

HE 5750 Filter cleaning system



The complete system for ,plug-and-play

The HE 5750 cleaning controller is a filter cleaning system for large industrial plants in the dedusting world based on a master-slave system. It consists of a main control unit HE 5750 and up to 32 valve control units HE 5724, each with 32 valve outputs to be controlled, as well as two additional outputs for shut-off valves. In addition, two analogue values each from pressure sensors and dust sensors can be evaluated via the HE 5724.

There is also an additional HE 5740 slave, which controls the dampers in the cleaning system. A distinction is made between the clean pure gas and raw gas side; on the raw gas side, bunker fill levels can also be included and processed. The individual control units master HE 5750, slaves HE 5724 and HE 5740 communicate via an internal CAN-BUS system and are connected to each other with a corresponding communication cable.

System descriptions provided by the customer, such as number of chambers, number of valves, pressure tanks, shut-off valves, flap control, bunker fill level, etc. are used to create an overall concept for the cleaning system.

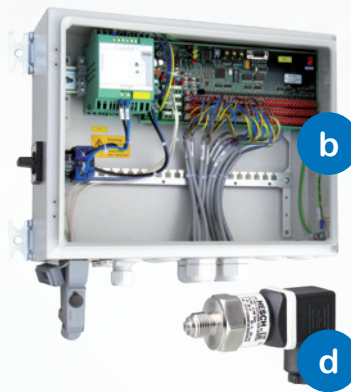
AXXERON HESCH electronics uses this customer-specific information to develop an overall concept that is optimally customised to the individual application.

The user receives a complex, pre-wired cleaning system with prepared connection cables for the individual valves and sensors, as well as preset parameter values in the HE 5750 central control unit. On site, the individual control units are then professionally mounted on the filter, communication connections and power supplies are connected, the pre-assembled valve and sensor cables are plugged in and the system is put into operation.

A software tool, which is available dedusting sector in a loader version, can be used for support during commissioning. With the Basic and Expert software versions, which are subject to a charge, it is possible to intervene even more deeply in order to change and manage corresponding data records in the HE 5750 control unit. It is possible to connect the cleaning system to a higher-level control system.

Technical data for the individual components can be found on the following pages 2-6.

- a.) **HE 5750 Cleaning controller**
- b.) **HE 5724 Valve control unit**
- c.) **HE 5740 Damper control unit**
- d.) **HE 1149 Pressure transmitter**
- e.) **PFM 13 C Dust measuring probe**



a.) HE 5750 Cleaning controller

The HE 5750 is a master-slave system for large systems consisting of a main control unit and, depending on the system size, up to 32 valve control units that are connected to the master control unit via field bus. Each valve control unit is locally and technically assigned to a filter chamber.

The HE 5750 master control unit can control up to 1024 valves, regulate the damper function and carry out automatic hose rupture monitoring. In addition, the operating data can be stored on a compact flash card in the control unit via data logging.



Technical data			
Supply voltage	24 V DC (18...30 V DC)		
Display	Graphic LC display: 240 × 64 pixel, 133 × 39 mm Colour: green, backlight: LED		
Keyboard	Membrane keyboard, 16 function keys, customer-specific description. Numeric key pad, cursor / control key pad		
Real time clock	Date, time (power failure buffer: approx. 1 year)		
µ Processor	Siemens C167CR		
Memory	256 kByte static RAM · 512 kByte FLASH Data · 512 kByte FLASH Programm · 8 kByte parallel EEPROM		
Inputs (on board)	4 × analogue: 4...20 mA, block galvanically isolated, 8 × digital: 24 V DC galvanically isolated		
Outputs	8 × digital: 24 V DC galvanically isolated. Short-circuit proof		
CAN bus	According to ISO 11898, max. 1 Mbit/s · Spezifikation: 2.0A · Supply: galvanically isolated		
Profibus DP	According to EN 50 170, max. 12 Mbit/s · automatic baud rate recognition · RS 485		
Serial Interface	RS 232 and RS 422 or RS 485 selectable via software, baud rate: max. 38400 bit/s		
Housing	Control panel installation Protection class: front IP54, back IP20		
Dimensions	295 × 200 × 40 mm (W × H × D) Required cut-out: 265 × 170 mm		
Jumper	CAN-BUS termination (bus termination). Must not be done, if termination has already been done externally at the connection.		
Relative Humidity	Permanent 75 %, non-condensing		
Shock Sensivity	DIN 40046 IEC68-2-69		
EMV	EN 61000-6-3 (2007) + A1	EN 61000-6-2 (2005)	
Electrical Connection	Via plug / screw-on terminals (max. diameter 2,5 mm ²)		
Climatic environmental conditions	Storage	Operation	Relative humidity
	- 20 °C ... + 70 °C	0 °C ... + 50 °C	permanent 75 % non-condensing
Switch box version	Dimensions	Material	Protection class
	760×760×300 mm (W × H × D)	Steel sheet RAL 7035, powder-coated	IP55 (also higher upon request)

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b.) HE 5724 Valve control unit

The valve control unit HE 5724 is part of a fieldbus valve control system. The control unit is completely pre-wired, configured and tested. It requires no further settings or configurations. The CAN line and the power supply must be connected.



Technical data	
Supply voltage	24 V DC; -10/+15 % 100... 240 V AC or 90 .. 250 DC (with AC/DC Converter)
Power input	40VA
EMC	EN 61000-6-3 (2007) + A1, EN 61000-6-2 (2005)
Shock / vibration resistance	-
Output signals valves	Voltage: 24V DC; 1 A, Quantity: 32, short-circuit proof
CAN bus	according to ISO 11898, max. 1 Mbit/s · Specification: 2.0A · Supply: galvanically isolated
Display	4 × LED for operation, Puls, CAN, Error
Connection technology	Push-In clamps
Storage temperature	-20 ... +70 °C
Operating temperature	0 ... + 60 °C
Relative humidity	Permanent 75 % humidity, non-condensing
Jumper	XJ1: CAN-Bus Termination (bus termination). Must not be done if termination has already been done on the outside of the connector. XJ2: Dust sensor Jumper, analogue or switching contact XJ3: Dust sensor Jumper, analogue or switching contact
Housing dimensions (W × H × D)	400 × 300 × 155 mm, Standard switch box
Type	Sheet steel RAL 7035, powder-coated
Protection class	IP55 (Higher upon request)
UL	Possible upon request
Valve cable	Sensor/actuator cable 3-pole, free cable end on valve connector
Materials	Control cable halogen-free, black-grey RAL 7021
Connector plug valve	Typ-A DIN 43650-A / ISO 4400 (sharpened)

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c.) HE 5740 Damper control unit

In addition to the HE 5724 valve control, the HE 5740 Damper control unit is another component of the fieldbus-based cleaning system. It is divided into clean pure and raw gas sides, each in its own control cabinets.

The respective units are ready for connection, configured and tested. Only the corresponding damper control valves with the associated status messages (open/closed), the signals for the bunker fill level, and supply and communication lines need to be connected. Depending on the configuration of the overall system.



Technical data	
Supply voltage	24 V DC; -10/+15 % 100... 240 V AC or 90 .. 250 DC (with AC/DC Converter)
Power input	-
EMC	EN 61000-6-3 (2007) + A1, EN 61000-6-2 (2005)
Shock / vibration resistance	-
Output signals valves	Voltage: 24 V DC; 1 A, Quantity: 2, short-circuit proof
CAN bus	according to ISO 11898, max. 1 Mbit/s Specification: 2.0A Supply: galvanically isolated
Display	-
Connection technology	Push-In clamps
Storage temperature	-20 ... +70 °C
Operating temperature	0 ... + 60 °C
Relative humidity	Permanent 75 % humidity, no condensation allowed
Housing dimensions (W × H × D)	600 × 600 × 210 mm, Standard switch box
Execution	-
Protection class	IP55
UL	Possible upon request
Valve cable	-
Materials	-
Connector plug valve	-

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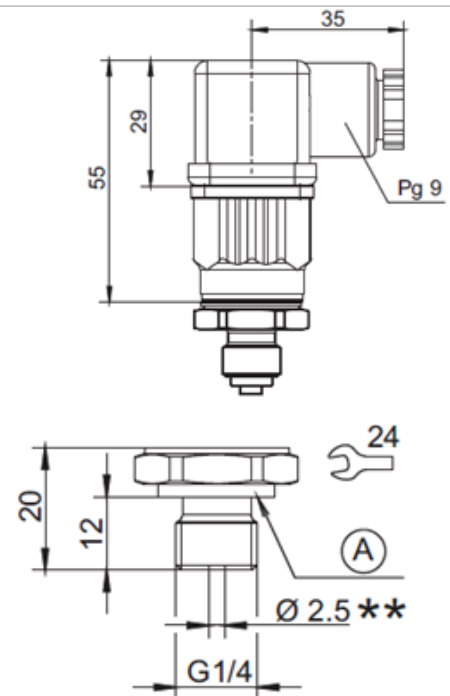


d.) HE 1149 Pressure transmitter

The pressure transmitter HE 1149 is used for recording e.g. the system pressure in compressed air tanks or filter cleaning systems. It supplies a 4...20 mA two-wire measuring signal. The pressure transmitter has a robust stainless steel housing, long-term stability and high overload capacity. All parts in contact with the medium are made of stainless steel. The high process reliability is ensured by a seal-less, welded measuring system.



Technical data	
Measuring principle	Thick film DMS
Pressure measuring ranges	6/10 bar relative (other measuring ranges upon request)
Reaction time T90	< 5 ms
Overload capacity	3 × Nominal pressure
Parts in contact with medium, housing	1.4305
Supply voltage	4 ... 30 V DC
Output signal	4 ... 20 mA Two-wire technology, with reverse polarity protection
Power input	approx. 25 mA
Electrical connection	Angle plug DIN 43650 with screw connection for 8 mm connection cable
Process connection	G1/4"
Protection type	IP65
Overall accuracy	+/-1% End of measuring range
Temperature error zero point	< 0.004 % /K
Temperature error final value	< 0.004 % / K
Medium and ambient temperature Operation	-20 ... +85 °C
Storage temperature	-40 ... +125 °C
Humidity	90 % non-condensing
Vibration resistance	20 g at 10 to 2000 Hz, acc. to IEC 60068-2-6
Shock resistance	50 g for 11 ms, 100 g for 1 ms, acc. to IEC 60068-2-27
Certification	CE



A: Profile seal in material FKM

► Other versions e.g. process connection, electrical connection upon request.



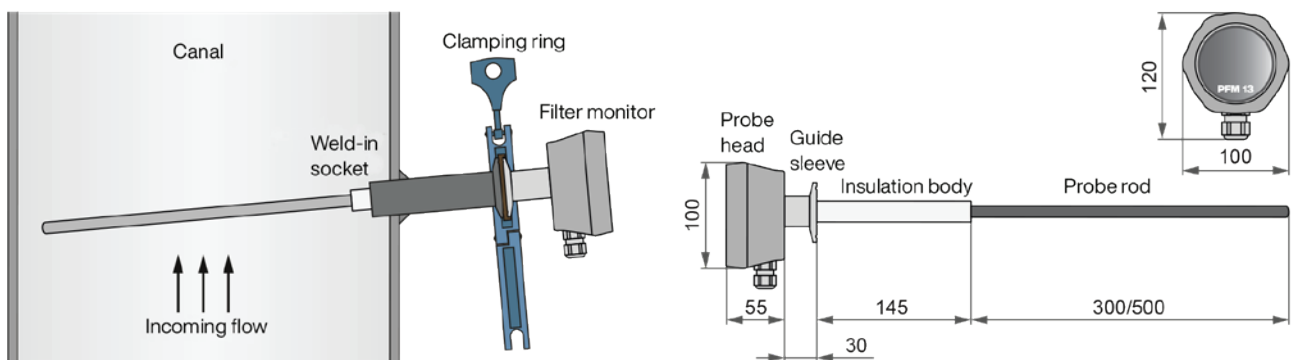
e.) PFM 13 C Dust measuring probe

The PFM 13 C is used for permanent monitoring of dust emissions in conjunction with the valve controllers HE 5750 and 5760. Used as a filter monitor, the device is an effective tool for detecting and locating damage on filtering separators at an early stage. Configured as a dust monitor, it can be used for continuous monitoring of clean pure gas and dust contents of filtering separators.



► Special versions are possible upon request.

Technical data	
Housing	Compact device (integrated graphic display with operation); IP65; protection class 1
Dimensions	approx. 100 mm × 100 mm × 530/730 mm (W × H × D)
Weight	approx. 1.0 kg
Probe	Triboelectric probe consisting of probe rod and probe head; Probe rod: electrically insulated from the housing, length: 300 mm or 500 mm (can be shortened mechanically); Immersion depth: 400 mm or 600 mm (depending on application)
Ambient temperature	-20 ... +50 °C
Air humidity	No special sensitivity
Dew point difference	min. +5 K
Measuring gas temperature	max. 280 °C
Flow rate	from approx. 3 m/s
Dust measuring range	0 ... 100 %
Amplification levels	4
Ready for use	immediately after connecting the power supply
Analogue output	4 ... 20 mA, 2-wire transmitter, galvanically isolated from device ground, max. load 150 Ω
Process connector	Weld-in socket with Tri-Clamp fastening
Cable gland/ clamping range	M20 x 1.5 / 9...13 mm
Voltage supply	via 2-wire transmitter (4...20 mA); min. 15 V DC / max. 30 V DC



Änderungen vorbehalten | 11/2023 | Version 1.0

