



ENGINEERING PROFILE

Engineering flow. Engineering silence.

Georg Fischer solutions for sound-insulated water and drainage systems

GF AQUASYSTEM PP-R / PP-RCT

Water supply networks

GF SILENTA 3A

Sound-insulated drainage networks

Application areas

Hospitality · Residential · Healthcare · Commercial

Sound-insulated water supply and drainage systems for major projects

Who is Georg Fischer?

A Swiss company with more than 200 years of experience.

Georg Fischer (+GF+) is a longstanding Swiss brand founded in 1802, working globally in flow solutions for buildings, infrastructure and industry. Its strength lies in combining engineering, quality and innovation within integrated, reliable systems.

1802

Founded

Switzerland

Headquarters

1903

Publicly listed since

The problem this system addresses

Acoustic comfort is part of project quality

In hotels and premium developments, drainage flow noise and vibration can travel through pipes and walls into guest rooms and adjacent spaces — project quality is judged not only by architecture, but by user comfort after handover.

01

Flow noise

Noise generated inside drainage lines during daily operation.

02

Transmitted vibration

Vibration transferred to building elements and adjacent walls.

03

Disturbance in rooms

Direct impact on rooms and sensitive spaces.

Selecting a sound-insulated drainage system during the design stage is far more effective than trying to fix noise after installation.

Integrated Water & Drainage Solutions

A brief overview at system level for consultant and contractor review.

An integrated approach to building water and drainage networks

GF Piping Systems provides engineered piping solutions for building services. The two core systems in this profile are AQUASYSTEM for pressurised hot and cold water distribution, and SILENTA 3A for sound-insulated drainage and ventilation networks.

GF AQUASYSTEM

Water supply networks



- PP-R and PP-RCT piping system for hot and cold water.
- Suitable for drinking water and treated water applications.
- A corrosion-resistant thermoplastic system with heat-fused joints.
- Several pipe configurations available for different design requirements.

GF SILENTA 3A

Sound-insulated drainage networks



- Three-layer PP drainage and ventilation system.
- Designed for sound-insulated, non-pressurised domestic drainage.
- Push-Fit Socket connections for fast, straightforward installation.
- Suited to hotels, hospitals and other noise-sensitive buildings.

Project priorities this approach addresses

- User comfort: reducing drainage noise is a priority in rooms, risers and sensitive spaces.
- Water quality and reliability: a hygienically suitable, corrosion-resistant hot and cold water network.
- Execution: defined jointing methods, fittings, installation instructions and supporting documentation.

GF AQUASYSTEM

PP-R and PP-RCT for pressurised water services in buildings.



Product photography from the official Georg Fischer AQUASYSTEM PP-R / PP-RCT catalogue.

System at a glance

- Materials: PP-R and PP-RCT.
- Range includes standard pipes, glass-fibre reinforced types and UV-resistant types.
- Pipe and fitting sizes span d20 to d200.

Use & jointing

- Hot and cold water, drinking water, treated water and building services.
- Heat-fusion socket jointing, per installation instructions in GF technical documents.
- PN/SDR and final pipe configuration selected per project design conditions.

Diameter range d20 – d200	Pressure classes PN10 · 16 · 20 · 25	Jointing method Heat fusion	System family PP-R / PP-RCT
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Project-specific technical review

The engineering review covers matching pipe type, diameter and PN/SDR, and reconciling the fitting schedule with approved drawings, design temperatures and pressures, and equipment loads.

GF SILENTA 3A

A sound-insulated system for building drainage and ventilation networks.



Three-layer wall construction

01 Outer layer

Resistant to elevated temperatures and impact.

02 Middle layer

Its high molecular structure and special composite absorb sound waves and limit their transmission.

03 Inner layer

Excellent flow performance and chemical resistance preventing corrosion; withstands elevated water temperatures.

04 Seal system

Ensures a tight seal and eases installation; the seal-groove design allows fast, straightforward jointing.

Sound transmission 15 dB(A) at 4 l/s	Diameter range d32 – d200	Fire classification D-s2, d2	Jointing method Push-Fit
Design Three-layer	Colour Light blue	Operating temperature –10 °C ... 97 °C	Application class B — inside building

Reference technical values

Sound transmission of 15 dB(A) measured at a 4 l/s flow rate per EN 14366, tested at the Fraunhofer Institute. Fire reaction classified D-s2, d2 per EN 13501-1. Material free of halogens and cadmium.

Drainage system range

An integrated range of pipes, fittings and clamps within a single system.

Pipes & Elbows

PIPES · ELBOWS



Socket pipe



Elbow 15°



Elbow 30°



Elbow 45°



Elbow 67.5°



Elbow 87.5°

Branches

BRANCHES



Branch 45°



Branch 87°



Double branch 45°



Double branch 87°



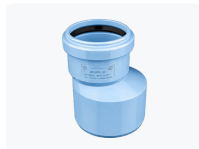
Double corner branch



Parallel branch

Couplings, Reducers & Access

COUPLINGS · REDUCERS · ACCESS



Reducer



Slip coupling



Repair piece



Round access piece



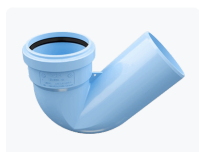
Rectangular access piece



Cap

Traps & Clamps

TRAPS · CLAMPS



Trap



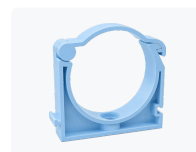
Trap 45°



Trap 87°



Floor drain



Pipe clamp

Fittings should be reviewed against actual drawings and routing when preparing the bill of quantities, to ensure full system coordination.

Clear value for every project party

Technical and execution value for project stakeholders, within the scope of systems in this profile.

Consultant

- A system that can be supported with clear technical documentation.
- Easier review against project requirements.
- Reduced risk of incompatible system components.

Contractor

- Greater clarity during execution.
- An integrated range of pipes, fittings and accessories.
- Fewer unnecessary judgment calls on site.

Owner / Operator

- Better user comfort.
- Support for overall project quality.
- An integrated solution supporting long-term building performance.

What supports this value

01

Documentation & certificates

Official GF catalogues, AENOR certification and EPD declarations.

02

Tested performance

Acoustic values measured to EN 14366 at the Fraunhofer Institute.

03

Integrated system

Pipes, fittings and connections within one coordinated system.

04

Local project support

Technical coordination, BOQ review and supply through AMAQ.

The value of the system shows in clear approval, disciplined execution and the quality of everyday use after handover.

Global projects that strengthen confidence

Selected projects using GF systems across hospitality, residential, tower and mixed-use developments.



Grand Mercure Hoi An

Quang Nam, Vietnam · Integrated resort complex

SILENTA 3A



Saadiyat Grove

Abu Dhabi, UAE · Mixed-use urban development

SILENTA 3A



Tilal Al Ghaf

Dubai, UAE · Premium villa community

SILENTA 3A



Binghatti Phantom

Dubai, UAE · 37-storey residential tower

3A + HT-PP



Tulip Tower

Erbil, Iraq · 297,000 m² residential development

3A + PPRC



Tashkent City

Tashkent, Uzbekistan · Mixed government & urban district

SILENTA 3A

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Project references

6

Countries

4+

Project types

Application areas & technical review

Approved application areas and technical review focus points for projects.

Application areas

Application areas listed in the official GF Silenta 3A technical documentation include:

- Schools, libraries, hospitals, hotels and residential buildings.
- Administrative buildings and convention facilities.
- Sustainable and green buildings.
- Industrial areas for short- and long-term use.

Technical review focus points

01

Water supply

AQUASYSTEM

02

Drainage

SILENTA 3A

03

Selection

Matching drawings and design data.

04

Approval

Technical submittal and certificates.

Project technical review requirements

- Design pressures and temperatures for the water network.
- Pipe diameters and supply zone segmentation.
- Drainage stack sizing and acoustic insulation requirements.
- Consultant technical approval requirements and format.

Acoustic performance considerations

Acoustic performance depends on the complete system: pipe and fitting selection, supports, shaft design, flow conditions and installation quality. Official GF acoustic and installation documentation should therefore be used as the reference at final submittal.

Technical submittal approach

AMAQ presents the systems most relevant to each project clearly and directly, then completes product schedules, certificates and supporting documents according to consultant requirements and project approval procedures.

Technical documentation & approval

Official documents and certificates supporting technical approval, with local support from AMAQ.

Available technical documents

- | | |
|--|---|
| <p>01 Engineering Profile
Summary of proposed systems and their scope of use.</p> | <p>02 GF AQUASYSTEM PP-R / PP-RCT
Technical catalogue with system data and tables.</p> |
| <p>03 GF Silenta — Technical Information
Official technical data and installation tables.</p> | <p>04 GF Silenta 3A — Brochure
Technical brochure and application areas.</p> |
| <p>05 AENOR — AQUASYSTEM
Independent certification per the certificate scope.</p> | <p>06 EPD — Environmental Declarations
Official environmental declaration for both product families.</p> |

Management standards & testing organisations

ISO 9001 Quality management	ISO 14001 Environmental management	ISO 45001 Occupational health & safety
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Fraunhofer · SGS · CSTB · AENOR · DVGW · KIWA · WRAS · NSF

Standard and testing-body names per the official quality certificates catalogue; final applicability should be verified against the certificate and product scope.

AMAQ project support

AMAQ acts as the local interface in Libya for Georg Fischer solutions, from technical review through supply and follow-up.

- Technical coordination with contractor and consultant.
- Support selecting and matching products to the design.
- Preparing material schedules and BOQ review.
- Providing relevant technical documents and certificates.
- Preparing project-specific quotations.
- Supply coordination and execution follow-up.

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