

TECHNICAL DATA SHEET / EN

GUBER-AV/G

Wet alarm check valve with alarm trim

Guber AV/G is an assembly for wet-pipe sprinkler systems. It combines a clapper-type alarm check valve with grooved connections, alarm trim piping, test and drain functions, and a Guber-PS pressure sensor. The Guber-WG water motor gong is not included in the scope of supply and must be ordered separately.

The valve permits water flow only towards the system, prevents reverse flow and, when the clapper opens, directs water to the alarm line. The retard chamber reduces unwanted alarms caused by short-term pressure fluctuations.



01 Application

For water-filled wet-pipe sprinkler systems only, installed in areas protected from freezing. Install the assembly vertically, with the flow arrow pointing upwards. Provide service access and safe, unobstructed discharge for all water outlets.

02 Key specifications

Parameter	Value / requirement
Product version	Guber AV/G — valve with alarm trim; Guber-WG ordered separately
System type	Wet-pipe sprinkler system; medium: water
Size range	DN50–DN300 (2–12 in)
Connections	Grooved × grooved; grooves in accordance with AWWA C606
Maximum valve working pressure	300 psi / 20.7 bar
Valve / wet-system operating temperature	4–70 °C
Installation orientation	Vertical; upward flow
Body finish	Internal and external epoxy coating
Guber-WG water motor gong	Not included in the scope of supply; ordered separately

03 Assembly construction and operating principle

The drawing shows the construction of the Guber AV/G assembly and the arrangement of the principal alarm trim components.

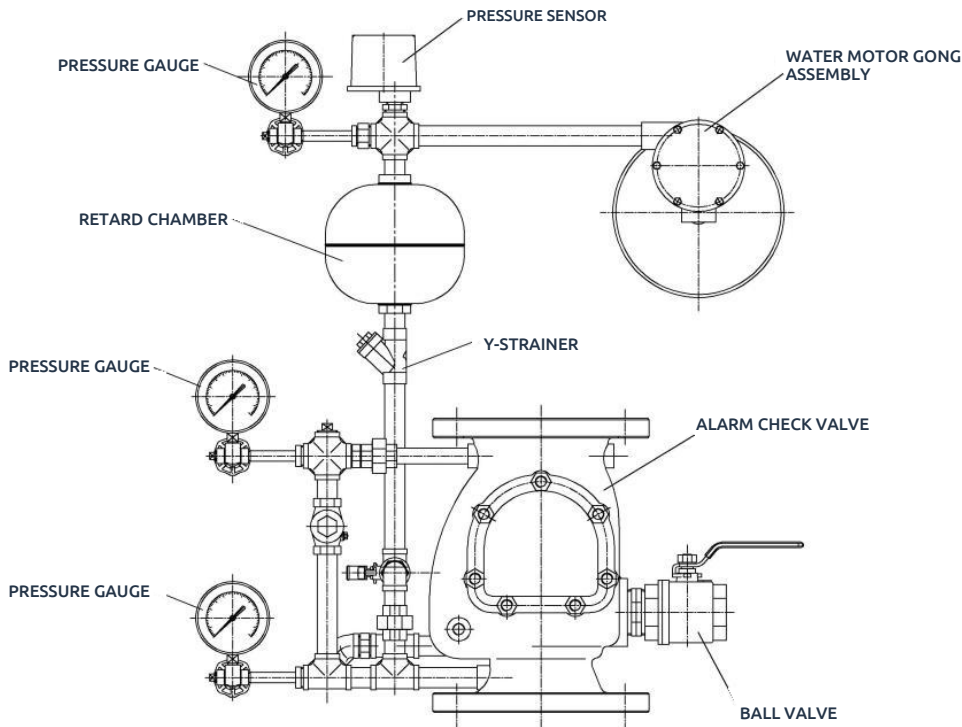


Figure 1

The Guber-WG shown is an optional accessory and is not included in the scope of supply.

Operating principle

Condition	Process	Result
Standby	Pressure on both sides of the clapper is balanced. Short pressure surges are absorbed by the bypass and the chamber drain.	No alarm signal; the system remains ready for operation.
Alarm	Operation of a sprinkler reduces pressure on the system side. The pressure differential lifts the clapper and opens flow to the system and the alarm port.	Sustained flow fills the retard chamber and operates the pressure sensor and, where fitted, the optional Guber-WG water motor gong.
Reset	When flow stops, the clapper reseats and water from the retard chamber and alarm line drains through calibrated outlets.	The alarm signal ceases after the circuit has drained; inspect the assembly and restore all components to their normal operating positions.

04 Hydraulic diagram and identification

The diagram shows the assembly's hydraulic connections, valve positions, three pressure-measurement points, alarm circuit, compensating bypass and separate drains.

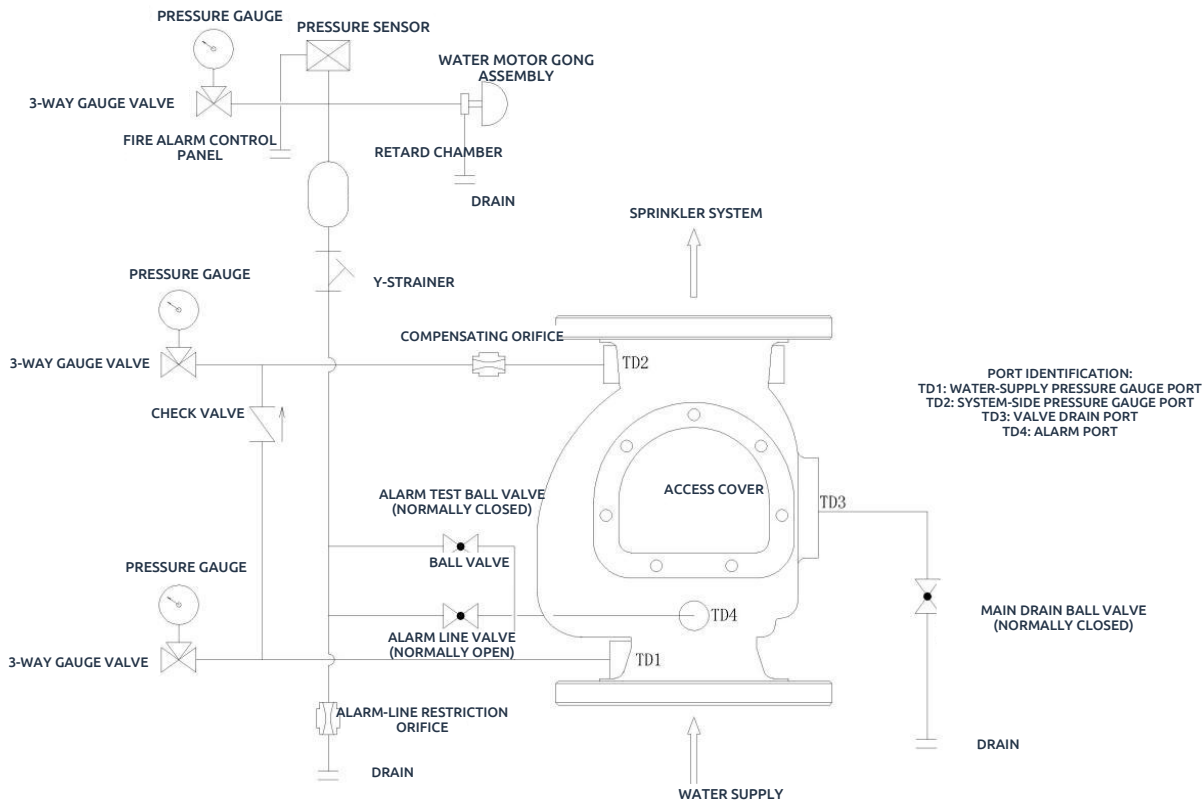


Figure 3

The gong branch is for the optional Guber-WG, which must be ordered separately.

Valve body port identification

Ref.	Function
TD1	Water-supply pressure gauge port.
TD2	System-side pressure gauge port.
TD3	Valve body drain connection.
TD4	Alarm port supplying the retard-chamber and pressure-sensor circuit; it also permits connection of the optional Guber-WG.

05 Configuration and operating positions

This data sheet covers one controlled product: Guber AV/G. Do not separate, substitute or rearrange trim components without written technical confirmation from Mercatura.



The photograph shows the assembly with the optional Guber-WG, which must be ordered separately.

Scope of supply

- Guber AV/G alarm check valve, grooved × grooved;
 - complete alarm trim piping assembly;
 - Guber-RC retard chamber;
 - Guber-PS pressure sensor;
 - 3 pressure gauges with isolating valves;
 - Y-strainer, check valve, restriction orifices and alarm-line connections;
 - test, alarm isolation and drain valves matching the assembly configuration.
- Optional accessory: the Guber-WG water motor gong is not included in the scope of supply and must be ordered separately.
- Pipeline couplings, the main water-supply control valve, drainage pipework, wiring and mounting hardware shall be provided in accordance with the design and the confirmed scope of supply.

Normal positions under standby conditions

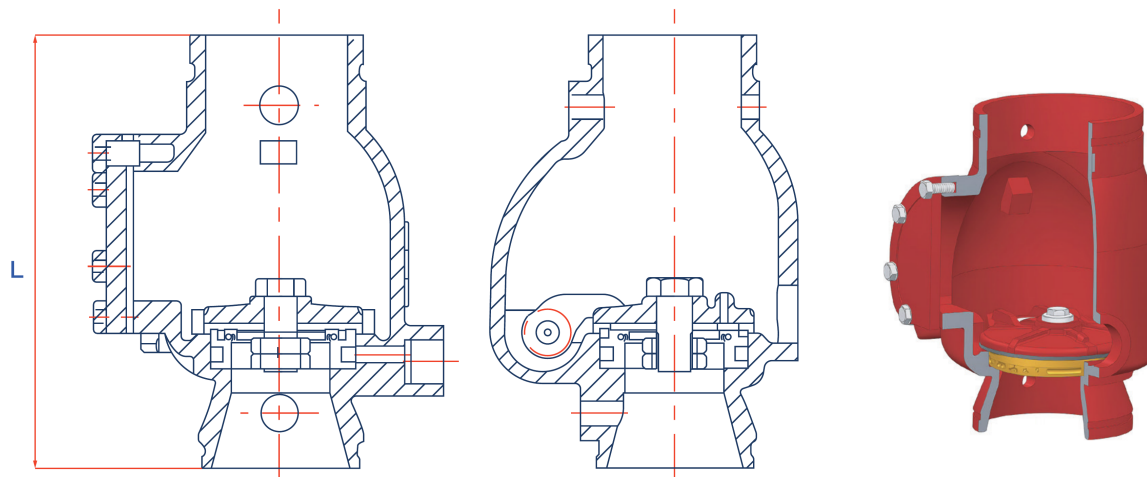
Ref.	Component	Normal position	Purpose
V0	Main water-supply control valve	OPEN	Water supply to the assembly; field-installed system component.
V1	Alarm-line isolation valve	OPEN	Allows flow to the retard chamber and pressure sensor and, where fitted, to the optional water motor gong.
V2	Alarm test valve	CLOSED	Open only during a controlled test.
V3	Main drain valve	CLOSED	Open for controlled draining or a main-drain flow test.
P1–P3	Pressure gauge valves	IN SERVICE	The pressure gauges indicate supply, system and alarm-line pressure.

Installation requirements outside the assembly

- two compatible rigid couplings with gaskets selected for the pipe OD, pressure and temperature;
- unobstructed, separate discharge from the retard chamber and main drain and, where a Guber-WG is fitted, from the gong to a safe location;
- additional chamber support: 3/4 in pipe, no more than 1 m long, secured with a clamp;
- access to the cover, valves, pressure gauges, strainer and alarm devices for testing and servicing.

06 Main valve — construction, specifications and dimensions

The main valve is the hydraulic component of the complete Guber AV/G assembly. Its clapper design permits water flow towards the system, prevents reverse flow and opens the alarm port when the clapper lifts. The access cover provides service access to the clapper mechanism and seat.



Sectional views, dimension L and a three-dimensional view of the main valve.

Valve technical data

Parameter	Value	Requirement / note
Type	Clapper-type alarm check valve with non-return function	Hydraulic component of the complete Guber AV/G assembly.
Medium	Water	Wet-pipe sprinkler system.
Max. working pressure	300 psi / 20.7 bar	Do not exceed the lowest pressure rating of the system components.
Operating temperature	4–70 °C	Protect from freezing.
Connections	Grooved × grooved	Grooves in accordance with AWWA C606.
Flow direction	Bottom to top	As indicated by the arrow on the body.
Installation	Vertical only	Provide access to the access cover and drain.
Body coating	Epoxy, internal and external	Inspect for damage before installation.

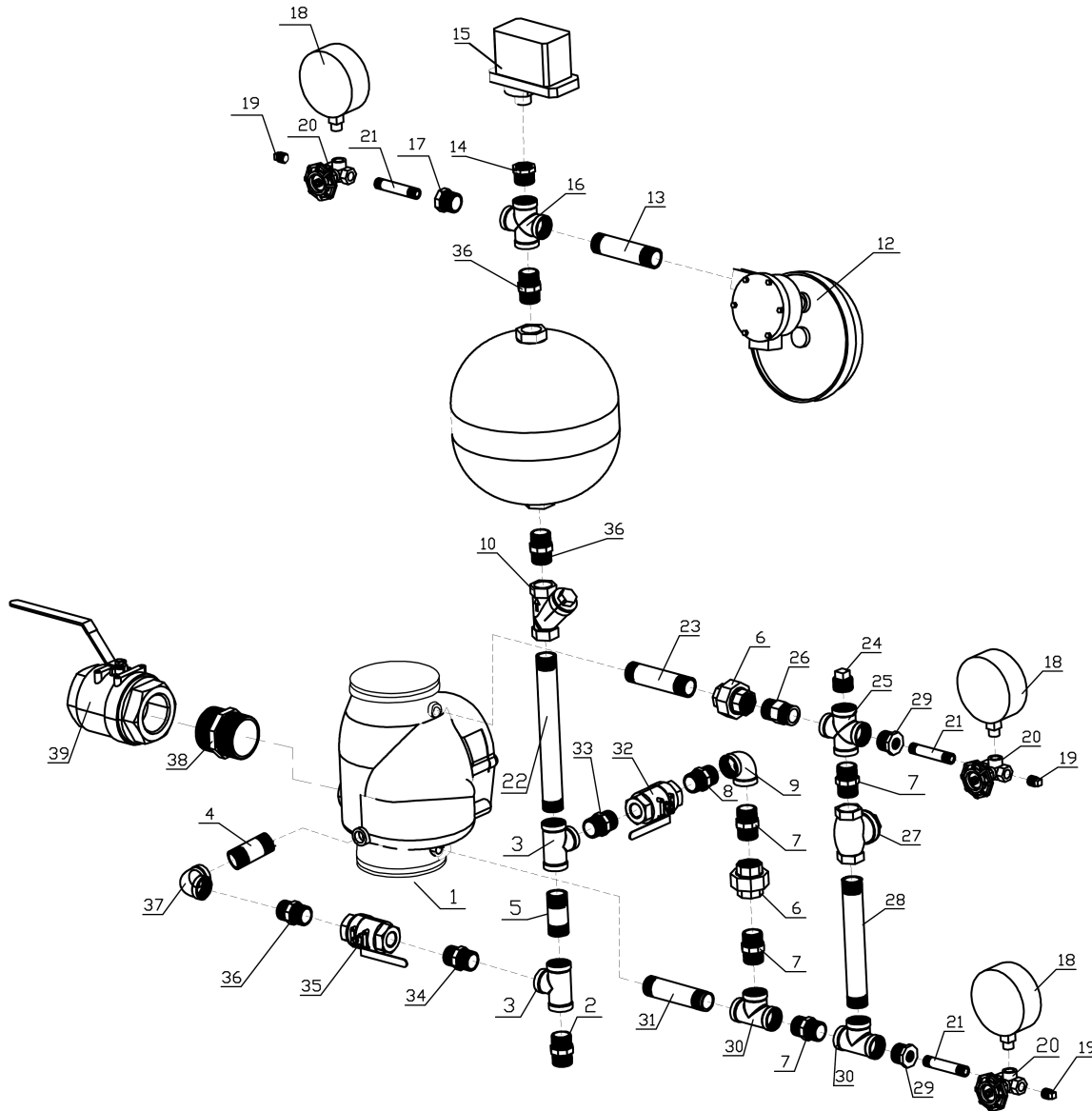
Sizes, body length and order codes

DN	NPS [in]	OD [mm]	L [mm]	Mercatura code
50	2	60.3	245	M-WAV/G-060-T
65	2½	76.1	245	M-WAV/G-076-T
80	3	88.9	245	M-WAV/G-089-T
100	4	114.3	316	M-WAV/G-114-T
125	5	139.7	386	M-WAV/G-139-T
150	6	168.3	390	M-WAV/G-168-T
200	8	219.1	438	M-WAV/G-219-T
250	10	273.0	535	M-WAV/G-273-T
300	12	323.9	622	M-WAV/G-324-T

L — valve body length between connection ends. Code designation 139 applies to DN125 / OD 139.7 mm. Select couplings, gaskets and supports to suit the actual OD and installation conditions.

07 Exploded view and component identification

The item numbers in the drawing correspond to the BOM on the following page. The drawing shows the actual arrangement of the valve and alarm trim in the grooved × grooved configuration.



Item	Component	Role in the Guber AV/G configuration
12	Guber-WG water motor gong	OPTION — not included in the scope of supply; ordered separately.
15	Guber-PS pressure sensor	Included in the scope of supply.
18	Pressure gauge	3 units are included in the scope of supply.

08 BOM — assembly parts list

The list follows the numbering of the original exploded view. The scope of supply includes items 1–11 and 13–39; item 12 is optional equipment.

Item	Component	Material / construction	Qty.
1	Guber AV/G alarm check valve	Assembly	1
2	Restriction orifice	C954	1
3	Tee	SS304/KTH350-10	2
4	Pipe	Galvanized pipe	1
5	Pipe	Galvanized pipe	2
6	Union	SS304/KTH350-10	2
7	Nipple	SS304/KTH350-10	4
8	Nipple	SS304/KTH350-10	1
9	Elbow	SS304/KTH350-10	1
10	Y-strainer	C954/SS304	1
11	Guber-RC retard chamber	Assembly	1
12	Guber-WG water motor gong*	Assembly	1
13	Pipe	Galvanized pipe	1
14	Nipple	SS304/KTH350-10	1
15	Guber-PS pressure sensor	Assembly	1
16	Cross	SS304/KTH350-10	1
17	Nipple	SS304/KTH350-10	1
18	Pressure gauge	Assembly	3
19	Plug	Galvanized WCB	3
20	Three-way gauge valve	Assembly	3

Item	Component	Material / construction	Qty.
21	Pipe	Galvanized pipe	3
22	Pipe	Galvanized pipe	1
23	Pipe	Galvanized pipe	1
24	Plug	C954	1
25	Cross	SS304/KTH350-10	1
26	Restriction orifice	C954	1
27	Check valve	Assembly	1
28	Pipe	Galvanized pipe	1
29	Nipple	SS304/KTH350-10	2
30	Tee	SS304/KTH350-10	2
31	Pipe	Galvanized pipe	1
32	Ball valve	Assembly	1
33	Nipple	SS304/KTH350-10	1
34	Nipple	SS304/KTH350-10	1
35	Ball valve	Assembly	1
36	Nipple	SS304/KTH350-10	3
37	Elbow	SS304/KTH350-10	1
38	Nipple	SS304/KTH350-10	1
39	Ball valve	Assembly	1

BOM notes

items 1–11 and 13–39 are included in the scope of supply of the complete Guber AV/G assembly;

* item 12, the Guber-WG water motor gong, is optional, is not included in the scope of supply and must be ordered separately;

item 18 comprises 3 pressure gauges;

material designations C954, SS304, KTH350-10 and WCB have been retained in accordance with the OEM documentation;

for items described as an assembly, the manufacturer does not specify a single material grade; quantities in the Qty. column refer to one complete assembly;

component substitution, changes to restriction-orifice diameters or changes to the trim sequence require written technical confirmation from Mercatura.

09 Installation

Installation shall be performed only by personnel familiar with wet-pipe sprinkler systems. Before starting work, confirm that monitoring has been disabled as required, isolate the water supply, fully relieve pressure and secure the discharge area.

Pre-installation inspection

1. Verify the model, DN, code, assembly completeness and current data-sheet revision.
2. Confirm that the valve working pressure of 300 psi / 20.7 bar and the valve / wet-system operating temperature of 4–70 °C comply with the design.
3. Check for shipping damage, corrosion, contamination and deformed connections.
4. Flush and clean the pipework; remove swarf, sealing-compound residue and foreign matter.
5. Verify the OD, AWWA C606 groove geometry, and selection of couplings and gaskets.
6. Ensure vertical orientation, upward flow and no loads from misaligned pipework.
7. Provide clearance for reading the pressure gauges, testing, cleaning the strainer and removing the cover.
8. Provide unobstructed drainage and secure support for the retard chamber.

Installation procedure

1. Position the assembly so that the arrow on the body indicates upward flow.
2. Support the pipework independently of the assembly; do not transfer the system load to the trim or retard chamber.
3. Connect the grooved ends with rigid couplings, following the coupling manufacturer's instructions and specified tightening torques.
4. Do not rotate or reposition the restriction orifices, strainer, check valve or bypass piping.
5. Clamp the retard chamber to a 3/4 in support pipe no more than 1 m long.
6. Route the retard-chamber and main-drain discharges, and the discharge from the optional Guber-WG where fitted, separately to a location safe for people and property.
7. Orient the pressure gauges for clear reading and verify the positions of their valves.
8. Connect the pressure sensor in accordance with the electrical design and the documentation for the actual model.
9. After installation, inspect all connections and supports, verify valve positions and confirm unobstructed service access.

Prohibited actions

Do not	Reason
Loosen connections, open the cover or dismantle trim while pressurised	Risk of sudden water discharge and personal injury.
Pressure-test above the assembly rating without an approved procedure	No verified method, test duration or scope of components under test.
Adjust the Guber-PS set point without the model-specific instructions and authorisation	The alarm function or compliance with the design may be lost.
Change restriction-orifice sizes, the bypass or the component sequence	This may alter response time, drainage and resistance to false alarms.
Operate below 4 °C or where freezing is possible	Frozen water may disable the assembly and damage components.

10 Commissioning and functional tests

Before each test, notify the responsible personnel, the fire-alarm system operator and, where applicable, the monitoring station. Secure the discharge and ensure that the expected signal will not initiate an unintended site procedure.

Filling and restoration to standby condition

1. Confirm: V1 open; V2 and V3 closed; pressure gauge valves in service; all drains unobstructed.
2. Open the system-side air vents in accordance with the system design.
3. Slowly open the main water-supply control valve V0. Fill the system gradually to minimise water hammer.
4. When a steady water discharge is obtained, close the air vents and fully open V0.
5. Check the assembly, grooved connections and trim for leakage. Rectify all leaks before proceeding.
6. Compare supply-side and system-side pressure readings. Assess any difference against the system conditions.
7. Open V2 and perform an alarm test. Confirm flow to the alarm line and receipt of the Guber-PS signal by the monitoring system. Where the optional Guber-WG is fitted, also confirm its operation.
8. Close V2. Confirm that the retard chamber drains automatically and that the alarm signal clears after flow stops.
9. Carefully open V3 for a main-drain flow test or controlled draining. Confirm stable discharge, then fully close V3.
10. Restore all normal operating positions, fully open V0, verify that there are no leaks and record the test result.

Functional acceptance criteria

Check	Expected result
Leak tightness	No visible leakage from the body, connections or trim.
Pressure gauges	Readings clear and stable; gauge valves in service.
Guber-WG (optional)	Where fitted: clear, continuous local alarm during test flow.
Guber-PS	Electrical signal confirmed in the designated circuit.
Guber-RC retard chamber	Controlled draining occurs and the alarm signal clears after the test valve is closed.
V0–V3	All valves have been returned to their normal positions after the test.
Documentation	Result, date, pressure and the person performing the test have been recorded.

11 Inspection, maintenance and troubleshooting

Set the inspection frequency to suit the design, site conditions, water quality and applicable regulations. Test the Guber-PS and, where fitted, the optional Guber-WG at least once every three months, or more frequently. More stringent requirements take precedence.

Frequency	Scope
At least every 3 months	Test the Guber-PS and the optional Guber-WG where fitted; verify the alarm line, return to standby condition and unobstructed drains.
During system inspection	Leak tightness, corrosion, coating damage, gauge legibility, supports, V0–V3 positions and identification.
After each alarm or service operation	Inspect the Y-strainer, retard chamber, restriction orifices and drains; restore normal positions and perform a complete functional test.
Condition-based	Clean the seat and clapper seal; replace worn, hardened, deformed or damaged components.

Service requirements

before dismantling, notify the responsible persons, close V0, fully relieve pressure and drain the assembly;
 clean the seat surfaces, clapper seal and small alarm passages without scratching the surfaces;
 remove deposits from the Y-strainer and retard chamber; where the optional Guber-WG is fitted, also clean its nozzle, turbine and striker mechanism;
 do not prescribe a fixed seal replacement interval without an approved plan; replace according to condition and service requirements;
 after reassembly, perform a leak test and complete alarm and drain tests; use tightening torques only from a controlled service instruction.

Typical faults

Symptom	Probable cause	Corrective action
Unintended or continuous alarm	System-side leakage; contaminated or damaged seat/seal.	Check the system for leakage; clean the seat and clapper; replace damaged parts.
Alarm operates too quickly or does not reset	Blocked lower chamber drain or altered restriction orifice.	Isolate and drain the assembly; clean the passage; restore the approved configuration.
No Guber-PS signal	No alarm-line flow, blocked strainer, damaged wiring or incorrect setting.	Check the hydraulic circuit and wiring first. Have authorised personnel make any adjustment in accordance with the model-specific instructions.
Optional water motor gong does not operate or is too quiet	Contaminated screen/nozzle, blocked turbine or striker mechanism.	Clean the components; after reassembly, check for free movement and perform a functional test.

12 Limitations, identification and conformity

Condition	Requirement
System type	Water-filled wet-pipe sprinkler system only.
Temperature	Wet system: 4–70 °C; the installation location must be protected from freezing. Verify electrical-device limits on the respective nameplates.
Orientation	Vertical only; upward flow.
Configuration	Use only the Guber AV/G assembly with its specified trim. Do not mix trim components or restriction orifices from other configurations.
Drainage	All discharges must be unobstructed, safe and observable during testing.
Environment	Outdoor, chemically aggressive, glycol, foam, seawater or other-medium applications require separate confirmation.

Scope of conformity-assessment documents

Document	Number	Scope stated in this data sheet	Limitation
FM Approvals	PR474502	Guber AV/G; DN50–DN300, 300 psi, grooved × grooved, vertical installation; with Guber-RC retard chamber — in accordance with the current Approval Guide.	The scope does not cover arbitrary trim modifications.
Certificate of constancy of performance	1922-CPR-2540	Guber AV/G wet alarm valve, grooved connections, 300 psi; DN50–DN250.	DN300 is not included in this scope without separate confirmation.

The scope of FM Approval or certification may depend on DN, construction, pressure and the exact configuration. Before specifying the product, verify the validity and scope of the applicable document for the selected code.

Pre-installation identification check

Check	Required confirmation
Nameplate / body marking	Guber AV/G model, DN/NPS, pressure rating and flow direction.
Order code	Matching OD and code; designation 139 only for DN125.
Completeness	Retard chamber, pressure sensor, 3 pressure gauges, strainer and valves matching the Guber AV/G configuration. Check the optional Guber-WG only where it has been ordered.
Condition	No damage or evidence of modification; ports and drains unobstructed.

Revision history

Revision	Date
R02	09.09.2026
R03	24.09.2026
R04	24.09.2026