DOĞU
İKLİMLENDİRME | HVAC SYSTEMS

DMY, DYM, DMZ, DZM

Circular Duct Grilles

FOUR SEASONS®

Venues Breathe with DOGU HVAC Systems!

DOGU HVAC founded in 1999, and ever since has been manufacturing energy and cost efficient products as Air Handling Units, Air Distribution & Management & Movement Systems [HVAC Components] and constantly enhancing to provide an integrated solution for well-being. DOGU HVAC's core business products which are subsumed under 6 major groups as Air Handling Units, Rooftop Units, Heat/Energy Recovery Units, Air Purifiers, Air Distribution & Management Products and Kitchen Ventilation Equipments are all produced under the compliance with EU standarts. Particularly AHU and HRU-ER units are entitled under the "FOUR SEASONS" brand name for domestic and foreign markets. DOGU HVAC's, headquarter in Izmir/Turkey, operates in a large-sized plant spread over 2 factories, in total area of 32.000 sqm in which 17.500 sqm indoor space that enables DOGU HVAC manufactures 180 various type of products. Additionally, DOGU HVAC has a powerful sales network with 4 sales offices located in İstanbul, Ankara, Antalya and Adana in Turkey as well as authorized dealers in many other countries for sales and after sales operations. DOGU HVAC has been exporting to more than 55 countries.

Thanks to our "Customer Satisfaction","Zero-Defect Policy" motto and reinforced by complete certified products, more than 250 employees. DOGU HVAC R&D center developed exclusive products, such as Double Skin Make-Up Kitchen Hood, Recirculated Laminar Airflow Unit, Single Piece Square Ceiling Diffuser and Ecology Units, for the first time have brought to the sector. DOGU HVAC R&D has the ability to make customized production which can meet the requirement of the customers by means of special software such as "ANSYS FLUENT". DOGU HVAC guaranteed its quality of management by having advantages of ISO 9001, ISO 14001, ISO 18001 certifications. Air Handling Units have EUROVENT, TUV Hygiene [in accordance with DIN1946-4, VDI 6022-1, DIN EN 13053 standarts], CE, TSEK, GOST-R certifications; Fire Dampers have EN 1366-2 and EN 13501-3 CE certifications; Smoke Control Dampers have EN 1366-10 and 12101-8 CE certifications; Kitchen Ventilation Products have TSEK, CE and GOST-R quality certifications.

DMY – SINGLE ROW BLADE CIRCULAR DUCT GRILLE (ALUMINUM)

- DMY – Single Row Blade Circular Duct Grille is used in circular air ducts and has adjustable blades arranged in a single
- row.

  It is a grille used in blowing or suction lines.

MATERIAL

- Casing and blades made of aluminum 6063 extruded profile

SURFACE COATING

- RAL 9010 or RAL 9016 electrostatic powder paint as standard.
- Optional
  -Different RAL color codes
  -Unpainted manufacturing

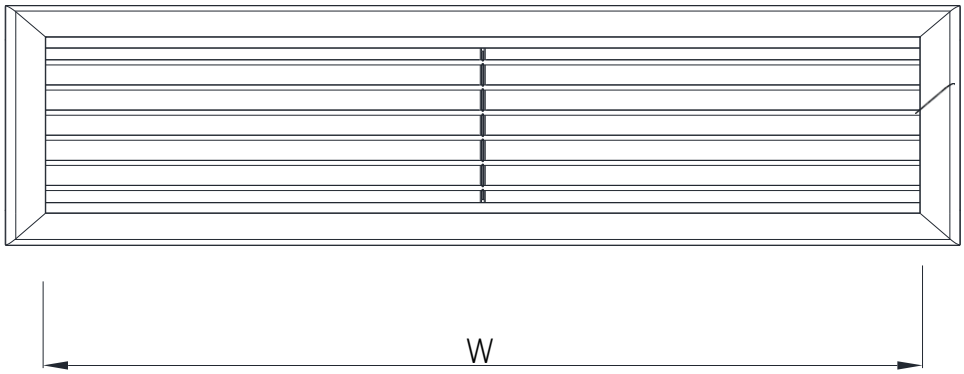
MOUNTING TYPES

- Screw mounting type as standard.

ACCESSORIES

- Optional,
  -ZKD – Opposed Blade Air Adjustment Damper.

STANDARD DIMENSIONS



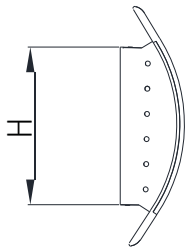


Table 1. Standard Dimensions Table.

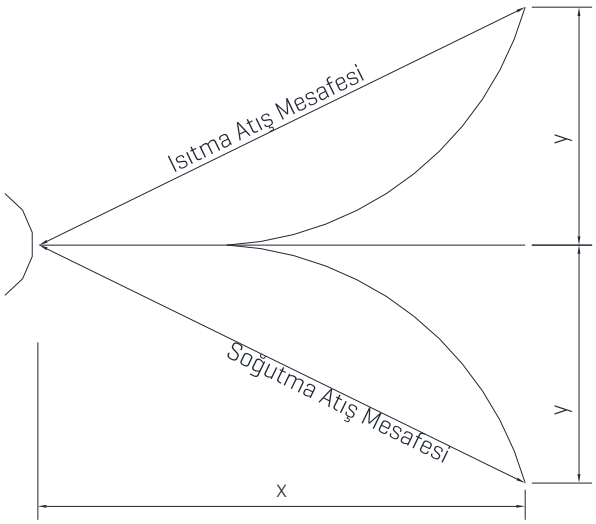
Standard Dimensions		H Height (mm) (Must be Less than Duct Radius)															
		50	75	100	125	150	175	200	250	300	325	350	400	450	500	525	600
W Width (mm)	100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	225	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	325	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	350	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	425	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	525	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	625	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	825	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1025	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

PERFONCE DATA

Table 2. Effective Area Table

Effective Area [m²]		H Height (mm)															
		50	75	100	125	150	175	200	250	300	325	350	400	450	500	525	600
W Width (mm)	100	0,003	0,005	0,007	0,008	0,010	0,012	0,013	0,017	0,020	0,022	0,023	0,027	0,030	0,033	0,035	0,040
	125	0,004	0,006	0,008	0,010	0,012	0,015	0,017	0,021	0,025	0,027	0,029	0,033	0,037	0,042	0,044	0,050
	150	0,005	0,007	0,010	0,012	0,015	0,017	0,020	0,025	0,030	0,032	0,035	0,040	0,045	0,050	0,052	0,060
	200	0,007	0,010	0,013	0,017	0,020	0,023	0,027	0,033	0,040	0,043	0,047	0,053	0,060	0,067	0,070	0,080
	225	0,007	0,011	0,015	0,019	0,022	0,026	0,030	0,037	0,045	0,049	0,052	0,060	0,067	0,075	0,079	0,090
	250	0,008	0,012	0,017	0,021	0,025	0,029	0,033	0,042	0,050	0,054	0,058	0,067	0,075	0,083	0,087	0,100
	300	0,010	0,015	0,020	0,025	0,030	0,035	0,040	0,050	0,060	0,065	0,070	0,080	0,090	0,100	0,105	0,120
	325	0,011	0,016	0,022	0,027	0,032	0,038	0,043	0,054	0,065	0,070	0,076	0,087	0,097	0,108	0,114	0,130
	350	0,012	0,017	0,023	0,029	0,035	0,041	0,047	0,058	0,070	0,076	0,082	0,093	0,105	0,116	0,122	0,140
	400	0,013	0,020	0,027	0,033	0,040	0,047	0,053	0,067	0,080	0,087	0,093	0,106	0,120	0,133	0,140	0,160
	425	0,014	0,021	0,028	0,035	0,042	0,049	0,057	0,071	0,085	0,092	0,099	0,113	0,127	0,141	0,148	0,170
	450	0,015	0,022	0,030	0,037	0,045	0,052	0,060	0,075	0,090	0,097	0,105	0,120	0,135	0,150	0,157	0,180
	500	0,017	0,025	0,033	0,042	0,050	0,058	0,067	0,083	0,100	0,108	0,116	0,133	0,150	0,166	0,175	0,200
	525	0,017	0,026	0,035	0,044	0,052	0,061	0,070	0,087	0,105	0,114	0,122	0,140	0,157	0,175	0,183	0,210
	600	0,020	0,030	0,040	0,050	0,060	0,070	0,080	0,100	0,120	0,130	0,140	0,160	0,180	0,200	0,210	0,240
	625	0,021	0,031	0,042	0,052	0,062	0,073	0,083	0,104	0,125	0,135	0,146	0,166	0,187	0,208	0,218	0,250
	825	0,027	0,041	0,055	0,069	0,082	0,096	0,110	0,137	0,165	0,178	0,192	0,220	0,247	0,275	0,288	0,329
	1025	0,034	0,051	0,068	0,085	0,102	0,119	0,136	0,171	0,205	0,222	0,239	0,273	0,307	0,341	0,358	0,409
	1250	0,042	0,062	0,083	0,104	0,125	0,146	0,166	0,208	0,250	0,270	0,291	0,333	0,374	0,416	0,437	0,499

BLOWING DATA



Note:

- Throw Distance: The distance where the air in the comfort zone reaches a speed of 0.25 m/s with the air distribution equipment.
- The data are obtained when the duct flow velocity 3 m/s and the room air temperature difference with the air distribution equipment is T = 8K.

Table 3. Blow Data Table

		Effective Velocity (m / s)									
Flow Rate (m3 / h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
50	Effective Area [m²]	0,0278	0,0139	0,009	0,007	0,006	0,005	0,0040	0,0035		
	Pressure Drop [Pa]	<1	3	8	14	22	32	45	59		
	Throw Distance [m]	1	2	2	3	3	3	4	4		
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	16	21	25	29		
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006	0,006
	Pressure Drop [Pa]	<1	3	8	14	22	33	45	59	76	94
	Throw Distance [m]	1	2	2	3	3	4	4	4	4	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	19	24	28	32	35	38
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012	0,011
	Pressure Drop [Pa]	<1	3	8	14	22	33	45	60	76	95
	Throw Distance [m]	1	2	2	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	16	22	27	31	35	38	41
300	Effective Area [m²]	0,167	0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019	0,017
	Pressure Drop [Pa]	<1	3	8	14	23	33	45	60	76	95
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	18	24	29	33	37	40	43
400	Effective Area [m²]	0,222	0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025	0,022
	Pressure Drop [Pa]	<1	3	8	14	23	33	45	60	77	95
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	19	25	30	34	38	41	44
500	Effective Area [m²]	0,278	0,139	0,093	0,069	0,056	0,046	0,040	0,035	0,031	0,028
	Pressure Drop [Pa]	<1	3	8	14	23	33	46	60	77	95
	Throw Distance [m]	2	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	20	26	31	35	39	42	45
600	Effective Area [m²]	0,333	0,167	0,111	0,083	0,067	0,056	0,048	0,042	0,037	0,0333
	Pressure Drop [Pa]	<1	3	8	14	23	33	46	60	77	96
	Throw Distance [m]	2	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	21	27	32	36	40	43	46
700	Effective Area [m²]	0,389	0,194	0,130	0,097	0,078	0,065	0,056	0,049	0,043	0,0389
	Pressure Drop [Pa]	<1	3	8	14	23	33	46	60	77	96
	Throw Distance [m]	2	2	3	3	3	4	4	5	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	22	28	33	37	40	44	46
800	Effective Area [m²]	0,444	0,222	0,148	0,111	0,089	0,074	0,064	0,056	0,049	0,0444
	Pressure Drop [Pa]	<1	3	8	14	23	33	46	60	77	96
	Throw Distance [m]	2	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	22	28	33	37	41	44	47
900	Effective Area [m²]		0,250	0,167	0,125	0,100	0,083	0,071	0,063	0,056	0,0500
	Pressure Drop [Pa]		3	8	14	23	33	46	60	77	96
	Throw Distance [m]		2	3	3	3	4	4	5	5	5,1
	Sound Pressure Level [dB(A)]		<15	15	23	29	34	38	41	45	47
1000	Effective Area [m²]		0,278	0,185	0,139	0,111	0,093	0,079	0,069	0,062	0,0556
	Pressure Drop [Pa]		3	8	14	23	33	46	60	77	96
	Throw Distance [m]		2	3	3	3	4	4	5	5	5,1
	Sound Pressure Level [dB(A)]		<15	16	23	29	34	38	42	45	48
1250	Effective Area [m²]		0,347	0,232	0,174	0,139	0,116	0,099	0,087	0,077	0,0694
	Pressure Drop [Pa]		3	8	14	23	33	46	61	77	96
	Throw Distance [m]		2	3	3	4	4	4	5	5	5,1
	Sound Pressure Level [dB(A)]		<15	17	24	30	35	39	43	46	48
1500	Effective Area [m²]		0,417	0,278	0,208	0,167	0,139	0,119	0,104	0,0926	0,0833
	Pressure Drop [Pa]		3	8	14	23	33	46	61	77	96
	Throw Distance [m]		2	3	3	4	4	4	5	4,9	5,1
	Sound Pressure Level [dB(A)]		<15	17	25	31	36	40	44	47	50
1750	Effective Area [m²]		0,486	0,324	0,243	0,194	0,162	0,139	0,122	0,1080	0,0972
	Pressure Drop [Pa]		3	8	14	23	33	46	61	78	97
	Throw Distance [m]		2	3	3	4	4	4	5	5	5
	Sound Pressure Level [dB(A)]		<15	18	26	32	37	41	44	48	50

SUCTION DATA

Table 4. Suction Data Table

		Effective Velocity (m/s)									
Flow Rate (m3/h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
50	Effective Area [m²]	0,0278	0,0139	0,0093	0,0069	0,006	0,005	0,004	0,003		
	Pressure Drop [Pa]	<1	3	6	12	19	27	38	50		
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	<15	19	23	27		
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006	0,006
	Pressure Drop [Pa]	<1	3	7	12	19	28	39	52	66	83
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	17	22	27	27	33	36
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012	0,011
	Pressure Drop [Pa]	<1	3	7	12	20	29	40	53	68	85
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	21	26	30	34	37	40
300	Effective Area [m²]	0,167	0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019	0,017
	Pressure Drop [Pa]	<1	3	7	13	20	29	41	54	69	86
	Sound Pressure Level [dB(A)]	<15	<15	<15	17	23	28	32	35	39	42
400	Effective Area [m²]	0,222	0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025	0,022
	Pressure Drop [Pa]	<1	3	7	13	20	30	41	55	70	87
	Sound Pressure Level [dB(A)]	<15	<15	<15	18	24	29	33	37	40	43
500	Effective Area [m²]	0,278	0,139	0,093	0,069	0,056	0,046	0,040	0,035	0,031	0,028
	Pressure Drop [Pa]	<1	3	7	13	21	30	42	55	71	88
	Sound Pressure Level [dB(A)]	<15	<15	<15	19	25	30	34	38	41	44
600	Effective Area [m²]	0,333	0,167	0,111	0,083	0,067	0,056	0,048	0,042	0,037	0,0333
	Pressure Drop [Pa]	<1	3	7	13	21	30	42	56	71	89
	Sound Pressure Level [dB(A)]	<15	<15	<15	20	26	31	35	39	42	45
700	Effective Area [m²]	0,389	0,194	0,130	0,097	0,078	0,065	0,056	0,049	0,043	0,0389
	Pressure Drop [Pa]	<1	3	7	13	21	31	42	56	72	89
	Sound Pressure Level [dB(A)]	<15	<15	<15	21	27	32	36	40	43	46
800	Effective Area [m²]	0,444	0,222	0,148	0,111	0,089	0,074	0,063	0,056	0,049	0,0444
	Pressure Drop [Pa]	<1	3	7	13	21	31	42	56	72	90
	Sound Pressure Level [dB(A)]	<15	<15	<15	21	27	32	37	40	43	46
900	Effective Area [m²]		0,250	0,167	0,125	0,100	0,083	0,071	0,063	0,056	0,0500
	Pressure Drop [Pa]		3	7	13	21	31	43	56	72	90
	Sound Pressure Level [dB(A)]		<15	<15	22	28	33	37	41	44	47
1000	Effective Area [m²]		0,278	0,185	0,139	0,111	0,093	0,079	0,069	0,062	0,0556
	Pressure Drop [Pa]		3	7	13	21	31	43	57	73	91
	Sound Pressure Level [dB(A)]		<15	<15	22	28	33	38	41	44	47
1250	Effective Area [m²]		0,347	0,231	0,174	0,139	0,116	0,099	0,087	0,077	0,0694
	Pressure Drop [Pa]		3	7	13	21	31	43	57	73	91
	Sound Pressure Level [dB(A)]		<15	16	23	30	34	39	42	45	48
1500	Effective Area [m²]		0,417	0,278	0,208	0,167	0,139	0,119	0,104	0,0926	0,0833
	Pressure Drop [Pa]		3	7	13	21	31	43	58	74	92
	Sound Pressure Level [dB(A)]		<15	16	24	30	35	40	43	46	49
1750	Effective Area [m²]		0,486	0,324	0,243	0,194	0,162	0,139	0,122	0,1080	0,0972
	Pressure Drop [Pa]		3	7	14	22	32	44	58	74	93
	Sound Pressure Level [dB(A)]		<15	17	25	31	36	40	44	47	50
2000	Effective Area [m²]			0,370	0,278	0,222	0,185	0,159	0,139	0,1235	0,1111
	Pressure Drop [Pa]			7	14	22	32	44	58	75	93
	Sound Pressure Level [dB(A)]			18	26	32	37	41	45	48	51

DUCT FLOW AND DAMPER CORRECTION TABLE

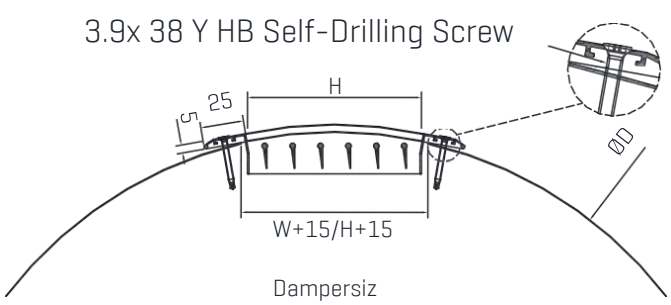
Table 5. Duct Flow and Damper Correction Table

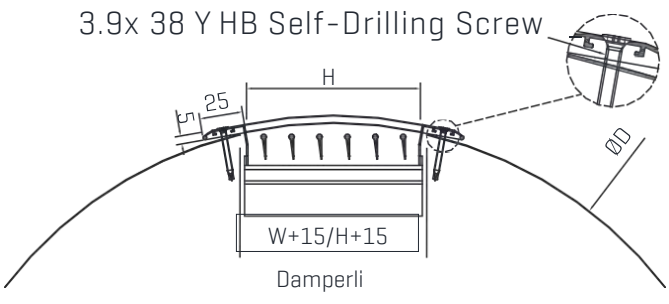
Multilier According to Damper Position										
			Full Open		25% Closed		50% Closed		75% Closed	
Duct Velocity (m/s)	Amount to Add		Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier
0,5	Pressure Drop [Pa]	-6	1,09	1,05	1,86	1,21	2,76	1,46	3,67	1,71
	Sound Generation [dB(A)]	-6								
1	Pressure Drop [Pa]	-5								
	Sound Generation [dB(A)]	-5								
2	Pressure Drop [Pa]	-3								
	Sound Generation [dB(A)]	-2								
3	Pressure Drop [Pa]	0								
	Sound Generation [dB(A)]	0								
4	Pressure Drop [Pa]	4								
	Sound Generation [dB(A)]	2								
5	Pressure Drop [Pa]	10								
	Sound Generation [dB(A)]	4								
6	Pressure Drop [Pa]	17								
	Sound Generation [dB(A)]	6								
7	Pressure Drop [Pa]	25								
	Sound Generation [dB(A)]	9								
8	Pressure Drop [Pa]	35								
	Sound Generation [dB(A)]	11								
9	Pressure Drop [Pa]	46								
	Sound Generation [dB(A)]	13								
10	Pressure Drop [Pa]	60								
	Sound Generation [dB(A)]	15								
11	Pressure Drop [Pa]	75								
	Sound Generation [dB(A)]	18								
12	Pressure Drop [Pa]	92								
	Sound Generation [dB(A)]	20								

Note: As the air velocity in the duct increases and the damper position changes, the pressure loss and sound pressure level created by the grill increase. Accordingly, the blowing or suction data in the selected grille must first be multiplied by the damper coefficient if there is a damper. Then the correct result is achieved by adding sound production and pressure loss values according to the channel speed.

DUCT FLOW AND DAMPER CORRECTION TABLE

1. SCREWED SYSTEM





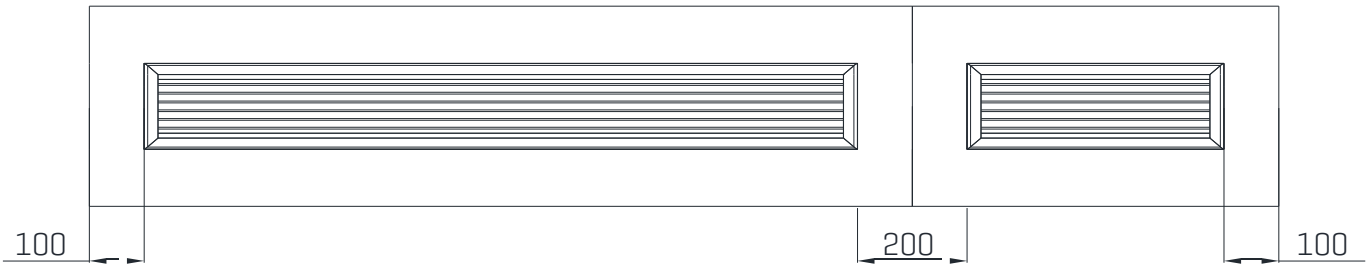
OPPOSITE BLADE DAMPER

When air adjustment is requested, the opposite blade air adjustment damper is delivered with a special damper switch. It is suitable to use for blowing and suction. Thanks to its aerodynamic wing structure and mechanical design, it enables to adjust the air flow with low pressure loss.

DUCT FLOW AND DAMPER CORRECTION TABLE

MAXIMUM MODULE SIZE

The standard size of a single piece product is within the limits of 100 x 50 to 1250x600. If the order is placed over standard sizes, the grilles will be produced more than once in full pieces. Recommended mounting method is shown below.

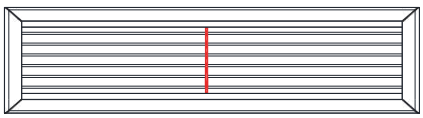


SUPPORT NUMBER PARAMETER

Support is used when W> 600 in order to maintain the strength according to the height increase in the product.

W≤600 without support

600 < W ≤ 1200 1 support



PRODUCT SELECTION

Example: It is expected to blow 300 m³ / h from a circular duct grille connected to a circular duct with an air velocity of 5 m / s. Opposite blade damper will be used. The diameter of the channel which the grille is connected will be 250 mm. The maximum pressure loss should be 100 Pa. Make the selection.

Solution: Required correction coefficients for 5 m / s duct air velocity are obtained from Duct Flow and Damper Correction Table.

When the damper in the 25% closed position:
Pressure multiplier 1.86
Sound multiplier 1.21
Values to be added for 5 m / s channel air velocity
Pressure Drop +10 Pa
Sound Generation +4 dB(A).

From the blow data table (Table 3) the required values for a 300 m³ / h blowing flow and the corresponding effective area are obtained. For 0.033 m² effective area, 23 Pa pressure drop, 3 m throw distance and 24 dB (A) sound pressure level and 2.5 m / s effective velocity values are obtained.

Corrected pressure drop and sound pressure level are calculated. Pressure Drop = 23 x 1,86 + 10 = 52,8 Pa
Sound Pressure Level = 26 x 1,21 + 4 = 35,5 dB(A)

The selected dimension must meet the H ≤ R constraint since the duct radius (R) = 100 mm.
After confirming the conformity of the obtained values, the grille size corresponding to 0.033 m² effective area is selected as W (Width) 500 mm x H (Height) 100 mm on the Effective Area Table (Table 2).

PRODUCT ORDER CODE

You can place your orders according to the following coding format.

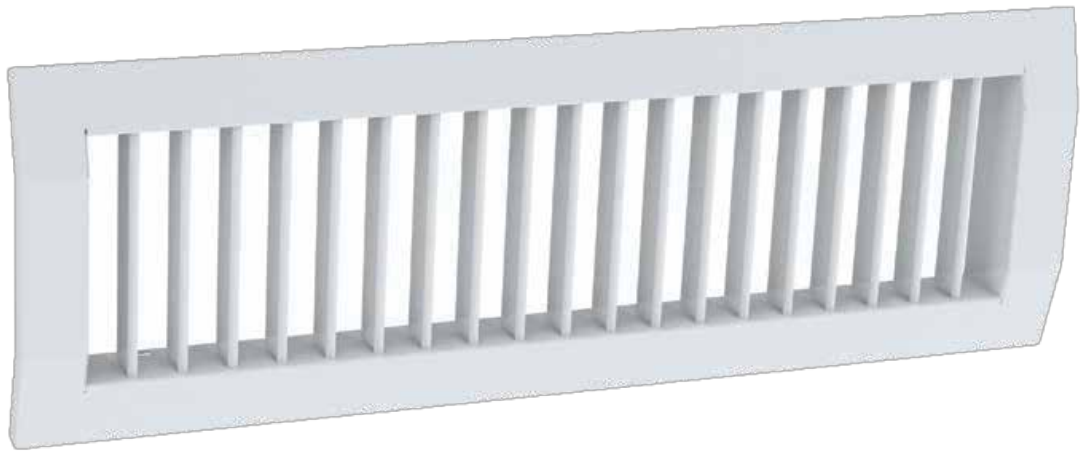
DMY. < A > . < B > . < C > . < D > . < E > . < F > . < G >

A	Raw Material Type	
	ALM	Aluminum
B	**Damper**	
	ZD	Opposite Blade Damper
	DZ	Without Damper
C	**Mounting Type**	
	VD	Screwed System
D	**Width (W) (mm)**	
	0000	You can view it from standard dimensions.
E	**Height (H) (mm)**	
	0000	You can view it from standard dimensions.
F	**Radius of Duct (D) (mm)**	
	0000	You can view it from standard dimensions.
G	**Paint**	
	00	Paintless
	S1	Standard Painted - RAL 9010
	S2	Standard Painted - RAL 9016
	XX	Special Painted

Sample Codding; DMY.ALM.ZD.VD.0600.0300.0600.S1

DYM - SINGLE ROW BLADE CIRCULAR DUCT GRILLE (GALVANIZED)

- DYM – Single Row Blade Circular Duct Galvanized Grille is a blowing grille that is used in circular air ducts and can be used for suction with the blades arranged in a single row.



MATERIAL

- As a standard, the casing of the product is galvanized sheet, its wings are made of 6063 extruded aluminum.

SURFACE COATING

- RAL 9010 or RAL 9016 electrostatic powder paint.
- Optional
  -Different RAL color codes
  -Unpainted manufacturing

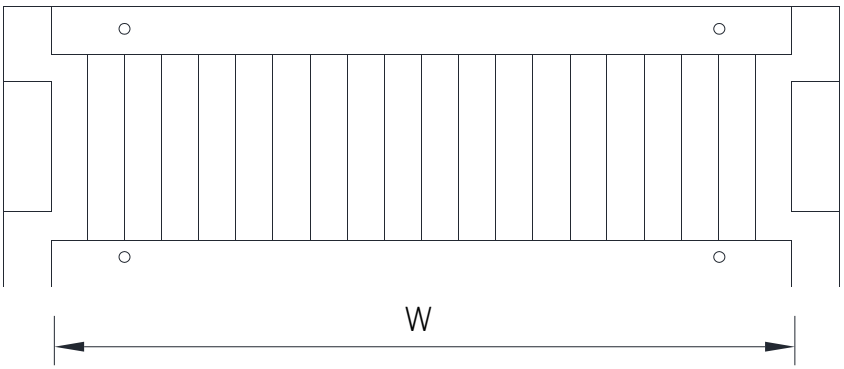
MOUNTING TYPES

- Screw mounting type as standard.

ACCESSORIES

- Optional
  - Special Slide Galvanized Damper
  - Sponge Gasket

STANDARD DIMENSIONS



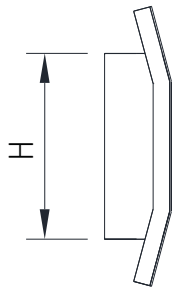


Table 1. Standard Dimensions Table.

Standard Dimensions		H Height (mm) (Must be Less than Duct Radius)		
		50	100	150
W Width (mm)	100	✓	✓	✓
	200	✓	✓	✓
	225	✓	✓	✓
	300	✓	✓	✓
	325	✓	✓	✓
	400	✓	✓	✓
	425	✓	✓	✓
	500	✓	✓	✓
	525	✓	✓	✓
	600	✓	✓	✓
	625	✓	✓	✓
	700	✓	✓	✓
	800	✓	✓	✓
	825	✓	✓	✓
	900	✓	✓	✓
	1000	✓	✓	✓
	1100	✓	✓	✓
	1200	✓	✓	✓

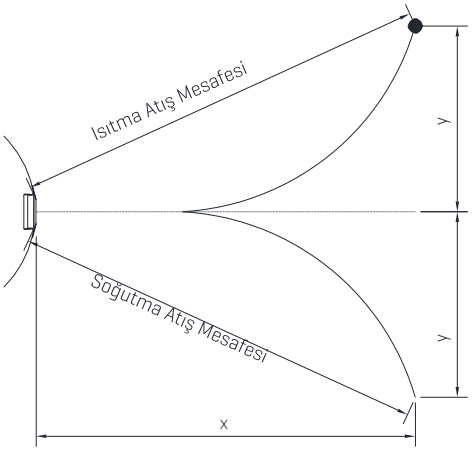
PERFORMANCE DATA

EFECTIVE AREA TABLE

Table 2. Standard Dimensions Table.

Effective Area [m²]		H Height (mm)		
		50	100	150
W Width (mm)	100	0,003	0,007	0,011
	200	0,007	0,014	0,022
	225	0,008	0,016	0,025
	300	0,011	0,022	0,033
	325	0,012	0,024	0,036
	400	0,014	0,029	0,045
	425	0,015	0,031	0,048
	500	0,018	0,037	0,056
	525	0,019	0,039	0,059
	600	0,022	0,045	0,068
	625	0,023	0,047	0,071
	700	0,026	0,052	0,079
	800	0,029	0,060	0,091
	825	0,030	0,062	0,094
	900	0,033	0,068	0,103
	1000	0,037	0,076	0,115
	1100	0,041	0,083	0,127
	1200	0,045	0,091	0,139

BLOWING TABLE



Note:

Throw Distance: Hava dağıtıcı ekipman ile konfor zonundaki havanın 0,25 m/s hızına ulaştığı mesafe

Veriler kanal akış hızının 3 m/s ve hava dağıtıcı ekipman ile mahal hava sıcaklık farkının T = 8K olduğu durumda elde edilmiştir.

Table 3. Blowing Data

		Effective Velocity (m / s)							
Flow Rate (m3 / h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
50	Effective Area [m²]	0,0278	0,0139	0,009	0,007	0,006	0,005	0,004	0,004
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	2	3	3	3	3
	Sound Pressure Level [dB(A)]	<15	<15	18	24	29	32	36	38
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	3	3	4
	Sound Pressure Level [dB(A)]	<15	<15	21	27	32	35	39	41
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	3	4	4
	Sound Pressure Level [dB(A)]	<15	16	24	30	35	38	42	44
300	Effective Area [m²]		0,083	0,056	0,042	0,033	0,028	0,024	0,021
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		17	26	32	36	40	43	46
400	Effective Area [m²]		0,111	0,074	0,056	0,044	0,037	0,032	0,028
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		19	27	33	38	41	45	47
500	Effective Area [m²]			0,093	0,069	0,056	0,046	0,040	0,035
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	4	4	4	5
	Sound Pressure Level [dB(A)]			28	34	39	42	46	48
600	Effective Area [m²]			0,111	0,083	0,067	0,056	0,048	0,042
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	4	4	4	5
	Sound Pressure Level [dB(A)]			29	35	39	43	46	49
700	Effective Area [m²]			0,130	0,097	0,078	0,065	0,056	0,049
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	4	4	4	5
	Sound Pressure Level [dB(A)]			29	35	40	44	47	50
800	Effective Area [m²]				0,111	0,089	0,074	0,064	0,056
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	4	4	4	5
	Sound Pressure Level [dB(A)]				38	41	44	48	50
900	Effective Area [m²]				0,125	0,100	0,083	0,071	0,063
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	4	4	5	5
	Sound Pressure Level [dB(A)]				37	41	45	48	51
1000	Effective Area [m²]					0,111	0,093	0,079	0,069
	Pressure Drop [Pa]					71	94	119	145
	Throw Distance [m]					4	4	5	5
	Sound Pressure Level [dB(A)]					42	45	49	51
1250	Effective Area [m²]						0,116	0,099	0,087
	Pressure Drop [Pa]						94	119	145
	Throw Distance [m]						4	5	5
	Sound Pressure Level [dB(A)]						46	50	52
1500	Effective Area [m²]							0,119	0,104
	Pressure Drop [Pa]							119	145
	Throw Distance [m]							5	5
	Sound Pressure Level [dB(A)]							50	53
	Effective Area [m²]								0,122

SUCTION DATA

Table 4. Suction Data Table

		Effective Velocity (m/s)									
Flow Rate (m3/h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
50	Effective Area [m²]	0,0278	0,0139	0,0093	0,0069	0,006	0,005	0,004	0,003		
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100		
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	17	24	29	34		
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006	0,006
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	20	27	32	37	42	46
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012	0,011
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	23	30	35	40	45	49
300	Effective Area [m²]		0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019	0,017
	Pressure Drop [Pa]		2	5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]		<15	<15	16	25	31	37	42	47	50
400	Effective Area [m²]		0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025	0,022
	Pressure Drop [Pa]		2	5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]		<15	<15	18	26	33	38	43	48	52
500	Effective Area [m²]			0,093	0,069	0,056	0,046	0,040	0,035	0,031	0,028
	Pressure Drop [Pa]			5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]			<15	19	27	34	34	44	49	53
600	Effective Area [m²]			0,111	0,083	0,067	0,056	0,048	0,042	0,037	0,0333
	Pressure Drop [Pa]			5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]			<15	19	26	34	40	45	50	53
700	Effective Area [m²]			0,130	0,097	0,078	0,065	0,056	0,049	0,043	0,0389
	Pressure Drop [Pa]			5	12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]			<15	20	28	35	41	46	50	54
800	Effective Area [m²]				0,111	0,089	0,074	0,063	0,056	0,049	0,0444
	Pressure Drop [Pa]				12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]				21	29	36	41	46	51	55
900	Effective Area [m²]				0,125	0,100	0,083	0,071	0,063	0,056	0,0500
	Pressure Drop [Pa]				12	24	42	67	100	143	197
	Sound Pressure Level [dB(A)]				21	29	36	42	47	51	55
1000	Effective Area [m²]					0,111	0,093	0,079	0,069	0,062	0,0556
	Pressure Drop [Pa]					24	42	67	100	143	197
	Sound Pressure Level [dB(A)]					30	37	42	47	52	56
1250	Effective Area [m²]						0,116	0,099	0,087	0,077	0,0694
	Pressure Drop [Pa]						42	67	100	143	197
	Sound Pressure Level [dB(A)]						38	43	48	53	57
1500	Effective Area [m²]							0,119	0,104	0,0926	0,0833
	Pressure Drop [Pa]							67	100	143	197
	Sound Pressure Level [dB(A)]							44	49	54	57
1750	Effective Area [m²]								0,122	0,1080	0,0972
	Pressure Drop [Pa]								100	143	197
	Sound Pressure Level [dB(A)]								50	54	58
2000	Effective Area [m²]									0,1235	0,1111
	Pressure Drop [Pa]									143	197
	Sound Pressure Level [dB(A)]									55	59

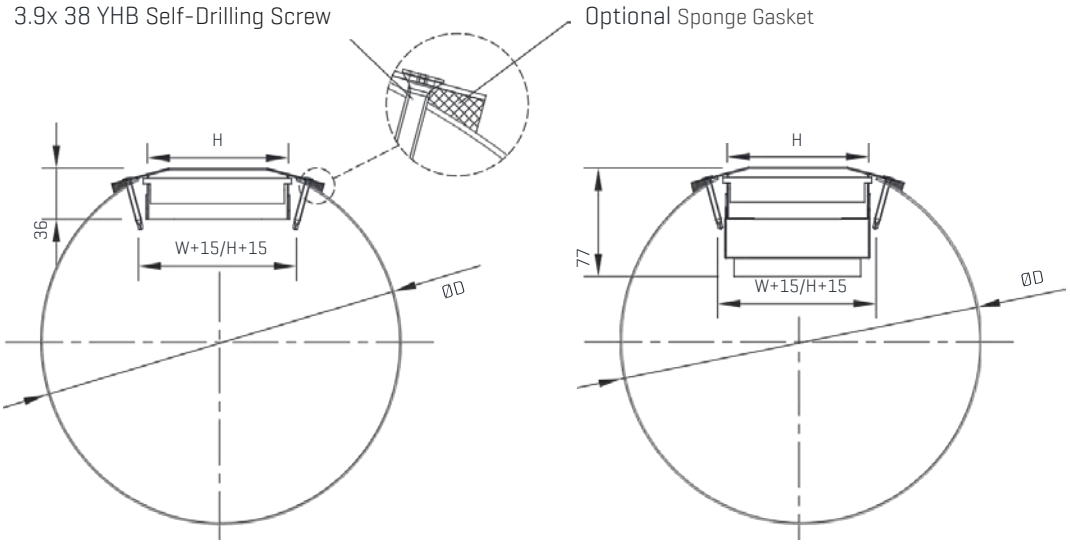
DUCT FLOW AND DAMPER CORRECTION TABLE

Table 5. Duct Flow and Damper Correction Table

Multilier According to Damper Position										
			Full Open		25% Closed		50% Closed		75% Closed	
Duct Velocity (m/s)	Amount to Add		Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier
0,5	Pressure Drop [Pa]	-6	1,2	1,1	2,0	1,3	2,9	1,5	3,9	1,8
	Sound Generation [dB(A)]	-6								
1	Pressure Drop [Pa]	-5								
	Sound Generation [dB(A)]	-5								
2	Pressure Drop [Pa]	-3								
	Sound Generation [dB(A)]	-2								
3	Pressure Drop [Pa]	0								
	Sound Generation [dB(A)]	0								
4	Pressure Drop [Pa]	4								
	Sound Generation [dB(A)]	2								
5	Pressure Drop [Pa]	10								
	Sound Generation [dB(A)]	4								
6	Pressure Drop [Pa]	17								
	Sound Generation [dB(A)]	6								
7	Pressure Drop [Pa]	25								
	Sound Generation [dB(A)]	9								
8	Pressure Drop [Pa]	35								
	Sound Generation [dB(A)]	11								
9	Pressure Drop [Pa]	46								
	Sound Generation [dB(A)]	13								
10	Pressure Drop [Pa]	60								
	Sound Generation [dB(A)]	15								
11	Pressure Drop [Pa]	75								
	Sound Generation [dB(A)]	18								
12	Pressure Drop [Pa]	92								
	Sound Generation [dB(A)]	20								

Note: As the air velocity in the duct increases and the damper position changes, the pressure loss and sound pressure level created by the grill increase. Accordingly, the blowing or suction data in the selected grille must first be multiplied by the damper coefficient if there is a damper. Then the correct result is achieved by adding sound production and pressure loss values according to the channel speed.

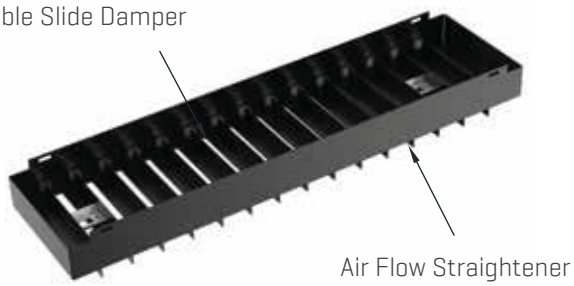
STANDARD DIMENSIONS



OPTIONAL SLIDE DAMPER

It has sliding blades that provide air flow adjustment. It is suitable to be used for blowing and suction.

With the air flow straightener, the circular duct grilles provide homogeneous air distribution



SIZE PARAMETERS

Recommended mounting method in case more than one circular duct grille is placed side by side.

STANDARD DIMENSIONS

Example: 500 m³ / h blowing is expected from a circular duct grille connected to a circular duct with an air velocity of 6 m / s. A slide damper will be used. The diameter of the channel which the grille is connected will be 250 mm. The maximum pressure loss should be 100 Pa. Make the selection.

Solution: The necessary correction coefficients for 6 m / s duct air velocity are obtained from the Duct Flow and Damper Correction Table (Table 5).

When the damper in the full open position:
Pressure multiplier 1.2
Sound multiplier 1.1
Values to be added for 6 m / s channel air velocity
Pressure Drop +17 Pa
Sound Generation +6 dB(A).

From the blow data table (Table 3) the required values for 500 m³ / h blowing flow and the corresponding effective area are obtained. For 0.069 m² effective area, 51 Pa pressure loss, 3 m firing distance and 34 dB (A) sound pressure level and 2 m / s effective velocity values are obtained.

Corrected pressure drop and sound pressure level are
calculated. Pressure Drop = 51x1,2 + 17 = 78,2 Pa
Sound Pressure Level = 34x1,2 + 6 = 46,8 dB (A)

The selected dimension must meet the H ≤ R constraint since the channel radius (R) = 100 mm.
After confirming the conformity of the obtained values, the grille size corresponding to 0.069 m² effective area is selected as W (Width) 900 mm x H (Height) 100 mm on the Effective Area Table (Table 2).

SIZE PARAMETERS

You can place your orders according to the following coding format.

DYM. < A > . < B > . < C > . < D > . < E > . < F > . < G >

A	Raw Material Type	
	GAL	Galvanized
B	**Damper**	
	OD	Slide Damper
	DZ	Without Damper
C	**Mounting Type**	
	VD	Screwed System
	MD	Without Mounting Hole
D	**Accessories**	
	CO	Sponge Gasket
	OO	Without Accessories
E	**Widt (W) (mm)**	
	OOOO	You can view it from standard dimensions.
F	**Height (H) (mm)**	
	OOOO	You can view it from standard dimensions.
G	**Paint**	
	OO	Paintless
	S1	Standard Paint - RAL 9010
	S2	Standard Paint - RAL 9016
	XX	Special Paint

Sample Codding; DYM.GAL.DZ.OO.0600.0150.S1

DMZ - DOUBLE ROW BLADED CIRCULAR DUCT GRILLE (ALUMINUM)

- DMZ – Double Row Blade Circular Duct Grill is used in circular air ducts and has adjustable blades arranged in double rows.
- It is a grille used in blowing or suction lines.

MATERIAL

- Casing and blades made of aluminum 6063 extruded profile.

SURFACE COATING

- RAL 9010 or RAL 9016 electrostatic powder paint as standard.
- Optional
  - Different RAL color codes
  - Matt aluminum anodized finish for a matte and metallic look
  - Unpainted manufacturing

MOUNTING TYPES

- Screw mounting type as standard.

ACCESSORIES

- Optional
  -ZKD – Opposite Blade Air Adjustment Damper

SIZE PARAMETERS

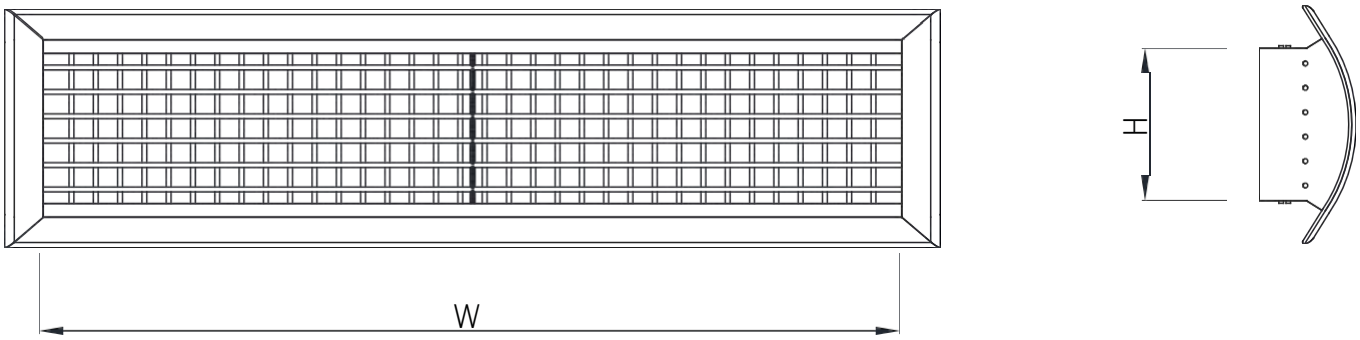


Table 1. Standard Dimensions Table.

Standard Dimensions		H Height (mm) (Must be Less than Duct Radius)															
		50	75	100	125	150	175	200	250	300	325	350	400	450	500	525	600
W Width (mm)	100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	225	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	325	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	350	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	425	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	525	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	625	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	825	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1025	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

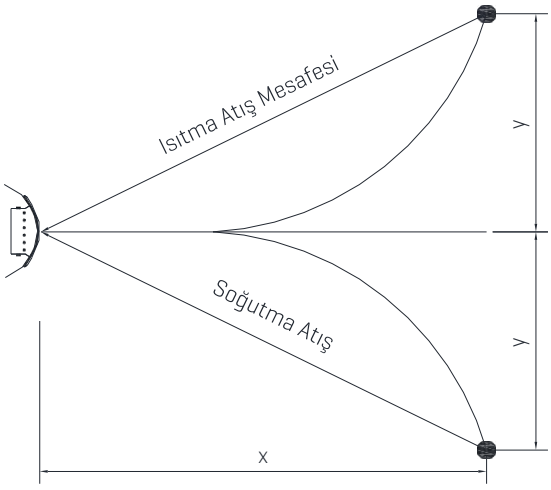
PERFORMANCE DATA

EFFECTIVE AREA

Table 2. Effective Area Table

Effective Area [m²]		H Height (mm)															
		50	75	100	125	150	175	200	250	300	325	350	400	450	500	525	600
W Width (mm)	100	0,003	0,004	0,006	0,007	0,009	0,010	0,012	0,015	0,018	0,019	0,021	0,024	0,027	0,030	0,031	0,036
	125	0,004	0,006	0,007	0,009	0,011	0,013	0,015	0,019	0,022	0,024	0,026	0,030	0,034	0,037	0,039	0,045
	150	0,004	0,007	0,009	0,011	0,013	0,016	0,018	0,022	0,027	0,029	0,031	0,036	0,040	0,045	0,047	0,054
	200	0,006	0,009	0,012	0,015	0,018	0,021	0,024	0,030	0,036	0,039	0,042	0,048	0,054	0,060	0,063	0,072
	225	0,007	0,010	0,013	0,017	0,020	0,024	0,027	0,034	0,040	0,044	0,047	0,054	0,061	0,067	0,071	0,081
	250	0,007	0,011	0,015	0,019	0,022	0,026	0,030	0,037	0,045	0,049	0,052	0,060	0,067	0,075	0,079	0,090
	300	0,009	0,013	0,018	0,022	0,027	0,031	0,036	0,045	0,054	0,058	0,063	0,072	0,081	0,090	0,094	0,108
	325	0,010	0,015	0,019	0,024	0,029	0,034	0,039	0,049	0,058	0,063	0,068	0,078	0,088	0,097	0,102	0,117
	350	0,010	0,016	0,021	0,026	0,031	0,037	0,042	0,052	0,063	0,068	0,073	0,084	0,094	0,105	0,110	0,126
	400	0,012	0,018	0,024	0,030	0,036	0,042	0,048	0,060	0,072	0,078	0,084	0,096	0,108	0,120	0,126	0,144
	425	0,013	0,019	0,025	0,032	0,038	0,045	0,051	0,064	0,076	0,083	0,089	0,102	0,115	0,127	0,134	0,153
	450	0,013	0,020	0,027	0,034	0,040	0,047	0,054	0,067	0,081	0,088	0,094	0,108	0,121	0,135	0,142	0,162
	500	0,015	0,022	0,030	0,037	0,045	0,052	0,060	0,075	0,090	0,097	0,105	0,120	0,135	0,150	0,157	0,180
	525	0,016	0,024	0,031	0,039	0,047	0,055	0,063	0,079	0,094	0,102	0,110	0,126	0,142	0,157	0,165	0,189
	600	0,018	0,027	0,036	0,045	0,054	0,063	0,072	0,090	0,108	0,117	0,126	0,144	0,162	0,180	0,189	0,216
	625	0,019	0,028	0,037	0,047	0,056	0,066	0,075	0,094	0,112	0,122	0,131	0,150	0,168	0,187	0,197	0,225
	825	0,025	0,037	0,049	0,062	0,074	0,086	0,099	0,124	0,148	0,161	0,173	0,198	0,222	0,247	0,259	0,296
	1025	0,031	0,046	0,061	0,077	0,092	0,107	0,123	0,153	0,184	0,200	0,215	0,246	0,276	0,307	0,322	0,368
	1250	0,037	0,056	0,075	0,094	0,112	0,131	0,150	0,187	0,225	0,243	0,262	0,299	0,337	0,374	0,393	0,449

BLOWING DATA



Note:

Throw Distance: The distance where the air in the comfort zone reaches a speed of 0.25 m / s with the air distribution equipment.

The data are obtained when the duct flow velocity is 3 m / s and the room air temperature difference with the air distribution equipment is ΔT = 8K.

Table 3. Supply Data Table

		Effective Velocity (m / s)									
Flow Rate (m3 / h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
50	Effective Area [m²]	0,0278	0,0139	0,009	0,007	0,006	0,005	0,0040	0,0035	0,003	
	Pressure Drop [Pa]	<1	3	7	12	20	29	39	52	66	
	Throw Distance [m]	1	2	2	3	3	3	4	4	4	
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	<15	20	24	27	30	
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006	0,0056
	Pressure Drop [Pa]	<1	3	7	12	20	29	40	52	67	83
	Throw Distance [m]	1	2	2	3	3	4	4	4	4	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	18	23	27	30	34	36
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012	0,011
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	67	84
	Throw Distance [m]	1	2	2	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	21	26	30	33	37	39
300	Effective Area [m²]	0,167	0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019	0,017
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	68	84
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	17	23	28	32	35	38	41
400	Effective Area [m²]	0,222	0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025	0,022
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	68	84
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	18	24	29	33	37	40	43
500	Effective Area [m²]	0,278	0,139	0,093	0,069	0,056	0,046	0,040	0,035	0,031	0,028
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	68	84
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	19	25	30	34	38	41	44
600	Effective Area [m²]	0,333	0,167	0,111	0,083	0,067	0,056	0,048	0,042	0,037	0,0333
	Pressure Drop [Pa]	<1	3	7	14	20	29	40	53	68	85
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	4,9
	Sound Pressure Level [dB(A)]	<15	<15	<15	20	26	31	35	38	41	44
700	Effective Area [m²]	0,389	0,194	0,130	0,097	0,078	0,065	0,056	0,049	0,043	0,0389
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	68	85
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	20	26	31	35	39	42	45
800	Effective Area [m²]	0,444	0,222	0,148	0,111	0,089	0,074	0,064	0,056	0,049	0,0444
	Pressure Drop [Pa]	<1	3	7	13	20	29	40	53	68	85
	Throw Distance [m]	1	2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]	<15	<15	<15	21	27	32	36	40	43	46
900	Effective Area [m²]		0,250	0,167	0,125	0,100	0,083	0,071	0,063	0,056	0,0500
	Pressure Drop [Pa]		3	7	13	20	29	40	53	68	85
	Throw Distance [m]		2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]		<15	<15	21	27	32	37	40	43	46
1000	Effective Area [m²]		0,278	0,185	0,139	0,111	0,093	0,079	0,069	0,062	0,0556
	Pressure Drop [Pa]		3	7	13	20	29	41	53	68	85
	Throw Distance [m]		2	3	3	3	4	4	4	5	5
	Sound Pressure Level [dB(A)]		<15	<15	22	28	33	37	41	44	47
1250	Effective Area [m²]		0,347	0,232	0,174	0,139	0,116	0,099	0,087	0,077	0,0694
	Pressure Drop [Pa]		3	7	13	20	29	41	54	68	85
	Throw Distance [m]		2	3	3	3	4	4	5	5	5,1
	Sound Pressure Level [dB(A)]		<15	15	23	29	34	38	42	45	48
1500	Effective Area [m²]		0,417	0,278	0,208	0,167	0,139	0,119	0,104	0,0926	0,0833
	Pressure Drop [Pa]		3	7	13	20	30	41	54	68	85
	Throw Distance [m]		2	3	3	4	4	4	5	4,8	5,1
	Sound Pressure Level [dB(A)]		<15	16	24	30	35	39	42	46	48
1750	Effective Area [m²]			0,324	0,243	0,194	0,162	0,139	0,122	0,1080	0,0972
	Pressure Drop [Pa]			7	13	20	30	41	54	69	85
	Throw Distance [m]			3	3	4	4	4	5	5	5
	Sound Pressure Level [dB(A)]			17	24	30	35	39	43	46	49

Table 4. Exhaust Data Table

		Effective Velocity (m/s)									
Flow Rate (m3/h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0
50	Effective Area [m²]	0,0278	0,0139	0,0093	0,0069	0,006	0,005	0,004	0,003	0,0031	
	Pressure Drop [Pa]	<1	4	8	15	24	35	48	63	80	
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	17	22	26	29	32	
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006	0,0056
	Pressure Drop [Pa]	<1	4	8	15	24	35	48	63	81	100
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	20	25	29	32	36	38
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012	0,011
	Pressure Drop [Pa]	<1	4	8	15	24	35	48	64	81	101
	Sound Pressure Level [dB(A)]	<15	<15	<15	17	23	28	32	35	39	41
300	Effective Area [m²]	0,167	0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019	0,017
	Pressure Drop [Pa]	<1	4	8	15	24	35	48	64	82	101
	Sound Pressure Level [dB(A)]	<15	<15	<15	19	25	30	34	37	40	43
400	Effective Area [m²]	0,222	0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025	0,022
	Pressure Drop [Pa]	<1	4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]	<15	<15	<15	20	26	31	35	39	42	45
500	Effective Area [m²]	0,278	0,139	0,093	0,069	0,056	0,046	0,040	0,035	0,031	0,028
	Pressure Drop [Pa]	<1	4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]	<15	<15	<15	21	27	32	36	40	43	46
600	Effective Area [m²]	0,333	0,167	0,111	0,083	0,067	0,056	0,048	0,042	0,037	0,0333
	Pressure Drop [Pa]	<1	4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]	<15	<15	<15	22	28	33	37	40	44	46
700	Effective Area [m²]	0,389	0,194	0,130	0,097	0,078	0,065	0,056	0,049	0,043	0,0389
	Pressure Drop [Pa]	<1	4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]	<15	<15	<15	22	28	33	37	41	44	47
800	Effective Area [m²]	0,444	0,222	0,148	0,111	0,089	0,074	0,063	0,056	0,049	0,0444
	Pressure Drop [Pa]	<1	4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]	<15	<15	15	23	29	34	38	42	45	48
900	Effective Area [m²]		0,250	0,167	0,125	0,100	0,083	0,071	0,063	0,056	0,0500
	Pressure Drop [Pa]		4	8	15	24	35	49	64	82	102
	Sound Pressure Level [dB(A)]		<15	16	24	20	34	39	42	45	48
1000	Effective Area [m²]		0,278	0,185	0,139	0,111	0,093	0,079	0,069	0,062	0,0556
	Pressure Drop [Pa]		4	8	15	24	36	49	65	82	103
	Sound Pressure Level [dB(A)]		<15	16	24	30	35	39	43	46	49
1250	Effective Area [m²]		0,347	0,231	0,174	0,139	0,116	0,099	0,087	0,077	0,0694
	Pressure Drop [Pa]		4	8	15	24	36	49	65	83	103
	Sound Pressure Level [dB(A)]		<15	17	25	31	36	30	44	47	50
1500	Effective Area [m²]		0,417	0,278	0,208	0,167	0,139	0,119	0,104	0,0926	0,0833
	Pressure Drop [Pa]		4	8	15	24	36	49	65	83	103
	Sound Pressure Level [dB(A)]		<15	18	26	32	37	41	44	48	50
1750	Effective Area [m²]			0,324	0,243	0,194	0,162	0,139	0,122	0,1080	0,0972
	Pressure Drop [Pa]			9	16	24	36	49	65	83	103
	Sound Pressure Level [dB(A)]			19	26	32	37	42	45	48	51
2000	Effective Area [m²]			0,370	0,278	0,222	0,185	0,159	0,139	0,1235	0,1111
	Pressure Drop [Pa]			8	15	24	36	49	65	83	103
	Sound Pressure Level [dB(A)]			19	27	33	38	42	46	49	52

DUCT FLOW AND DAMPER CORRECTION TABLE

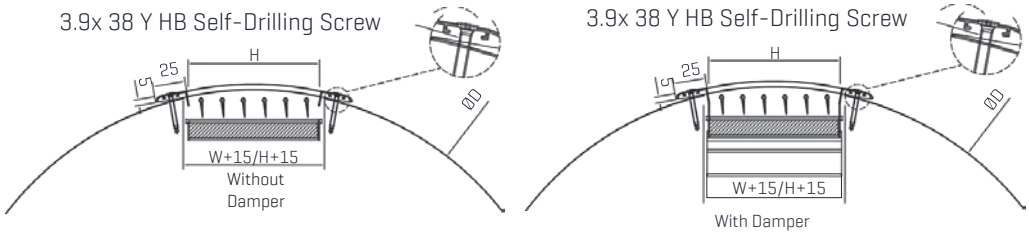
Table 5. Duct Flow and Damper Correction Table

Multilier According to Damper Position										
			Full Open		25% Closed		50% Closed		75% Closed	
Duct Velocity (m/s)	Amount to Add		Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier
0,5	Pressure Drop [Pa]	-6	1,09	1,05	1,86	1,21	2,76	1,46	3,67	1,71
	Sound Generation [dB(A)]	-6								
1	Pressure Drop [Pa]	-5								
	Sound Generation [dB(A)]	-5								
2	Pressure Drop [Pa]	-3								
	Sound Generation [dB(A)]	-2								
3	Pressure Drop [Pa]	0								
	Sound Generation [dB(A)]	0								
4	Pressure Drop [Pa]	4								
	Sound Generation [dB(A)]	2								
5	Pressure Drop [Pa]	10								
	Sound Generation [dB(A)]	4								
6	Pressure Drop [Pa]	17								
	Sound Generation [dB(A)]	6								
7	Pressure Drop [Pa]	25								
	Sound Generation [dB(A)]	9								
8	Pressure Drop [Pa]	35								
	Sound Generation [dB(A)]	11								
9	Pressure Drop [Pa]	46								
	Sound Generation [dB(A)]	13								
10	Pressure Drop [Pa]	60								
	Sound Generation [dB(A)]	15								
11	Pressure Drop [Pa]	75								
	Sound Generation [dB(A)]	18								
12	Pressure Drop [Pa]	92								
	Sound Generation [dB(A)]	20								

Note: As the air velocity in the duct increases and the damper position changes, the pressure loss and sound pressure level created by the grill increase. Accordingly, the blowing or suction data in the selected grille must first be multiplied by the damper coefficient if there is a damper. Then the correct result is achieved by adding sound production and pressure loss values according to the channel speed.

PERFORMANCE DATA

1. SCREWED SYSTEM



OPPOSITE BLADE DAMPER

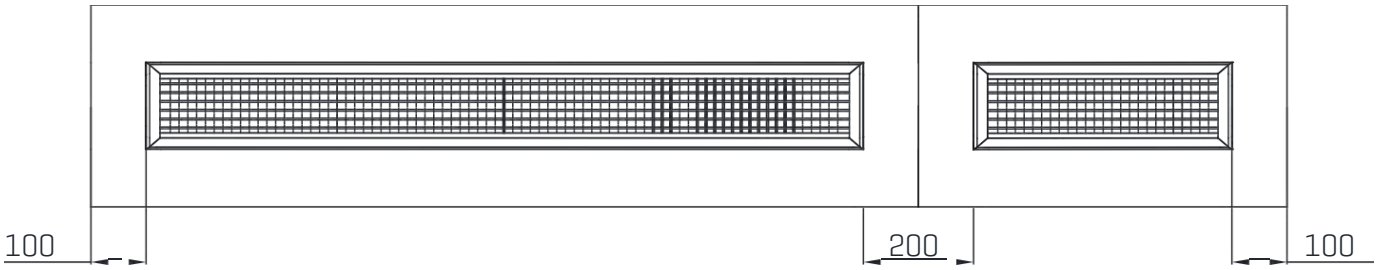
When air adjustment is requested, the opposite blade air adjustment damper is shipped with a special damper switch..

It is suitable to be used for blowing and suction.

SIZE PARAMETERS

MAXIMUM MODULE SIZE

The standard size of a single piece product is within the limits of 100x50 and 1250x600. If the order is placed over standard sizes, the culverts will be produced more than once in full pieces. Recommended mounting method is shown below.



MAXIMUM MODULE SIZE

Support is used in dimensions of W> 600 in order to protect the strength according to the increase in length.

PRODUCT SELECTION

Example: 300 m^3 / h blowing is expected from a circular duct vent connected to a circular duct with an air velocity of 5 m / s. Opposite blade damper will be used. The diameter of the duct to which the grille is connected will be 250 mm. The maximum pressure loss should be 100 Pa. Make the selection.

Solution: The necessary correction coefficients for 6 m / s duct air velocity are obtained from the Duct Flow and Damper Correction Table (Table 5).

With the damper in the 25% closed position:

Pressure multiplier 1.86

Sound multiplier 1.21

Values to be added for 5 m / s duct air velocity, Pressure loss +10 Pa

Sound production is +4 dB (A).

From the blow data table (Table 3) the required values for a 300 m^3 / h blowing flow and the corresponding effective area are obtained. For 0.028 m^2 effective area, 29 Pa pressure loss, 4 m shooting distance and 28 dB (A) sound pressure level and 3 m / s effective velocity values are obtained.

Corrected pressure loss and sound pressure level are calculated. Pressure Loss = 29x1.86 + 10 = 64 Pa

Sound Pressure Level = 26x1.21 + 4 = 37.9 dB (A)

The selected dimension must meet the H ≤ R constraint, since the duct radius (R) = 100 mm.

After confirming the conformity of the obtained values, the aperture size corresponding to 0.028 m^2 effective area is selected as W (Width) 625 mm x H (Height) 75 mm on the Effective Area Table (Table 2).

PRODUCT ORDER CODES

You can place your orders according to the following coding format.

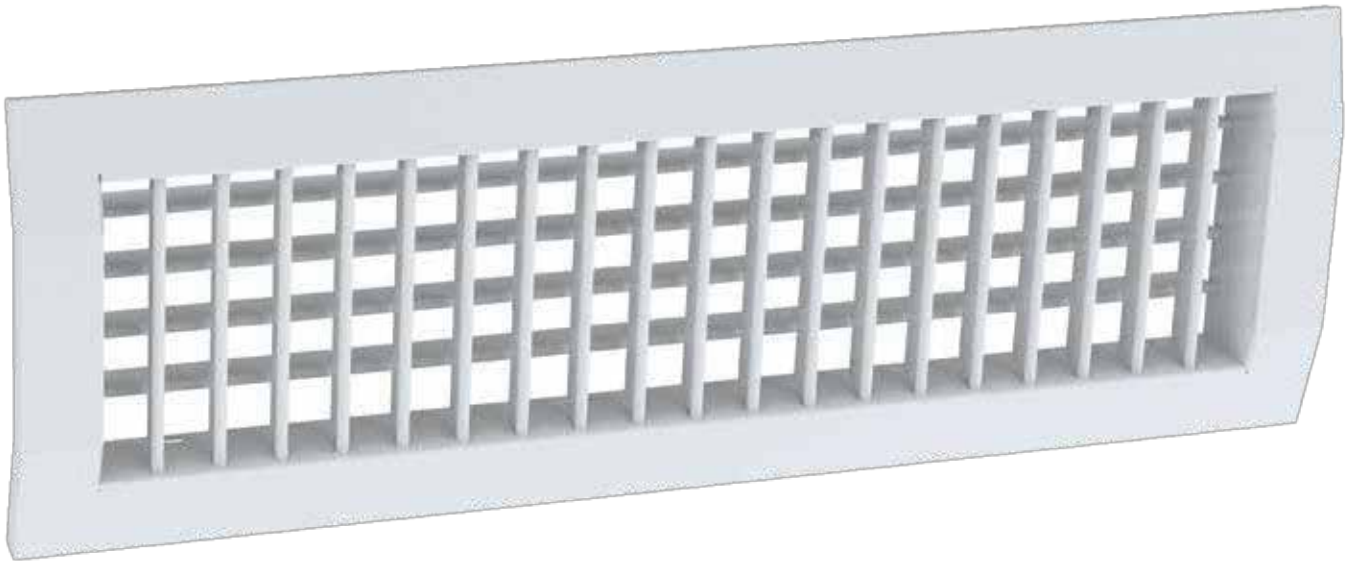
DMZ. < A > . < B > . < C > . < D > . < E > . < F > . < G >

A	Raw Material Type	
	ALM	Aluminum
B	**Damper**	
	ZD	Opposite Blade Damper
	DZ	Without Damper
C	**Mounting Type**	
	VD	Screwed System
D	**Width(W) (mm)**	
	0000	You can view it from Standard Sizes.
E	**Height (H) (mm)**	
	0000	You can view it from Standard Sizes.
F	**Kanal Çapı (D) (mm)**	
	0000	You can view it from Standard Sizes.
G	**Paint**	
	00	Unpainted
	S1	Standard Paint - RAL 9010
	S2	Standard Paint - RAL 9016
	XX	Special Paint

Sample Codding; DMZ.ALM.ZD.VD.0600.0300.0600.S1

DZM – DOUBLE ROW BLADE CİRCULAR DUCT GRILLE (GALVANIZED)

- DZM – Double Row Blade Circular Duct Galvanized Grill is a blowing grille that is used in circular air ducts and can also be used for suction with double rows of blades.



MATERIAL

- As a standard, the product's casing is galvanized sheet, its blades are made of 6063 extruded aluminum.

SURFACE COATING

- RAL 9010 or RAL 9016 electrostatic powder paint as standard for aluminum case.
- The blades are galvanized.
- Optional
  - Different RAL color codes
  - Matt aluminum anodized finish for a matte and metallic look
  - Unpainted manufacturing

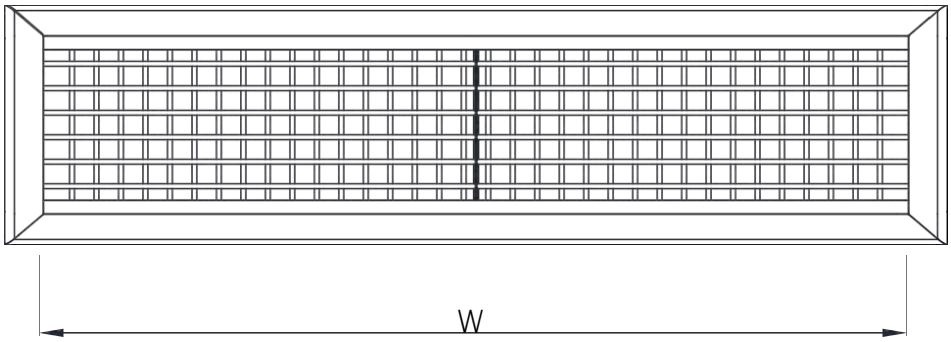
MOUNTING TYPES

- Screw mounting as standard.
- Without mounting hole.

ACCESSORIES

- Optional
  - Special Slide Galvanized Damper
  -With Gasket

STANDARD DIMENSIONS



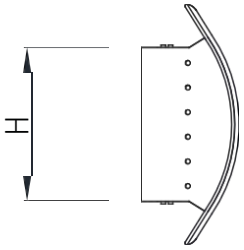


Table 1. Selection Table

Effective Area [m²]		H Height (mm) (Must be Less than Duct Radius)		
		50	100	150
W Width (mm)	100	✓	✓	✓
	200	✓	✓	✓
	225	✓	✓	✓
	300	✓	✓	✓
	325	✓	✓	✓
	400	✓	✓	✓
	425	✓	✓	✓
	500	✓	✓	✓
	525	✓	✓	✓
	600	✓	✓	✓
	625	✓	✓	✓
	700	✓	✓	✓
	800	✓	✓	✓
	825	✓	✓	✓
	900	✓	✓	✓
	1000	✓	✓	✓
	1100	✓	✓	✓
	1200	✓	✓	✓

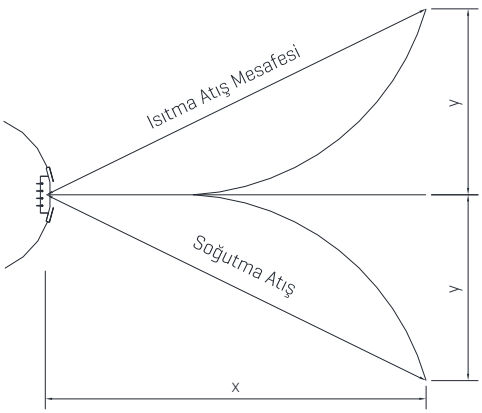
PERFORMANCE DATA

EFFECTIVE AREA TABLE

Table 2. Effective Area Table

Effective Area [m²]		H Height (mm)		
		50	100	150
W Width (mm)	100	0,003	0,006	0,010
	200	0,006	0,013	0,020
	225	0,007	0,015	0,022
	300	0,010	0,020	0,030
	325	0,010	0,021	0,032
	400	0,013	0,026	0,040
	425	0,014	0,028	0,043
	500	0,016	0,033	0,051
	525	0,017	0,035	0,053
	600	0,020	0,040	0,061
	625	0,020	0,042	0,064
	700	0,023	0,047	0,072
	800	0,026	0,054	0,082
	825	0,027	0,056	0,085
	900	0,030	0,061	0,93
	1000	0,033	0,068	0,103
	1100	0,037	0,075	0,114
	1200	0,040	0,082	0,125

SUPPLY DATA



Note:

Atış Mesafesi: Hava dağıtıcı ekipman ile konfor zonundaki havanın 0,25 m/s hızına ulaştığı mesafe

Veriler kanal akış hızının 3 m/s ve hava dağıtıcı ekipman ile mahal hava sıcaklık farkının T = 8K olduğu durumda elde edilmiştir.

Table 3. Supply Data Table

		Effective Velocity (m / s)							
Flow Rate (m3 / h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
50	Effective Area [m²]	0,0278	0,0139	0,009	0,007	0,006	0,005	0,004	0,004
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	3	4	4
	Sound Pressure Level [dB(A)]	<15	<15	18	24	29	32	36	38
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	4	4	4
	Sound Pressure Level [dB(A)]	<15	<15	21	27	32	35	39	41
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	4	4	4
	Sound Pressure Level [dB(A)]	<15	16	24	30	35	38	42	44
300	Effective Area [m²]		0,083	0,056	0,042	0,033	0,028	0,024	0,021
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		17	26	32	36	40	43	46
400	Effective Area [m²]		0,111	0,074	0,056	0,044	0,037	0,032	0,028
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		19	27	33	38	41	45	47
500	Effective Area [m²]			0,093	0,069	0,056	0,046	0,040	0,035
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	3	4	4	4
	Sound Pressure Level [dB(A)]			28	34	39	42	46	48
600	Effective Area [m²]			0,111	0,083	0,067	0,056	0,048	0,042
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	3	4	4	4
	Sound Pressure Level [dB(A)]			29	35	39	43	46	49
700	Effective Area [m²]				0,097	0,078	0,065	0,056	0,049
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	3	4	4	4
	Sound Pressure Level [dB(A)]				35	40	44	47	50
800	Effective Area [m²]				0,111	0,089	0,074	0,064	0,056
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	3	4	4	4
	Sound Pressure Level [dB(A)]				36	41	44	48	50
900	Effective Area [m²]					0,100	0,083	0,071	0,063
	Pressure Drop [Pa]					71	94	119	145
	Throw Distance [m]					3	4	4	5
	Sound Pressure Level [dB(A)]					41	45	48	51
1000	Effective Area [m²]					0,111	0,093	0,079	0,069
	Pressure Drop [Pa]					71	94	119	145
	Throw Distance [m]					3	4	4	5
	Sound Pressure Level [dB(A)]					42	45	49	51
1250	Effective Area [m²]						0,116	0,099	0,087
	Pressure Drop [Pa]						94	119	145
	Throw Distance [m]						4	4	5
	Sound Pressure Level [dB(A)]						46	50	52
1500	Effective Area [m²]							0,119	0,104
	Pressure Drop [Pa]							119	145
	Throw Distance [m]							4	5
	Sound Pressure Level [dB(A)]							50	53
1750	Effective Area [m²]								0,122
	Pressure Drop [Pa]								145
	Throw Distance [m]								5
	Sound Pressure Level [dB(A)]								54

Table 3. Supply Data Table

		Effective Velocity (m / s)							
Flow Rate (m3 / h)		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0
50	Effective Area [m²]	0,0278	0,0139	0,009	0,007	0,006	0,005	0,004	0,004
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	3	4	4
	Sound Pressure Level [dB(A)]	<15	<15	18	24	29	32	36	38
100	Effective Area [m²]	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	4	4	4
	Sound Pressure Level [dB(A)]	<15	<15	21	27	32	35	39	41
200	Effective Area [m²]	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014
	Pressure Drop [Pa]	6	18	33	51	71	94	119	145
	Throw Distance [m]	1	2	2	3	3	4	4	4
	Sound Pressure Level [dB(A)]	<15	16	24	30	35	38	42	44
300	Effective Area [m²]		0,083	0,056	0,042	0,033	0,028	0,024	0,021
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		17	26	32	36	40	43	46
400	Effective Area [m²]		0,111	0,074	0,056	0,044	0,037	0,032	0,028
	Pressure Drop [Pa]		18	33	51	71	94	119	145
	Throw Distance [m]		2	3	3	3	4	4	4
	Sound Pressure Level [dB(A)]		19	27	33	38	41	45	47
500	Effective Area [m²]			0,093	0,069	0,056	0,046	0,040	0,035
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	3	4	4	4
	Sound Pressure Level [dB(A)]			28	34	39	42	46	48
600	Effective Area [m²]			0,111	0,083	0,067	0,056	0,048	0,042
	Pressure Drop [Pa]			33	51	71	94	119	145
	Throw Distance [m]			3	3	3	4	4	4
	Sound Pressure Level [dB(A)]			29	35	39	43	46	49
700	Effective Area [m²]				0,097	0,078	0,065	0,056	0,049
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	3	4	4	4
	Sound Pressure Level [dB(A)]				35	40	44	47	50
800	Effective Area [m²]				0,111	0,089	0,074	0,064	0,056
	Pressure Drop [Pa]				51	71	94	119	145
	Throw Distance [m]				3	3	4	4	4
	Sound Pressure Level [dB(A)]				36	41	44	48	50
900	Effective Area [m²]					0,100	0,083	0,071	0,063
	Pressure Drop [Pa]					71	94	119	145
	Throw Distance [m]					3	4	4	5
	Sound Pressure Level [dB(A)]					41	45	48	51
1000	Effective Area [m²]					0,111	0,093	0,079	0,069
	Pressure Drop [Pa]					71	94	119	145
	Throw Distance [m]					3	4	4	5
	Sound Pressure Level [dB(A)]					42	45	49	51
1250	Effective Area [m²]						0,116	0,099	0,087
	Pressure Drop [Pa]						94	119	145
	Throw Distance [m]						4	4	5
	Sound Pressure Level [dB(A)]						46	50	52
1500	Effective Area [m²]							0,119	0,104
	Pressure Drop [Pa]							119	145
	Throw Distance [m]							4	5
	Sound Pressure Level [dB(A)]							50	53
1750	Effective Area [m²]								0,122
	Pressure Drop [Pa]								145
	Throw Distance [m]								5
	Sound Pressure Level [dB(A)]								54

Table 4. Exhaust Data Table

		Effective Velocity (m/s)								
Flow Rate (m3/h)		**0,5**	**1,0**	**1,5**	**2,0**	**2,5**	**3,0**	**3,5**	**4,0**	**4,5**
50	**Effective Area [m²]**	0,0278	0,0139	0,0093	0,0069	0,006	0,005	0,004	0,003	
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100	
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	17	24	29	34	
100	**Effective Area [m²]**	0,0556	0,0278	0,019	0,014	0,011	0,009	0,008	0,007	0,006
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	20	27	32	37	42
200	**Effective Area [m²]**	0,111	0,056	0,037	0,028	0,022	0,019	0,016	0,014	0,012
	Pressure Drop [Pa]	<1	2	5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]	<15	<15	<15	<15	23	30	35	40	45
300	**Effective Area [m²]**		0,083	0,056	0,042	0,033	0,028	0,024	0,021	0,019
	Pressure Drop [Pa]		2	5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]		<15	<15	16	25	31	37	42	47
400	**Effective Area [m²]**		0,111	0,074	0,056	0,044	0,037	0,032	0,028	0,025
	Pressure Drop [Pa]		2	5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]		<15	<15	18	26	33	38	43	48
500	**Effective Area [m²]**			0,093	0,069	0,056	0,046	0,040	0,035	0,031
	Pressure Drop [Pa]			5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]			<15	19	27	34	39	44	49
600	**Effective Area [m²]**			0,111	0,083	0,067	0,056	0,048	0,042	0,037
	Pressure Drop [Pa]			5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]			<15	19	28	34	40	45	50
700	**Effective Area [m²]**			0,130	0,097	0,078	0,065	0,056	0,049	0,043
	Pressure Drop [Pa]			5	12	24	42	67	100	143
	Sound Pressure Level [dB(A)]			<15	20	28	35	41	46	50
800	**Effective Area [m²]**				0,111	0,089	0,074	0,063	0,056	0,049
	Pressure Drop [Pa]				12	24	42	67	100	143
	Sound Pressure Level [dB(A)]				21	29	36	41	46	51
900	**Effective Area [m²]**					0,100	0,083	0,071	0,063	0,056
	Pressure Drop [Pa]					24	42	67	100	143
	Sound Pressure Level [dB(A)]					29	36	42	47	51
1000	**Effective Area [m²]**					0,111	0,093	0,079	0,069	0,062
	Pressure Drop [Pa]					24	42	67	100	143
	Sound Pressure Level [dB(A)]					30	37	42	47	52
1250	**Effective Area [m²]**						0,116	0,099	0,087	0,077
	Pressure Drop [Pa]						42	67	100	143
	Sound Pressure Level [dB(A)]						38	43	48	53
1500	**Effective Area [m²]**							0,119	0,104	0,0926
	Pressure Drop [Pa]							67	100	143
	Sound Pressure Level [dB(A)]							44	49	54
1750	**Effective Area [m²]**								0,122	0,1080
	Pressure Drop [Pa]								100	143
	Sound Pressure Level [dB(A)]								50	54
2000	**Effective Area [m²]**									0,1235
	Pressure Drop [Pa]									143
	Sound Pressure Level [dB(A)]									55

DUCT FLOW AND DAMPER CORRECTION TABLE

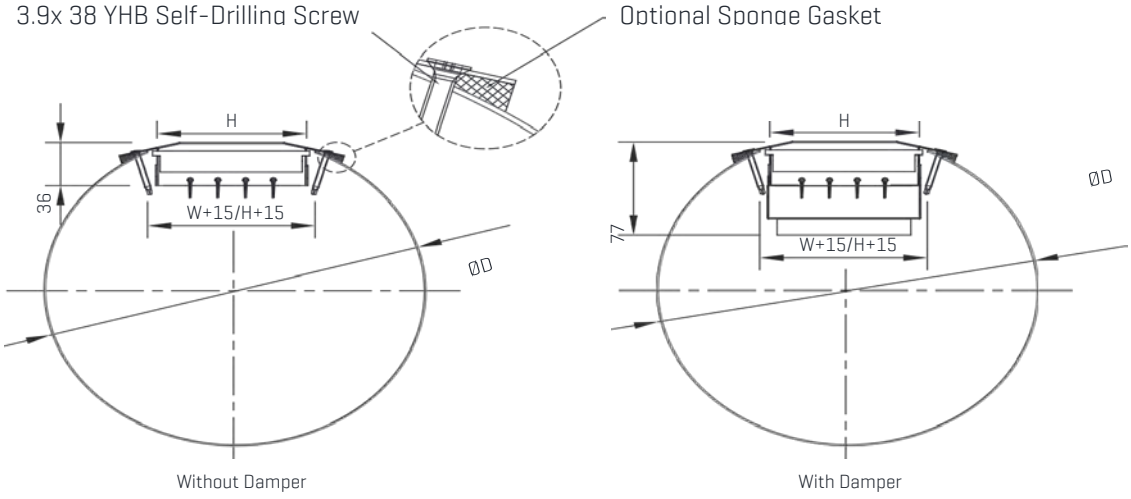
Table 5. Duct Flow and Damper Correction Table

Multilier According to Damper Position										
			Full Open		25% Closed		50% Closed		75% Closed	
Duct Velocity (m/s)	Amount to Add		Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier	Pressure Multiplier	Sound Multiplier
0,5	Pressure Drop [Pa]	-6	1,2	1,1	2,0	1,3	2,9	1,5	3,9	1,8
	Sound Generation [dB(A)]	-6								
1	Pressure Drop [Pa]	-5								
	Sound Generation [dB(A)]	-5								
2	Pressure Drop [Pa]	-3								
	Sound Generation [dB(A)]	-2								
3	Pressure Drop [Pa]	0								
	Sound Generation [dB(A)]	0								
4	Pressure Drop [Pa]	4								
	Sound Generation [dB(A)]	2								
5	Pressure Drop [Pa]	10								
	Sound Generation [dB(A)]	4								
6	Pressure Drop [Pa]	17								
	Sound Generation [dB(A)]	6								
7	Pressure Drop [Pa]	25								
	Sound Generation [dB(A)]	9								
8	Pressure Drop [Pa]	35								
	Sound Generation [dB(A)]	11								
9	Pressure Drop [Pa]	46								
	Sound Generation [dB(A)]	13								
10	Pressure Drop [Pa]	60								
	Sound Generation [dB(A)]	15								
11	Pressure Drop [Pa]	75								
	Sound Generation [dB(A)]	18								
12	Pressure Drop [Pa]	92								
	Sound Generation [dB(A)]	20								

Note: As the air velocity in the duct increases and the damper position changes, the pressure loss and sound pressure level created by the grill increase. Accordingly, the blowing or suction data in the selected grille must first be multiplied by the damper coefficient if there is a damper. Then the correct result is achieved by adding sound production and pressure loss values according to the channel speed.

MOUNTING TYPES

1. SCREWED SYSTEM



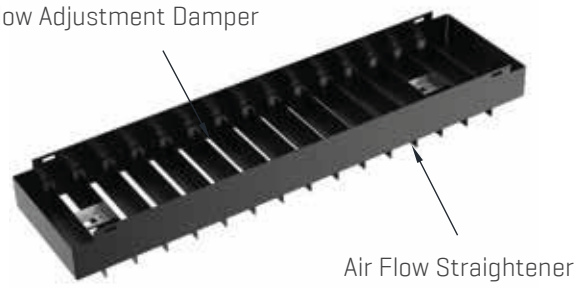
Without Damper

With Damper

OPTIONAL SLIDE DAMPER

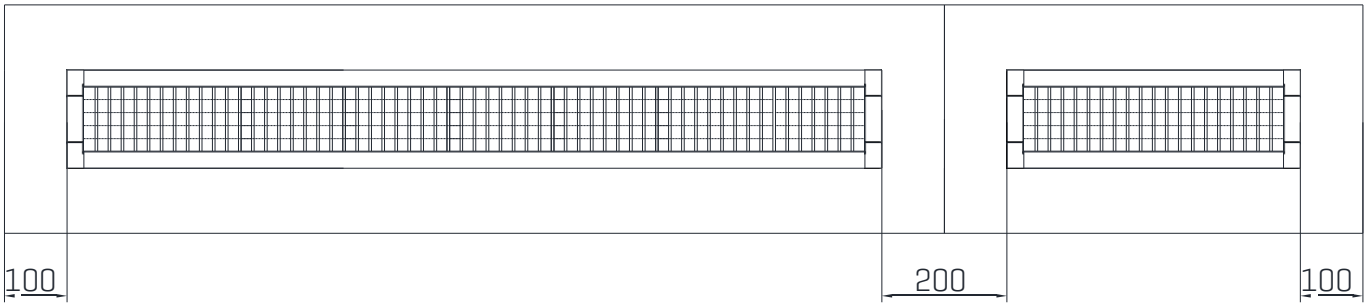
It is suitable to use for blowing and suction.

With the air flow straightener, homogeneous air distribution is provided in circular duct grilles.



SIZE PARAMETERS

Recommended mounting method in case more than one circular duct grille is positioned side by side.



PRODUCT SELECTION

Example: 200 m^3 / h blowing is expected from a circular duct vent connected to a circular duct with an air velocity of 6 m / s. A slide damper will be used. The diameter of the duct which the grille is connected will be 250 mm. The maximum pressure loss should be 100 Pa. Make the selection.

Solution: The necessary correction coefficients for 6 m / s duct air velocity are obtained from the Duct Flow and Damper Correction Table (Table 5).

With the damper in the 25% closed position:

Pressure factor 2

Sound multiplier 1.3

Values to be added for 6 m / s duct air velocity, Pressure drop +17 Pa

Sound generation is +6 dB (A).

From the exhaust data table (Table 3) the required values for a 200 m^3 / h exhaust flow rate and the corresponding effective area are obtained. For 0.037 m^2 effective area, 33 Pa pressure loss, 2 m firing distance and 24 dB (A) sound pressure level and 1.5 m / s effective velocity values are obtained.

Corrected pressure drop and sound pressure level are calculated.

Pressure Drop = 33x2 + 17 = 83 Pa

Sound Pressure Level = 24x1.3 + 6 = 37.2 dB (A)

The selected dimension must meet the H ≤ R constraint, since the duct radius (R) = 100 mm.

After confirming the conformity of the obtained values, the grille size corresponding to 0.037 m^2 effective area is selected as W (Width) 525 mm x H (Height) 100 mm on the Effective Area Table (Table 2).

PRODUCT ORDER CODES

You can place your orders according to the following coding format.

DZM. < A > . < B > . < C > . < D > . < E > . < F > . < G >

A	Raw Material Type	
	GAL	Galvanized
B	**Damper**	
	OD	Slide Damper
	DZ	Without Damper
C	**Mounting Type**	
	VD	Screwed System
	MD	Without Mounting Hole
D	**Accessories**	
	CO	Sponge Gasket
	OO	Without Accessories
E	**Widt (W) (mm)**	
	0000	You can view it from Standard Sizes.
F	**Height (H) (mm)**	
	0000	You can view it from Standard Sizes.
G	**Paint**	
	OO	Unpainted
	S1	Standard Paint - RAL 9010
	S2	Standard Paint - RAL 9016
	XX	Special Paint

Sample Codding; DZM.GAL.DZ.OO.0600.0150.S1

NOTES

NOTES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