

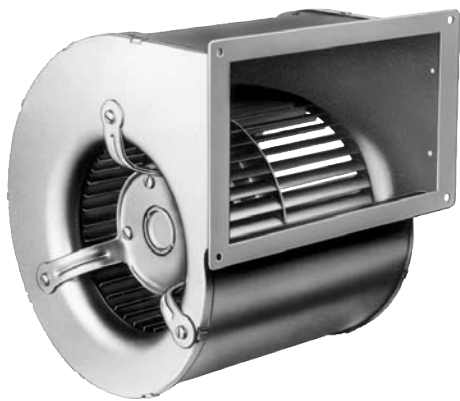
# Centrifugal Fans

direct driven

TZA/TEA

**NICOTRA** | Gebhardt





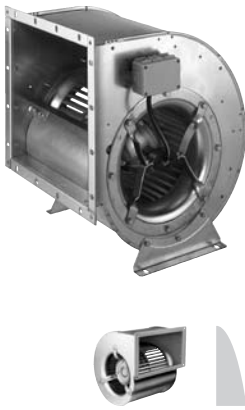
## TZA E1

Centrifugal fans of the TZA E1 range find application e.g. in:  
fume extractor hoods,  
air-conditioning units,  
clean room systems,  
air purification equipment,  
welding-bench extractor systems,  
forced ventilation



## TZA 01

Centrifugal fans of the TZA 01 range find use e.g. in:  
HVAC installations,  
warm-air installations,  
air curtain equipment,  
cooling of equipment



## Fast selection TZA 01

### Here's how you select:

Pressure increase  $\Delta p_t$  = 350 Pa  
 Volume  $q_v$  = 4000 m<sup>3</sup>/h

### Possible fans:

TZA 01-0250-4E  
 TZA 01-0280-4E

With the selection diagram and a given duty point, a fast selection of the fan in question can be made. The represented performance curves are the respective performance curves of the fans at maximal speed.

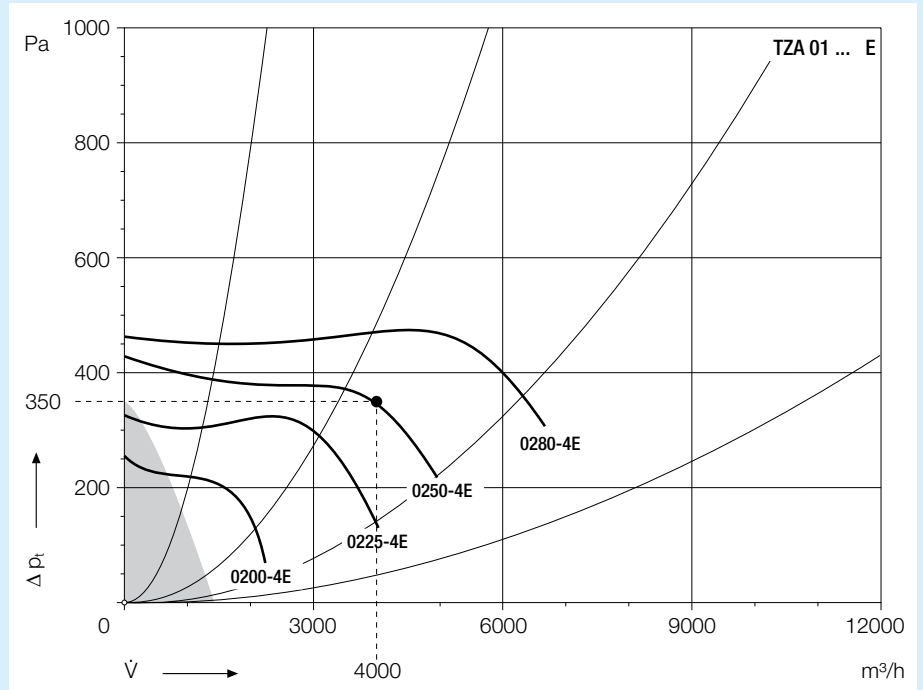
On the following pages you will find, ordered in increasing size, the complete technical data of the fans with individual performance curves.

TZA E1 see following pages.

### Single phase current

230 V  
 50 Hz

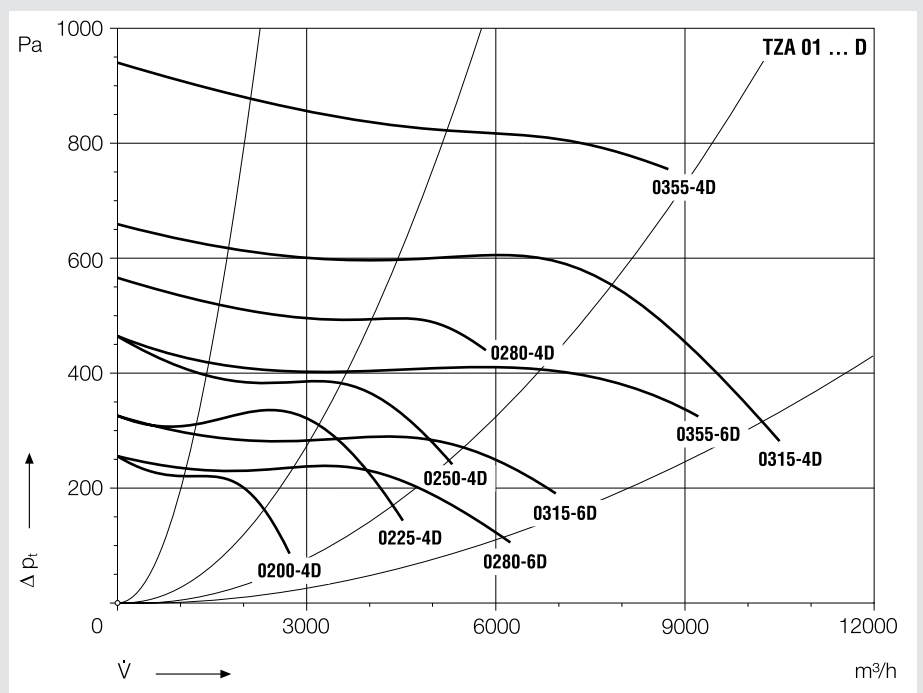
1.15 kg/m<sup>3</sup>



### Three phase current

400 V  
 50 Hz

1.15 kg/m<sup>3</sup>



# TZA E1-0080/-0130

**230 V**  
**50 Hz**

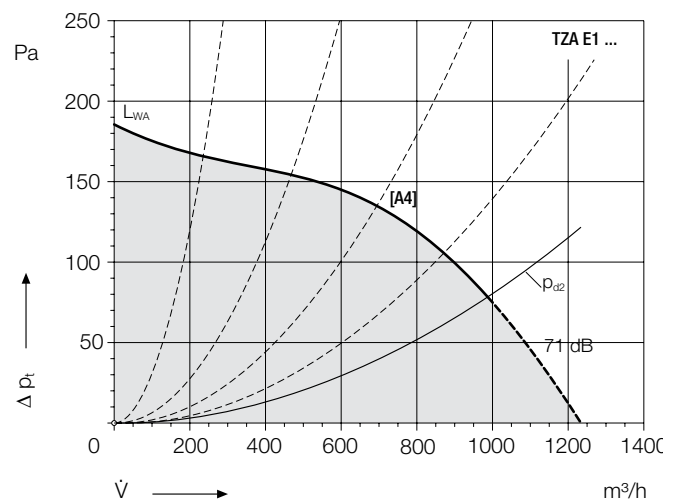
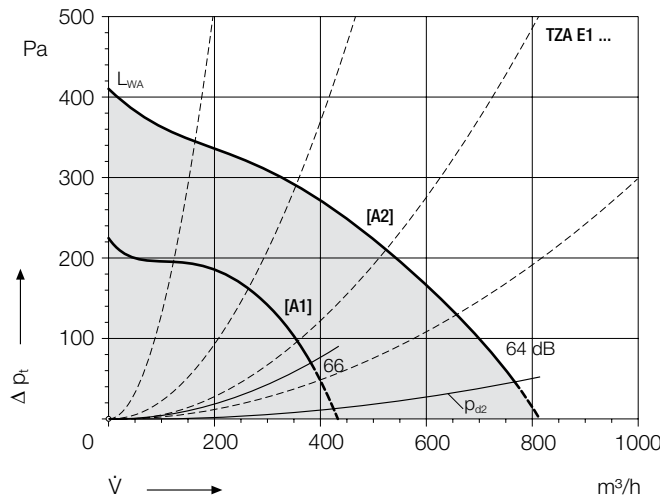
## Technical Data

TZA E1-	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capacitor	Protection/ Temp. class	Weight	Rotation direction	Media temp.
			V	Hz	1/min	kW	A	m <sup>3</sup> /h	dB	μF		ca. kg		°C
0080-2E	[A1]	2	230, 1~	50	1950	0.087	0.39	4100	66	2 ②	IP20/B	1.5	RD	-25...+40
0112-2E	[A2]	2	230, 1~	50	1150	0.190	0.84	4550	64	3	IP44/B	4.4	RD	-25...+40
0130-4E	[A4]	4	230, 1~	50	1300	0.180	0.79	4550	71	5	IP44/B	4.5	RD	-25...+40

② Capacitor according to protection class P2

## Curves

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



For detailed descriptions and further controllers and regulators see section Accessories.

The fans are delivered with a fitted connecting cable and a loosely enclosed operational capacitor. Length of the connecting cable see Dimensions.

## Accessories

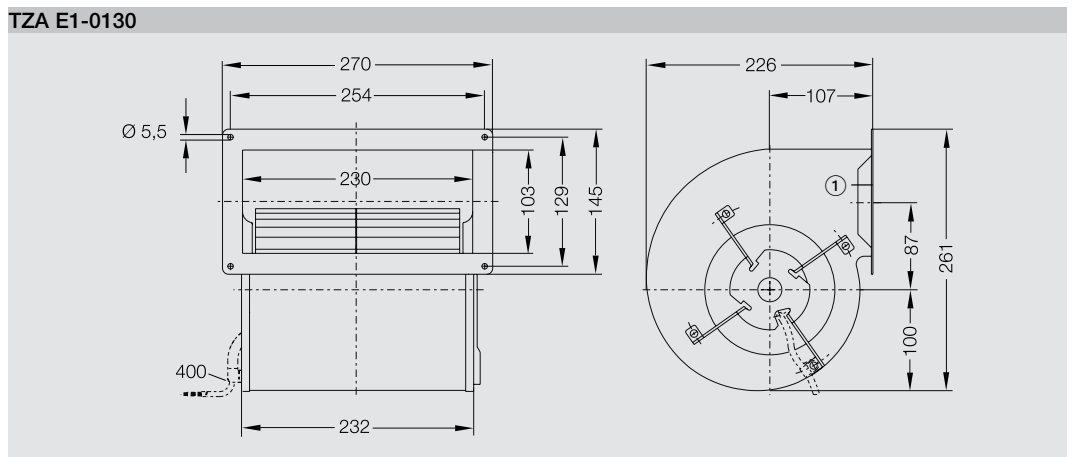
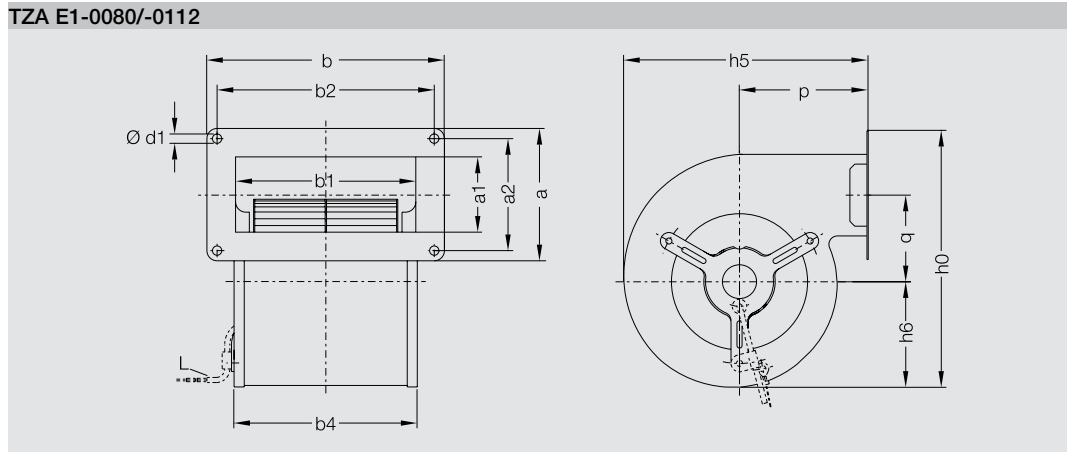
TZA 01-	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed regulator electronic	Speed controller electronic
	ESH	ETO	ETH	EPH	EPA	EPA
0080-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E
0112-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E
0130-4E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E

# TZA E1-0080/-0130

**230 V**  
**50 Hz**

Dimensions in mm, subject to change.

TZA E1-	a	a1	a2	b	b1	b2	b4	d1	h0	h5	h6	p	q	Kabellänge L
0080-2E	100	67	88	180	145	168	146	5.5	181	162	68	86	63	200
0112-2E	142	102	126	270	230	254	232	5.5	237	204	98	97	68	300
0130-4E	see dimensional drawing													



① delivered with loose flange and capacitor

**Direction / Rotation**

LG



RD



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side. Centrifugal fans TZA E1 are always manufactured in clockwise rotation **RD**.

# TZA 01-0200

## 230/400 V 50 Hz

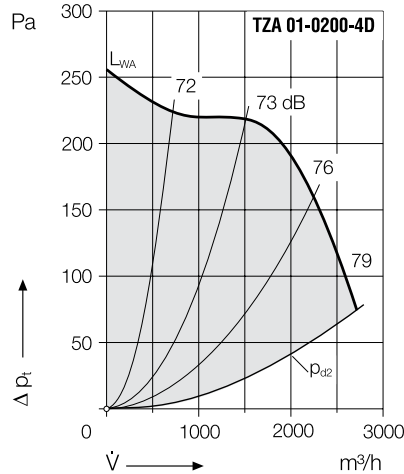
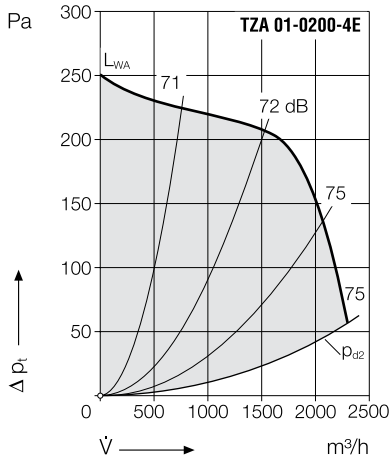
### Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TZA 01-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0200-4E•	[B1]	4	230, 1~	50	920	0.43	2.0	-	2260	71	10	IP44/F	13.5	-20...+40
0200-4D•	[B2]	4	400, 3~ Δ	50	1030	0.54	1.0	-	2750	72	-	IP44/F	13.5	-20...+40

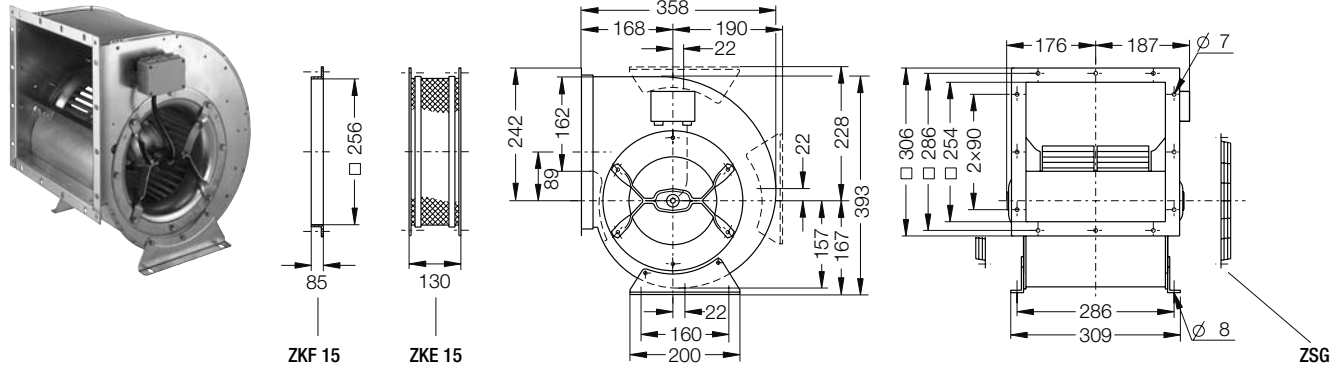
- (also) stepless speed controllable by tension variation

### Curves

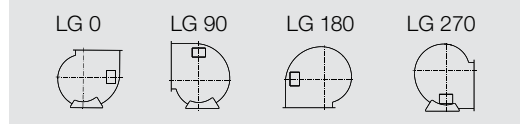
$\rho_1 = 1.15 \text{ kg/m}^3$



### Dimensions in mm, subject to change.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Double inlet fans are built in series in rotation direction **LG**.

### Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 01-	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0200-4E•	ZBD 21-6035	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0040-5E	ETH 35-0040-5E	EPA 03-0060-5E	EPA 83-0060-5E
0200-4D•	ZBD 21-6035	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0010-8D	ETH 36-0010-8D	-	EPA 83-0050-8D

# TZA 94-0215

**230 V**  
**50 Hz**

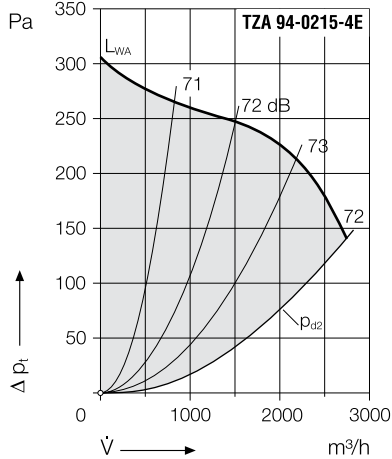
## Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TZA 94-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0215-4E•	[C1]	4	230, 1~	50	1340	0.71	3.5	-	2720	71	20	IP44/F	16	-20...+40

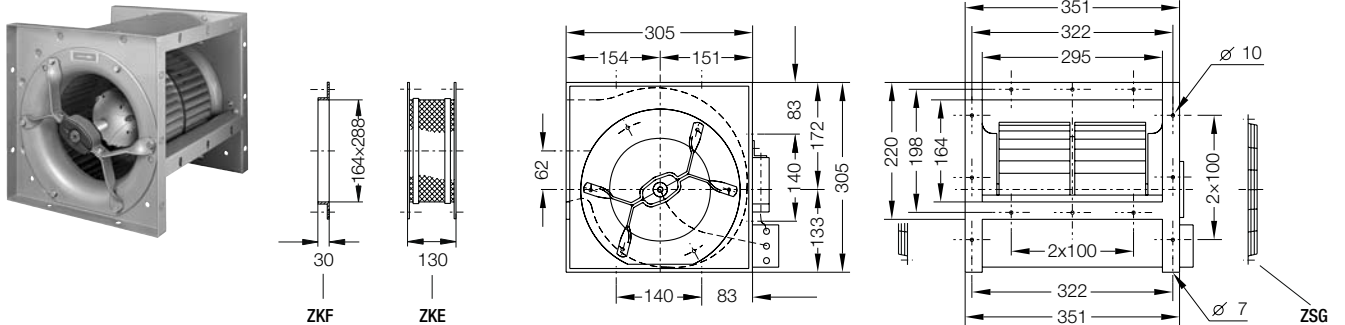
- (also) stepless speed controllable by tension variation

## Curves

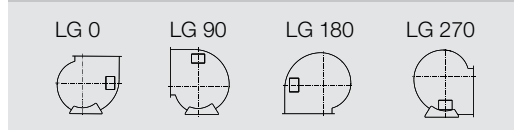
$\rho_1=1.15 \text{ kg/m}^3$



## Dimensions in mm, subject to change.



## Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Double inlet fans are built in series in rotation direction **LG**.

## Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 94-	4 x ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0215-4E•	ZBD 21-5935	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0040-5E	ETH 35-0040-5E	EPA 03-0060-5E	EPA 83-0060-5E

# TZA 01-0225

## 230/400 V 50 Hz

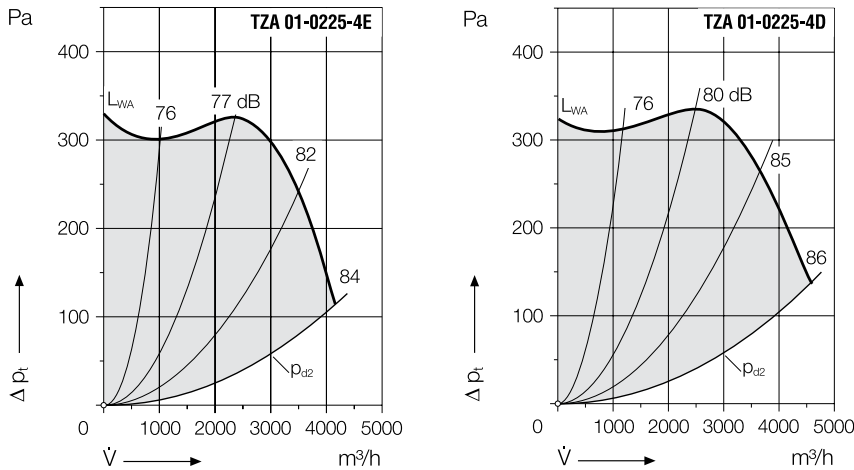
### Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TZA 01-			V	Hz	1/min	kW	A	Pa	m³/h	dB	µF		ca. kg	°C
0225-4E•	[D1]	4	230, 1~	50	1160	1.15	5.0	-	4100	76	25	IP44/F	19	-20...+40
0225-4D•	[D2]	4	400, 3~ Δ	50	1260	1.30	2.5	-	4550	76	-	IP44/F	19	-20...+40

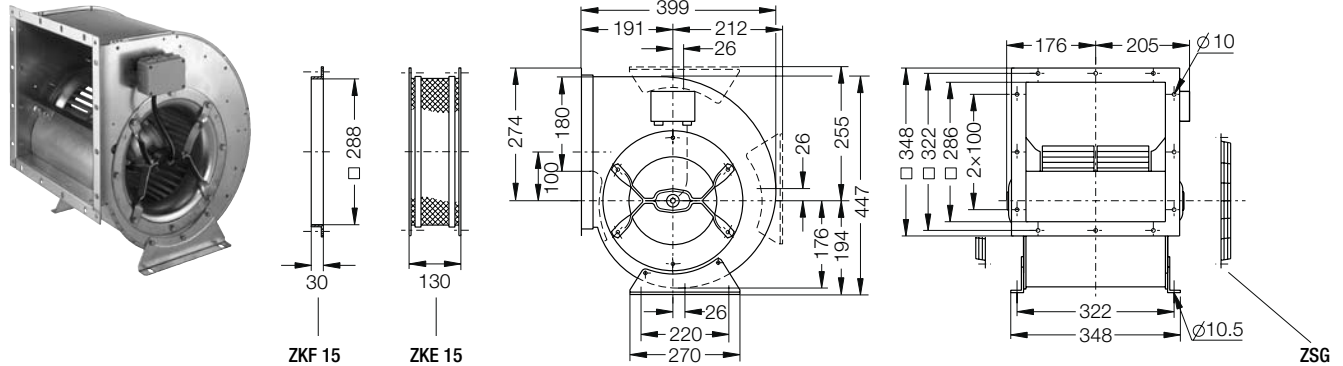
- (also) stepless speed controllable by tension variation

### Curves

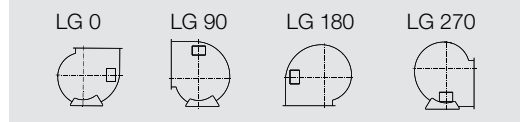
$\rho_1=1.15 \text{ kg/m}^3$



### Dimensions in mm, subject to change.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol LG.

Double inlet fans are built in series in rotation direction LG.

### Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 01-	4 x ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0225-4E•	ZBD 21-5935	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0070-5E	ETH 35-0070-5E	EPA 03-0060-5E	EPA 83-0060-5E
0225-4D•	ZBD 21-5935	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0040-8D	ETH 36-0040-8D	-	EPA 83-0050-8D



# TZA 01-0250

**230/400 V**  
**50 Hz**

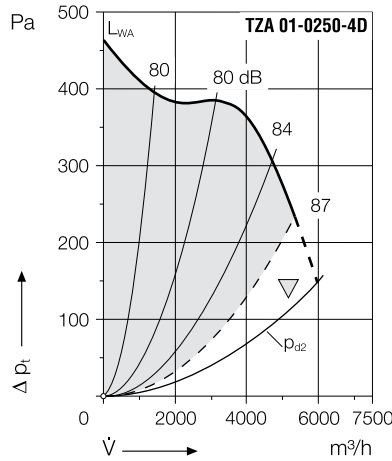
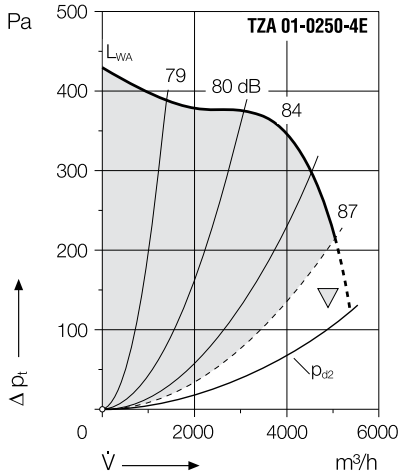
## Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	Q <sub>Vmax</sub>	L <sub>WA6</sub> at Q <sub>Vopt</sub>	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TZA 01-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0250-4E•	[F1]	4	230, 1~	50	1180	1.75	7.8	115	5000	79	30	IP44/F	31	-20...+40
0250-4D•	[F2]	4	400, 3~ Δ	50	1140	1.68	2.9	115	5350	80	-	IP44/F	26	-20...+40

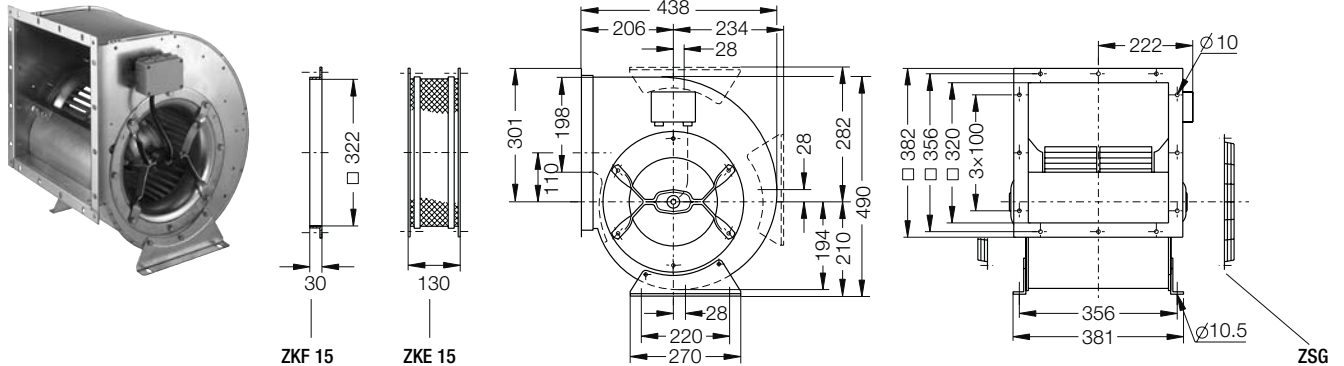
- (also) stepless speed controllable by tension variation

## Curves

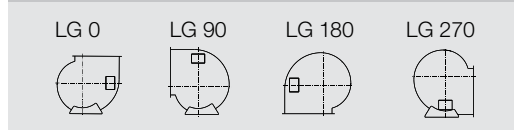
ρ<sub>1</sub> = 1.15 kg/m<sup>3</sup>



## Dimensions in mm, subject to change.



## Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Double inlet fans are built in series in rotation direction **LG**.

## Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 01-	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0200-4E•	ZBD 03-0806	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0130-5E	ETH 36-0200-5E	EPA 03-0100-5E	EPA 83-0100-5E
0200-4D•	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0040-8D	ETH 36-0040-8D	—	EPA 83-0050-8D

# TZA 01-0280

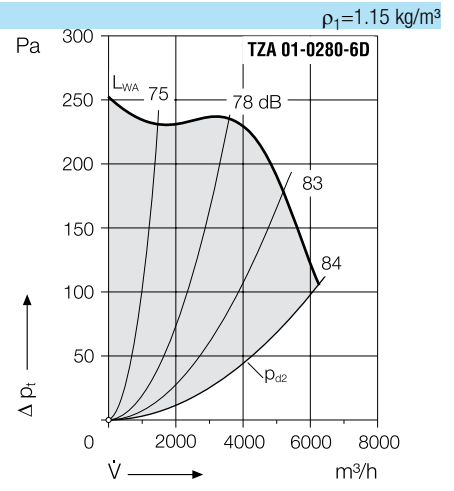
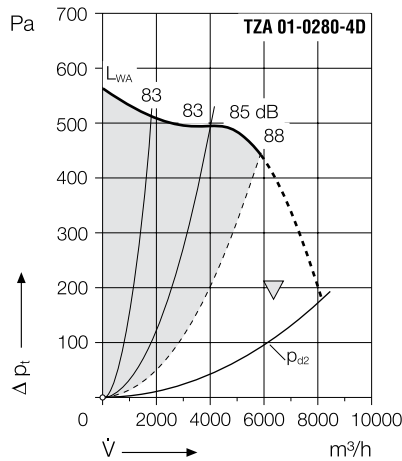
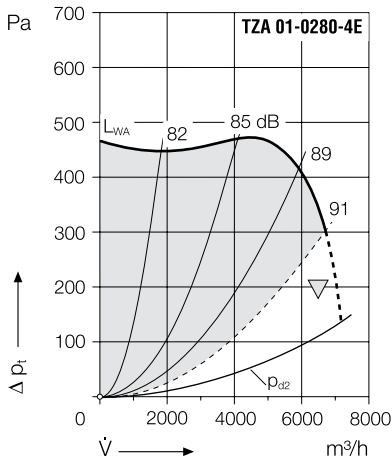
**230/400 V**  
**50 Hz**

## Technical Data

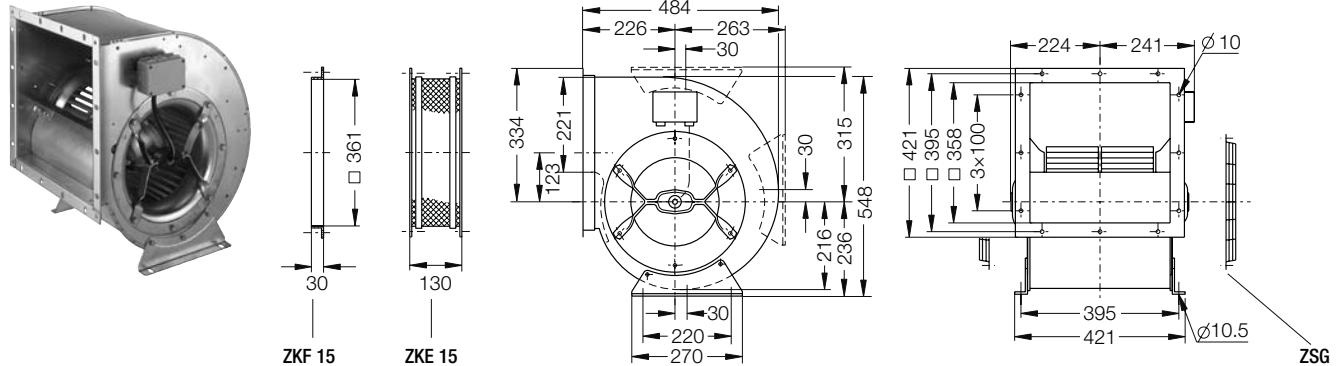
	Curves Poles	Voltage/Connection	Frequency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capacitor	Protection/Temp. class	Weight	Media temp.	
TZA 01-	V	Hz	1/min	kW	A	Pa	$m^3/h$	dB	$\mu F$		ca. kg	$^{\circ}C$		
<b>0280-4E</b>	[H1]	4	230, 1~	50	1260	2.61	11.3	190	6670	82	50	IP44/F	48	-20...+40
<b>0280-4D</b>	[H2]	4	400, 3- $\Delta$	50	1260	2.15	3.8	350	5860	83	-	IP44/F	39	-20...+40
<b>0280-6D</b>	[H3]	4	400, 3- $\Delta$	50	740	1.20	2.7	-	6250	75	-	IP44/F	39	-20...+40

• (also) stepless speed controllable by tension variation

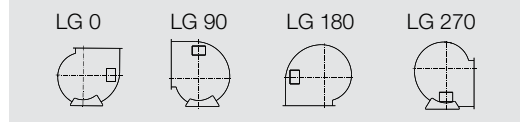
## Curves



## Dimensions in mm, subject to change.



## Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Double inlet fans are built in series in rotation direction **LG**.

## Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 01-	4 x ZBD	ESM	ESH	ETO	ETH	EPA	EPA
<b>0280-4E</b>	ZBD 03-0806	-	ESH 21-0030-25	ETO 10-0130-5E	ETH 36-0200-5E	-	-
<b>0280-4D</b>	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0040-8D	ETH 36-0040-8D	-	EPA 83-0050-8D
<b>0280-6D</b>	ZBD 21-5935	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0040-8D	ETH 36-0040-8D	-	EPA 83-0050-8D

# TZA 01-0315

**400 V**  
**50 Hz**

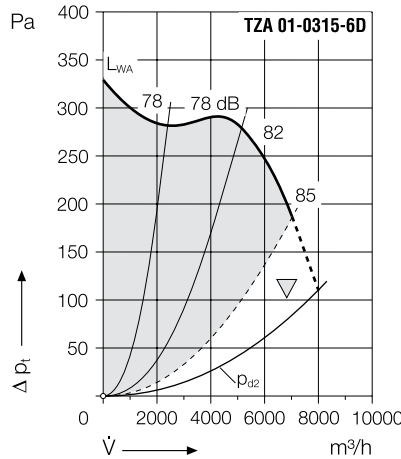
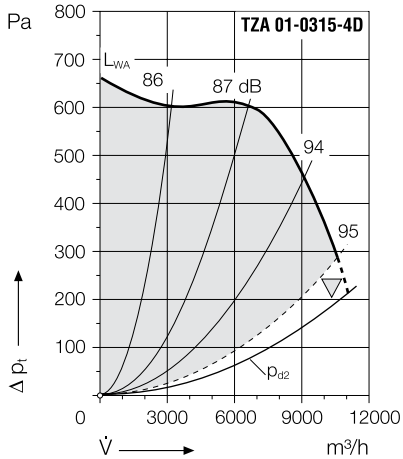
## Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TZA 01-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0315-4D•	[K1]	4	400, 3~ Δ	50	1250	4.95	9.0	95	10500	86	-	IP44/F	59	-20...+40
0315-6D•	[K2]	4	400, 3~ Δ	50	750	1.66	3.4	110	7000	78	-	IP44/F	43	-20...+40

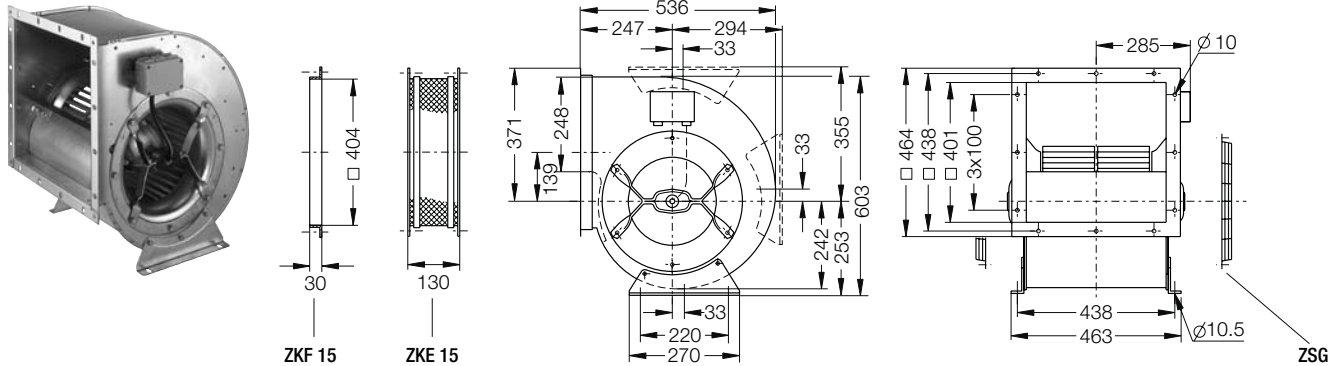
- (also) stepless speed controllable by tension variation

## Curves

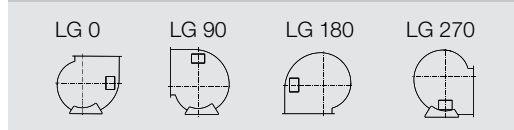
$\rho_1 = 1.15 \text{ kg/m}^3$



## Dimensions in mm, subject to change.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Double inlet fans are built in series in rotation direction **LG**.

## Accessories

TZA 01-	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0315-4D•	ZBD 03-1007	—	ESH 21-0075-65	ETO 10-0150-8D	ETH 36-0140-8D	—	EPA 83-0100-8D
0315-6D•	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-65	ETO 10-0040-8D	ETH 36-0040-8D	—	EPA 83-0050-8D

# TZA 01-0355

**400 V**  
**50 Hz**

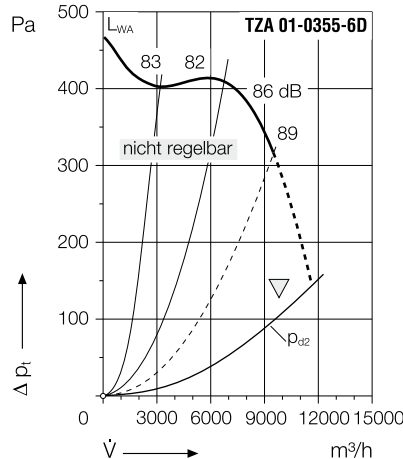
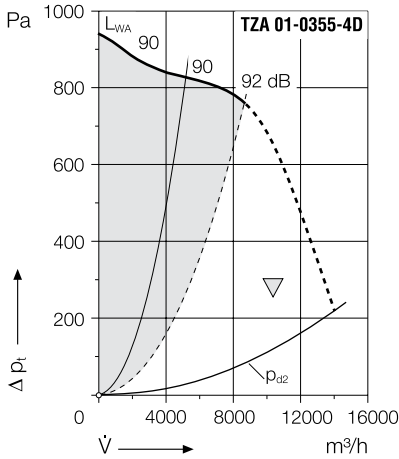
## Technical Data

Curves	Poles	Voltage/Connection	Frequency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capacitor	Protection/Temp. class	Weight	Media temp.
TZA 01-		V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0355-4D•	[L1]	400, 3~ Δ	50	1270	4.50	8.1	675	8760	90	-	IP44/F	66	-20...+40
0355-6D	[L2]	400, 3~ Δ	50	810	2.62	4.8	225	9330	82	-	IP44/F	62	-20...+40

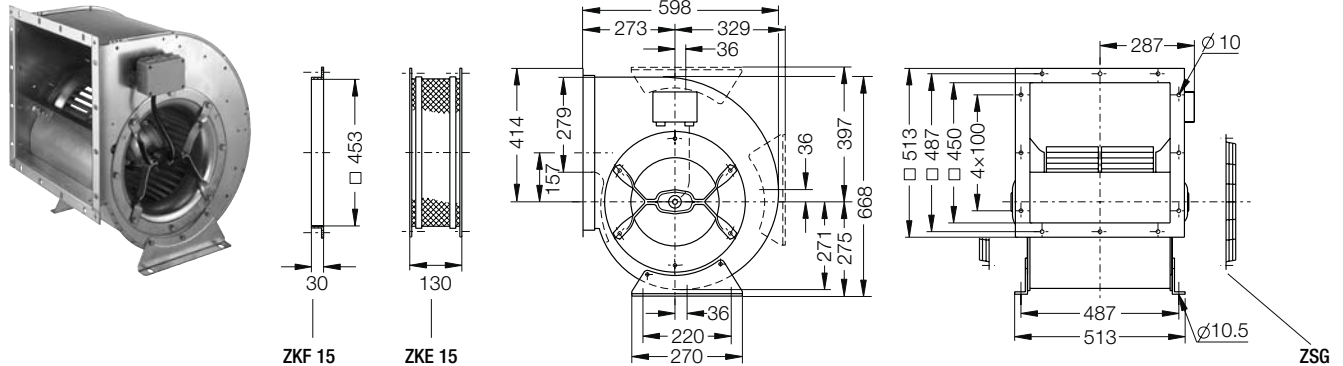
- (also) stepless speed controllable by tension variation

## Curves

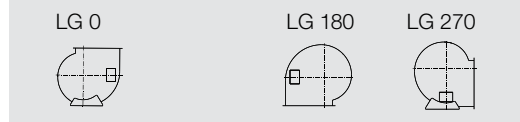
$\rho_1 = 1.15 \text{ kg/m}^3$



## Dimensions in mm, subject to change.



## Direction / Rotation



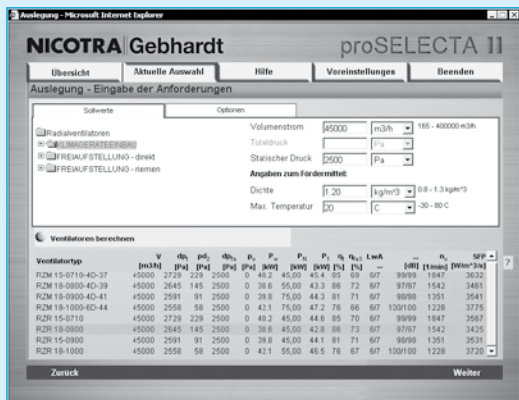
The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.  
Anti-clockwise rotation, symbol **LG**.  
Double inlet fans are built in series in rotation direction **LG**.

## Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TZA 01-	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0355-4D•	ZBD 03-1007	-	ESH 21-0075-65	ETO 10-0150-8D	ETH 36-0140-8D	-	EPA 83-0100-8D
0355-6D	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-65	-	-	-	-

# proSELECTA II

**proSELECTA II** is a technical selection program that allows you to configure your own individually designed fan. It provides you with the opportunity to choose from the entire range of fan types and their associated options.



## Simple and reliable selection

The result from **proSELECTA II** is the provision of all the technical data for your fan, including sound level data, dimension specifications and accessories. Apart from that, as a registered user, your purchase prices are provided. Additionally fully dimensioned drawings in dxf format are available, which can be downloaded and transferred straight into your CAD system.

## So that you can be sure

Models and options that are technically not permissible, are automatically excluded in **proSELECTA II**. So there is no chance that you will configure a “wrong” device option.

## What else is important to you

During the fan selection process, you can choose any of the standardised ATEX options.



## Free registration and many advantages

You can register as a **proSELECTA II** user with us, which enables us to offer you faster order processing. What this means for you is:

- The complete configuration of your fan with its associated system accessories and belt drive layout.
- The possibility to produce fans that operate via a frequency inverter.
- The option of saving your own fan configuration on our server.
- The opportunity to modify your saved configuration, even over the phone to your Nicotra-Gebhardt representative.



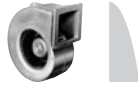
## TEA E1

Centrifugal fans of the TEA E1 range find application e.g. in:  
control cabinet cooling,  
projector cooling,  
dust extraction systems,  
forced ventilation,  
data processing machines



## TEA 01

Centrifugal fans of the TEA 01 range find application e.g. in:  
ventilating systems,  
HVAC installations,  
cooling of equipment,  
warm-air installations



## Fast selection TEA 01

### Here's how you select:

Pressure increase  $\Delta p_t$  = 370 Pa  
 Volume  $q_v$  = 2500 m<sup>3</sup>/h

### Possible fans:

TZA 01-0280-4E

With the selection diagram and a given duty point, a fast selection of the fan in question can be made. The represented performance curves are the respective performance curves of the fans at maximal speed.

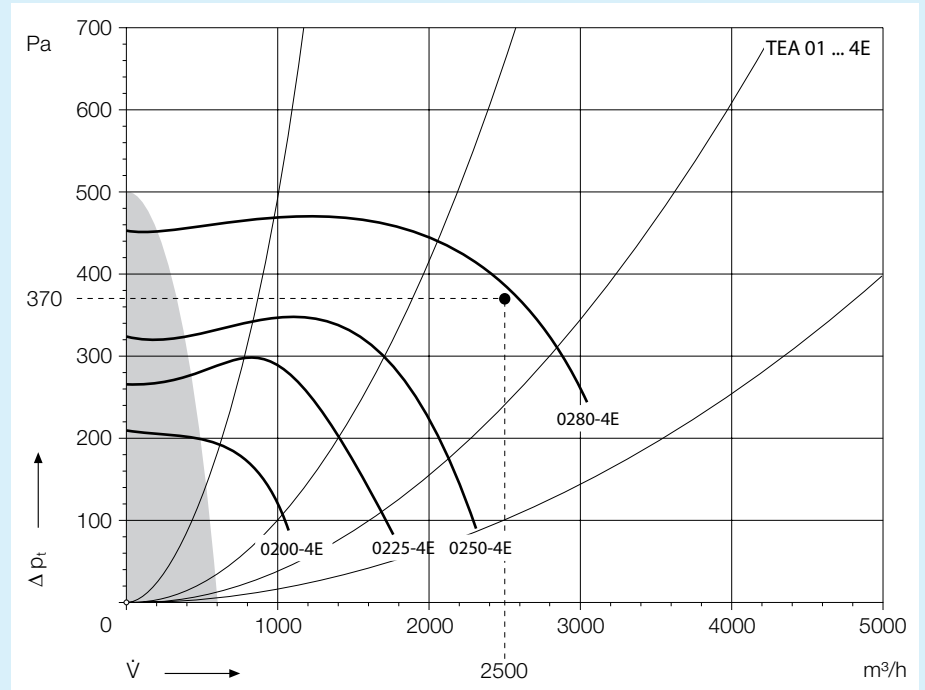
On the following pages you will find, ordered in increasing size, the complete technical data of the fans with individual performance curves.

TEA E1 see following pages.

### Single phase current

230 V  
 50 Hz

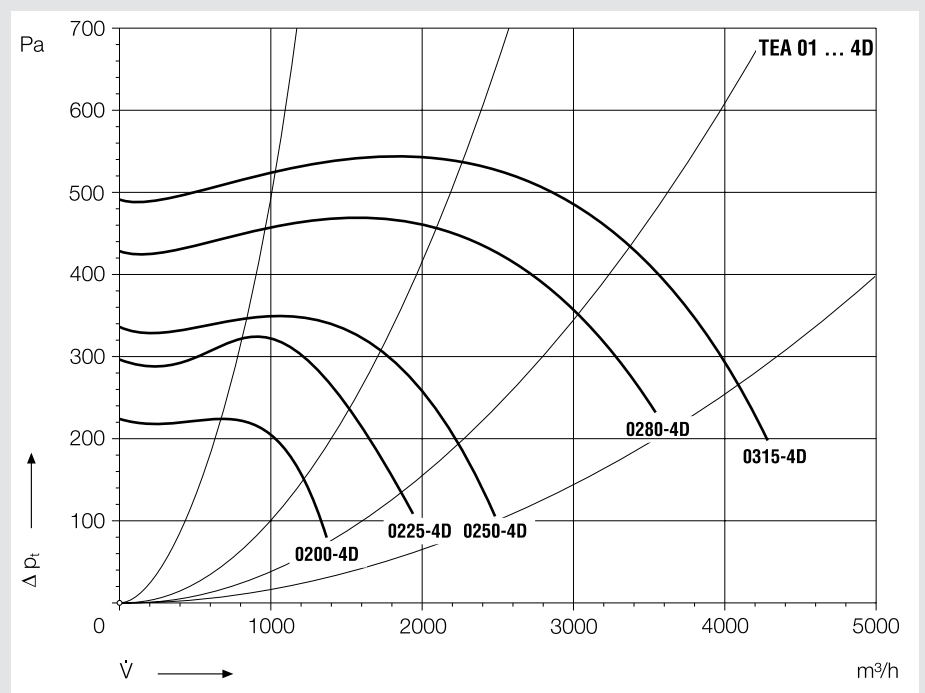
1.15 kg/m<sup>3</sup>



### Three phase current

400 V  
 50 Hz

1.15 kg/m<sup>3</sup>



# TEA E1-0060/-0150

**230 V**  
**50 Hz**

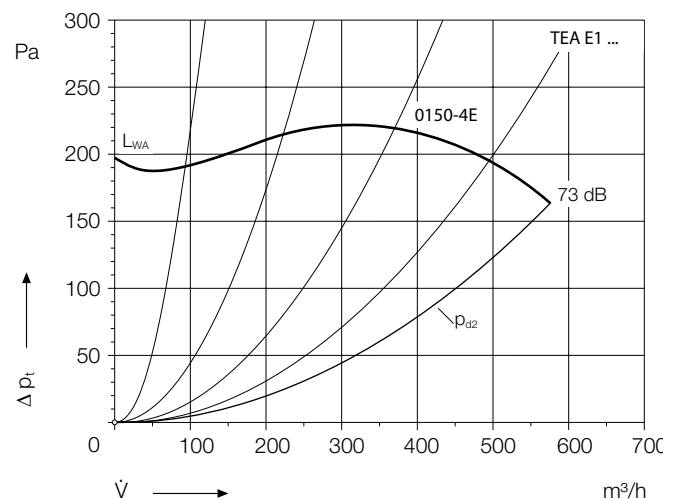
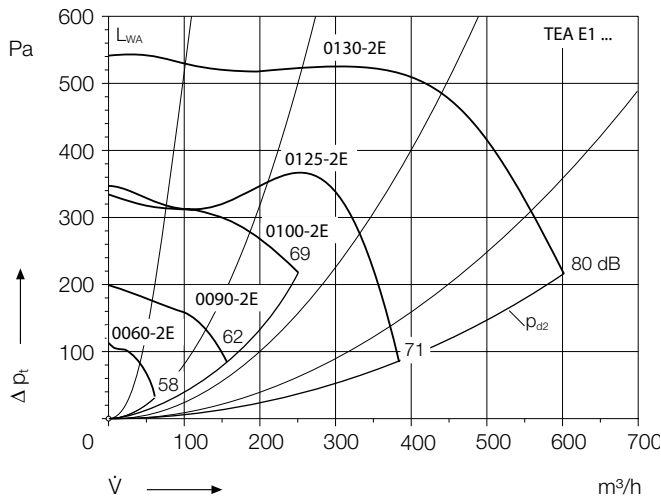
## Technical Data

TEA E1-	Curves	Poles	Voltage/ Connection	Frequency	Speed	max. power consumption	Nominal current	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Rotation direction	Media temp.
			V	Hz	1/min	kW	A	m <sup>3</sup> /h	dB	μF		ca. kg		°C
0060-2E	[A1]	2	230, 1~	50	1850	0.024	0.13	62	58	-	IP44/F	0.8	LG	-20...+40
0090-2E	[A2]	2	230, 1~	50	1650	0.041	0.19	155	62	1.5 ②	IP44/B	1.3	LG	-20...+40
0100-2E	[A3]	2	230, 1~	50	2350	0.080	0.35	255	69	2	IP44/B	1.8	LG	-20...+40
0125-2E	[A4]	2	230, 1~	50	1650	0.135	0.60	385	71	2	IP44/B	3.0	LG	-20...+40
0130-2E	[A5]	2	230, 1~	50	2100	0.240	1.05	600	80	6	IP44/B	3.9	LG	-20...+40
0150-4E	[A6]	4	230, 1~	50	1250	0.110	0.49	575	73	3	IP44/B	3.7	LG	-20...+40

② Capacitor according to protection class P2

## Curves

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



For detailed descriptions and further controllers and regulators see section Accessories.

The fans are delivered with a fitted connecting cable and a loosely enclosed operational capacitor. Length of the connecting cable see Dimensions.

## Accessories

TEA E1-	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed regulator electronic	Speed controller electronic
	ESH	ETO	ETH	EPH	EPA	EPA
0060-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	—	—
0090-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	—	—
0100-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E
0125-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E
0130-2E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0020-5E	EPA 03-0060-5E	EPA 83-0060-5E
0150-4E	ESH 21-0030-22	ETO 10-0018-5E	ETH 31-0020-5E	EPH 03-0010-5E	EPA 03-0060-5E	EPA 83-0060-5E

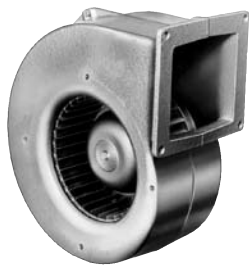


# TEA E1-0060/-0150

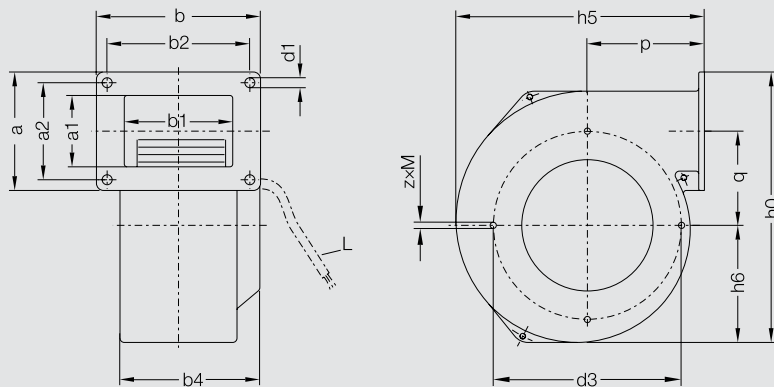
**230 V**  
**50 Hz**

Dimensions in mm, subject to change.

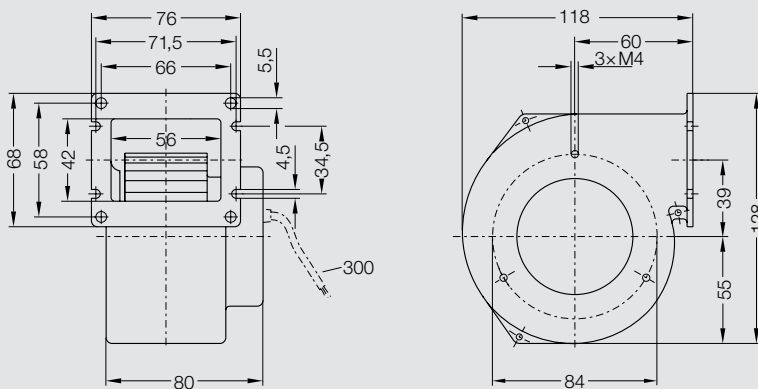
TEA E1-	a	a1	a2	b	b1	b2	b4	d1	d3	h0	h5	h6	p	q	z×M	L
0060-2E	see dimensional drawing															
0090-2E	83	50	66	115	76	97	82	8.0	118	183	159	71	79	71	4×M4	300
0100-2E	83	50	68	115	76	100	98	7.0	132	190	174	82	82	67	4×M4	450
0125-2E	120	92	105	130	94	115	100	6.3	158	261	226	107	103	94	4×M4	450
0130-2E	120	92	105	130	94	115	100	6.3	175	261	226	107	103	94	4×M4	450
0150-4E	140	110	120	125	86	110	105	7.0	194	294	261	123	120	101	4×M4	450



TEA E1-0090/-0150



TEA E1-0060



**Direction / Rotation**

LG



RD



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.

Anti-clockwise rotation, symbol **LG**.

Single inlet fans TEA E1 are built in series in rotation direction **LG**.

# TEA 01-0200

## 230/400 V 50 Hz

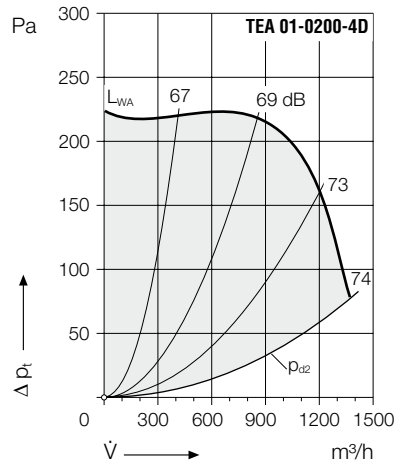
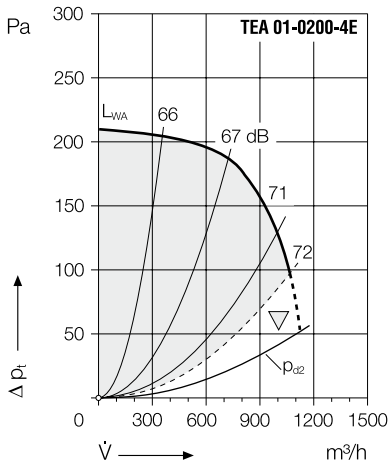
### Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TEA 01-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0200-4E•	[A1]	4	230, 1~	50	1060	0.21	0.98	50	1065	66	4	IP44/F	10	-20...+40
0200-4D•	[A2]	4	230/400, 3~ Y	50	1190	0.30	0.92/0.53	-	1370	67	-	IP44/F	10	-20...+40

- (also) stepless speed controllable by tension variation

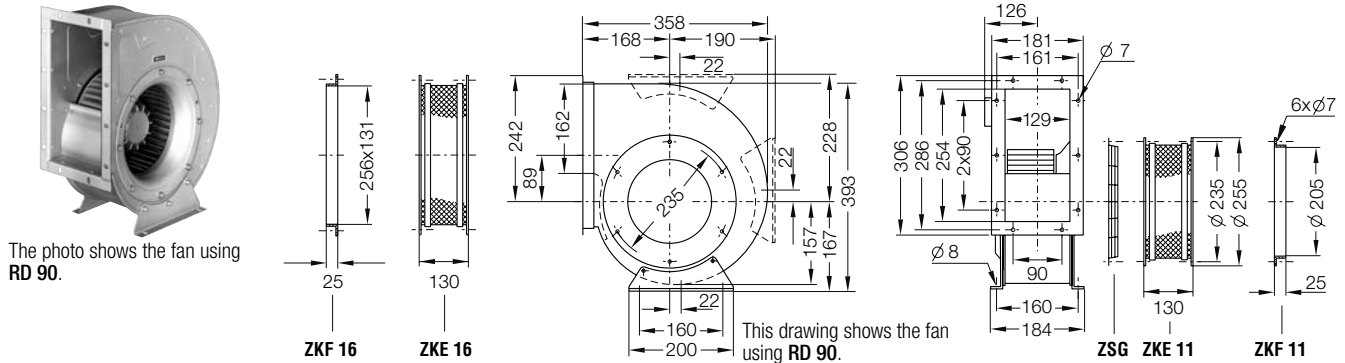
### Curves

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

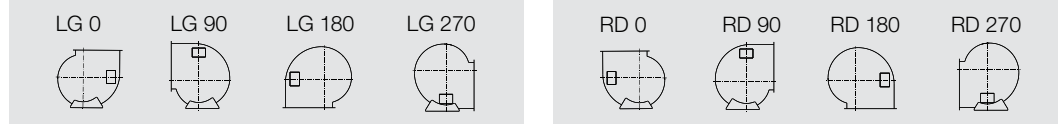


▽ not achievable in this area

### Dimensions in mm, subject to change.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.  
Anti-clockwise rotation, symbol LG. Clockwise rotation symbol RD.

### Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TEA 01-	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0200-4E•	ZBD 21-6035	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0018-5E	ETH 35-0040-5E	EPA 03-0060-5E	EPA 83-0060-5E
0200-4D•	ZBD 21-6035	ESM 01-0040-8D	ESH 21-0030-35	ETO 10-0010-8D	ETH 35-0010-8D	-	EPA 83-0050-8D

# TEA 01-0225

## 230/400 V 50 Hz

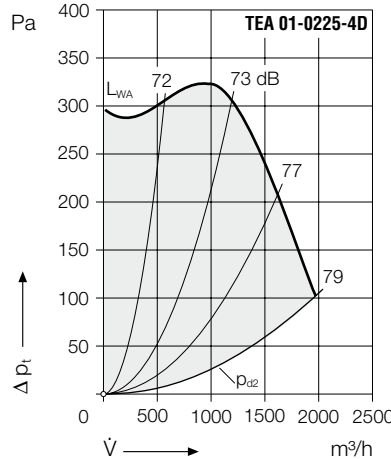
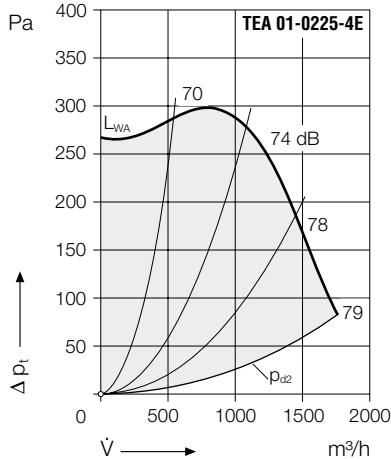
### Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	Q <sub>Vmax</sub>	L <sub>WA6</sub> at Q <sub>Vopt</sub>	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TEA 01-			V	Hz	1/min	kW	A	Pa	m <sup>3</sup> /h	dB	μF		ca. kg	°C
0225-4E•	[B1]	4	230, 1~	50	1230	0.48	2.50	-	1760	70	-	IP44/F	59	-20...+40
0225-4D•	[B2]	4	230/400, 3~ Y	50	1270	0.55	1.74/1.00	-	1950	72	-	IP44/F	43	-20...+40

- (also) stepless speed controllable by tension variation

### Curves

ρ<sub>1</sub>=1.15 kg/m<sup>3</sup>

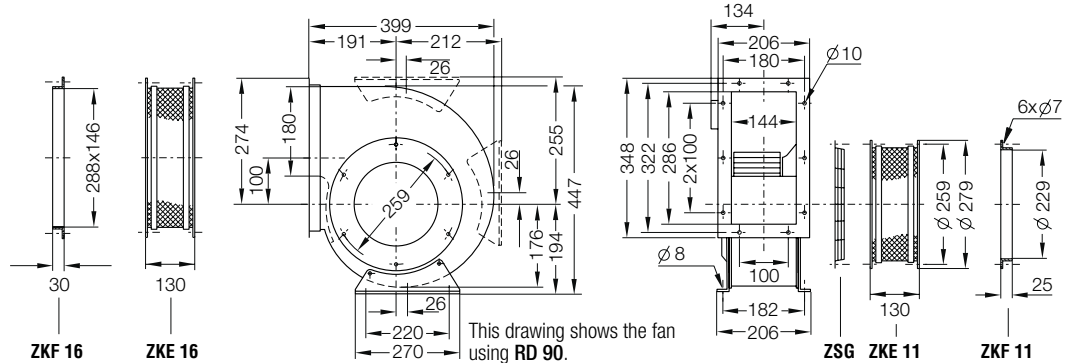


▽ not achievable in this area

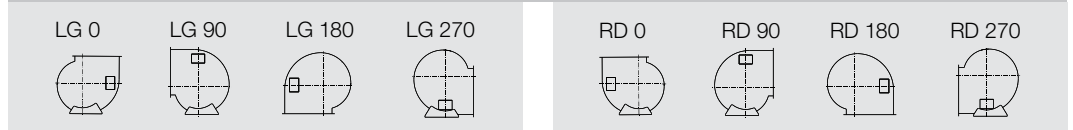
### Dimensions in mm, subject to change.



The photo shows the fan using RD 90.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side. Anti-clockwise rotation, symbol LG. Clockwise rotation symbol RD.

### Accessories

TEA 01-	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0225-4E•	ZBD 21-6035	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0040-5E	ETH 35-0040-5E	EPA 03-0060-5E	EPA 83-0060-5E
0225-4D•	ZBD 21-6035	ESM 01-0040-8D	ESH 21-0030-35	ETO 10-0010-8D	ETH 35-0010-8D	-	EPA 83-0050-8D

# TEA 01-0250

**230/400 V**  
**50 Hz**

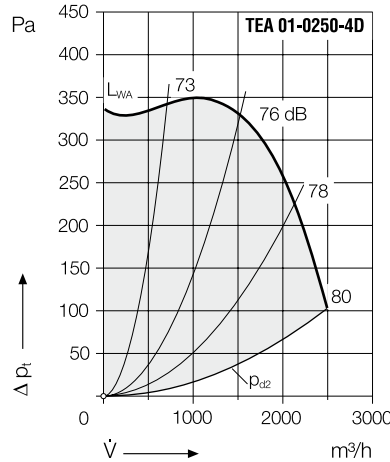
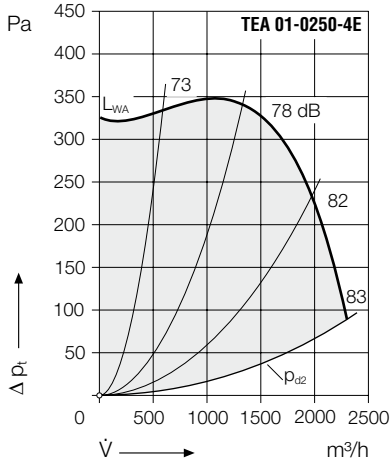
## Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TEA 01-	V	Hz	1/min	kW	A	Pa	$m^3/h$	dB	$\mu F$		ca. kg	$^{\circ}C$		
<b>0250-4E•</b>	<b>[D1]</b>	4	230, 1~	50	1290	0.77	3.90	-	2305	73	-	IP44/F	19	-20...+40
<b>0250-4D•</b>	<b>[D2]</b>	4	230/400, 3~ Y	50	1100	0.69	2.47/1.42	-	2500	73	-	IP44/F	19	-20...+40

- (also) stepless speed controllable by tension variation

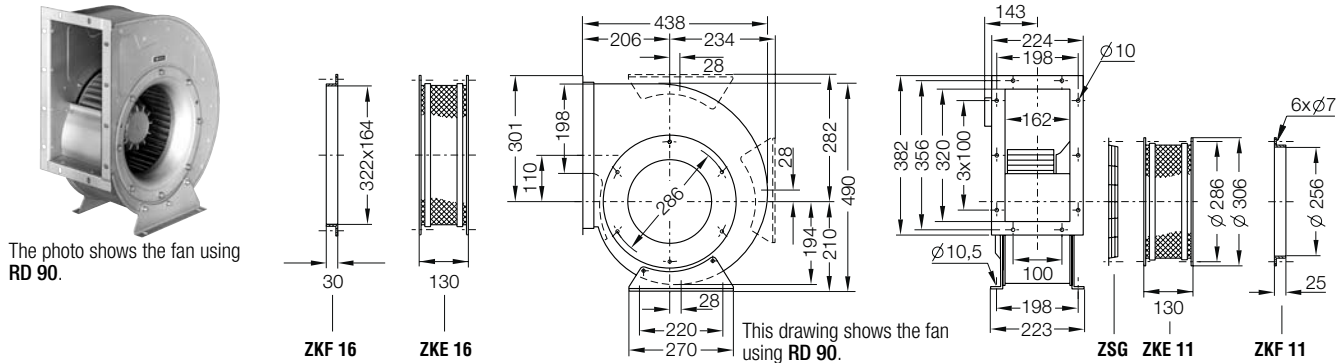
## Curves

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

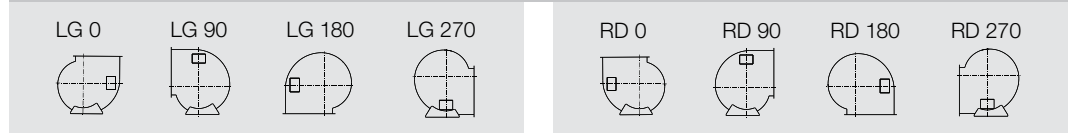


∇ not achievable in this area

## Dimensions in mm, subject to change.



## Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.  
Anti-clockwise rotation, symbol **LG**. Clockwise rotation symbol **RD**.

## Accessories

	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TEA 01-	4 x ZBD	ESM	ESH	ETO	ETH	EPA	EPA
<b>0250-4E•</b>	ZBD 21-5935	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0040-5E	ETH 35-0040-5E	EPA 03-0060-5E	EPA 83-0060-5E
<b>0250-4D•</b>	ZBD 21-5935	ESM 01-0040-8D	ESH 21-0030-35	ETO 10-0020-8D	ETH 35-0020-8D	-	EPA 83-0050-8D

# TEA 01-0280

## 230/400 V 50 Hz

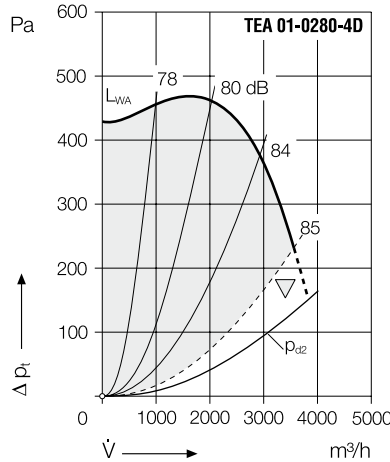
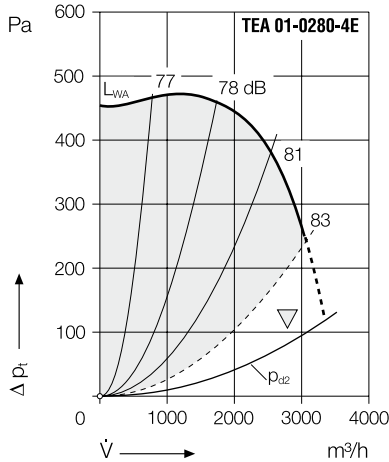
### Technical Data

TEA 01-	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	Q <sub>Vmax</sub>	L <sub>WA6</sub> at Q <sub>Vopt</sub>	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
			V	Hz	1/min	kW	A	Pa	m³/h	dB	µF		ca. kg	°C
0280-4E•	[F1]	4	230, 1~	50	1250	1.20	5.50	145	3050	77	-	IP44/F	27	-20...+40
0280-4D•	[F2]	4	230/400, 3~ Y	50	1280	1.40	4.50/2.60	100	3540	78	-	IP44/F	27	-20...+40

- (also) stepless speed controllable by tension variation

### Curves

ρ<sub>1</sub>=1.15 kg/m³

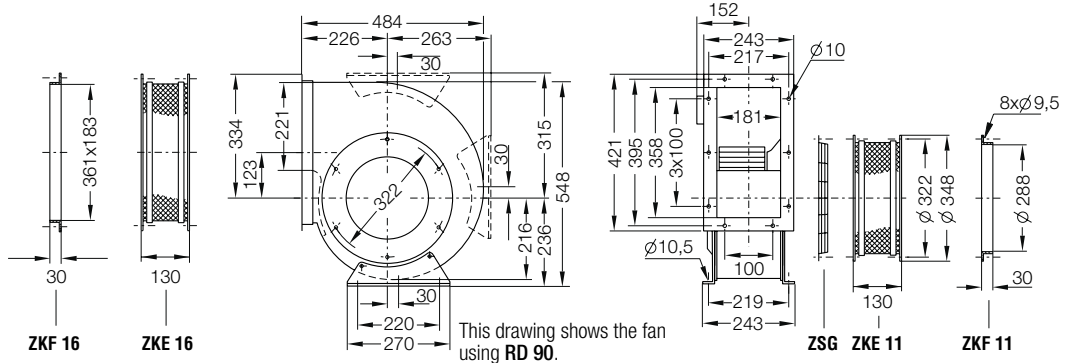


▽ not achievable in this area

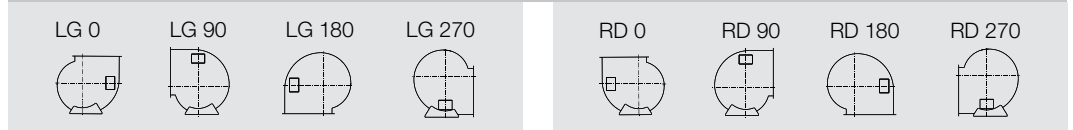
### Dimensions in mm, subject to change.



The photo shows the fan using RD 90.



### Direction / Rotation



The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side.  
Anti-clockwise rotation, symbol **LG**. Clockwise rotation symbol **RD**.

### Accessories

TEA 01-	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
	4 × ZBD	ESM	ESH	ETO	ETH	EPA	EPA
0280-4E•	ZBD 03-0806	ESM 01-0020-5E	ESH 21-0030-25	ETO 10-0070-5E	ETH 35-0070-5E	EPA 03-0060-5E	EPA 83-0060-5E
0280-4D•	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-35	ETO 10-0040-8D	ETH 36-0040-8D	-	EPA 83-0050-8D

# TEA 01-0315

## 230/400 V 50 Hz

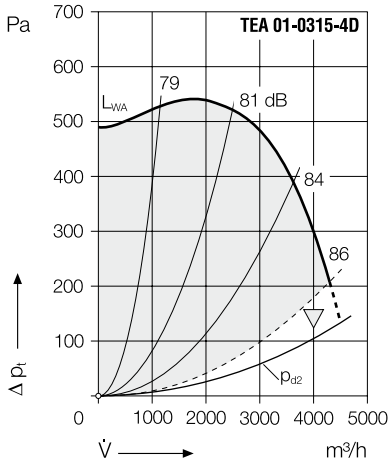
### Technical Data

	Curves	Poles	Voltage/ Connection	Fre- quency	Speed	max. power consumption	Nominal current	Pressure increase	$Q_{Vmax}$	$L_{WA6}$ at $Q_{Vopt}$	Capaci- tor	Protection/ Temp. class	Weight	Media temp.
TEA 01-			V	Hz	1/min	kW	A	Pa	m³/h	dB	µF		ca. kg	°C
<b>0315-4D•</b>	[H1]	4	230/400, 3~ Y	50	1300	2.00	6.30/3.65	145	4290	79	-	IP44/F	34	-20...+40

- (also) stepless speed controllable by tension variation

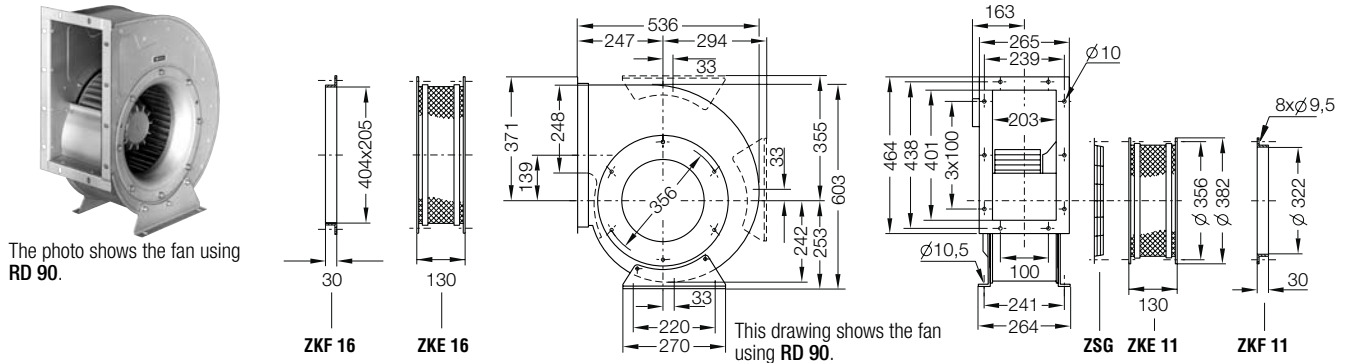
### Curves

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



▽ not achievable in this area

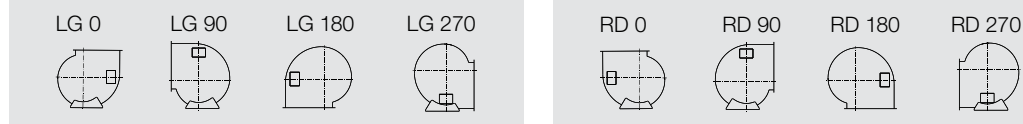
### Dimensions in mm, subject to change.



The photo shows the fan using RD 90.

This drawing shows the fan using RD 90.

### Direction / Rotation

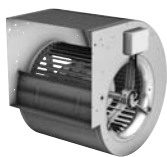


The direction of rotation is determined with the unit being seen from the motor connection (terminal box) side. Anti-clockwise rotation, symbol LG. Clockwise rotation symbol RD.

### Accessories

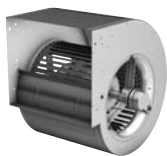
	Anti vibration mounts	Motor protection unit	Isolator	Transformer 7 taps	Transformer 5-steps	Transformer electronic	Speed controller electronic
TEA 01-	4 x ZBD	ESM	ESH	ETO	ETH	EPA	EPA
<b>0315-4D•</b>	ZBD 03-0806	ESM 01-0040-8D	ESH 21-0030-35	ETO 10-0010-8D	ETH 36-0040-8D	-	EPA 83-0050-8D

# The new catalogue for Direct driven centrifugal fans



## High performance centrifugal fans DDM

double width, double inlet, (DWDI),  
with built-in, optimised external rotor motor,  
made of galvanised sheet steel;  
available in various models;  
Impeller with forward curved blades of galvanised steel plate



## High performance centrifugal fans DDMB

double width, double inlet, (DWDI),  
with built-in, brushless-DC external rotor motor and external commutation unit,  
made of galvanised sheet steel;  
available in various models;  
Impeller with forward curved blades of galvanised steel plate



## High performance centrifugal fans DD

double width, double inlet, (DWDI),  
built-in, optimised internal rotor motor,  
made of galvanised sheet steel;  
available in various models;  
Impeller with forward curved blades of galvanised steel plate



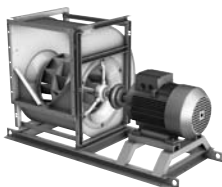
## High performance centrifugal fans RZA rotavent

double inlet,  
with built-in, low-slip external rotor motor,  
made of galvanised sheet steel or welded and coated,  
with multi position feet and connecting flange at discharge;  
Impeller with true aerofoil blades, welded and painted – system **rotavent**



## High performance centrifugal fans RZP

double inlet,  
with built-in, brushless-DC external rotor motor and external commutation unit,  
made of galvanised sheet steel;  
with multi position feet and connecting flange at discharge;  
Impeller with true aerofoil blades, welded and painted – system



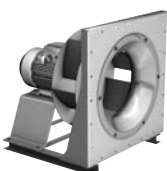
## High performance centrifugal fans RZM rotavent

double inlet,  
fan with directly coupled motor fitted on pedestal and base frame,  
made of galvanised sheet steel with heavy duty reinforced side frame,  
connecting flange at discharge,  
Impeller with true aerofoil blades, welded and painted – system **rotavent**



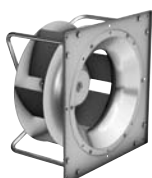
## High performance centrifugal fans REM/TEM

single inlet, with flanged IEC standard motor out of air stream,  
in unterschiedlichen Ausführungsvarianten,  
Impeller with true aerofoil blades, welded and painted (REM)  
or forward curved blades of galvanised steel plate (TEM),  
with or without pedestal for horizontal or vertical mounting



## High performance plug fans RLM

optimised for use without scroll.  
Motor impeller with inlet cone,  
motor base and basic frame manufactured as a module and adjusted



## High performance plug fans RLE

optimised for use without scroll.  
Vier unterschiedliche Laufradbaureihen,  
built-in, AC or brushless-DC external rotor motor,  
Inlet cone as an option

# TZA

Specifications	TZA E1-0080/-0130	TZA 01-0200/-0355	TZA 94-0215
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**High performance-Centrifugal fans**



**TZA E1**

- double inlet with direct drive
- Casing made of galvanized sheet steel (TZA E1-0130-4E with loose flange and capacitor)
- Impeller multivane with forward curved profiled blades
- Impeller fitted to the shaft of a variable speed integral motor
- Motor in protection class IP 44 (TZA E1-0080-2E in protection class IP 20) completely maintenance free
- statically and dynamically balanced
- built-in thermalcontacts for motor protection
- fitted connecting cable
- capacitor loosely enclosed
- Single phase current 230 V, 50 Hz

**High performance-Centrifugal fans**



**TZA 01**

- double inlet with direct drive
- Lock formed scroll casing made of galvanized sheet steel with bolted on, interchangeable feet
- Impeller multivane with forward curved profiled blades
- Impeller fitted to the shaft of a variable speed integral motor
- Motor in protection class IP 54 completely maintenance free
- statically and dynamically balanced
- anti-vibration suspension
- built-in thermalcontacts for motor protection
- terminal box ready for connection
- Three phase current 400 V, 50 Hz bzw. Single phase current 230 V, 50 Hz

**High performance-Centrifugal fans**



**TZA 94**

- double inlet with direct drive
- Lock formed scroll casing made of galvanized sheet steel with interchangeable rectangular special casing
- Impeller multivane with forward curved profiled blades
- Impeller fitted to the shaft of a variable speed integral motor
- Motor in protection class IP 54 completely maintenance free
- statically and dynamically balanced
- anti-vibration suspension
- built-in thermalcontacts for motor protection
- terminal box ready for connection
- Single phase current 230 V, 50 Hz

Fan type		TZA E1-	TZA 01-	TZA 94-
Volume	V	= ..... m³/h	= ..... m³/h	= ..... m³/h
Total pressure increase	$\Delta p_t$	= ..... Pa	= ..... Pa	= ..... Pa
Speed	n	= ..... 1/min	= ..... 1/min	= ..... 1/min
Power consumption	$P_{1max}$	= ..... kW	= ..... kW	= ..... kW
Sound power level	$L_{WA}$	= ..... dB(A)	= ..... dB(A)	= ..... dB(A)
Media temperature	t	= ..... °C	= ..... °C	= ..... °C
Weight	m	= ..... kg	= ..... kg	= ..... kg

**Accessories (extra cost)**

- Contact protection screen for inlet side by request
- Isolator
- Transformer stepped/stepless
- Speed controller stepless, electronic
- Temperature sensor

**Accessories (extra cost)**

- Discharge flange
- Discharge flex
- Inlet protection guards
- Drain plugs
- Inspection door
- Anti-vibration mounts
- Motor fullprotection unit
- Isolator
- Transformer stepped/stepless
- Speed controller stepless, electronic
- Temperature sensor

**Accessories (extra cost)**

- Discharge flange
- Discharge flex
- Inlet protection guards
- Drain plugs
- Inspection door
- Anti-vibration mounts
- Motor fullprotection unit
- Isolator
- Transformer stepped/stepless
- Speed controller stepless, electronic
- Temperature sensor



# TEA

**Specifications**

**TEA E1-0060/-0150**  
**High performance-**  
**Centrifugal fans**



- TEA E1**
- single inlet with direct drive
  - Casing made of die-cast aluminium
  - Impeller multivane with forward curved profiled blades
  - Impeller fitted to the shaft of a variable speed integral motor
  - Motor in protection class IP 44 completely maintenance free
  - statically and dynamically balanced
  - built-in thermal contacts for motor protection (exception TEA E1-0060-2E)
  - fitted connecting cable
  - Kondensator lose beigelegt
  - Single phase current 230 V, 50 Hz

**TEA 01-0200/-0315**  
**High performance-**  
**Centrifugal fans**



- TEA 01**
- single inlet with direct drive
  - Lock formed scroll casing made of galvanized sheet steel with bolted on, interchangeable feet
  - Impeller multivane with forward curved profiled blades
  - Impeller fitted to the shaft of a variable speed integral motor
  - Motor in protection class IP 44 completely maintenance free
  - statically and dynamically balanced
  - built-in thermal contacts for motor protection
  - terminal box ready for connection
  - Three phase current 400 V, 50 Hz *bzw.* Single phase current 230 V, 50 Hz

Fan type	TEA E1-
Volume	V = ..... m <sup>3</sup> /h
Total pressure increase	$\Delta p_t$ = ..... Pa
Speed	n = ..... 1/min
Power consumption	$P_{1max}$ = ..... kW
Sound power level	$L_{WA}$ = ..... dB(A)
Media temperature	t = ..... °C
Weight	m = ..... kg

- Accessories (extra cost)**
- Contact protection screen for inlet side by request
  - Isolator
  - Transformer stepped/stepless
  - Speed controller stepless, electronic

Fan type	TEA 01-
Volume	V = ..... m <sup>3</sup> /h
Total pressure increase	$\Delta p_t$ = ..... Pa
Speed	n = ..... 1/min
Power consumption	$P_{1max}$ = ..... kW
Sound power level	$L_{WA}$ = ..... dB(A)
Media temperature	t = ..... °C
Weight	m = ..... kg

- Accessories (extra cost)**
- Inlet flange
  - Inlet flex
  - Discharge flange
  - Discharge flex
  - Inlet protection guards
  - Drain plugs
  - Inspection door
  - Anti-vibration mounts
  - Motor fullprotection unit
  - Isolator
  - Transformer stepped/stepless
  - Speed controller stepless, electronic
  - Temperature sensor

## Technical Description



### General Information

All fans in this catalogue are designed for the application areas of general ventilation and air-conditioning technology. They are suitable for conveyance of air and other non-aggressive gasses.

The following flow medium temperatures are permissible:

Fan type	Medium temperature
TZA 01	-25 °C bis +40 °C
TEA 01	-25 °C bis +40 °C
TZA E1 / TEA E1	-15 °C bis +40 °C

### Protective installations

The fans are designed to be installed into units and possess no personal protection guards of their own in the standard design. They may only be brought into operation for the first time when all of the necessary safety-devices are attached and connected (pay attention to the operational instructions)!

The Safety devices must be designed according to the stipulations in DIN EN 292-1. Section 3.22 "Disconnecting Safety Device" and DIN EN 292-2. Section 4 "Technical Safety Measures".

If, due to the method of employment of the fan, the inlet and discharge openings are freely accessible, then safety devices conforming to DIN EN 294 must be attached to the fan!

### Accessories

All accessory parts for the fans must be ordered separately.

Technical data and dimensions can be found in the respective sections of the catalogue.

### Performance Measurement

The performance curves of the fans are determined on a suction side test chamber corresponding to DIN 24 163-2 "Fans, Performance measurement, standard-test stands". In the diagrams of all series, the total pressure increase  $\Delta p_t$  and the dynamic pressure in relation to the flange crosssection at the discharge  $p_{d2}$  are represented in dependency on the volume. For closer determination of duty same unit performance curves (parabolas) are contained in the diagrams.

**The static pressure increase  $\Delta p_{fa}$  with a connected discharge flange can be determined according to the following relation.**

$$\Delta p_{fa} = \Delta p_t - p_{d2}$$

If no channel is connected pressure side, the cut off present in some series remains ineffective.

**The static pressure rise  $\Delta p_{fa}$  of the fan can then be calculated according to the following formula. Series: TZA 01 / TEA 01.**

$$\Delta p_{fa} = \Delta p_t - 2 \times p_{d2}$$

All data are valid for the source density given for the respective range.

### Sound

The noise measuring and evaluation is conducted according to DIN 45635-38 "Noise measurement in machines: fans". In the diagrams the A-weighted sound power level of the fan is given on the performance curves as the emission size.

**The A-weighted sound pressure level  $L_{pa}$  for a separation of a meter can be approximately determined by the following formula.**

$$L_{pa} \approx L_{WA} - 7 \text{ dB}$$

The sound power levels in the individual octavos can be taken from the electronic catalogue "proSELECTA II".

### Motors

#### Series TZA 01

The integral motors of these series are designed to heat class F with protection class IP 54 and equipped with maintenance-free deep groove ball bearings.

The connecting cables are led out of the motor shaft tube and connected to a plastic terminal box of protection class IP 44 affixed to the scroll casing sidewall.

In order to protect the motors from overload, they are equipped with thermal contacts. The thermal contacts cut off the motor in connection with a motor protection unit or a fuse when the permitted winding temperature is exceeded.

The speed of the motors can be reduced by reduction of the terminal voltage (exception: TZA 01-0355-6D).

## Technical Description

### Series TEA 01

The integral motors of these series are designed to heat class B with protection class IP 44 and are equipped with maintenance-free deep groove ball bearings.

The connection cables are connected to a plastic terminal box of protection class IP 44 affixed to the scrollcasing sidewall.

In order to protect the motors from overload, they are equipped with thermal contacts.

The thermal contacts cut off the motor in connection with a motor protection unit or a fuse when the permitted winding temperature is exceeded.

The speed of the motors can be reduced by reduction of the terminal voltage.

### Series TZA E1 / TEA E1

The integral motors of this range are designed predominantly to heat class B and protection class IP 44 (exceptions are marked) and are equipped with maintenance-free ball bearings.

The connecting cables are supplied loosely. The necessary operating capacitors are enclosed loosely for these types. To protect the motors from overheating they are equipped with thermal contacts (exception: TEA E1-0060-2E).

The thermal contacts are arranged in series with the motor winding. They automatically cut off the motor upon reaching a temperature limit and switch it on again after cooling down. A switching device is thus not necessary.

When using a phase-angle control, it is important to take care that the maximal permissible winding temperature rise of the fan is not exceeded.



### Explosion protection

Fans for operation in ex-hazardous areas have to conform to the EU-Guideline 94/9/EG (ATEX 100a). Units of the group II (all applications except mining) are classified corresponding to their degree of safety into categories 1, 2 and 3. A further distinction is made according to their use in G (gas, vapour) or D (dust) environment. Harmonised national standards are to be observed.

The fans of this catalogue suitable for the operation in ex-hazardous environment are classified category 3G. They fulfil the standard degree of safety and are suitable to operate in zone 2.

Unit of this classification are not to certified or sample approved. The manufacturer declares the conformity acc. to the EU-guide lines.

For the standard designs of our fans, the following ignition sources are essentially to be considered.

- Hot surfaces, e.g. due to heat of friction or seizure of a bearing or due to blockage of an impeller
- Rubbing-, grinding- or beating sparks, e. g. as a result of contact of the impeller with stationary components
- Sparks resulting from discharge of electrostatically loaded, non-conducting components, e. g. of plastic-panels, surfaces with strong layer thickness.

All in this catalogues presented fans correspond to the category 3G. They can be used for conveying ex-hazardous atmosphere of zone 2 and for installation in zone 2 or in non-hazardous environment for the temperature class T1 to T3 provided that the following conditions are met:

- On the inlet side and in the proximity of the fan, the temperature limits -20 °C and +40 °C may not be exceeded.
- The fans may only be employed with a horizontal shaft.
- As a standard they are equipped with an intake guard. For handling LG/RD 0 additionally a grille at the discharge side has to be provided (see accessories).
- On the machine plate the max. admitted speed is indicated
- Fan for the operation in ex-hazardous areas are marked as such and that they are accompanied with an EU-conformity declaration and with operation and maintenance instructions.

*The operation and maintenance instructions have strictly to be observed.*

# Accessories

## Guards, flanges and flexible connections

### Guards

The protection guards for the inlet and outlet sides are made of painted or galvanized steel mesh in accordance with DIN EN 294.

### Flanges

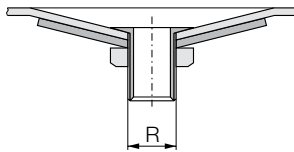
For the discharge side connection of channels or system components on the fan, made of galvanized or painted steel.

### Flexible connections

Connecting piece with elastic intermediate section for the vibration or impact-noise decoupled connection of the fan to the system or unit.

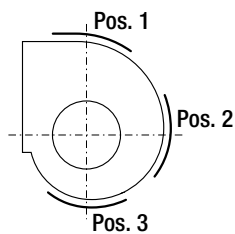
Made out of two connecting flanges with elastic intermediate section.

## Drain plug



Where required a drain can be provided at its lowest point. The drain consists of a R1/2" (B.S:P.) gas threaded. The casing position must be advised at the time of order.

## Access door



Fan size	Dimensions in mm
0160/-0200	160 × 160
0225/-0315	210 × 210
0355/-0630	310 × 310

For the purposes of maintenance and cleaning there is an opening, which can be securely closed by means of an access door, in the fan casing.

As it can only be opened with a tool, the access door complies with safety and accident prevention regulations.

Additional securing with locking bars can be supplied on request.

The site and orientation of the inspection opening depends on the casing position.

The position should be specified when ordering according to the following diagram: e.g. **Access door, Pos. 2**.

## Corrosion protection

Gebhardt fans are treated with high quality corrosion protection as standard.

Under extreme operating conditions, however, additional corrosion protection is advisable.

Depending on the use to which the fan is to be put and the degree of exposure to corrosion, we offer various anti-corrosion protection measures.

More detailed information can be found in the leaflet "Corrosion protection systems for any application" or on the internet at [www.gebhardt.de](http://www.gebhardt.de).

### Additional corrosion protection - Class S40

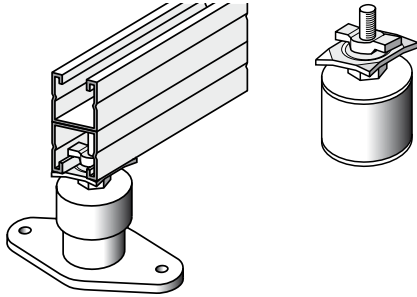
- Degreasing, ironphosphating
- Powder coating  
Layer thickness  $\geq 40 \mu\text{m}$   
Colour RAL 7039
- Nasslackbeschichtung  
Layer thickness  $\geq 40 \mu\text{m}$  (primer + lacquer finish)  
Colour RAL 7039

For more information see brochure "Corrosion protection systems".

ATEX – Fans are equipped with an impeller and an intake cone which are covered by an ATEX conforming coating of RAL 9005 colour.

# Accessories

## Anti vibration mounts



AV mounts are designed to prevent noise and vibrations being transmitted through the base of the fan.

AV mounts should be mounted beneath the fan base frame so the weight and spring deflections are evenly distributed. They should not be mounted symmetrically around the centre of gravity of the system when idle, because a counter force is induced into the system by the pressure created by the working fan.

It is difficult for the manufacturer to establish the position of the AV mounts to suit all types of application.

Vibration and noise insulation can also be improved by ensuring that the fan is connected to its external environment by a flexible coupling.

**Rubber pads** and **buffers**, for both vibration and noise insulation at fan speeds above 1400 rpm or 850 rpm.

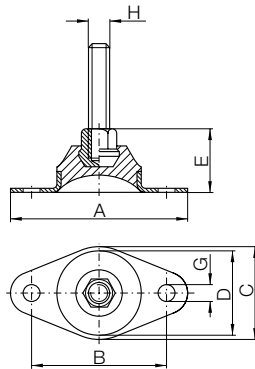
**Rubber buffers**, for noise insulation only at fan speeds under 800 rpm or 1700 rpm.

**Spring diffusers** with noise insulation layer and height adjustment, for both vibration and noise insulation at fan speeds above 400 rpm

*Available AV mounts for different fans, see price list or proSELECTA II.*

*The AVM-mounts are supplied with the suitable mounting material for the base frame.*

## Rubber AV pads

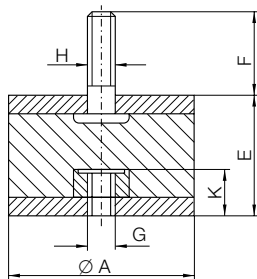


ZBD	A	B	C	D	E	G	H
21-6035*	60	45	35	30	20	5	M 6
21-6065*	60	45	35	30	20	6	M 6
21-5935*	90	70	50	45	32	9	M 10
21-5950*	90	70	50	45	32	9	M 10

\*=A - for U-Profile  
 \*=C - for CC-Profile

Dimensions in mm, subject to change.

## Rubber buffers



ZBD	A	E	F	G	H	K
01-0405*	20	25	16	M 6	M 6	6.5
03-0503*	25	15	11	M 6	M 6	6.5
01-0504*	25	20	11	M 6	M 6	6.5
03-0806*	40	30	21	M 8	M 8	9.5
03-1007*	50	34	26.5	M 10	M 10	10.5
03-1510*	75	50	39	M 12	M 12	12.5
02-2008*	100	40	44	M 16	M 16	16.5

\*=A - for U-Profile  
 \*=C - for CC-Profile

Dimensions in mm, subject to change.

## Mounting variants

CC-Profile – Type (C)

U-Profile – Type (A)



# Accessories

## ESH 21

### Isolator



ESH 21 ≥ 5.5 kW

#### Design

Beautifully shaped, shock-resistant plastic casing. Protection class IP 44/65, for surface mounting, switching symbols 0 and I.  
The isolator is fitted with connection terminals that are very accessible and has a connection diagram glued in the casing.

The **ESH 21 up to 3 KW** is designed to **IP 44**. It is equipped with an integrated locking mechanism.

The **ESH 21 up to 5.5 KW** is designed to **IP 65**. It is equipped with a coupling cover and an integrated locking mechanism. A padlock can in some cases be fitted to the rotary switch.

#### Function

The isolator disconnects the fan safely from the mains in the event of cleaning, maintenance or repair work on site and thus avoids accidents due to uncontrolled activation of the unit by third parties. It is no main switch or emergency switch.

**All of the classified isolators are fitted with potential-free contacts (1 closer and 1 opener).**

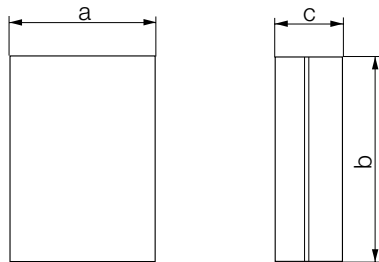
The isolators for motors with a built-in thermal contact have on principle three supplementary auxiliary contacts, so that the pre-switched control device does not drop out during cleaning or servicing work due to motor.

Caution about combination with frequency inverter!

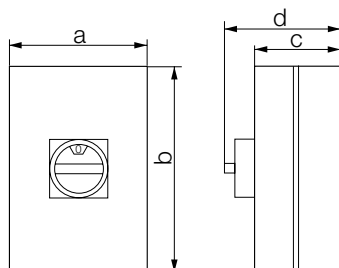
Special EMC-action can be necessary, furthermore do not switch during operation, overvoltages can destroy the switch and the motor-winding.

### Technical Data | Dimensions

#### ESH 21 ≤ 3 kW



#### ESH 21 ≥ 5.5 kW



ESH 21-	max. motor power kW	Dimensions in mm, Subject to change			
		a	b	c	d
0030-22	3.0	73	108	45	–
0030-32	3.0	73	108	45	–
0055-32	5.5	85	120	80	110
0075-32	7.5	85	120	80	110
0110-32	11.0	85	160	80	110
0150-32	15.0	100	190	91	120
0220-32	22.0	100	190	91	120
0300-32	30.0	145	250	100	140
0370-32	37.0	145	250	100	140
0450-32	45.0	200	300	172	200
0550-32	55.0	200	300	172	200
0900-32	90.0	280	400	180	210
0030-62	3.0	73	108	45	–
0075-62	7.5	100	190	91	133
0110-62	11.0	100	190	91	133
0150-62	15.0	145	250	100	145
0220-62	22.0	145	250	100	145
0300-62	30.0	200	300	172	200
0370-62	37.0	200	300	172	200
0450-62	45.0	300	300	172	210
0550-62	55.0	300	300	172	210
0750-62	75.0	280	280	260	327
0030-25	3.0	73	108	45	–
0030-35	3.0	73	108	45	–
0075-35	7.5	85	120	80	110
0030-65	3.0	73	108	45	–
0055-65	5.5	125	125	126	157
0075-95	7.5	125	125	126	157

The isolators are grouped according to motor rated power. All important characteristic data are evident from the model designation.

E.g.: ESH 21-0030-65 = 3 KW-switch  
6 main contacts  
5 auxiliary contacts

# 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

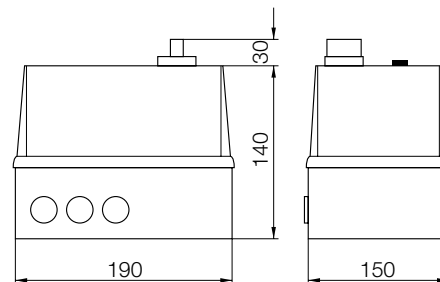
for motors with thermal contacts	max. permitted rated motor power	Nominal voltage	Weight
ESM	kW	V	kg
01-0020-5E	2.0	230	0.9
01-0040-8D	4.0	400	0.9
02-0040-8D	4.0	400	0.9
03-0040-8D	4.0	400	0.9
04-0040-8D	4.0	400	0.9

for motors with PTC	max. permitted rated motor power	Nominal voltage	Weight
ESM	kW	V	kg
11-0040-8D	4.0	4000	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

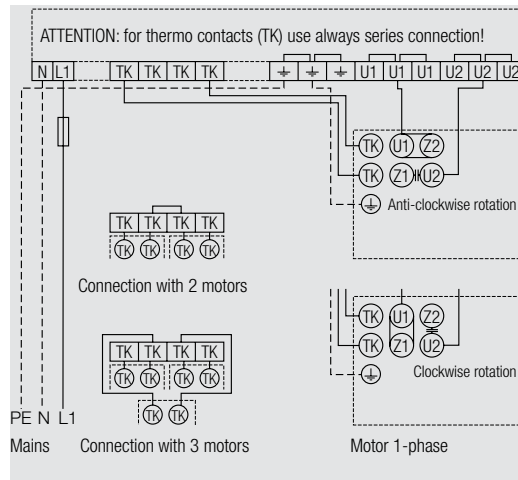
### Motor protection unit



#### Connection diagram

ESM 01-0020-5E

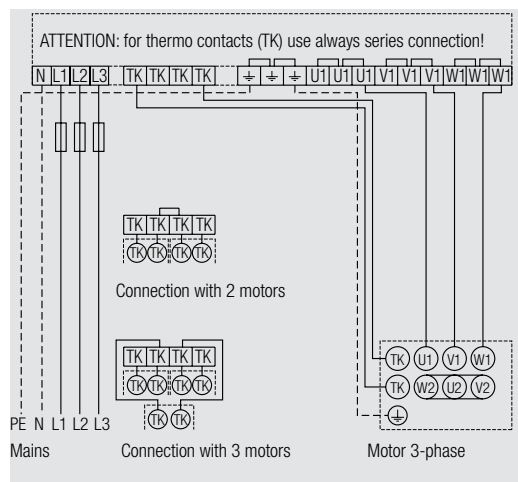
Alternating current model, single speed



#### Connection diagram

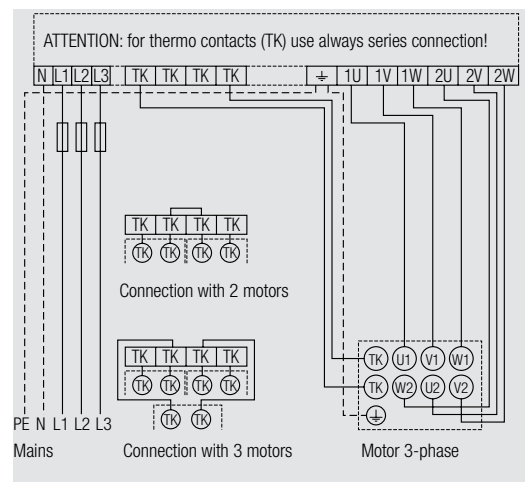
ESM 01-0040-8D

Three-phase current model, single speed



ESM 02-0040-8D

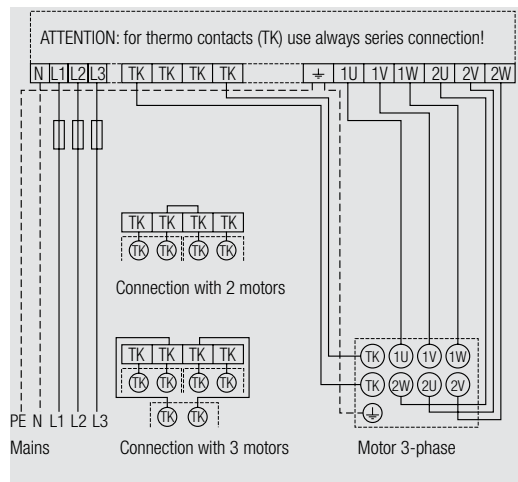
Three-phase current model, 2 speed with two separate windings



#### Connection diagram

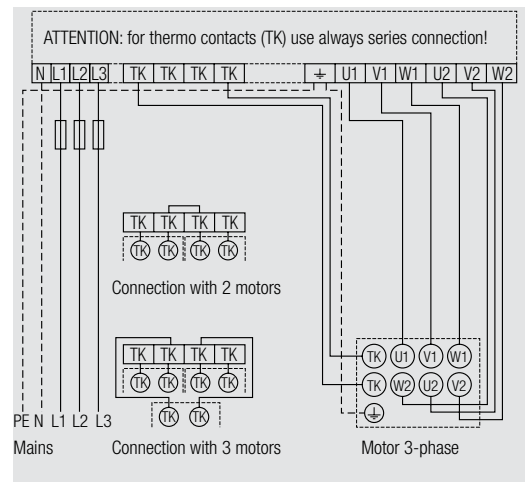
ESM 03-0040-8D

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

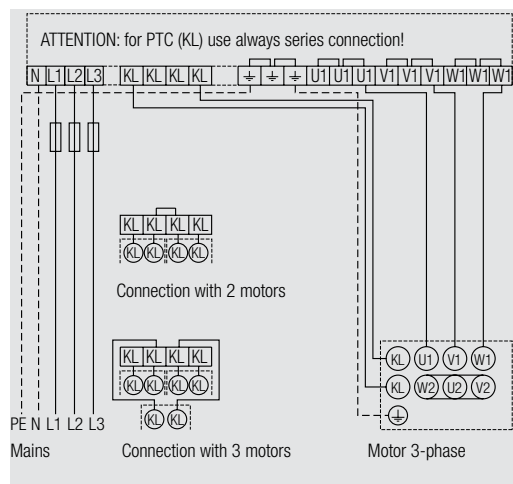
### Motor protection unit



#### Connection diagram

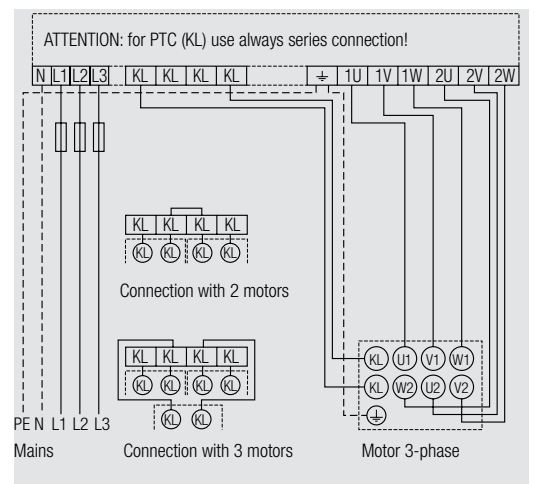
##### ESM 11-0040-8D

Three-phase current model, single speed



##### ESM 12-0040-8D

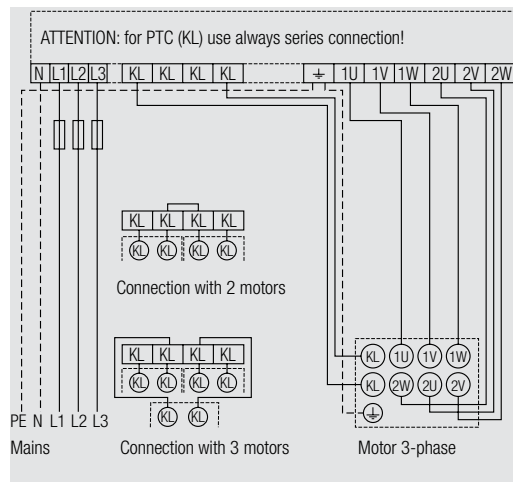
Three-phase current model, 2 speed with two separate windings



#### Connection diagram

##### ESM 13-0040-8D

Three-phase current model, 2 speed with Dahlander winding



# Accessories

## EUM

### Motor protection unit



for three-phase current motors (standard motors)  
without thermal contacts

#### Design

Plastic casing in protection class IP 55, permissible ambient temperature +40 °C, 40 – 60 Hz, frontal operation, for wall mounting. Motor protection unit for single-speed, non- variable speed three-phase current motors **without** thermal contacts.

#### Function

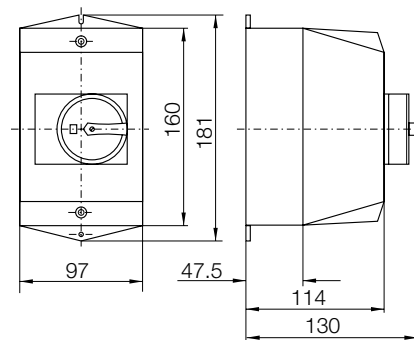
The motor protection units must be adjusted on site to the trigger current. If the preset trigger current is exceeded, the device disconnects the motor from the mains supply via a thermal overload release. Pressing the “on key” causes the unit to turn on again.

All motor protection units EUM 33 are also suitable for the protection of EExe-motors (PTB-Prüfung Gesch-Nr. 3.35/386.3060). They must however be mounted outside of explosion endangered areas, since they are not themselves designed with explosion protection.

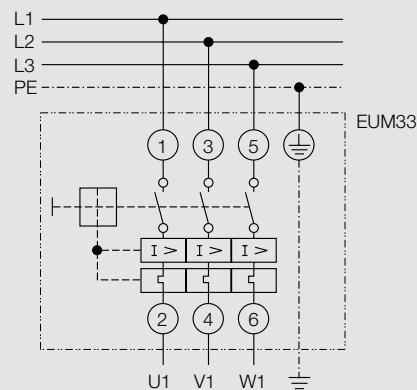
#### Technical Data

EUM	Continuous flow A	Setting range A	max. rated power AC-3 kW
33-0004-8D	0.4	0.24/-0.4	0.09
33-0006-8D	0.6	0.4/- 0.6	0.12
33-0010-8D	1.0	0.6/- 1.0	0.25
33-0016-8D	1.6	1.0/- 1.6	0.55
33-0024-8D	2.4	1.6/- 2.4	0.80
33-0040-8D	4.0	2.4/- 4.0	1.50
33-0060-8D	6.0	4.0/- 6.0	2.50
33-0100-8D	10.0	6.0/-10.0	4.00
33-0160-8D	16.0	10.0/-16.0	7.50
33-0200-8D	20.0	16.0/-20.0	9.00
33-0250-8D	25.0	20.0/-25.0	12.50
33-0500-8D	50.0	40.0/-50.0	25.00
33-0580-8D	58.0	50.0/-58.0	30.00

#### Dimensions in mm, Subject to change



#### Connection diagram



# 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 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

without motor protection installation

ETH	Nominal current A	Mains safety
31-0020-5E	2.0	2 AT
31-0040-5E	4.0	6 AT

with motor protection installation

ETH	Nominal current A	Mains safety	ETH	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	20.0	20 AT

#### Technical Data

Primary voltage:  
400 V; 50-60 Hz  
Secondary voltage:  
140/180/230/280/400 V

#### Three-phase current model

with motor protection installation

ETH	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

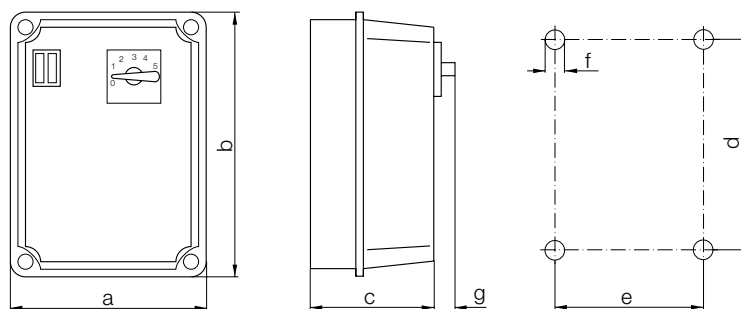
with motor protection installation for motors with PTC

ETH	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



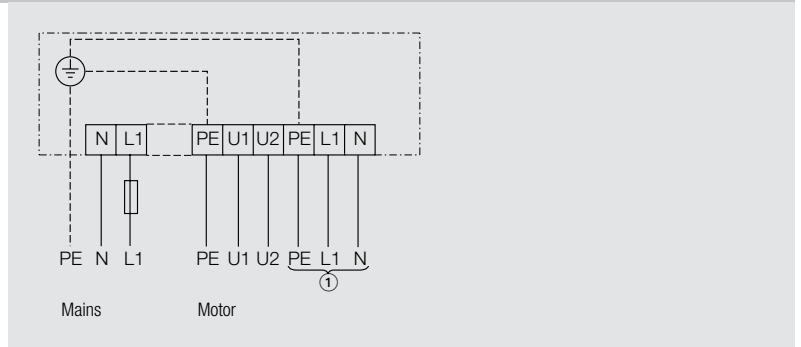
# Accessories

## ETH

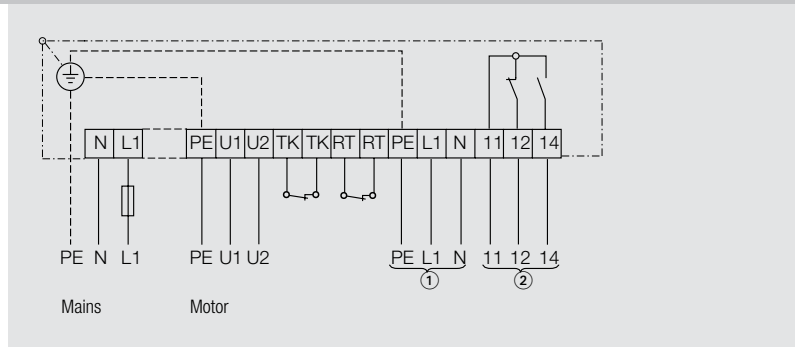
### Speed setting

transformatic, 5-step, with casing

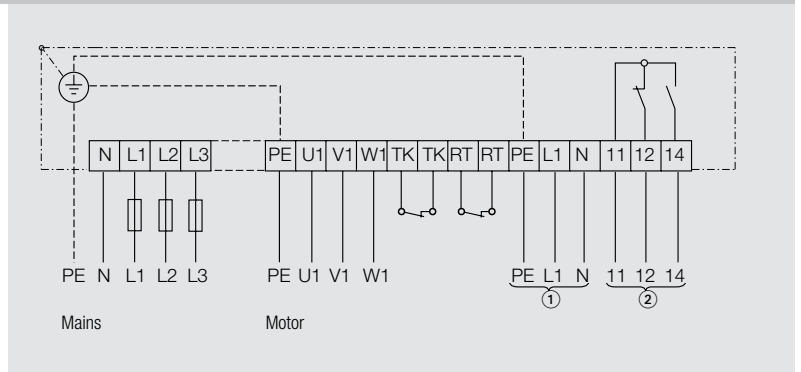
#### Connection diagram



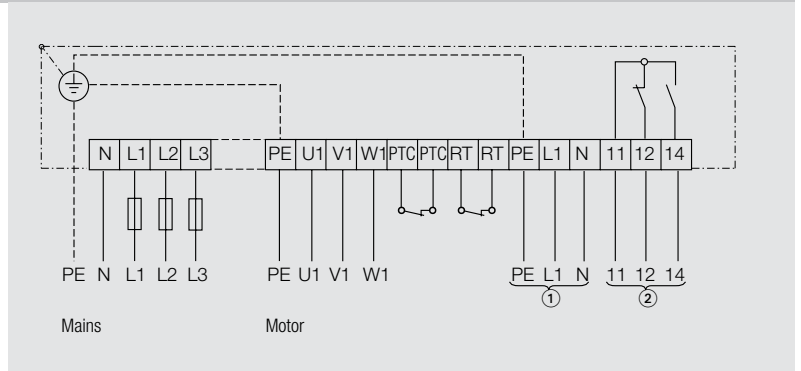
#### Connection diagram



#### Connection diagram



#### Connection diagram

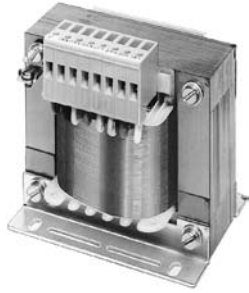


- TK = Thermal contact of the motor
- PTC = Positive Temperature Coefficient (PTC-Thermistor) of the motor
- RT = Room thermostat or external switch
- ① = additional outlet e. g. for solenoid valve, lamp, etc.
- ② = free contacts for the status signal "Operating/Malfunction"

# Accessories

## 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

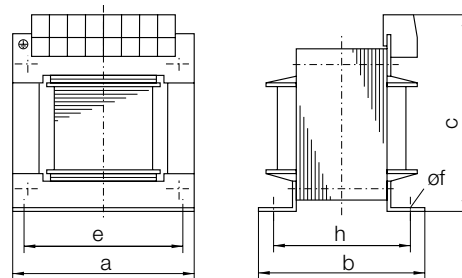
ETO	Nominal current A	Dimensions in mm, Subject to change						kg
		a	b	c	e	øf	h	
10-0018-5E	1.8	78	60	92	56	4.8	44	1.5
10-0040-5E	4.0	96	80	107	84	5.8	61	2.5
10-0070-5E	7.0	120	95	126	90	5.8	73	4.5
10-0130-5E	13.0	135	110	135	104	5.8	86	7.0
10-0220-5E	22.0	135	150	135	104	5.8	126	12.5

#### Technical Data | Dimensions

##### Three-phase current model

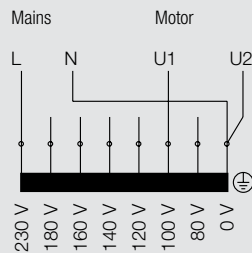
ETO	Nominal current A	Dimensions in mm, Subject to change						kg
		a	b	c	e	øf	h	
10-0010-8D	1.0	78	60	92	56	4.8	44	1.5
10-0020-8D	2.0	96	80	107	84	5.8	61	2.5
10-0040-8D	4.0	120	95	126	90	5.8	73	4.5
10-0065-8D	6.5	135	110	135	104	5.8	86	7.0
10-0150-8D	15.0	135	150	135	104	5.8	126	12.5

#### Measurement diagram

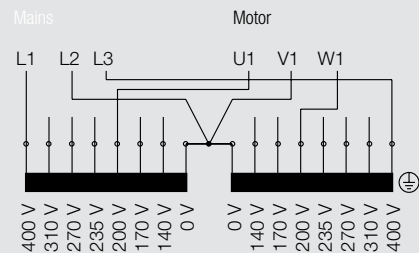


#### Connection diagram

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



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



# Accessories

## 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!

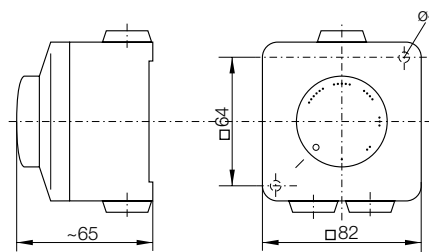
If thermo contacts are in use it is recommended to assure the electrical safety by installing motor protection units EUM 11-0100-5E (IP 54) or EUM 21-0100-5E (IP 00, for integration in a panel).

### Technical Data

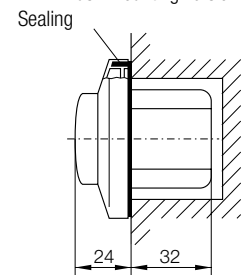
EPH	Nominal current A	Nominal voltage V	Frequency Hz	Fuse
03-0010-5E	1.0	230/240	50/60	F 1.0 A
03-0020-5E	2.0	230/240	50/60	F 2.0 A
03-0040-5E	4.0	230/240	50/60	F 4.0 A

### Dimensions in mm, Subject to change

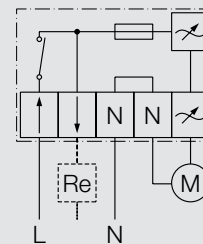
EPH 03-0010/-0040-5E  
Surface mounting version



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



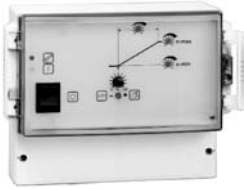
### Connection diagram



# 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.

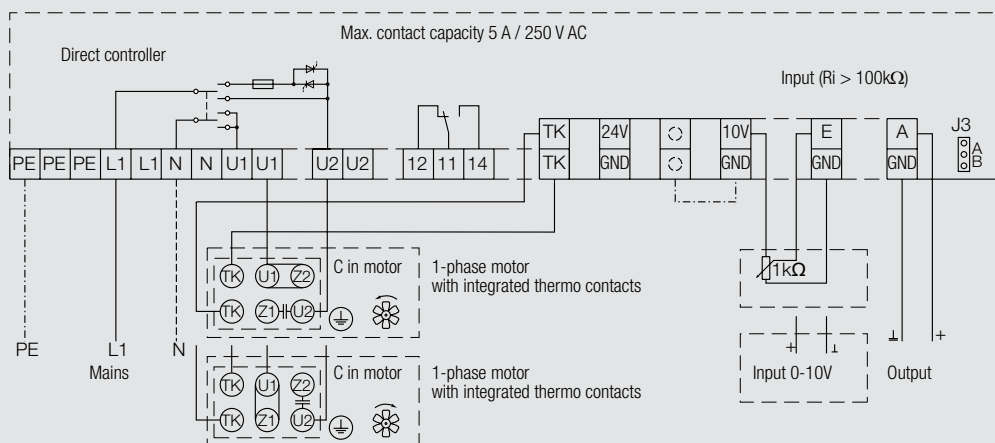
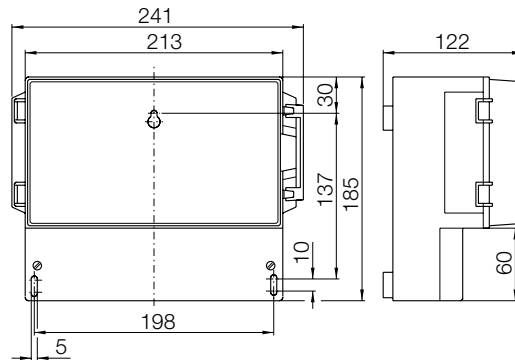
#### Function

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

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

#### Dimensions in mm, Subject to change





# 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	max. current cons.	Nominal voltage	Frequency	app. Weight
	IP	A	V	Hz	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	max. current cons.	Nominal voltage	Frequency	app. Weight
	IP	A	V	Hz	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

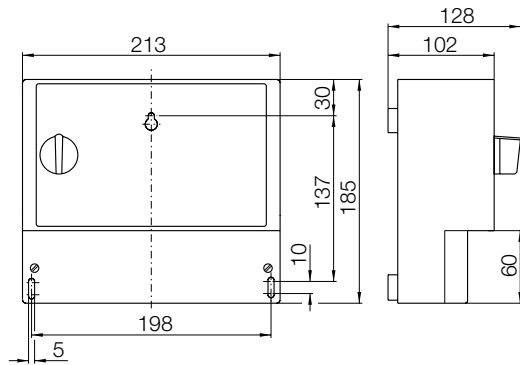
### Transformer

electronic, stepless, digital

**Dimensions** in mm, Subject to change

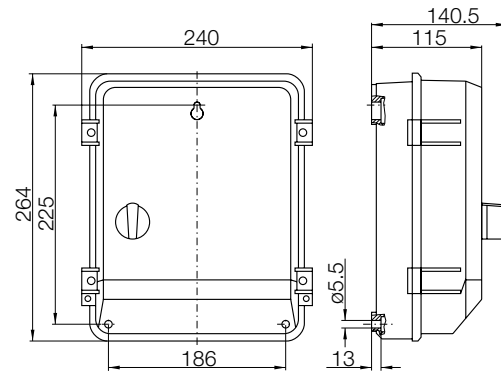
#### EPA 83-0060-5E

Surface mounting version



#### EPA 83-0100-5E

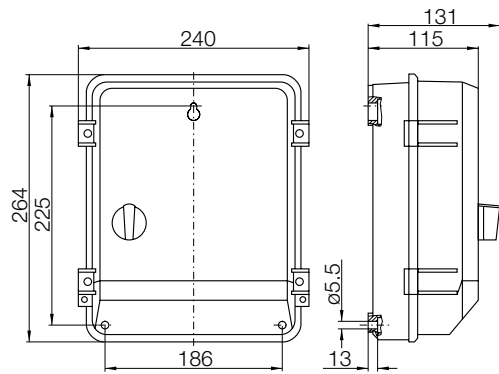
Surface mounting version



**Dimensions** in mm, Subject to change

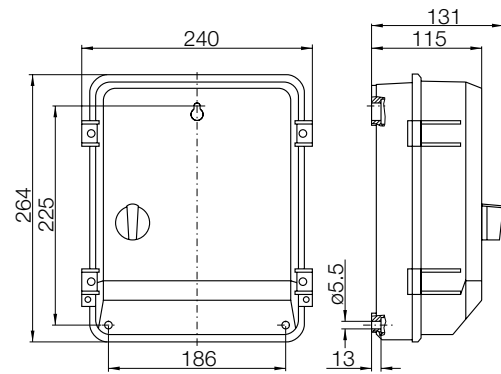
#### EPA 83-0050-8D

Surface mounting version



#### EPA 83-0100-8D

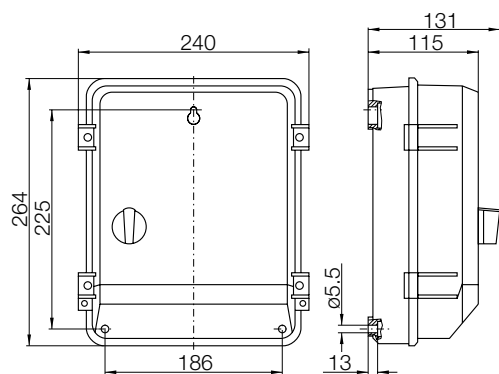
Surface mounting version



**Dimensions** in mm, Subject to change

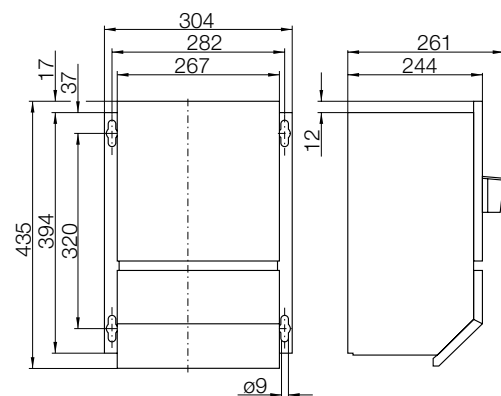
#### EPA 83-0150-8D

Surface mounting version



#### EPA 83-0250-8D

Surface mounting version



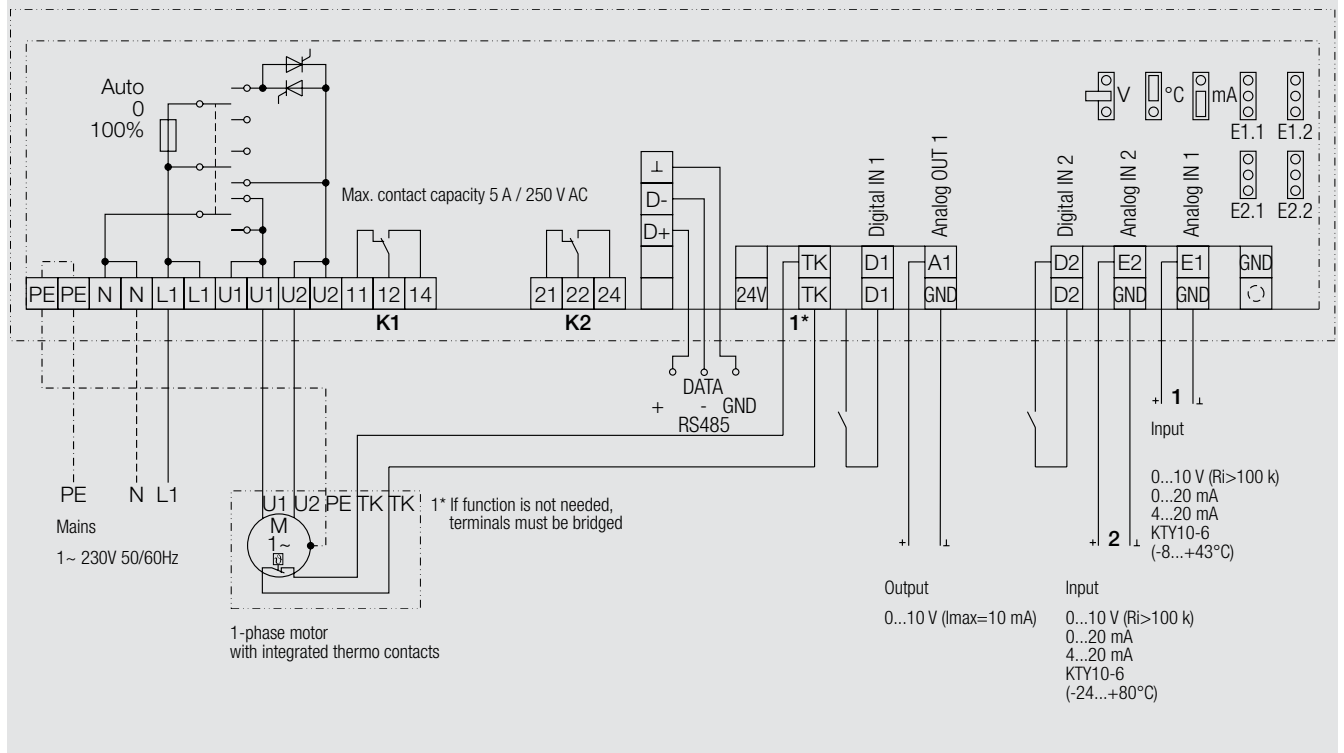
# Accessories

## EPA

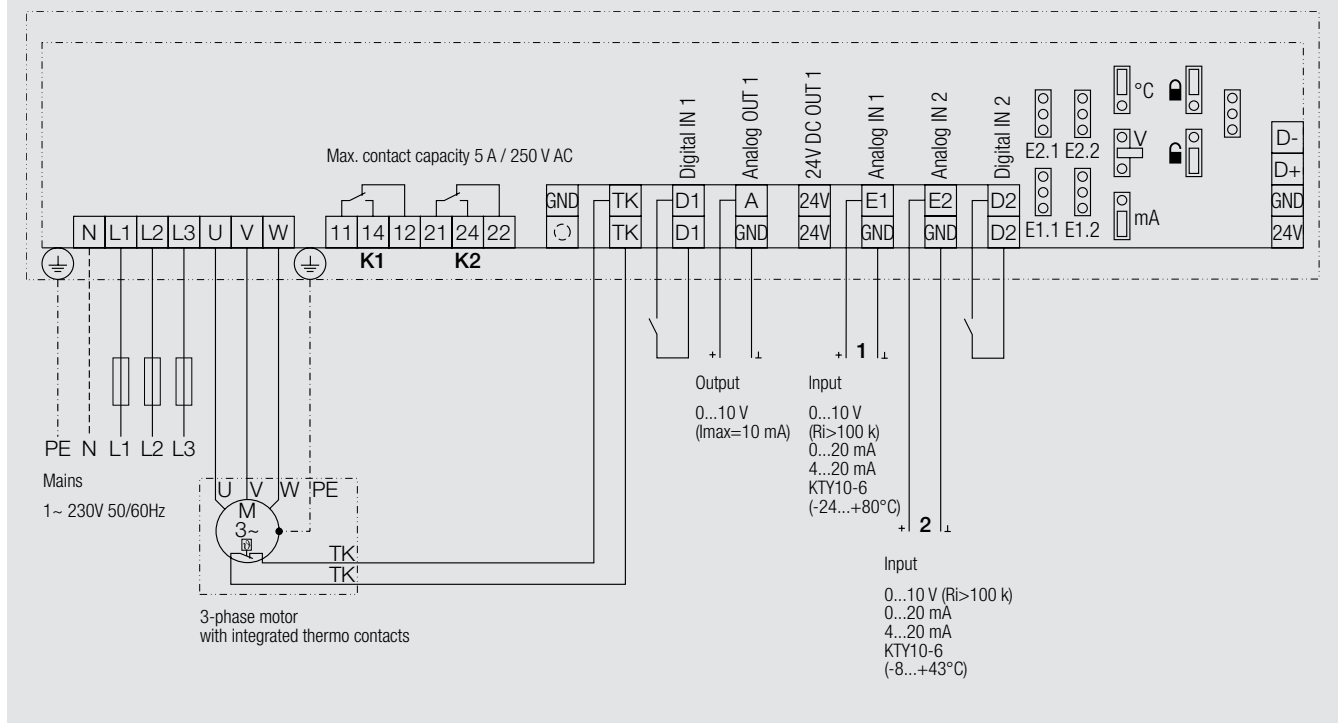
### Transformer

electronic, stepless, digital

#### Connection diagram



#### Connection diagram



# 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 m<sup>3</sup>/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 tapplings in the inlet cone. The control module calculates the required flow (m<sup>3</sup>/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 m<sup>3</sup>/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)

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

# Accessories

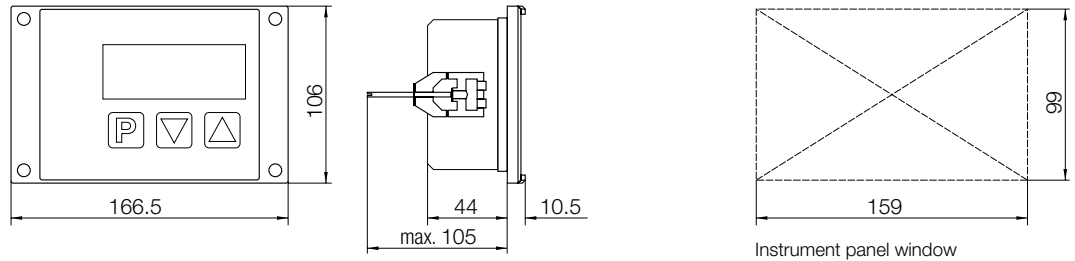
## ERA

Universal control device

### Technical Data

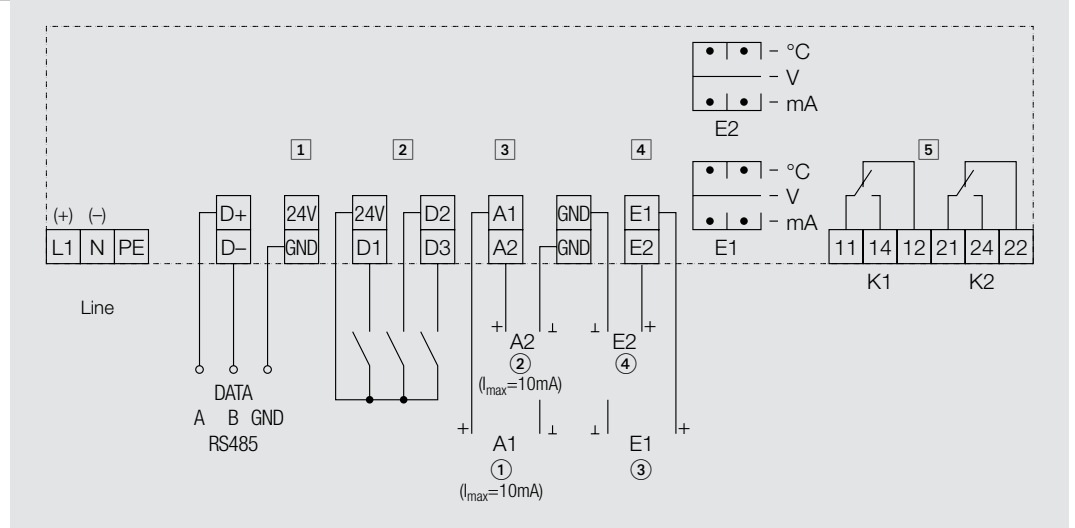
	Input	Out max.	Protection class	Operating consumption	Operating temperature
<b>ERA</b>	<b>V</b>	<b>mA</b>		<b>VA</b>	<b>°C</b>
<b>02-4000-5E</b>	0...10	10	IP 20	< 10	0 ... +55

Dimensions in mm, Subject to change



### 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 %

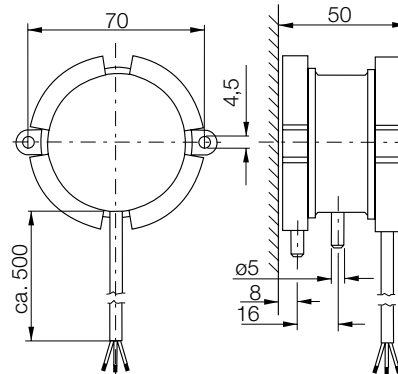
Temperature drift zero point: ±0.3 % / 10 K

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

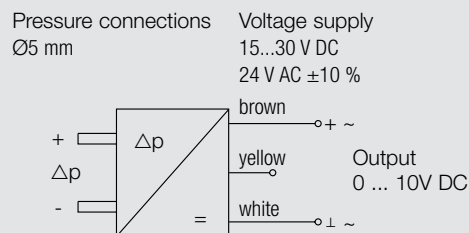
#### Technical Data

	Measuring range	Protection type	max. current consumption	Overload protection	Output signal prop.	Operating temperature
EIP 01	Pa		ca. mA	Pa	V DC	°C
EIP 01-0200-12	0 - 200	IP65	12	20000	0-10	0 bis +50
EIP 01-0500-12	0 - 500	IP65	12	20000	0-10	0 bis +50
EIP 01-1000-12	0 - 1000	IP65	12	20000	0-10	0 bis +50
EIP 01-2000-12	0 - 2000	IP65	12	20000	0-10	0 bis +50
EIP 01-4000-12	0 - 4000	IP65	12	20000	0-10	0 bis +50

#### Dimensions in mm, Subject to change



#### Connection diagram



# Notes

## Quality Management System

Nicotra Quality made by Gebhardt is the result of a strictly pursued quality strategy. Gebhardt Products have to offer features and properties which are above the average values of comparable products.

This policy, applied since the foundation of the company, led to a quality audit and a first certification in April 1985. Since this date the quality system has been following the updates of the ISO standards.

Modern production methods monitored by our Quality Management System guarantee a high repeat accuracy in production. This ongoing high standard of quality permits the establishing of the performance data in classes of accuracy in accordance with DIN 24 166. The narrow tolerances ensure a high level of data reliability 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 dangers emanating from the fan and the required safety technical measures were assessed on the basis of the VDMA (German Machinery and Plant Manufacturers Association) standard sheet 24167: Fans; Safety requirements. The safety measures which must be carried out by the building contractor in order to enable the operation of the fans without risking life and limb are stated in the operating manual.

## Notes on Catalogue Data

In order to preserve clarity, the technical data in this catalogue were restricted to a practical minimum, which is sufficient in most cases for lay-out and selection.

If, however, further specifications are desired, we would like to point you to the electronic catalogue **proSELECTA II**, in which on principle all relevant data (at the operating point) are made available to you in several languages.

We reserve the right to change any measurements and technical data contained in this catalogue in accordance with the further development of our products. All information valid at the time of printing.

# Nicotra Gebhardt worldwide

## SPAIN

Ctra. Alcalá-Villar del Olmo, Km. 2,830  
28810 Villalbilla-Madrid  
Phone +34 918-846110  
Fax +34 918-859450  
E-mail info@nicotra.es

c/.Coso, 67-75, esc. 1.a,1.oB  
50001 Zaragoza  
Phone +34 976-290550  
Fax +34 976-298127  
E-mail gebhardt@teleline.es

## BELGIUM

Haeghensgoed, 13 - 00/01  
9270 Laarne  
Phone +32 (0)9-336-00-01  
Fax +32 (0)9-336-00-05  
E-mail info.nicotra@nicotra.be

## FRANCE

Leader's Park Bat A1  
3 chemin des Cytises  
69340 Francheville  
Phone +33 (0)4 72 79 01 20  
Fax +33 (0)4 72 79 01 21  
E-mail g.cauche@nicotra-gebhardt.com

## SWEDEN

Box 237  
Kraketorpsgratan 30  
43123 Mölndal  
Phone 0046 31-874540  
Fax 0046 31-878590  
E-mail info@nicotra-gebhardt.se  
<http://www.nicotra-gebhardt.se/>

## GREAT BRITAIN

Unit D, Rail Mill Way  
Parkgate Business Park  
Rotherham  
South Yorkshire  
S62 6JQ  
Phone +044 01709-780760  
Fax +044 01709-780762  
E-mail sales@nicotra.co.uk

## UNITED STATES

PO BOX 900921  
Sandy, Utah 84090  
Phone 001(801) 733-0248  
Fax 001(801) 315-9400  
Mobile 001(801) 682 0898  
E-mail mike.sehgal@gebhardtfans.com  
<http://www.gebhardtfans.com/>



## MALAYSIA

Lot 1799, Jalan Balakong  
Taman Perindustrian Bukit Belimbing  
43300 Seri Kembangan  
Selangor  
Phone +603 8961-2588  
Fax +603 8961-8337  
E-mail info\_malaysia@nicotra-gebhardt.com

## THAILAND

6/29 Soi Suksawadi 2, Moo 4, Suksawadi Road,  
Kwang Jomthong, Khet Jomthong,  
Bangkok 10150  
Phone +662 476-1823-6  
Fax +662 476-1827  
E-mail sales@nicotra.co.th

## SINGAPORE

No. 15 West Coast Highway  
# 04-08 Pasir Panjang Building  
Singapore 117861  
Phone (065) 6265-1522  
Fax (065) 6265-2400  
E-mail info@gebhardt-singapore.com

## AUSTRALIA

65 Yale Drive,  
Epping, VIC 3076  
Phone +61 3 9017 5333  
Fax +61 3 8401 3969  
E-mail info@nicotra.com.au

## INDIA

28F & 29, Sector 31  
Kasna, Greater Noida  
U.P. INDIA  
Phone +91 0120-4203400  
Fax +91 0120-4203401  
E-mail sales@nicotraindia.com

## CHINA

88 Tai'An Road, XinQiao, ShiJi, Panyu  
Guangzhou 511450  
PR CHINA  
Phone +86 (0)20-39960570  
Fax +86 (0)20-39960569  
E-mail sales@nicotra-china.com

# NICOTRA | Gebhardt

## Nicotra Gebhardt S.p.A

Via Modena, 18  
24040 Ciserano Loc. Zingonia (BG)  
Italy

Phone +39 035 873 111  
Fax +39 035 884 319  
E-mail info@nicotra-gebhardt.com

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

## Nicotra Gebhardt GmbH

Gebhardtstrasse 19-25  
74638 Waldenburg  
Germany

Phone +49 (0)7942 101 0  
Fax +49 (0)7942 101 170  
E-mail info@nicotra-gebhardt.com

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

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