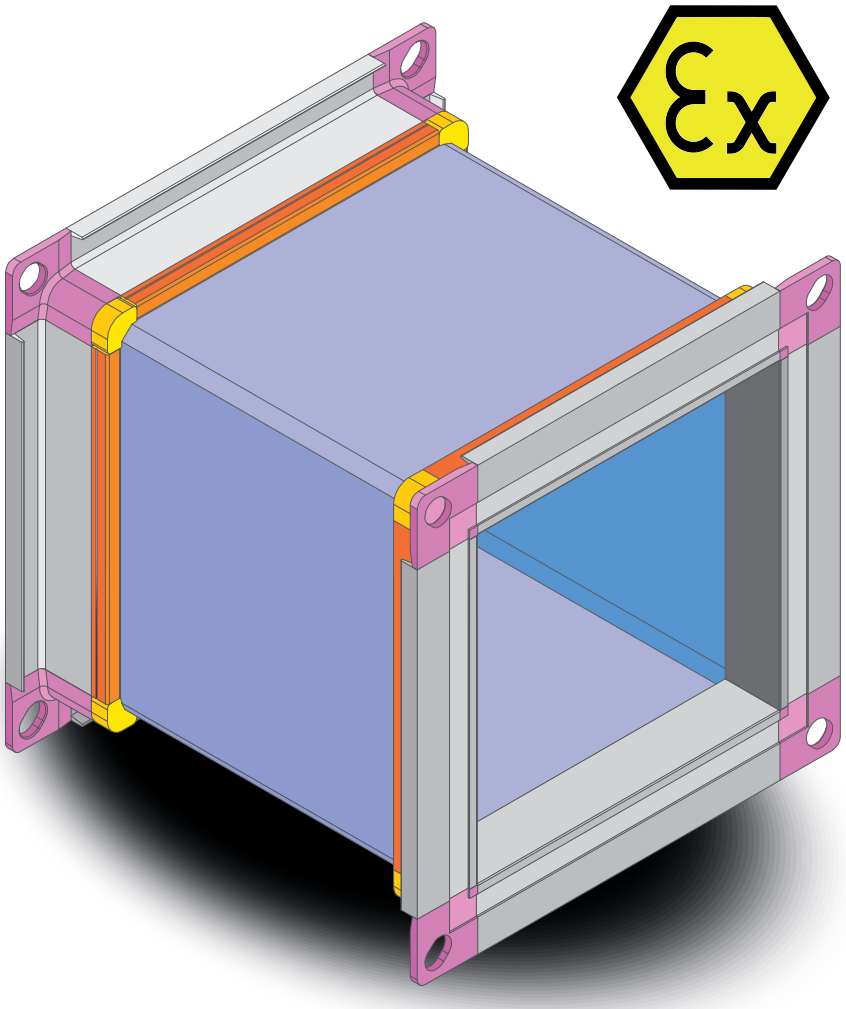
# FLEXIBLE DUCT CONNECTION - ATEX

**Construction:**
- Frame - Extruded aluminum profiles with standard mill finishing in 30 mm
- Corners - Natural finished in ZAMA
- Fabric - PVC EX

**Design:**
- Temperature - working condition range of -25°C / +70°C

**Security instructions to be respected for the products which correspond to the 94/9/EC directive (ATEX)**
- **No paint protection allowed**.
- **Flexible connection must be connected to the ground**. The equipment installation must respect the equipotential setting of the flexible connection parts with the ducts.
- **The passage of potentially spare producing parts must be avoided.**

The defined parameters in the installation instructions must be respected when mounting the equipment. The maintenance works are the user's responsibility. No sparks (for example electrostatic discharge, mechanically created spark) should be emitted. Correct tools must be used. The degree of equipment use must be taken into consideration. The user / fitter should also make the necessary checks, in particular, the tightness after any works of equipment and provide the electrical continuity between every point of the product. The spaceports must be exclusively original APS Arosio parts. Any product modification is forbidden. Additional mechanical load on the the product must be avoid. Any unsuitable use of the equipment is the responsibility of the fitters and users.



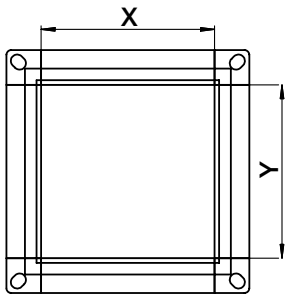
## Dimensional detail - 30 mm frame

**TECHNICAL DATA**

Material: **PVC EX**

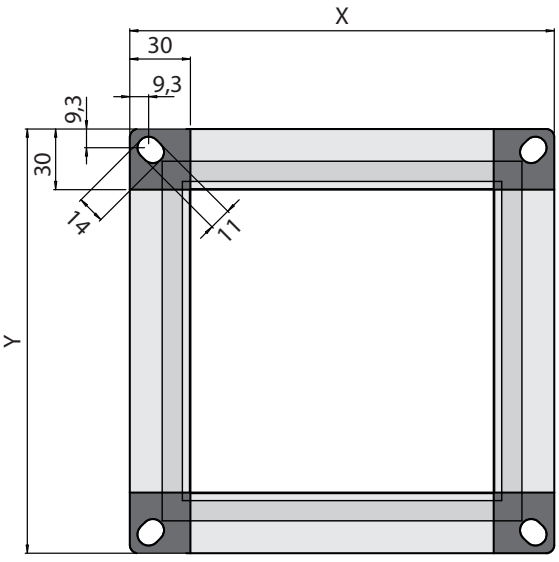
Heat resistance: **+70°C**

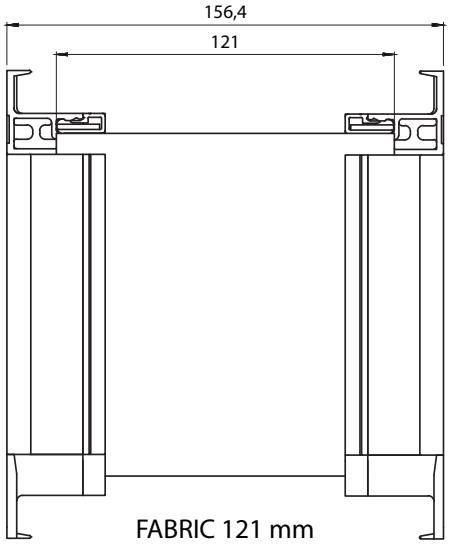
Cold resistance: **-25°C**




**X** = *base* **Y** = *height* **X, Y** = *light*

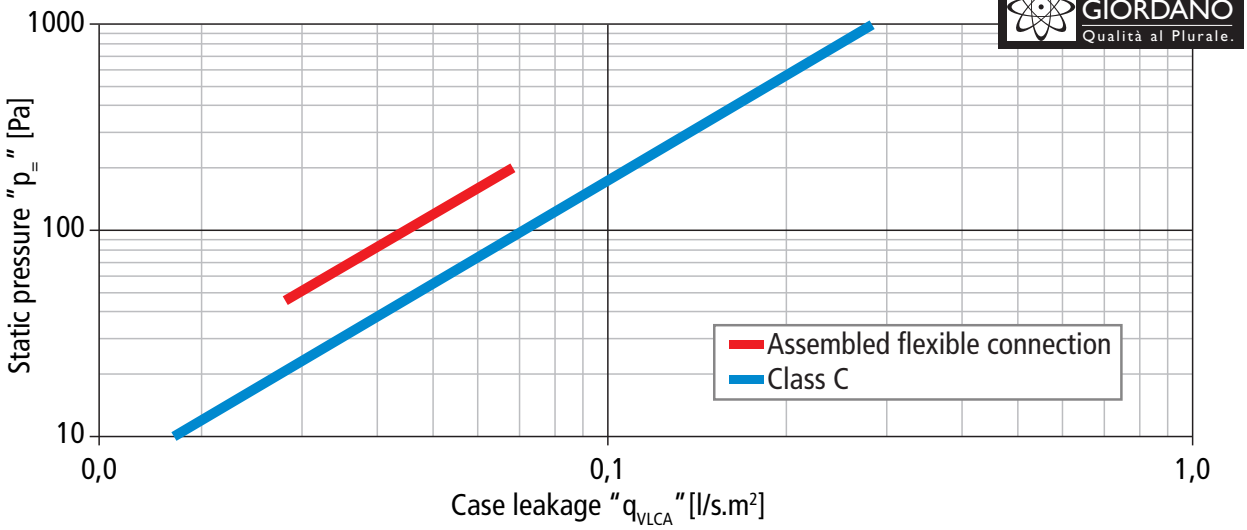
External dimension = **X + 60 mm**
External dimension = **Y + 60 mm**



# Leakage diagram test in accordance to EN 1751 / Istituto Giordano

**Test report No. 263123 dated 30.11.2009**




Characteristic leakage “qVLCA” - Static pressure “ps” curve

**IBExU Institut für Sicherheitstechnik GmbH**
An-Institut der TU Bergakademie Freiberg

[1] **TYPE EXAMINATION CERTIFICATE**
**(Translation)**

[2] **for non-electrical components of the Equipment Group I, Category 2**

[3] Type Examination Certificate Number: **IBExU14ATEXB005 X**

[4] Component: **Flexible connections (expansion joints)**
APSX30FLEX and APSX45FLEX

[5] Manufacturer: APS Arosio GmbH

[6] Address: Gewerbering 1-3
91564 Neuendettelsau
Germany

[7] The design of the component mentioned in [4] and any acceptable variations thereto are specified in the schedule to this type examination certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH certifies that the product mentioned in [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the product intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC.
The test results are recorded in the Test Report IB-14-4-001 of 13 March 2014.

[9] Compliance with the essential health and safety requirements has been assured by compliance with EN 13463-1:2009 and EN 13463-5:2011.

[10] If the sign „X" is placed after the certificate number and/or the marking specified in [12] , it indicates that the component is subject to special conditions for safe use specified in [17] in the schedule to this type examination certificate.

[11] This type examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this directive apply to the manufacture and supply of this component.

[12] The marking of the component mentioned in [4] shall include the following:

**II 2GD c IIC T X**

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Authorized for certifications
- Explosion protection -

Freiberg, 13 March 2014

By order

(Dipl.-Ing. Willamowski)

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Fax (0 37 31) 2 38 50
Stamp

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

**Schedule**



**IBExU Institut für Sicherheitstechnik GmbH**
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[13] **Schedule**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU14ATEXB005 X**

[15] **Description**

The flexible connections (compensators) mentioned in [4] consist of two rectangular frames which are connected with each other by rubber fabric. They are used for a compensation of vibrations and expansions between interconnected plant parts.
The frames are produced from aluminium. As specified by the manufacturer, the rubber fabric is dissipative.
The flexible connections can be constructed in different sizes which vary depending on range of application. The possible dimensions range from minimum 100 mm x 100 mm up to maximum 4000 mm x 2400 mm. The nominal design height can be 155 mm or 205 mm.

Further design features can be found in the Test Report IB-14-4-001 or the test documents listed there.

[16] **Test report**

The test results are recorded in the Test Report IB-14-4-001 of 13 March 2014.

**Summary of the test results:**

The flexible connections fulfil the requirements on non-electrical components of Equipment Group II, Category 2G and 2D inside and outside in type of protection “c” (protection by constructional safety in accordance with EN 13463-5).

**Test documents**
The test documents are listed in chapter 2 of the test report.

[17] **Special conditions for safe use**

The "X" after the temperature specification means that the flexible connections (compensators) cannot cause any relevant temperature rise themselves, however, they can transfer high temperatures from the inside. Therefore, the maximum surface temperature must be specified pursuant to the bulk temperature.

The "X" after the number of the type examination certificate or in the marking means that the following special conditions must be kept for a safe use of the component mentioned in [4]:
- The compensator must be included in the grounding system of the entire plant.
- The compensator must not be provided with paint coating or lacquer coating.
- Any entry of foreign bodies which can possibly generate sparks must be prevented.

[18] **Essential Health and Safety Requirements**

Confirmed by compliance with standards (see [9]).

By order

Freiberg, 13 March 2014

(Dipl.-Ing. Willamowski)