



klima celje

INDUSTRija AEROTERMIČNIH NAPRAV D.D.



04/2013



**SVK2
EX SVK2**



SWV2



SVH2

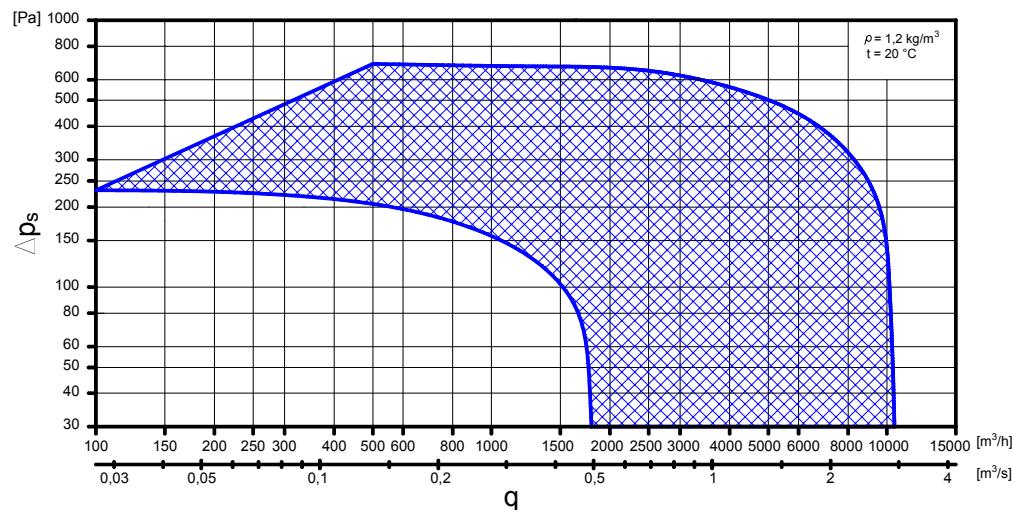
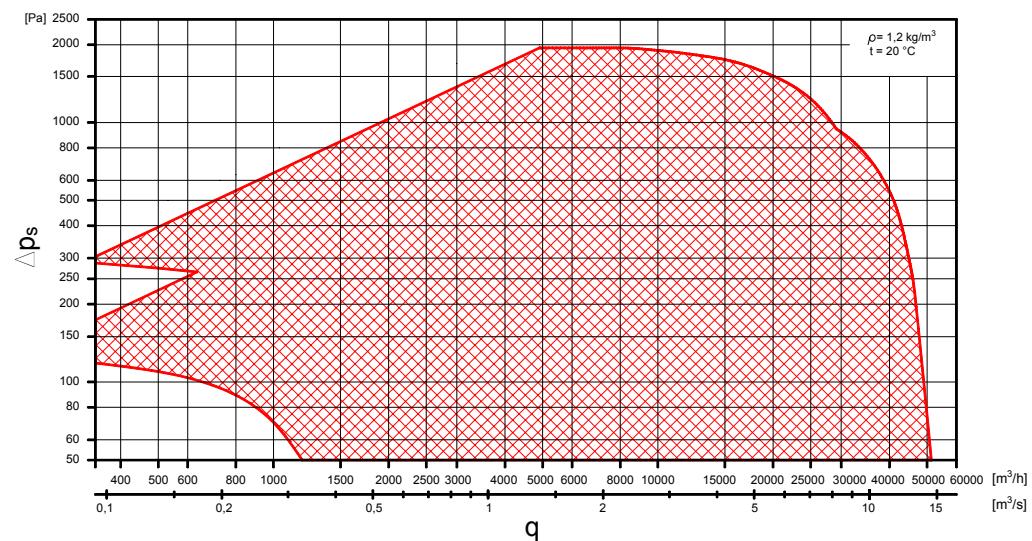
STREŠNI VENTILATORJI ROOF FANS

KAZALO

IZBIRNI DIAGRAM SVH2/SVV2	1
IZBIRNI DIAGRAM SVK2/EX SVK2	1
STREŠNI VENTILATORJI SVH2 in SVV2	2
Označevanje	2
Dimenzijs	3
Tehnični podatki	3
STREŠNI VENTILATORJI SVK2	5
Označevanje	5
Dimenzijs	6
Tehnični podatki	7
STREŠNI VENTILATORJI EX SVK2	10
Označevanje	11
Dimenzijs	11
Tehnični podatki	12
DODATNA OPREMA	13
ELEKTRIČNA OPREMA	14
VEZALNE SHEME	22
PRIMERI VGRADNJE	25
POPISNI TEKST SVH2, SVV2	26
POPISNI TEKST SVK2	27
POPISNI TEKST EX SVK2	28

TABLE OF CONTENT

GENERAL SELECTION SVH2/SVV2	1
GENERAL SELECTION SVK2/EX SVK2	1
ROOF FANS TYPE SVH2 and SVV2	2
Designation	2
Dimensions	3
Technical data	3
ROOF FANS TYPE SVK2	5
Designation	5
Dimensions	6
Technical data	7
ROOF FANS TYPE EX SVK2	10
Designation	11
Dimensions	11
Technical data	12
ACCESSORIES	13
ELECTRIC EQUIPMENT	14
WIRING DIAGRAMS	22
MOUNTING EXAMPLES	25
SPECIFICATION SVH2, SVV2	26
SPECIFICATION SVK2	27
SPECIFICATION EX SVK2	28

IZBIRNI DIAGRAM SVH2/SVV2

GENERAL SELECTION SVH2/SVV2
IZBIRNI DIAGRAM SVK2/EX SVK2

GENERAL SELECTION SVK2/EX SVK2

STREŠNI VENTILATORJI SVH2 in SVV2

Uporaba

Strešni ventilatorji tip **SVH2** s horizontalnim in **SVV2** z vertikalnim izstopom so namenjeni za vgradnjo v sisteme prezračevanja bivalnih, poslovnih in industrijskih prostorov, delavnic, garaž, sanitarij in drugih prostorov za zrak brez agresivnih primes z manjšo vsebnostjo prahu.

Tehnični opis

V ventilatorje so vgrajeni centrifugalni tekači z nazaj zakrivljenimi lopaticami, ki zagotavljajo visoke izkoristke in nizko šumnost. Skupaj z motorjem so dinamično uravnoteženi v razredu G 6,3 po standardu ISO 1940-1. Vpetje motorja s tekačem na ohišje je preko amortizerjev, tako da je zagotovljeno dušenje vibracij znotraj ventilatorja. Temeljna plošča s sesalnim lijakom zagotavlja minimalne vstopne izgube, vijaki na plošči pa enostaven priključek vse dodatne opreme na sesalni strani.

Zaščitna kapa pri SVH2 in zunanji okrov pri SVV2 sta izdelana iz Al pločevine. Obe izvedbi sta opremljeni z zaščitno mrežo, ki preprečuje dotik in vstop živali, listja in drugih tujkov v ventilator.

Obratovanje ventilatorjev je zanesljivo, servisni intervali so dolgi, vzdrževanje je enostavno in poceni.

Temperaturno območje obratovanja:

- temperatura okolice: -15 do 50°C
- temperatura medija: -15 do 50°C

Pogon

Ventilatorji tipa SVH2 in SVV2 imajo vgrajene elektromotorje z zunanjim rotorjem.

Standardni elektromotorji za velikosti 250/200 in 315/250 so enofazni, eno hitrostni, 230V; 50Hz, z vgrajeno neposredno termično zaščito v navitju.

Ventilatorji velikosti 400/315 do 560/500 imajo vgrajene trifazne elektromotorje 3x400V, 50Hz z dvema hitrostma vrtenja in vgrajenimi termo kontakti, ki morajo biti priključeni na zunanjé preobremenitveno zaščito v stikalih ali regulatorjih. Zaščita vseh motorjev je IP 44. Vklop, izklop in regulacija vrtljajev ventilatorja je možna z eno ali dvostopenjskim stikalom in petstopenjskim regulatorjem.

Dodatna oprema

Standardna dodatna oprema so elastični priključki, samodvižne lopute, strešni podstavki in dušilci zvoka.

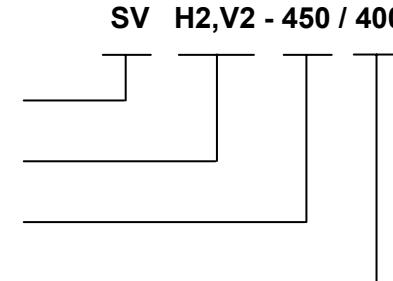
Označevanje

strešni ventilator
roof fan

horizontalni ali vertikalni izstop
horizontal or vertical outlet

nazivna velikost
fan size

premer sesalnega priključka
inlet diameter



ROOF FANS TYPE SVH2 and SVV2

Use

Roof fans SVH2 type with horizontal outlet and SVV2 type with vertical outlet are suitable for ventilation systems of industrial buildings, workshops, garages, apartment blocks, lavatories, shopping malls and other large spaces for the transport of dust free air and other non-aggressive gases.

Technical description

Fans have impellers with back-curved blades, which assure good efficiency ratio and low noise level. Impeller and electromotor are dynamically balanced in G 6.3 class by ISO 1940-1. Electromotor with impeller are mounted on the fan casing through the shock absorbers, which assure vibrations dampening inside a fan casing.

Base plate with inlet funnel enables minimal entry losses. Screws on the base plate ensure easy connection of all additional inlet accessories.

Protective caps at SVH2 and external casings at SVV2 are made of Al sheet metal. Impellers of both designs are protected against touch with safety mesh. Mesh also prevents animals, leaves or other larger parts to enter the fan.

Fans ensure long lasting operation, with long service intervals, for low cost operation and maintenance.

Temperature range:

- ambient temperature: -15 do 50°C
- temperatura medija: -15 do 50°C

Drive

Roof fans type SVH2 and SVV2 have electric motors with external rotor.

Standard motors for sizes 250/200 and 315/250 are mono-phase, one-speed, 230V/50Hz, with integrated thermal protection.

Roof fans sizes from 400/315 to 560/500 have three-phase, two-speed, 400V/50Hz motors with thermal protection sensors (TK). Sensor leads must be connected to the external protective device in switchboxes or speed controllers. All electromotors have IP 44 protection. Start, stop and RPM regulation of the fan is possible with one or two speed switch and five speed regulator.

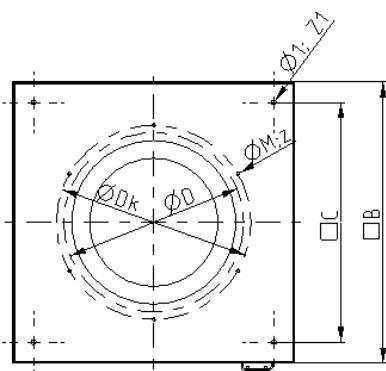
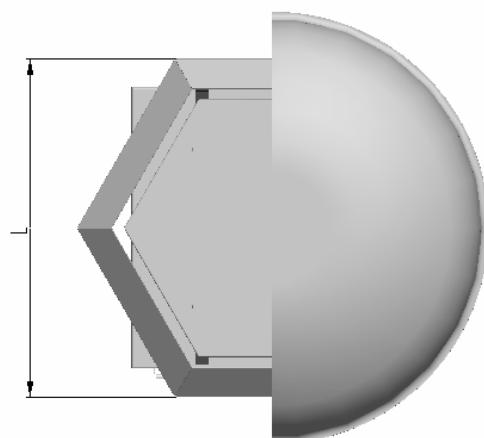
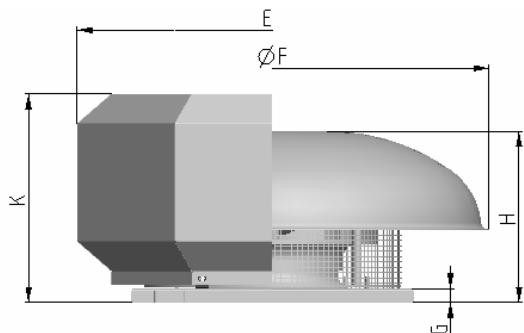
Accessories

Standard accessories are flexible connections, back draft shutters, roof upstands and silencers.

Designation

SVV2

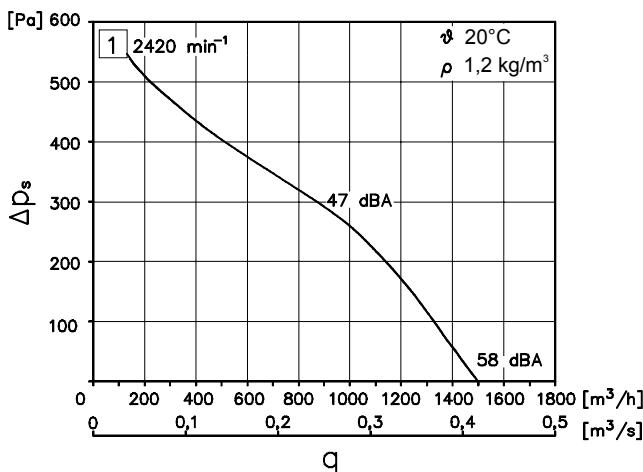
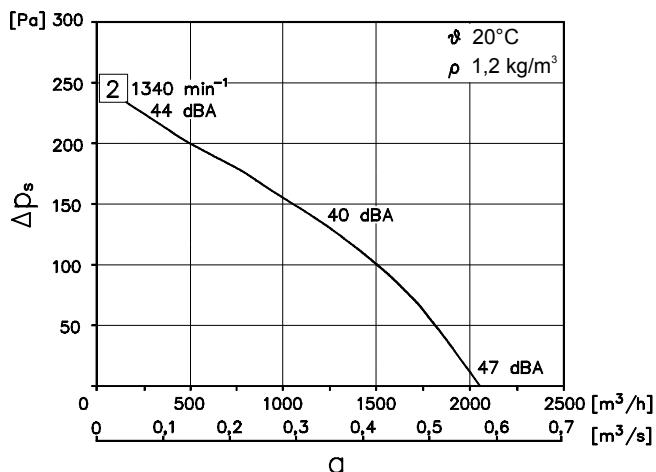
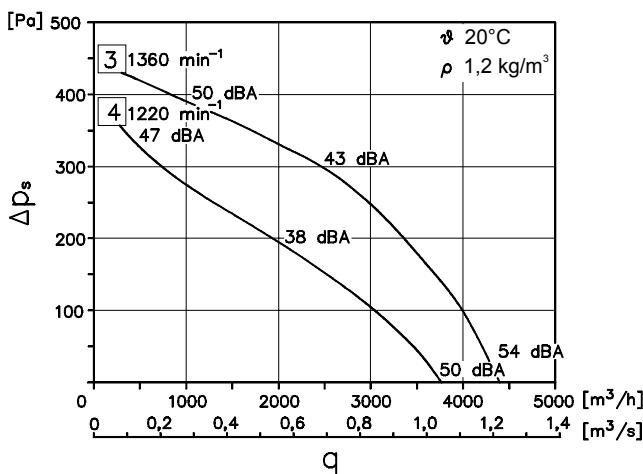
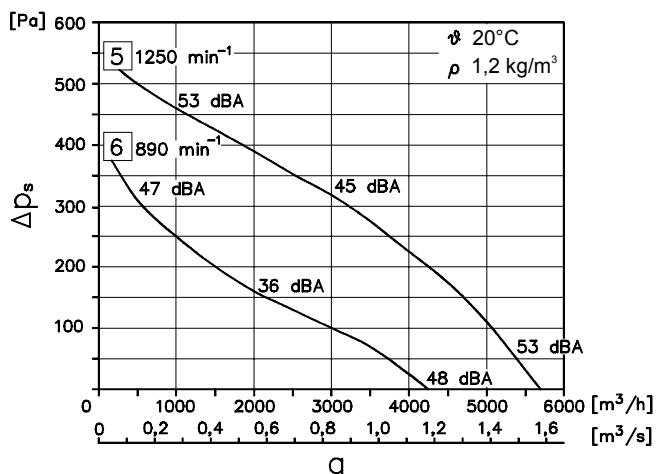
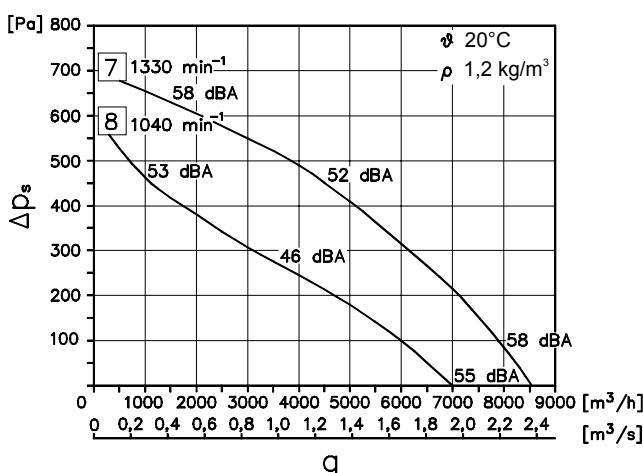
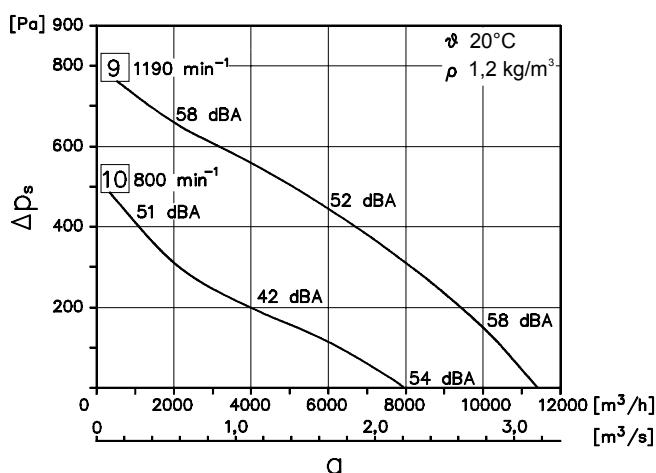
SVH2

**Dimenzijs****Dimensions**

Tip SVH2, SVV2 Type SVH2, SVV2	ϕ_D	ϕ_{Dk}	$\square B$	$\square C$	E	L	ϕ_F	G	H	K	$z; M$	ϕ_1	z_1
250/200	200	235	400	330	580	502	540	30	245	280	6xM6	$\phi 12$	4
315/250	250	286	500	430	680	589	740	30	335	355	6xM6	$\phi 12$	4
400/315	315	356	560	480	780	675	740	30	385	430	8xM8	$\phi 12$	4
450/400	400	438	630	540	880	762	975	30	395	470	6xM8	$\phi 12$	4
500/450	450	487	710	610	980	849	975	30	465	520	6xM8	$\phi 14$	4
560/500	500	541	800	700	1100	953	1100	30	500	560	6xM8	$\phi 14$	4

Tehnični podatki**Technical data**

Tip SVH2, SVV2 Type SVH2, SVV2	Tip EM Type of EM	Vrtljaji RPM [min ⁻¹]	Nazivna moč Power [kW]	Nazivni tok Current [A]	Napetost Voltage [V]	Teža Weight [kg]	Številka Number
250/200	RH25V-2EP	2420	0,2	0,86	230V; 50Hz	9	1
315/250	RH31V-4EP	1240	0,14	0,62	230V; 50Hz	16	2
400/315	RH40V-4DK	1360	0,45	1,05	3x400V; 50Hz	21	3/4
450/400	RH45V-4DK	1360	0,75	1,55	3x400V; 50Hz	28	5/6
500/450	RH50V-4DK	1360	1,2/0,83	2,2/1,4	3x400V; 50Hz	48	7/8
560/500	RH56V-VDK	1340/1070	2,1/1,4	4,2/2,4	3x400V; 50Hz	57	9/10

SVH2 - 250/200**SVV2 - 250/200****SVH2 - 315/250****SVV2 - 315/250****SVH2 - 400/315****SVV2 - 400/315****SVH2 - 450/400****SVV2 - 450/400****SVH2 - 500/450****SVV2 - 500/450****SVH2 - 560/500****SVV2 - 560/500**

OPOMBA: Zvočni tlak L_{pA} [dBA] je podan za SVH2. Definiran je 4m bočno, na izstopni strani in 4m pod sesalno odprtino pri faktorju usmerjenosti $Q=2$. Korekcija zvočnega tlaka na tlačni strani za tip SVV2 znaša -2 dBA.

NOTE: Sound pressure L_{pA} [dBA] is for SVH2. It is defined sideways on 4m distance on an outlet side and 4m under suction side with directivity factor $Q=2$.

Sound pressure correction on pressure side for type SVV2 is -2 dBA.

STREŠNI VENTILATORJI SVK2

Uporaba

Strešni ventilatorji tipa **SVK2** z vertikalnim izstopom in s klasičnim trifaznim elektromotorjem so namenjeni za vgradnjo v prezračevalne sisteme industrijskih in drugih prostorov, garaž, pralnic, sanitarij, kuhinjskih nap, za zrak z večjo vlažnostjo in onesnaženostjo do temperaturre 120°C. Dosegajo pretoke do 50.000 m³/h in tlake do 2000 Pa.

Tehnični opis

V ventilatorje so vgrajeni centrifugalni tekači z nazaj zakriviljenimi lopaticami varjene izvedbe, ki zagotavljajo visoke izkoristke in nizko šumnost. Statično in dinamično so uravnoteženi v razredu G 6,3 po ISO 1940-1. Vpetje motorja s tekačem na ohišje je preko amortizerjev, tako da je zagotovljeno dušenje vibracij znotraj ventilatorja.

Temeljna plošča s sesalnim lijakom zagotavlja minimalne vstopne izgube, vijaki na plošči pa omogočajo enostavno vgradnjo vse dodatne opreme na sesalne strani.

Zunanji okrov je izdelan iz Al pločevine. Ventilator je opremljeni z zaščitno mrežo, ki preprečuje dotik in vstop živali, listja in drugih tujkov v ventilator.

Obratovanje ventilatorjev je zanesljivo, servisni intervali so dolgi, vzdrževanje je enostavno in poceni.

Temperaturno območje obratovanja:

- temperatura okolice: -20 do 50°C
- temperatura medija: -20 do 120°C

Pogon

Ventilatorji tipa SVK2 imajo vgrajene standardne trifazne elektromotorje 3x400V; 50 Hz; IP 55, IM V1. Za vsako velikost ventilatorja lahko izbiramo med eno-histrotnimi in dvo-histrotnimi elektromotorji. Motorji so opremljeni s PTC tipali za termično zaščito. Vklop, izklop, in regulacija vrtljajev ventilatorja je možna z dvostopenjskim stikalom ali frekvenčnim pretvornikom, odvisno od moči motorja.

Dodatna oprema

Standardna dodatna oprema so elastični priključki, samodvižne lopute, strešni podstavki in dušilci zvoka.

Posebne izvedbe

Nudimo tudi posebne izvedbe SVK2 po zahtevah naročnika. Standardna ponudba so strešni ventilatorji za vgradnjo v eksplozjsko ogrožene cone v **Ex** izvedbi (str. 10), in ventilatorji **ODT-SVK2** za odvod dima in toplote za F400 po EN12101-3 (prospekt ODT-SVK).

Označevanje

strešni ventilator s klasičnim EM
roof fan with classic electromotor
nazivna velikost
fan size
premer sesalnega priključka
inlet diameter
število polov trifaznega EM
number of poles three-phase EM

ROOF FANS TYPE SVK2

Use

Roof fans type **SVK2** with vertical outlet and three phase IEC electromotors are designed for ventilation systems of industrial buildings, kitchen hoods, workshops, garages, laundries and lavatories for air with increased humidity and pollution. Max air temperature is 120°C. Fans are designed for airflow range up to 50.000 m³/h and pressure 2000 Pa.

Technical description

Fans have welded impellers with back-curved blades, which assure good efficiency ratio and low noise level. They are dynamically balanced in G 6.3 class according ISO 1940-1. Electromotor with impeller are mounted on the fan casing through the shock absorbers, which assure vibrations dampening inside a fan casing.

Base plate with inlet funnel enables minimal entry losses. Screws on the base plate ensure easy connection of all additional inlet accessories.

External casings are made of Al sheet metal. Impellers are protected against touch with safety mesh. Mesh also prevents animals, leafs or other larger parts to enter the fan. Fans ensure long lasting operation with long service intervals - low cost operation and maintenance.

Temperature range:

- ambient temperature: -20 to 50°C
- temperatura medija: -20 to 120°C

Drive

SVK2 type roof fans have integrated standard three-phase electro motors 3x400V; 50Hz, IP55, IM V1.

For each fan size it is possible to select electromotor between one and two-speed speed. Motors are also equipped with PTC sensors for thermal protection. Start, stop and RPM regulation of the fan is possible with two speed switch or frequency converter, depending of the electromotor power.

Accessories

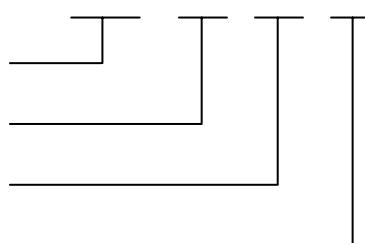
Standard accessories are flexible couplings, back draft shutters, roof upstands and silencers.

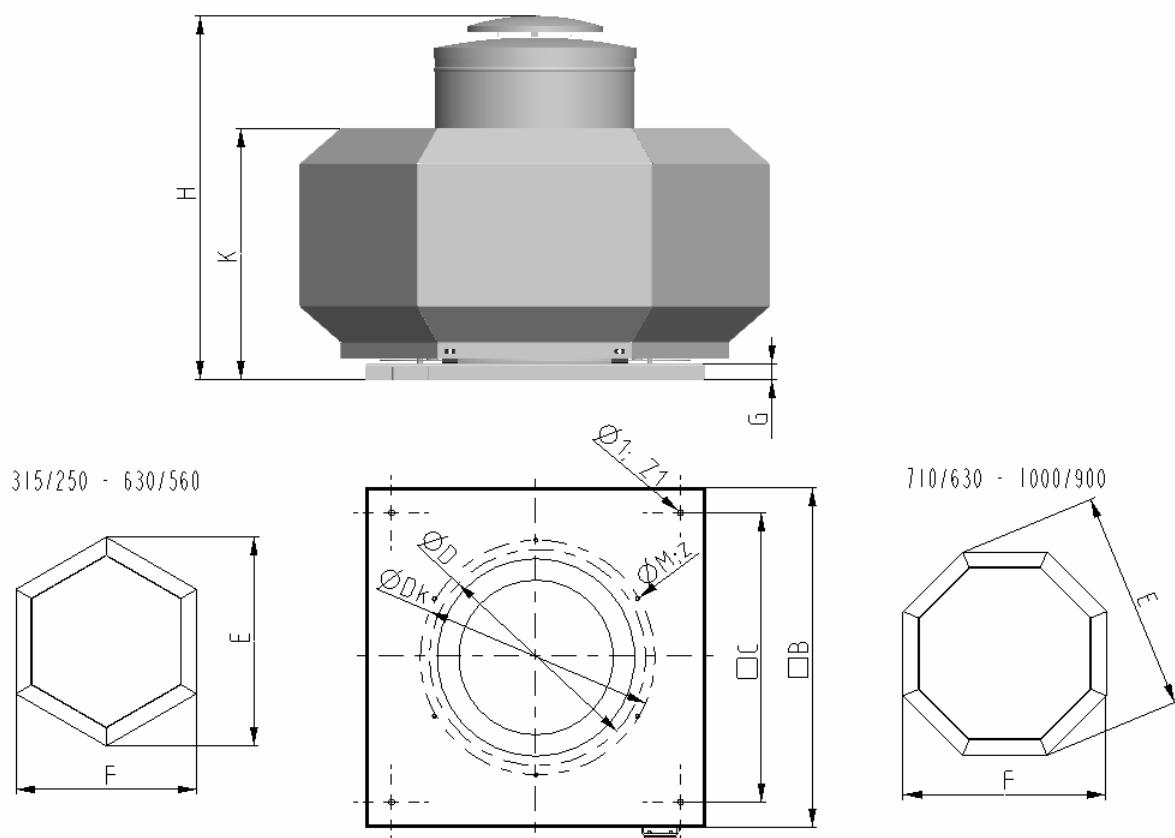
Special design

We also produce special SVK2 designs by costumer's demand. Standard designs in production are roof fans for hazardous areas - **Ex** design (pg. 10) and **ODT-SVK2** roof fans - for smoke and heat extraction class F400 according to EN12101-3 (brochure ODT-SVK).

Designation

SVK2 - 450 / 400 – 4/6



Dimenzijs
Dimensions


SVK2	ØD	ØDK	□B	E	F	G	H	K	M	Z	□C	Ø1	z1
315/250	250	286	500	680	589	40	570	365	M6	6	430	Ø12	4
400/315	315	356	560	780	675	40	640	440	M8	8	480	Ø12	4
450/400	400	438	630	880	762	40	690	480	M8	6	540	Ø12	4
500/450	450	487	710	980	849	40	730	530	M8	6	610	Ø14	4
560/500	500	541	800	1100	953	40	780	570	M8	6	700	Ø14	4
630/560	560	605	900	1315	1140	40	960	785	M10	8	780	Ø14	4
710/630	630	674	1000	1407	1300	50	1060	845	M10	8	880	Ø18	4
800/710	710	751	1120	1612	1490	50	1190	950	M10	8	1000	Ø18	4
900/800	800	837	1250	1785	1650	50	1240	1000	M10	12	1100	Ø22	4
1000/900	900	934	1400	2002	1850	50	1300	1060	M10	12	1250	Ø22	4

Tehnični podatki
Technical data

Tip Fan type SVK2	El. motor 3x400 V, 50Hz; IP 55; PTC				Ventilator Fan		
	n [min ⁻¹]	P [kW]	I _n [A]	Velikost Size	q _{max} [m ³ /h]	Teža Weight [kg]	Številka Number
				IEC			
315/250-4	1400	0,25	0,74	71 A	2300	28	1
315/250-6	915	0,18	0,66	71 A	1500	28	2
315/250-4/6	1400 / 950	0,18 / 0,07	0,72	71 A	2300 / 1500	28	1 / 2
400/315-4	1405	0,55	1,48	80 K	4700	37	3
400/315-6	910	0,37	1,17	80 K	3100	37	4
400/315-4/6	1420 / 965	0,6 / 0,2	1,69 / 1,02	80 K	4700 / 3100	37	3 / 4
400/315-4/8	1380 / 685	0,6 / 0,12	1,72 / 0,75	80 K	4700 / 2400	37	3 / 5
450/400-4	1385	1,1	2,7	90 S	6700	51	6
450/400-6	910	0,37	1,17	80 K	4500	51	7
450/400-4/6	1435 / 965	1,0 / 0,35	3,13 / 1,36	90 S	6700 / 4500	51	6 / 7
450/400-4/8	1395 / 705	1,4 / 0,30	3,63 / 1,21	90 S	6700 / 3300	51	6 / 8
500/450-4	1410	1,5	3,5	90 L	9100	63	9
500/450-6	900	0,55	1,77	80 G	6100	60	10
500/450-4/6	1420 / 935	1,5 / 0,4	4,63 / 1,46	90 L	9100 / 6200	63	9 / 10
500/450-4/8	1395 / 705	1,4 / 0,30	3,63 / 1,21	90 S	9100 / 4400	63	9 / 11
560/500-4	1425	3,0	6,40	100 LX	13300	85	12
560/500-6	930	1,5	4,0	100 L	8700	85	13
560/500-4/6	1420 / 965	3,0 / 1,0	7,8 / 2,88	112 M	13300 / 8700	90	12 / 13
560/500-4/8	1420 / 690	2,8 / 0,7	6,3 / 2,42	100 LX	13300 / 6500	90	12 / 14
630/560-4	1455	5,5	10,8	132 S	19300	130	15
630/560-6	940	2,2	5,12	112 M	12900	130	16
630/560-4/6	1455 / 975	6,0 / 2,2	11,8 / 5,66	132 M	19300 / 12900	140	15 / 16
630/560-4/8	1445 / 740	5,0 / 1,2	11,8 / 5,66	132 S	19300 / 9600	140	15 / 17
710/630-4S	1450	7,5	14,3	132 M	23700	250	18
710/630-4	1450	11,0	20,9	160 M	27500	250	20
710/630-6	970	3,0	7,0	132 S	18300	240	21
710/630-4/6	1465 / 975	10,0 / 3,3	21,1 / 8,4	160 M	27500 / 18300	280	20 / 21
710/630-4/8	1450 / 730	10,0 / 2,5	20,2 / 6,6	160 M	27500 / 13800	280	20 / 22
800/710-4	1460	15	28,1	160 L	39500	390	23
800/710-6	970	5,5	12,0	132 MX	26000	340	24
800/710-4/6	1475 / 985	16,0 / 5,4	30,5 / 13,9	180 M	39500 / 26000	390	23 / 24
800/710-4/8	1470 / 730	16,0 / 4,5	29,9 / 11,0	180 M	39500 / 19700	390	23 / 25
900/800-6	965	7,5	15,8	160 M	37000	410	26
900/800-8	715	4,0	9,3	160 M	27500	400	27
900/800-6/8	980 / 740	8,0 / 3,0	19,0 / 8,2	160 L	37000 / 27500	430	26 / 27
1000/900-6S	970	11,0	22,4	160 L	43200	520	28
1000/900-8S	720	5,5	12,4	160 MX	32000	500	29
1000/900-6	975	15,0	29,4	180 L	52000	520	30
1000/900-8	725	7,5	16,3	160 L	38000	500	31

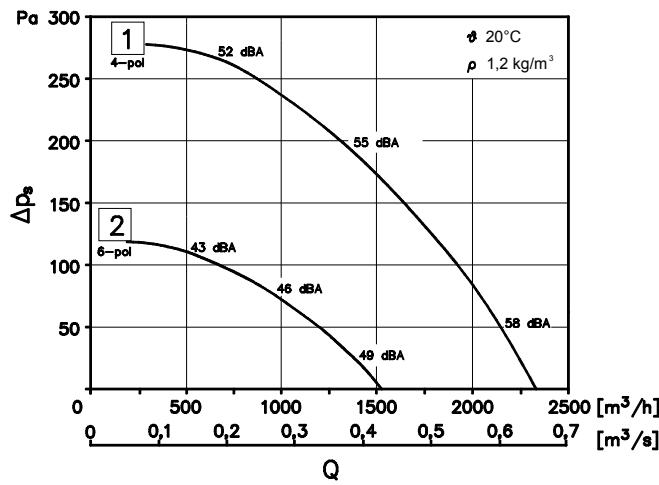
Motorje z drugimi vrtljaji in električnimi parametri nudimo na zahtevo kupca.

Motors with different RPM and electrical parameters are offered on customer's request.

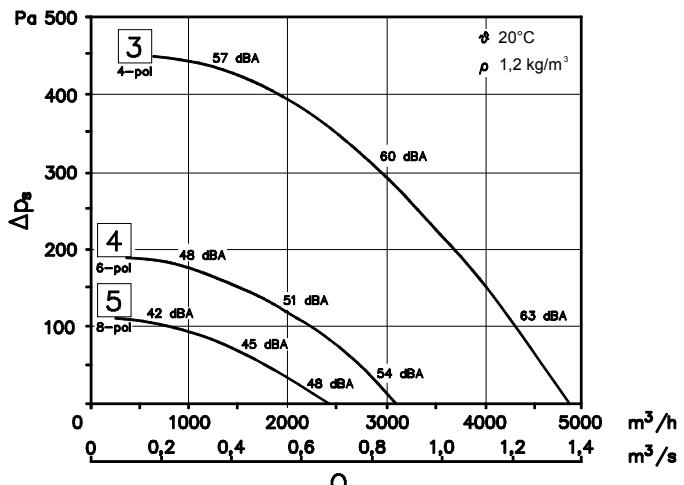
Motorji za Ex izvedbo so podani v posebni tabeli pri tipu EX SVK2 (stran 12).

Motors for Ex design are specified at EX SVK2 fan type (page 12).

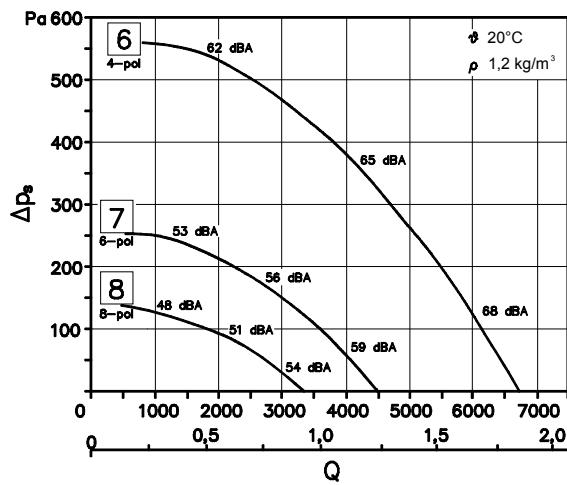
SVK2 - 315/250 EX SVK2 - 315/250



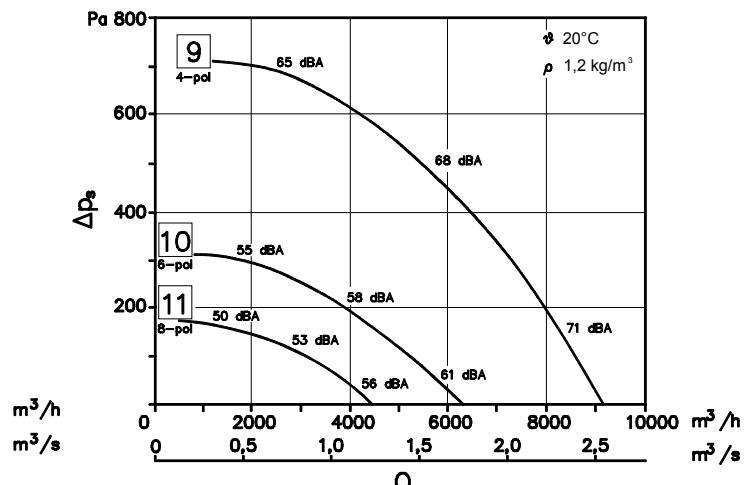
SVK2 - 400/315 EX SVK2 - 400/315



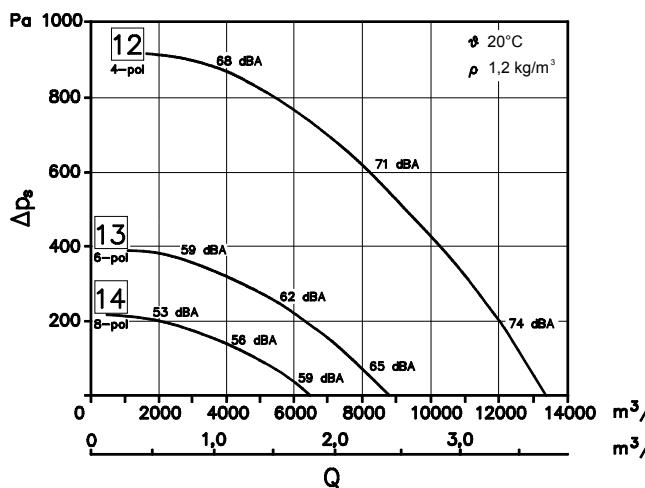
SVK2 - 450/400 EX SVK2 - 450/400



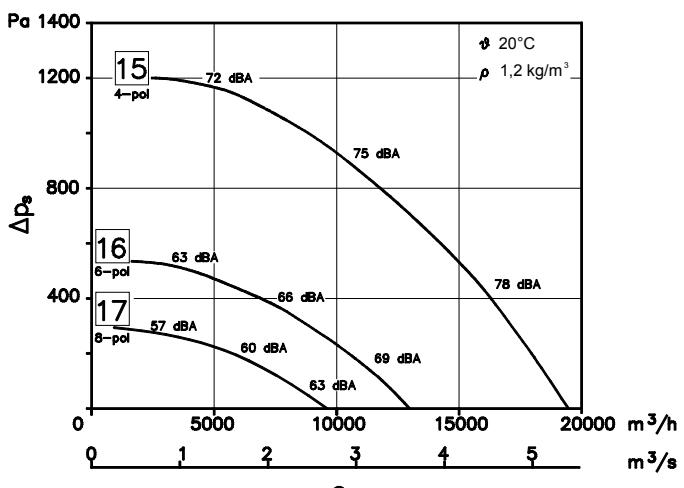
SVK2 - 500/450 EX SVK2 - 500/450

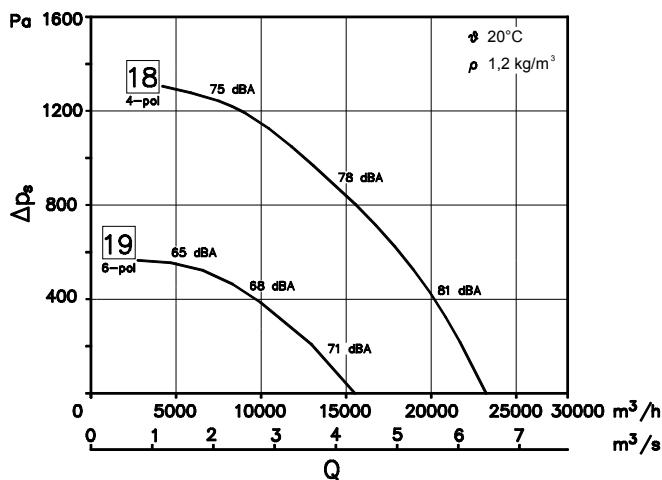
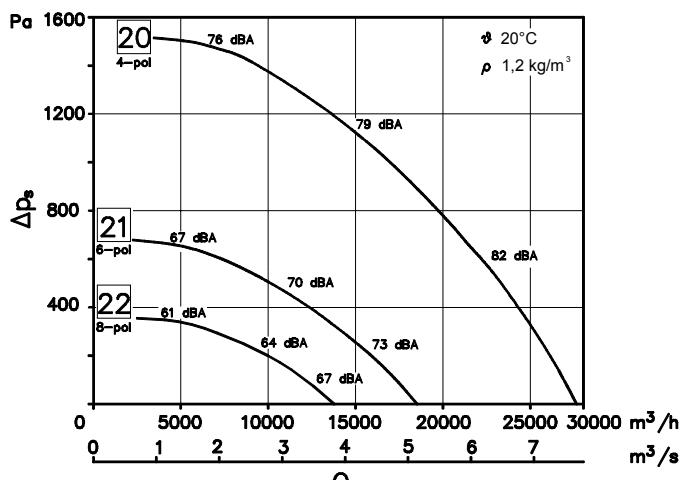
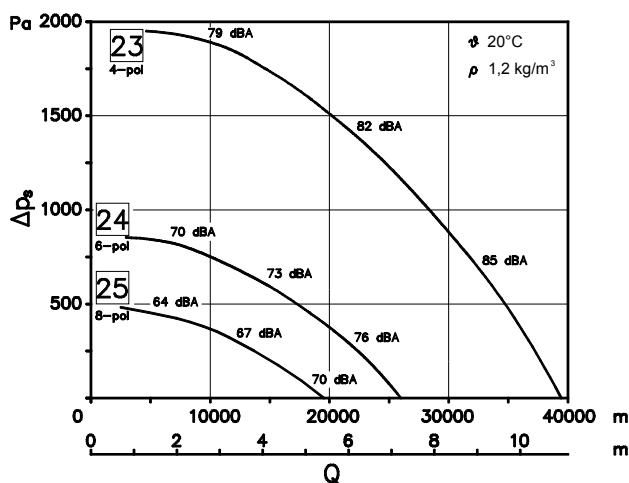
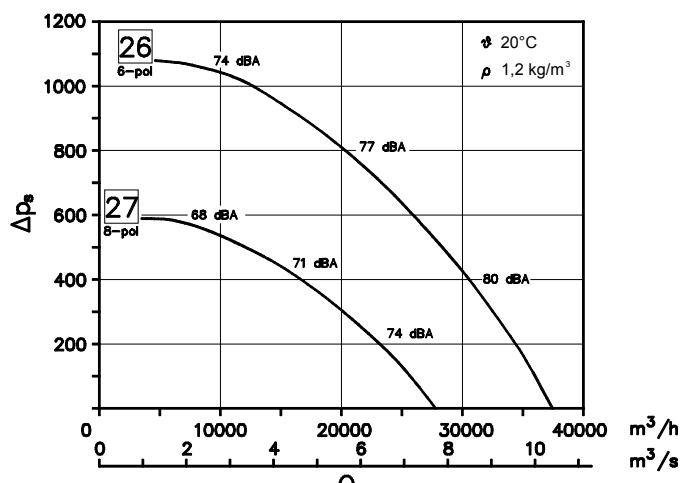
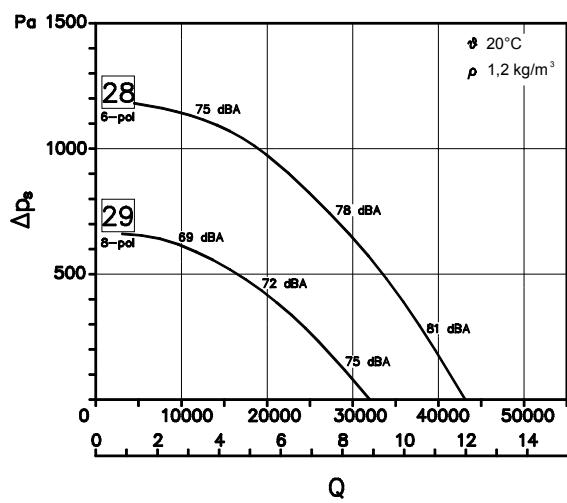
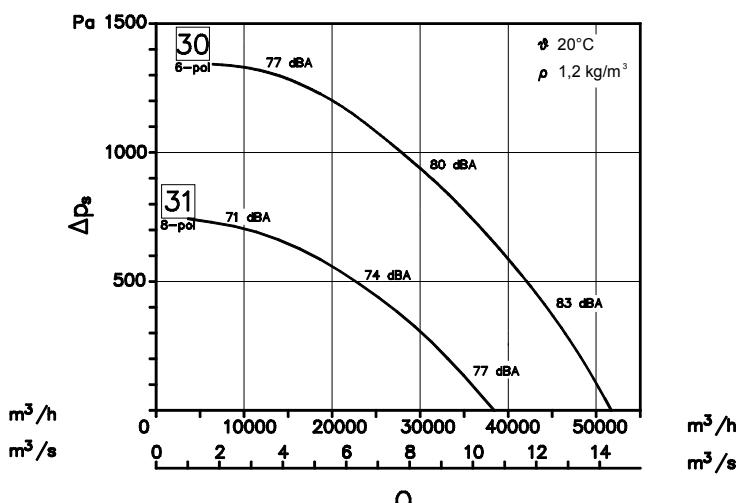


SVK2 - 560/500 EX SVK2 - 560/500



SVK2 - 630/560 EX SVK2 - 630/560



SVK2 - 710/630S EX SVK2 - 710/630S

SVK2 - 710/630

SVK2 - 800/710 EX SVK2 - 800/710

SVK2 - 900/800

SVK2 - 1000/900S

SVK2 - 1000/900


OPOMBA: Podan zvočni tlak L_{pA} [dBA] je merjen bočno, na oddaljenosti 4m.

NOTE: Defined sound pressure L_{pA} [dBA] is measured sideways on 4m distance!

STREŠNI VENTILATORJI EX SVK2

Eksplozijsko varna izvedba

Eksplozivne zmesi plinov in par z zrakom, se lahko pojavijo na posameznih mestih, kot rezultat proizvodnega procesa ali kot posledica okvar. Vžig zmesi z iskro ali prekomernim segrevanjem posameznih delov lahko povzroči eksplozijo ali požar. Strešni ventilatorji EX SVK2 so izdelani v skladu s smernicami, ki onemogočajo nastanek eksplozije ali požara, kot posledica njihovega obratovanja. Prav tako pa mora tudi uporabnik pri izbiri, montaži, uporabi in vzdrževanju strogo upoštevati standarde, predpise in navodila.

Uporaba

Uporaba strešnih ventilatorjev tipa **EX SVK2** je dovoljena v eksplozijsko ogroženih prostorih nadzemne industrije:

- cona nevarnosti 0: uporaba ni dovoljena.
- cona nevarnosti 1: **Ex II 2G c IIB T4**
- cona nevarnosti 2: **Ex II 3G c IIB T4**

Tehnični opis

Eksplozijsko varni ventilatorji EX SVK2 so v osnovi enaki kot standardni SVK2, vendar s konstrukcijskimi rešitvami, ki ustrezano direktivi 94/9/ES in standardom EN 13463-1 ter EN 14986.

Temperaturno območje obratovanja:

- temperatura okolice: -20 do 40°C
- temperatura medija: -20 do 40°C

Pogon

Ventilatorji EX SVK2 imajo vgrajene standardne trifazne elektromotorje 3x400V; 50 Hz; IP 55, v protieksplozijski zaščiti II 2G EEx de IIC T4. Motorji so opremljeni s PTC tipali za termično zaščito.

Regulacija vrtljajev

Vklop, izklop, in regulacija vrtljajev ventilatorja je možna z eno oziroma dvostopenjskim stikalom ali frekvenčnim pretvornikom.

Stikala in frekvenčne pretvornike obvezno nameščamo izven cone nevarnosti.

Stikala za namestitev v cono nevarnosti nudimo po posebnem naročilu.

Primer oznake:

EX SVK2 560/500-4/6 II 2G c IIB T4

ROOF FANS TYPE EX SVK2

Roof fans for hazardous area

Explosive composition of gases and fumes with air, which are result of production process, or consequence of malfunction. Mixture ignition with spark or excessive heating of individual parts, can cause explosion or fire. Roof fans type EX SVK2 are designed according to directives, which prevent explosion or fire, due to their operation. Also the customer has to strictly consider all the regulations and guidelines, by selection, mounting, usage and maintenance of the fan.

Application

The use of the roof fans **EX SVK2** is permitted for hazardous zones in industrial areas:

- hazardous zone 0: not allowed
- hazardous zone 1: **Ex II 2G c IIB T4**
- hazardous zone 2: **Ex II 3G c IIB T4**

Technical description

Explosion proof EX SVK2 fans are similar to standard SVK2 type, with construction improvements, which conforms to directive 94/9/ES and norm EN 13463-1 & EN 14986.

Temperature range:

- ambient temperature: -20 - 40°C
- temperatura medija: -20 - 40°C

Drive

EX SVK2 fans have standard three-phase electromotors 3x400V; IP55, 50Hz with explosion proof protection II 2G EEx de IIC T4 and PTC sensors for thermal protection.

RPM regulation

Start, stop and RPM regulation is possible with one or two-speed switch or frequency converter.

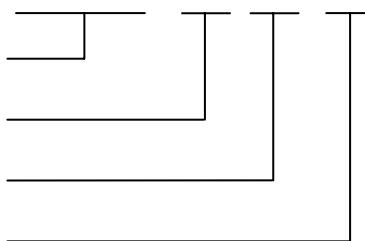
For switches and frequency converters is mandatory to mount them outside of the hazardous zone.

Switches for installation inside of the hazardous zone are available by specific customer's request.

Designation example:

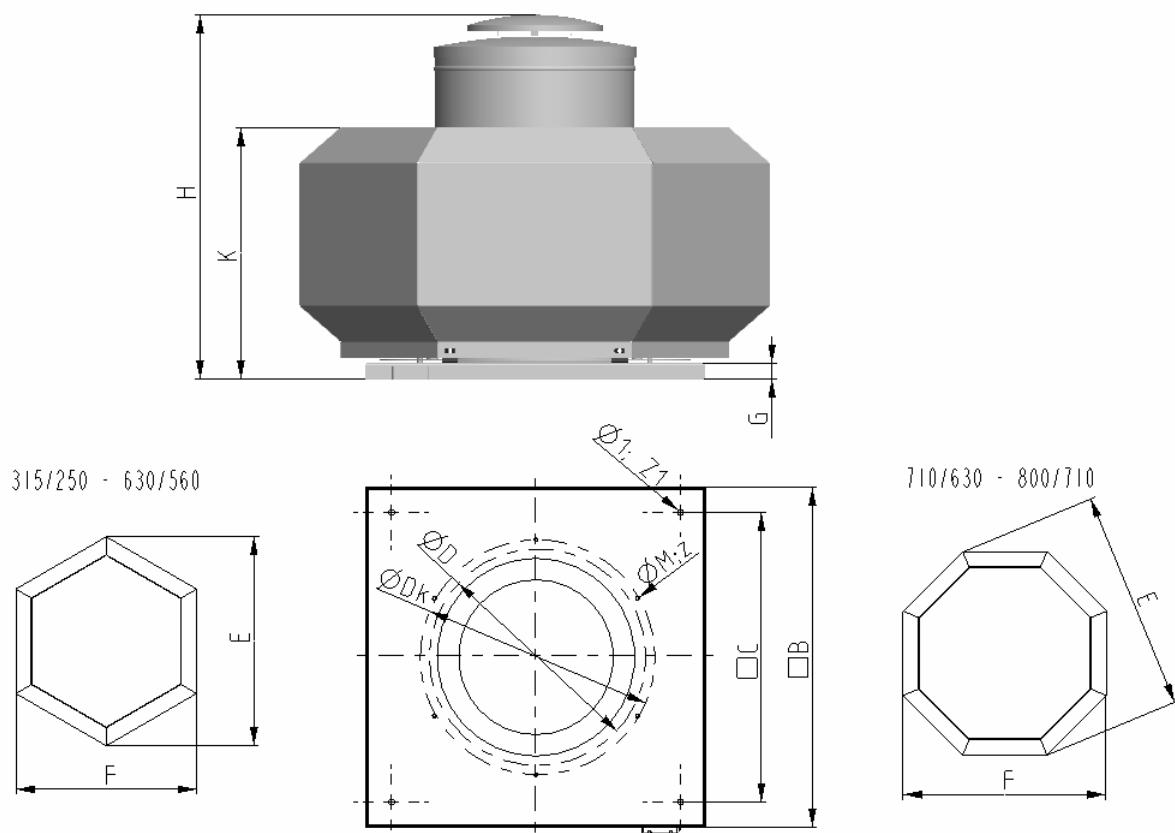
EX SVK2 560/500-4/6 II 2G c IIB T4

Označevanje
Designation
EX SVK2 - 450 / 400 - 4/6

strešni ventilator v Ex izvedbi
roof fan for hazardous area

nazivna velikost
fan size

premer sesalnega priključka
inlet connection diameter

št. polov trifaznega EM
number of poles three-phase EM

Dimenzijs
Dimensions


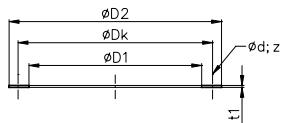
EX SVK2	ØD	ØDK	□B	E	F	G	H	K	M	Z	□C	Ø1	z1
315/250	250	286	500	680	589	40	570	365	M6	6	430	Ø12	4
400/315	315	356	560	780	675	40	640	440	M8	8	480	Ø12	4
450/400	400	438	630	880	762	40	690	480	M8	6	540	Ø12	4
500/450	450	487	710	980	849	40	730	530	M8	6	610	Ø14	4
560/500	500	541	800	1100	953	40	780	570	M8	6	700	Ø14	4
630/560	560	605	900	1315	1140	40	960	785	M10	8	780	Ø14	4
710/630	630	674	1000	1407	1300	50	1060	845	M10	8	880	Ø18	4
800/710	710	751	1120	1612	1490	50	1190	950	M10	8	1000	Ø18	4

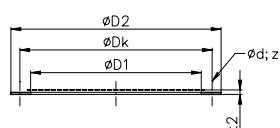
Tehnični podatki
Technical data

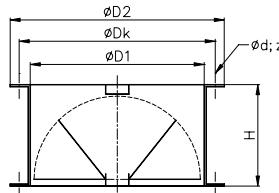
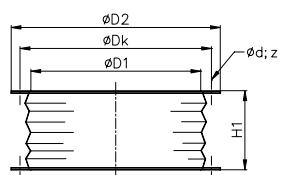
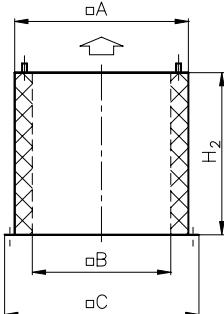
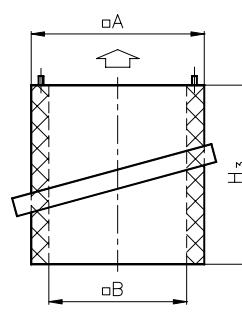
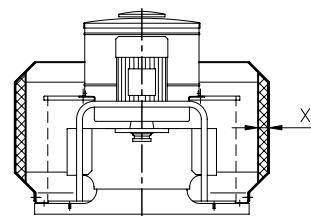
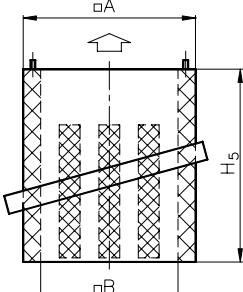
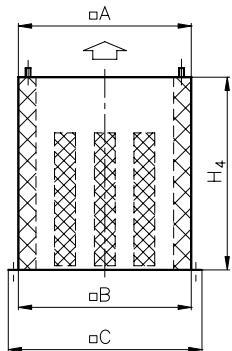
Tip Fan type EX SVK2	El. motor 3x400 V, 50Hz; IP 55; PTC II 2G EEx de IIC T4				q_{max} [m ³ /h]	Teža Weight [kg]	Številka Number
	n [min ⁻¹]	P [kW]	I _n [A]	IEC velikost IEC Size			
315/250-4	1355	0,25	0,75	71A	2000	32	1
315/250-6	930	0,18	0,67	71A	1350	32	2
315/250-4/6	1440 / 920	0,2 / 0,15	0,85 / 0,15	71A	2000 / 1350	32	1 / 2
400/315-4	1410	0,55	1,38	80 A	4000	42	3
400/315-6	925	0,37	1,17	80 A	2800	42	4
400/315-4/6	1450 / 945	0,66 / 0,45	1,75 / 1,5	90 S	4000 / 2800	42	3 / 4
450/400-4	1410	1,1	2,4	90 S	6000	56	6
450/400-6	925	0,37	1,17	80 A	3800	56	7
450/400-4/6	1425 / 960	0,9 / 0,6	2,1 / 1,8	90 L	6000 / 3800	61	6 / 7
500/450-4	1405	1,5	3,25	90 L	8000	68	9
500/450-6	915	0,55	1,5	80 B	5200	75	10
500/450-4/6	1420 / 960	1,3 / 0,9	3,0 / 2,4	100 LA	8000 / 5200	88	9 / 10
560/500-4	1400	3,0	6,4	100 LB	11500	100	12
560/500-6	930	1,5	3,7	100 L	7400	100	13
560/500-4/6	1450 / 970	2,4 / 1,5	5,05 / 3,55	112 M	11500 / 7400	110	12 / 13
630/560-4	1435	5,5	10,9	132 S	17000	155	15
630/560-6	960	2,2	5,0	112 M	10500	155	16
630/560-4/6	1460 / 975	4,5 / 3,0	8,9 / 6,7	132 M	17000 / 10500	170	15 / 16
710/630-4S	1445	7,5	14,3	132 M	20500	270	18
710/630-6S	975	3,0	6,6	132 S	13700	260	19
800/710-4	1460	15	29	160 L	35000	420	23
800/710-6	955	5,5	11,8	132 M	23000	370	24

Motorje z drugimi vrtljaji in električnimi parametri nudimo na zahtevo kupca.

Motors with different RPM and electrical parameters are offered on customer's request.

DODATNA OPREMA
ACCESSORIES
Prirobnica D₁
Flange D₁

EP D₁ Elastični (jadrovinski) priključek
EP D₁ Flexible (cloth) coupling

Zaščitna mreža D₁
Protective grid D₁

PR D_{N/D₁} Izolirani podstavek za ravno streho
PR D_{N/D₁} Isolated upstand for horizontal roof

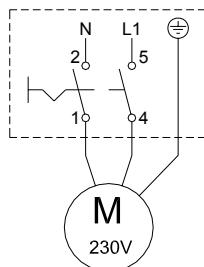
SL D₁
SL D₁ Samodvižna loputa
Back draft shutter

PS D_{N/D₁} Izolirani podstavek za poševno streho
PS D_{N/D₁} Isolated upstand for inclined roof

PRG D_{N/D₁} Podstavek z dušilcem za ravno streho
PRG D_{N/D₁} Upstand silencer for horizontal roof

PSG D_{N/D₁} Podstavek z dušilcem za poševno streho
PSG D_{N/D₁} Upstand silencer for inclined roof

IZO D_{N/D₁} Zvočno izoliran okrov ventilatorja
IZO D_{N/D₁} Sound insulated fan housing


Tip/Type D _{N/D₁}	ØD ₁	ØD ₂	ØD _k	Ød;z	H	H ₁	t ₁	t ₂	□A	□B	□C	H ₂	H ₃	H ₄	H ₅	X
250 / 200	200	255	235	Ø8x6	150	120	5	8	388	280	485	400	650	650	650	20
315 / 250	250	306	286	Ø8x6	150	120	5	8	488	380	585	400	700	700	700	20
400 / 315	315	382	356	Ø10x8	180	120	6	9	548	440	645	400	750	750	750	20
450 / 400	400	464	438	Ø10x6	220	120	6	9	614	505	720	400	800	800	800	20
500 / 450	450	513	487	Ø10x6	250	120	6	9	694	585	800	400	850	850	850	20
560 / 500	500	567	541	Ø10x6	280	150	6	9	780	670	900	400	900	900	900	20
630 / 560	560	639	605	Ø12x8	310	150	6	9	880	770	996	400	950	950	950	20
710 / 630	630	708	674	Ø12x8	350	150	6	9	980	870	1134	500	950	1250	1250	50
800 / 710	710	785	751	Ø12x8	400	150	6	9	1100	990	1254	500	950	1300	1300	50
900 / 800	800	871	837	Ø12x12	430	150	6	10	1230	1120	1384	500	950	1350	1350	50
1000 / 900	900	968	934	Ø12x12	500	150	6	10	1380	1270	1534	500	950	1450	1450	50

ELEKTRIČNA OPREMA
ELECTRIC EQUIPMENT

Ventilator Fan	Stikalo Switch	5 stop. regulator 5 speed controller	Elektronski regulator Frekvenčni pretv. Electronic controller Frequency converter	Servisno stikalo Service switch
SVV2 / SVH2 - 250/200	STK1	SR 1,5 M	BR 1 M	STS6 - 5,5
SVV2 / SVH2 - 315/250	STK1	SR 1,5 M	BR 1 M	STS6 - 5,5
SVV2 / SVH2 - 400/315	STK-12	SRK 1,5 T	FR 0,55 T	STS6 - 5,5
SVV2 / SVH2 - 450/400	STK-12	SRK 1,5 T	FR 0,75 T	STS6 - 5,5
SVV2 / SVH2 - 500/450	STK-12	SRK 4 T	FR 1,5 T	STS6 - 5,5
SVV2 / SVH2 - 560/500	STK-12	SRK 4 T	FR 2,2 T	STS6 - 5,5

Ventilator Fan	Enostopenjsko stikalo One speed switch		Dvostopenjsko stikalo Two speed switch	Frekvenčni pretvornik Frequency converter	Servisno stikalo Service switch
	4p	6p			
SVK2 / EX SVK2 - 315/250	SBZ1-0,8	SBZ1-0,8	SBZ2L-1,2/0,8	FR 0,37 M	STS6 - 5,5
SVK2 / EX SVK2 - 400/315	SBZ1-1,8	SBZ1-1,2	SBZ2L-1,8/1,2	FR 0,55 M	STS6 - 5,5
SVK2 / EX SVK2 - 450/400	SBZ1-3,7	SBZ1-2,6	SBZ2L-3,7/1,8	FR 1,1 M	STS6 - 5,5
SVK2 / EX SVK2 - 500/450	SBZ1-3,7	SBZ1-2,6	SBZ2L-5,5/1,8	FR 1,5 M	STS6 - 5,5
SVK2 / EX SVK2 - 560/500	SBZ1-5,5	SBZ1-5,5	SBZ2L-8,0/3,7	FR 2,2 T	STS6 - 5,5
SVK2 / EX SVK2 - 630/560	SBZ1-13	SBZ1-10	SBZ2L-13/8,0	FR 5,5 T	STS6 - 5,5
SVK2 / EX SVK2 - 710/630-4S	-	-	-	FR 7,5 T	STS6 - 7,5
SVK2 / EX SVK2 - 710/630-6	-	-	-	FR 3 T	STS6 - 5,5
SVK2 710/630-4	-	-	-	FR 11 T	STS6 - 11
SVK2 710/630-6	-	-	-	FR 5,5 T	STS6 - 5,5
SVK2 710/630-4/6; 4/8	-	-	SBZ2L-25/10	-	STS6 - 11
SVK2 / EX SVK2 - 800/710-4	-	-	-	FR 15 T	STS6 - 15
SVK2 / EX SVK2 - 800/710-6	-	-	-	FR 5,5 T	STS6 - 5,5
SVK2 - 800/710-4/6; 4/8	-	-	SBZ2L-32/13	-	STS6 - 15
SVK2 - 900/800-6	-	-	-	FR 7,5 T	STS6 - 7,5
SVK2 - 900/800-8	-	-	-	FR 4 T	STS6 - 5,5
SVK2 - 1000/900-6S	-	-	-	FR 11 T	STS6 - 11
SVK2 - 1000/900-8S	-	-	-	FR 11 T	STS6 - 5,5
SVK2 - 1000/900-6	-	-	-	FR 15 T	STS6 - 15
SVK2 - 1000/900-8	-	-	-	FR 7,5 T	STS6 - 7,5

Enofazno enostopenjsko stikalo STK1


Stikalo je namenjeno za vklop in izklop motorjev ventilatorjev SVH2 in SVV2 velikosti 250/200 in 315/250. z zaščito vgrajeno v elektromotorju.

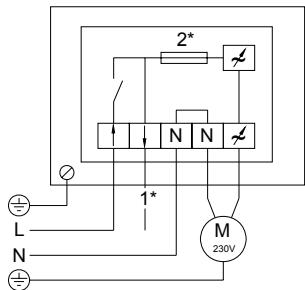
- 230V; 50Hz; TK; Id=16A
- ohišje je iz odporne plastike, zaščita IP 45; 75°C
- stikalo vklop/izklop
- signalna luč za delovanje motorja
- dimenziije 80x65x55

Mono phase one speed switch STK1


Switch for ON / OFF for the fans SVH2 and SVV2 size 250/200 in 315/250 with thermal protection installed in fan electromotor.

- 230V; 50Hz; TK; Id=16A
- switch casing made of resistant plastic; IP45; 75°C
- ON/OFF switch
- motor operation control lamp
- dimensions 80x65x55

BR Enofazni elektronski regulator

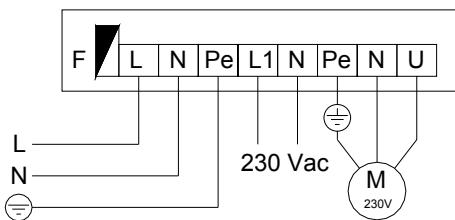


Regulator je namenjen za brezstopenjsko regulacijo vrtljajev enofaznih motorjev ventilatorjev SVH2 in SVV2 velikosti 250/200 in 315/250. Zaščita je vgrajena v elektromotorju (TK).

	BR 1 M	BR 1,5 M	BR 2,5 M
Nazivni tok [A]	1,0	1,5	2,5
Varovalka [A]	F 1,25 A-H	F 2,00 A-H	F 3,15 A-H
Napajanje [V/Hz]	230/50	230/50	230/50
Dodatni izhod [V/Hz]	230/50	230/50	230/50
Teža [kg]	0,250	0,290	0,300

- zvezna brezstopenjska regulacija
- vgrajena preobremenitvena varovalka
- dodana rezervna varovalka
- nastavljiv minimum
- podometna vgradnja: IP44, nadometna vgradnja: IP54
- plastično ohišje, ABS, RAL 9001
- najvišja temperatura okolice: 35°C

SR Enofazni petstopenjski regulator



Petstopenjski napetostni regulator omogoča vklop/izklop in ročno nastavitev petih hitrosti vrtenja za enofazne ventilatorje SVV2 in SVH2 z zaščito vgrajeno v elektromotorju (TK). Vzporedno lahko reguliramo več ventilatorjev, skupni električni tok ne sme presegati dovoljenega toka regulatorja.

Regulator ima dodatni nereguliran izhod (230V, 50Hz).

	SR 1,5 M	SR 3,5 M
Nazivni tok [A]	1,5	3,5
Varovalka [A]	2,0	5
Napajanje [V/Hz]	230/50	230/50
Dodatni izhod [V/Hz]	230/50	230/50
Teža [kg]	3,4	4,7

- plastično ohišje
- IP54
- 5 stopenjsko stikalo s položajem OFF
- indikator vklopa
- varovalka
- najvišja temperatura okolice: 35°C

BR Mono phase electronic speed controller

- 1*- nereguliran izhod 230V
2*- ohišje z varovalko in dodatno varovalko

- 1* non regulated output 230V
2* fuse box with spare fuse



Speed controller is designed for continuous RPM regulation of electromotors for the fans SVH2 and SVV2 sizes 250/200 and 315/250. Thermal electromotor protection (TK) is installed in a fan electromotor.

	BR 1 M	BR 1,5 M	BR 2,5 M
Current rating [A]	1,0	1,5	2,5
Current fuse [A]	F 1,25 A-H	F 2,00 A-H	F 3,15 A-H
Supply [V/Hz]	230/50	230/50	230/50
Extra output [V/Hz]	230/50	230/50	230/50
Weight [kg]	0,250	0,290	0,300

- infinitely variable speed control
- built-in temperature cut-off fuse
- spare fuse included
- minimum speed by trimmer
- inset mounting: IP44, surface mounting: IP54
- plastic enclosure, ABS, RAL 9001
- maximum ambient temperature: 35°C

SR Mono phase five speed controller

F – varovalka
N-L1 – 230V nereguliran izhod

F – fuse
N-L1 – 230V unregulated output



The five-stage voltage regulator allows starting/stopping and manual setting of five speeds for the fans SVH2 and SVV2 sizes 250/200 and 315/250. It can regulate two or more fans parallel as long as the current limit is not exceeded. It can be used only with motors with built-in overheating protection.

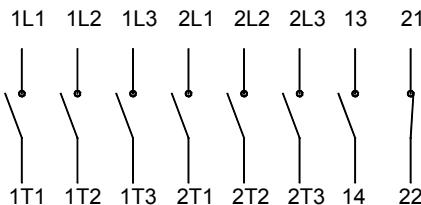
Regulator also has non-regulated 230 V / 50 Hz output.

	SR 1,5 M	SR 3,5 M
Current rating [A]	1,5	3,5
Current fuse [A]	2,0	5
Supply [V/Hz]	230/50	230/50
Extra output [V/Hz]	230/50	230/50
Weight [kg]	3,4	4,7

- plastic enclosure
- IP54
- 5 positions switch with OFF – position
- indicator lamp
- current fuse
- maximum ambient temperature: 35°C

STS6 Servisno stikalo

6 polno servisno stikalo z dvema krmilnima kontaktoma. Lahko je vgrajeno na ventilator, namesto priključne doze ali dobavljenlo ločeno.

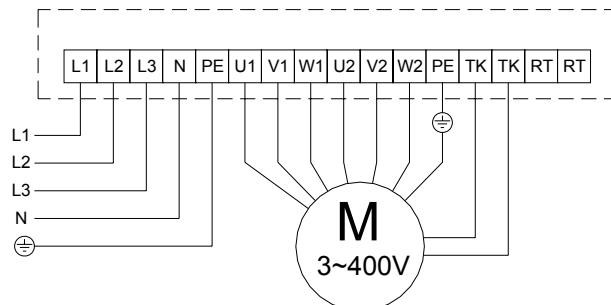


STS6 Maintenance switch

6 pole maintenance switch with 2 auxiliary contacts. It can be installed on the fan, instead of el.connection box, or supplied separately.

Tip Type	P _N [kW]	I _N [kW]	L x B x H [mm]
STS6 - 5,5	5,5	20	120 x 85 x 107
STS6 - 7,5	7,5	25	190 x 100 x 110
STS6 - 11	11	32	190 x 100 x 110
STS6 - 15	15	40	250 x 145 x 124

Dvostopenjsko stikalo STK12



Stikalo je namenjeno za vklop/izklop, izbiro večje ali manjše hitrosti vrtenja ter zaščito elektromotorjev s termokontaktom (TK) za strešnike SVH2 in SVV2 velikosti 400/315 do 560/500. Tovarniško so motorji vezani v Δ , zato je pri priklpu potrebno odstraniti mostičke v priključni dozi ventilatorja.

- 3x400V; 50Hz; TK
- ohišje je iz odporne plastike, zaščita IP55
- omogoča zaščito motorja s termokontaktom
- stikalo 0-1-2
- signalna luč za delovanje motorja
- dimenzije 190x140x70

Two speed switch STK12



The switchbox is designed for ON/OFF and lower or higher RPM selection, including electromotor thermal protection for roof fans SVH2 and SVV2 sizes 400/315 to 560/500. The motors are factory Δ connected, therefore bridge connectors have to be removed from the fan terminal box.

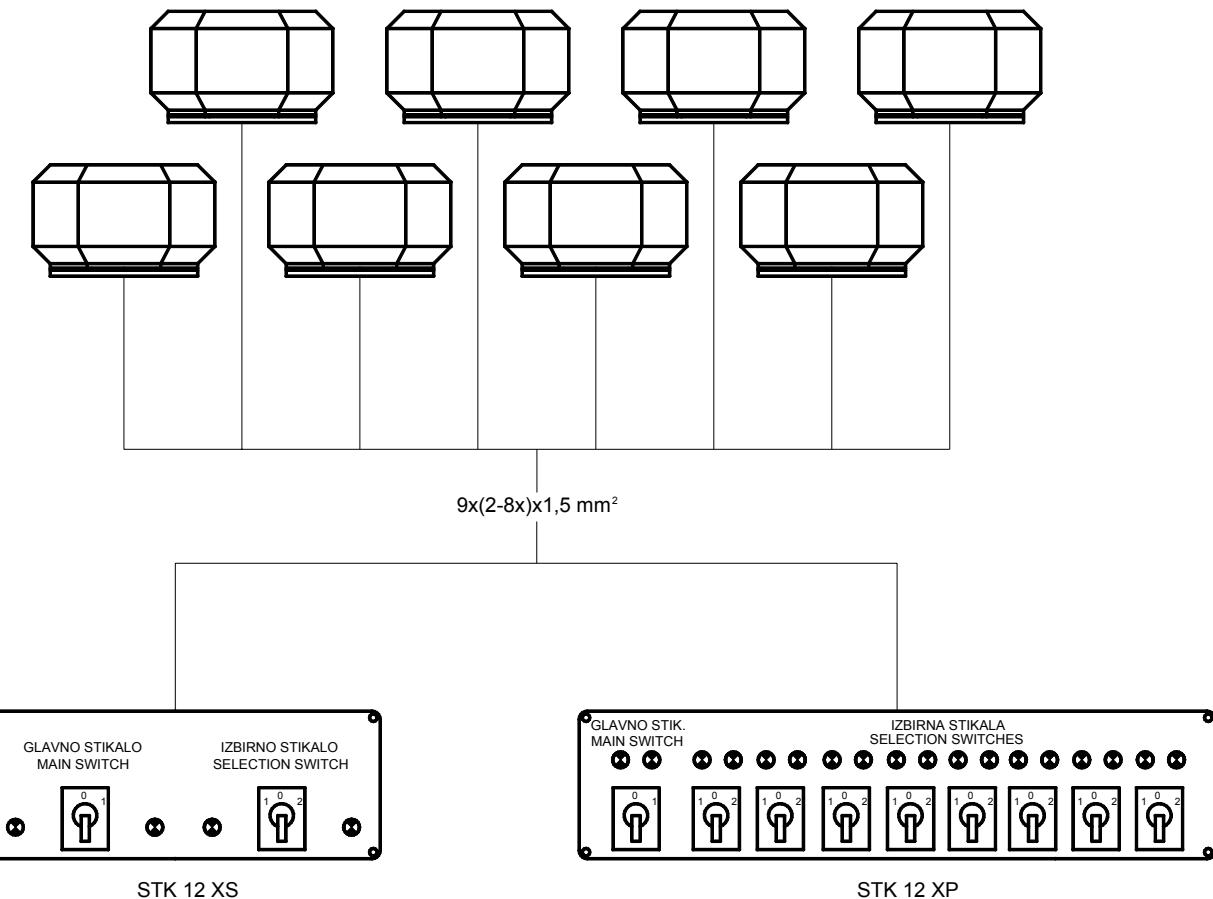
- 3x400V; 50Hz; TK
- casing made of resistant plastic, IP 55
- enables thermal protection of electromotor
- switch 0-1-2
- motor operation control lamp
- dimensions 190x140x70

Stikalo za krmiljenje več SVV2 ali SVH2 strešnikov

STK 12 XS - serijska vezava
STK 12 XP - paralelna vezava

Switchbox for regulation of multiple SVV2 or SVH2 roof fans

STK 12 XS - serial connection
STK 12 XP - parallel connection



STK 12 XS X= 2 do 8 strešnih ventilatorjev

- Po povpraševanju
- 3x400V; 50Hz
- Glavno stikalo
- Stikalo izbora hitrosti
- Posamezna termična zaščita (TK)
- Posamezna zaščita proti kratkemu stiku
- IP55

STK 12 XP X= 2 do 8 strešnih ventilatorjev

- Po povpraševanju
- 3x400V; 50Hz
- Glavno stikalo
- Posamezna stikala izbora hitrosti
- Posamezna termična zaščita (TK)
- Posamezna zaščita proti kratkemu stiku
- IP55

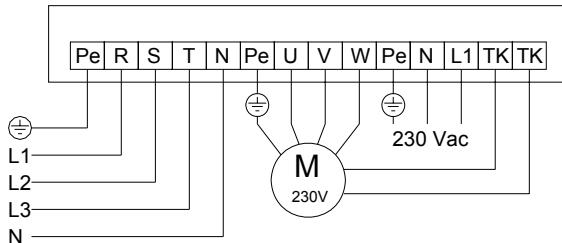
STK 12 XS X= 2 to 8 roof fans

- By request
- 3x400V; 50Hz
- Main switch
- Speed selection switch
- Individual thermal protection (TK)
- Individual protection against short circuit
- IP55

STK 12 XS X= 2 to 8 roof fans

- By request
- 3x400V; 50Hz
- Main switch
- Individual speed selection switches
- Individual thermal protection (TK)
- Individual protection against short circuit
- IP55

SRK Trifazni petstopenjski regulator s TK zaščito



Za ventilatorje s TK

Pe-N-L1 – 230V nereguliran izhod
TK – termična zaščita

For fans with TK

Pe-N-L1 – 230V unregulated output
TK – Thermal protection

Petstopenjski napetostni regulator omogoča vklop/izklop, ročno nastavitev petih hitrosti vrtenja za strešnike.

	SRK 1,5 T	SRK 4 T	SRK 6 T	SRK 8 T
Nazivni tok [A]	1,5	4,0	6,0	8,0
Napajanje [V/Hz]	400/50	400/50	400/50	400/50
Dodat. izhod [V/Hz]	230/50	230/50	230/50	230/50
Teža [kg]	12,2	18,5	24,6	28,0

- ohišje iz pločevine, IP54
- 5 stopenjsko stikalo s položajem OFF
- indikator delovanja
- preobremenitvena zaščita elektromotorja s priključitvijo termo-kontaktov (TK)
- konektorji za hitro in enostavno priključitev vodnikov
- najvišja temperatura okolice: 35°C

SRK Three-phase five speed controllers with TK

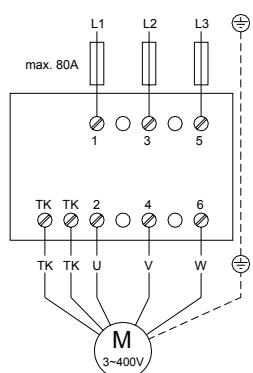


The five-stage voltage regulator for ON/OFF and manual five speeds setting for roof fans.

	SRK 1,5 T	SRK 4 T	SRK 6 T	SRK 8 T
Current [A]	1,5	4,0	6,0	8,0
Supply [V/Hz]	400/50	400/50	400/50	400/50
Extra output [V/Hz]	230/50	230/50	230/50	230/50
Weight [kg]	12,2	18,5	24,6	28,0

- steel sheet housing, IP54
- 5 positions switch with OFF – position
- indicator lamp
- motor protection by connection thermal overheating contacts of the motor
- ready mounted cable glands
- maximum ambient temperature: 35°C

Motorsko zaščitno stikalo s termo-kontakti (TK) ZSK 25 T (/H)



Motor protection switch with TK ZSK 25 T (/H)

TK – termo-kontakt za zaščito elektromotorja ventilatorja

TK – motor overload protection contacts for the fan's motor



Motorsko zaščitno stikalo omogoča zaščito elektromotorja s termo-kontakti (TK).

Motor protection switch enables thermal protection with thermal contact (TK) switches on electromotor.

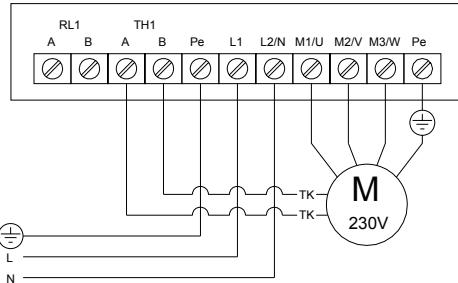
Brez ohišja	ZSK 25 T
Z ohišjem	ZSK 25 T/H
Nazivni el.tok [A]	25,0
Napajanje [V/Hz]	400/50
Teža [kg]	0,465 (0,615)

- plastično ohišje za nadomestno vgradnjo – IP 55
- vgradnja na letev skladno s Standardom EN 60 715
- zaščita elektromotorja s priključitvijo termokontaktov

Without housing	ZSK 25 T
With housing	ZSK 25 T/H
Nominal current [A]	(A)
Supply [V/Hz]	(V/Hz)
Weight [kg]	(kg)

- plastic enclosure for wall mounted – IP 55
- rail mounted according to EN 60 715
- motor protection by connection thermal overheating contacts of the motor

FR Frekvenčni pretvorniki z enofaznim vhodom in trifaznim izhodom



Ventilatorji s termo-kontakti TK

TH1 (A) – termo-kontakti za zaščito elektromotorja ventilatorja
 TH1 (B) – termo-kontakti za zaščito elektromotorja ventilatorja

For fans with TK

TH1 (A) – motor overload protection contacts for the fan's motor
 TH1 (B) – motor overload protection contacts for the fan's motor

Enofazni frekvenčni pretvorniki se uporabljajo za regulacijo hitrosti vrtenja trifaznih motorjev vezanih v Δ 3x230V do moči 1,5 kW. Omogočajo optimalno krmiljenje in zaščito motorjev. S frekvenčnim pretvornikom se lahko istočasno vzporedno napaja več ventilatorjev, skupna moč ne sme presegati nazivne moči frekvenčnega regulatorja.

Tip	Nazivna moč [kW]	Izhodni tok [A]
FR 0,37 M	0,37	2,2
FR 0,55 M	0,55	3,0
FR 0,75 M	0,75	4,0
FR 1,1 M	1,1	5,5
FR 1,5 M	1,5	7,0

Napajanje: 220-240Vac $\pm 10\%$; 50-60Hz $\pm 5\%$

Temperatura okolice: 0-40°C

Preobremenitev: 150% za 30 s

Izhodna frekvenca: 0-240Hz

- kompaktno ohišje z LCD zaslonom
- IP 20
- lokalno ali daljinsko upravljanje
- podpora za RS485 in Modbus RTU protokol
- kontroliran nadzor za preprečitev prekinitve napajanja zaradi nihanj
- interna zaščita preobremenitve v primerih previsokih vhodnih napetosti, kratkih stikov med fazami ali med fazo in ozemljitvijo
- vgrajen interni RFI filter
- preobremenitvena zaščita elektromotorja s priključitvijo termo-kontaktov (TK)
- možnost nastavitev maksimalnega dovoljenega električnega toka za preprečitev pregrevanja
- omogoča samo ročni ponovni zagon po odpravi vzrokov pregrevanja
- tiho delovanje
- **Za EX SVK2 je obvezna vgradnja izven cone ogroženosti**

FR Frequency converters with mono phase inlets and three phase outlets



One phase frequency converters are used for RPM regulation of three phase electromotors connected Δ 3x230V with power up to 1,5 kW. They enable optimal control and protection of el. motors. They can regulate two or more fans parallel as long as the current limit is not exceeded. They also have TK contacts with no automatic restart.

Type	Nominal Power [kW]	Output Current [A]
FR 0,37 M	0,37	2,2
FR 0,55 M	0,55	3,0
FR 0,75 M	0,75	4,0
FR 1,1 M	1,1	5,5
FR 1,5 M	1,5	7,0

Power Supply: 220-240Vac $\pm 10\%$; 50-60Hz $\pm 5\%$

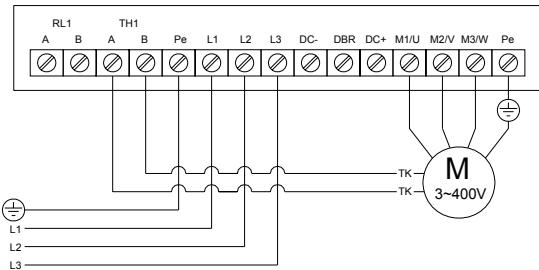
Ambient: 0-40°C

Overload: 150% for 30 seconds

Output Frequency: 0-240Hz

- compact housing with LCD display
 - IP 20
 - local or Remote mode operation
 - support for RS485 and Modbus RTU comms protocols
 - SELV control terminals (Safe Extra Low Volts)
 - intelligent monitoring strategy to avoid nuisance tripping
 - in-built protection of the unit against overloads, excessive voltages, phase-to-phase and phase-to-earth short circuits
 - an internal RFI filter is fitted as standard
 - motor protection by connection thermal overheating contacts of the motor
 - max. current draw can be set
 - no automatic restart when motor is overloaded and cooled down
 - quiet operation
- For EX SVK2 mounting outside hazardous zone is mandatory**

FR Frekvenčni pretvorniki s trifaznim vhodom in trifaznim izhodom



Ventilatorji s termo-kontakti TK

TH1 (A) – termo-kontakti za zaščito elektromotorja ventilatorja
 TH1 (B) – termo-kontakti za zaščito elektromotorja ventilatorja

For fans with TK

TH1 (A) – motor overload protection contacts for the fan's motor
 TH1 (B) – motor overload protection contacts for the fan's motor

Trifazni frekvenčni pretvorniki se uporabljajo za regulacijo hitrosti vrtenja trifaznih motorjev vezanih Δ400V/Y690V in omogočajo optimalno krmiljenje in zaščito motorjev. S frekvenčnim pretvornikom se lahko istočasno vzporedno napaja več ventilatorjev, skupna moč ne sme presegati nazivne moči regulatorja.

Tip	Nazivna moč [kW]	Izhodni tok [A]
FR 0,55 T	0,55	2,0
FR 0,75 T	0,75	2,5
FR 1,1 T	1,1	3,5
FR 1,5 T	1,5	4,5
FR 2,2 T	2,2	5,5
FR 3 T	3,0	6,8
FR 4 T	4,0	9,0
FR 5,5 T	5,5	12
FR 7,5 T	7,5	16
FR 11 T	11	23
FR 15 T	15	30

Napajanje: 380-460Vac ±10%; 50-60Hz ±5%

Temperatura okolice: 0-40°C

Preobremenitev: 150% za 30 s

Izhodna frekvenca: 0-240Hz

- kompaktno ohišje z LCD zaslonom, IP 20
- lokalno ali daljinsko upravljanje
- podpora za RS485 in Modbus RTU protokol
- kontroliran nadzor za preprečitev prekinitev napajanja zaradi nihanj
- interna zaščita preobremenitve v primerih previsokih vhodnih napetosti ali kratkih stikov
- vgrajen interni RFI filter
- preobremenitvena zaščita elektromotorja s priključitvijo termo-kontaktov (TK)
- možnost nastavitev maksimalnega dovoljenega električnega toka za preprečitev pregrevanja
- omogoča samo ročni ponovni zagon po odpravi vzrokov pregrevanja
- tiho delovanje
- Za EX SVK2 je obvezna vgradnja izven cone ogroženosti

FR Frequency converters with three phase inlets and three phase outlets



Three phase frequency converters are used for RPM regulation of three phase electromotors connected Δ400V/Y690V. They enable optimal control and protection of el. motors. They can regulate two or more fans parallel as long as the current / power limit is not exceeded

Type	Nominal Power [kW]	Output Current [A]
FR 0,55 T	0,55	2,0
FR 0,75 T	0,75	2,5
FR 1,1 T	1,1	3,5
FR 1,5 T	1,5	4,5
FR 2,2 T	2,2	5,5
FR 3 T	3,0	6,8
FR 4 T	4,0	9,0
FR 5,5 T	5,5	12
FR 7,5 T	7,5	16
FR 11 T	11	23
FR 15 T	15	30

Power Supply: 380-460Vac ±10%; 50-60Hz ±5%

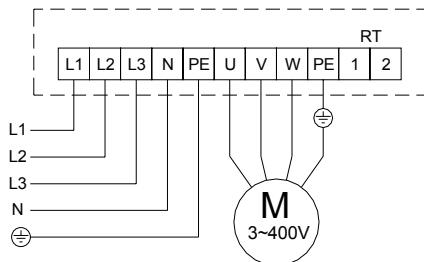
Ambient: 0-40°C

Overload: 150% for 30 seconds

Output Frequency: 0-240Hz

- compact housing with LCD display, IP 20
- local or remote mode operation
- support for RS485 and Modbus RTU comms protocols
- SELV control terminals (Safe Extra Low Volts)
- intelligent monitoring strategy avoid nuisance tripping
- in-built protection of the unit against overloads, excessive voltages, phase-to-phase and phase-to-earth short circuits
- an internal RFI filter is fitted as standard
- motor protection by connection thermal overheating contacts of the motor
- maximal current draw can be set
- no automatic restart when motor is overloaded and cooled down
- quiet operation
- **For EX SVK2 mounting outside hazardous zone is mandatory**

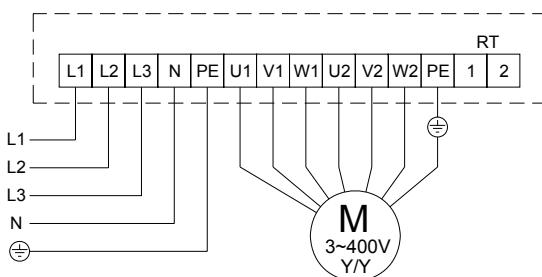
SBZ1 Enostopenjsko stikalo z bimetalko zaščito elektromotorja



Stikalo je namenjeno za vklop/izklop eno hitrostnih elektromotorjev ter tokovno zaščito z bimetalom (TB).

- 3x400V; 50Hz
- ohišje je iz odporne plastike, zaščita IP55
- omogoča tokovno zaščito motorja z bimetalom
- stikalo 0-1
- signalna luč za delovanje motorja in luč za okvaro
- dimenziije 240x190x90 za velikost 315/250 do 560/500
- dimenziije 300x220x120 za velikost 630/560
- za EX SVK2 je obvezna vgradnja izven cone ogroženosti

SBZ2L Dvostopenjsko stikalo z bimetalko zaščito elektromotorja



Stikalo je namenjeno za vklop/izklop, izbiro večje ali manjše hitrosti vrtenja ter tokovno zaščito elektromotorjev z bimetalom (TB).

- 3x400V; 50Hz
- ohišje je iz odporne plastike, zaščita IP55
- omogoča tokovno zaščito motorja z bimetalom
- stikalo 0-1-2
- signalna luč za delovanje motorja in luč za okvaro
- dimenziije 240x190x90 za velikosti 315/250 do 560/500
- dimenziije 300x220x120 za velikosti 630/560 - 900/800
- za EX SVK2 je obvezna vgradnja izven cone ogroženosti

Za SVK2 in EX SVK2 nudimo tudi:

Po povpraševanju je mogoča tudi dobava:

- Stikala Y/Δ – priporočamo za strešnike SVK2 velikosti 710/630 do 1000/900 z eno hitrostjo.
- Stikala za PTC zaščito
- Stikala za mehek (tiristorski) zagon elektromotorjev

SBZ1 One-speed switchbox with bimetallic electromotor protection



The switchbox is designed for ON/OFF single speed electromotors and current overload protection.

- 3x400V; 50Hz
- casing made of resistant plastic, IP 55
- enables motor current overload protection with bimetal
- switch 0-1
- motor operation control lamp and trouble lamp
- dimensions 240x190x90 for sizes 315/250 to 560/500
- dimensions 300x220x120 for sizes 630/560
- For EX SVK2 mounting outside hazardous zone is mandatory

SBZ2L Two-speed switchbox with bimetallic electromotor protection



The switchbox is designed for ON/OFF, lower or higher RPM selection and electromotor current overload protection with.

- 3x400V; 50Hz
- casing made of resistant plastic, IP 55
- enables motor current overload protection with bimetal
- switch 0-1-2
- motor operation control lamp and trouble lamp
- dimensions 240x190x90 for sizes 315/250 to 560/500
- dimensions 300x220x120 for sizes 630/560 to 900/800
- For EX SVK2 mounting outside hazardous zone is mandatory

For SVK2 and EX SVK2 we also offer:

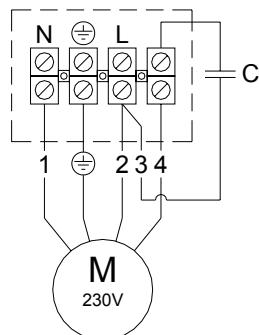
By request it is also possible to deliver:

- Switches Y/Δ – recommended for roof fans SVK2 sizes 710/630 to 1000/900 with one speed.
- Switches for PTC protection
- Switches for soft (thyristor) electromotor start

VEZALNE SHEME

Vezava enofaznega elektromotorja

SVV/H 250/200; SVV/H 315/250



WIRING DIAGRAMS

Wiring of monophase electromotor

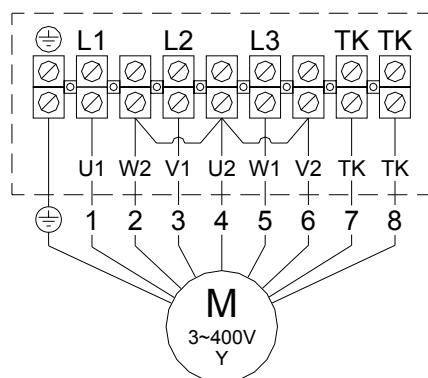
SVV/H 250/200; SVV/H 315/250

\oplus – zelena / rumena	\oplus – green / yellow
1 – modra	1 – blue
2 – rjava	2 – brown
3 – črna	3 – black
4 – črna	4 – black

Vezava trifaznega elektromotorja

SVV/H 400/315; SVV/H 450/400
SVV/H 500/450; SVV/H 560/500

Y – mala hitrost



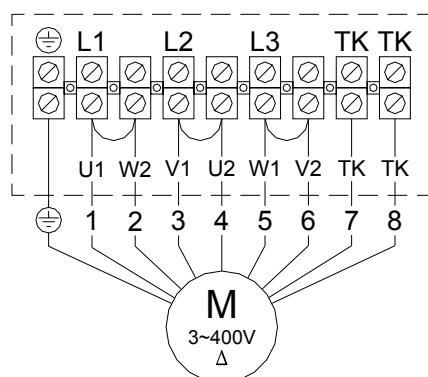
Wiring of three phase electromotor

SVV/H 400/315; SVV/H 450/400
SVV/H 500/450; SVV/H 560/500

Y – low speed

\oplus – zelena / rumena	\oplus – green / yellow
1 – rjava – U1	1 – brown – U1
2 – oranžna – W2	2 – orange – W2
3 – modra – V1	3 – blue – V1
4 – rdeča – U2	4 – red – U2
5 – črna – W1	5 – black – W1
6 – siva – V2	6 – gray – V2
7 – bela – TK	7 – white – TK
8 – bela – TK	8 – white – TK

Δ – velika hitrost



Δ – high speed

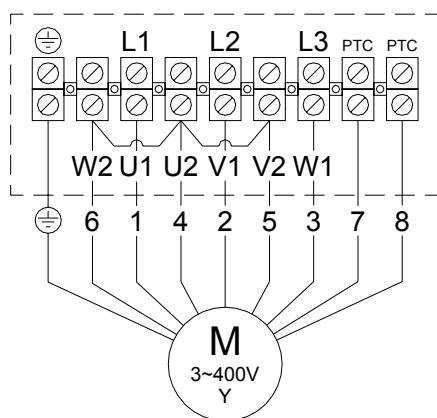
\oplus – zelena / rumena	\oplus – green / yellow
1 – rjava – U1	1 – brown – U1
2 – oranžna – W2	2 – orange – W2
3 – modra – V1	3 – blue – V1
4 – rdeča – U2	4 – red – U2
5 – črna – W1	5 – black – W1
6 – siva – V2	6 – gray – V2
7 – bela – TK	7 – white – TK
8 – bela – TK	8 – white – TK

Vezava trifaznega IEC elektromotorja

Motor Δ 3~230V / Y 3~400V do 2,2 kW, ena hitrost

SVK2 315/250; 400/315; 450/400; 500/450; 560/500

Vezava Y 3~400V - direktni zagon ali FP 3~400V
Connection Y 3~400V - direct start up or FC 3~400V

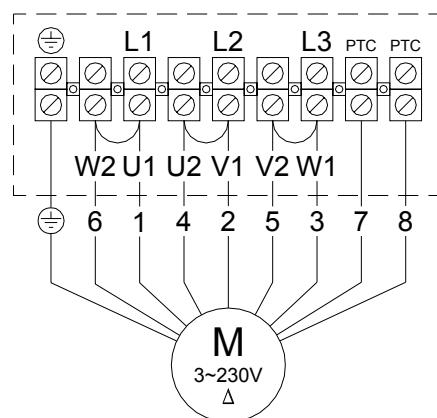


Wiring of IEC three phase electromotor

Motor Δ 3~230V / Y 3~400V up to 2,2 kW, single speed

SVK2 315/250; 400/315; 450/400; 500/450; 560/500

Vezava Δ 3~230V – za frekvenčni pretvornik 230V
Connection Δ 3~230V for frequency converter 230V



Motor Δ 3~400V / Y 3~690V nad 3,0 kW, ena hitrost

SVK2 630/560; 710/630; 800/710; 900/800; 1000/900

Vezava Δ 3~400V

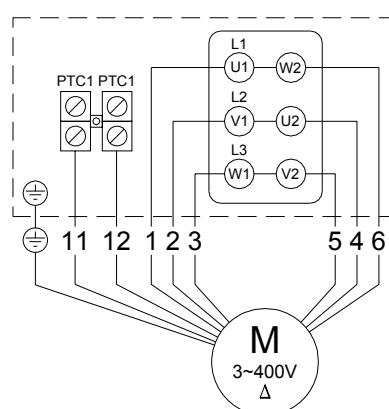
- direktni zagon
- frekvenčni pretvornik 3~400V
- nad 7,5 kW priporočamo zagon Y/ Δ , tiristorski zagon ali frekvenčni pretvornik

Motor 3~400V / Y 3~690V over 3,0 kW, single speed

SVK2 630/560; 710/630; 800/710; 900/800; 1000/900

Connection Δ 3~400V

- Direct start up.
- Frequency converter 3~400V.
- Over 7,5kW it is recommended to start with Y/ Δ , electronic soft start or frequency converter.



Dve hitrosti – vezava Y/Y

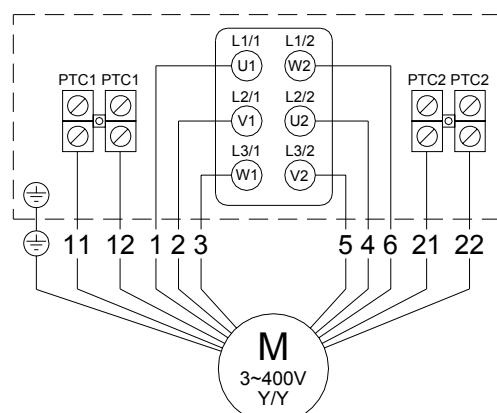
SVK2 315/250 do SVK2 900/800

4/6 in 6/8 polni motorji

Two speeds – Y/Y connection

SVK2 315/250 to SVK2 900/800

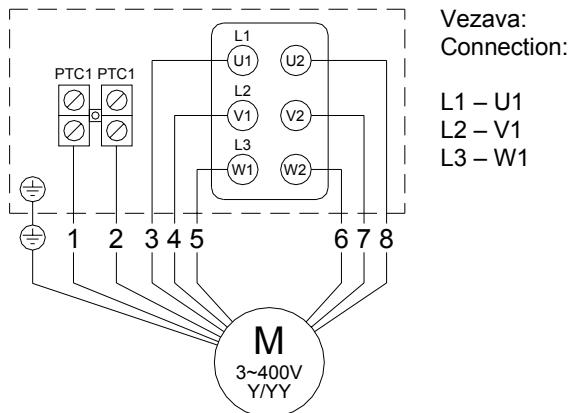
4/6 and 6/8 pole motors



**Dve hitrosti – vezava Y/YY – MALA hitrost
Two speeds – Y/YY connection – LOW speed**

SVK2 400/315 do SVK2 800/710

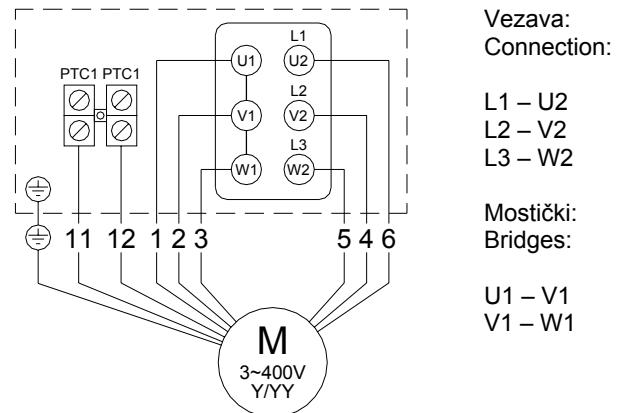
4/8 polni motorji

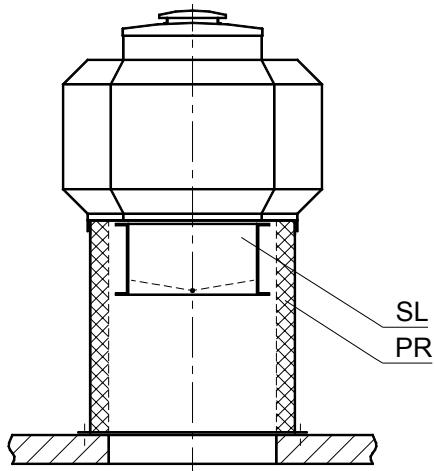
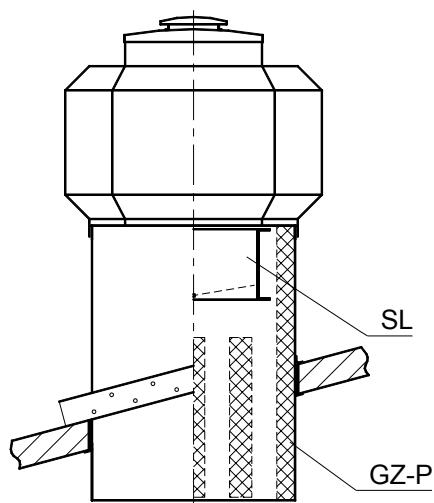
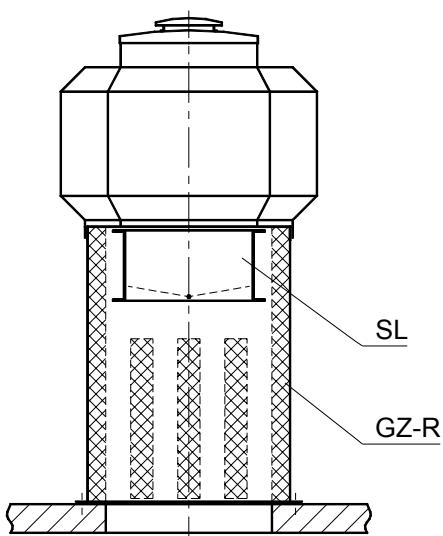
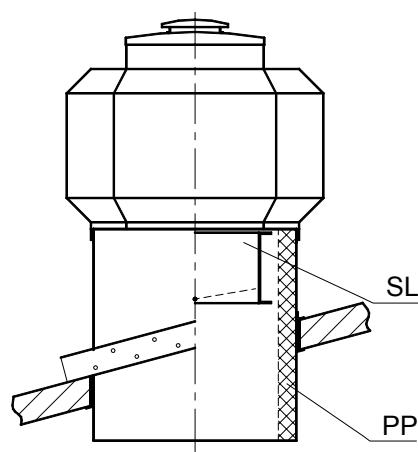


**Two speeds – Y/YY connection – VELIKA hitrost
Two speeds – Y/YY connection – HIGH speed**

SVK2 400/315 to SVK2 800/710

4/8 pole motors



PRIMERI VGRADNJE

MOUNTING EXAMPLES


Strešni ventilator je izdelan tako, da je brez priključnih elementov že takoj pripravljen za montažo.

Pri montaži je potrebno upoštevati:

- Podstavek mora biti raven, ustreznih dimenziij (glej prospekt) in trdnostno dovolj tog glede na težo ventilatorja.
- Na podstavek je ventilator privijačen s štirimi maticami ali vijaki, ki morajo biti ustrezno tesnjeni.
- Podstavek mora biti pravilno nameščen in pritrjen na streho ali ploščo ter pravilno hidro izoliran, da se prepreči vstop vode v stavbo (ni prikazano!).
- Upoštevati je potrebno temperaturno raztezanje in krčenje, priključnih elementov.

Roof fan is designed so, that it is ready for mounting without any connection accessories.

Following points have to be considered by mounting:

- Upstand has to be straight, suitable dimensions (see brochure) and stiff enough regarding the weight of the fan.
- Fan is mounted on the upstand with four nuts or bolts, which have to be suitably sealed.
- Upstand has to be correctly positioned and mounted on the roof or plate with suitable hydro-insulation, to prevent entry of water inside a building (not shown!).
- Temperature dilatation has to be considered, especially for accessories.

POPISNI TEKST SVH2, SVV2

Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR																					
		<p>Strešni ventilator tip SVV2 z vertikalnim izstopom /SVH2 s horizontalnim izstopom/ za obratovalno temperaturo -15°C do 50°C. Nosilna plošča s sesalnim lijakom in nosilec motorja sta antikorozjsko zaščitena z barvanjem, okrov je aluminijast. Rotor z nazaj zakriviljenimi lopaticami je skupaj z motorjem dinamično uravnotežen v klasi G 6,3 po ISO 1940-1. Pogonski elektromotor z zunanje tekočim rotorjem zaščite IP 44, klasa izolacije F, ima vgrajene termokontakte za termično zaščito.</p> <p>Tip SVV2 / SVH2.....</p> <table> <tbody> <tr> <td>pretok</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>statični tlak</td> <td>p_t.....</td> <td>Pa</td> </tr> <tr> <td>obratovalna temperatura</td> <td>t</td> <td>°C</td> </tr> <tr> <td>št. vrtljajev</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>moč elektromotorja</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>napetost</td> <td>U</td> <td>V</td> </tr> <tr> <td>nazivni tok</td> <td>I</td> <td>A</td> </tr> </tbody> </table> <p>Dodatna oprema</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	pretok	q	m ³ /s	statični tlak	p _t	Pa	obratovalna temperatura	t	°C	št. vrtljajev	n _v	min ⁻¹	moč elektromotorja	P _M	kW	napetost	U	V	nazivni tok	I	A		
pretok	q	m ³ /s																							
statični tlak	p _t	Pa																							
obratovalna temperatura	t	°C																							
št. vrtljajev	n _v	min ⁻¹																							
moč elektromotorja	P _M	kW																							
napetost	U	V																							
nazivni tok	I	A																							

SPECIFICATION SVH2, SVV2

Pos.	Qty.	Subject	Unit price EUR	Total price EUR																					
		<p>SVV2 type roof fan with vertical outlet /SVH2 with horizontal outlet/ for max. operating temperature -15°C to 50°C. Base plate with inlet funnel and motor support are protected with anti-corrosion paint, external casing is made from Al sheet metal. Impeller with back-curved blades and electromotor are dynamically balanced in G 6.3 class by ISO 1940-1. Electromotor with external rotor in IP44 protection, isolation class F and integrated thermo contacts for thermal protection.</p> <p>Type SVV2 / SVH2</p> <table> <tbody> <tr> <td>flow rate</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>static pressure</td> <td>p_t.....</td> <td>Pa</td> </tr> <tr> <td>operating temperature</td> <td>t</td> <td>°C</td> </tr> <tr> <td>RPM</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>power</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>voltage</td> <td>U</td> <td>V</td> </tr> <tr> <td>nominal current</td> <td>I</td> <td>A</td> </tr> </tbody> </table> <p>Accessories</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	flow rate	q	m ³ /s	static pressure	p _t	Pa	operating temperature	t	°C	RPM	n _v	min ⁻¹	power	P _M	kW	voltage	U	V	nominal current	I	A		
flow rate	q	m ³ /s																							
static pressure	p _t	Pa																							
operating temperature	t	°C																							
RPM	n _v	min ⁻¹																							
power	P _M	kW																							
voltage	U	V																							
nominal current	I	A																							

POPISNI TEKST SVK2

Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR																					
		<p>Strešni ventilator tip SVK2 z vertikalnim izstopom za obratovalno temperaturo -20 do 120°C in temperaturo okolice -20 do 50°C. Nosilna plošča s sesalnim lijakom, nosilec motorja in obod motorja so antikorozjsko zaščiteni z barvanjem, okrov je aluminijast. Rotor z nazaj zakriviljenimi lopaticami je, dinamično uravnotežen v klasi G 6,3 po ISO 1940-1. Klasični IEC pogonski elektromotor, IP 55, klasa izolacije F, z vgrajenimi PTC tipali za termično zaščito.</p> <p>Tip SVK2.....</p> <table> <tbody> <tr> <td>pretok</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>statični tlak</td> <td>p_{st}.....</td> <td>Pa</td> </tr> <tr> <td>obratovalna temperatura</td> <td>t</td> <td>°C</td> </tr> <tr> <td>št. vrtljajev</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>moč elektromotorja</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>napetost</td> <td>U</td> <td>V</td> </tr> <tr> <td>nazivni tok</td> <td>I</td> <td>A</td> </tr> </tbody> </table> <p>Dodatna oprema</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	pretok	q	m ³ /s	statični tlak	p _{st}	Pa	obratovalna temperatura	t	°C	št. vrtljajev	n _v	min ⁻¹	moč elektromotorja	P _M	kW	napetost	U	V	nazivni tok	I	A		
pretok	q	m ³ /s																							
statični tlak	p _{st}	Pa																							
obratovalna temperatura	t	°C																							
št. vrtljajev	n _v	min ⁻¹																							
moč elektromotorja	P _M	kW																							
napetost	U	V																							
nazivni tok	I	A																							

SPECIFICATION SVK2

Pos.	Qty.	Subject	Unit price EUR	Total price EUR																					
		<p>SVK2 type roof fan with vertical outlet for operating temperature -20°C to 120°C and ambient temperature -20°C to 50°C. Base plate with inlet funnel and motor support are protected with anti-corrosion paint, external casing is made from Al sheet metal. Impeller with back-curved blades is dynamically balanced in G 6.3 class by ISO 1940-1. IEC electromotor with IP 55 protection, isolation class F and integrated PTC sensors.</p> <p>Type SVK2.....</p> <table> <tbody> <tr> <td>flow rate</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>static pressure</td> <td>p_t.....</td> <td>Pa</td> </tr> <tr> <td>temperature</td> <td>t</td> <td>°C</td> </tr> <tr> <td>RPM</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>power</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>voltage</td> <td>U</td> <td>V</td> </tr> <tr> <td>nominal current</td> <td>I</td> <td>A</td> </tr> </tbody> </table> <p>Accessories</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	flow rate	q	m ³ /s	static pressure	p _t	Pa	temperature	t	°C	RPM	n _v	min ⁻¹	power	P _M	kW	voltage	U	V	nominal current	I	A		
flow rate	q	m ³ /s																							
static pressure	p _t	Pa																							
temperature	t	°C																							
RPM	n _v	min ⁻¹																							
power	P _M	kW																							
voltage	U	V																							
nominal current	I	A																							

POPISNI TEKST EX SVK2

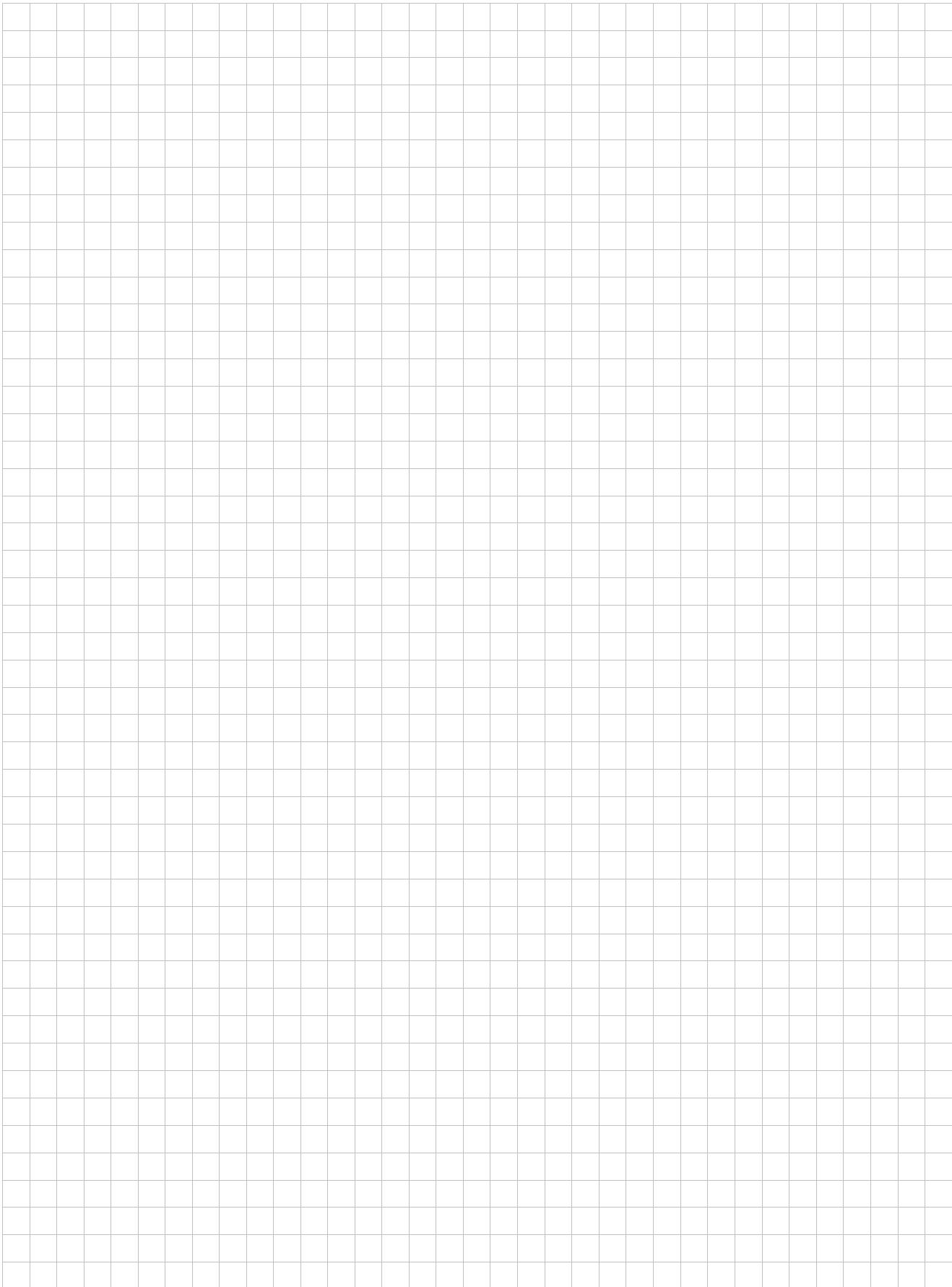
Poz.	Kol.	Opis	Cena za enoto EUR	Skupna cena EUR																					
		<p>Radialni strešni ventilator tip EX SVK2 z vertikalnim izstopom za obratovanje v eksplozjsko nevarnem okolju za temperaturo medija in okolice -20 do 40°C. Nosilna plošča s sesalnim lijakom, nosilec motorja in obod motorja so antikorozijsko zaščiteni z barvanjem, okrov je aluminijast. Rotor z nazaj zakrivljenimi lopaticami je dinamično uravnotežen v klasi G 6,3 po ISO 1940-1.</p> <p>Pogonski elektromotor v protieksplozjski izvedbi: II 2G EEx de IIC T4, zaščita IP 55, klasa izolacije F, PTC tipala za termično zaščito motorja.</p> <p>Ventilator ima atest po standardu EN 13463-1 in EN 14986, za vgradnjo v cono nevarnosti 1 ali 2.</p> <p>Tip EX SVK2..... Ex II 2G c IIB T4 Ex II 3G c IIB T4</p> <table> <tr> <td>pretok</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>statični tlak</td> <td>p_{st}.....</td> <td>Pa</td> </tr> <tr> <td>Obratovalna temperatura</td> <td>t</td> <td>°C</td> </tr> <tr> <td>št. vrtlajev</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>moč elektromotorja</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>napetost</td> <td>U</td> <td>V</td> </tr> <tr> <td>nazivni tok</td> <td>I.....</td> <td>A</td> </tr> </table> <p>Dodatak oprema</p> <p>.....</p>	pretok	q	m ³ /s	statični tlak	p _{st}	Pa	Obratovalna temperatura	t	°C	št. vrtlajev	n _v	min ⁻¹	moč elektromotorja	P _M	kW	napetost	U	V	nazivni tok	I.....	A		
pretok	q	m ³ /s																							
statični tlak	p _{st}	Pa																							
Obratovalna temperatura	t	°C																							
št. vrtlajev	n _v	min ⁻¹																							
moč elektromotorja	P _M	kW																							
napetost	U	V																							
nazivni tok	I.....	A																							

SPECIFICATION EX SVK2

Pos.	Qty.	Subject	Unit price EUR	Total price EUR																					
		<p>EX SVK2 type roof fan with vertical outlet for operation in an explosion hazardous environment for ambient and operating temperature -20°C to 40°C. Base plate with inlet funnel and motor support are protected with anti-corrosion paint, external casing is made from Al sheet metal. Impeller with back-curved blades is dynamically balanced in G 6.3 class by ISO 1940-1.</p> <p>Electromotor in explosion proof design: II 2G EEx de IIC T4; IP 55 protection; isolation class F; PTC sensors for thermal protection,</p> <p>Fan with certificate by standard EN 13463-1 and EN 14986, for installation in hazardous zone 1 or 2.</p> <p>Type EX SVK2..... Ex II 2G c IIB T4 Ex II 3G c IIB T4</p> <table> <tr> <td>flow rate</td> <td>q</td> <td>m³/s</td> </tr> <tr> <td>static pressure</td> <td>p_{st}.....</td> <td>Pa</td> </tr> <tr> <td>operating temperature</td> <td>t</td> <td>°C</td> </tr> <tr> <td>RPM</td> <td>n_v.....</td> <td>min⁻¹</td> </tr> <tr> <td>power</td> <td>P_M.....</td> <td>kW</td> </tr> <tr> <td>voltage</td> <td>U</td> <td>V</td> </tr> <tr> <td>nominal current</td> <td>I.....</td> <td>A</td> </tr> </table> <p>Accessories</p> <p>.....</p>	flow rate	q	m ³ /s	static pressure	p _{st}	Pa	operating temperature	t	°C	RPM	n _v	min ⁻¹	power	P _M	kW	voltage	U	V	nominal current	I.....	A		
flow rate	q	m ³ /s																							
static pressure	p _{st}	Pa																							
operating temperature	t	°C																							
RPM	n _v	min ⁻¹																							
power	P _M	kW																							
voltage	U	V																							
nominal current	I.....	A																							



INDUSTRija AEROTERMIČNIH NAPRAV D.D.







klima celje

INDUSTRija AEROTERMIČNIH NAPRAV D.D.

Klima Celje d.d.
Delavska ulica 5
3000 CELJE
SLOVENIJA

<http://www.klima-celje.si>
e-mail: info@klima-celje.si

tel. +386(0)3 427 92 00
fax: +386(0)3 427 92 40