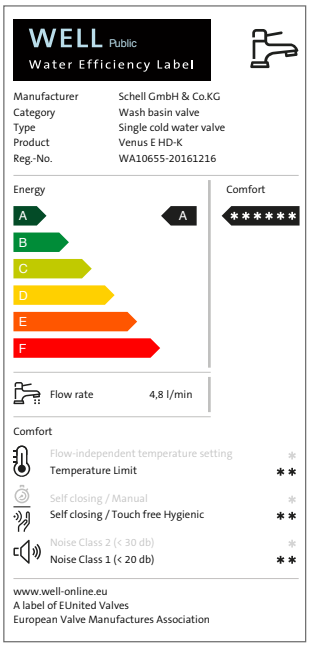
Sustained building with classified fittings.
By SCHELL.

LEED.
WELL.

SCHELL

Sustained building with classified sanitary fittings.

Fig.: Hufton + Crow



Fitting technology from SCHELL help reduce water and energy consumption of a building. For example, a self-closing fitting can help save up to 55% of water for washing hands – an infrared-controlled fitting even up to 65%. The figures are similar for showering. Here, but also for fittings with hot water, flow time and temperature control of the fitting are decisive for the energy consumption for heating water. Fittings from SCHELL help save water also for WCs and urinals.

Proven sustainability

Using our fittings for sustained and environmentally responsible building is a good choice for this reason. This is relevant, last but not least, in regard to building certification, for example, according to DGNB, BREAM or LEED. The building certifications put high demands on saving water.
We'll demonstrate to you from page 4 – using the example of the internationally recognised LEED label (Leadership in Energy and Environmental Design) – how you can literally score in this area with our fittings.

To facilitate optimal orientation in planning sustained architecture, selected SCHELL fittings are classified according to WELL, the rating system of the European Valve Manufacturers Association. This can be compared to the energy efficiency label on electrical appliances and makes the water and energy consumption of a fitting transparent. Learn from page 10 how the WELL label works and which of our fittings are distinguished by it.

Water savings and hygiene

To maintain the water quality in the building in spite of water-saving fittings, we recommend dimensioning the installed piping smaller in keeping with the water saving goals. This also lowers the investment costs.

Since 2016, the new headquarters of Siemens, the global technology company, transports the cosmopolitan, green and transparent image of the corporation. The new building in Munich, designed by the Danish master architect Henning Larsen, consumes 75 per cent less water than the old building and was certified according to LEED with Platinum.

LEED.

How you can increase the ecological and economic benefits of property.

In times of ever scarcer resources, the topic of sustainability grows in significance. Ultimately, nearly 40 percent of the global primary energy requirements is for the construction and operation of buildings. With LEED („Leadership in Energy and Environmental Design“) the U.S. Green Building Council has developed a globally successful classification system for sustainable buildings, that is now also gaining increasing significance in Germany.

LEED represents an overall assessment of the building during the construction and utilization phase. It is applicable to new construction as well as renovation and maintenance of existing properties. The considerate handling of resources, documented by the LEED certification, and a significantly reduced requirement in primary energy brings with it clear advantages:

- LEED classified buildings promote environmental protection
- LEED classified buildings are characterized by a high market value
- LEED classified buildings command higher rents
- LEED classified buildings have a better disposal value

Certification in 4 levels of quality.
Certified, Silver, Gold, Platinum.

Classification	Points
Certified	40 – 49
Silver	50 – 59
Gold	60 – 79
Platinum	80 and more

In order to receive a sophisticated evaluation about sustainability throughout the complete life cycle of the building in awarding the LEED certification, the U.S. Green Building Council differentiates between four levels of quality: Certified, Silver, Gold, Platinum Examples of platinum certification in Germany are, e.g. the head offices of the Süddeutschen Verlages in Munich or the Deutsche Bank in Frankfurt.

Differentiation between 8 types of building.
From new construction to health care.

LEED-NC	New construction
LEED-CS	Building shell
LEED-Schools	Schools
LEED-NC-Retail	Retail sale
LEED-Data Centers	Computing centres
LEED-Warehouses & Distribution Center	Warehouses and logistics facilities
LEED-Hospitality	Hotels
LEED-Healthcare	Health care

Whether schools, retail sales, hotels, warehouses or hospitals – the requirements and options for sustainable construction and operation of buildings strongly differ. LEED takes this into consideration by the fact that there is a specific LEED classification characteristic for each type of building. Thus, for example, office buildings and hotels are primarily classified internationally in accordance with LEED NC (New Construction and Major Renovations).

Assessment in 8 categories.
The point system of LEED.

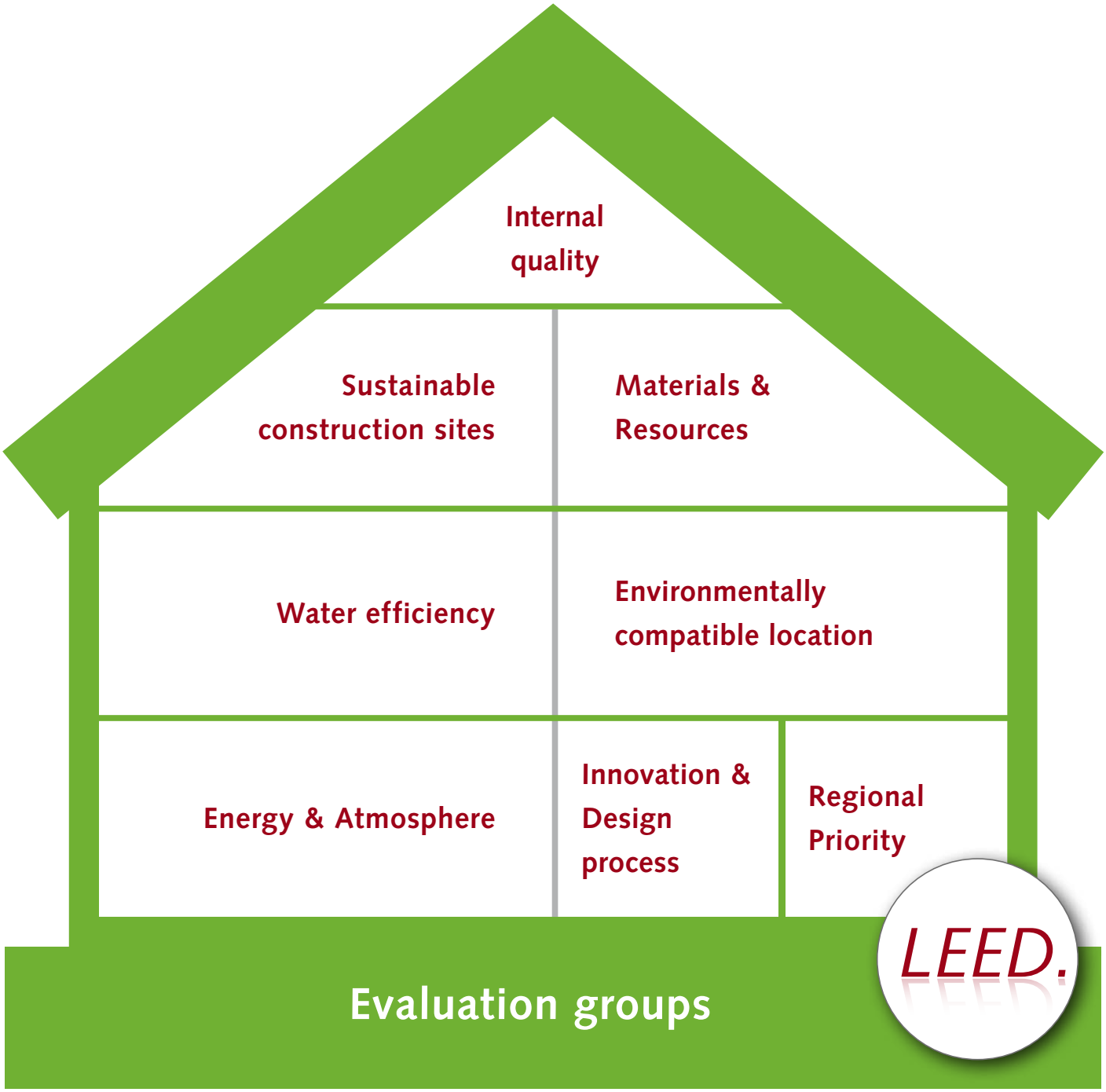


Fig.: Hufton + Crow

In addition to the extremely frugal water and energy consumption, the building meets top demands on sustainability by using regional building materials, such as natural stone from a quarry only 100 kilometres away.

Using the point system, the different characteristics of a building are assessed for sustainability. Maximum points attainable, 110. LEED points can be awarded in the following eight categories:

- **Sustainable construction sites:**
  Focuses on consideration of environmentally relevant factors during the construction process as well as waste reduction.

- **Water efficiency:**
  Evaluates the economical consumption of water within and outside of the building.

- **Energy and atmosphere:**
  Considers the energy consumption during the utilization phase. This includes installation, checking and monitoring of heating and cooling systems, lighting and other equipment, as well as the utilization of renewable energies.

- **Materials and Resources:**
  The use of local, renewable or recycled materials is rewarded.

- **Interior living quality:**
  The health and comfort aspects within the building are evaluated. Included here is the supply of fresh air, reduction of hazardous gases and the integration of daylight.

- **Innovation and Design process:**
  Takes into consideration innovation in the design and planning process.

- **Regional Priority:**
  Adaptation of the building to the local microclimate and circumstances in the construction area are positively evaluated. Also includes the use of locally available construction materials, auxiliary and working materials.

- **Environment-preserving location:**
  Assesses criteria such as connection to an environment-preserving transportation network, urban density and diversity as well as sensitive handling of nature.

As much as necessary, as little as possible.
Saving water with fittings.

Eleven of the maximum 110 points can be gained in the area of efficient use of water, six of which in the area of water use within a building. Two additional points can be gained by reducing the use of water outside a building and two in the use of water in air-conditioning systems. Water meters to determine additional saving potentials yield another point. Principally, saving measures must be applied in all three areas at the same time, that is, for water usage inside and outside a building as well as the installation of at least one water meter. Within the building up to six points are awarded by lowering water consumption through sanitary fittings, toilets, urinal flush valves, washing machines, dish washers, steamers, etc. if the consumption lies 50% under the defined reference value.

Thus, with Schell draw-off fittings and flushing systems, bonus points can be attained for the building certification in accordance with LEED.

Reference values according to LEED

Washbasin fittings	Reference value
Field of application, public	1,9 l/min
Field of application, private*	8,3 l/min
Kitchen fittings	
Field of application, public	8,3 l/min
Showers	
Field of application, public, private*	9,5 l/min
WC	
Flushing fittings & cisterns	6 l/flush
Urinal	
Flushing fittings	3,8 l/flush

* Use in public buildings with private utilization characteristics, e.g. hotel rooms; public, e.g. airport terminal.

Applicable points for reduced water consumption

Reduction from reference value	Points (new construction and restoration)	Points (schools, retail sales, hotels, health care)
20%	Minimum requirement	
25%	1	1
30%	2	2
35%	3	3
40%	4	4
45%	5	5
50%	6	-

Points with sustainable sanitary fittings.
By SCHELL.

Essential contribution of total performance
Thanks to the clearly reduced water consumption of our electronic fittings for washbasin, WC and urinal, the minimum requirement of 20 per cent water savings is effortlessly achieved. The configuration of certain parameters opens up additional potential savings.

Thus SCHELL products make another essential contribution to achieving the possible 5 or 6 points, in connection with other water consumptions in the building.

WC flushing cistern 80 mm: Adjustable 3 to 6 litres

Certified

Washbasin fitting in public use

With spray regulator 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, VENUS E, CELIS E, MODUS E): 2 points

Points for flow rate	
1	1,43 l / min
2	1,33 l / min
3	1,24 l / min
4	1,14 l / min
5	1,05 l / min
6	0,95 l / min

Washbasin fitting in private use

With spray regulator 28 926 00 99 (XERIS E) or 28 927 00 99 (PURIS E, VENUS E, CELIS E, MODUS E): 6 points

Points for flow rate	
1	6,23 l / min
2	5,81 l / min
3	5,40 l / min
4	4,98 l / min
5	4,57 l / min
6	4,15 l / min

Shower head

With flow regulator 63 014 00 99 (Shower head COMFORT): 3 points

Points for flow rate	
1	7,13 l / min
2	6,65 l / min
3	6,18 l / min

WC flushing cistern 120 mm: Adjustable 2 to 4 litres

WC flushing cistern (120 mm): 1-2 points

Points for flush volume	
1	4,50 l / flush
2	4,20 l /flush

Exposed flush valve, mechanical: Adjustable 4.5 to 9 litres

WC wall-mounted flush valves: 1 point

Points for flush volume	
1	4,50 l / flush

WC flush valve, concealed / wall-mounted, electronic: Adjustable 3.5 to 9 litres

Electronic WC flush valves: up to 4 points

Points for flush volume	
1	4,50 l / flush
2	4,20 l / flush
3	3,90 l / flush
4	3,60 l / flush

WC flush valve, concealed / wall-mounted, mechanical: Adjustable 4.5 to 9 litres

WC flush valves for manual actuation: 1 point

Points for flush volume	
1	4,50 l / flush

Urinal, concealed / wall-mounted and exposed, electronic (adjustable flow time 1 to 15 sec.) and mechanical (adjustable 1 to 6 litres)

Urinal flush valves: up to 6 points

Points for flush volume	
1	2,85 l / flush
2	2,66 l / flush
3	2,47 l / flush
4	2,28 l / flush
5	2,09 l / flush
6	1,90 l /flush

WELL.

Water Efficiency Labelling
The European label for water and energy-saving sanitary fittings

Regardless whether the sustainability of a complete building shall be certified, fittings from SCHELL help significantly reduce the water and energy demands – and thus cost – during the utilization phase already at each point of utilization.

The WELL label for fittings provides transparency and clarity. By means of the classification, the user will be able to establish the energy and water consumption for different fittings. The design of the WELL label is geared towards the energy efficiency labels already familiar from the domestic appliances sector.

The new WELL – improved decision-making aid for planners, architects, plumbers and consumers

Developed 2011 under the umbrella of EUnited, the European Association of Fitting Manufacturers, the classification system provides planners, architects, plumbers and consumers with an evaluation system to assess the water and energy consumption of sanitary fittings at a glance.
The classification system was upgraded in 2016.

Which products are assessed?

The basic requirement for classification of each fitting is adherence to the applicable European standards. This must be proven by the manufacturer. This ensures that only hygienically safe materials are used and where their functional reliability has been verified by endurance testing.

The following are classified:
- Washbasin fittings and bidet fittings
- Shower fittings, shower heads and hoses
- Urinal flush systems
- WC flush systems
- Accessories

Drinking water hygiene and saving water are not a contradiction in terms.

The top priority is maintaining drinking water hygiene. Lower water consumption in single fittings does not contradict this. It is rather important to prevent stagnant water collecting in a pipe system by using suitable pipe work and specifically arranging the fittings in accordance with frequency of use. Adherence to flow rates must be planned with pipe sizes complying with DIN 1988-300 (EN 806 - 3). In this context, reference is also made to sufficient insulation of the piping, to be able to adhere to the temperatures required, as given in DIN EN 1988-200 (EN 806 - 2) as well as in the DVGW (German Association for Gas and Water) Worksheet W 551 (CEN/TR 16355).

If the usage pattern of the buildings provides for extended usage interruptions, fittings with automatic stagnation flush should be preferred, since they maintain the quality of the drinking water and do not require manual stagnation flushes by the staff.

How assessment is performed?
Different criteria for different requirements

There are three different labels:
»Home«, »Public« and »Upgrade«. The requirements on sanitary fitting for the home are different to those for public and commercial areas. Whilst comfort and the experience of individual wellness are at the forefront in the bathroom at home, in public sanitary rooms, the emphasis is on efficient use of water and, above all, hygiene.

To allow for these differences within WELL, the classification has been divided into three labels

- **"Home"** for private households
- **"Public"** for the public sector
- **"Upgrade"** for accessories for universal use to increase efficiency

Requirement-focused criteria
Regardless of whether for "Home", "Public" or "Upgrade", washbasin fittings or shower fittings - depending on the area of application and requirement different evaluation criteria are taken into account in the WELL classification of a sanitary fitting.

For washbasins and shower fittings the rating distinguishes between efficiency and comfort. The efficiency class provides information on the energy demand in the context of hot water heating. The flow rate is an essential factor at this. In the comfort class, the temperature, flow time (for public only) and noise class are assessed.

For urinal and WC flushing systems the categories volume (flushing volume), flushing program and hygiene are assessed.

Classification schema washbasin and bidet fittings

Assessment criterion	Realised by	Assessment
Energy consumption (kWh/min) Measurement at flow pressure 3.0 bar, cold water temperature 10 °C, warm water temperature 38 °C	≤ 0.20 kWh/min	A
	> 0-20 ≤ 0.25 kWh/min	B
	> 0.25 ≤ 0.30 kWh/min	C
	> 0.30 ≤ 0.39 kWh/min	D
	> 0.39 ≤ 0.49 kWh/min	E
	> 0.49 kWh/min	F
Flow rate specification	Flow rate specification (l/min)	-
Convenience (Temperature, time and noise)	Temperature setting irrespective of flow	★
	Temperature limit and cold water valves	★ ★
	Self-closing/manual (not applicable for Home)	★
	Self-closing/contact-free hygienic (not applicable for Home)	★ ★
	Noise class 1	★ ★
	Noise class 2	★
		TOTAL max. 6 stars

Classification schema shower fittings

Assessment criterion	Realised by	Assessment
Energy consumption (kWh/min) Measurement at flow pressure 3.0 bar, cold water temperature 10 °C, warm water temperature 38 °C	≤ 0.49 kWh/min	A
	> 0.49 ≤ 0,65 kWh/min	B
	> 0.65 ≤ 0.80 kWh/min	C
	> 0.80 ≤ 0.96 kWh/min	D
	> 0.96 ≤ 1.21 kWh/min	E
	> 1.21 kWh/min	F
Flow rate specification	Flow rate specification (l/min)	-
Convenience (Temperature, time and noise)	Temperature limit	★
	Thermostat and cold water valves	★ ★
	Self-closing/manual (not applicable for Home)	★
	Self-closing/contact-free hygienic (not applicable for Home)	★ ★
	Noise class 1	★ ★
	Noise class 2	★
		TOTAL max. 6 stars

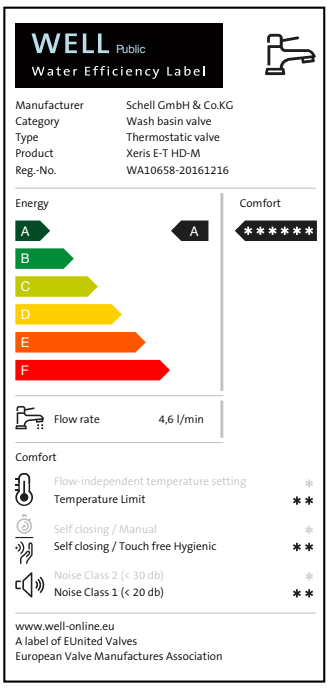
Classification schema urinal flush systems

Assessment criterion	Realised by	Assessment
Volume (flushing volume)	Flush volume (fixed or adjustable) ≤ 2.0 l	★
	Flush volume (fixed or adjustable) ≤ 1.0 l	★ ★
Flush program	Individual control per urinal	★
	User frequency-dependent flush program (not applicable for Home)	★ ★
Hygiene	Non-touch actuation	★
	Non-touch actuation with stagnation flush (not applicable for Home)	★ ★
		TOTAL max. 6 stars

Classification schema WC flush systems

Assessment criterion	Realised by	Assessment
Volume (flushing volume)	Flush volume (fixed or adjustable) 6.0 l	★
	Flush volume (fixed or adjustable) 5.0 l or 4.0 l	★ ★
Flush program	Undefined flush with minimal volumes	★
	Defined minimal volume flush	★ ★
Hygiene (not applicable for Home)	Non-touch actuation	★
	Non-touch actuation with stagnation flush	★ ★
		TOTAL max. 6 stars

WELL-classified washbasin fittings



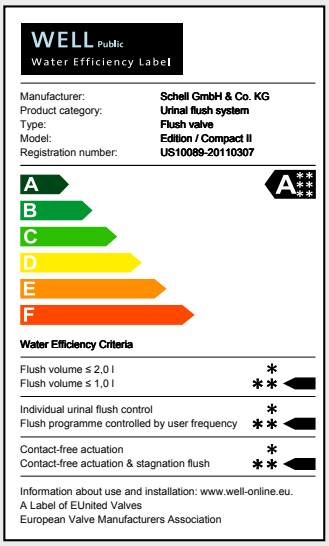
XERIS E-T

- Infrared sensor
- Scalding protection
- Stagnation flush
- Suitable for linking
- Flow rate: max. 5 l/min independent of pressure
- Housing made of brass, plastic water path

Classification schema

Products	Efficiency class	Convenience class
XERIS E HD-M	A	★ ★ ★ ★ ★
XERIS E HD-K	A	★ ★ ★ ★ ★ ★
XERIS E T-HD-M	A	★ ★ ★ ★ ★ ★
XERIS E SC HD	A	★ ★ ★ ★ ★
VENUS E-HD-M	A	★ ★ ★ ★ ★
VENUS E-HD-K	A	★ ★ ★ ★ ★ ★
CELIS E-HD-M	A	★ ★ ★ ★ ★
CELIS E-HD-K	A	★ ★ ★ ★ ★ ★
PURIS E-HD-M	A	★ ★ ★ ★ ★
PURIS E-HD-K	A	★ ★ ★ ★ ★ ★
PURIS SC HD	A	★ ★ ★ ★ ★

WELL-classified urinal flush systems



Current WELL label –
new classification in progress

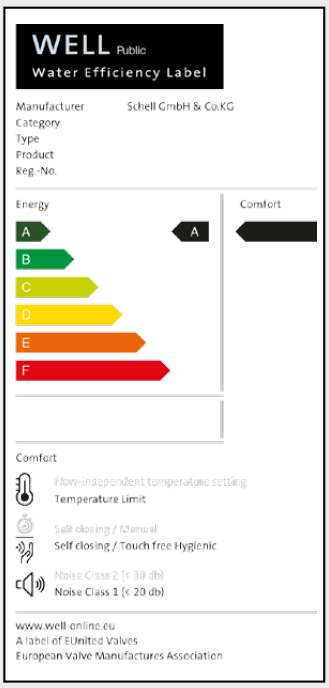
EDITION E

- Electronic urinal control
- Flush volume 1-6 l (adjustable)
- Stagnation flushes
- Automatic stadium operation

Classification schema

Products	Efficiency class	Convenience class
EDITION E	A	★ ★ ★ ★ ★ ★

WELL-classified WC and shower fittings



Classification schema

Products	Efficiency class	Convenience class
WC FITTINGS	Classification in progress	
HOT SHOWER FITTINGS		

96 281 00 99/1.03/17 f

SCHELL GmbH & Co. KG
Valve Technology
Raiffeisenstrasse 31
57462 Olpe
Germany
Tel. +49 2761 892-0
Fax +49 2761 892-199
info@schell.eu
www.schell.eu

SCHELL