

EL 450 EC K 01

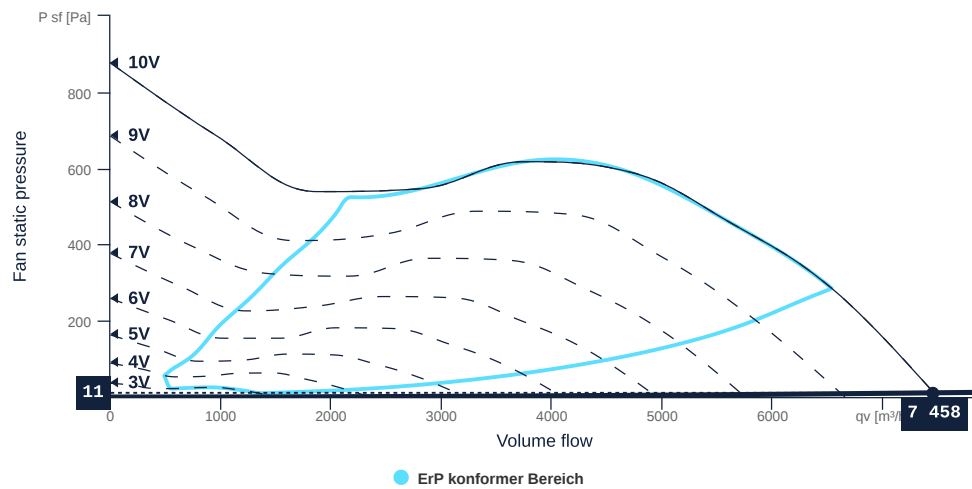
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- Innovative, high-efficiency diagonal fan
- Optimally tuned, CFD-optimized aerodynamics
- The benchmark for efficiency since 2007
- High efficiency EC motor, steplessly controllable
- Conveyor temperature up to 60 °C in continuous operation
- Aluminum AlMg3 housing



FAN CURVES

Name	Value	Unit
Volume flow	7458	m³/h
Pressure	11	Pa



to the product detail page

EL 450 EC K 01

159395

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TECHNICAL SPECIFICATIONS

Name	Value	Unit	Formula symbol
Volume flow	7458	m ³ /h	QV _{calc}
Pressure	11	Pa	psf _{calc}
Fan pressure	113	Pa	pf
Fan static pressure	11	Pa	psf
Current consumption Motor	6	A	le
Electrical power consumption	1058	W	PeK
Control voltage	9	V	U _{ctrl}
Rotation speed	2103	1/min	N
Total static efficiency	2	%	etaFaPeK
Total efficiency	22	%	etatPeK
SFP (entire device)	510	W/(m ³ /s)	sfp _{device}
Sound power level inlet	87	dB(A)	LwA5
Sound power level outlet	93	dB(A)	LwA6
Sound power level housing radiation	85	dB(A)	LwA2

SOUND DATA

Sound power	mid-frequency tape										Unit	Formula symbol
	Σ	63	125	250	500	1000	2000	4000	8000	16000		
suction	88	40	61	77	81	82	82	80	70	51	dB(A)	LwA5
blowout	93	43	63	81	88	88	85	82	74	55	dB(A)	LwA6
Casing break out	85	45	48	70	83	79	74	72	62	47	dB(A)	LwA2

SOUND PRESSURE LEVEL CALCULATOR

Name	Value	Unit
Enveloping surface	Halphsphere	
Distance	3	m

Sound pressure	NR	mid-frequency tape										Unit	Formula symbol
		Σ	63	125	250	500	1000	2000	4000	8000	16000		
suction	66	70	23	44	60	63	65	64	63	53	34	dB(A)	LwA5
blowout	71	76	25	45	64	71	71	68	65	56	38	dB(A)	LwA6
Casing break out	65	68	28	30	53	66	62	56	54	45	29	dB(A)	LwA2



to the product detail page

EL 450 EC K 01

159395

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GENERAL DATA

Name	Value	Unit	Formula symbol
Labeling	CE, UKCA		
Duct size	-		WxHduct
Pipe connection size (DN)	DN450		DN
Rated voltage (entire device)	230	V	U _{rated}
Phases (entire device)	1~		phase
Electrical protection (entire device)	10 A		fuse
Housing material	Aluminium		matcasing
Impeller material	Aluminium		matimpeller
Weight	18.2	kg	m
Fan type	Diagonal		Fan _{type}
Category / Installation situation	B		cat

MAXIMAL DATA

Name	Value		Unit	Formula symbol
	50 Hz	60 Hz		
Max. power consumption (device)	1144	1144	W	P _{ed, max}
Max. operating current (device)	8.2	1144	A	I _{ed, max}
Max. speed	2100	2100	1/min	n _{max}
Max. stat. efficiency	64.5	64.5	%	η _{es}
Max. fan efficiency	69.2	69.2	%	η _e
Max. flowrate	7490	7490	m ³ /h	Q _{v, max}
Max. stat pressure	880	880	Pa	p _{st, max}
Max. medium temperature	60	60	°C	T _{m, max}
Max. environment temperature	60	60	°C	T _{amb, max}
Min. environment temperature	-20	-20	°C	T _{amb, min}



to the product detail page

MOTOR DATA

Name	Value		Unit	Formula symbol
	50 Hz	60 Hz		
Rated frequency (device)			50	f
Motor type			EC	phase
Control type			stepless-controlled	ctrltype
Installation type			IRM (In)	install
Isolation class			ISO F	ISOclass
Motor-protection			TEC	protectmotor
Protection class			IP55	IPmotor
Is pole-changeable			No	polexch
Type of power supply			AC 1~	pwrSUPmotor
Rated voltage	220		V	U _{rated, f1}
Rated voltage (wiring 2)	277		V	U _{rated, f2}
Rated current	8.7		A	I _{rated, f1}
Rated current (wiring 2)	6.9		A	I _{rated, f2}
Shaft power	1100		W	P _{out, f1}
Shaft power (wiring 2)	1100		W	P _{out, f2}
Speed	3000		1/min	n _{f1}
Speed (wiring 2)	3000		1/min	n _{f2}
Efficiency	87.8		%	η _{m, f1}
Efficiency (wiring 2)	87.8		%	η _{m, f2}
Min. temperature	-20		°C	T _{motor, min}
UL-Certification motor			None	ULcert

ERP DATA (LOT11)

Name	Value	Unit	Formula symbol
Speed at the energy efficiency optimum	2061	1/min	n _{opt}
Efficiency level	74.6	%	N
Efficiency category	total		catEfficiency
Input power of the motor at the energy efficiency optimum	1.11	kW	P _{e, opt}
Overall efficiency	84.7	%	η _{ges}
Measurement category	B		meas cat
Fan pressure at energy efficiency optimum	566	Pa	p _{f, opt}
Flowrate at energy efficiency optimum	4899	m³/h	Q _{v, opt}

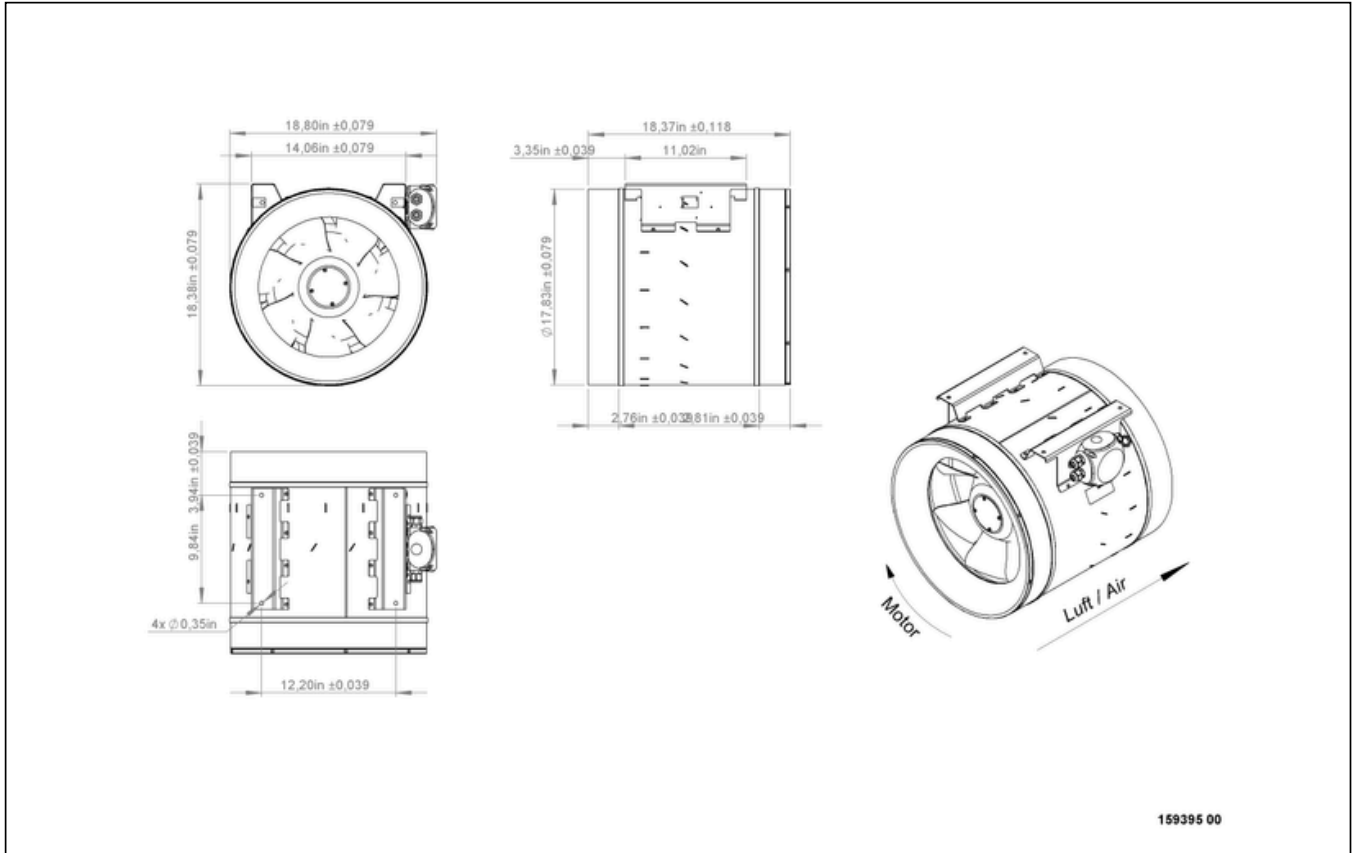


to the product detail page

EL 450 EC K 01

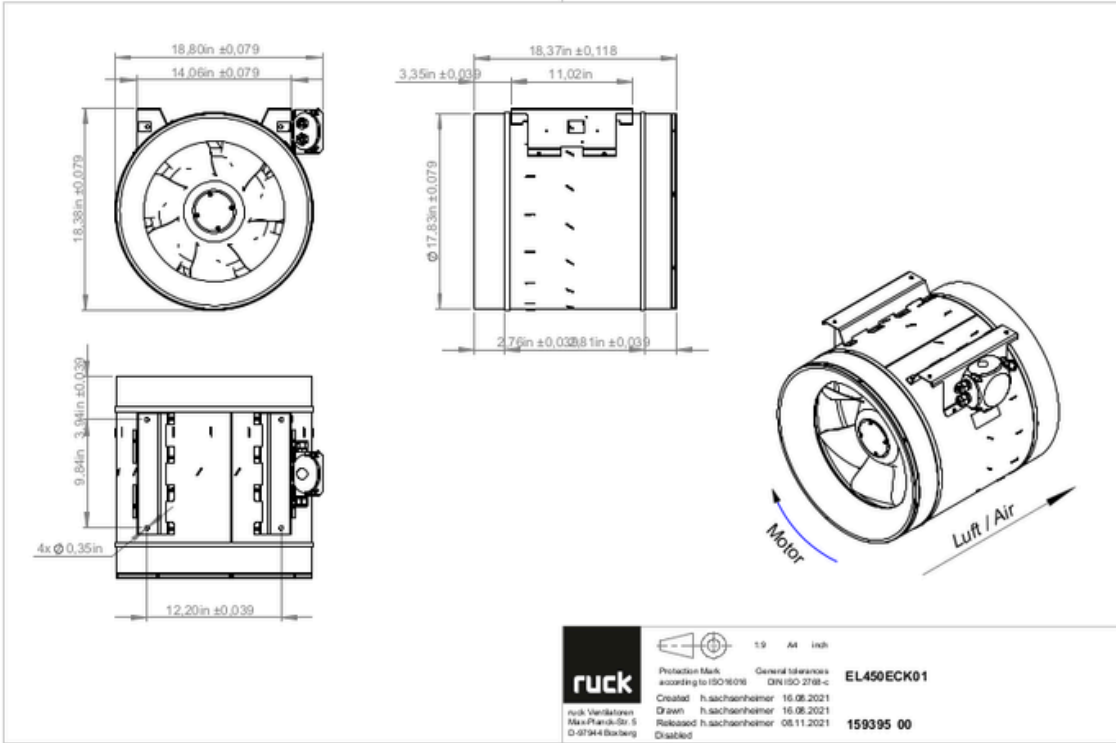
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CIRCUIT DIAGRAMS / DIMENSIONAL DRAWINGS



EL 450 EC K 01

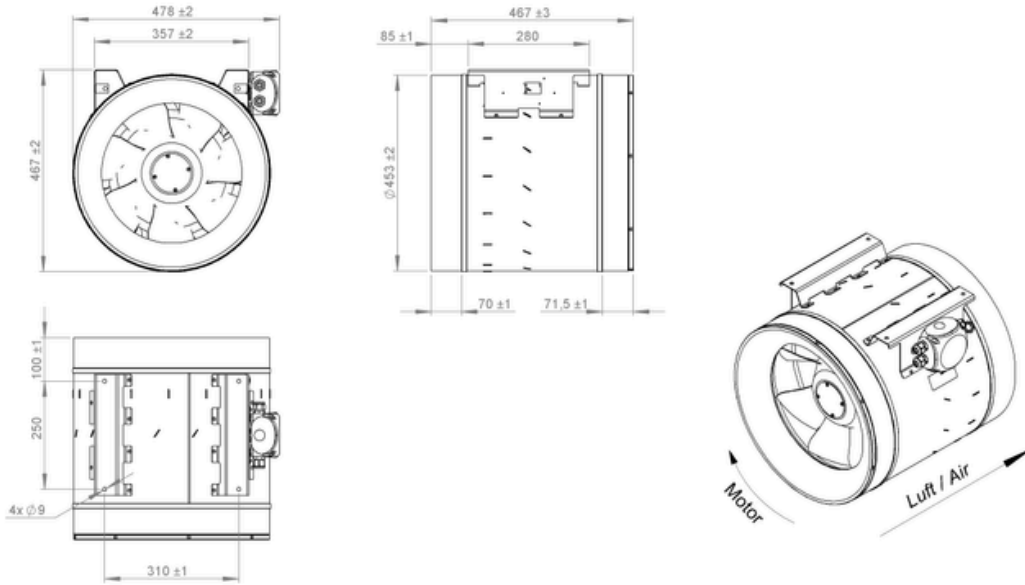
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to the product detail page

EL 450 EC K 01

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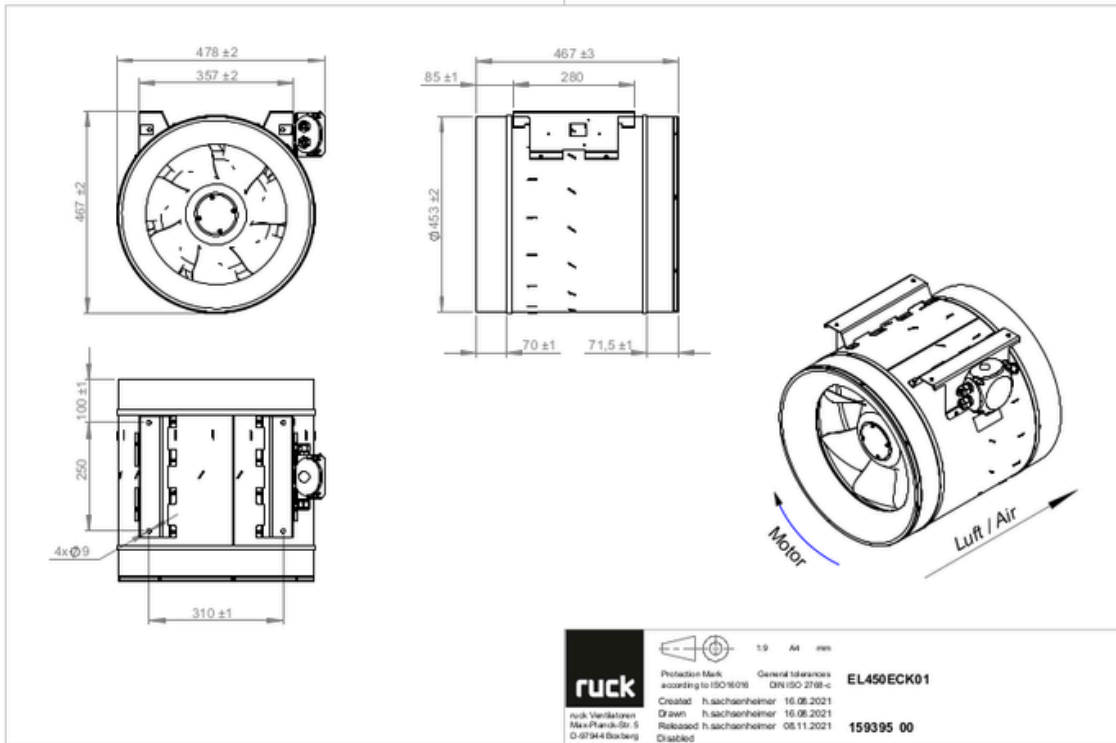


to the product detail page

EL 450 EC K 01

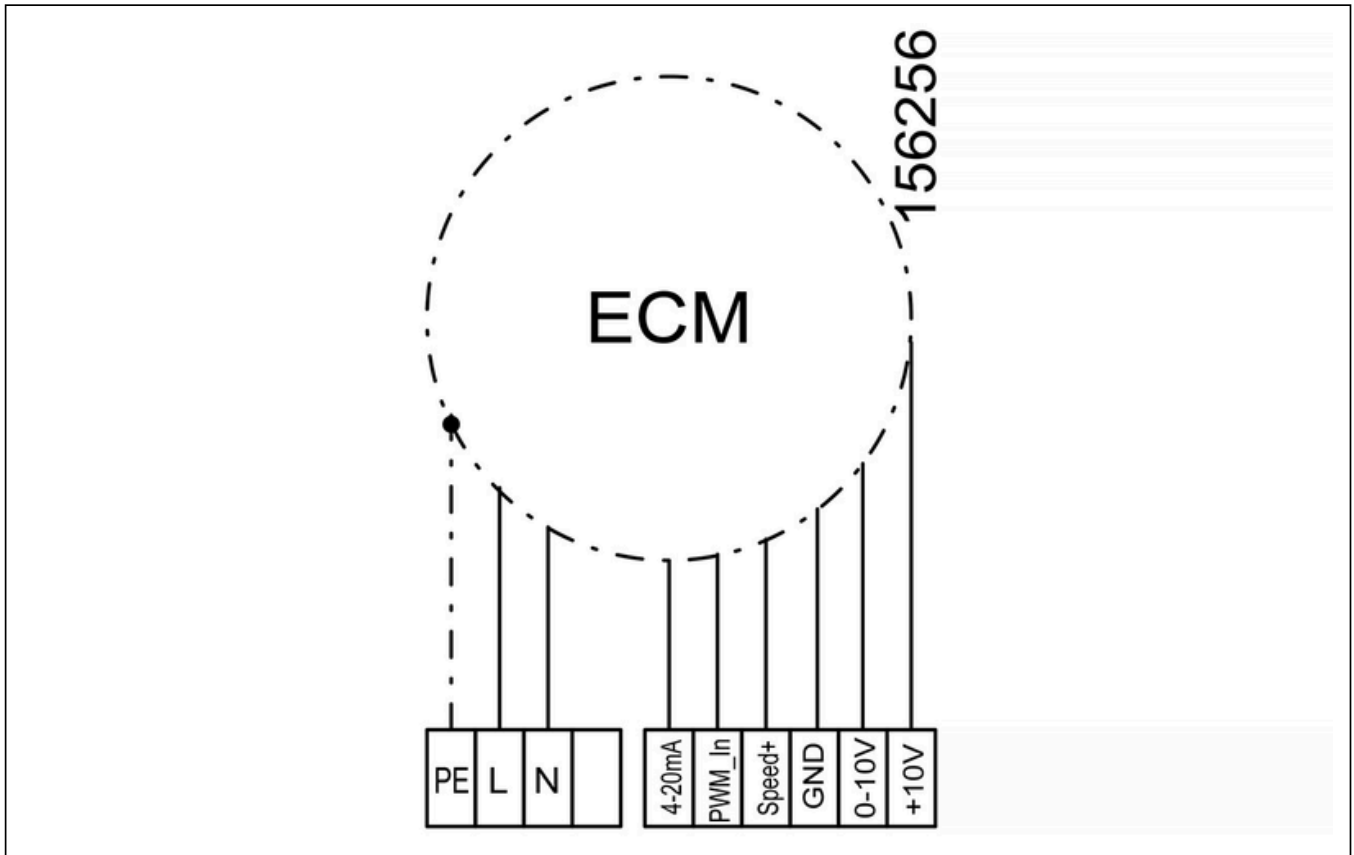
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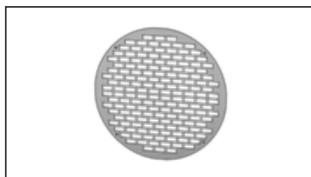
MECHANICAL ACCESSORIES

VM 450 | 119495



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

SG 450 02 | 119411



- Inlet protection grille for Etaline
- Galvanized steel sheet



to the product detail page

EL 450 EC K 01

159395

ELECTRICAL ACCESSORIES

GS 03 | 107633



- Device switch
- $U_{max} = 400\text{ V}$, $I_{max} = 25\text{ A}$
- Switching capacity $400\text{ V } 3\sim = 7,5\text{ kW}$
- Protection class IP 55

MTP 20 | 128146



- Potentiometer $10\text{ k}\Omega$
- Switching contact $1\text{A}/250\text{V AC}$ - $2,5\text{A}/12\text{V DC}$
- Max. ambient temperature $50\text{ }^\circ\text{C}$
- VDE

MTP 30 | 143289



- Stepped potentiometer $10\text{ k}\Omega$
- Step 1 + 2 settable $10\% - 100\% \text{ Vdc}$
- Step 3 $100\% \text{ Vdc}$
- Supply voltage $+10\text{ Vdc}$

MTP 40 | 147359



- Potentiometer $10\text{ k}\Omega$
- Connection in terminal box
- Max. ambient temperature $50\text{ }^\circ\text{C}$
- PU: 20 pieces

SEN AIR | 148641



- Airflow and temperature transducer
- Measuring range temperature $0...+50\text{ }^\circ\text{C}$
- 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 $0-10\text{ V DC}$ + FC enable + setpoint reached
- Pressure setting by means of decade switch

MTP 50 | 168752



- Potentiometer with multifunction output
- $230\text{ VAC } \pm 10\% / 50-60\text{ Hz}$
- Selectable output: $1-10\text{ VDC} / 2-20\text{ mA}$ / $10-100\% \text{ PWM}$
- Min. and max. output value adjustable



to the product detail page