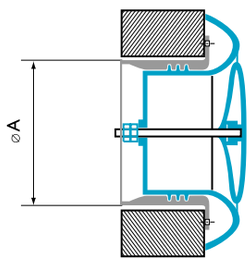
Modified diffusers DPU-M and DPU-K

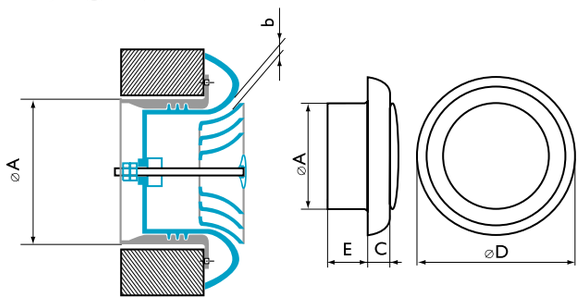
Plastic improved diffusers DPU-M, DPU-K of round cross-section are intended for supply and exhaust of air in residential, administrative and production rooms. DPU-M diffuser can be used as a shut-off valve in case of shutdown of the whole system or separate segments thereof. It consists of a housing, a connection tube and a movable blind fairing. In DPU-K the blind fairing is replaced by a movable fan-shaped insert composed of several diffusers, fixed rigidly in relation to each other.

When the fairing or the fan-shaped insert moves along the housing axis the form and characteristics of the inflow jet changes from horizontal fan-shaped to vertical cone-shaped one, which enables to implement seasonal regulation of ventilation and air conditioning systems.

DPU-M



DPU-K



Characteristics of diffusers DPU-M, DPU-K

Diffusers	⌀A, mm	⌀D, mm	E, mm	C, mm	F_0, m^2	Mass, kg
DPU-M 160	160	215	60	16	0,018	0,40
DPU-K 160	160	215	60	16	0,018	0,35

Technical characteristics of DPU-M, DPU-K diffusers for supply ventilation systems

When air is supplied into a room through DPU-M, DPU-K diffusers, recommended air flow rates L_0 depending on the level of noise generated L_A, relevant losses of total pressure ΔP_t and supply jet range $l_{0,2}$ at V_x=0,2 m/s, $l_{0,5}$ at V_x=0,5 m/s, $l_{0,75}$ at V_x=0,75 m/s are given in the table below.

Data for selection of diffusers DPU-M, DPU-K – supply air

Diffusers	$L_A \leq$ 20 dB(A)				L_A = 25 dB(A)				L_A = 35 dB(A)					L_A = 45 dB(A)			
	L_0, m^3/h	ΔP_t, Pa	jet range, m at V_X, m/s		L_0, m^3/h	ΔP_t, Pa	jet range, m at V_X, m/s		L_0, m^3/h	ΔP_t, Pa	jet range, m at V_X, m/s			L_0, m^3/h	ΔP_t, Pa	jet range, m at V_X, m/s	
			0,2	0,5			0,2	0,5			0,2	0,5	0,75			0,5	0,75
Horizontal spreading fan-shaped jet (b = 16 mm, N = 15 revolutions)																	
DPU-M 160	180	14	1,1	0,4	260	30	1,6	0,6	370	60	2,3	0,9	0,6	520	119	1,3	0,9
Horizontal spreading fan-shaped jet (b = 8 mm, N = 6,5 revolutions)																	
DPU-K 160	180	12	0,7	0,3	240	21	1,0	0,4	330	40	1,4	0,5	0,4	480	85	0,8	0,5
Vertical conic closing jet (b = 16 mm, N = 15 revolutions)																	
DPU-K 160	180	9	3,7	1,5	240	16	4,9	2,0	330	30	6,8	2,7	1,8	460	58	3,8	2,5

Technical characteristics of DPU-M, DPU-K diffusers for exhaust ventilation systems

When air is exhausted out a room through DPU-M, DPU-K diffusers, recommended air flow rates L_0 depending on the level of noise generated L_A and relevant losses of total pressure ΔP_t are given in the table below. The suction flow does not influence on the air parametres in the occupied zone and its velocity is not calculated.

Data for selection of diffusers DPU-M, DPU-K – exhaust air

Diffusers	L_A = 25 dB(A)			L_A = 35 dB(A)			L_A = 45 dB(A)		
	L_0, m^3/h	ΔP_t, Pa	V_0, m/s	L_0, m^3/h	ΔP_t, Pa	V_0, m/s	L_0, m^3/h	ΔP_t, Pa	V_0, m/s
DPU-M (b = 16 mm; N = 15 revolutions)									
DPU-M 160	260	26	3,9	370	52	5,6	520	104	7,9
DPU-K (b = 16 mm; N = 15 revolutions)									
DPU-K 160	200	10	3,0	300	22	4,5	420	44	6,4