



# Building Research Institute (ITB)

00-611 WARSZAWA | ul. FILTROWA 1 | t e l.: (48 22) 825 04 71, (48 22) 825 76 55 | fax (48 22) 825 52 86

Member of European Union for technical approval in construction - UEAtc Member of European Organization for Technical Assessment - EOTA

Series: TECHNICAL APPROVALS

## TECHNICAL APPROVAL ITB AT-15- 9501/2015

Pursuant to Regulation of the Minister of Infrastructure of 8 November 2004 on technical approvals and organizational units authorized to issue them (consolidated text in Official Journal No. 2014, item 1040), based on the assessment for technical approval purposes at the Building Research Institute in Warsaw, undertaken at the request of:

**CAPRICORN S.A.**  
**Ciernie 11, 58-160 Świebodzice**

it is hereby certified that the following products:

### **Aqua Ambient and Aqua Ambient Super Bathroom Inlets**

are suitable for use in the building industry in accordance with the requirements of the Appendix that forms an integral part of this Technical Approval of the Building Research Institute (ITB) and to the extent specified therein.

Expiry date:

30 April 2020

Deputy Director  
for Cooperation with Economy

Appendix:

General and technical  
requirements

Warsaw, 30 April 2015

The Technical Approval of the Building Research Institute (ITB) No. AT-15-9501/2015 consists of 28 pages. This document may only be copied in full. This Technical Approval may not be reproduced or distributed in any form without written consent of the Building Research Institute.

**APPENDIX****GENERAL AND TECHNICAL  
REQUIREMENTS****TABLE OF CONTENTS**

|   |    |
|---|----|
| 1. SCOPE OF TECHNICAL APPROVAL.....               | 3  |
| 2. INTENDED USE, SCOPE AND CONDITIONS OF USE..... | 4  |
| 3. TECHNICAL PARAMETERS. REQUIREMENTS 5           |    |
| 3.1. Materials and elements.....                  | 5  |
| 3.2. TECHNICAL AND PERFORMANCE parameters.....    | 6  |
| 3.3. Marking .....                                | 7  |
| 4. PACKING, STORAGE, TRANSPORT .....              | 8  |
| 5. CONFORMITY ASSESSMENT .....                    | 9  |
| 5.1. General rules9                               |    |
| 5.2. Initial type examination .....               | 9  |
| 5.3. Internal production control .....            | 10 |
| 5.4. Finished product tests.....                  | 10 |
| 5.5. Test frequency .....                         | 11 |
| 5.6. Test method.....                             | 11 |
| 5.7. Sampling procedure.....                      | 11 |
| 5.8. Evaluation of test results.....              | 11 |
| 6. FORMAL AND LEGAL REQUIREMENTS.....             | 12 |
| 7. VALIDITY PERIOD.....                           | 13 |
| ADDITIONAL INFORMATION.....                       | 13 |
| LIST OF FIGURES .....                             | 15 |

## 1. SCOPE OF TECHNICAL APPROVAL

This Technical Approval of the Building Research Institute (ITB) refers to Aqua Ambient and Aqua Super bathroom inlets, manufactured by CAPRICORN S.A. of Ciernie 11, 58-160 Świebodzice, Poland.

The Technical Approval refers to the following products:

- Aqua Ambient Super DN 40 point inlets with siphon and side outlet, as per Fig. 1, with ARCO, SPOT, CUBE or ORIENT grates as per Figs. 4 and 5,
- Aqua Ambient Super DN 40 point inlets with siphon and side inlet and outlet, as per Fig. 2, with ARCO, SPOT, CUBE or ORIENT grates as per Figs. 4 and 5,
- Aqua Ambient Super DN 50 point inlets with siphon and side inlet and outlet, as per Fig. 3, with ARCO, SPOT, CUBE or ORIENT grates as per Figs. 4 and 5,
- Aqua Ambient DN 50 linear inlets with siphon and side outlet, as per Fig. 6, with ARCO, SPOT, CUBE, ORIENT, PLAIN, STONE, STONE WHITE or STONE BLACK grate as per Figs. 8÷13,
- Aqua Ambient DN 50 linear inlets without siphon, as per Fig. 7, with ARCO, SPOT, CUBE, ORIENT, PLAIN, STONE, STONE WHITE or STONE BLACK grate as per Figs. 8÷13. The summary

of Aqua Ambient Super point inlets subject to the Approval is presented in

Table 1, and Aqua Ambient linear inlets - in Table 2

**Table 1**

| Item | Name of product  | Grate type | Product Symbol   |
|------|--|------------|------------------|
| 1    | 2  | 3          | 4                |
| 1    | Aqua Ambient Super DN 40 point inlet with siphon and side outlet           | ARCO       | 9-2631-040-47-01 |
|      |  | SPOT       | 9-2632-040-47-01 |
|      |  | CUBE       | 9-2633-040-47-01 |
|      |  | ORIENT     | 9-2634-040-47-01 |
| 2    | Aqua Ambient Super DN 40 point inlet with siphon and side inlet and outlet | ARCO       | 9-2631-040-48-01 |
|      |  | SPOT       | 9-2632-040-48-01 |
|      |  | CUBE       | 9-2633-040-48-01 |
|      |  | ORIENT     | 9-2634-040-48-01 |
| 3    | Aqua Ambient Super DN 50 point inlet with siphon and side inlet and outlet | ARCO       | 9-2631-050-48-01 |
|      |  | SPOT       | 9-2632-050-48-01 |
|      |  | CUBE       | 9-2633-050-48-01 |
|      |  | ORIENT     | 9-2634-050-48-01 |

**Table 2**

| Item | Name of product   | Inlet length after installation mm | Product Symbol      | Grate type   |
|------|---|------------------------------------|---------------------|--|
| 1    | 2   |                                    | 3                   | 4  |
| 1    | Aqua Ambient DN 50 linear inlet with siphon and side outlet | 600                                | 9-2970-600-50-24-12 | ARCO, SPOT, CUBE, ORIENT, PLAIN, STONE, STONE WHITE, STONE BLACK |
|      |   | 700                                | 9-2970-700-50-24-12 |  |
|      |   | 800                                | 9-2970-800-50-24-12 |  |
|      |   | 900                                | 9-2970-900-50-24-12 |  |
|      |   | 1000                               | 9-2970-000-50-24-12 |  |
| 2    | Aqua Ambient DN 50 linear inlet without siphon              | 600                                | 9-2980-600-50-24-12 | ARCO, SPOT, CUBE, ORIENT, PLAIN, STONE, STONE WHITE, STONE BLACK |
|      |   | 700                                | 9-2980-700-50-24-12 |  |
|      |   | 800                                | 9-2980-800-50-24-12 |  |
|      |   | 900                                | 9-2980-900-50-24-12 |  |
|      |   | 1000                               | 9-2980-000-50-24-12 |  |

The elements of Aqua Ambient Super point inlets are made of polypropylene (PP) and stainless steel, while the elements of Aqua Ambient linear inlets are made of polypropylene (PP), acrylonitrile-butadiene-styrene (ABS) copolymer, and corrosion-resistant steel. The elements of the inlets are isolated with o-ring type gaskets made of rubber or thermoplastic elastomers.

The grates of the point and linear inlets have apertures of various shape and situation on the grate surface, enabling evacuation of waste water. The linear inlets can be equipped with a full grate (PLAIN, STONE, STONE WHITE OR STONE BLACK), without apertures. STONE grates have a depression on the surface to accept floor tile, while STONE WHITE and STONE BLACK grates are filled in with screed element of stone conglomerate. In case of linear inlet with full grate, the waste water is evacuated through a slot at least 6 mm wide, performed between the grate and the outlet gutter of the inlet around the whole perimeter of the grate. Linear inlets are equipped with supports enabling adjustment of the inlet upper surface height, depending on the place of installation.

The technical and performance requirements for products subject to Technical Approval by ITB are specified in section 3.

## 2. INTENDED USE, SCOPE AND CONDITIONS OF USE

Aqua Ambient and Aqua Ambient Super bathroom inlets are designed for evacuating domestic waste water from the floor surface in bathrooms, to the extent resulting from their technical characteristics provided in section 3.3.

Aqua Ambient and Aqua Ambient Super inlets design enables installation in places where the height of installation of the gully is limited due to design reasons.

Aqua Ambient and Aqua Ambient Super gullies can be used in places intended for pedestrian traffic, exposed to loads not exceeding the values corresponding to K 3 Class according to PN-EN 1253-1:2005 Standard.

The connecting elements of Aqua Ambient and Aqua Ambient Super inlets must enable connection to the sewage system according to PN-EN 12056-1:2002 Standard.

The application of Aqua Ambient and Aqua Ambient Super inlets must be compliant with the technical design (if required), developed for the given facility, taking into account the applicable technical and engineering standards and regulations, in particular the Regulation by the Minister of Infrastructure from 12 April 2002 on technical conditions to be met by buildings and their situation (O. J. of 2002 No. 75, item 690, as later amended) and with the Manufacturer's instructions.

### **3. TECHNICAL PARAMETERS. REQUIREMENTS**

#### **3.1. Materials and Elements**

Aqua Ambient and Aqua Ambient Super inlets should be made of the following materials:

- polypropylene (PP),
- acrylonitrile-butadiene-styrene (ABS) copolymer,
- corrosion-resistant steel of 1.4016 or 1.4301 grade according to PN-EN 10088-1:2014 Standard.

O-ring type gaskets should be made of rubber or thermoplastic elastomers and must meet the requirements of PN-EN 681-1:2002+A3:2006 or PN-EN 681-2:2003+A2:2006 Standards.

The screed elements of SOLID WHITE and SOLID BLACK grates of Aqua Ambient linear inlets must meet the requirements of PN-EN 15285:2011 Standard.

The properties of the materials used for manufacturing the products, and the way of their checking and acceptance are outside the scope of this Technical Approval by ITB, and should be provided in the internal Production control system.

### 3.2. Technical and performance characteristics

The required technical and performance characteristics of Aqua Ambient Super point bathroom inlets are provided in Table 3, and for the Aqua Ambient linear bathroom inlets in Table 4.

**Table 3**

| Item | Properties   | Requirements  | Test methods         |
|------|--|---|----------------------|
| 1    | 2  | 3   | 4                    |
| 1    | External appearance  | acc. to section 3.2.1   | section 5.6.1.       |
| 2    | Dimensions   | acc. to section 3.2.2   | section 5.6.2.       |
| 3    | Inlet water seal depth<br>mm   | > 50  | PN-PN-EN 1253-2:2006 |
| 4    | Resistance of water seal<br>to pressure Pa                             | ≥ 400   | PN-PN-EN 1253-2:2006 |
| 5    | Load resistance  | Class K3<br>acc. to PN-EN 1253-1+A1:2005 sec. 4   | PN-PN-EN 1253-2:2006 |
| 6    | Self-cleansing<br>capacity   | acc. to PN-EN 1253-1:2005 sec. 8.6.2  | PN-PN-EN 1253-2:2006 |
| 7    | Blockage prevention  | acc. to PN-EN 1253-1:2005 sec. 8.6.3  | PN-PN-EN 1253-2:2006 |
| 8    | Temperature cycling  | The inlets must be resistant to short term effects of waste-water in the (15 ± 10) °C to (93 ± 10) °C temperature range | PN-PN-EN 1253-2:2006 |
| 9    | Odor tightness   | Maximum pressure loss in 15 minutes ≤ 20 Pa   | PN-PN-EN 1253-2:2006 |
| 10   | Water tightness of body  | no leakage under pressure of 10 kPa for at least 15 minutes   | PN-PN-EN 1253-2:2006 |
| 11   | Inlet flow rate at the water head of 20 mm, l/s:<br>- DN 40<br>- DN 50 | ≥ 0,2<br>≥ 0,4  | PN-PN-EN 1253-2:2006 |

**Table 4**

| Item | Properties                                 | Requirements          | Test methods         |
|------|--|-----------------------|----------------------|
| 1    | 2  | 3                     | 4                    |
| 1    | External appearance                        | acc. to section 3.2.1 | section 5.6.1.       |
| 2    | Dimensions                                 | acc. to section 3.2.2 | section 5.6.2.       |
| 3    | Inlet water seal depth<br>mm               | ≥ 40                  | PN-PN-EN 1253-2:2006 |
| 4    | Resistance of water seal<br>to pressure Pa | ≥ 350                 | PN-PN-EN 1253-2:2006 |

**Table 4 cont.**

| Item | Properties                                       | Requirements  | Test methods         |
|------|--|---|----------------------|
| 1    | 2  | 3   | 4                    |
| 5    | Load resistance                                  | Class K3<br>acc. to PN-EN 1253-1+A1:2005 sec. 4   | PN-PN-EN 1253-2:2006 |
| 6    | Self-cleansing capacity                          | acc. to PN-EN 1253-1:2005 sec. 8.6.2  | PN-PN-EN 1253-2:2006 |
| 7    | Blockage prevention                              | acc. to PN-EN 1253-1:2005 sec. 8.6.3  | PN-PN-EN 1253-2:2006 |
| 8    | Temperature cycling                              | The inlets must be resistant to short term effects of waste-water in the (15 ± 10) °C to (93 ± 10) °C temperature range | PN-PN-EN 1253-2:2006 |
| 9    | Odor tightness                                   | Maximum pressure loss in 15 minutes ≤ 20 Pa   | PN-PN-EN 1253-2:2006 |
| 10   | Water tightness of body                          | no leakage under pressure of 10 kPa for at least 15 minutes   | PN-PN-EN 1253-2:2006 |
| 11   | Inlet flow rate at the water head of 20 mm, l/s: | ≥0,8  | PN-PN-EN 1253-2:2006 |

**3.3.1. Appearance** External nad internal surfaces should be smooth, clean, without scratches, blisters, impurities, pores or any other surface imperfections and defects obstructing the operation of the inlet.

**3.3.2. Dimensions** The dimensions shall be in accordance with those stated in fig. 1\*13. Deviations of nontolerated dimensions must correspond to the rough class c according to PN-EN 22768- 1:1999 Standard. The dimensions of connection ports must comply with PN-EN 1451-1:2001 standard. The dimension of inlet holes and slots in the inlet gratings must meet the requirements of PN-EN 1253-1:2005 Standard Table 1. The location of side waste water inlets must meet the requirements of PN-EN 1253-1:2005 sec. 8.7.

### 3.3. Marking

Sewage inlets shall bear durable and clear markings. The marking shall contain at least the following information:

- the manufacturer's mark or name,
- connection dimensions



#### 4. PACKAGING, STORAGE, TRANSPORT

The products referred to in this Technical Approval of the Building Research Institute (ITB) should be delivered in the Manufacturer's original packaging, stored and transported so as to ensure that their parameters remain unchanged.

All packaging should be accompanied by information containing at least the following details:

- product name
- product symbol
- manufacturer's name and address,
- connection dimensions
- number of the Technical Approval of the Building Research Institute (ITB): AT-15-9501/2015,
- number and date of issue of the national declaration of conformity,
- construction mark.

The way of marking the product with an engineering mark shall comply with the Regulation of the Minister of Infrastructure from 11 August 2004 on the way of declaring conformity of construction products and marking the same with engineering mark (O.J. No. 198/2004, item 2041 as later amended).

Furthermore, if the obligation to mark the product pursuant to the Regulation by the Minister of Health from 20 April 2012 on marking containers with hazardous substances or mixtures and with certain mixtures (O.J. of 2012, item 445, as later amended) and including information specifying the hazards to health and life resulting from the product safety data sheet pursuant to Regulation (EC) No 1907/2006 (with amendments) of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) results from external regulations, the product must have appropriate documentation attached in an appropriate form, containing the marking and information required by law.

## 5. CONFORMITY ASSESSMENT

### 5.1. General rule

In accordance with Article 4. art. 5, clause 1 item 3 and art. 8 clause 1 of the act of 16 April 2004

on construction products (O. J. No. 92/2004), item 881, with later amendments), products being subject to this Technical Approval may be marketed and used on performance of construction works in the scope corresponding to their performance properties and intended use, if the manufacturer has carried out the compatibility assessment, issued national declaration of compliance with ITB AT-15-9501/2015 Technical Approval and marked the products with an engineering mark, according to the regulations in force

According to Regulation by the Minister of Infrastructure from 11 August 2004 in the ways to declare the compliance of products for construction purposes and the way of marking them with an engineering mark (O.J. No. 198/2004, item 2041 wil later amendments), the assessment of compatibility of the products subject to ITB AT-15-9501/2015 Technical Approval is carried out by the Producer, using system 4.

For system 4 of compatibility assessment, the Producer can issue a domestic declaration of compliance with ITB AT-15-9501/2015 Technical Approval, based on:

- a) initial type examination carried out by the Producer on on their order,
- b) internal Production control.

### 5.2. Initial type examination

Initial type examination is an examination confirming the required technical and performance characteristics, performed before marketing of the products.

Initial examination of sewage inlets includes:

- a) inlet water seal depth,
- b) resistance of water seal to pressure,
- c) load resistance,
- d) self-cleansing capacity,
- e) blockage prevention,
- f) temperature cycling,
- g) odor tightness,
- h) water tightness of body,

i) inlet flow rate at the water head height of 20 mm.

The test being the base for determining the technical and performance characteristics of the products constitute initial type examination in compatibility assessment.

### **5.3. Internal production control**

The internal production control should include:

1. specification and checking the component products and material,
2. control and examination during production and examination of finished products (section 5.4) carried out by the Producer in accordance with the established test schedule and according to principles and procedures specified in the internal production control documentation, adjusted to the production technology and aimed at obtaining products of required characteristics. The production control should assure that the products are compliant with

ITB AT-15-9501/2015 Technical Approval. Production control results should be recorded on an ongoing basis. The register entry should confirm that the products meets the compliance assessment criteria. Individual products or product batches and the relevant production details should be fully identifiable and reproducible.

### **5.4. Finished product tests**

**5.4.1. Test program** The test program includes:

- a) current tests,
- b) periodic testing.

**5.4.2. Current tests** The current tests include checking:

- a) external appearance,
- b) dimensions,
- c) marking.

**5.4.3. Periodic testing.** The periodic testing includes checking the watertightness of the body.

## 5.5. Test frequency

Current testing should be carried out according to the test program, however at least once for each batch of products. The size of a product batch should be specified in the internal production control documentation.

Periodic testing should be performed at least once in every three years.

## 5.6. Test methods

The tests should be carried out using methods stated in Tables 3 and 4, column 4, and according to the regulations below.

**5.6.1. Checking the external appearance and marking.** checking the external appearance and the marking must be done by visual inspection with the naked eye in diffused light from the distance of about 0.5 m.

**5.6.2. checking the dimensions.** The dimensional examination should be performed using versatile measuring instruments so as to ensure the appropriate accuracy of measurements and tests.

## 5.7. Sampling

samples for test shall be selected randomly according to PN-EN-03010:1983 Standard.

## 5.8. Evaluation of test results

the manufactured products shall be deemed compliant with the requirements of this ITB technical approval if all the tests have given a satisfactory result.

## 6. FORMAL AND LEGAL PROVISIONS

**6.1.** The ITB AT-15-9501/2015 Technical Approval is a document confirming the usability of Aqua Ambient and Aqua Ambient Super bathroom gullies in construction to the extent resulting from the provisions of this Approval.

In accordance with Article 4. art. 5 clause 1 item 3 and art. 8 clause 1 of the act of 16 April 2004 on construction products (O. J. No. 92/2004, item 881, as later amended) products being subject to this Technical Approval may be marketed and used on performance of construction works within the scope corresponding to their performance properties and intended use, if the manufacturer has carried out the compatibility assessment, issued national declaration of compliance with ITB AT-15-9501/2015 Technical Approval and marked the products with an engineering mark, according to the regulations in force

**6.2.** The ITB technical approval does not violate any rights resulting from the provisions on industrial property protection and in particular of the act of 30 of June 2000 - Industrial property rights (consolidated text: O.J. of 2013, item 1410, with later amendments). Users of this Technical Approval of the Building Research Institute (ITB) are required to ensure compliance with those rights.

**6.3.** By issuing this Technical Approval, the Building Research Institute (ITB) assumes no responsibility for infringements of any exclusive and acquired rights.

**6.4.** The ITB technical approval does not release the Producer of Aqua Ambient and Aqua Ambient Super bathroom gullies from the responsibility for the proper quality of the products, and the designers of facilities and contractors of construction works from the responsibility for their proper application.

**6.5.** The contents of issued brochures and advertisements and other documents related with marketing and application construction off Aqua Ambient and Aqua Ambient Super bathroom gullies should contain the information on ITB AT-15-9501/2015 Technical Approval awarded to these products.

## 7. EXPIRATION DATE

The ITB AT-15-9501/2015 is valid through 30 April 2020. The validity of the ITB Technical Approval can be extended for further periods in the Applicant or a formal successor turns in that matter to the Building Research Institute (ITB) with a proper application not later than 3 months before this document expires.

**END**

## SUPPLEMENTARY INFORMATION

### Related Standards and Documents

|                          |   |
|--------------------------|---|
| PN-EN 681-1+A3:2006      | <i>Elastomer seals - Material Requirements regarding connection gaskets for pipelines and drainage pipes. Part 1:</i>   |
|                          | <i>Rubber</i>   |
| PN-EN 681-2:2003+A2:2006 | <i>Elastomer seals - Material Requirements regarding connection gaskets for pipelines and drainage pipes. Part 2:</i>   |
|                          | <i>Thermoplastic Elements</i>   |
| PN-EN 1253-1:2005        | <i>Floor gullies in buildings Part 1: Requirements</i>  |
| PN-EN 1253-2:2006        | <i>Floor gullies in buildings Part 2: Test methods</i>  |
| PN-EN 1451-1:2001        | <i>Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. Polypropylene (PP). Part 1: Specifications for pipes, fittings and the system</i> |
| PN-EN 10088-1:2014       | <i>Stainless steels. Part 1: List of stainless steels</i>   |
| PN-EN 12056-1:2002       | <i>Gravity drainage systems inside buildings Part 1: General and performance requirements</i>   |

---

|                    |  |
|--------------------|--|
| PN-EN 15285:2011   | <i>Agglomerated Stone. Modular Tiles For Flooring And Stairs<br/>(Internal And External)</i>                         |
| PN-EN 22768-1:1999 | <i>General Tolerances. Tolerances For Linear And Angular<br/>Dimensions Without Individual Tolerance Indications</i> |
| PN-EN-03010:1983   | <i>Statistical Quality Control. Random Sampling</i>  |

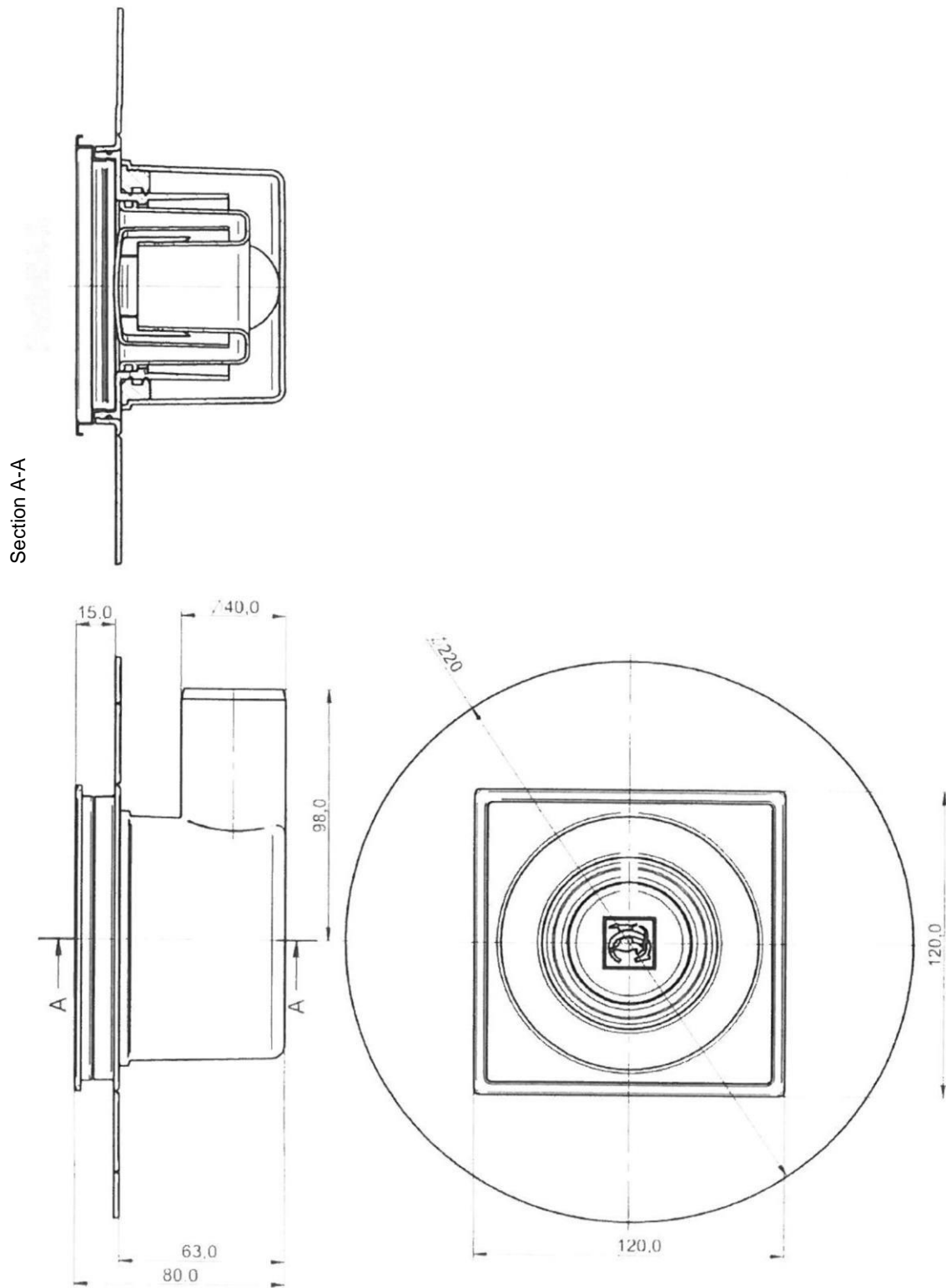
### **Test and assessment report**

1. Test report No T8/2013 "Linear inlets", Instytut Inżynierii Materiałów Polimerowych i Barwników, at M. Skłodowskiej - Curie 55, 87-100 Toruń, Oddział Farb i Tworzyw, at Chorzowska 50 A, 44-100 Gliwice, Zakład Badawczo - Analityczny
2. Test Report No. DF/T7/12 "050 gullies (lateral and with side inlet) with ARCO, SPOT, ORIENT, and CUBE gratings", Instytut Inżynierii Materiałów Polimerowych i Barwników, at M. Skłodowskiej - Curie 55, 87-100 Toruń, Oddział Farb i Tworzyw, at Chorzowska 50 A, 44-100 Gliwice, Zakład Badawczo - Analityczny
3. Test Report No. T4/2013 "040 bathroom (floor) gullies (lateral and flow through, i.e. with drain), with ARCO, SPOT, ORIENT, and CUBE gratings" Instytut Inżynierii Materiałów Polimerowych i Barwników, at M. Skłodowskiej - Curie 55, 87-100 Toruń, Oddział Farb i Tworzyw, at Chorzowska 50 A, 44-100 Gliwice, Zakład Badawczo - Analityczny

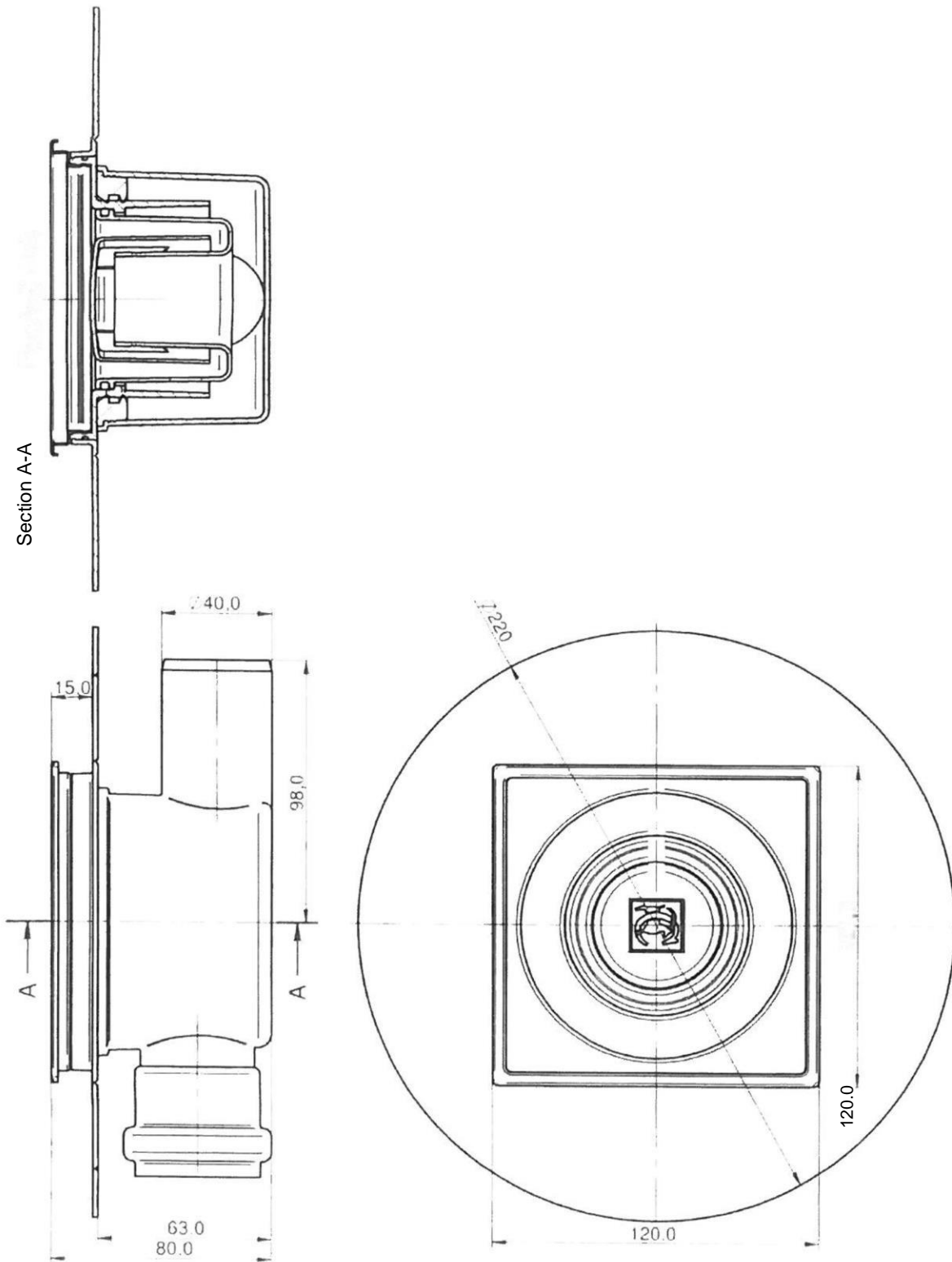
## DRAWINGS

|   |    |
|---|----|
| <b>Fig. 1.</b> Aqua Ambient Super DN 40 point inlets<br>with siphon and side outlet .....           | 16 |
| <b>Fig. 2.</b> Aqua Ambient Super DN 40 point inlets<br>with siphon and side inlet and outlet ..... | 17 |
| <b>Fig. 3.</b> Aqua Ambient Super DN 50 point inlets<br>with siphon and side inlet and outlet ..... | 18 |
| <b>Fig. 4.</b> Gratings for Aqua Ambient Super point inlets .....                                   | 19 |
| <b>Fig. 5.</b> Gratings for Aqua Ambient Super point inlets .....                                   | 20 |
| <b>Fig. 6.</b> Aqua Ambient DN 50 linear inlets with siphon and side outlet .....                   | 21 |
| <b>Fig. 7.</b> Aqua Ambient DN 50 linear inlets without siphon .....                                | 22 |
| <b>Fig. 8.</b> ARCO gratings for Aqua Ambient linear inlets .....                                   | 23 |
| <b>Fig. 9.</b> SPOT gratings for Aqua Ambient linear inlets .....                                   | 24 |
| <b>Fig. 10.</b> CUBE gratings for Aqua Ambient linear inlets .....                                  | 25 |
| <b>Fig. 11.</b> ORIENT gratings for Aqua Ambient linear inlets .....                                | 26 |
| <b>Fig. 12.</b> PLAIN gratings for Aqua Ambient linear inlets .....                                 | 27 |
| <b>Fig. 13.</b> STONE, STONE WHITE and STONE BLACK gratings<br>for Aqua Ambient linear inlets ..... | 28 |

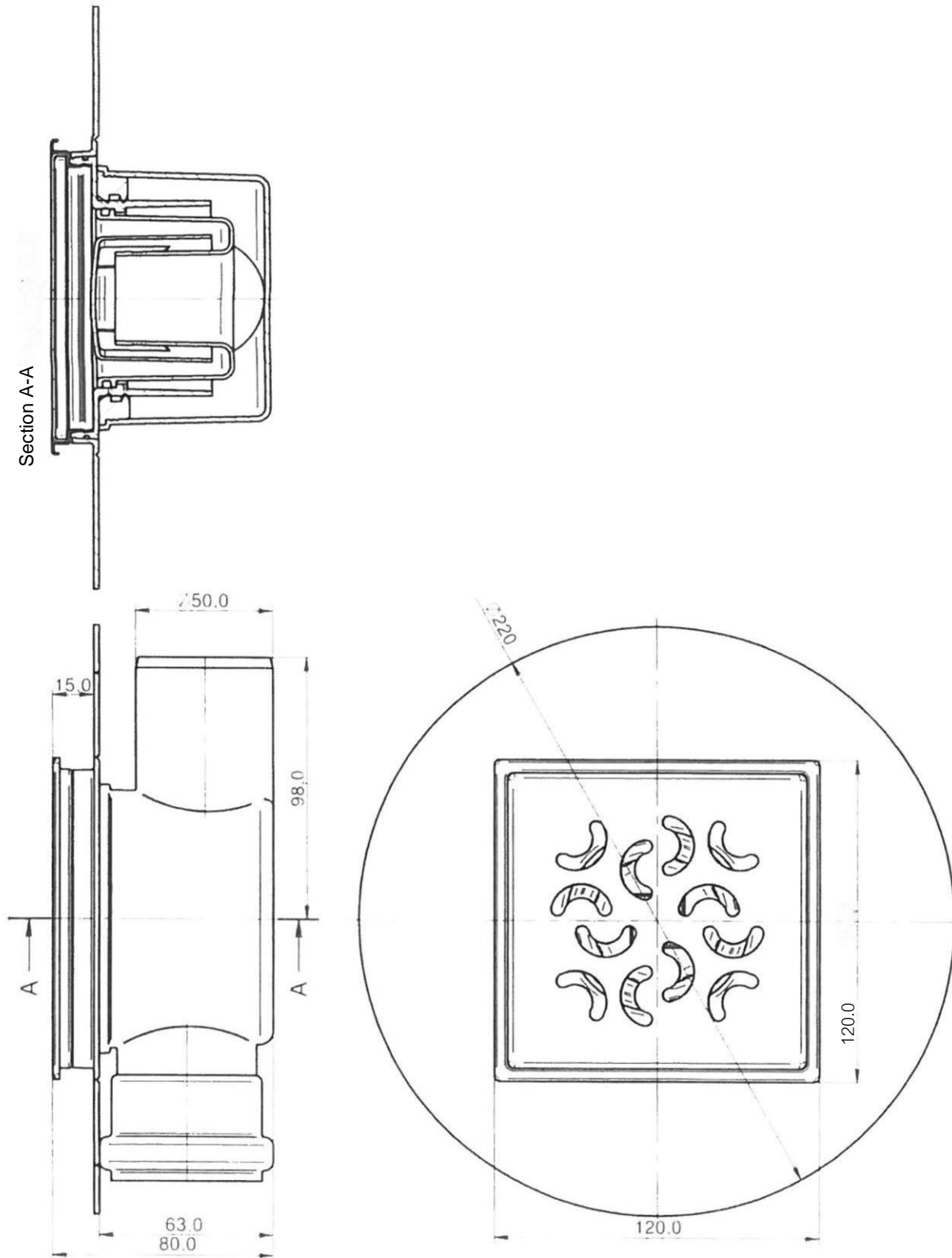




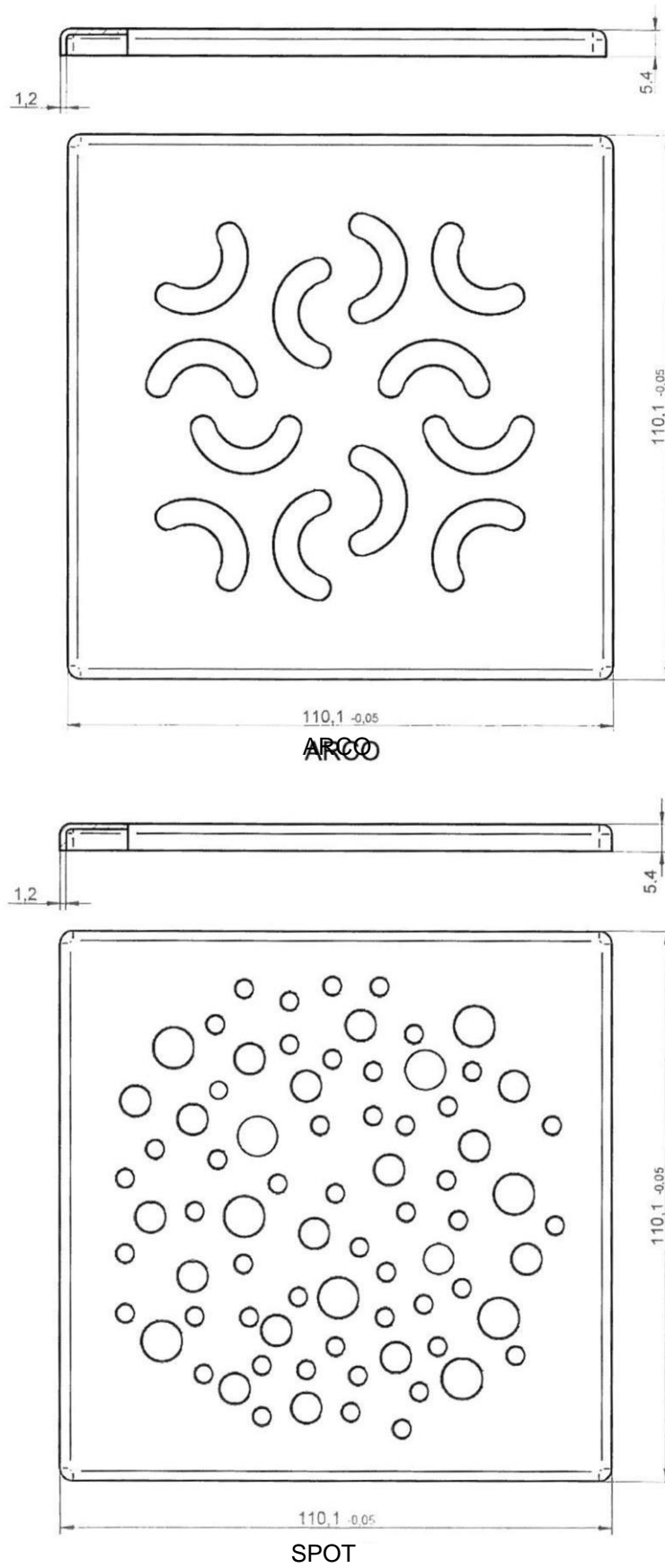
**Fig. 1.** Aqua Ambient Super DN 40 point inlets with siphon and side outlet



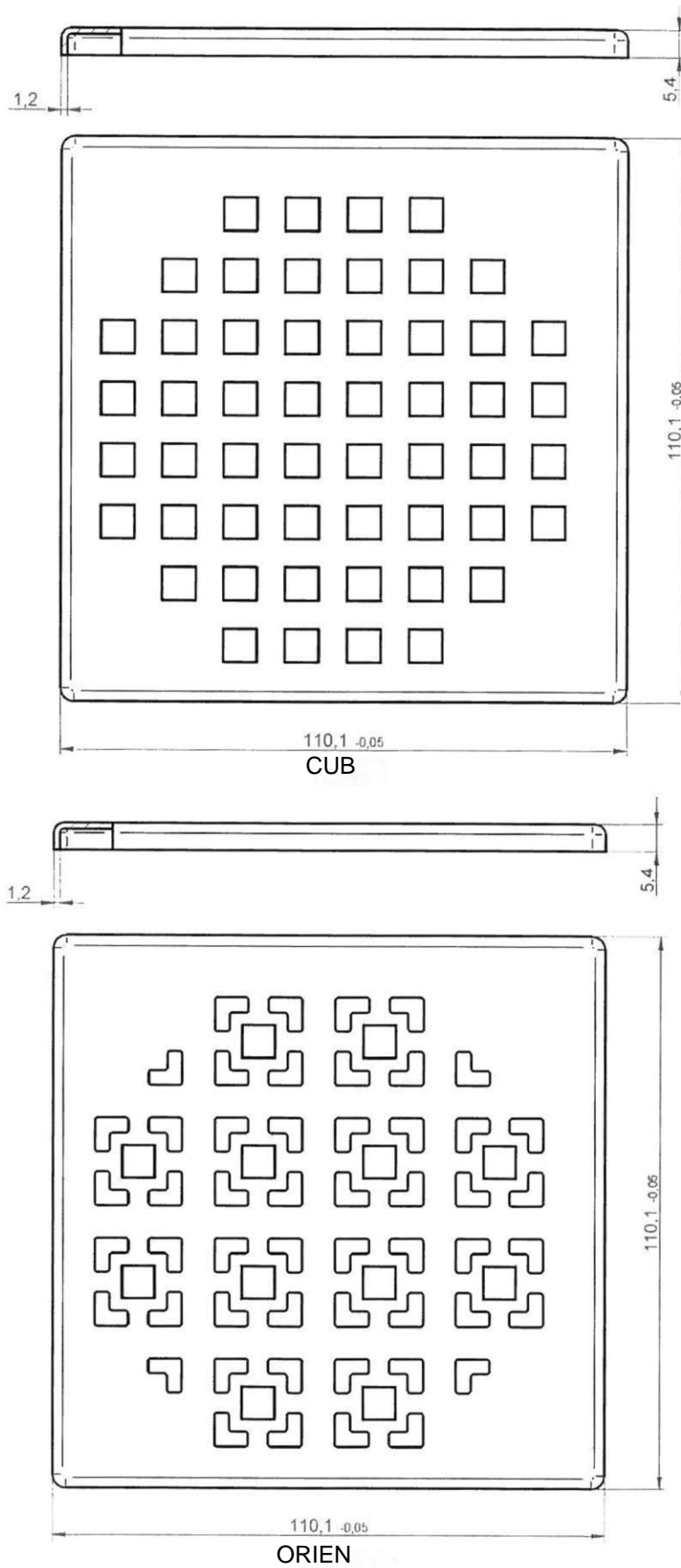
**Fig. 2.** Aqua Ambient Super DN 40 point inlets with siphon and side inlet and outlet



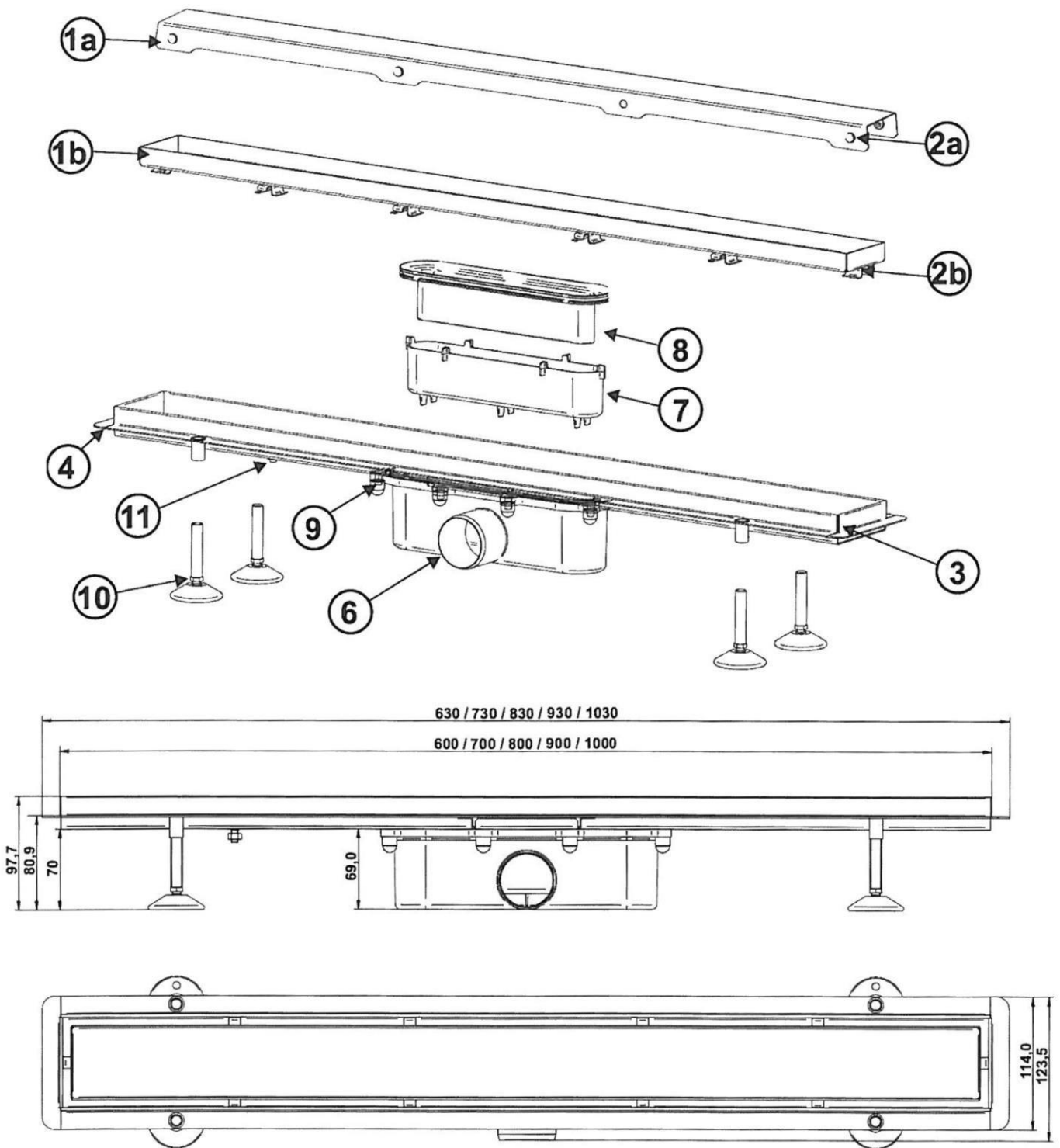
**Fig. 3.** Aqua Ambient Super DN 50 point inlets with siphon and side inlet and outlet



**Fig. 4.** Gratings for Aqua Ambient Super point inlets



**Fig. 5.** Gratings for Aqua Ambient Super point inlets



- |      |                      |      |                 |
|------|----------------------|------|-----------------|
| 1a - | Grate with apertures | 6.   | Outlet body     |
| 1b - | Full grating         | 7.8. | Siphon elements |
| 2a - | Spacer               | 9.   | Nuts            |
| 2b - | Positioning spacer   | 10.  | Supports        |
| 3.   | Drain gutter         | 11.  | Ground          |
| 4.   | Flange               |      |                 |

**Fig. 6.** Aqua Ambient DN 50 linear inlet with siphon and side outlet

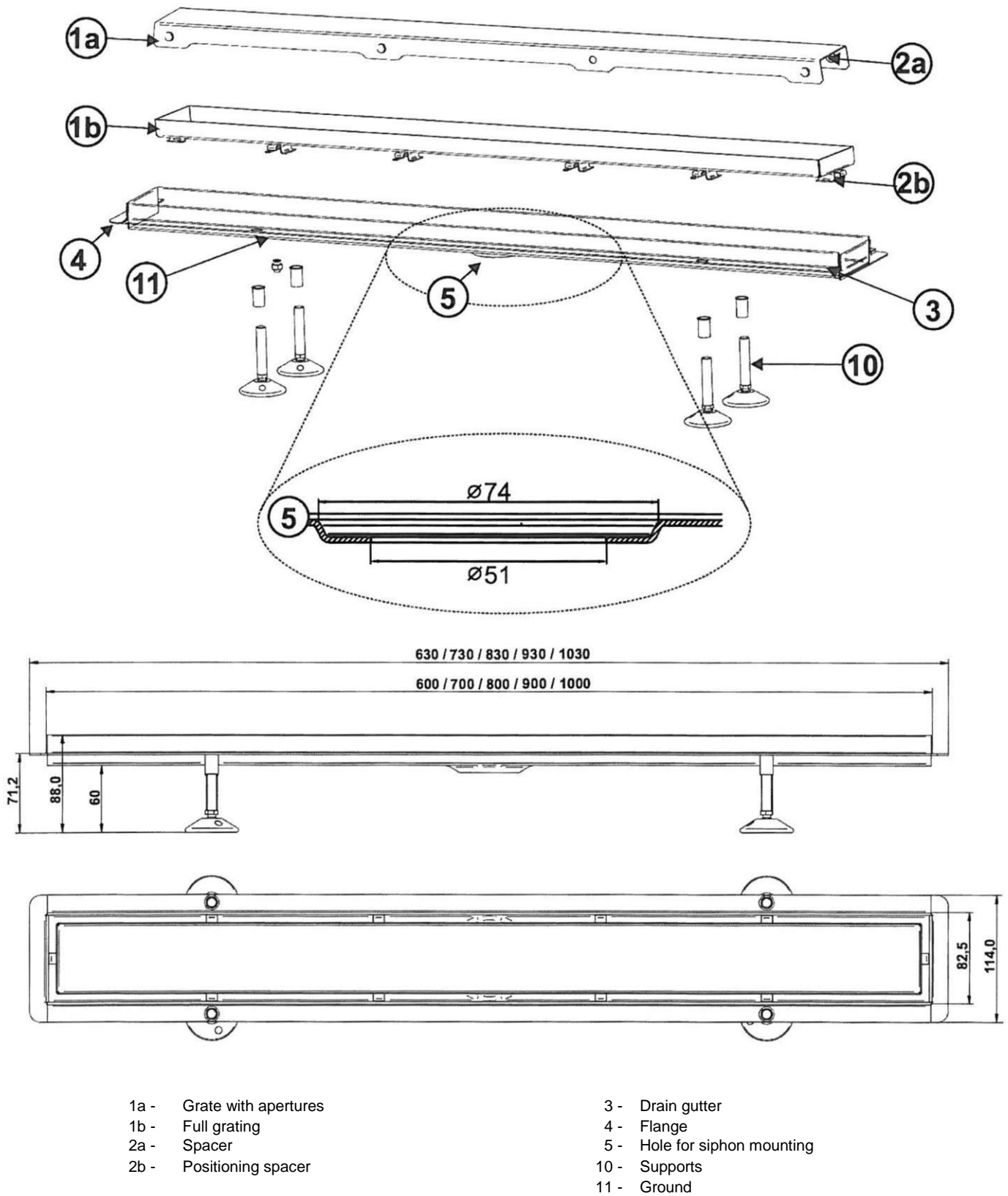
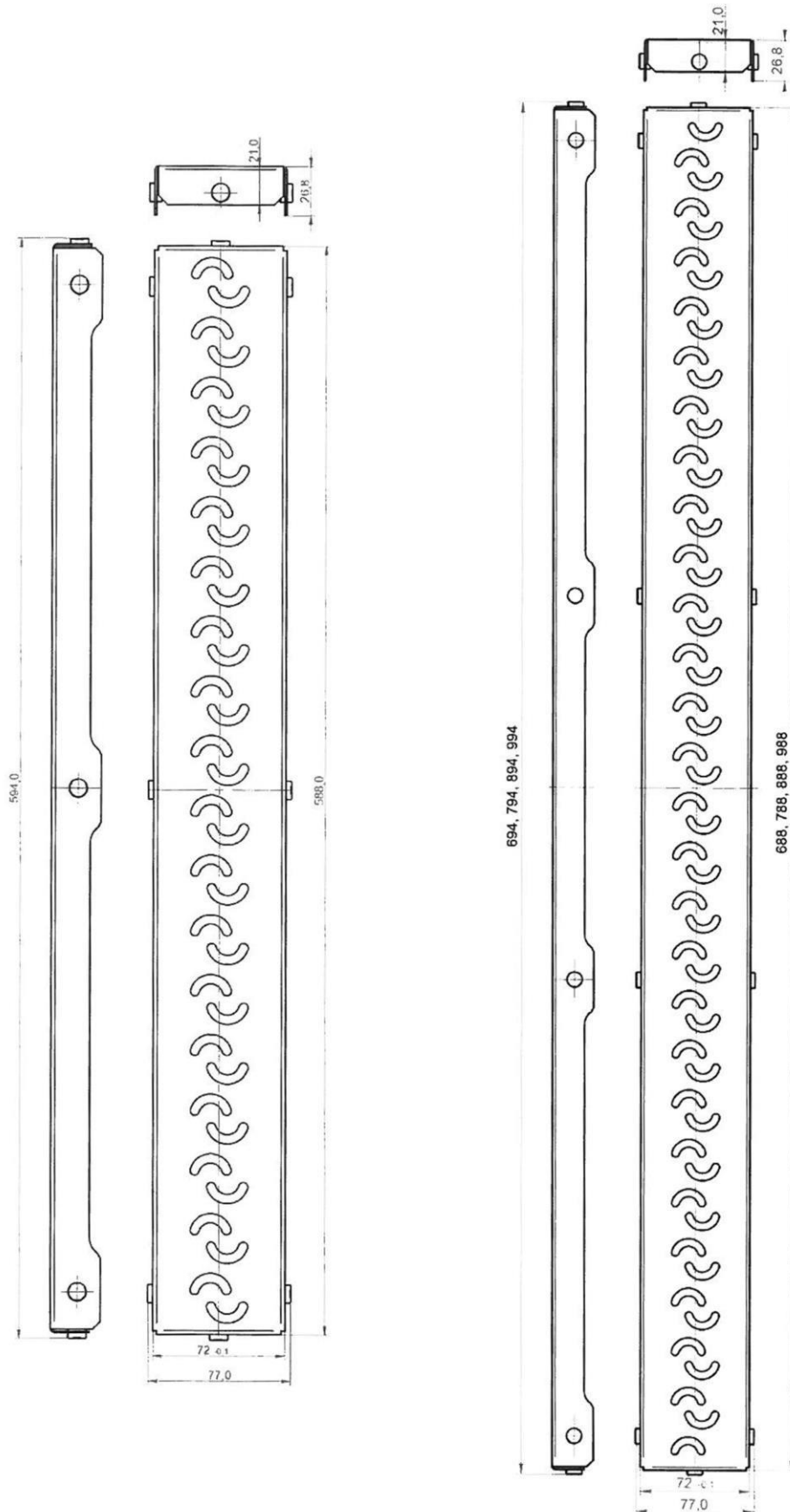


Fig. 7. Aqua Ambient DN 50 linear inlets without siphon



**Fig. 8.** ARCO gratings for Aqua Ambient linear inlets



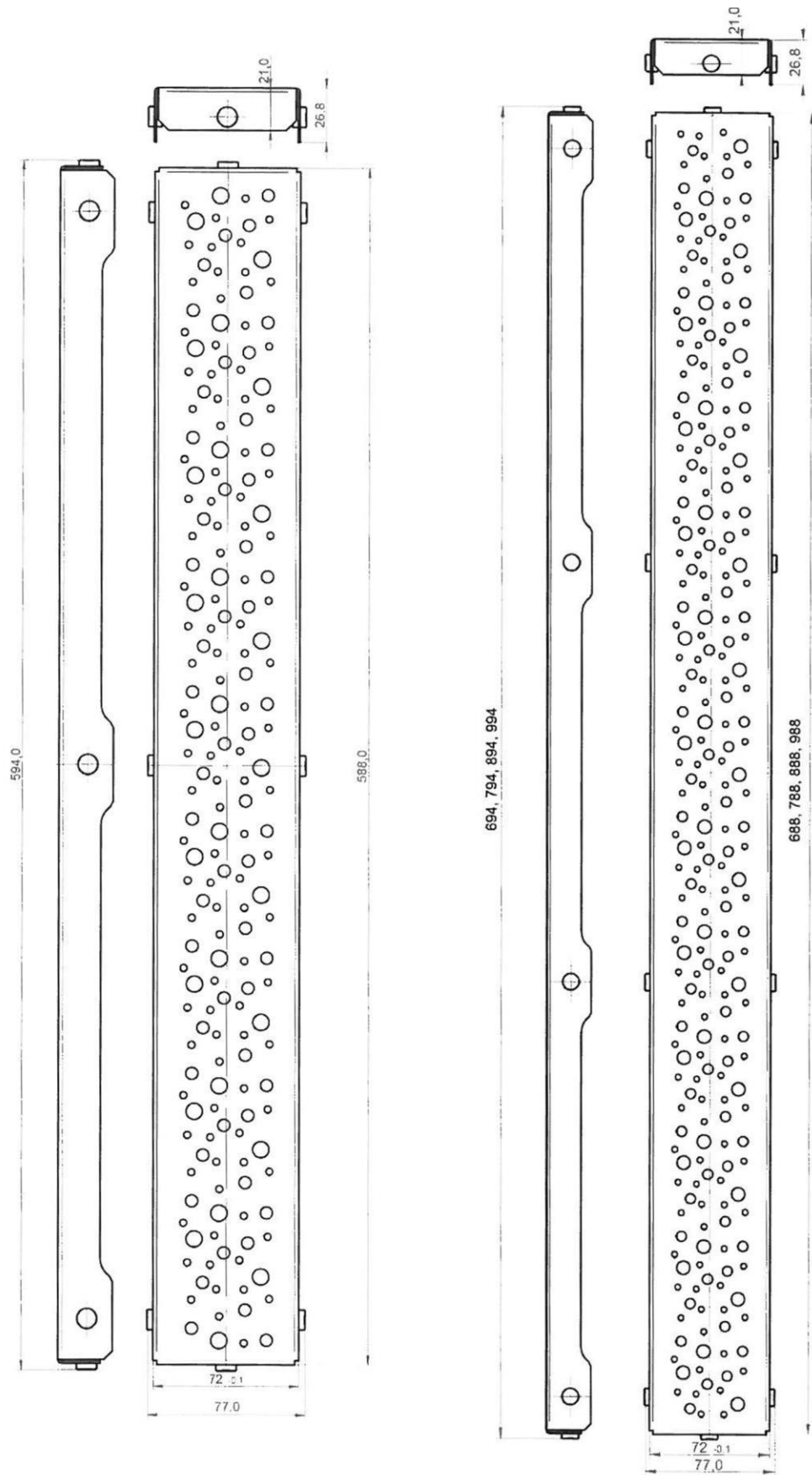


Fig. 9. SPOT gratings for Aqua Ambient linear inlets

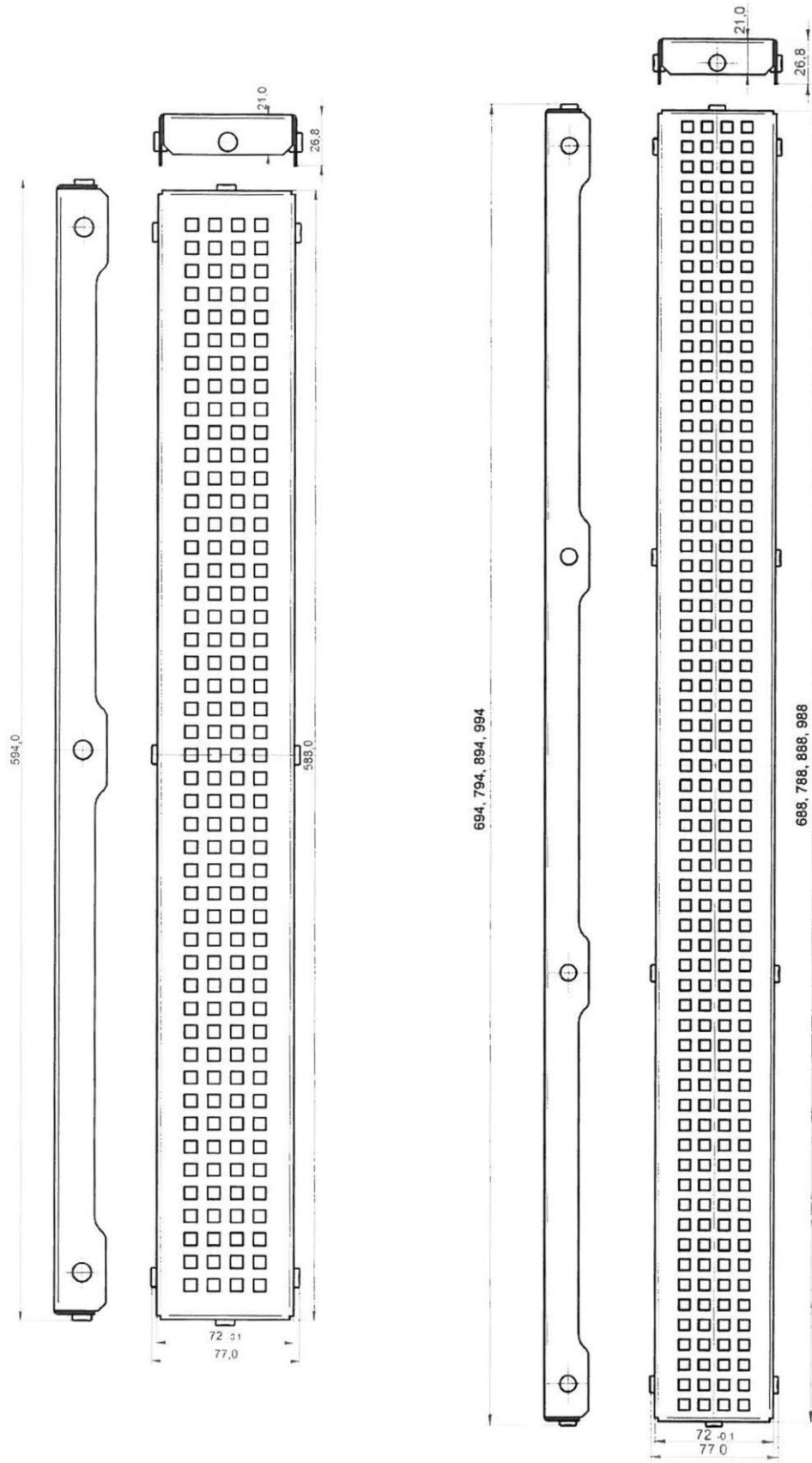
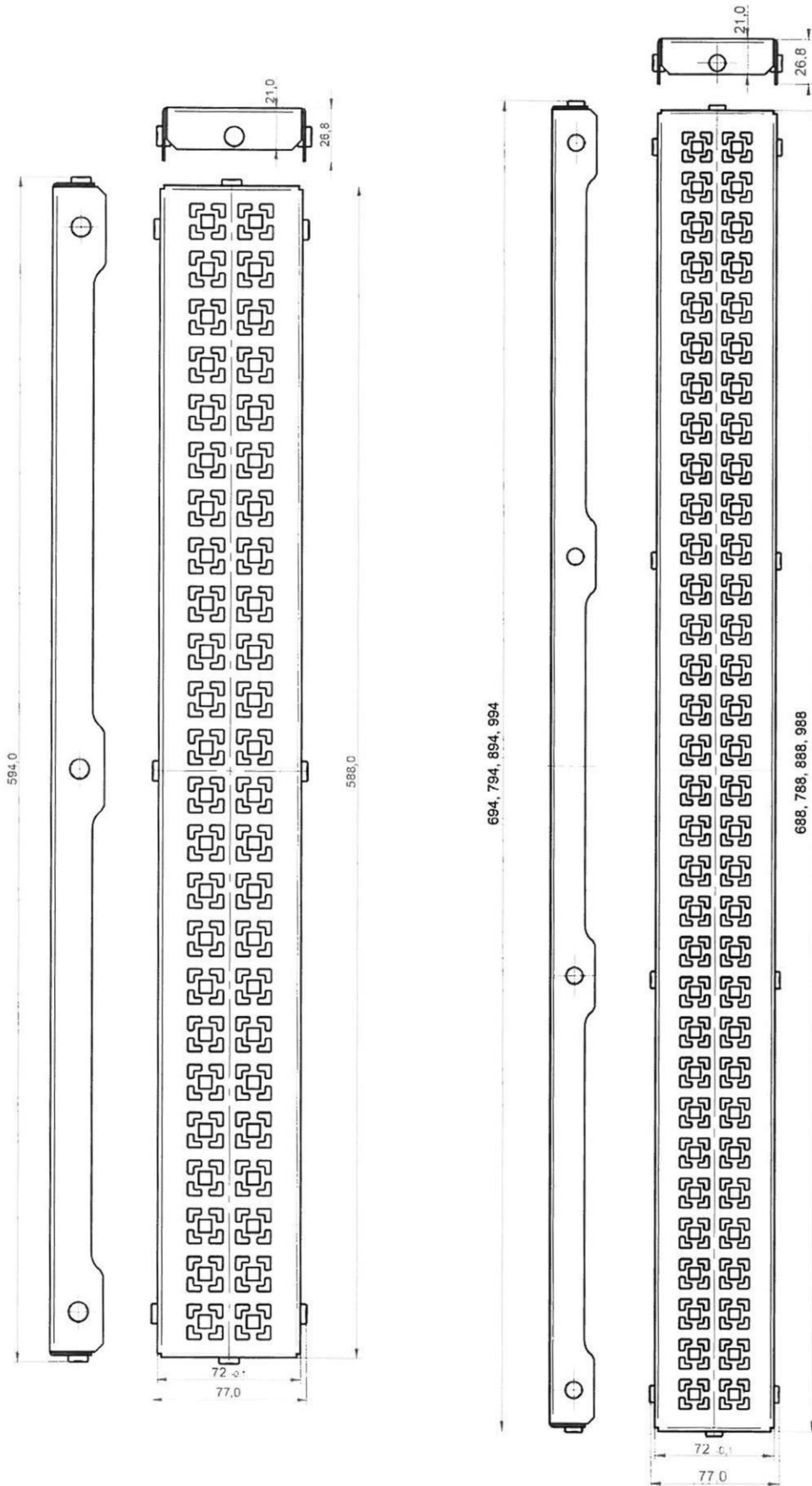


Fig. 10. CUBE gratings for Aqua Ambient linear inlets



**Fig. 11.** ORIENT gratings for Aqua Ambient linear inlets

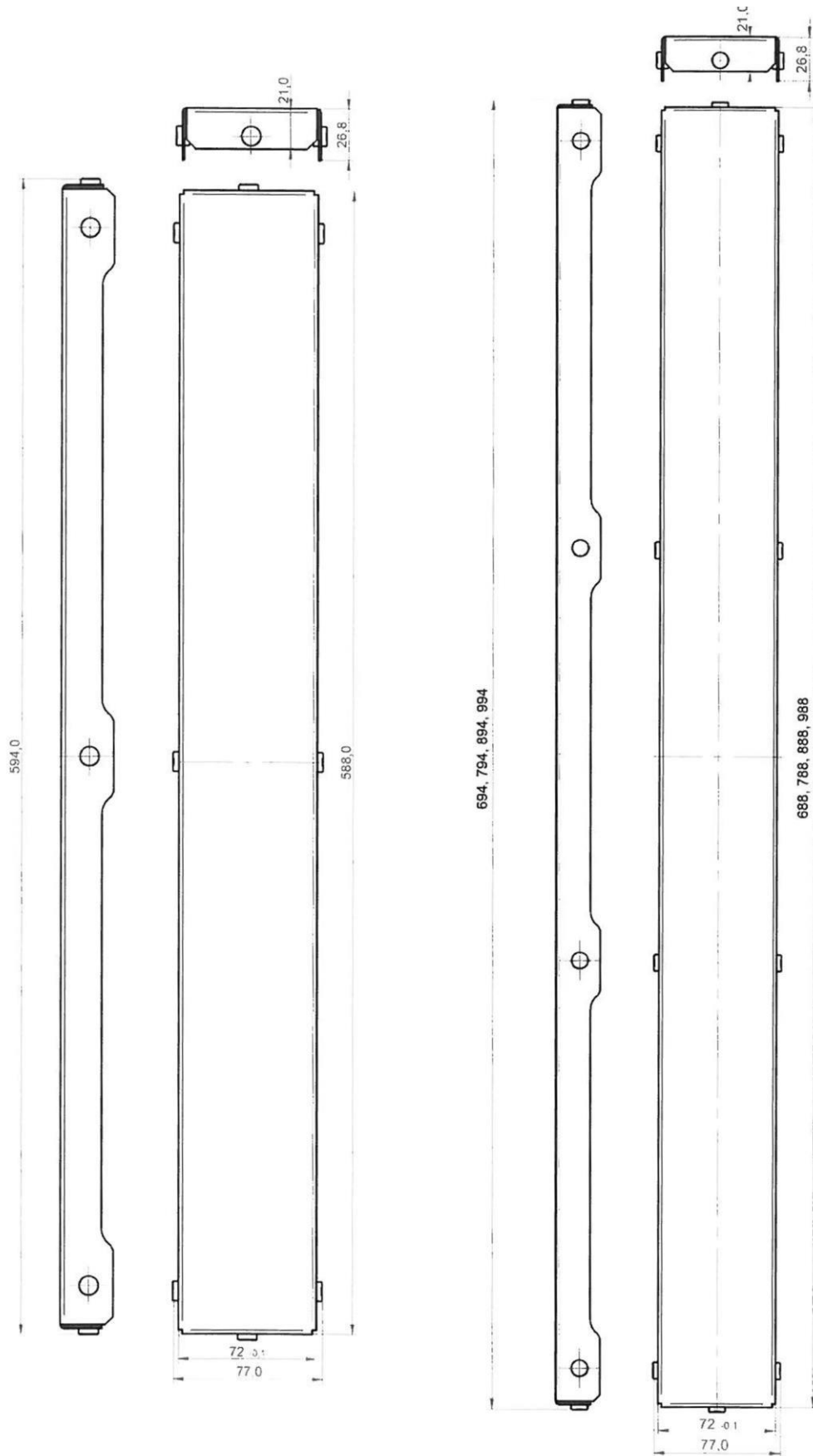
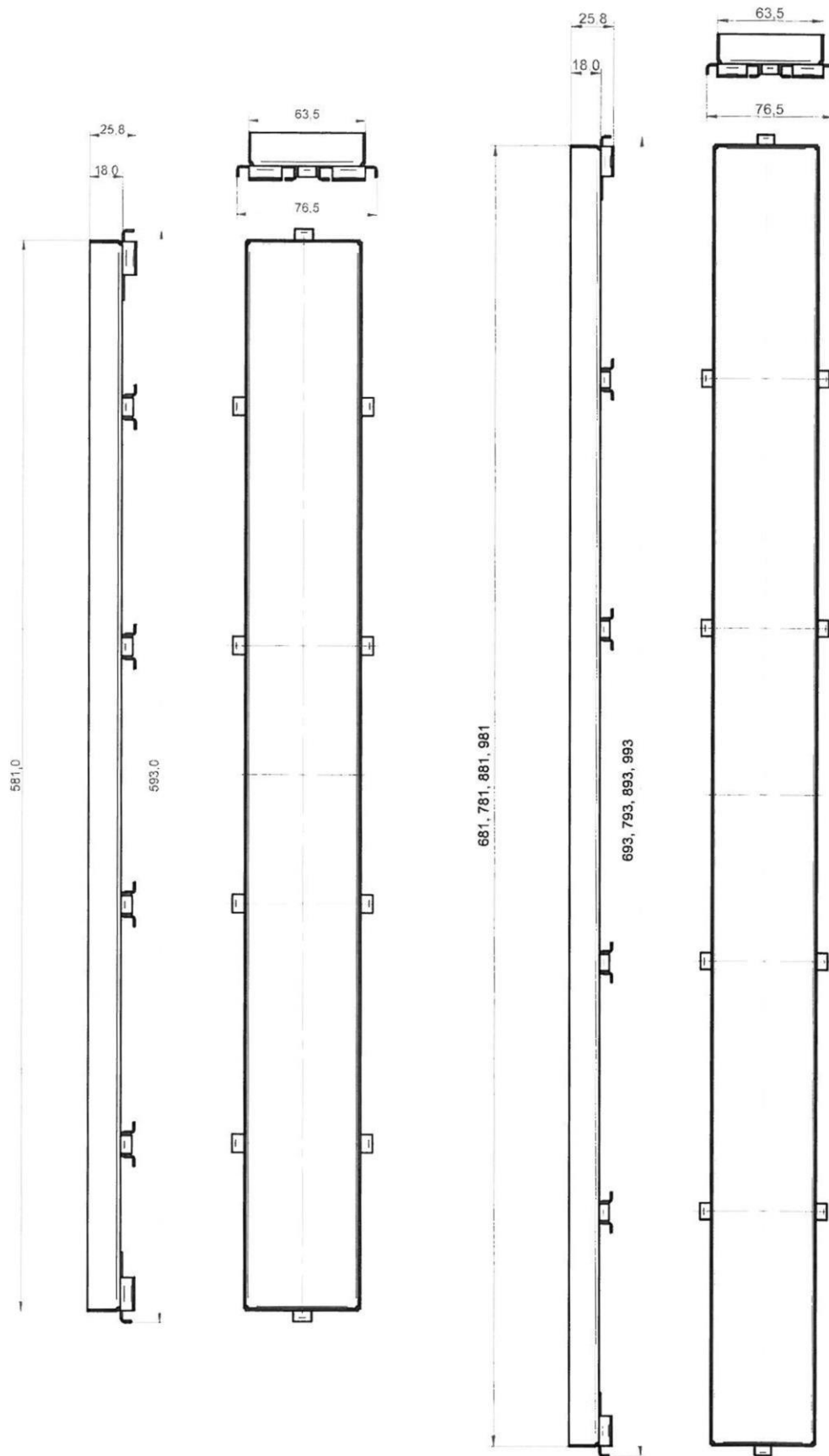


Fig. 12. PLAIN gratings for Aqua Ambient linear inlets



**Fig. 13.** STONE, STONE WHITE and STONE BLACK gratings for Aqua Ambient linear inlets