

# CENTRIFUGAL EXHAUST FANS

## GLEB

### PRODUCT FACTS

- Volume flows up to 2.7 m<sup>3</sup>/s
- Total pressure up to 1100 Pa
- 400° C/2 hours option available
- Continuous 120° C
- Low sound level
- High efficiency
- Speed controllable

### ELECTRICAL SUPPLY

230V/50Hz/1 $\phi$  & 400V/50Hz/3 $\phi$

### TEMPERATURE RANGE

From -20°C to +60°C

### SIZES

250, 315, 400 & 500 mm

### FEATURES AND CONSTRUCTION

The fan casing is made of galvanized sheet steel. It is equipped with two inspection hatches, one on each side. Outlet and inlet connections are standard Veloduct component having rubber gasket as standard.

### FAN IMPELLER

The fan impeller is made of sheet steel, welded and painted with 60  $\mu$ m thick epoxy paint (colour RAL 6029 green). The impeller is dynamically balanced to ISO 1940-1973 G 6.3 (size Q25) and 2.5 (sizes Q31 - Q50) at maximum speed. The vibration level of the complete fan is below 7.1 mm/s RMS.

### MOTOR

The box fan is supplied with a standard IE2-class 3-phase motor outside of the air stream. The motor is equipped with a thermistor as standard.

### SPEED CONTROLLERS

Two different types of VSD are available. 1-phase IP21 class and 3-phase IP54 class drives. If ordered as factory mounted, both versions are connected to the motor, installed to the fan casing and tested.



### PRODUCT CODE

GLEB-a-031-3-055-0

- GLEB = Product Name
- a = 1 - Standard or 6 - F400
- 031 = diameter size
- 3 = 3-phase motor
- 055 = 0.55kW motor power
- 0 = version, 0 in the beginning

### ACCESSORIES (Pages 109-110) - CONTROLLERS (Pages 250-297)

The range of accessories include safety switches, rain covers, inverter drives, flexible connectors and anti-vibration mounts. A quick reference guide is shown below.



Safety Switch



Raincover



Controls Inverter



Flexible Connector



Rubber AV's



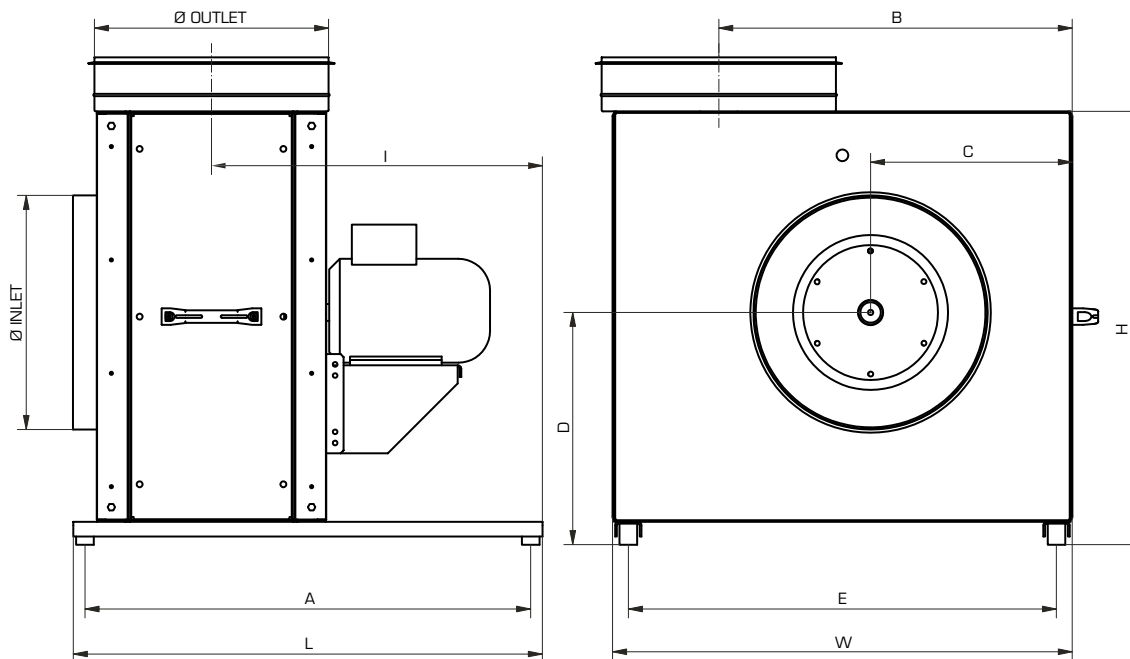
## PRODUCT AND ELECTRICAL DETAILS

230-240V/50HZ/1 $\phi$

Fan Code	Motor Code	Motor IEC	Max. speed (rpm)	Motor power (kW)	Voltage (V)	Current (A)	Max. Frequency (Hz)	Weight (kg)	Frequency Converter 1x230 V	Max. Input current (A)	Frequency Converter 3x400 V	Max. Input current (A)	Safety Switch
GLEB-1-025-3-037-0	APAL-2-00037-1-2-6	71	2900	0.37	3x230/3x400	1.68/0.97	51.8	55	IEDXB20 4.2	6.1	IDDXF54 2.2	2.1	SAFE-1-0-0
GLEB-6-025-3-037-0	APAL-2-00037-1-2-6	71	2900	0.37	3x230/3x400	1.68/0.97	51.8	55	IEDXB20 4.2	6.1	IDDXF54 2.2	2.1	SAFE-1-0-0
GLEB-1-031-3-055-0	APAL-4-00055-1-2-6	80	2200	0.55	3x230/3x400	2.74/1.58	78.6	75	IEDXB20 4.2	11.6	IDDXF54 2.2	2.1	SAFE-1-0-0
GLEB-6-031-3-055-0	APAL-4-00055-1-2-6	80	2200	0.55	3x230/3x400	2.74/1.58	78.6	75	IEDXB20 4.2	11.6	IDDXF54 2.2	2.1	SAFE-1-0-0
GLEB-1-040-3-110-0	APAL-4-00110-1-2-7	90	2020	1.1	3x230/3x400	4.50/2.60	70.1	102	IEDXB20 6.8	18.7	IDDXF54 3.7	3.5	SAFE-1-0-0
GLEB-6-040-3-110-0	APAL-4-00110-1-2-7	90	2020	1.1	3x230/3x400	4.50/2.60	70.1	102	IEDXB20 6.8	18.7	IDDXF54 3.7	3.5	SAFE-1-0-0
GLEB-1-050-3-220-0	APAL-4-00220-1-2-7	100	1770	2.2	3x230/3x400	8.16/4.71	61.7	142	IEDXB20 9.6	26.4	IDDXF54 5.3	4.7	SAFE-1-0-0
GLEB-6-050-3-220-0	APAL-4-00220-1-2-7	100	1770	2.2	3x230/3x400	8.16/4.71	61.7	142	IEDXB20 9.6	26.4	IDDXF54 5.3	4.7	SAFE-1-0-0

Please note when using the 1 phase inverter drive the motor must be connected in Delta

## DRAWING AND DIMENSIONS



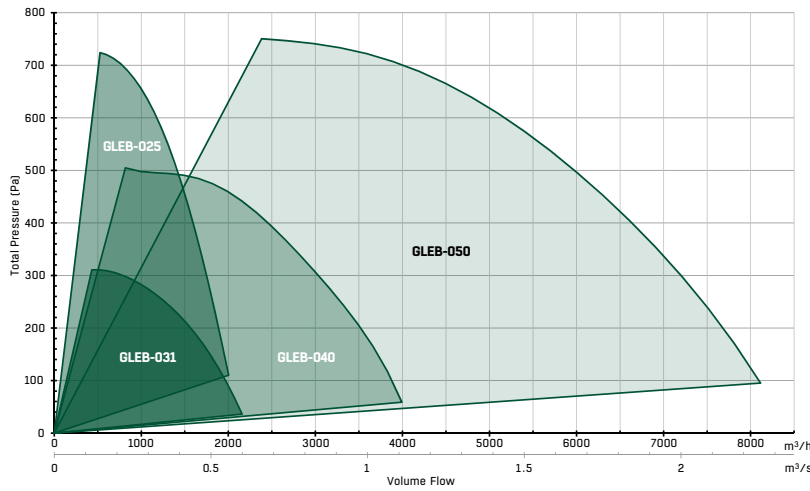
Product Code	A	B	C	D	E	F	H	I	L	W	Ø Inlet	Ø Outlet	Weight Kg
025	560	388	235	282	477	39	516	414	600	527	250	250	55
031	760	465	283	332	587	39	613	592	800	637	315	315	75
040	760	603	344	396	730	92	739	564	800	780	400	400	102
050	760	737	417	472	899	92	888	528	800	949	500	500	142

All dimensions in mm.

Please note other orientations are available, the mounting frame can be removed with the unit mounted flat for bottom inlet applications. For more information please contact our sales office.

## PERFORMANCE CHARTS

### GLEB WITH DOL 025 TO 050

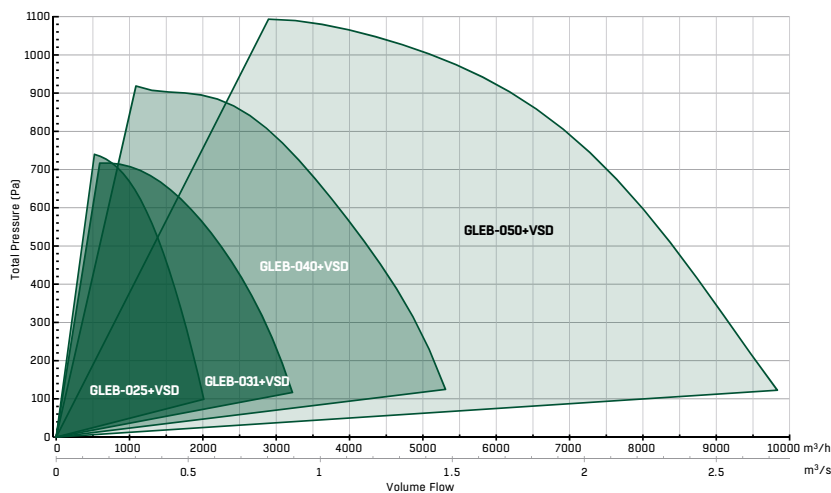


Please note these are total pressure curves, remember to add the velocity head when selecting. If you need any assistance with your selection please contact our sales office.

### AIR FLOW AS FUNCTION OF TOTAL PRESSURE WITH DOL

Product Code	m <sup>3</sup> /s @ Pa (Total)							
	100	150	200	300	400	500	600	700
025	0.65	0.54	0.52	0.49	0.44	0.40	0.33	0.29
031	0.54	0.49	0.43	0.22				
040	1.2	1.0	0.97	0.85	0.69	0.27		
050	2.26	2.26	0.97	2.13	1.84	1.66	1.44	1.12

### GLEB WITH INVERTER DRIVE 025 TO 050



### AIR FLOW AS FUNCTION OF TOTAL PRESSURE WITH INVERTER DRIVE

Product Code	m <sup>3</sup> /s @ Pa (Total)										
	100	150	200	300	400	500	600	700	800	900	1000
025	0.56	0.54	0.53	0.49	0.44	0.39	0.40	0.24			
031	0.91	0.88	0.85	0.78	0.71	0.62	0.51	0.31			
040	1.5	1.47	1.43	1.35	1.27	1.18	1.08	0.96	0.80	0.50	
050	2.75	2.70	2.66	2.56	2.45	2.34	2.06	2.07	1.91	1.72	1.45



## ACCESSORIES

### SAFETY SWITCH SAFE



The safety isolation switch has been tested to IEC 947-3. It is available in standard version or in ATEX-version and can be supplied either loose or factory-wired.

Fan code	Motor code	Safety Switch
GLEB-1-025-3-037-0	APAL-2-00037-1-2-6	SAFE-1-0-0
GLEB-1-031-3-055-0	APAL-4-00055-1-2-6	SAFE-1-0-0
GLEB-1-040-3-110-0	APAL-4-00110-1-2-7	SAFE-1-0-0
GLEB-1-050-3-220-0	APAL-4-00220-1-2-7	SAFE-1-0-0
GLEB-6-025-3-037-0	APAL-2-00037-1-2-6	SAFE-1-0-0
GLEB-6-031-3-055-0	APAL-4-00055-1-2-6	SAFE-1-0-0
GLEB-6-040-3-110-0	APAL-4-00110-1-2-7	SAFE-1-0-0
GLEB-6-050-3-220-0	APAL-4-00220-1-2-7	SAFE-1-0-0

### FREQUENCY CONVERTER

Motors are 3-phase motors suited for frequency converter operation. Suitable frequency converters and codes can be selected from motor table. If the frequency converter is with single-phase supply, the motor must be  $\Delta$ -connected (3x230 V). In case of the frequency converter is with three-phase supply, the motor must be Y-connected (3x400V).

Frequency converter ordered together with a rain cover has to be supplied loose because the converter cannot be installed outdoors.

### RAIN COVER GLLZ-77-1-ccc-1-0

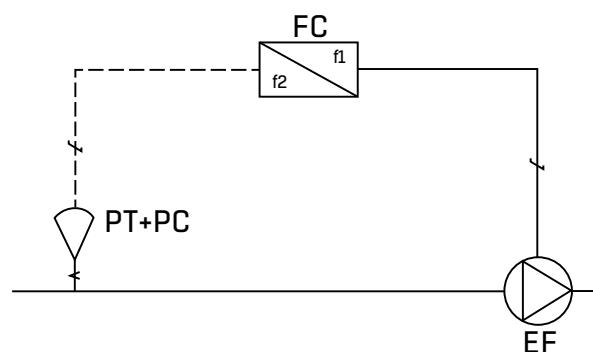
(ccc = FAN SIZES, E.G. 025)



Can be ordered as an accessory and installed on to the fan. In case a rain cover is ordered, the eventual frequency converter has to be supplied loose because the converter cannot be installed outdoors.

### PRESSURE CONTROLLER STYZ-01-10-0-2

Frequency converter FO controls the fan speed via pressure controller PT + PC so that a constant underpressure is maintained in the duct system. Pressure controller guarantees a higher precision compared to pressure switch.



EF = kitchen exhaust fan

FC = frequency converter

PT+PC = pressure controller

## ACCESSORIES

### AIR FLOW MEASUREMENT GLLZ-09-bbb-1-0

(bbb = FAN SIZES, E.G. 025)

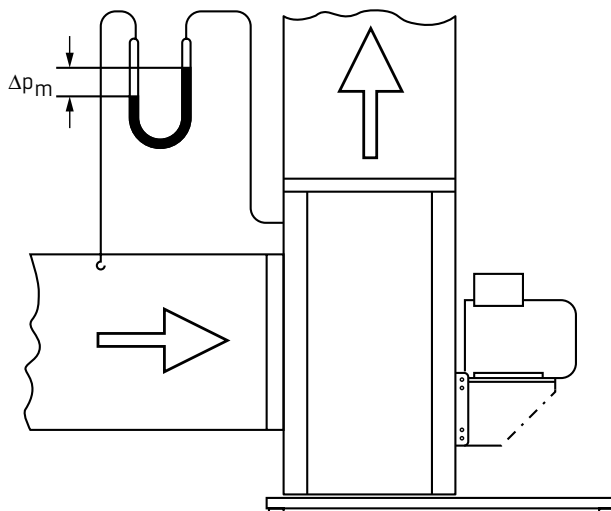
The air flow sensor is used for measuring the air flow of the fan. The method is based on pressure differential. The pressure is measured at the specific point in the inlet cone and the reference pressure is measured upstream of the inlet cone. The air flow is calculated from the equation:

$$Q_v = \frac{\sqrt{\Delta p_m}}{k}$$

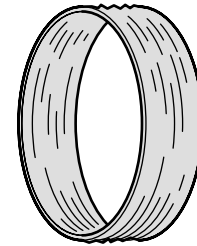
$Q_v$  = airflow (m<sup>3</sup>/s)

$k$  = coefficient of the fan (k-factor)

$\Delta p_m$  = measured pressure difference (Pa)



### FLEXIBLE CONNECTION



Flexible connection inlet, std

GLLZ-11-1-ccc-1-0

Flexible connection inlet, F400

GLLZ-12-1-ccc-1-0

Flexible connection outlet, std

GLLZ-21-1-ccc-1-0

Flexible connection outlet, F400

GLLZ-22-1-ccc-1-0

where; ccc=fan size, e.g. 025

### K-FACTOR TABLE

Fan code	k
GLEB-1-025-3-037-0	54,39
GLEB-1-031-3-055-0	34,40
GLEB-1-040-3-110-0	21,18
GLEB-1-050-3-220-0	14,87
GLEB-6-025-3-037-0	54,39
GLEB-6-031-3-055-0	34,40
GLEB-6-040-3-110-0	21,18
GLEB-6-050-3-220-0	14,87



**WIRING DIAGRAM**

