

Casing leakage test sheet

| Test setup | |
|----------------------|--------------|
| Date | 8-3-2016 |
| Exp. Date | 8-3-2019 |
| Place | Barcol-Air |
| measure temperature | 22 [°C] |
| Atmospheric pressure | 1013 [bar] |
| Correctionfactor | 0,993 |
| Reference nr. | LM-16-0002 |
| Tested by | Menno Boes |
| Witness by | Bob Strooker |

| Contact information | |
|---------------------|------------------------------|
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| | | | |
|--------------------|--|---------|---------|
| Model (Name/Type): | Fire damper rectangular FK90-0200-0200-CAO | Result: | Class C |
|--------------------|--|---------|---------|

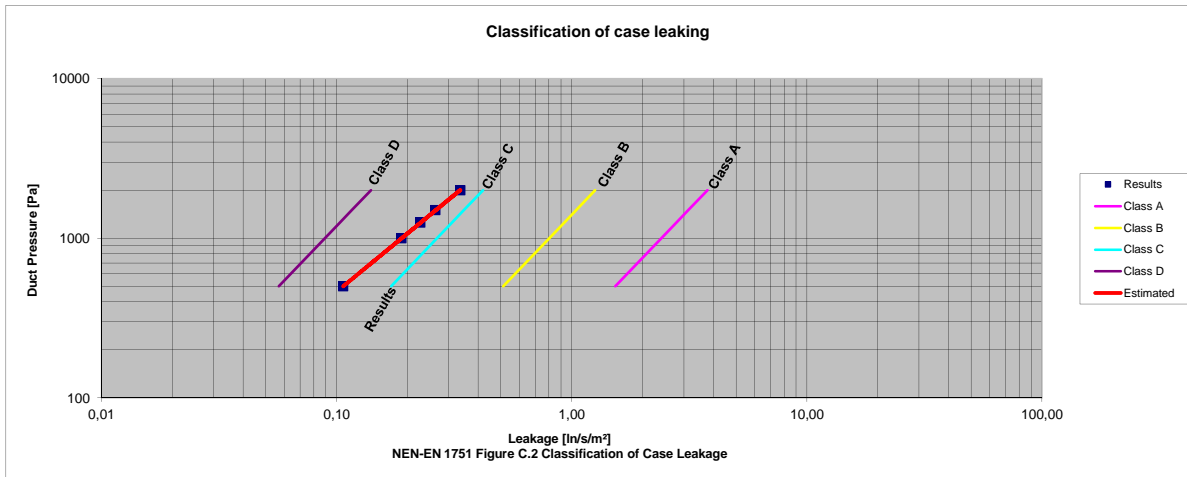
| Products specifications | |
|-------------------------|---|
| Productcode | FK90 |
| Model | 200x200 CAO |
| Case Width | 0,200 [m] |
| Case Height | 0,200 [m] |
| Case Diameter | [m] |
| Case Length | 0,500 [m] |
| Real Duct surface | 0,400 [m²] |
| Virtual Duct surface | 0,800 [m²] |
| Note: | When Case Length < 1m; 1m is used in calculations as specified by LUKA. |

| Measurement specifications | | |
|----------------------------|------------------------|----------------------|
| Pressure time | 60 seconds | |
| Pressure controller | PR-41X/20mbar/81955.50 | |
| Airflow meter(s) | Low Flow | F-111B-20K-RAD-00-V |
| | High Flow | F-112AC-M20-RAD-55-V |
| Rated Accuracy | Pressure Ctrl | ± 0,05%Rd + 0,093%FS |
| | Low Flow | ± 0,5%Rd + 0,1%FS |
| Date calibrated | High Flow | ± 0,5%Rd + 0,1%FS |
| | Pressure Ctrl | 1-2-2016 |
| Date calibrated | Low Flow | 2-2-2016 |
| | High Flow | 3-2-2016 |

The leakage is measured in normal liters (= 1liter at 0°C and 101325 pa)

| NEN-EN 1751 | |
|--------------------------------|-------|
| Max. Leakagefactor [ln/s/m²] | |
| Class A | 0,027 |
| Class B | 0,009 |
| Class C | 0,003 |
| Class D | 0,001 |
| $\Phi L = f \times P_s^{0,65}$ | |
| $\Phi L =$ Leakage [ln/s/m²] | |
| $f =$ Leakagefactor | |
| $P_s =$ Static Pressure | |

| Measurements and calculations | | | | | | LUKA standards | | | | | Estimated class |
|-------------------------------|--------------------|----------------------|----------------|--------------------------------|----------------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
| Reading | Measure instrument | Static pressure [Pa] | Leakage [ln/s] | Leakage duct surface [ln/s/m²] | Corrected at 20°C [l/s/m²] | Product tightness factor [-] | Class A [ln/s/m²] | Class B [ln/s/m²] | Class C [ln/s/m²] | Class D [ln/s/m²] | |
| 1 | High Flow | 500 | 0,086 | 0,11 | 0,11 | 0,001879 | 1,53 | 0,51 | | | Class C |
| 2 | High Flow | 1000 | 0,152 | 0,19 | 0,19 | 0,002117 | | 0,80 | 0,27 | 0,09 | Class C |
| 3 | High Flow | 1250 | 0,183 | 0,23 | 0,23 | 0,002204 | | | 0,31 | 0,10 | Class C |
| 4 | High Flow | 1500 | 0,212 | 0,27 | 0,26 | 0,002268 | | | 0,35 | 0,12 | Class C |
| 5 | High Flow | 2000 | 0,271 | 0,34 | 0,34 | 0,002405 | | | 0,42 | 0,14 | Class C |



| Other results | |
|--------------------|------|
| Visual deformation | no |
| Pressure [Pa] | 2000 |

As the tested model is the smallest model of this product range, the same classification result (or better) is valid for all bigger models.

Approved and certified by
Certificate nr.
P-97/52-45



Calibration certifications nr.
Low Flow BHTG19/1998171
High Flow BHTG22/1998690
Pressure ctrl not specified