

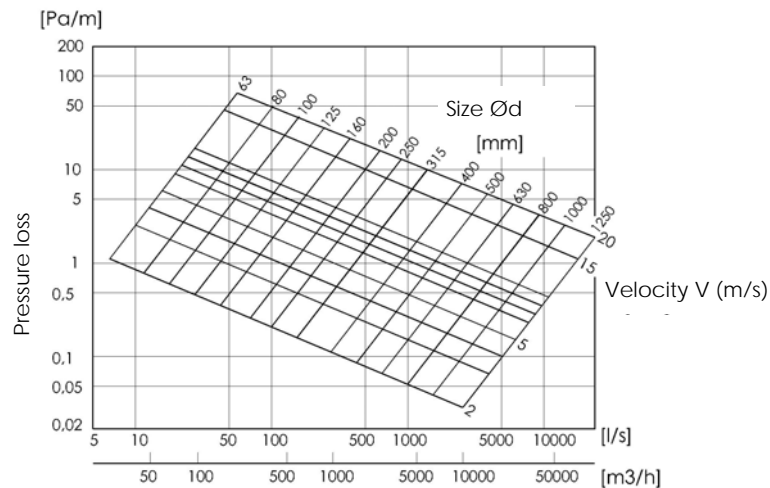


AIR DUCTS



Round air ducts and profiles

Radel & Hahn Zrt produces circular cross, straight rigid pipes and profiles made of galvanized steel plate to be used by ventilation systems or they can be used for different purposes, if we take into consideration the needed airflow rate, the pressure difference, the air tightness. We make pipes from plate strips, which are galvanized both-sided and suitable for mechanic seam. The implemented material can be different from the previous ones, for example stainless steel sheet. If the diameter of the duct is more than 250 mm, one stiffening rib is applied; if the diameter is more than 500 mm, we use 2 stiffening ribs besides of seam. Nominal maximum length of duct elements is 6000 mm. The length of duct elements can be freely chosen within the boundaries of practicality and transportability. In the lack of special requirements the allowed air leak in case of our air ducts is between $2,0 \times 10^{-3}$ - $3,0 \times 10^{-3}$ m³/sec/m².



Nominal diameter (mm)	Minimum wall thickness (mm)	Maximal allowed pressure difference	
		bei Zuluft	bei Abluft
80 - 315 mm	0,5 mm	6300 Pa	2500 Pa
350 - 500 mm	0,6 mm	5000 Pa	1600 Pa
560 - 800 mm	0,8 mm	5000 Pa	1250 Pa
900 - 1250 mm	0,9-1,2 mm	3000 Pa	1000 Pa



Air ducts and profiles

Straight ducts and pipes made by Radel & Hahn Zrt. are produced from galvanized rebated sheet steel, meets the requirements of Austrian standard ÖNORM M7615. They can be used for different purposes, taken into consideration the needed airflow rate, pressure difference and air tightness.

Pittsburgh seam is applied in case of air duct elements; if air ducts are of big cross-section, standing seam is used inside. The material of every air duct unit is of mechanical stiffed, if the cross-section of the air duct is of bigger size, it is equipped with spacer bars. The nominal maximum length of the air duct elements is 2000 mm, minimal side length is 100 mm.

Nominal length (mm)	Minimal wall thickness (mm) in case of the following allowed pressure differences		
	max. 630 Pa	max. 1600 Pa	max. 2500 Pa
	ND Low pressure	HD1 High pressure	HD2 High pressure
200-400 mm	0,7 mm	0,7 mm	0,7 mm
401-750 mm	0,7 mm	0,9 mm	0,9 mm
751-1000 mm	0,9 mm	0,9 mm	1,1 mm
1001-1400 mm	0,9 mm	1,1 mm	1,2 mm
1400-	1,1 mm	1,1 mm	1,2 mm

The length of duct elements can be freely chosen independent from each other within the boundaries of practicality.

Air ducts and profiles are made from fine sheet, galvanized in both side. (We produce them from aluminium sheet, stainless steel or red copper plate according to the wish of our costumers) If airflow rate is 8 m/sec in the air ducts and profiles, the maximum allowable pressure difference is 2500 Pa.

Since we are in lack of special requirements, the allowed air leak between in case of our air ducts is $2,0 \times 10^{-3}$ - $3,0 \times 10^{-3}$ m³/sec/m². Duct elements are produced with SMITKA rolled sheet angle profile and corner profile. The size of the angle profile is 20 or 30; ÖNORM M7615 standard was applied



Heat and smoke duct system

Radel & Hahn Zrt. produces heat and smoke exhaust square or round ventilation systems. They are made from galvanized steel plate of min. 0,9 mm thickness. They can be installed as part of heat and smoke ventilation systems of the buildings or as separated fire sections consisting of horizontal, vertical and elbow heat and smoke ventilation ducts, if flue gas temperature doesn't exceed 600 °C.

Pittsburgh seam is applied in case of air duct elements; if air ducts are of big cross-section, standing seam is used on the inner surfaces. The material of every air duct unit is mechanical stiffened, if the cross-section of the air duct is big, we equip them with spacer bars.



Heat and smoke air ducts are classified into fire resistance class based on MSZ EN 13501-4:2007:

E600 120 (ho) S 1500 single
E600 120 (ve) S 1500 single*

They belong to

A1

fire class based on the National Fire Protection Rules

The maximum sizes of heat and smoke air duct system:

Square cross section:

1250 x 1000 mm
(Width x heights)

Cross section of round air ducts:

Ø 1000 mm

* Based on the criteria of EN 1366-9 testing standard and the tests performed according to paragraph 5.2 of the EN 12101-7 product standard

In case of air ducts and profiles which are made from double-sided galvanized steel plate the maximum allowable pressure difference is 1500 Pa.

Duct elements are produced with SMITKA rolled sheet angle profile and corner profile. The widths of angle profiles are 20 or 30 mm.

Sealing material of air duct elements Nr. 4209/OF/0602 is used. It is fiber reinforced water-based duct sealant, thermostabile up to 1000 °C, one-component, solvent-free.

Heat and smoke air duct system can be installed only as separated fire sections. A heat and smoke system cannot be connected to ventilation elements of another fire section or ventilation elements of one fire section cannot pass another fire section. Maximal distance between duct suspensions is 1,65 m, maximal distance between duct shorings is 2,00 m.

Our ÉMI-authorization number: A-79/2010.

References

LEGO Manufacturing Kft. Nyíregyháza
DIEHL Aircabin Hungary Kft. Nyírbátor
MERCEDES BENZ Manufacturing Kft. Kecskemét
GE Hungary Nyrt. Budapest
SOUTH BUDA BUSINESS PARK Irodaház, Budapest
KIKA Áruház Debrecen és Kassa
GETRAG FORD Kechnec
SCHELLING Kechnec
FLEXTRONICS Nyíregyháza, Sárvár, Brno, Zalaegerszeg, Zalaölvő
ROBERT BOSCH Elektronika Kft Hatvan
SIEMENS Gönyü
INFOPARK Budapest
ÁRPÁD CENTER Budapest
CITY GATE IRODAHÁZ Budapest
DOTÉ Debrecen
HUMAN Gödöllő
HIETE Budapest

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