Application technology – 2nd edition

Volume II: Plastic piping systems, pre-wall and drainage technology.
Application technology – 2nd edition

Volume II: Plastic piping systems – Pre-wall and drainage technology.
Imprint

Application technology Vol. II
Plastic piping systems – Pre-wall and drainage technology
2nd edition 2017
INT 644086

© Viega GmbH & Co. KG, Attendorn
All rights, also those of reproduction, are reserved.

Publisher
Viega GmbH & Co. KG
Sanitär- und Heizungssysteme
Postfach 430/440
57428 Attendorn
Germany

National address
Viega Platz 1
57439 Attendorn
Germany

Phone +49 2722 61-0
Telefax +49 2722 61-1415
viega.de

Technical Consulting
Phone +49 2722 61-1100
Telefax +49 2722 61-1101
service-technik@viega.de

The contents of this book is non-binding. We reserve the right to make changes which benefit the latest findings and technical progress.
About this translated version

This instruction for use contains important information about the choice of product or system, assembly and commissioning as well as intended use and, if required, maintenance measures. The information about the products, their properties and application technology are based on the current standards in Europe (e.g. EN) and/or in Germany (e.g. DIN/DVGW).

Some passages in the text may refer to technical codes in Europe/Germany. These should serve as recommendations in the absence of corresponding national regulations. The pertinent national laws, standards, regulations and guidelines, as well as other technical guidelines, have priority over German/European guidelines in this manual: The information is not binding for other countries and territories and should, as mentioned, be considered as support.
PLASTIC PIPING SYSTEMS

PRE-WALL TECHNOLOGY

DRAINAGE TECHNOLOGY
CONTENTS

About this translated version
Foreword
PLASTIC PIPING SYSTEMS

Fundamentals

Potable water as a foodstuff ________________ 17
Regulations and standards____________________ 17
Water quality and microbiology_______________ 18
Maintaining the potable water quality___________ 19
Materials ____________________________________ 21
Dimensioning of potable water systems__________ 22
  Pressure losses____________________________ 22
  Pipe friction pressure losses________________ 22
  Individual resistances_______________________ 23
  Planning criteria____________________________ 24
  Types of pipes – selection___________________ 24
Pipe routing – types of connection______________ 25
  Series pipeline installation__________________ 25
  Ring system installation____________________ 26
  T-piece installation________________________ 26
Length Expansion – compensation______________ 27
  Assembly rules____________________________ 27
  Heat expansion____________________________ 28
  Calculation example – expansion bend length____ 28
Insulation of the pipelines____________________ 29
  Heat insulation____________________________ 29
    Hot potable water – PWH__________________ 29
    Cold potable water – PWC – in accordance with EN 806-2______ 29
  Soundproofing insulation____________________ 31
    Installation technical characteristics_________ 31
PRE-WALL TECHNOLOGY

Fundamentals

Bathroom planning ........................................... 55
  Space requirement ........................................ 55
  Accessibility ............................................... 55
Planning of barrier-free sanitary rooms .................. 55
  Planning criteria – sanitary objects .................... 56
  Movement areas according to DIN 18040-2 .......... 58
  Load requirements for sanitary objects ................. 58
  Sample installation – barrier-free WC ................ 59
Electrical equipment installations ....................... 60
  Potential equalisation .................................... 60
  Protected zones ........................................... 60
Pre-wall installation vs. wall slot ....................... 61

System descriptions

Steptec .......................................................... 62
  Steptec punch .............................................. 63
  Modules ...................................................... 63
Steptec connectors for mounting rails .................. 64
Obtego cladding panel ..................................... 66
Calculation of required material quantities ............ 67
Assembly ........................................................ 68
  Installation dimensions – half-height pre-wall ...... 70
  Installation dimensions – half-height partition ...... 71
  Installation dimensions – room-height partition .... 72
  Installation dimensions – half-height partition ...... 74
  Installation dimensions – room-height partition .... 75
  Assembly times ............................................ 76

Viega Eco/Eco Plus ........................................... 77
  Elements ...................................................... 80
  Mounting ..................................................... 81
Viega Eco Plus corner elements .......................... 82
WC element will 4.5 litres full-flush volume ......... 84
Installation dimensions – construction heights/installa-
  tion depths ................................................. 85
Viega Eco Plus shower WC element universal ....... 86
Viega Eco Plus WC element height-adjustable ....... 88
Viega Eco Plus WB element individually height-adjusta-
  ble ............................................................ 90
Viega concealed connection box ......................... 92
Hygiene flushing function – installation variants 97
PWH/PWC with flushing station 97
PWC with Visign for Care flush plate 98

Viega Mono 99
WC/bidet block 99
Assembly 100

Viega concealed cistern 1F – installation depth 80 mm 101
System description 101
Technical data 102
Setting flush volumes 103

WC flushing systems 104
Concealed cistern 2 104

Viega flushing throttle 105
WC element – Villeroy & Boch »Green Gain« 107
WC element – odour extraction 108
WC element – individual seat height adjustment 109

Flush systems 110
Flush-stop technology 110
Dual flush technology 110

WC actuation 111
Flush plates 111
Compatibility 111
Viega flush plate configurator 112
Overview of the equipment features 114
Visign for Public 5/6 – infrared technology 119
System description 119
Functions 120
Assembly 121

Electronic WC flush actuation 122
System description 122
Usage examples 124
Tablet holder for WC cleaning tabs 129
Tile-level installation 130
Types of actuation 132
Touchless electronic actuation 132
Electrical system 132
Urinal actuation ........................................ 133
Overview – equipment sets ......................... 133
Overview of the equipment features ............ 135
Siphon sensor technology ............................ 136
Types of actuation for public areas ............... 137

Application technology

Fire protection in domestic technology ............ 138
Planning criteria ........................................ 138
Zero distance – definition ............................... 139
Piping isolation ........................................ 141
Profipress ........................................ 141
Viega Smartpress / Sanfix Fosta .................... 141
Sanpress ........................................ 141
Prestabo ........................................ 141
Megapress ........................................ 141
Pipe shells and mats for fire protection constructions 142

Floor lead-in

Profipress/Profipress with Smartloop Inliner circulation ........................................ 143
Sanpress/Sanpress Inox/Sanpress Inox with Smartloop Inliner circulation .................... 144
Prestabo/Prestabo PP coated ......................... 145
Megapress ........................................ 146
One-side insulation ..................................... 147
Viega Smartpress / Sanfix Fosta .................... 150
Zero distances – in the Viega system ........... 151

Sound protection in domestic technology ........ 155
Acoustic assessment of the layout ................. 155
Fundamental installation rules .................... 158
Acoustic proof of suitability ......................... 158
Sound protection certificates for Viega pre-wall systems ........................................ 159
Steptec at solid wall .................................. 159
Viega Eco Plus at solid wall ......................... 160
Viega Mono at solid wall ............................ 160
Steptec installation wall ............................. 161
Viega Eco Plus at lightweight construction wall Knauf W116 ........................................... 161
Steptec at lightweight construction wall Knauf W112 ........................................... 162
Viega Eco Plus at lightweight construction wall ........................................... 163
Dry construction – processing instructions 164
- Gypsum plaster boards 164
- IFGP cladding panels 164
- Aqua-CS cladding panels 166
- Waterproofing 166

DRAINAGE TECHNOLOGY

Fundamentals

Intended use 171

Regulations and standards 172

Requirements for drains 172
- Odour traps – water seal levels 173
- Pipe interrupters 174
- Load-bearing capacity 175
- Drainage capacity 176
- Temperature resistance – material properties 181
- Maintenance and inspection 181

Sound protection 182

Waterproofing 184
- Conventional sealing 185
- Bonded sealing 187
  - Planning 187
  - System description 188
  - Components 188
- Reliable bonded sealing – overview 189
- Viega drains 190

Drains and overflows for bathtubs

Fittings with inlet – overview 192
- Multiplex Trio Visign MT3/MT5 196
- Multiplex Trio Visign MT9 198
- Multiplex Trio F 200
- Multiplex Trio F/Rotaplex Trio F Visign – valve cone drive 202
- Multiplex Trio /Rotaplex Trio Visign MT5 – valve cone drive 203
- Rotaplex Trio Visign RT5/RT3 204
- Rotaplex Trio F 206
- Multiplex Trio E3, E2, E – electronic mixing unit 208
  - System description 208
Intended use ........................................... 208
Components ........................................... 209
Model overview ....................................... 210
Technical data ......................................... 211
Viega Multiplex Trio E-WLAN module .......... 211

Fittings without inlet – overview ................. 212
Multiplex M5/M3 ...................................... 214
Multiplex M9 ........................................... 216
Rotaplex R5/R3 ........................................ 218
Citaplex .................................................. 220

Drains for shower trays

Tempoplex ............................................... 221
Domoplex ............................................... 222
Varioplex ............................................... 222

Drains for washbasins and bidets

Eleganta odour trap ................................... 223
Design drain valves ................................... 223
Universal valve Visign V1 ......................... 224
Odour traps ............................................. 224

Advantix floor drainage

Product selection ...................................... 226
Viega Advantix configurator ...................... 228
Overview of bathroom, balcony/terrace drains 232
Overview Advantix floor drains .................. 233
Overview bath drains for floor-level showers 234
Advantix bath drains ................................. 235
Advantix balcony/terrace drains .................. 240
Advantix floor drains ............................... 241
Advantix bath drain 62 mm ........................ 242
Advantix bath drain 70 mm ........................ 243
Advantix – odour proof drains .................... 244
Advantix stacking element made of plastic .... 245
Plug-in drains ........................................... 246

Design products ...................................... 248
Advantix shower channel ......................... 248
Advantix Vario shower channels/wall drains ______ 250
Design grates ________________________________ 251
  Stainless steel grates ________________________ 252
  Glass covers ________________________________ 253

Advantix fire protection floor drain ____________ 254
Advantix floor drain R120 ______________________ 254
Operating mode ______________________________ 257
  Installation in drill holes ______________________ 258
  Special solutions ______________________________ 259

Backflow traps

Basic selection criteria _________________________ 261
  Installation locations __________________________ 263
  Selection aids – product overview _______________ 264
Sperrfix – individual protection _________________ 266
Combined backflow prevention systems ____________ 268
  Optifix3 – floor drain __________________________ 268
  Grundfix – for wastewater free from faecal matter ______ 269
  Grundfix Plus Control – for wastewater containing faecal matter ______ 270
Care and maintenance ____________________________ 271

Spare parts management __________________________ 272

Appendix

Wastewater pipes – product overview ____________ 273
Foreword

Viega has been offering installation technology products since 1899. A few years later drain fittings – e.g. for bathtub draining – already had their firm place in the continuously growing product range. The course of the 20th century such items were converted with regard to manufacturing engineering from brass castings to plastic injection mouldings. When copper pipes were introduced for potable water installations in 1965, the development of the complete product range of soldered fittings was an important milestone in the history of the company.

For Viega the age of press connecting technology started in 1989. This technology was available at first for stainless steel pipes, and later on also for copper pipes and quickly found enormous acceptance throughout Europe as a cold joining technology that could be installed in a few seconds.

All interesting facts on planning and installation of metal pipe systems with press connectors can be currently found in the 3rd edition of Viega application technology, Volume I. The guide also explains protective goals in a practice oriented way, for example maintaining the potable water quality in piping systems as well as the necessary know-how for heating systems, gas installations and the diverse options of using press connecting technology for industrial applications.

The developments continued: For 30 years now Viega has been additionally offering plastic pipe systems and later also metal composite pipe systems with press connecting technology. Especially as floor distribution systems for potable water and heating, these systems solutions offer many advantages. Since 1994, pre-wall technology and flushing systems have been additionally completing the product range for installation technology. Among these are today many product ranges of design products, such as WC and urinal flush plates.
The Viega key production sites for the European sales markets

Since 1963 – Lennestadt-Elspe
Plastic injection moulding

Since 1989 – Attendorn-Ennest
Gunmetal foundry and logistics

Since 1991 – Großheringen
Metal press connectors

Since 2007 – Niederwinkling
Plastic and metal composite pipes

Example of a Viega Smartpress system
Every four Viega production facilities participate in manufacturing all the components.
- In Lennestadt-Elspe, amongst others, the support body inserts of PPSU are manufactured.
- In Attendorn-Ennest, the connector components with threads of gunmetal are produced.
- The Großheringen location produces connector mouldings of stainless steel.
- Niederwinkling produces plastic and metal composite pipes.

Thus Viega avails of all the material and manufacturing technologies required for an innovative installation system as Viega Smartpress.
This is the 2nd edition of Viega application technology, Vol. II. Supplementary to Volume I already presented it focuses on maintaining the potable water quality while in addition information is given on further fields of competence. High-grade materials suitable for potable water on the one hand and many practical planning and installation information on the other hand are intended to help you hand over systems dependable in operation to your customers. The use of the system as intended will then ensure that the potable water quality is maintained as necessary and avoid that critical stagnation temperatures are exceeded or fallen below.

We have also collected numerous examples of pre-wall and drainage technology with high-grade design products suitable for meeting individual customer desires in your everyday work efficiently and without problems.

With this in mind, we wish you with this new edition of Viega application technology, Volume II again lots of success and all the best for your business to prosper!

Place / Viega establishment, October 2017

Your Viega Team
PLASTIC PIPING SYSTEMS

Fundamentals

Potable water as a foodstuff

Potable water is our most important foodstuff and there is nothing that can replace it. However, the average consumption has been declining for years now. Consequently, the utility companies have to operate clearly over-dimensioned supply networks both on the supply and the disposal side. The regional utility company is responsible for the proper potable water quality up to the transfer point with the household (water meter) and inside the building the user is responsible for the installation. The user has to ensure in acc. with DIN EN 806-5 that "... The complete water exchange is ensured at least every 7 days ...". To ensure that the regularly tapped water quantity is sufficient to guarantee the complete water exchange of the installation, the planning specialist and/or the installer has to create the necessary preconditions by adequately dimensioned nominal pipe diameters and by routing the pipes in considering the hygiene point of view.

Potable water adds to the quality of life and serves to protect health. Appealing bathrooms and eat-in kitchens are an essential feelgood factor in our homes; but clean potable water is also the basis for meal preparation and cleaning.

To achieve this, compliance with the general rules of engineering for planning, construction, commissioning and operation in accordance with the intended use including regular maintenance is indispensable.

Regulations and standards

To ensure the potable water quality in line with the requirements of the EC potable water directive 98/83/EC it is indispensable to use certified components and systems and comply with the applicable standards and regulations – especially for planning, implementation and operation. In May 2012 the European series of standards DIN EN 806-1–5 in conjunction with the national collateral standards became authoritative. Since August 2011, the DIN EN 1717 standard stipulates the requirements for the protection of potable water.

For decades the technical rules for sanitary systems have been developing in many different regional ways in the European countries; also because of the different cultures and systems of values. This explains why complete harmonisation of all regional standards could not be achieved in one go by the first edition of the DIN EN 806 series of standards.
Water quality and microbiology

Water supplied inside buildings is normally named differently depending on regions and common uses. In Europe the wording “potable water” applies; in other areas definitions as “potable water” or “domestic water” are those of common use.

It doesn’t matter, which definition we are using: water supplied inside buildings shall be free of pathogens. Contaminated water is dangerous even when we don’t drink it: by breathing water spray (aerosol) from showers, by contact with wounds, by washing foodstuff or producing ice.

Many pathogens are hemerophiles. This is also true for *legionella pneumophila* as the causer of atypical pneumonia or the Pontiac fever. As natural inhabitants of pools and puddles, these bacteria became relevant only the moment when large volumes of hot water were stored and then atomised by showers.

In 1976 the first known epidemic through legionella bacteria was caused in the Bellevue Stratford hotel in Philadelphia during the 58th congress of former American soldiers (American Legion) and 180 out of 4,400 delegates fell ill. The disease claimed 29 lives. Despite the immediate research activities it was only in January 1977 that the bacterium could be isolated.

The disease is caused if the bacteria in the water get into the lungs – simply by inhaling the air water mixture (aerosol) in the shower.

Today also air conditioning systems and cooling towers are considered carrying a risk because contaminated aerosols are spread by these systems.

What *legionella pneumophila* is in the field of hot water, is *pseudomonas aerugionsa* in the field of cold water: the indicator bacterium for the hygienic condition of the potable water installation. With multiple resistances against antibiotics and extremely low nutrient requirements, its treatment in patients and also in the installations is often problematic.

One of the main starting points for technical countermeasures is the fundamental knowledge of the living conditions of microorganisms.

All microorganisms have in common that they require suitable living conditions to proliferate excessively. Long dwelling times of the potable water inside the installation (stagnation) support the proliferation of microorganisms. In stagnation, cold potable water usually becomes too hot and heated potable water cools down. This allows bacteria to get into their preferred temperature range (approximately 30 to 50 °C) and also gives them sufficient time (stagnation of water) to proliferate in the critical range.

These are the two cornerstones where technical measures can be taken to minimise excessive bacteria proliferation:

- Adherence to the temperatures for cold and hot water
- Regular water exchange
Maintaining the potable water quality

There are at least three basic requirements on potable water installations:

- Usage comfort – water quantity, temperature and sound protection
- System operation and value preservation – safe, sustainable, energy-efficient
- Maintaining the potable water quality

The first two requirements are the classical goals while the last one came into the focus in recent years only.

Potable water is a foodstuff with an »expiry date«. This expiry date is reached if the potable water quality does no longer meet the requirements of the EC potable water directive at the individual draw-off point.

Therefore planning specialists and trade professionals must know the major influencing factors for maintaining potable water quality and consider them in their respective areas of responsibility. The systems with their part sections should be planned, implemented and operated in such a way that the following thermal and hydraulic conditions in accordance with Fig. 1–6 are complied with to rule out critical legionella growth in potable water installations.

Operating conditions

The following rules with regard to temperatures and water exchange apply for potable water installations:

- **Temperatures**
  - Potable water <25 °C is referred to as »cold potable water«. It is assumed that for the normal water exchange no critical growth of microorganisms takes place below this temperature.
  - To counteract heating to over 25 °C, pipelines for cold potable water must not be routed next to heating pipes or pipelines for heated potable water. If this cannot be avoided, heat insulation is obligatory.
  - It is assumed for potable water heated over 55 °C that most of the microorganisms contained in the water are killed.
Water exchange
- EN 806-5 stipulates that a potable water installation is only operated in accordance with its intended use if at least within seven days a complete water exchange takes place in all part sections and in the potable water heater.
- Series piping and ring system installations to frequently used sampling points can ensure the required water exchange even to fittings with a low frequency of use – for example draw-off points for garden irrigation – with economic efficiency. Under these conditions it is sufficient in the event of interruptions of use to schedule manual flushing or flushing by a flushing system.

Flow-through
Old potable water installations frequently include line sections originally used as combined fire extinguishing and potable water pipelines, or operated now as potable water installations only with much fewer draw-off points as originally planned.
Such overdimensioned piping systems bear hygienic risks: This is on the one hand caused by the too low water exchange itself, and on the other hand due to the lacking turbulent flow which is required to achieve the necessary water exchange across the entire pipeline cross-section (laminar flow). Such part sections should be eliminated immediately and adapted to be adequately dimensioned to suit the new usage conditions.

Illustration Fig. 1–6 shows that none of the three mentioned factors alone ensures that the potable water quality is ensued but that the factors influence the potable water quality also by their reciprocal actions. Against this background it is recommended that these fundamentals be considered in each planning of potable water installations honouring the hygiene aspect (e.g. for pipeline routing in general, routing in shafts with high thermal loads, usage conditions, etc.).
Materials

Another reasons for the good quality of our products is the selection of our materials. They must not only be suitable for the daily routine on the job site but also meet the requirements of the regulations and standards. This is the only way to ensure that the potable water keeps its quality and that the properties of the installation do not change. The potable water directive clearly stipulates: Materials must not cause impermissible changes of the potable water quality. Consequently, Viega uses only materials suitable for potable water such as stainless steel, copper and copper alloys.

PE-X
For many decades now this is a proven pipe material for plastic pipes for potable water and heating installations. It has all the familiar advantages; especially for floor distribution such as flexibility from the coil, cutting to length within a few seconds using scissors without deburring and many other things.

Stainless steel
The stainless steel used for fittings and connection pieces with its increased chromium and molybdenum contents is of extra high grade. This is confirmed by the internationally recognised PRE value with regard to corrosion resistance.

Gunmetal
Viega uses this material, being among the core competencies of the Viega manufacturing technologies, for threaded press connectors. It is corrosion-resistant for all potable waters and thus long-term safe and in the contact with potable water meets all national and international regulations and standards.

PPSU
This is the ideal and particularly heat and impact-resistant plastic material for the radial Viega Smartpress connectors without elastomer sealing elements.
Dimensioning of potable water systems

Potable water systems have to be calculated in accordance with DIN EN 806-3 and/or according to the applicable national regulations. Precise calculation of the pipe diameters is the pre-requisite for proper functioning of the complete system. Purpose of the calculation is a high usage comfort with an adequate supply of all cold and hot water draw-off points even in case of peak consumptions.

Stagnation caused by over dimensioning the installation system has to be avoided from the hygienic point of view.

The following characteristics are required for the calculation of the pipe diameters:

- Pipe friction pressure losses – R-values depending on the roughness of the pipe surfaces
- Individual resistances of the connectors and fittings – Zeta values depending on the shape of the connectors

The zeta value is a size-related parameter without a unit of measurement to calculate the pressure losses in individual resistances for different flow speeds.

Pressure losses
While water flows through potable water installation it loses pressure both in the straight pipeline and also in the so-called individual resistances. These pressure losses must be introduced into the calculation of the pipe network to be able to dimension the building installation correctly. In addition to the pressure losses caused by pipe friction and the individual resistances of the connectors, also the pressure losses resulting from the geodetic height differences in apparatuses (e.g. potable water heater), in backflow preventers and in extraction fittings have to be introduced in the calculation of the pipe network.

Pipe friction pressure losses
The pressure losses caused by the pipeline depend on the following factors:
- Pipe material
- Nominal width and consequently the inside diameter of the pipe
- Volume flow

### Pipe roughness – potable water pipelines of different materials

<table>
<thead>
<tr>
<th>Type of pipe</th>
<th>Pipe roughness [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel, copper</td>
<td>0.0015</td>
</tr>
<tr>
<td>All-plastics, multi-layer composite</td>
<td>0.0070</td>
</tr>
<tr>
<td>Galvanised steel</td>
<td>0.1500</td>
</tr>
</tbody>
</table>

Table 1–1
Individual resistances
To calculate the pipe network correctly, the actual resistance coefficients of the fittings and connection pieces used should be considered. This is to ensure that the system is dimensioned according to be actual pressure conditions and planning from a hygienic point of view is achieved with minimum diameters of the pipes. The resistance coefficients can be requested from the manufacturers of the respective systems.

Different manufacturing processes and materials may result in large differences of the individual resistances with different manufacturers. The resistance coefficients of customary fittings of other brands are by up to 5 times higher and generate pressure losses which are so high that consequently a larger pipe cross-section has to be selected for this pipeline section. Viega places particular emphasis on the optimal flow-through characteristics of its systems to achieve individual resistances that are as small as possible.

Fittings and connectors with unfavourable flow conditions having high Zeta values frequently require larger pipe cross-section with increased water volumes. This will on the one hand limit the usage comfort of the end consumer because e.g. he will have to wait for a longer time until the desired hot water temperature has been reached, and on the other hand increases the risk of stagnation in the pipeline.
Planning criteria
When choosing an installation system, the following criteria must be taken into account:

- Potable water hygiene,
- The number and position of sanitary objects,
- The construction method of the installation walls – wet or dry construction,
- Arrangement of the riser pipe
- Wall slots – mill-cut or masoned,
- The installation method – on the bare floor or in hollow spaces,
- The use – frequently or seldom-used extraction fittings.

To minimise stagnation, the installation has to be dimensioned such that the following boundary conditions are met:

- Regular water exchange in all pipeline sections is ensured.
- Seldom used draw-off points are made as series or ring system installations.

Types of pipes – selection
The different properties in routing are decisive when choosing between a dimensionally stable or a flexible pipe.

- **Multilayer pipes**
  are due to their dimensional stability suitable both for basement distribution and riser pipes, and for concealed and visually appealing wall-mounted installations.

- **All-plastic pipes**
  are due to their flexibility particularly suitable for pre-wall installations and for dry construction.
Pipe routing – types of connection

From the economic and hygienic viewpoint, the connection of sanitary objects by series or ring system installations is the best solution. Ring system installations offer due to the equal distribution of pressure particular advantages and compared to other types of connections the number of sanitary objects which can be connected is significantly higher. In addition, the entire water volume of the floor installation is exchanged when using one draw-off point. Even rarely used draw-off points, for example outside tapping points for garden irrigation, etc. should be integrated to prevent stagnation in series or ring system installations.

The following types of connection are described in this chapter:

■ Series pipeline installation
■ Ring system installation
■ T-piece installation

Series pipeline installation

Connection of the draw-off points with double wall plates – the last one with a single wall plate.

■ Small pipe requirement
■ Quick mounting
■ Regular water exchange
■ Recommended for PWH

The most commonly used draw-off point should be placed at the end of the installation, thus guaranteeing regular water exchange.
Ring system installation

Similar to series pipeline installation, except that the pipeline routed back from the last draw-off point to the T-piece.

- Optimal pressure distribution
- Lower pressure loss in comparison to series installation
- Connection of several sanitary objects in any order
- Optimal water exchange

Recommended installation type for PWC.

T-piece installation

Each draw-off point is connected via a single connection pipeline.

- Small pipe requirement

To prevent stagnation, the single connection pipeline must be kept as short as possible. See also P. 29.
Length Expansion – compensation

Pipelines expand with heat. Heat expansion is dependent on the material. Changes in length lead to tension within the installation. These tensions must be equalised with suitable measures.

The following are effective:
- Fixed and gliding points
- Expansion equalisation pieces (expansion bend)

Assembly rules
- Torsional stress due to length expansion must be avoided as much as possible.
- Pipelines without a change in direction require only one fixed point.
- A fixed point is to be placed in the middle of long pipelines, thus allowing length expansion in both directions.
- Fixed points shall not be placed on connectors.
- Gliding points shall be positioned in such a way that they do not inadvertently become fixed points during operation.

Fig. 1–12  U-expansion equalisation

U-expansion equalisation
For the absorption of length expansion

\[ \text{L}_{\text{BS}} = \text{required expansion bend length} \]

Fig. 1–13  L-expansion equalisation

L-expansion equalisation
Arrangement of fixed points (F) and gliding points (GL)

\[ \text{L}_{\text{BS}} = \text{required expansion bend length} \]
Heat expansion

The heat expansion coefficient is \( \alpha = 0.03 \text{mm/mK} \) for the following types of pipes:
- PE-Xc/Al/PE-Xc
- PE-RT/Al/PE-RT

Calculation example – expansion bend length

**Given:**
- Temperature difference \( \Delta \vartheta = 50 \text{K} \);
- Pipe length \( L = 8 \text{m} \); Pipe \( \varnothing = 20 \text{mm} \)

**Required**
- expansion bend length \( \ell_{BS} \)

**Calculation**
- Starting in **Fig. 1–14**, diagram on the left:
  - From 50 K temperature difference on the x-axis up to the characteristic line for the 8 m pipe length.
  - Connect the intersection horizontally with the right-hand diagram up to the intersection of the characteristic line for pipe diameter 20 mm.

**Result**
- Read the value from the x-axis:
  \( \ell_{BS} = 480 \text{ mm} \)

![Diagram showing expansion bend length calculation](image)
Insulation of the pipelines

Heat insulation
Potable water pipelines have to be routed in a way that condensation and heating that impair the quality of the potable water (cold and hot) are prevented. The protection objective is to rule out that permanent temperatures between 25 and 55 °C shall not affect the entire system. Influencing factors are in particular the duration of stagnation and the position and arrangement of the pipes, in particular in suspended ceilings and shafts with mixed assignment. Therefore it must be ensured that the pipelines are routed at an appropriate distance from heat sources such as hot pipelines, stacks, and heating systems. If this is impossible, the pipelines must be insulated with the appropriate layer thicknesses of insulation material.

Hot potable water – PWH
The specific national standards and regulations apply for PWH.

Cold potable water – PWC – in accordance with EN 806-2
Fig. 1–15 shows the effect of heat conduction from wall faucet, whose connection of hot potable water has been integrated directly in the circulation circuit.

If it is operated with temperatures \( \geq 60 \, ^\circ\text{C} \) as it is common practice in hospitals for example, danger of scalding the surfaces of wall-mounted faucets will arise. As shown in the illustration, temperatures of 46 °C and above are measured there with the faucet closed. In addition, heat may be transferred to the cold water side, overflows from PWH to PWC, increased wear phenomena at fittings and a higher contamination risk caused by microorganisms.

Experience has shown that this type of connection does not minimise the hygienic risk inside the faucet even for concealed variants of shower faucets – on the contrary, heat conduction may transfer them to the cold potable water with serious consequences. This is because during the night when the faucet is not used 33 °C and even higher temperatures will occur and microbial growth may be promoted here.

If the PWH connection is routed instead via a short cooling section \((8–10 \times \text{DN})\), no local increase of bacterial counts can be expected if hot potable water \( \geq 60 \, ^\circ\text{C} \) is tapped on a regular basis.
As a consequence of this physical relationship, series and ring systems with double wall plates are recommended without any limits also for cold potable water and also for wall fittings. However, it is advised against for fitting connections for hot potable water which are integrated into the circulation circuit. **Fig. 1–16 and Fig. 1–18** show the respective pipeline routes.

Stagnation zones in pipelines can be minimised or even ruled out by planning from a hygienic point of view – But this cannot apply to commercial draw-off faucets, where stagnation in dead areas and along connection hoses will occur. Consequently short cooling sections (flow of heat from top to bottom) are recommended to be installed for fitting connections in PWH-C pipelines. This applies in particular for planning concealed pipe routing as explained in the following. The respective hygienic risks can be minimised in stand-up fittings – also in the event of a refurbishment – by pre-wall U-shaped routing of the PWH connection (Fig. 1–17) in upward direction.

As a consequence of this physical relationship, series and ring systems with double wall plates are recommended without any limits also for cold potable water and also for wall fittings. However, it is advised against for fitting connections for hot potable water which are integrated into the circulation circuit. **Fig. 1–16 and Fig. 1–18** show the respective pipeline routes.
Metrological tests confirm that cooling sections with a length of 8–10 x DN can already prevent the critical heat transfer to the cold potable water via the faucet and consequently, the hygienic risk described is reduced and/or largely ruled out if the installation is operated as intended.

Soundproofing insulation
Sounds in potable water installations are predominantly caused by faucets and sanitary objects. The pipelines transmit the sound producing the audible airborne sound.

The following measures lower noise creation and transfer
- Correct planning / dimensioning of the complete system
- Observation of the maximum flow speed
- Installation of low-noise faucets
- Use of pre-wall systems
- Fastening of pipelines with sound protection elements

Installation technical characteristics
- Sound disconnection of faucets
  Direct contact of wall plates with the installation body should be avoided. Sound absorbers and mounting units should be used, for example the ones of the Viega Smartpress system.

- Fixing and insulation of the pipelines
  - Use pipe clamps with sound insulating inlays for fastening concealed pipes.
  - Prefer pre-insulated pipes.
  - Insulate blank pipes on site.
Viega Smartpress press connector system

System description

Intended use
The Viega Smartpress installation system consists of Viega Smartpress pipes and Viega Smartpress connectors. Observe the processing instructions of this application technology and the user instructions.

The system is suitable for the following applications:

- **Potable water installations**
  - Without limitations for potable water in accordance with the potable water directive
  - Operating temperature \( T_{max} = 70 \, ^\circ\text{C} \)
  - Operating pressure \( p_{max} = 1.0 \, \text{MPa (10.0 bar)} \)

- **Heating systems**
  - Operating temperature \( T_{max} = 80 \, ^\circ\text{C} \)
  - Operating pressure \( p_{max} = 1.0 \, \text{MPa (10.0 bar)} \)

- **Gas installations**
  - Only with Viega Smartpress gas pipe models 6709, 6709.1, 6703
  - Operating temperature \( T_{max} = 60 \, ^\circ\text{C} \)
  - Operating pressure \( p_{max} = 0.5 \, \text{MPa (5.0 bar)} \)

Technical information and descriptions in this book pertain to Viega original parts and the corresponding tools.

The use of Viega Smartpress for applications other than those described must be approved by the Viega Service Center.

Viega Smartpress press connectors
Press connectors of sizes 20, 25, 32 mm can be used in combination with Viega Smartpress gas pipes also for gas installations.

Viega Smartpress multilayer pipes
1. PE-Xc-Inliner
2. Aluminium seal coat
3. PE-Xc jacket
Technical data

Viega Smartpress PE-Xc/Al/PE-Xc pipes, dimensionally stable, with external oxygen seal coat of aluminium.

The following data is printed-on consecutively in axial direction: Manufacturer, system name, pipe material, size/wall thickness, permissible operating temperature/pressure, certification.

- 5-m-rods, coiled bundle
- Gunmetal, stainless steel, PPSU
- 16/20/25/32/40/50/63
- Class E according to EN13501-1

### Pipes

**Pipe marking**

- As-delivered condition
- Press connector material
- Nominal dimensions [mm]
- Fire resistance class

### Pipework

#### Viega Smartpress PE-Xc/Al/PE-Xc pipes – product range

<table>
<thead>
<tr>
<th>Type of pipe</th>
<th>Size</th>
<th>Areas of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rods</td>
<td>16, 20, 25, 32, 40, 50, 63</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td></td>
<td>20, 25, 32</td>
<td>Gas</td>
</tr>
<tr>
<td>Coiled bundle without protective pipe</td>
<td>16, 20, 25, 32</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td></td>
<td>20, 25, 32</td>
<td>Gas</td>
</tr>
<tr>
<td>Coiled bundle with protective pipe, black, blue, red</td>
<td>16, 20, 25</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td>Coiled bundle with protective pipe, yellow</td>
<td>20, 25</td>
<td>Gas</td>
</tr>
<tr>
<td>Coiled bundle with surrounding insulation 6 mm, blue [(\lambda = 0.040) W/mK]</td>
<td>16, 20</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td>Coiled bundle with surrounding insulation 9 mm, blue [(\lambda = 0.040) W/mK]</td>
<td>25</td>
<td>Potable water/heating</td>
</tr>
</tbody>
</table>

Table 1–2

#### Viega Smartpress PE-RT/Al/PE-RT pipes – product range

<table>
<thead>
<tr>
<th>Type of pipe</th>
<th>Size</th>
<th>Areas of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coiled bundle without protective pipe</td>
<td>16, 20</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td>Coiled bundle with protective pipe, black</td>
<td>16, 20</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td>Coiled bundle with surrounding insulation 6 mm, blue [(\lambda = 0.040) W/mK]</td>
<td>16, 20</td>
<td>Potable water/heating</td>
</tr>
<tr>
<td>Coiled bundle with surrounding insulation 9 mm, blue [(\lambda = 0.040) W/mK]</td>
<td>16, 20</td>
<td>Potable water/heating</td>
</tr>
</tbody>
</table>

Table 1–3

#### Viega Smartpress PE-Xc/Al/PE-Xc and PE-RT/Al/PE-RT pipes – Technical data

<table>
<thead>
<tr>
<th>(d \times s) [mm]</th>
<th>(\delta_i) [mm]</th>
<th>Pipe weight [g/m]</th>
<th>Minimum bending radius ([x \bar{d}_j])</th>
<th>Heat conductivity [W/mK]</th>
<th>Average length expansion [mm/mK]</th>
<th>Pipe roughness [mm]</th>
<th>External oxygen seal coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 x 2.0</td>
<td>12.0</td>
<td>105</td>
<td>5.0</td>
<td>2.0</td>
<td>0.4</td>
<td>0.03</td>
<td>Aluminium</td>
</tr>
<tr>
<td>20 x 2.3</td>
<td>15.4</td>
<td>145</td>
<td>5.0</td>
<td>2.3</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>25 x 2.8</td>
<td>19.4</td>
<td>230</td>
<td>3.5</td>
<td>3.0</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>32 x 3.2</td>
<td>25.6</td>
<td>380</td>
<td>3.5</td>
<td>4.0</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>40 x 3.5</td>
<td>33.0</td>
<td>525</td>
<td>4.0</td>
<td>4.0</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>50 x 4</td>
<td>42.0</td>
<td>735</td>
<td>With tool</td>
<td>4.5</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>63 x 4.5</td>
<td>54.0</td>
<td>1090</td>
<td>With tool</td>
<td>4.5</td>
<td>0.4</td>
<td>0.03</td>
<td></td>
</tr>
</tbody>
</table>

Table 1–4
Application technology

Laying and fixing pipes
The following assembly rules apply for installations with Viega Smartpress pipes:
■ Only pipe clamps with chloride-free sound insulating inlays should be used to secure the pipes.
■ Existing installations should not be used as supports for other pipelines and components.
■ Do not use pipe hooks.
■ Observe distance to connectors.
■ Observe the expansion direction – plan fixed and gliding points.

Fixing elements of pipelines should be installed being disconnected from the installation body. Any structure-borne sound caused by thermal length variations and pressure surges in the fluid transported or on the installation body must not be transmitted to other components. The fixing distances Table 1–5 should be observed.

### Viega Smartpress pipes – fixing distances

<table>
<thead>
<tr>
<th>d</th>
<th>Horizontal routing</th>
<th>Vertical routing</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>1.00</td>
<td>1.30</td>
</tr>
<tr>
<td>20</td>
<td>1.00</td>
<td>1.30</td>
</tr>
<tr>
<td>25</td>
<td>1.50</td>
<td>1.95</td>
</tr>
<tr>
<td>32</td>
<td>2.00</td>
<td>2.60</td>
</tr>
<tr>
<td>40</td>
<td>2.00</td>
<td>2.60</td>
</tr>
<tr>
<td>50</td>
<td>2.50</td>
<td>3.25</td>
</tr>
<tr>
<td>63</td>
<td>2.50</td>
<td>3.25</td>
</tr>
</tbody>
</table>

Table 1–5
Press connectors

Viega Smartpress press connectors seal the pipe over the entire surface area of the PPSU support body and not by an O-ring inserted separately. Mounting becomes simpler and safer because poorly deburred or uncalibrated pipe ends cannot damage the sealing surface.

Through special manufacturing processes it is achieved that the fittings have only small pressure losses thus positively influencing the dimensioning of potable water pipelines.

Features
- Jointing technology without O-ring
- No calibration and deburring of the pipes – saves up to 30% of mounting time
- Flow-optimised inside geometries to achieve similar pipe cross-sections
- Safety created by the SC-Contur
- Inspection window for checking the insertion depth
- Corrosion resistance through high-grade materials

Zeta values
The Zeta value is a resistance coefficient resulting from the calculation of pressure drop after water flow-through a fitting body. It is an adimensional value and allows comparing different bodies. The goal is a Zeta value which is as small as possible. See also P. 23.
### Viega Smartpress press connectors – Zeta values at flow speed 2m/s

<table>
<thead>
<tr>
<th>Component</th>
<th>16 x 2.0</th>
<th>20 x 2.3</th>
<th>25 x 2.8</th>
<th>32 x 3.2</th>
<th>40 x 3.5</th>
<th>50 x 4.0</th>
<th>63 x 4.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbow 90°</td>
<td>2.7</td>
<td>2.1</td>
<td>2.6</td>
<td>1.9</td>
<td>1.2</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>T-piece straight-through form</td>
<td>2</td>
<td>1.7</td>
<td>2.1</td>
<td>1.4</td>
<td>0.8</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>T-piece outlet</td>
<td>3.6</td>
<td>3.7</td>
<td>4.7</td>
<td>4.1</td>
<td>2.7</td>
<td>3.2</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Table 1–6

### Viega Smartpress wall plates – Zeta values at flow speed 2m/s

<table>
<thead>
<tr>
<th>Component</th>
<th>16 x ½</th>
<th>20 x ½</th>
<th>20 x ¾</th>
<th>25 x ½</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall plate</td>
<td>2.5</td>
<td>2.4</td>
<td>2.7</td>
<td>-</td>
</tr>
<tr>
<td>Double wall plate straight-through form</td>
<td>3.9</td>
<td>3.8</td>
<td>-</td>
<td>4.5</td>
</tr>
<tr>
<td>Double wall plate outlet</td>
<td>3.6</td>
<td>3.6</td>
<td>-</td>
<td>5.8</td>
</tr>
</tbody>
</table>

Table 1–7
SC-Contur

Viega Smartpress press connectors are equipped with the SC-Contur – identified by the green spot on the press sleeve. As in all Viega installation systems, Viega Smartpress press connectors come also with the SC-Contur – erroneously unpressed connections will be detected as leaky during filling up the system for the leakage test and can be pressed immediately.

The SC-Contur is effective
- with water leakage test in the pressure range between 0.10–0.65 MPa (1.0–6.5 bar).
- with dry leakage test in the pressure range between 22 hPa–0.30 MPa (22 mbar–3.0 bar).

Marking

Viega Smartpress press connectors are identified as follows:
- Viega logo
- Green spot for the SC-Contur
- Size – additionally specified on the connector body
Compatibility of connectors/pipes
Proper functioning of Viega Smartpress connectors is ensured only together with Viega pipes from the Viega Smartpress, Pexfit Pro and Pexfit Fosta systems. Use of pipes from other systems or manufacturers has not been tested and therefore their proper function cannot be guaranteed. Installation of Viega Smartpress pipes with old Pexfit connectors is not possible.
Please contact the Viega Service Center for questions on this subject.

### Viega Smartpress/Pexfit Fosta/Pexfit Pro – Compatibility of connectors/pipes

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pexfit Model 27XX</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Pexfit Pro gunmetal Model 47XX</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Pexfit Pro PPSU Model 47XX</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Viega Smartpress DN 16–63 Fluid: Water Model 67XX</td>
<td>✓</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Viega Smartpress d 20–32 Fluid: Gas Model 67XX</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Table 1–8

Compatibility with Viega Pexfit Fosta
Viega Smartpress press connectors can be combined for potable water and heating installations also with Pexfit Fosta pipes according to Table 1–9.

### Viega Smartpress connectors – permissible pipe combinations

<table>
<thead>
<tr>
<th>Pexfit Fosta pipe Model</th>
<th>PE-Xc/Al/PE-Xc pipe</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>2703</td>
<td>Rods</td>
<td>16 x 2.0 20 x 2.3 25 x 2.8</td>
</tr>
<tr>
<td>2705</td>
<td>Blank</td>
<td>16 x 2.0 20 x 2.3 25 x 2.8</td>
</tr>
<tr>
<td>2704</td>
<td>Protective pipe, black</td>
<td>16 x 2.0 20 x 2.3</td>
</tr>
<tr>
<td>2705.5</td>
<td>Surrounding insulation 6 mm, blue, λ = 0.040 W/mK</td>
<td>16 x 2.0 20 x 2.3</td>
</tr>
</tbody>
</table>

Table 1–9

Pexfit Fosta gas pipes models 2709 and 2709.1 must not be connected with Viega Smartpress press connectors.
For the crossover to Viega Smartpress gas pipes model 6715G must be used.
Compatibility with Viega Pexfit Pro

Viega Smartpress press connectors can be combined for potable water and heating installations also with Pexfit Pro pipes according to Table 1–10.

Viega Smartpress connectors – permissible pipe combinations

<table>
<thead>
<tr>
<th>Pexfit Pro pipe Model</th>
<th>PE-Xc/Al/PE-Xc pipe</th>
<th>For potable water and heating installations</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>4703 Rods</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 x 2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 x 3.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 x 3.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 x 4.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>63 x 4.5</td>
<td></td>
</tr>
<tr>
<td>4705 Blank</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 x 2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 x 3.2</td>
<td></td>
</tr>
<tr>
<td>4704 Protective pipe, black</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 x 2.8</td>
<td></td>
</tr>
<tr>
<td>4704.1 Protective pipe blue, red</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td>4705.5 Surrounding insulation 6 mm, blue, $\lambda = 0.040$ W/mK</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td>4705.6 Surrounding insulation 9 mm, blue, $\lambda = 0.040$ W/mK</td>
<td></td>
<td>25 x 2.8</td>
<td></td>
</tr>
<tr>
<td>PE-RT/Al/PE-RT pipe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4708 Blank</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td>4708.1 Protective pipe, black</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
<tr>
<td>4708.5 Surrounding insulation 6 mm, blue, $\lambda = 0.040$ W/mK</td>
<td></td>
<td>16 x 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 x 2.3</td>
<td></td>
</tr>
</tbody>
</table>

Table 1–10
Storage and transport

Viega Smartpress components can be stored outdoors up to three months in their sealed original packings if protected from rain or high air humidity. Protect packings safely from mechanical damage during transport.

Corrosion protection

Contact with chloride-containing materials or other aggressive chemicals may cause corrosion of components made of stainless steel.

Contact between the system components and aggressive chemicals is not permitted. An excessive chloride concentration in the fluid or the environment can lead to corrosion in stainless steel systems. The chloride concentration in the medium must not exceed the maximum of 250 mg/l.

The following rules apply to avoid contact with chloride-containing materials:

- Insulating materials must not have a water-soluble chloride ion content that exceeds 0.05 % by weight.
- Sound insulating inlays of the pipe clamps must not contain leachable chlorides.
- Stainless steel components must not come into contact with building materials or mortar containing chloride.
- If external corrosion protection is required, DIN EN 806-2 must be observed.
- Never repair damaged components but replace them.

Thread locker containing solvents can lead to material damage and leaks in plastic parts of pipe connections. As a result, water damage may be caused.

- Only use commercially-available hemp in connection with thread sealing paste or certified sealing tape for potable water.
- Using adhesive to glue the edges of the insulating material of the system installed is harmless.
- Please contact the Viega Service Center if you have any questions.
Assembly
Required tools
We recommend using Viega original tools or equivalent tools for installations with Viega press connector systems.

The following tools are required for producing a press connection:
- Press machine with constant pressing force
- Viega Smartpress press jaws for plastic piping systems – model 2799.7 or 2784.7
- Viega Smartpress press rings for plastic piping systems – model 2796.1 for sizes 16–32 mm
- Hand press tool – model 2782.5 for sizes 16–25 mm
- Pipe shear – model 5341 for sizes 16–25 mm
- Pipe cutter – model 2191 for sizes 32–63 mm
- Bending tool – model 5331 or 5331.2

- Do not use hand saws or electric saws or angle grinders for cutting pipes to length.
- Use exclusively the hand press tool model 2782.5 with ratchet function for manual pressing of Viega Smartpress connectors. Do not use hand press tool model 2782 (year of construction until 08/2004) for the PE-Xc system, PB-system.
Bending pipes
We recommend using the Viega internal bending tool model 5331.2 of plastic for bending Viega Smartpress pipes. Do not use smaller bending radii as specified in Table 1–11.

Viega Smartpress pipes – bending radii – tools

<table>
<thead>
<tr>
<th>d</th>
<th>Bending radius x d</th>
<th>Model 5331</th>
<th>Model 5331.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>2.0</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>20</td>
<td>2.3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>25</td>
<td>3.0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>32</td>
<td>3.5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>40</td>
<td>4.0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>50</td>
<td>4.5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>63</td>
<td>4.5</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 1–11

Viega Smartpress pipes of sizes 16–32 mm can be bent manually – smallest bending radius 5 x d.

Using internal bending springs of metal is not permitted due to the possible damage to the pipe surface and introduction of contaminants into the installation. We recommend the Viega plastic internal bending tool (model 5331.2) made of plastic.

NOTE!
Product damage when bending directly at the connector!
Extreme bending directly at the connector may cause damage to pipe and connector and result in leaks. Select a bending point with sufficient distance to the connector to avoid damage.
Shortening the pipes
We recommend using the Viega tools intended for proper shortening of Viega multilayer pipes.

Stripping the pipes
When using Pexfit Fosta pipes models 2703; 2704; 2705; 2705.5; 2709 and 2709.1, the section of the length of the press sleeve must be removed from the jacket and the aluminium layer using the stripping tool model 2758.5. Using other tools is not permitted.

Use exclusively spare blades model 2758.1.
Establishing press connections

Fig. 1–29
Push the pipe into the press connector until the pipe end is visible in the inspection window.

Fig. 1–30
Check insertion depth in the inspection window.

Fig. 1–31
Open press jaw and place at a right-angle onto the connector. Observe the distances in section "Space requirements and distances". Start pressing.

Pressing with hand press tool model 2782.5
Open hand press tool and place at a right-angle onto the connector. Observe the distances in section "Space requirements and distances". Carry out pressing.

Fig. 1–32
Press connections – space requirements and distances

The minimum distances to components must be observed to establish press connections in a professional manner. Pressing with lower distances may result in leaks of the connections.

Minimum space requirement in wall slots

<table>
<thead>
<tr>
<th>Press machine type</th>
<th>Pressgun 5/4E/4B PT3-EH/AH, type 2 (PT2)</th>
<th>Pressgun Picco Picco</th>
</tr>
</thead>
<tbody>
<tr>
<td>[mm]</td>
<td>ø da</td>
<td>a</td>
</tr>
<tr>
<td>16</td>
<td>20</td>
<td>90</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>90</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>32</td>
<td>30</td>
<td>95</td>
</tr>
<tr>
<td>40</td>
<td>35</td>
<td>92</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>95</td>
</tr>
<tr>
<td>63</td>
<td>54</td>
<td>140</td>
</tr>
</tbody>
</table>

Table 1 – 12

Minimum distance between pipelines

<table>
<thead>
<tr>
<th>Press machine type</th>
<th>Pressgun 5/4E/4B PT3-EH/AH, type 2 (PT2)</th>
<th>Pressgun Picco Picco</th>
</tr>
</thead>
<tbody>
<tr>
<td>[mm]</td>
<td>ø da</td>
<td>a</td>
</tr>
<tr>
<td>16</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>20</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>25</td>
<td>23</td>
<td>58</td>
</tr>
<tr>
<td>32</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>40</td>
<td>28</td>
<td>70</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>85</td>
</tr>
<tr>
<td>63</td>
<td>56</td>
<td>125</td>
</tr>
</tbody>
</table>

Table 1 – 13

Minimum distance between pipe and wall

<table>
<thead>
<tr>
<th>Press machine type</th>
<th>Pressgun 5/4E/4B PT3-EH/AH, type 2 (PT2)</th>
<th>Pressgun Picco Picco</th>
</tr>
</thead>
<tbody>
<tr>
<td>[mm]</td>
<td>ø da</td>
<td>a</td>
</tr>
<tr>
<td>16</td>
<td>20</td>
<td>76</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>76</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td>80</td>
</tr>
<tr>
<td>32</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>40</td>
<td>35</td>
<td>92</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>95</td>
</tr>
<tr>
<td>63</td>
<td>54</td>
<td>140</td>
</tr>
</tbody>
</table>

Table 1 – 14
Radiator connection – mounting examples
Out of the wall with radiator connection block mod. 6797.6

- Radiator connection block for direct connection with Viega Smartpress press connector
- No connection work in the wall slot

Material requirement – radiator connection with radiator connection block 6797.6

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1096.9 or 1096.8</td>
<td>308 872</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with R¾</td>
</tr>
<tr>
<td></td>
<td>357 122</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with R½</td>
</tr>
<tr>
<td></td>
<td>On site</td>
<td>1</td>
<td>Radiator connecting piece</td>
</tr>
<tr>
<td>1037</td>
<td>614 522</td>
<td>2</td>
<td>Connection screw fitting, for connecting dimensionally stable Viega Smartpress pipes, euro cone and clamping connection</td>
</tr>
<tr>
<td>6797.6</td>
<td>730 512</td>
<td>1</td>
<td>Viega Smartpress radiator connection block, with PE-Xc/Al/PE-Xc pipe, for direct connection with Viega Smartpress press ends, pre-insulated, gauges for bore hole connection pipes 50 mm, construction height 255 mm</td>
</tr>
</tbody>
</table>

Table 1–15
Out of the wall with radiator connection block mod. 6797.7

- Radiator connection block for direct connection with Viega Smartpress press connector
- No connection work in the wall slot
- Use for varying levels – e.g. for connection with a bathroom radiator
- Assembly out of the wall or out of the floor

Material requirement – radiator connection with radiator connection block 6797.7

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1096.9 or 1096.8</td>
<td>308 872</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with R¾</td>
</tr>
<tr>
<td></td>
<td>357 122</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with R½</td>
</tr>
<tr>
<td>–</td>
<td>On site</td>
<td>1</td>
<td>Radiator connecting piece</td>
</tr>
<tr>
<td>1037</td>
<td>614 522</td>
<td>2</td>
<td>Connection screw fitting, for connecting dimensionally stable Viega Smartpress pipes, euro cone and clamping connection</td>
</tr>
<tr>
<td>6797.7</td>
<td>730 529</td>
<td>1</td>
<td>Viega Smartpress radiator connection block, with PE-Xc/Al/PE-Xc pipe, for direct connection with Viega Smartpress press ends, pre-insulated, gauges for bore hole connection pipes 50 mm</td>
</tr>
</tbody>
</table>

Table 1–16
Out of the floor with screw fittings

- Direct connection with radiator connection piece and clamping ring screw fittings
- Small material expenditure, few connection points
- Optionally radiator connection out of the wall: With angle-shaped radiator connection piece and supply pipes out of the wall with bent pipes. Observe bending radii **Table 1–11**. For radii \( \leq 2 \times d_a \), use fittings.

---

**Material requirement – radiator connection out of the floor with screw fittings**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1096.9 or 1096.8</td>
<td>308 872</td>
<td>1</td>
<td><strong>Adapter set</strong>, for connection with valve radiator with G ¾</td>
</tr>
<tr>
<td></td>
<td>357 122</td>
<td>1</td>
<td><strong>Adapter set</strong>, for connection with valve radiator with Rp ½</td>
</tr>
<tr>
<td>–</td>
<td>On site</td>
<td>1</td>
<td><strong>Radiator connecting piece</strong></td>
</tr>
<tr>
<td>1037</td>
<td>614 522</td>
<td>2</td>
<td><strong>Connection screw fitting</strong>, for connecting dimensionally stable Viega Smartpress pipes, euro cone and clamping connection</td>
</tr>
<tr>
<td>6718</td>
<td>² 729 929</td>
<td>2</td>
<td><strong>Viega Smartpress T-piece</strong>, with SC-Contur, in stainless steel</td>
</tr>
</tbody>
</table>

**Table 1–17**
Out of the floor with radiator connection block mod. 6775.31

Connection with Viega Smartpress radiator connection block.

- Stainless steel material
- Crossovers to Viega Smartpress
- Pre-insulated and with fixing material
- Stainless steel supply and return closed loop to facilitate leakage test
- Connection pipes 400 mm – for high floor constructions

Material requirement – radiator connection out of the floor with radiator connection block 6775.31

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1096.9 or 1096.8</td>
<td>308 872</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with G ¾</td>
</tr>
<tr>
<td>1096.5</td>
<td>357 122</td>
<td>1</td>
<td>Adapter set, for connection with valve radiator with Rp ½</td>
</tr>
<tr>
<td>94385.1</td>
<td>105 358</td>
<td>2</td>
<td>Screw fitting, for copper and steel pipe with Viega plug-in seat, nickel-plated</td>
</tr>
<tr>
<td>6775.31</td>
<td>698 461</td>
<td>1</td>
<td>Viega Smartpress radiator connection block, with Viega Smartpress press connections, pre-insulated, gauges for bore hole connection pipes 50 mm</td>
</tr>
</tbody>
</table>
Connection by manifold

Individual connection of the radiators by a manifold. Supply and return flows will be routed to the supply and return flow beams of the manifold respectively.

- Connection with clamping ring screw fitting with euro cone
- The radiators are connected according to one of the examples shown above

Material requirement – radiator connection with single connection pipelines from the manifold

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1078</td>
<td>e. g. 586 249</td>
<td>1</td>
<td>Manifold 1**, of stainless steel, for radiators, with G ¾ for euro cone, flat sealing with union nut G 1, with wall bracket, connectable to the left and right sides, with bleeder valve, prepared for measuring connection G ½</td>
</tr>
<tr>
<td>6735 or 1037</td>
<td>e. g. 730 598</td>
<td>2</td>
<td>Viega Smartpress connection screw fitting, Press connection, euro cone</td>
</tr>
<tr>
<td></td>
<td>e. g. 614 522</td>
<td>2</td>
<td>Connection screw fitting, for connecting dimensionally stable Viega Smartpress pipes, euro cone and clamping connection</td>
</tr>
</tbody>
</table>

Table 1–19
Out of the wall with radiator connection elbows mod. 6777

Connection with Viega Smartpress radiator connection elbows.

With 15 mm stainless steel pipe ends, suitable for screw fitting with Rp ½ thermostat valve.

Material requirement – radiator connection out of the wall with radiator connection elbows

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Article-No.</th>
<th>Quantity</th>
<th>Name / function</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>on site</td>
<td>1</td>
<td>Radiator valve, angle-shaped, with Viega press ends</td>
</tr>
<tr>
<td>2272.1</td>
<td>326 357</td>
<td>1</td>
<td>Return pipe screw fitting, angle-shaped, nickel-plated, can be shut off</td>
</tr>
<tr>
<td>6777</td>
<td>730 291</td>
<td>1</td>
<td>Viega Smartpress radiator connection elbow, with Viega Smartpress press connections, 2 elbows in a set</td>
</tr>
</tbody>
</table>

Table 1–20
PLASTIC PIPING SYSTEMS

PRE-WALL TECHNOLOGY

DRAINAGE TECHNOLOGY
PRE-WALL TECHNOLOGY

Fundamentals

Bathroom planning

Space requirement
The necessary space requirement for sanitary rooms results from the floor-space of the furniture and fixtures, the necessary movement area and the statutory stipulated distances. The design of the space requirement for sanitary rooms is stipulated in DIN 18022 »Domestic kitchens, bathrooms and WCs; design principles«. »Furniture and fixtures« are defined as »elements necessary for implementing the function of the room«. According to this definition, sanitary objects are counted among the »furniture and fixtures«, which can be introduced both by the building owner and the user of the home.

Accessibility
Against the background of demographic change, the topic of »Barrier-free bathrooms« becomes more and more important for planning and implementation of new buildings and renovations. The constructional measures to be implemented for persons with physical limitations are defined in DIN 18040 parts 1 and 2, and in VDI guideline 6008 sheet 2. The planning objective is designing barrier-free living spaces in the private and public areas that can be largely used in common by persons with and without physical limitations.

Planning of barrier-free sanitary rooms
Optimal planning of sanitary rooms is possible only if detailed data is available about the kind of usage and the expected usage behaviour. Solutions should be found which fulfil as many of these requirements as possible also in view of the fact that the type of usage of buildings and building parts may change in the long run. It is useful to record the individual boundary conditions in a room book before planning is started and document the expected intended use in this book. It is only with the aid of the binding usage descriptions that the planner is able to define the best suitable components ensuring that the planning goals are achieved.
Planning criteria – sanitary objects

The following criteria have to be observed when selecting the sanitary objects:

- Type of material and dimensioning of the piping systems
- Structural analysis of walls and pre-wall installations suitable for fixing support systems or support hinged handles
- Calculation of the minimum space requirement as the total of footprint, movement and traffic areas and pre-wall installations
- Definition of the mounting heights

WCs

- WC ceramic
  - Projection 700 mm
  - Backrest
  - Seat height 460–480 mm

- Movement areas: Clearance left/right next to the WC ceramic = 900 mm, in front of the WC 1500 x 1500 mm
- Fold-up support hinged handles on both sides
- Flush actuation touchless or with push button within reach

Urinals

- Vertical handholds at suitable height
- Touchless flush actuation
Washbasins
- Wheelchair-compatible design with legroom: Depth 300 mm/height 670 mm
- Upper edge of WB 800 mm
- Movement area in front 1500x1500 mm
- Mirror with height 1000 mm immediately over the WB

![WB system](image1)

Shower
- Design on floor level without barriers
- Floor covering slip resistant
- Handholds horizontally and vertically at suitable height
- Shower seat with backrest and support hinged handles on both sides
- Movement area in front 1500x1500 mm

![Shower](image2)
Movement areas according to DIN18040-2
Movement areas in a sanitary room may overlap.

Movement areas
1. WC
2. Washbasin
3. Shower

Load requirements for sanitary objects
Viega conducted in-house type examinations based on the requirements of DIN 18040-2 confirming the stability of installation walls.

Max. load of sanitary object centre in the Viega test
- WC/bidet – 400 kg
- Washbasin and urinal – 150 kg
- Fixing element
  e.g. support hinged handle – 100 kg
Sample installation – barrier-free WC
Barrier-free WC systems can be constructed with all Viega pre-wall systems.

The example includes a list of materials for a pre-wall installation with Viega Eco Plus and the following equipment:
- Concealed cistern
- Infrared flush plate for touchless flush actuation
- Two support hinged handles with radio actuation
- Additional external WC flush actuation with potential-free button

Material requirement – Viega Eco Plus pre-wall installation

<table>
<thead>
<tr>
<th>Piece</th>
<th>Product name</th>
<th>Model</th>
<th>Art. No.</th>
<th>Instructions for use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WC element</td>
<td>8161.2</td>
<td>606664</td>
<td>Seat height (upper edge WC ceramic) 460 mm</td>
</tr>
<tr>
<td>2</td>
<td>Fixing element</td>
<td>8169.2</td>
<td>683719</td>
<td>Support hinged handle holder</td>
</tr>
<tr>
<td>1</td>
<td>Mounting rail</td>
<td>8001</td>
<td>283872</td>
<td>For line mounting of the pre-wall elements</td>
</tr>
<tr>
<td>2</td>
<td>Fixing set</td>
<td>8173</td>
<td>460440</td>
<td>Element fastener</td>
</tr>
<tr>
<td>1</td>
<td>Installation set</td>
<td>8350.14</td>
<td>655426</td>
<td>Concealed mounting power pack (cistern connection on site)</td>
</tr>
<tr>
<td>2</td>
<td>Support hinged handles (e.g. HEWI)</td>
<td>Not included in Viega product line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Flush plate Visign for Public 5</td>
<td>8326.16</td>
<td>699529</td>
<td>For touchless and manual flush actuation</td>
</tr>
<tr>
<td>1</td>
<td>Connection cable sensitive</td>
<td>8355.90</td>
<td>631840</td>
<td>For external flush actuation by on-site and commercial button or potential-free contact</td>
</tr>
<tr>
<td>1</td>
<td>Extension cable with adapter</td>
<td>8350.36</td>
<td>696184</td>
<td>For flush actuation by button</td>
</tr>
<tr>
<td>2</td>
<td>WC radio actuation (e.g. HEWI)</td>
<td>Not included in Viega product line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Button</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2-1
Electrical equipment installations
Potential equalisation
The installation requirements for rooms with bathtubs and/or showers required that conductive pipelines in new buildings (metal installation and wastewater pipes) must be equipped with potential equalisation – it is not required any longer for tubs and showers.

The Viega Smartpress potable water installation systems are made of plastic and not conductive – therefore they do not need grounding.

Protected zones

DINVDE0100-701
DIN VDE 0100-701 assigns protected zones to showers and bathrooms.

■ Protected zone 0
No electrical installation devices must be installed.

■ Protected zone 1
Junction and connection sockets for electric circuits of permissible, firmly attached and firmly connected consumers may be installed. These are water heaters, whirlpools and wastewater pumps.

■ Protected zone 2
All electrical consumers may be installed.

Extractor fan
Depending on the type single room de-aeration fans are permissible to be installed in the protected zones 1 and 2. For detailed information on the protection and arrangement, please refer to the product information of the manufacturers.

Sockets
Sockets may be installed only outside of the protected zones 0 to 2 as they are no consumers.

Protected zones for shower and bathrooms
DINVDE0100-701

Fig. 2 – 10 Sanitary area – protected zones
Pre-wall installation vs. wall slot
Subsequently produced slots and recesses will weaken statically loaded walls in their cross section and thus in their load-bearing capacity. If the reductions in the cross-section of the wall still fulfil the requirements of DIN 1053 sheet 1, they are permissible from the viewpoint of the structural analysis.
If the requirements for sound protection according to DIN 4109 are considered, it is however no longer possible for the installer to accommodate insulated pipelines in chiselled slots. This is possible for slots in masonry with limitations only.

Installation in the pre-wall
The solution to the problem, especially in the refurbishment of old buildings, is the pre-wall installation. If the customer persists that the pipeline is routed in the brickwork, VOB-B stipulates that he shall assume the responsibility. Such requirements should always be documented and countersigned by the customer.
Even if the wording of DIN 1053-1 refers to load-bearing inner walls only, the above limitations also apply to non-load-bearing inner walls.

Note
Further information can be obtained from ZVSHK:
»Leaflet and specialist information sound protection«
**Product group**

**T2**

**System descriptions**

**Steptec**

Steptec allows establishing quick pre-wall installations with few components.

The system includes:
- Mounting rail
- Connectors
- Modules
- Steptec punch

The required rail length and the suitable Steptec complete package with everything required for connecting and fixing the mounting rails is calculated from the width and height of the pre-wall surface area. Select the modules – and the calculation of the material quantities is ready.

**Benefits**

- Reduced stock keeping
- Quick mounting
- Universal connector for 45° and 90° joints with threaded drill hole M 10 for pipe suspensions
- Mounting rail open on one side and punched for wall mounting
- Suitable for cladding with Obtego panels

**Fig. 2 – 11** Steptec support profile
Steptec punch
Combination tool that can be used as scissors/punch for Steptec rails.

Actuation with hand lever – faster and more precise than an angle grinder. The profile can be punched at any place.

Mounting options
- In the workshop: Screws on the workbench
- On the site: On the floor with two inserted-through pipes, with 1-inch stainless steel pipes or 35-mm-copper pipes.

Modules
The modular design allows equipment with washbasin, WC, bidet or urinal modules, mounted with slot nuts at the open side of the rail.

WC module
Washbasin module

Advantages of WC module
- Depth-adjustable drain elbow
- Sanitary object fixings adjustable for barrier-free WC use
- Water path including wall lead-in pre-assembled
- Dual flush technology
- Lowest construction height 840 mm
- All flush plates of the Visign series fit
Steptec connectors for mounting rails

The connector is designed in a way that it claws into the mounting rail when the Allen screw is tightened. That way all arising tensile and compressive forces of the sanitary installation are accommodated.

Steptec connector

![Steptec 90° connection](image1)

![Steptec 45° connection](image2)

Fig. 2 – 15 Steptec 90° connection
Tolerance up to 10 mm when shortening the mounting rail – stability is not impaired.

Fig. 2 – 16 Steptec 45° connection
Suitable for 45° corner installations.

Steptec joint

![Two mounting rails can be connected at any angle](image3)

![Pre-wall installation depths <145 mm are mounted using the Steptec parallel connector.](image4)

Fig. 2 – 17
Two mounting rails can be connected at any angle – e.g. roof constructions.
Integrated nut M10 on the face side for pipe suspensions.

Fig. 2 – 18
Pre-wall installation depths <145 mm are mounted using the Steptec parallel connector.
Mounting the Steptec connector
Steptec connectors are used to connect Steptec rails with each other at the angle of 45° or 90° degrees. If correctly assembled, a stable connection is established in a few assembly steps.

Steptec connectors can be installed on the open and closed sides of the Steptec rail. The blocking elements of yellow plastic available on each Steptec connector are used for mounting on the open rail side. They prevent that the mounting rail is compressed at the fixing point when the fixing screw is tightened. Before mounting Steptec connectors on the closed sides of the rail, it is necessary to remove the unnecessary blocking elements.

Mounting on the open side of the rail
Place the Steptec connector with blocking element on the open rail side. The blocking elements are factory-pre-assembled on the short sides of the Steptec connector. If the long side of the connector is to be mounted on the open side of the rail, a blocking element is relocated from the short side on the long side.

Install the blocking elements on the open rail sides!
Mounting on the closed side of the rail
For mounting Steptec connectors on the closed rail sides no blocking elements are necessary and can be disposed of.

Obtego cladding panel
Obtego cladding panels from Murodesign GmbH are the alternative of IFGP cladding panels. The robust plastic panels are available in over 200 decors and delivered custom-fit. Mounting is by simply clipping them on the Steptec rails open to the front.

Features
- Immediately ready wall surface – without tiling work
- Quickly replaceable
- Permanent accessibility of the installation
- Material
  - Plastic 11 mm, foamed PVC – weight approx. 8 kg/m²
  - Waterproof, rot-proof
  - High compressive strength
  - Fire rating class B2
Calculation of required material quantities

Basis for the calculation of the required material quantities is the surface area of the pre-wall in m²:

- The rail lengths can be calculated from the area multiplied with the rail factor 5.5.
- The fixing material is made available in complete packages for pre-wall surface areas of 1, 3, 5 and 10 m² which can be combined.

The packages include sufficient material quantities for the respective areas:

- Connectors
- Screws and dowels Ø 10 mm
- Drywall screws
- Levelling plate

The calculation of the required material quantities on the basis of m² offers the following advantages:

- Quick calculation
- Easy mounting
- Clear ordering of material without using IT
- Supports pre-fabrication in the workshop
- Reduced stock keeping

Calculation example 1

Given: Pre-wall area to be covered with panels 3 m²

Step 1 Select the fixing material:
3 m² complete package

Step 2 Calculate the rail length: 3 m² x 5.5 (rail factor) = 16.5 m
4 mounting rails each of 5 m = 20 m

Step 3 Select the modules for the sanitary object to be installed.

Calculation example 2

Given: Area to be covered with panels = 2.7 m² with WC and washbasin

**Required material quantities**

- 1 complete package for 3 m²
- 3x mounting rail each of 5 m
  (2.7 m² x 5.5 = 14.85 m)
- 1 WC and 1 WB module

Example 2

Semi-high pre-wall connected on one side, with WC and washbasin module
Calculation example 3

Given:
Area to be covered with panels = 5.5 m² with WC and washbasin

Required material quantities
- 1 complete package for 5 m²
- 1 complete package for 1 m²
- 7x mounting rail each of 5 m
  \((5.5 \text{ m}^2 \times 5.5 = 30.25 \text{ m})\)
- 1 WC and 1 WB module

Assembly

General assembly rules
- Use only 12.5 mm IFGP or 12 mm Aqua-CS cladding panels for cladding.
- Make joints 3 mm wide and fill with suitable filler – consumption approx. 300 g/m².
- Prepare support profile with gauges for bore hole 500 mm.
- Align the mounting rails with the aid of the pre-punched slotted holes.
- Place shim plates under unsupported mounting rails on crude soils.
- Mount additional wall supports at fixing points for modules in the support profile.
- Reinforce room-high partitions in the upper and lower third with rails from Steptec, Rigips or Fermacell.
- Room partitions wider than 240 mm can be mounted without heavy-duty feet.

Note
- Barrier-free applications are possible without any limits.
- The declaration of compliance for the installation shaft must observed for fire protection.
- Steptec is sound-protection tested according to DIN 4109 and fulfils the stricter requirements in VDI 4100.
Pre-wall mounting

1. Shorten floor and wall rails with the Steptec punch.

2. Mount wall and floor rails with the fixing material of the complete package immediately on the installation body.

3. Use Steptec connectors to screw the rail elements to each other.

4. Fix the Steptec modules on the open rail sides using the slot nuts.

5. Fix cladding with self-drilling screws on the mounting rails.

6. Use Steptec joints to implement individual angles in pitched roof areas.
Installation dimensions – half-height pre-wall

Minimum installation depths X [mm], half-height pre-wall – measurements in mm

<table>
<thead>
<tr>
<th>Component</th>
<th>Art. No.</th>
<th>DN 50</th>
<th>DN 90</th>
<th>DN 100</th>
<th>Standard pre-wall height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steptec module</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>656 102</td>
<td>–</td>
<td>145</td>
<td>170</td>
<td>1130</td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>700 010</td>
<td>–</td>
<td>170</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>656 119</td>
<td>–</td>
<td>145</td>
<td>170</td>
<td>980</td>
</tr>
<tr>
<td>WC module – act. from front/top</td>
<td>718 954</td>
<td>–</td>
<td>200</td>
<td></td>
<td>840</td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>576 998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – for concealed odour trap</td>
<td>655 976</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>734 824</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink basin module</td>
<td>655 969</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module wall-mounted flushing system</td>
<td>655 983</td>
<td>145</td>
<td>170</td>
<td>1130</td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>656 058</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>735 722</td>
<td>145</td>
<td>170</td>
<td>1130</td>
<td></td>
</tr>
<tr>
<td>Fitting holder – e.g. kitchen sink</td>
<td>656 072</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – reinforced</td>
<td>461 836</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – adjustable width</td>
<td>297 770</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>656 089</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>297 787</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – washing machine</td>
<td>656 096</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 2

Fig. 2 – 31 Half-height pre-wall
## Installation dimensions – half-height partition

Minimum installation depths $X$ [mm], half-height partition – room partition, cladded on one side, $H_{\text{max}} = 1500$ mm

<table>
<thead>
<tr>
<th>Steptec module</th>
<th>Art. No.</th>
<th>DN 50</th>
<th>DN 90</th>
<th>DN 100</th>
<th>Standard pre-wall height [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC module – act. from front</td>
<td>656 102</td>
<td></td>
<td></td>
<td></td>
<td>1130</td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>700 010</td>
<td></td>
<td></td>
<td></td>
<td>980</td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>656 119</td>
<td></td>
<td></td>
<td></td>
<td>840</td>
</tr>
<tr>
<td>WC module – act. from front/top</td>
<td>718954</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>576 998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – for concealed odour trap</td>
<td>655 976</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>734 824</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink basin module</td>
<td>655 969</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module wall-mounted flushing system</td>
<td>655 983</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>656 058</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>735 722</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – e.g. kitchen sink</td>
<td>656 072</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – reinforced</td>
<td>461 836</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – adjustable width</td>
<td>297 770</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>656 089</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>297 787</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 3

![Half-height partition](image-url)
Installation dimensions – room-height partition

Minimum installation depths $X$ [mm], room-height partition – fastened on one side, cladded on one side

<table>
<thead>
<tr>
<th>Steptec module</th>
<th>Art. No.</th>
<th>Collecting pipe without insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DN50</td>
<td>DN90</td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>656 102</td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>700 010</td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>718 954</td>
<td></td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>576 998</td>
<td></td>
</tr>
<tr>
<td>WB module – for concealed odour trap</td>
<td>655 976</td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>734 824</td>
<td></td>
</tr>
<tr>
<td>Sink basin module</td>
<td>655 969</td>
<td></td>
</tr>
<tr>
<td>Urinal module wall-mounted flushing system</td>
<td>655 983</td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>656 058</td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>735 722</td>
<td>145</td>
</tr>
<tr>
<td>Fitting holder – e.g. kitchen sink</td>
<td>656 072</td>
<td></td>
</tr>
<tr>
<td>Fitting holder – reinforced</td>
<td>461 836</td>
<td></td>
</tr>
<tr>
<td>Fitting holder – adjustable width</td>
<td>297 770</td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>656 089</td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>297 787</td>
<td></td>
</tr>
<tr>
<td>Fitting holder – washing machine</td>
<td>656 096</td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 4

Fig. 2 – 33

Room-height partition 1
### Installation dimensions – room-height partition

Minimum installation depths X [mm], room-height partition – fastened on both sides, cladded on one side

<table>
<thead>
<tr>
<th>Steptec module</th>
<th>Art. No.</th>
<th>DN50</th>
<th>DN90</th>
<th>DN100</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC module – act. from front</td>
<td>656 102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>700 010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front</td>
<td>656 119</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>576 998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – for concealed odour trap</td>
<td>655 976</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>734 824</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink basin module</td>
<td>655 969</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module wall-mounted flushing system</td>
<td>655 983</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>656 058</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>735 722</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – e.g. kitchen sink</td>
<td>656 072</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – reinforced</td>
<td>461 836</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – adjustable width</td>
<td>297 770</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>656 089</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>297 787</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting holder – washing machine</td>
<td>656 096</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 5

### Diagram

![Room-height partition 2](image)
### Installation dimensions – half-height partition

Minimum installation depths $X$ [mm], half-height partition – room partition, cladded on both sides, collecting pipe DN 100, without insulation

<table>
<thead>
<tr>
<th>Steptec module</th>
<th>WC module – act. from front</th>
<th>WC module – act. from front/top</th>
<th>Bidet module</th>
<th>WB module</th>
<th>WB module – with concealed connection box</th>
<th>Urinal module concealed flushing system</th>
<th>Urinal module siphon sensor technology</th>
<th>Wall-mounted fitting holder</th>
<th>Concealed fitting holder</th>
<th>Concealed fitting holder – adjustable depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC module – act. from front</td>
<td>Art. No. 656 102</td>
<td>330 $^1$</td>
<td>280</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC module – act. from front/top</td>
<td>Art. No. 718 954</td>
<td>400</td>
<td>330</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet module</td>
<td>Art. No. 656 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>Art. No. 562 618</td>
<td>280</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>Art. No. 734 824</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>Art. No. 656 058</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>Art. No. 735 722</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>Art. No. 656 089</td>
<td></td>
<td></td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>Art. No. 297 787</td>
<td></td>
<td></td>
<td></td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>Art. No. 741 198</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>270</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>Art. No. 745 080</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^1$ with WC double elbow

---

![Half-height partition](image-url)

**Fig. 2 – 35**: Half-height partition
Installation dimensions – room-height partition

Minimum installation depths X [mm], room-height partition – cladded on both sides, collecting pipe DN 100, without insulation

<table>
<thead>
<tr>
<th>Steptec module</th>
<th>Art. No.</th>
<th>WC module (act. from front) art. no. 656 102</th>
<th>Bidet module art. no. 656 140</th>
<th>WB module art. no. 562 618</th>
<th>Urinal module concealed flushing system art. no. 656 058</th>
<th>Urinal module siphon sensor technology art. no. 735 722</th>
<th>Wall-mounted fitting holder art. no. 656 089</th>
<th>Concealed fitting holder art. no. 297 787</th>
<th>Concealed fitting holder art. no. 741 198</th>
<th>Concealed fitting holder (depth-adjustable) art. no. 745 080</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC module – act. from front</td>
<td>656 102</td>
<td>330 1</td>
<td>280</td>
<td>220</td>
<td>240</td>
<td>165</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module concealed flushing system</td>
<td>656 058</td>
<td>280</td>
<td>220</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal module siphon sensor technology</td>
<td>735 722</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB module – with concealed connection box</td>
<td>734 824</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall-mounted fitting holder</td>
<td>656 089</td>
<td>220</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>297 787</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 7

1 with WC double elbow

Fig. 2 – 36  Room-height partition
### Assembly times

#### Assembly times – Steptec components

<table>
<thead>
<tr>
<th>Component</th>
<th>Art. No.</th>
<th>[min]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 m² supporting structure – without cladding</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>1 m² cladding – incl. filling</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Additional module for cladding</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>WC module, 1130/980</td>
<td>656 102</td>
<td>10</td>
</tr>
<tr>
<td>WC module, 1130</td>
<td>656 119</td>
<td>10</td>
</tr>
<tr>
<td>WC module, 840</td>
<td>700 010</td>
<td>10</td>
</tr>
<tr>
<td>WC module, 1130/980</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Bidet module</td>
<td>656 140</td>
<td>6</td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td>6</td>
</tr>
<tr>
<td>WB module</td>
<td>655 976</td>
<td>10</td>
</tr>
<tr>
<td>WB module</td>
<td>734 824</td>
<td>6</td>
</tr>
<tr>
<td>Sink basin module</td>
<td>655 969</td>
<td>15</td>
</tr>
<tr>
<td>Urinal module</td>
<td>655 983</td>
<td>9</td>
</tr>
<tr>
<td>Urinal module</td>
<td>656 058</td>
<td>9</td>
</tr>
<tr>
<td>Urinal module</td>
<td>397 142</td>
<td>9</td>
</tr>
<tr>
<td>Urinal module – Joly and Visit</td>
<td>656 065</td>
<td>10</td>
</tr>
<tr>
<td>Urinal module – siphon sensor technology</td>
<td>735 722</td>
<td>12</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>656 072</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holder – reinforced</td>
<td>461 836</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>656 089</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>297 770</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>297 787</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>331 887</td>
<td>5</td>
</tr>
<tr>
<td>Fitting holders</td>
<td>656 096</td>
<td>5</td>
</tr>
<tr>
<td>Concealed fitting holder – adjustable depth</td>
<td>745 080</td>
<td>5</td>
</tr>
<tr>
<td>Concealed fitting holder</td>
<td>741 198</td>
<td>5</td>
</tr>
<tr>
<td>Fixing element</td>
<td>295 295</td>
<td>5</td>
</tr>
<tr>
<td>Fixing element</td>
<td>331 900</td>
<td>5</td>
</tr>
<tr>
<td>Fixing rail</td>
<td>331 849</td>
<td>5</td>
</tr>
<tr>
<td>Uni bracket</td>
<td>331 863</td>
<td>5</td>
</tr>
<tr>
<td>Plywood board</td>
<td>285 319</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2 – 8

#### Assembly times – 5 m² supporting structure with WC and WB module

<table>
<thead>
<tr>
<th>Component</th>
<th>Art. No.</th>
<th>[min]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting structure – with Steptec rail punch</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>WC module</td>
<td>656 102</td>
<td>10</td>
</tr>
<tr>
<td>WB module</td>
<td>562 618</td>
<td>6</td>
</tr>
<tr>
<td>Pre-wall</td>
<td></td>
<td>91</td>
</tr>
<tr>
<td>Cladding incl. filling</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Additional cladding of modules</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>236</strong></td>
</tr>
</tbody>
</table>

Table 2 – 9
Viega Eco / Eco Plus

Viega Eco Plus is the pre-wall system for object business with an optimal price-performance ratio. The product line is tuned to the width of 490 mm and allows fixing the handholds at the plywood boards in line with the standards.

- Connection elbow 90° depth-adjustable
- WC barrier-free
- Integrated alignment help
- Strong wall-mounted fitting holder
- Noise-tested
- Quick mounting
- Great stability
- Easy corner mounting

Installation in an on-site support profile should be performed in consultation with the drywall builder.

Fig. 2 – 37 Viega Eco Plus elements
**WC element model 8180.26**

- Concealed cistern Standard 2 with dual flush technology – setting range full-flush volume approx. 6–9 l
- Pre-assembled water connection
- Factory setting: Full-flush volume approx. 6 l, partial flush volume 3 l
- Can be combined with standard flush plate and flush plates of the design lines Visign for Public 1 and Visign for Style 10, 13, 14
- Convertible to flush plates Visign for Style 11, 12 and Visign for More by conversion kit model 8310.0
- Frame of steel, powder-coated
- Connection elbow DN 90 (depth-adjustable) of PP and eccentric adapter DN 90/100 of PP

**Viega Eco WC element**

Model 8180.26 with flush plates

![Figure 2 – 38 Flush plates – options for WC element model 8180.26](image-url)
Element individually adjustable and can be set to the height accessible for disabled people

Floor supports of 50 or 75 mm support profile – adaptable, quick alignment

Drainpipe depth-adjustable up to 40 mm

Element fixing in the support profile

Corner mounting – on the mounting rail or on the wall directly

Alignment help for simplified height adjustment
Elements
Viega Eco Plus are pre-wall elements for assembly in support profiles installed on site.

WC elements

1. WC element, actuation from front/top CH 830 mm
2. WC element, actuation at the front CH 1130 mm
3. Universal shower WC element, actuation at the front CH 1130 mm
4. WC element, individually height-adjustable, actuation at the front CH 1130 mm

For the potable water installation, the elements are equipped with fixings with acoustic insulation. A large range of WB elements covers all common building requirements. The elements can be equipped for barrier-free applications and for fittings common in hospitals.

Washbasin elements

1. WB element for concealed odour trap CH 1130 mm
2. WB element with concealed connection box CH 1130 mm
3. WB element CH 1130 mm
4. WB element individually height-adjustable CH 1130 mm
Viega Eco Plus elements – overview

Fig. 2 – 47  Viega Eco Plus – overview

1 Support bracket, CH 830–1130 mm
2 Fixing element CH 1130 mm
3 Fixing element CH 1130 mm
4 Urinal element with siphon sensor technology CH 1130 mm
5 Urinal element CH 1130 mm
6 Bidet element CH 1130 mm
7 Mounting profile 45°
8 Wall connection profile
9 Fixing set
10 Mounting rail

Mounting
Viega Eco Plus elements in on-site support profile.

Fig. 2 – 48
Fix through the open mounting rail with self cutting screws.

Fig. 2 – 49
Mount the elements in the upper drill hole with threaded rods and nuts.

Fig. 2 – 50
Clad support profile with 2 x 12.5 mm gypsum plaster boards.
Viega Eco Plus corner elements
Viega Eco Plus corner elements can be installed space-saving in corners of the room. The corner elements offer multiple fixing options and can thus be mounted even in unfavourable installation situations.

Features
- Mounting even possible in corners ≠ 90°
- Variable routing of drainpipe in the area of the standing bases
- Single-side mounting possible with fixing on one side
- Two corner elements can be combined
- Flush volume adjustable to 7.5 l for wastewater pipes with narrower cross sections

Overview of corner elements

Fig. 2 – 51  Model 8141.2
Viega Eco Plus WC corner element
CH 1130 mm and 980 mm

Fig. 2 – 52  Model 8142
Viega Eco Plus WB corner element
CH 980 mm–1300 mm

Fig. 2 – 53  Model 8143
Viega Eco Plus bidet corner element
CH 980 mm–1130 mm

Fig. 2 – 54  Model 8144
Viega Eco Plus urinal corner element,
CH 1130 mm or 1300 mm
Viega Eco Plus floor-standing WC element
Model 8161.15/art. no. 705 831 for floor-standing WCs and special ceramics for children

Technical data
- Construction height 1130 mm
- Actuation from front
- Dual flush technology
- Partial flush volume – factory-set to approx. 3 l
- Partial flush volume – setting range approx. 3–4 l
- Full-flush volume – factory-set to approx. 6 l
- Full-flush volume – setting range approx. 6–9 l
WC element will 4.5 litres full-flush volume
Viega WC elements with the preset full-flush volume of 4.5 l and the partial flush volume of approx. 3 l can be delivered for particularly water-saving WC ceramics. All Viega concealed cistern models can also be converted subsequently.

Technical data
- Partial flush volume – factory-set to approx. 3 l
- Partial flush volume – setting range approx. 2.5–3 l
- Full-flush volume – factory-set to approx. 4.5 l
- Full-flush volume – setting range approx. 4.5–6 l

Overview of WC elements
- **Viega Eco Plus WC element** – Model 8161.45
  art. no. 686154, construction height 1130 mm, actuation from front

- **Viega Eco Plus WC element** – Model 8130.45
  art. no. 718992, construction height 830 mm, actuation from front/top

Overview of conversion kits
The following Viega concealed cisterns can be converted to the full-flush volume 4.5 l and partial flush volume 3 l:
- **Viega concealed cistern 2H**
  conversion kit: Model 8000.45/art. no. 685027
- **Viega concealed cistern 2L**
  conversion kit: Model 8038.45/art. no. 685034
### Installation dimensions – construction heights/installation depths

Installation depth [mm] without cladding and wall tile (see Fig. 2 – 59)

<table>
<thead>
<tr>
<th>Minimum installation depths X [mm], half-height pre-wall – without profile of support profile</th>
<th>Collecting pipe without insulation</th>
<th>Minimum pre-wall height</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Viega Eco Plus element</strong></td>
<td><strong>Art. No.</strong></td>
<td><strong>DN50</strong></td>
</tr>
<tr>
<td>WC element – actuation at the front</td>
<td>606 664</td>
<td>135</td>
</tr>
<tr>
<td>WC element – actuation at the front – height-adjustable</td>
<td>700 652</td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front</td>
<td>704 070</td>
<td>135</td>
</tr>
<tr>
<td>Universal shower WC element</td>
<td>736 859</td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front/top</td>
<td>718 336</td>
<td>200</td>
</tr>
<tr>
<td>WB element</td>
<td>641 023</td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>704 087</td>
<td>135</td>
</tr>
<tr>
<td>WB element</td>
<td>613 297</td>
<td></td>
</tr>
<tr>
<td>WB element – for wall-mounted fitting</td>
<td>461 782</td>
<td></td>
</tr>
<tr>
<td>WB element – for concealed wall-fitting</td>
<td>668 471</td>
<td>100</td>
</tr>
<tr>
<td>WB element – with concealed connection box</td>
<td>734 831</td>
<td>100</td>
</tr>
<tr>
<td>WB element – individually height-adjustable</td>
<td>736 903</td>
<td>140</td>
</tr>
<tr>
<td>WB element – barrier-free with wall fitting</td>
<td>461 799</td>
<td>90</td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>461 805</td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>654 481</td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>477 462</td>
<td>100</td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>576 981</td>
<td></td>
</tr>
<tr>
<td>Sink basin element</td>
<td>461 812</td>
<td>100 (75)</td>
</tr>
<tr>
<td>Urinal element</td>
<td>461 843</td>
<td>100</td>
</tr>
<tr>
<td>Urinal element</td>
<td>611 934</td>
<td></td>
</tr>
<tr>
<td>Urinal element – with siphon sensor technology</td>
<td>727 918</td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>461 850</td>
<td>100 (75)</td>
</tr>
<tr>
<td>Bidet element</td>
<td>487 645</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 10

1. with drain elbow model 8113.21, art. no. 331160

---

Fig. 2 – 59  Half-height pre-wall
Viega Eco Plus shower WC element universal

Product description
Shower WCs in many variants experience rapid development in the sanitary area. Until now no fixed standards have established for the connection dimensions for the water and electrical connections making the installation or replacement of the WC system often difficult or even impossible.

The Viega Eco Plus Universal shower WC element creates the preconditions of installing a variety of different shower WCs or tops immediately or later on. All the water and electrical connections are prepared and located behind a glass plate.

An initially mounted standard WC ceramic can be converted later to a shower WC ceramic.

Concealed cistern 2H equipment
- Dual flush technology
- Flush actuation at front
- Corner valve connection Rp1/2, filling valve, drain valve
- WC connection elbow DN 90/eccentric adapter DN 90/100
- Fixing material for pre-wall mounting and standard WC ceramic

Cover plates have to be ordered separately.
The Viega Eco Plus Universal Shower WC Element is variable and creates flexibility for individual planning.

- **Water connection**
  Shower WCs of any manufacturer can be connected directly with the flexible hose or retrofitted later.

- **Power connection**
  - The shower WC is connected directly to the integrated electrical junction box.
  - A socket is mounted within the pre-wall element for the connection of WC tops/electric components with a plug-in connection.

### Mounting

**Standard WC ceramic**
Standard WCs are mounted on a cover plate of single-pane tempered glass which can be ordered separately.

**Shower WC/top**
Shower WCs or tops are mounted on cover plates (single-pane tempered glass) which can be ordered separately.

### Viega cover plates – compatibility

<table>
<thead>
<tr>
<th>8040.16</th>
<th>8040.17</th>
<th>8040.18</th>
<th>8014.19</th>
<th>8014.22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard wall-mounted WC</strong></td>
<td>for Geberit AquaClean Sela-WC complete system, Mera-WC complete system, Tuma-WC complete system, Laufen Cleanet Riva shower WC, Duravit Senso-Wash C</td>
<td>Geberit AquaClean 8000/8000 plus Toto Neorest</td>
<td>Geberit AquaClean 4000/5000/5000 plus WC top, Duravit SensoWash E shower WC top, Toto WASHLET, Villeroy &amp; Boch VICLEAN shower WC top, Toto Washlet shower WC top</td>
<td>Toto shower WC Washlet SG</td>
</tr>
</tbody>
</table>

### Viega flush plates
All Viega WC flush plates can be used without limitations.

### Flush actuation
The shower WC element can be combined with electronic Viega flush actuations (button or radio controlled).
**Viega Eco Plus WC element height-adjustable**

The user can adjust the seat height individually.

**Adjustment range**

410–490 mm

The adjustment of the WC seat height downwards is effected by the weight of the user. The WC ceramic slides down stepless when the adjustment button is pressed and stops as soon as the adjustment button is released.

The unloaded WC can be moved in the top position with the aid of a gas pressure spring – no electrical connection is necessary. The adjustment range is covered by a glass plate.

**Concealed cistern 2H equipment**

- Dual flush technology
- Flush actuation at front
- Corner valve connection Rp ½, filling valve, drain valve
- WC connection elbow 90°, of PE, flexible, DN 90/100
- Fixing material for pre-wall mounting and standard WC

Cover plates have to be ordered separately.
Technical data/equipment

**Viega Eco Plus WC element individually height-adjustable**
- Assembly in all pre-wall, metal or wood-frame constructions
- Dimensions [mm] 1130 x 490 x 180
- Fixing distance WC ceramic [mm] 180 (230 on request)
- Height fixing bolt [mm] 310
- Adjustment range [mm] 80
- Adjustable seat height [mm] 410–490

**Glass cover plate – to be ordered separately**
- Dimension [mm] 490 x 560 x 6
- Design TG clear/light grey
- With push button for hydraulic actuation

**Pressure spring**
- Downforce [N] 600
- Lifting force [N] 300

**Wall construction**
- Max. 45 mm – 2 x 12.5 mm plus max. 20 mm tile

**Optional types of actuation**
- Mechanical actuation with dual flush technology
- Infrared flush actuation automatically after each use
- Touchless flush plates – Visign for More sensitive with separation of partial and full-flush volume
- Electronic flush actuations with external radio controlled, button, or light barrier actuation
Viega Eco Plus WB element individually height-adjustable
The user can adjust the washbasin height individually in the range between 700 to 900 mm.

Adjustment range
700–900 mm

The current position is unlocked for moving down, the washbasin height is re-adjusted manually and the new position is locked again.

Moving up is supported by a gas pressure spring – no electrical connection is required. The adjustment range is covered by a glass plate.

Features
■ Height adjustment – adjustment range 200 mm
■ Covered concealed odour trap
■ Covered corner valves
■ WB wheelchair-compatible
■ Provision of all the WB connections
■ Suitable for WB faucets with pipe and hose connections – check compatibility with the selected WB model before installation is started.
The user unlocks the current position before the adjustment procedure by pressing the actuation button.

After the adjustment procedure, the user blocks the adjusted position by releasing the actuation button.

Technical data/equipment

- **Viega Eco Plus washbasin element individually height-adjustable**
  - Assembly in all pre-wall, metal or wood-frame constructions
  - Dimensions [mm] 1130 x 490 x 140
  - Concealed connection box

- **Glass cover plate – to be ordered separately**
  - Dimension [mm] 780 x 720 x 6
  - Design TG clear/light grey

- **Concealed connection box**
  - Odour trap height-adjustable
  - 2x corner valve
  - Drain elbow 300 mm brass chrome-plated
  - Fixing material

- **Drain elbow – selection according to the ceramic model**
  The distance from the ceramic fixing to the drain hole lower edge determines whether the WB drain elbow has to be mounted with or without an adjusting pipe.

**Required material**

- Order drain elbow art. no. 743208
- Adjusting pipe is not mounted

- Drain elbow/adjusting pipe included in the scope of delivery

- Drain elbow included in scope of delivery / Order adjusting pipe art. no. 670856
Viega concealed connection box

Pipe odour trap and corner valves require space. If the visual appearance is disturbing in the design of the bathroom or if the space below the washbasin is required for wheelchair access, it is recommended installing a concealed connection box.

It contains all necessary components for connection of the washbasin and is completely installed in the wall. Only the chrome-plated cover plate is visible.

There are also advantages for mounting. The installation depth of the concealed connection box is variable and can thus be adapted to the wall construction. The drain is height-adjustable by 20 mm and can be adjusted exactly to the washbasin models.

Features

- WB equipment
  - Corner valves
  - Wastewater pipe DN40 and DN50
  - Cable inlet for touchless faucets
- Concealed odour trap extendable, height-adjustable
- Chrome-plated connection pipes for the WB fitting
- Models for Steptec, Viega Eco Plus, Viega Mono
- Chrome-plated plastic cover plate
Installation dimensions – construction heights/installation depths
All dimensions are in referred to the installation wall depths without cladding and tiles.

<table>
<thead>
<tr>
<th>Viega Eco Plus element</th>
<th>Art. No.</th>
<th>Collecting pipe without insulation</th>
<th>Minimum pre-wall height</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC element – actuation at the front</td>
<td>606 664</td>
<td>600</td>
<td>135</td>
</tr>
<tr>
<td>WC element – actuation at the front – subsequently height-adjustable</td>
<td>700 652</td>
<td>600</td>
<td>160</td>
</tr>
<tr>
<td>WC element – actuation at the front</td>
<td>704 070</td>
<td>600</td>
<td>135</td>
</tr>
<tr>
<td>Universal shower WC Element</td>
<td>736 859</td>
<td>–</td>
<td>140</td>
</tr>
<tr>
<td>WC element – actuation at the front/top</td>
<td>718 336</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>641 023</td>
<td>100 (75)</td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>704 087</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>613 297</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>WB element – for wall-mounted fitting</td>
<td>461 782</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>WB element – for concealed wall-fitting</td>
<td>668 471</td>
<td>600</td>
<td>140</td>
</tr>
<tr>
<td>WB element – with concealed connection box</td>
<td>734 831</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>WB element – barrier-free with wall fitting</td>
<td>461 799</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>WB element – individually height-adjustable</td>
<td>736 903</td>
<td>600</td>
<td>140</td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>461 805</td>
<td>600</td>
<td>90</td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>654 481</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>477 462</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>576 981</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Sink basin element</td>
<td>461 812</td>
<td>600</td>
<td>100 (75)</td>
</tr>
<tr>
<td>Urinal element</td>
<td>461 843</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Urinal element</td>
<td>611 934</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>Urinal element – with siphon sensor technology</td>
<td>727 918</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>461 850</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>487 645</td>
<td>600</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 12

1 with drain elbow model 8113.21, art. no. 331160
### Viega Eco Plus installation dimensions

#### Minimum installation depths X [mm], room-height pre-wall – in the profile of the support profile 50 mm

<table>
<thead>
<tr>
<th>Viega Eco Plus element</th>
<th>Art. No.</th>
<th>DN50</th>
<th>DN90</th>
<th>DN100</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC element – actuation at the front</td>
<td>606 664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front – subsequently</td>
<td>700 652</td>
<td>155</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>height-adjustable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universal shower WC element, CH 1130</td>
<td>736 859</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front, CH 980</td>
<td>704 070</td>
<td>155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front/top, CH 830</td>
<td>718 336</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – CH 1130</td>
<td>641 023</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – CH 980</td>
<td>704 087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – CH 860</td>
<td>613 297</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – for wall-mounted fitting</td>
<td>461 782</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – for concealed wall-fitting</td>
<td>668 471</td>
<td>155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with wall fitting</td>
<td>461 799</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting, CH 1130</td>
<td>461 805</td>
<td>155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting, CH 860</td>
<td>654 481</td>
<td>100</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>477 462</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>576 981</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – individually height-adjustable, CH 1130</td>
<td>736 903</td>
<td></td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>Sink basin element</td>
<td>461 812</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed connection box, CH 1130</td>
<td>734 831</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element – CH 1130</td>
<td>461 843</td>
<td></td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>Urinal element – CH 1300</td>
<td>611 934</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element – with siphon sensor technology</td>
<td>727 918</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet element – CH 1130</td>
<td>727 901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet element – CH 830</td>
<td>736 958</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2 – 13**

![Fig. 2 – 82](image.png) Room-height pre-wall
## Viega Eco Plus installation dimensions

Minimum installation depths $X$ [mm], room-height partition – in the profile of the support profile 50 mm
one-side cladding, without insulation

<table>
<thead>
<tr>
<th>Viega Eco Plus element</th>
<th>Art. No.</th>
<th>DN 50</th>
<th>DN 90</th>
<th>DN 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC element – actuation at the front</td>
<td>606 664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front – subsequently height-adjustable</td>
<td>700 652</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front</td>
<td>704 070</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WC element – actuation at the front/top</td>
<td>718 336</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universal shower WC element – CH 1130</td>
<td>736 859</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>641 023</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>704 087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>613 297</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – for wall-mounted fitting</td>
<td>461 782</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – for concealed wall-fitting</td>
<td>668 471</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed connection box, CH 1130</td>
<td>734 831</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with wall fitting</td>
<td>461 799</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – individually height-adjustable, CH 1130</td>
<td>736 903</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>461 805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – barrier-free with single-hole fitting</td>
<td>654 481</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>477 462</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB element – with concealed meter</td>
<td>576 981</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink basin element</td>
<td>461 812</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element</td>
<td>461 843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element</td>
<td>611 934</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element – with siphon sensor technology</td>
<td>727 918</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>727 901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>736 958</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 14

![Room-height partition](image)
### Viega Eco Plus installation dimensions

Minimum installation depths \( X \) [mm], room-height partition – in the profile of the support profile 50 mm, dual-side cladding, collecting pipe DN 100, without insulation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WC element Actuation front</td>
<td>606 664</td>
<td>1 310</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>WB element</td>
<td>641 023</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinal element</td>
<td>461 843</td>
<td>230</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Bidet element</td>
<td>727 901</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 15

1 with WC double elbow

![Fig. 2 – 84 Room-height pre-wall](image-url)
Hygiene flushing function – installation variants

PWH/PWC with flushing station
Water exchange in the potable water pipeline hot (PWH) and in the potable water pipeline cold (PWC) in a series pipeline is ensured by using a flushing station at the end of the installation. In the example the WB element is connected with double wall plates and the concealed cistern with a T-piece. Adjustment options for flushing: oriented towards usage, temperature, or time.

List of materials – hygiene flushing function with flushing station

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Easytop concealed free-flow valve 16 mm</td>
<td>649685</td>
</tr>
<tr>
<td>1</td>
<td>Fitting holders</td>
<td>331887</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Viega Eco Plus washbasin element</td>
<td>641023</td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus fixing set</td>
<td>460440</td>
</tr>
<tr>
<td>2</td>
<td>Viega Smartpress double wall plate 16/Rp 1/2</td>
<td>730413</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Viega Eco Plus WC element</td>
<td>606664</td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus fixing set</td>
<td>460440</td>
</tr>
<tr>
<td>1</td>
<td>Visign for Style flush plate</td>
<td>596743</td>
</tr>
<tr>
<td>1</td>
<td>Viega Smartpress T-piece 16/Rp 1/2</td>
<td>729882</td>
</tr>
</tbody>
</table>

Table 2 – 16

On-site performances

<table>
<thead>
<tr>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viega Smartpress pipe 16 mm</td>
<td>691455</td>
</tr>
<tr>
<td>IFGP cladding panels</td>
<td>576967</td>
</tr>
<tr>
<td>Metal support profile</td>
<td></td>
</tr>
<tr>
<td>Wastewater pipe</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2 – 85  PWH/PWC with flushing station
PWC with Visign for Care flush plate
Water exchange in the potable water pipeline cold (PWC) in a series pipeline is ensured by using a Visign for Care flush plate at the end of the installation. In the example the WB element is connected with a double wall plate.

Operation as intended is implemented by time- and volume-controlled electronics. Setting options: Flush intervals [hours] 1, 12, 24, 72, 168. Possible flush volumes [litres] 3, 4, 5, 6, 7, 9.

Fig. 2 – 86  Hygiene flushing function with flush plate

List of materials – Hygiene flushing function with Visign for Care flush plate

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation shaft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Easytop concealed free-flow valve 16 mm</td>
<td>649 685</td>
</tr>
<tr>
<td>1</td>
<td>Fitting holders</td>
<td>331 887</td>
</tr>
<tr>
<td>WB element</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus washbasin element 641 023</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus fixing set 460 440</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Smartpress double wall plate 16/Rp½/16</td>
<td>730413</td>
</tr>
<tr>
<td>1</td>
<td>Viega Smartpress wall plate 16/Rp½</td>
<td>729479</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC element</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus WC element 606 664</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Eco Plus fixing set 460 440</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Visign for Care flush plate 653 828</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Installation set 655 426</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Viega Smartpress adapter elbow 90° 16/Rp½</td>
<td>730352</td>
</tr>
<tr>
<td>1</td>
<td>Optional for suspended ceiling: Extension cable power pack 628 505</td>
<td></td>
</tr>
</tbody>
</table>

On-site performances

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Viega Smartpress pipe 16 mm</td>
<td>691455</td>
</tr>
<tr>
<td>IFGP cladding panels</td>
<td>576 967</td>
</tr>
<tr>
<td>Metal support profile</td>
<td></td>
</tr>
<tr>
<td>Wastewater pipe</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 17
98
Viega Mono

WC/bidet block
The robust Viega mono block for wet construction. The construction height can be adjusted on site by simple shortening.

- Standard block heights: 1130 mm
  Remaining minimum construction height after shortening 980 mm
- Special construction height available: 820 mm (e.g. installation under windows)
- Polystyrene housing as plaster base
- Full-flush volume optionally 6 to 9 l
- Partial flush volume 3 to 4 l
- Standard flush plates and complete Visign series possible
- Standing bracket can be mounted free-standing
- Flush actuation from front or from top
- Protective cap for actuation unit

Product group

T4

Benefits

WC and bidet block

WC block
Actuation front/top

Fig. 2 – 87 Mono blocks – rail mounting

Fig. 2 – 88 Mono blocks
Assembly

The closed robust casing of the Viega Mono of expanded polystyrene (EPS) makes bricking of the internal area unnecessary. In addition this factory-set sound protection prevents damage and serves as the plaster base. There is the option of line mounting with a continuous mounting rail for WC or bidet installations. Viega mono pre-wall blocks are noise tested by the Fraunhofer Institute for Building Physics, Stuttgart.

To ensure proper functioning of the WC block, it has to be observed when integrating a mono block into a solid wall, that the wall bracket is mounted properly. After bricking, the surface of the pre-wall should be prepared by smooth plastering for tiling. The minimum application thickness on the polystyrene body including tiles should not be less than 15 mm.
Viega concealed cistern 1F – installation depth 80 mm

System description
The Viega concealed cistern 1F with its 80 mm installation depth is of extremely flat design and therefore well suited for mounting in thin wall constructions.

The following design variants are available:

■ **Viega Mono Tec**
  - for wet and dry applications
  - for wall-hanged WCs

■ **Viega Mono Slim**
  - for wet applications, concealed
  - for floor standing WCs

■ **Viega Eco Plus**
  - for dry applications (pre-wall systems)
  - for wall-hanged WCs

All models come with a pre-assembled water path and dual flush technology – optionally for 4.5 or 6 l large flush volume.

---

Fig. 2 – 91

**Viega Mono Slim**
Concealed in a solid wall.

Fig. 2 – 92

**Comparison of space requirement**
Pre-wall installation/classical installation.
Technical data

Model overview – cisterns 1F

**Viega Mono Tec WC module**

**Use**  
Concealed mounting – wet construction  
Thanks to the steel frame particularly suited for wall-hanged WCs and ceramics with large projection

**Flush volumes** [approx. litres]  
**Model 8308**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 3.0–4.0  
- Large flush volume  
  Factory-set: 9.0  
  Setting range: 6.0–9.0  

**Model 8309.145**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 2.5–3.0  
- Large flush volume  
  Factory-set: 4.5  
  Setting range: 4.5–6.0

**Table 2 – 18**

**Viega Mono Slim concealed cistern 1F**

**Use**  
Concealed mounting – wet construction  
For floor standing WCs.

**Flush volumes** [approx. litres]  
**Model 8308.1**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 3.0–4.0  
- Large flush volume  
  Factory-set: 9.0  
  Setting range: 6.0–9.0  

**Model 8309.45**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 2.5–3.0  
- Large flush volume  
  Factory-set: 4.5  
  Setting range: 4.5–6.0

**Viega Eco Plus WC element**

**Use**  
Assembly in support profile – dry construction  
Thanks to the steel frame particularly suited for wall-hanged WCs and ceramics with large projection

**Flush volumes** [approx. litres]  
**Model 8108.1**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 3.0–4.0  
- Large flush volume  
  Factory-set: 6.0  
  Setting range: 6.0–9.0  

**Model 8108.45**
- Small flush volume  
  Factory-set: 3.0  
  Setting range: 2.5–3.0  
- Large flush volume  
  Factory-set: 4.5  
  Setting range: 4.5–6.0
Setting flush volumes
The factory-set small and large flush volumes indicated in Table 2 – 18 can be adjusted at the drain valve. Remove the flush plate and remove the drain valve through the revision opening.

![Diagram showing adjustment of flush volumes](image)

The **small flush volume** can be set at three levels. Draw the slider arranged laterally at the overflow pipe ① on one of the three notches. In the top position the largest small flush volume is selected, in the bottom one the smallest.

The **large flush volume** is steplessly adjustable. Draw the slider at the bottom of the overflow pipe ② in the desired position. In the position of the left the smallest and in position on the right the largest large flush volume is selected.

Flush plates
The following flush plates can be used together with 1F cisterns.

<table>
<thead>
<tr>
<th>Product name</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>8180.1</td>
</tr>
<tr>
<td>Visign for Style 10</td>
<td>8315.1</td>
</tr>
<tr>
<td>Visign for Style 11</td>
<td>8331.1</td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>8333.1</td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>8334.1</td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8352.1</td>
</tr>
<tr>
<td>Visign for More 104</td>
<td>8354.1</td>
</tr>
<tr>
<td>Visign for More 105</td>
<td>8357.1</td>
</tr>
<tr>
<td>Visign for More Care sensitive</td>
<td>8352.21</td>
</tr>
<tr>
<td>Visign for Style sensitive</td>
<td>8315.11</td>
</tr>
<tr>
<td>Visign for More 100 sensitive</td>
<td>8352.11</td>
</tr>
<tr>
<td>Visign for More 105 sensitive</td>
<td>8357.11</td>
</tr>
<tr>
<td>Visign for Public 1</td>
<td>8326.1</td>
</tr>
<tr>
<td>Visign for Public 2</td>
<td>8327.1</td>
</tr>
<tr>
<td>Visign for Public 5</td>
<td>8326.16</td>
</tr>
<tr>
<td>Visign for Public 6</td>
<td>8326.15</td>
</tr>
<tr>
<td>Visign for Public remote actuation</td>
<td>8326.21</td>
</tr>
<tr>
<td>Cover plate</td>
<td>8326.9</td>
</tr>
</tbody>
</table>

Table 2 – 19
WC flushing systems

Concealed cistern 2

Concealed cistern 2 (see Table 2 – 20) is available in two installation heights and can be installed as a function of the respective installation situation and the individual user requirements in the following Viega pre-wall systems:

- Viega Steptec
- Viega Eco Plus
- Viega Mono

**Concealed cistern 2 – equipment**

<table>
<thead>
<tr>
<th>Concealed cistern</th>
<th>Element/module height [mm]</th>
<th>Arrangement of actuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 H</td>
<td>1130/980</td>
<td>front</td>
</tr>
<tr>
<td>2L</td>
<td>Steptec CH 840</td>
<td>front/top</td>
</tr>
<tr>
<td></td>
<td>Viega Eco Plus CH 830 mm</td>
<td>front/top</td>
</tr>
<tr>
<td></td>
<td>Mono CH 820 mm</td>
<td>front/top</td>
</tr>
</tbody>
</table>

*Table 2 – 20*

**Features**

- Cistern volume 9 l with dual flush technology
- Pre-mounted water path
- Partial flush volume adjustable from 3 to 4 l
- Full-flush volume steplessly adjustable from 6 to 9 l
- Filling hose routed inside the concealed cistern
- Easy mounting due to Bowden cable technology
- Concealed cistern 2L convertible from actuation front to top
Viega flushing throttle

The Viega concealed cisterns 2H, 2C and 2S with 1130 mm construction height will be equipped with a flushing throttle as standard as from 2017. This means the flush rate can be reduced without reducing the flush volume. Thanks to the flushing throttle, splashing over rimless WC ceramics is now a thing of the past. The device has five settings for adjustment to the respective installation situation. Viega cisterns that are already installed can be retrofitted in a few minutes. In addition, the flushing throttle is available as an individual item (model 8310.93).

The factory setting of the flushing throttle will allow the maximum flowthrough volume without restriction. However, the flow rate can be reduced without the use of tools. There are five possible settings: With a simple rotary movement, the throttle cross-section is reduced until no water splashes over the edge during flushing. The flush volume remains unchanged despite the adjustment, and the full flush power is also maintained.

The new flushing throttle is not only ideal for rimless WC ceramics, but also for special installations such as toddler and baby toilets in kindergartens.
Flush plates with mechanic actuator
The WC cistern is factory-mounted with an actuating mechanism, which shall be removed when a flush plate with a Bowden cable unit is installed. The chapter on flush plates starting on page P. 111 ff. describes the equipment features of all model variants.

Flush actuation with mechanic actuator – factory-mounted
- Standard
- Visign for Public 1
- Visign for Style 10/13/14

Flush actuation with Bowden cable technology – scope of delivery flush plate
- Visign for Public 2
- Visign for Style 11, 12
- Visign for More

Flush actuation touchless
Infrared technology
- Visign for Public 5
- Visign for Public 6

Sensitive
- Visign for More 100 & 105 sensitive
- Visign for Care sensitive
- Visign for Style sensitive

Flush actuation external – button, radio controlled
WC flush actuation for
- Concealed cistern 2H model 8350.31
- Concealed cistern 2H/2L model 8350.32

Mounting instructions
- The water path is completely pre-assembled inside the WC cistern. During commissioning, only the corner valve is opened, the supply line is flushed once and then the selected flush plate is mounted.

- Cistern 2H
  The water connection of the WC cistern is factory-mounted on the left side. The conversion to the top side is possible without any additional material.
**WC element – Villeroy & Boch »Green Gain«**

To reduce operating costs and save water resources, Viega developed together with the manufacturer of sanitary objects Villeroy & Boch a WC pre-wall element with a particularly low water requirement. The WC element »Green-Gain« from Viega, in combination with the newly developed water distribution system of the »Omnia Architectura« WC ceramic from Villeroy & Boch saves approx. 40% water at an equal flushing performance.

- Full-flush volume adjustable 3.5/4.5/6l
- Partial flush volume 2 l

The WC element is connected to wastewater pipes DN90 and is perfectly suitable for new buildings.

Orders can be placed exclusively with Villeroy & Boch.

---

**Fig. 2 – 96** WC element »Green-Gain«

**Fig. 2 – 99** Installation dimensions

**Fig. 2 – 100** Flush plate

---

**WC pre-wall element**

V&B art. no. 9222100
for WC ceramic »Omnia Architectura«
V&B art. no. 5638_10

**Flush plate »Green-Gain«**
**WC element – odour extraction**

Unpleasant odours in inner bathrooms and much frequented toilet systems can be considerably reduced by installing flushing pipe elbows with a direct connection with the fan system. When the extractor fan starts up, odours are extracted immediately and elaborate ventilation through windows or ventilation openings becomes redundant.

When using Viega WC pre-wall elements and modules with construction height 1130 mm only the factory-mounted flushing pipe elbows need to be replaced (see **Table 2 – 21**).

**Mounting instructions**

The connection of the flushing pipe elbow with the branch connection of the single or central fan system has to be implemented water tight up to 100 mm above the WC cistern – e.g. with a HT-resistant pipe DN 50 (see Fig. 2 – 102), to allow the discharge of arising condensate in the WC ceramic. Direct connection with Aluflex or spiral-seam pipe is not permissible.

---

**Table 2 – 21**

<table>
<thead>
<tr>
<th>Pre-wall element</th>
<th>Feature</th>
<th>Model</th>
<th>Art. No.</th>
<th>Flushing pipe elbow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steptec WC module</td>
<td>CH 1130</td>
<td>8461.3</td>
<td>656 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CH 980</td>
<td></td>
<td>656 119</td>
<td></td>
</tr>
<tr>
<td>Viega Eco Plus WC element</td>
<td>CH 1130</td>
<td>8161.2</td>
<td>606 664</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CH 980</td>
<td></td>
<td>704 070</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.5 l full-flush volume</td>
<td>8161.45</td>
<td>686 154</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For SensoWash</td>
<td>8161.95</td>
<td>699 451</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For floor-mounted WC</td>
<td>8161.15</td>
<td>705 831</td>
<td></td>
</tr>
<tr>
<td>Viega Eco Plus Universal shower WC</td>
<td>CH 1130</td>
<td>8161.20</td>
<td>736 859</td>
<td></td>
</tr>
<tr>
<td>Viega Mono WC pre-wall block</td>
<td>CH 980/1130</td>
<td>8310.2</td>
<td>606 732</td>
<td>8310.78</td>
</tr>
</tbody>
</table>

---

**Fig. 2 – 101** Viega Eco Plus WC element

**Fig. 2 – 102** Odour extraction
**WC element – individual seat height adjustment**

The following WC elements/modules are suited for the subsequent adaptation of WC seat heights:

- Steptec WC module, model 8461.21, Art. No. 700 010, construction height 1110–1130 mm, actuation from front
- Viega Eco Plus WC element – model 8161.21, Art. No. 700 652, construction height 1130 mm, actuation from front

With already tiled walls, the seat height can be adjusted steplessly from 410–490 mm (floor level to upper edge of WC ceramic) without removing the WC ceramic. It is sufficient detaching the WC ceramic at the fixing points.

Combination with all common WC ceramics is possible. A stainless steel cover plate model 8040.21 art. no. 703 387 is available as an accessory to cover the setting range area behind the WC ceramic.

**Technical data**

- Partial flush volume – factory-set to approx. 3 l
- Partial flush volume – setting range approx. 3–4 l
- Full-flush volume – factory-set to approx. 6 l
- Full-flush volume – setting range approx. 6–9 l
Flushing systems

Flush-stop technology
The Viega flush-stop technology allows stopping the flushing process started with the large flush button by the small flush button before the whole flush volume has drained.

Viega concealed cisterns »1H/1S/2H/2S« can be retrofitted in combination with the mechanical flush plates »Visign for Public 1« and »Standard flush plate«. Drain valve set model 8180.17 is required (article number 462 222).

Dual flush technology
Viega dual flush technology for WCs allows flushing with a full-flush volume (large button) or a smaller partial flush volume (small button). The flush volumes are adjustable independently one from the other and when the partial flush volume is consequently used, the water consumption is reduced.

Adjustable flush volumes
■ Full-flush volume 6–9 l
■ Partial flush volume 3–4 l
■ If the full-flush volume is set to 6 l (factory setting), the 3 l-partial flush volume can be used for subsequent flushing after the full-flush volume has drained.

The flush volumes are set at the drain valve – disassembly is necessary (Fig. 2 – 105).
■ Partial flush volume 3–4 l
  Slider at the valve side
■ Full-flush volume 6–9 l
  Rotary adjustment at the underside of the valve.
WC actuation

Flush plates
The »Visign« flush plate series – for WCs and urinals – consists of the design lines

- Visign for Public
- Visign for Style
- Visign for More

Urinal prefabricated kits matching these WC flush plates are available.

Compatibility
»Visign« WC flush plates can be used for the Viega concealed cistern »Visign 2« from the year of construction 2007 on.

The »Visign for Public, Visign for Style and Visign for More« flush plates can be incorporated in the Viega concealed cistern »Visign 1«, years of construction 1999 to 2007 with the aid of a drain valve set.

<table>
<thead>
<tr>
<th>Pre-wall system</th>
<th>Product name</th>
<th>Model</th>
<th>Art. no.</th>
<th>Drain valve set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steptec</td>
<td>WC module, CH 1130 mm</td>
<td>8461</td>
<td>471927</td>
<td>611224</td>
</tr>
<tr>
<td></td>
<td>WC module, CH 980 mm</td>
<td>8461</td>
<td>491529</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WC module, CH 840 mm, actuation from top</td>
<td>8437</td>
<td>471903</td>
<td>611248</td>
</tr>
<tr>
<td></td>
<td>WC module, CH 840 mm, actuation from front</td>
<td>8438</td>
<td>471910</td>
<td>611231</td>
</tr>
<tr>
<td>Viega Eco Plus</td>
<td>WC element, CH 1130 mm</td>
<td>8161.5</td>
<td>461591</td>
<td>611224</td>
</tr>
<tr>
<td></td>
<td>WC element, CH 830 mm, actuation from top</td>
<td>8137</td>
<td>455729</td>
<td>611248</td>
</tr>
<tr>
<td></td>
<td>WC element, CH 830 mm, actuation from front</td>
<td>8138</td>
<td>461775</td>
<td>611231</td>
</tr>
<tr>
<td></td>
<td>WC corner element, CH 1130 mm</td>
<td>8141</td>
<td>566937</td>
<td>611255</td>
</tr>
<tr>
<td></td>
<td>WC corner element, CH 980 mm</td>
<td>8141</td>
<td>566937</td>
<td></td>
</tr>
<tr>
<td>Viega Mono</td>
<td>WC block, CH 1130/980 mm</td>
<td>8310</td>
<td>382186</td>
<td>611224</td>
</tr>
<tr>
<td></td>
<td>WC block, CH 820 mm, actuation from top</td>
<td>8337</td>
<td>460525</td>
<td>611248</td>
</tr>
<tr>
<td></td>
<td>WC block, CH 820 mm, actuation from front</td>
<td>8338</td>
<td>460532</td>
<td>611231</td>
</tr>
<tr>
<td>Viega Eco</td>
<td>WC element, CH 1130 mm</td>
<td>8180.25</td>
<td>606671</td>
<td>8180.0</td>
</tr>
<tr>
<td>from 04/2009 on</td>
<td>WC element, CH 1130 mm</td>
<td>8180.25</td>
<td>606688</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 22
Viega flush plate configurator
The range of Viega flush plates in plastic, metal and glass variants is huge. To make selection easier, a configurator that visualises the flush plates in the particular installation situation is available on the Viega homepage. Plaster, tile and natural stone surroundings can be simulated and the effect of the selected model assessed in a realistic way.

All available WC and urinal flush plates can be called up.

Filter functions allow the targeted search according to the requirements of the user and the installer.

Search criteria are:

- **Flush plates**
  - Material
  - Colour
  - Design

- **Technology**
  - Type of actuation – mechanical, electronic, touchless
  - Flushing technology – single volume, dual volumes, Hygiene+ function
  - Cistern design

- **Hygiene requirements on the flushing system**
  - Time interval
  - Requirement-controlled
Configuration sequence

■ Selection of the flush plate model

![Flush plates – model selection](image)

Fig. 2 – 107  Flush plates – model selection

■ Selection of the Viegas pre-wall system or the WC element

![Selection of the pre-wall elements](image)

Fig. 2 – 108  Selection of the pre-wall elements

When the selection has been completed, the list with all material required for ordering/installation can be printed or downloaded.
### Overview of the equipment features

**Steptec WC modules – equipment features**

<table>
<thead>
<tr>
<th>Construction height [mm] / actuation</th>
<th>Article-No.</th>
<th>Dual-volume flushing function</th>
<th>Hygiene+ flushing function</th>
<th>230 V mains connection</th>
<th>Touchless flush actuation</th>
<th>Tile-level installation</th>
<th>Can be combined with electric WC flush</th>
<th>Vandalism proof / can be screwed on</th>
</tr>
</thead>
<tbody>
<tr>
<td>1130/front</td>
<td>700 010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>656 102</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>980/front</td>
<td>656 119</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>840/front/top</td>
<td>718 954</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flush plates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard 1</td>
<td>8180.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 10</td>
<td>8315.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 11</td>
<td>8331.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>8333.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>8334.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style sensitive</td>
<td>8315.11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Care sensitive</td>
<td>8352.21</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Model                               |             |                              |                           |                        |                         |                        |                                      |                                   |
| Visign for Public 1                | 8326.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for Public 2                | 8327.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for Public 5                | 8326.16     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for Public 6                | 8326.15     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for Public / remote actuation| 8326.21    |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for Public / cover plate    | 8326.9      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for Style 12                | 8332.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for More 100                | 8352.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 101                | 8351.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 102                | 8353.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 103                | 8355.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 104                | 8354.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 105                | 8357.1      | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |

| **Model**                           |             |                              |                           |                        |                         |                        |                                      |                                   |
| Visign for Style 12                | 8332.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for Style 12                | 8332.4      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for More 100                | 8352.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for More 100 sensitive      | 8352.11     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 103 sensitive      | 8352.12     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 103 sensitive      | 8352.11     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 103 sensitive      | 8352.12     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 105 sensitive      | 8357.11     | ✓                             | ✓                         | ✓                      | ✓                       | ✓                      |                                      |                                   |
| Visign for More 101                | 8351.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for More 102                | 8353.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |
| Visign for More 103                | 8355.1      |                              |                           |                        |                         | ✓                      |                                      |                                   |

**Table 2 – 23**
### Viega Eco Plus WC elements/corner elements – equipment features

<table>
<thead>
<tr>
<th>Viega Eco Plus WC elements</th>
<th>Article-No.</th>
<th>Dual-volume flushing function</th>
<th>Hygiene+ flushing function</th>
<th>230 V mains connection</th>
<th>Touchless flush actuation</th>
<th>Tile-level installation</th>
<th>Vandalism proof/can be screwed on</th>
<th>Can be combined with electric WC flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction height [mm]/actuation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>980/front</td>
<td>704 070</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/front</td>
<td>606 664</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/front</td>
<td>700 652</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/front</td>
<td>708 764</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/front</td>
<td>736 859</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>840/top</td>
<td>718 336</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viega Eco Plus WC corner elements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/front</td>
<td>606 725</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>980/front</td>
<td>606 718</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flush plates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plastic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard 1</td>
<td>8180.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 10</td>
<td>8315.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 11</td>
<td>8331.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>8333.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>8334.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style sensitive</td>
<td>8315.11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Care sensitive</td>
<td>8352.21</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Metal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 1</td>
<td>8326.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Public 2</td>
<td>8327.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Public 5</td>
<td>8326.16</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Public 6</td>
<td>8326.15</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Public/remote actuation</td>
<td>8326.21</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Public/cover plate</td>
<td>8326.9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8352.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 101</td>
<td>8351.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8353.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 104</td>
<td>8354.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 105</td>
<td>8357.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Glass</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8352.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 100 sensitive</td>
<td>8352.11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103 sensitive</td>
<td>8352.12</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103 sensitive</td>
<td>8352.11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103 sensitive</td>
<td>8352.12</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 105 sensitive</td>
<td>8357.11</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 101</td>
<td>8351.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8353.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for More 105</td>
<td>8357.1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 24
## Eco WC elements – equipment features

<table>
<thead>
<tr>
<th>Construction height [mm]/actuation</th>
<th>Article-No.</th>
<th>Dual-volume flushing function</th>
<th>Tile-level installation</th>
<th>Vandalism proof/can be screwed on</th>
<th>Can be combined with electric WC flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>1130/dual flush technology</td>
<td>606 688</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Flush plates

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 10</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

### Visign for Style 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visign for Public 1</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

### Visign for Public 8

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visign for Public 8</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 25
Viega Mono – equipment features

<table>
<thead>
<tr>
<th>Viega Mono WC block</th>
<th>Article-No.</th>
<th>Dual-volume flushing function</th>
<th>Hygiene+ flushing function</th>
<th>230 V mains connection</th>
<th>Touchless flush actuation</th>
<th>Vandalism proof</th>
<th>Can be combined with electric WC flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction height [mm] / actuation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>980–1130 front</td>
<td>606 732</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>835 / top</td>
<td>606 749</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>835 / front</td>
<td>606 756</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flush plates</th>
<th>Model</th>
<th>Plastic</th>
<th>Model</th>
<th>Metal</th>
<th>Glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1</td>
<td>8180.1</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 10</td>
<td>8315.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 11</td>
<td>8331.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>8333.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>8334.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style sensitive</td>
<td>8315.11</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Visign for Care sensitive</td>
<td>8352.21</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 1</td>
<td>8326.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 2</td>
<td>8327.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 5</td>
<td>8326.16</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 6</td>
<td>8326.15</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Visign for Public / remote actuation</td>
<td>8326.21</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public / cover plate</td>
<td>8326.9</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8352.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 101</td>
<td>8351.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8353.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 104</td>
<td>8354.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 105</td>
<td>8357.1</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Style sensitive</td>
<td>8352.11</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Visign for More 100 sensitive</td>
<td>8352.12</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103 sensitive</td>
<td>8352.11</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Visign for More 103 sensitive</td>
<td>8352.12</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Visign for More 105 sensitive</td>
<td>8357.11</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Visign for More 101</td>
<td>8351.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8353.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for More 105</td>
<td>8357.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 26
Visign for Public 5/6 – infrared technology

System description
VDI guideline 6000 recommends touchless flush actuation of the WC flush for sanitary rooms in public and semi-public areas – e.g. for service stations and stadiums.

The Visign for Public 5 and 6 WC flush plates meet the requirements specified above and in addition are durable, protected against theft, and their smooth surfaces can be cleaned easily.

Features

- Stainless steel material, surface brushed and alpine white
- Optional battery operation possible
- Integrated Viegahygiene+ function – a flush program can be optionally activated that trips automatic flushing at intervals of 24, 72 or 168 hours with 3, 6 or 9 litres.

Visign for Public 5 only
Flushimg can also be actuated by a mechanical button (power failure). For both types of actuation, always a large flush volume is triggered.

Visign for Public 6 only
depending on the detected time of use (30/60/90s) either the large or partial flush volume can be tripped.
Functions

For both design variants, flush actuation is touchless by infrared technology.

The detection distinguishes between close and remote ranges, where in the close range (approx. 30 mm) flushing can be triggered at any time – before and after use – by approaching the hand to the infrared sensor.

In the remote range (450–550 mm) automatic flushing is always triggered when the user leaves the sensing range after a defined time has elapsed.

Flush actuation in the close range is disabled if a person stays for longer than 8 seconds in the remote range – undesired flush actuation is avoided.

After the flush is actuated, the close range sensor can then be used to actuate a second flush by hand.

If a person leaves the remote range, a flush is automatically actuated with the full-flush volume.

After use, an additional flush cycle can be actuated through the close range sensor.

Visign for Public 6 only

If the person leaves the remote range within an adjustable time (30, 60, 90 s), a partial flush volume is triggered.

If the person stays longer, a flush is automatically actuated with the full-flush volume.
Assembly
Visign for Public 5 and 6
The major assembly steps are shown in the illustrations.

Disassemble the flush mechanism, detach the connection filling hose/filling valve, insert mains voltage cable, mount Bowden cable motor.

Connect control with mains voltage and Bowden cable motor.

Mount the control in the bracket, connect filling hose again with filling valve.

Install mechanism (Visign for Public 5 only) and connect it with the drain valve. Mount actuating rod and adjust it.

Connect the infrared actuation with the control.

Mount the flush plate.

Features
Public 5: Can be combined with concealed cistern 2H, single flush technology; manual flush actuation in addition
Public 6: Can be combined with concealed cistern 2H, dual flush technology

Public 5 and 6
- Touchless flush actuation by infrared detection
- In stainless steel, can be screwed on, vandalism proof
- Power pack (mains voltage 110–240 V AC/50–60 Hz)
- Viega Hygiene+ function
- Control suitable for further external signals for flush actuation – e.g. radio controlled, button with closing function, motion detector, etc.
Electronic WC flush actuation
System description
WCs in barrier-free sanitary rooms must be equipped with flush actuation that can be easily reached by users and nursing staff. The Viega concealed cistern can be combined with electronic flush actuations with their remote-controlled or cable-connected buttons being mounted at the handholds of the WCs or at any place in the room. It has to be observed in planning, that a power connection is available in the area of the concealed cistern.

The Viega concealed cisterns 2H and 2L can be optionally combined with flush plates for manual WC flush actuation.

Combination options – flush plates/concealed cistern

<table>
<thead>
<tr>
<th>Viega concealed cistern</th>
<th>2H</th>
<th>2L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flush plates – manual and with mechanism</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>WC flush actuation</td>
<td></td>
</tr>
<tr>
<td>Visign for Public 1</td>
<td>Model 8350.31</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 10/13/14</td>
<td>art. no. 696 139</td>
<td></td>
</tr>
<tr>
<td><strong>Flush plates – manual with Bowden cable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visign for Public 2</td>
<td>WC flush actuation</td>
<td></td>
</tr>
<tr>
<td>Visign for Style 11/12</td>
<td>Model 8350.32</td>
<td></td>
</tr>
<tr>
<td>Visign for More 100/102/103/104/105</td>
<td>art. no. 696 146</td>
<td></td>
</tr>
</tbody>
</table>

The WC flush actuations can be extended by the accessories listed on the following page.
The extension adapter can be used for installing another external flush actuation for example. If flush actuation shall be triggered by a radio signal (button at the support hinged handle), the WC flush actuation must be extended by the radio receiver. Only one radio receiver is necessary even if two radio actuations are installed.
All WC flush actuations are equipped with the Viega Hygiene+ function that can be activated with the programming set.
WC flush actuation model 8350.31, article number 696 139
- For concealed cistern Visign 2H – CH 1130/980 mm, actuation at front
- With single flush technology – full-flush volume
- For flush plates Standard
- For flush plate Visign for Public 1
- For flush plates Visign for Style 10, 13 and 14
- With Viega Hygiene+ function – flush intervals: 24, 72, 168 h
  – flush volumes: 3, 6, 9 l
- With connection cable for external flush actuation by on-site button with closing function or potential-free contact
- Electronically by power pack operation, mains voltage 110–240 V AC/50–60 Hz

WC flush actuation model 8350.32, article number 696 146
- For concealed cistern Visign 2H – CH 1130/980 mm, actuation at front
- For concealed cistern Visign 2L – CH 830 mm, actuation front/top
- With dual flush technology – full and partial flush volume
- For flush plate Visign for Public 2
- For flush plates Visign for Style 11 and 12
- For Flush Plates Visign for More 100, 102, 103, 104 and 105
- With Viega Hygiene+ function – flush intervals: 24, 72, 168 h
  – flush volumes: 3, 6, 9 l
- With connection cable for external flush actuation by on-site commercial button with closing function or potential-free contact
- Electronically by power pack operation, mains voltage 110–240 V AC/50–60 Hz

Accessories
- Programming set, model 8350.26, art. no. 664 053, for activation of Viega Hygiene+ function
- Battery compartment, model 8350.13, art. no. 633 318, alternative of mains operation
- Radio receiver, model 8350.35, art. no. 696 177
- Receiver for radio trigger e.g. in conjunction with support hinged handles
- Extension adapter, model 8350.36, art. no. 696 184, for connection of another input signal – external trigger, radio actuation, infrared flush plate, etc.
- Installation set for concealed socket/concealed cistern, model 8350.14
- Adapter for redundant power supply for power pack operation, model 8355.91
Usage examples
Five installation examples describe typical installation situations for electronic flush actuation using Viega products, WC modules/elements and pre-wall systems.

Example 1
**Required WC flush actuation**
Touchless by infrared flush plate Visign for Public 6 – with mains connection.

**Required Viega products**
- Flush plate Visign for Public 6, brushed (art. no. 699505)
- Installation set (optional), art. no. 655426

**Special function**
Viega Hygiene+ function can be activated.

**Viega WC elements/modules that can be used**
- Steptec
  - Steptec WC module with 2 H cistern – CH 1130 and 980 mm
- Viega Eco Plus
  - Viega Eco WC elements with 2 H cistern – CH 1130 and 980 mm
- Mono
  - Mono WC pre-wall blocks with 2 H cistern – CH 1130/980 mm

![Installation information](image)
Cable length of power pack 1.05 m, optional extension art. no. 628505
Example 2

Required WC flush actuation
- Touchless by infrared flush plate Visign for Public 6 – with mains connection
- Additionally with two radio actuations at the support hinged handles

Required Viega products
- Flush plate Visign for Public 6, art. no. 699505
- Installation set (optional), art. no. 655426
- Extension adapter, art. no. 696184
- Radio receiver, art. no. 696177

Installation information
- Cable length of power pack 1.05 m, optional extension
- Support hinged handles and radio actuation on site

Special function
Viega Hygiene+ function can be activated.

Viega WC elements/modules that can be used
- Steptec
  - Steptec WC module with 2H cistern – CH 1130 and 980 mm
- Viega Eco Plus
  - Viega Eco WC elements with 2H cistern – CH 1130 and 980 mm
- Mono
  - Mono WC pre-wall blocks with 2H cistern – CH 1130/980 mm
Example 3

Required WC flush actuation

- Touchless by infrared flush plate Visign for Public 6 – with mains connection
- Additionally with two radio actuations at the support hinged handles
- Additionally by an external button

Required Viega products

- Flush plate Visign for Public 6, art. no. 699505
- Installation set (optional), art. no. 655426
- Connection cable sensitive, art. no. 631840
- 2x extension adapter, art. no. 696184
- Radio receiver, art. no. 696177

Installation information

- Cable length of power pack 1.05 m, optional extension
- Support hinged handles and radio trigger on site
- Button on site – potential-free with closing function, cable length 3 m

Special function

Viega Hygiene+ function can be activated.

Viega WC elements/modules that can be used

- Steptec
  - Steptec WC module with 2 H cistern – CH 1130 and 980 mm
- Viega Eco Plus
  - Viega Eco WC elements with 2 H cistern – CH 1130 and 980 mm
- Mono
  - Mono WC pre-wall blocks with 2 H cistern – CH 1130/980 mm
Example 4

**Required WC flush actuation**
- Vandalism proof flush plate (dual flush technology)
- Additionally with two radio actuations at the support hinged handles
- Additionally by an external button

**Required Viega products**
- Flush plate Visign for Public 2, brushed, art. no. 672058
- WC flush actuation, art. no. 696146
- Extension adapter, art. no. 696184
- Radio receiver, art. no. 696177

**Installation information**
- Cable length of power pack 1.05 m, optional extension
- Support hinged handles and radio trigger on site
- Button on site – potential-free with closing function, cable length 3 m

**Special function**
Viega Hygiene+ function can be activated.

**Viega WC elements/modules that can be used**
2H and 2L cistern for
- Steptec
- Viega Eco Plus
- Mono
Example 5

Required WC flush actuation
- Touchless by flush plate Visign for Care sensitive – with mains connection and dual flush technology
- Additionally with two radio actuations at the support hinged handles
- Additionally by an external button

Required Viega products
- Flush plate Visign for Care sensitive, alpine white, art. no. 653828
- Installation set (optional), art. no. 655426
- Extension cable (due to suspended ceiling), art. no. 628505
- Adapter with battery compartment (optional), art. no. 655433
- Radio receiver, art. no. 696177
- Connection cable sensitive, art. no. 631840

Installation information
- Cable length of power pack 1.05 m, optional extension
- Support hinged handles and radio trigger on site
- Button on site – potential-free with closing function, cable length 3 m
- Installation identical for flush plates Visign for More sensitive
- Power pack in suspended ceiling with extension art. no. 628505
- Redundant power supply of the flush plate

Special function
Viega Hygiene+ function can be activated.

Viega WC elements/modules that can be used
2H and 2L cistern for
- Steptec
- Viega Eco Plus
- Mono
Tablet holder for WC cleaning tabs
The WC tablet holder (model 8315.9) allows adding WC cleaner tablets into the flush water. Combined with Viega concealed cistern 2H/2C/1F and flush plate Visign for Style 10, cleaner tablets can be filled into a tablet holder in the cistern to ensure pleasant freshness and hygiene in the bathroom each time the flush is actuated. A perfect solution, especially for rimless WC ceramics.

Conventionally, toilet cleaning tabs or fresheners have been attached under the bowl rim. This is less than ideal both from the visual as well as hygienic points of view, for bacteria can easily collect there. In contrast, Viega’s tablet holder hides discretely behind the flush plate.

A special magnetic installation frame makes replacing the tab (by the end consumer) uncomplicated. The WC flush plate can be easily removed to the front and swung away. Then the cleaner tablet is inserted and the flush plate swung up in place again. There are two brackets and two magnets that ensure that the flush plate returns to the correct position. The magnets have just the right strength to make sure that adults can open the flush plate easily, but it is too difficult for small children – an important safety plus.

The WC cleaner tablets used have to be chlorine-free.
Tile-level installation
WC flush plate and urinal prefabricated kits of design lines »Visign for Style«, »Visign for More« can be installed tile-level in the Viega pre-wall systems »Viega Steptec« and »Viega Eco Plus«.

Mounting instructions
Installer and tiler work have to be agreed before starting the assembly.

- **Installer**
  - The installation frame is bonded on the cladding panel and the chrome-plated inner frame is adjusted to the respective tile thickness (incl. tile cement).

- **Tiler**
  - The tiles are laid up to the aligned inner frame.

- **Installer**
  - The selected flush plate is mounted.

Overview installation frame/compatible WC flush plates

<table>
<thead>
<tr>
<th>Installation frame WC</th>
<th>Model 8330.21</th>
<th>Model 8350.23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flush plates</td>
<td>Visign for Style 10, model 8315.1 / Visign for Style 11, model 8331.1 / Visign for Style 12, model 8332.1 / Visign for Style 14, model 8334.1 / Visign for More 100 sensitive, models 8352.11 and 8352.12 / Visign for Care sensitive, model 8352.21 / Visign for Style sensitive, model 8315.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visign for More 100, model 8352.1 / Visign for More 101, model 8351.1 / Visign for More 102, model 8353.1 / Visign for More 104, model 8354.1</td>
<td></td>
</tr>
</tbody>
</table>

Tile-level installation – »Visign for Style 12«
The »Visign for Style 12« flush plate is also available as tile-level equipment variant of tempered glass (TG).

As the tile-level installation frame, they can be combined with the WC modules and elements of the Viega pre-wall systems, Viega Steptec and Viega Eco Plus.

Visign for Style 12
Model 8332.4
Functional unit for natural stone coverings

WC flush plates can be equipped with the same material as the pre-wall finish is made of – e.g. natural stone. Surface-flush installation is possible in Viega pre-wall systems »Viega Steptec« and »Viega Eco Plus«.

Mounting instructions

Installer and tiler work have to be agreed before starting the assembly. A piece fitting for the flush plate is cut from the pre-wall finish material – thickness must be in the range between 4 and 4.5 mm. The cut piece is bonded on the functional unit with a suitable silicone adhesive.

The further mounting sequence of the installation frame is the same as for the tile-level installation frame.

Flush plate
With integrated natural stone covering
Types of actuation
Touchless electronic actuation
Flushing with »Visign for More Sensitive« is triggered completely touchless. For this particularly hygienic solution it is sufficient to move the hand in front of the flush plate.

Further functions of the electronic control
■ Electronic flush volume regulation – large volume and partial flush volume
■ Cleaning function – flushing is suppressed for one minute, e.g. for cleaning the flush plate, by moving a magnetic pin over the Viega logo.
Emergency actuation in the event of a power failure or if the battery is empty – can be operated manually; behind the flush plate.

Visign for More Sensitive
Flush plates of TG, with small (3l) and full-flush volume (6l)

Electrical system
The electronics can be supplied with power both from the 230 V mains and via an integrated 6 V battery compartment. Battery operation is particularly useful if manual flush actuation is converted to electronic flush actuation and a mains connection is not available. For planning of the mains connection, a concealed connection socket with a 230 V cable connection has to be provided in the area of the WC element that is connected with the WC cistern via an empty pipe.

Planning
230 V connection
Concealed connection socket and empty pipe

Mains connection – connection cable
X1 ≤ 0.75 m – power pack – scope of delivery
X3 ≤ 4.75 m – two extension cables art. no. 628 505
X2 ≤ 2.75 m – extension cable art. no. 628 505
### Urinal actuation

#### Overview – equipment sets

**Steptec urinal module – equipment features**

<table>
<thead>
<tr>
<th>Actuation</th>
<th>Article-No.</th>
<th>Manual flush actuation</th>
<th>Touchless infrared flush actuation</th>
<th>Vandalism proof/can be screwed on</th>
<th>Hygiene + flushing function</th>
<th>230 V mains connection</th>
<th>Battery operation</th>
<th>Tile-level installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>From front</td>
<td>656 058</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From front</td>
<td>656 065</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Visign for Style 10 8315.2</th>
<th>Visign for Style 11 8331.2</th>
<th>Visign for Style 12 8332.2</th>
<th>Visign for Style 13 8333.2</th>
<th>Visign for Style 14 8334.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Visign for Public 8326.55</th>
<th>Visign for Public 8326.2</th>
<th>Visign for Public 8326.65</th>
<th>Visign for More 100 8351.2</th>
<th>Visign for More 100 8351.65</th>
<th>Visign for More 102 8353.2</th>
<th>Visign for More 103 8355.2</th>
<th>Visign for More 103 8355.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Visign for More 100 8351.2</th>
<th>Visign for More 100 8351.65</th>
<th>Visign for More 102 8353.2</th>
<th>Visign for More 103 8355.2</th>
<th>Visign for More 103 8355.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass</td>
<td>µ</td>
<td>µ</td>
<td>µ</td>
<td>µ</td>
<td>µ</td>
</tr>
</tbody>
</table>

**Use of the Viega flush plate configurator see P. 112**
### Viega Eco Plus urinal elements/corner elements – equipment features

<table>
<thead>
<tr>
<th>Construction height [mm]/actuation</th>
<th>Article-No.</th>
<th>Manual flush actuation</th>
<th>Touchless infrared flush actuation</th>
<th>Vandalism proof/can be screwed on</th>
<th>Hygiene+ flushing function</th>
<th>230 V mains connection</th>
<th>Battery operation</th>
<th>Tile-level installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1130/from front</td>
<td>461 843</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1300/from front</td>
<td>611 934</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1130/from front</td>
<td>566 975</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1300/from front</td>
<td>611 941</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visign for Style 10</td>
<td>8315.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Style 11</td>
<td>8331.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Style 12</td>
<td>8332.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Style 13</td>
<td>8333.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Style 14</td>
<td>8334.2</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visign for Public</td>
<td>8326.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Public</td>
<td>8326.55</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for Public</td>
<td>8326.65</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8351.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8351.65</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8353.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.65</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 104</td>
<td>8354.2</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visign for More 100</td>
<td>8351.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 100</td>
<td>8315.65</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 102</td>
<td>8332.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.2</td>
<td>✓</td>
</tr>
<tr>
<td>Visign for More 103</td>
<td>8355.65</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 2 – 30
### Overview of the equipment features

**Viega Mono urinal installation set – equipment features**

<table>
<thead>
<tr>
<th>Actuation</th>
<th>Article-No.</th>
<th>Manual flush actuation</th>
<th>Touchless infrared flush actuation</th>
<th>Vandalism proof/can be screwed on</th>
<th>Hygiene + flushing function</th>
<th>230 V mains connection</th>
<th>Battery operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front or top</td>
<td>442 439</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**equipment set**

<table>
<thead>
<tr>
<th>Model</th>
<th>Plastic</th>
<th>Model</th>
<th>Metal</th>
<th>Model</th>
<th>Glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>8315.2</td>
<td>✓</td>
<td>8331.2</td>
<td>✓</td>
<td>8332.2</td>
<td>✓</td>
</tr>
<tr>
<td>8333.2</td>
<td>✓</td>
<td>8333.2</td>
<td>✓</td>
<td>8334.2</td>
<td>✓</td>
</tr>
<tr>
<td>8330.2</td>
<td>Visign for Style 10, model 8315.2/Visign for Style 11, model 8331.2/Visign for Style 12, model 8332.2/Visign for Style 14, model 8334.2/Visign for More 100 IR, model 8351.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8351.2</td>
<td>Visign for More 100, model 8351.2/Visign for More 102, model 8353.2/Visign for More 103, model 8355.2/Visign for More 104 and model 8354.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2 – 31**

### Overview installation frame/compatible urinal prefabricated kits

<table>
<thead>
<tr>
<th>Urinal installation frame Model</th>
<th>Equipment sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>8330.22</td>
<td>Visign for Style 10, model 8315.2/Visign for Style 11, model 8331.2/Visign for Style 12, model 8332.2/Visign for Style 14, model 8334.2/Visign for More 100 IR, model 8351.65</td>
</tr>
<tr>
<td>8350.24</td>
<td>Visign for More 100, model 8351.2/Visign for More 102, model 8353.2/Visign for More 104 and model 8354.2</td>
</tr>
</tbody>
</table>

**Table 2 – 32**
Siphon sensor technology
The siphon sensor technology enables touchless flush actuation of urinals. The sensor is located in the suction moulded piece and therefore needs not be adapted to the respective ceramic variant. Installation is possible in urinals with a horizontal outlet in connection with the following Viega pre-wall models:
- Viega Eco Plus urinal element model 8152.4
- Steptec urinal module model 8121.4

As all the components are concealed and thus protected from vandalism, urinals systems equipped in this way are considered being »vandalism proof«.

Note
- The equipment set siphon sensor technology model 8352.2 is an optional module and always has to be ordered separately.
- A mains connection 230V is required for operation.

Operating mode
The sensor detects differences in temperature and varying flow conditions in the suction moulded piece – usage of the urinal is detected and flushing triggered.

In addition, the system responds to the following operating conditions:
- The reduced or completely evaporated water seal in the drain is automatically topped up by a flush – unpleasant odours caused by sewer gases from the wastewater system are effectively eliminated.
- A blocked drain is detected and further flushing is suppressed (integrated overflow protection).
Additional programs

■ Economy program
  - The user can switch over from the factory-set 3l flush volume to a program automatically reducing the flush volume to 1l if the frequency of use increases.

■ Service
  - 5 minute flush stop
    e.g. for cleaning the urinal by manual flush actuation
  - Programmable interval flush
    e.g. flush actuation after the reaction time of the descaling agent

■ Diagnosis
  - analysis and detection of malfunctions

Benefits

■ Vandalism proof
■ Lower operating costs thanks to reduced water consumption
■ High functional safety with radiation-free sensor
■ Elimination of unpleasant odours
■ Overflow protection
■ Comfortable cleaning and service programs
■ Easy to install – the system is immediately ready to operate

Types of actuation for public areas
The touchless flush actuation of urinals is requested especially in public areas. The following function variants are available:

■ Siphon sensor technology
■ Infrared flush actuation (230 V)
■ Infrared flush actuation (optional battery operation)

The covers of the Viega infrared urinals are made of metal and considered being vandalism proof. They can be screw-fastened to protect them against theft.
Application technology

Fire protection in domestic technology

Planning criteria

Fire protection in domestic technology – also referred to as technical building fire protection – is getting more and more complex and also gaining importance in day-to-day work of the planning specialist and the installer. There is a large number of regulations and official communication of the Deutsches Institut für Bautechnik, Berlin (DIBt) (German Institute for Building Technology) on topics such as mixed installation and rules on distances.

For implementation Viega offers a large scope of technical fire protection system solutions and products with German general building inspectorate test certificates and tests not allowing only universal but also practical solutions – even if the “zero distance” requirement is concerned.

The implementation of fire protection solutions which are at the same time compliant with the statutory stipulations and also fit for practice is made easier by the following product features:

■ Special high-density fire protection shells are no longer used
  The insulating shell required for constructional purposes is at the same time the insulation and fire protection.

■ Additional extensive bonding is no longer used
  The shell is bonded simply with the pre-fabricated adhesive aluminium tape and secured with galvanised binding wire.

■ Cross-joints are always permissible
  The cross-joints of the mineral wool shells can be arranged in any number and at any place.

■ Large variety of pipeline systems and combinations with other isolation systems
  The extensively tested fire protection system allows almost every combination thus making the selection easier in particular with regard to the distances to be maintained.

■ Combinations are possible with:
  − other general building inspectorate approvals, e.g. fire protection collars and fire protection couplings
  − other general building inspectorate test certificates, e.g. refrigerant/cooling pipes with insulation of synthetic rubber
  − facilitations of the piping system guidelines according to the applicable rules on distances from the proofs of practicability and
  − the rule on distances pursuant to the German piping system guideline, paragraph 4.1.3.
Viega solutions for fire protection with zero distances are for universal use because

- They are available for all Viega piping systems
  - Profipress, Sanpress, Sanpress Inox, Prestabo, Megapress, Viega Smartpress,
- They fit for all pipe outside diameters from 12–108.0 mm,
- All insulation thicknesses according to EnEV (energy saving German regulation) and had been fire-tested according to the fire protection standard DIN 1988-200,
- Zero distances can be implemented between all Viega piping systems in all combinations common on the market.
- Zero distances at tested combinations between the Viega piping systems and mixed installations with cast iron downpipes and flammable drain-pipes are possible,
- Zero distances at tested combinations between the Viega piping systems and WC air extraction systems with shut-off devices according to DIN 18017-3, for electrical isolations for cables, cable bundles, and empty pipes are possible.

**Zero distance – definition**

Zero distance means that the surfaces of the materials required for fire protection get into contact with each other in the area of the wall or floor breakthrough.

This is for example permissible for:

- Insulated piping – the external edges of the insulating shells,
- fire protection collars, ventilation shutoff devices or tested electrics isolation systems,
  - the external edge of the sheet metal housing,
  - the external edge of the fire protection couplings,
  - the insulation or PE sound insulation film necessary for the fire protection coupling.

This means that zero distance is a dimension that is theoretically achievable because it does not consider possible protruding fixing clamps of the piping itself, the straps for dowel-fastening of fire protection collars, ventilation shut-off devices, etc.

**Wall and floor breakthroughs – cement stabilisation**

Wall and floor breakthroughs for pipelines the fire protection isolations of which have been routed with »zero distance« may cause the following problems during mounting:

- Drill holes can only be made imprecisely or not at all because hole drilling machines require a minimum working space.
- Proper cement stabilisation of the wall and floor breakthroughs is made more difficult because special tools have to be used or the necessary space for mounting the shuttering formwork is missing.

In most cases the insulation located outside the opening has to be removed to be able to press-seal the hollow spaces with so-called »mortar torpedos«.
When considering all aspects of the parties involved in construction, there is no party to which zero distances brings an advantage – even the contrary is true, the expense of completing the respective work in a professional manner is extremely high.

DIN 4140 requires the minimum distance of 100 mm for fire protection isolations of pipes. In practice, the distance of 20–50 mm has proven. Thus the effort for completion is kept within reasonable limits and the flexibility is maintained to respond to possible changes in piping assignment or other uncertainties.

Only a few typical system solutions can be presented in this book.

For more detailed information on testing, also for wastewater, ventilation piping, etc., please refer to
- the Internet: www.viega.com
- the Viega brochure »Application technology for structural fire protection«,
- or call Viega Service Center.
Piping isolation
Viega piping isolations are based on:
- Section insulations of mineral wool and Rockwool 800 shells, other mineral wool shells and mats with the melting point of >1,000 °C according to the German general building inspectorate approvals Z-23.14-1114.
- Isolations in solid ceilings ≥150 mm and solid walls or light partitions ≥100 mm

Profipress
Combinations with copper pipes according to DIN EN 1057, DVGW work-sheet GW392, d 12–108.0 mm
- Profipress/-XL – with inner circulation d 28 and 35 mm
- Profipress G/-XL
- Profipress S

Viega Smartpress/Sanfix Fosta
Combination with multilayer pipe, d 16–63.0 mm,
German general building inspectorate test certificate P-3988/5349-MPA-BS
- Viega Smartpress
- Sanfix Fosta

Sanpress
Combination with stainless steel pipe 1.4401 or 1.4521, DIN EN 10088, DIN EN 10312, d 15–108.0 mm
- Sanpress/-XL
- Sanpress Inox/-XL – with inner circulation d 28 and 35 mm
- Sanpress Inox G/-XL

Prestabo
Combination of pipes of non-alloy steel material No. 1.0308 according to DIN EN 10305-3, galvanized on the outside or non-alloy steel material No. 1.0308 according to DIN EN 10305 galvanized on the outside with plastic layer of polypropylene or non-alloy steel 1.0215 according to DIN EN 10305 galvanized on the inside and outside, d 12–108.0 mm and/or 15–54 mm
Prestabo pipe PP
- Prestabo/-XL
- Prestabo, PP coated

Megapress
Combination with thick-walled steel pipes according to DIN EN 10220/10255, d 21.3–60.3 mm
Pipe shells and mats for fire protection constructions
The following notes have to be observed for mounting the pipeline and pipe shells.
The following mineral wool insulation materials can be used for fire protection solutions:
- Pipe shell 800, Klimarock, Hvac, U Protect Section Alu2, HPS035 AluR and Steinwool Isolierschale Alu
- Lay the pipelines as specified by the manufacturer.
- Fasten the pipelines as specified in the general building inspectorate test certificate.
  - Floor lead-ins at least 600 mm above the ceiling
  - Wall lead-ins at least 500 mm in front of and behind the wall
- Butt joints of the pipe shells/mats can be arranged at will.
- Fastening of pipe shell/matt with galvanised binding wire d ≥ 0.7 mm, 6 windings/m as specified by the manufacturer

The pipe shells/mats are mounted as specified in the general building inspectorate test certificate P-2400/003/15-MPA BS.

The illustrations show only the insulation required for the fire protection solution. In front of and behind, any insulation of min. B2 may be used or dropped completely.
Floor lead-in

Profipress/Profipress with Smartloop Inliner circulation

Solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Pipe material</th>
<th>Outside diameter [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thickness [mm]</th>
<th>Insulation length [mm]</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profipress</td>
<td>Copper</td>
<td>≤ 28</td>
<td>≥ 1.0</td>
<td>20 – 40</td>
<td></td>
<td>R 30</td>
</tr>
<tr>
<td>Profipress - XL</td>
<td>Copper</td>
<td>&gt; 28 to ≤ 42</td>
<td>≥ 1.2</td>
<td>20 – 40</td>
<td></td>
<td>R 60</td>
</tr>
<tr>
<td>Profipress G</td>
<td>Copper</td>
<td>&gt; 42 to ≤ 54</td>
<td>≥ 1.5</td>
<td>20 – 100</td>
<td></td>
<td>R 90</td>
</tr>
<tr>
<td>Profipress G XL</td>
<td>Copper</td>
<td>&gt; 54 to ≤ 88.9</td>
<td>≥ 2.0</td>
<td>30 – 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profipress S</td>
<td>Copper</td>
<td>&gt; 88.8 to ≤ 108.0</td>
<td>≥ 2.5</td>
<td>30 – 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profipress with Smartloop Inliner circulation</td>
<td>Copper / PB-pipe</td>
<td>28</td>
<td>≥ 1.0</td>
<td>20 – 40</td>
<td></td>
<td>R 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 28 to ≤ 35</td>
<td>≥ 1.2</td>
<td>20 – 40</td>
<td></td>
<td>R 60</td>
</tr>
</tbody>
</table>

Table 2 – Profipress/Profipress with Smartloop Inliner circulation

1. Fire-resistant solid ceiling ≥ 150 mm of concrete/reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

2. Viega pipe systems
   - Profipress
   - Profipress with inner circulation pipe

3. Various insulations

4. Pipe fastener

5. Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

Viega general building inspectorate test certificate
P-2400/003/15-MPABS

Fig. 2 – 142
Sanpress/Sanpress Inox/Sanpress Inox with Smartloop Inliner circulation

- Solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Pipe material</th>
<th>Outside diameter [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thicknesses [mm]</th>
<th>Insulation lengths [mm]</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanpress XL</td>
<td>Stainless steel 1.4401 or 1.4521</td>
<td>≤ 18</td>
<td>≥ 1.0</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 18 to ≤ 22</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 22 to ≤ 28</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 28 to ≤ 42</td>
<td>≥ 1.5</td>
<td>20–40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 42 to ≤ 54</td>
<td>≥ 1.5</td>
<td>20–60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 54 to ≤ 64.0</td>
<td>≥ 2.0</td>
<td>20–60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 64 to ≤ 76.1</td>
<td>≥ 2.0</td>
<td>30–80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 76.1 to ≤ 108.0</td>
<td>≥ 2.0</td>
<td>30–100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanpress Inox with Smartloop Inliner circulation</td>
<td>Stainless steel/ Smartloop PB-pipe</td>
<td>28</td>
<td>≥ 1.0</td>
<td>20–40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 28 to ≤ 35</td>
<td>≥ 1.2</td>
<td>20–40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 34 Sanpress/Sanpress Inox/Sanpress Inox with Smartloop Inliner circulation

1. Fire-resistant solid ceiling ≥ 150 mm of concrete and/or reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

2. Viega pipe systems
   - Sanpress
   - Sanpress Inox with inner circulation pipe

3. Various insulations

4. Pipe fastener

5. Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

Viega general building inspectorate test certificate
P-2400/003/15-MPABS

Pipes can be laid with zero distance.

Fig. 2 – 143
### Prestabo/Prestabo PP coated

- **Solid ceiling ≥ 150 mm**

<table>
<thead>
<tr>
<th>Vieg pipe system</th>
<th>Pipe material</th>
<th>Outside diameter [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thicknesses [mm]</th>
<th>Insulation lengths [mm]</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prestabo</td>
<td>Carbon steel 1.0308 galv. on the outside</td>
<td>≤ 18</td>
<td>≥ 1.2</td>
<td>20–40</td>
<td>1000</td>
<td>R 30, R 60, R 90</td>
</tr>
<tr>
<td>Prestabo</td>
<td>Carbon steel 1.0215 galv. on the outside and inside</td>
<td>&gt; 54 to ≤ 64.0</td>
<td>≥ 2.0</td>
<td>20–100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prestabo, PP coated</td>
<td>Carbon steel 1.0308 with 1 mm PP-jacket</td>
<td>≤ 18</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 54 to ≤ 64.0</td>
<td>≥ 2.0</td>
<td>20–100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Fig. 2 – 144

1. Fire-resistant solid ceiling ≥ 150 mm of concrete and/or reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

2. Viega Prestabo pipe system

3. Various insulations

4. Pipe fastener

5. Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

**Viega general building inspectorate test certificate**

P-2400/003/15-MPABS

---

**Pipes can be laid with zero distance.**
Megapress

- Solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Pipe material</th>
<th>Outside diameter [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thicknesses [mm]</th>
<th>Insulation lengths [mm]</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megapress</td>
<td>Steel pipe DIN EN 10 220</td>
<td>≤ 21.3</td>
<td>≥ 2.0</td>
<td>20 – 40</td>
<td>1000</td>
<td>R 30</td>
</tr>
<tr>
<td>Megapress G</td>
<td>DIN EN 10 255</td>
<td>≤ 26.9</td>
<td>≥ 2.3</td>
<td></td>
<td></td>
<td>R 60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 33.7 to ≤ 48.3</td>
<td>≥ 2.6</td>
<td></td>
<td></td>
<td>R 90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≤ 60.3</td>
<td>≥ 2.9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 36 Megapress

- Fire-resistant solid ceiling ≥ 150 mm of concrete and/or reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223
- Viega Megapress pipe system
- Various insulations
- Pipe fastener
- Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

Viega general building inspectorate test certificate
P-2400/003/15-MPA BS

Fig. 2 – 145
One-side insulation
Radiator connection, further combustible insulation

Radiator connection, further combustible insulation – floor lead-in solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Pipe material</th>
<th>Outside diameter [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thickness [mm]</th>
<th>Insulation length [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profipress</td>
<td>Copper</td>
<td>≤ 28</td>
<td>≥ 1.0</td>
<td>20</td>
<td>≥ 2000</td>
</tr>
<tr>
<td>Profipress with Liner</td>
<td>Copper</td>
<td>&gt; 18 to ≤ 22</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Sanpress</td>
<td>Stainless steel 1.4401 1.4521</td>
<td>&gt; 22 to ≤ 28</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Sanpress Inox also with Liner</td>
<td>Stainless steel</td>
<td>&gt; 28 to ≤ 54</td>
<td>≥ 1.5</td>
<td>20 – 50</td>
<td></td>
</tr>
<tr>
<td>Prestabo</td>
<td>Carbon steel 1.0308 1.2015</td>
<td>≤ 18</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Prestabo PP</td>
<td>Carbon steel 1.0308 1.2015</td>
<td>&gt; 18 to ≤ 28</td>
<td>≥ 1.5</td>
<td>20 – 50</td>
<td></td>
</tr>
<tr>
<td>Megapress</td>
<td>Steel pipe DIN EN 10 220 DIN EN 10 255</td>
<td>≤ 21.3</td>
<td>≥ 1.2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>≤ 26.9</td>
<td>≥ 1.2</td>
<td>20 – 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 33.7 to ≤ 48.3</td>
<td>≥ 1.5</td>
<td>20 – 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 48.3 to ≤ 54</td>
<td>≥ 1.5</td>
<td>20 – 50</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 37

Pipes can be laid with zero distance.

Fire-resistant solid ceiling ≥ 150 mm of concrete/reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223
1
Rockwool 800 or Paroc Hvac
3
Gap sealed with concrete or mortar
5
Footfall sound insulation – at least normally flammable
7

Viega pipe system according to table 1-9
2
Combustible insulation min. B2 e.g. Climaflex stabil NMC
4
Compensating insulation – at least normally flammable
6
Screed or dry screed, thickness ≥ 25 mm
8

Key
Fig. 2 – 146 to Fig. 2 – 150

Viega general building inspectorate test certificate
P-2400/003/15-MPA BS
Fig. 2 – 147
Direct radiator connection

Fig. 2 – 148
Combustible insulation for connection lines

Fig. 2 – 149
Combustible insulation above the ceiling

Fig. 2 – 150
Combustible insulation above the ceiling – distortion in the floor construction

Viega general building inspectorate test certificate
P-2400/003/15-MPA BS
### Viega Smartpress / Sanfix Fosta

**d ≤ 32 mm**

#### Viega Smartpress/Sanfix Fosta – floor lead-in solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Material</th>
<th>$d_{w}$ [mm]</th>
<th>Wall thickness [mm]</th>
<th>Insulation thicknesses [mm]</th>
<th>Insulation lengths [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viega Smartpress</td>
<td>PE-Xc / Al / PE-Xc</td>
<td>16</td>
<td>2.2</td>
<td>20</td>
<td>≥ 150 and/or of floor thickness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanfix Fosta</td>
<td></td>
<td>25</td>
<td>2.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
<td>3.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – 38

1. Fire-resistant solid ceiling ≥ 150 mm of concrete and/or reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

2. Viega pipe systems
   - Viega Smartpress / Sanfix Fosta

3. Rockwool 800, L = ≥ 150 mm

4. Pipe fastener

5. Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

---

**AWT general building inspectorate test certificate**

P-2400/003/15-MPA BS
Viega Smartpress / Sanfix Fosta
One-side insulation – z. B. radiator connection, solid ceiling ≥ 150 mm

Pipes can be laid with zero distance.

Fig. 2 – 152
Fig. 2 – 153
Fig. 2 – 154

1. Fire-resistant solid ceiling ≥ 150 mm of concrete/reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223
2. Viega pipe system Viega Smartpress / Sanfix Fosta ≤ 63 mm
3. Rockwool 800 or Paroc Hvac
4. Combustible insulation min. B2 e.g. Climaflex stabil NMC
5. Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.
6. Compensating insulation – at least normally flammable
7. Footfall sound insulation – at least normally flammable
8. Screed or dry screed, thickness ≥ 25 mm

Viega general building inspectorate test certificate:
P-MPA-E-09-005, P-2400/003/15-MPA BS
Zero distances – in the Viega system
Viega press connector systems with each other

Viega press connector systems among each other – zero distances in solid ceiling ≥ 150 mm

<table>
<thead>
<tr>
<th>Viega pipe system</th>
<th>Profipress d12–108.0</th>
<th>Viega Smartpress / Sanfix Fosta d16–63</th>
<th>Sanpress / Sanpress Inox d12–108.0</th>
<th>Prestabo d12–108.0</th>
<th>Megapress d21.3–60.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profipress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viega Smartpress/ Sanfix Fosta</td>
<td>d16–63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanpress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanpress Inox</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prestabo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megapress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for Rockwool Conlit System¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Minimum distance of the fire protection isolation among each other 0 mm

Table 2 – 39
¹ Document 240006491-B MPA Erwitte

Pipes can be laid with zero distance.

Fig. 2 – 155

1 Fire-resistant solid ceiling ≥ 150 mm of concrete/ reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223
2 Viega Profipress pipe systems, Profipress with inner circulation pipe
3 Sanpress / Sanpress Inox
4 Prestabo
5 Megapress
6 Viega Smartpress/ Sanfix Fosta
7 Rockwool 800 or Paroc Hvac
8 Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

Viega general building inspectorate test certificate:
P-MPA-E-09-005, P-2400/003/15-MPA BS
Zero distances – in the Viega system

Pipes can be laid with zero distance.

Key
Fig. 2 – 157 to Fig. 2 – 161

1 Fire-resistant solid ceiling ≥ 150 mm of concrete/reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

2 Viega Profipress pipe systems, Profipress with inner circulation pipe L = 2000 mm; L/2 = 1000 mm

3 Pipe systems Sanpress / Sanpress Inox, Sanpress Inox with inner circulation pipe L = 1000 mm; L/2 = 500 mm

4 Viega Prestabo pipe system L = 1000 mm; L/2 = 500 mm

5 Viega Megapress pipe system L = 1000 mm; L/2 = 500 mm

6 Viega Smartpress / Sanfix Fosta pipe system L = 500 mm; L/2 = 250 mm

7 Rockwool 800 or Paroc Hvac

8 Gaps sealed with concrete, mortar, gypsum, Viega fire protection filler or mineral wool sealed with filler.

Viega general building inspectorate test certificate
P-2400/003/15-MPA BS

Viega general building inspectorate test certificate
P-MPA-E-09-005
Deflections and branches

Fig. 2 – 159

Pipes can be laid with zero distance.

Viega general building inspectorate test certificate
P-2400/003/15-MPABS
Zero distances – Rockwool Conlit

Pipes can be laid with zero distance.

Fig. 2 – 162

Fig. 2 – 163

Fig. 2 – 164

Fire-resistant solid ceiling ≥ 150 mm of concrete/reinforced concrete according to DIN 1045 or aerated concrete according to DIN 4223

1. Viega Profipress pipe systems, Profipress with inner circulation pipe
2. Viega pipe systems Sanpress / Sanpress Inox with inner circulation pipe
3. Viega Prestabo pipe system
4. Viega Megapress pipe system
5. Viega pipe systems Vega Smartpress / Sanfix Fosta
6. Rockwool 800
7. Rockwool Conlit 150 U P-3725 / 4130-MPA BS
8. Gap sealed with concrete or mortar

Document Erwitte 240006491-B Erwitte
Sound protection in domestic technology

Acoustic assessment of the layout

Sound protection is not considered being only a protection of our health but more and more also a comfort and quality requirement for the living space. The acoustic success of a domestic system is much depending on the design of the entire building and in particular on the design of the layout. DIN 4109 defines the requirements and provides information on the acoustic assessment of the layout of living rooms and bedrooms, children’s rooms, working rooms, offices and seminar rooms.

It has to be observed that rooms requiring sound protection are not arranged directly next to rooms with noise sources. The layout must be designed such that a room not requiring sound protection is located between the noise source and the neighbour flat.

Fig. 2 – 165 shows a layout that is unfavourable with regard to building acoustics; Fig. 2 – 166 shows a layout favourable with regard to building acoustics.

---

**Fig. 2 – 165**  Layout that is unfavourable with regard to building acoustics

LRₐ: Loud room (bathroom, WC, kitchen, etc.) flat A
SRₐ: Room requiring sound protection (living, sleeping, working room, etc.) flat B

- **Red**: Separating wall between flats, storey floor
- **Green**: Installation wall
The same recommendations as for the mentioned partitions apply for storey floors. For the purpose the rooms requiring sound protection are reviewed diagonally downwards. **Fig. 2 – 166** shows a layout favourable with regard to building acoustics. For the determination of the sound level ($L_{in}$) in a test setup, the most unfavourable case is assumed; i.e. the room requiring sound protection is located diagonally below the noise source.
LRa Loud room (bathroom, WC, kitchen, etc.) flat A
SRb Room requiring sound protection (living, sleeping, working room, etc.) flat B
NSRa Room not requiring sound protection

Partition, storey floor
Installation wall

The sound protection requirements for technical building systems including water supply and wastewater systems made in DIN 4109/A1 are the minimum requirements only. If the building owner desires higher sound protection requirements, these need to be included in the contract for work and services as an additional provision under private law. It is recommended in this case tasking a sound protection expert for planning and implementation of all building services concerned.

All Viega pre-wall systems had been tested by the Fraunhofer Institute for Building Physics, Stuttgart.

DIN 4109 does not refer to usage sounds (actuation sounds). If higher requirements are made, it is recommended using the Viega sound insulation element model 8310.52 reducing usage sounds by up to 5 dB(A).
Dry constructions variants have clear advantages over pre-wall installations with masonry. The sound levels measured in diagonal directions for the dry construction variants are lower. Thorough sound insulation of the pipelines is mandatory in wet construction and consequently increases the mounting expenditure and the costs.

Further limitations for wet-bricked pre-wall installations
- Acoustic proof of suitability of the pre-wall installation and the masonry must be available for installation walls of mass <220 kg/m².
- If the structural engineer introduced a light-wall surcharge, the principle of masonry must not be applied.

**Recommendation:** Use acoustically optimised dry construction variants of Viega pre-wall systems for the complex sound protection tasks!

**Fundamental installation rules**
- Fixing must always be made on the raw concrete and acoustically disconnected from the floating screed.
- After professional installation has been completed, it happens quite often that defects are caused by the negligence of subsequent work activities. All those involved in construction and in particular the site management have the obligation according to VOB to point out such deficiencies.

**Acoustic proof of suitability**
DIN 4109/A1 (01/2001) requires the planning specialist to prepare an »acoustic proof of suitability« for the following products:
- Pre-wall installation systems in wet or dry construction
- Installation systems inside metal support profiles
The »Acoustic test certificates« of the manufacturers can be used as acoustic proofs of suitability. Deviating walls have to be converted to the area-related masses of the walls.

**Practical tips**
- Easy planning due to acoustic test certificates
- Products not having recognised acoustic test certificates should not be included in calls for tenders and not be installed. The planner/installer is liable for the acoustic suitability of the products if these are used in contrary to the call for tender and the proof of suitability.
Sound protection certificates for Viega pre-wall systems
Pre-wall installation at solid wall

Installation wall sand-lime brick 11.5 cm with area-related mass
\(m^w = 220 \text{ kg/m}^2\) \(R'w = 47 \text{ [dB]}\), insulation according to DIN 1988-200

Measured values on the flush-stop function basis

Steptec at solid wall

![Steptec at solid wall](image)

**Fig. 2 – 169** Steptec – solid wall

<table>
<thead>
<tr>
<th>Installation sound level</th>
<th>DIN 4109</th>
<th>DIN 4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal transmission path, external, room requiring sound protection</td>
<td>19 (L_\text{A} [\text{dB}])</td>
<td>(\leq 30) complied with</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>26</td>
<td>No requirements</td>
</tr>
</tbody>
</table>

Table 2 – 41
### Viega Eco Plus at solid wall

![Fig. 2 – 170 Viega Eco Plus – solid wall](image)

#### Installation sound level – requirements solid wall

<table>
<thead>
<tr>
<th>Installation sound level</th>
<th>DIN 4109</th>
<th>DIN 4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>L_in [dB(A)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>20</td>
<td>≤ 30 complied with</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>28</td>
<td>≤ 25 complied with</td>
</tr>
</tbody>
</table>

Table 2 – 42

### Viega Mono at solid wall

![Fig. 2 – 171 Viega Mono – solid wall](image)

#### Installation sound level – requirements solid wall

<table>
<thead>
<tr>
<th>Installation sound level</th>
<th>DIN 4109</th>
</tr>
</thead>
<tbody>
<tr>
<td>L_in [dB(A)]</td>
<td></td>
</tr>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>27</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 2 – 43
**Steptec installation wall**

![Steptec installation wall](image)

**Viega Eco Plus at lightweight construction wall Knauf W116**

![Viega Eco Plus in installation wall](image)

<table>
<thead>
<tr>
<th>Installation sound level – requirements solid wall</th>
<th>Installation sound level</th>
<th>DIN4109</th>
<th>DIN4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>16</td>
<td>≤30 complying with</td>
<td>≤25 complying with</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>20</td>
<td>No requirements</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Installation sound level – requirements solid wall</th>
<th>Installation sound level</th>
<th>DIN4109</th>
<th>DIN4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>21</td>
<td>≤30 complying with</td>
<td>≤25 complying with</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>29</td>
<td>No requirements</td>
<td></td>
</tr>
</tbody>
</table>
Steptec at lightweight construction wall Knauf W112

R’w = 49 [dB]
Insulation according to DIN 1988-200

Measured values on the flush-stop function basis

Fig. 2 – 174 Pre-wall installation in lightweight construction wall

<table>
<thead>
<tr>
<th>Installation sound level</th>
<th>DIN 4109</th>
<th>DIN 4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L_{an} [dB(A)]</td>
<td>≤ 30 complied with</td>
</tr>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>22</td>
<td>No requirements</td>
</tr>
</tbody>
</table>

Table 2 – 46
Viega Eco Plus at lightweight construction wall

![Viega Eco Plus in lightweight construction wall](image)

**Installation sound level – requirements solid wall**

<table>
<thead>
<tr>
<th>Installation sound level</th>
<th>DIN4109</th>
<th>DIN4109 supplement 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal transmission path external, room requiring sound protection</td>
<td>≥23 [dB(A)]</td>
<td>≤30 [dB(A)] compl. with ≤25 [dB(A)] compl. with</td>
</tr>
<tr>
<td>Horizontal transmission path, own area</td>
<td>31 [dB(A)]</td>
<td>No requirements</td>
</tr>
</tbody>
</table>

**R’w = 49 [dB]**

Insulation according to DIN 1988-200

Measured values on the flush-stop function basis.
Dry construction – processing instructions

Gypsum plaster boards
The brochure of the Federal Working Group Dry Construction »Bathrooms constructed using dry construction« gives the following information:
»For simple cladding using gypsum plaster boards of the thickness of less than 20 mm; the distance of the supports should be reduced to 500 mm and less, with regard to the ceramic cladding to be applied later on.«
Pre-wall installation systems Steptec meet this requirement by the respective distances of the axes.
They offer a safe sub-constructions for ceramic claddings. According to DIN 4102 »Fire behaviour of building materials and building components« these panels do not belong to the combustible materials of building material fire rating class A 2 if the surface is closed for example by tiling.

IFGP cladding panels
■ Gypsum plasterboards impregnated to prevent absorption of humidity (IFGP) must be used for rooms with wet loads, e.g. privately used bathrooms.
Viega offers three equipment variants of Steptec IFGP cladding panels:
– Without openings – 1500 x 1000 x 12.5 mm model 8055.10
– With openings for Visign 2H concealed cistern – 1250 x 470 x 12.5 mm model 8040.10
– With openings for Visign 2L concealed cistern – 1250 x 470 x 12.5 mm model 8050.0

■ Pipelines should always be installed with acoustic insulation to prevent that the sounds from the installation are transmitted. Viega pre-wall elements and modules are delivered with sound-protected fixing elements for wall plates that should be used obligatorily.
■ If Viega installation walls shall be constructed with tileable surfaces according to quality level 1, leaflet 2 of the Gypsum Plasterboards Industry Association, filler with a glass fibre component should be used. For example Viega filler, model 8480.
■ Joints towards the installation body should be sealed with a permanently elastic fungicide joint material.
Cut the panels to size and trim the edges.

Cut out the openings. Chamfer edges 45°.

Observe distances for drywall screws.

Seal wall and floor connections with a permanently elastic fungicide joint material.

Fill abutting edges with filler.
Aqua-CS cladding panels
Aqua-CS cladding panels should be used for areas with higher wet loads (swimming pools, sports facilities). These are cladding panels made of calcium silicate with a high water resistance. In these cases gypsum plaster-boards cannot be used.

Notes on processing Aqua-CS cladding panels
■ Store the cladding panels in a dry and frost-free place.
■ Make sure that continuous surface sealing is provided.
■ Seal the joints between the Aqua-CS cladding panels and towards the installation body with permanently elastic material.
■ Ensure that appropriate waterproofing is maintained.

Waterproofing
Gypsum plaster boards should not be used for private bathrooms. Impregnated gypsum plaster boards (IFGP) should be used. The following applies for processing:
■ Seal fitting openings and joints in shower and bathtub areas particularly careful.
■ Provide Viega Steptec modules with prefabricated sealing collars. Seal gap between fitting opening and tile with sanitary silicone.

This allows the installer to complete an optimal interface in consultation with the tiler.

When considering hygiene in sanitary rooms as a whole under health aspects, it is also necessary considering the hygiene of the surrounding surfaces of a sanitary room (see Fig. 2 – 182):
■ Prevention of moisture penetration of components by using surface sealing ⑦
■ Professional sealing of fittings of flush plates of WC and urinal ①②③⑧⑨
■ Professional sealing of component connections ④⑤⑥

Professional sealing and using drywall construction materials prevent that humidity ingresses in components. These measures prevent hidden pollution loads. Compliance with the »hygienic precautions« is the ongoing task of professional planning and implementation in the building.
Waterproofing of a pre-wall installation
PLASTIC PIPING SYSTEMS

PRE-WALL TECHNOLOGY

DRAINAGE TECHNOLOGY
DRAINAGE TECHNOLOGY

Fundamentals

Drainage systems have to satisfy the following fundamental functional and hygienic requirements:

■ All components of the installation have to be water- and gas-tight – sewer gas may not get into the building.
■ Objects located below the backflow level must be protected from flooding.
■ It must be prevented and/or delayed that fires can spread in neighbouring rooms through wall and floor breakthroughs.

Viega products are designed for domestic applications and not suitable for the introduction of abrasive and chemically aggressive liquids.

Intended use

The drainage components in this chapter have quite different functions and areas of application, therefore the detailed instructions for use accompanying the products have to be observed. The materials used are always suitable for loads typical in domestic use only.

Limitations of use

■ Only wastewater common in domestic use with the maximum temperature exceeding 95 °C for a short time must be drained via the odour traps.
■ No chemical cleaning agents may be used to remove blockages in pipes.
■ Cleaning of surfaces with chrome or paint coatings may only be carried out using mild cleaning agents.
■ Backflow traps may be used only in the areas of application applicable for them.

The use of the drainage technology products for areas of application other than those described in this chapter must be approved by Viega Service Center.
Regulations and standards

The most important information on the professional use of mechanical components are given in the following regulations:
■ DIN EN 274 Waste fittings for sanitary appliances
■ DIN EN 1253 Gullies for buildings
■ DIN EN 124 Gully tops and manhole tops for vehicular and pedestrian areas

Electrical equipment
■ VDE 0100 part 701 Low-voltage electrical installations

Requirements for drains

The umbrella term «drains» in drainage technology includes the following product groups:
■ Floor drains
■ Bath drains
■ Cellar drains
■ Roof drains – balcony and terrace drains

Drains facilitate cleaning of floor areas with water and drain the wastewater from showers or from roofs, balconies or terraces directly into the drainage system. Integrated odour traps with water seals or backflow flaps prevent that sewer gas gets into habitable rooms.
A drain has to be located next to each potable water draw-off point to allow water flowing out to be drained at any time without causing damage. Floor drains should be obligatory in rooms with house service connections.
From the hygienic point of view floor drains are also indispensable in public sanitary rooms such as WCs in swimming pools, hotels, schools, sports halls, etc.
DIN EN 1253 stipulates the physical requirements for drains for buildings. There are requirements for:
- odour traps their water seal levels,
- load-bearing capacity of the grates,
- drainage capacity,
- temperature resistance and
- leak tightness.

However, drains must not only comply with the requirements of the regulations, but also suit the functional requirements in many installation situations. Viega drains are therefore optimised for the typical installation situations in common practical usage and are ongoingly adjusted to the state of the art.

Equipment versions include:
- drains with horizontal and vertical outlet pipes for the waste water connection on, in, or under the floor,
- sizes and nominal widths for all required drainage capacities,
- flange designs for all installation and sealing variants,
- frame and grate variants of different materials and designs.

**Odour traps – water seal levels**
The odour trap filled with a water seal has proven for protection against entering sewer gas. It is characterised by its high reliability and low maintenance.

Depending on the type of construction, there are the following kinds of odour traps with a water seal:
- pipe,
- bottle or
- bell odour traps.

The precondition to prevent unpleasant odours in buildings is that the required minimum water seal level is maintained.
The »water seal level« is not – as it is often assumed – the entire height of the water column in the odour trap but the height of the water column actually preventing that sewer gas can escape (see Fig. 3 – 5).

All drains and drainage items in buildings should be provided with odour traps (water seal level min. 50 mm) or other special securing equipment. If unpleasant odours from rising sewer gas are ruled out in external areas, it is not necessary to use odour traps. However, installing an odour barrier may be useful for balcony drains or downpipes ending in front of roof windows. In these cases it is recommended installing rainwater drains with odour traps and sieve inserts. In particular for refurbishments of old buildings the installation of bath drains with a low water seal level due to the small floor heights can often not be avoided. In such cases planners, installers and building owners have to take out suitable written agreements in considering the conditions on site.

**Pipe interrupters**

**Function**
DIN EN 1717 requires potable water systems to be designed such that the quality of the water in the system cannot be deteriorated. Therefore contaminations of all kinds should be avoided because potable water is already considered being contaminated (non-potable water) as soon as it has left the installation. To prevent that non-potable water is caused by backsiphonage (washing machines, high-pressure cleaners) or intake (pressure drop in riser pipes), it is necessary to install backflow protection devices at endangered draw-off points, as for example pipe interrupters between the mixing faucet and the inlet (see Fig. 3 – 7). If supply bathtubs or showers faucets are almost on the same height level as their drains or even lower, it is required to install pipe interrupters reliably ruling out intake of non-potable water.
Load-bearing capacity
Drains, tops and grates must be made in such a way that they can stand the expected loads. The classification for indoor installation is described in EN 1253 (areas without traffic), and for outdoor installation in DIN EN 124.

Load-bearing capacity classes – in accordance with DIN EN 1253

<table>
<thead>
<tr>
<th>Class</th>
<th>Surface areas to be drained</th>
<th>Max. load [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1.5</td>
<td>Unused flat roofs&lt;br&gt;Example: Roofs with a cover of bitumen and gravel, gravel covered roofs</td>
<td>150</td>
</tr>
<tr>
<td>K3</td>
<td>Areas without traffic&lt;br&gt;Example: Bathrooms (public and private), public washing and shower facilities, balconies, loggias, terraces, green roofs</td>
<td>300</td>
</tr>
<tr>
<td>L15</td>
<td>Areas with light traffic&lt;br&gt;Only forklift trucks in commercial indoor premises</td>
<td>1500</td>
</tr>
<tr>
<td>M125</td>
<td>Traffic&lt;br&gt;Example: Car parks, factories, workshops</td>
<td>12500</td>
</tr>
</tbody>
</table>

Table 3 – 1
Drainage capacity

Minimum drainage capacities (drain values) of floor drains are stipulated in DIN EN 1253-1. Due to the constructional situation these requirements can however not always be complied with – small floor heights often require special solutions. The especially slim drain models used in these cases have lower drainage capacities due to the smaller pipe cross-sections. It is vital here to know the exact capacity of the existing supply faucets to determine the suitable drain.

Standard shower heads have the supply capacity of max. 0.4 l/s. This capacity determines the rating of the drain even if the nominal capacity of the associated mixing faucet is higher. If no further inlets are concerned, a slim drain with a «non-standard conforming» drainage capacity can be used in this case.

Drainage capacities for drains with one of several inlets are specified in DIN EN 1253-1 paragraph 8.11.2.

Drainage capacities of Viega floor drains

To ensure accumulation heights of showers on floor level that are as low as possible, the following tables specify the drainage capacities at 10 mm in addition to the known accumulation height of 20 mm.
### Advantix shower channels – drainage capacities

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min–max [mm]</th>
<th>Drainage capacity at accumulation height over the grate According to DIN EN 1253(^1)</th>
<th>Water seal level(^2) [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantix shower channel</td>
<td>4982.92</td>
<td>DN 40</td>
<td>95</td>
<td>0.60 0.50 0.55</td>
<td>50</td>
</tr>
<tr>
<td>Advantix shower channel</td>
<td>4982.93</td>
<td>DN 40</td>
<td>70</td>
<td>0.60 0.40 0.45</td>
<td>25</td>
</tr>
<tr>
<td>Advantix shower channel vertical</td>
<td>4982.94</td>
<td>DN 50</td>
<td>40</td>
<td>0.80 0.9 1.1</td>
<td>50</td>
</tr>
<tr>
<td>Advantix Vario shower channel</td>
<td>4965.10</td>
<td>DN 40/50</td>
<td>95–150</td>
<td>0.80 0.40 0.8</td>
<td>50</td>
</tr>
<tr>
<td>Advantix Vario shower channel Refurbishment</td>
<td>4966.10</td>
<td>DN 40/50</td>
<td>70–95</td>
<td>0.80 0.55 0.60</td>
<td>25</td>
</tr>
<tr>
<td>Advantix Vario wall drain</td>
<td>4967.10</td>
<td>DN 50</td>
<td>90–115</td>
<td>0.80 0.45 0.60–0.75</td>
<td>50</td>
</tr>
<tr>
<td>Advantix Vario wall drain Refurbishment</td>
<td>4968.10</td>
<td>DN 50</td>
<td>70–95</td>
<td>0.80 0.40 0.50</td>
<td>25</td>
</tr>
</tbody>
</table>

\(^1\) For accumulation height 20 mm: Use of floor drain without lateral connections because the minimum drain value must be 0.4 l/s for the wastewater drain of a single showerhead.

\(^2\) 50 mm required according to DIN EN 1253
## Advantix bath drains system 100 – drainage capacities

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min-max [mm]</th>
<th>Drainage capacity at accumulation height over the grate</th>
<th>Water seal level [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantix Top bath or floor drain</td>
<td>4927.3</td>
<td>DN 50</td>
<td>90–110</td>
<td>0.80</td>
<td>0.75–1.2&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Advantix Top bath drain</td>
<td>4914.10</td>
<td>DN 50</td>
<td>90–110</td>
<td>0.80</td>
<td>0.75–0.95</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.76</td>
<td>DN 50</td>
<td>115</td>
<td>0.80</td>
<td>0.60</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.75</td>
<td>DN 70</td>
<td>115</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4911.6</td>
<td>DN 50</td>
<td>115</td>
<td>0.80</td>
<td>0.66</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4926</td>
<td>DN 50</td>
<td>140</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4935</td>
<td>DN 50</td>
<td>75</td>
<td>0.80</td>
<td>0.40</td>
</tr>
</tbody>
</table>

**Table 3 – 3**

1 For accumulation height 20 mm: Use of floor drain without lateral connections because the minimum drain value must be 0.4 l/s for the wastewater drain of a single showerhead.

2 50 mm required according to DIN EN 1253

3 Depending on the size and the height of the top
<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min–max [mm]</th>
<th>Drainage capacity at accumulation height over the grate</th>
<th>Water seal level(^2) [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>According to DIN EN 1253(^1) 10 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Bath drain</td>
<td>4936.2</td>
<td>DN 50</td>
<td>75</td>
<td>0.80</td>
<td>0.33</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.4</td>
<td>DN 50</td>
<td>115</td>
<td>0.80</td>
<td>0.55</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4914.20</td>
<td>DN 50</td>
<td>85–120</td>
<td>0.80</td>
<td>0.75–0.95</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4927</td>
<td>DN 40/50</td>
<td>85–155</td>
<td>0.80</td>
<td>0.40</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4939</td>
<td>DN 50</td>
<td>70</td>
<td>0.80</td>
<td>0.45</td>
</tr>
<tr>
<td>Slimline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bath drain</td>
<td>4936.4</td>
<td>DN 50</td>
<td>70</td>
<td>0.80</td>
<td>0.33</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4980.60</td>
<td>DN 40/50</td>
<td>62</td>
<td>0.80</td>
<td>0.50</td>
</tr>
</tbody>
</table>
### Advantix floor drains system 145–drainage capacities

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min-max [mm]</th>
<th>Drainage capacity at accumulation height over the grate According to DIN EN 1253</th>
<th>Water seal level [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Con. height to flange upper edge min-max [mm]</td>
<td>10 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4951.1</td>
<td>DN 50</td>
<td>160</td>
<td>0.80</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN 70</td>
<td>175</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN 70/100</td>
<td>190</td>
<td>1.40</td>
<td>0.90</td>
</tr>
<tr>
<td>Advantix floor drain</td>
<td>4955.1</td>
<td>DN 70</td>
<td>120</td>
<td>0.80</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN 100</td>
<td>130</td>
<td>1.40</td>
<td>1.20</td>
</tr>
<tr>
<td>Advantix Top bath or floor drain</td>
<td>4927.3</td>
<td>DN 50</td>
<td>90–110</td>
<td>0.80</td>
<td>0.75–1.20³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DN 100</td>
<td>120</td>
<td>1.40</td>
<td>1.20</td>
</tr>
<tr>
<td>Advantix floor drain</td>
<td>4914.21</td>
<td>DN 50</td>
<td>85–120</td>
<td>0.80</td>
<td>0.85–1.15</td>
</tr>
</tbody>
</table>

Table 3 – 4

1 For accumulation height 20 mm: Use of floor drain without lateral connections because the minimum drain value must be 0.4 l/s for the wastewater drain of a single showerhead.

2 50 mm required according to DIN EN 1253

3 Depending on the size and the height of the top
**Temperature resistance – material properties**

»Polypropylene« – a plastic with special properties has proven as the material for drains

Excellent temperature resistance – the materials used can stand temporary contact with domestic wastewater up to the temperature of 95°C.

Very good resistance against greases and chemicals.

Smooth walls prevent deposition – self-cleaning effect.

Very good workability.

---

The drains mentioned that this chapter are only suitable for common domestic wastewaters with a pH-value over 4 and the temporary maximum temperature of 95°C.

It is not permitted introducing other liquids such as cleaning agents that could damage sanitary installations and pipe materials.

**Maintenance and inspection**

The user of the drainage system is responsible that only non-polluted wastewater that cannot damage the public drainage systems is introduced.

Regular maintenance and repair work has to be scheduled to ensure permanent readiness for operation of all components. Drainage systems should be inspected every six months and checked for leak tightness. This also includes maintenance of the floor drains and checking the water levels in the odour traps.
Sound protection

Floor drains are in most cases acoustically uncritical and can therefore be classified in the same way as wastewater pipes – no particular acoustic examinations are required. This is on the one hand due to the small water quantities and falling heights in the drain unit, and on the other hand to the flow-steadying action of the odour trap.

When comparing floor drains and outlet pipes acoustically that were both equipped with a packed bed of mineral fibre of approx. 2 to 3 mm thickness, no differences in the measurements were found. If floor drains are installed properly – i.e. without structure-borne noise bridges – they will not emit disturbing sounds. Additional cement stabilisation does not bring further advantage. Viega shower channels and corner drains come with accessories such as sound protection tape and sound insulated adjustable feet to ensure that the installation has no contact with the installation body. The use of these accessories will reliably ensure that the requirements in DIN 4109 and VDI 4100 – according to the maximum installation sound level 19 dB(A) – are complied with.

Viega corner drain
Wall mounting with sound protection tape

Viega bath drain
Acoustically insulated mounting with packed bed of mineral fibre

Fig. 3 – 13 Sound protection – corner drain
Fig. 3 – 14 Floor breakthrough
Fig. 3 – 15 Advantix shower channel
## Advantix floor drains – sound values

<table>
<thead>
<tr>
<th>Product</th>
<th>Test report</th>
<th>Sound caused by flow sounds</th>
<th>Sound caused by footstep sounds*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DIN 4109</td>
<td>VDI 4100</td>
</tr>
<tr>
<td>Basement rear</td>
<td>Minimum requirement</td>
<td>Higher requirement</td>
<td>Level 1</td>
</tr>
<tr>
<td>Standard footstep sound minimum requirements incl. shower channel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected footstep sound level for raw concrete floor thickness 150 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Calculation example

Higher requirement for a reinforced concrete floor 150 mm without superstructures minus sound reduction by the structure including Viega shower channel results in the footstep sound level: $76\text{dB} - 32\text{dB} = 44\text{dB}$
Waterproofing

Drains on floor level are required for planning and execution of barrier-free sanitary systems, that can be properly integrated in floor constructions – standard solutions are no option in these cases.

The requirements on the technical equipment of the drains and their drainage capacity are high. In addition, individual design options are desired by architects and users. A wide product range leaving sufficient space for technology and design has been developed to deal with this area of conflict.

Knowledge of the products and their processing is required to utilise all the advantages of these new drainage systems.

- For planning – knowledge of the required drainage capacities and the requirements for sound and fire protection.
- For mounting – knowledge of the proper selection and professional assembly of the drain components including professionals sealing towards the floor construction.

Tiles have been used for decades as the wall covering in moist rooms. High-grade permanently elastic materials are used at the connection points of components and at lead-throughs for faucet connections – but these points are still among the weak areas of waterproofing. Selecting the appropriate sealing system prevents soaking of walls, screeds and heat insulation. Floor drains, as all the other components going through sealing layers, must be made to be permanently tight. Sealing with liquid foil on the screed immediately below the tile bonded in the thin bed has become the standard. Bonded sealing replaced the use of bitumen sheeting or plastic sealing lanes.
Floor drains
In sealing technology today, three different sealing variants are used:
■ sealing or flange connection with sealing lanes
■ adhesive flange
■ flange for bonded sealing

Conventional sealing
Components can be permanently protected from moisture even with «conventional» sealing technology. Sealing is made by sealing lanes of bitumen or EPDM that are laid directly on the raw concrete or the heat insulation. This method has proved itself especially for sealing of balconies, terraces, floor panels and cellar floors. In addition, sealing lanes are often used as an additional second sealing layer below the bonded seal.

Processing variants
Viega drains can be integrated in bitumen, EPDM or other plastic sealing lanes. The clamping ring with the sealing collar protects the drain unit from damage during welding or bonding work and ensures safe crossover between the drain and the sealing lane.

It cannot be recommended using such constructions for showers on floor level because moisture may get into the screed and the insulation layer.
Mounting of sealing collar
The sealing collar has a different coating at the sides and can therefore be used for EPDM and bitumen sealing systems. The sealing collar is placed on the drain with the suitable contact side pointing upwards and secured with the flange ring.

Arranging the sealing collar

EPDM coat up
For sealing with bitumen sealing lanes.

Bitumen coat up
For sealing with EPDM sealing lanes.
Bonded sealing
Planning
The quality of the Viega products for bonded sealing is ensured by general building inspectorate test certificates and annual quality inspections by LGA Würzburg. But also the responsible planner has the obligation to consider the individual boundary conditions for planning and execution. This includes selecting appropriate drains and associated accessories, realistic assessment of the wear class and coordination/supervision of the work sequences of the building services in the interplay between the installer, screed installer and tiler.

Floor drains require above all permanently tight solutions – the professional and coordinated mounting sequence is indispensable here. The site management defines the order of work and supervises the building services especially for the following assembly steps:

- Making the floor breakthrough and/or the drill hole for insertion of the drain.
- Arrangement and connection of the drain unit
- Completion of the screed work
- Sealing of the stacking element/flange
- Making the finished floor
- Fitting the drain grate
- Permanently elastic jointing of all connection points
System description
The components affected by moisture have to be protected from moisture penetration to prevent structural damage. Arising water has to be drained professionally in compliance with the general rules of engineering.
For this field of application liquid sealing (applied with brushes, rollers or spatulas) is used for bonded sealing with tiles and panels. The wear class, the underground and the bonded sealing (plastic-cement-mortar combination or reaction resins) have to be determined and selected according to ZDB instruction sheet 08/2012.

Components
The following components also belong to the professionally completed installation of a floor drain with bonded sealing in a floor construction:
■ Drain with a flange of the width of min. 30 mm for bonded sealing.
■ Sealing collar or sealing tape, suitable for the different materials between the drain flange and the load distribution layer (screed).
■ Approved bonded sealing that has to be applied liquid with sufficient mechanical, chemical and thermal load-bearing capacity.
Reliable bonded sealing – overview
Only approved bonded sealing with proofs of practicability in keeping with building law may be used with suitable drains, e. g.:
- for the wear classes A and AO:
  In accordance with ETAG 022 T1.
- for the wear classes A, B and C:
  In accordance with DiBt Rule list A, Part 2 of the DiBt and the test principles for bonded sealing (PG AIV-F)
- according to DIN EN 14891:
  »Liquid-applied impermeable products for use below ceramic tiling bonded with adhesives«.
Viega drains

Viega developed special »Drains and stacking elements« of polymer concrete and plastic fulfilling all the requirements in ZDB data sheet 1/2010 for being used with bonded sealing. They allow stable integration in the floor construction and with their flange connections create ideal preconditions for using bonded sealing. The flanges are available in the following designs according to the individual installation situations/requirements:

- Plastic – with or without integrated PP mat Fig. 3 – 26
- Stainless steel

Stacking element
Made of plastic with sealing collar

Fig. 3 – 26 Stacking element

Fig. 3 – 27 shows a slimline Viega floor drain with flange, sealing collar and mat to be integrated in the liquid foil. Sealing elements of Ardex, PCI and Sopro were used for the LGA tests.

Advantix floor drain
Slimline

Fig. 3 – 27 Advantix floor drain
Advantix Vario shower channels and wall drains are delivered with mounting adhesive and sealing tape.

The sanded flange of Advantix shower channels of stainless steel provides an optimal adhesive surface for the bonded sealing. Additional mounting adhesive and sealing tape can be ordered as an option for special installation situations.

The Advantix Vario wall drain has an installation depth of 25 mm only and can be mounted in solid, lightweight or pre-wall constructions.

Advantix Vario superfast, can be shortened individually, with standing grate and sealing accessories. Mounting at the wall or in the room.
## Drains and overflows for bathtubs

### Fittings with inlet – overview

### Drains and overflows for bathtubs – fittings with inlet – technical data

<table>
<thead>
<tr>
<th>Product name model</th>
<th>Equipment sets</th>
<th>Inlet $^1$ [l/min]</th>
<th>Drain $^2$ [l/s]</th>
<th>Overflow $^3$ [l/s]</th>
<th>Bowden cable lengths [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplex Trio Functional unit</td>
<td>MT5 MT3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplex Trio</td>
<td>MT9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplex Trio Valve cone drive</td>
<td>Rosette</td>
<td>15</td>
<td></td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>Multiplex Trio F Rotatable rosette</td>
<td>M5</td>
<td></td>
<td></td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td>Multiplex Trio F Valve cone drive</td>
<td>Rosette</td>
<td></td>
<td></td>
<td></td>
<td>Centre connection</td>
</tr>
</tbody>
</table>

Table 3 – 6

1 At 0.15 MPa (1.5 bar) with pipe interrupter 2 accumulation height 300 mm 3 accumulation height 60 mm over overflow hole centre
Drains and overflows for bathtubs | Fittings with inlet – overview

The products on this page can be combined with the electronic mixing unit Multiplex Trio E.

**Drainpipes**  Ø DN 40/50  
**Drain opening**  Ø 52 mm

<table>
<thead>
<tr>
<th>Min. installation dimensions [mm]</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 120</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Bottom 110</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

- Water inlet through overflow unit
- Without rotatable rosette, inlet cover and valve cone
- With inlet element, odour trap and drain elbow 45°
- Chrome-plated valve

- Water inlet through overflow unit
- With rotatable rosette, inlet cover, valve cone, inlet element, odour trap and drain elbow 45°
- Elevation of water level by 50 mm
- Chrome-plated valve

- Water inlet through overflow unit,
- With electric valve cone drive, rosette, inlet cover, inlet element, odour trap and drain elbow 45°
- Chrome-plated valve

- Water inlet through drain unit
- With rotatable rosette, inlet cover, cover plate, inlet element, odour trap and drain elbow 45°

- Water inlet through drain unit
- With electric valve cone drive, rosette, inlet cover, cover plate, inlet element, odour trap and drain elbow 45°
## Fittings with inlet – overview

Drains and overflows for bathtubs – fittings with inlet – technical data

<table>
<thead>
<tr>
<th>Product name</th>
<th>Equipment sets</th>
<th>Inlet $^1$ [l/min]</th>
<th>Drain $^2$ [l/s]</th>
<th>Overflow $^3$ [l/s]</th>
<th>Bowden cable lengths [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotaplex Trio</td>
<td>RT5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotaplex Trio</td>
<td>RT 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valves cone drive</td>
<td>Rosette</td>
<td>1.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotaplex Trio F</td>
<td>R5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotatable rosette</td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valves cone drive</td>
<td>Rosette</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 – 7

1 At 0.15 MPa with pipe interrupter
2 accumulation height 300 mm
3 accumulation height 60 mm over overflow hole centre
Drains and overflows for bathtubs – fittings with inlet – overview

The products on this page can be combined with the electronic mixing unit Multiplex Trio E.

Drainpipes Ø DN40/50
Drain opening Ø 590 mm

<table>
<thead>
<tr>
<th>Top</th>
<th>Bottom</th>
<th>Features</th>
</tr>
</thead>
</table>
| 90  | 33     | - Water inlet through overflow unit,  
      |        | - Without rotatable rosette, inlet cover and cover plate,  
      |        | - With inlet element, odour trap and drain elbow 45° |
| 110 |        | - Water inlet through drain unit,  
      |        | - With rotatable rosette, inlet cover, cover plate, inlet element, odour trap and drain elbow 45° |
|     |        | - Water inlet through drain unit,  
      |        | - With electric valve cone drive, rosette, inlet cover and cover plate, inlet element, odour trap and drain elbow 45° |
Multiplex Trio Visign MT3/MT5
Flat version – 33 mm installation depth behind the bathtub

Drain Ø 52 mm
Equipment set
Visign MT5
Visign MT3
Rotatable rosette variants

Features
■ Small installation depths
  – behind the tub edge 33 mm
  – below the tub 110 mm
■ Chrome-plated valve top of brass
■ Simple fixing with mounting aid,
  the water inlet adjusts to the shape of the tub
Multiplex Trio Visign components

1. Seal at overflow/inlet
2. Overflow seal
3. Supply flange with aerator and fixing screw
4. Mounting aid
5. Equipment set
6. Valve cone
7. Valve cone seal
8. Hollow bolt M12
9. Valve top
10. Seal at drain
11. Outlet elbow 45°
12. Odour trap
13. Union nut at drain
14. Bowden cable
15. Overflow pipe
16. Sleeve for overflow pipe
17. Connecting piece
18. Overflow unit – flat 33 mm
Multiplex Trio Visign MT9
Elevation of water level by 50 mm

Features
- Elevation of water level by 50 mm
- Small installation depth behind the tub edge 33 mm
- Easy mounting due to pre-assembled parts
- Chrome-plated valve top of brass
- Flat stream pattern

Fig. 3 – 37  Multiplex Trio Visign MT9
Multiplex Trio Visign MT9 components

1. Seal at overflow/inlet
2. Overflow seal
3. Supply flange
4. Rotatable rosette
5. Valve cone
6. Valve cone seal
7. Hollow bolt M12
8. Valve top
9. Seal at drain
10. Outlet elbow 45°
11. Odour trap
12. Union nut at drain
13. Bowden cable
14. Overflow pipe
15. Sleeve for overflow pipe
16. Connecting piece
17. Overflow unit – flat 33 mm
**Multiplex Trio F**

**Drain Ø 52 mm**

Equipment set
Visign M5

---

**Features**

- Interruption of inlet and wastewater by DVGW-tested pipe interrupter in accordance with DIN EN 1717, protection equipment DB, e.g. Viega art. no. 274 528.
- Small construction height below the tub 110 mm
- Drainpipe with ball joint
- Can be combined with rotatable rosette M3

---

Fig. 3 – 39  Multiplex Trio F

Fig. 3 – 40  Inlet/drain valve
Multiplex Trio F – components

1. Seal at overflow/inlet
2. O-ring
3. Fixing flange
4. Rotatable rosette
5. Fixing aids
6. Cover plate
7. Screw-on valve with inlet element
8. Seal
9. Profile seal
10. Drain elbow 45°
11. Odour trap
12. Union nut at drain
13. Bowden cable
14. Overflow pipe
15. Sleeve for overflow pipe
16. Overflow unit
Multiplex Trio F / Rotaplex Trio F Visign – valve cone drive
Tub filling by valve in floor drain

Drain Ø 90 mm
Multiplex Trio F
Rotaplex Trio F

Features
■ Electric valve cone drive
  − DC-12 V/0.5 A
  − On-off pulse count, pulse duration max. 3 sec.
  − 3 m connection line JST/XHP 5
■ Interruption of inlet and wastewater by DVGW-tested pipe interrupter in accordance with DIN EN 1717, protection equipment DB, e.g. Viega art. no. 274 528.
■ Small construction height below the tub 100 mm
■ Flexible odour trap
Multiplex Trio / Rotaplex Trio Visign MT5 – valve cone drive
Flat version – only 33 mm installation depth behind the bathtub

Features
- Electric valve cone drive
  - DC-12 V / 0.5 A
  - On-off pulse count, pulse duration max. 3 sec.
  - 3 m connection line JST/XHP 5
- For bathtubs with centre connection
- Small installation depth behind the tub edge 33 mm
- Low mounting expenditure due to pre-assembled parts
- Chrome-plated valve top of brass
- Fixing with mounting aid
- Flat stream pattern
Rotaplex Trio Visign RT5/RT3
Flat version – 33 mm installation depth behind the bathtub

Drain Ø 90 mm
Equipment set
Visign RT5
Visign RT3
Rotatable rosette variants

Water inlet
Through the drain and overflow

Features
- Small installation depths
  - behind the tub edge 33 mm
  - below the tub 90 mm
- Odour trap accessible from above
- Low mounting expenditure due to pre-assembly of all parts
- Drain and cover plate fixing with three screws only
- Drain with stainless steel flange
- Simple fixing with mounting aid and Allen screws, the pivotable water inlet adjusts to the shape of the tub
Rotaplex Trio Visign RT3/RT5 components

1. Seal at overflow/inlet
2. Overflow seal
3. Supply flange with aerator and fixing screw
4. Mounting aid
5. Equipment set
6. Cover plate
7. Fixing screws
8. Valve cone
9. Fixing flange
10. Seal at drain
11. Outlet elbow 45°
12. Odour trap
13. Union nut at drain
14. Bowden cable
15. Overflow pipe
16. Sleeve for overflow pipe
17. Connecting piece
18. Overflow unit flat 33 mm
Rotaplex Trio F
Tub filling from floor drain

Drain Ø 90 mm

Rotaplex Trio F
Bathtub fitting
- drain
- inlet
- overflow

Water inlet
Through drain valve

Features
- Strict interruption of inlet and wastewater – protected by DVGW-tested pipe interrupter DN 20 (construction type A2) DIN EN 1717, protection equipment DB, e.g. Viega art. no. 274 528.
- Small installation dimensions – construction height below the tub 100 mm
- Drainpipe with ball joint
- Can be combined with rotatable rosette M3
Rotaplex Trio F – components

1. Seal at overflow
2. O-ring
3. Fixing flange
4. Rotatable rosette
5. Cover plate
6. Inlet element
7. Valve cone
8. Fixing screw
9. Fixing flange at drain
10. Profile seal/double seal
11. Drain elbow 45°
12. Odour trap
13. Union nut at drain
14. Bowden cable
15. Overflow pipe
16. Sleeve for overflow pipe
17. Overflow unit
Multiplex Trio E3, E2, E – electronic mixing unit

System description
The Multiplex Trio fittings E, E2 and E3 model variants for electronically controlled tub filling differ by the design of the control elements – the functional scope is the same.
LED displays assist in selection and control of the water temperature, inlet intensity and fill level. The individual settings determined can be stored as personal settings. When one of these programs is called, the tub fills automatically with a controlled water temperature and automatic switching off when the fill level is reached.

Intended use
Multiplex Trio E is a mixing fitting for bathtubs with electronically controlled filling quantity and water temperature control. The fitting satisfies DIN EN 1111/DIN EN 15091 and is suitable exclusively for potable water systems according to DIN 1988 or DIN EN 806.
The 230 V power supply must satisfy VDE 0100 part 701 »Low-voltage electrical installations«. In addition, the country-specific regulations and standards as well as the instructions for use accompanying the products have to be observed.
The safety shutdown for the inlet does not replace the overflow function stipulated in DIN EN 274. A pipe interrupter has to be installed between the mixing unit and bathtub drain.
There is the risk of scalding when exceeding the temperature safeguard at 40°C.
Components

1. Casing cover
2. Casing
3. Power pack 230 V with 3 m connection cable
4. Rotating knob functions: Pressing, turning, LED colour display
5. Electric element with illuminated LED light ring
6. Fixing element with union nut and O-ring
7. Connection cable
8. Control electronics – non-interchangeable plug contacts for all components
9. Height-adjustment unit tub/shower
10. Height-adjustment unit mixing fitting HW/CW
11. Connection hoses, flexible ½ G x 12 mm
12. Battery for emergency operation

Space requirement for installation approx. L 255 x W 175 x H 75
Model overview
The functional range of all three models is the same. The option for actuation of an electrically actuated drain valve is available.

- Water inlet Start/Stop
- Water temperature
- Use of hand shower/tub filling
- Water inlet intensity
- Temperatures > 40 °C/cancellation of temperature safeguard
- Data storage

Special functions
Diagnosis and cleaning mode, thermal disinfection

**Multiplex Trio E3**

Functions split up to two control elements
In addition with digital display

![Fig. 3 – 55 Two-button operation button 1](image1)
![Fig. 3 – 56 Two-button operation – button digital](image2)

**Multiplex Trio E2**

Functions split up to two control elements

![Fig. 3 – 57 Two-button operation button 1](image3)
![Fig. 3 – 58 Two-button operation button 2](image4)

**Multiplex Trio E1**

All the functions in one control element

![Fig. 3 – 59 Single-button operation](image5)
Technical data
Flowthrough volume in conjunction with Viega pipe interrupter

Electronics
- Power supply: 100-240 V AC/50-60 Hz
- Standby operation: <1 W
- $P_{\text{max}}$: <45 W
- Rechargeable battery: 12 V DC/0.8 Ah
- Control element: 3.3 V

Mixing unit connections
- Inlet: 2 x Rp 1/2
- Outlet: 2 x Rp 1/2

Operating conditions
- Hot water temperature: $T_{\text{max}} \leq 60 ^\circ C$
- Cold water temperature: $T_{\text{max}} \geq 12 ^\circ C$
- Pressure difference HWT/CWT: $\Delta P_{\text{max}} \leq 1$ bar
- Operating pressure $P_{\text{max}}$: 1.0 MPa
- Recommended flow pressure: 0.1–0.5 MPa
- Test pressure $P_{\text{max}}$: 1.5 MPa–1.5-fold operating pressure

Features
- Electronically controlled mixing fitting
- Chrome-plated control elements
- Easy to operate
- Suitable for Multiplex Trio or Rotaplex Trio
- Easy to install thanks to compact design approx. L255 x W175 x H75
- Individual bathing programs selectable at the push of a button
- Safe and active overflow protection
- Data backup in the event of a power failure by integrated rechargeable battery

Viega Multiplex Trio E-WLAN module
The functions of the electronic bathtub fittings Viega Multiplex Trio E, E2 and E3 can also be controlled by mobile terminal equipment (Android, iOS, Windows) in direct operation or via the internet. Operation is via the browser (Safari, Internet Explorer, Chrome, Firefox) of the mobile terminal equipment.
Fittings without inlet – overview

Drains and overflows for bathtubs – fittings without inlet – technical data

<table>
<thead>
<tr>
<th>Product name</th>
<th>Equipment sets</th>
<th>Drain [l/s]</th>
<th>Overflow [l/s]</th>
<th>Bowden cable lengths [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplex</td>
<td>M5, M3</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiplex Rosette</td>
<td></td>
<td></td>
<td></td>
<td>560, 725, 1070</td>
</tr>
<tr>
<td>Multiplex</td>
<td>M9</td>
<td>0.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotaplex</td>
<td>R5, R3</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citaplex</td>
<td></td>
<td>0.92</td>
<td></td>
<td>Standard bathtubs</td>
</tr>
</tbody>
</table>

Table 3 – 8

1 Accumulation height 300 mm  
2 Accumulation height 60 mm
Drains and overflows for bathtubs | Fittings without inlet – overview

Multiplex drain openings Ø 52 mm
Rotaplex drain openings Ø 90 mm

<table>
<thead>
<tr>
<th>Min. installation dimensions [mm]</th>
<th>Top</th>
<th>Bottom</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>33</td>
<td>110</td>
<td>without rotatable rosette and valve cone,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with odour trap and drain elbow 45°,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>chrome-plated valve</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>115</td>
<td>with rotatable rosette and valve cone,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with odour trap and drain elbow 45°,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>chrome-plated valve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with elevation of water level by 5 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with rotatable rosette and valve cone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with odour trap and drain elbow 45°</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>chrome-plated valve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>without rotatable rosette, inlet cover and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cover plate, with inlet element, odour trap</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>and drain elbow 45°</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>with stainless steel rosette, cover plate,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>valve plug, odour trap and drain elbow 45°</td>
</tr>
</tbody>
</table>
Multiplex M5/M3
Flat version with only 33 mm space requirement behind the bathtub

Features
- Minimum installation depth behind and under the tub
- Installation depth 33 mm for particularly narrow tub edges
- Low mounting expenditure due to pre-assembled parts
- Chrome-plated valve top of brass
- Easy fixing at the bathtub
Multiplex Visign M5/M3 components

1. Seal at overflow/inlet
2. O-ring
3. Fixing flange
4. Rotatable rosette
5. Valve cone
6. Valve cone seal
7. Hollow bolt M 12
8. Valve top
9. Drain seal
10. Outlet elbow 45°
11. Odour trap
12. Union nut drain
13. Bowden cable
14. Overflow pipe
15. Sleeve for overflow pipe
16. Overflow unit
Multiplex M9
Elevation of water level by 50 mm

Features
- Elevation of water level by 50 mm
- Small installation depth behind the tub edge 33 mm
- Easy mounting due to pre-assembled parts
- Chrome-plated valve top of brass
Multiplex M9 – components

1. Seal at overflow/inlet
2. Overflow seal
3. Fixing flange
4. Rotatable rosette
5. Valve cone
6. Valve cone seal
7. Hollow bolt M12
8. Valve top
9. Seal at drain
10. Outlet elbow 45°
11. Odour trap
12. Union nut at drain
13. Bowden cable
14. Overflow pipe
15. Sleeve for overflow pipe

Fig. 3 – 63 Components – Multiplex M9
Rotaplex R5/R3
Flat version with only 33 mm space requirement behind the bathtub

Drain Ø 90 mm

Equipment sets
R5
R3

Fig. 3 – 64 Rotaplex R5/R3

Features
- Minimum installation depth behind and under the tub
- Installation depth 33 mm for particularly narrow tub edges
- Odour trap accessible from above
- Easy mounting due to pre-assembled components
- Drain and cover plate fixing with three screws only
- Drain with stainless steel flange
- Chrome-plated valve top of brass
Rotaplex Visign R5/R3 components

1. Seal at overflow/inlet
2. O-ring
3. Fixing flange
4. Rotatable rosette
5. Cover plate
6. Fixing screws
7. Valve cone
8. Fixing flange at drain
9. Seal at drain
10. Outlet elbow 45°
11. Odour trap
12. Union nut at drain
13. Bowden cable
14. Overflow pipe
15. Sleeve for overflow pipe
16. Overflow unit

Fig. 3 – 65 Components – Rotaplex Visign R5/R3
Citaplex
Drain and overflow

Drain Ø 52 mm
Stainless steel rosette

Features
■ Odour trap rotatable in all directions
■ Valve top and rosette in stainless steel
■ Small space requirement behind the tub and below
■ Low mounting expenditure due to pre-assembled parts and easy fixing at the bathtub
Drains for shower trays

Tempoplex

For flat shower trays

Features

- Easy mounting by stainless steel flange and three stainless steel screws
- Double seal below and above the tub
- Sufficient slope through high arrangement of drain elbow
- Firmly seated cover plate on screws and flange
- Odour trap removable
- Vertical outlet available
- Easy cleaning of the draining line

Drainage capacity according to EN 274

The drains exceed the standard capacities for drains of 0.4 l/s at 15 mm accumulation height

- Tempoplex 0.64 l/s
- Tempoplex Plus 0.85 l/s
- Tempoplex 60 mm 0.55 l/s
- Tempoplex vertical 0.64 l/s
Domoplex

For shower trays with drain opening 52 mm

Drain Ø 52 mm

Drainage capacity in accordance with DIN EN 274
0.73 l/s – at 20 mm accumulation height
Requirements of the standard:
0.4 l/s.

Features

- Easy mounting by stainless steel flange and three stainless steel screws
- Double seal below and above the tub
- Space requirement below the tub 80 mm
- Sufficient slope through high arrangement of drain elbow
- Firmly seated cover plate on screws and flange
- Odour trap removable
- Vertical outlet available
- Easy cleaning of the draining line

Varioplex

With removal protection device

Drain Ø 52 mm

Features

- Safety screws at drain and overflow cannot be removed any longer after assembly
- Drainage capacity 0.53 l/s at 20 mm accumulation height
- Including odour trap and standpipe
- Drain elbow 45° in DN40 and DN50
- Stainless steel valve top
- Minimum space requirement behind and under the shower tray
- Low mounting expenditure due to pre-assembled parts and easy fixing at the bathtub
Drains for washbasins and bidets

Eleganta odour trap

Equipment
- Cleaning plug
- Long adjustment and outlet pipes
- Large wall connection rosettes
- 2 corner valves

Fig. 3 – 73 Design odour trap

Design drain valves

Equipment
- Removable cover plate

Fig. 3 – 74 Universal valve models 5438/5440
Fig. 3 – 75 Slotted valve V1 and V2 models 5432/5435

Fig. 3 – 74 Universal valve models 5438/5440
Fig. 3 – 75 Slotted valve V1 and V2 models 5432/5435

Product group

V2

Design
- Eleganta odour trap
- Odour trap

Eleganta set 1
Universal valve Visign V1

Features
- Of chrome-plated brass
- Lockable with disappearing click lock

Odour traps

Drain and overflow – for washbasins without overflow

Features
- Standpipe and cover plate chrome-plated
- Standpipe extendable – 75 mm height-adjustable

DIN 1986-100, paragraph 8.2.1
Quote:
»Washbasins without an overflow must be equipped with a non-closable drain valve.«
Concealed odour trap

Fig. 3 – 79  Concealed odour trap

Features
- Free space under the washbasin
- Concealed and wall-mounted assembly
- Easy maintenance and installation
- Compact design
- Drain elbow chrome-plated or white

pipe odour traps

Fig. 3 – 80  WB odour trap

Features
- Of white plastic
- Long adjustment and outlet pipe
- Large rosette

Fig. 3 – 81  Bidet odour trap

Features
- Of white plastic
- Long adjustment and outlet pipe
- Large rosette
Advantix floor drainage

Product groups

X1–X3

Product selection

Advantix drains of high-grade plastic provide solutions for the following areas of application:

- Fire protection
- Conventional sealing – e.g. bituminous sheeting
- Bonded sealing
- Design and bathroom configuration

The following criteria have to be observed for planning and selection of the suitable drain:

- The required drainage capacity – in considering all inlets
- The design of the outlet pipe – vertical/horizontal
- The installation height available in the floor construction
- The selection of the sealing system – conventional/liquid foil
- The size of the grate – 94 or 143 mm
- The version – material and design

Two product lines with different system dimensions are available – see Fig. 3 – 82 and Fig. 3 – 83.

- Bathroom, roof, balcony and terrace drains 100 mm
- Floor drains 145 mm

Drain units, sealing accessories, tops and grates can be combined with each other within the size systems.

Drains with system dimensions 100 mm can also be equipped with 143 mm grates.

Drainage capacities of Viega drains

<table>
<thead>
<tr>
<th>Type of drain</th>
<th>approx. drainage capacity [l/s]</th>
<th>System dimension [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bath drain</td>
<td>0.4–1.1</td>
<td>100</td>
</tr>
<tr>
<td>Roof, balcony, terrace drain</td>
<td>2.5–3.5</td>
<td>100</td>
</tr>
<tr>
<td>Floor drain</td>
<td>1.1–1.7</td>
<td>145</td>
</tr>
</tbody>
</table>

Table 3 – 9
To be able to provide reliable solutions, Viega has developed a manageable modular system. The overview tables on the following pages assist in selecting the suitable drain with the associated accessories.
Viega Advantix configurator

Many selection criteria have to be observed for the selection of the appropriate floor drain in the planning phase: Shower channel or conventional drain model, arrangement in the room, sealing in the floor construction, fire protection aspects, grate design, etc.

The Advantix configurator visualising all design variants in the individual construction situation makes the search for the suitable product easier and prepares a final summary of all the necessary information.

Filter functions allow targeted searching according to the requirements of the building owner, the planner and the installer.

Filter functions allow targeted searching with all available Advantix bathroom and floor drains being available for visualisation.

Search criteria are:

- Shower channel, point drain or fire protection floor drain
- Sealing, tile and screed height and insulation thickness
- Type of drain and drainpipe size
- Grate design

The configuration result can be printed directly or downloaded and contains the following:

- list of materials of all required items
- sectional drawing of the selected floor construction
- supplementary important notes
Configuration sequence

**Selection:** Shower channel – point drain – fire protection drain

Fig. 3 – 85

**Selection:** Sealing – tile/screed height – insulation

Fig. 3 – 86
**Selection:** Drain size – drain type

![Drain size – drain type](image1)

**Selection:** Grate design

![Grate design](image2)
Result – configuration summary

The configuration summary contains all information necessary for planning and implementation.

- Configuration result overview
- Material/ordering lists for the necessary components
- Sectional drawing of the floor construction
- Supplementary information/tips for planning and implementation

The summary can be printed or downloaded.
Overview of bathroom, balcony/terrace drains

**Level 1**
- Tops

**Level 2**
- accessories
- sealing

**Level 3**
Drains for
- bathroom
- balcony
- terrace

Fig. 3 – 90  Advantix – overview system dimension 100 mm
Overview Advantix floor drains

Level 1
Tops

Level 2
– accessories
– sealing

Level 3
Floor drains

Fig. 3 – 91  Advantix – overview system dimension 145
Bath drains for floor-level showers – overview

Minimum construction height

<table>
<thead>
<tr>
<th>DN</th>
<th>30-50</th>
<th>30</th>
<th>30-50</th>
<th>30</th>
<th>0.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>4980.63</td>
<td>4980.61</td>
<td>4980.60</td>
<td>4938</td>
<td>4914.2</td>
<td>4914.20</td>
</tr>
<tr>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel</td>
<td>With top: Frame of plastic, grate of stainless steel</td>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel: Art. no. 669249 with plastic frame</td>
<td>Art. no 669249 with stainless steel frame</td>
</tr>
<tr>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Drainage capacity

<table>
<thead>
<tr>
<th>Model</th>
<th>Grate</th>
<th>[mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>4914.2</td>
<td>100 x 100</td>
<td>50</td>
</tr>
<tr>
<td>4914.20</td>
<td>100 x 100</td>
<td>50</td>
</tr>
<tr>
<td>4927.3</td>
<td>100 x 100</td>
<td>50</td>
</tr>
<tr>
<td>4914.10</td>
<td>100 x 100</td>
<td>50</td>
</tr>
</tbody>
</table>

Water seal level

<table>
<thead>
<tr>
<th>DN</th>
<th>30-50</th>
<th>30</th>
<th>30-50</th>
<th>30</th>
<th>0.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>4980.63</td>
<td>4980.61</td>
<td>4980.60</td>
<td>4938</td>
<td>4914.2</td>
<td>4914.20</td>
</tr>
<tr>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel</td>
<td>With top: Frame of plastic, grate of stainless steel</td>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel: Art. no. 669249 with plastic frame</td>
<td>Art. no 669249 with stainless steel frame</td>
</tr>
</tbody>
</table>

Suitable for bonded sealing

Load class [kg]

<table>
<thead>
<tr>
<th>DN</th>
<th>30-50</th>
<th>30</th>
<th>30-50</th>
<th>30</th>
<th>0.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>4980.63</td>
<td>4980.61</td>
<td>4980.60</td>
<td>4938</td>
<td>4914.2</td>
<td>4914.20</td>
</tr>
<tr>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel</td>
<td>With top: Frame of plastic, grate of stainless steel</td>
<td>Without top</td>
<td>With top: Frame and grate of stainless steel: Art. no. 669249 with plastic frame</td>
<td>Art. no 669249 with stainless steel frame</td>
</tr>
<tr>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
</tbody>
</table>
**Advantix bath drains**

Advantix bath drains are suitable for the flow-through of small to medium water volumes, e.g. in private housing.

**Features**

- System dimension 100 mm
- Drainage capacity max. 1.1 l/s
- Drain DN 40/50 or DN 70
- Inlet DN 40
- Grate size 95 x 94 mm or 143 x 143 mm
- Grates made of stainless steel, material No. 1.4301 or 1.4404
- Sealing flange for accommodation of the sealing lane or bonded sealing
- Removable odour trap or self-cleaning
- Fire protection class B2
### Advantix bath drains system 100 – drainage capacities

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min–max [mm]</th>
<th>Drainage capacity at accumulation height over the grate According to DIN EN 1253</th>
<th>Water seal level2 [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantix Top bath or floor drain</td>
<td>4927.3</td>
<td>DN 50</td>
<td>90–10</td>
<td>0.80</td>
<td>0.75–1.2</td>
</tr>
<tr>
<td>Advantix Top bath drain</td>
<td>4914.10</td>
<td>DN 50</td>
<td>90–110</td>
<td>0.80</td>
<td>0.75–0.95</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.76</td>
<td>DN 50</td>
<td>115</td>
<td>0.80</td>
<td>0.60</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.75</td>
<td>DN 70</td>
<td>115</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4911.6</td>
<td>DN 50</td>
<td>115</td>
<td>0.80</td>
<td>0.55</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4926</td>
<td>DN 50</td>
<td>140</td>
<td>0.80</td>
<td>0.70</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4935</td>
<td>DN 50</td>
<td>75</td>
<td>0.80</td>
<td>0.40</td>
</tr>
</tbody>
</table>

**Table 3 – 11**

1 For accumulation height 20 mm: Use of floor drain without lateral connections because the minimum drain value must be 0.4 l/s for the wastewater drain of a single showerhead.

2 50 mm required according to DIN EN 1253

3 Depending on the size and the height of the top
### Advantix floor drainage | Product selection

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min–max [mm]</th>
<th>Drainage capacity at accumulation height over the grate According to DIN EN 1253¹</th>
<th>Water seal level² [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bath drain</td>
<td>4936.2</td>
<td>DN 50</td>
<td>75</td>
<td>[l/s]</td>
<td>0.80 0.33 0.40 50</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4921.4</td>
<td>DN 50</td>
<td>115</td>
<td>[l/s]</td>
<td>0.80 0.55 0.90 50</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4914.20</td>
<td>DN 50</td>
<td>85–20</td>
<td>[l/s]</td>
<td>0.80 0.75–0.95 0.80–1.00 35–50</td>
</tr>
<tr>
<td>Advantix bath drain</td>
<td>4927</td>
<td>DN 40/50</td>
<td>85–155</td>
<td>[l/s]</td>
<td>0.80 0.40 0.55 50</td>
</tr>
<tr>
<td>Advantix slimline bath drain</td>
<td>4939</td>
<td>DN 50</td>
<td>70</td>
<td>[l/s]</td>
<td>0.80 0.45 0.50 30</td>
</tr>
<tr>
<td>Bath drain</td>
<td>4936.4</td>
<td>DN 50</td>
<td>70</td>
<td>[l/s]</td>
<td>0.80 0.33 0.40 50</td>
</tr>
<tr>
<td>Advantix bath drain 62 mm</td>
<td>4980.60</td>
<td>DN 40/50</td>
<td>62</td>
<td>[l/s]</td>
<td>0.80 0.50 0.55 25</td>
</tr>
</tbody>
</table>
Advantix floor drains system 145 – drainage capacities

<table>
<thead>
<tr>
<th>Viega product</th>
<th>Model</th>
<th>Nominal width</th>
<th>Construction height to flange upper edge min-max [mm]</th>
<th>Drainage capacity at accumulation height over the grate According to DIN EN 1253</th>
<th>Water seal level [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantix bath drain 4951.1</td>
<td>DN 50</td>
<td>160</td>
<td>0.80 0.65 1.50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Advantix bath drain 4951.1</td>
<td>DN 70</td>
<td>175</td>
<td>0.80 0.70 1.60</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Advantix bath drain 4951.1</td>
<td>DN 70/100</td>
<td>190</td>
<td>1.40 0.90 1.40</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Advantix floor drain 4955.1</td>
<td>DN 70</td>
<td>120</td>
<td>0.80 0.60 1.10</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Advantix floor drain 4955.1</td>
<td>DN 100</td>
<td>130</td>
<td>1.40 1.20 1.70</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Advantix Top bath or floor drain 4927.3</td>
<td>DN 50</td>
<td>90–110</td>
<td>0.80 0.75–1.20³ 0.80–1.20³</td>
<td>35–50</td>
<td></td>
</tr>
<tr>
<td>Advantix floor drain 4914.21</td>
<td>DN 50</td>
<td>85–120</td>
<td>0.80 0.85–1.15 0.90–1.20</td>
<td>35–50</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 – 12

1 For accumulation height 20 mm: Use of floor drain without lateral connections because the minimum drain value must be 0.4 l/s for the wastewater drain of a single showerhead.
2 50 mm required according to DIN EN 1253
3 Depending on the size and the height of the top
Advantix balcony/terrace drains

Advantix balcony and terrace drains are suitable for large water volume flow-through and have no water seal odour trap.

**Balcony and terrace drains**
- Outlet pipe
  - vertical with grate
  - horizontal with pebble trap
- With shutter valve odour trap and sieve insert

![Horizontal outlet](image1)
![Vertical outlet](image2)

**Features**
- System dimension: 100 mm
- Grate size: 100 mm or 150 mm

**Drainage capacity**

<table>
<thead>
<tr>
<th>Advantix terrace drain</th>
<th>Size/nominal drainage capacity according to 1253 [l/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 50/0.9</td>
<td>2.5</td>
</tr>
<tr>
<td>DN 70/1.7</td>
<td>3.0</td>
</tr>
<tr>
<td>DN 100/4.5</td>
<td>4.5 with sieve insert</td>
</tr>
</tbody>
</table>

Table 3 – 13

**Mounting example**

- Terrace drain
  - With conventional sealing and pebble trap inlet element

- Odour barrier
  - Frost proof, for installation in tops

![Terrace drain](image3)
![Odour barrier](image4)
Advantix floor drains

Advantix floor drains are suitable for handling large volume flows of water, e.g. in hospitals, sports halls and swimming pools.

**Features**

- System dimension: 145 mm
- Grate size: 150 mm

**Horizontal floor drains**

- With grate
- With stacking element of plastic, eccentrically adjustable

**Vertical floor drains**

- With grate of solid 5 mm stainless steel

---

Fig. 3 – 99 Complete drain – horizontal

Fig. 3 – 100 Stacking element

Fig. 3 – 101 Complete drain – vertical
Mounting examples

Advantix floor drain
With conventional double sealing

Advantix floor drain
With stacking element for the bonded sealing and inlet from a washbasin

Advantix bath drain 62 mm
For renovations

Fig. 3 – 102 Conventional sealing

Fig. 3 – 103 Bonded sealing

Advantix bath drain 62 mm

The drain is particularly suitable for low floor constructions often inevitable in the case of refurbishments. The flange is optimised for safe integration with bonded sealing systems.

Features
- Flat installation height 62 mm up to upper edge of thin bed flange
- Drainage capacity 0.5 l/s at 10 mm accumulation height
- Drain elbow laterally adjustable
Advantix bath drain 70 mm

This slimline bath drain is particularly suitable for low floor constructions, e.g. for refurbishments of old buildings. The sealing flange equipped with a mat ensures that liquid foils are safely accommodated. The figure shows a shower drain with a double bonded sealing and Schlüter-KERDI sealing collar for the crossover from the drain area to the screed. The reinforcements at the flange rim ensures additional steady anchoring.

Features

- Minimum construction height 70 mm up to upper edge of flange
- Drainage capacity 0.5 l/s
- Accessories need not be shortened (one-piece design)
- With lateral inlet DN 40
- Outlet pipe DN 50 adjustable by ball joint
- Water seal level 30 mm
Advantix – odour proof drains
Standard floor drains for living rooms are predominantly equipped with a 50 mm water seal odour trap intended to prevent that sewer gas gets into living and working rooms. The water seal protection of seldomly used drains may fail due to evaporation of the water seal. Unpleasant odours occur that may cause problems especially in public facilities. Advantix odour proof drains have, in addition to the water seal, an odour trap insert with two shutter valves reliably preventing that sewer gas escapes.

Features
- Each Viega top of Ø 100 mm can be retrofitted
- Double odour trap – water seal and shutter valves
- Can be used for conventional and thin bed sealing
- Drainage capacity approx. 0.45 l/s
- Complete drain in superslim design
- Water seal level 30 mm
- Shutter valves open and close autonomously when water drains
- Base unit model with horizontal and vertical outlet pipes
Advantix stacking element made of plastic
Advantix Plus stacking elements are intended for being integrated with liquid sealing systems. The thin sealing flange allows installation in floor constructions with a particularly small construction height.

Features
- Particularly flat design.
- Mat lining as the optimal adhesive surface for the first sealing layer
- Schlüter-Kerdi sealing collar between the first and second liquid foil layer as a safe crossover from the drain to the screed
- Reinforcement at the flange rim anchor the drain in the screed
- Stacking element with uncomplicated handling and stopper

■ Can be combined with all bath, floor, balcony/terrace drains
Plug-in drains
Plug-in drains are intended for being used in floor constructions without sealing – e.g. terraces with tiles laid immediately on the soil or cellars in which smaller amounts of wastewater occur at irregular intervals.

For the purpose the drain is inserted with a multiple-lip seal in a pipe end or sleeve of a PVC or HT-resistant pipe and adjusted to the height of the floor covering.

The drains can be used for pipes and sleeves with an inside diameter from 98 mm to 105 mm.

Plug-in drain
As an «emergency drain» in the laundry room

Features
■ Grate frame and grate of high-grade stainless steel – load class K3
■ Odour trap can be removed easily – wastewater pipe Ø 90 mm
■ Height-adjustable from 30 to 95 mm (upper edge wastewater pipe to top edge stainless steel frame) – 3 sealing lips must remain in the pipe for sealing
■ Suitable grate sizes 94 x 94 mm, designs: drawn, solid or as a closing panel
■ Odour trap insert available as a separate item

Equipment variants/water seal level/drainage capacity
■ Odour trap 50 mm 0.75 l/s
■ Odour trap + shutter valve 30 mm 0.45 l/s
■ Shutter valve frost proof – 0.70 l/s
Plug-in drains

With 7 sealing lips and drawn stainless steel grate

Variant with 50 mm water seal odour trap

Variant with 30 mm water seal odour trap

»odour proof«

Variant »frost proof« with backflow flap

PVC pipe on raw concrete level with mounted plug-in drain
Design products

Advantix shower channel

Viega Advantix shower channels are available in the new reduced design. The width of the common round and angular model variants of the grates had been reduced to 40 mm and can be integrated unobtrusively in floor and wall structures. The drain units can be individually adjusted and allow safe mounting with few components in each floor construction of new and old buildings.

Grates and frames in round and angular standard and design variants.
Features

- Drains: Construction heights 95/70/40 mm
- Base unit
  - Model 4982.10 for mounting on the floor
  - Model 4982.20 for mounting at the wall
- Frames and grates
  - Lengths: 750/800/900/1000/1200 mm
  - Widths 40 mm
  - Design variants: angular, rounded off, of glass or for being covered with individual coverings.

Advantix shower channel – drain models

<table>
<thead>
<tr>
<th>Construction height [mm]</th>
<th>Model</th>
<th>Drainage capacity l/s</th>
<th>Water seal level [mm]</th>
<th>Special feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>4982.92</td>
<td>0.50–0.55</td>
<td>50</td>
<td>Can be shortened to 70 mm</td>
</tr>
<tr>
<td>70</td>
<td>4982.93</td>
<td>0.40–0.45</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>4982.94</td>
<td>0.9–1.10</td>
<td>50</td>
<td>Drainpipe vertical fire protection sealing possible</td>
</tr>
</tbody>
</table>

Table 3 – 14

Assembly

For all other models the pipeline can be routed in parallel under the channel – the drainpipe is located outside of the screed.

Model 4982.92 of the drain is rotatable by 180° degrees and can be shortened by sawing off and plugging together to the construction height 70 mm.
Advantix Vario shower channels/wall drains
The product range includes shower channels and wall drains. It is character-
ised by its variability for arrangement on the floor or at/in the wall. The option 
of mounting at right angles, free in the room or at the wall directly provides 
room for creativity and brings technical advantages for the implementation.

Features
Advantix Vario shower channels
■ Routing variants: In a straight line in the room, at the wall, L and U-shape 
  with leg lengths ≤ 1600 mm
■ Routing lengths 300–2800 mm
■ Height adjustable 95–165 mm
■ 2500 mm connection lines possible for standard slopes
■ Drainage capacity depending on the installation situation 0.4–0.8 l/s – can 
  be doubled by connecting two shower channels
■ Safe odour trap
■ Convenient cleaning of base unit

Advantix Vario wall drains
■ Routing variants: In the wall, at the right or left at the side wall, in the 
  shower niche
■ Routing lengths 300–1200 mm
■ Wall installation depth 25 mm
■ Wall/floor covering thickness max. 28 mm
■ Drain height adjustable 90–165 mm
■ Drainage capacity 0.6–0.75 l/sec
■ With a stainless steel grate the drain slot height 20 can be reduced to 
  8 mm over and under the grate.
■ Laying the floor covering without slope cuts
■ Convenient cleaning of base unit
Assembly

The assembly steps for the wall drain and the shower channel are almost identical.

- Cut channel base unit to length with a hacksaw and saw guide.
- Plug on and screw closing caps.
- Determine the construction height of the finished floor, adjust the drain using the adjustable feet, shorten and install height adjustment piece.
- Align the shower channel and connect it with the drain pipe.

Finally it is necessary for the wall drain to align and install the tile rail in coordination with the tiler.

Design grates

»Adventure showers« with innovative ideas and unusual shapes require the drain technology to be adjusted and an appropriate variety of geometric shapes and designs. Viega focuses in the field of shower channels and design grates on nine high-grade design variants with all options for individual bathroom configuration.

The Visign grate ER4 allows inserting individual materials matching with the floor coverings in a stainless steel profile.
Stainless steel grates

Viega Design grates for Advantix bath and floor drains are manufactured of high-grade solid stainless steel of the thickness 5 mm and have a mat surface.

Stainless steel grates can stand even high loads and harsh cleaning agents. Stainless steel creates an elegant crossover from the grate to the tile and ensues full functionality even after many years. Four round design variants allow perfect integration in small-size tile or quarry stone floors. Grate models RS 11 to RS 14 are particularly suitable for bathrooms in which flowing contours dominate while the square models RS 1 to RS 4 can be integrated particularly well in tile patterns.

**Round grates**

RS 11 to RS 14
Grate RS 12 in round shower

**Square grates**

RS 1 to RS 4
Grate RS 2 arranged centrally in square tile pattern
Glass covers
The grates for all Advantix drains are also available in black or light-grey tempered glass (TG) with frames of stainless steel as a seamless crossover with the tile surface.

Fig. 3 – 133  Glass cover ER9

Square grate
RS 5
Round grate
RS 15

Glass cover ER9
Black version

Fig. 3 – 134  Glass cover RS 5
Fig. 3 – 135  Glass cover RS 15
Advantix fire protection floor drain

Advantix floor drain R120
Floor drains and pipe lead-ins of drains, e.g. of barrier-free showers, have to be made fire-proof as a part of the pipeline installation if this is required. Viega product series R120 with the building inspectorate approval from the Deutsches Institut für Bautechnik in Berlin, no.: Z-19.17-1770 was especially developed for these applications.

Product range R 120
- Advantix pipe lead-in R 120
- sealing material
- drainpipe
- bath drain DN50
- floor drain DN70

Advantix pipe lead-in R 120
With brackets for mounting in the bare floor

The best technical solution for the installation of Advantix floor drains R 120 in storey floors is insertion in a drill hole using the Advantix pipe lead-in R 120.
For the drill hole diameters required for Viega floor drains when using the Advantix pipe lead-in R 120, see Table 3 – 15.
Floor lead-ins of shower tray drains (Tempoplex, Domoplex etc.) or horizontal bath and floor drains can also be made fire-proof.
The Advantix pipe lead-in R 120 can be installed in a few steps in a prepared drill hole:

- Create drill hole.
- Fix Advantix pipe lead-in R 120 in place.
- Install drainpipe.
- Stuff the hollow space above the pipe lead-in with loose mineral fibre wool included in the delivery.

### Drill holes

<table>
<thead>
<tr>
<th>R120</th>
<th>ø [mm]</th>
<th>Art. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bath drain</td>
<td>150–162</td>
<td>491642</td>
</tr>
<tr>
<td>Floor drain</td>
<td>180–202</td>
<td>491659</td>
</tr>
<tr>
<td></td>
<td></td>
<td>491666</td>
</tr>
<tr>
<td>Pipe lead-in</td>
<td>100–122</td>
<td>491673</td>
</tr>
</tbody>
</table>

Table 3 – 15

### Features

- For floor constructions ≥ 150 mm, consisting of bare floors with $t_{\text{min}} = 100$ mm plus floor constructions (screed, reinforcement, etc.)
- Sizes DN50 and DN70
- Easy to install
- No cement stabilisation
- Single component, no tools necessary for mounting
- Compliance with all requirements for fire protection, even in special constructions
- High degree of safety

Advantix pipe lead-in R 120
Filling of the hollow floor space with mineral fibre wool
melting point >1000°C

Fig. 3 – 138  Advantix pipe lead-in R120 – mounting example
Components

Advantix bath drain
R 120
With top frame for the bonded sealing

Component designation

1. Top
2. Grate
3. Sealing flange Ø 380 mm
4. Bare floor ≥ 150 mm
5. Bracket
6. Connecting piece
7. Fire protection swelling compound
8. Fire protection cover
9. Water seal
10. Drill hole Ø 200 mm
11. Floor opening Ø 400 mm

Fig. 3 – 139 Bath drain

Fig. 3 – 140 Components Advantix bath drain R120
Operating mode
Advantix fire protection drains R120 are used to prevent the fire from spreading through the floor. This is achieved by a compound swelling when exposed to heat integrated in the fire protection sleeve.

After a few minutes already the drainpipe of polypropylene has melted and dripped off. The swelling compound starts sealing the free cross sections in the lead-through area. If the lower part of the casting compound breaks off, the mortar anchors of the fire protection sleeve going far up ensure that the floor drain is held in the floor.

Fire development
Function Advantix fire protection drain R120

Start of the fire + 4 min
The plastic pipe becomes plastic.

Start of the fire + 8 min
The plastic pipes are melted off and the foaming construction material starts filling the entire drill hole.

Start of the fire + 25 min
The entire drill hole is closed and the water seal is largely maintained.
Installation in drill holes
All Viega products of the Advantix-R120 series have the general building inspectorate approval Z-19.17-1770. They are suitable for being installed in concrete, reinforced concrete or aerated concrete floors of the minimum thickness 100 mm if the entire floor thickness including compound screed or floor installation panels is ≥ 150 mm.

Floor installation panels (e.g. calcium-silicate panels) or concrete bases to achieve the required fire resistance class have to be laid at least 100 mm around the drill hole and with the thickness of 30 mm. Mounting on or below the floor is permissible in using thorough threaded rods ≥ M8 for fixing. §22 of the German Model Building Code applies for the use of floor installation panels and therefore no special proofs of suitability are required – Quote:

»... non-essential deviations are considered as compliance in the sense of the regional building code« ...

---

Floor installation panels
For achieving the required fire resistance class

Fig. 3 – 144 Advantix floor drain R 120 – in drill hole with floor installation panels

1 Floor installation panels
2 PP pipe
3 Bare floor
Special solutions
Fire protection floor drains and pipe lead-ins in special floors (timber joist ceilings, ribbed or bricked ceilings, hollow chamber ceilings, etc.) can also be made according to the facilitations of German MLAR/LAR/RbALei. In most isolated cases the approval of the superior construction supervision authority is not required. However, the implementation of a floor breakthrough has to be always discussed with a structural engineer and the on-site fire protection expert and/or specialist construction manager responsible for fire protection (if necessary, the proof of suitability/expert opinion for keeping with building law has to be obtained).

Pipe lead-ins are always made in the fire resistance class of the floors/existing floors. The “in-pipe” method is applied for Viega Advantix pipe lead-ins through room ceilings in the special models above or for asymmetrical floor breakthroughs. A PP or PVC pipe is fixed with mortar in the floor breakthrough. After the mortar has cured, the Advantix pipe lead-in R120 or an Advantix-R120 drain is inserted.

The specifications in the approval and the mounting instructions attached to the products have to be observed for mounting the Advantix-R120 products in special floors.
Installation in a drill hole is always an advantage in cases if special precision is required when the drain is positioned later – e.g. for aligning the Advantix shower channel.

**Advantix shower channel**

With connection to pipe lead-in R 120

![Pipe lead-in for Advantix shower channel](image)

**Components**

**Advantix pipe lead-in R 120**

Integrated in the floor, with floor drain and cast iron pipe connection

![Advantix pipe lead-in R120 – components](image)

1. Top
2. Grate
3. Floor drain
4. Inlet
5. Bare floor ≥ 150 mm
6. Advantix pipe lead-in R 120
7. Cast iron pipe to HT connector DN50
8. Non-flammable pipe – e.g. cast iron pipe
9. HT elbow
10. Bracket
11. Mortar grouting
Backflow traps

Basic selection criteria

In the event of a backflow in the wastewater system the water rises until it flows over at the first possible point. This height level – in most cases the upper edge of the road – is referred to as the backflow level.

Reasons for backflow

- excessive rainfall
- unscheduled introduction
- overloading of the sewer pipelines
- cross section reductions
- defective pumps

According to EN 12 056-4 and DIN 1986-100, drainage points beneath the backflow level should be secured against backflow from the sewer by backflow traps in acc. with EN 13 564-1.

If there are unsecured drainage points below the backflow level, cellar flooding can lead to damage to property, contamination and the resulting risk of disease. The deciding factor as to what is above or below the backflow level is normal water level in the odour trap. Drainage points above the backflow level are not in danger of backflow. Drainage equipment should only be below the backflow level when it is absolutely necessary.
In complying with specific obligations to furnish evidence, small areas under approx. 5 m² outside of buildings may also be connected to the backflow protection.

The requirements on the backflow protection are described in the standards EN 13 564-1 and DIN 1986-3. Maintenance should be performed twice a year; inspections every month. All Viega backflow traps are quality-controlled in acc. with EN 13 564.

Liability for damage
Municipalities cannot be held liable for damage caused by backflow. In most cases the house owners themselves have to bear the consequences of cellar flooding. They are also responsible towards their tenants because the insurance companies may limit compensation or even refuse payment in the event of insufficient protective measures.

Kinds of wastewater
Regarding backflow traps, the choice of product is determined by the type of water, which flows through the backflow protection in the direction of the sewer.

One differentiates between:
- Wastewater free from faecal matter – e.g. from showers or washing machines (grey water).
- Wastewater containing faecal matter – e.g. from urinals and toilets (wastewater containing faecal matter).

Which kind of wastewater is returned in case of a backflow – from the sewer in the direction of the backflow protection – is immaterial.

**Selection criteria for backflow traps**

**Field of application of backflow traps**

<table>
<thead>
<tr>
<th>Wastewater free from faecal matter</th>
<th>Permissible types according to EN 13 564-1</th>
<th>Suitable Viega backflow traps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2, 3, 5</td>
<td>Grundfix, Grundfix Plus Optifix 3 Sperrfix 3 Sperrfix »New«</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater containing faecal matter</th>
<th>Permissible types according to EN 13 564-1</th>
<th>Suitable Viega backflow traps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 with the designation »F«</td>
<td>Grundfix Plus Control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Systems for utilisation of rainwater</th>
<th>Permissible types according to EN 13 564-1</th>
<th>Suitable Viega backflow traps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0, 1, 2¹</td>
<td>Grundfix</td>
</tr>
</tbody>
</table>

*¹ quote from DIN 1989-1: «Types 0, 1 and 2 of systems for utilisation of rainwater may be connected to overflows of underground tanks only if these are not connected to a mixed water sewer.»
Installation locations
Backflow traps must not be used to protect drainage items installed above backflow level (see Fig. 3 – 151) because flooding may result inside the building in the event of a backflow.

Fig. 3 – 150  Backflow trap – incorrect arrangement

Fig. 3 – 151  Backflow trap – correct arrangement
Selection aids – product overview
Backflow protection for wastewater free from faecal matter – grey water
For rooms of subordinated usage – no hazard to expensive property and the health of the users.
The drainage points cannot be used in the event of a backflow.
Direct protection of one or several drainage objects such as washing machines, sink basins, showers, bathtubs.

Equipment versions: vertical as a siphon or horizontal.

**Viega Sperrfix**
Type 5
For individual objects

**Siphon vertical**
- ½ x 40 mm  Art. No. 607128
- ½ x 50 mm  Art. No. 607135

**Siphon horizontal**
- 50 mm  Art. No. 607166

**Fig. 3 – 152 Viega Sperrfix – horizontal**

**Viega Optifix**
Type 5
For floor drains

**Floor drain DN100**
Protection of drainage objects – art. no. 462963.
- Lateral connection DN70.
- Drainage capacity via grate 1.5–1.8 l/s

**Height adjustment pieces**
- 30–185 mm  Art. No. 469979
- 30–350 mm  Art. No. 489083

**Fig. 3 – 153 Viega Optifix**
Backflow protection for wastewater free from faecal matter

Installation in main or collecting pipes for the protection of all drainage items below backflow level.

With mechanically self-closing backflow flaps

- DN 100  Art. No.: 305 376
- DN 125  Art. No.: 305 383
- DN 150  Art. No.: 310 332

**Grundfix**
Type 2
For main pipelines

---

Backflow protection for wastewater containing faecal matter

Installation in main or collecting pipes for the protection of rooms of subordinate usage located below backflow level.

Mounting conditions
- Expensive property and/or the health of users are not at hazard in the event of flooding.
- The drainage points cannot be used in the event of a backflow.
- One WC at least should be located above backflow level.

Electronic operating condition message/motorized actuation of the backflow flaps

- DN 100  Art. No.: 667 788
- DN 125  Art. No.: 667 795
- DN 150  Art. No.: 667 801

**Grundfix Plus Control**
Type 3
For main pipelines
Sperrfix – individual protection
Sperrfix protects an object or several objects at the same time from backflow – e.g. sink basins, washbasins or showers. Thanks to its easy mounting it is well suitable for subsequent installation as a backflow protection, for example to prevent external-source backwashing from toilets in bathtubs.

Equipment versions
- Vertical pipe odour trap DN 40 and DN 50–1/2 x 40mm, art. no. 607128
- Horizontal for installation in individual or collecting pipes in DN 50–1/2 x 50mm, art. no. 607166.

Sperrfix
Type 5 according to EN 13564-1
Structure and function
Sperrfix has two automatically opening and closing backflow flaps and a manually operated emergency shut-off device. Lateral access to the backflow flaps allows easy and comfortable cleaning of the backflow flaps.

The funnel siphon and the different adjusting pipes (accessories) allow connecting leaking water connections or additional objects.

Features
- Sizes
  - D 1½ x DN 40: 0.8
  - D 1½ x DN 50: 1.0
  - Sperrfix horizontal DN 50: 1.0
- Easy installation and retrofitting
- Manual emergency shut-off device
- Easy maintenance through well accessible components – can be completely disassembled
- Accessories for various siphon equipment
Combined backflow prevention systems
Optifix 3 – floor drain
Field of application: Floor drain for the protection of several objects.

Structure and function
Optifix 3 is equipped with two self-acting backflow traps and a manual actuator. Maintenance and cleaning is easily possible by removing the internal components. Further objects can be connected backflow-proof via inlet DN 70.

Optifix 3
Type 5 according to EN 13564-1 protects several objects via the inlet

Features
- Drainage capacity 1.6 l/s
- Easy cleaning and maintenance without tools – with easy access to the main pipeline
- Easy mounting due to rotatable and tiltable top
Grundfix – for wastewater free from faecal matter
Field of application: Wastewater free from faecal matter. Installation in main or collecting pipes for the protection of all drainage items below backflow level – e.g. washing machines, showers, washbasins and sink basins.

Structure and function
Grundfix is equipped with two self-acting backflow traps and a manual actuator. The backflow flaps are closing automatically by the resulting backflow pressure and that way protect the downstream drainage items.

Features
- Available sizes [DN]: 100/125/150
- Easy maintenance and functional testing – few components
- Robust flap technology
- Retrofitting possible with model 4987.38

Grundfix
Type 2 according to EN 13564
Protection of all connected objects

Grundfix
With manual emergency shut-off device

Shutter valves
Automatic backflow trap
Grundfix Plus Control – for wastewater containing faecal matter

Field of application: For wastewater containing faecal matter For usage in main or collecting pipes for the protection of all drainage items below backflow level – e.g. washing machines, showers, washbasins and sink basins.

Structure and function

Grundfix Plus Control is a fully automatic, electronically controlled backflow trap with pressure sensor, motorized backflow flap and manual actuator as an emergency shut-off device.

Electronic control unit

Operator-friendly control unit operated by 3 buttons. Indication of operating condition by LCD display with text output. Visual and audible signals for the backflow risk, actual backflow, due maintenance and insufficient battery charging status.
Features
- Sizes [DN]: 100/125/150
- Control unit with visual and audible signal indication
- Daily automatic functional test of the control
- Voltage input from 88 to 264 Volt
- Battery emergency supply in the event of a power failure
- Battery management for a long service life and automatic shut-off when the battery voltage is too low

Care and maintenance
Maintenance according to DIN 1986-3 should be performed every six months of protection devices in drainage systems.

Work should be performed by instructed specialist personnel in observing the following rules:
- Remove the sealing cap.
- Clean the components.
- Replace defective components; do not repair.
- Simulate backflow and check leak tightness.
- Check function of backflow flaps at backsiphonage of water.

Maintenance agreement
When mounting the backflow protection, the company performing the task should familiarize the user with operation and instruct him about his duties. The operation, maintenance and testing instructions supplied by the manufacturer should be explained and handed over to the user. They should be stored well visibly in the close vicinity of the backflow trap. It can always be recommended concluding a maintenance agreement with a specialist company to ensure sustained reliable operation.
Spare parts management

The spare parts management of Viega provides trade professionals with an application for quickly finding spare parts. Supported by exploded drawings all available spare parts can be displayed with a reference to the product groups in the catalogue.

Special filters make global searching easier – e.g. grates, sealing elements, etc. – and direct immediately to the target.

Features

■ Intuitive search filters
■ All Viega products and spare parts are retrievable
■ Display of the product images with model numbers
Appendix

Wastewater pipes – product overview

According to DIN EN 12056

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>26.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>34.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>44.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>49.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>56.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>60.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>75.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>79.0</td>
<td></td>
<td>83.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>79.0</td>
<td></td>
<td>83.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>96.0</td>
<td></td>
<td>110.0</td>
<td>104.6</td>
<td>3.0</td>
<td>110.0</td>
<td>99.4</td>
<td>5.3</td>
</tr>
<tr>
<td>125</td>
<td>113.0</td>
<td></td>
<td>125.0</td>
<td>118.8</td>
<td>3.0</td>
<td>125.0</td>
<td>124.4</td>
<td>5.3</td>
</tr>
<tr>
<td>150</td>
<td>152.2</td>
<td></td>
<td>160.0</td>
<td>152.8</td>
<td>3.6</td>
<td>160.0</td>
<td>149.4</td>
<td>6.3</td>
</tr>
<tr>
<td>200</td>
<td>184.0</td>
<td></td>
<td>200.0</td>
<td>191.0</td>
<td>4.5</td>
<td>200.0</td>
<td>187.6</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Table 3 – 17

Former sizes according to DIN 1986:
1DN30  2DN40  3DN50  4DN80  5DN50  6DN80

Appendix | Wastewater pipes – product overview