms	Severity of alarms related to valve stuck indications.
Positioner Problem	Alarms	Severity of alarms related to valve positioner indications.

3.3 Operation style

Operation style describes how the valve has been run during the last months. Note that it is possible that the operation has been different before.

The possible styles are:

- Control – valve is operating in the control range.
- Periodic – valve is partly operating in the control range but is also long times fully closed / open.
- Occasional – valve is mostly fully closed / open but occasionally go the control range.
- OnOff – valve is operated as on/off valve moving between fully closed and fully open.
- Closed – valve has been fully closed all the time
- Open – valve has been fully open all the time

3.4 Control type

Control type describes what kind of application the valve is meant for. This classification is based on the tag names of the valves. This information is only informative and can be used to filter the reports.

The possible control types are: flow, level, pressure, temperature, quality, hand (on/off) and other

4 User interface

4.1 Summarization

Summarization pages; home, summary and severity summarize your valve fleet into single pages varying in content between the pages. These pages focus on summarizing the whole fleet or area/line to see how the valves are overall doing. Summary pages focus on valve severity and visualizing valve fleet findings more than diving into detailed analysis.

4.1.1 Home page

Home page summarizes the analysis results and provides an overall view of your valve fleet with some statistics. It contains also a list of all the devices sorted by default according to valve severity. Valve tag description is read from Valmet Installed Base.

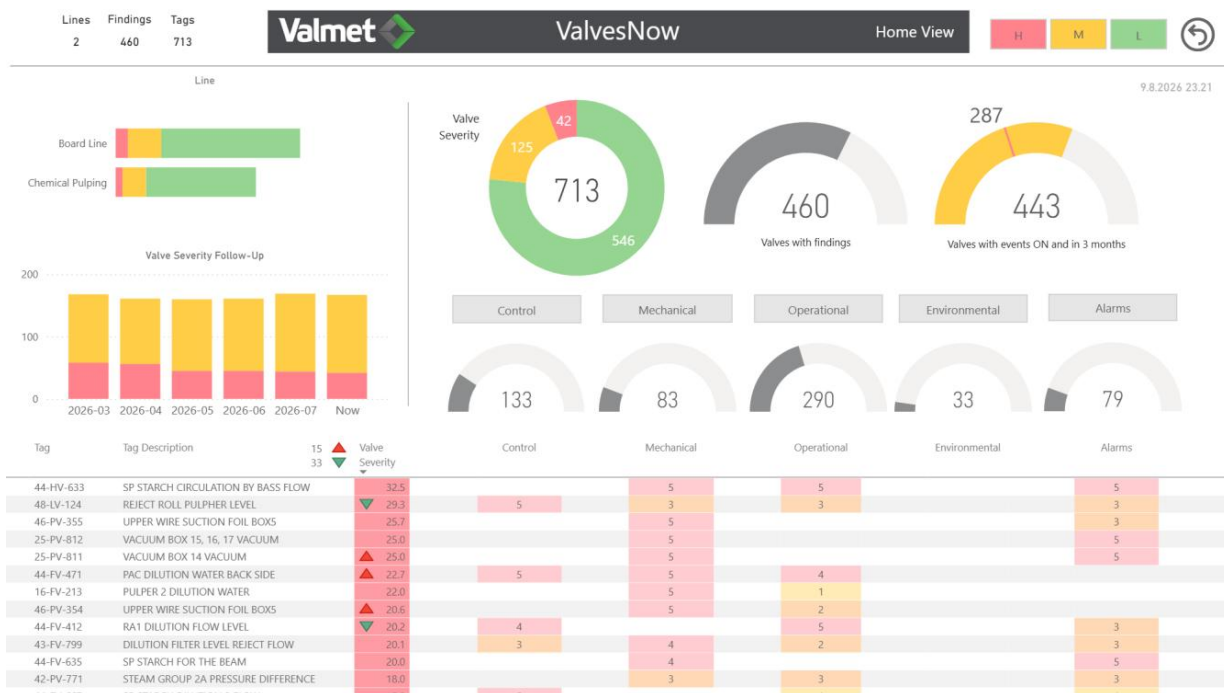


Figure 12. Home page.

4.1.2 Summary page

Summary page shows a table of the devices with analysis symptom strength results for every issue analyzed. Each column in the table is one issue the analysis detects. These issues are listed in chapter 3.2. The table can be sorted by any of the columns.

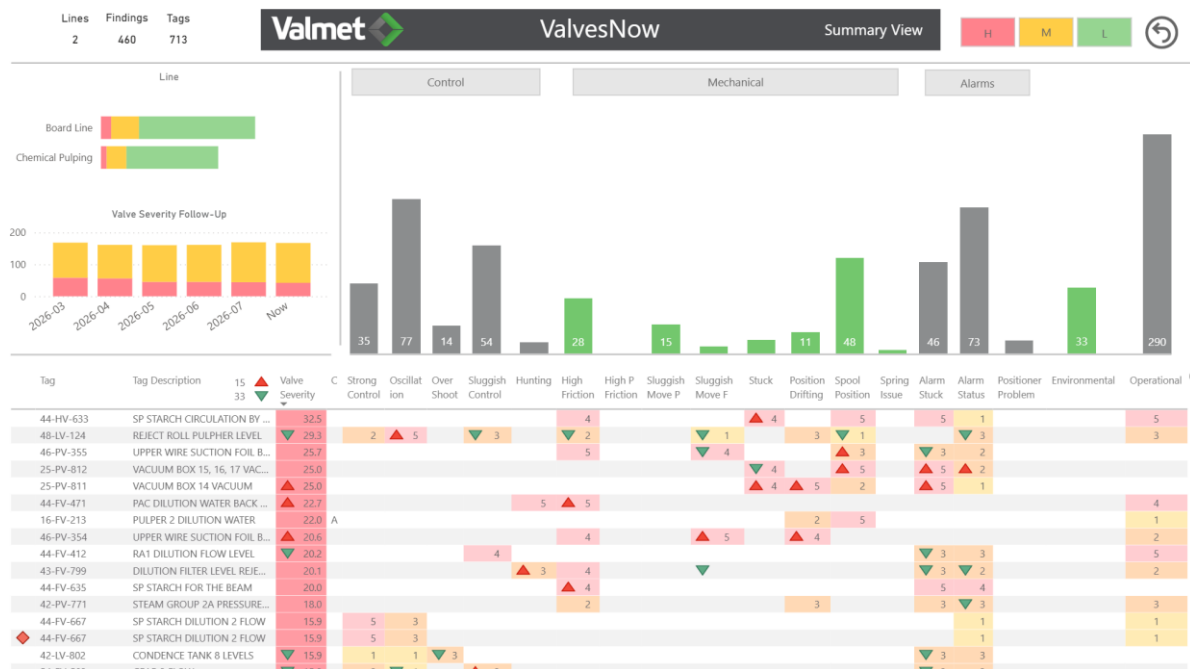


Figure 13. Summary page.

4.1.3 Severity page

Severity page concentrates on breaking down the severity values from history. Area table can be used to see how specific areas have developed over time. Can be used to find devices that have improved or worsened within last months.

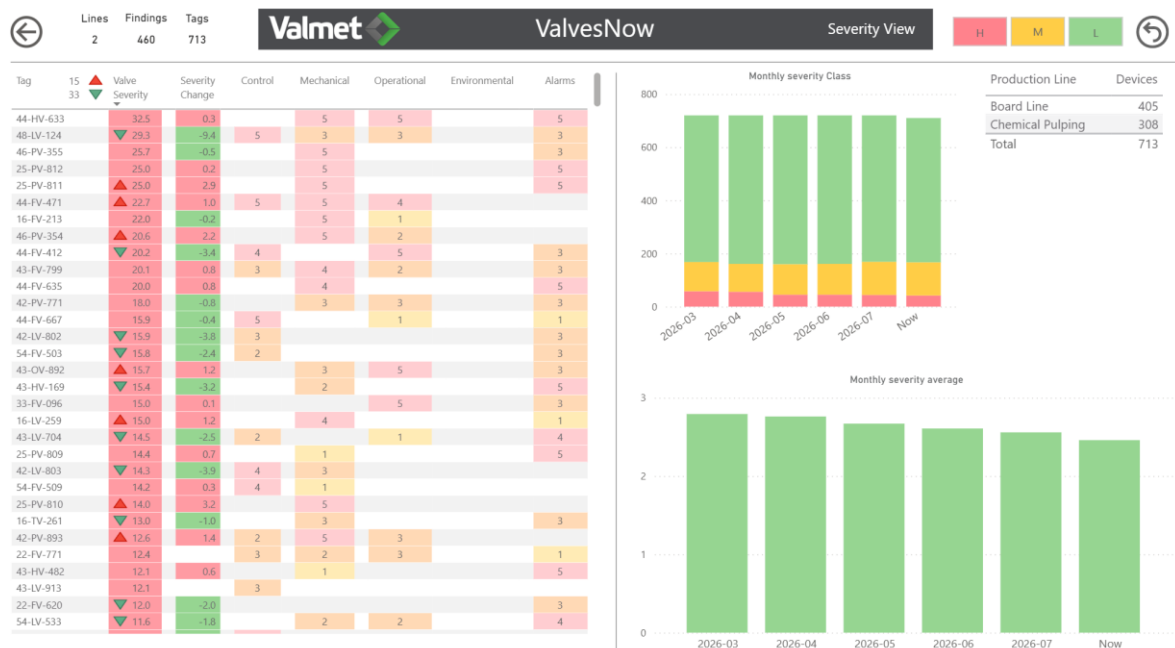


Figure 14. Severity page.

4.2 Analysis category pages

Following analysis category pages based on categories listed in chapter 3.2 focus on different areas of valve functionality. Each page varies but has same layout for coherent navigation and filtering.

Category page layout consists of main table, finding filters, data table and data visualizations. Main table shows the analysis findings from that category. Only devices with any of the findings active are listed on the main table. Main table rows have arrows (up/red and down/green) that visualize change. Up arrow tells that severity or finding has increased recently and down arrow the opposite.

Data table expands on these findings by showing relevant data for that specific category findings. Data table has all valves visible and the ones that have any of the category findings active, and is visible in main table, has red Tag column font.

Between main and data tables are the finding filters. These are unique to each page and filter valves based on their active findings. Filtering with them works as filters in Figure 4.

Finally on the right of the tables and filters are additional data visualizations. These vary on each page as some have more filtering pages and others trend-/bar visuals. Most relevant data is visualized to deepen the understanding of why a valve is flagged malfunctioning.

4.2.1 Control page

Control page concentrates on control operation related issues like oscillation, overshooting and sluggish movement of the valve.

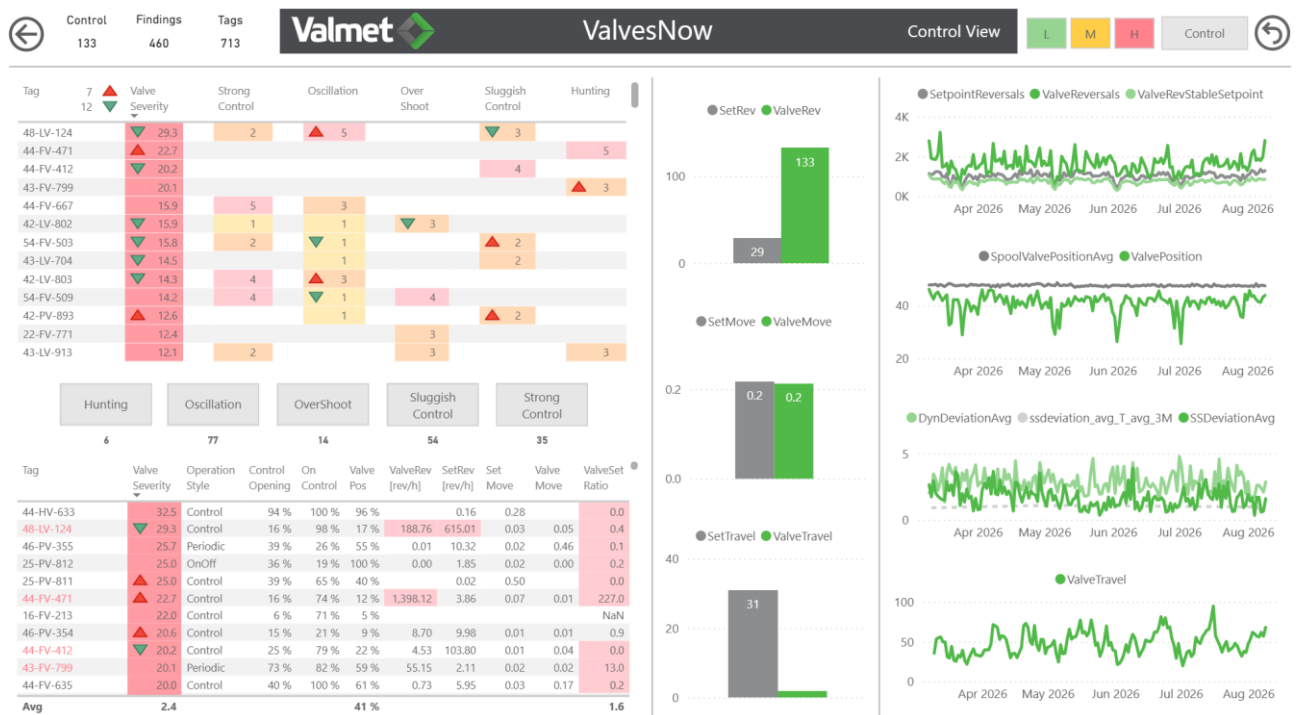


Figure 15. Control page

4.2.2 Mechanical page

Mechanical page concentrates on mechanical findings in valve operation like high friction and pneumatic leakage causing difficulties to move the valve as expected

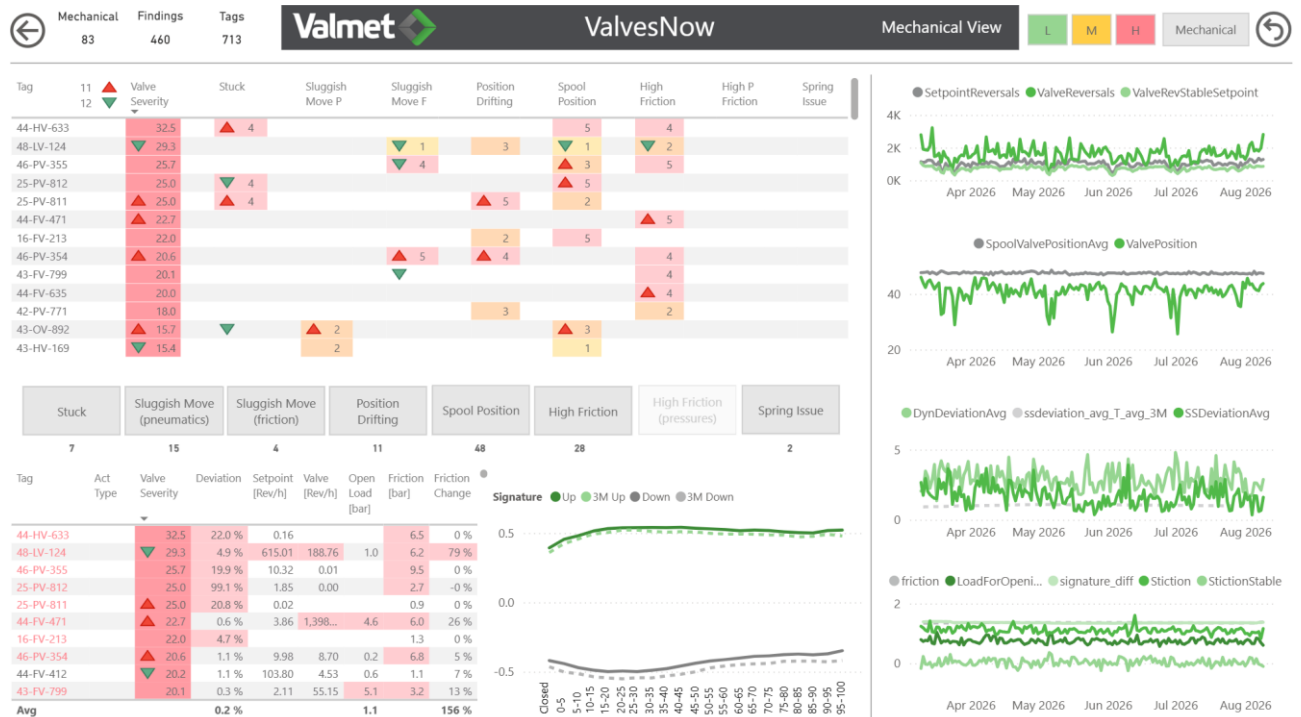


Figure 16. Mechanical page.

4.2.3 Operation page

Operation page concentrates on issues related to for example valve sizing. These issues are informative.

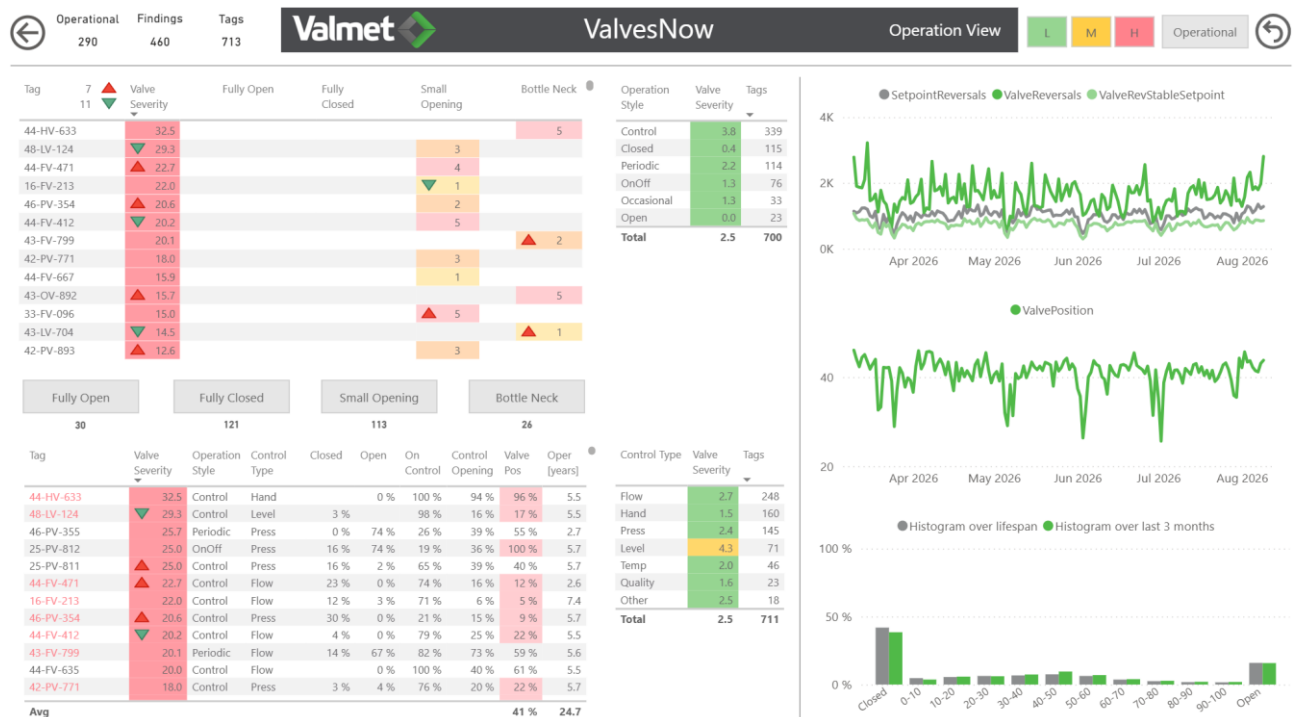


Figure 17. Operation page.

4.2.4 Environment page

Environment page concentrates on findings related to supply pressure level and external temperature.

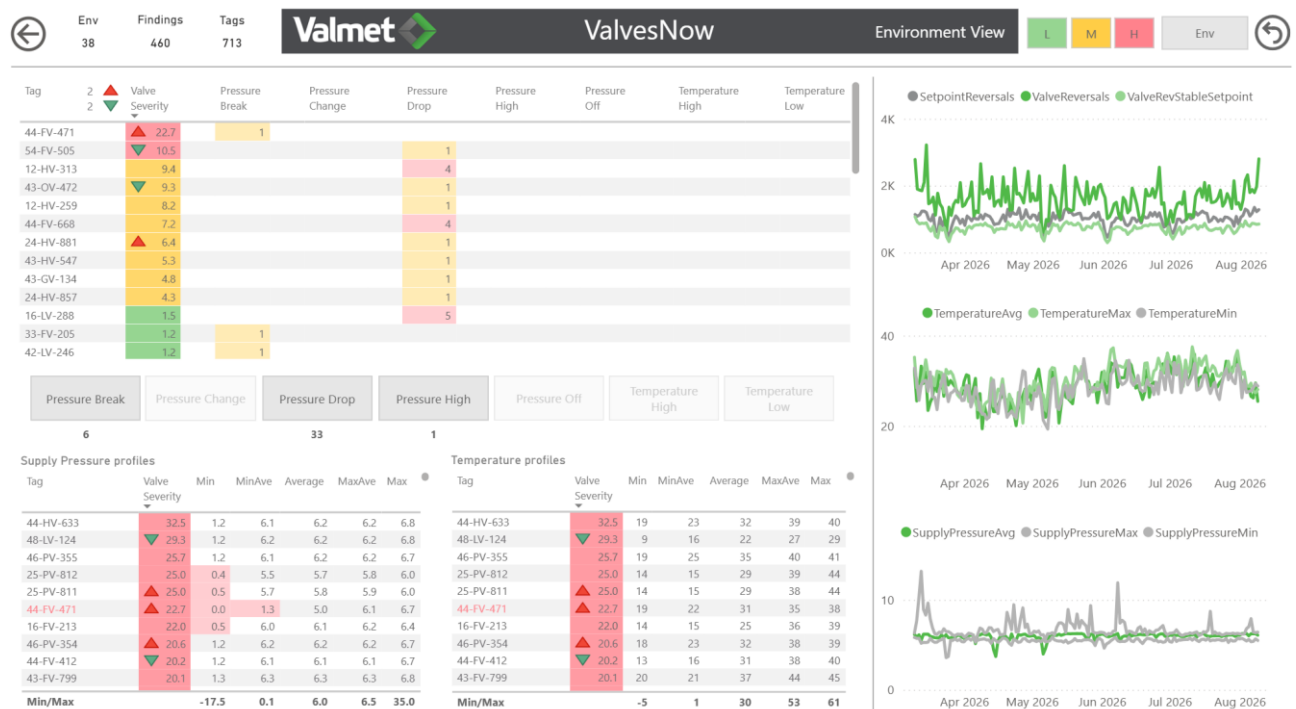


Figure 18. Environment page.

4.2.5 Status page

Status page concentrates on showing warnings and alarms generated by Neles digital valve

controller in intuitive way. The date/time format of the displayed events follows the language setting in the browser.

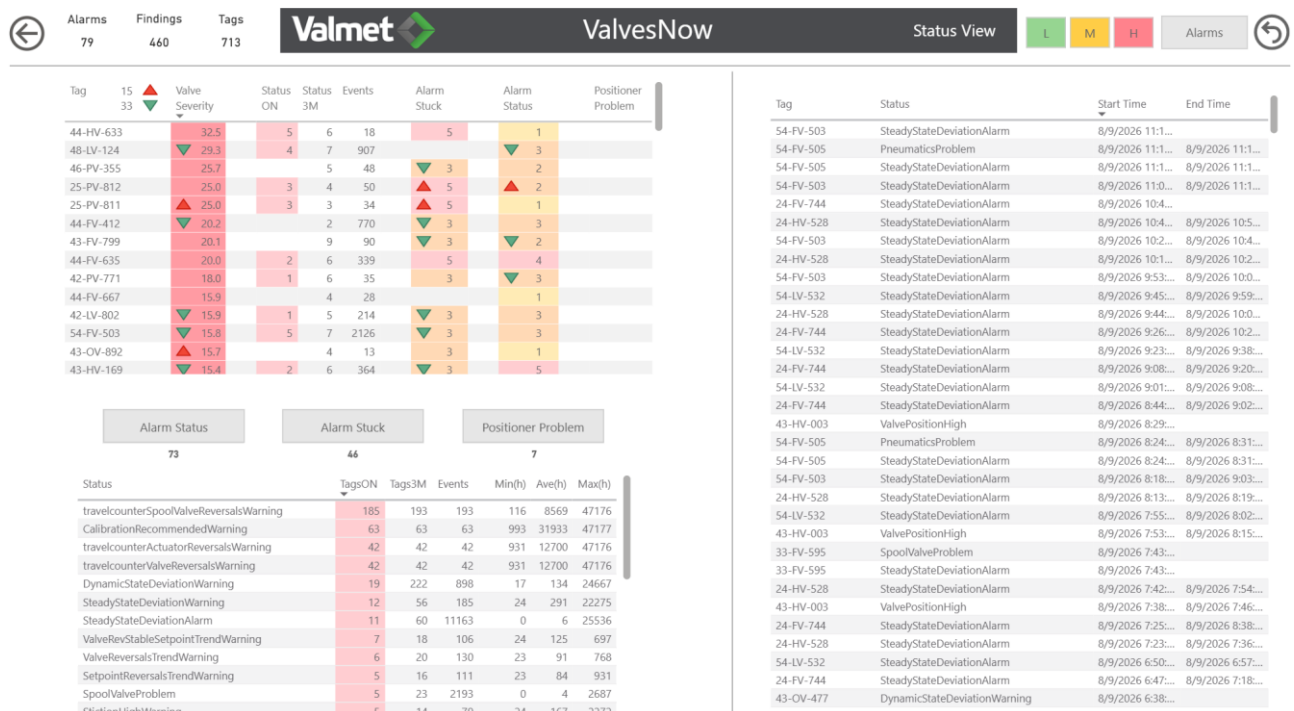


Figure 19. Status page.

4.3 Drill through

The device tag names in every report page can be used to drill through to valve details. This is done by clicking the row with the right mouse button and selecting command Drill through → Tag View.

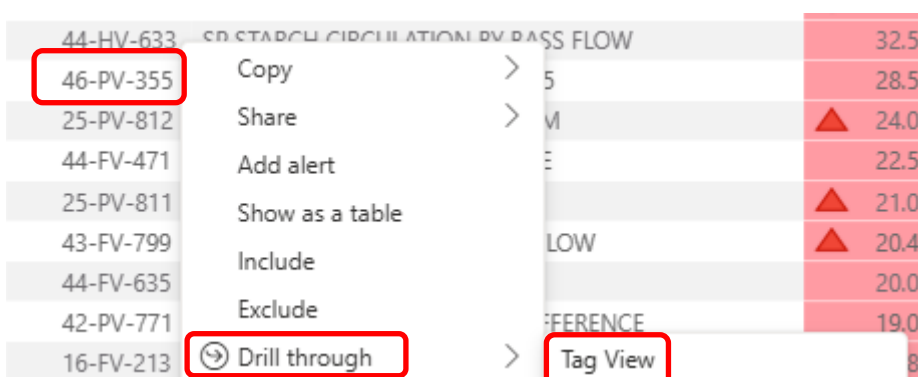


Figure 20. Drilling through to valve details.

Tag Details contains two different pages; Tag view and Trend view. These are explained in the next chapters.

When opening drilling through to Tag Details the first time, it shows the Tag View page. Switching to Trend View can be done with the icon. Switching back to Tag View can be done with the icon. When drilling through to Tag Details next time the previously open page (Tag View / Trend View) is displayed.

4.3.1 Tag view page

Tag View drills deeper into individual valve performance. In the *Tag View* page some information is read from Valmet Installed Base if this information is available. These include Tag description, type codes and serial numbers. In addition, status summary and raw diagnostics data are displayed.

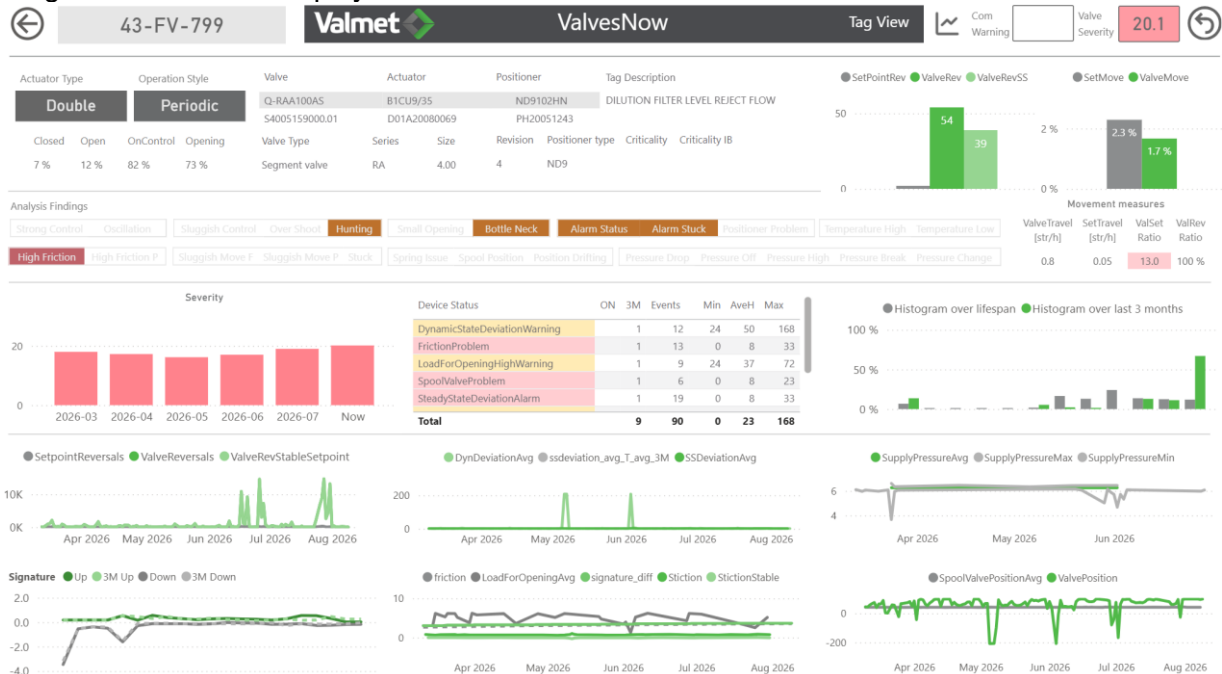


Figure 21. Tag View page.

Active findings from the valve data are displayed as blocks where non-white colors define the active issue.



Figure 22. Active issues.

4.3.2 Trend view page (Tag view subpage)

Trend View page is a subpage of Tag Details page. Trend view can be navigated by pressing the trend icon on Tag View page:



Figure 23. Navigation to Trend View from Tag view page.

Trend View expands on the Tag View by showing more raw data and findings as trends to see their history. Navigation back to Tag View page can be done by pressing the magnifying glass icon.

magnifying glass icon

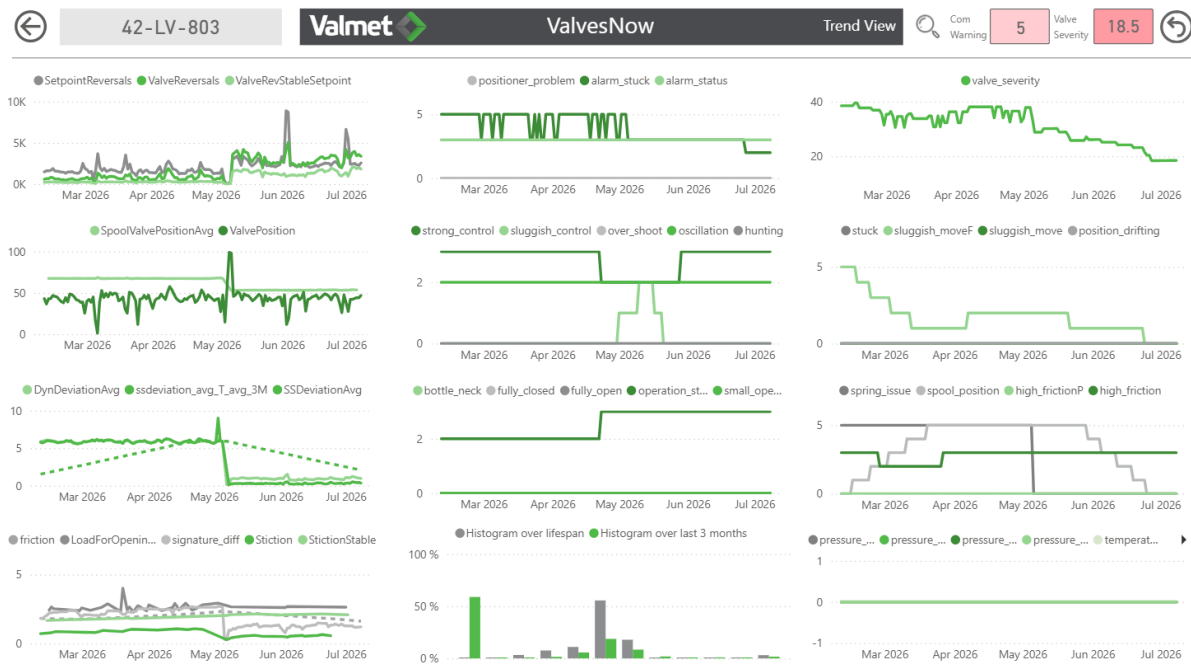


Figure 24. Trend View page.