



November 18, 2024

Sorin Group Italia S.r.l.
Luigi Vecchi
Director, Regulatory Affairs CP Disposables
Via Statale 12 Nord, 86
Mirandola (Modena), 41037
Italy

Re: K242092

Trade/Device Name: MICRO Arterial Filters
Regulation Number: 21 CFR 870.4260
Regulation Name: Cardiopulmonary Bypass Arterial Line Blood Filter
Regulatory Class: Class II
Product Code: DTM
Dated: October 18, 2024
Received: October 18, 2024

Dear Luigi Vecchi:

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 (the 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 available at <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm> 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.

Additional information about changes that may require a new premarket notification are provided in the FDA guidance documents entitled "Deciding When to Submit a 510(k) for a Change to an Existing Device" (<https://www.fda.gov/media/99812/download>) and "Deciding When to Submit a 510(k) for a Software Change to an Existing Device" (<https://www.fda.gov/media/99785/download>).

Your device is also subject to, among other requirements, the Quality System (QS) regulation (21 CFR Part 820), which includes, but is not limited to, 21 CFR 820.30, Design controls; 21 CFR 820.90, Nonconforming product; and 21 CFR 820.100, Corrective and preventive action. Please note that regardless of whether a change requires premarket review, the QS regulation requires device manufacturers to review and approve changes to device design and production (21 CFR 820.30 and 21 CFR 820.70) and document changes and approvals in the device master record (21 CFR 820.181).

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 Part 803) for devices or postmarketing safety reporting (21 CFR Part 4, Subpart B) for combination products (see <https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products>); 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 Part 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR Parts 1000-1050.

All medical devices, including Class I and unclassified devices and combination product device constituent parts are required to be in compliance with the final Unique Device Identification System rule ("UDI Rule"). The UDI Rule requires, among other things, that a device bear a unique device identifier (UDI) on its label and package (21 CFR 801.20(a)) unless an exception or alternative applies (21 CFR 801.20(b)) and that the dates on the device label be formatted in accordance with 21 CFR 801.18. The UDI Rule (21 CFR 830.300(a) and 830.320(b)) also requires that certain information be submitted to the Global Unique Device Identification Database (GUDID) (21 CFR Part 830 Subpart E). For additional information on these requirements, please see the UDI System webpage at <https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/unique-device-identification-system-udi-system>.

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

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance>) and CDRH Learn (<https://www.fda.gov/training-and-continuing-education/cdrh-learn>). 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 (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice>) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Nicole M.
Gillette -S

Nicole Gillette
Assistant Director
DHT2B: Division of Circulatory Support,
Structural, and Vascular Devices
OHT2: Office of Cardiovascular Devices
Office of Product Evaluation and Quality
Center for Devices and Radiological Health

Enclosure

Indications for Use

Submission Number (if known)

K242092

Device Name

MICRO Arterial Filters

Indications for Use (Describe)

"The devices are recommended for use on the arterial line of the extracorporeal circuit during any procedure that requires cardiopulmonary bypass.
The filters are used to trap and remove gaseous emboli as well as particulate debris that may be introduced through the arterial line. The device should not be used longer than 6 hours. Contact with blood for longer period is not advised."

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.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

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510(k) Summary
(in accordance with 21 CFR 807.92)

510(k) Number: K242092

I. Applicant Information

Applicant:

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Contact Person:

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Date Prepared:

November 14th 2024

II. Subject Device Identification

Device Trade Name: MICRO Arterial Filters

Classification Name: Filter, blood, cardiopulmonary bypass, arterial line

Regulation Number: 21 CFR 870.4260

Product Code: DTM

Classification: Class II

Classification Panel: Cardiovascular

III. Predicate Device
Primary Predicate: K040184

The MICRO Arterial Filters are substantially equivalent to the following cleared predicate devices. Both modified and unmodified models have the same fundamental scientific technology and intended use:

MICRO 40 A Start (adult)	510(k) Number:	K952270	K040184
	Device Trade Name:	DIDECO ADULT ARTERIAL FILTERS D732 MICRO 20 W/20, D734 MICRO 40 W/40 MICRON SCREEN	DIDECO MICRO 40 PH.I.S.I.O. ADULT ARTERIAL FILTER
	Classification Name:	Filter, blood, cardiopulmonary bypass, arterial line	Filter, blood, cardiopulmonary bypass, arterial line
	Regulation Number:	21 CFR 870.4260	21 CFR 870.4260
	Product Code:	DTM	DTM
	Classification:	Class II	Class II
	Classification Panel:	Cardiovascular	Cardiovascular
MICRO 40 SA Start (small adult)	510(k) Number:	K041061	K112525
	Device Trade Name:	D731 MICRO 20 AND D733 MICRO 40 PEDIATRIC ARTERIAL FILTERS	D731 MICRO 27 PH.I.S.I.O. AND D733 MICRO 40 PH.I.S.O. ARTERIAL FILTERS
	Classification Name:	Filter, blood, cardiopulmonary bypass, arterial line	Filter, blood, cardiopulmonary bypass, arterial line
	Regulation Number:	21 CFR 870.4260	21 CFR 870.4260
	Product Code:	DTM	DTM
	Classification:	Class II	Class II
	Classification Panel:	Cardiovascular	Cardiovascular
MICRO 40 I Start (infant)	510(k) Number:	K961869	K033987
	Device Trade Name:	DIDECO NEWBORN/INFANT ARTERIAL FILTERS: D735 MICRO 20 AND D736 MICRO 40	D735 MICRO 20 AND D736 MICRO 40 NEWBORN-INFANT ARTERIAL FILTERS
	Classification Name:	Filter, blood, cardiopulmonary bypass, arterial line	Filter, blood, cardiopulmonary bypass, arterial line
	Regulation Number:	21 CFR 870.4260	21 CFR 870.4260
	Product Code:	DTM	DTM
	Classification:	Class II	Class II
	Classification Panel:	Cardiovascular	Cardiovascular

IV. Device Description

MICRO Arterial Filters are single-use, non-toxic, no pyrogenic fluid path devices and supplied sterile and individually packaged. They are devices made of plastic material

(mainly PVC) and a silicon filtering net and they are recommended for use in the arterial line of an extracorporeal circuit during any procedure that requires cardiopulmonary bypass.

These filters are used to trap and remove gaseous emboli that may be introduced through the arterial line and they can be used up to 6 hours.

The MICRO Arterial Filters are the modified version of the following currently marketed devices:

- a)** the D734 Micro 40 included in the Dideco Micro 20 & 40 Adult Arterial Filter (K952270) and in the Dideco MICRO 40 Ph.I.S.I.O. Adult Arterial Filter (K040184);
- b)** the D736 Micro 40 included into the Dideco Newborn/Infant Arterial Filters, 20/40 Micron (K961869) and in the D735 MICRO 20, Dideco D735 Micro 20 Newborn-Infant Arterial Filter with 20 micron screen and for D736 MICRO 40, Dideco D736 Micro 40 Newborn-Infant Arterial Filter with 40 micron screen (K033987);
- c)** the D733 Micro 40 included in the D731 Micro 20 and D733 Micro 40 Pediatric Arterial Filters (K041061) and in the D731 MICRO 27 Ph.I.S.I.O. and D733 MICRO 40 Ph.I.S.I.O. Arterial Filters (K112525).

V. Indications for Use

The devices are recommended for use on the arterial line of the extracorporeal circuit during any procedure that requires cardiopulmonary bypass.

The filters are used to trap and remove gaseous emboli as well as particulate debris that may be introduced through the arterial line. The device should not be used longer than 6 hours. Contact with blood for longer period is not advised.

VI. Summary of Technical Characteristics

The MICRO Arterial Filters have the same fundamental technological characteristics, principles of operation and control mechanisms as the unmodified devices.

The tubing in the purge/recirculation line made of PVC materials were changed within the modified MICRO Arterial Filters in order to remove the diethylhexyl phthalate (DEHP) used as plasticizer currently present in the device.

Moreover, the silicon formulation of the valve's diaphragm in the purge/recirculation line for MICRO Arterial Filters was changed.

Additionally, some technical specifications for MICRO Arterial Filters were updated and tested to better reflect the state of the art of the devices.

No other design changes have been made to the devices.

The devices are ethylene oxide sterilized and have a non-pyrogenic fluid path. They are for single use only.

VII. Non-Clinical Performance Data

Sorin Group Italia S.r.l. has conducted extensive verification and validation testing of the MICRO Arterial Filters, as disposables used to trap and remove gaseous emboli that may be introduced through the arterial line of an extracorporeal circuit during any procedure that requires cardiopulmonary bypass.

The MICRO Arterial Filters comply with all the applicable voluntary standards related to Arterial Filters. The devices passed all the testing in accordance with national and international standards.

VIII. Clinical Performance Data

No clinical testing was conducted in support of the MICRO Arterial Filters, as the indications for use and technical characteristics are equivalent to those of the predicate devices, which have been on the market for several years with proven safety and efficacy of use. The non-clinical testing summarized in this submission supports the substantial equivalence of the subject devices with the predicate devices when used according to their intended use.

IX. Statement of Substantial Equivalence

Based on equivalent intended use and technological characteristics, as well as on equivalent performance testing, the MICRO Arterial Filters can be deemed to be substantially equivalent to their predicate devices:

- the unmodified D734 Micro 40, cleared under K952270 and K040184;
- the unmodified D736 Micro 40, cleared under K961869 and K033987;
- the unmodified D733 Micro 40, cleared under K041061 and K112525.

The MICRO Arterial Filters, as designed and manufactured, do not raise new questions regarding safety and effectiveness as compared to their predicate devices and are determined to be substantially equivalent to their predicate devices listed above.