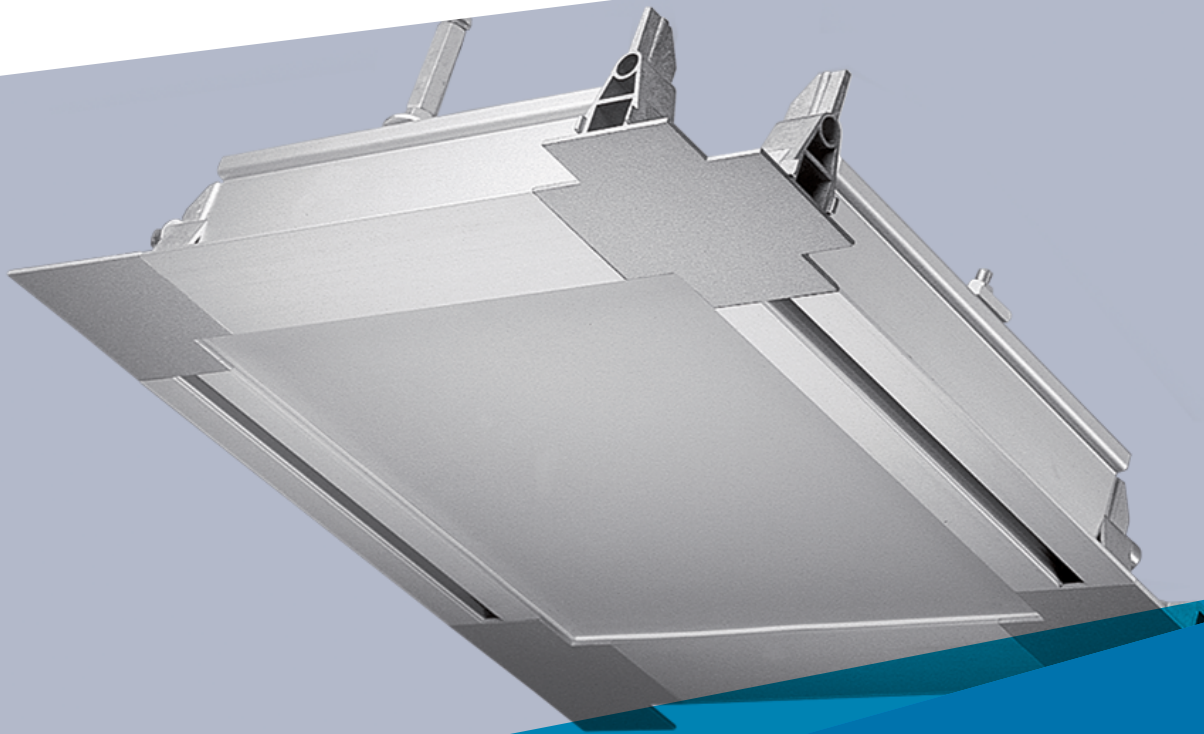


# Ultraflex Ceiling Grid UFR

## All Types Cleanroom Ceiling Systems

Data sheet



## Product Description

The Ultraflex Ceiling Grid (UFR) by Exyte Technology is a ceiling system suspended from the bare ceiling or a support structure for use in cleanrooms. Load-bearing aluminum profiles form the basis of the UFR, allowing for the installation of standard elements such as filter units, cleanroom vents and fan units. All profiles ensure simple installation of lighting, partitions, air-guiding plates, sprinkler pipes and media cables.

The Ultraflex Ceiling Grid is suitable for cleanroom classifications 1.0 to 9.0 in accordance with EN ISO 14644-1 and the GMP guidelines.

The UFR was designed for use in conjunction with the following products by Exyte Technology:

- SILENT Filter Fan Unit
- ECO Filter Fan Unit
- COMPACT Filter Fan Unit
- RETURN AIR Filter Fan Unit
- Ultraflex Cleanroom

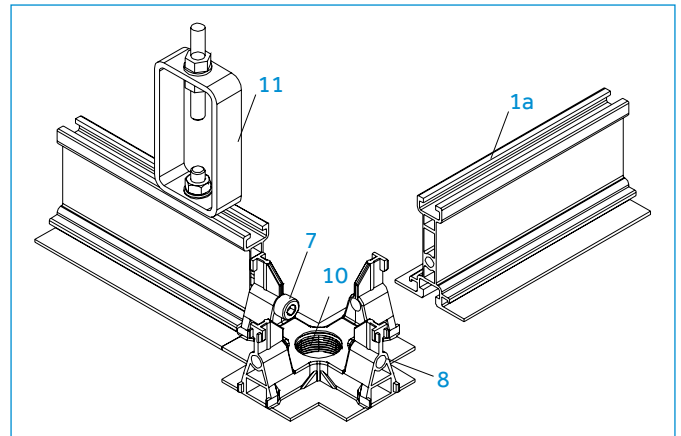
## Structural Design

The basic structure of the Ultraflex Ceiling Grid consists of corrosion-resistant, anodized, extruded aluminum profiles, which are connected using high-precision intersections to create a high-quality ceiling grid. These are also available with a powder-coating (standard color similar to RAL 9010; coating also available in special colors). Profiles of varying length allow for grids of various sizes. The standard sizes are based on ceiling units measuring 1200 mm × 1200 mm (4 ft × 4 ft), 1200 mm × 900 mm (4 ft × 3 ft) and 1200 mm × 600 mm (4 ft × 2 ft), which are installed taking into account the cleanroom layout and any fixtures.

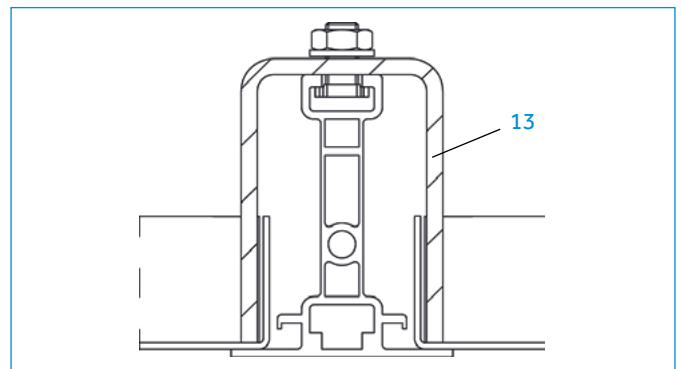
Available in cross piece, T-piece, corner piece and I-piece, the profile intersection **8** is manufactured using a die-casting process and comes standard in a color similar to RAL 9006. The profile connectors link the aluminum profiles using a front-end bolt connector **7**. The retaining brackets secure the blank panels and are absolutely essential in order to ensure the walkability of the ceiling.

Each connector contains a PG21 duct **10** for threading supply lines or sprinkler downpipes up to 1/2" in diameter. The duct can accommodate cables up to PG13.5.

The ceiling system is suspended at every intersection – depending on load requirements, with one or two hanger systems **11**.



**Fig. 1** UFR system profile connection, illustrated at an intersection **8**, and UFR-55/70-T-E profile



**Fig. 1b** Retention bracket

## Non-Pressurized Ceilings (Dry Ceilings)

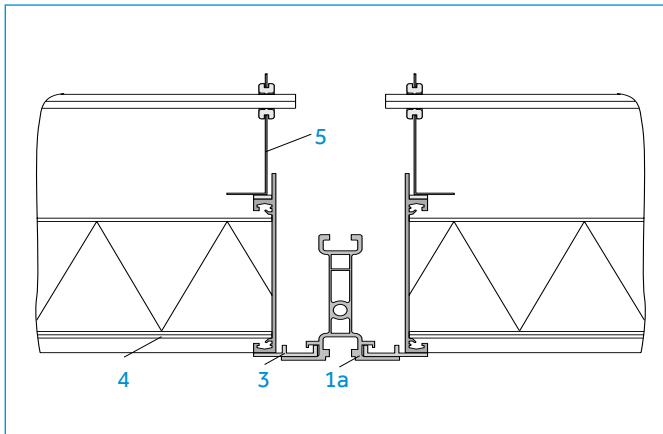
### Feature

Easy installation of FFUs, in conjunction with a bearing rail **3b**, which is secured using the counter support **3a** on the side of the profile. The filter unit **4** and fan unit housing **5** can be installed horizontally and removed independently of each other from the cleanroom side (Fig 2).

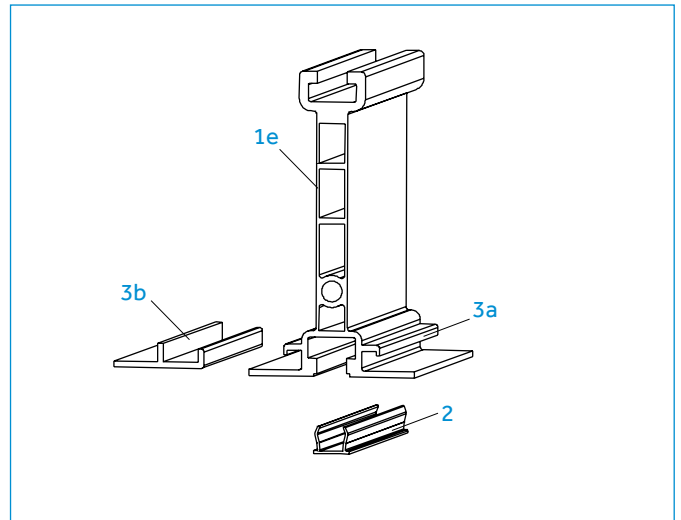
The underside of the UFR-55/70-T/E profile **1a** (Fig. 3) contains a groove for installing lighting, partitions, etc. The section of the groove not used can be concealed with an aluminum cover strip **2**, which is easy to install and remove. The UFR-55/70-T/P profile **1b** (Fig. 1b) is designed for use in the pharmacy sector. The profile underside is closed, preventing hollow spaces that are difficult to clean and bacteria growth in inaccessible spots.

The UFR-55/100L-T/E profile **1e** (Fig. 4) fulfills all the same criteria as the UFR-55/70-T/E profile, yet it was designed for use with the high loads associated with transport systems. This ceiling grid is compatible with the UFR-55/70-T/E profile.

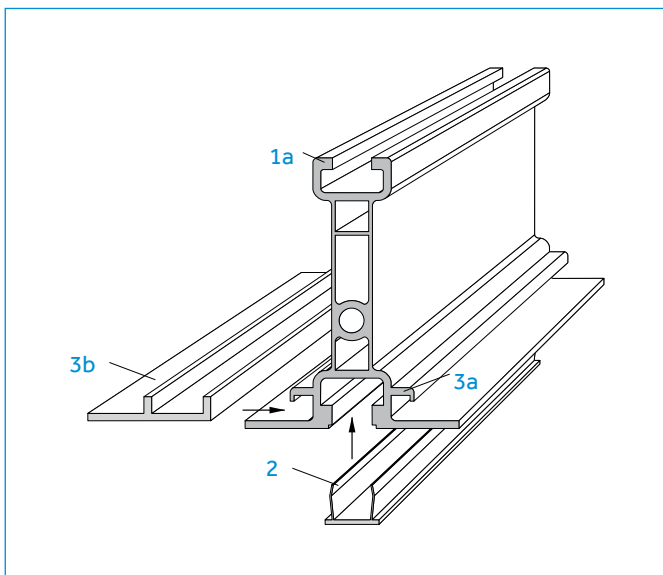
## Design and Function



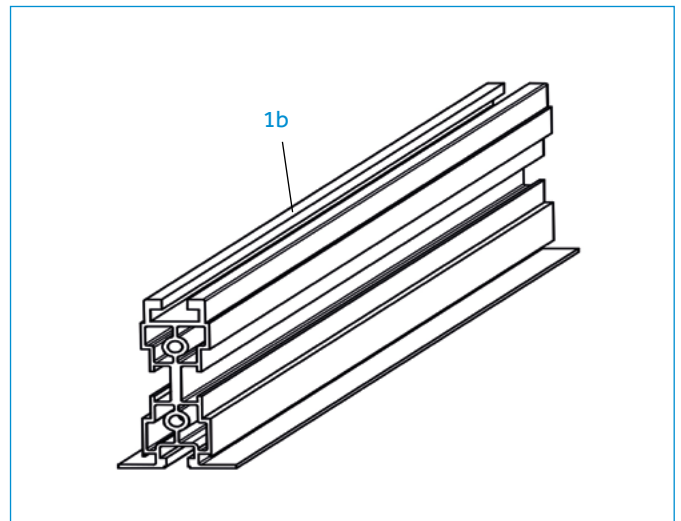
**Fig. 2** The UFR-55/70-T/E ceiling grid **1a** with attachable bearing rail **3b**; filter unit **4** and fan unit housing **5**



**Fig. 4** The UFR-55/100L-T/E profile **1e** with attachable bearing rail **3b**



**Fig. 3** The UFR-55/70-T/E profile **1a** with covering strip **2** and attachable bearing rail **3b**



**Fig. 5** UFR-55/100-T/E

### Legend

- 1a** UFR-55/70-T/E
- 1b** UFR-55/100-T/E
- 1e** UFR-55/100L-T/E
- 2** Covering strip
- 3a** Counter support
- 3b** Attachable bearing rails
- 4** Filter units
- 5** Fan unit housing
- 7** Bolt connector
- 8** Profile connector (joint)
- 10** Duct
- 11** Suspension bracket
- 13** Retention bracket

## Technical Data

Sizes	Unit	55/70	55/100	55/100L
Grid dimensions	mm / ft	1200 × 1200 / 4 × 4		
Width	mm / in	55 / 2.17	55 / 2.17	55 / 2.17
Height	mm / in	70 / 2.76	100 / 3.94	100 / 3.94
Weight	lb/ft <sup>2</sup>	97	223	128
Permissible surface load <sup>1)</sup>	lb/ft <sup>2</sup>	47460	201708	142382
Permissible point load <sup>1)2)</sup>				
• Profile length 500 mm	lbs	281	1574	1236
• Profile length 1100 mm	lbs	225	1461	1124
• Permissible point load <sup>3)</sup>	lbs	225	225	225
• Directly under suspension	lbs	495	1798	1461

1) with two suspension brackets per intersection

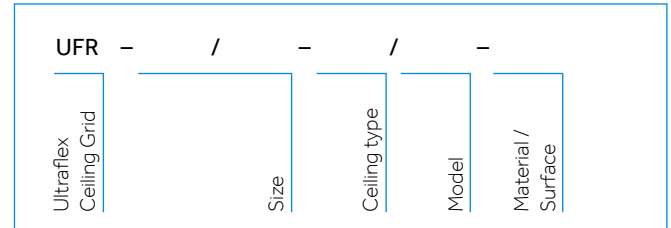
2) attached at the middle of the profile

3) The permissible point load for walkability is 1 kN and causes at panel center with an indenter area of 4 inch × 4 inch a temporary deflection of approx. 0,433 inch.

## Optional Fixtures and Components

- HEPA/ULPA filter
- Filter Fan Units
- Vents for particulate filters
- Recessed light fixtures, surface-mounted light fixtures
- Smoke alarms, sprinklers
- Partition wall systems
- Air-guiding plates, hanging systems
- Minienvironments
- Ionization equipment
- Transport systems  
(AMHS: automated material handling system)

## Type Designation



### Size

55/70.....	W 55 mm × H 70 mm
.....	2.17 in × 2.76 in
55/100.....	W 55 mm × H 100 mm
.....	2.17 in × 3.94 in
55/100L.....	W 55 mm × H 100 mm
.....	2.17 in × 3.94 in

### Ceiling Type

**T** Dry ceiling (only 55/70, 55/100 and 55/100L)

### Model

**E** Electrical (with groove)

**P** Pharmacy (without groove)

### Material / Surface

**AE** Anodized aluminum

**PB** Powder-coated steel in a color similar to RAL 9010

# Submittal Text

\_\_\_\_\_ m<sup>2</sup> ceiling system

The Ultraflex Ceiling Grid is suitable for cleanroom classifications 1.0 to 9.0 in accordance with EN ISO 14644-1 and the GMP guidelines and primarily consists of anodized aluminum profiles and die-casted intersections.

The profiles are anodized or powder-coated and the intersections (cross piece, T-piece, corner piece and I-piece) are lacquered. The aluminum profiles are bolted with the intersections at the front.

The intersections feature a PG21 plug to accommodate sprinklers and supply lines up to 1/2".

Additional reductions to PG13.5 are necessary for threading the cables required for lighting.

The aluminum profiles for electrical applications feature a groove at the underside for integrated and mounted fixtures.

### Profile (Size)

- 55/70
- 55/100
- 55/100L

### Model

- E (electronic with groove)
- P (pharmaceutic without groove)

### Surface

- AE (anodized aluminum)
- PB (powder-coated steel)
  - RAL 9010 (standard color)
  - RAL \_\_\_\_\_ (special color)

### Blank Panels

Ceiling units without technical fixtures feature blank panels.

For grid dimensions:

- 1200 mm × 1200 mm / 4 ft × 4 ft
- 1200 mm × 600 mm / 4 ft × 2 ft
- Special dimensions

\_\_\_\_\_ mm × \_\_\_\_\_ mm / \_\_\_\_\_ ft × \_\_\_\_\_ ft

UFR-55/70-T, UFR-55/100-T  
and UFR-55/100L-T profiles

Length × width..... 1165 mm × 1165 mm <sup>1)</sup>

..... 3.8 ft × 3.8 ft

Length × width..... 1165 mm × 565 mm <sup>2)</sup>

..... 3.8 ft × 1.8 ft

Height ..... 33 mm / 0.1 ft

- Standard Model
  - Powder-coated, 1× bending edge,
  - non-welded corners
  - Panel thickness 1.5 mm / 0.06 in (walkable)

### Material

Profile..... Anodized aluminum

Intersections ..... Die-casted

### Manufacturer Exyte Technology GmbH

Type UFR- \_\_\_ / \_\_\_ - \_\_\_ / \_\_\_ - \_\_\_

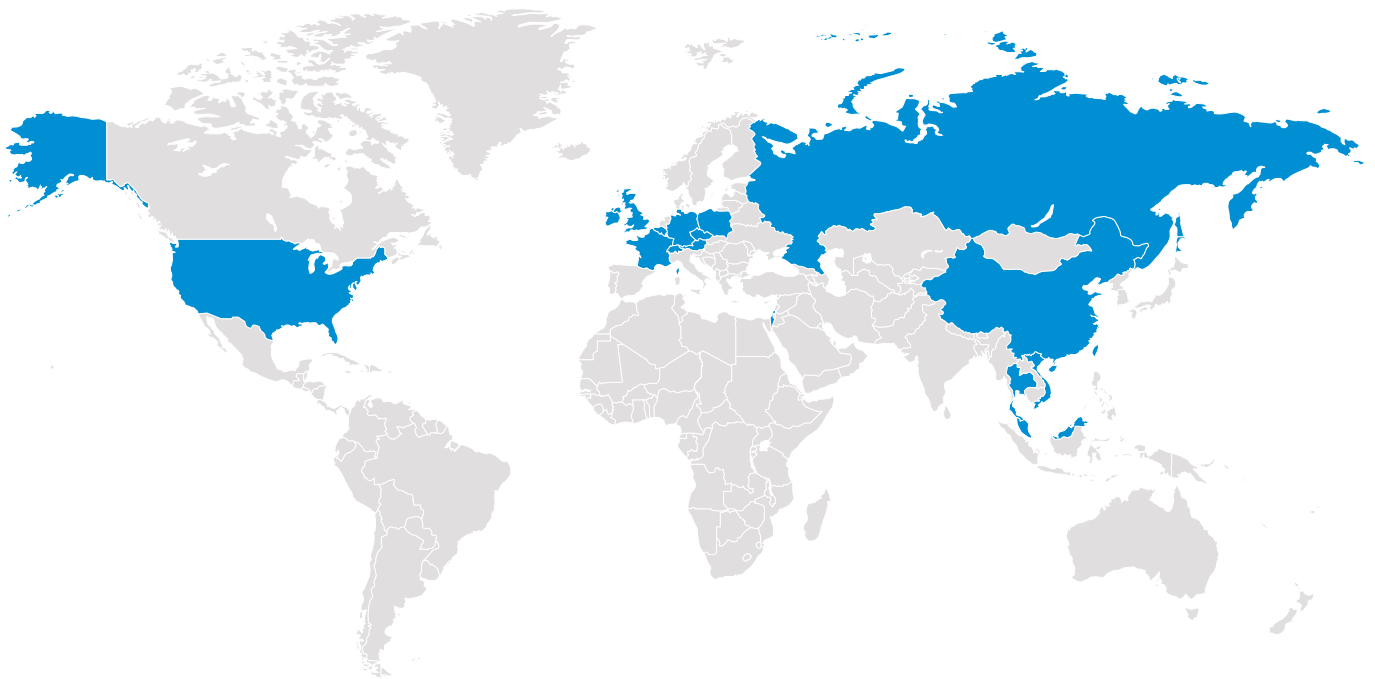
Integrated and mounted fixtures to be considered

- HEPA / ULPA filter
- Filter Fan Units
- Vents for particulate filters
- Recessed lighting fixtures,  
surface-mounted light fixtures
- Smoke alarms, sprinklers
- Partition wall systems
- Air-guiding plates, hanging systems
- Minienvironments
- Ionization equipment
- Transport systems  
(AMHS: automated material handling system)

<sup>1)</sup> For ceiling grids 1200 × 1200 mm / 4 ft × 4 ft

<sup>2)</sup> For ceiling grids 1200 × 600 mm / 4 ft × 2 ft

# Local Support Wherever You Need Us



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