

# AUTOMATICS



GEOVENT offers a wide range of options for ventilation and extraction controls.

- **Air Box II** - Statutory alarm device – lives up to the requirements of the Danish Working Environment Authority and alerts the user if an error in the ventilation system should occur.
- **Powerbox II** - Automatic start/stop of the fan - Increases comfort for operator and energy efficiency.
- **Multibox II** - Pressure-controlled airflow makes sure the extraction is always at the correct level and thus reducing energy consumption significantly.



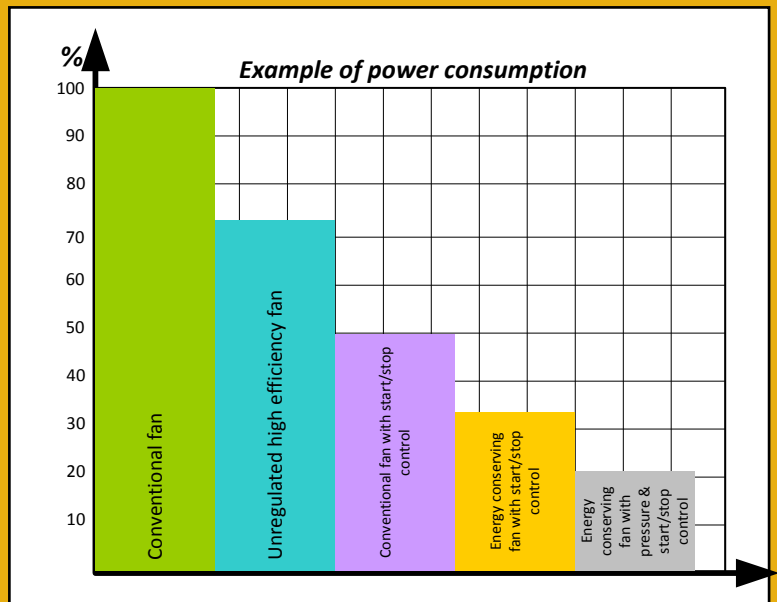
# OPTIMIZED EXTRACTION

## Energy saving automatics

### Save money on electricity and heating

Studies show that most point extraction installations are only used efficiently 5 - 20 % of the time during a working day. As a result there are substantial savings by optimizing use of the installation.

Geovent offers several solutions helping you to save on electricity and heating. Normally the investment pays itself back in 1 - 3 years.



### Fast action motor damper - GFD

Normal motor dampers does not turn fast enough for use with point extraction as the pollution starts instantly.

Geovents GFD fast turning damper opens in just one second and secures instant and efficient extraction.

24 V AC/DC On/off or modulating via 0-10V trafo or Powersmart/Powerbox.

Control type	Exhaust gas	Welding smoke	Grind dust	oil mist
1 Point of extraction	Start/stop	Start/stop	Start/stop	Start/stop
2-4 Points of ext.	Start/stop	Pressure control	Start/stop	Start/stop
5-8 Points of ext.	Start/stop	Pressure control	Pressure control	Pressure control
9-12 Points of ext.	Start/stop	Pressure control	Pressure control	Pressure control
> 12 Points of ext.	Pressure control	Pressure control	Pressure control	Pressure control

# FREQUENCY INVERTERS

At Geovent we distribute high quality frequency inverters from ABB. Due to their very user-friendly installation and set-up process they are ideal for use with our fans and MultiBox II.

We offer ABB frequency inverters at competitive prices and at the same time we give you advice on use and connection options.

We have 3 different models in our range.

ASC-150 is the budget model with fewer options than larger models but still very capable.

Suitable for pressure regulation with Geovent MultiBox II. Built-in display and pot-meter in the front.

ACS355 is the middle range model, with a wide range of connection options. Very suitable for pressure controlled regulation with Geovent MultiBox II.

A choice of programming panel in the front (standard or Assistant). The Assistant panel is optional and guides you through the adjustment of the different parameters.

ACH550- top model with Assistant panel by default.

Extensive programming and connection options.

The models are available in three different enclosure classes from IP20 to IP54, and in 1 or 3 phase versions.

Please enquire for further information.



# MULTIBOX II

## PROVEN DESIGN

GEOVENT MultiBox II is a 4<sup>th</sup> generation control based on the latest microprocessor technology.

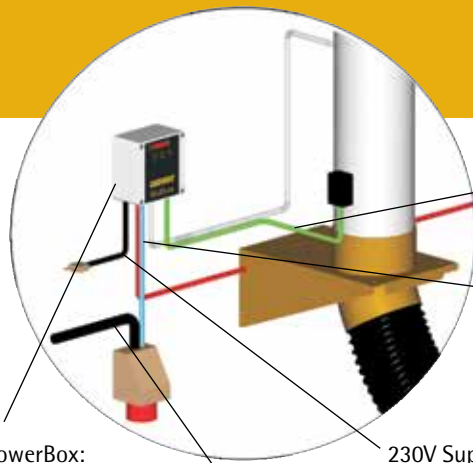
## SEVERAL OPTIONS IN ONE BOX

GEOVENT MultiBox II can be used for pressure gauging, control, regulation and alarm surveillance in installations for process ventilation in the pressure range 10-5000 Pa.

## EASY TO USE

MultiBox II is particularly suitable for dynamic pressure regulation in installations with regulation dampers and/or with fans with frequency inverters.

The desired pressure or flow (differential pressure) is entered as set-point, and the built-in regulator will adjust damper or frequency inverter. If the regulation does not maintain pressure or flow within the predefined limits, the alarm is activated.



Green cable: Controls and supply power to energysaving damper via built-in power supply in PowerBox.

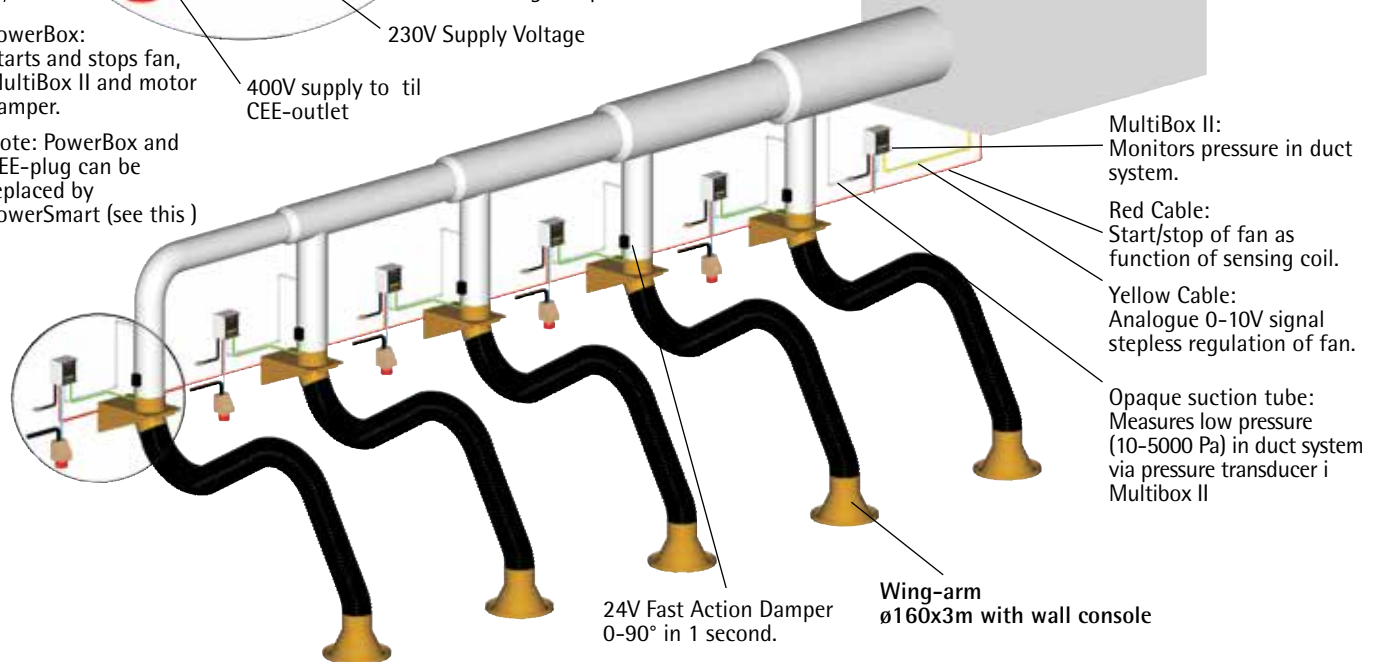
Blue cable: Shielded cable for sensing coil which is built-in to power outlet - Senses if welding plant is in use and gives signal to PowerBox which opens the energy saving damper.

PowerBox: Starts and stops fan, MultiBox II and motor damper.

400V supply to til CEE-outlet

Note: PowerBox and CEE-plug can be replaced by PowerSmart (see this )

230V Supply Voltage



MEF-450-3 Fan in sound box with ABB frequency inverter.

MultiBox II: Monitors pressure in duct system.

Red Cable: Start/stop of fan as function of sensing coil.

Yellow Cable: Analogue 0-10V signal stepless regulation of fan.

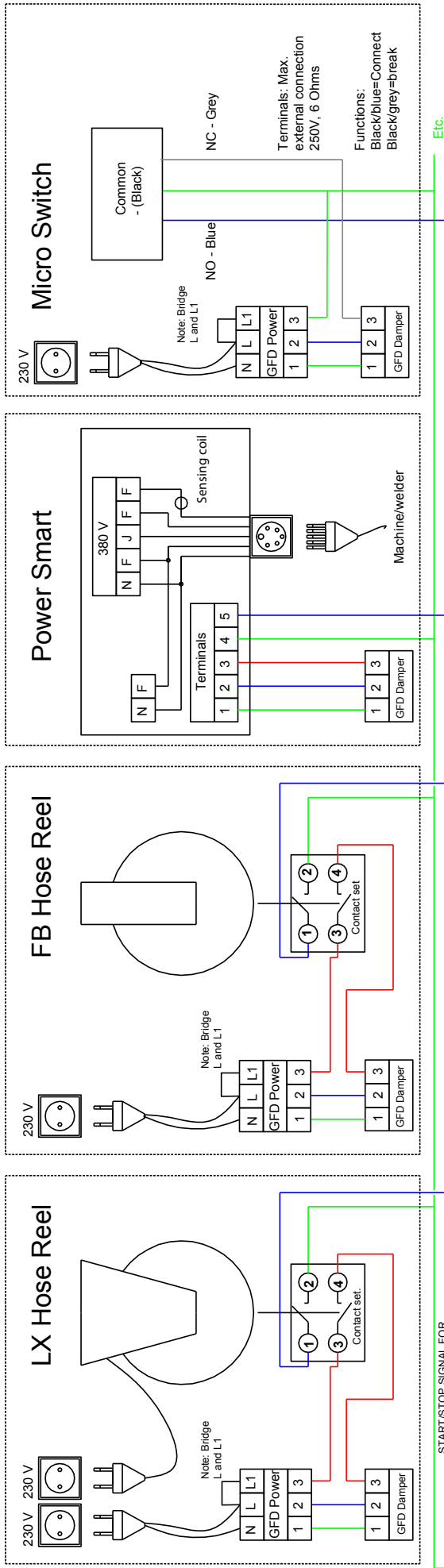
Opaque suction tube: Measures low pressure (10-5000 Pa) in duct system via pressure transducer i Multibox II

24V Fast Action Damper 0-90° in 1 second.

Wing-arm ø160x3m with wall console

# Multi coupling diagram for terminals, MultiBox and frequency inverters

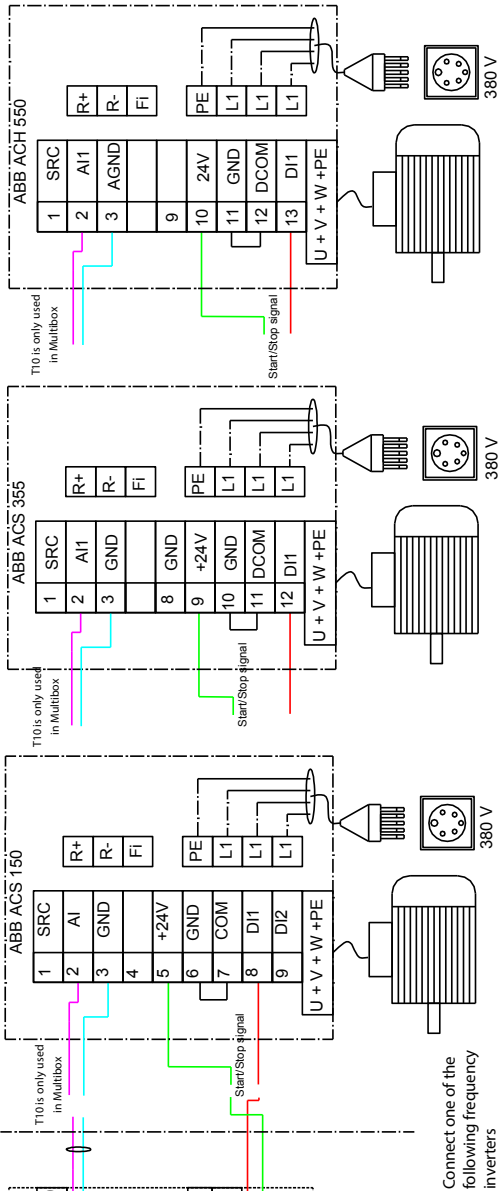
## MULTI COUPLING DIAGRAM - TERMINALS, MULTIBOX AND FREQUENCY INVERTERS



**Adjusting the frequency inverter:**  
See manual - important parameters to adjust:  
Motor data: Typically parameter group 99  
Ramp up/down: Typically parameter group 22.  
Frequency Max/Min: Typically parameter group 20 & 11

**IMPORTANT**  
If the frequency inverter is to give signal to CTS the jumper on the bottom (S1) must be switched from "I" to "U".  
This will change output from current to voltage.  
Remember to bridge GND and COM.

**Adjusting MultiBox II:**  
Quick guide - also see manual  
P0: Version selector - select 530 (most common)  
P1: Adjustment set point [Pa]  
P2: Min. Alarm limits [s] at too low pressure  
P3: Max. Alarm limit [s] at too high pressure  
P10: shows current pressure.



## Automatics



Art. No.	Description
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13-700	The MultiBox II is suitable for pressure regulation (PID), measuring, control and monitoring (with alarm) of a system for process ventilation. Choose range: 10-1000 Pa or 10-5000 Pa. 3 outputs and three inputs in sum box. Capable of controlling several fans and regulate after 3 set points.
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13-710	AirBox II 10-5000 Pa ventilation monitor with built-in pressure transmitter, monitoring and alarm for process extraction. Complies with the requirements of the Danish Working Environment Authority.
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13-730	AirBox Lite 500-2000 Pa ventilation guard, monitoring and alarm for process extraction. Comply with the requirements of the Danish Working Environment Authority. Red and green control light, no siren
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13-728	AirBox Lite 20-300Pa.
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13-729	AirBox Lite 100-1000Pa.
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13-102	Suction tube with mounting kit. - 10 m $\varnothing$ 6 mm
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13-080	Red external alarm light 1x230V
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13-081	External siren 1x230V - 100 dB(A)
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To be used for multiple rooms



Power Smart II - for the connection of welding plant. Sends a signal to the damper, when the arc is turned on. Incl. self-adjusting, active flux sensor = immune to noise. Suitable for new installations. 2 x relay output and 24V transformer	
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13-059	Power Smart II CEE 16A
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13-058	Power Smart II CEE 32A
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13-058A	Power Smart II CEE 63A
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PowerBox II - for start/stop of fan and GFD motor damper. The PowerBoxe is supplied with 3 inputs which can be connected to sensing coils. 18W 24VDC power supply for GFD motor damper.	
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13-057	Powerbox II, Sensing coil not included
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13-047	Sensing coil for PowerBox. Register if welding plant, angle grinder or other equipment is in use and signals the PowerBox. The connected equipment must have a power consumption in excess of 700W.
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13-047A	Flux sensor for Powerbox. Must be used with equipment that does not comply with the EMC Directive.
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## Automatics



Art. No.	Description
19-100	Control panel LWS 225 – 12 input terminals max 0,55-2,2kW
19-101	Control panel LWS 250 – 12 input terminals max 4,0-5,5kW
19-102	Control panel LWS 280 – 20 input terminals max 7,5kW
19-103	Control panel LWS 315 – 20 input terminals max 11,0kW

Fan starter incl. motor guard and 24V power supply are customizable.

## External ABB Frequency inverters



Art. No.	Description
Affordable external frequency inverter incl. EMC radio noise filter. Built-in display and pot meter in the front	
19-160	ACS 150 1x230V 0,37kW IP20
19-161	ACS 150 1x230V 0,75kW IP20
19-162	ACS 150 1x230V 1,1kW IP20
19-163	ACS 150 1x230V 1,5kW IP20
19-164	ACS 150 1x230V 2,2kW IP20
19-165	ACS 150 3x380-480V 0,37kW IP20
19-166	ACS 150 3x380-480V 0,55kW IP20
19-167	ACS 150 3x380-480V 0,75kW IP20
19-168	ACS 150 3x380-480V 1,1kW IP20
19-169	ACS 150 3x380-480V 1,5kW IP20
19-170	ACS 150 3x380-480V 2,2kW IP20
19-171	ACS 150 3x380-480V 3,0kW IP20
19-172	ACS 150 3X380-480V 4,0kW IP20



Art. No.	Description
Mid range external frequency inverter incl. EMC radio noise filter. NOTE: CONTROL PANEL NOT INCLUDED	
19-200	ACS 355 1x230V 0,37kW IP20
19-201	ACS 355 1x230V 0,75kW IP20
19-202	ACS 355 1x230V 1,1kW IP20
19-203	ACS 355 1x230V 1,5kW IP20
19-204	ACS 355 1x230V 2,2kW IP20
19-205	ACS 355 3X380-480V 0,37kW IP20
19-206	ACS 355 3X380-480V 0,55kW IP20
19-207	ACS 355 3X380-480V 0,75kW IP20
19-208	ACS 355 3X380-480V 1,1kW IP20
19-209	ACS 355 3X380-480V 1,5kW IP20
19-210	ACS 355 3X380-480V 2,2kW IP20
19-211	ACS 355 3X380-480V 3,0kW IP20
19-212	ACS 355 3X380-480V 4,0kW IP20
19-213	ACS 355 3X380-480V 5,5kW IP20
19-214	ACS 355 3X380-480V 7,5kW IP20
19-215	ACS 355 3X380-480V 11kW IP20
19-216	ACS 355 3X380-480V 15kW IP20
19-217	ACS 355 3X380-480V 18,5kW IP20
19-218	ACS 355 3X380-480V 22kW IP20

19-280	Assistant panel
19-281	Basic panel

## External ABB Frequency inverter, continued.



Art. No.	Description
High End external frequency inverter incl. EMC radio noise filter, incl. Assistant control panel	
19-242	ACH 550 3X380-480V 30kW IP21
19-243	ACH 550 3X380-480V 37kW IP21
19-250	ACH 550 3X380-480V 0,75kW IP54
19-251	ACH 550 3X380-480V 1,1kW IP54
19-252	ACH 550 3X380-480V 1,5kW IP54
19-253	ACH 550 3X380-480V 2,2kW IP54
19-254	ACH 550 3X380-480V 3,0kW IP54
19-255	ACH 550 3X380-480V 4,0kW IP54
19-256	ACH 550 3X380-480V 5,5kW IP54
19-257	ACH 550 3X380-480V 7,5kW IP54
19-258	ACH 550 3X380-480V 11kW IP54
19-259	ACH 550 3X380-480V 15kW IP54
19-260	ACH 550 3X380-480V 18,5kW IP54
19-261	ACH 550 3X380-480V 22kW IP54
19-262	ACH 550 3X380-480V 30kW IP54
19-263	ACH 550 3X380-480V 37kW IP54

## Accessories for frequency inverter and EC-motors (ESV)



Art. No.	Description
19-284	Protection kit for frequency inverter ABB-ACS-150 The frequency inverter can now be placed indoors outside control box.
97-001	External pot meter. Speed adjustment: 0-100%
19-285	Steel wall cupboard for ACS150 400x300x200 mm. (HxWxD) With noise insulation for the frequency inverter. Incl. cooling fan and mesh.
19-286	Steel wall cupboard for ACS355 500x400x250mm. (HxWxD) Incl. cooling fan and mesh.

Other pot meters on request.

## Motor Damper 24V (0 to 90° = 1 sec.)



Art. No.	Description
61-091	Motor Damper GFD-80
61-092	Motor Damper GFD-100
61-093	Motor Damper GFD-125
61-094	Motor Damper GFD-160
61-095	Motor Damper GFD-200
61-096	Motor Damper GFD-250

(Quick action: on/off or modulating)

61-046	Power supply 230V / 24V for GFD Motor Damper
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## Motor Damper (0 to 90° = 30 sec.)



Art. No.	Description
61-082	Motor Damper, 220V ø80 Tight
61-083	Motor Damper, 220V ø100 Tight
61-081	Motor Damper, 220V ø125 Tight
61-084	Motor Damper, 220V ø160 Tight
61-085	Motor Damper, 220V ø200 Tight
61-104	Motor Damper, 220V ø250 Tight
61-105	Motor Damper, 220V ø315 Tight
61-088	Motor Damper, 220V ø400 Tight