

# AL 1120 D6 03

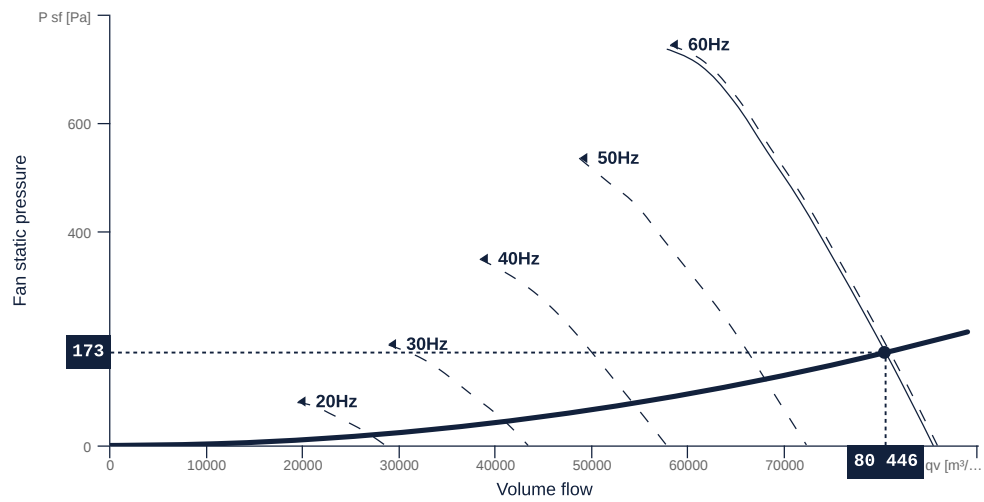
162711

- Innovative, high-efficiency axial fan
- Optimally tuned, CFD-optimized aerodynamics
- Housing weight optimized, powder coated
- Efficient IE3 motor, frequency controllable
- Conveyed medium temperature up to 60 °C in continuous operation
- Exceeds current ErP regulation by 15 - 20%



## FAN CURVES

Name	Value	Unit
Volume flow	80446	m³/h
Pressure	173	Pa



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## TECHNICAL SPECIFICATIONS

Name	Value	Unit	Formula symbol
Volume flow	80446	m³/h	qv <sub>calc</sub>
Pressure	173	Pa	ps <sub>fcalc</sub>
Fan pressure	482	Pa	pf
Fan static pressure	173	Pa	psf
Current consumption Motor	29	A	le
Electrical power consumption	17024	W	Pe <sub>k</sub>
Frequency	59	Hz	frq
Rotation speed	1179	1/min	N
Total static efficiency	22	%	etaFaPeK
Total efficiency	63	%	etatPeK
SFP (entire device)	761	W/(m³/s)	sfp <sub>device</sub>
Sound power level inlet	112	dB(A)	LwA5
Sound power level outlet	115	dB(A)	LwA6
Sound power level housing radiation	99	dB(A)	LwA2

## SOUND DATA

Sound power	mid-frequency tape										Unit	Formula symbol
	Σ	63	125	250	500	1000	2000	4000	8000	16000		
suction	112	74	89	103	108	108	101	95	89	73	dB(A)	LwA5
blowout	115	75	94	108	112	109	103	96	88	73	dB(A)	LwA6
Casing break out	99	76	83	95	95	91	82	72	65	55	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	90	95	57	71	86	91	90	84	78	71	55	dB(A)	LwA5
blowout	95	98	57	76	90	95	92	85	78	70	55	dB(A)	LwA6
Casing break out	80	82	59	66	78	77	74	65	54	48	37	dB(A)	LwA2



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## GENERAL DATA

Name	Value	Unit	Formula symbol
Labeling	CE, UKCA		
Duct size	-		WxH <sub>duct</sub>
Pipe connection size (DN)	DN1120		DN
Rated voltage (entire device)	400	V	U <sub>rated</sub>
Phases (entire device)	3~		phase
Electrical protection (entire device)	50 A		fuse
Housing material	Steel		mat <sub>casing</sub>
Impeller material	Steel		mat <sub>impeller</sub>
IP-protection class (entire device)	IPX4		IP <sub>compl</sub>
IP-Protection class (terminal box)	IP55		IP <sub>ebox</sub>
Weight	345	kg	m
Fan type	Axial		Fan <sub>type</sub>
Category / Installation situation	B		cat

## MAXIMAL DATA

Name	Value	Unit	Formula symbol
Max. power consumption (device)	20147	W	P <sub>ed, max</sub>
Max. operating current (device)	37.8	A	I <sub>ed, max</sub>
Max. speed	1190	1/min	n <sub>max</sub>
Max. stat. efficiency	55.8	%	η <sub>es</sub>
Max. fan efficiency	71.7	%	η <sub>e</sub>
Max. flowrate	85820	m <sup>3</sup> /h	q <sub>v, max</sub>
Max. stat pressure	765	Pa	p <sub>sf, max</sub>
Max. medium temperature	60	°C	T <sub>m, max</sub>
Max. environment temperature	60	°C	T <sub>amb, max</sub>
Min. environment temperature	-20	°C	T <sub>amb, min</sub>



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## 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
Isolation class		ISO F		ISOclass
Protection class		IP55		IPmotor
Is pole-changeable		No		polexch
Type of power supply		AC 3~		pwrSUPmotor
Number of poles (1)		6.000000		num polesw1
Connection	Δ			wiringw1
Connection (wiring 2)	Y			wiringw2
Rated voltage	400		V	U <sub>rated, f1</sub>
Rated voltage (wiring 2)	690		V	U <sub>rated, f2</sub>
Rated current	35.4		A	I <sub>rated, f1</sub>
Rated current (wiring 2)	20.5		A	I <sub>rated, f2</sub>
Shaft power	18500		W	P <sub>out, f1</sub>
Shaft power (wiring 2)	18500		W	P <sub>out, f2</sub>
Speed	975		1/min	n <sub>f1</sub>
Speed (wiring 2)	975		1/min	n <sub>f2</sub>
Starting current	223		A	I <sub>start, f1</sub>
Starting current (wiring 2)	129		A	I <sub>start, f2</sub>
Efficiency	92		%	η <sub>m, f1</sub>
Efficiency (wiring 2)	92		%	η <sub>m, f2</sub>
Efficiency class	IE3			IE <sub>motor</sub>
Min. temperature	-20		°C	T <sub>motor, min</sub>
Cos Phi	0.820000	0.000000		cos φ
UL-Certification motor		UL recognized		ULcert

## ERP DATA (LOT11)

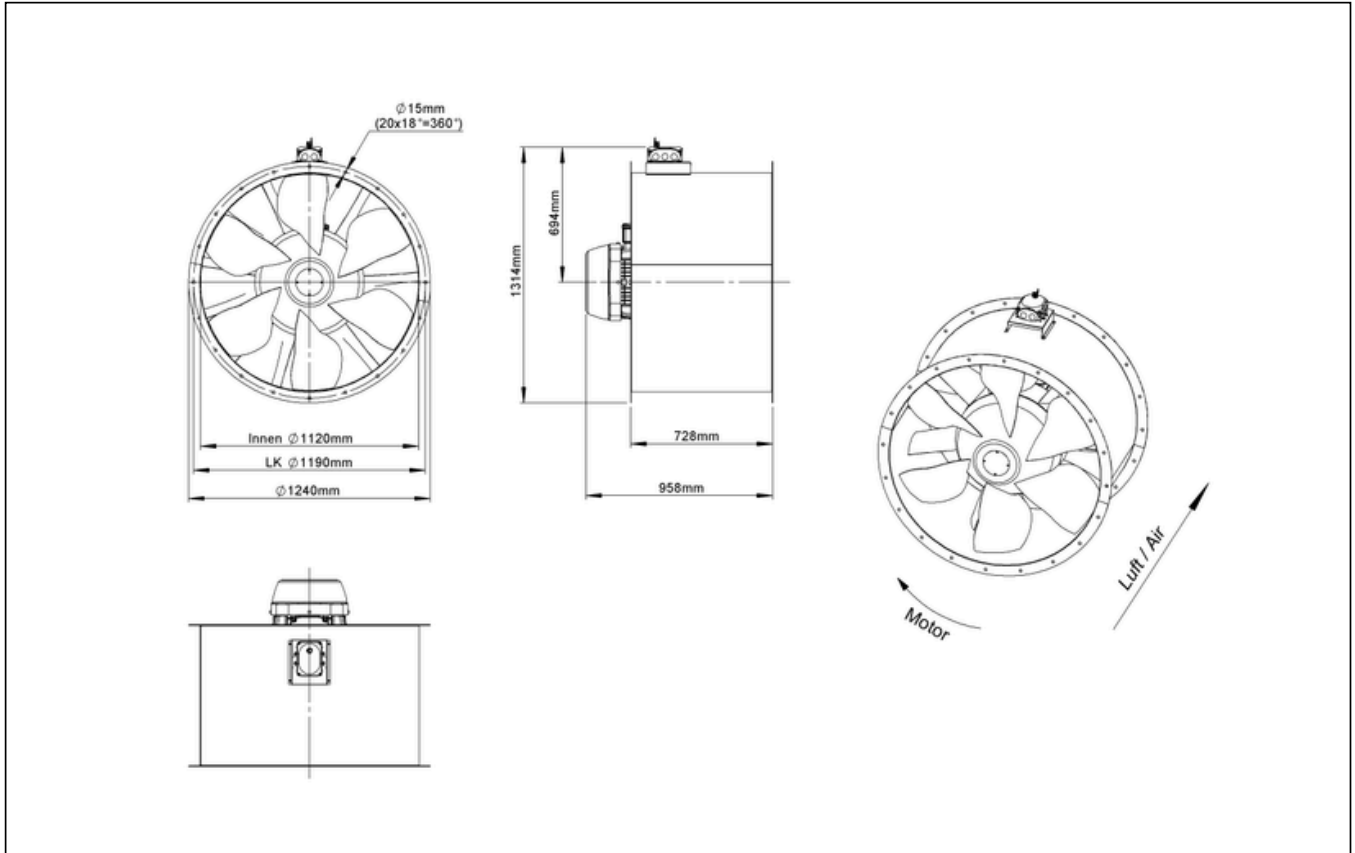
Name	Value	Unit	Formula symbol
Speed at the energy efficiency optimum	1179	1/min	n <sub>opt</sub>
Efficiency level	73.3	%	N
Efficiency category	total		cat <sub>efficiency</sub>
Input power of the motor at the energy efficiency optimum	20.7	kW	P <sub>e, opt</sub>
Overall efficiency	72.8	%	η <sub>ges</sub>
Measurement category	B		meas cat
Fan pressure at energy efficiency optimum	813	Pa	p <sub>f, opt</sub>
Flowrate at energy efficiency optimum	67226	m <sup>3</sup> /h	Q <sub>v, opt</sub>



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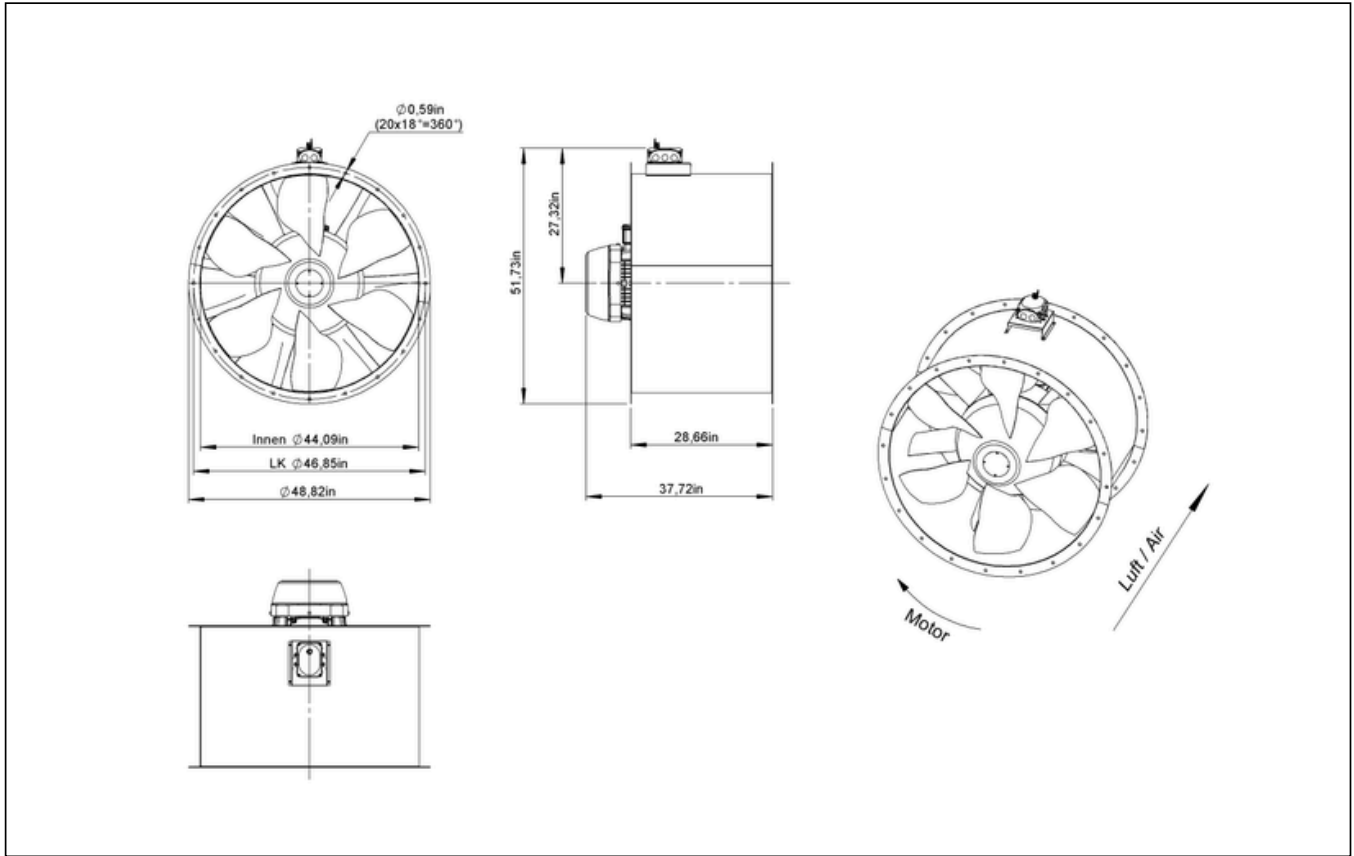
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**CIRCUIT DIAGRAMS / DIMENSIONAL DRAWINGS**

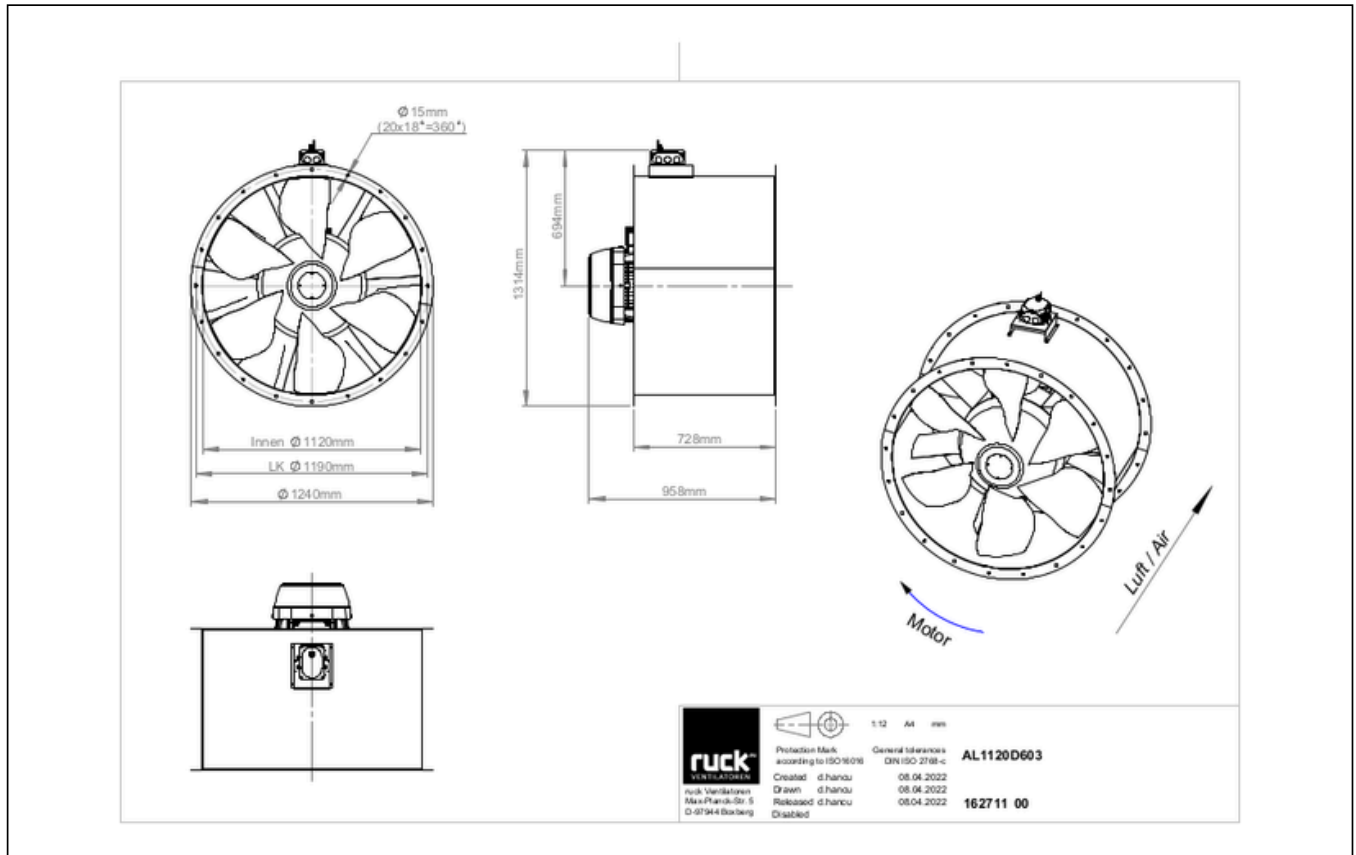
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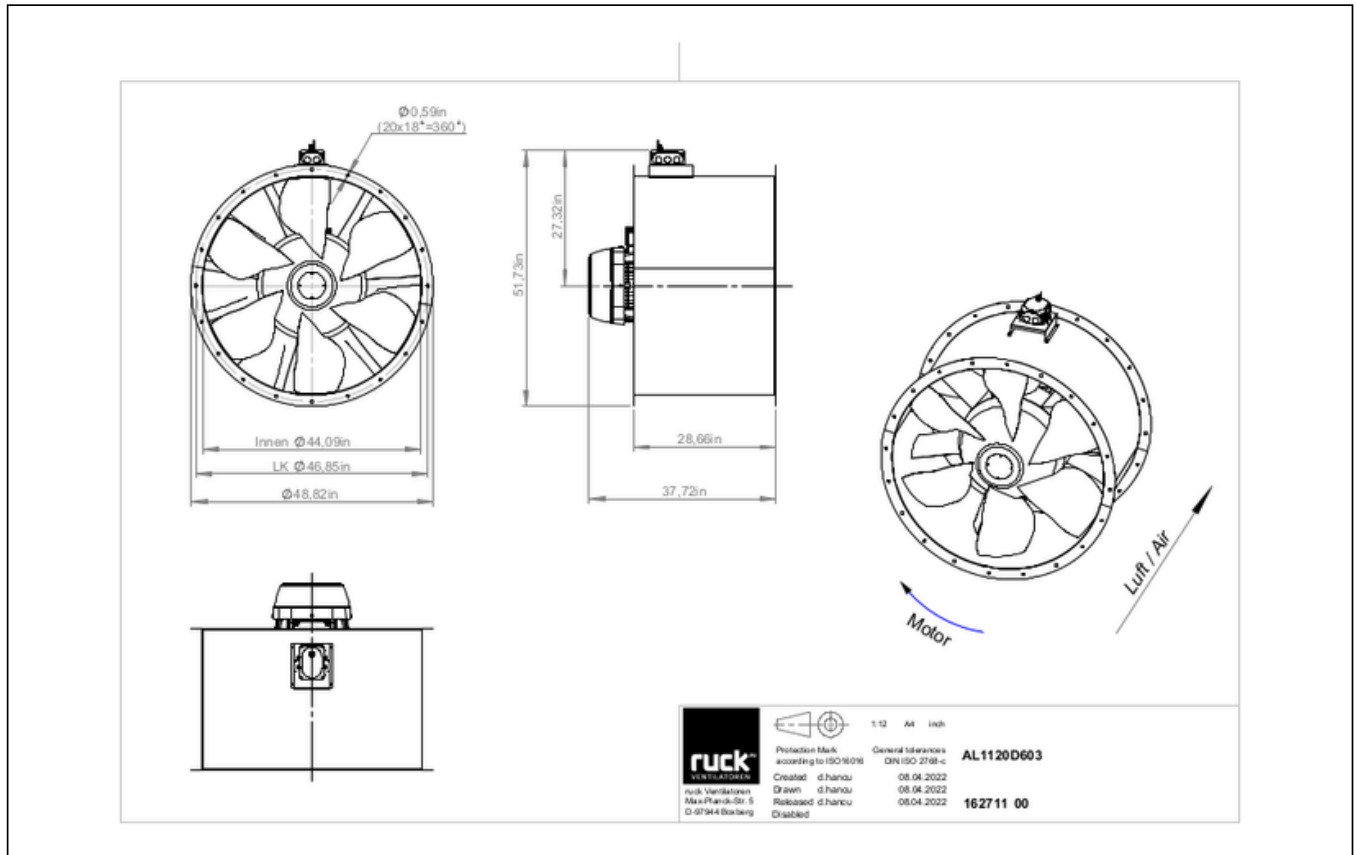
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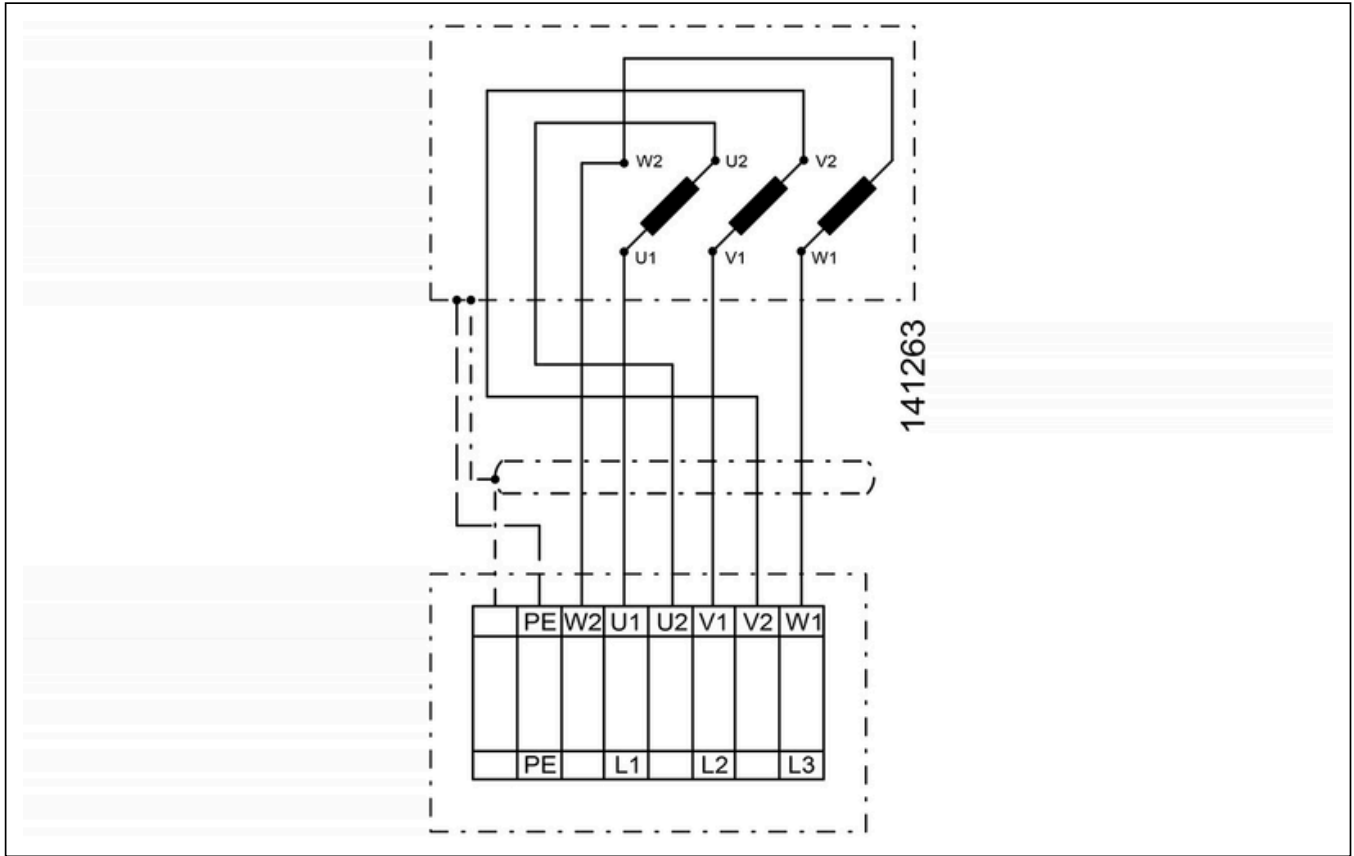
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## MECHANICAL ACCESSORIES

**RVS 1120-01 | 157481**



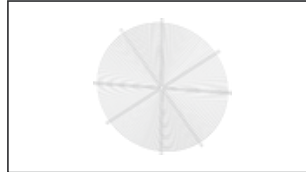
- Tube connection spigot
- Sheet steel, powder coated
- Suitable for outdoor installation
- Flange mounting

**ESD 1120 | 159333**



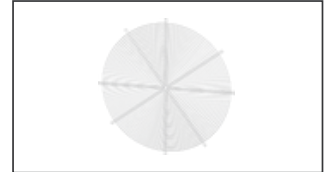
- Inlet cone
- Steel sheet, powder coated
- Flange mounting

**SGW 1120 | 159543**



- Protection grille, wide meshed
- Steel sheet, galvanized
- Flange mounting

**SGW 1250 | 159544**



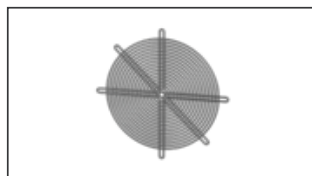
- Protection grille, wide meshed
- Steel sheet, galvanized
- Flange mounting

**RVK H 1120 | 163911**



- Automatic tube shutter
- Sheet steel, powder coated
- For horizontal installation
- Flange mounting

**SGE 1120 | 159519**



- Protection grille, narrow meshed
- Steel sheet, galvanized
- Flange mounting

**FSD 09 | 162478**



- Set of 4 vibration dampers
- Made of natural rubber, hardness 55 Shore A

**RAF 1120 | 157497**



- Round flange
- Sheet steel, powder coated

**RAS 1120 | 157638**



- Round spigot, flexible
- Galvanized steel sheet, plastic band (PES)
- Temperature resistant up to 75 °C
- Flange mounting

**FAL 1120 | 157900**



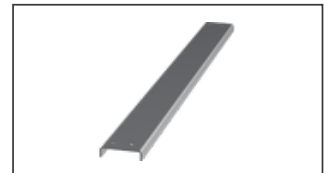
- Mounting foot
- Sheet steel, powder coated
- Flange mounting

**FSD 11 | 162489**



- Set of 4 vibration dampers
- All metal design, galvanized

**TRA 1120-1250 | 163013**



- Crossbeam
- Connection between mounting feet
- Galvanized steel sheet

**RVK 1120 | 157837**



- Automatic tube shutter
- Sheet steel, powder coated
- For vertical installation
- Flange mounting

**MR 1120 | 166085**



- Mounting ring
- For vertical mounting
- Powder-coated sheet steel
- Flange mounting DN 1120



## ELECTRICAL ACCESSORIES

MS 09 | 160187



- Motor protection switch with device switch function
- For three phase motors
- I<sub>max</sub> = 40 A

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

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 185 11 | 161424



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

FU 185 12 | 161425



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

