

invisiline

INVISIBLE
LINEAR
DIFFUSERS



SMART SMARTCON AESTHETIC AESTHLIGHT

Technical catalogue

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1. Annotation	1
1.1. About our company	1
1.2. Technologies	2
2. Methods of measuring aerodynamic and acoustic characteristics of the diffusers	3
3. SMART/SMARTCON	4
3.1. Simulation of air flows SMART/SMARTCON	5
3.2. Examples of the lamellas positioning and air flow distribution SMART/SMARTCON	6
3.3. SMART/SMARTCON diffusers specifications	7
4. AESTHETIC	12
4.1. Simulation of air flows AESTHETIC	13
4.2. AESTHETIC diffusers specifications	14
5. SMART/SMARTCON/AESTHETIC diffuser order code formation	17
6. CORNER-SMART/CORNER-AESTH corner elements order code formation	18
7. AESTHLIGHT	19
7.1. The architectural element AESTHLIGHT	20
7.2. Order code of architectural elements AESTHLIGHT	21
8. Order example of a modular system with corner elements	22
9. Configurations and order codes of plenum boxes (PB)	23
10. Plenum box (PB) specifications	24
11. Installation guide	25
12. Diffuser installation diagrams	27
13. We are trusted	31
14. Examples of implemented projects	32

1.1. About our company



2017-2019

Development and launch of the first Invisiline LINE model

Development and launch of the Invisiline PRO model



reddot winner 2020

2020

Founding of LLC

Red Dot Design Award



2021

Development of the BASIC, AESTHETIC models

Obtaining of 4 patents

ALUMFORUM Award for the Best Aluminum Product



2022

Development of the SMART model

Obtaining of 3 patents

Reconstruction and opening of our own in-house production, 1600 sq.m.



2023

Development of the BLANC model

Obtaining of 5 patents

Finalists of the "Invented and Made in Russia" contest

2024

Launch of our own in-house acoustic and aerodynamic laboratory

Launch of the BLANC model in production

Development of the BLANCPRO model

Receipt of the patent

Receipt of the "Made in Moscow" label



2025

BLANCPRO sales start

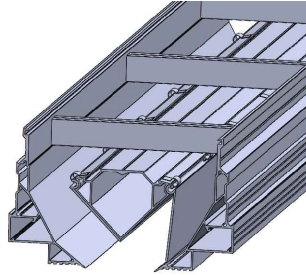
Expansion of production facilities to 2400 sq. m.

Sk Resident

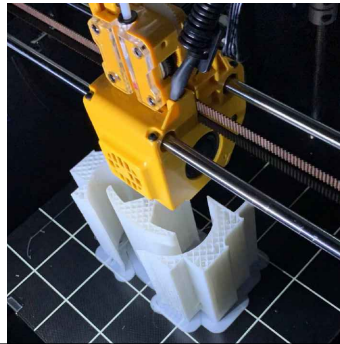
Defense of a unique technical solution and joining Skolkovo Innovation Cluster

1.2. Technologies

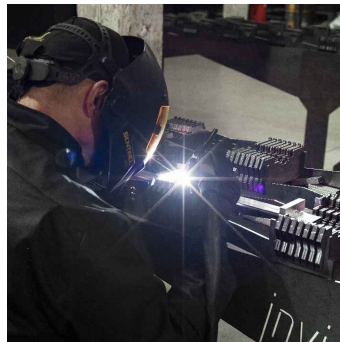
- 1 3D modeling - we create accurate three-dimensional models of our products using specialized software. This stage allows us to develop the design and check its compliance with technical requirements.



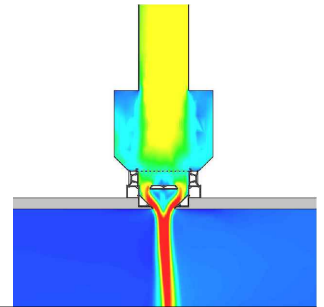
- 3 Prototyping - we produce the first samples using a 3D printer and CNC machines to test functionality and identify possible flaws at an early stage.



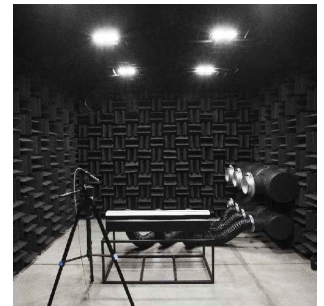
- 5 Approval and launch into production - after successful testing, we finalize the product design, select the technology, and configure the production equipment.



- 2 Mathematical simulation of aerodynamic processes: We optimize the design and evaluate key aerodynamic parameters, such as pressure drop, airflow velocity, and other characteristics.



- 4 We conduct tests in acoustic and aerodynamic laboratories to confirm the calculated characteristics and identify possible design flaws.



1. Aerodynamic characteristics were obtained as a result of full-scale tests on the aerodynamic installation developed in accordance with the National Standard of the Russian Federation GOST P EH 12238-2012 "Ventilation for buildings - Air terminal devices. Aerodynamic testing and rating for mixed flow application".

2. Acoustic characteristics were obtained as a result of full-scale tests conducted in a semi-anechoic room according to the internal methodology of our company based on the National Standard of the Russian Federation GOST 32112-2013 "Acoustics. Determination of noise performance for air-terminal devices. Precision methods for anechoic rooms".

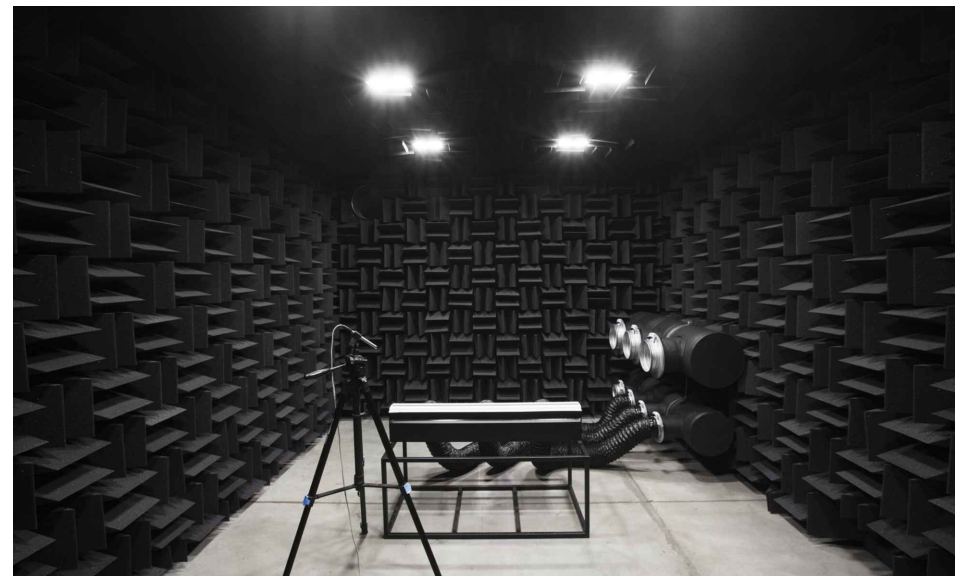
Detailed test data is available on request.

The following measuring instruments were used for the tests:

№	Measured parameter	Name of measuring instrument
1	Air flow velocity	Thermoanemometer TTM-2-01 T
2	Pressure drop	Differential pressure meter Testo 512 (0...2 GPa)
3	Sound pressure level	Noise meter Oktava-111
4	Temperature, relative humidity, atmospheric pressure	Thermo-hygrometer ИВТМ-7 М 5-Д

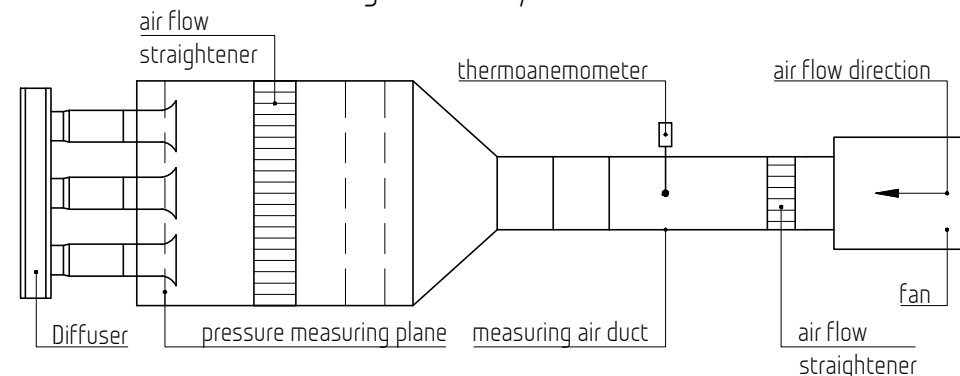
2. Methods of measuring aerodynamic and acoustic characteristics of the diffusers

Photo of the installation for acoustic parameters measurement



Schematic diagram of the installation

for measuring the aerodynamic characteristic:



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SMART / SMARTCON

Unrivalled aesthetics for maximum comfort

Linear diffuser with air flow direction using Coanda effect

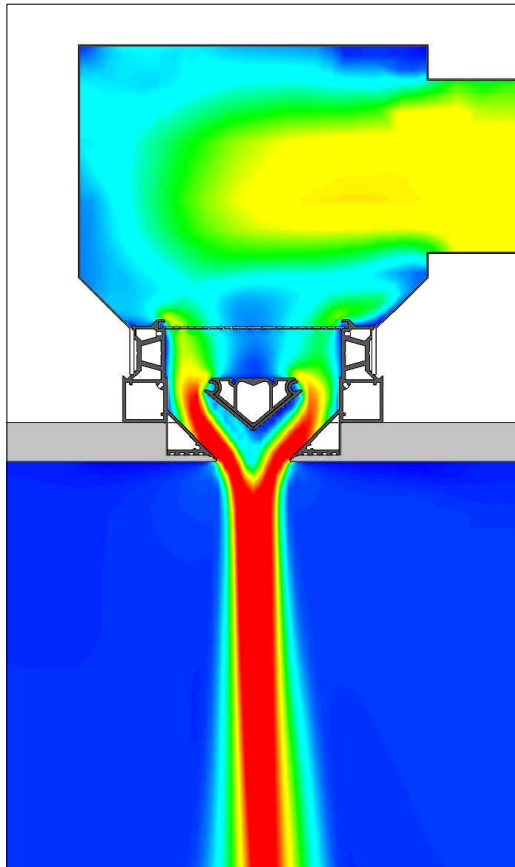
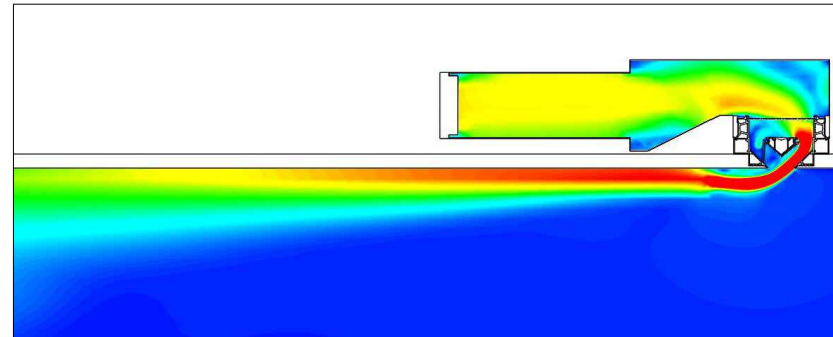
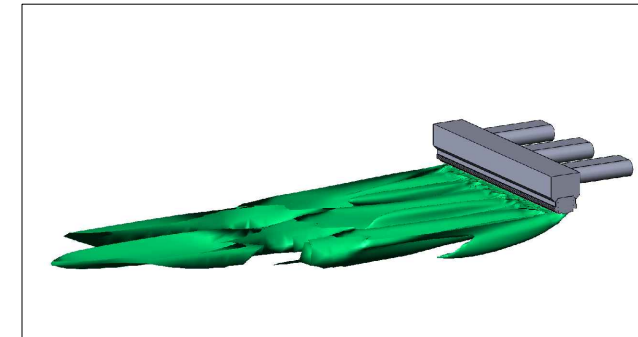
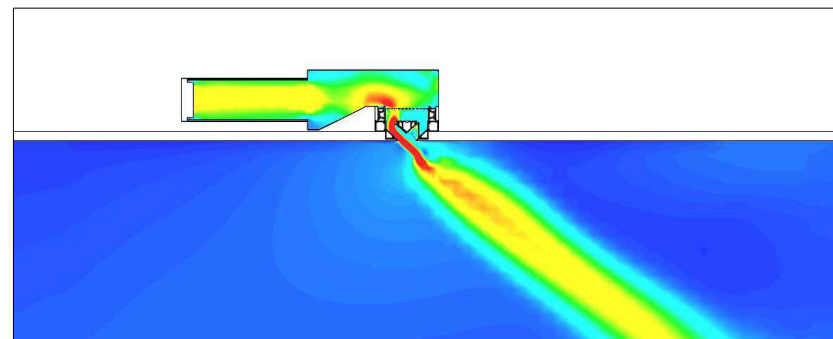
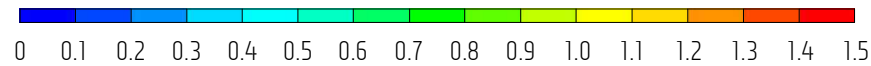
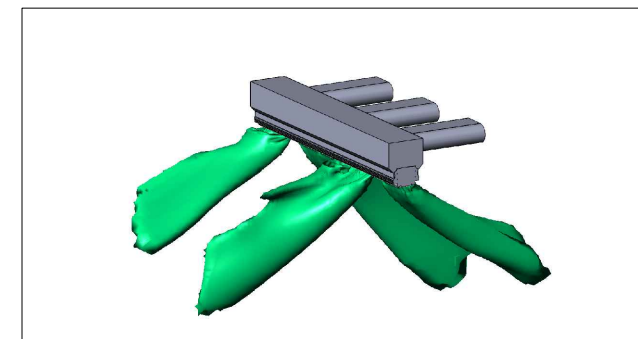
Perfect aerodynamics of the supply air jet, preventing metal contact with the air in the room

The patented diffuser frame profile provides maximum structural rigidity, mounting reliability and perfect modular system configuration for any diffuser length



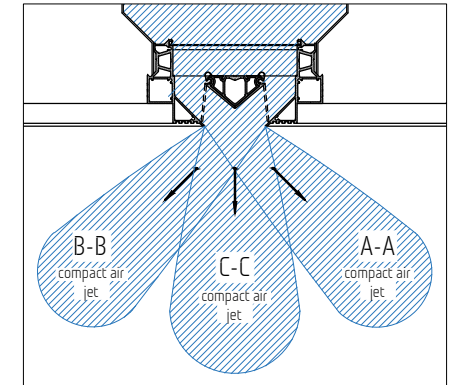
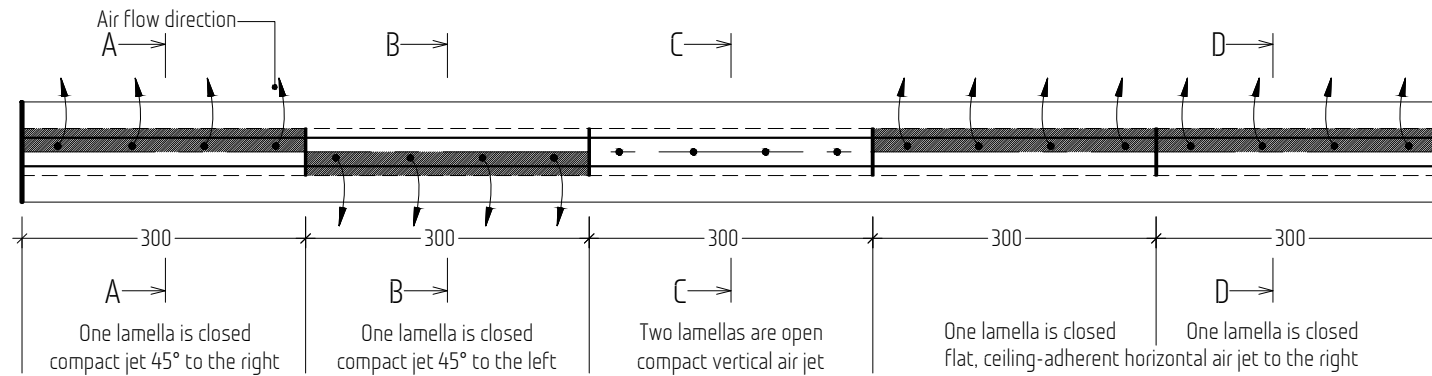
Air flow velocity profile

Isosurface of the velocity $V=0.6$ m/s

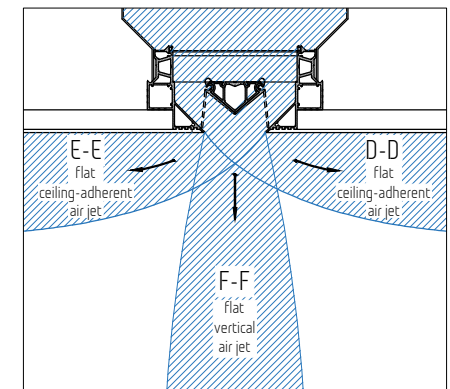
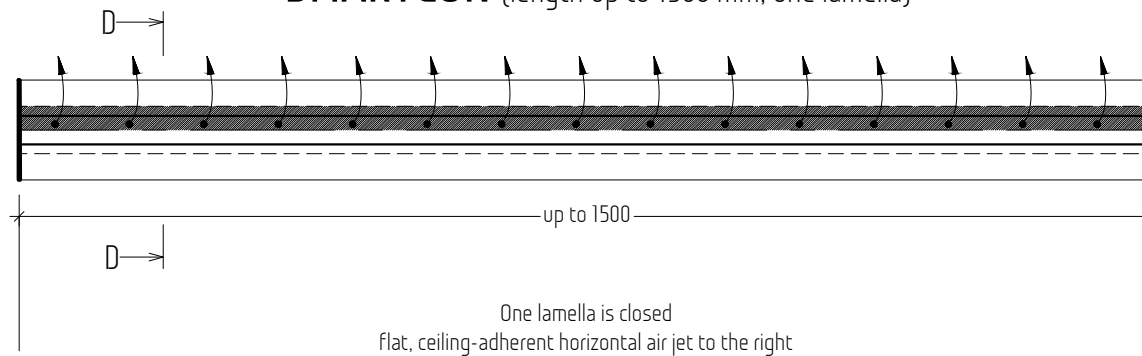
vertical air jet
SMARTCON/SMART+BOX-STD

flat, ceiling-adherent air jet
SMARTCON/SMART+BOXZ-STD

flat, ceiling-adherent air jet
SMARTCON/SMART+BOX-STD

compact air jet
SMART+BOXZ-STD

compact air jets
SMART+BOX-STD


velocity [m/s]

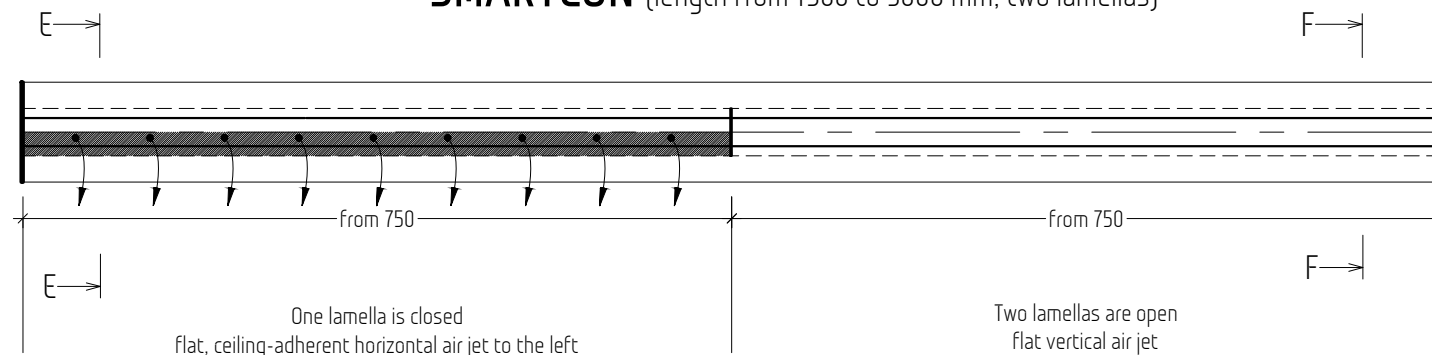
SMART (length of a solid element up to 3000 mm, lamellas increment 300 mm)



SMARTCON (length up to 1500 mm, one lamella)

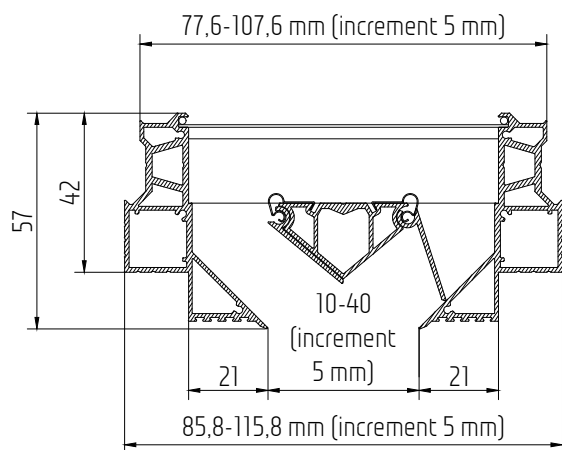


SMARTCON (length from 1500 to 3000 mm, two lamellas)

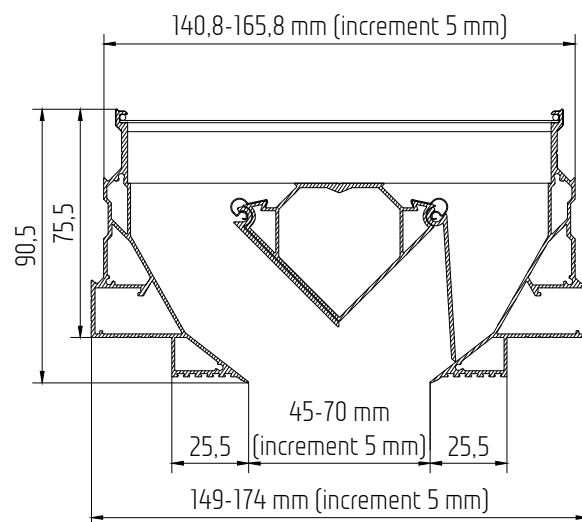


Diffusers cross sections

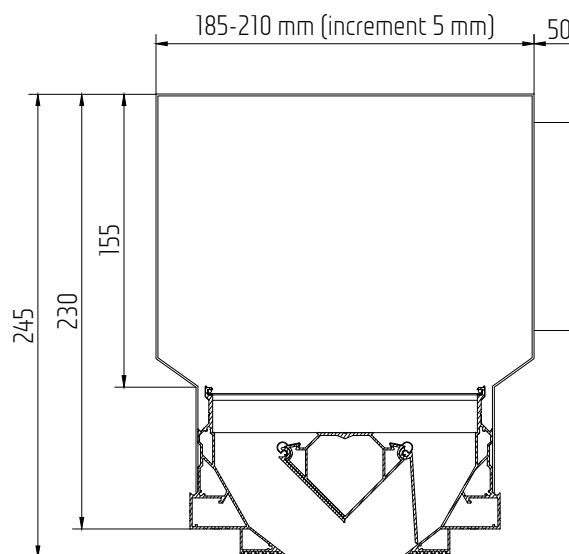
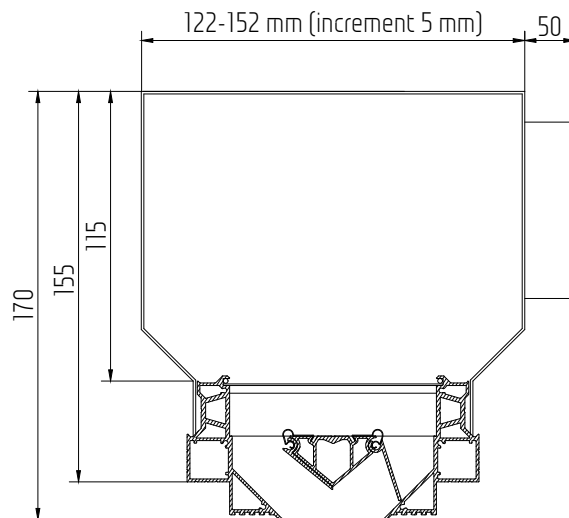
10-40



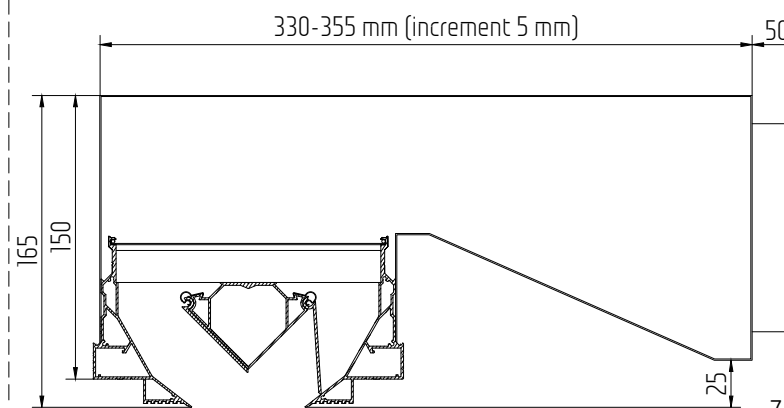
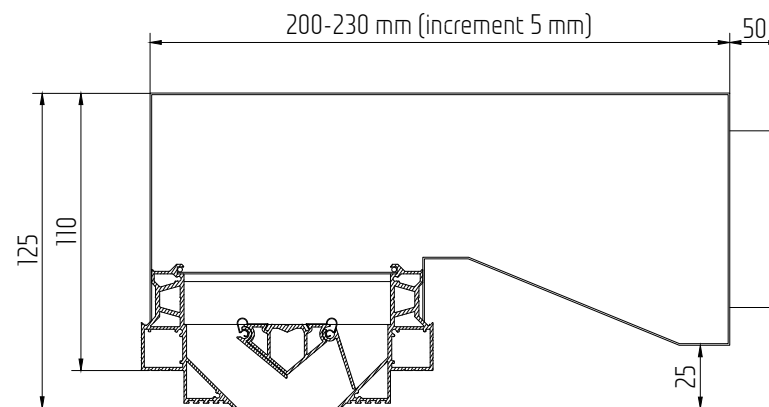
45-70



Diffusers + PB BOX cross sections



Diffusers + PB BOXZ cross sections



Aerodynamic and acoustic specifications for 1 linear meter in the supply air mode/flat vertical air jet

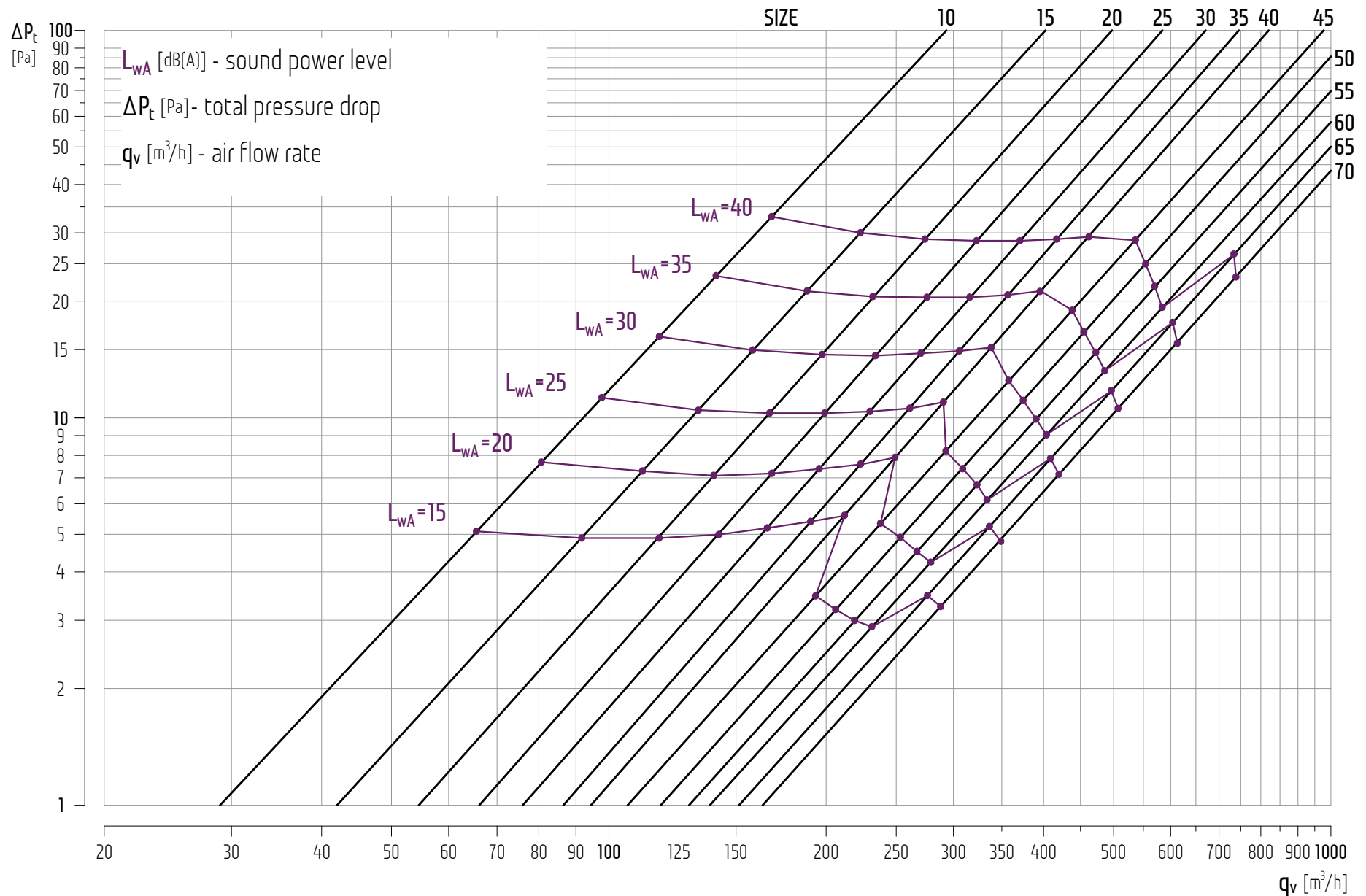
Table 1. Selection of diffusers by sound power level

Model	Sound power level																							
	$L_{WA}=15dB(A)$				$L_{WA}=20dB(A)$				$L_{WA}=25dB(A)$				$L_{WA}=30dB(A)$				$L_{WA}=35dB(A)$				$L_{WA}=40dB(A)$			
	$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$	
			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5
Smart 10	67	5.1	2.6	0.9	80	7.7	3.1	1.2	97	11.3	3.7	1.6	116	16.3	4.4	2.2	140	23.3	5.1	2.8	168	33.1	6.0	3.7
Smart 15	93	4.9	2.7	0.9	111	7.3	3.2	1.2	132	10.5	3.7	1.6	157	15.0	4.3	2.0	187	21.3	4.9	2.6	223	30.1	5.6	3.2
Smart 20	119	4.9	2.8	1.0	140	7.1	3.3	1.3	166	10.3	3.9	1.7	196	14.6	4.4	2.1	232	20.6	5.0	2.5	274	29.0	5.5	2.9
Smart 25	144	5.0	2.9	1.1	169	7.2	3.5	1.4	199	10.3	4.0	1.8	234	14.5	4.6	2.1	275	20.5	5.2	2.5	323	28.7	5.6	2.9
Smart 30	168	5.2	3.0	1.2	197	7.4	3.6	1.5	230	10.4	4.2	1.9	270	14.7	4.8	2.2	316	20.5	5.4	2.6	371	28.7	5.8	3.0
Smart 35	192	5.4	3.2	1.2	224	7.6	3.8	1.6	262	10.6	4.4	2.0	306	14.9	5.1	2.4	357	20.8	5.6	2.7	417	29.0	6.1	3.1
Smart 40	215	5.6	3.3	1.3	251	7.8	4.0	1.7	292	10.9	4.6	2.1	340	15.1	5.3	2.5	397	21.1	5.9	2.9	462	29.4	6.3	3.2
Smart 45	195	3.5	1.2	0.5	239	5.3	1.4	0.7	293	8.2	1.6	0.9	358	12.5	1.8	1.2	438	19.0	2.0	1.4	536	28.8	2.2	1.5
Smart 50	209	3.2	1.5	0.5	254	4.9	1.7	0.8	309	7.4	2.0	1.0	375	11.1	2.3	1.3	456	16.7	2.7	1.5	554	25.0	3.2	1.7
Smart 55	222	3.0	1.7	0.6	268	4.5	2.0	0.8	324	6.7	2.3	1.1	391	9.9	2.7	1.3	472	14.8	3.3	1.6	570	21.9	3.9	1.9
Smart 60	234	2.9	1.9	0.6	281	4.2	2.3	0.9	338	6.1	2.6	1.1	405	9.0	3.1	1.4	487	13.2	3.7	1.7	584	19.3	4.5	2.0
Smart 65	279	3.5	2.4	0.8	338	5.2	2.8	1.1	411	7.8	3.4	1.4	498	11.7	4.1	1.8	605	17.6	5.1	2.1	734	26.5	6.3	2.5
Smart 70	290	3.3	2.6	0.9	349	4.8	3.1	1.1	421	7.1	3.7	1.4	508	10.5	4.4	1.8	613	15.6	5.4	2.1	739	23.1	6.8	2.6

Table 2. Selection of diffusers by average air velocity at the supply opening

Model	Average air velocity at the diffuser outlet															Air throw, m					
	at 1 m/s			at 1.5 m/s			at 2 m/s			at 2.5 m/s			at 3 m/s			at 1 m/s		at 2 m/s		at 3 m/s	
	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s
Smart 10	36	0.6	<10	54	3.0	<10	72	6.1	17.0	90	9.8	23.0	108	14.1	28.0	1.39	0.21	2.78	1.02	4.07	1.93
Smart 15	54	0.9	<10	81	3.4	10.9	108	6.8	19.2	135	11.0	25.6	162	16.0	30.8	1.45	0.26	3.08	1.19	4.42	2.12
Smart 20	72	1.2	<10	108	3.9	12.2	144	7.6	20.8	180	12.2	27.4	216	17.8	32.9	1.50	0.30	3.38	1.37	4.76	2.30
Smart 25	90	1.5	<10	135	4.3	13.1	180	8.3	22.0	225	13.4	28.8	270	19.7	34.5	1.55	0.34	3.68	1.54	5.12	2.49
Smart 30	108	1.8	<10	162	4.8	13.9	216	9.0	23.0	270	14.7	30.0	324	21.6	35.7	1.61	0.38	3.96	1.71	5.46	2.68
Smart 35	126	2.2	<10	189	5.2	14.6	252	9.8	23.8	315	15.9	31.0	378	23.5	36.8	1.66	0.42	4.28	1.89	5.81	2.87
Smart 40	144	2.5	<10	216	5.7	15.1	288	10.5	24.5	360	17.1	31.8	432	25.4	37.8	1.71	0.46	4.58	2.07	6.15	3.05
Smart 45	162	2.3	10.4	243	5.5	20.4	324	10.2	27.5	405	16.1	33.0	486	23.5	37.6	1.10	0.30	1.71	1.06	2.14	1.42
Smart 50	180	2.4	11.2	270	5.6	21.6	360	10.2	28.9	450	16.2	34.7	540	23.7	39.3	1.34	0.38	2.25	1.21	3.10	1.66
Smart 55	198	2.4	12.0	297	5.6	22.7	396	10.2	30.3	495	16.3	36.3	594	23.8	41.1	1.58	0.46	2.78	1.35	4.07	1.91
Smart 60	216	2.4	12.8	324	5.6	23.9	432	10.3	31.7	540	16.4	37.9	648	24.0	42.8	1.82	0.54	3.32	1.50	5.03	2.14
Smart 65	234	2.5	10.5	351	5.6	20.9	468	10.3	28.4	585	16.4	34.1	702	24.1	38.8	2.07	0.62	3.85	1.65	5.99	2.39
Smart 70	252	2.5	11.3	378	5.7	22.1	504	10.3	29.8	630	16.5	35.7	756	24.3	40.6	2.30	0.70	4.39	1.74	6.96	2.62

Aerodynamic and acoustic specifications for 1 linear meter in the supply air mode/flat vertical air jet



Warning! The graphs are plotted on a logarithmic scale and are for informational purposes only. Due to the approximate and discrete nature of the display, deviations within the engineering accuracy of the measurements are permitted. For calculations and precise selection, use the table data.

Aerodynamic and acoustic specifications for 1 linear meter in the supply air mode/ flat, ceiling-adherent horizontal air jet

Table 1. Selection of diffusers by sound power level

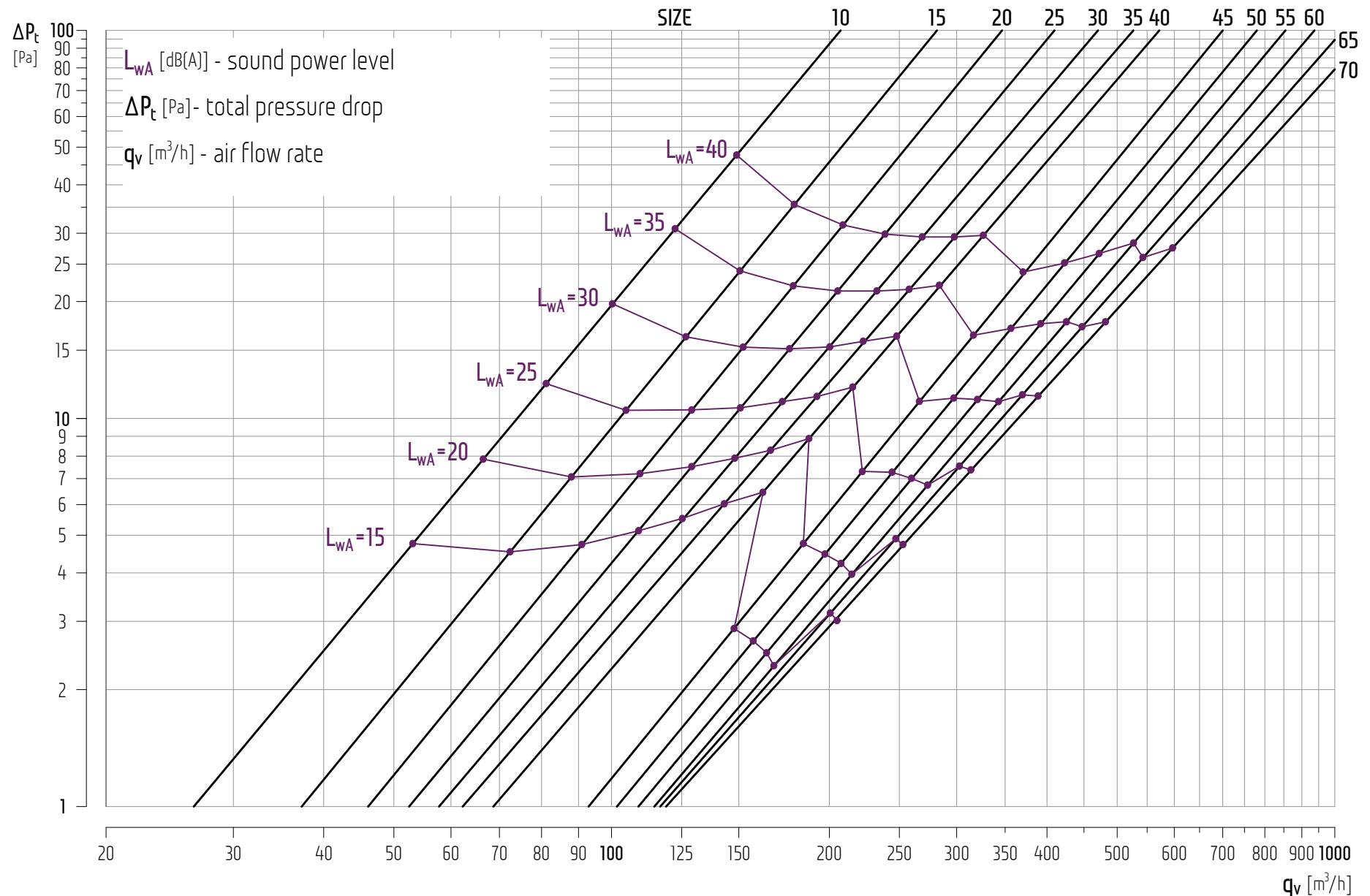
Model	Sound power level																							
	$L_{WA}=15dB(A)$				$L_{WA}=20dB(A)$				$L_{WA}=25dB(A)$				$L_{WA}=30dB(A)$				$L_{WA}=35dB(A)$				$L_{WA}=40dB(A)$			
	$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$	
			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5
Smart 10	54	4.7	2.9	0.8	66	7.8	3.6	1.2	81	12.5	4.4	1.7	99	19.7	5.3	2.4	122	30.5	6.4	3.2	149	46.9	7.6	4.3
Smart 15	73	4.5	2.9	0.8	87	7.0	3.5	1.2	104	10.7	4.2	1.6	125	16.1	4.9	2.1	149	23.8	5.8	2.7	179	35.0	6.7	3.4
Smart 20	91	4.7	2.9	0.8	107	7.1	3.5	1.2	127	10.4	4.2	1.6	150	15.1	4.9	2.0	177	21.7	5.7	2.5	209	31.0	6.5	3.1
Smart 25	109	5.1	2.9	0.9	127	7.4	3.5	1.2	149	10.5	4.2	1.6	175	14.9	5.0	2.1	204	21.0	5.8	2.6	239	29.4	6.6	3.1
Smart 30	126	5.5	2.9	0.9	147	7.8	3.6	1.3	171	10.9	4.3	1.7	199	15.1	5.1	2.1	231	21.0	5.9	2.6	269	28.9	6.7	3.1
Smart 35	144	6.0	2.9	0.9	166	8.2	3.7	1.3	192	11.3	4.4	1.8	223	15.6	5.3	2.2	258	21.2	6.1	2.7	298	28.9	7.0	3.2
Smart 40	161	6.4	3.0	1.0	186	8.8	3.7	1.4	214	11.9	4.6	1.8	246	16.1	5.4	2.3	284	21.7	6.3	2.8	327	29.2	7.2	3.4
Smart 45	151	2.8	1.5	0.3	181	4.8	1.7	0.6	217	7.5	1.9	0.8	259	11.2	2.1	1.1	310	16.4	2.3	1.4	371	23.5	2.6	1.7
Smart 50	160	2.6	1.7	0.4	194	4.5	2.0	0.6	236	7.3	2.3	0.9	286	11.2	2.6	1.3	346	16.7	3.1	1.6	420	24.7	3.6	2.0
Smart 55	167	2.4	2.0	0.4	205	4.3	2.3	0.7	253	7.1	2.7	1.0	311	11.1	3.2	1.4	383	17.2	3.8	1.8	472	26.2	4.6	2.2
Smart 60	170	2.2	2.1	0.4	213	4.0	2.5	0.7	267	6.8	3.0	1.1	335	11.0	3.7	1.6	420	17.6	4.5	2.0	527	27.9	5.7	2.5
Smart 65	202	3.1	2.6	0.6	246	4.9	3.0	1.0	300	7.5	3.5	1.3	366	11.4	4.2	1.7	446	17.1	5.1	2.2	543	25.6	6.3	2.7
Smart 70	205	3.0	2.7	0.7	253	4.7	3.2	1.0	314	7.3	3.9	1.4	389	11.3	4.7	1.8	482	17.5	5.9	2.3	597	27.1	7.4	2.9

Table 2. Selection of diffusers by average air velocity at the supply opening

Model	Average air velocity at the diffuser outlet															Air throw, m					
	at 1 m/s			at 1.5 m/s			at 2 m/s			at 2.5 m/s			at 3 m/s			at 1 m/s		at 2 m/s		at 3 m/s	
	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s
Smart 10	36	1.3	<10	54	4.7	15.0	72	9.5	22.1	90	15.8	27.6	108	23.6	32.0	1.95	0.29	3.89	1.43	5.70	2.70
Smart 15	54	1.9	<10	81	5.9	18.0	108	11.7	26.0	135	19.2	32.2	162	28.4	37.3	2.03	0.36	4.31	1.67	6.19	2.97
Smart 20	72	2.5	<10	108	7.2	20.2	144	13.8	28.8	180	22.5	35.5	216	33.2	41.0	2.10	0.42	4.73	1.92	6.66	3.22
Smart 25	90	3.2	<10	135	8.4	21.9	180	16.0	31.0	225	25.8	38.0	270	38.0	43.8	2.17	0.48	5.15	2.16	7.17	3.49
Smart 30	108	3.8	<10	162	9.7	23.2	216	18.1	32.7	270	29.1	40.1	324	42.8	46.2	2.25	0.53	5.54	2.39	7.64	3.75
Smart 35	126	4.4	10.5	189	10.9	24.4	252	20.3	34.2	315	32.5	41.9	378	47.6	48.1	2.32	0.59	5.99	2.65	8.13	4.02
Smart 40	144	5.0	11.0	216	12.1	25.4	288	22.4	35.5	360	35.8	43.4	432	52.4	49.9	2.39	0.64	6.41	2.90	8.61	4.27
Smart 45	162	3.5	16.9	243	9.7	28.2	324	17.9	36.2	405	27.9	42.4	486	39.8	47.5	1.54	0.42	2.39	1.48	3.00	1.99
Smart 50	180	3.7	18.0	270	9.9	28.5	360	18.1	36.0	450	28.4	41.8	540	40.6	46.5	1.88	0.53	3.15	1.69	4.34	2.32
Smart 55	198	3.9	19.1	297	10.1	28.9	396	18.4	35.8	495	28.8	41.2	594	41.4	45.5	2.21	0.64	3.89	1.89	5.70	2.67
Smart 60	216	4.2	20.3	324	10.3	29.2	432	18.7	35.6	540	29.3	40.5	648	42.2	44.6	2.55	0.76	4.65	2.10	7.04	3.00
Smart 65	234	4.4	18.7	351	10.5	29.0	468	18.9	36.2	585	29.8	41.9	702	43.0	46.5	2.90	0.87	5.39	2.31	8.39	3.35
Smart 70	252	4.6	19.9	378	10.6	29.3	504	19.2	36.0	630	30.2	41.2	756	43.8	45.5	3.22	0.98	6.15	2.44	9.74	3.67

3.3. SMART /SMARTCON diffusers specifications

Aerodynamic and acoustic specifications for 1 linear meter in the supply air mode/
flat, ceiling-adherent horizontal air jet



Warning! The graphs are plotted on a logarithmic scale and are for informational purposes only. Due to the approximate and discrete nature of the display, deviations within the engineering accuracy of the measurements are permitted. For calculations and precise selection, use the table data.

invisiline

INVISIBLE
LINEAR
DIFFUSERS



AESTHETIC

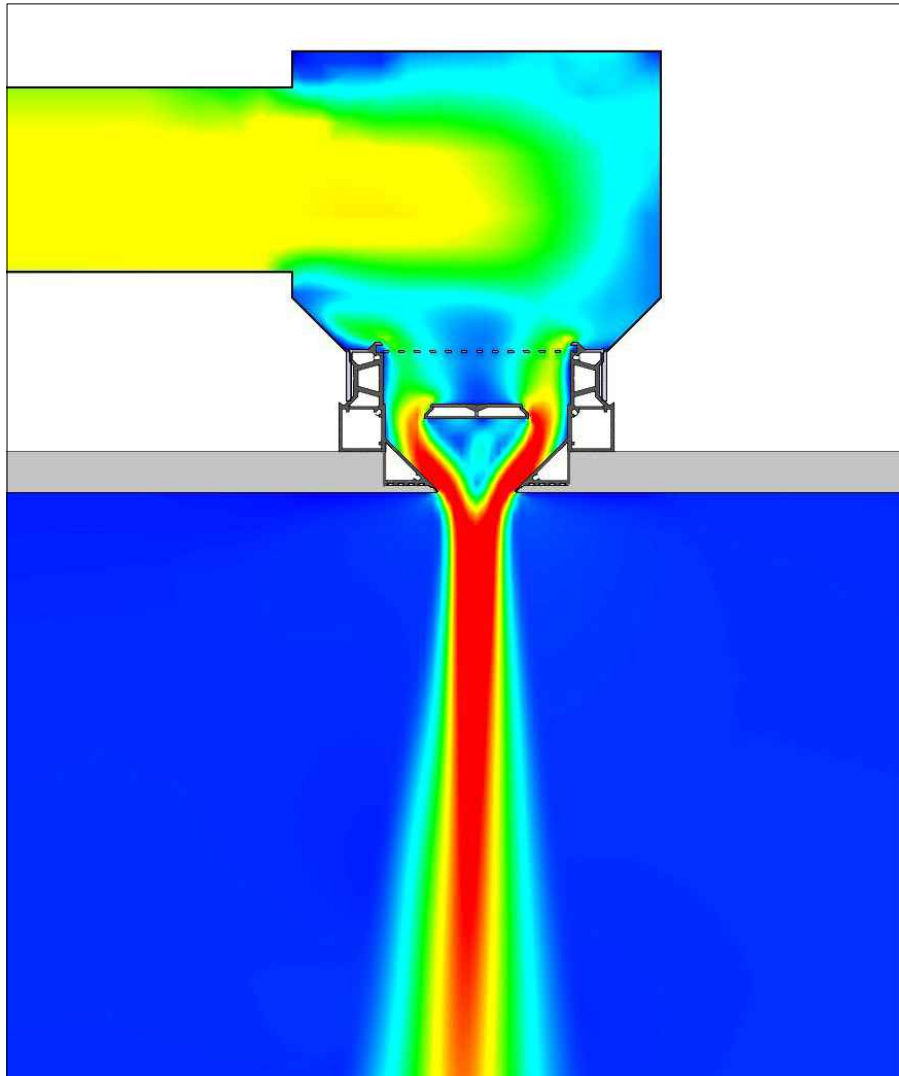
Unrivalled aesthetics and reliability

Deflector for maximum visual aesthetics

Perfect aerodynamics of the supply air jet, preventing
metal contact with the air in the room

The patented diffuser frame profile provides maximum
structural rigidity, mounting reliability and perfect modular
system configuration for any diffuser length

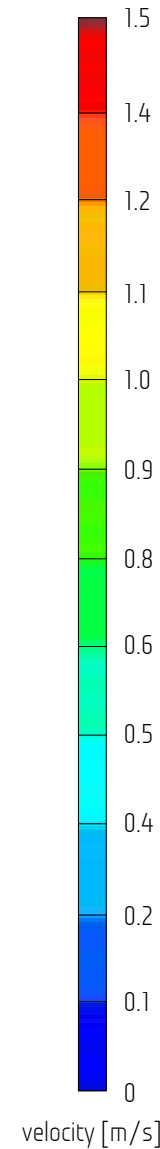
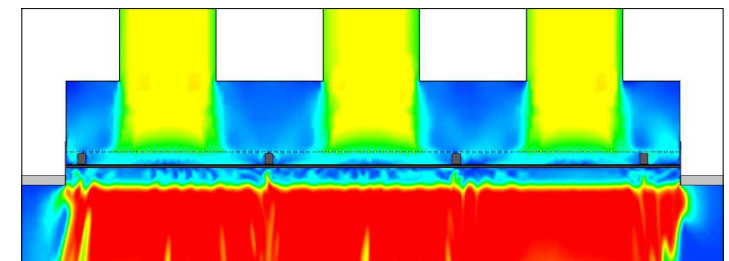
Air flow velocity profile in the diffuser cross section AESTHETIC+BOX-STD



Isosurface of the velocity $V=0.6$ m/s
AESTHETIC+BOX-STD

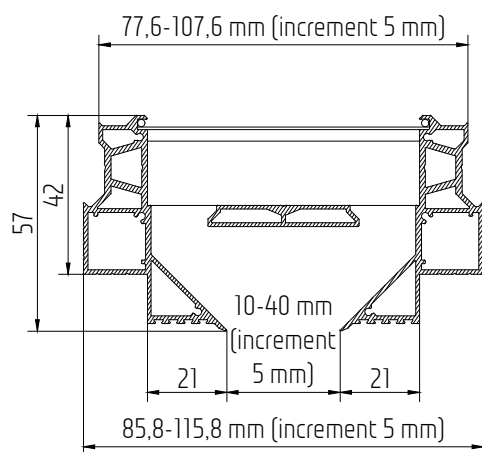


Air flow velocity profile in the diffuser longitudinal section AESTHETIC+BOX-FRNT

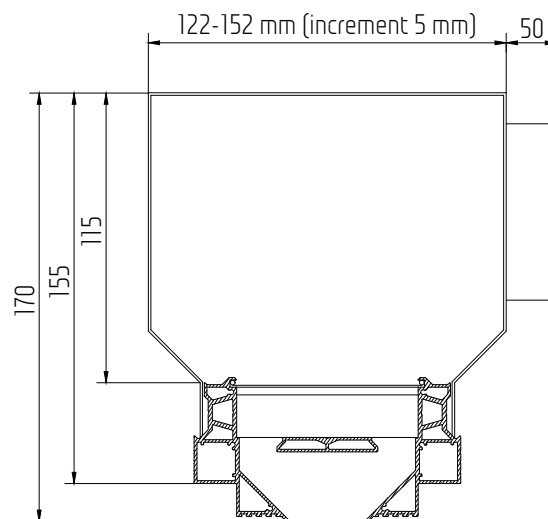


Diffusers cross sections

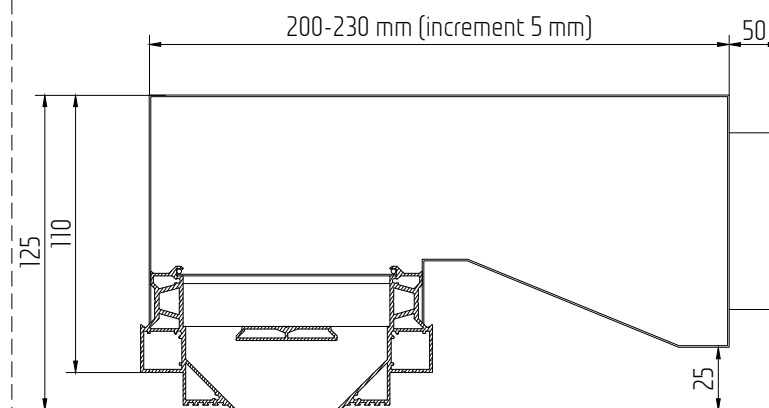
10-40



Diffusers + PB BOX cross sections



Diffusers + PB BOXZ cross sections



45-70

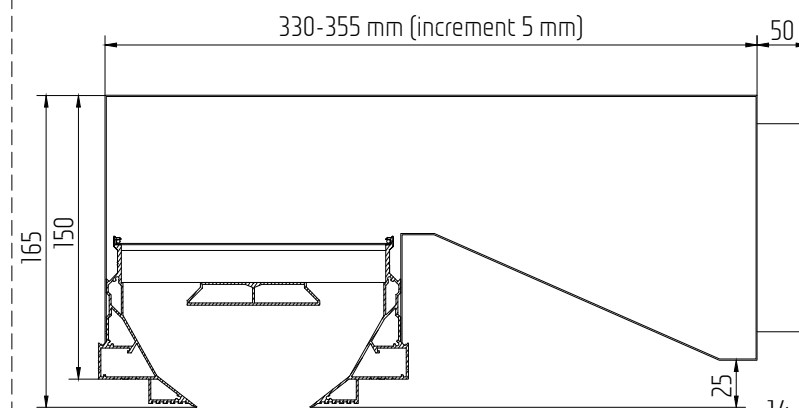
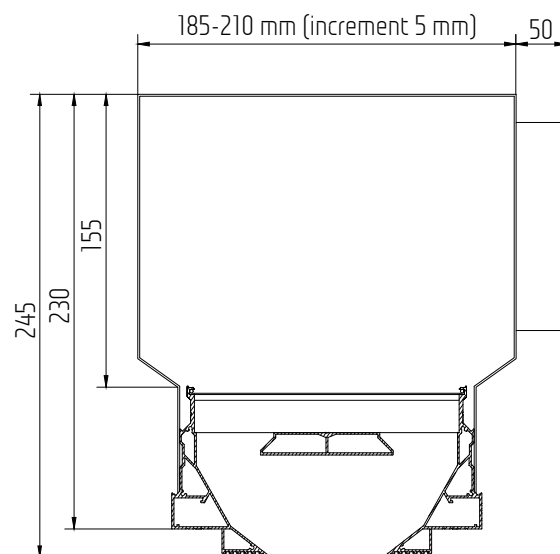
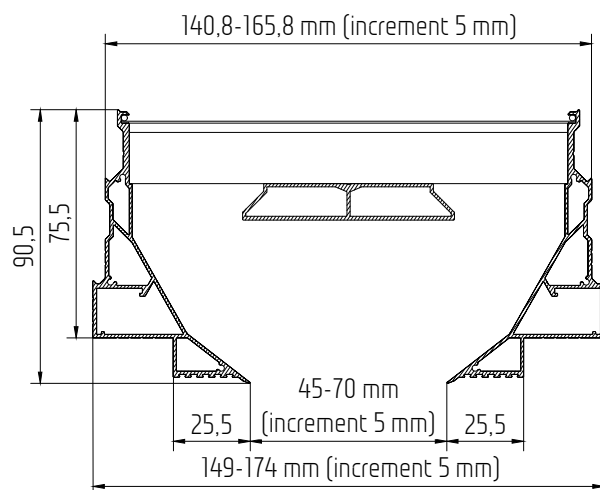
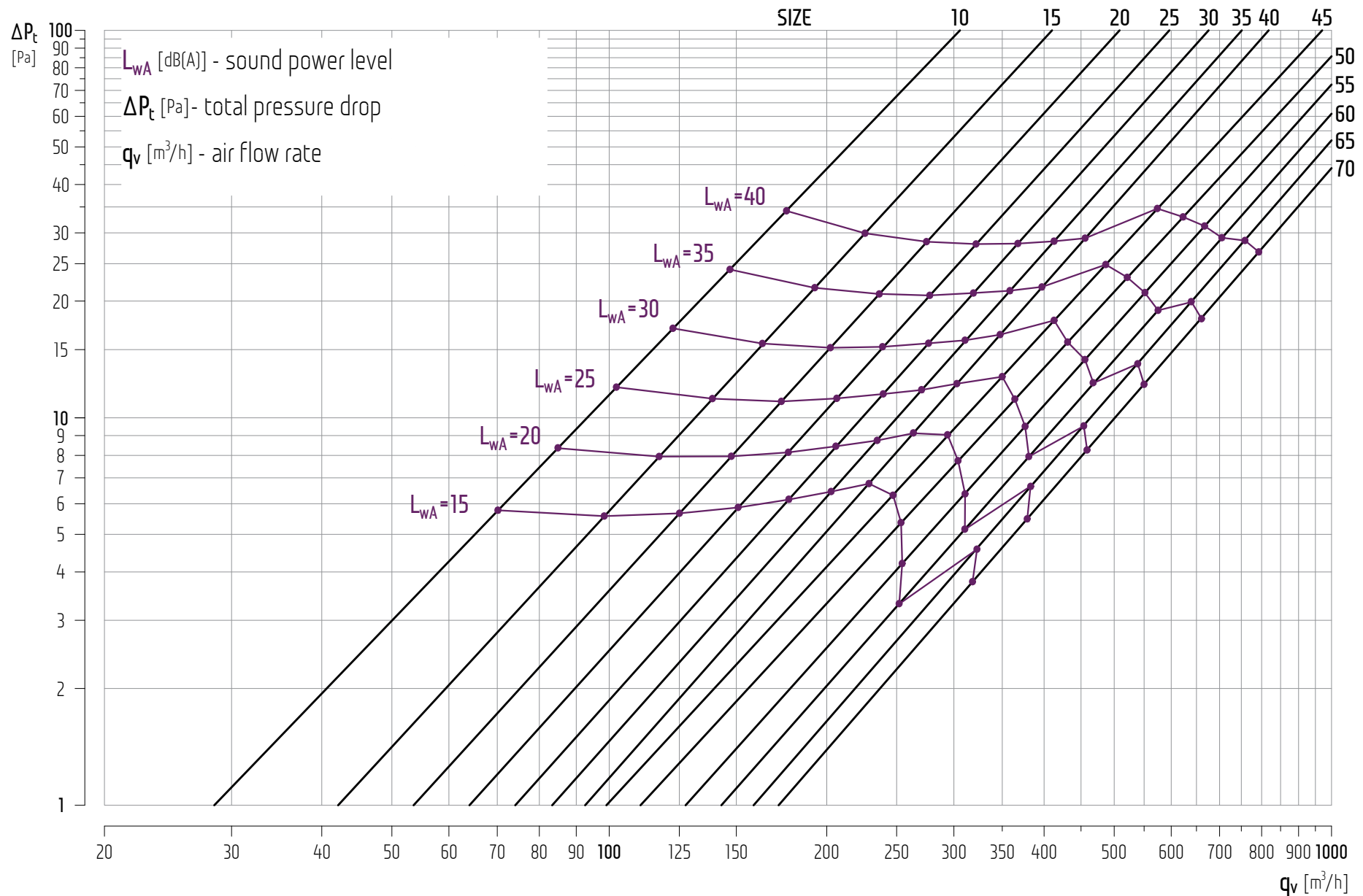


Table 1. Selection of diffusers by sound power level

Model	Sound power level																							
	$L_{WA}=15dB(A)$				$L_{WA}=20dB(A)$				$L_{WA}=25dB(A)$				$L_{WA}=30dB(A)$				$L_{WA}=35dB(A)$				$L_{WA}=40dB(A)$			
	$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$		$q_v, m^3/h$	$\Delta P_t, Pa$	Air throw [m] at $V_x, m/s$	
			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5			0.2	0.5
Aesthetic 10	71	5.8	2.6	0.9	85	8.4	3.1	1.3	102	12.1	3.6	1.7	122	17.2	4.3	2.2	147	24.4	5.0	2.8	176	34.6	5.8	3.7
Aesthetic 15	99	5.6	2.6	1.0	117	8.0	3.1	1.3	138	11.3	3.6	1.6	163	15.7	4.1	2.0	192	21.9	4.7	2.5	226	30.3	5.3	3.0
Aesthetic 20	126	5.7	2.8	1.0	147	8.0	3.2	1.3	172	11.1	3.7	1.6	201	15.3	4.2	2.0	235	21.1	4.7	2.4	275	28.8	5.2	2.8
Aesthetic 25	152	5.9	2.9	1.1	177	8.2	3.4	1.4	205	11.3	3.9	1.7	239	15.4	4.4	2.0	277	20.9	4.9	2.4	322	28.4	5.3	2.7
Aesthetic 30	178	6.2	3.0	1.2	206	8.5	3.5	1.5	238	11.6	4.1	1.8	275	15.7	4.6	2.1	318	21.2	5.0	2.5	368	28.5	5.4	2.8
Aesthetic 35	204	6.5	3.2	1.3	235	8.8	3.7	1.6	270	11.9	4.3	1.9	311	16.0	4.8	2.3	358	21.5	5.3	2.6	413	28.9	5.6	2.8
Aesthetic 40	229	6.8	3.3	1.4	263	9.2	3.9	1.7	302	12.3	4.5	2.0	346	16.5	5.0	2.4	398	22.0	5.5	2.7	456	29.4	5.9	2.9
Aesthetic 45	249	6.3	1.4	0.7	294	9.1	1.5	0.9	348	12.9	1.7	1.1	411	18.1	1.8	1.2	486	25.2	2.0	1.3	574	35.1	2.1	1.4
Aesthetic 50	255	5.2	1.6	0.7	305	7.7	1.8	0.9	365	11.2	2.1	1.1	436	16.2	2.4	1.4	521	23.3	2.8	1.5	623	33.4	3.3	1.6
Aesthetic 55	257	4.2	1.8	0.7	311	6.4	2.1	0.9	376	9.6	2.5	1.2	455	14.3	3.0	1.4	551	21.3	3.5	1.7	667	31.6	4.3	1.9
Aesthetic 60	253	3.3	1.9	0.7	310	5.2	2.3	0.9	381	8.0	2.8	1.2	468	12.4	3.4	1.5	574	19.2	4.1	1.8	705	29.5	5.2	2.1
Aesthetic 65	323	4.6	2.5	1.0	383	6.7	3.0	1.2	454	9.6	3.5	1.5	539	13.9	4.2	1.8	640	20.1	5.0	2.1	759	29.0	6.1	2.4
Aesthetic 70	318	3.8	2.6	0.9	382	5.5	3.1	1.2	459	8.2	3.7	1.5	551	12.2	4.5	1.8	661	18.2	5.5	2.2	793	27.1	6.9	2.6

Table 2. Selection of diffusers by average air velocity at the supply opening

Model	Average air velocity at the diffuser outlet															Air throw, m					
	at 1 m/s			at 1.5 m/s			at 2 m/s			at 2.5 m/s			at 3 m/s			at 1 m/s		at 2 m/s		at 3 m/s	
	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	$q_v, m^3/h$	$\Delta P_t, Pa$	$L_{WA}, dB(A)$	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s	0.2 m/s	0.5 m/s
Aesthetic 10	36	0.8	<10	54	3.0	<10	72	5.9	15.2	90	9.4	21.4	108	13.5	26.5	1.30	0.20	2.60	0.95	3.80	1.80
Aesthetic 15	54	1.1	<10	81	3.5	<10	108	6.8	17.6	135	10.8	24.4	162	15.6	29.9	1.35	0.24	2.88	1.11	4.13	1.98
Aesthetic 20	72	1.4	<10	108	4.0	10.1	144	7.6	19.3	180	12.2	26.4	216	17.7	32.3	1.40	0.28	3.16	1.28	4.45	2.15
Aesthetic 25	90	1.7	<10	135	4.5	11.0	180	8.5	20.6	225	13.6	28.0	270	19.8	34.1	1.45	0.32	3.44	1.44	4.78	2.33
Aesthetic 30	108	2.0	<10	162	5.0	11.7	216	9.4	21.6	270	15.0	29.3	324	22.0	35.6	1.50	0.35	3.70	1.60	5.10	2.50
Aesthetic 35	126	2.2	<10	189	5.5	12.4	252	10.3	22.5	315	16.5	30.4	378	24.1	36.9	1.55	0.39	4.00	1.77	5.43	2.68
Aesthetic 40	144	2.5	<10	216	6.0	12.9	288	11.2	23.3	360	17.9	31.4	432	26.2	38.0	1.60	0.43	4.28	1.93	5.75	2.85
Aesthetic 45	162	2.2	<10	243	6.0	14.3	324	11.1	22.9	405	17.5	29.6	486	25.2	35.0	1.03	0.28	1.60	0.99	2.00	1.33
Aesthetic 50	180	2.3	<10	270	5.9	16.6	360	10.9	24.6	450	17.3	30.9	540	25.1	36.0	1.25	0.35	2.10	1.13	2.90	1.55
Aesthetic 55	198	2.3	<10	297	5.8	18.8	396	10.7	26.3	495	17.1	32.2	594	24.9	37.0	1.48	0.43	2.60	1.26	3.80	1.78
Aesthetic 60	216	2.4	11.2	324	5.7	21.1	432	10.5	28.1	540	16.8	33.5	648	24.7	37.9	1.70	0.50	3.10	1.40	4.70	2.00
Aesthetic 65	234	2.4	<10	351	5.5	17.5	468	10.3	25.9	585	16.6	32.4	702	24.5	37.7	1.93	0.58	3.60	1.54	5.60	2.23
Aesthetic 70	252	2.5	<10	378	5.4	19.7	504	10.0	27.6	630	16.3	33.7	756	24.4	38.7	2.15	0.65	4.10	1.63	6.50	2.45



Warning! The graphs are plotted on a logarithmic scale and are for informational purposes only. Due to the approximate and discrete nature of the display, deviations within the engineering accuracy of the measurements are permitted. For calculations and precise selection, use the table data.

Assembly order code:

1.	2.	3.	4.	5.	+	1.	2.	3.	4.
AESTH.S-	60-	B-	1000-	A		BOX.S -	60 -	1000 -	STD

(Plenum box order code formation see page 23)

1.

Model	SMART	SMARTCON	AESTHETIC
Order code	SMART.S	SMARTCON.S	AESTH.S

Stand-alone diffuser:

Elements for modular assembly:

2.

Slot width: 10-70 mm (increment 5 mm);

3.

Diffuser color:

B - black (RAL 9005, moire) - standard;

W - white (RAL 9003, moire) - non-standard;

N - at the stage of commercial offer the color (RAL 9003, moire or RAL 9005, moire) is not defined;

0000 - at the stage of commercial offer the color is not defined (any color RAL CLASSIC);

XXXX - RAL color code (for example, 7016 is gray; the texture is agreed upon additionally);

(painting in any non-standard color other than white increases the cost of the diffuser by 20 %).

4.

Length of the element SMART/SMARTCON/AESTHETIC:

the code specifies the length of the element without the end plates and separators.

From 100* mm to 3000 mm, increment 5 mm.

(* - The cost of the modular element with a length of 100 to 495 mm is equal to the cost of the modular element with a length of 500 mm).

5.

Presence of end plates, separators and connectors:

2 – stand-alone diffuser: element + 2 end plates on both sides (+3 mm);

A – empty element;

B – end plate on one side (+1,5 mm);

C – connectors on one side and an end plate on the other side (+1,5 mm);

D – connectors and a separator on one side (+1,5 mm), an end plate on the other side (+1,5 mm);

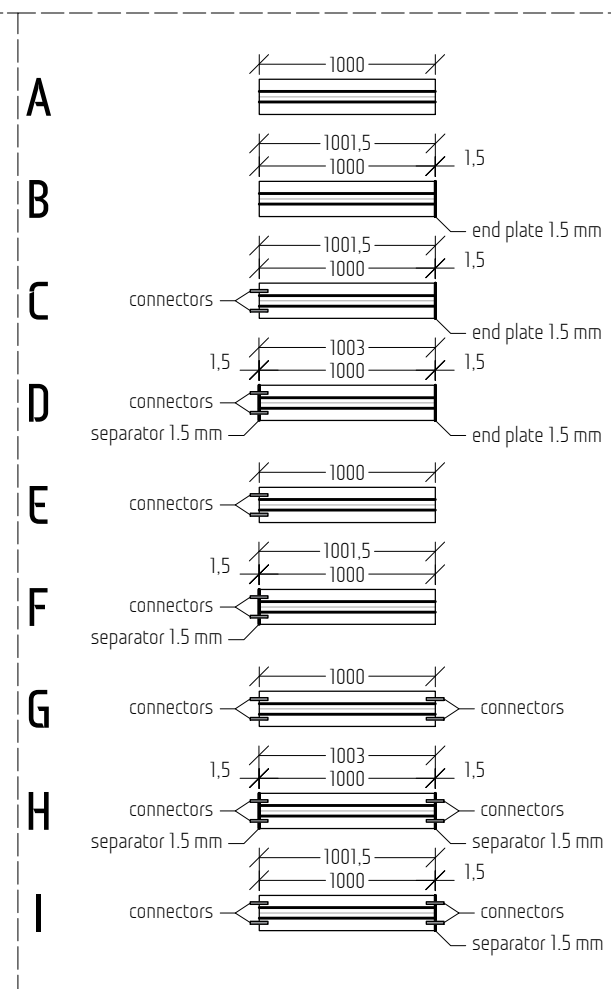
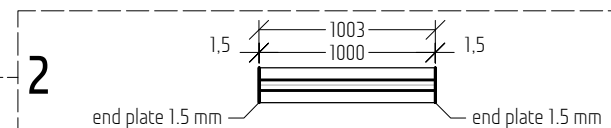
E – connectors on one side;

F – connectors and a separator on one side (+1,5 mm);

G – connectors on both sides;

H – connectors and separators (+3 mm) on both sides;

I – connectors on one side and connectors with a separator on the other side (+1,5 mm).



Note: End plates are not visible after installation. The separators remain visible. If you would like to order an element without plenum box only the code of the element should be specified.

1.

Model	CORNER-SMART	CORNER-AESTH
Order code	CORNER-SMART.S	CORNER-AESTH.S

2. Slot width: 10-70 mm (increment 5 mm);

3. Element color:

B - black (RAL 9005, moire) - standard;

W - white (RAL 9003, moire) - non-standard;

N - at the stage of commercial offer the color (RAL 9003, moire or RAL 9005, moire) is not defined;

0000 - at the stage of commercial offer the color is not defined (any color RAL CLASSIC);

XXXX - RAL color code (for example, 7016 is gray; the texture is agreed upon additionally);

(painting in any non-standard color other than white increases the cost of the diffuser by 20 %).

4. Configuration of the corner element:

S - the element installation into the ceiling;

IN - the element installation into the wall (inside corner);

OUT - the element installation into the wall (outside corner);

CUST - it is possible to produce non-standard corner sections of any configuration. The cost is calculated on request.

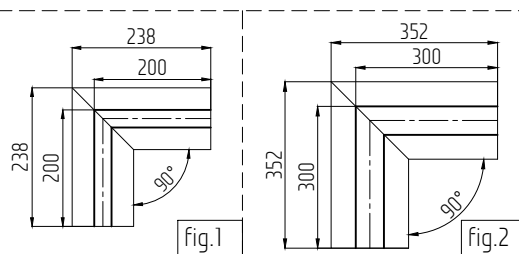
5. Presence of end plates: CORNER-SMART / CORNER-AESTH diffusers have no end plates on either side.

Assembly order code example:

1.	2.	3.	4.	5.
CORNER-SMART.S -	40 -	W -	IN -	0
CORNER-AESTH.S -	60 -	B -	S -	0

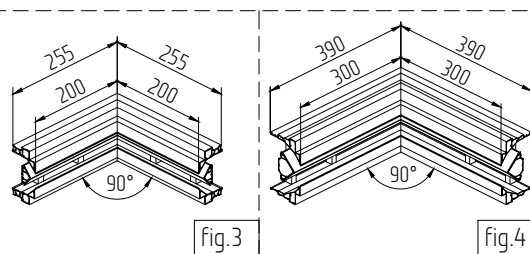
S

For models with a slot width of 10-40 mm, the length of each side of the corner element body is 238 mm, the length of the slot on each side is 200 mm (fig. 1); For models with a slot width of 45-70 mm, the length of each side of the corner element body is 352 mm, the length of the slot on each side is 300 mm (fig. 2).



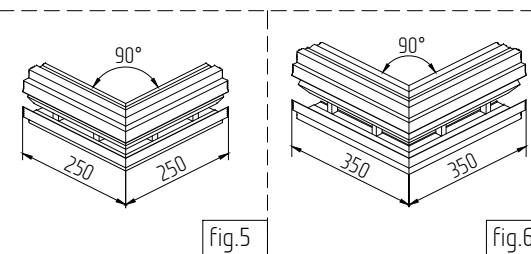
IN

For models with a slot width of 10-40 mm, the length of each side of the corner element body is 255 mm, the length of the slot on each side is 200 mm (fig. 3); For models with a slot width of 45-70 mm, the length of each side of the corner element body is 390 mm, the length of the slot on each side is 300 mm (fig. 4).



OUT

For models with a slot width of 10-40 mm, the length of both the corner element body and the slot on each side is 250 mm (fig. 5); For models with a slot width of 45-70 mm, the length of both the corner section body and the slot on each side is 350 mm (fig. 6).



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DIFFUSERS



AESTHLIGHT

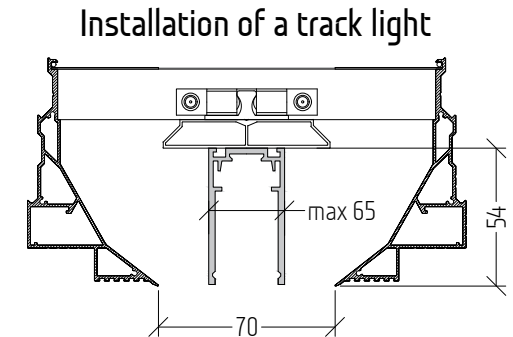
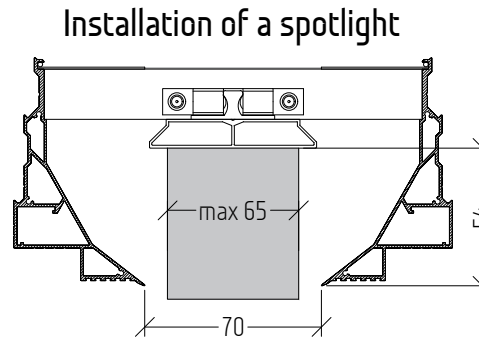
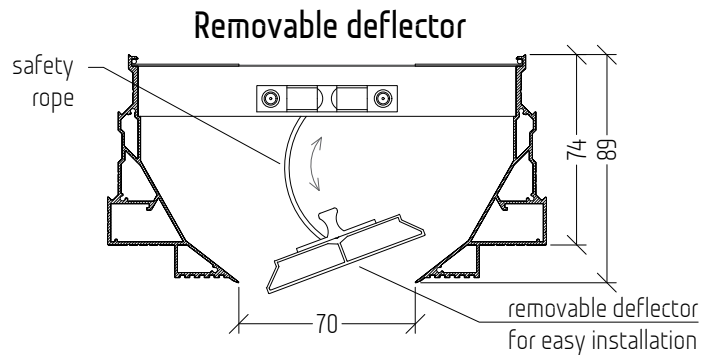
An architectural element designed for installation of luminaires.
It does not participate in air exchange

Compatible with
SMART/SMARTCON/AESTHETIC diffusers

Removable deflector and special wire ropes for easy installation
and maintenance of the luminaires

Thermal isolation of architectural lighting elements from the
ventilation or air conditioning system by means of thermosplitters

Architectural element cross-sections



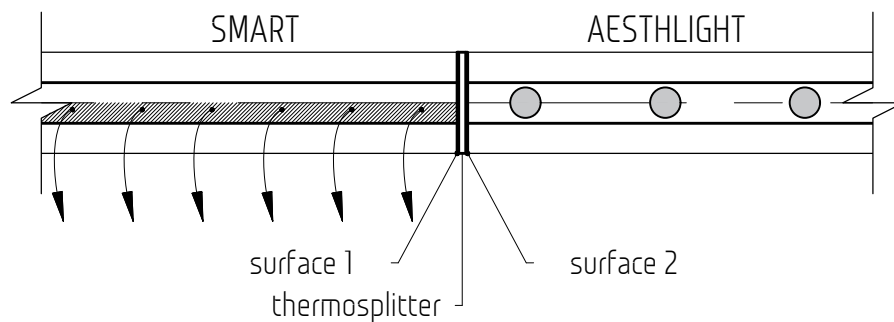
Warning! The maximum permissible weight of the luminaires is limited. Check the information with the managers.

Note: luminaires are not included in the delivery set.

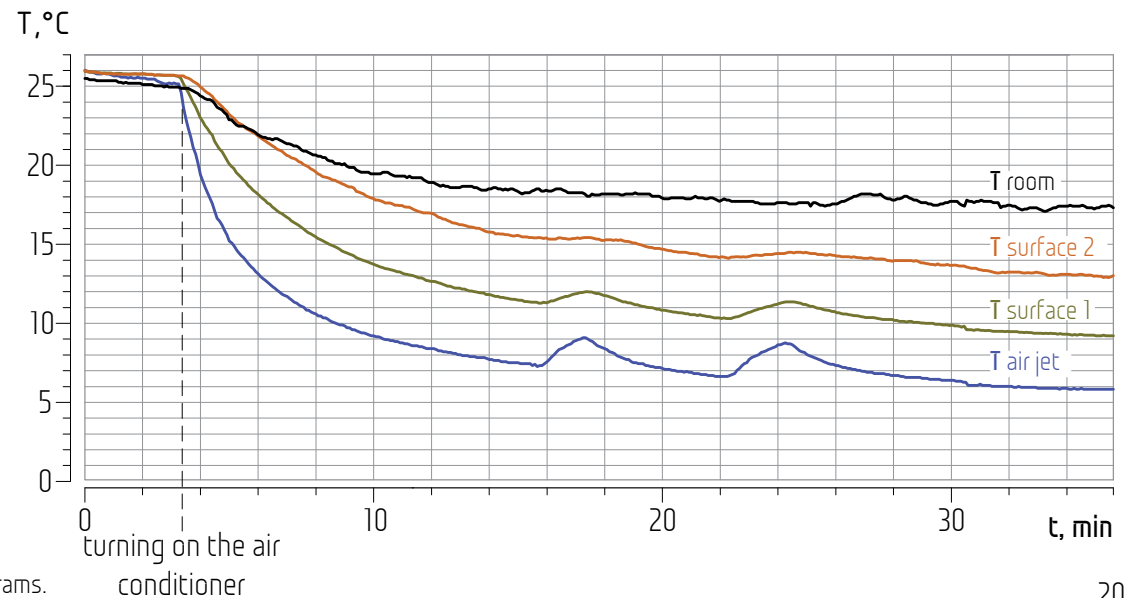
Thermosplitter AESTHLIGHT

The architectural element AESTHLIGHT is not a diffuser. It is not designed for connection to ventilation and air conditioning systems. Connection of this element with SMART/SMARTCON/AESTHETIC diffusers is only permitted via thermosplitters.

The thermosplitter is used to minimize the risk of condensation on surfaces exposed to air flows with different parameters.



Temperature graph on the walls of the thermosplitter



Aesthlight installation diagram is similar to SMART/SMARTCON/AESTHETIC installation diagrams.

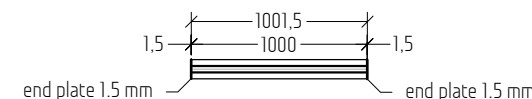
Order code:

1.	Model	AESTHLIGHT
	Order code	AESTHLIGHT.S

1.	2.	3.	4.	5.
AESTHLIGHT.S -	70 -	B -	1000 -	2

Stand-alone architectural element:

2



2. Slot width: 70 mm (*Other slot sizes on request);

3. Architectural element color:

B - black (RAL 9005, moire) - standard;

W - white (RAL 9003, moire) - non-standard;

N - at the stage of commercial offer the color (RAL 9003, moire or RAL 9005, moire) is not defined.

4. Architectural element AESTHLIGHT length:

the code specifies the length of the element without the end plates and thermosplitters.

From 100* mm to 3000 mm, increment 5 mm.

(* - The cost of the modular element with a length of 100 to 695 mm is equal to the cost of the modular element with a length of 700 mm).

5. Presence of end plates/connectors:

2 - stand-alone diffuser: element + 2 end plates on both sides (+3 mm);

A - empty element;

B - end plate on one side (+1,5 mm);

C - connectors on one side and an end plate on the other side (+1,5 mm);

Dt - connectors with a thermosplitter on one side (+6 mm),

end plate on the other side (+1,5 mm);

E - connectors on one side;

Ft - connectors with a thermosplitter on one side (+6 mm);

G - connectors on both sides;

Ht - connectors with thermosplitters on both sides (+12 mm);

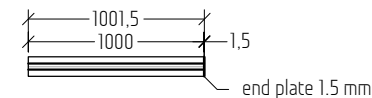
It - connectors on one side and connectors with a thermosplitter on the other side (+6 mm).

Architectural elements for modular assembly:

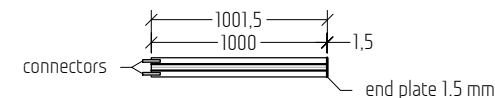
A



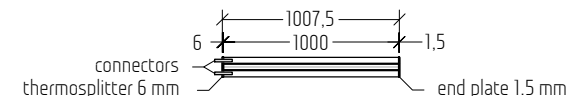
B



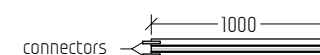
C



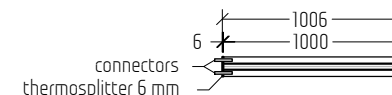
Dt



E



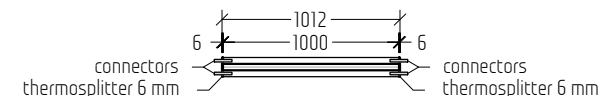
Ft



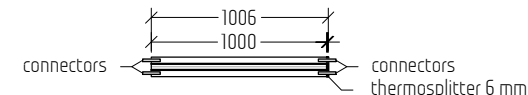
G



Ht



It



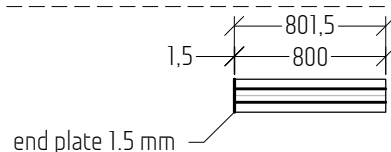
Note: luminaires are not included in the delivery set.

Warning! Connection of this element with Smart/Smartcon/Aesthetic diffusers is only permitted via thermosplitters.

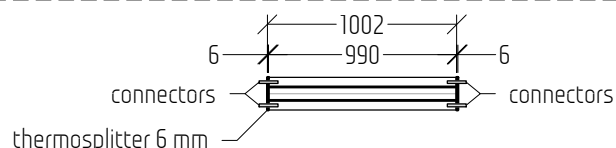
If you want to order: “L-shaped” diffuser with a slot width of 70 mm, the slot length is 2100 mm on one side and 2500 mm on the other, color black. On the 2100 mm side, a diffuser with the ceiling-adherent air flow (L=800 mm) and an element for mounting luminaires (L=990 mm) should be provided. On the 2500 mm side, a diffuser with compact air jets at a 45° angle (L=1200 mm) should be provided.

Solution: A modular assembly made up of various diffuser models and architectural elements:

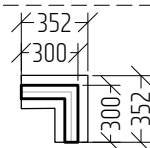
1.1 Element order code and drawing – **SMARTCON.S-70-B-800-B**



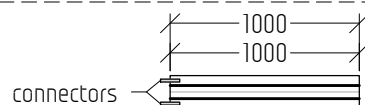
1.2 Element order code and drawing – **AESTHLIGHT.S-70-B-990-Ht**



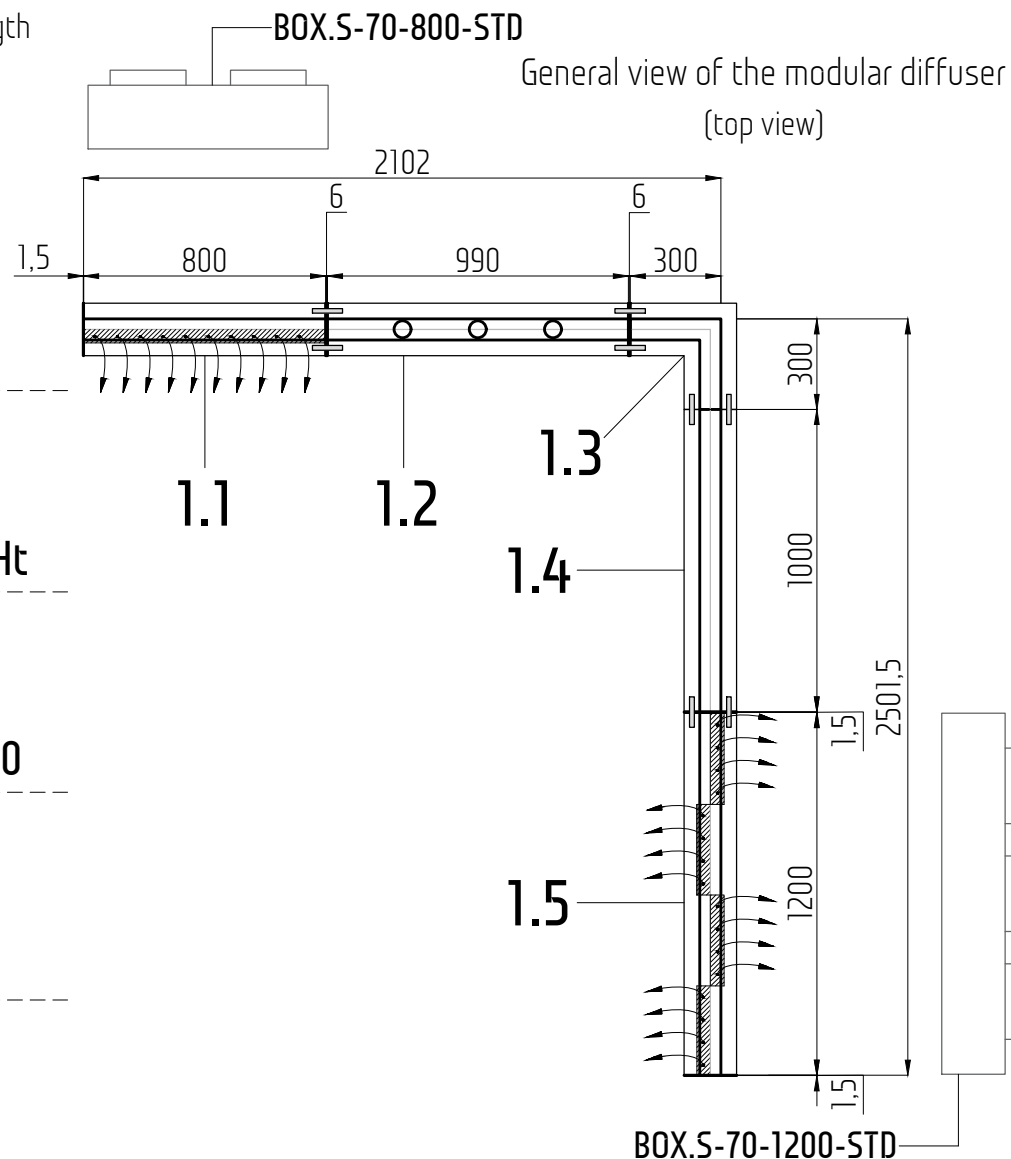
1.3 Element order code and drawing – **CORNER-AESTH.S-70-B-S-0**



1.4 Element order code and drawing – **AESTH.S-70-B-1000-E**



1.5 Element order code and drawing – **SMART.S-70-B-1200-D**



Note: Such assembly drawings and specifications for modular systems are available upon request during the ordering process.

9. Configurations and order codes of plenum boxes (PB)

1.	Model	BOX	BOXY	BOXZ
	Type	Standard	Corner	Low
	Order code	BOX.S	BOXY.S	BOXZ.S

- The slot width of the corresponding diffuser: 10-70 mm (increment 5 mm);
- PB length:** the code of "BOX" and "BOXZ" PB specifies the length of the diffuser **without the end plates and separators**; the actual length of the PB is 6 mm shorter (see page 24). The "BOXY" PB code indicates the value **0000**.

- Plenum box (PB) versions:** **STD** - PB with side flat-oval spigots;

FRNT - PB with top flat-oval spigots (located opposite the slot);

NULL - PB without spigots;

CUST - PB with customized geometry of the body and/or spigots, material (manufactured at an increased cost).

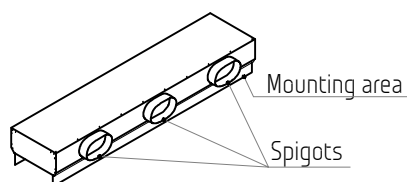
PB order code:

1.	2.	3.	4.
BOX.S -	40 -	1000 -	FRNT
BOXY.S -	15 -	0000 -	STD
BOXZ.S -	30 -	1000 -	NULL

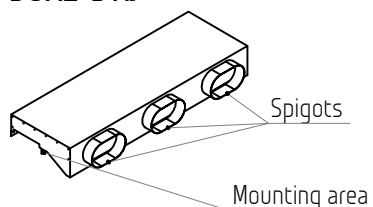
— "N" - at the stage of commercial offer the version of PB is not defined

STD

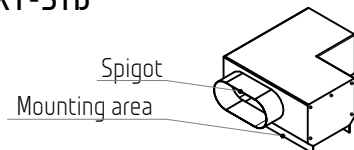
BOX-STD



BOXZ-STD



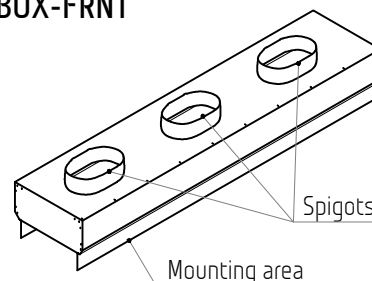
BOXY-STD



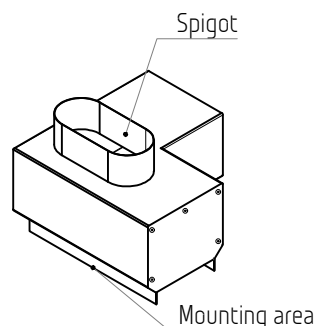
Number of spigots, see page 24.

FRNT

BOX-FRNT



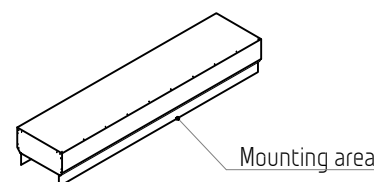
BOXY-FRNT



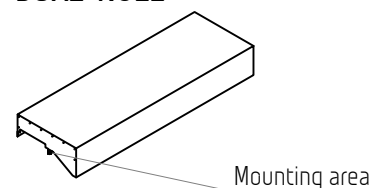
Number of spigots, see page 24.

NULL

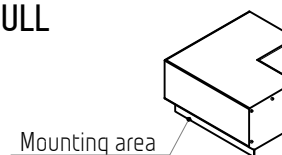
BOX-NULL



BOXZ-NULL



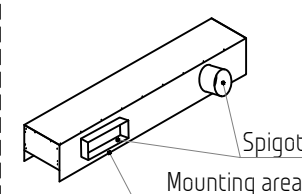
BOXY-NULL



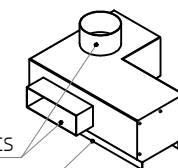
Spigots are mounted at the site.
Number and size of spigots, see page 24.

CUST

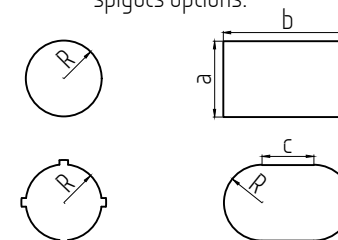
BOX-CUST



BOXY-CUST



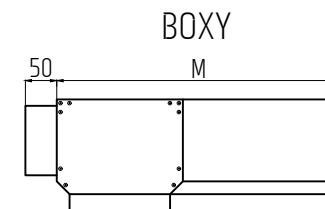
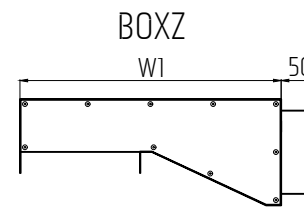
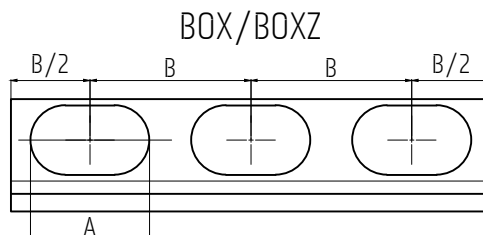
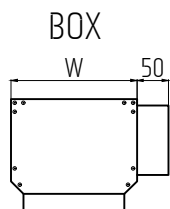
spigots options:



Geometry of PB and spigots upon request.

Warning! Aerodynamic and acoustic characteristics may differ from the standard PB.

Note: By default, PBs are made of 0.5 mm thick galvanized steel for lengths up to 500 mm, 0.65 mm for lengths up to 1000 mm, and 0.9 mm for lengths up to 3000 mm.



Diffuser slot width, mm		10	15	20	25	30	35	40	45	50	55	60	65	70
		Diffuser length (L), mm												
Number of spigots (N), pcs	1	165-900	165-520	165-390	205-490	205-410	205-355	205-355	225-445	225-420	225-420	225-420	300-545	300-545
	2	905-1800	525-1040	395-780	495-980	415-830	360-700	360-610	450-890	425-800	425-730	425-670	550-960	550-900
	3	1805-2700	1045-1560	785-1170	985-1470	835-1245	705-1050	615-915	895-1335	805-1200	735-1095	675-1005	965-1440	905-1350
	4	2705-3000	1565-2080	1175-1560	1475-1960	1250-1660	1055-1400	920-1220	1340-1780	1205-1600	1110-1460	1010-1340	1445-1920	1355-1800
	5		2085-2600	1565-1950	1965-2450	1665-2075	1405-1750	1225-1525	1785-2225	1605-2000	1465-1825	1345-1675	1925-2400	1805-2250
	6		2605-3000	1955-2340	2455-2940	2080-2490	1755-2100	1530-1830	2230-2670	2005-2400	1830-2190	1680-2010	2405-2880	2255-2700
	7			2345-2730	2945-3000	2495-2905	2105-2450	1835-2135	2675-3000	2405-2800	2195-2555	2015-2345	2885-3000	2705-3000
	8			2735-3000		2910-3000	2455-2800	2140-2440		2805-3000	2560-2920	2350-2680		
	9						2805-3000	2445-2745			2925-3000	2685-3000		
	10							2750-3000						
PB width (W), mm		122	127	132	137	142	147	152	185	190	195	200	205	210
PB BOXZ width (W1), mm		200	205	210	215	220	225	230	330	335	340	345	350	355
Duct diameter, mm		Ø 102			Ø 127				Ø 160				Ø 203	
Spigot width, mm (A)		118			156				179				250	
Arm length, mm (M)		250							350					
Minimum mounting height*, mm	BOX/ BOXY	170							245					
	BOXZ	125							165					
Distance between the axes of the spigots, mm (B)		(L-6)/N												

Notes:

* - height of the diffuser with the plenum box in the STD version.

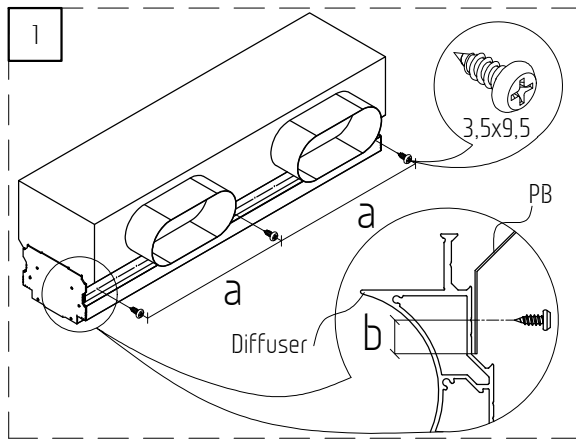
1. The PB length is 6 mm shorter than the diffuser length.

2. The dimensions of the spigots and the distances between the axes of the spigots for STD and FRNT versions are the same.

3. Correct air distribution and acoustic comfort are guaranteed only if the PB configuration and sizes according to the catalog have not been modified. The customer is fully responsible for any modification of the plenum box configuration or number of spigots.

11. Installation guide

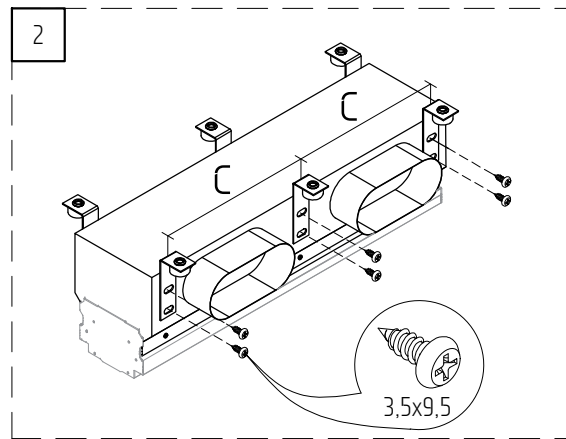
Installation procedure for diffusers



1.1. Attach the plenum box to the diffuser using self-tapping screws.

a = 150-200 mm, b = 10 mm

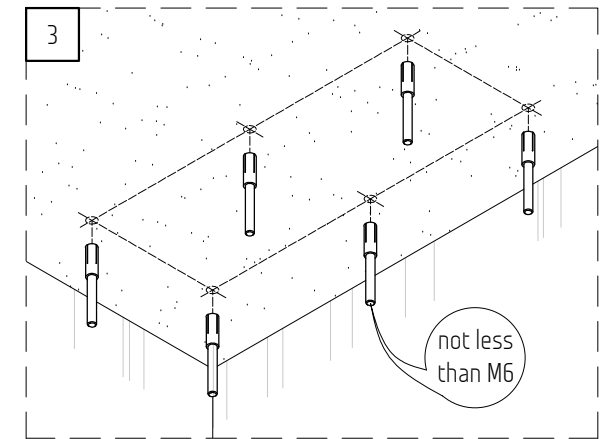
1.2. Seal the joint between the diffuser and the plenum box with aluminum adhesive tape.



2.1. Attach the L-shaped brackets to the plenum box using self-tapping screws.

c = 200-400 mm

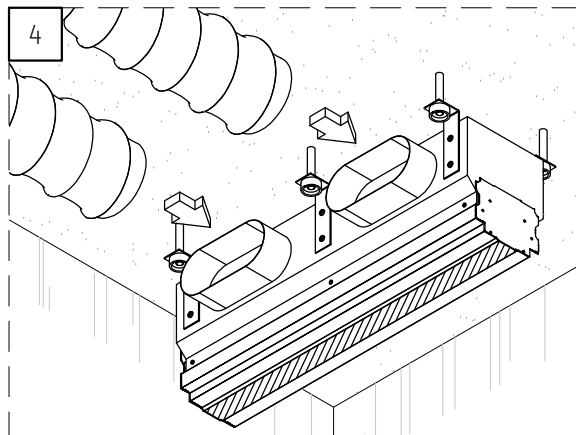
2.2. If necessary, cover the plenum box with thermal insulation.



3.1. Mark the mounting surface.

3.2. Drill holes.

3.3. Install anchors with studs.

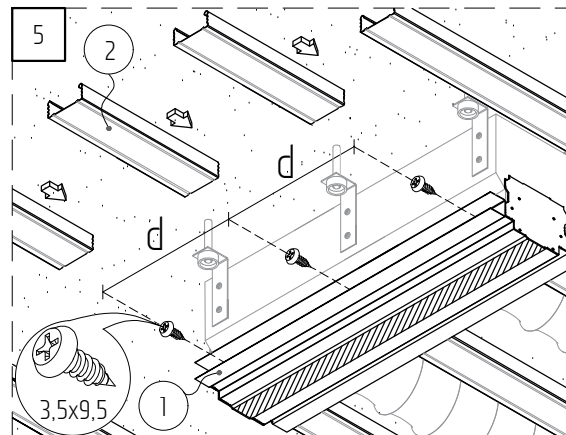


4.1. Mount the diffuser with plenum box on the mounting surface.

4.2. Level the diffuser with the ceiling frame.

4.3. Connect the air ducts.

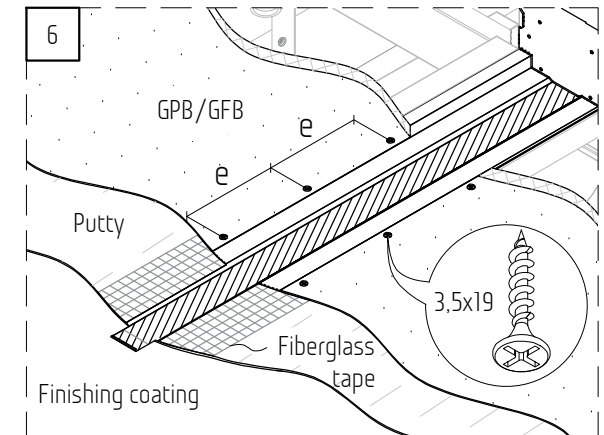
4.4. Seal the joints with aluminum adhesive tape.



5.1. Attach the UW 28x27 ① profiles to the diffuser (for more information see pages 27-30).

d = 200-400 mm

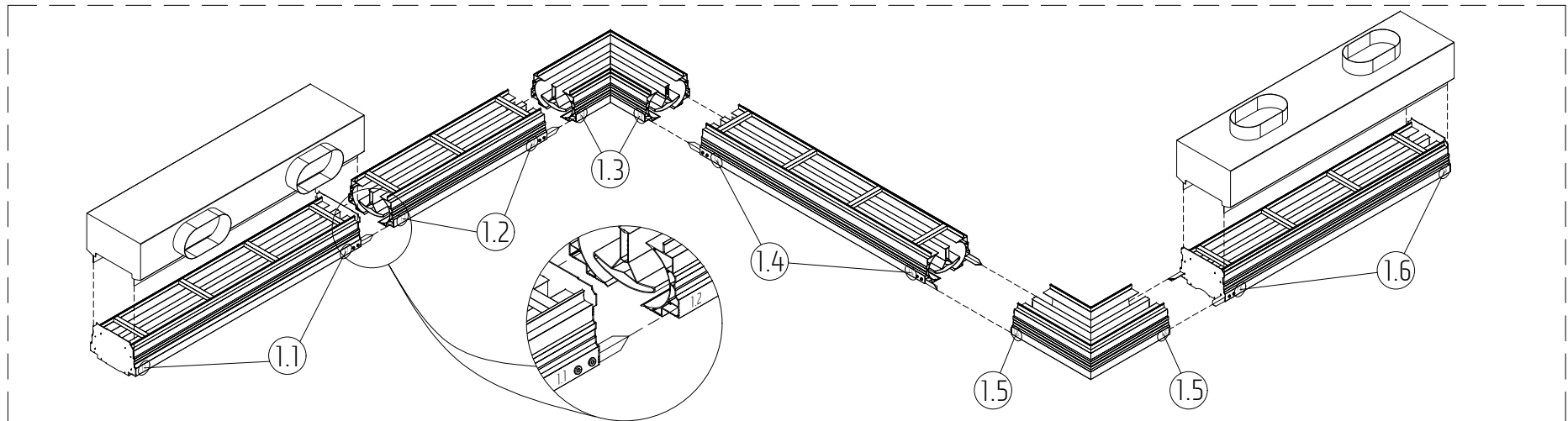
5.2. Attach the CD 60x27 ② profiles to the UW 28x27 profiles.



6.1. Attach the gypsum plasterboard/gypsum fiberboard sheets to the frame and diffuser using self-tapping screws, e = 150-200 mm

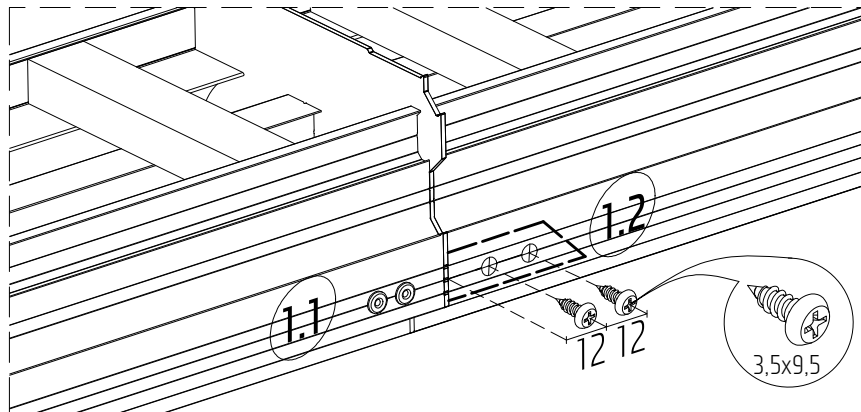
6.2. Perform finishing and painting work.

6.3. Remove the protection from the diffuser slot.

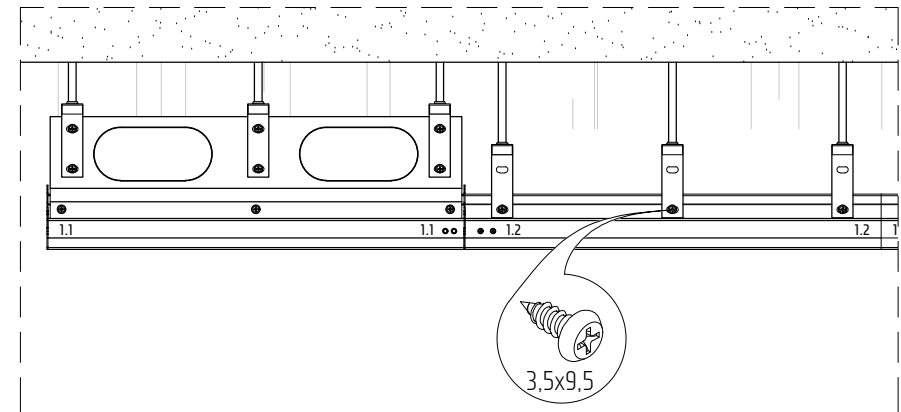


All diffusers and decorative elements (elements without plenum box) are numbered (in the case of modular assembly elements, the number is assigned in the contour for ease of assembly and installation). Each element is marked on both sides.

The serial numbers and order codes of the elements are indicated in the acceptance and transfer certificate, on the stickers on the diffuser, and on the packaging (on the box).

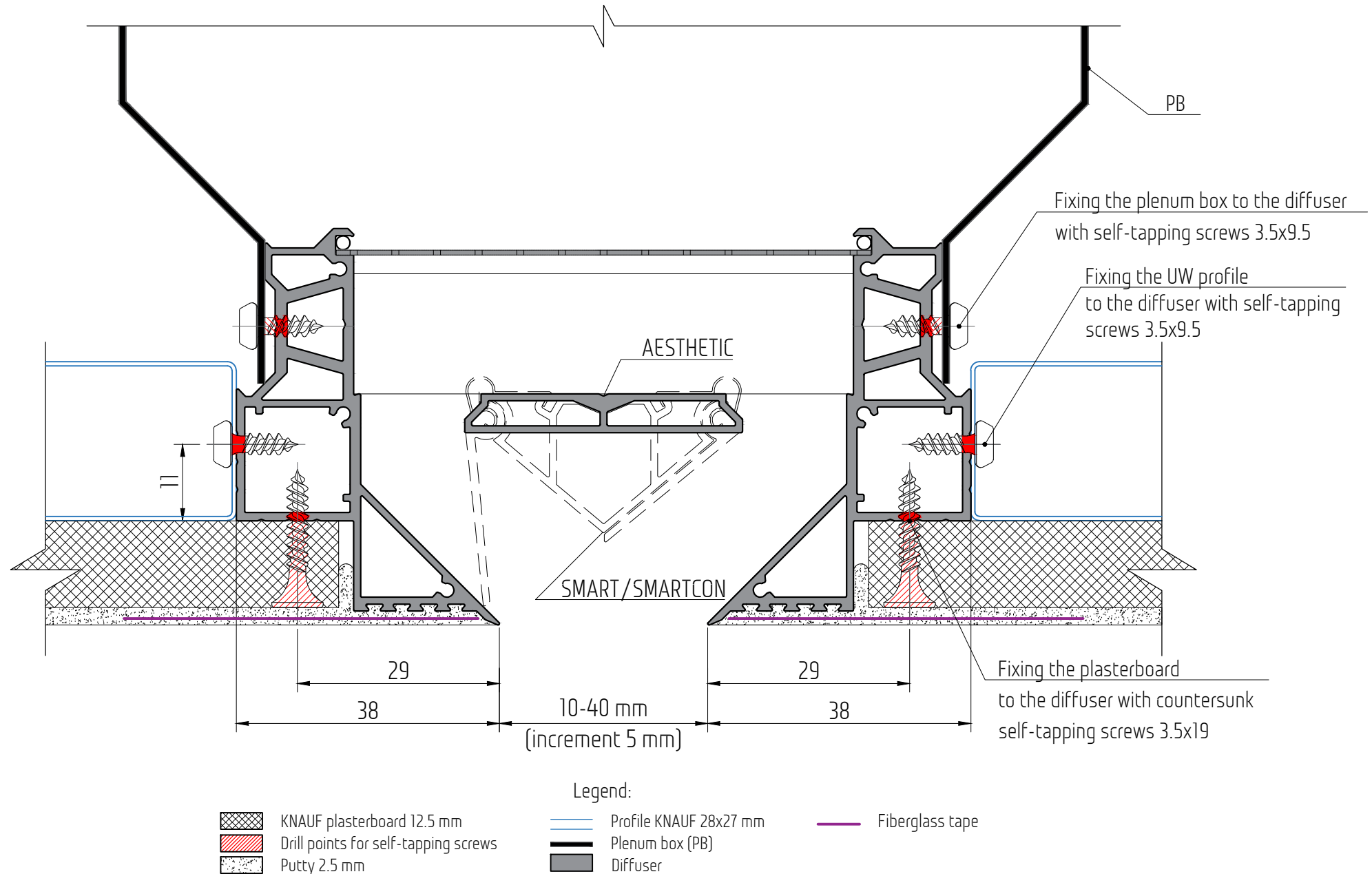


The elements of the assemblies are attached to each other using connectors and self-tapping screws.

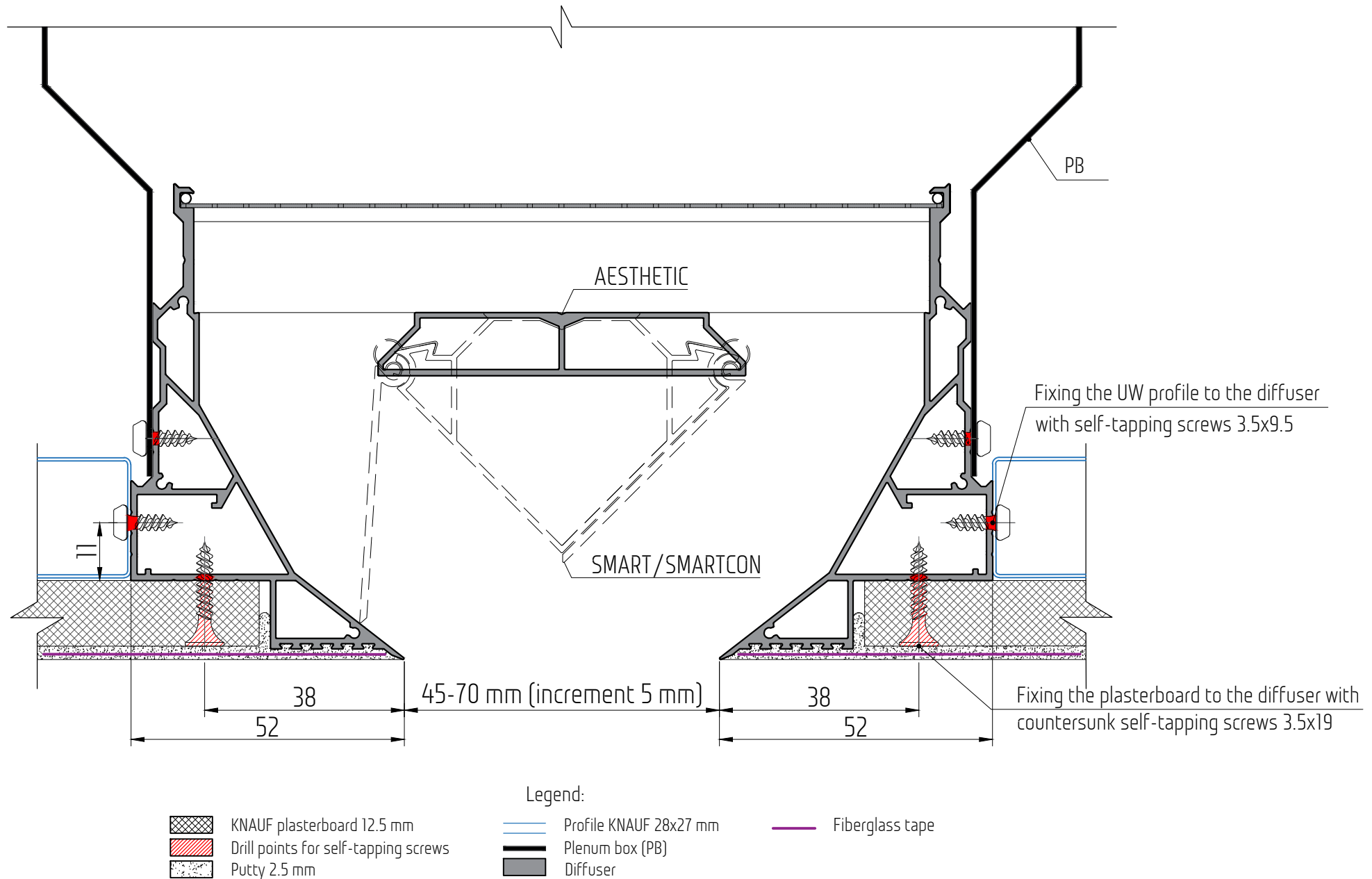


Decorative elements are mounted on L-shaped brackets using self-tapping screws.

Note: Assembly drawings and specifications for modular systems are available upon request.



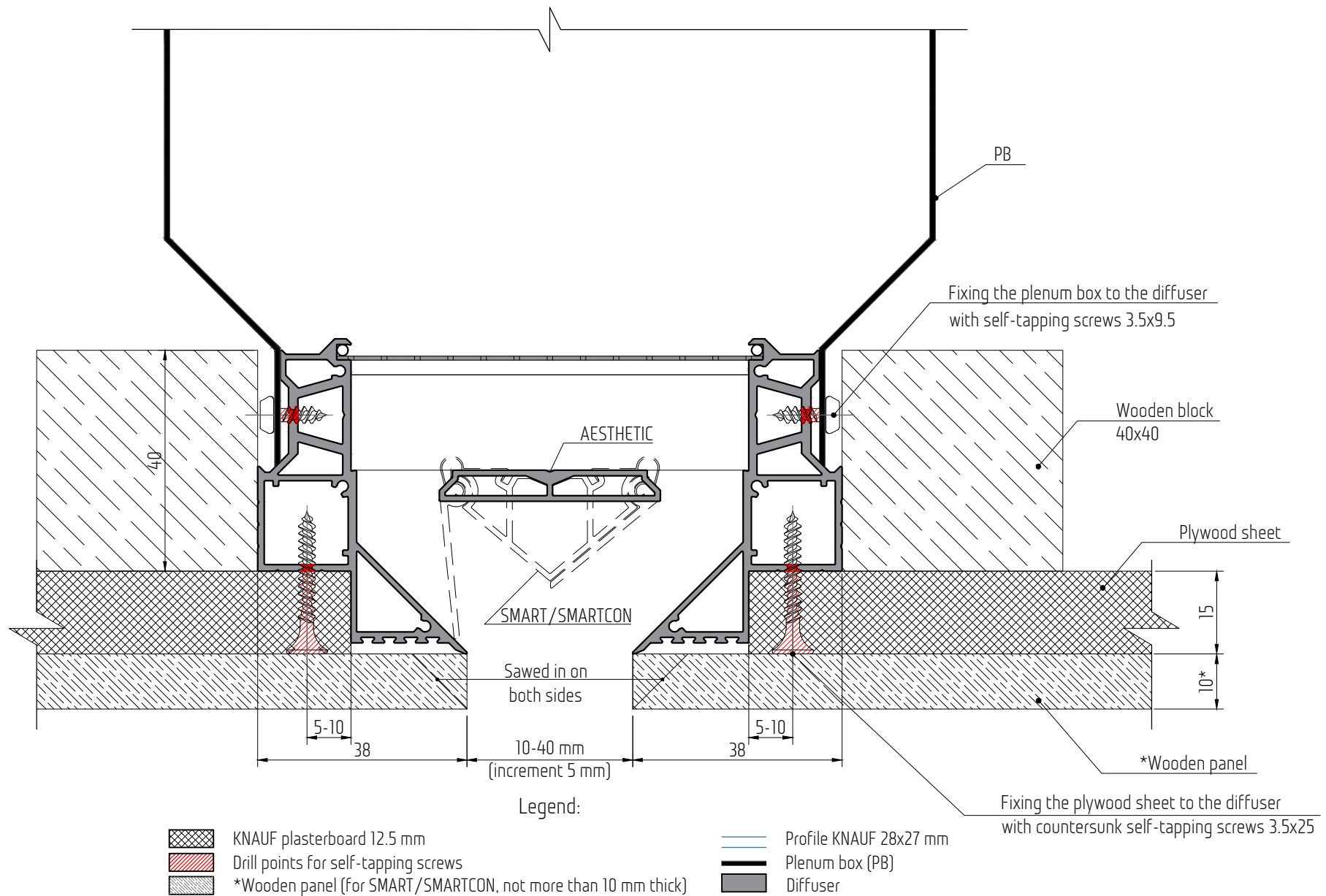
Smart/Smartcon/Aesthetic 45-70/Aesthlight into 1-layer gypsum plasterboard





12. Diffuser installation diagrams

Smart/Smartcon/Aesthetic 10-40 diffusers into wood paneling



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Our clients

CG CAPITAL GROUP



Calvin Klein

IQOS



RALPH LAUREN

NESPRESSO

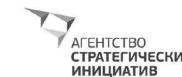
Deutsche Bank

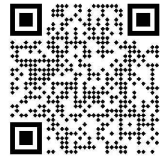
MR GROUP



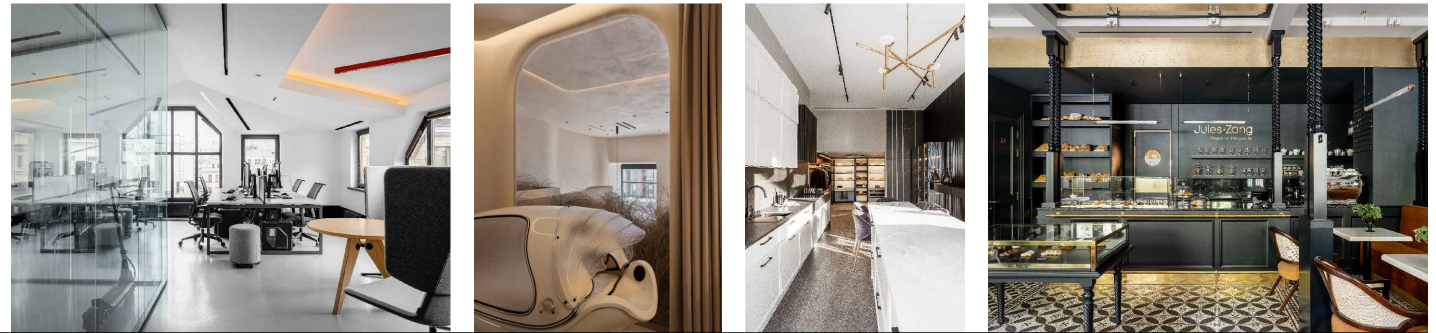
PROFIN

ДОНСТРОЙ



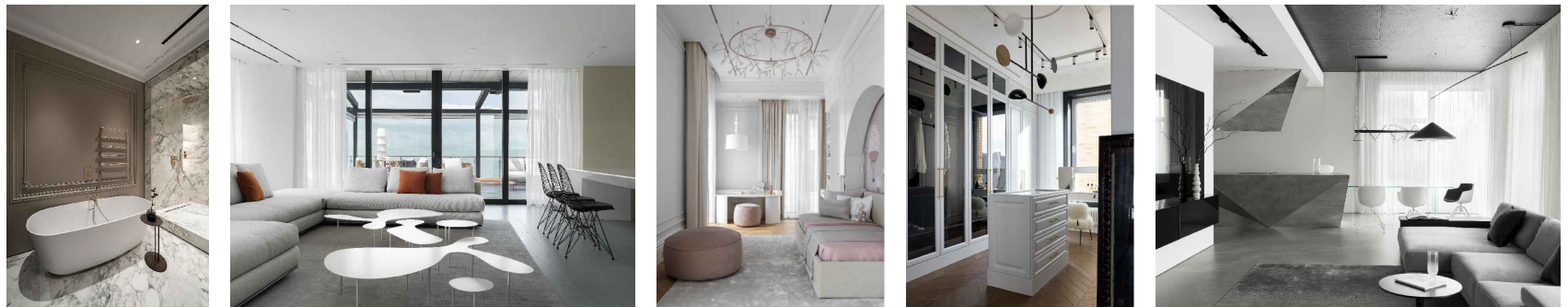


HoReCa



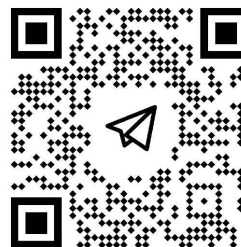
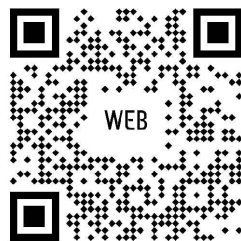
Houses

Apartments



Photos provided by architectural bureaus:

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