

General installation conditions. From SCHELL.

These general installation requirements do not replace the information in any supplied assembly instructions. Instead, these general installation requirements are always intended to supplement any supplied assembly instructions.

The latest version applies for any standards and technical codes, etc. cited. As a general rule, the regulatory requirements applicable in the respective regions/countries must also be observed.

SCHELL fittings are designed and manufactured according to the technical norms and regulations valid in Germany and – where generally available – in Europe and at an international level. All products are designed in order to guarantee trouble-free operation while observing recognised industry best practice, and while complying with the installation regulations and the requirements of professional planning, installation and operation, and professional servicing, maintenance, repairs and cleaning.

For important information about planning, construction and operation, see the standards in the EN 806 series, “Specifications for installations inside buildings conveying water for human consumption”, as well as national supplementary standards and codes of practice. In Germany, these include the DIN 1988 series, VDI 6023, the DVGW codes and others.

When installing electrical or electronic components, always follow the applicable national installation regulations at all times. These regulations typically define certain protected areas and distances from electrical parts to areas in contact with water if a specified voltage is exceeded. In Germany, these protected areas are set out in the DIN VDE 0100 series of standards, for example.



Water quality

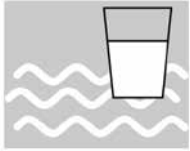
1. Water quality (suitability)

Schell products are suitable for use with drinking water according to the EU Drinking Water Directive and national drinking water legislation transposing the same. Products are not approved for use with water of any other quality.

All materials used that have contact with water meet the evaluation criteria and guidelines published by the German Federal Environment Agency (UBA). These are generally identical to requirements in many other EU countries (“Approval and Harmonisation – 4MS Initiative”).

In addition, all non-metallic materials used by Schell are also inspected to minimise any possibility of microbiological fouling (e.g. according to DVGW W270). Independently of the hygienic suitability of materials having contact with drinking water, EN 806 also requires the suitability of metallic materials to be verified for the respective use case according to EN 12502, “Protection of metallic materials against corrosion – Guidance on the assessment of corrosion likelihood in water distribution and storage systems”.

In certain cases, decisions may need to be taken to use only products made from brass alloys with specific properties such as “dezincification resistance”. Consult with SCHELL if there is any doubt about which materials to use.

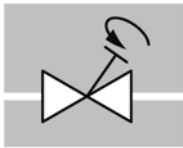


Drinking water quality

2. Maintaining drinking water quality

The planning, construction, operation and maintenance of all parts of a drinking water system will influence water quality at tapping points. Some of these issues are listed as examples below:

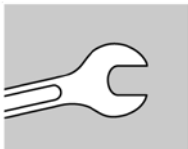
- Dimensioning drinking water systems according to demand
- Selecting products appropriate for the water quality and materials used
- Use of components whose surfaces that have contact with water are hygienically sound according to VDI 6023 – e.g. use of a dry functional test. All SCHELL products have now been tested dry for many years, i.e. without having any contact with water.
- Installation of safety fittings according to DIN EN 1717, DIN 1988-100 and EN 806
- Operation in accordance with the intended use, with regular and full water changes at all tapping points according to VDI 6023, and according to EN 806-5 in cases where VDI 6023 is out of scope
- Manual or automated flushing of the system in the event of interruptions in use. In this case, all tapping points are to be organised into flushing groups, to ensure a sufficiently high flow speed of at least 1.0 to 2.0 m/sec throughout all parts of the installation. (see EN 806, DIN 1988-300, VDI 6023).
- Maintaining hot and cold (PWC and PWH) water temperatures according to EN806, DIN 1988, DVGW W 551 and others.



Commissioning

3. Commissioning

Before commissioning any SCHELL product, make sure that all pipes are flushed through and that there are no particles of dirt present that could prevent the fittings working properly (see EN 806-4). All points of connection up to the tapping points must be tested for proper tightness and strength according to the relevant code. This applies to setup, renovation and expansion work of any kind as conducted on a drinking water system. When handing over commissioned SCHELL products to the system owner for production use, the latter must be instructed about product functions and necessary maintenance requirements (EN 806-5). This instruction must be documented (EN 806, VDI 6023). All product documentation must be handed over. Schell also recommends providing the system owner on handover with a written reminder about the latter's duties to perform regular and full water changes at all tapping points.



Installation instructions

4. General installation instructions

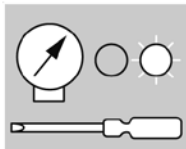
The various levels of warning notices in the assembly instructions and manufacturer information must be observed. Where necessary, thermostatic regulators must be used to protect against scald injuries (e.g. EN 806-2). In many countries, all work on drinking water systems must be performed by installation companies who have been entered in an official directory of installers maintained by a water utility. In other countries, all work must be performed by suitably qualified personnel. Observe national regulations at all times.

For all work on fittings, the right tools (spanner, screwdriver, Allen key, etc.) must be used in order to avoid damaging the surfaces of the fittings.

Always ensure that excessive force is never applied to any components during installation (follow the industry code of good practice). Many Schell appliance connection fittings and angle valves are supplied with the especially hygienic ASAG and ASAG Easy Ring. This sealing material is made from microbiologically inert Teflon (PTFE) and is therefore far more hygienic than other sealing materials like hemp. These components are self-sealing when installed according to the assembly instructions. Additional sealing materials must not be installed.

If components are installed without this seal, approved sealing materials can be used. When applying sealing materials, ensure that no excessive force is applied to connection points. Fittings must be tightened using the spanner flats provided. Any stresses present in the piping system must not be transferred to fittings.

The reader is reminded that SCHELL fittings may use materials containing silicone and lubricants. Fittings are therefore not approved for use in paint shops.



Maintenance instructions

5. Maintenance instructions

Maintenance instructions apply as given in relevant standards such as EN 806-5 and manufacturer specifications. As with other mechanical parts, fittings and their components are subject to natural wear and tear. Drinking water systems, including all fittings and components installed and used (flow regulators, backflow preventers, anti-vacuum devices, etc.) must be inspected and maintained in accordance with EN 806-5. This applies in particular to installations with more stringent requirements for reliability in terms of hygienic requirements (e.g. hospitals) or which experience higher levels of use (public facilities).

Safety devices (backflow preventers, anti-vacuum devices, etc.) must be inspected with especial care and attention, and must be subjected to functional testing according to EN 806-5 (as a minimum) at the stated intervals and replaced if necessary.

To prevent biofilms and sediment deposits on filters and flow regulators, these must be cleaned at regular intervals and replaced as necessary.



Care instructions

6. Care instructions

The cleaning agents and methods used must always be appropriate for the components and fittings to be cleaned. Specialised cleaning agents should be selected and used wherever possible.

The cleaning agent must have a chemically neutral pH (pH 7) or its pH must be no more than 2 pH levels away from this value. Tools that are abrasive or can cause scratches – such as sandpaper, microfibre cloths, steel wool or wire brushes – damage surfaces (such as sensor windows, chrome finishes, etc.) and must not be used.

If cleaning agents have been applied, these must be rinsed off the fittings with a weak and soft jet of water, and then dried off with a soft, non-scratching cloth.

Do not use steam cleaners (spraying/misting devices) of any make or model to clean fittings.

Chrome-finished or plastic surfaces and brass parts must be treated or cleaned only with mild cleaning agents.

Special cleaning agents are also available for anodised aluminium surfaces. As a general rule, never use cleaning agents on anodised aluminium sur-

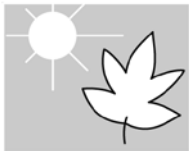
faces that could chemically attack the anodised coating. These coatings can be damaged by fluorides, chlorides and sulphates, for example. In case of doubt, always consult with the manufacturer of the cleaning agent.



External influences

7. Protection against external influences

Fitting surfaces must be protected from exposure to aggressive environmental influences (such as a chlorine-rich atmosphere). External atmospheric influences – such as in coastal areas, in salt baths or outdoor installations – can damage the surface finish on components: apart from looking unappealing, this can also prevent the component from working properly or at all.

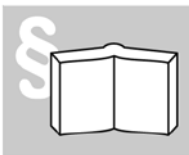


Environmental protection

8. Environmental protection

SHELL does not use any materials that would negatively affect the quality of drinking water. All production processes are designed to conserve resources. Brass is also a material that is easily recyclable. Used packaging materials and old products or components should be sorted and disposed of properly for recycling or reuse. Observe relevant national regulations. Batteries and electronic parts are special waste. At the end of their service life, they must be disposed of at the public collection points provided or returned to where purchased (German Electrical and Electronic Equipment Act, ElectroG).

SHELL fittings are suitable for optimised operational models designed to save water. Hygiene requirements for drinking water must always take precedence, however.



Standards and regulations

9. Standards and regulations

In all circumstances, the standards and regulations applicable for installation must be observed, and recognised industry best practice must be followed. Technical requirements for connections made to local electricity and water utilities must be complied with at all times. For electronically controlled fittings, safe zones (for extra-low voltage, ELV) must be observed.

Make sure that external power sources and magnetic fields cannot interfere with the proper function of the electronic controls. For electronic components, the “General Electrical Installation Requirements. By Schell” also apply (www.schell.eu). Comply with all SHELL assembly and operating instructions. Observe all warning notices.



Anti-scalding protection

10. General operating instructions

Fittings and systems must be planned, installed, operated and maintained in such a way that does not endanger persons (e.g. risk of scalding by hot water) or other devices, etc. in the vicinity of these fittings and systems.

As at: December 2021