

Barcol-Air Netherlands casing leakage test sheet

According to standard NEN-EN 1751-2014

Test setup		
Date	22-10-2020	Reference nr. LM-18-0018
Exp. Date	22-10-2023	Tested by TK
Place	Barcol-Air	Witness by MBs
Air temperature	22	[°C]
Atmospheric pressure	1011	[hPa]

Contact information	
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Model (Name/Type):

Fire damper circular single skin type: FR90-100-S

Result:

Class D

Product specifications		
Productcode	FR90-100-S	
Model	100	
Case Width		[m]
Case Height		[m]
Case Diameter	0,100	[m]
Case Length	0,320	[m]
Real Duct surface	0,101	[m²]
Virtual Duct surface	0,314	[m²]
Note:	When Case Length <1m; 1m is used in calculations as specified by LUKA.	

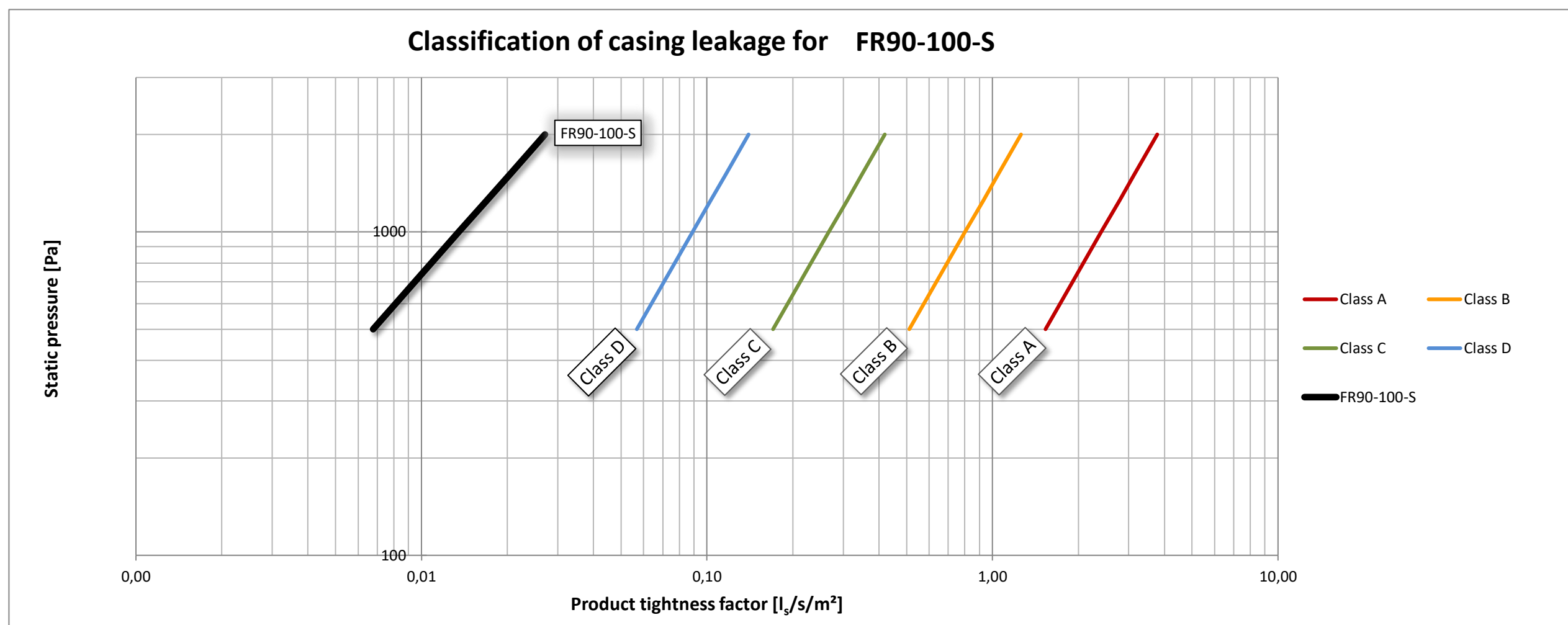
Measurement specifications	
Pressure time	60 seconds
Pressure controller	PR-41X/20mbar/81955.50
Airflow meter(s)	Low Flow F-111B-20K-RAD-00-V
	High Flow F-112AC-M20-RAD-55-V
Rated Accuracy	Pressure Ctrl ± 0,05%Rd + 0,093%FS
	Low Flow ± 0,5%Rd + 0,1%FS
Date calibrated	High Flow ± 0,5%Rd + 0,1%FS
	Pressure Ctrl 21-2-2020
Low Flow	18-2-2020
	High Flow 17-2-2020

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

NEN-EN 1751-2014	
Max. Leakagefactor [l _v /s/m²]	
Class A	0,027
Class B	0,009
Class C	0,003
Class D	0,001
$\Phi L = f \times P_s^{0,65}$	
ΦL Leakage [l _v /s/m²]	
f = Leakagefactor	
P _s = Static Pressure	

Measurements and calculations					
Reading	Measure instrument	Static pressure [Pa]	Measured air leakage rate [l _v /s]	Corrected air leakage rate 20°C [l _v /s]	Product tightness factor [l _v /s/m²]
1	Low Flow	500	0,002	0,002	0,007
2	Low Flow	1000	0,004	0,004	0,014
3	Low Flow	1250	0,005	0,005	0,017
4	Low Flow	1500	0,006	0,006	0,020
5	Low Flow	2000	0,008	0,009	0,027

LUKA standards				
Class A	Class B	Class C	Class D	Estimated class
[l _v /s/m²]	[l _v /s/m²]	[l _v /s/m²]	[l _v /s/m²]	
1,53	0,51	0,17	0,06	Class D
2,41	0,80	0,27	0,09	Class D
2,78	0,93	0,31	0,10	Class D
3,13	1,04	0,35	0,12	Class D
3,78	1,26	0,42	0,14	Class D



Other results	
Visual deformation	Negative
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 larger models.

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Calibration certifications nr.
 Low Flow BHTG19/5369552
 High Flow BHTG22/5368561
 Pressure ctrl not specified