

June 16, 2023

Shenzhen Mindray Bio-medical Electronics Co.,LTD. Yanhong Bai Manager Regulatory Affairs, Technical Regulation Department Mindray Building, Keji 12th Road South, Hi-tech Industrial Park, Nanshan Shenzhen, Guangdong 518057 China

Re: K220107

Trade/Device Name: Mindray SV600 Ventilator, Mindray SV800 Ventilator Regulation Number: 21 CFR 868.5895 Regulation Name: Continuous Ventilator Regulatory Class: Class II Product Code: CBK Dated: June 15, 2023 Received: June 16, 2023

Dear Yanhong Bai:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database located at <a href="https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm">https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm</a> identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see <a href="https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products">https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products</a>); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <u>https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems</u>.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<u>https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance</u>) and CDRH Learn (<u>https://www.fda.gov/training-and-continuing-education/cdrh-learn</u>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<u>https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice</u>) for more information or contact DICE by email (<u>DICE@fda.hhs.gov</u>) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Ethan L. Nyberg -S

for James J. Lee, Ph.D. Director DHT1C: Division of Sleep Disordered Breathing, Respiratory and Anesthesia Devices OHT1: Office of Ophthalmic, Anesthesia, Respiratory, ENT and Dental Devices Office of Product Evaluation and Quality Center for Devices and Radiological Health

Enclosure

### **Indications for Use**

510(k) Number *(if known)* K220107

Device Name SV600, SV800 Ventilator

#### Indications for Use (Describe)

The SV600, SV800 Ventilators are intended to be used in intensive care situations for long-term or during transport within a professional healthcare facility. The SV600, SV800 Ventilators are intended to provide ventilation assistance and breathing support for adult and pediatric patients with a minimum body weight of 10 kg (all pediatric subgroups except newborns (neonates)). The SV600, SV800 Ventilators should be operated by properly-trained and authorized medical personnel. This equipment is not suitable for use in an MRI environment.

Type of Use (Select one or both, as applicable)	
☑ Prescription Use (Part 21 CFR 801 Subpart D)	Over-The-Counter Use (21 CFR 801 Subpart C)

#### CONTINUE ON A SEPARATE PAGE IF NEEDED.

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# 510(K) SUMMARY

In accordance with 21 CFR 807.87(h) and (21 CFR 807.92) the 510(k) Summary for the Mindray SV600, SV800 Ventilator is provided below.

# 1. SUBMITTER

Applicant:	SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD.
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Date Prepared: June 16, 2023

#### 2. **DEVICE**

Device Trade Name:	SV600, SV800 Ventilator
Device Common Name:	Continuous ventilator
Classification Name:	21 CFR 868.5895, Continuous ventilator
Regulatory Class:	Class II
Primary Product Code:	СВК
Panel:	Anesthesiology

# **3. PREDICATE DEVICES**

#### **Primary predicate:**

• K083050 - Evita XL Ventilator, Drager Medical AG & Co. KG

#### Secondary predicate:

 K202405 - BeneVision N Series Patient Monitors (Including BeneVision N12, BeneVision N15, BeneVision N17, BeneVision N19, BeneVision N22, BeneVision N1), ShenZhen Mindray Bio-Medical Electronics Co., LTD. (Supports CO<sub>2</sub> Module and Accessories, SpO<sub>2</sub> Module and Accessories)

### 4. **REFERENCE DEVICES**

Per the FDA Guidance, "The 510(k) Program: Evaluating Substantial Equivalence in Premarket Notifications [510(k)]" issued July 28, 2104, the following reference devices are provided to support substantial equivalence:

- K193228 HAMILTON-G5 Ventilator, HAMILTON MEDICAL AG
- K180098 Servo-U Ventilator, Maquet Critical Care AB
- K103211 AVEA Ventilator, CareFusion
- K142679 CARESCAPE R860 Ventilator, GE Healthcare Datex-Ohmeda, Inc.
- K201957 A8, A9 Anesthesia System, ShenZhen Mindray Bio-Medical Electronics Co., Ltd.

# 5. **DEVICE DESCRIPTION**

The SV600 and SV800 Ventilators are pneumatically-driven and electronically-controlled ventilators. The Ventilators consists of a main unit (including pneumatic circuit, electronic system, mechanical structure, display, CO<sub>2</sub> module, SpO<sub>2</sub> module), trolley and support arm.

# 6. INTENDED USE/INDICATIONS FOR USE

The SV600, SV800 Ventilators are intended to be used in intensive care situations for long-term or during transport within a professional healthcare facility. The SV600, SV800 Ventilators are intended to provide ventilation assistance and breathing support for adult and pediatric patients with a minimum body weight of 10 kg (all pediatric subgroups except newborns (neonates)). The SV600, SV800 Ventilators should be operated by properly-trained and authorized medical personnel. This equipment is not suitable for use in an MRI environment.

# 7. SUBSTANTIAL EQUIVALENCE

#### **Comparison of Indications**

Comparing with the primary predicate Evita XL Ventilator (K083050), the indications for use for the subject device SV600, SV800 Ventilators are equivalent.

The BeneVision N Series Patient Monitor modules (Including BeneVision N12, BeneVision N15, BeneVision N17, BeneVision N19, BeneVision N22, BeneVision N1), ShenZhen Mindray Bio-Medical Electronics Co., LTD cleared under K202405 are incorporated into those ventilators with no changes to the modules. This predicate supports the CO<sub>2</sub> module and accessories and the SpO<sub>2</sub> module and accessories. A more detailed comparison of the features is included in the sections below.

The indications for the BeneVision N Series Patient Monitors modules are the same since the modules are incorporated with no changes in indications into the ventilators.

As a conclusion, the indications for use of the subject device SV600, SV800 Ventilators is the same as the primary predicate Evita XL Ventilator as cleared in K083050 and the BeneVision N Series Patient Monitors cleared in K202405.

# **Comparison of Technological Characteristics**

The table below compares the key technological feature of the subject devices to the primary predicate device (Evita XL Ventilator (K083050)), secondary predicate devices and reference devices.

Technical Characteristics	Subject device SV600, SV800 Ventilators <u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	Primary predicate Evita XL Ventilator <u>Drager Medical AG &amp;</u> <u>Co. KG</u> (K083050)	Comparison
Ventilation mode			
V-A/C	Yes	CMV+Assist	Same
P-A/C	Yes	PCV+Assist	Same
PRVC	Yes	CMV+AutoFlow	Same
V-SIMV	Yes	SIMV	Same
P-SIMV	Yes	-	Different, same as reference device Servo-U(K180098)
PRVC-SIMV	Yes	SIMV+AutoFlow	Same
СРАР	Yes	СРАР	Same
PSV	Yes	Psupp	Same
DuoLevel	Yes	PCV+	Same
APRV	Yes	APRV	Same
AMV	Yes	-	Different, same as reference device G5(K193228)
VS	Yes	-	Different, same as reference device G5(K193228)
PSV-S/T	Yes	-	Different, same as reference device G5(K193228)
Apnea Ventilation	Yes	Yes	Same
Specifications - Ventilator setting parameter			
TV ronge	Adu: 100 to 4000 ml	Adu: 100 to 2000 ml	Similar
I v range	Ped: 20 to 300 ml	Ped: 20 to 300 ml	Same
O2% range	21 to 100 vol.%	21 to 100 vol.%	Same
f range	1 to 100 1/min	0 to 100 1/min	Similar
fsimv range	1 to 60 1/min	0 to 100 1/min	Similar

	Subject device SV600, SV800 Ventilators	Primary predicate Evita XL Ventilator	
Technical Characteristics	<u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	<u>Drager Medical AG &amp;</u> <u>Co. KG</u> (K083050)	Comparison
Tinsp range	0.1 to 10 s	0.1 to 10 s	Same
I:E range	10:1 to 1:10	-	Different, same as reference device Servo-U(K180098)
Tslope range	0 to 2 s	0 to 2 s	Same
A Dimension	Adu: 1 to 100 cmH <sub>2</sub> O	Adu: 0 to 95 cmH <sub>2</sub> O	Similar
△Pinsp range	Ped: 1 to 95 $cmH_2O$	Ped: 0 to 95 $cmH_2O$	Similar
PEEP range	0 to 50 cmH <sub>2</sub> O	0 to 50 cmH <sub>2</sub> O	Same
A Devene and a	Adu: 0 to 100 cmH <sub>2</sub> O	Adu: 0 to 95 cmH <sub>2</sub> O	Similar
Zersupp range	Ped: 0 to 95 $cmH_2O$	Ped: 0 to 95 $cmH_2O$	Same
Phigh range	0 to 95 cmH <sub>2</sub> O	0 to 95 cmH <sub>2</sub> O	Same
Plow range	0 to 50 cmH <sub>2</sub> O	0 to 50 cmH <sub>2</sub> O	Same
Thigh range	0.1 to 30 s	0.1 to 30 s	Same
Tlow range	0.2 to 30 s	0.1 to 30 s	Similar
Tpause(%) range	OFF, 5% to 60%	-	Different, same as reference device A8, A9(K201957)
	Adu: 6 to 180 L/min	Adu: 6-120 L/min	Similar
Flow range	Ped: 6 to 30 L/min	Ped: 6 to 30 L/min	Same
F-Trig range	0.5 to 15 L/min	0.3 to 15 L/min	Similar
P-Trig range	-20 to -1 cmH <sub>2</sub> O	-	Different, same as reference device Servo-U(K180098)
Exp% range	1 to 70%	-	Different, same as reference device Servo-U(K180098)
MV% range	25 to 350%	-	Different, same as reference device G5(K193228)
Specifications - Ventilator monitoring parameter			
TV range	0 to 6000 ml	0 to 6000 ml	Same
TVspn range	0 to 6000 ml	0 to 6000 ml	Same
MV range	0 to 100 L/min	0 to 120 L/min	Similar
MVspn range	0 to 100 L/min	0 to 120 L/min	Similar
MVleak range	0 to 100 L/min	0 to 99 L/min	Similar
FiO <sub>2</sub>	15 to 100 vol.%	15 to 100 vol.%	Same

	Subject device SV600, SV800 Ventilators	Primary predicate Evita XL Ventilator	
Technical Characteristics	<u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	<u>Drager Medical AG &amp;</u> <u>Co. KG</u> (K083050)	Comparison
Airway pressure (Ppeak, Pplat, Pmean) range	-20 to 120 cmH <sub>2</sub> O	-45 to 110 cmH <sub>2</sub> O	Similar
PEEP range	0 to 120 cmH <sub>2</sub> O	-45 to 110 cmH <sub>2</sub> O	Similar
ftotal/fspn/fmand range	0 to 200 L/min	0 to 300 L/min	Similar
Tinsp range	0 to 60 s	-	Different, similar to reference device G5(K193228)
I:E range	99:1 to 1:99	-	Different, same as reference device G5(K193228)
Leak% range	0 to 100%	-	Different, same as reference device G5(K193228)
RCexp range	0 to 10 s	-	Different, samilar to reference device G5(K193228)
RSBI range	0 to 9999 1/(L•min)	0 to 9999 1/(L•min)	Same
WOBtot/ WOBvent/ WOBpat range	0 to 20 J/L	-	Different, same as reference device AVEA(K103211)
Ri range	0 to 600 cmH <sub>2</sub> O/( L/s)	0 to 600 cmH <sub>2</sub> O/( L/s)	Same
Re range	0 to 600 cmH <sub>2</sub> O/( L/s)	-	Different, same as reference device G5(K193228)
Cstat range	0 to 300 ml/cmH <sub>2</sub> O	0 to 300 ml/cmH <sub>2</sub> O	Same
Cdyn range	0 to 300 ml/cmH <sub>2</sub> O	-	Different, same as reference device AVEA(K103211)
TVe/IBW range	0 to 50 mL/kg	-	Different, samilar to reference device G5(K193228)
NIF range	-45 to 0 cmH <sub>2</sub> O	-45 to 0 cmH <sub>2</sub> O	Same
P0.1 range	-20 to 0 cmH <sub>2</sub> O	-20 to 0 cmH <sub>2</sub> O	Same
PEEPi range	0 to 80 cmH <sub>2</sub> O	Yes	Similar
PIF range	0 to 300 L/min	-	Different, samilar to reference device G5(K193228)

	Subject device SV600_SV800 Ventilators	Primary predicate Evita XI, Ventilator	
Technical Characteristics	<u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	Drager Medical AG & <u>Co. KG</u> (K083050)	Comparison
PEF range	0 to 180 L/min	-	Different, samilar to reference device G5(K193228)
Specifications - Auxi	liary Pressure		
PesI/PesE/ Paux2I/Paux2E range	-40 to 120 cmH <sub>2</sub> O	-	Different, similar to reference device G5(K193228)
PtpI/PtpE range	-99 to 99 cmH <sub>2</sub> O	-	Different, same as reference device G5(K193228)
$\Delta Pes$ range	-99 to 99 cmH <sub>2</sub> O	-	Different, similar to reference device AVEA(K103211)
Specifications - ATR	С		-
Tube I.D.	2.5 to 12 mm	2.5 to 12 mm	Same
Compensate	1 to 100%	0 to 100%	Similiar
Specifications - Sigh			1
Туре	Pressure sigh	Pressure sigh	Same
△int.PEEP range	OFF,1 to 40 cmH <sub>2</sub> O	0 to 50 cmH <sub>2</sub> O	Similar
Specifications – Apne	ea Ventilation		I
Apnea Ventilation	Yes	Yes	Same
Specifications - Intell	licycle		I
Intellicycle	Yes	-	Different, same as reference device G5(K193228)
Specifications - Lung	Recruitment (SI)		1
Pressure Hold	20 to 60 cmH <sub>2</sub> O	-	Different, same as reference device A8, A9(K201957)
Hold Time	10 to 40 s	-	Different, same as reference device A8, A9(K201957)
Specifications - Static PV Loop			
Pstart	0 to 50 cmH <sub>2</sub> O	0 to 50 cmH <sub>2</sub> O	Same
Flow	4 to 15 L/min	4 to 15 L/min	Same
Pmax	1 to 80 cmH <sub>2</sub> O	1 to 80 cmH <sub>2</sub> O	Same
Vlimit	100 to 2000 ml	100 to 2000 ml	Same
Specifications - Weaning Tools (SBT)			

Technical Characteristics	Subject device SV600, SV800 Ventilators <u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	Primary predicate Evita XL Ventilator <u>Drager Medical AG &amp;</u> <u>Co. KG</u> (K083050)	Comparison
Туре	PSV ventilation	-	Different, same as reference device CARESCAPE R860(K142679)
SBT Criteria	Apnea Time High and low MV alarm High and low f alarm	-	Different, same as reference device CARESCAPE R860(K142679)
Specifications - Other	r Functions		
Manual Breath	Yes	Yes	Same
Expiration Hold	Yes	Yes	Same
Inspiration Hold	Yes	Yes	Same
Nebulization	Yes	Yes	Same
O <sub>2</sub> ↑ (Oxygen Enrichment)	Yes	Yes	Same
Suction	Yes	Yes	Same
Intrinsic PEEP	Yes	Yes	Same
Dynamic lung (PulmoSight)	Yes	-	Different, same as reference device G5(K193228)
Specifications - Basic	: Alarm		
High/Low Minute Volume Alarm	Yes	Yes	Same
High/Low Tidal Volume Alarm	Yes	Yes	Same
High/Low f Alarm	Yes	Yes	Same
High/Low FiO <sub>2</sub> Alarm	Yes	Yes	Same
High/Low Airway Pressure Alarm	Yes	Yes	Same
Pressure Limiting Alarm	Yes	Yes	Same
Continuous Airway Pressure Alarm	Yes	Yes	Same
Apnea Alarm	Yes	Yes	Same
Specifications - Gas supply			

Technical Characteristics	Subject device SV600, SV800 Ventilators <u>Shenzhen Mindray Bio-</u> <u>Medical Electronics Co.,</u> <u>Ltd.</u> (Subject device)	Primary predicate Evita XL Ventilator <u>Drager Medical AG &amp;</u> <u>Co. KG</u> (K083050)	Comparison
Pipeline supply	280 to 650 kPa for $O_2$ , Air	280 to 650 kPa for $O_2$ , Air	Same
Connector type	DISS body complying with CGA V-5	DISS body complying with CGA V-5	Same
Specifications - Mode	ules		
Specifications – Sidestream CO <sub>2</sub> Module	Yes	-	Different, same as secondary predicate BeneVision N Series Patient Monitors(K202405)
Specifications – Mainstream CO <sub>2</sub> Module	Yes	Yes	Same
Specifications – SpO <sub>2</sub> Module	Yes	-	Different, same as secondary predicate BeneVision N Series Patient Monitors(K202405)
"-" means not applica	ble.		

#### Discussion of technological characteristics that are not the same as the predicate device

The differences between the subject device and predicate device are identified in the table above. Many of the differences, when compared to the predicate, are the same or similar to the identified reference devices as noted in the table. Other identified differences are still similar to the predicate device in that the ranges for the parameters are within the ranges of the predicate device, including but not limited to: MV range, MVspn range,  $\triangle$ Pinsp range for pediatrics, and airway pressure. Other parameters that are similar, such as MVleak range and  $\triangle$ Pinsp range for adults, differ only by a small amount that do not have a clinically meaningful impact.

In conclusion, the subject and predicate have similar technological characteristics and intended uses. Performance testing supports substantial equivalence.

#### 8. PERFORMANCE DATA

To establish the substantial equivalence of the SV600 and SV800 Ventilators, Mindray conducted functional and system level testing on the subject device. The testing provided an evaluation of the performance of the device relevant to each of the differences between the subject device and the predicate device. The functional and system level testing showed that the devices continue to meet specifications and the performance of the device is equivalent to the predicate. Mindray has conducted testing to ensure the subject device meets relevant consensus standards. Mindray also conducted human factors testing to demonstrate that the device is safe

and effective for the intended users, uses and use environments.

#### **Biocompatibility Testing**

The SV600 and SV800 Ventilators were assessed for conformity with the relevant requirements of the following standards and found to comply:

- ISO 10993-1:2018 Biological evaluation of medical devices Part 1: Evaluation and testing within a risk management process
- ISO 18562-1:2017 Biocompatibility evaluation of breathing gas pathways in healthcare applications Part 1: Evaluation and testing within a risk management process
- ISO 18562-2:2017 Biocompatibility evaluation of breathing gas pathways in healthcare applications Part 2: Tests for emissions of particulate matter
- ISO 18562-3:2017 Biocompatibility evaluation of breathing gas pathways in healthcare applications Part 3: Tests for emissions of volatile organic compounds

#### Software Verification and Validation Testing

Software verification and validation testing was conducted and documentation was provided as recommended by FDA's Guidance for Industry and FDA Staff, "Guidance for the Content of Premarket Submissions for Software Contained in Medical Devices." Verification of the SV600 and SV800 Ventilators was conducted to ensure that the product works as designed. Validation was conducted to check the design and performance of the product.

#### **Electromagnetic Compatibility and Electrical Safety**

The SV600 and SV800 Ventilators were assessed for conformity with the relevant requirements of the following standards and found to comply:

- ANSI/AAMI ES60601-1:2005/(R)2012 and A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012 Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
- IEC 60601-1-2 Edition 4.0 2014-02 Medical electrical equipment Part 1-2: General requirements for basic safety and essential performance Collateral Standard: Electromagnetic disturbances Requirements and tests
- AIM Standard 7351731 Rev. 3.00 2021-06-04 Medical Electrical Equipment and System Electromagnetic Immunity Test for Exposure to Radio Frequency Identification Readers An AIM Standard
- IEC 60601-1-6 Edition 3.2 2020-07 CONSOLIDATED VERSION Medical electrical equipment Part 1-6: General requirements for basic safety and essential performance Collateral standard: Usability
- IEC 60601-1-8 Edition 2.1 2012-11 Medical electrical equipment Part 1-8: General requirements for basic safety and essential performance Collateral standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems

- ISO 80601-2-12 Second edition 2020-02 Medical electrical equipment Part 2-12: Particular requirements for basic safety and essential performance of critical care ventilators
- ISO 80601-2-55 Second edition 2018-02 Medical electrical equipment Part 2-55: Particular requirements for the basic safety and essential performance of respiratory gas monitors
- ISO 80601-2-61 Second edition 2017-12 (Corrected version 2018-02) Medical electrical equipment Part 2-61: Particular requirements for basic safety and essential performance of pulse oximeter equipment

#### **Bench Testing**

To establish the substantial equivalence of the SV600 and SV800 Ventilators, Mindray conducted functional and system level testing to validate the performance of the devices. The results of the bench testing show that the subject device meets its accuracy specification and is substantially equivalent to the predicate device.

In addition, Mindray has conducted testing to ensure the subject devices meet relevant consensus standards.

- IEC 60601-1-6 Edition 3.2 2020-07 CONSOLIDATED VERSION Medical electrical equipment Part 1-6: General requirements for basic safety and essential performance Collateral standard: Usability
- IEC 60601-1-8 Edition 2.1 2012-11 Medical electrical equipment Part 1-8: General requirements for basic safety and essential performance Collateral standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
- ISO 80601-2-12 Second edition 2020-02 Medical electrical equipment Part 2-12: Particular requirements for basic safety and essential performance of critical care ventilators
- ISO 80601-2-55 Second edition 2018-02 Medical electrical equipment Part 2-55: Particular requirements for the basic safety and essential performance of respiratory gas monitors
- ISO 80601-2-61 Second edition 2017-12 (Corrected version 2018-02) Medical electrical equipment Part 2-61: Particular requirements for basic safety and essential performance of pulse oximeter equipment
- ISO 5356-1:2015 Anaesthetic and respiratory equipment Conical connectors Part 1: Cones and sockets
- CGA V-5:2008 (Reaffirmed 2013) Diameter-Index Safety System (Noninterchangeable Low Pressure Connections for Medical Gas Applications)
- EN 13544-2:2002+A1:2009 Respiratory therapy equipment-Part 2: Tubing and connectors

• ASTM F1100-90 (Reapproved 1997) Standard Specification for Ventilator Intended for Use in Critical Care (only Endurance Testing)

# 9. CONCLUSION

Based on the detailed comparison of specifications for each of the characteristics to the predicate devices, the performance testing and conformance with applicable standards, the SV600 and SV800 Ventilators can be found substantially equivalent to the predicate device.