



K161582

Mid-Link Consulting Co., Ltd  
P.O. Box 120-119  
Shanghai, 200120, China

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Control Center WO66 G609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993 0002

FDA/CDRH/DCC

JUN 08 2016

RECEIVED

06/03/2016

RE: Premarket Notification Traditional Section 510(k) Submission  
Bain Medical Equipment (Guangzhou) Co., Ltd(*the Sponsor*)  
DORA Tubing Sets for Hemodialysis(*the Device(s)*)

Dear Madam/Sir,

In accordance with Section 510(k) of the Federal Food and Drug Cosmetic Act, and in conformance with Title 21 CFR, Part 807, this Pre-market Notification is being submitted at least ninety (90) days prior to the date when the sponsor proposes to introduce its device(s) into interstate commerce for commercial distribution.

The CD-ROM provided with the submission is the eCopy of the submission; the eCopy is an exact duplicate of the paper copy.

If you have any question, please contact me via email at [info@mid-link.net](mailto:info@mid-link.net) or via fax at (240) 238-7587.

Thanks for your help.

Best Regards,

*Fu, Lee* 2016.06.05  
22:47:11 +08'00'

Diana Hong  
General Manager  
Mid-Link Consulting Co., Ltd  
Tel: +86-21-22815850  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

Enclosures

25



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Thanks for your help.

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Enclosures



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<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b> <b>FOOD AND DRUG ADMINISTRATION</b> <b>MEDICAL DEVICE USER FEE COVER SHEET</b>	<b>PAYMENT IDENTIFICATION NUMBER:</b> (b) (4) Write the Payment Identification number on your check.
A completed cover sheet must accompany each original application or supplement subject to fees. If payment is sent by U.S. mail or courier, please include a copy of this completed form with payment. Payment and mailing instructions can be found at: <a href="http://www.fda.gov/oc/mdufma/cover sheet.html">http://www.fda.gov/oc/mdufma/cover sheet.html</a>	
1. COMPANY NAME AND ADDRESS (include name, street address, city state, country, and post office code)  Bain Medical Equipment (Guangzhou) Co., Ltd. No.10 Juncheng Road, Eastern Zone, Guangzhou Economic & Technolo Guangzhou Guangzhou CP 510760 US  1.1 EMPLOYER IDENTIFICATION NUMBER (EIN) *****2767	2. CONTACT NAME Fangzhen Mu 2.1 E-MAIL ADDRESS ken@baingz.com 2.2 TELEPHONE NUMBER (include Area code) 20-82265249 340 2.3 FACSIMILE (FAX) NUMBER (Include Area code)
3. TYPE OF PREMARKET APPLICATION (Select one of the following in each column; if you are unsure, please refer to the application descriptions at the following web site: <a href="http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm345263.htm">http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm345263.htm</a> <u>Select an application type:</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input checked="" type="checkbox"/> Premarket notification(510(k)); except for third party  <input type="checkbox"/> 513(g) Request for Information  <input type="checkbox"/> Biologics License Application (BLA)  <input type="checkbox"/> Premarket Approval Application (PMA)  <input type="checkbox"/> Modular PMA  <input type="checkbox"/> Product Development Protocol (PDP)  <input type="checkbox"/> Premarket Report (PMR)  <input type="checkbox"/> 30-Day Notice           </div> <div style="width: 48%;">             3.1 Select a center  <input checked="" type="checkbox"/> CDRH  <input type="checkbox"/> CBER              3.2 Select one of the types below  <input checked="" type="checkbox"/> Original Application  <u>Supplement Types:</u>  <input type="checkbox"/> Efficacy (BLA)  <input type="checkbox"/> Panel Track (PMA, PMR, PDP)  <input type="checkbox"/> Real-Time (PMA, PMR, PDP)  <input type="checkbox"/> 180-day (PMA, PMR, PDP)           </div> </div>	
4. ARE YOU A SMALL BUSINESS? (See the instructions for more information on determining this status) <input type="checkbox"/> YES, I meet the small business criteria and have submitted the required qualifying documents to FDA <input checked="" type="checkbox"/> NO, I am not a small business 4.1 If Yes, please enter your Small Business Decision Number:	
5. FDA WILL NOT ACCEPT YOUR SUBMISSION IF YOUR COMPANY HAS NOT PAID AN ESTABLISHMENT REGISTRATION FEE THAT IS DUE TO FDA. HAS YOUR COMPANY PAID ALL ESTABLISHMENT REGISTRATION FEES THAT ARE DUE TO FDA? <input checked="" type="checkbox"/> YES (All of our establishments have registered and paid the fee, or this is our first device, and we will register and pay the fee within 30 days of FDA's approval/clearance of this device.) <input type="checkbox"/> NO (If "NO," FDA will not accept your submission until you have paid all fees due to FDA. This submission will not be processed; see <a href="http://www.fda.gov/cdrh/mdufma">http://www.fda.gov/cdrh/mdufma</a> for additional information)	
6. IS THIS PREMARKET APPLICATION COVERED BY ANY OF THE FOLLOWING USER FEE EXCEPTIONS? IF SO, CHECK THE APPLICABLE EXCEPTION.	



DEPARTMENT OF HEALTH AND HUMAN SERVICES <b>FOOD AND DRUG ADMINISTRATION</b>		<b>CDRH PREMARKET REVIEW SUBMISSION COVER SHEET</b>		Form Approval OMB No. 0910-0120 Expiration Date: December 31, 2013 See PRA Statement on page 5.	
Date of Submission 06/03/2016		User Fee Payment ID Number (b) (4)		FDA Submission Document Number (if known)	
<b>SECTION A TYPE OF SUBMISSION</b>					
<b>PMA</b> <input type="checkbox"/> Original Submission <input type="checkbox"/> Premarket Report <input type="checkbox"/> Modular Submission <input type="checkbox"/> Amendment <input type="checkbox"/> Report <input type="checkbox"/> Report Amendment <input type="checkbox"/> Licensing Agreement	<b>PMA &amp; HDE Supplement</b> <input type="checkbox"/> Regular (180 day) <input type="checkbox"/> Special <input type="checkbox"/> Panel Track (PMA Only) <input type="checkbox"/> 30-day Supplement <input type="checkbox"/> 30-day Notice <input type="checkbox"/> 135-day Supplement <input type="checkbox"/> Real-time Review <input type="checkbox"/> Amendment to PMA & HDE Supplement <input type="checkbox"/> Other	<b>PDP</b> <input type="checkbox"/> Original PDP <input type="checkbox"/> Notice of Completion <input type="checkbox"/> Amendment to PDP	<b>510(k)</b> <input checked="" type="checkbox"/> Original Submission: <input checked="" type="checkbox"/> Traditional <input type="checkbox"/> Special <input type="checkbox"/> Abbreviated (Complete section I, Page 5) <input type="checkbox"/> Additional Information <input type="checkbox"/> Third Party	<b>Request for Feedback</b> <input type="checkbox"/> Pre-Submission <input type="checkbox"/> Informational Meeting <input type="checkbox"/> Submission Issue Meeting <input type="checkbox"/> Day 100 Meeting <input type="checkbox"/> Agreement Meeting <input type="checkbox"/> Determination Meeting <input type="checkbox"/> Study Risk Determination <input type="checkbox"/> Other (specify):	
<b>IDE</b> <input type="checkbox"/> Original Submission <input type="checkbox"/> Amendment <input type="checkbox"/> Supplement	<b>Humanitarian Device Exemption (HDE)</b> <input type="checkbox"/> Original Submission <input type="checkbox"/> Amendment <input type="checkbox"/> Supplement <input type="checkbox"/> Report <input type="checkbox"/> Report Amendment	<b>Class II Exemption Petition</b> <input type="checkbox"/> Original Submission <input type="checkbox"/> Additional Information	<b>Evaluation of Automatic Class III Designation (De Novo)</b> <input type="checkbox"/> Original Submission <input type="checkbox"/> Additional Information	<b>Other Submission</b> <input type="checkbox"/> 513(g) <input type="checkbox"/> Other (describe submission):	
Have you used or cited Standards in your submission? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    (If Yes, please complete Section I, Page 5)					
<b>SECTION B SUBMITTER, APPLICANT OR SPONSOR</b>					
Company / Institution Name Bain Medical Equipment (Guangzhou) Co., Ltd			Establishment Registration Number (if known)		
Division Name (if applicable)			Phone Number (including area code)		
Street Address No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Di			FAX Number (including area code)		
City Guangzhou		State / Province Guangdong	ZIP/Postal Code 510760	Country China	
Contact Name Sophia Shao					
Contact Title Assistant Manager			Contact E-mail Address sophia@baingz.com		
<b>SECTION C APPLICATION CORRESPONDENT (e.g., consultant, if different from above)</b>					
Company / Institution Name Mid-Link Consulting Co., Ltd			Division Name (if applicable)		
Street Address P.O. Box 120-119			Phone Number (including area code) +86-21-22815850		
City Shanghai			FAX Number (including area code) 240-238-7087		
State / Province		ZIP Code 200120	Country China		
Contact Name Diana Hong					
Contact Title General Manager			Contact E-mail Address info@mid-link.net		

**SECTION D1****REASON FOR APPLICATION - PMA, PDP, OR HDE**

- ☐ New Device  
☐ Withdrawal  
☐ Additional or Expanded Indications  
☐ Request for Extension  
☐ Post-approval Study Protocol  
☐ Request for Applicant Hold  
☐ Request for Removal of Applicant Hold  
☐ Request to Remove or Add Manufacturing Site

- ☐ Change in design, component, or specification:  
☐ Software / Hardware  
☐ Color Additive  
☐ Material  
☐ Specifications  
☐ Other (*specify below*)

- ☐ Location change:  
☐ Manufacturer  
☐ Sterilizer  
☐ Packager

- ☐ Report Submission:  
☐ Annual or Periodic  
☐ Post-approval Study  
☐ Adverse Reaction  
☐ Device Defect  
☐ Amendment

- ☐ Change in Ownership  
☐ Change in Correspondent  
☐ Change of Applicant Address

- ☐ Process change:  
☐ Manufacturing    ☐ Packaging  
☐ Sterilization  
☐ Other (*specify below*)

- ☐ Labeling change:  
☐ Indications  
☐ Instructions  
☐ Performance Characteristics  
☐ Shelf Life  
☐ Trade Name  
☐ Other (*specify below*)

- ☐ Response to FDA correspondence:

- ☐ Other Reason (*specify*):

**SECTION D2****REASON FOR APPLICATION - IDE**

- ☐ New Device  
☐ New Indication  
☐ Addition of Institution  
☐ Expansion / Extension of Study  
☐ IRB Certification  
☐ Termination of Study  
☐ Withdrawal of Application  
☐ Unanticipated Adverse Effect  
☐ Notification of Emergency Use  
☐ Compassionate Use Request  
☐ Treatment IDE  
☐ Continued Access

- ☐ Change in:  
☐ Correspondent / Applicant  
☐ Design / Device  
☐ Informed Consent  
☐ Manufacturer  
☐ Manufacturing Process  
☐ Protocol - Feasibility  
☐ Protocol - Other  
☐ Sponsor

- ☐ Report submission:  
☐ Current Investigator  
☐ Annual Progress Report  
☐ Site Waiver Report  
☐ Final

- ☐ Response to FDA Letter Concerning:  
☐ Conditional Approval  
☐ Deemed Approved  
☐ Deficient Final Report  
☐ Deficient Progress Report  
☐ Deficient Investigator Report  
☐ Disapproval  
☐ Request Extension of Time to Respond to FDA  
☐ Request Meeting  
☐ Request Hearing

- ☐ Other Reason (*specify*):

**SECTION D3****REASON FOR SUBMISSION - 510(k)**

- ☒ New Device

- ☐ Additional or Expanded Indications

- ☐ Change in Technology

- ☐ Other Reason (*specify*):



**SECTION E****ADDITIONAL INFORMATION ON 510(K) SUBMISSIONS**

Product codes of devices to which substantial equivalence is claimed

1	FJK	2		3		4	
5		6		7		8	

Summary of, or statement concerning, safety and effectiveness information

- ☒ 510 (k) summary attached  
☐ 510 (k) statement

Information on devices to which substantial equivalence is claimed (*if known*)

	510(k) Number		Trade or Proprietary or Model Name		Manufacturer
1	K072024	1	Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set	1	Nipro Medical Corporation
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6		6		6	

**SECTION F****PRODUCT INFORMATION - APPLICATION TO ALL APPLICATIONS**

Common or usual name or classification name

Blood tubing sets

	Trade or Proprietary or Model Name for This Device		Model Number
1	DORA Tubing Sets for Hemodialysis	1	BAIN-BL-001E, BAIN-BL-002E,
2		2	BAIN-BL-003E, BAIN-BL-004E, BAIN-BL-005E
3		3	
4		4	
5		5	

FDA document numbers of all prior related submissions (*regardless of outcome*)

1	NONE	2		3		4		5		6	
7		8		9		10		11		12	

Data Included in Submission

☒ Laboratory Testing☐ Animal Trials☐ Human Trials**SECTION G****PRODUCT CLASSIFICATION - APPLICATION TO ALL APPLICATIONS**

Product Code FJK	C.F.R. Section ( <i>if applicable</i> ) 876.5820	Device Class  <input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II  <input type="checkbox"/> Class III <input type="checkbox"/> Unclassified
Classification Panel  Gastroenterology/Urology		

Indications (*from labeling*)

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.

**Note:** Submission of the information entered in Section H does not affect the need to submit device establishment registration.

FDA Document Number *(if known)*

## SECTION H MANUFACTURING / PACKAGING / STERILIZATION SITES RELATING TO A SUBMISSION

<input checked="" type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input checked="" type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name Bain Medical Equipment (Guangzhou) Co., Ltd				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological				FAX Number <i>(including area code)</i>	
City Guangzhou		State / Province Guangdong		ZIP Code 510760	Country China
Contact Name Sophia Shao		Contact Title Assistant Manager, RA		Contact E-mail Address sophia@baingz.com	

<input type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address				FAX Number <i>(including area code)</i>	
City		State / Province		ZIP Code	Country
Contact Name		Contact Title		Contact E-mail Address	

<input type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address				FAX Number <i>(including area code)</i>	
City		State / Province		ZIP Code	Country
Contact Name		Contact Title		Contact E-mail Address	

**Note:** Submission of this information does not affect the need to submit a 2891 or 2891a Device Establishment Registration form.

FDA Document Number *(if known)*

## SECTION H (Continued)

<input type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address				FAX Number <i>(including area code)</i>	
City				State / Province	ZIP Code
				Country	
Contact Name		Contact Title		Contact E-mail Address	

<input type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address				FAX Number <i>(including area code)</i>	
City				State / Province	ZIP Code
				Country	
Contact Name		Contact Title		Contact E-mail Address	

<input type="checkbox"/> Original <input type="checkbox"/> Add <input type="checkbox"/> Delete		Facility Establishment Identifier (FEI) Number		<input type="checkbox"/> Manufacturer <input type="checkbox"/> Contract Sterilizer <input type="checkbox"/> Contract Manufacturer <input type="checkbox"/> Repackager / Relabeler	
Company / Institution Name				Establishment Registration Number	
Division Name <i>(if applicable)</i>				Phone Number <i>(including area code)</i>	
Street Address				FAX Number <i>(including area code)</i>	
City				State / Province	ZIP Code
				Country	
Contact Name		Contact Title		Contact E-mail Address	

**SECTION I****UTILIZATION OF STANDARDS**

**Note:** Complete this section if your application or submission cites standards or includes a "Declaration of Conformity to a Recognized Standard" statement.

<b>1</b>	Standards No. 8638	Standards Organization ISO	Standards Title Cardiovascular Implants and Extracorporeal Blood Circuit For Hemodialyzers, Hemodialfilters, and Hemofilters.	Version 2010	Date
<b>2</b>	Standards No. 594-2	Standards Organization ISO	Standards Title Conical Fittings With A 6% (Luer) Taper For Syringes, Needles And Certain Other Medical Equipment - Part 2: Lock Fittings	Version 1998	Date
<b>3</b>	Standards No. 10993-3	Standards Organization ISO	Standards Title Biological Evaluation Of Medical Devices - Part 3: Tests For Genotoxicity, Carcinogenicity, And Reproductive Toxicity	Version 2003	Date
<b>4</b>	Standards No. 10993-5	Standards Organization ISO	Standards Title Biological Evaluation Of Medical Devices -- Part 5: Tests For In Vitro Cytotoxicity	Version 2009	Date
<b>5</b>	Standards No. 10993-10	Standards Organization ISO	Standards Title Biological Evaluation Of Medical Devices - Part 10: Tests For Irritation And Skin Sensitization	Version 2010	Date
<b>6</b>	Standards No. 10993-11	Standards Organization ISO	Standards Title Biological Evaluation Of Medical Devices Part 11: Tests For Systemic Toxicity	Version 2006	Date
<b>7</b>	Standards No. F756	Standards Organization ASTM	Standards Title Standard Practice For Assessment Of Hemolytic Properties Of Materials	Version 2013	Date

**Please include any additional standards to be cited on a separate page.**

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

**\*DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF ADDRESS BELOW.\***

The burden time for this collection of information is estimated to average 0.5 hour per response, including the time to review instructions, search existing data sources, gather and maintain the data needed and complete and review the collection of information. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden, to:

Department of Health and Human Services  
Food and Drug Administration  
Office of Chief Information Officer  
Paperwork Reduction Act (PRA) Staff  
1350 Piccard Drive, Room 400  
Rockville, MD 20850

*An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.*

Additional Page of FDA Form 3654

Section I UTILIZATION OF STANDARDS

#	Standard No.	Standard Organization	Standard Title	Version	Date
8	F88	ASTM	Standard Test Method For Seal Strength Of Flexible Barrier Materials	2009	
9	11137-2	ISO	Sterilization of Health Care Products - Radiation - Part 2: Establishing the Sterilization Dose.	2013	



Form Approved: OMB No. 0910-0616. Expiration Date: 2/28/2015. See PRA Statement on page 2.



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Food and Drug Administration

**Certification of Compliance**

**Under 42 U.S.C. § 282(j)(5)(B), with Requirements of ClinicalTrials.gov Data Bank (42 U.S.C. § 282(j))**

(For submission with an application/submission, including amendments, supplements, and resubmissions, under §§ 505, 515, 520(m), or 510(k) of the Federal Food, Drug, and Cosmetic Act or § 351 of the Public Health Service Act.)

**SPONSOR / APPLICANT / SUBMITTER INFORMATION**

1. Name of Sponsor/Applicant/Submitter  Bain Medical Equipment (Guangzhou) Co., Ltd		2. Date of the Application/Submission Which This Certification Accompanies 05/09/2016	
3. Address Address 1 (Street address, P.O. box, company name c/o) No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Development District Address 2 (Apartment, suite, unit, building, floor, etc.) City Guangzhou State/Province/Region Guangdong Country China ZIP or Postal Code 510760		4. Telephone and Fax Numbers (Include country code if applicable and area code) (Tel): +86 20 8226 5249 ext.340 (Fax): +86 20 3206 7500	

**PRODUCT INFORMATION**

5. **For Drugs/Biologics:** Include Any/All Available Established, Proprietary and/or Chemical/Biochemical/Blood/Cellular/Gene Therapy Product Name(s).

**For Devices:** Include Any/All Common or Usual Name(s), Classification, Trade or Proprietary or Model Name(s) and/or Model Number(s)

Trade Name: DORA Tubing Sets for Hemodialysis  
Common Name: Blood tubing sets  
Model(s): BAIN-BL-001E, BAIN-BL-002E, BAIN-BL-003E, BAIN-BL-004E, BAIN-BL-005E

Classification: 2  
Product Code: FJK  
Regulation Number: 876.5820

Continuation Page for #5

**APPLICATION / SUBMISSION INFORMATION**

6. Type of Application/Submission Which This Certification Accompanies

☐ IND ☐ NDA ☐ ANDA ☐ BLA ☐ PMA ☐ HDE ☒ 510(k) ☐ PDP ☐ Other

7. Include IND/NDA/ANDA/BLA/PMA/HDE/510(k)/PDP/ Other Number  
(If number previously assigned)

If BLA was selected in item 6, provide Supplement Number

8. Serial Number Assigned to Application/Submission Which This Certification Accompanies

**CERTIFICATION STATEMENT / INFORMATION**

9. Check only one of the following boxes (See instructions for additional information and explanation)

- ☒ A. I certify that the requirements of 42 U.S.C. § 282(j), Section 402(j) of the Public Health Service Act do not apply because the application/submission which this certification accompanies does not reference any clinical trial.
- ☐ B. I certify that the requirements of 42 U.S.C. § 282(j), Section 402(j) of the Public Health Service Act do not apply to any clinical trial referenced in the application/submission which this certification accompanies.
- ☐ C. I certify that the requirements of 42 U.S.C. § 282(j), Section 402(j) of the Public Health Service Act apply to one or more of the clinical trials referenced in the application/submission which this certification accompanies and that those requirements have been met.

Certification Statement / Information section continued on page 2



## CERTIFICATION STATEMENT / INFORMATION (Continued)

10. If you checked box C, in number 9, provide the National Clinical Trial (NCT) Number(s) for any "applicable clinical trial(s)," under 42 U.S.C. § 282(j)(1)(a)(i), section 402(j)(1)(a)(i) of the Public Health Service Act, referenced in the application/ submission which this Certification accompanies. (Add continuation page as necessary.)

NCT Number(s): \_\_\_\_\_

Continuation Page for #10

The undersigned declares, to the best of her/his knowledge, that this is an accurate, true, and complete submission of information. I understand that the failure to submit the certification required by 42 U.S.C. § 282(j)(5)(B), section 402(j)(5)(B) of the Public Health Service Act, and the knowing submission of a false certification under such section are prohibited acts under 21 U.S.C. § 331, section 301 of the Federal Food, Drug, and Cosmetic Act.

**Warning:** A willfully and knowingly false statement is a criminal offense, U.S. Code, title 18, section 1001.

11. Name and Title of the Person who Signs Number 15

Name Mu Fangzhen	Title Management Representative
---------------------	------------------------------------

12. Address

Address 1 (Street address, P.O. box, company name c/o) No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Development District	
Address 2 (Apartment, suite, unit, building, floor, etc.)	
City Guangzhou	State/Province/Region Guangdong
Country China	ZIP or Postal Code 510760

13. Telephone and Fax Numbers

(Include country code if applicable and area code)

(Tel): +86 20 8226 5249 ext.340

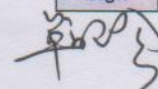
(Fax): +86 20 3206 7500

14. Date of Certification

05/09/2016

15. Signature of Sponsor/Applicant/Submitter or an Authorized Representative (Sign)

Sign



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

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The burden time for this collection of information is estimated to average 15 minutes and 45 minutes (depending on the type of application/ submission) per response, including the time to review instructions, search existing data sources, gather and maintain the data needed and complete and review the collection of information. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to:

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Office of Chief Information Officer  
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PRAStaff@fda.hhs.gov

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Department of Health and Human Services  
Food and Drug Administration  
**STANDARDS DATA REPORT FOR 510(k)s**  
(To be filled in by applicant)

This report and the Summary Report Table are to be completed by the applicant when submitting a 510(k) that references a national or international standard. A separate report is required for each standard referenced in the 510(k).

## TYPE OF 510(K) SUBMISSION



Traditional



Special



Abbreviated

STANDARD TITLE <sup>1</sup>

ASTM F756-13 Standard Practice for Assessment of Hemolytic Properties of Materials

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup>? ..... ☒ ☐FDA Recognition number <sup>3</sup> ..... #2-207Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☒ ☐Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard? ..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup>? ..... ☐ ☐Were deviations or adaptations made beyond what is specified in the FDA SIS? ..... ☐ ☒  
If yes, report these deviations or adaptations in the summary report table.Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.Is there an FDA guidance <sup>6</sup> that is associated with this standard? ..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: \_\_\_\_\_

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm><sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm><sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

address of the test laboratory or certification body involved in conformance assessment to this standard. The summary report includes information on all standards utilized during the development of the device.

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ASTM F756-13 Standard Practice for Assessment of Hemolytic Properties of Materials

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Referenced Documents	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terminology	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ASTM F756-13 Standard Practice for Assessment of Hemolytic Properties of Materials

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 4	SECTION TITLE Summary of practice	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 5	SECTION TITLE Significance and Use	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---------------------	---------------------------------------	--

TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 6	SECTION TITLE Preparation of Test and Control Specimens	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---------------------	--	--

TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 7	SECTION TITLE Hemoglobin Determination (Direct Method)	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---------------------	---	--

TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ASTM F756-13 Standard Practice for Assessment of Hemolytic Properties of Materials

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 8	SECTION TITLE Collection and Preparation of Blood Substrates	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 9	SECTION TITLE Procedure for the Test	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 10	SECTION TITLE Report	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 11	SECTION TITLE Precision and Bias	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE

ASTM F756-13 Standard Practice for Assessment of Hemolytic Properties of Materials

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 12	SECTION TITLE Keywords	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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Department of Health and Human Services  
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## TYPE OF 510(K) SUBMISSION



Traditional



Special



Abbreviated

STANDARD TITLE <sup>1</sup>

ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials.

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup>? .....FDA Recognition number <sup>3</sup> ..... #14-283

Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? .....

Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? .....  
If no, complete a summary report table.

Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? .....

Does this standard include acceptance criteria? .....  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? .....  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard?.....  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup>? .....Were deviations or adaptations made beyond what is specified in the FDA SIS?.....  
If yes, report these deviations or adaptations in the summary report table.Were there any exclusions from the standard? .....  
If yes, report these exclusions in the summary report table.Is there an FDA guidance <sup>6</sup> that is associated with this standard?.....  
If yes, was the guidance document followed in preparation of this 510k? .....

Title of guidance: .....

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm><sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm><sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials.

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Referenced documents	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terminology	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials.

#### CONFORMANCE WITH STANDARD SECTIONS\*

## SECTION NUMBER

4

## SECTION TITLE

Significance and Use

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

5

## SECTION TITLE

Interferences

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

6

## SECTION TITLE

Apparatus

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

7

## SECTION TITLE

Sampling

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials.

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 8	SECTION TITLE Aging and Conditioning	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 9	SECTION TITLE Procedure	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 10	SECTION TITLE Report	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 11	SECTION TITLE Precision and Bias	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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## TYPE OF 510(K) SUBMISSION



Traditional



Special



Abbreviated

STANDARD TITLE <sup>1</sup>

ISO 10993-10 : 2010 Biological evaluation of medical devices-Part 10: Test for irritation and delayed-type hypersensitivity

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup>? ..... ☒ ☐FDA Recognition number <sup>3</sup> ..... #2-174Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☒ ☐Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard?..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup>? ..... ☐ ☐Were deviations or adaptations made beyond what is specified in the FDA SIS?..... ☐ ☒  
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Title of guidance: \_\_\_\_\_

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ISO 10993-10 : 2010 Biological evaluation of medical devices-Part 10: Test for irritation and delayed-type hypersensitivity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms and definitions	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ISO 10993-10 : 2010 Biological evaluation of medical devices-Part 10: Test for irritation and delayed-type hypersensitivity

#### CONFORMANCE WITH STANDARD SECTIONS\*

## SECTION NUMBER

4

## SECTION TITLE

General principles-Step-wise approach

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

5

## SECTION TITLE

Pretest considerations

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

6

## SECTION TITLE

Irritation tests

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

## SECTION NUMBER

7

## SECTION TITLE

Skin sensitization tests

## CONFORMANCE?



Yes



No



N/A

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE

ISO 10993-10 : 2010 Biological evaluation of medical devices-Part 10: Test for irritation and delayed-type hypersensitivity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 8	SECTION TITLE Key factors in interpretation of test results	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		

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Department of Health and Human Services  
Food and Drug Administration  
**STANDARDS DATA REPORT FOR 510(k)s**  
(To be filled in by applicant)

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## TYPE OF 510(K) SUBMISSION



Traditional



Special



Abbreviated

STANDARD TITLE <sup>1</sup>

ISO 10993-11:2006 Biological evaluation of medical devices-Part 11:Tests for systemic toxicity

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup>? ..... ☒ ☐FDA Recognition number <sup>3</sup> ..... #2-176Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☒ ☐Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard?..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup>? ..... ☐ ☐Were deviations or adaptations made beyond what is specified in the FDA SIS?..... ☐ ☒  
If yes, report these deviations or adaptations in the summary report table.Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.Is there an FDA guidance <sup>6</sup> that is associated with this standard?..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: \_\_\_\_\_

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm><sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm><sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

address of the test laboratory or certification body involved in conformance assessment to this standard. The summary report includes information on all standards utilized during the development of the device.

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ISO 10993-11:2006 Biological evaluation of medical devices-Part 11:Tests for systemic toxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms and definitions	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

\* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.

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Office of Chief Information Officer  
Paperwork Reduction Act (PRA) Staff  
[PRASStaff@fda.hhs.gov](mailto:PRASStaff@fda.hhs.gov)

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ISO 10993-11:2006 Biological evaluation of medical devices-Part 11:Tests for systemic toxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 4	SECTION TITLE General considerations	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 5	SECTION TITLE Acute systemic toxicity	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 6	SECTION TITLE Repeated exposure systemic toxicity(subacute,subchronic and chronic sytemic	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED ♦

DESCRIPTION

JUSTIFICATION

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## TYPE OF 510(K) SUBMISSION

☒ Traditional☐ Special☐ AbbreviatedSTANDARD TITLE <sup>1</sup>

ISO 10993-3:2003 Biological evaluation of medical devices- Part 3: Tests for genotoxicity, carcinogenicity and reproductive toxicity

## Please answer the following questions

Yes

No

Is this standard recognized by FDA <sup>2</sup> ? ..... ☒ ☐

FDA Recognition number <sup>3</sup> ..... #2-175

Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☒ ☐

Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.

Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐

Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).

Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.

Were there any deviations or adaptations made in the use of the standard? ..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup> ? ..... ☐ ☐

Were deviations or adaptations made beyond what is specified in the FDA SIS? ..... ☐ ☐  
If yes, report these deviations or adaptations in the summary report table.

Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.

Is there an FDA guidance <sup>6</sup> that is associated with this standard? ..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: \_\_\_\_\_

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]

<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm>

<sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm>

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ISO 10993-3:2003 Biological evaluation of medical devices- Part 3: Tests for genotoxicity, carcinogenicity and reproductive toxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms and definitions	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE		
STANDARD TITLE ISO 10993-3:2003 Biological evaluation of medical devices- Part 3: Tests for genotoxicity, carcinogenicity and reproductive toxicity		
CONFORMANCE WITH STANDARD SECTIONS*		
SECTION NUMBER 4	SECTION TITLE Genotoxicity tests	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 5	SECTION TITLE Carcinogenicity tests	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 6	SECTION TITLE Reproductive and developmental toxicity tests	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 7	SECTION TITLE Test report	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
<p>* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.</p> <p>* Types of deviations can include an exclusion of a section in the standard, a deviation brought out by the FDA supplemental information sheet (SIS), a deviation to adapt the standard to the device, or any adaptation of a section.</p>		

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## TYPE OF 510(K) SUBMISSION



Traditional



Special



Abbreviated

STANDARD TITLE <sup>1</sup>

ISO 10993-5:2009 Biological evaluation of medical devices-Part 5: Tests for in vitro cytotoxicity

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup>? .....FDA Recognition number <sup>3</sup> ..... # .....

Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? .....

Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? .....  
If no, complete a summary report table.

Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? .....

Does this standard include acceptance criteria? .....  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? .....  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard?.....  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup>? .....Were deviations or adaptations made beyond what is specified in the FDA SIS?.....  
If yes, report these deviations or adaptations in the summary report table.Were there any exclusions from the standard? .....  
If yes, report these exclusions in the summary report table.Is there an FDA guidance <sup>6</sup> that is associated with this standard?.....  
If yes, was the guidance document followed in preparation of this 510k? .....

Title of guidance: .....

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm><sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm><sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ISO 10993-5:2009 Biological evaluation of medical devices-Part 5: Tests for in vitro cytotoxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms and definitions	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE  
ISO 10993-5:2009 Biological evaluation of medical devices-Part 5: Tests for in vitro cytotoxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 4	SECTION TITLE Sample and control preparation	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 5	SECTION TITLE Cell lines	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 6	SECTION TITLE Culture medium	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 7	SECTION TITLE Preparation of cell stock culture	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

STANDARD TITLE

ISO 10993-5:2009 Biological evaluation of medical devices-Part 5: Tests for in vitro cytotoxicity

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 8	SECTION TITLE Test procedures	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 9	SECTION TITLE Test report	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 10	SECTION TITLE Assessment of results	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

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## TYPE OF 510(K) SUBMISSION

☒ Traditional☐ Special☐ AbbreviatedSTANDARD TITLE <sup>1</sup>

ISO 11137-2:2013 Sterilization of health care products -Radiation- Part 2: Establishing the sterilization dose

## Please answer the following questions

Yes

No

Is this standard recognized by FDA <sup>2</sup> ? ..... ☒ ☐FDA Recognition number <sup>3</sup> ..... # 14-409Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☐ ☒Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.Were there any deviations or adaptations made in the use of the standard? ..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup> ? ..... ☐ ☐Were deviations or adaptations made beyond what is specified in the FDA SIS? ..... ☐ ☐  
If yes, report these deviations or adaptations in the summary report table.Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.Is there an FDA guidance <sup>6</sup> that is associated with this standard? ..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: .....

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm><sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm><sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

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**EXTENT OF STANDARD CONFORMANCE  
SUMMARY REPORT TABLE**

## STANDARD TITLE

ISO 11137-2:2013 Sterilization of health care products -Radiation- Part 2: Establishing the sterilization dose

**CONFORMANCE WITH STANDARD SECTIONS\***

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms, definitions, and abbreviated terms	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

\* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.

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Department of Health and Human Services  
Food and Drug Administration  
Office of Chief Information Officer  
Paperwork Reduction Act (PRA) Staff  
[PRAStaff@fda.hhs.gov](mailto:PRAStaff@fda.hhs.gov)

*"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number."*

EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE		
STANDARD TITLE ISO 11137-2:2013 Sterilization of health care products -Radiation- Part 2: Establishing the sterilization dose		
<b>CONFORMANCE WITH STANDARD SECTIONS*</b>		
SECTION NUMBER 4	SECTION TITLE Definition and maintenance of product families for dose setting	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER 5	SECTION TITLE Selection and testing of product for establishing the sterilization dose	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER 6	SECTION TITLE Methods of dose establishment	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER 7	SECTION TITLE Method 1: dose setting using bioburden information	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
<p>* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.</p> <p>* Types of deviations can include an exclusion of a section in the standard, a deviation brought out by the FDA supplemental information sheet (SIS), a deviation to adapt the standard to the device, or any adaptation of a section.</p>		

**EXTENT OF STANDARD CONFORMANCE  
SUMMARY REPORT TABLE**

## STANDARD TITLE

ISO 11137-2:2013 Sterilization of health care products -Radiation- Part 2: Establishing the sterilization dose

**CONFORMANCE WITH STANDARD SECTIONS\***

SECTION NUMBER 8	SECTION TITLE Method 2: Dose setting using fraction positive information from incremental	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
---------------------	--	--

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 9	SECTION TITLE Method VDmax-Substantiation of 25kGy or 15kGy as the sterilization dose	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 10	SECTION TITLE Sterilization dose audit	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 11	SECTION TITLE Worked examples	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
----------------------	----------------------------------	--

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

\* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.

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Department of Health and Human Services  
Food and Drug Administration  
**STANDARDS DATA REPORT FOR 510(k)s**  
(To be filled in by applicant)

This report and the Summary Report Table are to be completed by the applicant when submitting a 510(k) that references a national or international standard. A separate report is required for each standard referenced in the 510(k).

## TYPE OF 510(K) SUBMISSION

☒ Traditional☐ Special☐ AbbreviatedSTANDARD TITLE <sup>1</sup>

ISO 594-2:1998 Conical fittings with 6% (Luer) taper for syringes, needles and certain other medical equipment- Part 2: Lock fittings

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup> ? ..... ☒ ☐

FDA Recognition number <sup>3</sup> ..... #6-129

Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☐ ☒

Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.

Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐

Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).

Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.

Were there any deviations or adaptations made in the use of the standard? ..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup> ? ..... ☐ ☐

Were deviations or adaptations made beyond what is specified in the FDA SIS? ..... ☐ ☐  
If yes, report these deviations or adaptations in the summary report table.

Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.

Is there an FDA guidance <sup>6</sup> that is associated with this standard? ..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: \_\_\_\_\_

<sup>1</sup> The formatting convention for the title is: [SDO] [numeric identifier] [title of standard] [date of publication]

<sup>2</sup> Authority [21 U.S.C. 360d], <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Standards/default.htm>

<sup>3</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm>

<sup>4</sup> The summary report should include: any adaptations used to adapt to the device under review (for example, alternative test methods); choices made when options or a selection of methods are described; deviations from the standard; requirements not applicable to the device; and the name and

address of the test laboratory or certification body involved in conformance assessment to this standard. The summary report includes information on all standards utilized during the development of the device.

<sup>5</sup> The supplemental information sheet (SIS) is additional information which is necessary before FDA recognizes the standard. Found at <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm>

<sup>6</sup> The online search for CDRH Guidance Documents can be found at <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/default.htm>

**EXTENT OF STANDARD CONFORMANCE  
SUMMARY REPORT TABLE**

## STANDARD TITLE

ISO 594-2:1998 Conical fittings with 6% (Luer) taper for syringes, needles and certain other medical equipment- Part 2: Lock fittings

**CONFORMANCE WITH STANDARD SECTIONS\***

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---------------------	------------------------	--

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

SECTION NUMBER 3	SECTION TITLE Dimensions and tolerances	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---------------------	--	--

TYPE OF DEVIATION OR OPTION SELECTED \*

DESCRIPTION

JUSTIFICATION

\* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.

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Paperwork Reduction Act (PRA) Staff  
[PRAStaff@fda.hhs.gov](mailto:PRAStaff@fda.hhs.gov)

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EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE		
STANDARD TITLE ISO 594-2:1998 Conical fittings with 6% (Luer) taper for syringes, needles and certain other medical equipment- Part 2: Lock fittings		
<b>CONFORMANCE WITH STANDARD SECTIONS*</b>		
SECTION NUMBER 4	SECTION TITLE Requirements	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 5	SECTION TITLE Test methods	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED ♦		
DESCRIPTION		
JUSTIFICATION		
<p>* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.</p> <p>♦ Types of deviations can include an exclusion of a section in the standard, a deviation brought out by the FDA supplemental information sheet (SIS), a deviation to adapt the standard to the device, or any adaptation of a section.</p>		



Department of Health and Human Services  
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This report and the Summary Report Table are to be completed by the applicant when submitting a 510(k) that references a national or international standard. A separate report is required for each standard referenced in the 510(k).

## TYPE OF 510(K) SUBMISSION

☒ Traditional☐ Special☐ AbbreviatedSTANDARD TITLE <sup>1</sup>

ISO 8638:2010 Cardiovascular implants and extracorporeal systems- Extracorporeal blood circuit for haemodialysers, haemodiafilters and haemofilters

**Please answer the following questions**

Yes

No

Is this standard recognized by FDA <sup>2</sup> ? ..... ☒ ☐

FDA Recognition number <sup>3</sup> ..... #9-89

Was a third party laboratory responsible for testing conformity of the device to this standard identified in the 510(k)? ..... ☐ ☒

Is a summary report <sup>4</sup> describing the extent of conformance of the standard used included in the 510(k)? ..... ☒ ☐  
If no, complete a summary report table.

Does the test data for this device demonstrate conformity to the requirements of this standard as it pertains to this device? ..... ☒ ☐

Does this standard include acceptance criteria? ..... ☒ ☐  
If no, include the results of testing in the 510(k).

Does this standard include more than one option or selection of tests? ..... ☐ ☒  
If yes, report options selected in the summary report table.

Were there any deviations or adaptations made in the use of the standard? ..... ☐ ☒  
If yes, were deviations in accordance with the FDA supplemental information sheet (SIS) <sup>5</sup> ? ..... ☐ ☐

Were deviations or adaptations made beyond what is specified in the FDA SIS? ..... ☐ ☐  
If yes, report these deviations or adaptations in the summary report table.

Were there any exclusions from the standard? ..... ☐ ☒  
If yes, report these exclusions in the summary report table.

Is there an FDA guidance <sup>6</sup> that is associated with this standard? ..... ☐ ☒  
If yes, was the guidance document followed in preparation of this 510k? ..... ☐ ☐

Title of guidance: \_\_\_\_\_

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### EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE

## STANDARD TITLE

ISO 8638:2010 Cardiovascular implants and extracorporeal systems- Extracorporeal blood circuit for haemodialysers, haemodiafilters and haemofilters

#### CONFORMANCE WITH STANDARD SECTIONS\*

SECTION NUMBER 1	SECTION TITLE Scope	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 2	SECTION TITLE Normative references	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		
SECTION NUMBER 3	SECTION TITLE Terms and definitions	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *		
DESCRIPTION		
JUSTIFICATION		

\* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.

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EXTENT OF STANDARD CONFORMANCE SUMMARY REPORT TABLE		
STANDARD TITLE ISO 8638:2010 Cardiovascular implants and extracorporeal systems- Extracorporeal blood circuit for haemodialysers, haemodiafilters and haemofilters		
<b>CONFORMANCE WITH STANDARD SECTIONS*</b>		
SECTION NUMBER 4	SECTION TITLE Requirements	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER 5	SECTION TITLE Test methods	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER 6	SECTION TITLE Labelling	CONFORMANCE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
SECTION NUMBER	SECTION TITLE	CONFORMANCE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
TYPE OF DEVIATION OR OPTION SELECTED *  		
DESCRIPTION  		
JUSTIFICATION  		
<p>* For completeness list all sections of the standard and indicate whether conformance is met. If a section is not applicable (N/A) an explanation is needed under "justification." Some standards include options, so similar to deviations, the option chosen needs to be described and adequately justified as appropriate for the subject device. Explanation of all deviations or description of options selected when following a standard is required under "type of deviation or option selected," "description" and "justification" on the report. More than one page may be necessary.</p> <p>* Types of deviations can include an exclusion of a section in the standard, a deviation brought out by the FDA supplemental information sheet (SIS), a deviation to adapt the standard to the device, or any adaptation of a section.</p>		

## Tab #5 Cover Letter

1. Date of Submission: 05/02/2016
2. Sponsor Identification

**Bain Medical Equipment (Guangzhou) Co., Ltd**

No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Development District, 510760, Guangdong, P.R.China

Establishment Registration Number: Not yet registered or the Number

Contact Person: Shao, Sophia  
Position: Assistant Manager, RA  
Tel: +86 20 6685 6868 ext.218  
Fax: +86 20 3206 7500  
Email: [sophia@baingz.com](mailto:sophia@baingz.com)

3. Designated Submission Correspondent

Ms. Diana Hong (Primary Contact Person)  
Mr. Lee Fu (Alternative Contact Person)

**Mid-Link Consulting Co., Ltd**

P.O. Box 120-119, Shanghai, 200120, China

Tel: +86-21-22815850,  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

4. Identification of Proposed Device

Trade Name: DORA Tubing Sets for Hemodialysis  
Common Name: Blood tubing sets  
Model(s): BAIN-BL-001E, BAIN-BL-002E, BAIN-BL-003E, BAIN-BL-004E, BAIN-BL-005E,

**Regulatory Information**

Classification Name: Set, Tubing, Blood, With and Without Anti-Regurgitation Valve  
Classification: 2  
Product Code: FJK  
Regulation Number: 876.5820  
Review Panel: Gastroenterology/Urology

## Intended Use Statement:

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.

Table 1 Design and Use of the Proposed Device

Question	YES	NO
Are the devices intended for prescription use (21 CFR 801 Subpart D)?	X	
Are the devices intended for over-the-counter use (21 CFR 807 Subpart C) ?		X
Do the devices contain components derived from a tissue or other biologic source?		X
Are the devices provided sterile?	X	
Are the devices intended for single use?	X	
Are the devices the reprocessed single use devices?		X
If yes, do these devices type require reprocessed validation data?	N/A	
Do the devices contain a drug?		X
Do the devices contain a biologic?		X
Do the devices use software?		X
Does the submission include clinical information?		X
Are the devices implanted?		X

## 5. Submission Type

Traditional;

## 6. Basis of the submission

New Device;

## 7. Prior Related Submission

There is no prior submission for the proposed device(s).

## 8. eCopy Statement

The CD-ROM provided with this submission is the eCopy of the submission; the eCopy is an exact duplicate of the paper copy.

To view the full contents of this document, you need a later version of the PDF viewer. You can upgrade to the latest version of Adobe Reader from [www.adobe.com/products/acrobat/readstep2.html](http://www.adobe.com/products/acrobat/readstep2.html)

For further support, go to [www.adobe.com/support/products/acrreader.html](http://www.adobe.com/support/products/acrreader.html)



## Tab #7 510(k) Summary

This 510(k) Summary is being submitted in accordance with requirements of SMDA 1990 and Title 21, CFR Section 807.92.

The assigned 510(k) Number: \_\_\_\_\_

1. Date of Preparation: 06/03/2016
2. Sponsor Identification

**Bain Medical Equipment (Guangzhou) Co., Ltd**

No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Development District, 510760, Guangdong, P.R.China

Establishment Registration Number: Not yet registered or the Number

Contact Person: Mu Fangzhen  
Position: Management Representative  
Tel: +86 20 8226 5249 ext.340  
Fax: +86 20 3206 7500  
Email: mufangzhen@baingz.com

3. Designated Submission Correspondent

Ms. Diana Hong (Primary Contact Person)  
Mr. Lee Fu (Alternative Contact Person)

**Mid-Link Consulting Co., Ltd**

P.O. Box 120-119, Shanghai, 200120, China

Tel: +86-21-22815850,  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

## 4. Identification of Proposed Device

Trade Name: DORA Tubing Sets for Hemodialysis

Common Name: Blood tubing sets

Model(s): BAIN-BL-001E, BAIN-BL-002E, BAIN-BL-003E, BAIN-BL-004E, BAIN-BL-005E

Regulatory Information

Classification Name: Set, Tubing, Blood, With And Without Anti-Regurgitation Valve

Classification: 2

Product Code: FJK

Regulation Number: 876.5820

Review Panel: Gastroenterology/Urology

Intended Use Statement:

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.

Device Description

The proposed devices, DORA Tubing Sets for Hemodialysis, mainly consists of two tubes, which are arterial line with certain components in red and venous line with certain components in blue, as well as two accessories which are recirculate connector and drain bag.

They are available in five (5) models, following very similar design principles, and has some differences in dimensions and configurations.

The proposed devices are provided in sterile condition, it is subject to e-beam sterilization prior to release to achieve a Sterility Assurance Level (SAL) of  $10^{-6}$ .

## 5. Identification of Predicate Device(s)

K072024

Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set;

Nipro Medical Corporation

## 6. Non-Clinical Test Conclusion

Non clinical tests were conducted to verify that the proposed device met all design specifications as was Substantially Equivalent (SE) to the predicate device. The test results demonstrated that the proposed device complies with the following standards:

- ISO 8638 Third Edition 2010-07-01, Cardiovascular Implants And Extracorporeal Blood Circuit For Hemodialyzers, Hemodialfilters, And Hemofilters. 9-89
- ISO 594-2 Second Edition 1998-09-01, Conical Fittings With A 6% (Luer) Taper For Syringes, Needles And Certain Other Medical Equipment - Part 2: Lock Fittings. 6-129
- ISO 10993-5:2009 Biological evaluation of medical devices -- Part 5: Tests for In Vitro cytotoxicity;
- ISO 10993-11:2006 Biological evaluation of medical devices -- Part 11: Tests for systemic toxicity;
- ISO 10993-10:2010 Biological evaluation of medical devices - Part 10: Tests for irritation and skin sensitization;
- ISO 10993-4:2002 Biological evaluation of medical devices -- Part 4: Selection of tests for interactions with blood;
- ASTM F 756-08, Standard practice for assessment of hemolytic properties of material;
- ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials;

#### 7. Clinical Test Conclusion

No clinical study is included in this submission.

#### 8. Substantially Equivalent (SE) Comparison

Table 1 Comparison of Technology Characteristics

ITEM	Proposed Device	Predicate Device, K072024
Device Class	II	II
Product Code	FJK	FJK
Reg. Number	21 CFR part 876.5820	21 CFR part 876.5820
Intended Use	The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment.	Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set are disposable bloodlines intended to provide extracorporeal access to the patient's blood during hemodialysis.
	The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.	The compatibility of available configuration is the responsibility of the physician in charge.
Feature	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device

Configuration	Arteria Line Venous Line	Tubing
	Drip Chamber	Drip Chamber;
	Branch Lines;	Infusion Tubing; Pressure Monitoring Lines;
	Female Luer Lock	Ports;
	Clamps	Clamps;
	Filter	Filters
	Drain Bag Recirculating Connector	N.A.
Performance	Conforms to ISO 8638:2010 ISO 594-2: 1998	Conforms to ISO 8638:2010 ISO 594-2: 1998
Materials	Various materials	Unknown
Biocompatibility	Cytotoxicity; Sensitization Intracutaneous reactivity; Acute systemic toxicity; Hemolysis Partial Thromboplastin Time Complement System In vitro Chromosomal Aberration Bacterial Reverse Mutation Mouse Bone Marrow Micronucleus Pyrogen	Conforms to ISO 10993-1
Sterilization	SAL (10 <sup>-6</sup> )	SAL (10 <sup>-6</sup> )

Discussion: The intended use of the proposed and predicate device are different in text and the compatible system, however, the compatible system claimed was supported by testing. The proposed device has two (2) additional accessories which are drain bag and the recirculating. These two (2) accessories will not affect the actual hemodialysis; the materials of the propose device have been evaluated for their biocompatibility. Therefore, no difference will result in any safety and effectiveness issue.

Conclusion:

Based on the comparison and analysis above, the proposed devices are determined to be Substantially Equivalent (SE) to the predicate devices.

Truthful and Accuracy Statement

Ref.: M0462015

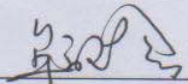
**Tab #8 Truthful and Accurate Statement**

**PREMARKET NOTIFICATION**

**TRUTHFUL AND ACCURATE STATEMENT**

**[As Required by 21 CFR 807.87(k)]**

I certify that, in my capacity as Management Representative of Bain Medical Equipment (Guangzhou) Co., Ltd. I believe to the best of my knowledge, that all data and information submitted in the premarket notification are truthful and accurate and that no material fact has been omitted.



Authorized Signature

Mu Fangzhen

Management Representative

Bain Medical Equipment (Guangzhou) Co., Ltd.

05/09/2016

## Tab #9 Device Descriptions

1.	General Description .....	2
2.	Device Illustrations and Design Drawings .....	3
3.	Mechanism of Action .....	10
4.	Principle of Operation .....	10
5.	Conditions of Use .....	13
6.	Specifications .....	14
7.	Packaging Description .....	15
	7.1 Sterility Maintenance Package .....	15
	7.2 Transportation Package .....	17

## 1. General Description

The proposed devices, Tubing Sets for Hemodialysis, are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. (b) (4)

The devices mainly consists of two tubes, which are arterial line with certain components in red and venous line with certain components in blue, as well as two accessories which are recirculate connector and drain bag. The mechanism of action is provided in *Section 3* and Principle of Operation in *Section 4*.

They are available in five (5) models, following very similar design principles, and has some differences in dimensions and configurations. The illustration for each model is provided in *Section 2*. Detail specifications of each model are provided in *Section 6*.

Design Drawings, including the assembly drawing and component drawings are provided in Tab #16 Assembly Drawing and Tab #17 Components Drawing. In these drawings, detail dimensions with tolerance are provided.

The proposed devices are intended to be used with a FDA cleared hemodialysis delivery system cleared under K121421. The conditions of use is provided in *Section 5*.

The proposed devices are provided in sterile condition, it is subject to e-beam sterilization prior to release to achieve a Sterility Assurance Level (SAL) of  $10^{-6}$ . (b) (4). Detail information is provided in Tab #12 Sterilization and Shelf Life.

The proposed devices are made of various raw materials, detail list of patient-contact materials, including colorants and additives, as well as the discussion of biocompatibility are provided in Tab #13 Biocompatibility.

The proposed devices are available in different level packages, in order to maintain sterility and prevent from damage during the transportation and storage. Detail information is provided in *Section 7*.



















### 3. Mechanism of Action

The proposed device, Tubing Sets for Hemodialysis, is used as the extracorporeal blood circuit during hemodialysis treatment, by which blood is transported from the patient through a hemodialyzer and back to the patient. The pump line interfaces with a pump rotor mechanism of the hemodialysis machine which drives the flow of blood through the circuit.

### 4. Principle of Operation

The Tubing Sets for Hemodialysis consists of an arterial line with some components in red, a venous line with some components in blue and other accessories.

**The Arterial Line** consists of the following main components:

- |                                |  |
|--------------------------------|--|
| (1) Dialyser Connector         | It is a standard female luer lock connector, which is used to connect with the arterial end of hemodialyzer. This component is in red for identification of the Arterial Line.                               |
| (2) Cap for Dialyser Connector | It is used to prevent from entry of foreign matter.  |
| (3) Blood Injection Site       | It is used for blood sample collection, which include a silicon plug. Blood sample is drawn by a needle which penetrates the silicon plug. This component is in red for identification of the Arterial Line. |
| (4) On-off clamp               | It is used on the main line and branch line. User can control the opening and closing the line by this clamp. This component is in red for identification of the Arterial Line.                              |
| (5) Pump line                  | The pump line interfaces with a pump rotor mechanism of the hemodialysis machine which drives the flow of blood through the circuit.   |
| (6) Pump T Connector           | It is a T connector for main line, pump line and heparin line.   |
| (7) Heparin line               | It is the path for heparin injection.  |
| (8) Female Luer Lock (FLL)     | It is standard female luer lock connector, which is connected to device with male Luer connector, such as syringe.   |
| (9) Cap for FLL                | It is the cover for Female Luer Lock. It is used for sealing and to prevent entry of foreign matter.   |

- |                           |   |
|---------------------------|---|
| (10) Patient connector    | It is standard male luer lock connector, which is connected to device with female Luer connector, such as AV Fistula Needles. This component is in red for identification of the Arterial Line.     |
| (11) Drip chamber         | It is intended to eliminate the bubbles in blood. When blood enter drip chamber from lines, it may include a few bubbles. The chamber can allow the blood sit for a period to eliminate the bubble. |
| (12) Transducer protector | It includes a hydrophobic membrane, designed to prevent from blood contamination of the pressure transducers of a hemodialysis delivery system.   |
| (13) Main line            | It is used for blood delivery.  |
| (14) Branch line          | It is used for injection of drug or nutrient solution.  |
| (15) Suspended Spike      | It is used for priming.   |

**The Venous Line** consists of the following main components:

- |                                |   |
|--------------------------------|---|
| (1) Dialyser Connector         | It is a standard female luer lock connector, which is used to connect with the venous end of hemodialyzer. This component is in blue for identification of the Venous Line.                                 |
| (2) Cap for Dialyser Connector | It is used to prevent from entry of foreign matter.   |
| (3) Blood Injection Site       | It is used for blood sample collection, which include a silicon plug. Blood sample is drawn by a needle which penetrates the silicon plug. This component is in blue for identification of the Venous Line. |
| (4) On-off clamp               | It is used on the main line and branch line. User can control the opening and closing the line by this clamp. This component is in blue for identification of the Venous Line.                              |
| (5) Female Luer Lock (FLL)     | It is standard female luer lock connector, which is connected to device with male Luer connector, such as syringe.  |
| (6) Cap for FLL                | It is the cover for Female Luer Lock. It is used for sealing and to prevent entry of foreign matter.  |

- |                          |   |
|--------------------------|---|
| (7) Patient connector    | It is standard male luer lock connector, which is connected to device with female Luer connector, such as AV Fistula Needles. This component is in blue for identification of the Venous Line.  |
| (8) Drip chamber         | It is intended to eliminate the bubbles in blood. When blood enter drip chamber from lines, it may include a few bubbles. The chamber can allow the blood sit for a period to eliminate the bubble. In addition, there is a filter inside the chamber to prevent from thrombosis back to the patient. |
| (9) Transducer protector | It includes a hydrophobic membrane, designed to prevent from blood contamination of the pressure transducers of a hemodialysis delivery system.   |
| (10) Main line           | It is used for blood delivery.  |
| (11) Branch line         | It is used for injection of drug or nutrient solution.  |

**The accessories** include:

- |                             |  |
|-----------------------------|--|
| (1) Recirculating Connector | It is an optional component, which is used for connection of arterial line and venous line during priming, in order to reduce the amount of normal saline for priming. |
| (2) Drain bag               | It is used for collection of waste.  |

5. Conditions of Use

(b) (4)



Device Descriptions

Ref.: M0462015

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6. Specifications

(b) (4)



7. Packaging Description

(b) (4)



Figure 7 Design Drawing of Immediate Package

(b) (4)





7.2 Transportation Package

(b) (4)



## **Tab #10 Proposed Labeling**

1.	General Description .....	2
2.	Immediate Package Label .....	3
3.	Transport Package Label.....	4
4.	User Manual.....	6

1. General Description

The proposed labeling of the proposed device contains:

- a. Immediate Package Label;
- b. Transportation Package Label;
- c. User Manual.

The above identified proposed labeling complies with Title 21, CFR Section 801 labeling and the FDA Guidance, Hemodialysis Blood Tubing Sets - Premarket Notification [510(k)] Submissions, dated on April 23, 2008.

Proposed Labeling

Ref.: M0462015

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2. Immediate Package Label

(b) (4)



Proposed Labeling

Ref.: M0462015

(b) (4)

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3. Transport Package Label

(b) (4)

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Figure 4 Transport Package Label – Side 2

(b) (4)



4. User Manual

The user manual is provided in ***Tab #46 User Manual*** for review.



## **Tab #11 Substantially Equivalent Discussion**

1.	Identification of Predicate Device(s).....	2
2.	SE Discussion .....	2
3.	Conclusion.....	5

## 1. Identification of Predicate Device(s)

K072024

Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set;  
Nipro Medical Corporation

## 2. SE Discussion

Table 1 General Comparison

ITEM	Proposed Device	Predicate Device, K072024	Remark
Device Class	II	II	SE
Product Code	FJK	FJK	SE
Reg. Number	21 CFR part 876.5820	21 CFR part 876.5820	SE
Intended Use	The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment.	Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set are disposable bloodlines intended to provide extracorporeal access to the patient's blood during hemodialysis.	Discussion 1
	(b) (4)	The compatibility of available configuration is the responsibility of the physician in charge.	Discussion 2
Feature	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device	SE
Configuration	Arteria Line	Tubing	Discussion 3
	Venous Line		
	Drip Chamber	Drip Chamber;	
	Branch Lines;	Infusion Tubing; Pressure Monitoring Lines;	
	Female Luer Lock	Ports;	
	Clamps	Clamps;	
	Filter	Filters	
	Drain Bag Recirculating Connector	N.A.	

Performance	Conforms to ISO 8638:2010 ISO 594-2: 1998	Conforms to ISO 8638:2010 ISO 594-2: 1998	SE
Materials	Various materials Detail in Tab #13	Unknown	Discussion 4
Biocompatibility	Cytotoxicity; Sensitization Intracutaneous reactivity; Acute systemic toxicity; Hemolysis Partial Thromboplastin Time Complement System In vitro Chromosomal Aberration Bacterial Reverse Mutation Mouse Bone Marrow Micronucleus Pyrogen	Conforms to ISO 10993-1	Discussion 4
Sterilization	SAL (10 <sup>-6</sup> )	SAL (10 <sup>-6</sup> )	SE
Labeling	Direction for Use	Direction for Use	SE
	Intended Use	Intended Use	SE
	Description	Description	SE
	Warnings and Cautions	Warnings and Cautions	SE

#### Discussion 1 – Intended Use (General)

The intended use of the proposed and predicate device are different in text, however, both of them are used to connect with a hemodialysis system and provide extracorporeal access to the patient's blood during hemodialysis. This difference will not result in any safety and effectiveness issue of the proposed device.

#### Discussion 2 – Intended Use (Compatible System)

(b) (4); the compatible system of the predicate device is pending the physician in charge (multiple compatible system claimed). The instructions of the proposed device has clearly stated the compatible system, which will not result in any misuse. Bench testing included in this submission support the compatibility between the proposed device and the compatible system. This difference will not result in any safety and effectiveness issue of the proposed device.

#### Discussion 3 – Configuration

Most configurations of proposed and predicate devices are the same except for their names. However, the proposed device has two (2) additional accessories which are drain bag and the recirculating. These two (2) accessories will not affect the actual hemodialysis, thus, this difference will not result in any safety and effectiveness issue of the proposed device.

#### Discussion 4 – Materials and Biocompatibility

The materials of the predicate device are proprietary information; However, the proposed device (in final sterilized status) have been evaluated for various biocompatibility tests. The result demonstrated that no adverse reactions caused by the proposed devices. This difference will not result in any safety and effectiveness issue of the proposed device.

3. Conclusion

Based on the comparison and analysis above, the proposed device is determined to be Substantially Equivalent (SE) to the predicate device.

## Tab #12 Sterilization and Shelf Life

1.	Sterilization .....	2
1.1	General Description .....	2
1.2	Endotoxin Limit .....	2
2.	Shelf Life.....	3
2.1	Verification using Accelerated Aging.....	3
2.2	Verification using Real-Time Aging.....	4

## 1. Sterilization

### 1.1 General Description

The proposed device is provided sterile. It will subject to a radiation sterilization process, in its final package, to achieve a Sterility Assurance Level (SAL) of  $10^{-6}$ .

(b) (4) which was established per Method 1 Dosing Setting using Bioburden Information as qualified in *Section 7 of ISO 11137-2 Third Edition 2013-06-01, Sterilization of Health Care Products - Radiation - Part 2: Establishing the Sterilization Dose*.

### 1.2 Endotoxin Limit

Medical device endotoxin contamination is associated with a risk of pyrogenic reactions in patients. Endotoxin limit is established as 20 USP Endotoxin Unit (EU) for the proposed device. Test for the five models of proposed device has been conducted by Limulus Amebocyte Lysate (LAL) method according to USP 38 <85> Bacterial Endotoxins Test. A copy of each report is provided in **Tab #21 Bacterial Endotoxins Test Report**.

2. Shelf Life

(b) (4)





## 2.2 Verification using Real-Time Aging

(b) (4)



(b) (4)



## **Tab #12 Biocompatibility**

1. Identification of Patient Contact Materials .....	2
2. Biocompatibility .....	10























## **Tab #14 Software**

This section is not applicable to the proposed device, because there is no software contained in the device.

## **Tab #15 Testing**

1.	Electrical Safety and EMC .....	2
2.	Performance Testing – Bench .....	2
3.	Performance Testing – Animal .....	2
4.	Performance Testing – Clinical.....	2

1. Electrical Safety and EMC

The proposed device does not require Electrical Safety and EMC tests, because it is not an active device.

2. Performance Testing – Bench

The proposed devices were tested per the following standards, to evaluate its performance. The test results demonstrated that the proposed device comply with the standards requirements:

- ISO 8638 Third Edition 2010-07-01, Cardiovascular Implants and Extracorporeal Blood Circuit For Hemodialyzers, Hemodialfilters, and Hemofilters.
- ISO 594-2 Second Edition 1998-09-01, Conical Fittings With A 6% (Luer) Taper For Syringes, Needles And Certain Other Medical Equipment - Part 2: Lock Fittings.
- ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials;

Copies of above tests reports are provided in:

***Tab #18 Tubing Sets Performance Test Report***

***Tab #19 Luer Lock Test Report***

***Tab #22 Seal Strength Test Report***

The flow rate of the proposed device after repeated clamping was tested on all of the five models. The test results complied with the design specifications. A copy the test report is provide in ***Tab #20 Repeated Clamping Test***.

3. Performance Testing – Animal

No animal study is included in this submission.

4. Performance Testing – Clinical

No clinical study is included in this submission.



**Tab #16 Assembly Drawings**

Model	Page
(b) (4) 	2
	3
	4
	5
	6












**Tab #17 Components Drawings**

<b>Components</b>	<b>Page</b>
(b) (4)	3
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Components	Page
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## Tubing Sets for Hemodialysis

### Instructions for Use

Manufacturer has been granted certificate of ISO

13485

**⚠ Caution:** Federal law restricts this device to sale by or on the order of a physician. Please read the instructions and warnings carefully before using this product.

#### 1. Indications for Use

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.

#### 2. Contraindications and Adverse Reactions

There are no known contraindications or adverse reactions to the use of the DORA Tubing Sets for Hemodialysis.

#### 3. Material

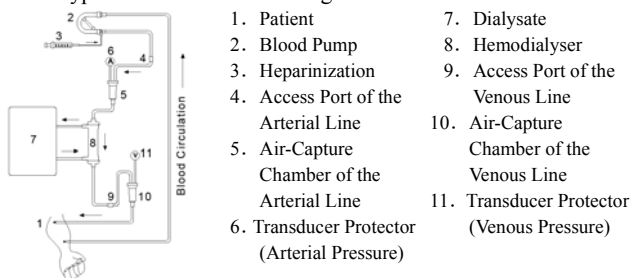
The major components of The DORA Tubing Sets for Hemodialysis are made from medical-grade PVC, PP, PC, ABS, fire-retardant PE and other medical-grade macromolecule materials. These products are fully sterilized by E-Beam radiation, sterile and non-pyrogenic, and contain no latex or DEHP. The tubing sets consist of a red Arterial Line and a blue Venous Line, and are soft, transparent, smooth and non-kink, which ensure the good liquidity. The filter in the venous air-capture chamber can prevent the blood clot going into patient's vein.

#### 4. Storage Conditions

Please avoid crash or exposure to rain, snow or direct sunlight during transportation. Store these products in 0°C ~ 40°C, well-ventilated indoor place with relative humidity no more than 80%, without corrosive gas. **DO NOT** store it in warehouse with chemicals or moist articles.

#### 5. Direction for Use

- Pick out the tubing sets from the pouch. The Arterial and Venous connectors should be connected correctly with the dialyzer's Arterial and Venous Ports respectively.
- Prime the tubing sets with Normal Saline, removing all air from tubing sets and hemodialyzer.
- Before the 2) step finished, utilize heparin saline to prime the tubing and the dialyzer, which ensures the tubing is full of heparin saline, then stop pumping, and clamp all branch tubings.
- Recheck and make sure all connectors are tight.
- Start treatment referring to the dialyzer Instruction for Use.
- The typical bloodline circuit diagram



#### 6. Precautions in Use

- This product should be used under medical supervision. Use aseptic technique throughout connection, priming and treatment. The validity period is three years after the sterilization day. Please check the expiration date prior to use, to prevent contamination, **DO NOT** use any expired product.
- DO NOT** use a sharp tool when opening the carton or an individual package. **DO NOT** use the tubing sets if the package is damaged.

- Open the pouch and pick out the tubing sets carefully. Check that all connections are secure and protective caps are in place. The tubing sets must be used as soon as the packaging and the protective caps have been removed.
- The safety of the connection to dialyzers should be guaranteed. **DO NOT** use the tubing sets if the hemodialyzer connector can not fit for the hemodialyzer. Check from time to time to ensure that all of the connectors are tight to prevent blood leakage or the air bubbles and avoid air embolism. Make sure the tubing set is properly installed to the hemodialysis machine to prevent kinks during treatment as they may create a hazardous reduction in the cross section of the tubing with a harmful effect on blood components and a risk of hemolysis.
- If the tubing set can not be properly connected, or there is any fluid leakage or presence of air bubbles, take corrective measures or replace with new tubing sets. Any abnormal condition should be properly treated under the direction of physician.
- This product is for single use only and reuse is prohibited. Reprocessing of this product may lead to adverse patient reactions and/or device failure. It should be discarded according to laws and regulations relevant to disposal of infectious medical waste so as to prevent infection.
- The transducer protector (TP) of this product is welded by high frequency bonding technology. If it is wetted by saline or blood during hemodialysis, clamp the tubing which connects with the transducer protector, and then replace with another new transducer protector. Make sure that a transducer protector was installed on each pressure monitoring line prior to patient use.
- DO NOT** use any needle larger than 21 gauge to puncture the injection site.
- General disinfectants in clinical settings are compatible with tubing set in external application.
- To ensure the normal use of the air-capture chamber, its level marking should be 1 cm below the upper cover.

#### 7. Symbol

	Do Not Reuse		Use by (Expiration) Date
	Batch Code		Pump Segment Diameter
	Date of Manufacture		Catalogue Number
	Caution		Manufacturer
	Temperature Limitation		Consult Instructions for Use
	Keep away from Sunlight		Keep Dry
	Do Not Use if Package is Damaged		Sterile Fluid Path by E-Beam Radiation
	Sufficient for		Humidity Limitation
	DEHP Free		Non-pyrogenic
	Handle with Care		This Way Up

#### 8. Parameter

Model	Priming Volume (A±10%)	Positive Pressure (mmHg)	Negative Pressure (mmHg)	Blood Flow Rate Limitations	Dimensional Parameters (mm)
BAIN-BL-001E	A=182	500	-500	500 mL/min	Arterial Line Length: 3500 Venous Line Length: 3000 Pump Tube OD: 12
BAIN-BL-002E	A=163				
BAIN-BL-003E	A=177				
BAIN-BL-004E	A=163				
BAIN-BL-005E	A=187				




<Manufacturer>

Bain Medical Equipment (Guangzhou) Co., Ltd.

Add.: No.10 Juncheng Road, Eastern Area, Economic & Technological

Development District, Guangzhou, China, 510760  
Tel: +86-20-8226 5249 Fax: +86-20-3206 7500  
E-mail: sales@baingz.com

 Keep this Instruction for Use after all of the products in this carton are used up.

**Ver. 2016-06.02**





































































































































































































































































































































































































































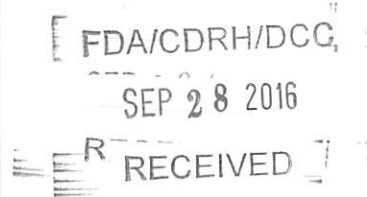








K161582/S001



Mid-Link Consulting Co., Ltd  
P.O. Box 237-023  
Shanghai, 200237, China

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Control Center WO66 G609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993 0002

9/26/2016

RE: K161582 RTA Response  
Bain Medical Equipment (Guangzhou) Co., Ltd  
DORA Tubing Sets for Hemodialysis

Dear Madam/Sir,

Enclosed please kindly find as the response submitted on behalf of for Bain Medical Equipment (Guangzhou) Co., Ltd (hereinafter as "the sponsor"), for its product to each of question in your RTA designation letter dated Jun 8, 2016.

The eCopy provided is an exact duplicate of the paper copy.

I wish the response could address all of your concerns. Please feel free to contact me if you have any further questions via email at [info@mid-link.net](mailto:info@mid-link.net) or via fax at (240) 238-7587.

Best Regards,

A handwritten signature in black ink that reads "Diana Hong". The signature is written in a cursive style.

Diana Hong  
General Manager  
Mid-Link Consulting Co., Ltd  
Tel: +86-21-22815850  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

Enclosures

44



Mid-Link Consulting Co., Ltd  
P.O. Box 237-023  
Shanghai, 200237, China

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Control Center WO66 G609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993 0002

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Best Regards,

Diana Hong  
General Manager  
Mid-Link Consulting Co., Ltd  
Tel: +86-21-22815850  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

Enclosures

## **Table of Content**

Tab #1 Response

Tab #2 Instructions for Use

Tab #3 ISO 8638 Test Report (Shelf Life);

Tab #4 Simulated Operation Evaluation (Shelf Life);

Tab #5 Cytotoxicity Study (Shelf Life);

Tab #6 Intracutaneous Reactivity Test Report (Shelf Life);

Tab #7 Sensitization Test Report (Shelf Life);

Tab #8 Acute Systemic Toxicity Report (Shelf Life);

Tab #9 Hemolysis Test Report (Shelf Life);

Tab #10 Partial Thromboplastin Time Report (Shelf Life);

Tab #11 Complement Activation Assay (Shelf Life);

Tab #12 In vitro Chromosomal Aberration Report (Shelf Life);

Tab #13 Bacterial Reverse Mutation Report (Shelf Life);

Tab #14 in vitro Mammalian Cell Gene Mutation Test Report (Shelf Life);

Tab #15 Pyrogen Report (Shelf Life)

Tab #16 Biocompatibility

Tab #17 ISO 8638 Test Report

Tab #18 Tensile Testing Report

Tab #19 Simulated Operation Report

Tab #20 Tensile Test Report (Shelf Life).













## Tubing Sets for Hemodialysis

### Instructions for Use

**Manufacturer has been granted certificate of ISO 13485**

**⚠ Caution:** Federal law restricts this device to sale by or on the order of a physician. Please read the instructions and warnings carefully before using this product. Keep this Instructions for Use after all of the products in this carton are used up.

#### 1. Indications for Use

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect hemodialyzer with patient in hemodialysis treatment. The hemodialysis delivery system which is compatible with the product is Fresenius 2008K manufactured by Fresenius Medical Care North America.

#### 2. Intended Patient Population

The DORA Tubing Sets for Hemodialysis are only for adult patients.

#### 3. Contraindications and Adverse Reactions

There are no known contraindications or adverse reactions to the use of the DORA Tubing Sets for Hemodialysis.

#### 4. Material

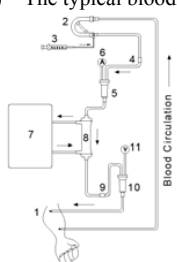
The major components of The DORA Tubing Sets for Hemodialysis are made from medical-grade PVC, PP, PC, ABS, fire-retardant PE and other medical-grade macromolecule materials. These products are fully sterilized by E-Beam radiation, sterile and non-pyrogenic, and contain no latex or DEHP. The tubing sets consist of a red Arterial Line and a blue Venous Line, and are soft, transparent, smooth and non-kink, which ensure the good liquidity. The filter in the venous air-capture chamber can prevent the blood clot going into patient's vein.

#### 5. Storage Conditions

Please avoid crash or exposure to rain, snow or direct sunlight during transportation. Store these products in 0°C ~ 40°C, well-ventilated indoor place with relative humidity no more than 80%, without corrosive gas. **DO NOT** store it in warehouse with chemicals or moist articles.

#### 6. Direction for Use

- Pick out the tubing sets from the pouch. The Arterial and Venous connectors should be connected correctly with the dialyzer's Arterial and Venous Ports respectively.
- Prime the tubing sets with Normal Saline, removing all air from tubing sets and hemodialyzer.
- Before the 2) step finished, utilize heparin saline to prime the tubing and the dialyzer, which ensures the tubing is full of heparin saline, then stop pumping, and clamp all branch tubings.
- Recheck and make sure all connectors are tight.
- Start treatment referring to the dialyzer Instruction for Use.
- The typical bloodline circuit diagram



1. Patient
2. Blood Pump
3. Heparinization
4. Access Port of the Arterial Line
5. Air-Capture Chamber of the Arterial Line
6. Transducer Protector (Arterial Pressure)
7. Dialysate
8. Hemodialyzer
9. Access Port of the Venous Line
10. Air-Capture Chamber of the Venous Line
11. Transducer Protector (Venous Pressure)

#### 7. Precautions in Use

- This product should be used under medical supervision. Use aseptic technique throughout connection, priming and treatment. The validity period is three years after the sterilization day. Please check the expiration date prior to use, to prevent contamination.
- Open the pouch and pick out the tubing sets carefully. Check that all connections are secure and protective caps are in place. The tubing sets must be used as soon as the packaging and the protective caps have been removed.
- If the tubing set can not be properly connected, or there is any fluid leakage or presence of air bubbles, take corrective measures or replace with new tubing sets. Any abnormal condition should be properly treated under the direction of physician.
- This product is for single use only and reuse is prohibited. Reprocessing of this product may lead to adverse patient reactions and/or device failure. It should be discarded according to laws and regulations relevant to disposal of infectious medical waste so as to prevent infection.

- The transducer protector (TP) of this product is welded by high frequency bonding technology. If it is wetted by saline or blood during hemodialysis, clamp the tubing which connects with the transducer protector, and then replace with another new transducer protector. Make sure that a transducer protector was installed on each pressure monitoring line prior to patient use.
- General disinfectants in clinical settings are compatible with tubing set in external application.
- To ensure the normal use of the air-capture chamber, its level marking should be 1 cm below the upper cover.

#### 8. Warnings

- DO NOT** use any expired product.
- DO NOT** use a sharp tool when opening the carton or an individual package. **DO NOT** use the tubing sets if the package is damaged.
- The safety of the connection to dialyzers should be guaranteed. **DO NOT** use the tubing sets if the hemodialyzer connector can not fit for the hemodialyzer. Check from time to time to ensure that all of the connectors are tight to prevent blood leakage or the air bubbles and avoid air embolism. Make sure the tubing set is properly installed to the hemodialysis machine to prevent kinks during treatment as they may create a hazardous reduction in the cross section of the tubing with a harmful effect on blood components and a risk of hemolysis.
- DO NOT** use any needle larger than 21 gauge to puncture the injection site when sampling.

#### 9. Symbol

	Do Not Reuse		Use by (Expiration) Date
	Batch Code		Pump Segment Diameter
	Date of Manufacture		Catalogue Number
	Caution		Manufacturer
	Temperature Limitation		Consult Instructions for Use
	Keep away from Sunlight		Keep Dry
	Do Not Use if Package is Damaged		Sterile Fluid Path by E-Beam Radiation
	Sufficient for		Humidity Limitation
	DEHP Free		Non-pyrogenic
	Handle with Care		This Way Up

#### 10. Parameter

Model	Priming Volume (A±10%)	Positive Pressure (mmHg)	Negative Pressure (mmHg)	Blood Flow Rate Limitations	Dimensional Parameters (mm)
BAIN-BL-001E	A=182	500	-500	500 mL/min	Arterial Line Length: 3500 Venous Line Length: 3000 Pump Tube OD: 12
BAIN-BL-002E	A=163				
BAIN-BL-003E	A=177				
BAIN-BL-004E	A=163				
BAIN-BL-005E	A=187				



<Manufacturer>

**Bain Medical Equipment (Guangzhou) Co., Ltd.**

Add.: No.10 Juncheng Road, Eastern Area, Economic & Technological Development District, Guangzhou, China, 510760  
Tel: +86-20-8226 5249 Fax: +86-20-3206 7500  
E-mail: sales@baingz.com

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## **Tab #16 Biocompatibility**

1.	Identification of Patient Contact Materials .....	2
2.	Biocompatibility .....	10



















































































































































































K161582/5002



Mid-Link Consulting Co., Ltd  
P.O. Box 120-119  
Shanghai, 200120, China

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Control Center WO66 G609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993 0002

FDA/CDRH/DCC

MAY 19 2017

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5/11/2017

RE: K161582 – Supplement 2  
Bain Medical Equipment (Guangzhou) Co., Ltd  
DORA Tubing Sets for Hemodialysis

Dear Madam/Sir,

Enclosed please kindly find as the response submitted on behalf of for Bain Medical Equipment (Guangzhou) Co., Ltd (hereinafter as "*the sponsor*"), for its product to each of question in your deficiency letter dated 11/24/2016.

The eCopy provided is an exact duplicate of the paper copy.

I wish the response could address all of your concerns. Please feel free to contact me if you have any further questions via at [info@mid-link.net](mailto:info@mid-link.net) or fax at (240) 238-7587.

Best Regards,

Diana Hong  
General Manager  
Mid-Link Consulting Co., Ltd  
Tel: +86-21-22815850  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

Enclosures



Mid-Link Consulting Co., Ltd  
P.O. Box 120-119  
Shanghai, 200120, China

U.S. Food and Drug Administration  
Center for Devices and Radiological Health  
Document Control Center WO66 G609  
10903 New Hampshire Avenue  
Silver Spring, MD 20993 0002

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I wish the response could address all of your concerns. Please feel free to contact me if you have any further questions via at [info@mid-link.net](mailto:info@mid-link.net) or fax at (240) 238-7587.

Best Regards,

  
Diana Hong  
General Manager  
Mid-Link Consulting Co., Ltd  
Tel: +86-21-22815850  
Fax: 240-238-7587  
Email: [info@mid-link.net](mailto:info@mid-link.net)

Enclosures

## Table of Content

Tab	Title
1	Responses
2	FDA FORM 3881 Indications for Use
3	510 (k) Summary
4	User Manual
5	Nipro Set Brochure
6	Immediate Package Label
7	Difference Comparison Diagram
8	Components Description and Devices Drawings
9	Endurance Testing of Pump Segment
10	Endurance Testing of Pump Segment for Aged Samples
11	Repeated Closing Test
12	Repeated Closing Test for Aged Samples
13	Simulated Operation Testing Supplement
(b) (4)	
21	ISO 8638 Test Report Shelf Life
22	Direct Hemolysis Testing
23	Complement Activation Test
24	Prothrombin Time Test
25	In Vitro Mammalian Cell Lymphoma Assay
26	Subacute Systemic Toxicity Testing
27	Mechanical Hemolysis Testing

































DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Food and Drug Administration

## Indications for Use

Form Approved: OMB No. 0910-0120  
Expiration Date: January 31, 2017  
See PRA Statement below.

510(k) Number (if known)

K161582

Device Name

DORA Tubing Sets for Hemodialysis

Indications for Use (Describe)

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect the patient to the hemodialyzer and the hemodialysis delivery system in hemodialysis treatment. The compatibility of available configurations is the responsibility of the physician/clinician in charge.

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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*"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number."*

## Tab #5 510(k) Summary

This 510(k) Summary is being submitted in accordance with requirements of SMDA 1990 and Title 21, CFR Section 807.92.

The assigned 510(k) Number: \_\_\_\_\_

1. Date of Preparation: 03/14/2017

2. Sponsor Identification

**Bain Medical Equipment (Guangzhou) Co., Ltd**

No.10 Juncheng Road, Eastern Zone of Guangzhou Economic & Technological Development District, 510760, Guangdong, P.R.China

Establishment Registration Number: Not yet registered or the Number

Contact Person: Mu Fangzhen

Position: Management Representative

Tel: +86 20 8226 5249 ext.340

Fax: +86 20 3206 7500

Email: mufangzhen@baingz.com

3. Designated Submission Correspondent

Ms. Diana Hong (Primary Contact Person)

Mr. Lee Fu (Alternative Contact Person)

**Mid-Link Consulting Co., Ltd**

P.O. Box 120-119, Shanghai, 200120, China

Tel: +86-21-22815850,

Fax: 240-238-7587

Email: [info@mid-link.net](mailto:info@mid-link.net)



#### 4. Identification of Proposed Device

Trade Name: DORA Tubing Sets for Hemodialysis

Common Name: Blood tubing sets

Model(s): BAIN-BL-001E, BAIN-BL-002E, BAIN-BL-003E, BAIN-BL-004E, BAIN-BL-005E

##### Regulatory Information

Classification Name: Set, Tubing, Blood, With And Without Anti-Regurgitation Valve

Classification: 2

Product Code: FJK

Regulation Number: 876.5820

Review Panel: Gastroenterology/Urology

##### Intended Use Statement:

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect the patient to the hemodialyzer and the hemodialysis delivery system in hemodialysis treatment. The compatibility of available configurations is the responsibility of the physician/clinician in charge.

##### Device Description

The proposed devices, DORA Tubing Sets for Hemodialysis, mainly consists of two tubes, which are arterial line with certain components in red and venous line with certain components in blue, as well as two accessories which are recirculate connector and drainage bag.

They are available in five (5) models, following very similar design principles, and has some differences in dimensions and configurations.

The proposed devices are provided in sterile condition, it is subject to e-beam sterilization prior to release to achieve a Sterility Assurance Level (SAL) of  $10^{-6}$ .

#### 5. Identification of Predicate Device(s)

K072024

Nipro® Set – Blood Tubing Set with Transducer Protector and Priming Set

Nipro Medical Corporation

#### 6. Non-Clinical Test Conclusion

Non clinical tests were conducted to verify that the proposed device met all design specifications as was Substantially Equivalent (SE) to the predicate device. The test results demonstrated that the proposed device complies with the following standards:

➤ ISO 8638 Third Edition 2010-07-01, Cardiovascular Implants And Extracorporeal Blood

Circuit For Hemodialyzers, Hemodialfilters, And Hemofilters. 9-89

- ISO 594-2 Second Edition 1998-09-01, Conical Fittings With A 6% (Luer) Taper For Syringes, Needles And Certain Other Medical Equipment - Part 2: Lock Fittings. 6-129
- ISO 10993-5:2009 Biological evaluation of medical devices -- Part 5: Tests for In Vitro cytotoxicity;
- ISO 10993-11:2006 Biological evaluation of medical devices -- Part 11: Tests for systemic toxicity;
- ISO 10993-10:2010 Biological evaluation of medical devices - Part 10: Tests for irritation and skin sensitization;
- ISO 10993-4:2002 Biological evaluation of medical devices -- Part 4: Selection of tests for interactions with blood;
- ASTM F 756-08, Standard practice for assessment of hemolytic properties of material;
- ASTM F88/F88M-09, Standard Test Method for Seal Strength of Flexible Barrier Materials

#### 7. Clinical Test Conclusion

No clinical study is included in this submission.

#### 8. Substantially Equivalent (SE) Comparison

Table 1 Comparison of Technology Characteristics

Item	Proposed Device	Predicate Device, K072024
Device Class	II	II
Product Code	FJK	FJK
Regulation Number	21 CFR part 876.5820	21 CFR part 876.5820
Intended Use	The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect the patient to the hemodialyzer and the hemodialysis delivery system in hemodialysis treatment.	Nipro® Set - Blood Tubing Set with Transducer Protector and Priming Set are disposable bloodlines intended to provide extracorporeal access to the patient's blood during hemodialysis.
	The compatibility of available configurations is the responsibility of the physician/clinician in charge.	The compatibility of available configuration is the responsibility of the physician in charge.
Feature	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device	Pre-Pump Post-Pump Color Coded component Sterile Non-pyrogenic Single Use Prescription Device
Configuration	Arteria Line Venous Line	Tubing

	Drip Chamber	Drip Chamber
	Branch Lines	Infusion Tubing; Pressure Monitoring Lines;
	Female Luer Lock	Ports
	Clamps	Clamps
	Filter	Filters
	Drain Bag Recirculating Connector	N.A.
Performance	Conforms to ISO 8638:2010 ISO 594-2: 1998	Conforms to ISO 8638:2010 ISO 594-2: 1998
Materials	Various materials	Unknown
Biocompatibility	Cytotoxicity; Sensitization Intracutaneous reactivity; Acute systemic toxicity; Hemolysis Partial Thromboplastin Time Complement System In vitro Chromosomal Aberration Bacterial Reverse Mutation Mouse Bone Marrow Micronucleus Pyrogen	Conforms to ISO 10993-1
Sterilization	SAL ( $10^{-6}$ )	SAL ( $10^{-6}$ )

Discussion: The intended use of the proposed and predicate device is different in text. The proposed device has two (2) additional accessories which are drain bag and the recirculating. These two (2) accessories will not affect the actual hemodialysis; the materials of the propose device have been evaluated for their biocompatibility. Therefore, no difference will result in any safety and effectiveness issue.

#### Conclusion

Based on the comparison and analysis above, the proposed devices are determined to be Substantially Equivalent (SE) to the predicate devices.



## Tubing Sets for Hemodialysis

### Instructions for Use

**Manufacturer has been granted certificate of ISO 13485**

**⚠ Caution:** Federal law restricts this device to sale by or on the order of a physician. Please read the instructions and warnings carefully before using this product. Keep this Instructions for Use after all of the products in this carton are used up.

#### 1. Indications for Use

The DORA Tubing Sets for Hemodialysis are single-use sterile medical devices intended to connect the patient to the hemodialyzer and the hemodialysis delivery system in hemodialysis treatment. The compatibility of available configurations is the responsibility of the physician / clinician in charge.

#### 2. Intended Patient Population

The DORA Tubing Sets for Hemodialysis are only for adult patients.

#### 3. Contraindications and Adverse Reactions

There are no known contraindications or adverse reactions to the use of the DORA Tubing Sets for Hemodialysis.

#### 4. Material

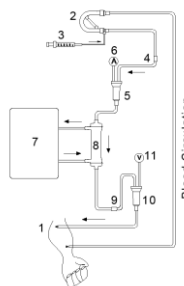
The major components of The DORA Tubing Sets for Hemodialysis are made from medical-grade PVC, PP, PC, ABS, fire-retardant PE and other medical-grade macromolecule materials. These products are fully sterilized by E-Beam radiation. It has a sterile, non-toxic and non-pyrogenic fluid path. The device is manufactured with components and materials that do not contain natural rubber latex components. The tubing sets consist of a red Arterial Line and a blue Venous Line, and are soft, transparent, smooth and non-kink, which ensure the good liquidity. The filter in the venous air-capture chamber (drip chamber) can prevent the blood clot going into patient's vein.

#### 5. Storage Conditions

Please avoid crash or exposure to rain, snow or direct sunlight during transportation. Store these products in 0°C ~ 40°C, well-ventilated indoor place with relative humidity no more than 80%, without corrosive gas. **DO NOT** store it in warehouse with chemicals or moist articles.

#### 6. Direction for Use

- 1) Pick out the tubing sets from the pouch. The Arterial and Venous connectors should be connected correctly with the dialyzer's Arterial and Venous Ports respectively.
- 2) Prime the tubing sets with Normal Saline, removing all air from tubing sets and hemodialyzer, then stop pumping, and clamp all branch tubings.
- 3) Recheck and make sure all connectors are tight.
- 4) Start treatment referring to the dialyzer Instruction for Use.
- 5) The typical bloodline circuit diagram



1. Patient
2. Blood Pump
3. Heparinization
4. Access Port of the Arterial Line
5. Arterial Air-Capture Chamber (Drip Chamber)
6. Transducer Protector (Arterial Pressure)
7. Dialysate
8. Hemodialyzer
9. Access Port of the Venous Line
10. Venous Air-Capture Chamber (Drip Chamber)
11. Transducer Protector (Venous Pressure)

#### 7. Precautions in Use

- 1) This product should be used under medical supervision. Use aseptic technique throughout connection, priming and treatment. The validity period is three years after the sterilization day. Please check the expiration date prior to use, to prevent contamination.
- 2) Open the pouch and pick out the tubing sets carefully. Check that all connections are secure and protective caps are in place. The tubing sets must be used as soon as the packaging and the protective caps have been removed.
- 3) If the tubing set can not be properly connected, or there is any fluid leakage or presence of air bubbles, take corrective measures or replace with new tubing sets. Any abnormal condition should be properly treated under the direction of physician.
- 4) This product is for single use only and reuse is prohibited. Reprocessing of this product may lead to adverse patient reactions and / or device failure. It should be discarded

according to laws and regulations relevant to disposal of infectious medical waste so as to prevent infection.

- 5) The transducer protector (TP) of this product is welded by high frequency bonding technology. If it is wetted by saline or blood during hemodialysis, clamp the tubing which connects with the transducer protector, and then replace with another new transducer protector. Make sure that a transducer protector was installed on each pressure monitoring line prior to patient use.
- 6) To ensure the normal use of the air-capture chamber, air-capture chamber (drip chamber) fill level should be 1 cm below the level marking.

#### 8. Warnings

- 1) **DO NOT** use any expired product.
- 2) **DO NOT** use a sharp tool when opening the carton or an individual package. **DO NOT** use the tubing sets if the package is damaged.
- 3) The safety of the connection to dialyzers should be guaranteed. **DO NOT** use the tubing sets if the hemodialyzer connector can not fit for the hemodialyzer.
- 4) Check from time to time to ensure that all of the connectors are tight to prevent blood leakage or the air bubbles and avoid air embolism.
- 5) Make sure the tubing set is properly installed to the hemodialysis machine to prevent kinks during treatment as they may create a hazardous reduction in the cross section of the tubing with a harmful effect on blood components and a risk of hemolysis.
- 6) Significant hemolysis of red blood cells can occur in kinked blood tubing, especially in the post-pump, arterial tubing segment.
- 7) **DO NOT** use any needle larger than 21 gauge to puncture the injection site when sampling.

#### 9. Parameter

Model	Total Priming Volume (±10%)	Positive Pressure (mmHg)	Negative Pressure (mmHg)	Blood Flow Rate Limitations	Dimensional Parameters (mm)
BAIN-BL-001E	182	500	-500	500 mL/min	Arterial Line Length: 3500 Venous Line Length: 3000 Pump Tube OD: 12
BAIN-BL-002E	163				
BAIN-BL-003E	177				
BAIN-BL-004E	163				
BAIN-BL-005E	187				

The recommended maximum operating pressures for the transducer protector is 500 mmHg

**NOTE:** The hemodialysis delivery system which is compatible with these products is Fresenius 2008K manufactured by Fresenius Medical Care North America.

#### 10. Symbol

	Do Not Reuse		Use by (Expiration) Date
	Batch Code		Pump Segment Diameter
	Date of Manufacture		Catalogue Number
	Caution		Manufacturer
	Temperature Limitation		Consult Instructions for Use
	Keep away from Sunlight		Keep Dry
	Do Not Use if Package is Damaged		Sterile Fluid Path by E-Beam Radiation
	Non-pyrogenic		Humidity Limitation
	Handle with Care		This Way Up

#### 11. Components

**Air-Capture Chamber (Drip Chamber):** It is intended to capture air and which can provide compliance to the blood circuit or allow pressure to be monitored

**Pump Segment:** Portion of the extracorporeal blood circuit that is acted upon by the blood pump

**Transducer Protector:** Component of the extracorporeal blood circuit that is intended to provide an interconnection between the extracorporeal blood circuit and the haemodialysis machine while allowing the pressure within the extracorporeal blood circuit to be measured by the machine

**Clamps:** It is used on the main tubing and branch tubing, control open and close of bloodstream assess through its opening & closing.

**Access Port (Injection Port):** It is for blood sampling / injection before or after treatment. Needle head puncture through the silicone stopper to sample blood / give injection.

**Priming Sets:** When pre-flushing the extracorporeal blood circuit, puncture it into the saline bag or bottle.

**Drain Bag:** It is intended to collect the waste fluid.

**Heparin Line:** Assess to inject heparin, whose length is based on its position in the hemodialysis machine.

**Arterial Tubing [Red] / Veinous Tubing [Blue]:** It is the main component for channeling blood in hemodialysis treatment.



<Manufacturer>

**Bain Medical Equipment (Guangzhou) Co., Ltd.**

**Add.:** No.10 Juncheng Road, Eastern Area, Economic & Technological Development District, Guangzhou, China, 510760

**Tel:** +86-20-8226 5249

**Fax:** +86-20-3206 7500

**E-mail:** sales@baingz.com

**Reserved for Distributor Information in the future.**

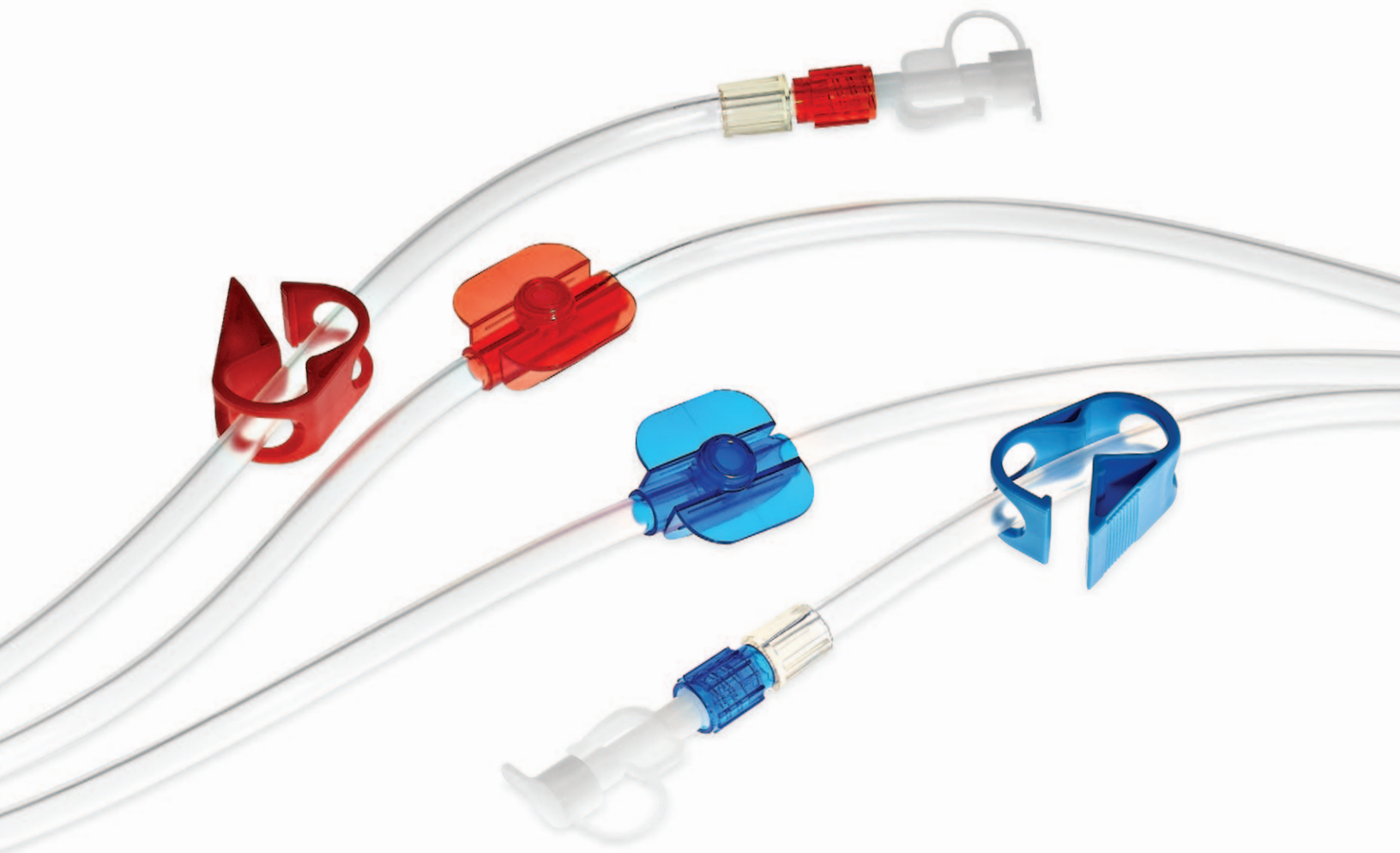
**Ver. 2017-05-05**



RENAL



# NiproSet<sup>®</sup> Blood Tubing



■ Built-in safety and efficiency features, with all sets pre-labeled based on equipment compatibility

■ Demonstrated accurate and consistent flow rates as well as excellent performance under extreme conditions, when compared with a competitive blood tubing set

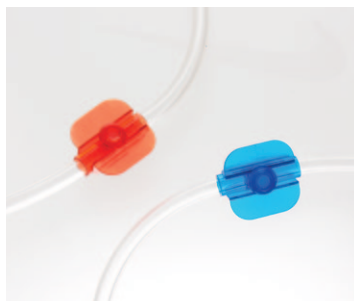


**NIPRO CONNECT<sup>®</sup>  
PROGRAM**

**Our commitment to strengthen every partnership.**

All Nipro renal products are backed by the Nipro Connect Educational Program – offering clinicians product evaluations, in-services, continuing education units (CEU's) and instructional materials.

[www.nipro.com](http://www.nipro.com)



### Medication ports

Large finger guard helps protect the user from accidental needle sticks; venous line features multiple medication ports for optimum versatility and choice in medication delivery.



### Color-coded clamps

Patient safety is enhanced with clamps that are color-coded for confident identification of the appropriate line.



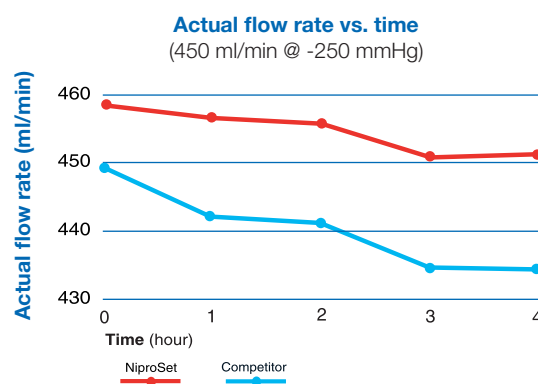
### Transducer protectors

Factory-applied torque helps prevent loosening or disconnecting of transducer; engineered to maintain monitoring while decreasing exposure to the dialysis machine.



### Drip chambers

Drip chambers feature a versatile medication port and, for an extra measure of safety, are anti-foaming to minimize splashing.



In-vitro testing shows that when compared with a leading brand of blood tubing, NiproSet delivered an accurate and consistent flow rate over time.\*

\*Data on file

## ORDERING INFORMATION

Item #	Description	Packaging
<b>BL+A204/V801</b>	Baxter1000/Baxter Arena/ 8mm/Post-Pump	24/Case (24)
<b>BL+A209Y/V803</b>	Fresenius 2008 series/ 8mm/Pre-Pump	
<b>BL+A210/V803</b>	Fresenius 2008 series/8mm/ Post-Pump	
<b>BL+A211/V804</b>	Baxter 550-1550/8mm/ Post-Pump	

Item #	Description	Packaging
<b>BL+A214Y/V805</b>	Fresenius 2008 series/8mm/ No Arterial Chamber	24/Case (24)
<b>BL+A217Y/V806</b>	B. Braun Dialog/8mm/ Post-Pump	
<b>BL+A223Y/V809</b>	Fresenius 2008 series/8mm/ Pre-Pump/Pre-Attached Priming Set	

**CAUTION:** Federal law restricts these devices to sale by or on the order of a physician.



**NIPRO MEDICAL CORPORATION**  
200 Crossing Blvd., Bridgewater, NJ 08807  
T: +1 (908) 393-7030, F: +1 (908) 393-7031  
[www.nipro.com](http://www.nipro.com)

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Printed in U.S.A. RN-DSUS-BLTUB Rev 0

Questions? Contact FDA/CDRH/OCE/DID at [CDRH-FOISTATUS@fda.hhs.gov](mailto:CDRH-FOISTATUS@fda.hhs.gov) or 301-796-8118



**Tab #6 Immediate Package Label**

Figure 1 BAIN-BL-001E

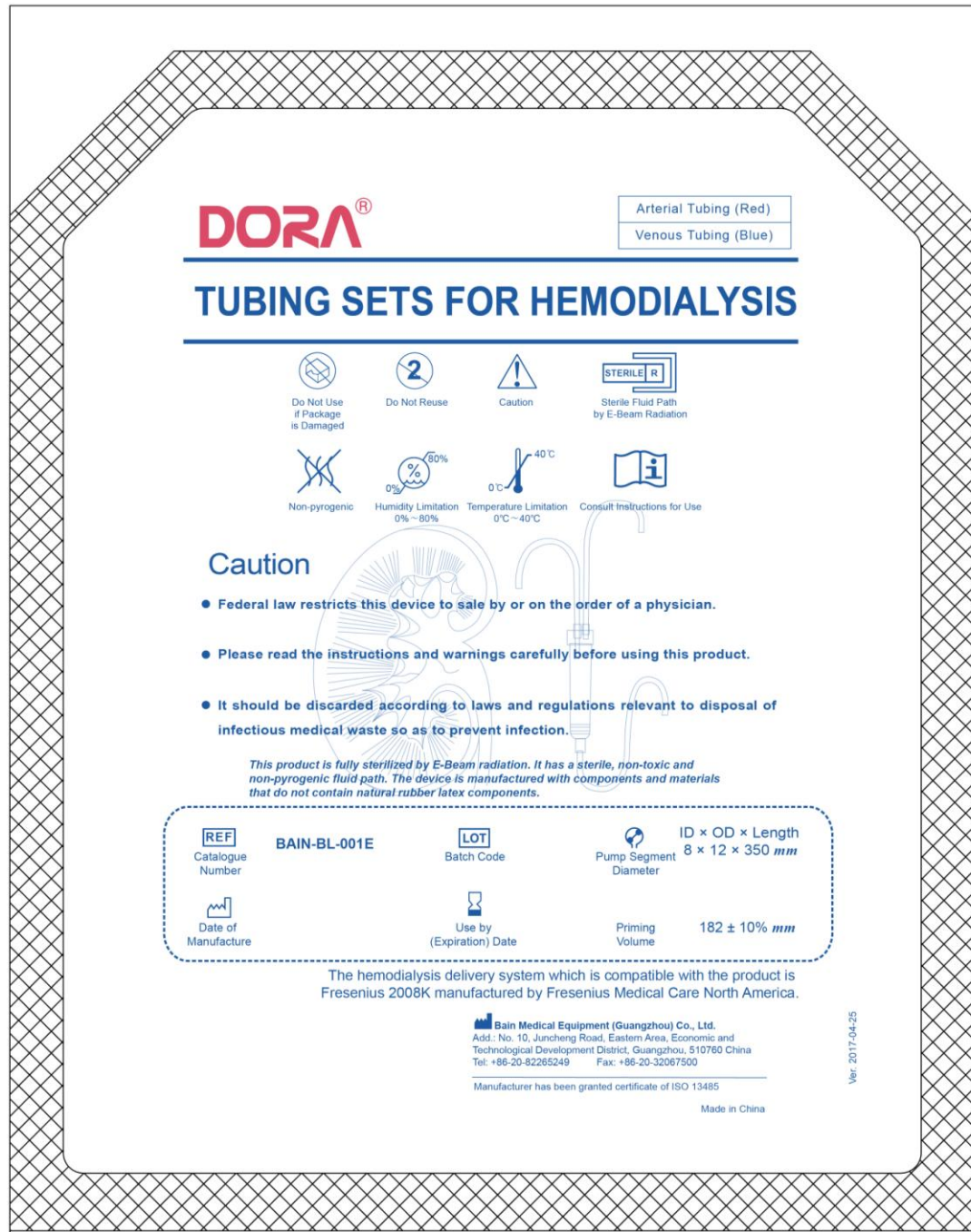




Figure 2 BAIN-BL-002E

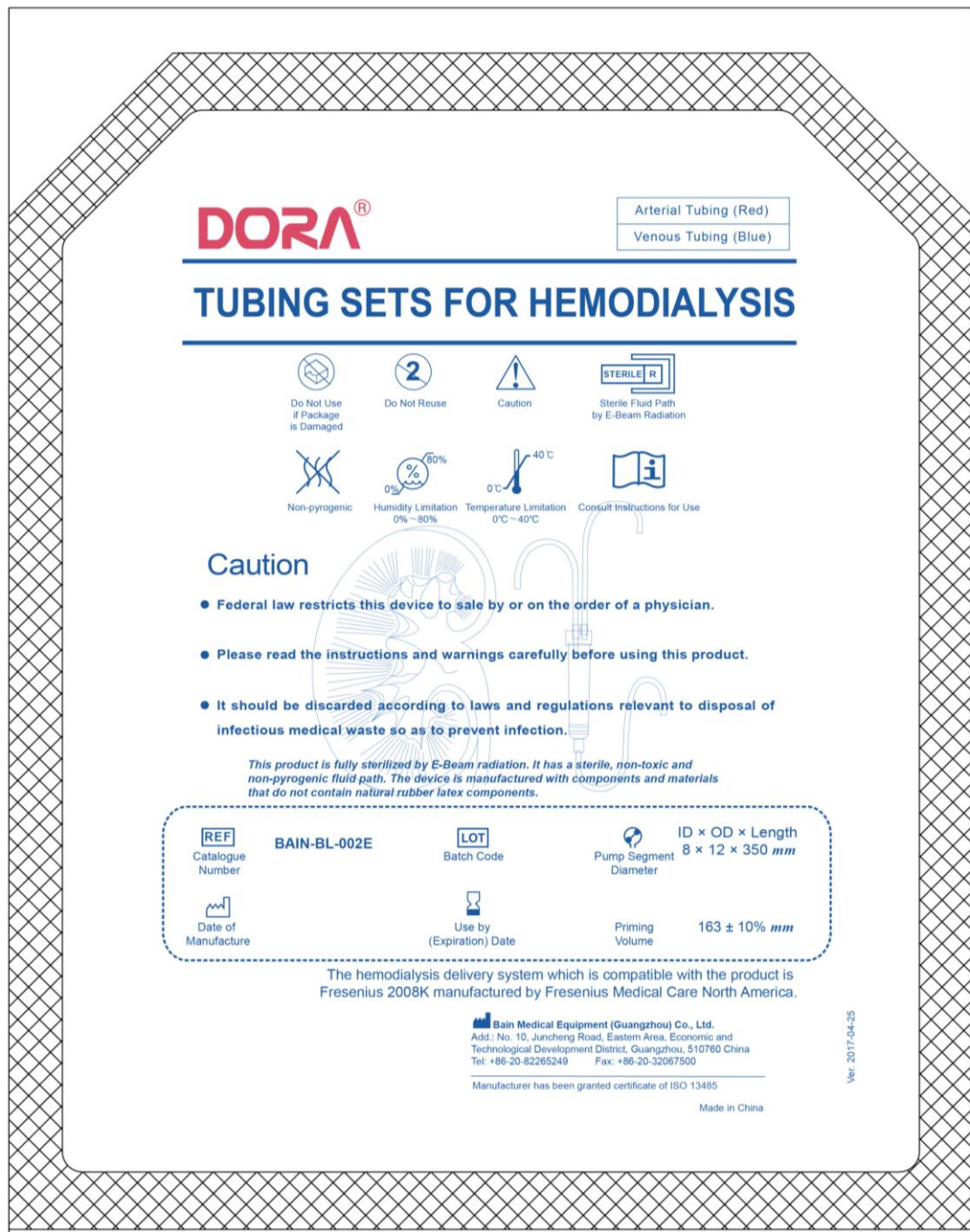


Figure 3 BAIN-BL-003E

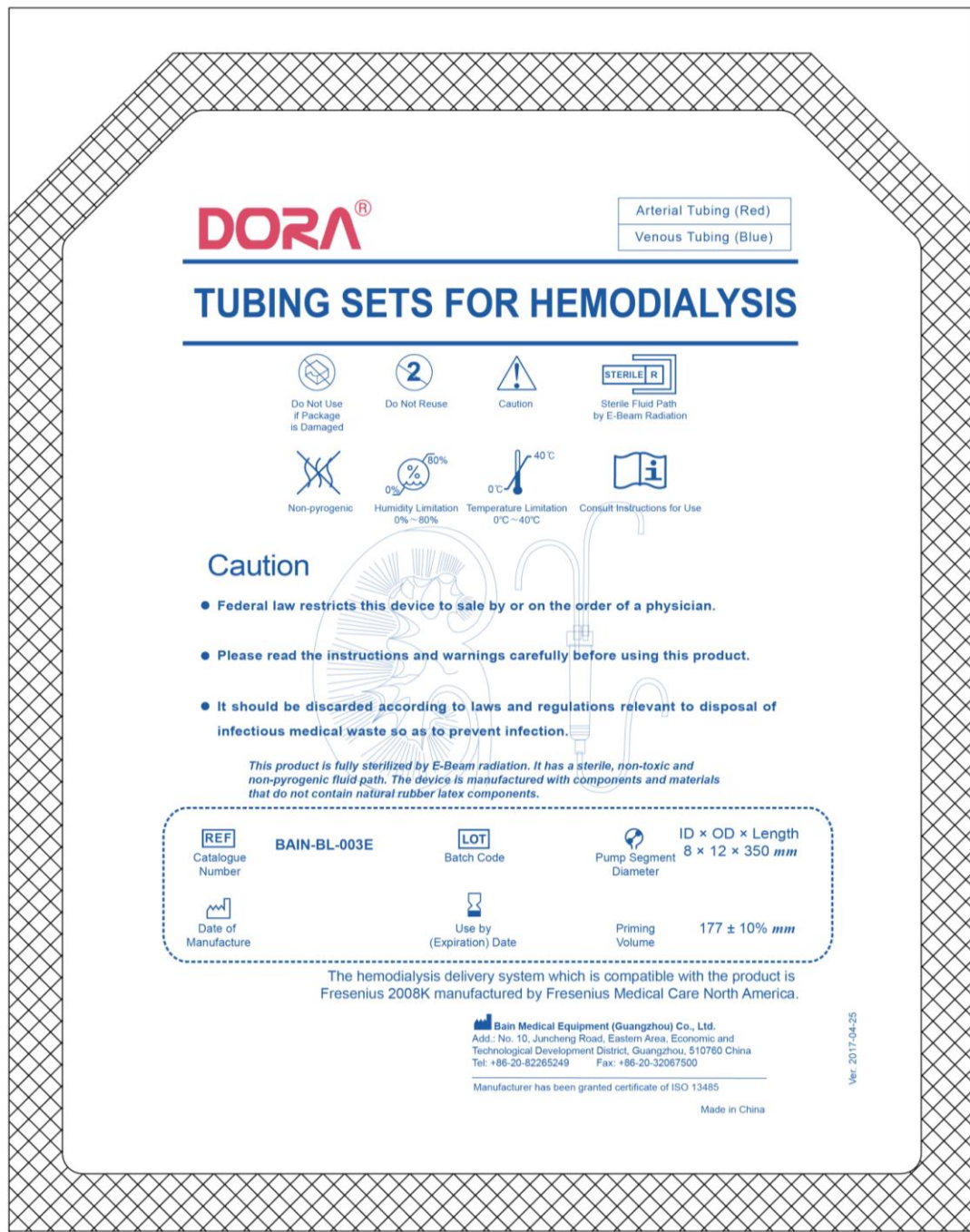


Figure 4 BAIN-BL-004E

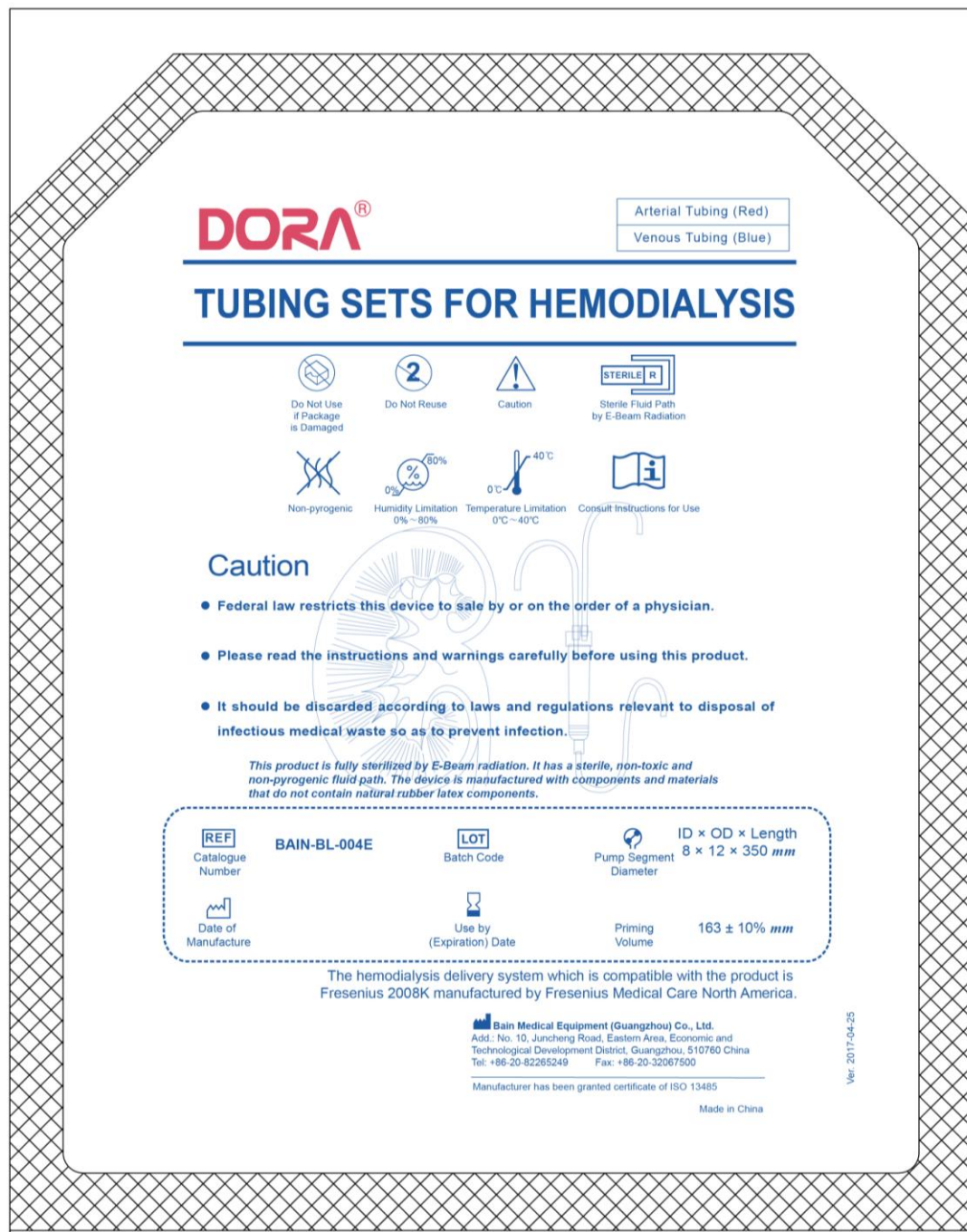
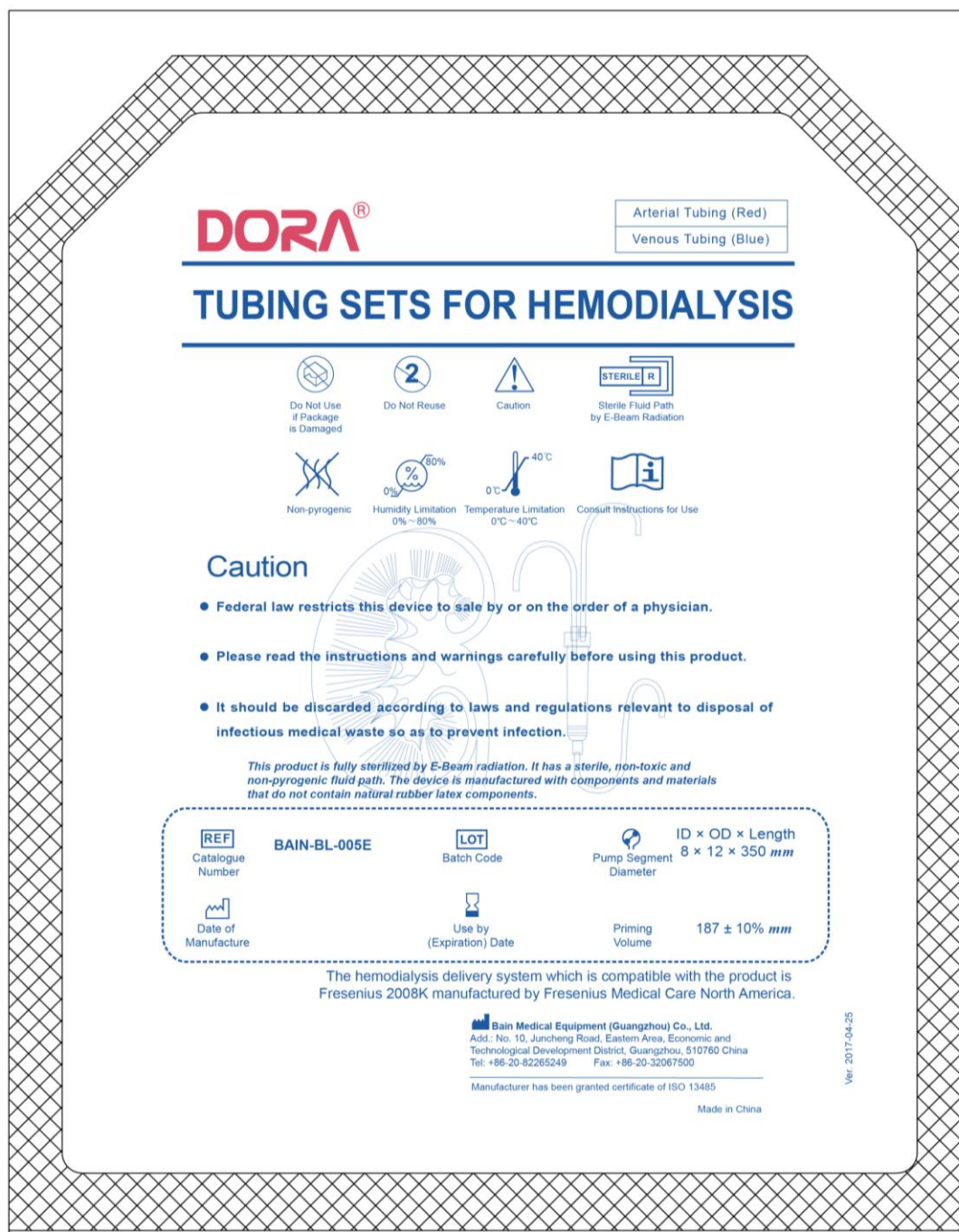




Figure 5 BAIN-BL-005E



(b) (4)

**Model**

(b) (4)













## **Tab #8 Components Description and Devices Drawings**

(b) (4)



(b) (4)



(b) (4)



2. Devices Assemble Drawings

(b) (4)

























































































































































































































































































































































































































































