

# Axial Flow Fans

Issue 6

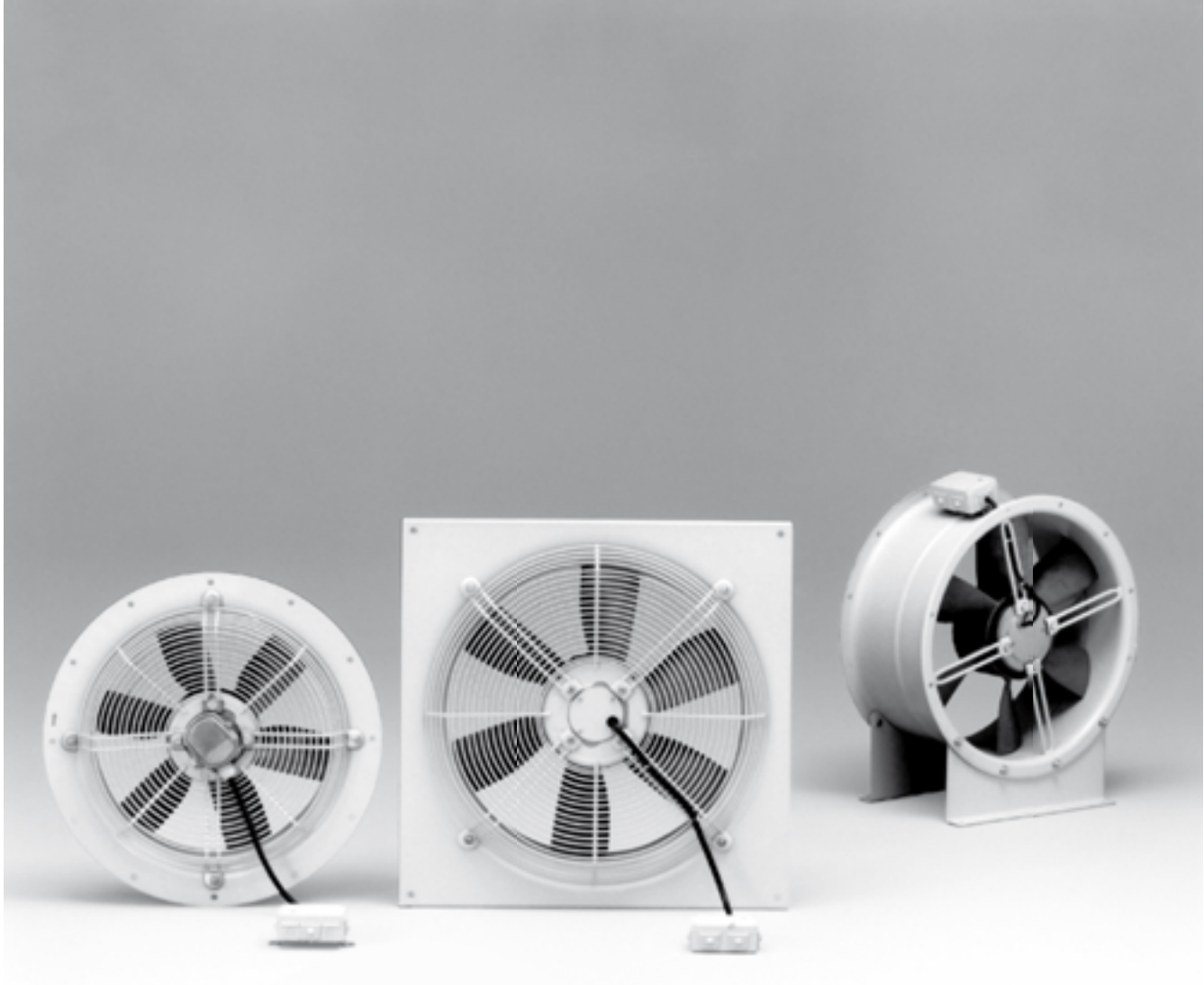


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# Axial Flow Fans

## Axial Flow Fans



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# Axial Flow Fans

## High Performance - Axial Flow Fans



**AQA 61-0315/-0630**

Square wall mounting plate incorporating an inlet ring of galvanised sheet steel and painted. (light grey)  
 Plastic impeller bolted to the rotor of the integral motor,  
 Connecting cable and terminal box supplied loose  
 Inlet guard fitted conforming to DIN EN 294.  
 Low noise, maintenance free, ready to connect

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation

## High Performance - Axial Flow Fans

**AWA 11-0200/-0300**

Wall mounting ring incorporating an inlet cone of painted sheet steel.  
 Impeller made from galvanised sheet steel shrink-fitted onto the rotor of the integral motor,  
 Connection cable supplied loose  
 Inlet guard fitted conforming to DIN EN 294.  
 Low noise, maintenance free, ready to connect

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation



**AWA 61-0315/-0630**

Wall mounting ring incorporating an inlet cone of galvanised sheet steel and painted. (light grey)  
 Plastic impeller bolted to the rotor of the integral motor,  
 Connecting cable and terminal box supplied loose  
 Inlet guard fitted conforming to DIN EN 294.  
 Low noise, maintenance free, ready to connect

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation

## High Performance - Axial Flow Fans



**ARA 61-0315/-0630**

Duct mounted casing with connecting flanges on both sides, made from sheet steel and powder coated  
 Plastic impeller bolted to the rotor of the integral motor, Low noise, maintenance free, ready for connection with terminal box fitted on fan casing

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation



**ARA 62-0315/-0630**

Duct mounted for flush mounting in long casing design, made from sheet steel and powder coated  
 Plastic impeller bolted to the rotor of the integral motor, Low noise, maintenance free, ready for connection with terminal box fitted on fan casing

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation

## High Performance - Axial Flow Fans



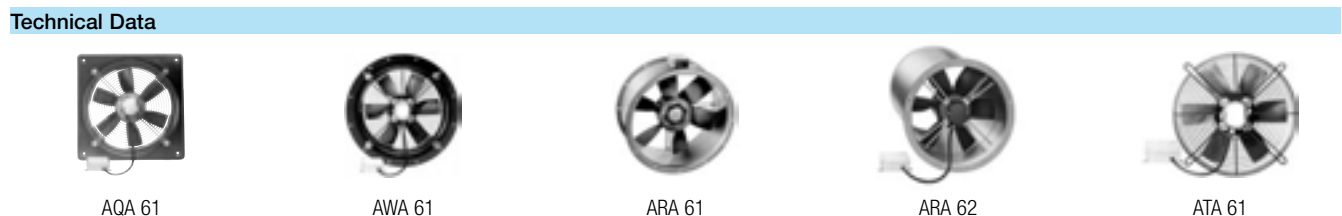
**ATA 61-0315/-0630**

Technical design as for AWA and AQA but without wall ring, suitable to be integrated into units. Self supporting inlet guard fitted conforming to DIN EN 294.  
 Low noise, maintenance free, ready to connect

**Application:** General ventilation, Cooling industry, Farming and glass house ventilation

# Axial Flow Fans

Technical Data							
AWA 11-	Fan speed 1/min	Nominal motor voltage V	max. power consumption kW	Nominal motor current A	Capacitor µF	max. Media temperature °C	Weight appr. kg
0200-2E	2650	230	0.065	0.32	2	70	3
0200-4S	1315	230	0.039	0.32	-	50	2
0250-2E	2500	230	0.130	0.68	4	55	3.5
0250-4S	1350	230	0.065	0.52	-	45	3
0300-2E	2550	230	0.180	0.85	6	50	4.5
0300-4E	1340	230	0.095	0.46	3	50	4.5



	Fan speed 1/min	Nominal motor voltage V	max. power consumption kW	Nominal motor current A	Capacitor µF	max. Media temperature °C	Weight appr. kg			
							AQA	AWA	ATA	ARA
0315-4D	1350	230/400	0.11	0.66/0.38	-	45	5	4.5	3.5	5.7
0315-6D	940	230/400	0.07	0.48/0.28	-	45	5	4.5	3.5	5.7
0315-4E	1405	230	0.11	0.65	3	50	5	4.5	3.5	5.7
0315-6E	925	230	0.06	0.3	2	50	5	4.5	3.5	5.7
0355-4D	1400	230/400	0.18	0.78/0.45	-	40	6	5.5	4	6.4
0355-6D	960	230/400	0.09	0.52/0.3	-	45	6	5.5	4	6.4
0355-4E	1340	230	0.16	0.95	4	50	6.5	6	4.5	6.8
0355-6E	920	230	0.07	0.4	2	50	6.5	6	4.5	6.8
0400-4D	1350	230/400	0.2	1.21/0.7	-	50	9	8	6	8.8
0400-6D	950	230/400	0.11	0.93/0.54	-	50	9	8	6	8.8
0400-4E	1320	230	0.22	1.15	6	45	9	8	6	9
0400-6E	935	230	0.1	0.6	3	60	9	8	6	9
0450-4D	1350	230/400	0.3	1.37/0.79	-	50	12	11	7.5	10.5
0450-6D	925	230/400	0.16	1.18/0.68	-	50	12	11	7.5	10.5
0450-4E	1290	230	0.35	1.9	8	40	13	12	8	11
0450-6E	935	230	0.18	1.15	6	45	13	12	8	11
0500-4D	1440	230/400	0.6	2.86/1.65	-	50	18	16	12	14
0500-6D	960	230/400	0.22	1.47/0.85	-	55	17	15	10.5	14
0500-4E	1340	230	0.57	3.15	16	50	18	16	12	16
0500-6E	940	230	0.26	1.6	10	50	18	16	12	16
0560-4D	1320	230/400	1.19	4.47/2.58	-	40	28	26	20	23
0560-6D	960	230/400	0.45	2.9/1.7	-	60	28	26	20	23
0560-4E	1330	230	1.3	6.25	25	40	33	31	23	28
0560-6E	960	230	0.59	3.2	20	50	33	31	23	28
0630-4D	1320	230/400	1.65	5.54/3.2	-	45	40	36	26	33
0630-6D	945	230/400	0.58	3.2/1.85	-	60	35	31	21	28
0630-6E	945	230	0.7	3.5	25	50	40	36	26	33

The motors are equipped with thermo contacts to prevent them against thermal overload.

Each fan or service switch is provided with a wiring diagram

The relevant wiring diagram may be found at:  
[www.nicotra-gebhardt.com](http://www.nicotra-gebhardt.com)

# Axial Flow Fans

Technical Data							
AWA 11-	Motor protection unit ESM ②	Transformer 7 taps ETO	Transformer 5-steps ETH ②	Speed regulator electronic EPH	Speed regulator electronic EPA	Speed regulator micro processor EPA	Speed controller electronic EPA
0200-2E	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0200-4S	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0250-2E	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0250-4S	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0300-2E	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0300-4E	– ①	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E

Technical Data							
	Motor protection unit ESM ②	Transformer 7 taps ETO	Transformer 5-steps ETH ②	Speed regulator electronic EPH	Speed regulator electronic EPA	Speed regulator micro processor EPA	Speed controller electronic EPA
0315-4D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0315-6D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	–
0315-4E	01-0020-5E	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0315-6E	01-0020-5E	10-0018-5E	31-0020-5E	03-0010-5E	–	93-0023-5E	83-0060-5E
0355-4D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0355-6D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0355-4E	01-0020-5E	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0355-6E	01-0020-5E	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0400-4D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0400-6D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0400-4E	01-0020-5E	10-0018-5E	31-0020-5E	03-0020-5E	03-0060-5E	93-0023-5E	83-0060-5E
0400-6E	01-0020-5E	10-0018-5E	31-0020-5E	03-0010-5E	03-0060-5E	93-0023-5E	83-0060-5E
0450-4D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0450-6D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
0450-4E	01-0020-5E	10-0040-5E	31-0020-5E	03-0020-5E	03-0060-5E	93-0023-5E	83-0060-5E
0450-6E	01-0020-5E	10-0018-5E	31-0020-5E	03-0020-5E	03-0060-5E	93-0023-5E	83-0060-5E
0500-4D	01-0040-8D	10-0020-8D	35-0020-8D	–	–	–	83-0050-8D
0500-6D	01-0040-8D	10-0010-8D	35-0010-8D	–	–	–	83-0050-8D
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0630-4D	01-0040-8D	10-0040-8D	36-0040-8D	–	–	–	83-0050-8D
0630-6D	01-0040-8D	10-0020-8D	35-0020-8D	–	–	–	83-0050-8D
0630-6E	01-0020-5E	10-0040-5E	35-0040-5E	03-0040-5E	03-0060-5E	–	83-0060-5E

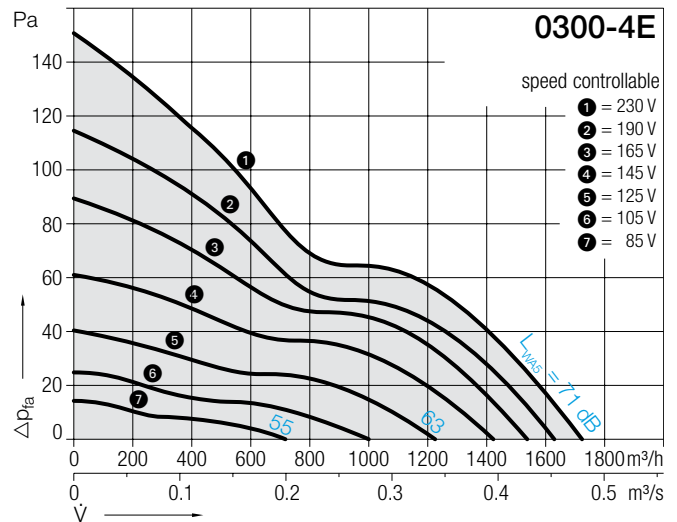
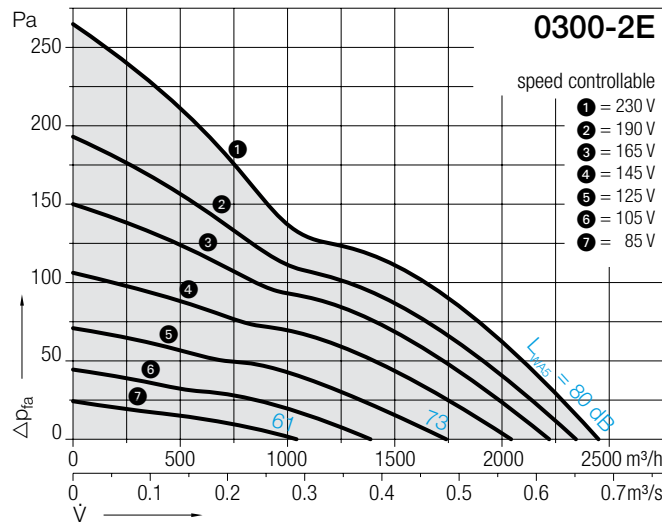
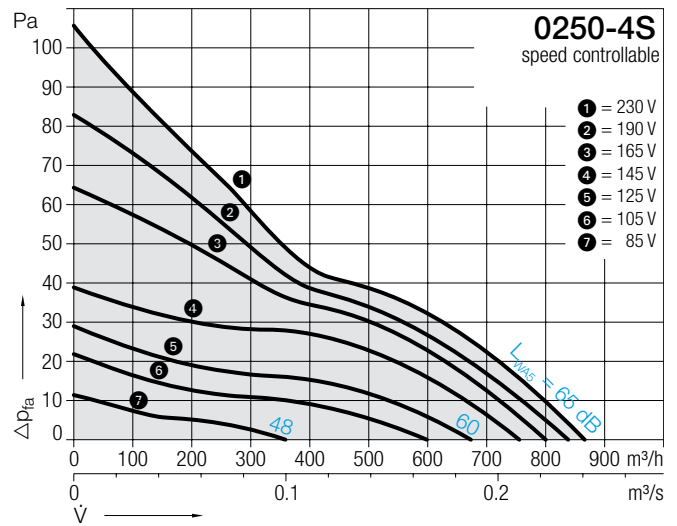
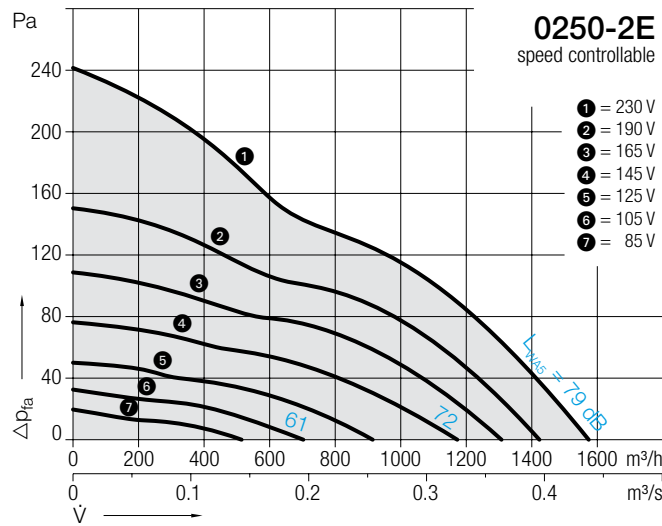
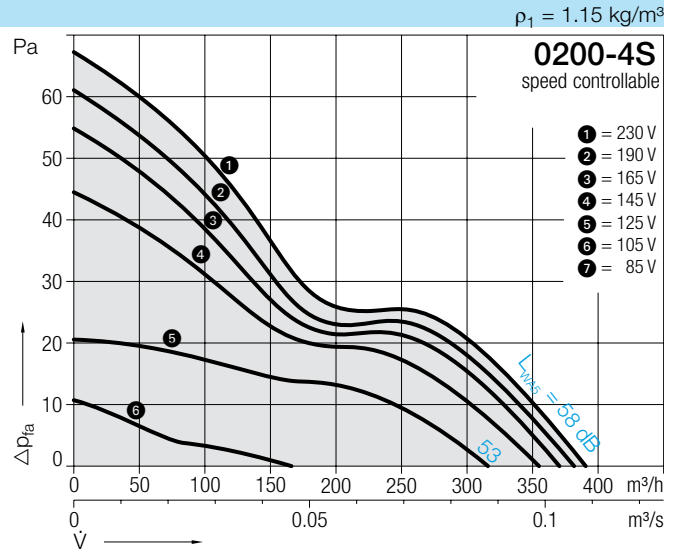
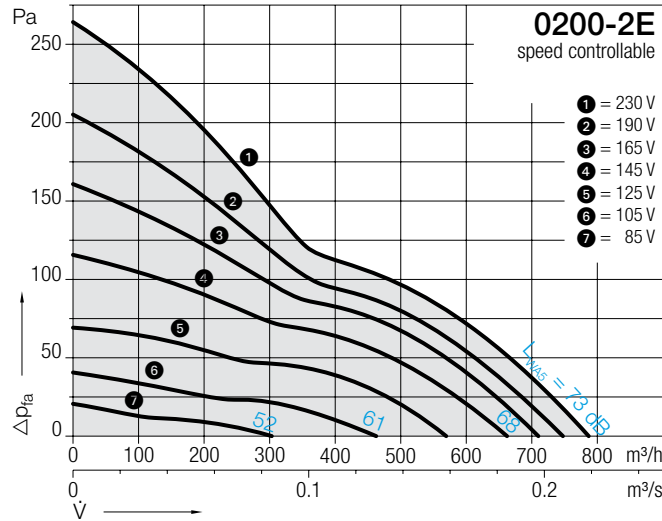
① Motor protection unit is not required.

The thermo contacts are fitted in series with the motor winding. They switch the motor off directly when a thermal overload occurs and they switch it on automatically after cooling down.

② An extra motor protection unit is not required when using speed control units of the types ETH 32-, ETH 36-, and EPA 03-. These control units are already equipped with a motor protection unit.

# AWA 11-0200/-0250/-0300

## Curves



## Volume flow

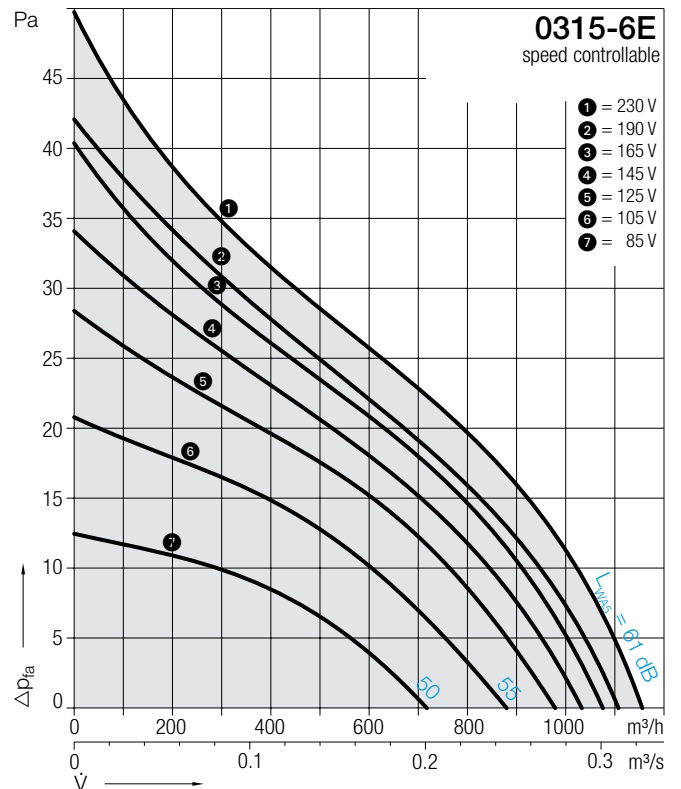
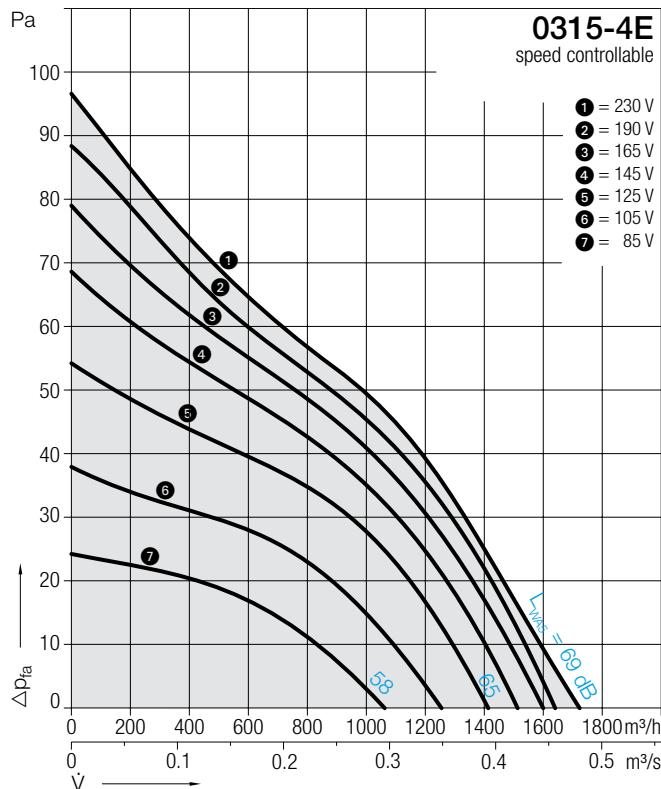
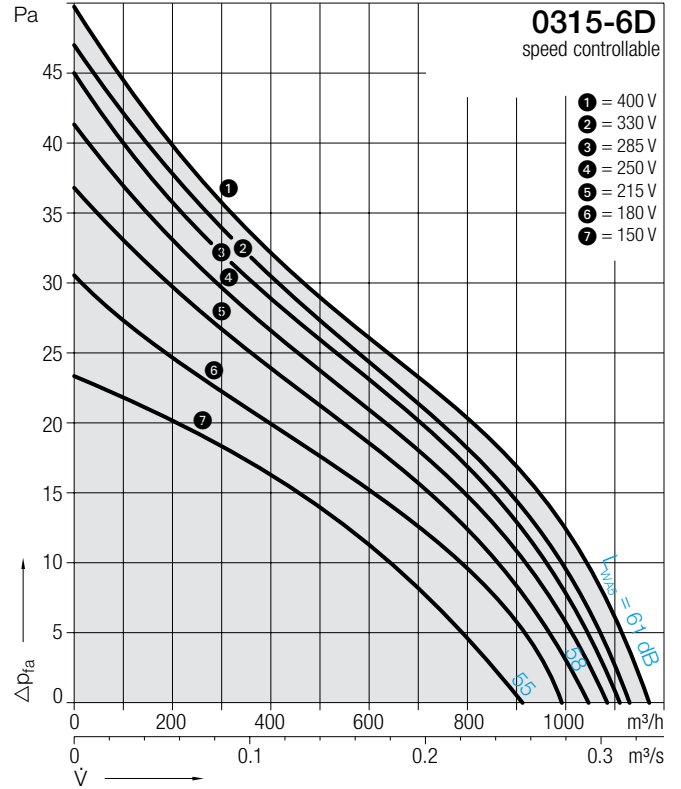
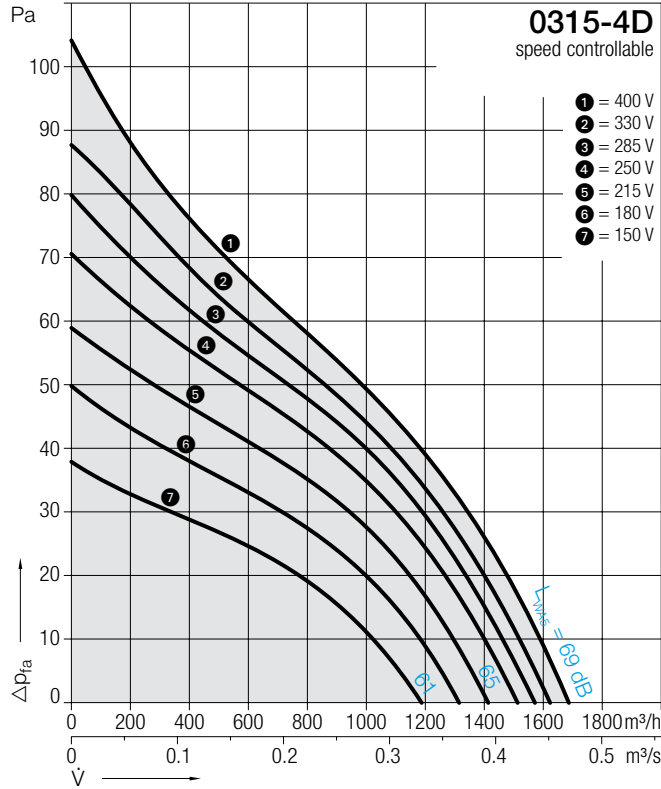
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folome flow $V$ in $\text{m}^3/\text{h}$ at available pressure increase $\Delta p_{fa}$ in Pa							
			0	10	20	40	60	80	100	120
0200-2E	2650	73	790	740	690	640	575	490		
0200-4S	1315	58	390	360	310					
0250-2E	2500	79	1570	1490	1420	1330	1230	1120	970	
0250-4S	1350	65	860	800	720	480				
0300-2E	2550	80	2460	2300	2180	2020	1850	1650	1350	
0300-4E	1340	71	1720	1650	1575	1400	1150			

# Size 0315

**Curves**

$\rho_1 = 1.15 \text{ kg/m}^3$



**Volume flow**

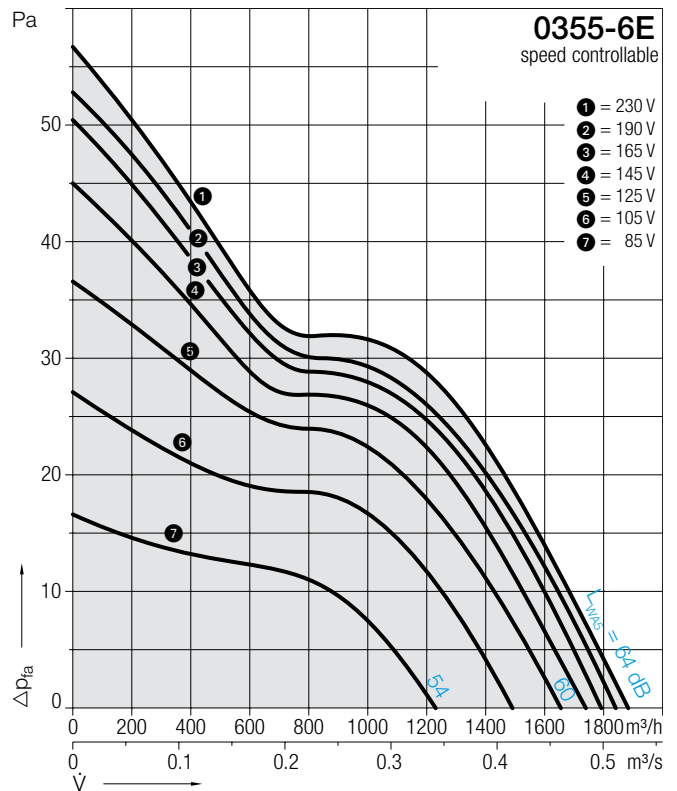
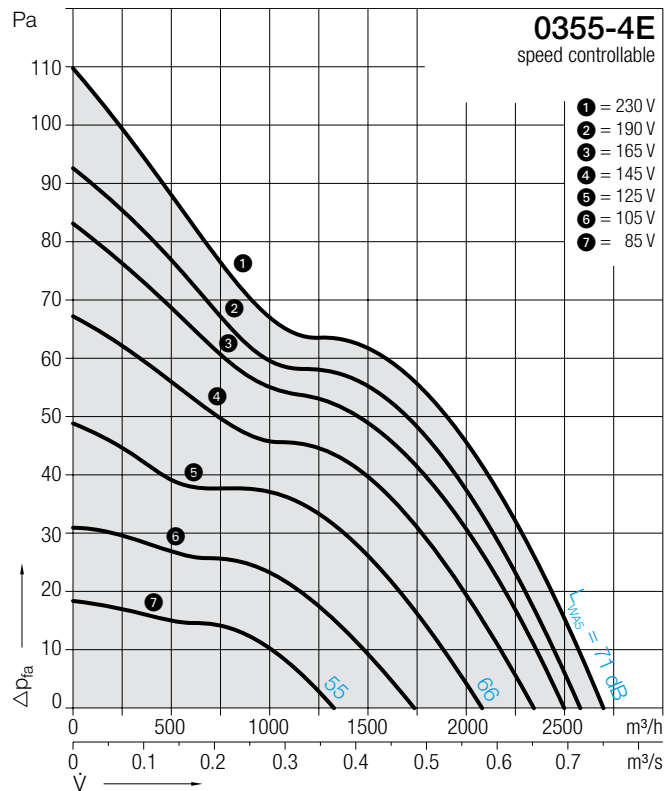
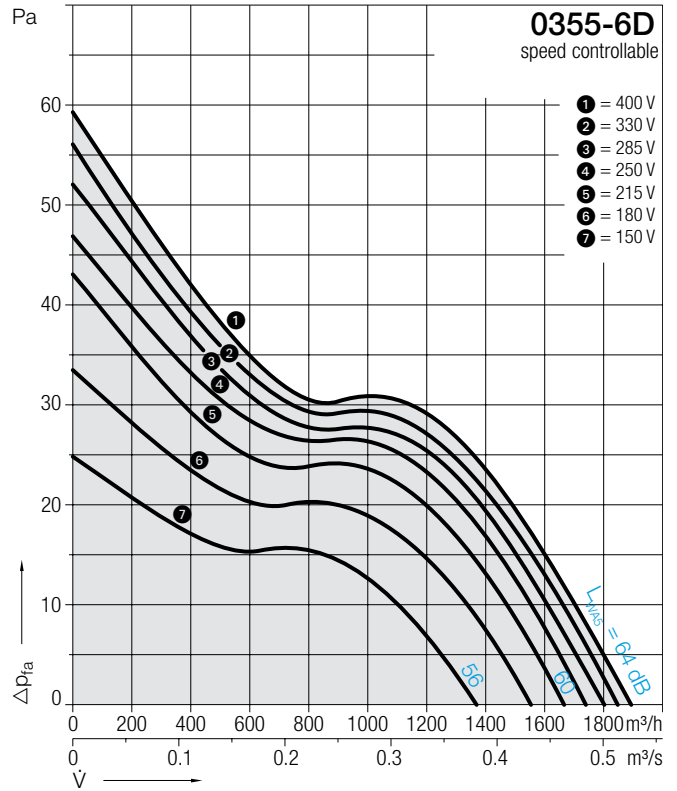
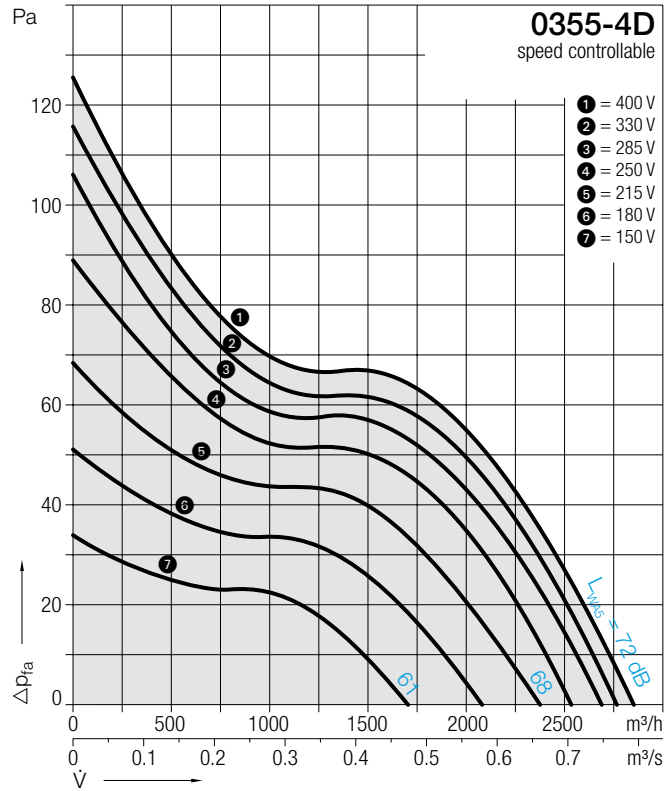
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folme flow $V$ in $\text{m}^3/\text{h}$ at available pressure increase $\Delta p_{fa}$ in Pa						
			0	10	20	30	40	50	60
0315-4D	1350	69	1680	1600	1500	1360	1200	1000	780
0315-6D	940	61	1170	1040	815				
0315-4E	1405	69	1700	1600	1470	1340	1190	990	
0315-6E	925	61	1160	1025	800				

# Size 0355

## Curves

$\rho_1 = 1.15 \text{ kg/m}^3$



## Volume flow

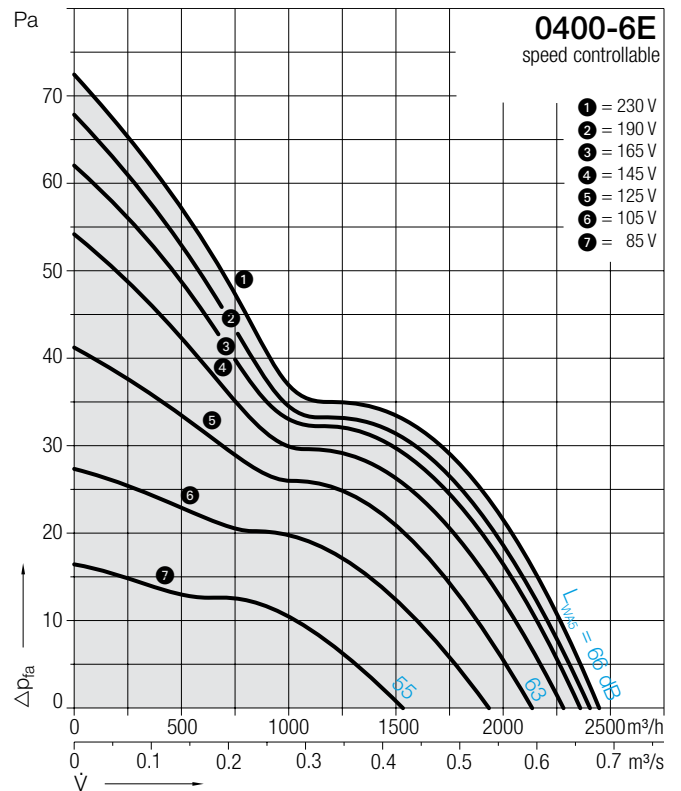
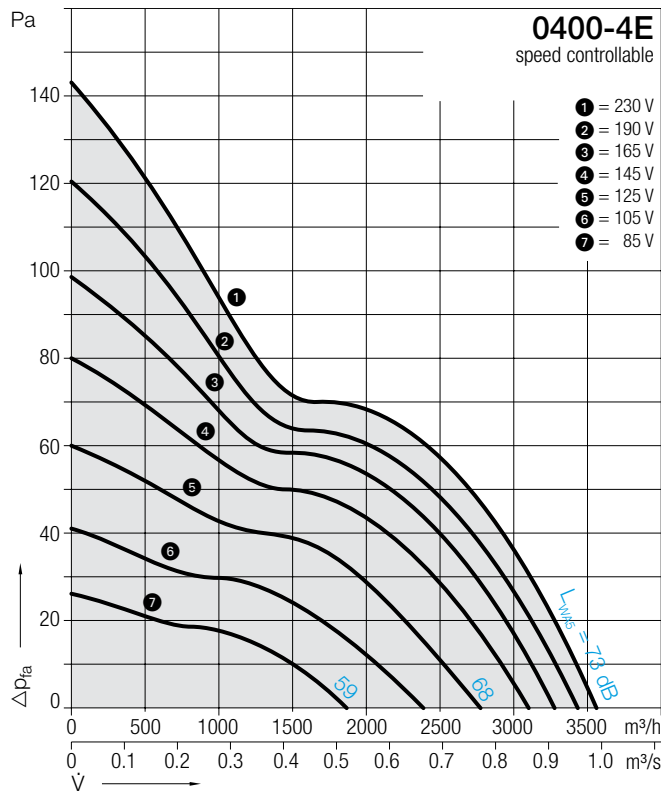
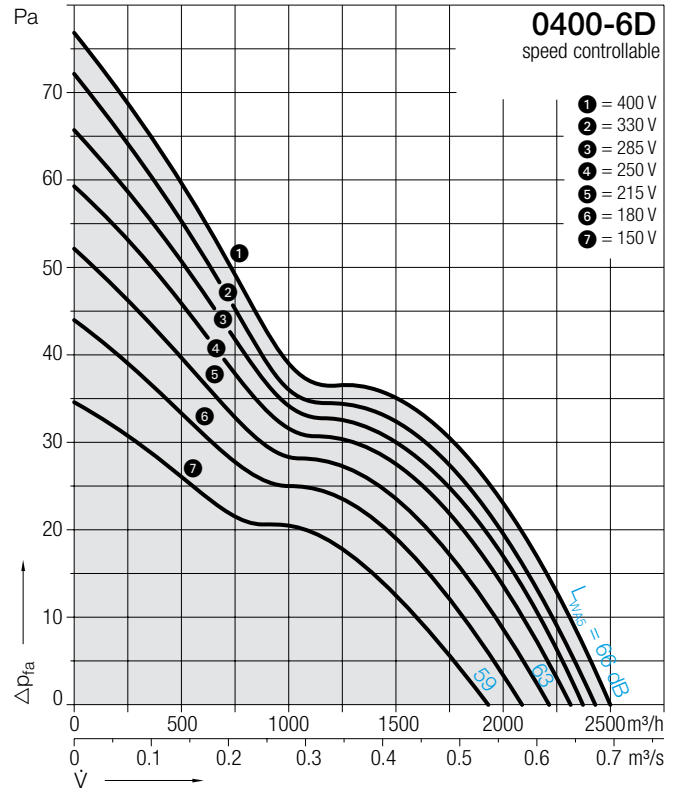
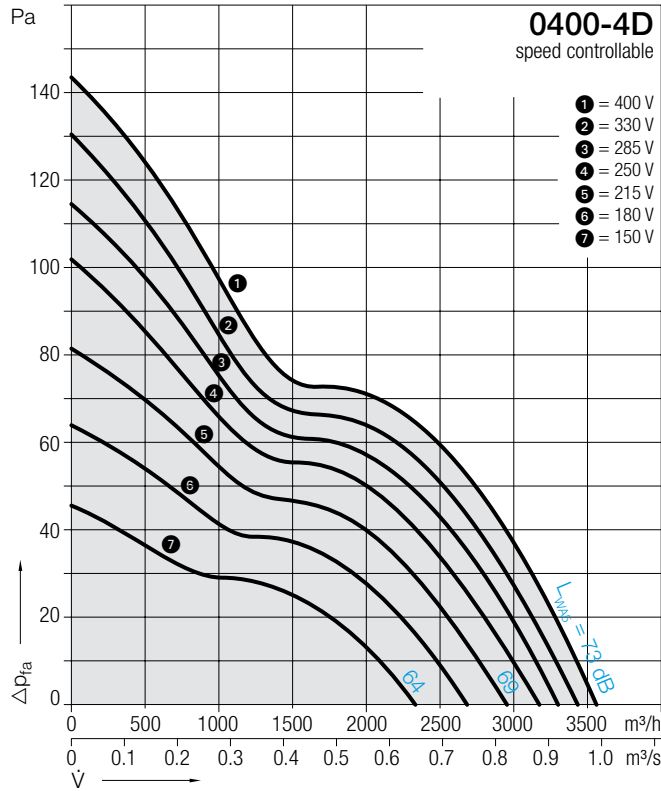
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folome flow $V$ in $m^3/h$ at available pressure increase $\Delta p_{fa}$ in Pa						
			0	10	20	30	40	50	60
0355-4D	1400	72	2870	2750	2600	2450	2300	2150	1850
0355-6D	940	64	1900	1700	1500	1150			
0355-4E	1340	71	2700	2570	2430	2300	2100		
0355-6E	920	64	1880	1700	1470	1140			

# Size 0400

Curves

$\rho_1 = 1.15 \text{ kg/m}^3$



Volume flow

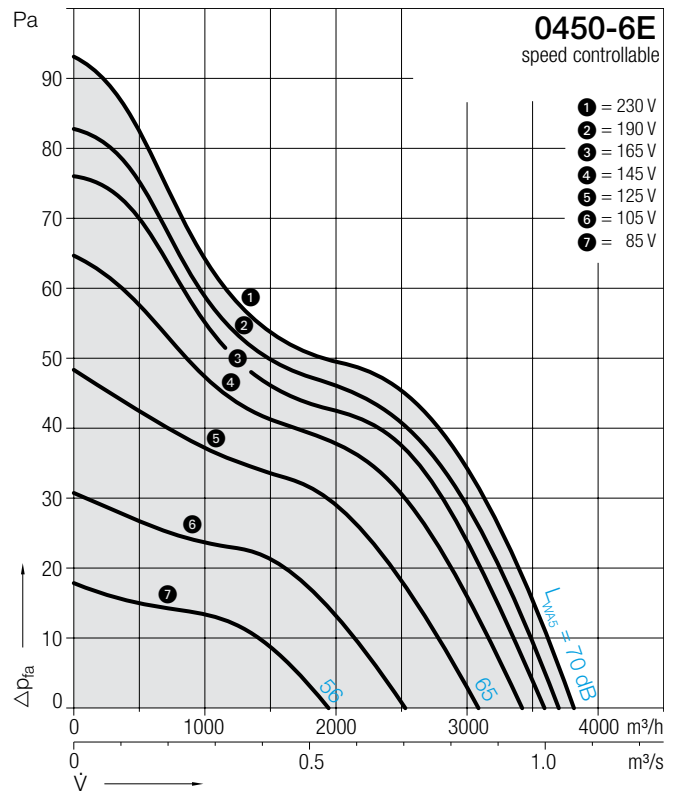
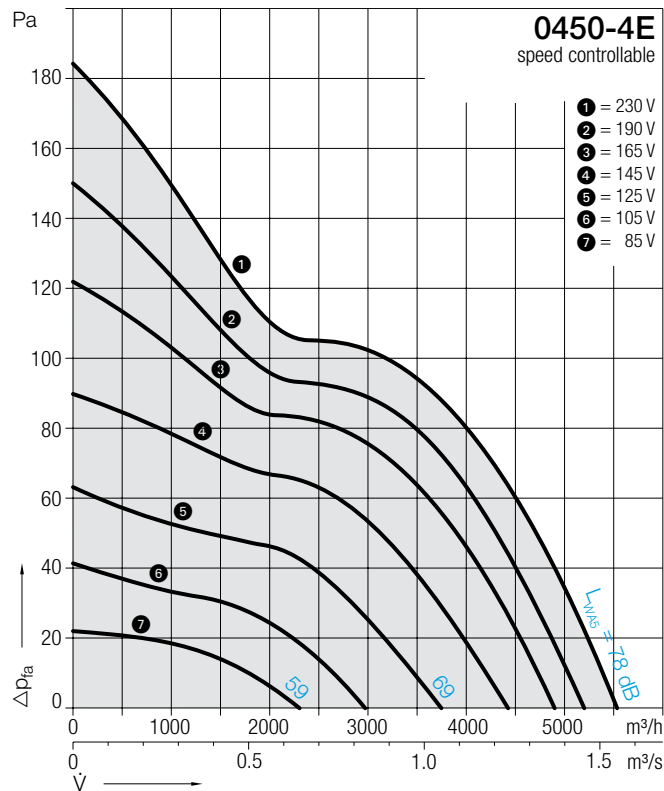
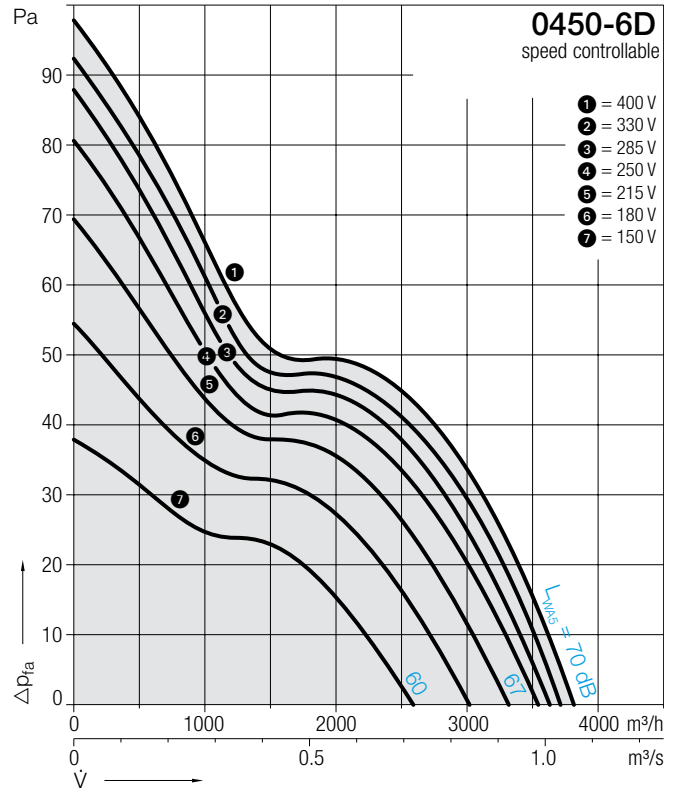
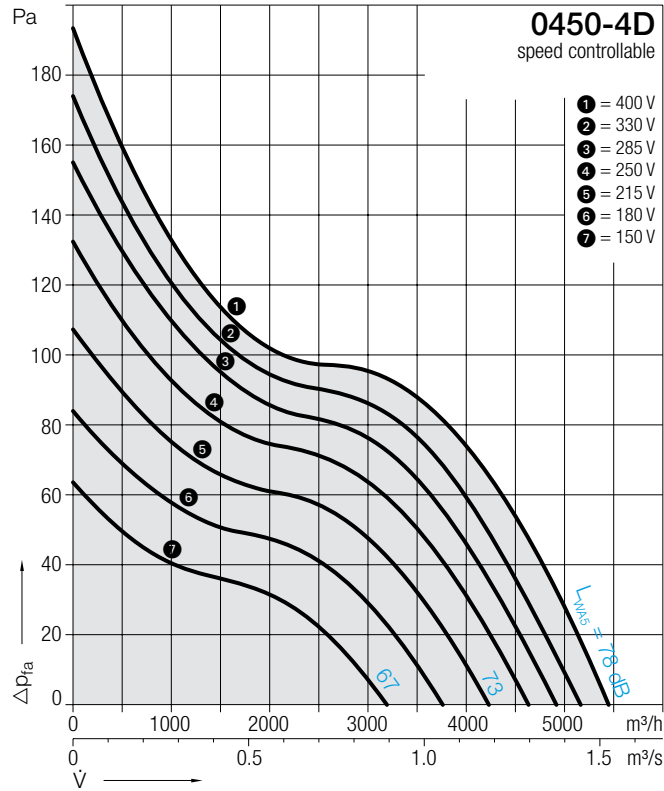
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folme flow V in m³/h at available pressure increase $\Delta p_{fa}$ in Pa							
			0	10	20	30	40	50	60	70
0400-4D	1350	73	3580	3450	3300	3140	2975	2800	2500	2000
0400-6D	950	66	2500	2300	2100	1800				
0400-4E	1320	73	3550	3400	3250	3110	2900	2750	2400	2000
0400-6E	935	66	2450	2260	2050	1740				

# Size 0450

## Curves

$\rho_1 = 1.15 \text{ kg/m}^3$



## Volume flow

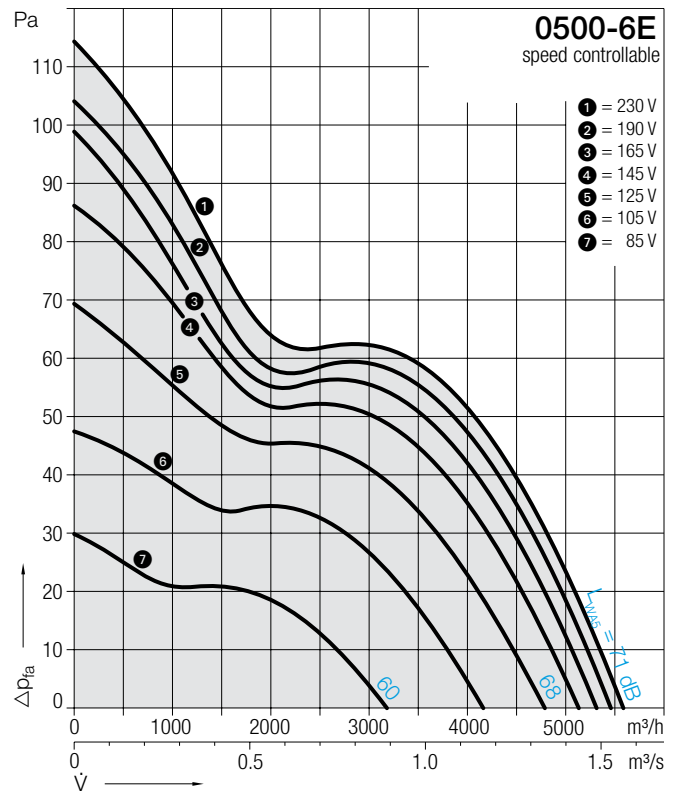
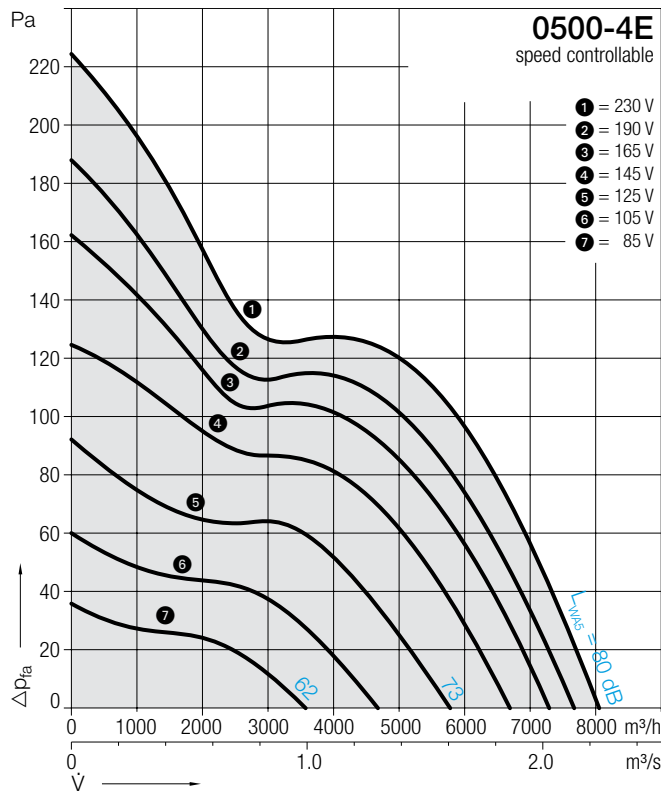
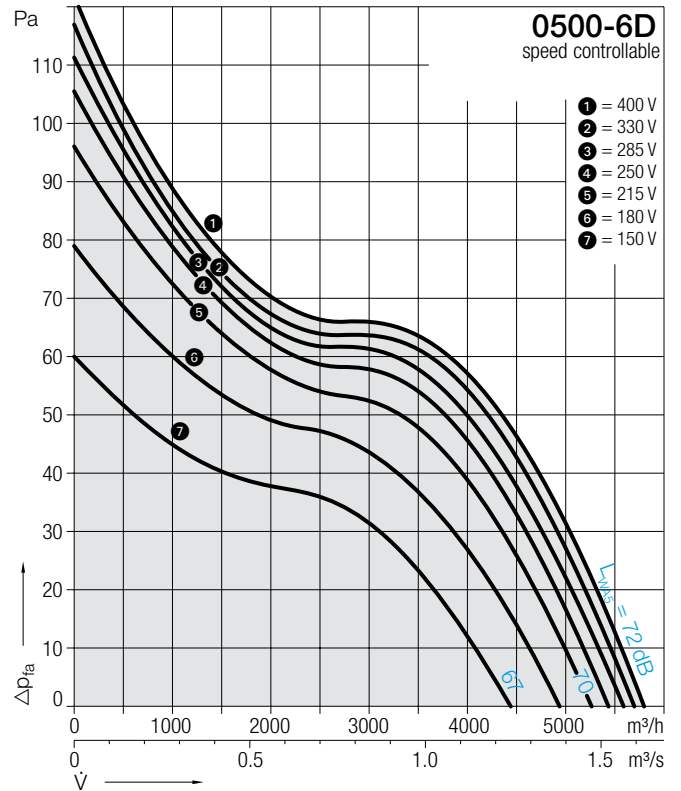
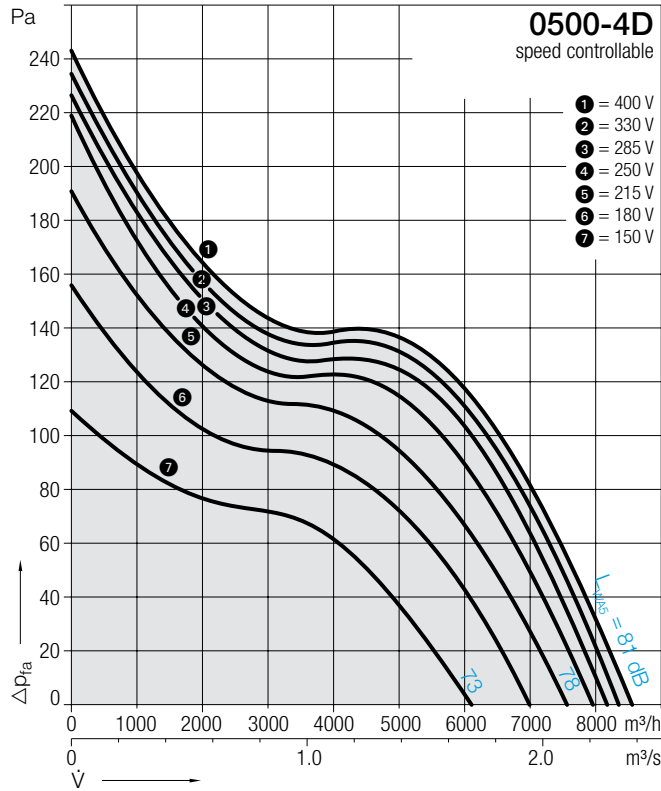
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folome flow $V$ in $m^3/h$ at available pressure increase $\Delta p_{fa}$ in Pa									
			0	10	20	30	40	50	60	70	80	90
0450-4D	1350	78	5450	5150	4750	4350	3800	3450				
0450-6D	925	70	3830	3620	3400	3100	2780	2000				
0450-4E	1290	78	5500	5200	4860	4480	4000	3600				
0450-6E	935	70	3800	3600	3400	3100	2800					

# Size 0500

## Curves

$\rho_1 = 1.15 \text{ kg/m}^3$



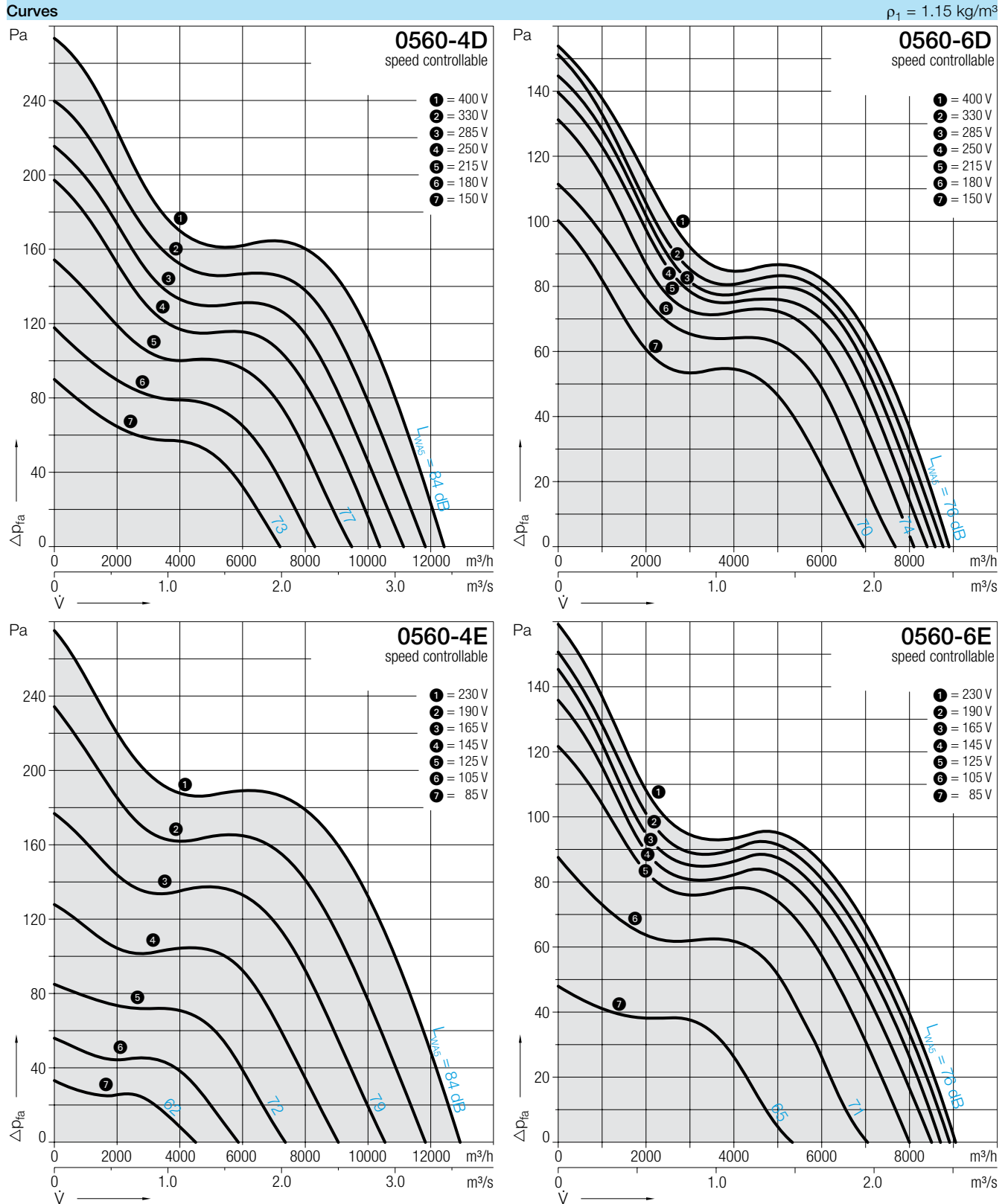
## Volume flow

$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folme flow $V$ in $\text{m}^3/\text{h}$ at available pressure increase $\Delta p_{fa}$ in Pa							
			0	20	40	60	80	100	120	140
0500-4D	1440	81	8600	8290	7900	7580	7100	6650	6000	4500
0500-6D	960	72	5800	5300	4700	3850				
0500-4E	1340	80	8050	7700	7350	6950	6500	5900	5000	
0500-6E	940	71	5550	5100	4500	3400				

# Size 0560

## Curves



## Volume flow

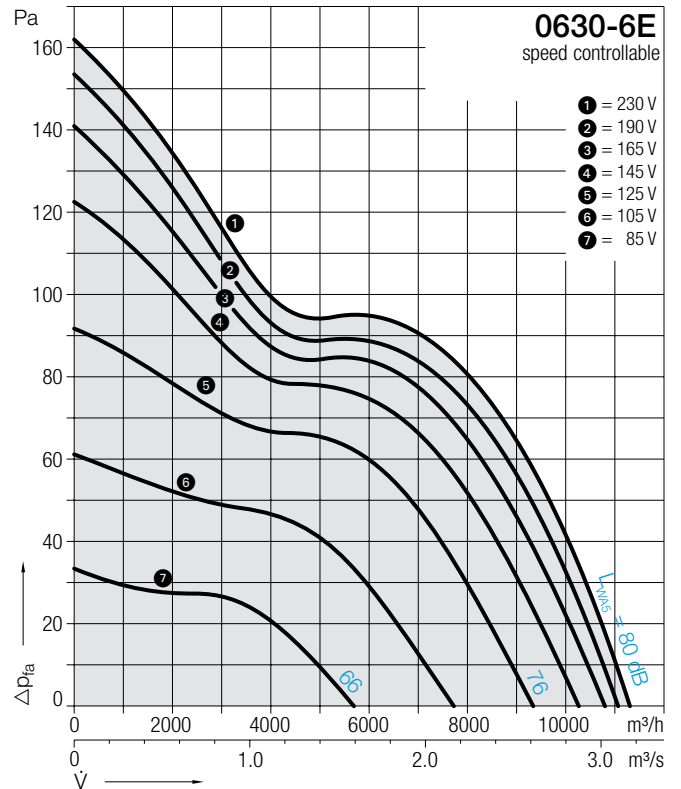
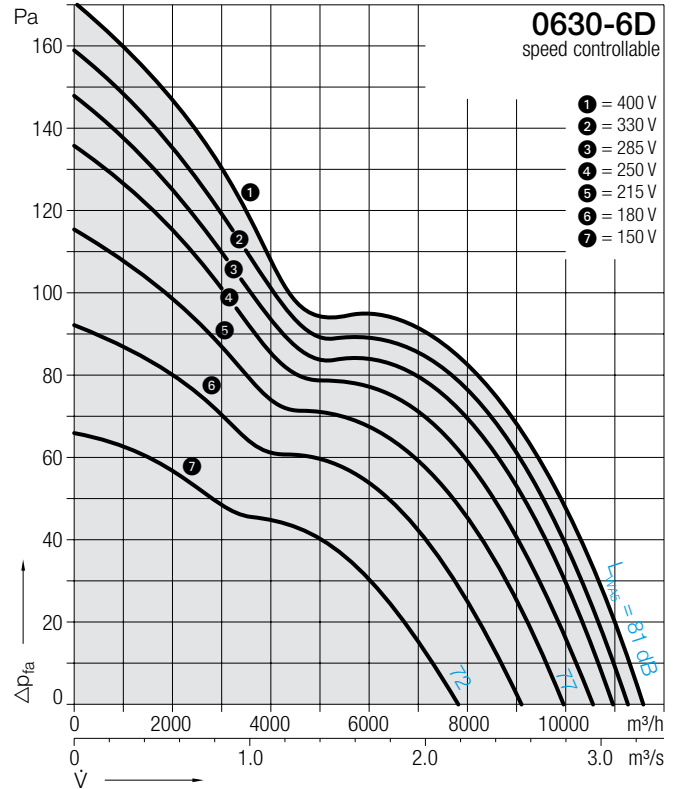
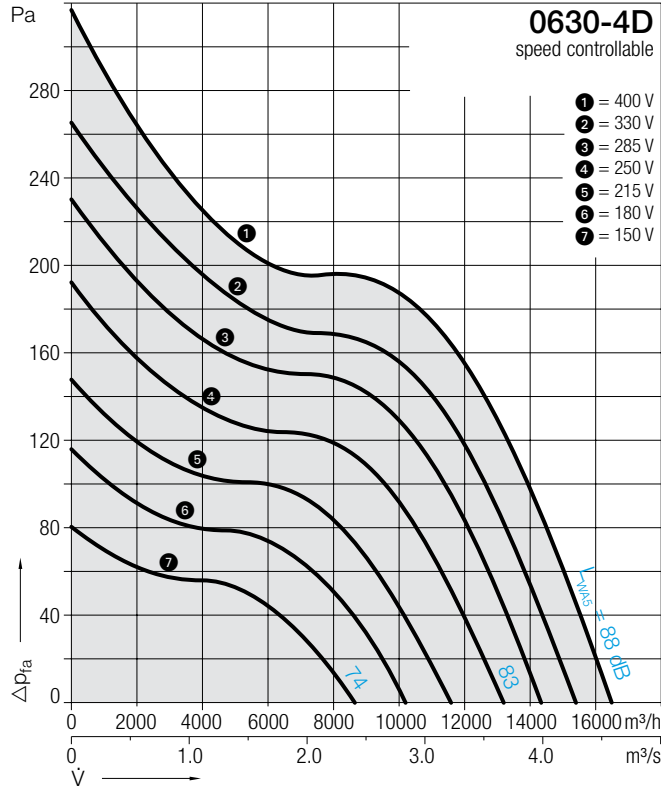
$\rho_1 = 1.15 \text{ kg/m}^3$

provent	Fan Speed 1/min	$L_{WA5}$ at $V_{max}$ dB	Folme flow $V$ in $m^3/h$ at available pressure increase $\Delta p_{fa}$ in Pa								
			0	20	40	60	80	90	120	160	180
0560-4D	1320	84	12500		11700		10800		9900	8150	
0560-6D	960	76	8900	8400	7900	7250	6200				
0560-4E	1330	84	13000		12200		11300		10300	9000	7900
0560-6E	960	76	9100	8600	8000	7300	6400	5700			

# Size 0630

Curves

$\rho_1 = 1.15 \text{ kg/m}^3$



Volume flow

$\rho_1 = 1.15 \text{ kg/m}^3$

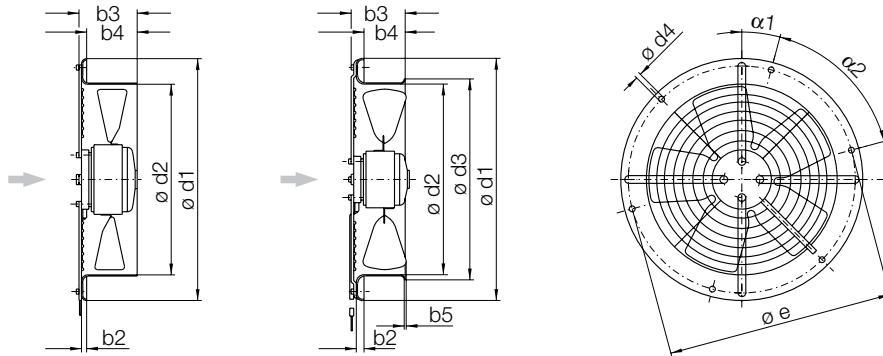
provent	Fan Speed 1/min	L <sub>WA5</sub> at V <sub>max</sub> dB	Folme flow V in m <sup>3</sup> /h at available pressure increase Δp <sub>ta</sub> in Pa								
			0	20	40	60	80	90	120	160	180
0630-4D	1320	88	16550	15550	14550	13450					
0630-6D	945	81	11500	11000	10300	9500	8200	7150			
0630-6E	945	80	11400	10750	10100	9300	8000	7000			

# AWA 11-0200/-0300

# AWA 61-0315/-0630

Dimensions in mm, subject to change

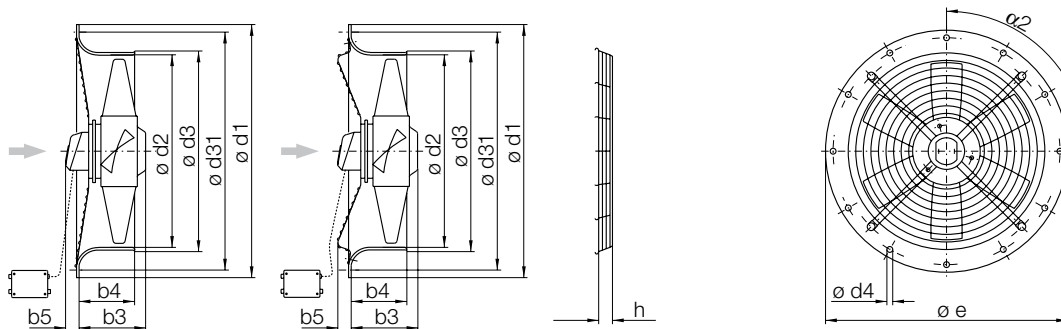
AWA 11-0200/-0250      AWA 11-0300



AWA 11-	b2	b3	b4	b5	ød1	ød2	ød3	ød4	øe	α1	α2
0200-	6	89	75	-	280	200	-	7	250	15°	6×60°
0250-	6	94	79	-	320	254	-	7	295	15°	6×60°
0300-2E	11	89	69	12	397	306	326	9	380	15°	6×60°
0300-4E	11	89	69	2	397	306	326	9	380	15°	6×60°

Dimensions in mm, subject to change

AWA 61-0315/-0355      AWA 61-0400/-0630      ZSG 06  
Inlet guard



AWA 61-	b4	~b5	ød1	ød2	ød3	~ød31	ød4	øe	h	α2	Dimension b3 for pole-types			
											-4D	-4E	-6D	-6E
0315	84	25	465	315	330	390	10	432	40	12×30°	~120	~120	~120	~120
0355	100	20	514	355	370	430	10	482	40	12×30°	~120	~120	~130	~130
0400	108	40	565	400	415	495	10	532	50	12×30°	~120	~120	~120	~120
0450	120	30	625	450	465	550	10	592	50	12×30°	~140	~150	~140	~150
0500	135	30	694	500	516	610	10	662	50	12×30°	~150	~150	~135	~150
0560	180	50	790	560	576	690	12	754	60	16×22.5°	~190	~220	~190	~220
0630	180	50	880	630	646	770	12	844	60	16×22.5°	~220	-	~190	~220

# AQA 61-0315/-0630

# ATA 61-0315/-0630

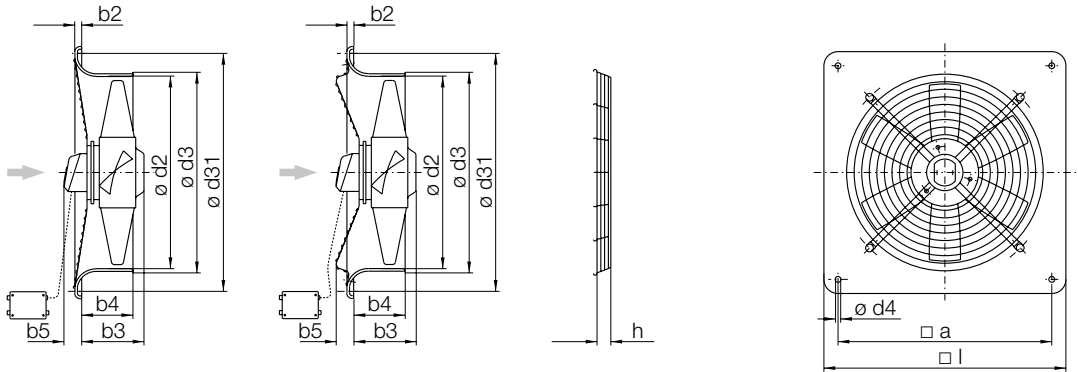
Dimensions in mm, subject to change

AQA 61-0315/-0355

AQA 61-0400/-0630

ZSG 06

Inlet guard

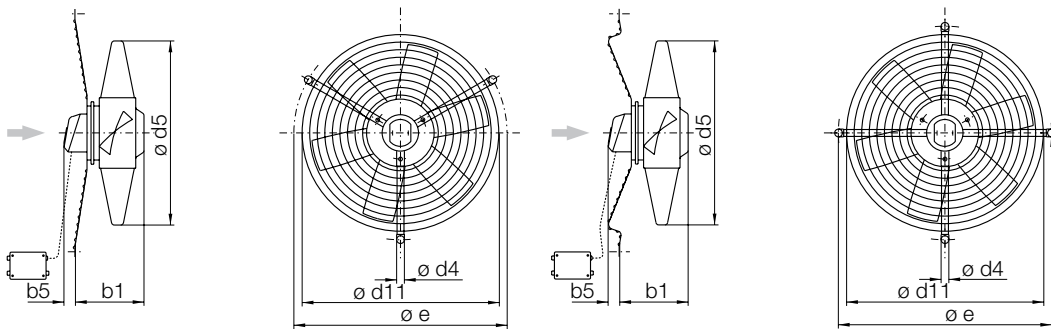


AQA 61-	□ a	b2	b4	~b5	ød2	ød3	~ød31	ød4	h	□ l	Dimension b3 for pole-types			
											-4D	-4E	-6D	-6E
0315	350	8	78	33	315	330	390	10.5	40	410	~110	~110	~110	~110
0355	400	8	93	30	355	370	430	10.5	40	460	~110	~110	~120	~120
0400	460	10	100	50	400	415	495	10.5	50	520	~110	~110	~110	~110
0450	515	10	112	45	450	465	550	10.5	50	575	~130	~140	~130	~140
0500	615	15	115	45	500	516	610	11	50	655	~140	~140	~125	~140
0560	675	15	165	65	560	576	690	11	60	725	~180	~210	~180	~210
0630	750	15	170	65	630	646	770	11	60	805	~210	-	~180	~210

Dimensions in mm, subject to change

ATA 61-0315/-0355

ATA 61-0400 / -0630

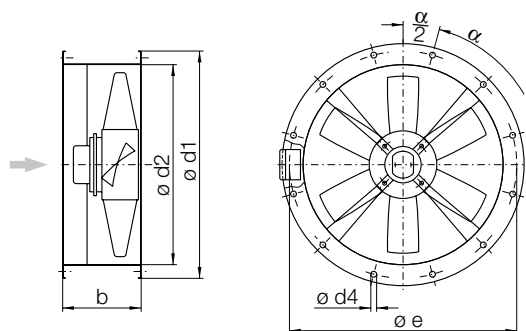


ATA 61-	b5	ød4	ød5	ød11	øe	Dimension b1 for pole-types			
						-4D	-4E	-6D	-6E
0315	25	7	308	350	375	~120	~120	~120	~120
0355	20	7	350	400	425	~120	~120	~130	~130
0400	40	9	394	435	470	~120	~120	~120	~120
0450	30	9	440	495	530	~140	~150	~140	~150
0500	30	9	493	560	600	~150	~150	~135	~150
0560	50	11	552	615	662	~190	~220	~190	~220
0630	50	11	620	725	760	~220	-	~190	~220

# ARA 61-0315/-0630

Dimensions in mm, subject to change

ARA 61-0315/-0630



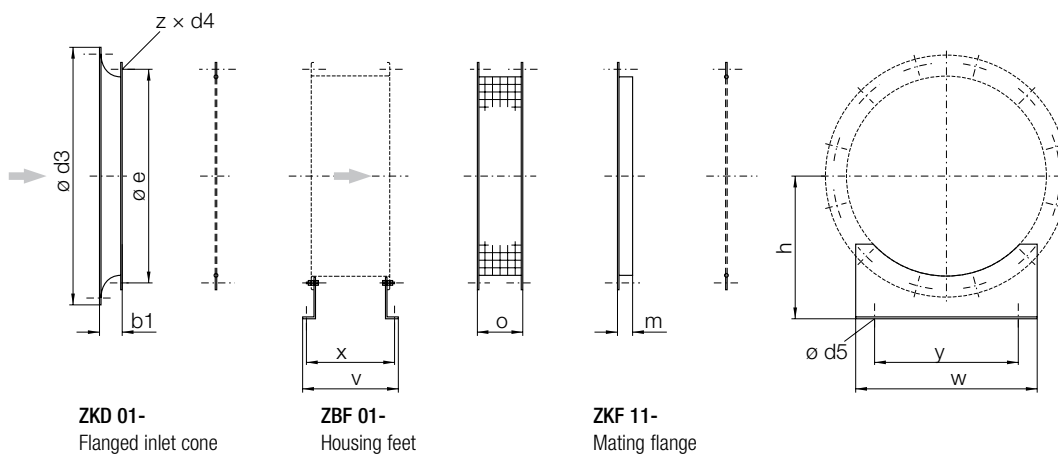
ARA 61-	b	b5	d1	d2	d4	e	α
0315	160	–	380	315	9.5	356	8×45°
0355	160	–	420	355	9.5	395	8×45°
0400	180	–	470	400	9.5	438	12×30°
0450	180	–	523	450	9.5	487	12×30°
0500	200	–	573	500	9.5	541	12×30°
0560	260	–	639	560	11.5	605	16×22.5°
0630	250	–	712	630	11.5	674	16×22.5°

## Accessories

Protection guard  
ZSG 04-

Flexible connection  
ZKE 11-

Protection guard  
ZSG 04-



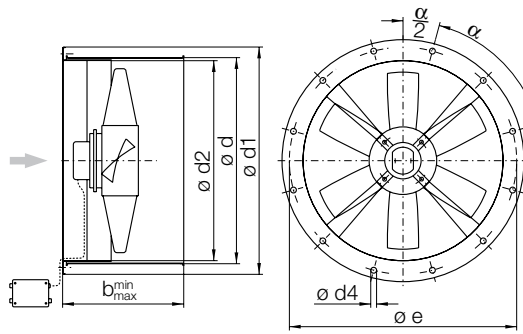
	b1	b3	b5	e	h	m	o	v	w	x	y	z×d4
0315	81	464	9.5	356	225	30	130	210	240	176	200	8× 9.5
0355	61	515	9.5	395	250	30	130	210	280	176	240	8× 9.5
0400	105	565	9.5	438	280	30	130	240	340	200	300	6× 9.5
0450	118	640	9.5	487	315	35	130	240	375	200	335	6× 9.5
0500	136	710	9.5	541	355	35	130	258	415	218	370	6× 9.5
0560	75	785	11.5	605	400	35	130	295	415	245	370	8×11.5
0630	175	837	11.5	674	450	35	130	324	450	274	400	8× 9.5

Anti-vibrations mounts and automatic shutter see accessories.

# ARA 62-0315/-0630

Dimensions in mm, subject to change

ARA 62-0315/-0630

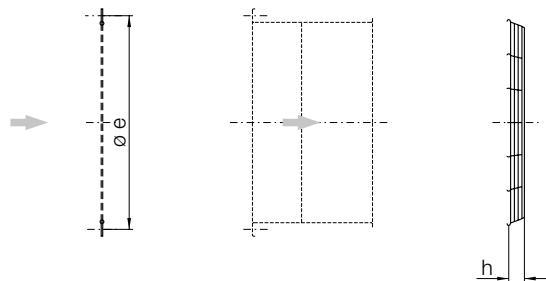


ARA 62-	(min. - max.)*							
	b	d	d1	d2	d4	e	h	$\alpha$
0315	315 - 365	323	380	315	9.5	356	40	8×45°
0355	315 - 365	363	420	355	9.5	395	40	8×45°
0400	315 - 375	408	470	400	9.5	438	50	12×30°
0450	315 - 375	459	523	450	9.5	487	50	12×30°
0500	315 - 385	511	573	500	9.5	541	50	12×30°
0560	315 - 395	571	639	560	11.5	605	60	16×22.5°
0630	315 - 405	643	712	630	11.5	674	60	16×22.5°

## Accessories

Protection guard, inlet  
ZSG 04-

Protection guard, discharge (attachment)  
ZSG 06-



## AWA 11-

## 0200/-0300

**Specifications**, underlined at choice  
AWA 11-0200/-0300**High performance axial flow fan *provent* with direct drive**

Casing incorporating an inlet ring of painted sheet steel, integrated guard fitted conforming to DIN EN 294. Impeller made of galvanised sheet steel shrink-fitted onto the rotor of the integral motor, statically and dynamically balanced. Integral motor protected to IP 54. Sealed deep groove ball bearings, totally maintenance-free. Motor protected by built in thermal overload safety switch. Single phase 230 V, 50 Hz, 100% speed controlled.

with wall mounting ring

<b>Fan-Type</b>	<b>AWA 11-</b> .....
Volume flow	$\dot{V}$ = ..... m <sup>3</sup> /h
pressure increase	$\Delta p_{fa}$ = ..... Pa
Media temperature	t = ..... °C
Motor power consumption	$P_e$ = ..... kW
Speed	n = ..... 1/min
Free inlet sound power level	$L_{WA5}$ = ..... dB
Weight	m = ..... kg

**Accessories and options** (at extra cost)

Speed control units

(step less, step wise, with, or without casing available)

Motor protection unit

Automatic back draught damper

# AWA 61- / AQA 61-/ ATA 61-

# 0315/-0630

**Specifications**, underlined at choice

AWA 61-0315 / -0630



with wall mounting ring

AQA 61-0315 / -0630



with square wall mounting plate

**High performance axial flow fan *provent* with direct drive.**

Casing incorporating an inlet ring of galvanised sheet steel and painted, integrated guard fitted conforming to DIN EN 294. Plastic impeller bolted to the rotor of the integral motor, statically and dynamically balanced.

Integral motor protected to IP 54. Sealed deep groove ball bearings, totally maintenance-free.

Motor protected by built in thermal overload thermo contacts operating in connection with motor protection unit. Ready to connect with a VDE conforming terminal box.

Three phase 230/400 V, 50 Hz, or single phase 230 V, 50 Hz, 100% speed controlled.

**Fan-Type** .....

Volume flow  $\dot{V}$  = ..... m<sup>3</sup>/h

pressure increase  $\Delta p_{fa}$  = ..... Pa

Media temperature  $t$  = ..... °C

Motor power consumption  $P_e$  = ..... kW

Speed  $n$  = ..... 1/min

Free inlet sound power level  $L_{WA5}$  = ..... dB

Weight  $m$  = ..... kg

**Accessories and options** (at extra cost)

Guard at discharge

Automatic back draught damper

Motor protection unit

Speed control units

(step less, step wise, with, or without casing available)

Increased corrosion protection

**Specifications**, underlined at choice

ATA 61-0315 / -0630



with self supporting inlet guard

**High performance axial flow fan *provent* with direct drive.**

Self supporting integrated guard fitted conforming to DIN EN 294. Plastic impeller bolted to the rotor of the integral motor, statically and dynamically balanced.

Integral motor protected to IP 54. Sealed deep groove ball bearings, totally maintenance-free.

Motor protected by built in thermal overload thermo contacts operating in connection with motor protection unit. Ready to connect with a VDE conforming terminal box.

Three phase 230/400 V, 50 Hz, or single phase 230 V, 50 Hz, 100% speed controlled.

**Fan-Type** ATA 61- .....

Volume flow  $\dot{V}$  = ..... m<sup>3</sup>/h

pressure increase  $\Delta p_{fa}$  = ..... Pa

Media temperature  $t$  = ..... °C

Motor power consumption  $P_e$  = ..... kW

Speed  $n$  = ..... 1/min

Free inlet sound power level  $L_{WA5}$  = ..... dB

Weight  $m$  = ..... kg

**Accessories and options** (at extra cost)

Automatic back draught damper

Speed control units (step less, step wise, with, or without casing available)

# ARA 61-

# 0315/-0630

**Specifications**, underlined at choice

ARA 61-0315 / -0630



duct mounted casing

**High performance axial flow fan *provent* with direct drive**

Duct mounted casing with connecting flanges on both sides, made from sheet steel and powder coated *or* hot dip galvanised (extra cost) lastic impeller bolted to the rotor of the integral motor, statically and dynamically balanced.

Integral motor protected to IP 54. Sealed deep groove ball bearings, totally maintenance-free.

Motor protected by built in thermal overload thermo contacts operating in connection with motor protection unit. Ready to connect with a VDE conforming terminal box, fully wired and fitted on casing.

Three phase 230/400 V, 50 Hz, *or* single phase 230 V, 50 Hz, 100% speed controlled.

Fan-Type	ARA 61- .....
Volume flow	$\dot{V}$ = ..... m <sup>3</sup> /h
pressure increase	$\Delta p_{fa}$ = ..... Pa
Media temperature	t = ..... °C
Motor power consumption	$P_e$ = ..... kW
Speed	n = ..... 1/min
Free inlet sound power level	$L_{WA5}$ = ..... dB
Weight	m = ..... kg

**Accessories and options** (at extra cost)

Flexible connectors w/flanges on both sides

Mating flange

Guard (at intake and discharge)

Intake cone w/flange

Brackets

Anti vibration mounts

Automatic back draught damper

Motor protection unit

Speed control unit

(step less, step wise, with, or without casing available)

Tube casing protected by hot dip galvanisation

# ARA 62-

# 0315/-0630

**Specifications**, underlined at choice  
**ARA 62-0315 / -0630**



duct mounted for flush mounting

**High performance axial flow fan *provent* with direct drive**

Duct mounted for flush mounting in long casing design, made from sheet steel and powder coated **or** hot dip galvanised (extra cost)

Plastic impeller bolted to the rotor of the integral motor, statically and dynamically balanced.

Integral motor protected to IP 54. Sealed deep groove ball bearings, totally maintenance-free.

Motor protected by built in thermal overload thermo contacts operating in connection with motor protection unit. Ready to connect with a VDE conforming terminal box, fully wired and fitted on casing.

Three phase 230/400 V, 50 Hz, or single phase 230 V, 50 Hz, 100% speed controlled.

<b>Fan-Type</b>	<b>ARA 62-</b> .....
Volume flow	$\dot{V}$ = ..... m <sup>3</sup> /h
pressure increase	$\Delta p_{fa}$ = ..... Pa
Media temperature	t = ..... °C
Motor power consumption	$P_e$ = ..... kW
Speed	n = ..... 1/min
Free inlet sound power level	$L_{WA5}$ = ..... dB
Weight	m = ..... kg

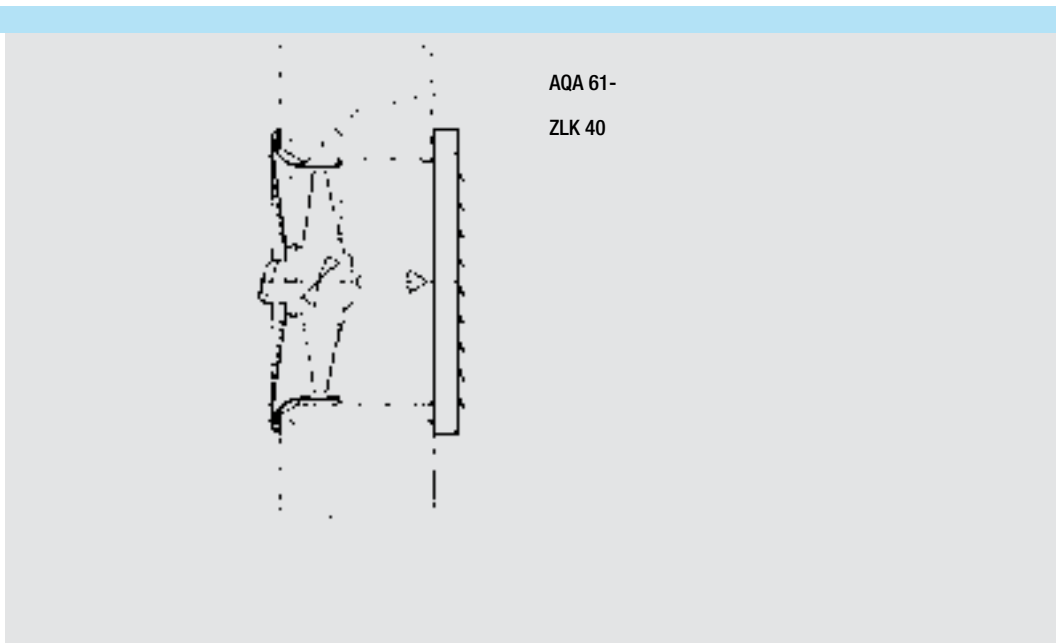
**Accessories and options** (at extra cost)

- Guard at intake
- Guard at discharge
- Automatic back draught damper
- Motor protection unit
- Speed control unit  
 (step less, step wise, with, or without casing available)
- Tube casing protected by hot dip galvanisation

# Accessories

## Samples

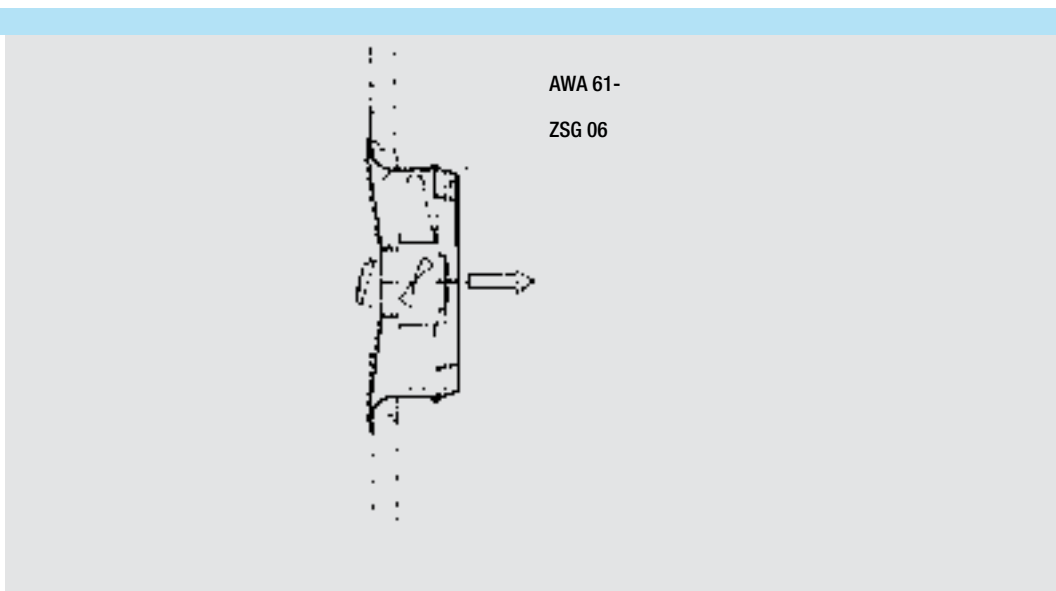
Fitted to an outside wall, automatic, weather proof back draught damper at discharge.



AQA 61-  
ZLK 40

## Samples

Fitted to a wood or metal wall with clipped guard at discharge.

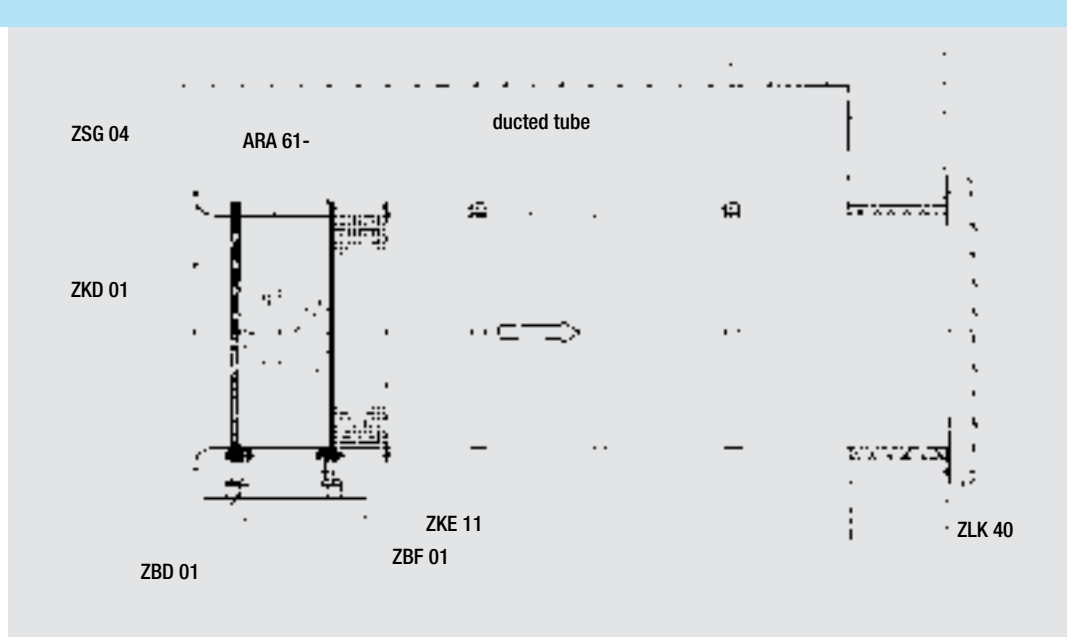


AWA 61-  
ZSG 06

# Accessories

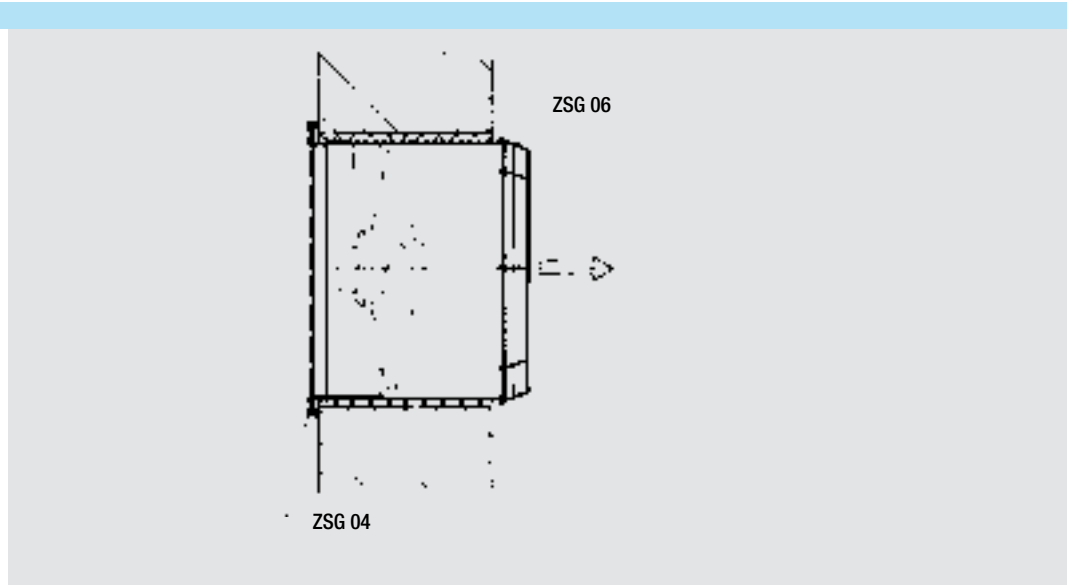
## Samples

Installation with anti-vibration fittings, intake cone, automatic draught damper at discharge.



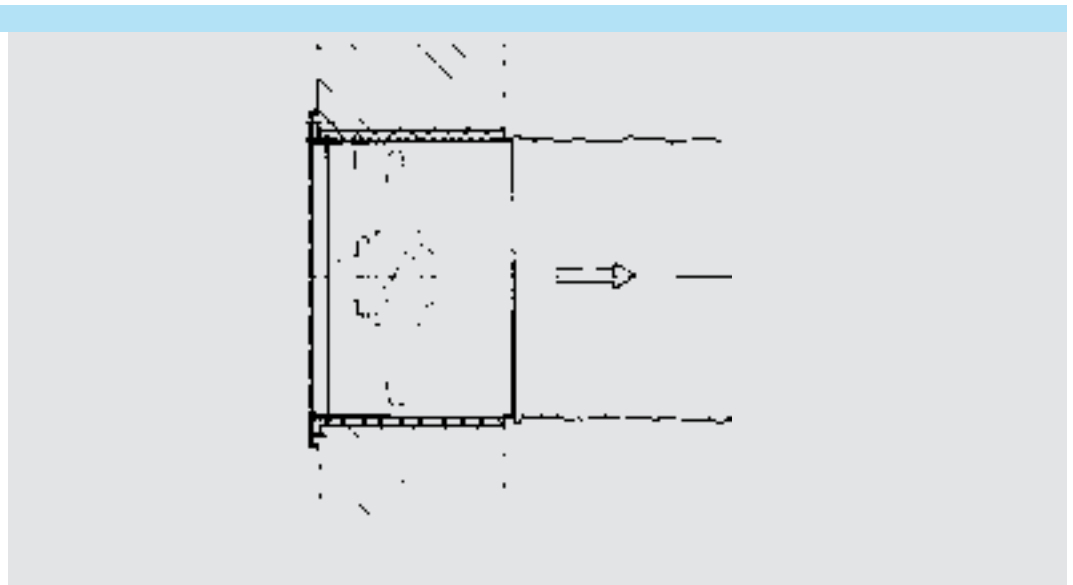
## Samples

Flush mounted fan unit, with guards, bolted at intake and clipped at discharge.



## Samples

Flush mounted fan unit, with flexible fabrics, bolted at intake and fitted at discharge.

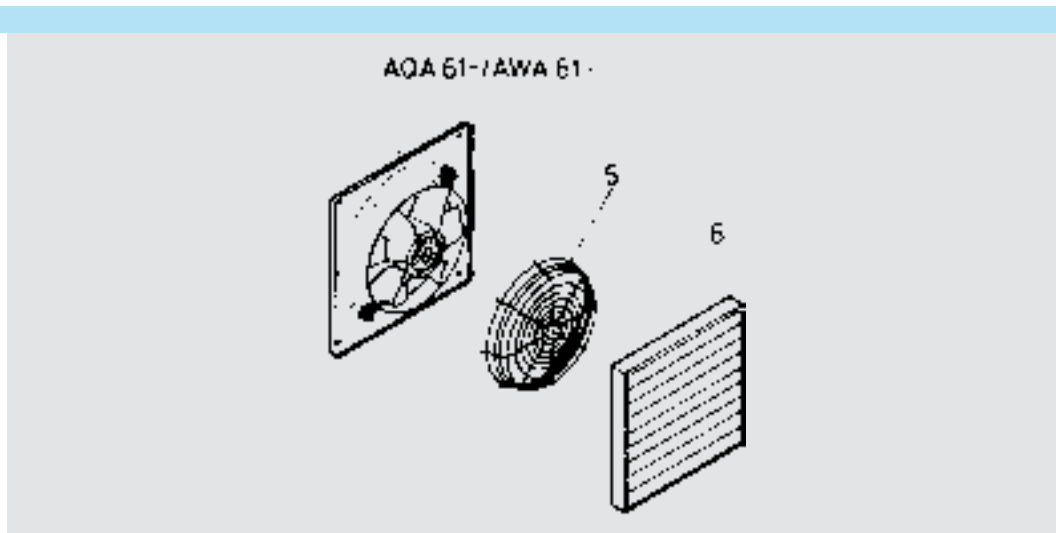


# Accessories

## Overview

- ⑤ **ZSG 06**  
Protection guard,  
attachment for discharge

- ⑥ **ZLK 40**  
Automatic shutter



## Overview

- ① **ZKE 11**  
Flexible connection

- ② **ZKF 11**  
Flange

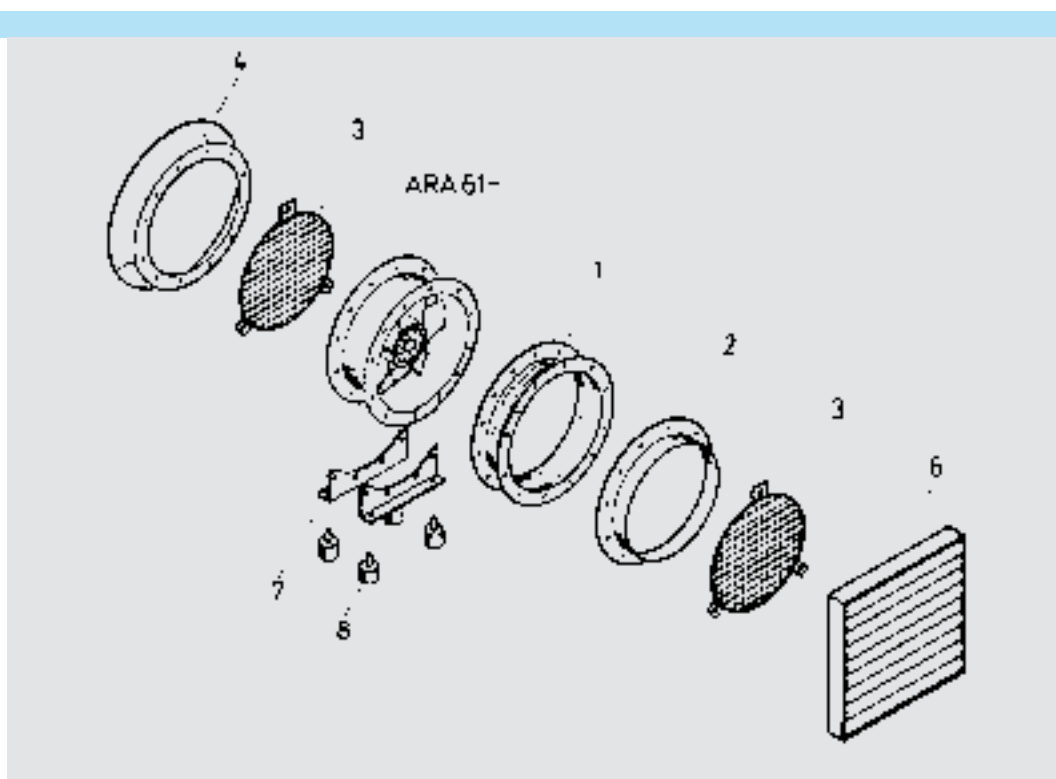
- ③ **ZSG 04**  
Protection guard

- ④ **ZKD 01**  
Flanged inlet cone

- ⑥ **ZLK 40**  
Automatic shutter

- ⑦ **ZBF 11**  
Housing feet

- ⑧ **ZBD 01**  
Rubber buffers

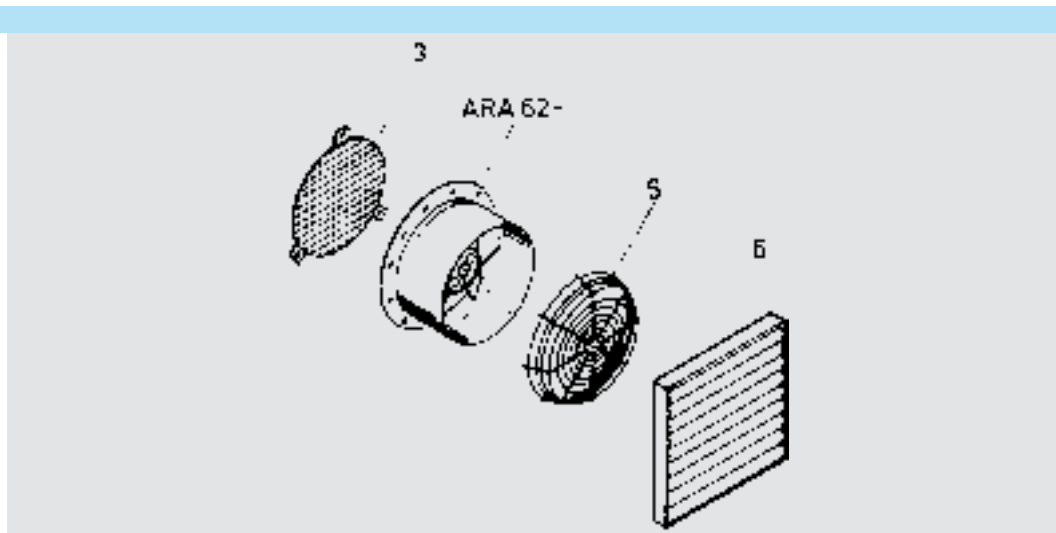


## Overview

- ③ **ZSG 04**  
Protection guard

- ⑤ **ZSG 06**  
Protection guard, attach-  
ment for discharge

- ⑥ **ZLK 40**  
Automatic shutter



# Accessories

## Flanges and Connections



ZKE 11      ZKF 11

### For line ARA 61

There are flanges and flexible connectors available for intake and discharge

## Protection Guard



ZSG 04      ZSG 06

### For line AQA 61, AWA 61, ATA 61,

The axial flow fans are equipped with intake guard as a standard. Guards for discharge are available as an accessory (ZSG 06)

### For line ARA 61, ARA 62

These fans are made for being integrated in a duct system or for wall flush mounting and are not supplied with an intake guard. If there is – by the way of installation or use the fan - no guard provided against a contact with the fan impeller the user has to ensure an appropriate protection according to DIN EN 294. Matching guards are available as an accessory.

## Flanged inlet cone



ZKD 01

### For line ARA 61

The intake cone with flange has to be fitted to the intake of the inline fan if there is no duct connected. This will improve the intake flow conditions and reduce air flow losses.

## Automatic shutter



ZLK 40

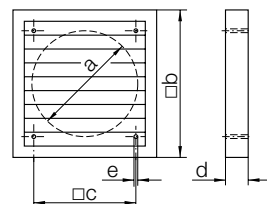
For weather proof cover of the discharge openings.

The automatic back draught damper is made of shock proof, weather and UV- resistant plastic material, colour light grey. It is supply ready for fitting including nuts and bolts.

**The back draught damper is made for use under a temperature range of -30 °C to +70 °C.**

### Dimensions in mm, subject to change

ZLK 40-	a	b	c	d	e	app. kg
0200	210	244	182	22	5	0.3
0225	260	294	232	26	5	0.5
0315	310	347	276	26	5	0.7
0355	360	397	310	26	5	0.9
0400	420	459	364	26	5	1.2
0450	460	501	395	26	5	1.7
0500	510	549	445	31	5	2.0
0560	–	605	522	28	5	2.5
0630	–	696	626	31	5	3.0



# Accessories

## Casing feet



ZBF 01

### For line ARA 61

Anti vibration mounts are made for reducing vibrations to the floor base. In combination with the brackets they may be fitted to the inline fan unit.

## Anti-vibration mounts

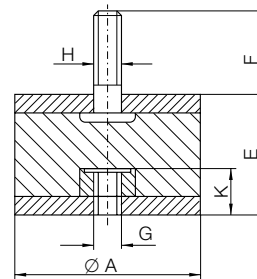


### For line ARA 61

Anti vibration mounts are made for reducing vibrations to the floor base. In combination with the brackets they may be fitted to the inline fan unit.

**Dimensions** in mm, subject to change

Fan	Quantity	Rubber buffers	A	E	F	G	H	K
ARA 61-		ZBD 01-						
0415/-0450	4	0405	20	25	16	M6	M6	6.5
0500/-0630	4	0606	30	30	20	M8	M8	9.5



# Accessories

# ESM

## Motor protection unit



for motors with fitted thermal control sensors (thermal contacts, PTC)

### Design

Beautifully shaped plastic casing made of shock resistant polystyrol, protection class IP 54.

All units are suitable for wall mounting and include: hand switches for frontal operation, operational signal lamp and control safety accessible from outside.

Permissible ambient temperature: +40 °C.

### Function

Should the motor winding temperature rise excessively, the imbedded motor winding thermal contact or PTC will open the control circuit, causing the mains relay to drop out and thus disconnect the motor from the mains supply.

The motor will also be turned off in the case of a mains-side dropout of the control phase, as well as if the contacts fail or if the mains supply is interrupted.

The motor protection units are not equipped with an automatic re-poweron after a mains voltage failure and are thus fail-safe.

After the motor windings have cooled down, a lock-out device in the relay circuit prevents the motor from switching itself on. The hand switch must first be momentarily turned to the 0-position and then back to the 'on' position.

The operational signal lamp indicates the operation of the motor. It goes out in the case of a malfunction.

The motor protection units are suitable for group switching, i. e. several motors with the same switching can be connected to a common switching device.

The sum of the motors' rated power may not exceed the maximal device rated power. The thermal contacts of all motors are to be switched in series. The PTCs switched in series may not exceed the sum of 6.

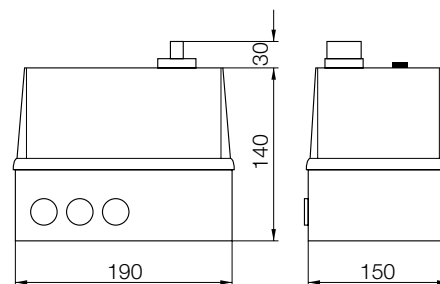
### Technical Data

for motors with thermal contacts ESM	max. permitted rated motor power kW	Nominal voltage V	Weight kg
01-0020-5E	2.0	230	0.9
01-0040-8D	4.0	400	0.9
02-0040-8D	4.0	400	0.9
03-0040-8D	4.0	400	0.9
04-0040-8D	4.0	400	0.9

for motors with PTC ESM	max. permitted rated motor power kW	Nominal voltage V	Weight kg
11-0040-8D	4.0	400	0.9
12-0040-8D	4.0	400	0.9
13-0040-8D	4.0	400	0.9

For connection type see diagrams

### Dimensions in mm, Subject to change



Please use the enclosed wiring diagrams in the control boxes always!

# Accessories

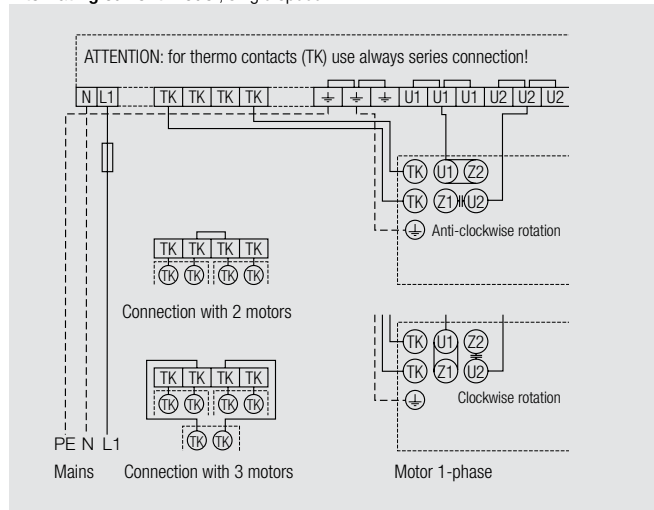
# ESM

## Motor protection unit

### Connection diagram

ESM 01-0020-5E

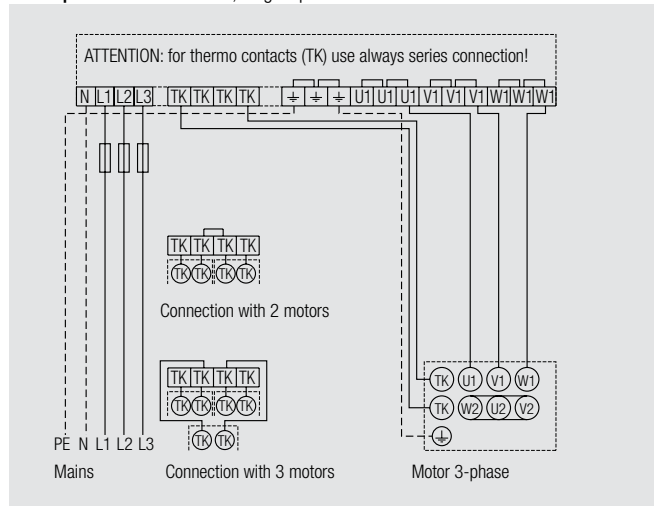
Alternating current model, single speed



### Connection diagram

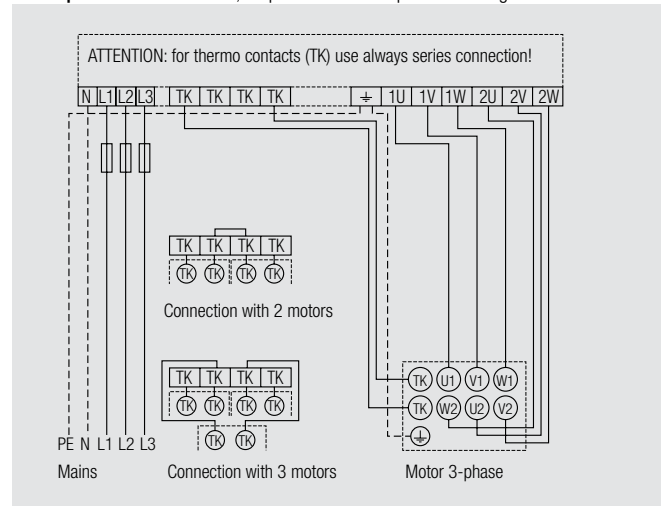
ESM 01-0040-8D

Three-phase current model, single speed



ESM 02-0040-8D

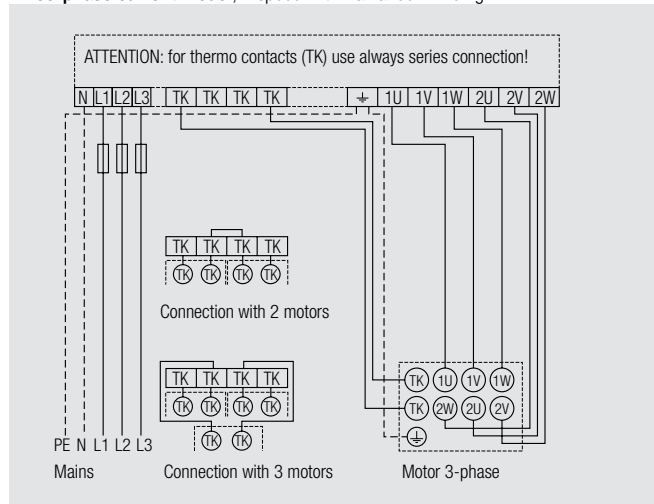
Three-phase current model, 2 speed with two separate windings



### Connection diagram

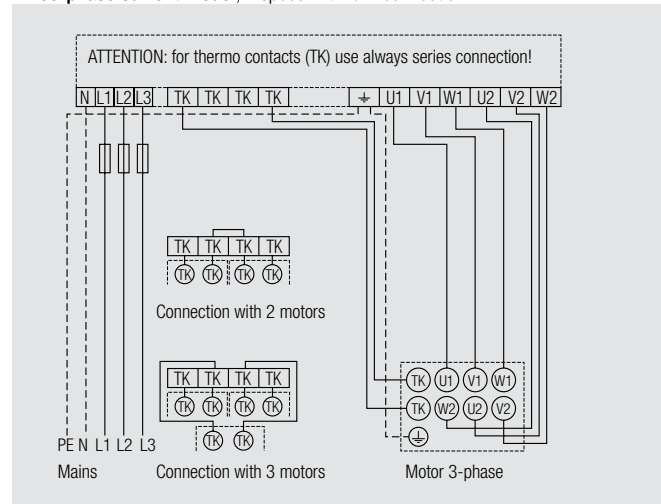
ESM 03-0040-8D

Three-phase current model, 2 speed with Dahlander winding



ESM 04-0040-8D

Three-phase current model, 2 speed with Y/Δ-connection



# Accessories

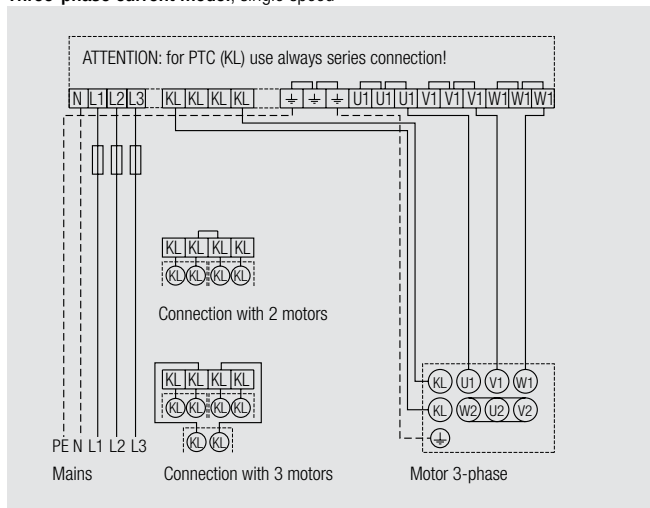
# ESM

## Motor protection unit

### Connection diagram

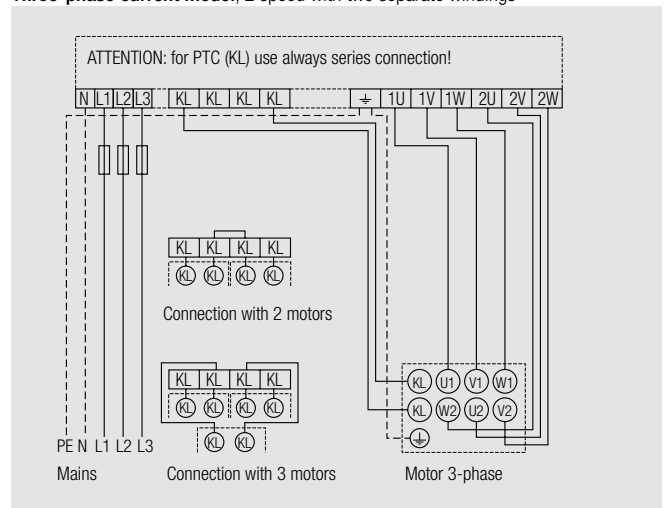
#### ESM 11-0040-8D

Three-phase current model, single speed



#### ESM 12-0040-8D

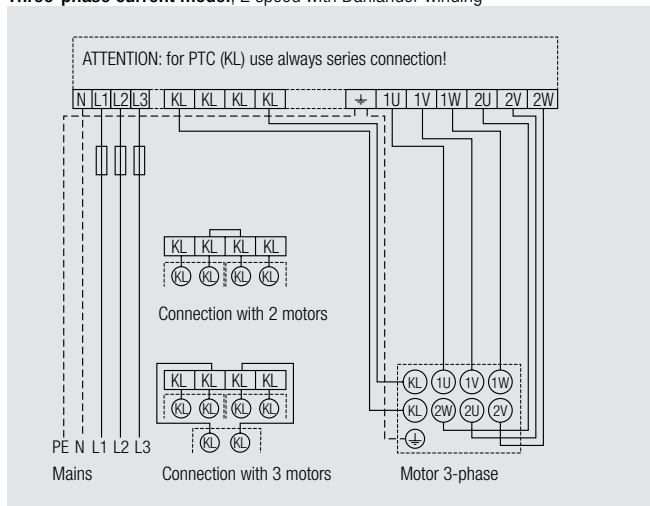
Three-phase current model, 2 speed with two separate windings



### Connection diagram

#### ESM 13-0040-8D

Three-phase current model, 2 speed with Dahlander winding



# Accessories

# ETO

## Transformer



with 7 secondary taps

### Design

Transformer according to DIN VDE 0550-1 with built-on terminal strip for 7 taps, without casing, suitable for control cabinet installation.

Two transformers are necessary for three-phase current, which are to be connected in a V-switching configuration (see Wiring diagram). Permissible ambient temperature at nominal current loading max. +35 °C.

### ETO 10-....-5E

Primary voltage: 230 V / 50-60 Hz

Secondary voltage: 230/180/160/140/120/100/80 V

### ETO 10-....-8D

Primary voltage: 400 V / 50-60 Hz

Secondary voltage: 400/310/270/235/200/170/140 V

### Technical Data | Dimensions

#### Alternating current model

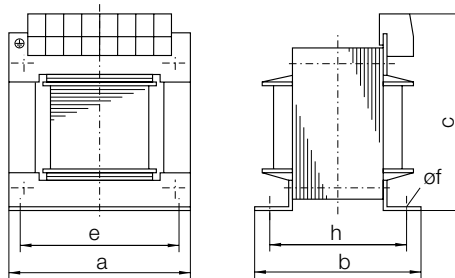
ETO	Nominal current	Dimensions in mm, Subject to change						
	A	a	b	c	e	øf	h	kg
10-0018-5E	1.8	78	60	92	56	4.8	44	1.5
10-0040-5E	4.0	96	80	107	84	5.8	61	2.5
10-0070-5E	7.0	120	95	126	90	5.8	73	4.5
10-0130-5E	13.0	135	110	135	104	5.8	86	7.0
10-0220-5E	22.0	135	150	135	104	5.8	126	12.5

### Technical Data | Dimensions

#### Three-phase current model

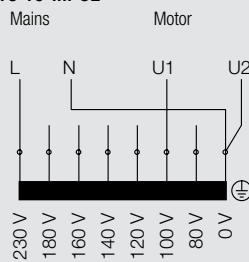
ETO	Nominal current	Dimensions in mm, Subject to change						
	A	a	b	c	e	øf	h	kg
10-0010-8D	1.0	78	60	92	56	4.8	44	1.5
10-0020-8D	2.0	96	80	107	84	5.8	61	2.5
10-0040-8D	4.0	120	95	126	90	5.8	73	4.5
10-0065-8D	6.5	135	110	135	104	5.8	86	7.0
10-0150-8D	15.0	135	150	135	104	5.8	126	12.5

### Measurement diagram

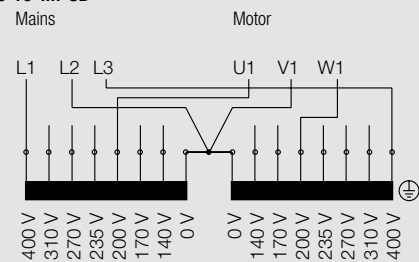


### Connection diagram

#### ETO 10-....-5E



#### ETO 10-....-8D



# Accessories

# ETH

## Speed setting



transformatic, 5-step, with casing

### Design

Completely plastic casing in protection class IP 54, Type: ETH 31, 35 and ETH 37-0010/-0020-8D.

Painted metal casing in protection class IP 23, Type: ETH 36 and ETH 37-0040/-0070-8D.

All units are suitable for wall mounting and include: speed control via hand switch with 0-position and 5 switching steps, operating signal lamp, 230 V output for e. g. a solenoid valve.

Permissible ambient temperature: -25 °C up to +40 °C.

### ETH 31

These units include no motor protection unit. Protection switches for thermal contact connections are to be laid in the conductor between the control device and the motor. In Nicotra Gebhardt externally mounted rotor motors, the thermal contacts are already bound into the motor winding.

### ETH 35, ETH 36, ETH 37

These units possess a motor protection installation for thermal contact or PTC connection with a supplementary warning signal lamp, a potential-free exchanger and a room thermostat connection (remote on – off).

### Function

For motors with built-in thermal contacts, these open the control current circuit when the permissible winding temperature is exceeded (ETH 31, 35, 36). Motors equipped with PTC thermistor give an electrical signal to the trigger unit (ETH 37) when the temperature exceeds the default value. The trigger controls the main relay thus cutting the motor feed. This causes the main fuse to fall out and disconnect the motor from the mains.

After the motor winding has cooled down (ca. 2 Min.) or after remedying the cause of the malfunction, respectively, turn the main switch temporarily to the 0-position and then back to the operational position.

# Accessories

# ETH

## Speed setting

transformatic, 5-step, with casing

### Technical Data

Primary voltage: 230 V; 50-60 Hz  
 Secondary voltage: 60/105/130/160/230 V

#### Alternating current model

ETH	without motor protection installation		with motor protection installation	
	Nominal current A	Mains safety	Nominal current A	Mains safety
31-0020-5E	2.0	2 AT	35-0040-5E	4.0 6 AT
31-0040-5E	4.0	6 AT	35-0070-5E	7.0 8 AT
			36-0200-5E	20.020 AT

### Technical Data

Primary voltage: 400 V; 50-60 Hz  
 Secondary voltage: 90/140/180/230/400 V

#### Three-phase current model

ETH	with motor protection installation	
	Nominal current A	Mains safety
35-0010-8D	1.0	1 AT
35-0020-8D	2.0	2 AT
36-0040-8D	4.0	4 AT
36-0070-8D	7.0	8 AT
36-0140-8D	14.0	16 AT

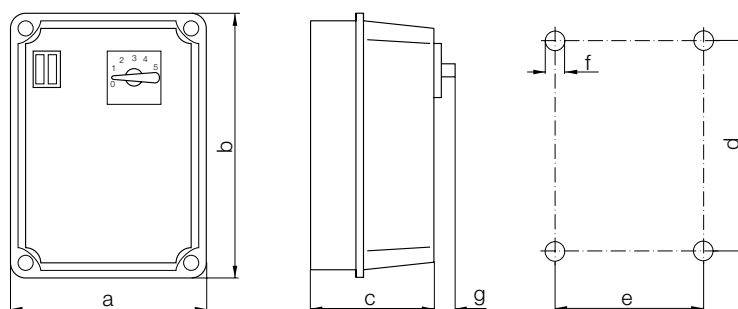
  

ETH	with motor protection installation for motors with PTC	
	Nominal current A	Mains safety
37-0010-8D	1.0	1 AT
37-0020-8D	2.0	2 AT
37-0040-8D	4.0	4 AT
37-0070-8D	7.0	8 AT

### Dimensions in mm, Subject to change

ETH	a	b	c	d	e	f	g	kg
31-0020-5E	155	200	150	144	98	6.2	30	4.0
31-0040-5E	155	200	150	144	98	6.2	30	4.0
35-0040-5E	155	200	150	144	98	6.2	30	4.0
35-0070-5E	200	254	170	194	140	6.2	30	8.0
36-0200-5E	225	305	165	265	188	6.2	30	17.0
35-0010-8D	155	200	150	144	98	6.2	30	6.0
35-0020-8D	200	254	170	194	140	6.2	30	8.0
36-0040-8D	225	305	165	265	188	6.2	30	14.0
36-0070-8D	225	305	165	265	188	6.2	30	20.0
36-0140-8D	302	385	223	350	265	6.2	30	35.0
37-0010-8D	200	254	170	194	140	6.2	30	5.5
37-0020-8D	200	254	170	194	140	6.2	30	8.0
37-0040-8D	225	305	165	265	188	6.2	30	14.0
37-0070-8D	225	305	165	265	188	6.2	30	20.0

### Measurement diagram



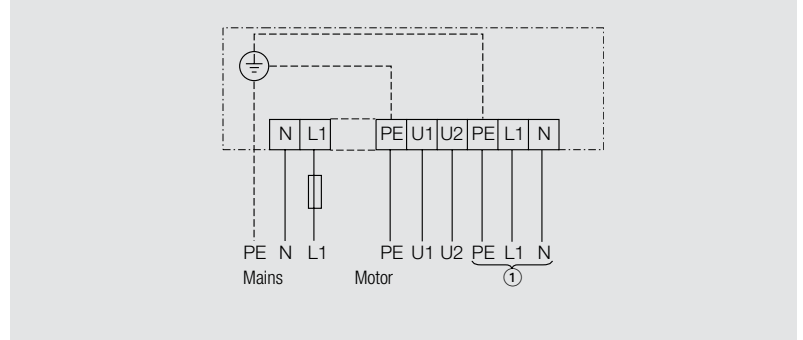
# Accessories

# ETH

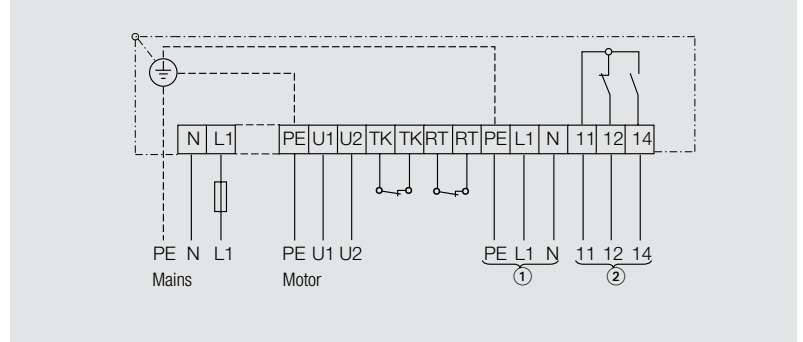
## Speed setting

transformatic, 5-step, with casing

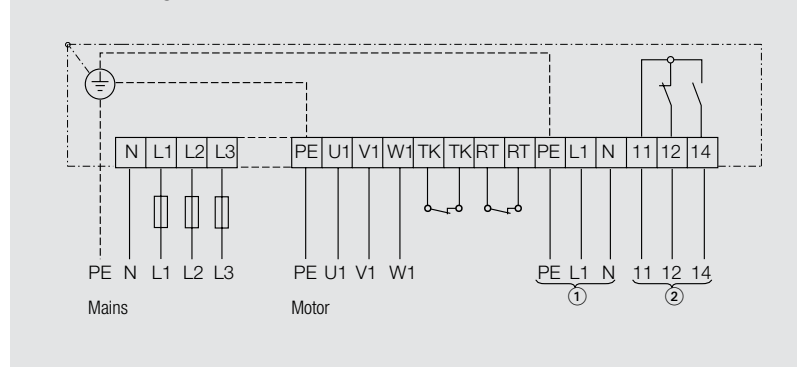
### Connection diagram



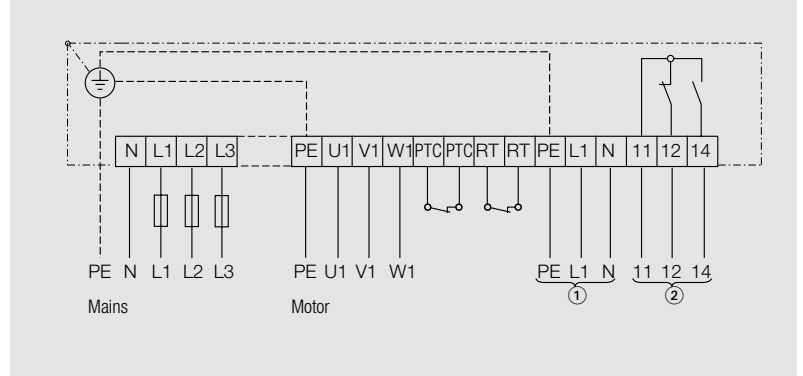
### Connection diagram



### Connection diagram



### Connection diagram



- TK = Thermal contact of the motor
- PTC = Positive Temperature Coefficient (PTC-Thermistor) of the motor
- RT = Room thermostat or external switch
- ① = additional outlet e. g. for solenoid valve, lamp, etc.
- ② = free contacts for the status signal "Operating/Malfunction"

# Accessories

# EPH

## Transformer



electronic, stepless

### Design

Shock-resistant plastic casing (creamwhite) in protection class IP 44, with turn knob on the front side.

Clearly arranged terminal strip for mains and motor connection.

For use as an integral version in a standard switch box, the speedregulator with its front plate is simply removed from the casing underside.

### Function

The transformer contains a turn knob for the variation of the nominal value by means of phase-angle control, semiconductor fuse and a response output.

The transformer EPH is not equipped with any motor protection installation!

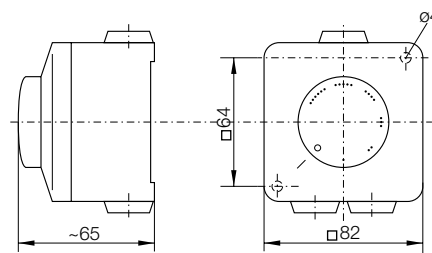
If thermo contacts are in use it is recommended to assure the electrical safety by installing motor protection units ESM 01-0020-5E.

### Technical Data

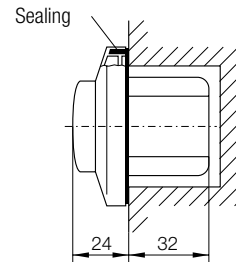
EPH	Nominal current A	Nominal voltage V	Frequency Hz	Fuse
03-0010-5E	1.0	230/240	50/60	F 1.0 A
03-0020-5E	2.0	230/240	50/60	F 2.0 A
03-0040-5E	4.0	230/240	50/60	F 4.0 A

### Dimensions in mm, Subject to change

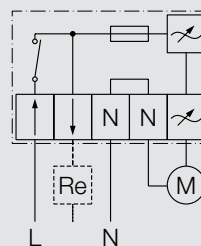
EPH 03-0010/-0040-5E  
Surface mounting version



EPH 03-0010/-0020-5E  
flush mounting version



### Connection diagram



# Accessories

# EPA

## Transformer



electronic, stepless

Electronic transformer with stepless adjustable output voltage for fans with controllable alternating current motors.

### Design

#### EPA 03-....-5E

Completely plastic casing in protection class IP 54.

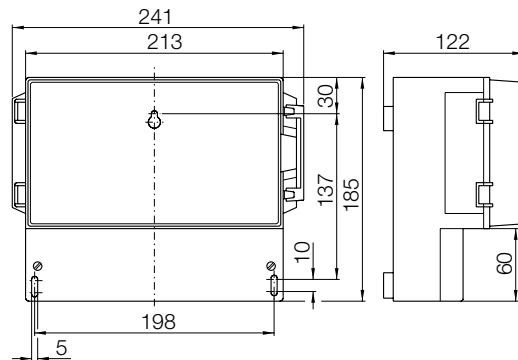
### Function

The Transformer EPA 03 is equipped with a motor protection installation for thermal contact connection, nominal value input, main switch, operating signal lamp, semiconductor fuses and adjustment options for minimal and maximal speed.

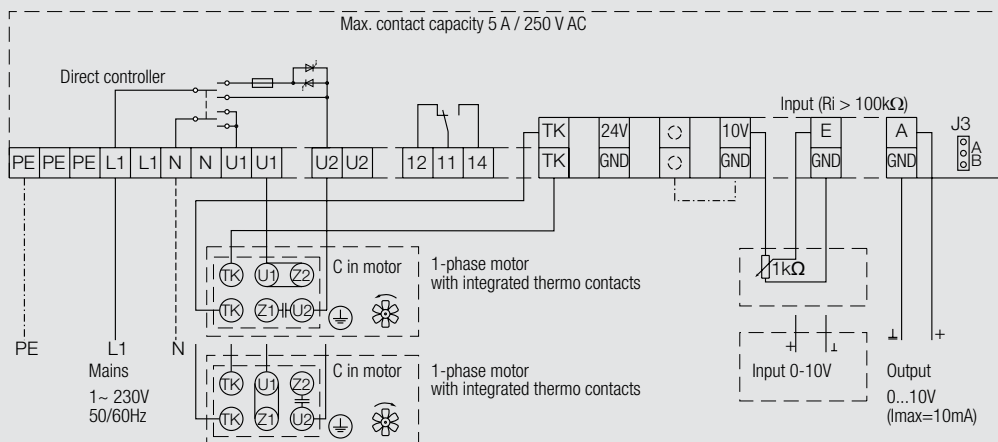
### Technical Data

EPA	Protection class IP	max. current cons. A	Nominal voltage V	Frequency Hz	app. Weight kg
03-0060-5E	54	0.2/- 6.0	230	50/60	1.3
03-0100-5E	54	0.2/-10.0	230	50/60	1.9

### Dimensions in mm, Subject to change



## Connection diagram



# Accessories

# EPA

## Transformer



electronic, stepless  
for voltage controlled single phase motor with capacitor winding

### Design

Speed regulator specially designed for control single phase fan drives. Noise reduced operation by high control frequency (19 kHz). Integrated power factor correction for sinus shaped feed current. Integrated radio noise filter to match EMC regulations.

### Function

Speed control: DC 0-10 V (through external potentiometer or external DC), can be switch to internal potentiometer ( $n_{min}$ ).

Minimum and maximum speed can be set ( $n_{min}$ ,  $n_{max}$ ).

Pressure/temperature control: Digital input with ramp function to achieve a cheap control with pressure/temperature switches.

Motor protection by current monitoring and connection of thermo contacts possible.

Short circuit protected, automatic restarting device.

Error messages: High temperature of controller, thermo contact, short circuit, one relais output with switch over contact and reset button. Parametration possible via serial intersection for user specific use.

### Connection and fitting

Main 230 V, 50/60 Hz, fitted in vertical position.

Output voltage: 10...98 % of input voltage.

Radio noise suppression to EMC-Standard

EN 50081-1, EN 50082-1. For cable length up to 10 m (shielded).

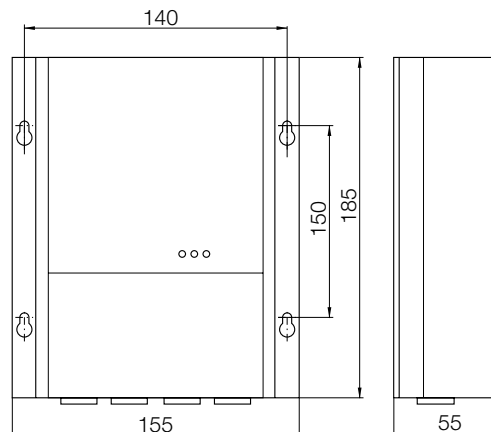
### Recommendation

We recommended the Nicotra Gebhardt pressure switch EIP 40, because the overall control precision depends on precision of the pressure switch.

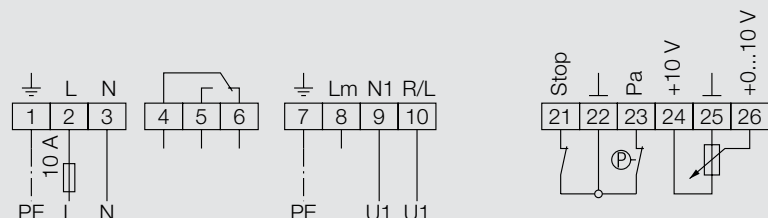
### Technical Data

	Protection class	Nominal current	input	max. power consumption	app. Weight	Operating temperature
EPA	IP	A	V	W	kg	°C
93-0023-5E	54	2.3	0-10	18	1.2	0 ... +40

### Dimensions in mm, Subject to change



### Connection diagram



# Accessories

# EPA

## Transformer



electronic, stepless, digital

Electronic controller for pressure, airspeed, temperature, with stepless adjustable output voltage for fans with controllable alternating current or three-phase current motors respectively.

### Design

#### EPA 83 - Surface mounting version

Plastic casing with die-cast aluminium base-plate in protection class IP 54.

### Function

The pressure controller EPA 83 is equipped with a main switch, a motor protection by thermal contact or PTC thermistors, nominal value input, main switch/automatic with bypass-function, actual value input for sensors with 0-10 V signal (Temperature sensor EIT, Differential pressure sensor EIP and Air velocity sensor EIL), for sensors with 4-20 mA signal; semiconductor fuses and adjustment options for minimal and maximal speed, menu-directed set-up via three function keys, output (0-10 V), potential-free operation signal contact, external nominal value preset via potentiometer, integrated semiconductor fuses, phase monitoring, controller block, reset pushbutton connection.

### Technical Data

#### Alternating current design

EPA	Protection class IP	max. current cons. A	Nominal voltage V	Frequency Hz	app. Weight kg
83-0060-5E	54	0.2/- 6.0	230	50/60	1.6
83-0100-5E	54	0.2/-10.0	230	50/60	2.6

### Technical Data

#### Three-phase current design

EPA	Protection class IP	max. current cons. A	Nominal voltage V	Frequency Hz	app. Weight kg
83-0050-8D	54	0.2/- 5.0	400	50/60	2.7
83-0100-8D	54	0.5/-10.0	400	50/60	3.1
83-0150-8D	54	0.5/-15.0	400	50/60	5.2
83-0250-8D	54	0.5/-25.0	400	50/60	13.6

# Accessories

# EPA

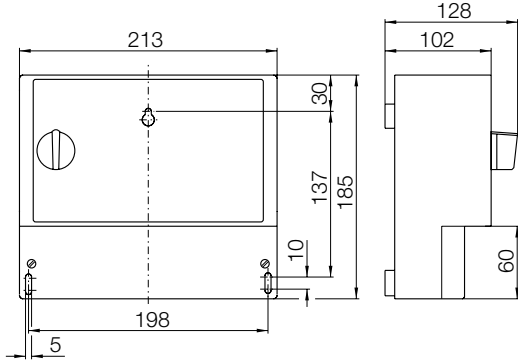
## Transformer

electronic, stepless, digital

Dimensions in mm, Subject to change

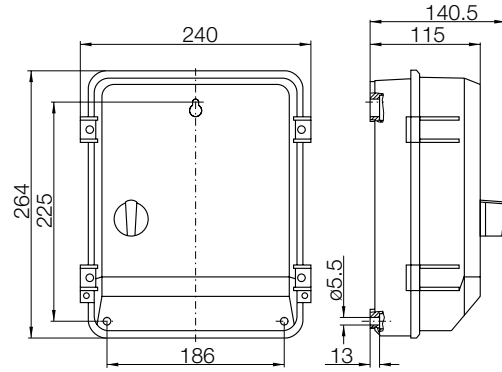
### EPA 83-0060-5E

Surface mounting version



### EPA 83-0100-5E

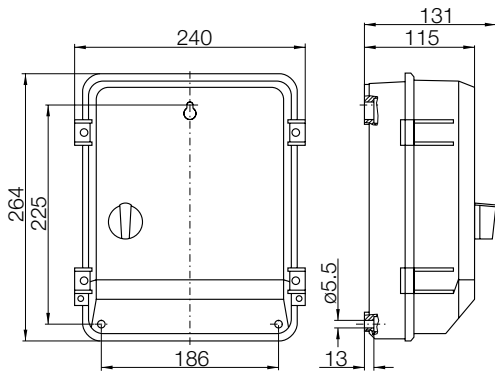
Surface mounting version



Dimensions in mm, Subject to change

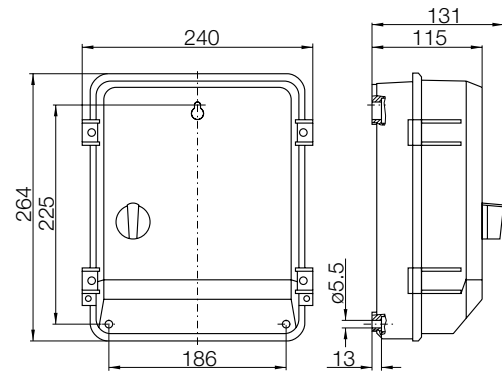
### EPA 83-0050-8D

Surface mounting version



### EPA 83-0100-8D

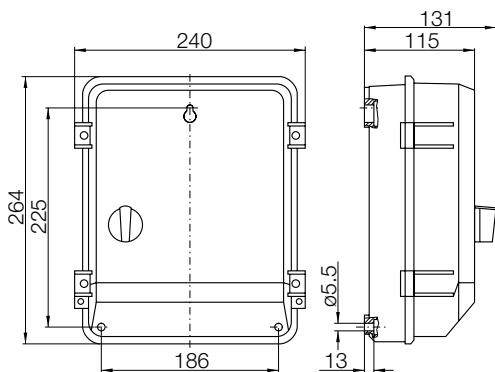
Surface mounting version



Dimensions in mm, Subject to change

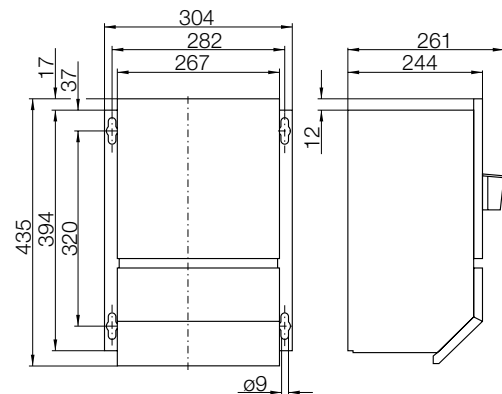
### EPA 83-0150-8D

Surface mounting version



### EPA 83-0250-8D

Surface mounting version



# Accessories

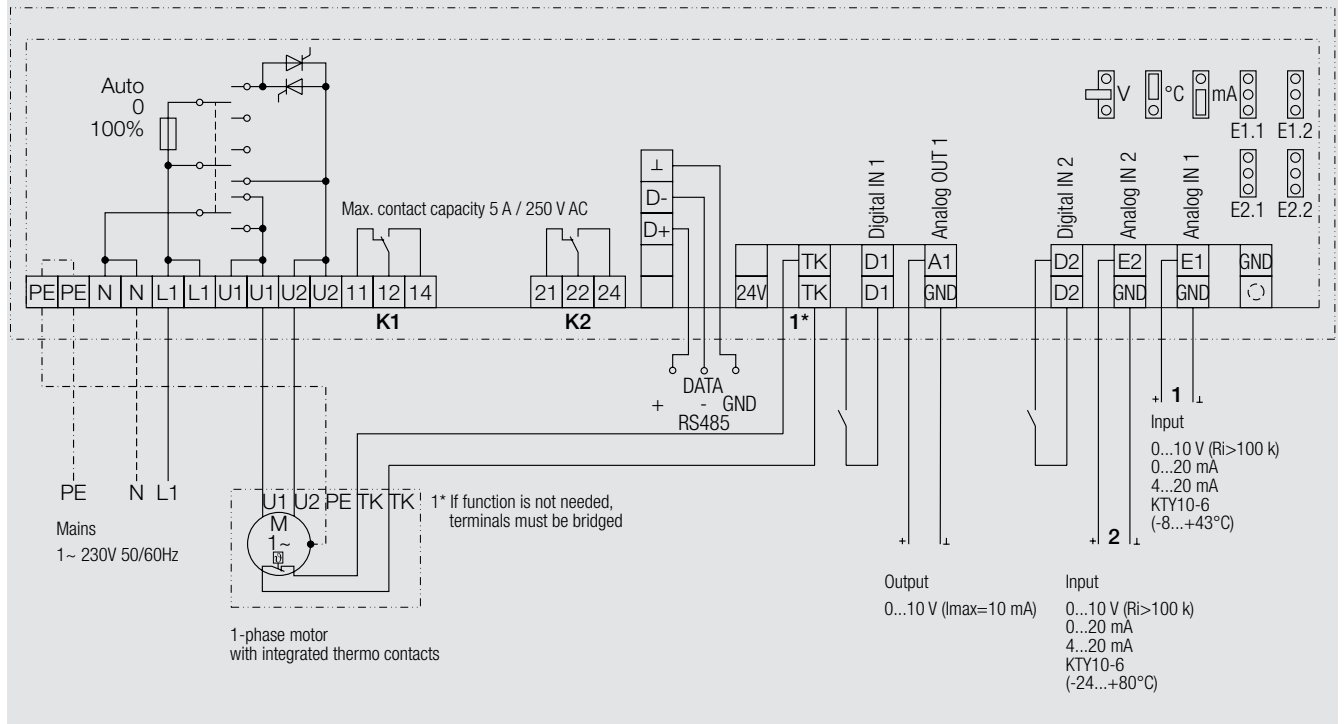
# EPA

## Transformer

electronic, stepless, digital

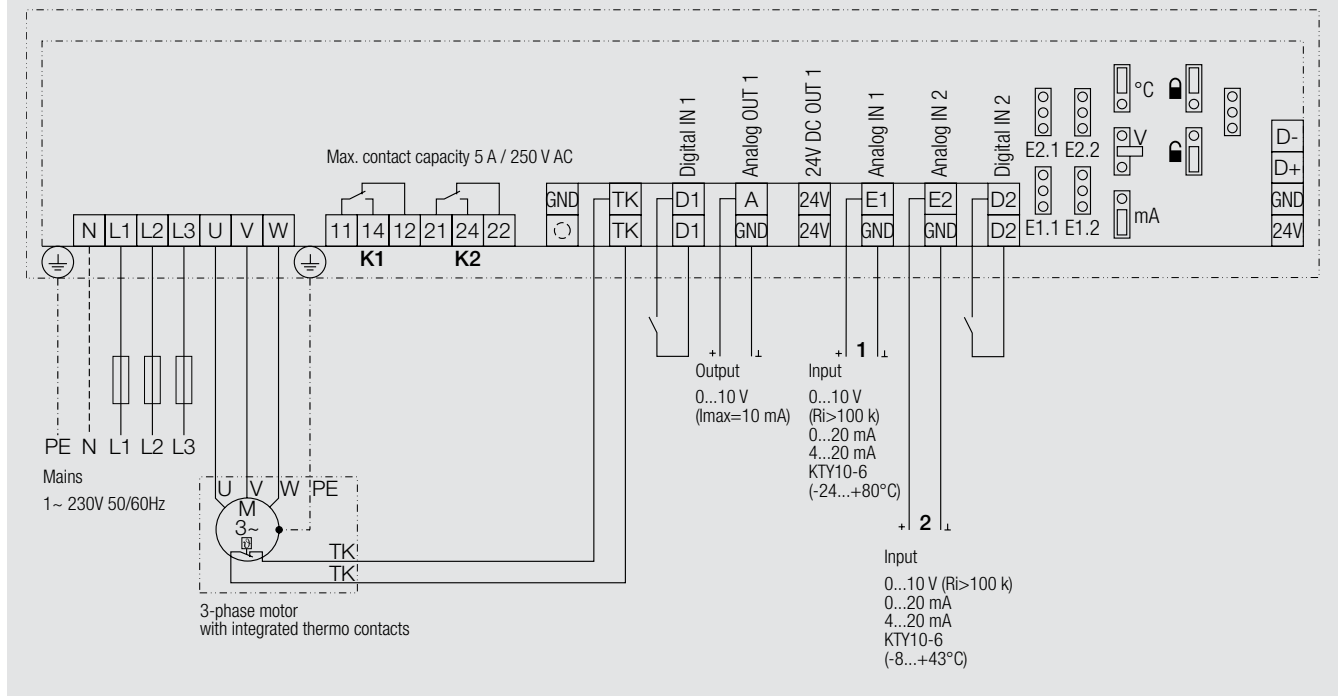
### Connection diagram

EPA 83-....-5E



### Connection diagram

EPA 83-....-8D



# Accessories

# ERA

## Universal control device

### for installation in control cabinets

Digital control module for controlling pressure, air velocity or volume flow (PI controller). For example, a transformer for fans is controlled via the 0-10 V output. The device is designed for installation in control cabinets.

### Type

Multi functional LC-display for actual and nominal values (m/s, hPa = mbar, 100 m³/h). Menuassisted adjustment via three function keys.

Actual value input 0-10 V e. g. for:

- air speed sensors Type EIL... in measuring ranges from 0-1 m/s and 0-10 m/s e. g. for:

Air velocity control in clean room technology

- Pressure sensors Type EIP... in measurement ranges 50-4000 Pa e. g. for:

Pressure control in canal systems of air conditioning systems (VVS),

Flow control in centrifugal fans with pressure tapings in the inlet cone. The control module calculates the required flow (m³/h) from the differential measured pressure between the surrounding level and inlet cone.

- Output 0-10 V e. g. for controlling a transformer.
  - Failure message is output via display (internal/external) and relay programmable.
- External set value specification via potentiometer or 0-10 V signal.
- Specification of two set values (day/night), can be switched over externally or via keyboard.
- Protection against unauthorised setting by keyboard code.

### Application area

- Pressure regulation for centralised ventilation systems and variable volume flow systems for building air conditioning (VVS) e.g. in combination with a frequency inverter or a commutation unit or a transformer and a pressure sensor.
- Volume flow regulation for centrifugal fans (with measuring stub in the inlet cone) e.g. in combination with a frequency inverter or a commutation unit or a transformer or a mini-interface inverter and a pressure sensor and the volume flow volumeter.
- Air speed regulation for clean room systems, e.g. in combination with a transformer and an air speed sensor.

### Electrical connection and installation

Connection to 230 V, 50/60 Hz. The control module can be installed in a control cabinet door. Admissible relative humidity: 85 %, noncondensing. Power supply for the sensors included: +24 V, ±20 %, I<sub>max</sub> = 70 mA.

### Setting options

- Set values in the measurement range of the sensor (m/s, hPa = mbar), or in the volume flow range of the fan (x 100 m³/h)
- Switch over of set value (day/night)
- Min./max. setting range
- Translation of performance curve (P component)
- Constant of integration can be selected (I component)
- Reversal of the effect of the control behaviour
- Rotation of the performance curve
- Switchover or programming of internal/external set value
- Sensor selection via keypad
- Programming for "Filter fault"
- Keypad code
- K factor entry (The K10-factor can be found in the current lists of our fan line)

$$\dot{V} = K \sqrt{\Delta p} = K_{10} \sqrt{\frac{\Delta p}{\rho}}$$

### Technical Data

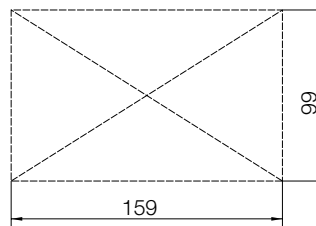
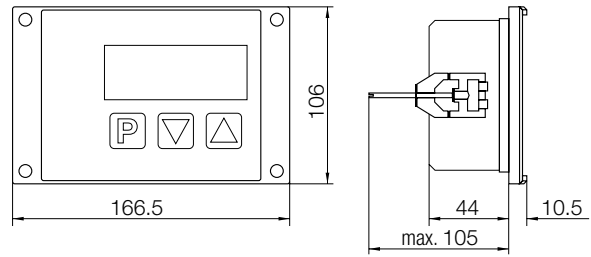
	Input	Out max.	Protection class	Operating consumption	Operating temperature
ERA	V	mA		VA	°C
02-4000-5E	0...10	10	IP 20	< 10	0 ... +55

# Accessories

# ERA

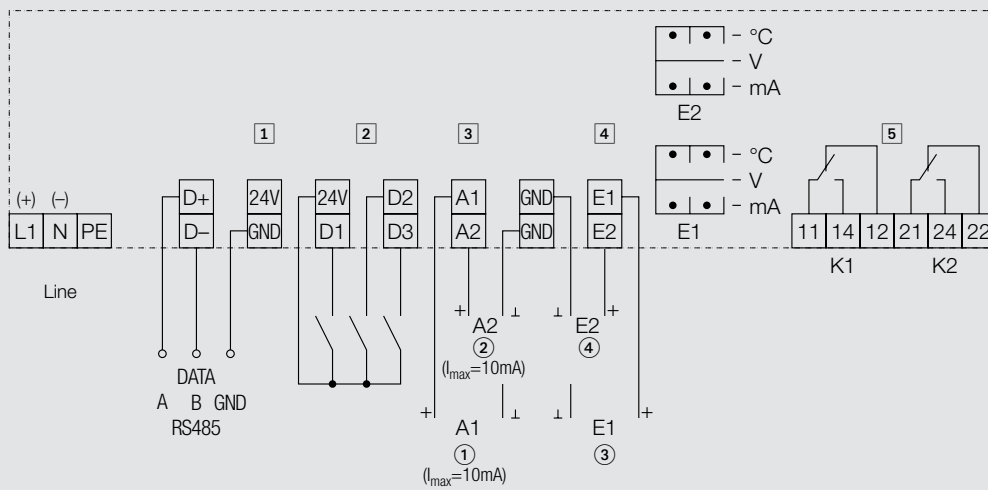
Universal control device

Dimensions in mm, Subject to change



Instrument panel window

## Connection diagram



- 1 Out, 24 V DC
- 2 Input, Digital 1/2/3
- 3 Out, Analog 1/2
- 4 Input, Analog 0-10 V 1/2
- 5 Contact rating max. 5 A / 250 V AC

- ① Out 0-10 V
- ② Out 0-10 V
- ③ Input 0-10 V
- ④ Input 0-10 V

# Accessories

# EIP

## Differential pressure sensor



Sensor with membrane for measuring the pressure, negative pressure or differential pressure of nonaggressive gases.

### Type

The differential pressure to be measured acts transformed into an output signal of 0...10V by electronics (in SMD technology).

### Application ranges

Volume flow regulators in centrifugal fans (with volume flow measuring device IMV) in connection with a frequency inverter type G110, MM420, MM430, or a universal regulator appliance type ERA 02-4000-5E in connection with a frequency regulator

### Electrical connection and installation

The differential pressure sensor delivers a starting signal (0-10 V) by pressure increase at the "Plus" connection opposite pressure on the "Minus" connection. Voltage supply:

15-30 V DC or 24 V AC, ±15 %.

Pressure connections must point downward, tube connection ø5 mm.

### Measuring accuracy

Null drift: ±0.75 %

Sum of linearity and hysteresis: ±1 %

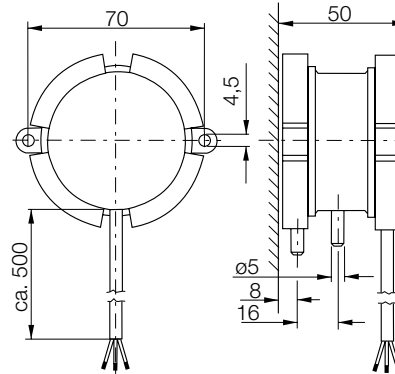
Temperature drift zero point: ±0.3 % / 10 K

Temperature drift length of measurement: ±0.2 % / 10 K

### Technical Data

EIP	Measuring range Pa	Protection type	max. current consumption ca. mA	Overload protection Pa	Output signal prop. V DC	Operating temperature °C
20	0 - 200	IP65	12	20000	0-10	0 bis +50
21	0 - 500	IP65	12	20000	0-10	0 bis +50
22	0 - 1000	IP65	12	20000	0-10	0 bis +50
23	0 - 2000	IP65	12	20000	0-10	0 bis +50
24	0 - 4000	IP65	12	20000	0-10	0 bis +50

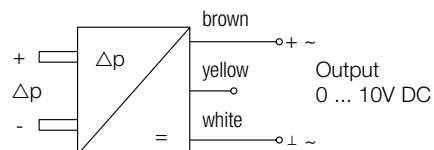
### Dimensions in mm, Subject to change



### Connection diagram

Pressure connections  
Ø5 mm

Voltage supply  
15...30 V DC  
24 V AC ±10 %



# Accessories

## Time control module



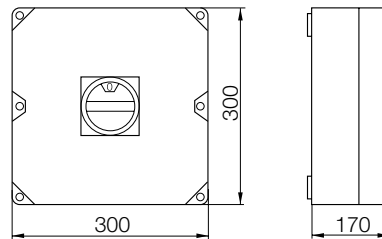
The time control module ETG is for the implementation of time-controlled discharged air systems.  
 With the time switch module ETG all fans with integrated single phase AC motors (1~; 230 V; 50 Hz, 0...7 A) can be controlled.  
 Allocation is via the motor nominal current.  
 The operating intervals can be freely programmed, and if required, the second pre-set speed stage can be changed. Programming the selected weekly cycle is possible by using up to 42 programmable switching points.  
 The system is equipped with automatic changeover between summer and winter times, as well as integrated motor protection for motors with thermal contacts.

### Technical Data

**Time switch module ETG for fans with single-phases-AC motors 230 V; 50 Hz**

ETG	Controlling	Nominal current <b>A</b>
01-0018-5E	time	1.8
01-0040-5E	time	4.0
01-0070-5E	time	7.0

### Dimensions in mm, Subject to change



# Description

## General

The axial flow fan line is suitable for conveying air or other gases or vapours which are not particularly aggressive.  
The minimum temperature for the conveying media is -30°C and the upper temperature limit is given with the data of the technical specification of each type.  
Flow direction "suction over motor flange".  
Horizontal or vertical installation is possible.

## Protection

### AQA 61, AWA 61

The axial flow fans are equipped with intake guard as a standard.

**Guards for discharge are available as an accessory**

### ARA 61, ARA 62,

These fans are made for being integrated in a duct system or for wall flush mounting and are not supplied with an intake guard. If there is – by the way of installation or use the fan - no guard provided against a contact with the fan impeller the user has to ensure an appropriate protection according to DIN EN 294.

**Matching guards and automatic back draught dampers (discharge side) are available as an accessory.**



## Accessories

Every accessory has to be ordered separately.  
Specification, technical data and dimensions see chapter "accessories". The selection of the matching control units is specified with the table "Technical data"

## Motoren

The integrated motors are of protection class IP 44 or IP 54, - isolation class B, equipped with maintenance free deep groove ball bearings. They are selected for permanent operation S1 to VDE 0530.

In order to protect them against thermal overload they are provided with thermo contacts.

The thermo contact either protect the motor by direct switch off because of being fitted in series with the motor winding, or in connection with a motor protection unit. So overload of the motor will be safely prevented.

Please check wiring diagrams.

All motors are 100% speed controlled.

The speed variation is caused by a voltage variation and a subsequent change of the rotational slip.

## Elektrical wiring



### AWA 11

The fans of the line AWA 11- are supplied, as a standard, without terminal box. They are equipped with a free cable lead of about 450mm. The capacitor is supplied loose.

### AQA 61, AWA 61, ATA 61, ARA 62

The fans of this line are supplied, as a standard, with a loose cable wired to a terminal box. For single phase units the capacitor is included.

### ARA 61

This fan line has a terminal box fully wired and fitted on fan casing.  
For single phase units the capacitor is included.

Each fan or service switch is provided with a wiring diagram  
The relevant wiring diagram may be found at:

**[www.nicotra-gebhardt.com](http://www.nicotra-gebhardt.com)**

# Description

## Performance data

The performance data have been taken with a test rig according to DIN 24 163. They show the pressure increase  $\Delta p_{fa}$  of the fan as a function of the flow rate  $\dot{V}$  for the arrangement free intake – free discharge. The data are valid for a density of the conveying media of  $\rho_1 = 1.15 \text{ kg/m}^3$ .

## Sounds

The fan curves include the a-weighted sound power data for free intake LWA5 according to DIN EN 25 136. They differ from the total sound power by having been A-weighted.

The data have been taken according to DIN EN 25136 suction side by applying the envelope method.

The weighted sound pressure data  $L_{pa}$  for a distance of 1m from intake can be approximately calculated by subtracting 7 dB from the A-sound-power value. Attention must be given to the ambient acoustical conditions, duct connections, resonances, reflections, etc. which may have an influence on the sound properties of the system.

The sound power levels in the octave bands are taken as follows:

The relative sound power levels for the duty point – free intake – can be taken from the table below.

### Determination of the Octave level

	$f_m$	63	125	250	500	1000	2000	4000	8000	Hz
Fan type 10-	$L_{Wrel}$	15	14	4	4	8	5	10	15	dB
Fan type 60-	$L_{Wrel}$	15	4	4	4	6	6	11	21	dB

# Notes

## Quality management system

DIN EN ISO 9001

Nicotra Gebhardt quality is the result of rigorously pursuing business policy goals, which specify that Nicotra Gebhardt products must display properties and characteristics that are clearly above average when compared to similar products.

This maxim, which has applied since the company was founded, led in April 1985 to the auditing and certification of the existing quality assurance system. In subsequent years, it was adjusted to comply with changed international and European standards. Modern production procedures, monitored by our quality management system, ensure a high level of repeatability in manufacturing.

The tight tolerances allow high levels of data security for our products.

## Information on machine safety

The fans listed in this catalogue are classified as not automatically operable machines in terms of the EC machine guideline 98/37/EC, and shall therefore be given a manufacturer's declaration.

A CE mark with regard to the low-voltage guideline will be given.

The assessment of danger arising from the fan and requisite safety measures occurred resulting from the VDMA (Association of German Mechanical Engineering Institutions) standard sheet 24 167: Fans; safety requirements.

The Operating Instructions give which safety measures are still necessary on assembly to ensure that the fans comply with the EU Machine Guideline 98/37/EG.

## Notes on catalogue data

We reserve the right to change the dimensions and technical data contained in this catalogue in the event that our product is further developed. All details correspond to the version on the date of printing.

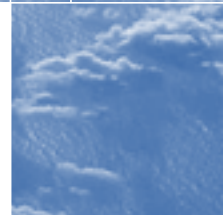
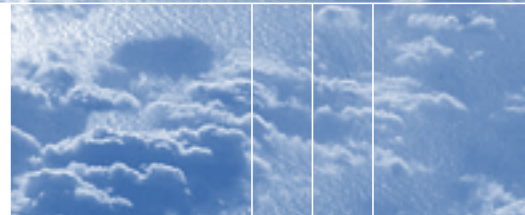
## General Delivery and Payment Conditions (DPC)

Our General Delivery and Payment Conditions (DPC) are online at [www.nicotra-gebhardt.com](http://www.nicotra-gebhardt.com).





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