**RDD 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 ducts with diameter superior or equal to 508mm.

1.2 The circular duct diffuser shall be available in diameter 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 have to be installed inside ducts of more than 433 mm (17 inches) in diameter in order to maintain it’s shape.

1.4 The duct diffuser shall be painted with a TGIC free polyester powder coat. It shall have a smooth surface for easy cleaning. The colour shall be chosen by the architect or the customer. The paint of the diffuser shall be guaranteed against peeling for a minimum period of 5 years.

1.5 The pattern for the holes shall be determine with the help of a computer program.

1.6 The burr free holes shall be made with a laser cutter.

1.7 When required, the duct diffuser shall be equiped with balancing perforated damper with a self blocking mechanism allowing for air output of between 25% to 100%.

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

The duct shall have as smooth as possible surface to maintain an architectural appearence.

1.9 The duct diffuser can be passive, without holes.

**2. Installation and suspension**

2.1 The suspension of the duct will 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 can be slid into a suspended aluminium rail, offering a solution for varied types of ceilings. The rail can be painted according to the RAL colour chart, the colour chosen by architect or customer.

 2.3.2 Suspension by metallic cable

 The duct diffuser can be suspended by metallic cables (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 can be anchored laterally with an adjustable wall support the same colour as the duct diffuser. This wall support 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.)

**3. Performances**

 The manufacturer shall demonstrate for approval :

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. Balancing**

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

**5. Required quality : NAD Klima model RDD.**