**RRA Specifications**

**1. Description and physical characteristics**

1.1 The high induction duct diffuser shall be made of 22 ga brushed steel for ducts inferior to 508 mm in diameter, and 20 ga for diameters superior or equal to 508mm.

1.2 The circular duct diffuser shall be available in diameters ranging from 203 mm to 1419 mm. The duct diffuser shall be grooved at each end and fitted with a PVC gasket to insure a tight seal between sections. The sections shall be assembled using union sleeves.

1.3 Steel reininforcements shall be installed inside ducts of more than 433 mm (17 inches) in diameter in order to maintain it’s shape.

1.4 The diffuser shall be powder coated with a polyester TGIC-free paint, providing a smooth, easy-to-clean, chip and fade resistant finish. The architect or client shall choose a standard colour from the RAL colour chart.

1.5 The duct diffuser shall be supplied with slots containing UL94 certified ABS (black, creme or white) eccentric rollers and / or nozzle rollers. The 100 mm long eccentric rollers shall be alphanumerically identified allowing for the adjustment of the air flow pattern over 180 degrees.

1.6 A reducer fitting or perforated balancing damper with a self locking mechanism allowing for an output between 25% and 100%, shall be installed after a maximum of 5 consecutive active sections of the same diameter. A slot register shall be integrated to the last active section of the system.

1.7 The union sleeves shall not exceed the dimensions of the duct by 3 mm, and will be rounded to facilitate cleaning.

 The duct shall have as smooth as possible surface to maintain an esthetic appeal.

1.8 The duct diffuser can be passive, without slots.

**2. Installation and suspension**

2.1 The suspension of the duct shall be done with threaded rods (3/8’’) supplied by the installer.

2.2 The threaded rods shall be covered with rod covers supplied by the manufacturer of the diffuser. The colour of the rod covers shall be chosen by the architect or the customer according to the RAL colour chart.

2.3 When required, the suspension of the duct diffuser shall be available in three options.

 2.3.1 Rail suspension

 The duct diffuser shall be slid into an aluminium rail suspended, offering a solution for varied types of ceilings. The rail shall be painted according to the RAL colour chart and chosen by architect or customer.

 2.3.2 Suspension by metallic cable

 The duct diffuser shall be suspended bymetallic cable (aviation style) 7 X 7 or 7 X 9 of galvanised or stainless steel (304 or 316) of medium or high traction resistance.

 2.3.3 Wall suspension

 The duct diffuser shall be anchored laterally with an adjustable wall support in the same colour as the duct diffuser. This wall mount shall be supplied by the manufacturer of the diffuser.

2.4 When the duct diffuser goes through a wall, a collar adapted to the duct diffuser shall be supplied by the manufacturer.

2.5 The standard accessories shall have the same finish as the duct diffuser (elbows, sleeves, reducers, branches, etc.)

2.6 Each conduit diffuser shall be identified with a label. This label shall contain the section number, the direction of the air flow, the number of slots and the positioning of the eccentric rollers.

**3. Performances**

 The manufacturer shall supply for approval the following :

3.1 A diagram of the air flow, illustrating the trajectory of the air jets.

3.2 The pressure loss generated by the system and duct diffusers supplied by the manufacturer

The pressure loss generated by the entire network

**4. Adjustment**

4.1 The adjusting of the eccentric rollers shall be done by the manufacturer according to the required output.

4.2 The adjustment of the eccentric rollers shall be possible even after the installation of the diffuser in order to meet new output requirements.

**5. Balancing**

5.1 The balancing of the diffusers shall be done by a ventilation balancing technician, accredited as a qualified professionnal.

5.2 When required, the technician shall refer to the eccentric roller adjustment mode available in the manufacturers’ reference manual.

**6. Required quality : NAD Klima model RRA**