

# DIFFUSER EC



## Impulsno aksijalno rasejanje sa EC motorom

### Impulse axial scatter with EC motor

#### APLIKACIJE

Raspršivači DIFFUSER EC linije, opremljeni elektronski komutiranim motorima sa permanentnim magnetima, dizajnirani su za mešanje vazduha u okruženju u kojem su instalirani, na primer u industrijskim i komercijalnim zgradama, sportskim halama, skladištima, prodavnicama, muzejima, stočarskim farmama itd. Mešanje vazduha je izuzetno važno kako bi se izbeglo raslojavanje toplote i vlage i kako bi se životni prostori učinili udobnijim u svakoj godišnjoj dobi, posebno:- ZIMI, DIFFUSER EC homogenizuje temperaturu, štedeći do 50% energije potrebne zahvaljujući manjoj potrošnji toplote kako bi se postigla udobna temperatura u nižim slojevima, koje naseljavaju ljudi.- LETI, DIFFUSER EC pomera vazduh na promišljen i efikasan način, aktivira razmenu vazduha kroz prozore i vrata stvarajući prijatan povetarac i čineći letnju klimu sa visokom temperaturom i visokom vlažnosti podnošljivijom.

#### KARAKTERISTIKE

- Veći kapacitet cirkulacije od drugih sličnih proizvoda na tržištu zahvaljujući lopaticama aerodinamičnog profila, impeleru i specijalno dizajniranom difuzoru, koji potpuno izbegavaju direktan, uznemirujući protok vazduha.
- Oni su jedini ventilatori do sada opremljeni sinhronim EC visoko efikasnim motorima koji omogućavaju seriji da se savršeno prilagodi različitim uslovima okoline (promene temperature i vlažnosti) i potrebama korisnika (različita brzina protoka vazduha, manja buka). Sve ovo je moguće zahvaljujući monofaznom pogonu koji podešava brzinu ovih specijalnih motora. - Tihi, kompaktni, pouzdani i jednostavni za instalaciju; mogu se potpuno automatizovati povezivanjem sa temperaturnim senzorom sa termostatom.
- Efikasniji i efikasniji od standardnih centrifugalnih sistema za mešanje vazduha: na primer, instalacija u istom okruženju bi zahtevala manji broj DIFFUSOR EC u poređenju sa centrifugalnim ventilatorima za mešanje vazduha, što rezultira i uštedom energije i smanjenjem troškova.
- Protok vazduha je potpuno reverzibilan

#### KONSTRUKCIJA

- Prstenasto kućište, sa dvostruko širokim okruglim mlaznicama i difuzorom otpornim na atmosferske uticaje.
- Lanci, nosač za fiksiranje i ulazna rešetka od čelične šipke.
- Impeler sa visoko efikasnim vazдушnim folijama, reverzibilnim lopaticama od plastičnih materijala i glavčinom od livenog aluminijuma. Balansiranje u skladu sa UNI ISO 21940-11.
- Sinhroni električno komutirani visoko efikasni EC motor sa podesivom brzinom, zaštita IP 55, klasa F izolacije.
- Monofazni pogon (potreban za rad ventilatora), isporučen nije povezan

#### TEHNIČKE SPECIFIKACIJE

- Transportovani vazduh: čist, neabrazivan.
- Temperatura transportovanog vazduha: -20°C/+50°C.
- Napon: Monofazna verzija (M) 230V-1P, podesiva brzina

#### PRIBOR

- Senzor temperature sa termostatom (TDS).
- Spoljna tastatura sa displejem (RMT)
- Regulator brzine 0-10V (SRC 10)

#### NA ZAHTEV

- Verzija sa motorom sa ugrađenim invertorom

#### APPLICATIONS

The scatters of DIFFUSER EC line, equipped with electronically commutated permanent magnets motors, are designed to mix the air of the environment in which they're installed, for instance in industrial and commercial buildings, sporting halls, warehouses, stores, museums, stockfarms etc.

Air mixing is extremely important in order to avoid heat and humidity stratification and in order to make living places more comfortable in every season, in particular:

- in WINTER, DIFFUSER EC homogenizes temperature, saving up to the 50% of energy required thanks to the lower heat consumption in order to reach a comfortable temperature in lower layers, occupied by people.
- in SUMMER, DIFFUSER EC moving air in a studied and effective way, activates air exchange through windows and doorways creating a nice breeze and getting the high temperature and high humidity summer climate more tolerable.

#### ADVANTAGES

- Higher recirculation capacity than other similar products on the market thanks to the airfoil blades impeller and to the special designed diffuser, that totally avoid direct annoying airflow.
- They're the only fans until now equipped with synchronous EC high efficiency motors that allow the series to perfectly fit different environmental situations (alterations of temperature and humidity) and users needs (different airflow speed, less noise). All of these has been possible thanks to the monophase drive that adjust the speed of these special motors.
- Silent, compact, reliable and easy to install; they can be completely automatized with the connection to temperature sensor with thermostat.- More efficient and performing than standard centrifugal air mixing systems: for instance, installation in the same environment would requires less number of DIFFUSER EC comparing to centrifugal air mixing fans, getting in consequence both energy saving and cost reduction.
- Airflow completely reversible

#### CONSTRUCTION

- Ring casing, with double wide round shaped nozzles, and diffuser resistant to atmospheric agents.
- Chains, fixing bracket and inlet grid in steel rod.
- Impeller with high efficiency air foil reversible blades in plastic materials and hub in die-cast aluminum. Balancing according to UNI ISO 21940-11.
- Synchronous electrically commutated high efficiency speed adjustable EC motor, protection IP 55, Class F insulated.
- Monophase drive (needed for fan running), provided not connected

#### TECHNICAL SPECIFICATIONS

- Conveyed air: clean, not abrasive.
- Temperature of conveyed air: -20°C/+50°C.
- Voltage: Single-phase version (M) 230V-1Ph speed adjustable

#### ACCESSORIES

- Temperature sensor with thermostat (TDS).
- External keypad with display (RMT)
- Speed regulator 0-10V (SRC 10)

#### UPON REQUEST

- Version with motor with built-in inverter

Karakteristike/Performanse Characteristics/Performances

Performanse prikazane na dijagramima selekcije odnose se na vazduh na temperaturi od 15°C i nadmorskoj visini od 0 m, a dobijene su kod tipa instalacije „A”.  
 Performances shown in the selection diagrams refer to air at 15°C temperature and 0 m a.s.l. altitude, and they were obtained in installation type "A".

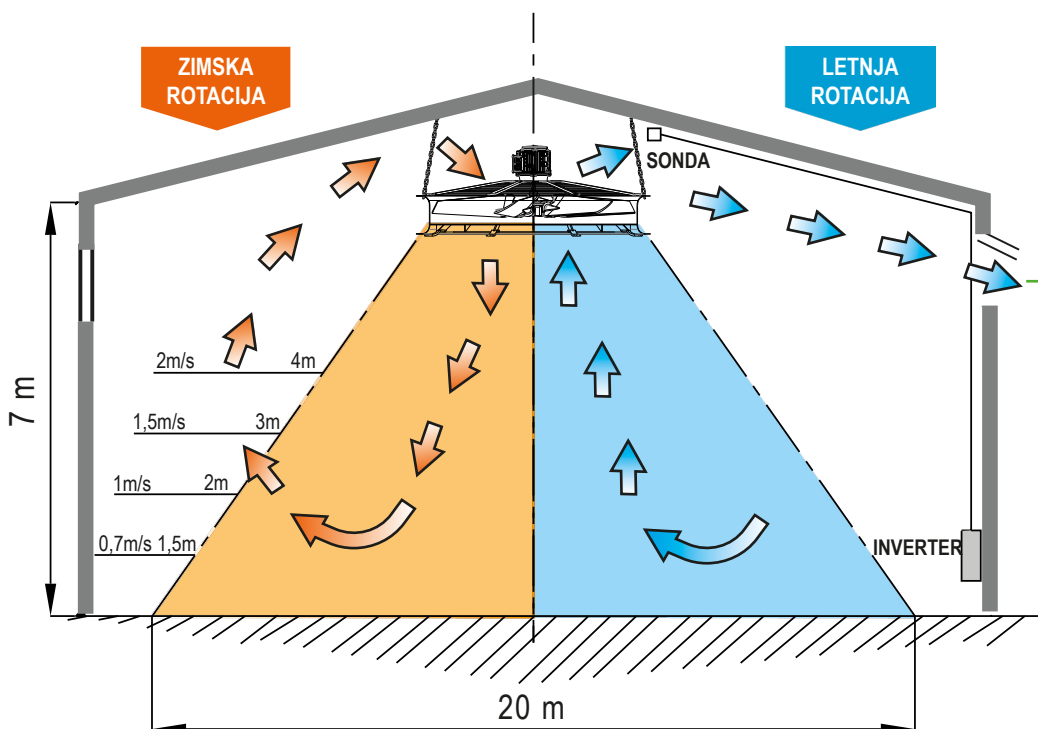
Modello Model	Alimentazione Supply	RPM fan max (*)	Pr (kW)	Pm (kW/RPM)	In max (Arms)	Drive (kW)	kg	Flow rate max (m³/h)
80 M	230V/1	900	0,75	0,75/1500	3,2	0,75	27	13.000

Altezza max di installazione 14 m / Max installation height 14 m

**Važno:** tokom upotrebe proverite da apsorbovana struja nikada ne prelazi najnižu vrednost između nominalne struje motora i nominalne struje invertora (pogona). **Important:** during use check that the current absorbed never exceeds the lowest value between the rated current of the motor and the rated current of inverter (drive).

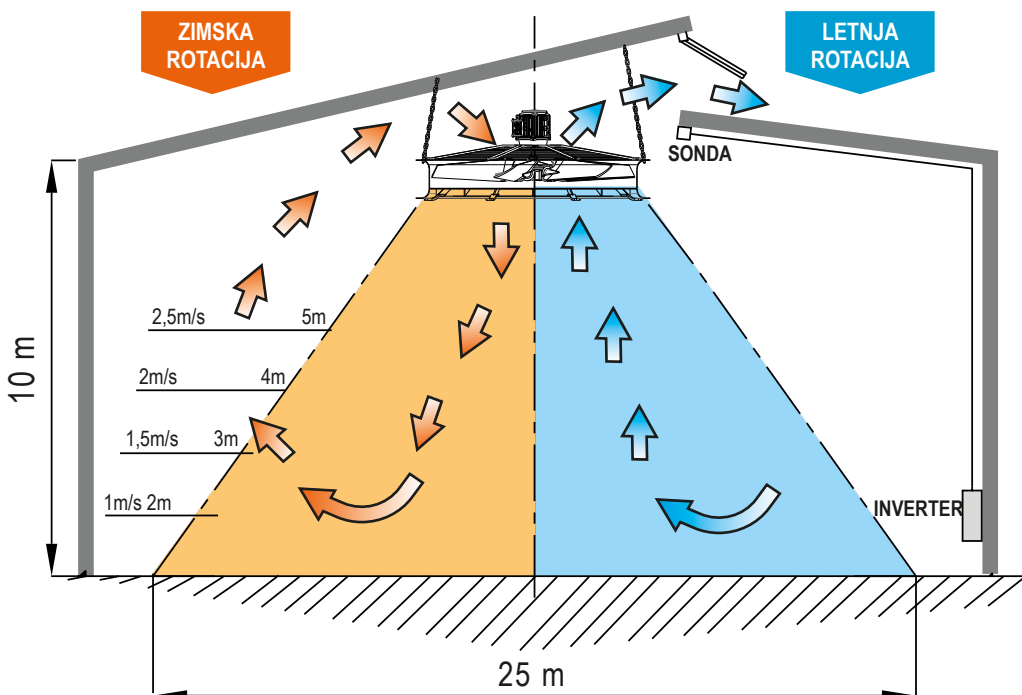
**Važno:** tokom upotrebe nikada ne prekoračujte maksimalne obrtaje navedene u tabelama (\*) **Important:** during use never exceed the maximum RPM indicated in tables (\*).

Pm = Snaga motora  
 Pr = Snaga na vratilu /Shaft power  
 In = Potrošnja struje  
 RPM= Maksimalna brzina okretanja ventilatora/  
 Maximum turning speed of the fan  
 Drive =Maksimalna radna snaga pogona (invertora)/  
 Maximum working power of the drive (inverter)  
 m³/h = Brzina protoka/Flow rate  
 Lp dB(A)=Nivozvučnog pritiska/Sound  
 pressure level



Visina instalacije: 7 m  
 Installation height: 7 m

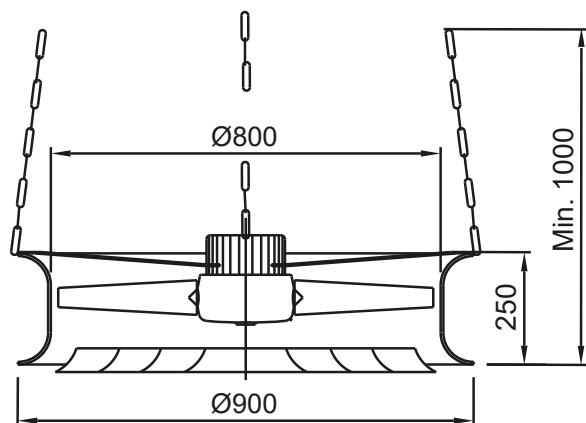
RPM: 550  
 m³/h: 7.200  
 Pr (kW): 0,1  
 Lp dB(A) at 6 m: 62



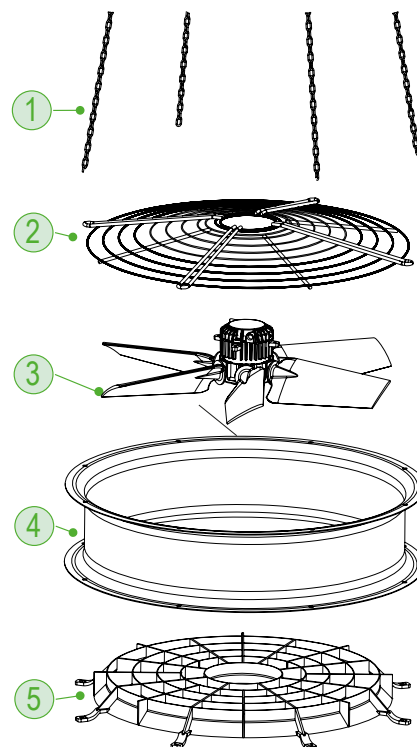
Visina instalacije: 10 m  
 Installation height: 10 m

RPM: 770  
 m³/h: 10.000  
 Pr (kW): 0,3  
 Lp dB(A) at 6 m: 56

**Tolerancije:** performanse i nivoi zvučne snage u okviru tolerancija dozvoljenih standardom DIN 24166 za klasu 2  
**Tolerances:** performances and sound power levels within the tolerances allowed by the DIN 24166 standard for Class 2.



Dimenzije u mm/Dimensions in mm



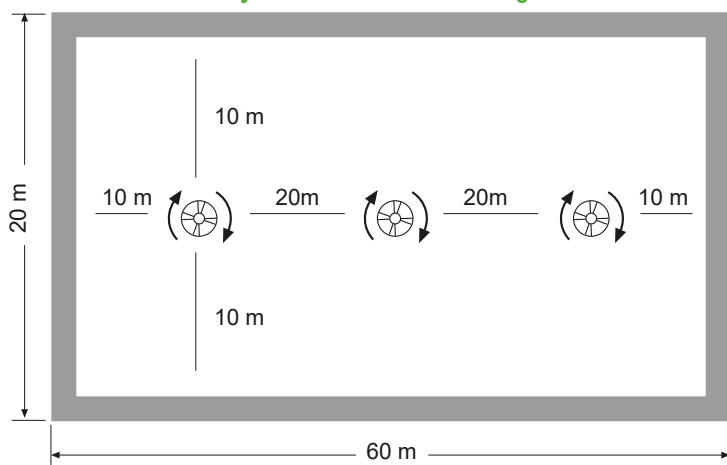
- 1 - Fiksiranje lanaca /Fixing chains
- 2 - Nosač motora/Motor support
- 3 - Sklop impelera motora/  
Motorimpeller assembly
- 4 - Kućište /Casing
- 5 - Difuzor /Diffuser

## Instalacija /Installation

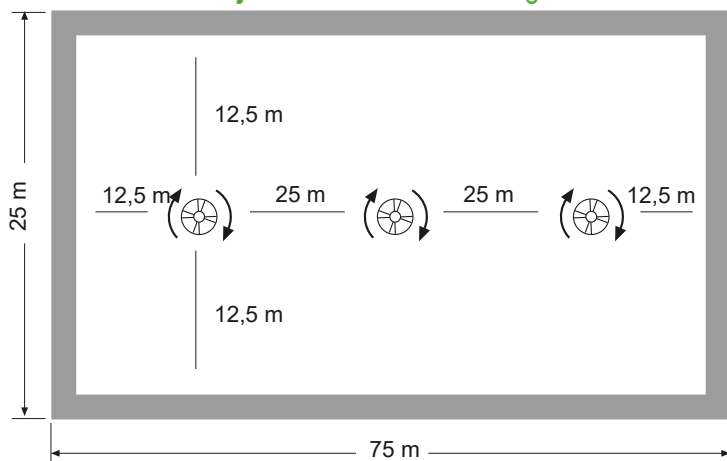
Idealna instalacija je postaviti jedan DIFUZOR EC na svakih 400 m<sup>2</sup> na 7 m i svakih 625 m<sup>2</sup> na 10 m, pokrivajući svu površinu poda, vodeći računa da se ne preklapaju ventilacione površine i da se drži rastojanje od perimetarskih zidova, kako bi se izbegle problematične vertikalne struje vazduha. Maksimalna visina instalacije: 14 metara od tla. Preporučujemo instaliranje DIFUZORA EC sa termostatom i senzorom. Takođe preporučujemo podešavanje termostata na temperaturu ne nižu od 20°C, kako bi se izbeglo kretanje „hladnog“ vazduha.

The ideal installation is to place one DIFFUSER EC each 400m<sup>2</sup> at 7m and each 625m<sup>2</sup> at 10m covering all the floor surface, paying attention not to overlap the ventilation areas and keeping distance from perimeter walls, in order to avoid troublesome vertical airflow currents. Maximum height of installation: 14 meters from the ground. We suggest to install DIFFUSER EC with thermostat and sensor. We also recommend setting thermostat with a temperature not lower than 20°C, to avoid the movement of "cold" air.

### Visina instalacije: 7 m / Installation height: 7 m



### Visina instalacije: 10 m / Installation height: 10 m



**Napomena:** iz bezbednosnih razloga moraju biti instalirani na minimalnoj visini od 4 m kako bi se izbegao pristup rotirajućim delovima.

**Remark:** for safety reasons they shall be installed at a minimum height of 4 m in order to avoid the access to the rotating parts.

## REGULATORI REGULATORS

FRC-EC



TDS

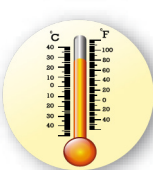




Odlična recirkulacija vazduha zahvaljujući posebnom impeleru i elektronskom motoru  
*Great air recirculation thanks to the special impeller and electronic motor*



Ne stvaraju dosadne protoke vazduha zahvaljujući posebno dizajniranom izdumnom difuzoru.  
*They do not generate annoying airflows thanks to the specifically designed outlet diffuser.*



Oni homogenizuju temperature u celom okruženju u kojem su instalirani, snižavajući vlažnost, uklanjajući kondenzaciju i održavajući pod suvim  
*They homogenize temperature all over the environment in which they're installed, lowering the humidity, removing condensation and keeping the floor dry.*



Leti stvaraju prijatan povetarac i aktiviraju razmenu vazduha kroz otvore.  
*In summer they create a nice breeze and activate the air exchange through the openings.*



Zimi smanjuju stratifikaciju vazduha što dovodi do uštede troškova grejanja i do 50%.  
*In winter they reduce air stratification with a consequent savings of heating costs up to 50%.*



Oni poboljšavaju razmenu vazduha potiskivanjem istrošenog vazduha kroz prirodne otvore štala i uvođenjem čistog vazduha spolja; na taj način se znatno poboljšava disanje životinja.  
*They improve air exchange pushing the exhausted air through the natural openings of the stables and introducing clean air from the outside; in this way animal breathing gets significantly better.*



Potpuno novi EC motor sa podesivom brzinom čini Diffuser EC izuzetno fleksibilnim i savršeno prilagodljivim.  
*The brand new speed adjustable EC motor makes Diffuser EC extremely flexible and perfectly adaptable.*



Ili odozgo nadole ili obrnuto. Specijalni impeler sa 100% reverzibilnim aeroprofilnim lopaticama može da obrne smer protoka vazduha.  
*Special impeller with airfoil 100% reversible blades can reverse the airflow.*