

EL 400 D4 O 01

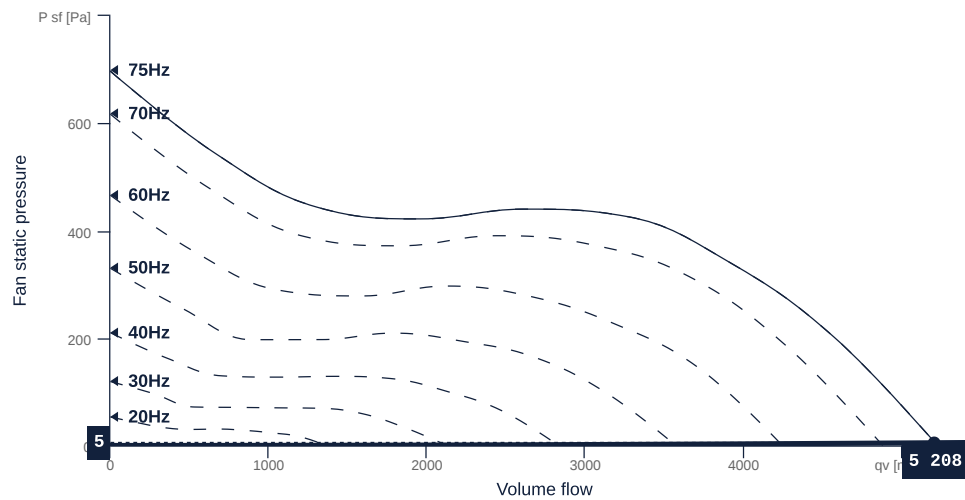
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- Innovative, high-efficiency diagonal fan
- The benchmark for efficiency since 2007
- Optimally tuned, CFD-optimized aerodynamics
- Efficient IE3 motor, frequency controllable
- Conveyed medium temperature up to 60 °C in continuous operation
- Housing made of aluminium AlMg3
- Attention! See note in the operating manual at FU-operation



FAN CURVES

Name	Value	Unit
Volume flow	5208	m ³ /h
Pressure	5	Pa



to the product detail page

TECHNICAL SPECIFICATIONS

Name	Value	Unit	Formula symbol
Volume flow	5208	m³/h	QV _{calc}
Pressure	5	Pa	psf _{calc}
Fan pressure	84	Pa	pf
Fan static pressure	5	Pa	psf
Current consumption Motor	1	A	le
Current consumption Electric	1	A	led
Electrical power consumption	636	W	Pek
Frequency	75	Hz	frq
Rotation speed	2154	1/min	N
Total static efficiency	1	%	etaFaPeK
Total efficiency	19	%	etatPeK
SFP (entire device)	439	W/(m³/s)	sfp _{device}
Sound power level inlet	84	dB(A)	LwA5
Sound power level outlet	88	dB(A)	LwA6
Sound power level housing radiation	76	dB(A)	LwA2

SOUND DATA

Sound power	mid-frequency tape										Unit	Formula symbol
	Σ	63	125	250	500	1000	2000	4000	8000	16000		
suction	84	38	56	74	75	77	80	77	65	46	dB(A)	LwA5
blowout	88	39	56	78	83	83	81	78	67	48	dB(A)	LwA6
Casing break out	77	41	49	60	71	73	70	67	55	35	dB(A)	LwA2

SOUND PRESSURE LEVEL CALCULATOR

Name	Value	Unit
Enveloping surface	Halpsphere	
Distance	3	m

Sound pressure	NR	mid-frequency tape										Unit	Formula symbol
		Σ	63	125	250	500	1000	2000	4000	8000	16000		
suction	63	67	20	38	57	58	60	62	60	48	28	dB(A)	LwA5
blowout	65	71	22	38	60	65	66	64	61	50	31	dB(A)	LwA6
Casing break out	55	59	23	32	42	54	55	53	49	38	17	dB(A)	LwA2



to the product detail page

EL 400 D4 O 01

159310

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GENERAL DATA

Name	Value	Unit	Formula symbol
Labeling	CE, UKCA		
Duct size	-		WxH _{duct}
Pipe connection size (DN)	DN400		DN
Rated voltage (entire device)	400	V	U _{rated}
Phases (entire device)	3~		phase
Electrical protection (entire device)	6 A		fuse
Housing material	Aluminium		mat _{casing}
Impeller material	Aluminium		mat _{impeller}
IP-protection class (entire device)	IPX4		IP _{compl}
Weight	18.5	kg	m
Fan type	Diagonal		Fan _{type}
Category / Installation situation	B		cat

MAXIMAL DATA

Name	Value	Unit	Formula symbol
Max. power consumption (device)	733	W	P _{ed, max}
Max. operating current (device)	1.28	A	I _{ed, max}
Max. speed	2175	1/min	n _{max}
Max. stat. efficiency	44.3	%	η _{es}
Max. fan efficiency	48.7	%	η _e
Max. flowrate	5220	m ³ /h	Q _{v, max}
Max. stat pressure	700	Pa	p _{sf, max}
Max. medium temperature	80	°C	T _{m, max}
Max. environment temperature	80	°C	T _{amb, max}
Min. environment temperature	-20	°C	T _{amb, min}



MOTOR DATA

Name	Value		Unit	Formula symbol
	50 Hz	60 Hz		
Rated frequency (device)		50		f
Motor type		AC 3~		phase
Control type		frequency-controlled		ctrltype
Installation type		IRM (In)		install
Rotation direction		right		rotation
Isolation class		ISO F		ISOclass
Protection class		IP55		IP _{motor}
Is pole-changeable		No		polexch
Type of power supply		AC 3~		pwr _{sup} _{motor}
Number of poles (1)		4.000000		num poles _{w1}
Connection	Δ	Y		wiring _{w1}
Connection (wiring 2)	Y			wiring _{w2}
Rated voltage	230	460	V	U _{rated, f1}
Rated voltage (wiring 2)	400		V	U _{rated, f2}
Rated current	2.14	1.09	A	I _{rated, f1}
Rated current (wiring 2)	1.23		A	I _{rated, f2}
Shaft power	550	550	W	P _{out, f1}
Shaft power (wiring 2)	550		W	P _{out, f2}
Speed	1420	1720	1/min	n _{f1}
Speed (wiring 2)	1420		1/min	n _{f2}
Starting current	14.1	7.96	A	I _{start, f1}
Starting current (wiring 2)	8.12		A	I _{start, f2}
Efficiency	80.8	81.5	%	η _{m, f1}
Efficiency (wiring 2)	80.8		%	η _{m, f2}
Efficiency class	IE3	IE3		IE _{motor}
Min. temperature	-20	-20	°C	T _{motor, min}
Cos Phi	0.800000	0.780000		cos φ
UL-Certification motor		UL recognized		UL _{cert}



to the product detail page

EL 400 D4 O 01

159310



ERP DATA (LOT11)

Name	Value	Unit	Formula symbol
Speed at the energy efficiency optimum	2138	1/min	n_{opt}
Efficiency level	61.1	%	N
Efficiency category	total		cat _{efficiency}
Input power of the motor at the energy efficiency optimum	0.71	kW	$P_{e, opt}$
Overall efficiency	73.3	%	η_{ges}
Measurement category	B		meas cat
Fan pressure at energy efficiency optimum	428	Pa	$p_{f, opt}$
Flowrate at energy efficiency optimum	3362	m ³ /h	$Q_{v, opt}$

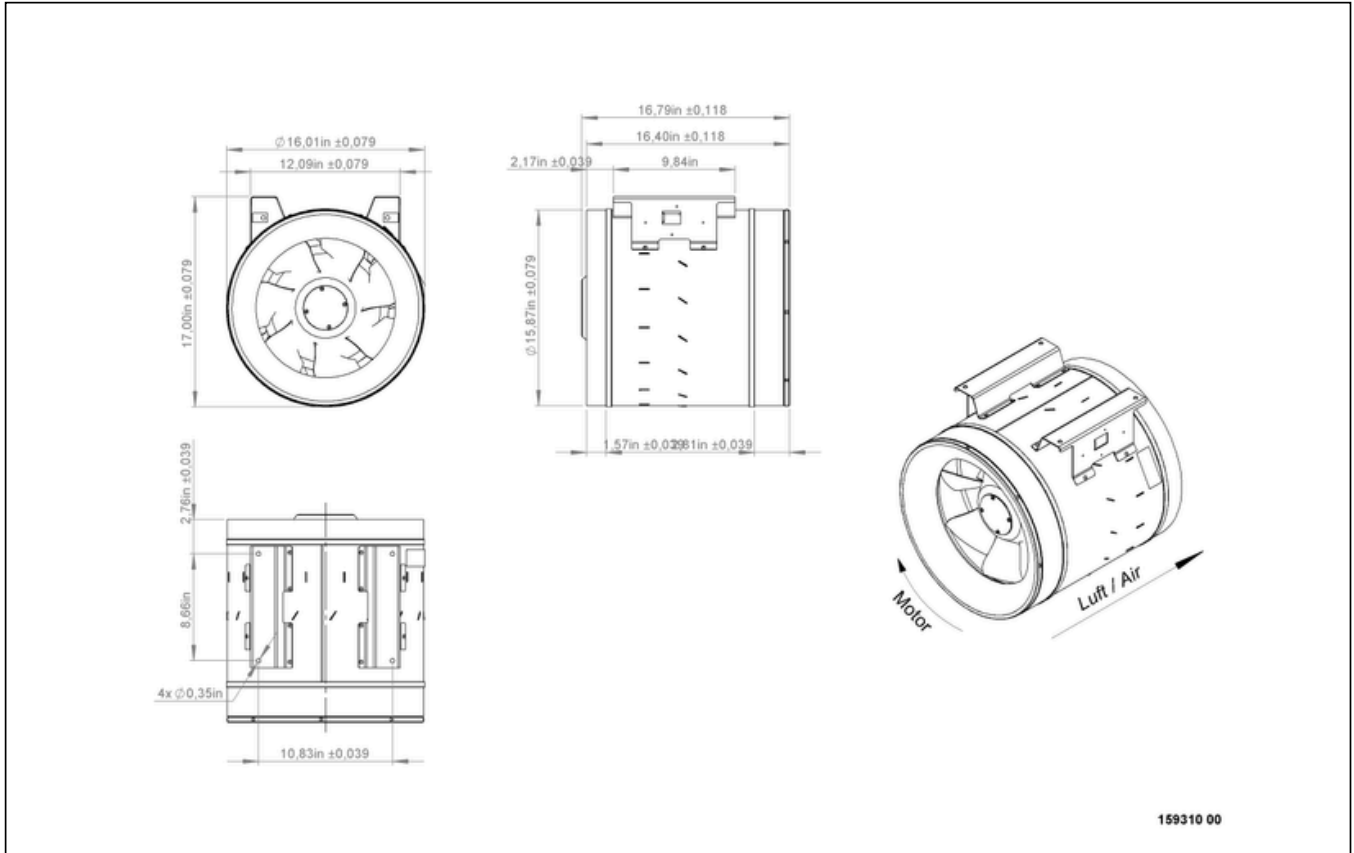


[to the product detail page](#)

EL 400 D4 O 01

159310

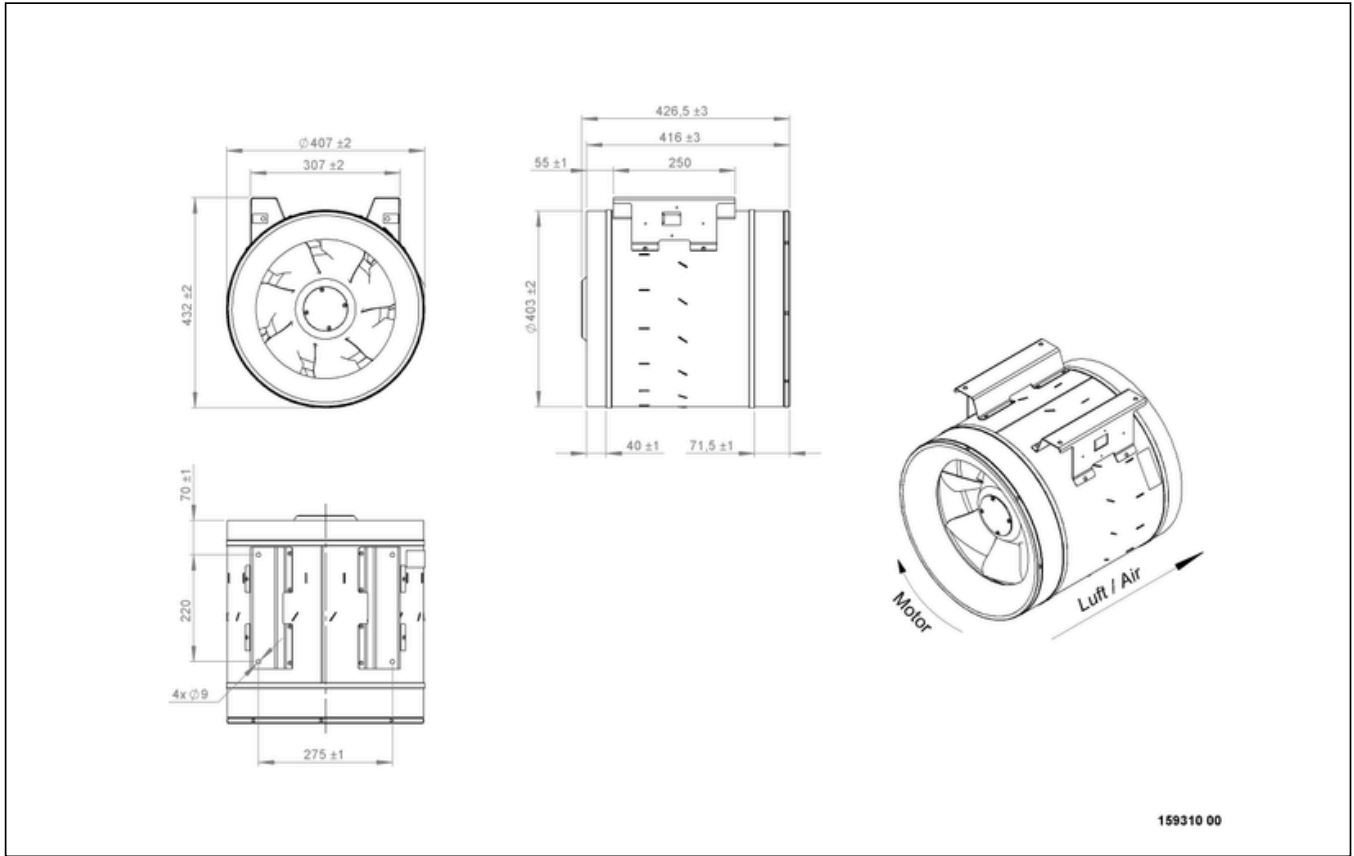
CIRCUIT DIAGRAMS / DIMENSIONAL DRAWINGS



to the product detail page

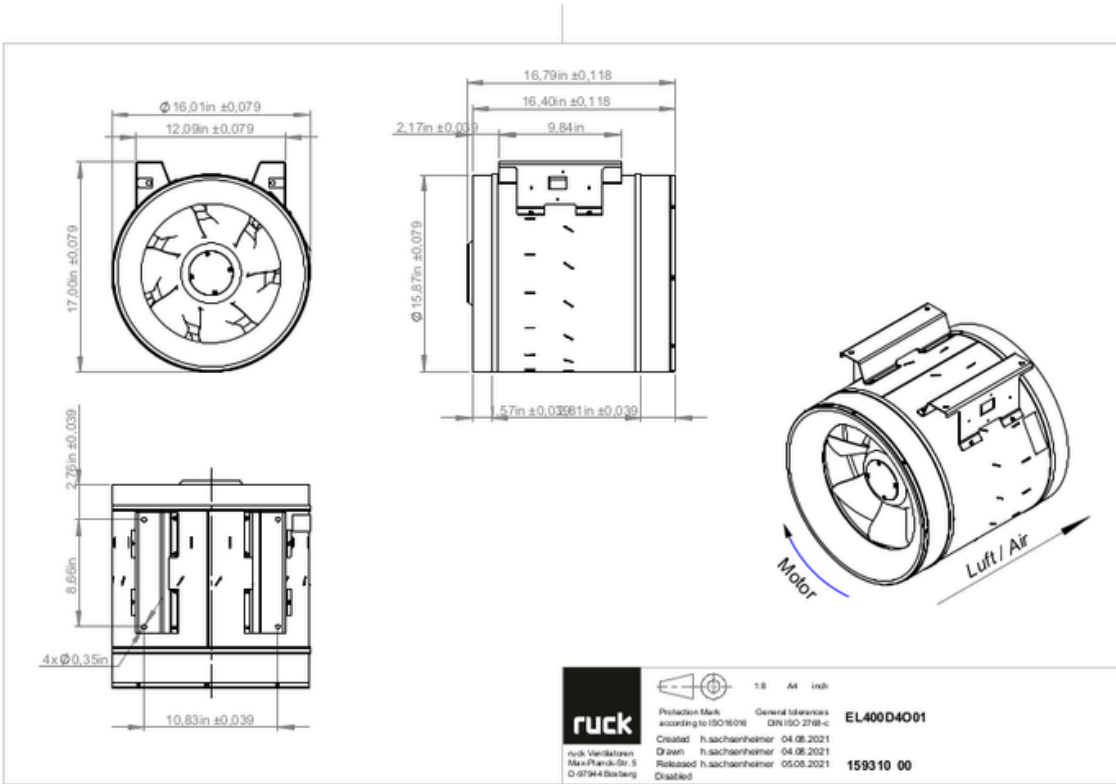
EL 400 D4 O 01

159310



EL 400 D4 O 01

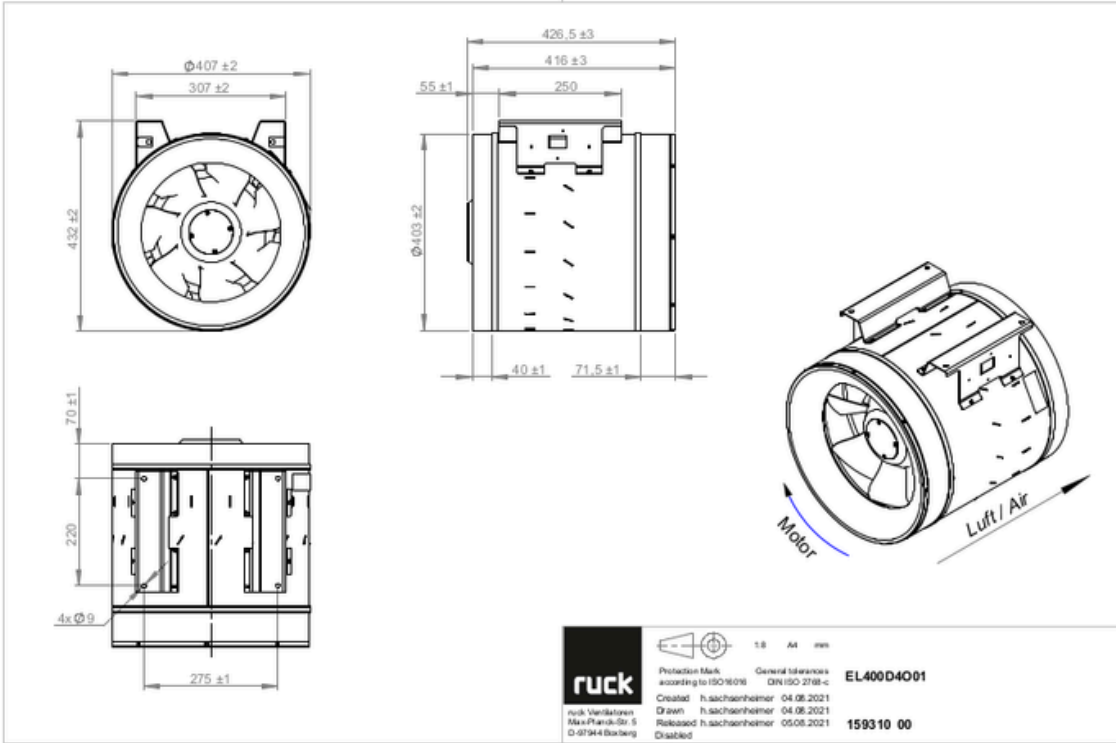
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to the product detail page

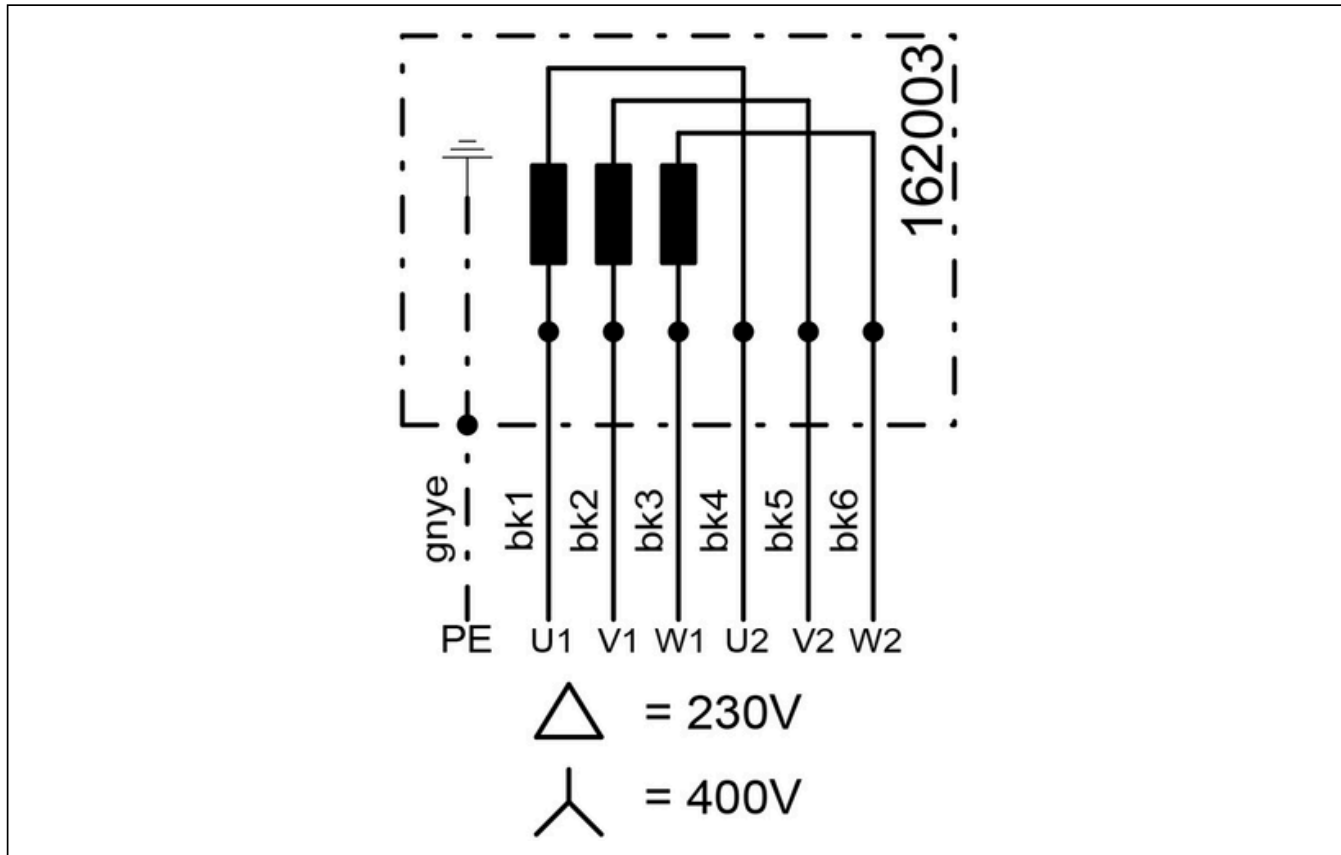
EL 400 D4 O 01

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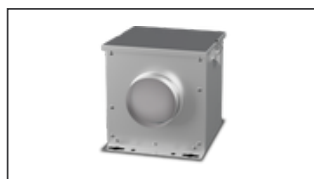
EL 400 D4 O 01

159310



MECHANICAL ACCESSORIES

FV 400 | 112836



- Air filter box with mat filter ISO Coarse 45 % (G3)
- Toggle-type fastener

FT 400 | 112848



- Air filter box for pocket filter
- Toggle-type fastener
- Galvanized steel sheet housing
- Without filter

FTW 400 | 112857



- Air filter box with pocket filter M5
- Integrated warm water heating coil
- Galvanized steel sheet housing
- Toggle-type fastener

RSK 400 | 102691



- Back draught shutter for tube fitting
- Galvanized steel sheet housing
- Aluminum flaps

RSK 400D | 113490



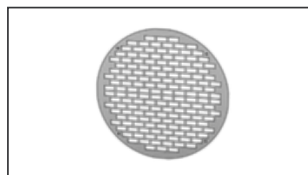
- Back draught shutter for tube fitting
- Galvanized steel sheet housing
- Aluminum flaps
- Integrated gasket

VM 400 | 102654



- Fast clamps for sound decoupling and sealing
- Galvanized steel sheet, 5 mm
- Neopren gasket
- 1 Pack = 2 pieces

SG 400 02 | 123949



- Inlet protection grille for Etaline
- Galvanized steel sheet



to the product detail page

ELECTRICAL ACCESSORIES

GS 02 | 105386



- Isolator switch
- Umax = 400 V, 50/60 Hz
- Switching capacity 400 V 3~ = 5,5 kW
- Imax = 16 A

MS 01 | 140407



- Motor protection switch with Isolator switchfunktion
- Imax = 400 V, 50/60 Hz
- Max. 0.55 kW
- Protection class IP 55

MTP 20 | 128146



- Potentiometer 10 kΩ
- Switching contact 1A/250V AC - 2,5A/12V DC
- Max. ambient temperature 50 °C
- VDE

MTP 30 | 143289



- Stepped potentiometer 10 kΩ
- Step 1 + 2 settable 10 % - 100 % Vdc
- Step 3 100 % Vdc
- Supply voltage+10 Vdc

MTP 40 | 147359



- Potentiometer 10 kΩ
- Connection in terminal box
- Max. ambient temperature 50 °C
- PU: 20 pieces

SEN AIR | 148641



- Airflow and temperature transducer
- Measuring range temperature 0...+50 °C
- With adjustable switching threshold (air speed)
- Measuring range air velocity up to 20 m/s

CON P1000 | 115259



- Constant pressure control
- Actual value display possible via optional control unit
- Output 0-10 V DC + FC enable + setpoint reached
- Pressure setting by means of decade switch

FU 075 60 | 160045



- Frequency converter
- Supply voltage 230 V 1~ 50/60 Hz
- Output voltage 0 - 230 V 3~
- Protection class IP 20, for switch cabinet

FU 075 61 | 160046



- Frequency converter IP66
- Supply voltage 230 V 1~ 50/60 Hz
- Output voltage 0 - 230 V 3~
- Fire mode function (smoke extract fans)

FU 075 62 | 160047



- Frequency converter
- Supply voltage 400 V 3~ 50/60 Hz
- Output voltage 0 - 400 V 3~
- Protection class IP 20, for switch cabinet

FU 075 63 | 160048



- Frequency converter
- Supply voltage 400 V 3~ 50/60 Hz
- Output voltage 0 - 400 V 3~
- Fire mode function (smoke extract fans)



to the product detail page