

EU Declaration of performance

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| <p>1. Unique identification code of the product types Novenco® ClearChoice® Pressure Differential Systems kit 1</p> | <p>2. Intended use Pressure differential system kits and components to operate as part of a pressure differential system.</p> |
| <p>3. Manufacturer Novenco Building & Industry A/S, Oeverup Erhvervsvej 50-52, DK-4700 Naestved</p> | <p>4. Authorised representative Technical director of R&D, Mr Peter Holt Novenco Building & Industry A/S, Oeverup Erhvervsvej 50-52, DK-4700 Naestved</p> |
| <p>5. Systems of assessment and verification of constancy of performance ClearChoice PDS Kit 1a and 1b</p> | <p>6. Relevant standards EN 12101-6:2022 EN 12101-3:2015</p> <p>Notified body I.F.I. Institut für Industrieaerodynamik GmbH Aachen, Welkenrather Strasse 120, 52074 Aachen, Germany</p> |

7. Declared performance

System parameters of the kit 1 for the tested performance in accordance with EN 12101-6:2022 paragraph 5.4.1.2.

| Kit | Performance class | Δp_{Nom} [Pa] | V_{ar} [m ³ /h] | V_{TC} [m ³ /h] | V_{sa} [m ³ /h] | V_{rl} [m ³ /h] | $V_{to\ ps}$ [m ³ /h] | Δp_{ar} [Pa] | $\Delta p_{Nom, ab}$ [Pa] |
|-----|-------------------|-----------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|----------------------|---------------------------|
| 1a | A | 30 | 15.000 | 20.000 | 20.000 | - | - | 10-15 | -5 |
| 1b | A | 30 | 15.000 | 20.000 | 20.000 | 3.000 | - | 10-15 | -5 |
| 1a | B | 30 | 15.000 | 20.900 | 20.900 | - | 20.800 @ 13 Pa* | 2-3 | -5 |
| 1b | B | 30 | 15.000 | 20.950 | 20.950 | 3.000 [2.000 @ 13 Pa]* | 18.850 @ 13 Pa* | 2-3 | -5 |

*) Performance class B takes into consideration an additional leakage flow representing e.g. an open door at the escape level in performance class B. The leakage was realised by an opening of 1,55 m² in test room 1. With this leakage a pressure level of 13 Pa was achieved in test room 1, resulting in 18 Pa pressure difference between the test room 1 and test room 2, when the air release path is blocked.

- V_{ar} Maximum volume flow rate through air release path
- V_{TC} Total controlled volume flow rate
- V_{rl} Required minimum leakage flow rate at nominal pressure difference Δp_{Nom}
- V_{sa} Supply air volume flow rate
- $V_{to\ ps}$ Additional leakage flow rate from test room 1 to ambient when the connection from test room 1 to test room 2 is closed
- Δp_{Nom} Nominal pressure difference between the protected space and unprotected space (with closed air release path and closed temporary openings).
- Δp_{ar} Pressure difference when the volume flow rate V_{ar} passes the open-air release

Ambient conditions are the conditions inside the laboratory hall where the test facility is located. The geometric free area of the additional leakage from test room 1 to ambient is 1,55 m².

Test results

Both kits are ready for operation within 60 seconds (switching from bypass status to operational mode).

The initial function test FU was conducted for Kit 1a Class A and Kit 1b Class A. The basic functionality of Kit 1a Class B prior aging is proven by the functional test of Kit 1a Class A and the basic functionality of Kit 1b Class B prior aging is proven by the functional test of Kit 1b Class A.

The durability test with 10.000 cycles was conducted successfully for the configuration Kit 1a Class A. The durability test DU was performed for test Kit 1a as this describes the higher stress for the control.

The related functional tests FU after the durability test and the final oscillation OSC tests were successfully conducted separately for each subtype and each performance class.

Summary: All tests according EN 12101-6:2022 sections 5.1 to 5.4 were passed successfully for each kit subtype and performance class. All flow and pressure criterions were achieved within the 3 seconds.

Additional high temperature testing

The exhaust fan from kit 1 is also tested as a smoke control fan at 300°C during 2 hours with variable speed during operation in accordance with EN 12101-6:2022, Annex C, paragraph C1.3 to C1.5.

| Fan type | øD [mm] | Nom. speed [RPM] | Nom. freq. [Hz] | Test freq. range [Hz] | Speed range [RPM] |
|-------------|---------|------------------|-----------------|-----------------------|-------------------|
| ACN 630/330 | 630 | 2,940 | 50 | 5 – 57 | 294 – 3,374 |

Before the high temperature test, the fan was subjected to a general cycle test with more than 10.000 cycles as described in EN 12101-6:2022, Annex C, par. C1.2.

Allowed range of fans, based on the range criteria in EN 12101-3:2015, Annex A.

| Fan type | øD [mm] | Min. fan speed [RPM] | Max. fan speed [RPM] |
|-------------|---------|----------------------|----------------------|
| ACN 500/* | 500 | 294 | 3,374 |
| ACN 560/* | 560 | | 3,374 |
| ACN 630/* | 630 | | 3,374 |
| ACN 710/230 | 710 | | 3,275 |
| ACN 710/280 | | | 3,230 |
| ACN 710/330 | | | 3,215 |
| ACN 710/380 | | | 3,097 |
| ACN 800/230 | | | 800 |
| ACN 800/280 | 2,930 | | |
| ACN 800/330 | 2,973 | | |
| ACN 800/380 | 2,859 | | |

The performance of the products identified above conforms with the set of declared performances. This declaration of performance is in accordance with Regulation (EU) No 305/2011 and the amendment no. 574/2014, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by

Peter Holt
 Technical director
 Naestved, Denmark, 17th March 2025

