



# RRA Submittal



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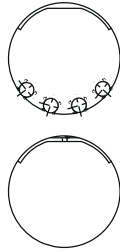
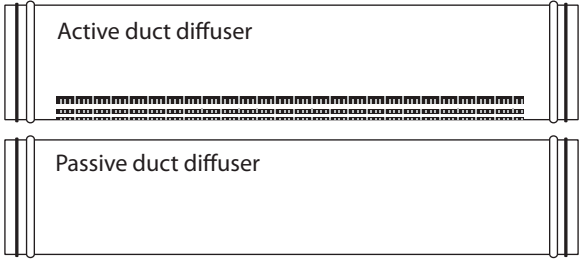
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Date

Project

Engineer

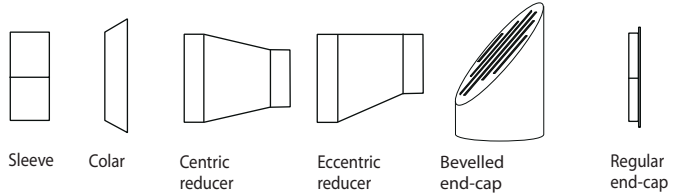
Contractor



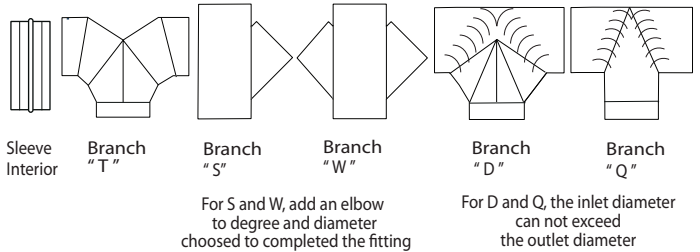
All of the standard accessories (elbows, connection sleeves, reduction connectors, multi-branch connectors, etc.) are available in the exact dimensions of the duct.

### Accessories

#### Big-end



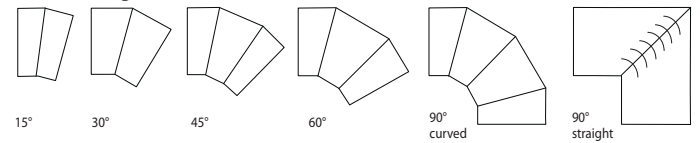
#### small-end



For S and W, add an elbow to degree and diameter choosed to completed the fitting

For D and Q, the inlet diameter can not exceed the outlet diameter

#### Elbows are big-end



### The diffuser

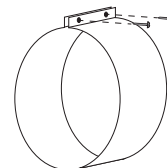
- Tubing diffuser
- Made of 22 ga brushed steel for ducts inferior to 457 mm (18 in) in diameter, and 20 ga for diameters superior or equal to 457 mm (18 in).
- Diameter from 203 mm (8 in) to 1419 mm (56 in).
- PVC gasket
- Tight sea between sections.
- Assembled with union sleeve.
- Steel reinforcements installed inside ducts of more than 433 mm (17 in) in diameter.
- Painted with a TGIC free polyester powder coat.
- Colour choosed by client on RAL colour chart only.
- Slots containing eccentric rollers and / or nozzle rollers.
- 100 mm ( 4 in) long eccentric rollers.
- Alphanumerically adjustment of duct's air flow.
- Air flow pattern over 180 degrees.
- Easy-to-clean
- A reducer fitting, or perforated balancing damper with a self-locking mechanism, installed after a maximum of 5 consecutive active sections of the same diameter.
- The duct diffuser can be active or passive (without slots).

### Assembling

The RRA diffuser sections are connected by connection sleeves which are adapted to the diameter of the duct.

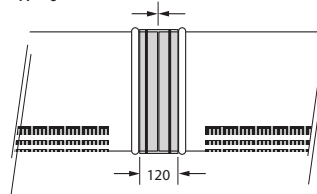


Sleeve for diffusers with a diameter of 30 inches and less

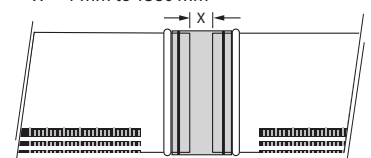


Sleeve for diffusers with a diameter of 31 inches and more

Standard Sleeve (120 mm)  
(RRA are joined)  
X = 0



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



# RRA - Réglage de la direction du jet d'air

Thanks to the shape of the eccentric rollers and adjustment dial with alphanumeric characters, the air jet's direction at the outlet of the diffuser can vary up to 180°. For each direction, there are two (2) roller positions ("reduced" or "not reduced"), as illustrated in figure E.

The length of each roller is 100 mm and they are individually adjustable.

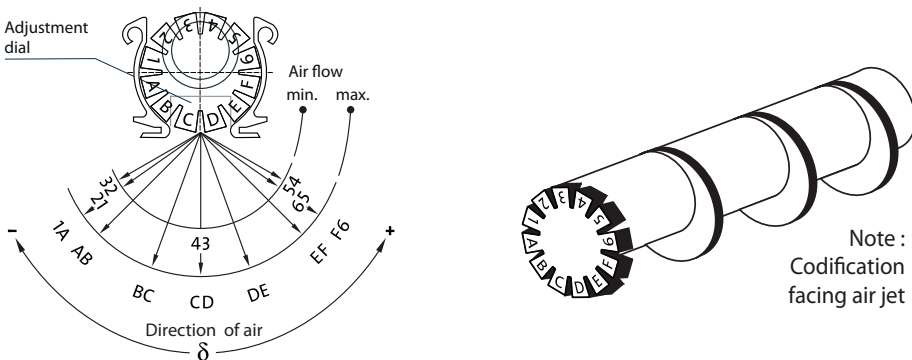
As a result, the combinations of airflow are almost infinite. In manufacturing, the ducts are individually adjusted for each project. The standard setting for the rollers is set to diffusion mode, in the positions "21" and "65" alternately.

This setting produces strong induction, which can be used to meet heating and cooling needs, thereby creating high mixing levels. The nozzle rollers can only be set in the open and closed position.

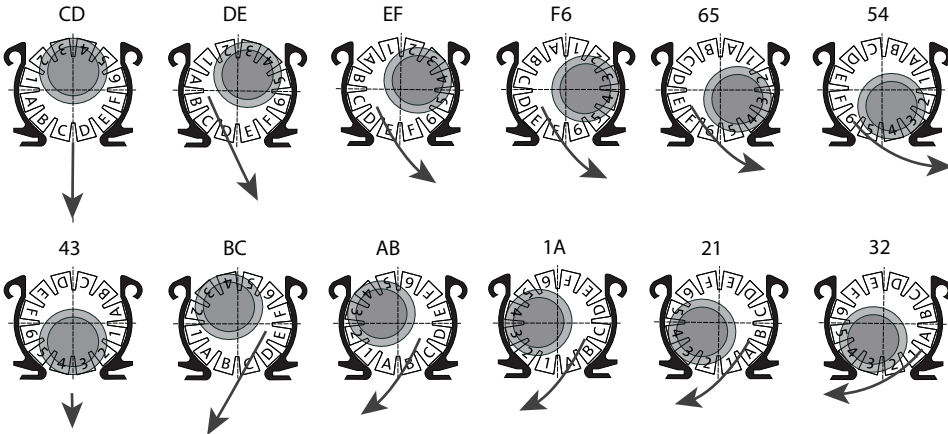
As a result, the divergent mode allows jets to blow in more accurate directions. This mode also allows a longer projection of the airflow. In specific zones which are habitually difficult to cover, a specialized setting can be created. Figures C and D show the relationship between the position of the eccentric roller and the direction of the exiting airflow. Note that to maximize air projection, multiple jets can be orientated in the same direction to optimize the coverage of a zone, even when heating.

## Eccentric roller

Figure E



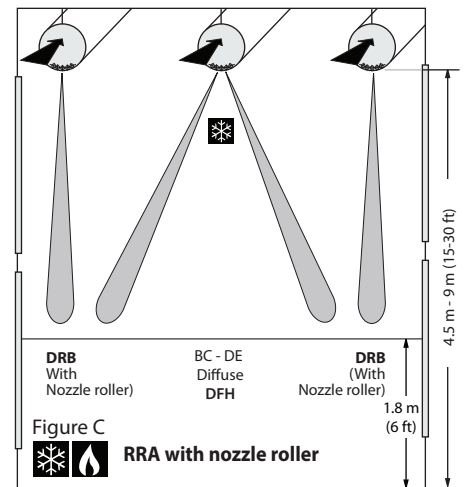
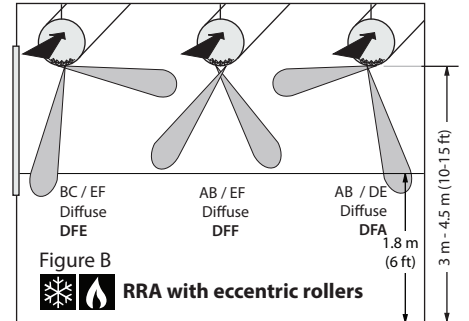
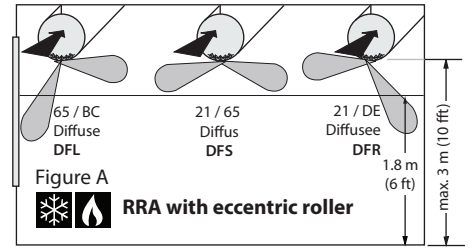
## Guide of direction of flow



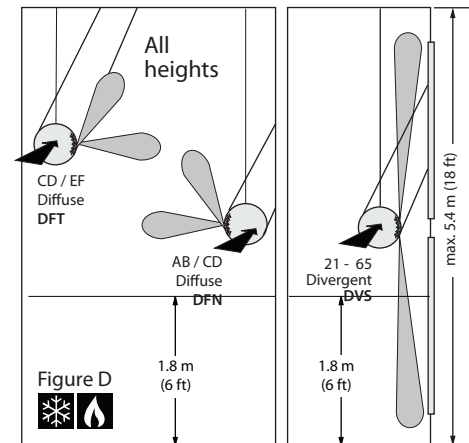
## Nozzle roller (DRB)



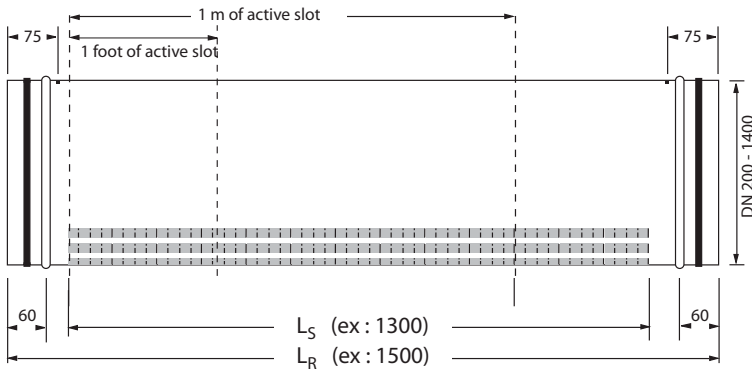
Direction of air



## Slots at +90°



## RRA - Dimensions and weight



Duct length - $L_R$	1000	1500	1700	2000
Slot length - $L_S$	800	1300	1500	1800

### Weight / slot (kg)

0.30	0.48	0.56	0.67
------	------	------	------

### Weight of passive RRA (kg)

Diameter of RRA (mm)	Thickness of the metal sheet : 0.85 mm			
200	4.20	6.38	7.15	8.41
251	5.28	7.92	8.97	10.55
302	6.35	9.52	10.79	12.70
353	7.42	11.13	12.69	14.84
403	8.47	12.71	14.40	16.94

### Thickness of the metal sheet : 1.00 mm

454	11.41	17.00	19.30	22.66
505	12.67	18.93	21.43	25.19
556	13.94	20.83	23.58	27.72
607	15.69	23.21	26.22	30.73
657	16.93	25.07	28.32	33.21
708	18.97	27.74	31.25	36.51
759	20.33	29.74	33.50	39.14
810	21.70	31.73	35.75	41.77
861	23.07	33.73	38.00	44.40
911	24.40	35.69	40.21	46.98
962	26.40	38.31	43.08	50.23
1013	27.79	40.35	45.37	52.90
1064	29.19	42.38	47.65	55.56
1115	30.59	44.41	49.93	58.22
1165	31.96	46.40	52.17	60.83
1216	33.36	48.43	54.46	63.50
1267	34.76	50.46	56.74	66.16
1318	36.16	52.49	59.02	68.82
1369	37.56	54.52	61.31	71.48
1419	38.93	56.51	63.55	74.10

Standard

# RRA - Codification

<b>RRA</b>	1000, 1500, 1800									<b>Product</b>		
	0800, 1300, 1600									<b>Length of duct L<sub>R</sub></b>		
	____ = Special length, write the length in mm XXXX = Non applicable (passive duct)									<b>Length of slots L<sub>S</sub></b>		
	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									<b>Ø Duct diameter</b>		
	X = Passive 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,									<b>Quantity of slots</b>		
	XXX = Passive duct 006 = Slots at 0° (6h) 003 = Slots at +90° (3h) 009 = Slots at -90° (9h) 012 = Slots at 180° (12h)	039 = Slots at +90° (3h) and at -90° (9h) 369 = Slots at +90° (3h), 0° (6h) and at -90° (9h) 612 = Slots at 0° (6h) and at 180° (12h) AAA = Other (specify in annotation)								<b>Slots position</b>		
	XXX = Passive DFS = Diffuse standard 21/ 65 DFR = Diffuse window DE / 21 DFL = Diffuse window BC / 65 DFF = Diffuse height AB / EF DFT = Diffuse CD / EF - slots at 3 o'clock DFN = Diffuse CD / AB - slots at 9 o'clock	DFH = Diffuse height BC / DE DFA = Diffuse AB / DE DVB = Divergent 21 DVD = Divergent 65 DVV = Divergent vertical CD DRB = Divergent with roller nozzle								<b>Air flow</b>		
	W = White roller or white roller nozzle (RAL 9003) C = Cream roller (RAL 9010) B = Black roller or black roller nozzle X = Without roller									<b>Color of eccentric rollers and roller nozzles</b>		
	9003 = White 9010 = Cream 00SB = Solar Black (Standard matte black) 00SM = Silver Matte (Standard metallic grey) ____ = RAL color* (write the color number of RAL)									<b>Diffuser color</b>		
	A = With closed-cell acoustic insulation X = Without insulation									<b>Acoustic insulation</b>		
	D = With damper X = Without damper									<b>Balancing damper</b>		
	R = With register (perforated plate) X = Without register									<b>Register</b>		
<b>RRA</b>	1500	1300	200	1	006	DFS	W	9003	X	X	Annotation	<b>Example</b>

## Codification for reducers

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

# RRA - Codification

## Codification for elbows

RRA	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 00SB = Standard Matte Black    00SM = Standard Metallic Grey _____ = RAL colors * (write the color number of RAL)							Color
		A = With closed-cell insulation X = Without insulation							Insulation
RRA	ELB	15	203	S	9003	X			Example

## Codification for the branches

RRA	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							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							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                      9010 = Cream 00SB = Standard Matte Black    00SM = Standard Metallic Grey _____ = RAL colors * (write the color number of RAL)							Color
		A = With closed-cell insulation X = Without insulation							Insulation
RRA	BRA	305	305	203	T	9003	X		Example

## Codification for endcap and collar

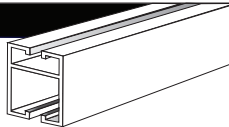
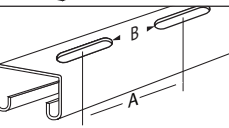

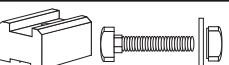
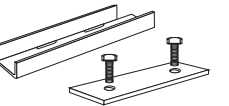


RRA	CAP (End cap), BEC (Bevelled endcap), BES (Bevelled endcap + slots - return), BEG (Bevelled endcap + grid - return), WCO (Collar)								Product
		203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965, 1016, 1067, 1118, 1168, 1219, 1270, 1321, 1372, 1422							Ø Diameter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

## Codification for sleeves

RRA	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 maximum							Length of the SLE
		9003 = White, 9010 = Cream, 00SB = Standard Matte Black, 00SM = Standard Metallic Grey, _____ = RAL colors (write the color number of RAL)							Color
		A = With closed-cell insulation X = Without insulation							Insulation
RRA	SLE	203	0000	9003	X				Example

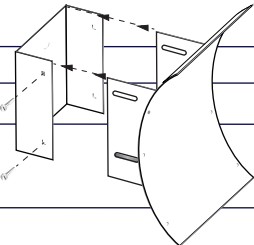
# RRA - Codification

## Suspension with rail

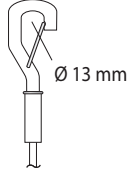

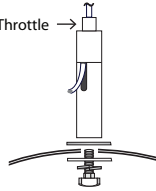
Description			
<b>RAI</b>	ALU Aluminum rail 1 1/4 in x 1 3/4 in x 10 ft		
	S33 Steel rail 1 5/8 in x 7/8 in x 10 ft A : 2 po B : 7/8 po		
	9003 = White 00SB = Solar Black 9010 = Cream 00SM = Silver Matte _____ = Color RAL * (write the #) XXXX = Unpainted	<b>Color</b>	
RAI - ALU - 9003			<b>Example</b>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

Example

## Adjustable wall mount

<b>RRA</b>	<b>AWM</b>	203, 254, 305, 356, 406, 457, 508, 559, 610, 660, 711, 762, 813, 864, 914, 965,		<b>Product</b>
		9003 = White, 9010 = Cream, 00SB = Solar Black (Standard black matte), 00SM = Standard Metallic Grey _____ = Colour RAL (write the number of colour)		<b>Ø Diameter / diffuser</b>
				<b>Colour</b>
RRA - AWM - 203 - 9003				<b>Example</b>

## Suspension with cable

Description of anchors for the ceiling			
<b>CPA</b>	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)		
<b>CCP</b>	Swiveling anchor nickel plated Not adjustable Ø 25 x 28 1/2 mm (Ø 1 in x 1 1/8 in) (screw not supplied)		
<b>CCA</b>	Anchor for duct Adjustment throttle nickel plated Ø 19 X 50 mm (Ø 3/4 in x 2 in)		
	XXXX = Without cable	<b>Cable length</b>	
	3048 mm - standard (10 ft)	A = Nickel plated steel (standard) S = Stainless Steel (optional)	
CPA - 3048 - A			<b>Example</b>