

# Flow Sensor SpiroQuant H

## Use the advantages:

- Proven passive flow differential pressure converter
- Measuring of breathing gas flow in adult applications
- High product quality
- RoHS conform
- Biocompatible components
- Short delivery times
- Technical support
- Made in Germany
- Certified quality management system according EN ISO 13485



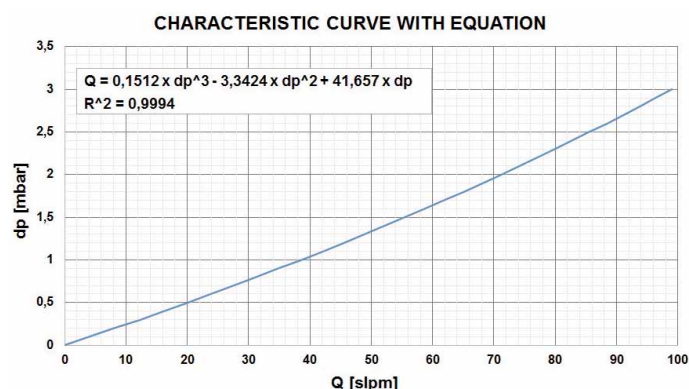
## „We keep your devices operating at their best.“

EnviteC has been developing and manufacturing highly specialized products for medical applications. EnviteC's research and development activities are consistently aligned to customer and market needs – identification and optimization of sustainable product solutions are the main concerns of the company.

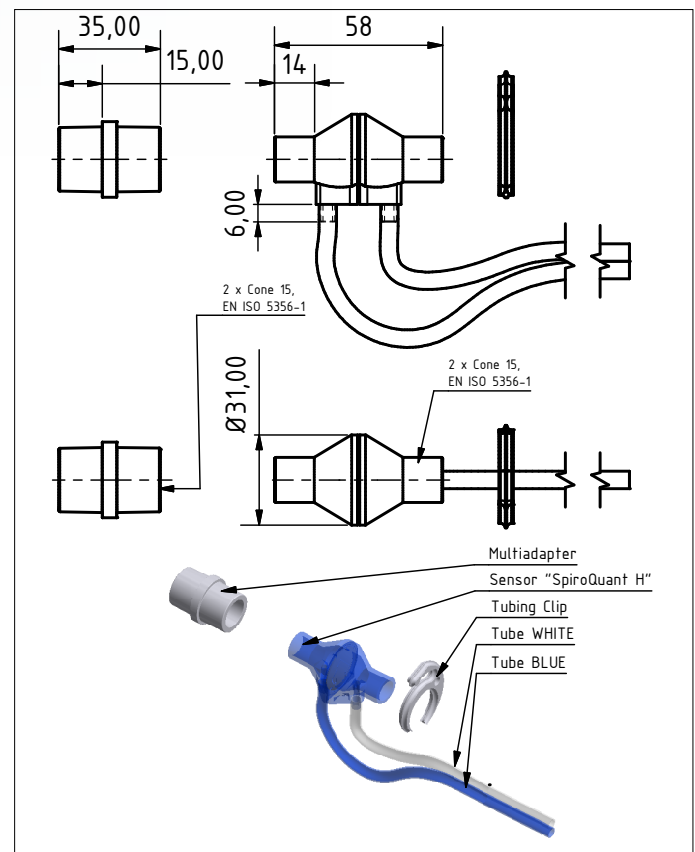
The company trusts in the quality of advanced production methods and processes. The result are flow measurement solutions for medical applications, which share the same extraordinary quality, excellent signal stability and reliable response for accurate readings. The Flow sensor SpiroQuant H is a passive flow differential pressure converter for measuring of breathing gas flow in connection with the appropriate measuring unit (differential pressure gauge). The sensor is designed as disposable sensor for single patient use in adult applications. A re-use or cleaning is not allowed.

## From standard sensors to customized sensors

Experienced EnviteC engineers analyze customer requirements. This input is used for different standard and OEM applications, and ongoing support is provided right up to the final integration in the solution. EnviteC designs customized sensors characterized by a maximum possible degree of precision.



## Mechanical drawing (All dimension in mm)



General tolerances ISO 2768-c

## Additional information

If the sensor is intended to replace the original flow-sensing component in anesthesia machines or ventilators, consult the EnviteC XRL Cross Reference List under [www.EnviteC.com](http://www.EnviteC.com) for selecting the appropriate sensor.

## For more information please contact us!

**We look forward to assisting you either on the phone or in a personal talk.**

## Technical Specifications SpiroQuant H

Measuring principle	Differential pressure principle
Cross reference	Compatible to Hamilton flow sensor PN 279331
Sensor type	Disposable sensor for single patient use
Application	Adult applications
Flow range	0 ... 100 slpm (standard liters per minute)
Accuracy	± 15 % over measuring range
Flow resistance	Approx. 1.0 mbar equals 60 slpm
Operating temperature	0 °C ... +50 °C
Operating humidity	5 ... 95 % RH non-condensing
Operating conditions	570 ... 1200 hPa only with external pressure compensation
Operating time	Single patient use, applicable as long as a sensor calibration is successful
Storage temperature	-20 °C ... +70 °C
Storage ambient pressure	570 ... 1200 hPa
Storage humidity	5 % ... 95 % RH non-condensing
Storage time	Max. 5 years
Dead space	11 cm <sup>3</sup> (without cone adaption)
Cleaning / disinfection	No re-use, cleaning or disinfection not allowed
Weight	Sensor without tubes: approx. 11 g; Sensor incl. tubes: approx. 51 g
Material	Housing parts: MABS; Inner part: PET; Tube: PVC - medical grade; Tube length: 1.8 m; Tube diameters: dI 0 3.0 mm -0.1 +0.05; dA = 4.6 mm
Part number	07-00-0001: SpiroQuant H (Pack with 6 pieces incl. clip and adapter); 07-000027: Tubing clip; 07-000025: Multi adapter

All specifications are applicable at standard conditions:  
1013 hPa, 25 °C dry ambient air



### Certified Quality Management

EnviteC is maintaining a quality management system, which meets the requirements of EN ISO 13485 for medical devices.

### EnviteC-Wismar GmbH a Honeywell Company

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Doc. No. 007-05-SpiroQuant\_H\_Spec-0

December 2017

Technical information is subject  
to change without notice!

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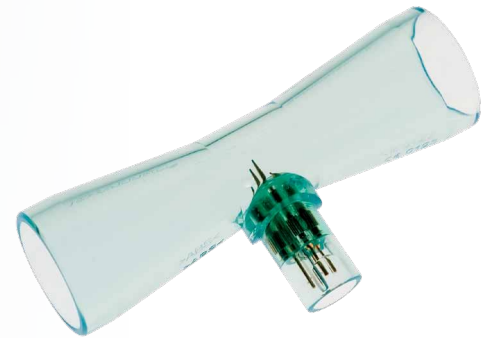
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specifications and adjust its production  
at any time and without notice.

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by Honeywell

# Flow Sensor SpiroQuant A+

## Use the advantages:

- Proven - constant temperature hot-wire anemometry
- Fast response time
- High product quality
- RoHS conform
- Biocompatible components
- Short delivery times
- Technical support
- Made in Germany
- Certified quality management system according EN ISO 13485



## „We keep your devices operating at their best.“

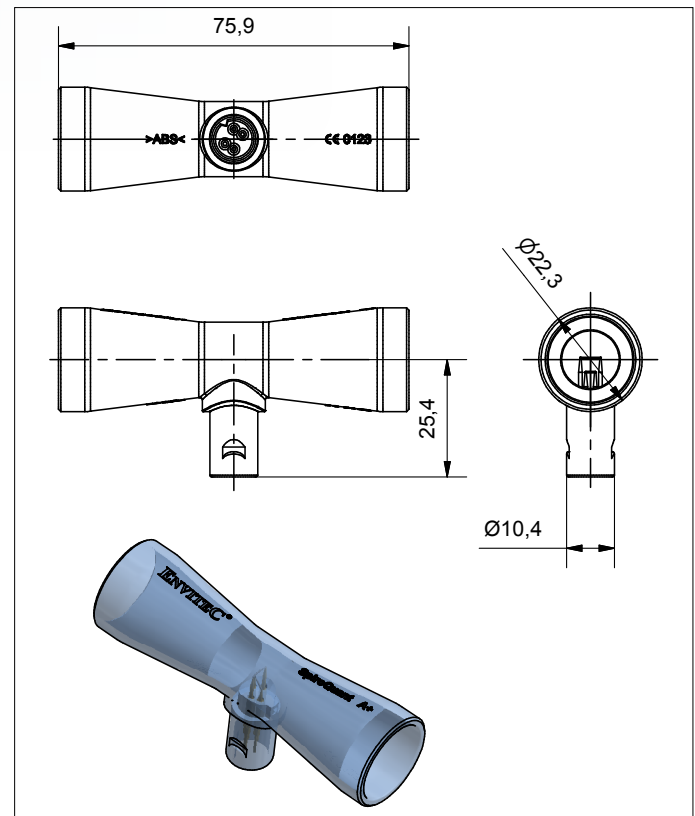
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The company trusts in the quality of advanced production methods and processes. The result are flow measurement solutions for medical applications, which share the same extraordinary quality, excellent signal stability and reliable response for accurate readings. The flow sensor SpiroQuant A+ is a hot-wire sensor for measuring volume gas flow in anesthesia machines and ventilators. The flow sensor is not suitable for sterilization. For operation please refer to the instructions for use of the basic device to which this sensor is connected.

## From standard sensors to customized sensors

Experienced EnviteC engineers analyze customer requirements. This input is used for different standard and OEM applications, and ongoing support is provided right up to the final integration in the solution. EnviteC designs customized sensors characterized by a maximum possible degree of precision.

## Mechanical drawing (All dimension in mm)



General tolerances ISO 2768-c

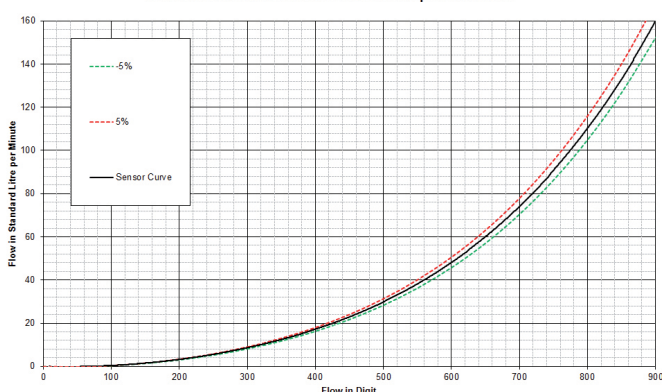
## Additional information

If the sensor is intended to replace the original flow-sensing component in anesthesia machines or ventilators, consult the EnviteC XRL Cross Reference List under [www. EnviteC.com](http://www.EnviteC.com) for selecting the appropriate sensor.

## For more information please contact us!

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Charakteristic flow curve with flow module SpiroQuant Max



## Technical Specifications SpiroQuant A+

Measuring principle	Constant temperature hot-wire anemometry
Cross reference	Designed for EnviteC SpiroQuant MAX module; compatible with Dräger Spirolog® flow sensor
Sensor type	Disposable sensor for single patient use
Flow range	0 ... 160 slpm (standard liters per minute)
Accuracy	± 7% from measured value between 0 ... 10 l/min with flow module SpiroQuant MAX; ± 5% from measured value between 10 ... 160 l/min with flow module SpiroQuant MAX; (± 8 % reading used in Dräger ventilators)
Flow resistance	< 2.5 mbar (added resistance)
Operating temperature	+15 °C ... +40 °C
Operating time	Single patient use, applicable as long as a sensor calibration is successful
Storage temperature	-20 °C ... +70 °C
Storage ambient pressure	570 ... 1200 hPa
Storage humidity	5 % ... 95 % RH in original packaging
Storage time	Max. 5 years in original packaging
Cleaning / disinfection	Single patient use
Weight	Approx. 10 g
Electrical connection	Gold plated 4 pin (compatible with Dräger Spirolog® sensor)
Material	Housing parts: MABS; Contact pins: gold-plated; Hot-wires: platin
Part number	1000470: Flow sensor SpiroQuant A+ (Box with 5 pieces); 1001487: Flow module SpiroQuant MAX

All specifications are applicable at standard conditions:  
1013 hPa, 25 °C dry ambient air



### Certified Quality Management

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Doc. No. 007-05-SpiroQuant\_A+\_Spec-0

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Product Service

# EC Certificate

## Full Quality Assurance System

Directive 93/42/EEC on Medical Devices (MDD), Annex II excluding (4)  
(Devices in Class IIa, IIb or III)

No. G1 15 06 21697 017

**Manufacturer:** **EnviteC - Wismar GmbH**  
Alter Holzhafen 18  
23966 Wismar  
GERMANY

**Facility(ies):** EnviteC - Wismar GmbH  
Alter Holzhafen 18, 23966 Wismar, GERMANY

**Product Category(ies):** **Oxygen Saturation Sensors and Monitors,  
Sensors and Control Units for Monitoring of  
Respiratory Parameters and Gas Exchange,  
Non-invasive Blood Pressure Equipment,  
Temperature Sensors**

The Certification Body of TÜV SÜD Product Service GmbH declares that the aforementioned manufacturer has implemented a quality assurance system for design, manufacture and final inspection of the respective devices / device categories in accordance with MDD Annex II. This quality assurance system conforms to the requirements of this Directive and is subject to periodical surveillance. For marketing of class III devices an additional Annex II (4) certificate is mandatory. See also notes overleaf.

**Report No.:** 713063594

**Valid from:** 2015-09-02  
**Valid until:** 2020-09-01



**Date,** 2015-08-28

Hans-Heiner Junker

TÜV SÜD Product Service GmbH is Notified Body with identification no. 0123

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Product Service

# ZERTIFIKAT

Nr. Q5 17 12 21697 018

**Zertifikatsinhaber:** **EnviteC - Wismar GmbH**  
Alter Holzhafen 18  
23966 Wismar  
DEUTSCHLAND

**Betriebsstätte(n):** EnviteC - Wismar GmbH  
Alter Holzhafen 18, 23966 Wismar,  
DEUTSCHLAND

**Zertifizierungs-  
zeichen:**



**Geltungsbereich:** **Design und Entwicklung, Produktion und Vertrieb von Sensoren und Überwachungseinheiten für vitale physiologische Parameter, Sensoren und Überwachungseinheiten für Beatmungsparameter und Gasaustauschmonitoring, Messgeräte und Sensoren zur Messung der Blutalkoholkonzentration**

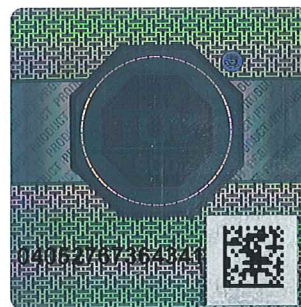
**Angewandte Norm(en):** EN ISO 13485:2016  
Medizinprodukte - Qualitätsmanagementsysteme - Anforderungen für regulatorische Zwecke (ISO 13485:2016)  
DIN EN ISO 13485:2016

Die Zertifizierstelle von TÜV SÜD Product Service GmbH bescheinigt, dass das oben genannte Unternehmen ein Qualitätsmanagementsystem eingeführt hat und anwendet, das den Anforderungen der genannten Norm(en) entspricht. Umseitige Hinweise sind zu beachten.

**Bericht Nr.:** 713119332

**Gültig ab:** 2018-02-06

**Gültig bis:** 2021-01-30



**Datum,** 2018-02-06

*S. Preis*

Stefan Preis

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