

**HE 5733**

 **ENGINEERING**  
made in Germany

# Filter controller

for industrial shaker filter systems



**HESCH**  
AUTOMATION

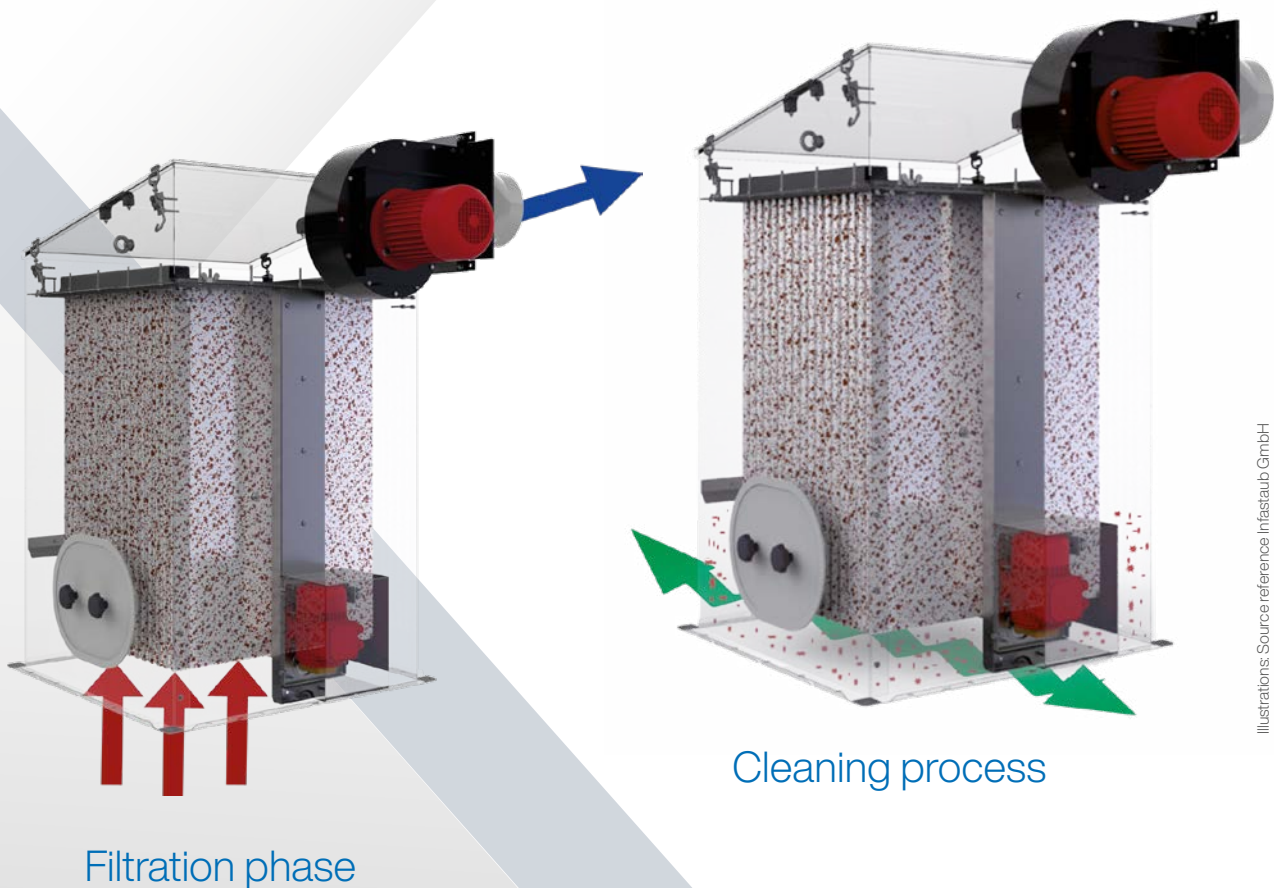


# How a shaker filter works

Shaker filters are regenerative fabric filters with mechanical cleaning. Cleaning takes place by means of a motor-driven vibration device. This requires a suitable control unit, which switches on the motor and causes the filter elements to vibrate automatically when a maximum differential pressure is reached across the filter (filter resistance) or after a defined time. During the cleaning process, the filter cake detaches from the filter fabric and falls into a sedimentation tank.

This cleaning process can only be carried out when the suction fan is switched off (offline cleaning). This inactive time of the suction fan (settling time) must also be specified by the controller and depends on the grain size of dust or on the system design.

The correct settling time prevents the process gas from recapturing the falling dust.



Illustrations: Source reference Infastaub GmbH

THE RIGHT SOLUTION –  
Shaker filter controller **HE 5733**

The **HE 5733 shaker filter controller** is designed precisely for the special requirements and optimum operation of shaker filters.

The HE 5733 optionally records the differential pressure via the filter or controls the cleaning process fully automatically via the adjustable process times.

The user cannot just individually determine the time for cleaning, but also the cleaning cycles and the settling time of dust. Parametrisation is possible both via the keypad and the LED display of the controller as well as via computer/laptop (with connection adapter and EasyTool Controls 4.0).

A switching input is available for a remote start, as well as two switching outputs for malfunction and differential pressure alarm. The quick and easy commissioning is particularly interesting - all the necessary connections for the fan, shaker motor and enable signal are integrated in the device, no additional contactors or the like are required.

All the necessary components are built into a robust IP65 plastic housing, which can also be used outdoors without additional heating thanks to its special design.



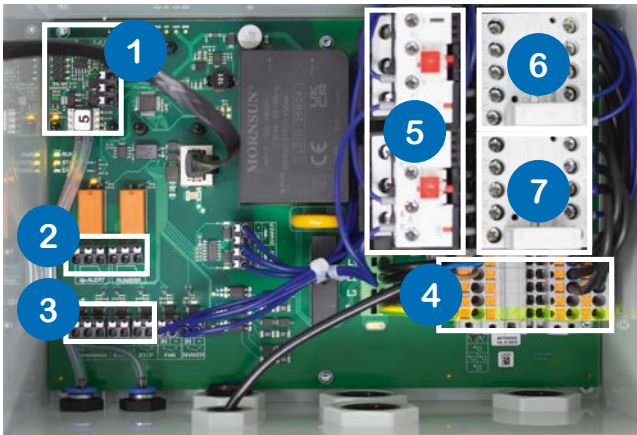
## The benefits at a glance

- ✓ **Safe sedimentation in dust discharge**  
through flow-free space with selectable settling time
- ✓ **Increased filter service life**  
thanks to selectable filter pressure values
- ✓ **Reduction of offline times**  
through pressure-controlled cleaning
- ✓ **Automatic post-cleaning**  
at end of operation
- ✓ **Switch on the system**  
via separate start and stop keys
- ✓ **Input and output signals**  
for communication with the control system
- ✓ **Compact design in IP65 housing**  
for outdoor use
- ✓ **Approved for ATEX zone 22 (dust)**
- ✓ **Integrated motor protection**  
with rotating field detection & phase presence monitoring particularly important for mobile portable filters with plug connection
- ✓ **Comprehensive operational safety**  
Signal input for monitoring the opening of the filter housing cover

## Simple connection

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1. differential pressure measurement with analogue outputs
2. relay outputs (RUN/ERR, dp-ALERT)
3. digital inputs
4. voltage supply
5. motor protection for fan and shaker
6. power contactor for fan
7. power contactor for shaker

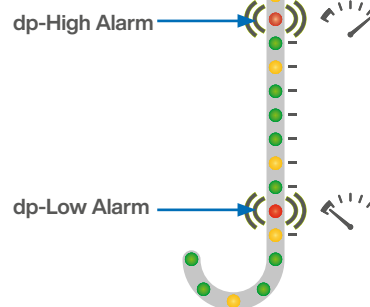
## Language-independent operation



### Display

- Normal operation: current differential pressure
- Parametrisation mode: parameter values
- Alarm indication



### Differential pressure column



	Operating signal		Start-up time of fan		Malfunction of motor protection switch / contactor
	Cleaning active		Overrun time of fan		Test mode
	Alarm active		Run-down time of fan		Differential pressure is shown in the display
	Automatic cleaning active		Cleaning time		Display for setting time-dependent parameters
	Pre-warning time for automatic cleaning		Settling time of dust		



## Technical data

<b>Supply voltage</b>	3Ph, 400 V AC / 50 Hz -10/+20 % (N conductor is not used)
<b>Power input</b>	max. 8.5 kW (total, incl. motors) max. 10 W (electron-ics)
<b>Fan output</b>	400 V 3-phase, 6 ... 10 A (max. 5.5 kW)
<b>Motor output (shaker)</b>	400 V 3-phase, 0.9 ... 1.5 A
<b>Display</b>	7-segment display, 4-digit, 14 mm high, white, for differential pressure, parameter and alarm values, 14 LEDs for status displays, 16 LEDs for differential pres-sure display
<b>Keys</b>	Value setting: Para (ESC), UP, DOWN, Enter, Start, Stop
<b>Digital inputs</b>	1 × NPN for enable; 2 × potential-free contact for ext. start, ext. stop
<b>Digital outputs</b>	2 × changeover contact 250 V / 5 A for RUN/ERR, dp-ALERT
<b>Analogue output</b>	4... 20 mA; 0...10 V Analogue signal of the measured differential pressure
<b>Differential pressure measurement (option)</b>	Measuring range 0 ... 50 mbar
<b>Housing</b>	Material polycarbonate
<b>Dimensions</b>	271 × 170 × 120 mm (W × H × D)
<b>Protection class</b>	IP65
<b>Storage and transport temperature</b>	-40 ... +70 °C
<b>Ambient temperature Operation</b>	-20 ...+50 °C / -20 ... +40 °C in ATEX-zone 22
<b>Connection pressure</b>	2 × plug-in connection for hose Ø 6 mm (external)
<b>Electrical connection</b>	Voltage supply max. 2.5 mm <sup>2</sup> (push-in) Motor connections max. 2.5 mm <sup>2</sup> (screw connections) Signal inputs and outputs max. 1 mm <sup>2</sup> (push-in)
<b>Cable feed</b>	3 × M25 cable glands (power supply, fan, shaker motor) 1 × M20 cable gland (dp-alert, enable) 1 × M16 cable gland (cover switch)
<b>Certification</b>	  II 3D Ex tc IIIC T135° Dc IP65

Article no.	Order data and accessories
<b>573311002D50</b>	Shaker filter controller HE 5733 with integrated dp measurement 0 ... 50 mbar, compact housing, with integrated power contactor and motor protection relay; cable glands
<b>573311002D00</b>	Shaker filter controller HE 5733 without dp measurement (only time control), compact housing, with power contactor and motor protection relay; cable glands
<b>63500020</b>	Mains connection cable with phase reversing plug, 2 × 2.5 mm <sup>2</sup> , Cable H07RN-F5G 2.5, length 5m
<b>63500021</b>	Mains connection cable with phase reversing plug, 2 × 2.5 mm <sup>2</sup> , cable H07RN-F5G 2.5, length 10 m
<b>57310096</b>	EasyTool Controls 4.0 software incl. USB-TTL adapter
<b>58513009</b>	EasyTool Controls 4.0 software incl. wireless-TTL adapter
<b>54990001</b>	dp connection adapter for 6 and 8 mm hoses; incl. screw connection, seal, filter insert, dummy plug and drilling template



Heiko Wilkens, Dipl.-Ing.

+49 (0) 162 1338 107

h.wilkens@hesch.de



Rolf Bürssner, Dipl.-Ing. (FH)

+49 (0) 173 2439 388

r.buerssner@hesch.de



Thomas Jäger

+49 (0) 173 2989 932

t.jaeger@hesch.de

**HESCH**  
AUTOMATION

**AXXERON HESCH electronics GmbH**

**Zentrale**

Boschstraße 8 | 31535 Neustadt | Germany

vertrieb@hesch.de

T +49 (0) 5032 9535-0

**Niederlassung Nord**

Stöckenhoop 6 | 21465 Wentorf | Germany

T +49 (0) 40 727 57-08

info.hh@hesch.de

[www.hesch-automation.com](http://www.hesch-automation.com)



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