DEQ

DER

DEQG

Description

DEQ: supply and return swirl diffuser RAL9010 white finish
- square diffuser with swirl throw and adjustable wing deflectors in black plastic
- installation height between 2.7 and 4.0 m
- suitable for systems with variable air flow rate
- fastening with 4 screws + cover

DEQG24-60: like DEQ24-60 but with 20% greater surface area
DER: like DEQ but in circular version (30% increase)

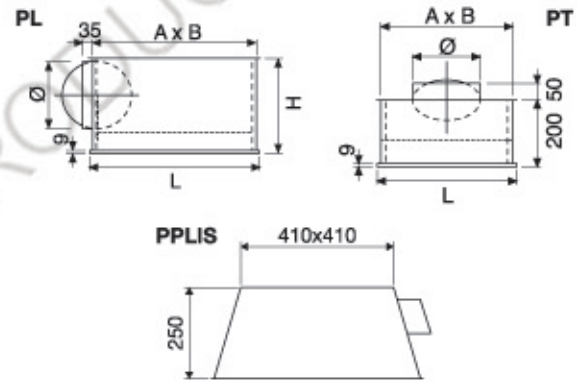
Accessories

PL: side entry plenum
PPLIS: pyramid plenum with side entry + damper, including external insulation reaction to fire class B-s2-dO (DN oval inlets 150/160-200-250)
PT: upper entry plenum
R: cylindrical equaliser wire
S: volume control damper plenum intake, adjustable by diffuser
I: external insulation reaction to fire class B-s2-dO

Special versions

DEQ-CG: ceiling application **(on request)**
DEQ-M: application on metal false ceilings **(on request)**
VR: coating according to RAL 9005 / 9006 table
fixed surcharge €30 + 20% per piece
Other RAL colours on request
Special version for false ceilings on request (see page 10)

DEQ dimensions

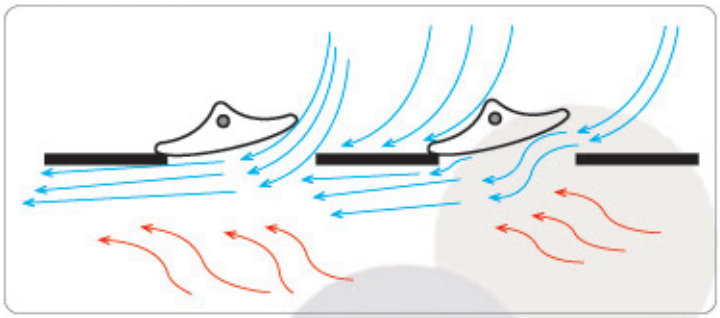


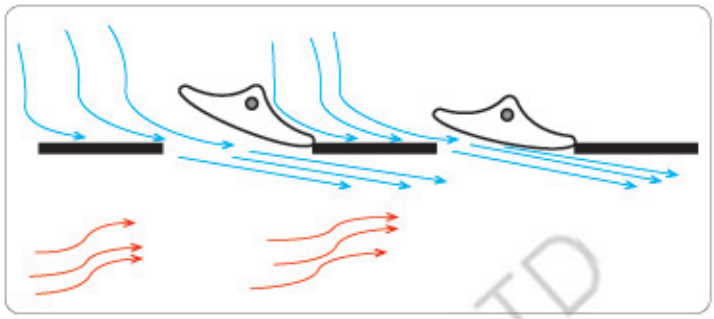
GR	L	DER	A x B	H	Ø
8-30	296	-	260	250	158
8-60	596	-	560	250	198
16-40	396	-	360	250	198
16-60	596	-	560	250	198
20-50	496	-	460	250	198
20-60	596	-	560	250	198
24-60	596	596	560	300	248
24-62	621	-	580	300	248
24-80	796	-	760	400	313

Selection table

Flow rate (m^3/h)	Type																	
	8-30 8-60			16-40 16-60			20-50 20-60			24-60 24-62			DEQG 24-60			24-80		
	$L_{0.25}$	Δpt	L_{WA}	$L_{0.25}$	Δpt	L_{WA}	$L_{0.25}$	Δpt	L_{WA}	$L_{0.25}$	Δpt	L_{WA}	$L_{0.25}$	Δpt	L_{WA}	$L_{0.25}$	Δpt	L_{WA}
54	0.9	4	>20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	1.1	5	>20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	1.3	8	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	1.5	10	24	0.9	7	>20	-	-	-	-	-	-	-	-	-	-	-	-
144	1.8	18	26	1.0	11	>20	0.9	4	>20	-	-	-	-	-	-	-	-	-
180	2.2	23	30	1.3	15	21	1.0	5	>20	-	-	-	-	-	-	-	-	-
216	2.6	28	32	1.5	20	25	1.2	7	>20	1.0	3	>20	-	-	-	-	-	-
252	3.0	35	36	1.8	30	29	1.4	9	>20	1.2	5	>20	-	-	-	-	-	-
288	3.6	48	40	2.0	40	32	1.6	12	20	1.4	7	>20	-	-	-	-	-	-
360	-	-	-	2.5	60	36	2.0	20	25	1.8	10	>20	1.5	10	>20	-	-	-
450	-	-	-	3.2	85	42	2.6	28	31	2.0	15	23	1.7	15	20	-	-	-
540	-	-	-	-	-	-	3.0	42	36	2.5	25	28	2.1	20	25	2.0	6	>20
720	-	-	-	-	-	-	4.0	80	47	3.4	38	36	2.8	30	32	2.4	10	23
900	-	-	-	-	-	-	-	-	-	4.0	65	43	3.4	45	38	2.8	16	30
1080	-	-	-	-	-	-	-	-	-	-	-	-	4.2	65	44	3.2	21	36
1260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	27	40
1440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	42	44

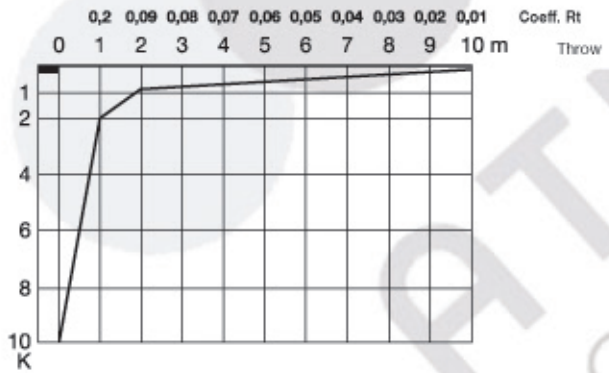
Deflector position





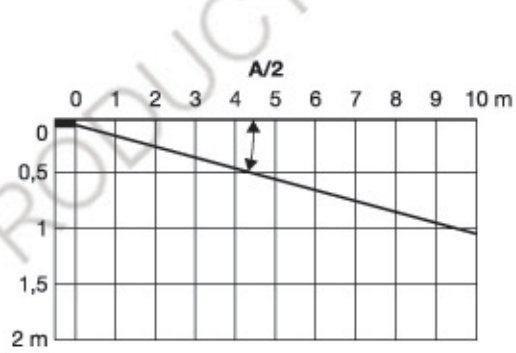
Deflectors: with special profile capable of generating air flows to obtain ultra-high mixing, reduced pressure drop and reduced noise level.

Temperature difference

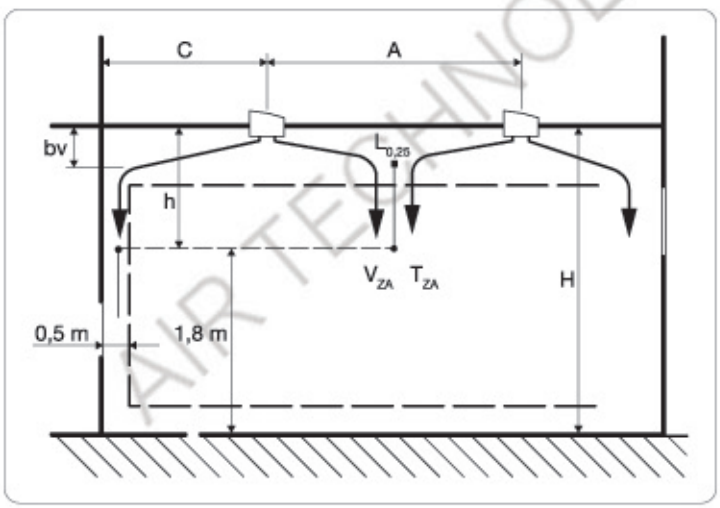


Curve valid for Δt equal to 10°C.
Temperature difference between ambient temp. and throw temp.

Throw fall



Value for throw fall, at a specific distance.



Key

- $L_{0,25}$: throw which corresponds to an end-of-throw velocity of 0.25 m/s; with this value the V_{ZA} = velocity in the occupied zone is between 0.15 m/s for rooms with a height of 2.7 m and 0.10 m/s for rooms with a height of 3.6 m.
- Δpt: total pressure drop (Pa)
- L_{WA}: sound pressure level [dB(A)]
- R_t: ratio between the Δt_L (difference in room temperature and throw temperature) and Δt_M (temperature difference between supply and room)
- V_{ZA}: velocity in occupied zone (m/s)
- T_{ZA}: temperature in the occupied zone (°C)
- bv: throw fall (m)
- H: room height (m)
- h: vertical throw over the occupied zone (m)
- A: distance between diffusers
- C: distance between diffuser and wall

Example

- Room dim. 10x10xH 2.8 m (volume 280 m³)
- Air flow: 2100 m³/h (exchanges 7.5)
- Occupied zone: 1.8 m
- Room temperature: 25°C (project)
- Supply air temperature: 15°C

- Assuming the installation of 4 diffusers
  Flow 2100 m³/h: 4 diffusers = 525 m³/h

- From selection table
  DEQ24/60 - 540 m³/h
  as a result: throw of 2.5 m with end-of-throw velocity of 0.25 m/s
  Δpt: 25 Pa - L_{WA}: 28 dB(A)
  V_{ZA}: velocity in occupied zone between 0.10-0.15 m/s

Temperature difference
You can obtain the air temperature at the end of the throw
- T_{ZA}: 25°C (room temperature)
- T: 15°C (supply air temperature)

R_t value
- Considering an overall throw of:
  [L0.25 (2.5m) + (H 2.8 - 1.8 occupied zone)] = 3.5 m
  from the **Temperature difference** table, you can establish that with Δt 10 and a
  throw of 3.5 m, the ratio is: 0.075

- Multiplying the value R_t x Δt (0.075 x. -10°C) = 0.75 so the temperature at the end of the throw will be: 25 - 0.75 = 24.25°C

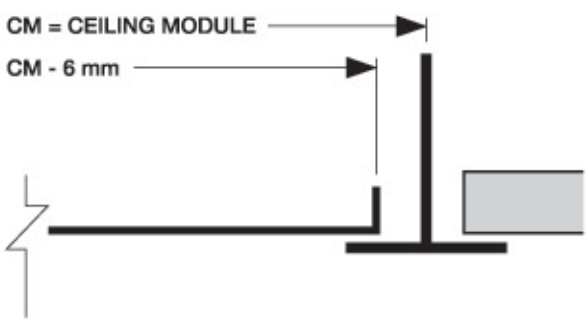
Throw fall
- A: distance between diffusers
- A/2: 5/2 = 2.5 m
- with A/2 = 2.5 m the throw fall is: 0.3 m

Profiles for false ceilings

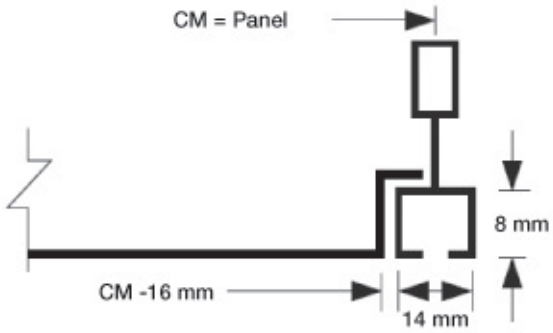
IT IS possible to produce some of our products with panel edges suitable for various types of false ceilings:

- DCRQ
- DEQ
- DQER/Q
- DMFQ
- DMUQ
- DQB4
- RSKP
- RSKO

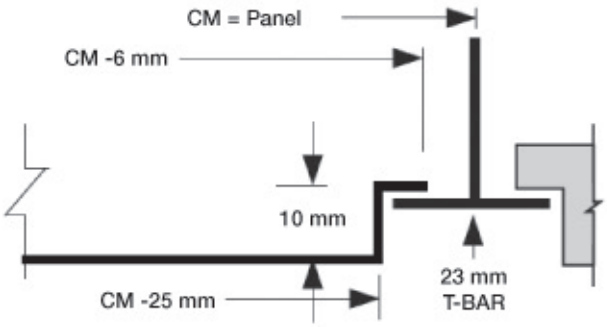
L: Installation recommended for inspection panel



F: Fineline



TL: tile (LAY-IN)



M (SNAP-IN)