

Window valve: Form & Plast click valve no. 2k-3010

Setting: Fully open

**Aerodynamic performance**

EN 13141-1:2004

The ambient air temperature: 21,3 °C

Increasing $\Delta p$			Decreasing $\Delta p$		
$\Delta p$	$q_{V\text{ cor}}$	$q_{V\text{ cor}} - q_{V\text{ leakage}}$	$\Delta p$	$q_{V\text{ cor}}$	$q_{V\text{ cor}} - q_{V\text{ leakage}}$
Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s	Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s
-1,1	1,62	1,62	-1,1	1,61	1,61
-2,0	2,30	2,30	-2,0	2,26	2,26
-4,1	3,26	3,26	-4,2	3,37	3,37
-8,2	4,72	4,72	-8,1	4,73	4,73
-10,0	5,21	5,21	-10,6	5,42	5,42
-15,2	6,48	6,48	-15,4	6,55	6,55
-20,3	7,48	7,48	-20,2	7,49	7,49
-30,2	9,16	9,17	-31,3	9,31	9,31
-40,6	10,6	10,6	-40,1	10,6	10,6
-60,7	13,1	13,1	-59,8	13,1	13,1
-79,6	15,0	15,1	-79,8	15,3	15,3
-100	17,2	17,2	-100	17,2	17,2

$\Delta p$  Static pressure difference between test chamber and ambient air, Pa  
(Test chamber pressure is negative compared to ambient air)

$q_{V\text{ cor}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup>, dm<sup>3</sup>/s

$q_{V\text{ cor}} - q_{V\text{ leakage}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup> minus testing chamber leakage, dm<sup>3</sup>/s

The test results relate only to the sample tested.

Window valve: Form & Plast click valve no. 2k-3010

Setting: Half open (A-side open, B-side closed)

### Aerodynamic performance

EN 13141-1:2004

The ambient air temperature: 21,5 °C

Increasing $\Delta p$			Decreasing $\Delta p$		
$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$	$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$
Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s	Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s
-1,1	1,10	1,10	-1,1	1,14	1,14
-2,1	1,50	1,50	-2,0	1,48	1,48
-3,9	2,15	2,15	-4,1	2,22	2,22
-8,1	3,14	3,14	-7,9	3,16	3,16
-10,3	3,55	3,55	-10,5	3,63	3,63
-14,9	4,36	4,36	-15,1	4,40	4,40
-19,8	5,05	5,05	-21,0	5,21	5,21
-29,9	6,26	6,26	-29,6	6,20	6,20
-40,7	7,33	7,33	-40,5	7,30	7,30
-59,9	8,94	8,94	-60,0	8,93	8,94
-79,4	10,3	10,3	-79,6	10,3	10,3
-101	11,7	11,7	-101	11,7	11,7

$\Delta p$  Static pressure difference between test chamber and ambient air, Pa  
(Test chamber pressure is negative compared to ambient air)

$q_{V \text{ cor}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup>, dm<sup>3</sup>/s

$q_{V \text{ cor}} - q_{V \text{ leakage}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup> minus testing chamber leakage, dm<sup>3</sup>/s

The test results relate only to the sample tested.

Window valve: Form & Plast click valve no. 2k-3010

Setting: Half open (B-side open, A-side closed)

### Aerodynamic performance

EN 13141-1:2004

The ambient air temperature: 21,2 °C

Increasing $\Delta p$			Decreasing $\Delta p$		
$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$	$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$
Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s	Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s
-1,2	1,19	1,19	-1,1	1,12	1,12
-2,0	1,58	1,58	-2,0	1,54	1,54
-4,0	2,19	2,19	-4,2	2,14	2,14
-8,2	3,18	3,18	-7,9	3,02	3,02
-9,8	3,49	3,49	-9,8	3,38	3,38
-15,2	4,25	4,25	-14,9	4,22	4,22
-19,5	4,84	4,84	-20,1	4,92	4,92
-29,9	6,04	6,04	-29,9	6,01	6,01
-40,0	7,01	7,01	-40,1	7,03	7,03
-58,5	8,55	8,55	-59,6	8,62	8,62
-79,3	10,0	10,0	-80,2	10,0	10,0
-100	11,3	11,3	-100	11,3	11,3

$\Delta p$  Static pressure difference between test chamber and ambient air, Pa  
(Test chamber pressure is negative compared to ambient air)

$q_{V \text{ cor}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup>, dm<sup>3</sup>/s

$q_{V \text{ cor}} - q_{V \text{ leakage}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup> minus testing chamber leakage, dm<sup>3</sup>/s

The test results relate only to the sample tested.

Window valve: Form & Plast click valve no. 2k-3010

Setting: Closed

**Aerodynamic performance**

EN 13141-1:2004

The ambient air temperature: 21,2 °C

Increasing $\Delta p$			Decreasing $\Delta p$		
$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$	$\Delta p$	$q_{V \text{ cor}}$	$q_{V \text{ cor}} - q_{V \text{ leakage}}$
Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s	Pa	dm <sup>3</sup> /s	dm <sup>3</sup> /s
-58,6	0,006	0,010	-57,6	0,006	0,009
-77,3	0,008	0,013	-73,4	0,007	0,012
-100	0,010	0,017	-100	0,010	0,017

$\Delta p$  Static pressure difference between test chamber and ambient air, Pa  
(Test chamber pressure is negative compared to ambient air)

$q_{V \text{ cor}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup>, dm<sup>3</sup>/s

$q_{V \text{ cor}} - q_{V \text{ leakage}}$  Air flow rate at air density 1,20 kg/m<sup>3</sup> minus testing chamber leakage, dm<sup>3</sup>/s



The test results relate only to the sample tested.

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**Instruments used**

Instrument	Type code	Serial number	Calibration date	Used
Micromanometer	Furness FCO12	0611108	15.7.2015	X
	Furness FCO12	0611107	15.7.2015	X
	Furness FCO12	0611106	15.7.2015	X
Barometer	Vaisala PTU303	M4440048	7.11.2016	X
Hygrometer	Vaisala PTU303	M4440048	7.11.2016	X
Thermometer	Agilent 34970A	MY44066372	21.7.2017	X
Orifice plate	Φ 50 / Φ 1.2	-		X
	Φ 50 / Φ 12.6	-		X
	Φ 50 / Φ 23.1	-		X
	Φ 50 / Φ 40.1	-		X

Calibrated orifice plate Ø 50 mm / Ø 1,2 mm was used in test chamber and closed click valve leakage measurements.

The test results relate only to the sample tested.