

# RING ECI

## PRSTENASTI AKSIJALNI VENTILATOR SA ELEKTRONSKIM MOTOROM I INTEGRISANIM INVERTOROM

RING AXIAL FAN WITH EC MOTOR AND INTEGRATED INVERTER



### APLIKACIJE

RING ECI linija se sastoji od aksijalnih ventilatora sa aerodinamičkim lopaticama, direktno povezanih sa elektronski komutiranim motorom sa permanentnim magnetima (EC). RING ECI linija je pogodna za primene koje zahtevaju velike kapacitete vazduha sa relativno niskim pritiscima, savršenu regulaciju brzine, izuzetno visoku efikasnost, u skladu sa zakonskom ErP propisom. Primeri primene: ventilacija i klimatizacija u pomorstvu i rudarstvu, isparivački tornjevi, izmenjivači toplote, hlađenje električnih i rashladnih uređaja itd.

### DOMET

Ova linija se sastoji od 10 veličina sa prečnikom impelera od 310 do 900 mm.

### KARAKTERISTIKE

Ventilatori RING ECI linije karakterišu se izuzetno niskom potrošnjom energije u odnosu na upotrebu EC motora sa permanentnim magnetima sa stepenom efikasnosti IE5, izuzetno lakim povezivanjem i pokretanjem zahvaljujući invertoru integrisanom u motor.

RING ECI liniju karakteriše i izuzetna čvrstoća konstrukcije, a široki okrugli konusi direktno nacrtani na kućištu garantuju maksimalnu tišinu i efikasnost koja se obično dobija samo kod aksijalnih ventilatora sa zvonom.

### KONSTRUKCIJA

- Kućište od čeličnog lima zaštićenog epoksidnim premazom.
- Impeler sa visoko efikasnim aeroprofilnim lopaticama od plastike ili od livene legure aluminijuma. Glavčina od livene legure aluminijuma. Balansiranje prema UNI ISO 21940-11. Promenljivi ugao nagiba u mirnom položaju.
- Elektronski komutirani sinhroni motor sa permanentnim magnetima efikasnosti IE5, IP55 klase F, 100% podesiva brzina sa ugrađenim drajverom (inverter).
- Raspored 4 (impeler direktno povezan sa vratilom motora).

### TEHNIČKE SPECIFIKACIJE

- Transportovani vazduh: čist, neabrazivan.
- Temperatura transportovanog vazduha: -20°C / +50°C.
- Napon i frekvencija:
  - Trofazna verzija (T) 400V-50Hz
  - Monofazna verzija (M) 230V-50Hz
- Protok vazduha od motora do impelera, položaj A (FMG).

### VERZIJE

- RING dr: kućište sa dve okrugle mlaznice.
- RING sr: kućište sa okruglom mlaznicom samo na ulazu.

### PRIBOR

- Zaštitna rešetka, strana impelera (PG-P/RIsr - FPG/RIdr). (Neophodno za upotrebu u otvorenom prostoru).
- Gravitacioni zatvarač (SG i GS).
- Kvadratni panel (SQ).
- Nožice za fiksiranje (FF-RI).
- Regulator brzine 0-10V (SRC 10).

### NA ZAHTEV

- Verzija bez rešetke na strani motora.
- Verzija sa lopaticama od livenog aluminijuma.
- Verzija sa istinski reverzibilnim smerom protoka vazduha (RING-rev).
- Verzija sa kućištem od nerđajućeg čelika, aluminijuma ili vruće pocinkovanog čelika.
- Verzija sa kućištem sa jednim okruglim ulazom i jednim ravnim, na strani impelera (RING drp-g) ili na strani motora (Ring drp-m).
- Verzija sa protokom vazduha od impelera do motora, položaj B (FGM)

### APPLICATIONS

RING ECI line consists of axial fans with airfoil blades impellers directly coupled with electronically commutated permanent magnets motor (EC). RING ECI line is suitable in applications requiring large air capacities with relatively low pressures, perfect speed regulation, extremely high efficiency, according to the ErP Regulation in law. Examples of applications: ventilation and conditioning in naval and mining applications, evaporative towers, heat exchangers, cooling of electric and refrigerating equipments, etc.

### RANGE

This line consists of 10 sizes with impeller diameter from 310 up to 900 mm.

### ADVANTAGES

RING ECI line fans are characterized by an extremely low power consumption thanks to the use of EC motors with permanent magnets with efficiency grade IE5, extremely easy connection and start-up thanks to the inverter integrated in the motor. RING ECI line is also characterized by the extreme sturdiness of construction, furthermore the wide round shaped cones directly drawn on the casing guarantee maximum silent and efficiencies normally obtained only in axial fan with bell mouth.

### CONSTRUCTION

- Casing in steel sheet protected with epoxy painting.
- Impeller with high efficiency airfoil blades in plastic material or in die-cast aluminum alloy. Hub in die-cast aluminum alloy. Balancing according to UNI ISO 21940-11. Variable pitch angle in still position.
- Electronically commutated permanent magnets synchronous motor with efficiency IE5, IP55 Cl.F, 100% speed adjustable with built-in driver (inverter).
- Arrangement 4 (impeller directly coupled to motor shaft).

### TECHNICAL SPECIFICATIONS

- Conveyed air: clean, not abrasive.
- Temperature of conveyed air: -20°C / +50°C.
- Voltage and frequency:
  - Three phase version (T) 400V-50Hz
  - Mono-phase version (M) 230V-50Hz
- Air flow from motor to impeller, position A (FMG).

### VERSIONS

- RING dr: casing with two round shaped nozzles.
- RING sr: casing with round shaped nozzle only on inlet.

### ACCESSORIES

- Protection grid, impeller side (PG-P/RIsr - FPG/RIdr). (Necessary for use in free air).
- Gravity shutter (SG and GS).
- Square panel (SQ).
- Fixing feet (FF-RI).
- Speed regulator 0-10V (SRC 10).

### UPON REQUEST

- Version without motor side grid.
- Version with die-cast aluminum blades.
- Version with true reversible air flow direction (RING-rev).
- Version with casing in stainless steel, aluminum or hot dip galvanised steel.
- Version with casing with one round shaped inlet and one flat, impeller side (RING drp-g) or motor side (Ring drp-m).
- Version with air flow from impeller to motor, position B (FGM).

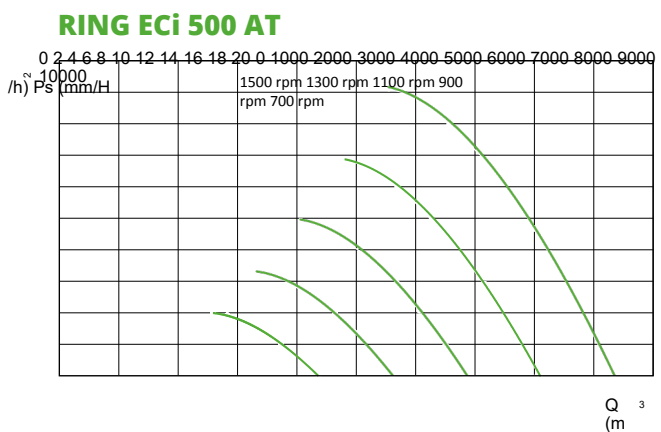
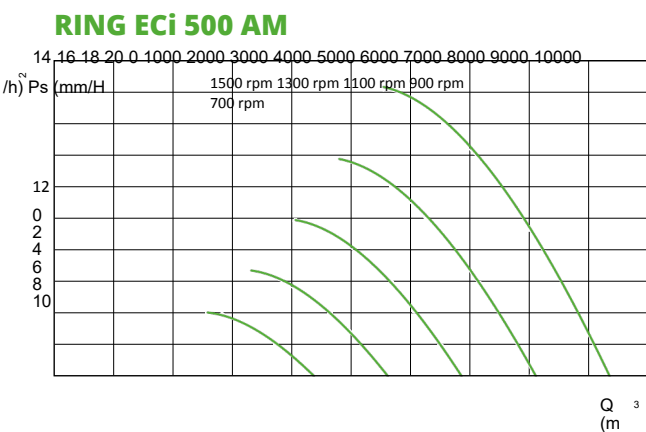
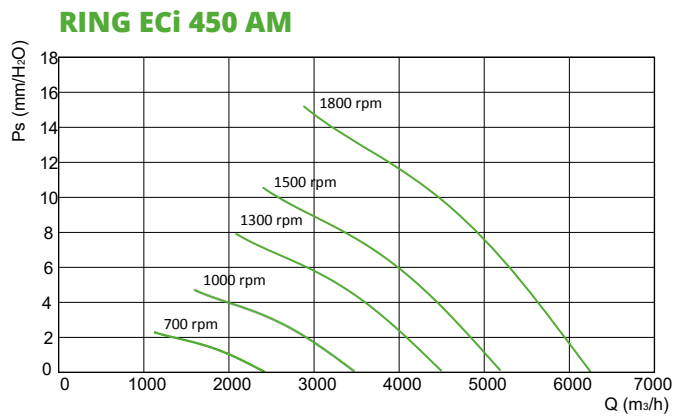
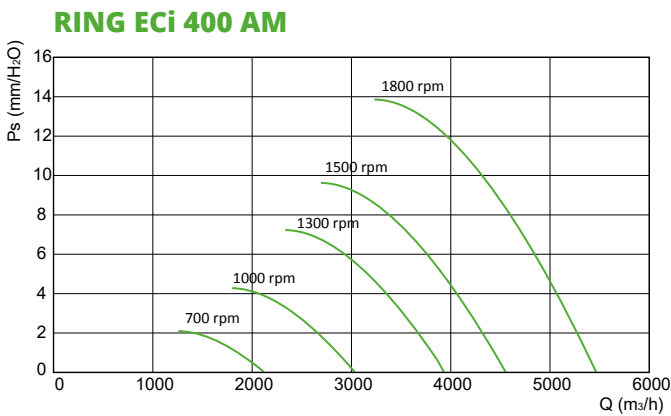
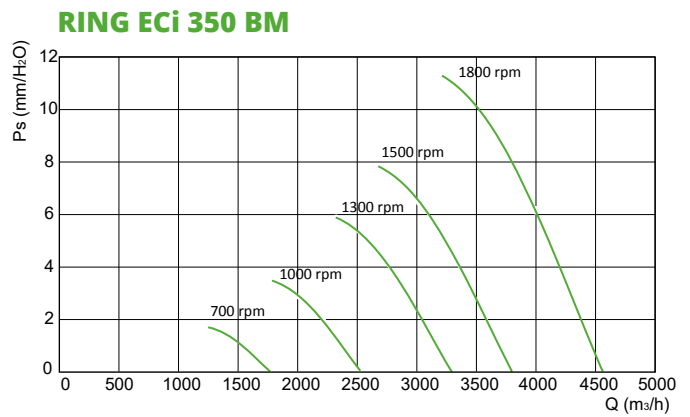
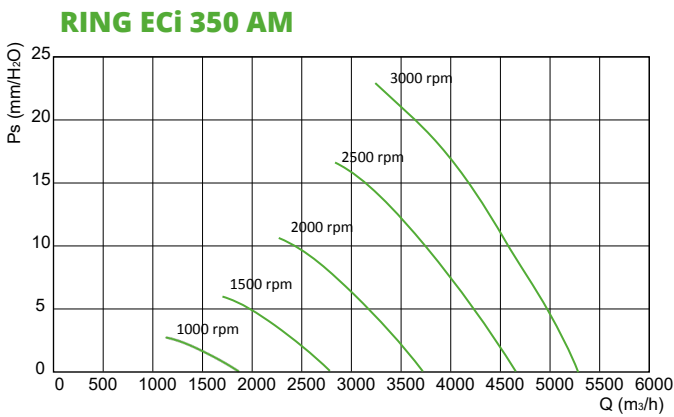
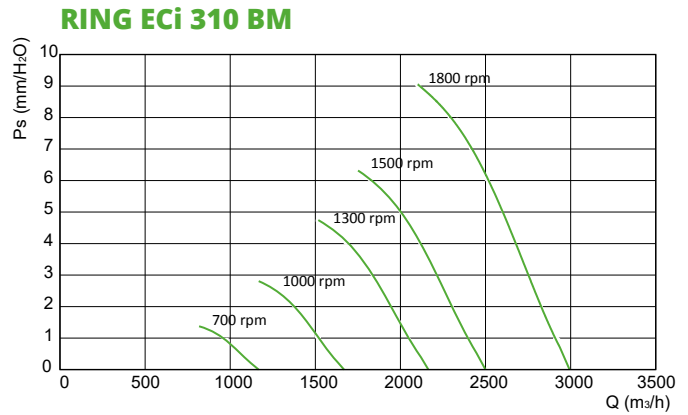
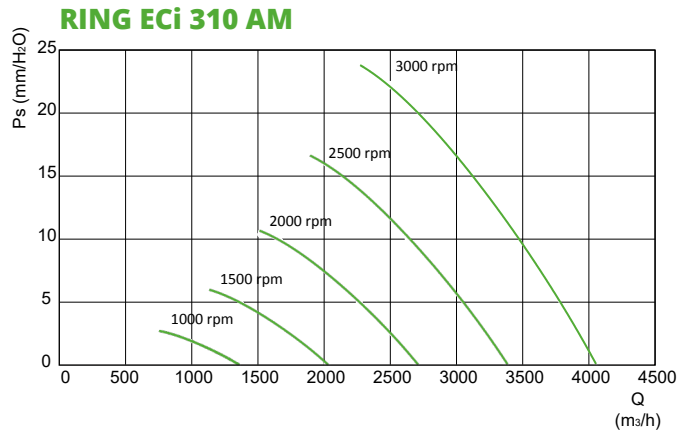
# RING ECI

## PERFORMANSE - PERFORMANCES

1 mm H<sub>2</sub>O = 9,8 Pa

Performanse prikazane na dijagramima odnose se na vazduh na temperaturi od 15°C i na nadmorskoj visini od 0 metara, a dobijene su u instalacijama tipa "D" u odsustvu mreže i pribora.

Performances shown in the selection diagrams refer to air at 15°C temperature and 0 mt a.s.l. altitude, and they were obtained in installation type "D" with no grid nor accessories.



# RING ECi

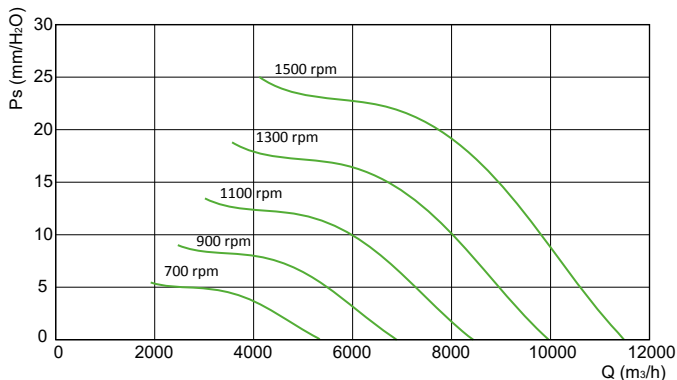
## PERFORMANSE - PERFORMANCES

1 mm H<sub>2</sub>O = 9,8 Pa

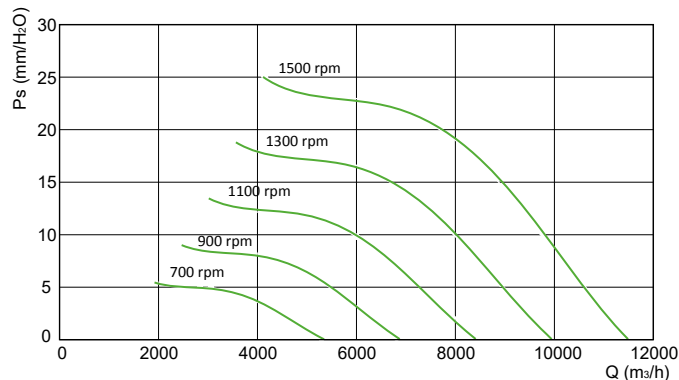
Performanse prikazane na dijagramima odnose se na vazduh na temperaturi od 15°C i na nadmorskoj visini od 0 metara, a dobijene su u instalacijama tipa "D" u odsustvu mreže i pribora.

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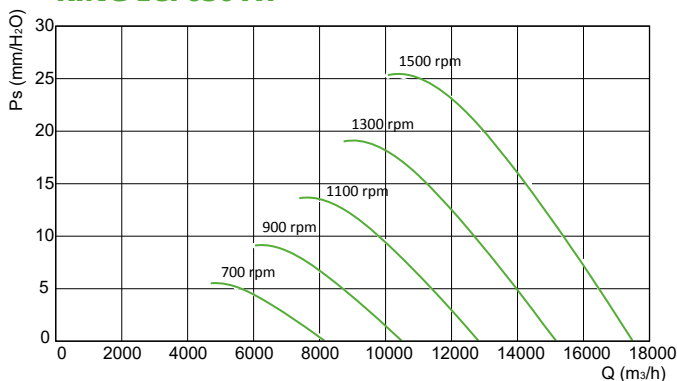
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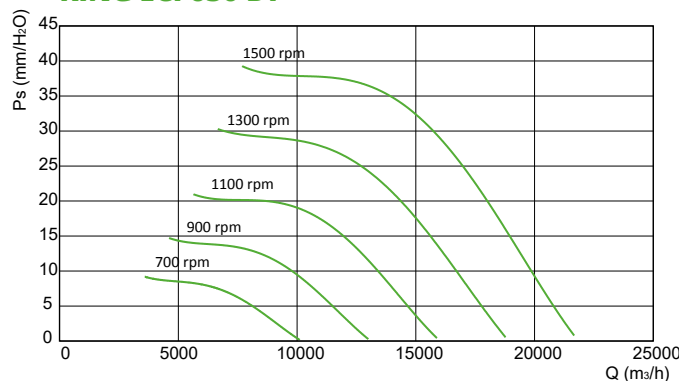
**RING ECi 560 AT**



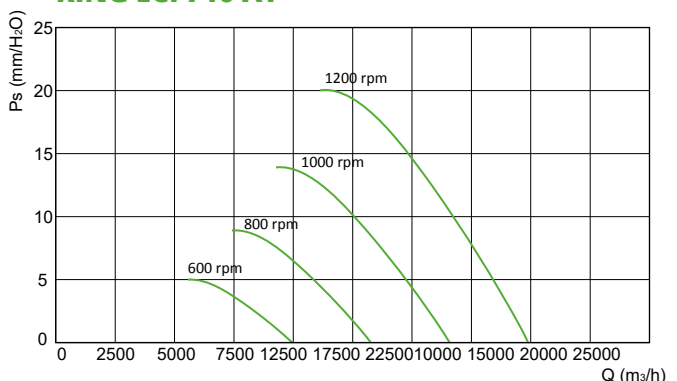
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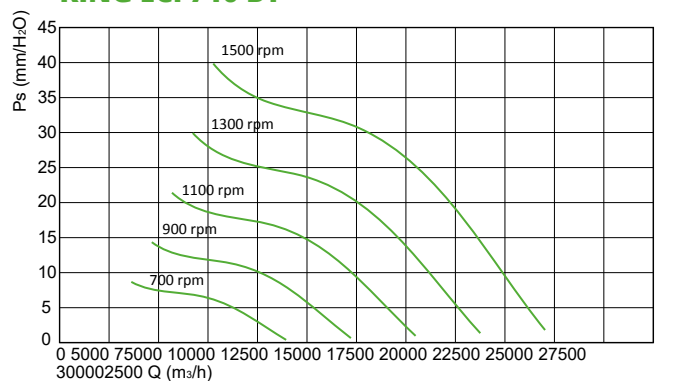
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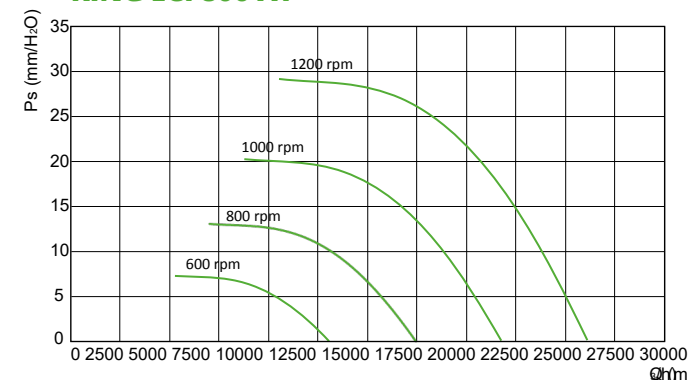
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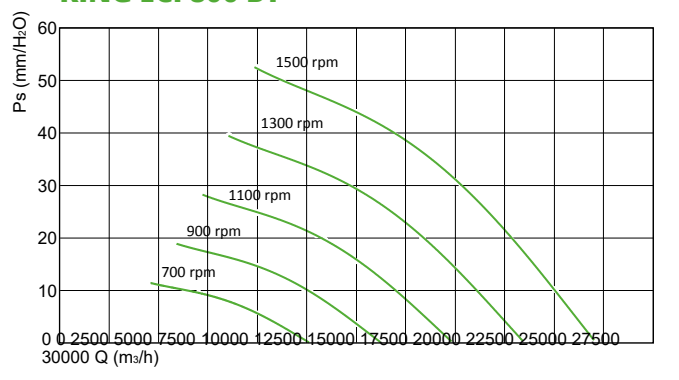
**RING ECi 710 BT**



**RING ECi 800 AT**



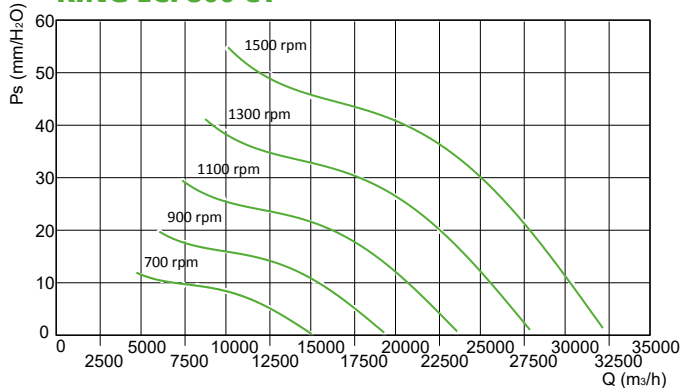
**RING ECi 800 BT**



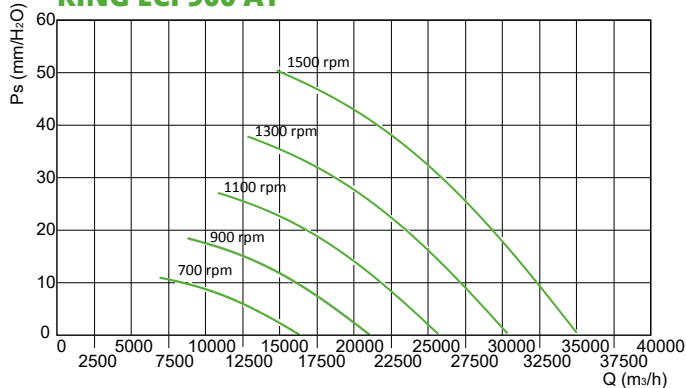
Performanse prikazane na dijagramima odnose se na vazduh na temperaturi od 15°C i na nadmorskoj visini od 0 metara, a dobijene su u instalacijama tipa "D" u odsustvu mreže i pribora.

Performances shown in the selection diagrams refer to air at 15°C temperature and 0 mt a.s.l. altitude, and they were obtained in in-stallation type "D" with no grid nor accessories.

### RING Eci 800 CT



### RING Eci 900 AT



**VAŽNO:** tokom upotrebe proverite da li apsorbovana struja nikada ne prelazi vrednost nominalne struje motora.

**VAŽNO:** tokom upotrebe nikada ne prekoračujte maksimalni broj obrtaja naveden u tabelama (\*).

**TOLERANCIJE:** performanse i nivoi zvučne snage u okviru tolerancija dozvoljenih standardom DIN 24166 za klasu 2.

**IMPORTANT:** during use check that the current absorbed never exceeds the value of the rated current of the motor.

**IMPORTANT:** during use never exceed the maximum RPM indicated in tables (\*).

**TOLERANCES:** performances and sound power levels within the tolerances allowed by the DIN 24166 standard for Class 2.

**Pm** = Snaga motora.

**Pr** = Snaga osovine pri maksimalnim obrtajima ventilatora

**In** = Asorbita tekuće materije

**RPM** = Maksimalna brzina okretanja ventilatora (ne sme se prekoračiti).

**Lp** = Nivo zvučnog pritiska u slobodnom polju na udaljenosti od 3 m

*Pm* = Power and speed motor

*Pr* = Shaft power at max fan RPM

*In* = Motor nameplate current

*RPM* = Maximum turning speed of the fan (not to be exceeded).

*Lp* = Sound pressure level in free field at 3 m distance

Model Model	Snabdevanje Supply	RPM fan max (*)	Pr (kW)	Pm motor (kW/RPM)	In max (Ams)	Lp (dB(A))
310 A M	230V/1ph	3000	0,35	0,55/3000	4,8	73
310 B M	230V/1ph	1800	0,15	0,37/1800	3,5	60
350 A M	230V/1ph	3000	0,47	0,55/3000	4,8	77
350 B M	230V/1ph	1800	0,24	0,37/1800	3,5	65
400 A M	230V/1ph	1800	0,28	0,37/1800	3,5	69
450 A M	230V/1ph	1800	0,36	0,37/1800	3,5	72
500 A M	230V/1ph	1500	0,63	0,75/1500	5,8	72
500 A T	400V/3ph	1500	0,63	0,75/1500	1,5	72
560 A M	230V/1ph	1500	0,74	0,75/1500	5,8	75
560 A T	400V/3ph	1500	0,74	0,75/1500	1,5	75
630 A T	400V/3ph	1500	1,4	1,5/1500	2,9	78
630 B T	400V/3ph	1500	2,9	3/1500	5,6	78
710 A T	400V/3ph	1200	1,2	1,5/1500	2,9	74
710 B T	400V/3ph	1500	2,3	3/1500	5,6	74
800 A T	400V/3ph	1200	2,5	3/1500	5,6	75
800 B T	400V/3ph	1500	2,9	3/1500	5,6	<b>80</b>
800 C T	400V/3ph	1500	3,8	4/1500	7,5	<b>81</b>
900 A T	400V/3ph	1500	3,7	4/1500	7,5	<b>87</b>

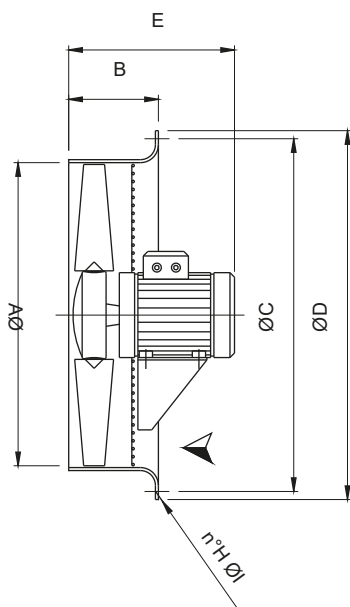
# RING ECI

## DIMENZIJE - DIMENSIONS

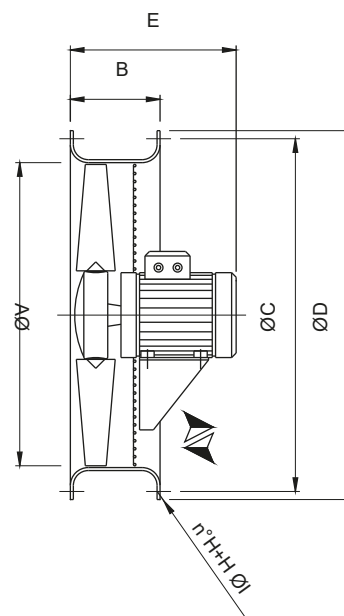
Model Model	ØA	B (sr)	B (dr)	B (dpr)	ØC	ØD	E (*)	ØF	ØG	n° H	ØI	n°L	ØM	Kg
31	310	135	150	150	365	390	380	355	390	4	8	8	10	17
35	360	135	150	150	430	455	380	395	430	4	8	8	10	18
40	410	135	150	150	480	510	365	450	480	4	10	8	12	19
45	460	150	150	150	535	560	365	500	530	4	10	8	12	22
50	510	150	150	150	590	620	440	560	595	8	10	12	12	26
56	570	180	180	180	645	680	460	620	655	8	10	12	12	30
63	640	180	180	180	720	750	470	690	725	8	10	12	12	49
71	710	180	180	180	780	816	470	770	805	8	12	16	12	53
80	810	200	200	200	880	915	520	860	900	8	12	16	12	60
90	910	250	250	250	980	1015	550	970	1010	16	12	16	16	63

Dimenzionalne tolerancije u ± 5 mm - Dimensional tolerances ± 5 mm

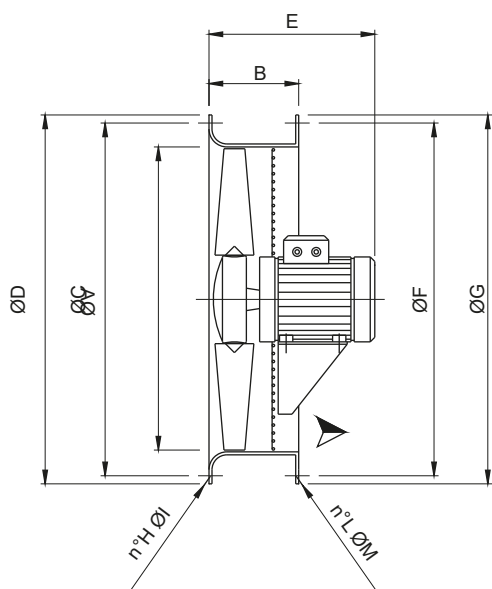
### RING ECI sr



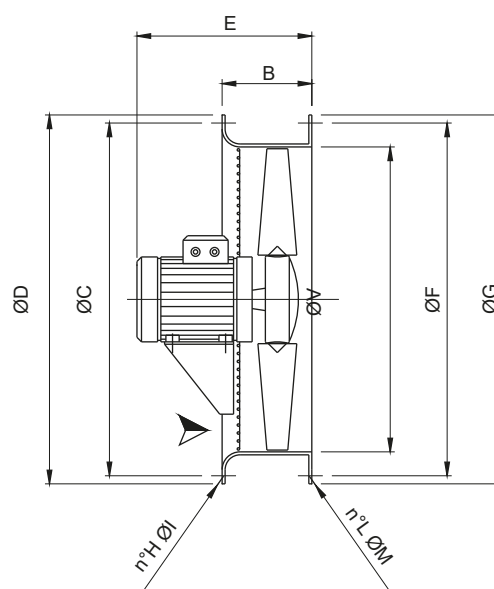
### RING ECI dr



### RING ECI drp-m



### RING ECI drp-g



**RING ECI****NIVO BUKE - NOISE LEVEL**

Modello Model	63	125	250	500	1k	2k	4k	8k	Total
	Hz								
310 A M	55	64	62	66	67	65	59	49	73
310 B M	42	51	49	53	54	52	46	36	60
350 A M	59	68	66	70	71	69	63	53	77
350 B M	47	56	54	58	59	57	51	41	65
400 A M	51	60	58	62	63	61	55	45	69
450 A M	54	63	61	65	66	64	58	48	72
500 A M	54	63	61	65	66	64	58	48	72
500 A T	54	63	61	65	66	64	58	48	72
560 A M	57	66	64	68	69	67	61	51	75
560 A T	57	66	64	68	69	67	61	51	75
630 A T	59	68	66	70	71	69	63	53	77
630 B T	60	69	67	71	72	70	64	54	78
710 A T	56	65	63	67	68	66	60	50	74
710 B T	57	66	64	68	69	67	61	51	75
800 A T	57	66	64	68	69	67	61	51	75
800 B T	62	71	69	73	74	72	66	56	80
800 C T	63	72	70	74	75	73	67	57	81
900 A T	69	78	76	80	81	79	73	63	87

**SRC 10: REGULATOR - REGULATOR****KONTROLIRAJUĆI  
POTENCIOMETAR**

(regulator brzine) sa izlazom  
0-10V i integrisanim  
prekidačem  
UKLJUČENO/ISKLJUČENO  
(suvi kontakt).

**CONTROL POTENTIOMETER**  
(speed regulator) with 0-10V  
output and integrated ON /  
OFF switch (dry contact).

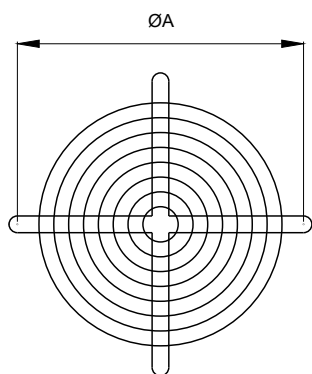


# RING ECI

## PRIBOR - ACCESSORIES

### ZAŠTITNI ŠTITNIK SA STRANE IMPELERA: FPG-RI

Koristi se da bi se sprečio ulazak ptica ili pacova sa strane impelera i da bi se zaštitio od slučajnog kontakta sa rotirajućim impelerom. Proizvodi se od čelične šipke u skladu sa važećim bezbednosnim direktivama. Mora se navesti ako je potrebno za RING-sr (PG-P/RIsr) ili RING-dr (FPG-RI dr). (Neophodno za upotrebu na otvorenom vazduhu).



### IMPELLER SIDE PROTECTION GUARD: FPG-RI

To be used to avoid the intrusion, from the impeller side, of birds or rats and to preserve from the casual contact with the rotating impeller. It is manufactured in steel rod according to the actual safety directive. Shall be specified if required for RING-sr (PG-P/RIsr) or RING-dr (FPG-RI dr). (Necessary for use in free air).

Model Model	ØA	kg
FPG-RI 31	355	0,6
FPG-RI 35	395	0,7
FPG-RI 40	450	0,9
FPG-RI 45	500	1
FPG-RI 50	560	1,3
FPG-RI 56	620	1,5
FPG-RI 63	690	1,8
FPG-RI 71	770	2,5
FPG-RI 80	860	3
FPG-RI 90	970	4

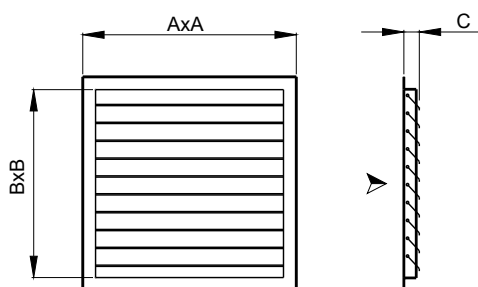
### GRAVITACIONI ZATVOR: SG I SG-HP

Rebra zatvarača se otvaraju kretanjem vazduha kada ventilator radi, a zatvaraju se gravitacijom kada se isključi, sprečavajući raspršivanje toplote, ulazak kiše, vetra i ptica. Napravljeno od plastike (SG) ili čeličnog lima i plastike (SG-HP).

### GRAVITY SHUTTER: SG AND SG-HP

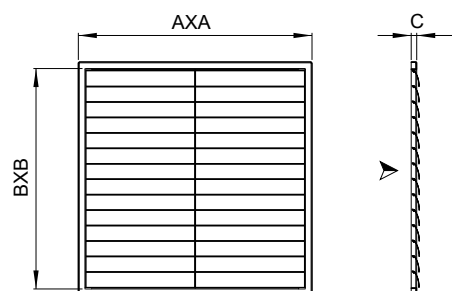
The fins of the shutter are opened by the air movement when the fan is operating and they shutdown by gravity when it is switched off, avoiding heat dispersions, the intrusion of rain, wind and birds. Made in plastic material (SG) or steel sheet and plastic material (SG-HP).

#### SG: ZATVARAČ GRAVITY SHUTTER



Model Model	A	B	C	kg	* V max
SG 31	370	300	35	0,6	20
SG 35	440	370	35	0,8	18
SG 40-45	510	440	35	1	15
SG 50	580	510	35	1,2	13
SG 56	650	580	35	1,6	11

#### SG-HP: ZATVARAČ GRAVITY SHUTTER



Model Model	A	B	C	kg	* V max
SG-HP 63	720	650	35	3,2	25
SG-HP 71	785	715	35	3,6	22
SG-HP 80	920	850	25	6,8	19
SG-HP 90	960	900	25	9	19

\* PAŽNJA: ne prekoračujte naznačenu brzinu vazduha (m/s)

\* ATTENTION: don't exceed the indicated air speed (m/s)