Exelia® VP

Volumetric infusion pump

4.3" reactive colour touchscreen for high intuitivity and quick learning curve.

Rotary dial for fast and safe programming.

Automatic pressure threshold setting and improved Dynamic Pressure System for fast occlusion detection even at low flow rates.

Up to 19 custom profiles for personalized device configurations.

Wide flow rate range from 0.1 to 1800 mL/h and an accuracy better than +/- 5 % in most clinical situations.

> 100 000 data events log.

Exelia® VP

Infusion

Flow rate range
· 0.1 - 1800 mL/h
· 0.1 or 0.01 mL/h increment accessible by configuration
Flow rate can be limited according to drug name (soft and hard limits) with Vigilant® Master Med, the Dose Error Reduction Software

Flow rate accuracy
+/- 5 % and even better in most clinical situations

Volume to infuse
0.1 - 9999 mL

Infusion modes
· mL/h modes: Volume + Flow rate, Volume + Time, Flow rate + Time, Volume + Time + Rate, Ramp-up / Ramp down, Sequential / Intermittent, Rate only (if drop sensor)

· Dose rate modes: ng/h, µg/h, µg/min, mg/h, mg/24h, mg/min, g/h, mU/min, U/h, U/min, mEq/h, mEq/min, mmol/h, kCal/h, kCal/24h, ng/kg/h, ng/kg/min, µg/kg/h, µg/kg/min, mg/kg/h, mg/kg/24h, mg/kg/min, mg/m^2/h, mg/m^2/24h, g/kg/h, g/kg/24h, g/kg/min, mU/kg/h, mU/kg/min, U/kg/h, U/kg/min, mEq/kg/h, mEq/kg/min, mmol/kg/h, mmol/kg/24h, kCal/kg/h

mL/kg/h, mL/kg/24h, mL/kg/min, mL/min, mL/24h

· Dilution setting: -- units/mL or -- units/-- mL
With or without loading dose

Infusion duration
0h01min - 96h00min

Priming
Manual or by using the purge/prime function of the pump

Loading Dose
· Volume: 0.01 - 1000 mL
· Dose: 0.001 - 999999 unit
· Duration: 1 sec - 2 hours
· Flow rate: 0.1 - 1800 mL/h

Direct bolus
· Rate: 50 - 1800 mL/h (1 mL/h increment)

Programmed bolus
· Volume: 0.01 - 1000 mL
· Dose: 0.001 - 999999 unit
· Duration: 1 sec - 2 hours
· Flow rate: 0.1 - 1800 mL/h

KVO
Keep Vein Open: 0.1 - 20 mL/h when volume is reached

Pause/Delayed start
Programmable from 1 minute to 24 hours, increments 1 minute.
At the end of pause, infusion can start automatically or user can be warned before starting

Data events log
100 000 data events log time-stamped

Night mode
The night mode decreases the brightness of the screen and of the LEDs. The key beeps can be turned off.

Profiles
19 custom profiles configurable with Vigilant Master Med, containing:
· Drug library: up to 3800 drug entries, with possibility to create up to 30 therapies for the same name
· Device configuration

Volumat lines administration sets

Compatible administration sets
Volumat Line range, including sets for oncology, transfusion, pediatry, parenteral nutrition and other speciality sets.

Free-flow protection
All sets integrate the unique SafeClip* technology that automatically clamps the line to avoid any risk of free-flow when the door is opened and when the set is disengaged

Auto-test function: The patented** OCS (Occlusivity Check System) checks the correct working order of the pump in association with its tubing set, thus preventing any risk of free-flow

* French Patent FR2908176 / ** European Patent EP1031358

Pumping segment
The silicone pumping segment allows a tight flow rate accuracy as well as long term performances up to 96h

Material
All Volumat Lines infusion sets are DEHP-free & Latex-free PVC-free and opaque materials are available

Needle-free access
Some sets integrate a needle-free Y injection site to protect the medical staff against the risk of needle-stick injuries

Pressure management

Pressure modes
Available modes: automatic, variable or 3 pre-set levels
Range from 50 to 900 mmHg (1 mmHg increment)

DPS+
The Dynamic Pressure System warns of pressure variations
A risk of obstruction or a possible leak in the infusion line can thus be anticipated

Pressure monitoring
Graphic representation of the pressure in the infusion line and of the pressure limit thanks to the pictogram
Current pressure in line always displayed for precise monitoring

Bolus volume at occlusion release
-0.1 ≤ X ≤ 0.35 mL
A controlled back flow pumping mechanism is provided to reduce the bolus volume at occlusion release

Functional alarms

Functional alarms signal events related to the infusion status or events that may impact the infusion

High-priority alarms
Empty bag, End of volume, OCS failed (issues with the administration set installation), Door opened, Air-in-line, Bag-side occlusion, Occlusion patient side, Battery empty

Medium-priority alarms
Module incorrectly plugged, End of secondary volume, battery failure

Low-priority alarms
End of infusion (when a KVO is programmed), Near end of volume, Suspected occlusion, Drop in pressure, Long press on screen, Low battery, Waiting settings, Drop sensor disconnected

Technical errors
"Technical error x.y.z" is displayed in case the equipment malfunctions

Technical specifications

Pumping mechanism
Linear peristaltic pumping system with software adjustments and compensations

Display
4.3" Colour LCD touchscreen, size 95 mm x 54 mm

Alarms sounds levels
Alarm priority (High, Medium, Low):
· Minimum sound level: approximately 63 dB(A)
· Maximum sound level: approximately 74 dB(A)

Dimensions - Weight
· Dimensions (H/W/D): 89 x 248 x 165 mm
· Weight: approximately 1.940 kg

Consumption and emissions
Standard operating conditions: max 15 W (during battery loading)

Battery
· Characteristics: 10,8 V 3250 mAh - Li-ion Smart battery
· Weight: approximately 150 g
· Battery operating time: At 25 mL/h: 8 h / At 1800 mL/h: 5 h 30
  The battery operating time is reduced when using an accessory (such as a drop sensor)
· Battery recharge: Module OFF: < 5 h / Module ON: < 20 h
· Battery replacement: the battery should be tested every 3 years

Drop sensor
Optional for empty bag detection

Material characteristics
ABS (main material)

Recycling and disposal
Batteries and devices must not be disposed of with general waste For information on waste processing regulations and dismantling, contact your Fresenius Kabi sales representative

Compliance

CE Mark
Regulation (EU) 2017/745, Class IIb

Electro-medical equipment safety
IEC 60601-1 (for Exelia system)

Alarm system
IEC 60601-1-8

EMC (Electromagnetic compatibility)
IEC 60601-1-2 (for Exelia system)

Particular standards
IEC 60601-2-24

Usability
IEC 60601-1-6
IEC 62366-1

Index of protection against ingress of water or particulate matter
IP22

FRESENIUS KABI

caring for life

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