

Impactor FH-5

The impactor FH-5 is a measuring system for monitoring the germ content in the air. The system is applicable for the impaction method as well as for the filtration method. Areas of application of the FH-5 are hospitals, the pharmaceutical, the cosmetic and the food industry, here they make great demands on the low germ concentration in the air. Germ emissions out of waste deposits, purification plants and irrigation fields attract more and more attention as well. During the measurement the air volume is drawn in through a radial compressor, which was developed particularly for the impactor FH-5. The air volume is held constant with this compressor (Flügelradanemometer). An intelligent electronic controls the measuring circle. The adjusted sample volume streams through a filter attachment resp. over a petri dish with the agars in a defined measuring time. A green LED clearly uncovers the measuring procedure, in the display the sample volume and the remaining measuring time is indicated. The end of the measurement is indicated by a sound signal. The sample volume entered last, remains stored.

The device possesses a programmable starting delay up to 160 min. With measurements after the impaction method the volume flow amounts 100 liter/minute. The equipment is supplied in this attitude, thus ready for use for the impaction method. For measurements after the filtration method, the suction blast pipe must be changed into a filter holder, which is easy and quick to handle over a screw connection. Secondly, the volume flow needs to be adjusted to 30 litre/minute. The change of the volume flow is carried out in the service program. You reach the service program by keeping the ON key pressed and pressing the START key additionally. Then you have to move with the MENU key to the display "Volume flow" and change the indicated value with the arrow key into 30 l/min. In order to leave the service program, you have to move with the MENU key to the display "Service program" and then press the Start key again.

Automatic error detection: If the air flow rate is insufficient, the device turns off automatically and uncovers – Nozzle closed – or with the filtration method – Filter blocked –. Furthermore, the error is also indicated by a threefold sound signal.

With a full accu at least 90 measurements á 5 min. are possible.

Impaction method

In this case the germ loaded particles are deposited on the agars directly out of the sucked in airflow. On the agars the breeding of the colony forming units is taking place. At the front of the device the air flows through a nozzle, in which the air flow velocity is raised intensely. Behind the nozzle the air flow is refracted, the accelerated particles leave the flow due to their inertia and thud on the agars. You need standard petri dishes (90 mm). The dishes are held in a special device so that you can measure in any position. For a faultless measuring the height of the agars has to be checked. Put the petri dish on a plane area and measure up to the upper edge of the agars. The height should be 4 – 6 mm.

Sample volume (l)	25	50	100	150	200	250	
Measuring time (min.)	0.25	0.5	1.0	1.5	2.0	2.5	
	300	350	400	450	500	750	1000
	3.0	3.5	4.0	4.5	5.0	7.5	10.0

Filtration method

Here the germ loaded air is sucked in with a filter. The germs are deposited directly on the filter. The usage of suitable filters makes it possible to verify germ loaded particles with a size smaller than 1µm. Using gelatine membrane filters (3 µm pore size, Ø 80 mm), the filters are laid on an agars after the measurement and the germ colonies are bred. Another possibility is to liquidate the gelatine filter in a buffer solution. Verification methods of microorganisms in solutions are much more multifarious than on hard agars. Through thinning the solution it is possible to proof very high concentrations up to 10^8 KBE/m³. The gelatine membrane filters guarantee a quantitative gathering and prevent a run dry of the caught microorganisms.

Sample volume (l)	25	50	100	150	200	250	
Measuring time (min.)	50	100	200	300	400	500	
	300	350	400	450	500	750	1000
	600	700	800	900	1000	1500	2000

Technical Specifications

Impactor FH-5

Measuring range	: 25 – 1000 Lite ± 1% of the reference value at 0-40°C
Volume flow	: 100 l/m impaction; 30 l/m filtration
Accu	: 16.8V, loading duration 4.5 h, 450mA
Impaction speed	: 30 m/sec., 1 rotation/Measurement
Material	: titanium, case varnished
Positioning	: lying or standing
Dimensions in mm, Weight	: 250x150x150 (H x W x D in mm), 3.0 kg

Battery charger

Dimensions, Weight	: 100x65x80 (H x W x D in mm), 0.8 kg
Cable length	: 2m
Electric	: Input: 100-240V ~/47-63 Hz/ 700 mA, Output: 24V/ 1.25 A
Use	: Worldwide with plug-adaptor, delivery with Euro-Adaptor