

TESTRAPPORT 53928/1

ENGLISH TRANSLATION

According to EN 13030: 2001: "Ventilation of buildings - Grilles - Performance testing of air grilles subjected to simulated rain"

**Linius L.150ACS, mesh 2.3x2.3 and sill
and derived types :**
**Rooster 446/150, mech 2.3x2.3 and
watergutter**

carried out by : BSRIA Ltd
Old Bracknell West, Bracknell
Berkshire RG12 7AH [Engeland]

commissioned by : nv RENSON Sunprotection-Projects sa
Maalbeekstraat 10
8790 Waregem [België]

Date of issue : 9 oktober 2018

TEST INFORMATION

Contract	53928A
Date	18/1/2010
Manufacturer	Renson
Louvre Model	L.150ACS
Material	Aluminium
Painted	No
Blade Height	1000 mm
Blade Width	990 mm
Blade Depth	145 mm
Frame Depth	150 mm
No. of Blades	6
Blade Pitch	150 mm
No. of Banks	1
Guard Type	Insect
Guard Spacing	5 mm
Side Channels	No
Drip Tray	Yes
Blade Orientation	Horizontal



CLASSIFICATION OF WEATHER LOUVRES

Weather louvres shall be classified by their ability to reject simulated rain.

- **Penetration Classification**

Table 1 shows the different classifications based on the maximum simulated rain penetration per square metre of louvre. The classification is determined in accordance with section 8.2 of EN 13030:2001.

Water penetration rating at a given louvre face velocity is determined by the water penetration while the louvre is subjected to a 13 ms⁻¹ simulated wind velocity and a simulated rain fall at the nominal rate.

Table 1 Penetration classification

classe	Effectiveness	Maximum allowed penetration of simulated rain l.h-1.m-2
A	1,00 - 0,99	0,75
B	0,989 - 0,95	3,75
C	0,949 - 0,80	15,0
D	< 0,80	> 15,0

These classifications apply to various core velocities.

- **Discharge and Entry Loss Coefficient**

The discharge and entry loss coefficient given in Table 2, shall be determined in accordance with section 8.3 of test standard EN13030:2001.

Classe	Discharge and Entry Loss Coefficient
1	> 0,4
2	0,3 - 0,399
3	0,2 - 0,299
4	< 0,199

Summary Report 53928/1

Issue No: 1

Date of issue: 10 October 2018

This Summary Report confirms that BSRIA Ltd has tested a sample of the product described below in accordance with the test methods contained within EN 13030:2001 and have determined the item met the detailed classification shown on pages 3 to 5. For further details of the test item see Page 2 of this Summary Report.

Manufacturer/Agent	N.V. Renson Projects IZ 2 Vijverdam Maalbeekstraat 6 B-8790 Waregem
Product	L.150ACS
Test location	BSRIA Old Bracknell West Bracknell Berkshire RG12 7AH
Date of test	18 January to 4 February 2010
Date of issue	9 October 2018
Test engineer	A Freeth
Quality approved	Mark Roper Principal Test Engineer

This Summary Report must not be reproduced except in full without the written approval of an executive director of BSRIA. It is only intended to be used within the context described in the text.

This summary report supersedes certificate 53928/1. This up-date was carried out under BSRIA contract reference 61223.

RAINWATER PENETRATION

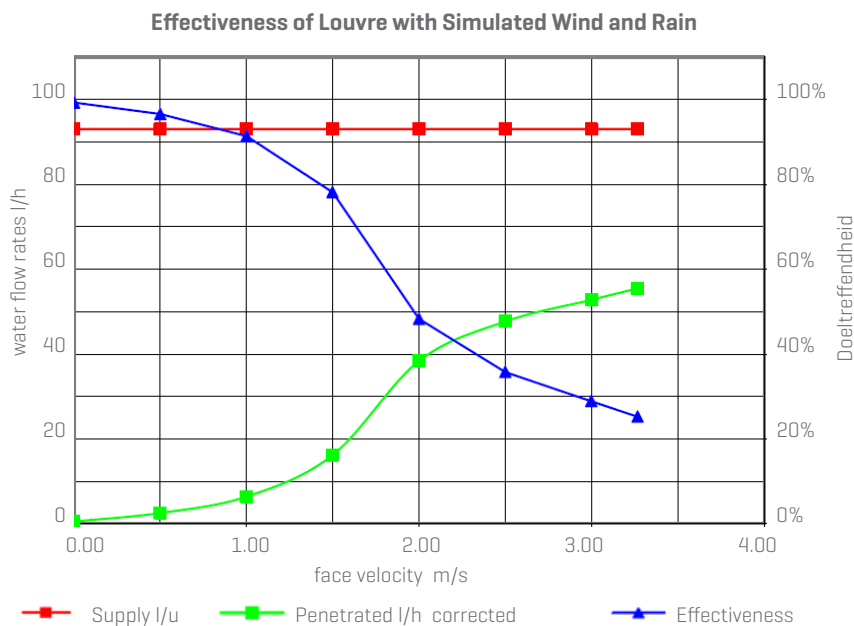
MANUFACTURER Renson
MODEL L.150ACS

Date 18/01/2010
Contract 53928A

Simulated rainfall 75 mm/hr
Wind speed 13.0 m/s

louvre height 1000 mm
louvre width 990 mm
louvre area 0.990 m²

VENTILATION RATE		WATER FLOW RATES		Effectiveness	Class
Volume m ³ /s	Velocity m/s	Supply l/u	Penetrated l/u		
0,00	0,00	93,0	0,5	99,3%	A
0,49	0,50	93,0	2,5	96,6%	B
0,99	1,00	93,0	6,4	91,3%	C
1,48	1,50	93,0	16,2	78,1%	D
1,98	2,00	93,0	38,4	48,3%	D
2,48	2,50	93,0	47,4	35,8%	D
2,97	3,00	93,0	52,8	28,9%	D
3,24	3,27	93,0	55,5	25,2%	D

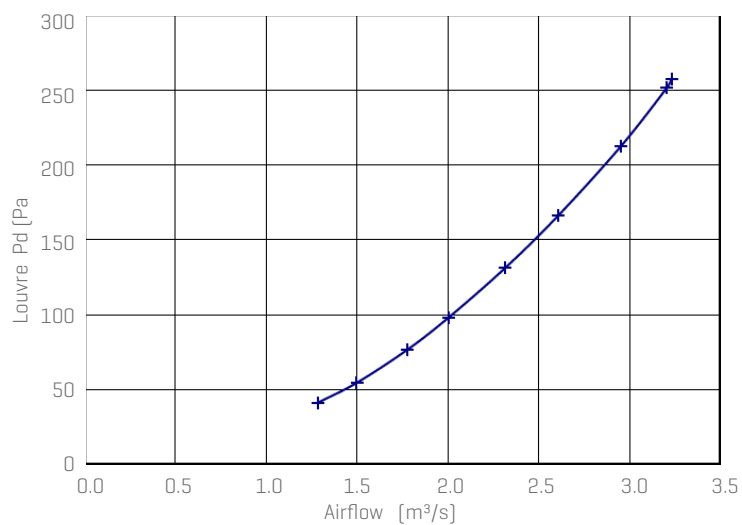


COEFFICIENT OF ENTRY

MANUFACTURER	Renson	Date	18/01/2010
MODEL	L.150ACS	Contract	53928A
air temperature	11.4 °C	louvre height	1000 mm
barometer	1025 mbar	louvre width	990 mm
air density	1.250 kg/m ³	louvre area	0.990 m ²

louvre pd Pascal	louvre face velocity	air flow rate		Coefficient Ce
	m/s	Test m ³ /s	theoretical m ³ /s	
41,4	1,30	1,284	8,054	0,159
54,8	1,51	1,500	9,267	0,162
76,7	1,79	1,776	10,965	0,162
98,3	2,02	2,004	12,414	0,161
131,3	2,34	2,315	14,347	0,161
166,5	2,64	2,609	16,156	0,161
212,5	2,98	2,951	18,252	0,162
251,6	3,24	3,205	19,860	0,161
257,0	3,26	3,229	20,072	0,161
			Ce moyen	0,161
			Classe	4

Resistance to Airflow [C_e]



COEFFICIENT OF DISCHARGE

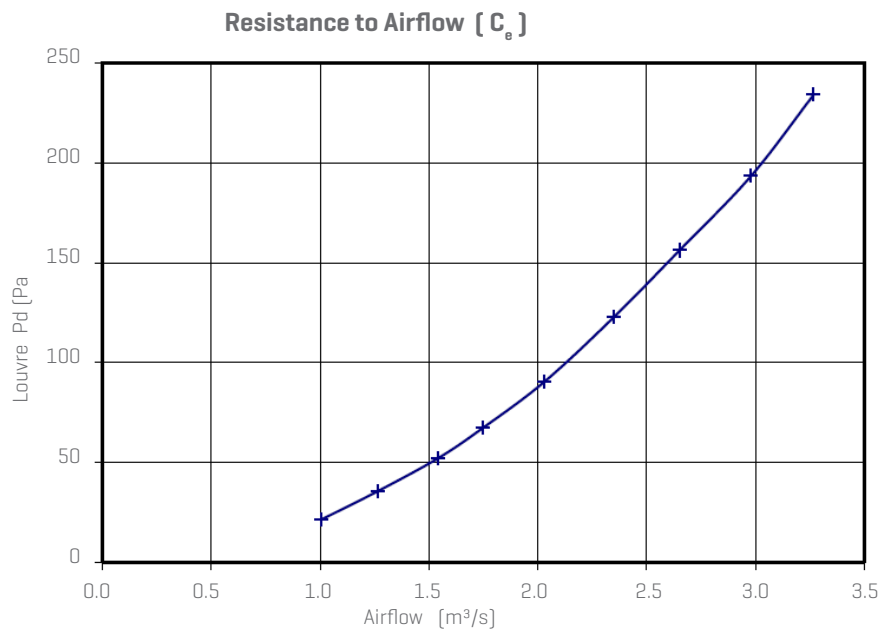
MANUFACTURER Renson
MODEL L.150ACS

Date 4/02/2010
Contract 53928A

air temperature 11°C
barometer 999.4 mbar
air density 1.220 kg/m³

louvre height 1000 mm
louvre width 990 mm
louvre area 0.990 m²

Louvre pd Pascal	louvre face velocity	air flow rate		coefficient C _e
	m/s	Test m ³ /s	theoretical m ³ /s	
21,4	1,02	1,007	5,863	0,172
35,5	1,28	1,265	7,551	0,167
52,1	1,56	1,543	9,148	0,169
67,2	1,77	1,748	10,389	0,168
90,4	2,05	2,032	12,050	0,169
122,5	2,37	2,348	14,027	0,167
156,1	2,68	2,652	15,834	0,167
193,4	3,01	2,981	17,625	0,169
233,9	3,30	3,268	19,383	0,169
			Cd moyen	0,169
			Classe	4



Summary Report

www.bsria.co.uk

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Blade Width	990	mm
Blade Depth	145	mm
Frame Depth	150	mm
No.of Blades	6	
Blade Pitch	150	mm
No.of Banks	1	
Guard Type	Insect	
Guard Spacing	5	mm
Side Channels	No	
Drip Tray	Yes	
Blade Orientation	Horizontal	

Front view of louvre



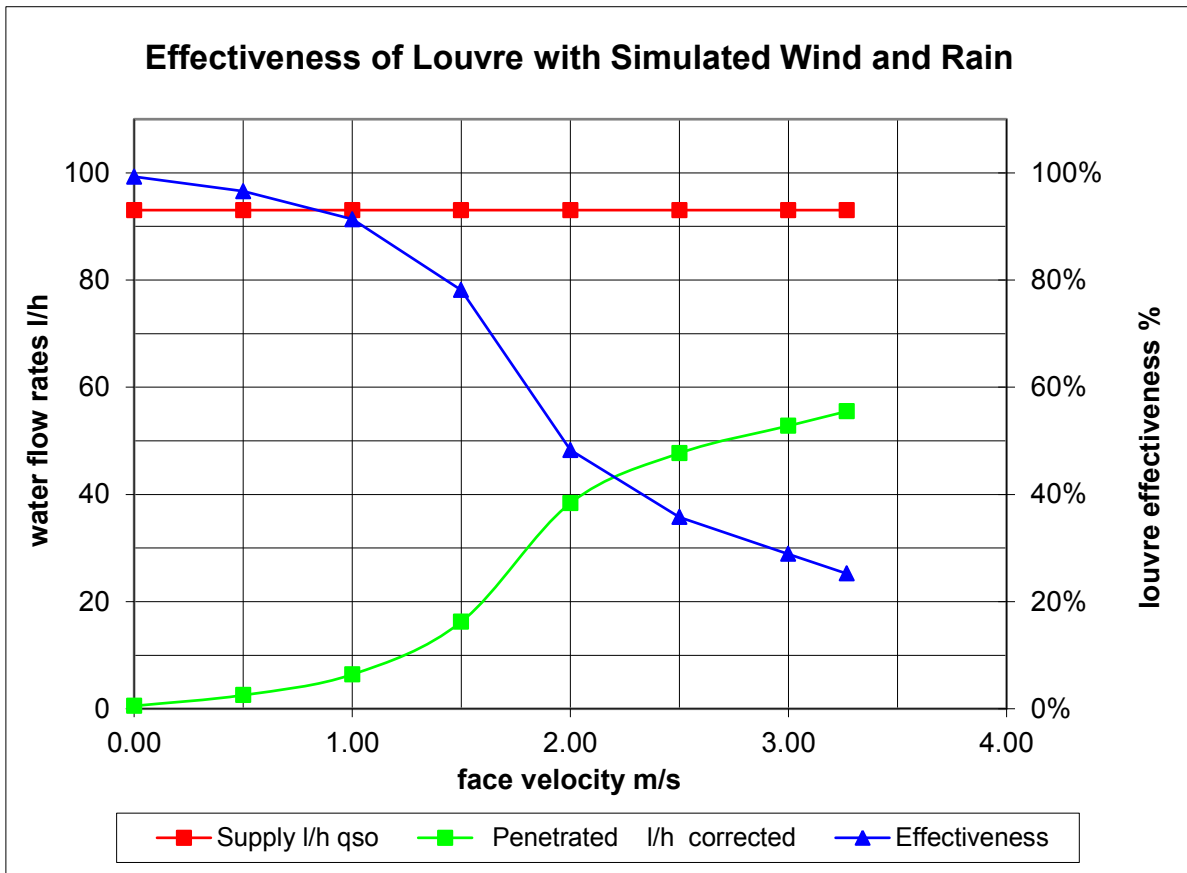
RAINWATER PENETRATION

MANUFACTURER Renson
 MODEL L.150ACS

Date 18/01/2010
 Contract 53928A

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 Wind speed 13.0 m/s
 louvre height 1000 mm
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1.98	2.00	93.0	38.4	48.3%	D
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COEFFICIENT OF ENTRY

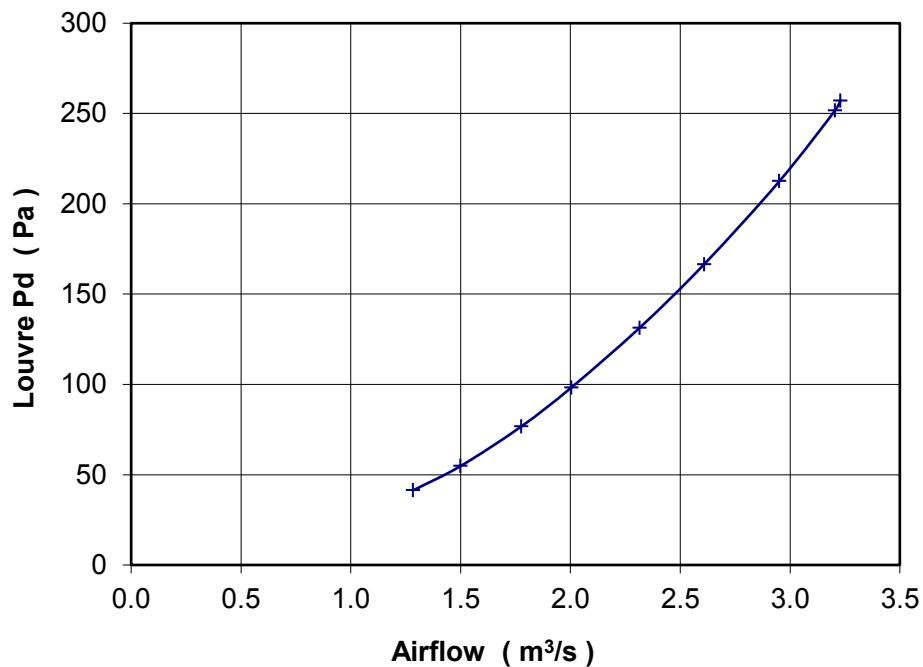
MANUFACTURER Renson
 MODEL L.150ACS

Date 18/01/2010
 Contract 53928A

air temperature 11.4 °C louvre height 1000 mm
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mean C _e				0.161
Class				4

Resistance to Airflow (C_e)



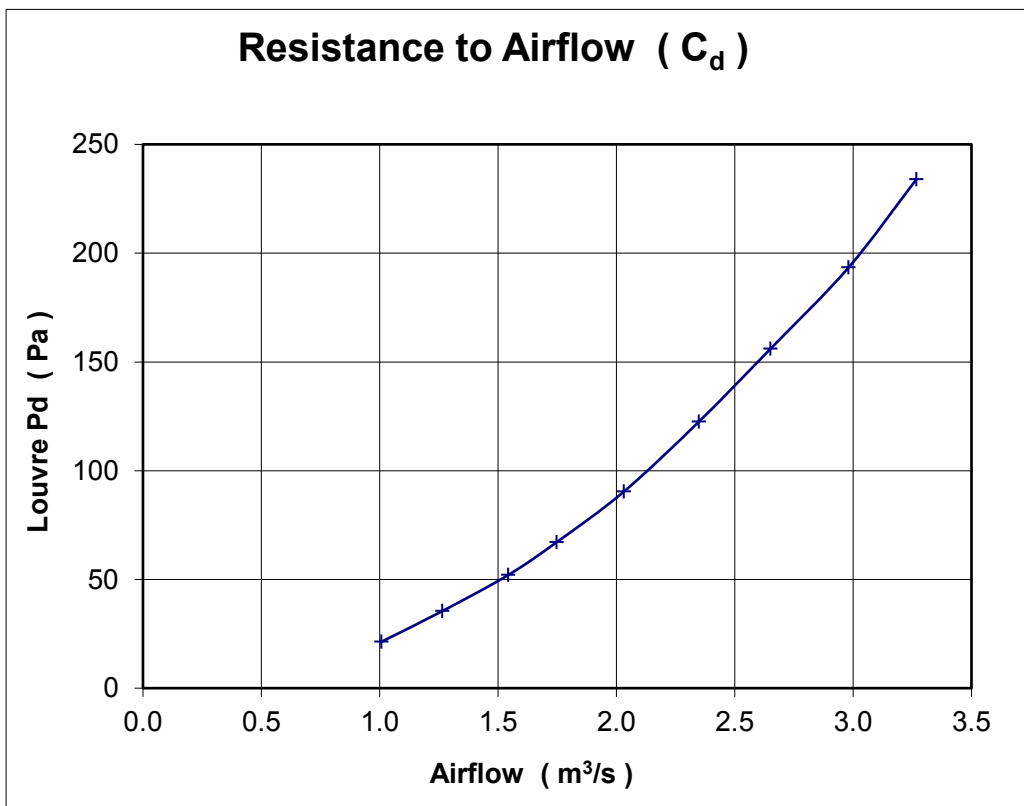
COEFFICIENT OF DISCHARGE

MANUFACTURER Renson
 MODEL L.150ACS

Date 04/02/2010
 Contract 53928A

air temperature 11 °C louvre height 1000 mm
 barometer 999.4 mbar louvre width 990 mm
 air density 1.220 kg/m³ louvre area 0.990 m²

louvre pd Pascals	louvre face velocity	air flow rate		coefficient C _d
	m/s	test m ³ /s	theoretical m ³ /s	
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Discharge and Entry Loss Coefficient

The discharge and entry loss coefficient given in Table 2, shall be determined in accordance with section 8.3 of test standard EN13030:2001.

Table 2 Discharge and Entry loss coefficient classification

Class	Discharge and Entry Loss Coefficient
1	0,4 and above
2	0,3 to 0,399
3	0,2 to 0,299
4	0,199 and below