



RDD Submittal



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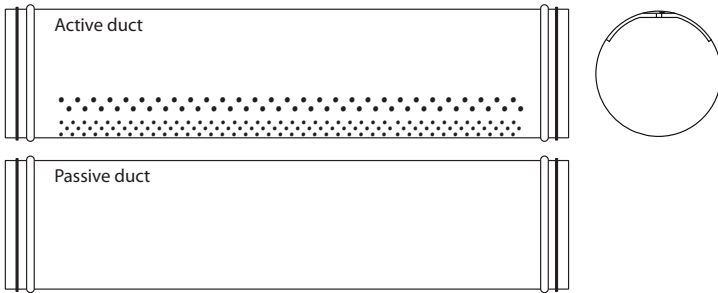
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Date

Project

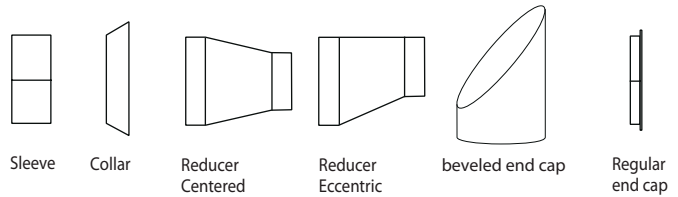
Engineer

Contractor

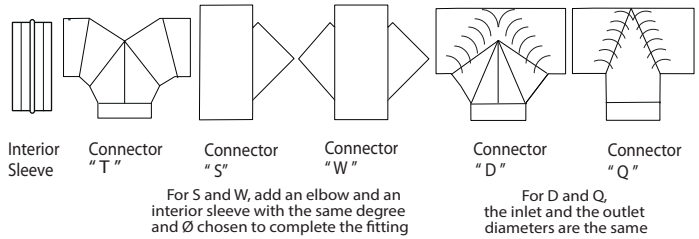


All of the standard accessories (elbows, sleeves, reducers, multi-branch connectors, etc.) are available in the precise dimensions of the ducts.

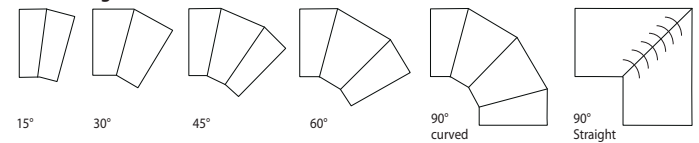
Accessories big-end



Small end



Elbows : big-end

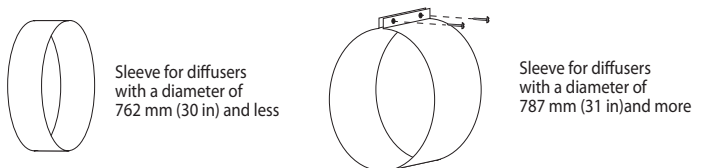


The diffuser

- Tubular diffuser
- Made of 22 ga brushed steel for ducts inferior to 457 mm (18 in) in diameter, and 20 ga for ducts with diameter superior or equal to 457 mm (18 in).
- Diameters ranging from 203 mm (8 in) to 1419 mm (56 in)
- Seal between sections with a PVC gasket.
- Sealed
- Assembly using union sleeves.
- Steel reinforcements installed inside ducts of more than 433 mm (17 in) in diameter
- Painted with a TGIC-free polyester powder coat.
- RAL colour chosen by the architect or the customer.
- Hole pattern determined with the help of a computer program.
- Burr-free holes shall be made with a laser cutter.
- Easy to clean
- Reducer or perforated balancing damper install after 5 sections
- Can be active or passive (without holes)

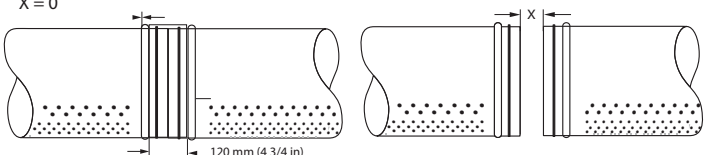
Assembly

The sections of the RDD diffuser are assembled with sleeves, which are adapted to the diameter of the air duct



Standard sleeve: 120 mm (4 3/4 in)
(no space between RDD)
X = 0

Special sleeve (X = spacing between RDD)
X = from 1 mm to 1380 mm



RDD - Air flow and direction

General operation

The RDD diffuser is made to surpass the technical limits of traditional air diffusion systems. Its function is based on the principle of high induction diffusion. The perforations of different diameters and their positioning on the RDD promote a displacement of a large quantity of ambient air (see the illustration below).

The thermal exchange between blown air and ambient air occurs close to the RDD and the temperatures rapidly near isothermal levels. The risk of stratification is eliminated, without creating drafts in the occupied zone.

Heat recovery

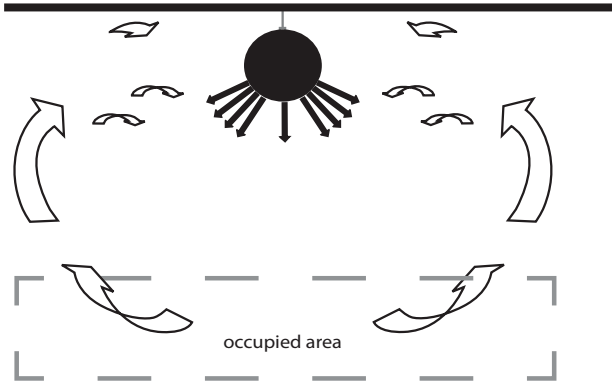
In this type of situation, in a space where internal heat sources are very high, it allows for much more significant energy savings. Supplying a room with 100% outside air in winter without heating demand is dependent on external temperatures. The internal heat, generated by heat sources (heat generated by machines, lighting, employees etc.), is possible with the RDD high induction duct diffuser.

Height of the area Diffusion mode

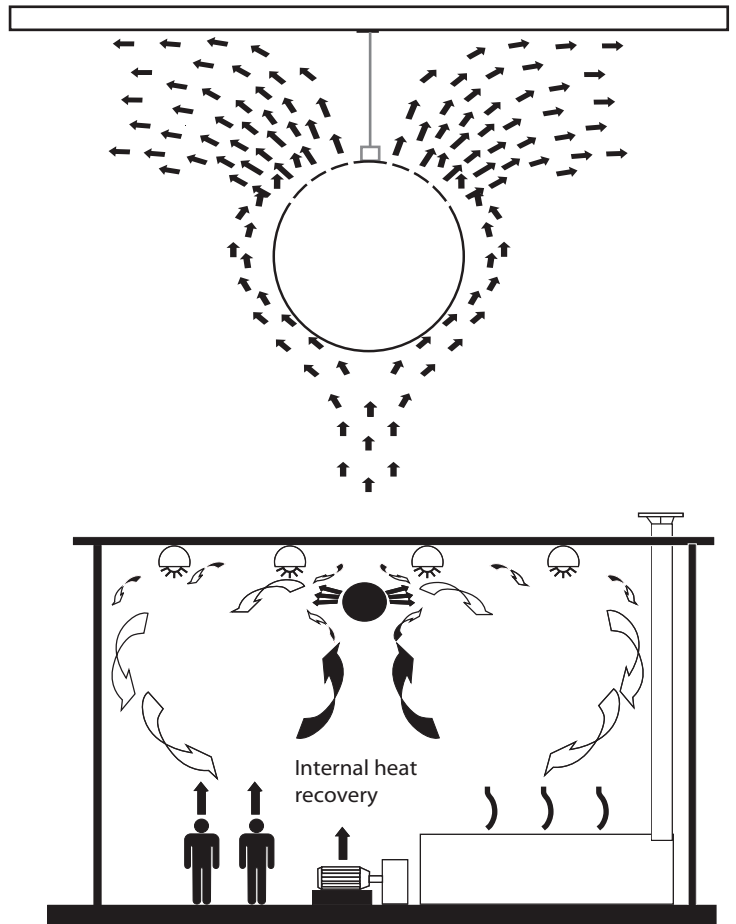
For areas with **elevated ceilings** ($H > 6\text{ m}$ (20 ft)), the RDD is perforated to diffuse air downwards for both heating and cooling modes.

In the case of heating mode, air is directed downwards to combat the force of gravity, both exerted on the different densities of warm blown air and cooler ambient air (figure A). The large mass of air circulates in a controlled manner, from the top to the bottom of the room for an optimal temperature mixture. The difference of temperature throughout the occupied area is not greater than 1°C

Figure A :
Heating mode at an elevated height - $H > 6\text{ m}$ (20 ft)

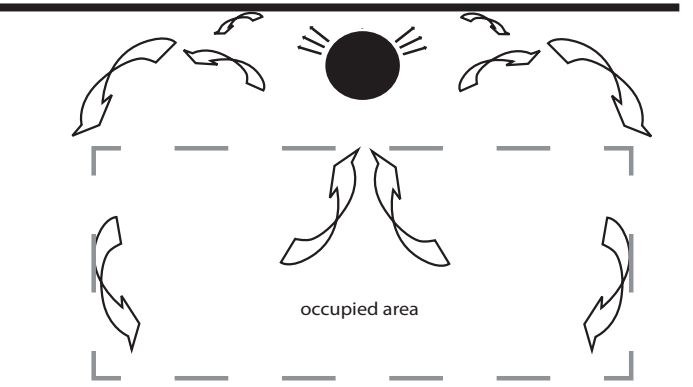


Representation of the effect of the induction generated by a RDD diffuser.



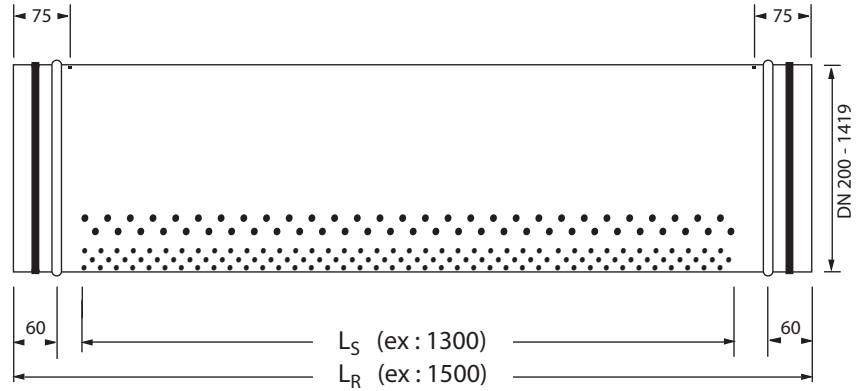
For rooms with **lower ceilings** ($H < 6\text{ m}$ (20 ft)), the air is pushed upwards through the RDD (see figure B). For cooling mode, the multitude of perforations with various diameters allow the air to be pushed upwards, to mix with the rooms hot air which often accumulates towards the ceiling.

Figure B :
Cooling mode at a low height - $H < 6\text{ m}$ (20 ft)



RDD - Dimension and weight

RDD diameter (mm)	Duct length - L_R		
	1000	1500	1700
	Weight of passive RDD (kg)		
	Sheet thickness: 0.85 mm		
200	4.20	6.38	7.15
251	5.28	7.92	8.97
302	6.35	9.52	10.79
353	7.42	11.13	12.69
403	8.47	12.71	14.40
	Sheet thickness: 1.00 mm		
454	11.41	17.00	19.30
505	12.67	18.93	21.43
556	13.94	20.83	23.58
607	15.69	23.21	26.22
657	16.93	25.07	28.32
708	18.97	27.74	31.25
759	20.33	29.74	33.50
810	21.70	31.73	35.75
861	23.07	33.73	38.00
911	24.40	35.69	40.21
962	26.40	38.31	43.08
1013	27.79	40.35	45.37
1064	29.19	42.38	47.65
1115	30.59	44.41	49.93
1165	31.96	46.40	52.17
1216	33.36	48.43	54.46
1267	34.76	50.46	56.74
1318	36.16	52.49	59.02
1369	37.56	54.52	61.31
1419	38.93	56.51	63.55
		Standard	



RDD - Codification

RDD	1000, 1500, 1800	Product
	200, 251, 302, 353, 403, 454, 505, 556, 607, 657, 708, 759, 810, 861, 911, 962, 1013, 1064, 1115, 1165, 1216, 1267, 1318, 1369, 1419	Lenght L_R
	A = Active (with perforation) X = Passive (without perforation)	Duct diameter
	9003 = White 9010 = Cream 00SB = Solar Black (standard matte black) 00SM = Silver Matte (standard metallic grey) _____ = RAL color (write the color number of RAL)	Perforation
	A = With closed-cell insulation X = Without insulation	Color of the diffuser
	D = With damper X = Without damper	Insulation
RDD 1500 200 A 9003 X X		Balancing damper
		Example

Codification for reducers

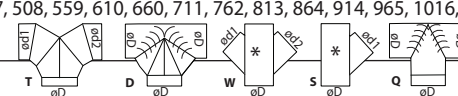
RDD	RED = Reducer	Product
	254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422	Ø D - Input diameter
	203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372	Ø d - Output diameter
	T = Flat on Top (Standard) C = Centered B = Flat on Bottom	Configuration
	S = Standard α = 14° A = Other (specify in annotation)	Length
	9003 = White, 9010 = Cream 00SB = Solar Black (standard matte black) 00SM = Silver Matte (standard metallic grey) _____ = RAL color (write the RAL color number)	Color
A = With closed-cell insulation X = Without insulation	Insulation	
RDD RED 305 203 T S 9003 X		Example

Codification for elbows

RDD	ELB = Elbows	Product
	15, 30, 45, 60, 90, QA	Angle
	203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422	Ø Diameter
	S = Standard (based on: r = 1.5 D) A = Other (specify in annotation)	Radius
	9003 = White 9010 = Cream White 00SB = Standard matte black 00SM = Silver matte (standard metallic grey) _____ = RAL colors (write the RAL color number)	Color
	A = With closed-cell insulation X = Without insulation	Insulation
RDD ELB 15 203 S 9003 X		Example

RDD - Codification

Codification for the branches

RDD	BRA = Branches				Product			
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422			(Note : For Q and D, inlet and outlet diameters are the same) ØD - Inlet diameter			
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422			(Note : For Q and D, inlet and outlet diameters are the same) Ød1 - Outlet diameter (for T, W and S only)			
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422			Ød2 - Outlet diameter (for T and W only)			
		T, D, W, S, Q			Configuration			
		9003 = White 00SB = Standard Matte Black ____ = RAL colors * (write the color number of RAL)	9010 = Cream 00SM = Standard Metallic Grey		Color			
		A = With closed-cell insulation X = Without insulation			Insulation			
RDD	BRA	305	305	203	T	9003	X	Example

Codification for endcaps and collars

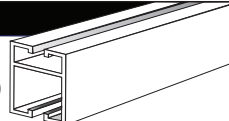
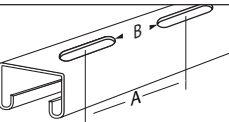

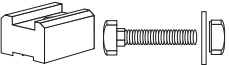
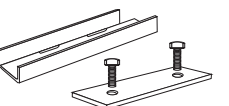


RDD	CAP (End cap), WCO (Collar), BEC (Bevelled endcap), BES (Bevelled endcap + slots -return), BEG (Bevelled endcap + grid -return)				Product
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422			Ø Diameter
		9003 = White 00SB = Solar Black (standard matte black) ____ = RAL colors (write the RAL color number)	9010 = Cream White 00SM = Silver Matte (standard metallic grey)		Color
		A = With closed-cell insulation X = Without insulation			Insulation
RDD	CAP	203	9003	X	Example

Codification for sleeves

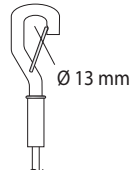
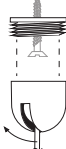
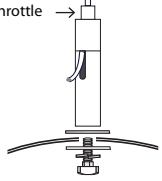
RDD	SLE (Sleeve), SLI (Inner sleeve) (no length available)				Product	
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422			Ø Diameter of SLE	
		200, 251, 302, 353, 403, 454, 505, 556, 607, 657, 708, 759, 810, 861, 911, 962, 1013, 1064, 1115, 1165, 1216, 1267, 1318, 1369, 1419			Ø Diameter of SLI	
		XXXX = Non applicable (SLI) 0000 = Standard (The distance between RRA is 0 mm) ____ = Special - write the «x» value (distance between RRA) - from 0001 mm to 1380 mm (54 in) maximum			Length of the SLE	
		9003 = White, 9010 = Cream white, 00SB = Standard matte Black, 00SM = Silver Matte (standard metallic grey) ____ = RAL colors (write the RAL color number)			Color	
		A = With closed-cell insulation X = Without insulation			Insulation	
RDD	SLE	203	0000	9003	X	Example

RDD - Codification - suspension system

Anchorage with rail

Description	
RAI	<p>ALU Aluminum rail (1 1/4 in x 1 3/4 in x 10 ft)</p> 
	<p>S33 Steel rail (1 5/8 in x 7/8 in x 10 ft)</p>  <p>A: 2 po B: 7/8 po</p> <p>9003 = White 00SB = Solar Black 9010 = Cream 00SM = Silver Matte Color _____ = Color RAL * (write the #) XXXX = Unpainted</p>
RAI - ALU - 9003	Example
RCT	<p>Rod cover for threaded rod 16 mm X 3.05 m (5/8 in X 10 ft)</p>  <p>9003 = White 00SB = Solar Black 9010 = Cream 00SM = Silver Matte Color _____ = Color RAL * (write the #) XXXX = Unpainted</p>
RCT - 9003	Example
Accessories supplied for aluminum rail (ALU)	
RKG	<p>Nylon guides assembly</p> 
RKJ	<p>Junction bar plate 200 mm x 28 mm x 12 mm (7 13/16 x 1 1/2 X 1 1/16 in)</p>  <p>Plate: 60 mm x 16 mm (2 3/8 X 5/8 in)</p>
RKC	<p>Coupling assembly with bolt and washer for installation with aluminum rail (ALU)</p>  <p>1 po</p>
Accessories supplied for steel rail (S33)	
RKS	<p>Slider, bolt and washer assembly</p> 
RKG	Example
Touch-up spray paint	
CAN 9003	Paint can (RAL 9003)
CAN _____	Paint can (other color RAL) (write the RAL color number)
CAN - 9003	Example

Anchorage with cable

Description of anchors for the ceiling	
CPA	<p>Anchor with hook nickel plated Ø 13 mm x 70 mm x 14.3 mm (Ø 1/2 in x 2 3/4 in x 9/16 in)</p>  <p>Ø 13 mm</p>
CCP	<p>Swiveling anchor nickel plated Not adjustable Ø 25 x 28.5 mm (Ø 1 in x 1 1/8 in) (screw not supplied)</p> 
Description of anchor for the diffuser	
CCA	<p>Anchor for duct Adjustment throttle nickel plated Ø 19 x 50 mm (Ø 3/4 in x 2 in)</p>  <p>Throttle →</p>
XXXX = Without cable	
Cable length	
3048 mm - standard (10 ft)	
A = Nickel plated steel (standard) S = Stainless Steel (optional)	
CPA - 3048 - A	Example

Adjustable wall support

RDD	AWM	203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965,	Product
		9003 = White 9010 = Cream White 00SB = Solar Black (standard matte black) 00SM = Silver Matte (Standard metallic grey) _____ = Color RAL (write the RAL color number)	Ø Diameter of the diffuser
			Color
RDD - AWM - 203 - 9003			Example

