

Halton Vita Extract (VEX) – Gas and smoke extraction solution – to be removed

Overview

The Halton Vita Extract (VEX) gas and smoke extraction solution is a turnkey solution for medical use. It enables the extraction of anaesthetic gases and surgical smoke.

Halton Vita Extract provides a healthy working environment by removing hazardous gases directly from the source. Anaesthetic gases are collected from the patient mask after they have been exhaled by the patient. Surgical smoke is collected straight from the diathermy device or surgical area.

The vacuum is generated by one or multiple blower fans located in the ventilation machine room. Vacuum piping is routed throughout the building to individually controlled suction inlets.

The Halton delivery includes a complete system with design support, commissioning and fine-tuning services. The system can also be installed by Halton upon request.

Application areas

- Smoke extraction in diathermy (operating rooms)
- Gas extraction in anaesthesia (recovery rooms)
- Gas extraction in pain relief (delivery rooms)

Key features

- Immediate and constant usage capability
- System vacuum pressure level adjustable between 50-150 mbar
- Control panel with a status indication
- Energy-efficient performance assured by frequency controller(s)
- Reliable performance
- Low maintenance need
- High-quality components
- Possibility to connect to the building's automation system (BMS)

Design considerations

When designing the Halton Vita Extract system consider the following:

- Location of the Halton Vita Extract central unit (usually installed in a ventilation machine room).
- Selection of the central unit size (according to the number of suction inlets and desired airflow).

- Selection of the piping and suction inlet materials.
- Design of piping framework. **NOTE:** Halton recommends using two 45° elbows instead of one 90° elbow and 45° branches in the direction of the airflow.
- Pipes diameters are decreasing gradually from the central unit to the furthest inlet connection.
- Selection of the airflow control method:
 - o Manual
To stop suction, the hose must be removed from the suction inlet.
The manual method can be used when there is no need to adjust the air volume or stop the vacuum when medical equipment is connected.
 - o Actuator adjustment
The suction can be stopped without detaching medical equipment.
- Adjustment of vacuum pressure
 - o The vacuum pressure can be set between 50-150 mbar (5-15 kPa).
 - o The system is designed to be running full time at a constant pressure so no power adjustment is needed.

Specification

The specification describes in detail the delivery scope of Halton Vita Extract (VEX) gas and smoke extraction solution.

The solution must fulfil the following requirements:

Solution performance

- Enables the extraction of anaesthetic gases and surgical smoke directly from the source
- Ensures the safety of the operating personnel by preventing the exposition on surgical smoke and anaesthetic gases
- Suction inlets will be connected the medical equipment (masks or diathermy devices)
- The vacuum airflow for each suction inlet point can be adjusted with the control panel (control panel options are: ON-OFF, 0-LOW-HIGH, 0-100%)

System components

The system consists of the central unit, that ensures a constant vacuum pressure in the pipework, control valve, actuator, attenuator, suction inlets and control panel.

Order code

VEX/M

M = Model

A S / single (2.2 kW)

- B M / single (4.0 kW)
- C L / single (5.5 kW)
- D S / dual (2.2 kW+2.2 kW)
- E M / dual (4.0 kW+4.0 kW)
- F L / dual (5.5 kW+5.5 kW)
- G S / secure (2.2 kW+2.2 kW)
- H M / secure (4.0 kW+4.0 kW)
- I L / secure (5.5 kW+5.5 kW)

Sub products

- VEA Sound attenuator (L500)
- VER/A Flow control valve and actuator (24V)
- VEC/A Control panel (0-Low-High)
- VEC/B Control panel (0...100 %)
- VEC/C Control panel (on-off)
- VEV/A Inlet valve, nylon
- VEV/B Inlet valve, stainless steel (AISI 304)

Code example

VEX/A