Essential Requirements

Disposable drainage device

according to Directive 93/42/EEC,
implemented through the Medical Device Law(MPG)

Under control:

Issue Number:

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Essential Requirements acc. to Annex I of the MDD (93/42/EEC)		A/ NA	Standards, other directives and other rules applied	Documentation (test reports, protocols, literature or reason	Ok / Fai
I.	**GENERAL REQUIREMENTS**				
1.	The devices must be designed and manufactured in such a way that, when used under the conditions and for the purposes intended, they will not compromise the clinical condition or the safety of patients, or the safety and health of users or, where applicable, other persons, provided that any risks which may be associated with their use constitute acceptable risks when weighed against the benefits to the patient and are compatible with a high level of protection of health and safety. • reducing as far as possible, the risk of use error due to the ergonomic features of the device and the environment in which the device is intended to be used (design for patient safety), and • consideration of the technical knowledge, experience, education and training and where applicable the medical and physical conditions of intended users (design for lay, professional, disabled or other users).	A	EN ISO14971:2019 YY/T 0316-2016	Risk management of products report.	OK
2.	The solutions adopted by the manufacturer for the design and construction of the devices must conform to safety principles, taking account of the generally acknowledged state of the art. In selecting the most appropriate solutions, the manufacturer must apply the following principles in the following order: • eliminate or reduce risks as far as possible (inherently safe design and construction), • where appropriate take adequate protection measures including alarms if necessary, in relation to risks that cannot be eliminated, • inform users of the residual risks due to any shortcomings of the protection measures adopted.	A	EN ISO13485:2016 EN ISO 9001-2015 EN ISO14971:2019 YY/T 0316-2016	Quality system ISO13485certificate no.MD682069 ISO9001 certificate no.FM682088 Risk management of products report. Instruction for use	OK
3.	The devices must achieve the performances intended by the manufacturer and be designed, manufactured and packaged in such a way that they are suitable for one or more of the functions referred to in Article 1 (2) (a), as specified by the manufacturer.	A	YY 0489-2004 Product technical requirements	Product test report	OK
4.	The characteristics and performances referred to in sections 1, 2 and 3 must not be adversely affected to such a degree that the clinical condition and safety of the patients and, where applicable, of other persons are compromised during the lifetime of the device as indicated by the manufacturer, when the device is subjected to the stresses which can occur during normal conditions of use.	A	MEDDEV2.7/1 rev.4 Product technical requirements ASTM F1980-21	Clinical evaluation data Product test report, No.: M2017110101 Shelf-life validation Product test report INSTRUCTIONS FOR USE	OK

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5.	The devices must be designed, manufactured and packed in such a way that their characteristics and performances during their intended use will not be adversely affected during transport and storage taking account of the instructions and information provided by the manufacturer.	A	EN ISO11607-1:2020 GB/T 19633.1-2015 YY/T 0681 series YY/T 0698-7:2009	Shelf-life validation Packaging Validation Instruction for use	OK
6.	Any undesirable side effects must constitute an acceptable risk when weighed against the performances intended. Demonstration of conformity with the essential requirements must include a clinical evaluation in accordance with Annex X.	A	EN ISO14971:2019 YY/T 0316-2016 EN ISO14155:2020 MEDDEV2.7/1 rev.4	Risk management of products report. Clinical evaluation	OK
II.	**REQUIREMENTS REGARDING DESIGN AND CONSTRUCTION**				
7.	**Chemical, physical and biological properties**				
7.1	The devices must be designed and manufactured in such a way as to guarantee the characteristics and performances referred to in Section 1 on the "General requirements". Particular attention must be paid to: • the choice of materials used, particularly as regards toxicity and, where appropriate flammability, • the compatibility between the materials used and biological tissues, cells and body fluids, taking account of the intended purpose of the device. • where appropriate, the results of biophysical or modeling research whose validity has been demonstrated beforehand.	A	EN ISO13485:2016 EN ISO9001:2015 EN ISO 10993-3:2014 EN ISO 10993-5:2009 EN ISO 10993-10:2013 EN ISO 10993-11:2018	Quality system control documents. Biosafety test report. No.: SDWH-M201702592	OK
7.2	The devices must be designed, manufactured and packed in such a way as to minimise the risk posed by contaminants and residues to the persons involved in the transport, storage and use of the devices and to the patients, taking account of the intended purpose of the product. Particular attention must be paid to the tissues exposed and the duration and frequency of the exposure.	A	EN ISO14971:2019 YY/T 0316-2016 EN ISO 11135:2014(GB18279) EN ISO 10993-7：2008	Risk management of products report. Sterilization Validation for EO sterilization	OK
7.3	The devices must be designed and manufactured in such a way that they can be used safely with the materials, substances and gases with which they enter into contact during their normal use or during routine procedures; if the devices are intended to administer medicinal products they must be designed and manufactured in such a way as to be compatible with the medicinal products concerned according to the provisions and restrictions governing those products and that their performance is maintained in accordance with the intended use.	A	Product technical requirements	Product test report, No.: M2017110101	OK

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7.4	Where a device incorporates, as an integral part, a substance which, if used separately, may be considered to be a medicinal product as defined in Article 1 of Directive 65/65/EEC and which is liable to act upon the body with action ancillary to that of the device, the safety, quality and usefulness of the substance must be verified, taking account of the intended purpose of the device, by analogy with the appropriate methods specified in Directive 75/318/EEC.	NA		This product does not contain medicine This product is not used in combination with other devices.	/
7.5	The devices must be designed and manufactured in such a way as to reduce to a minimum the risks posed by substances leaking from the device.	A	Product technical requirements EN ISO 10993-7：2008 EN ISO 11135:2014(GB18279)	Sterilization Validation for EO sterilization Product test report, No.: M2017110101 Biosafety test report. No.: SDWH-M201702592	OK
7.6	The devices must be designed and manufactured in such a way as to reduce as much as possible, risks posed by the unintentional ingress of substances into the device taking into account the device and the nature of the environment in which it is intended to be used.	A	Product technical requirements EN ISO14971:2019 EN ISO 15223-1:2021	Product test report, No.: M2017110101 Packaging Validation Risk management of products report. Instruction for use Labels	OK
8.	**Infection and microbial contamination**				
8.1	The devices and their manufacturing processes must be designed in such a way as to eliminate or reduce as far as possible the risk of infection to the patient, user and third parties. The design must allow easy handling and, where necessary, minimise contamination of the device by the patient or vice versa during use.	A	EN ISO14971:2019 YY/T 0316-2016 EN ISO 13485:2016 EN ISO 9001:2015	Risk management of products report. Quality system control documents.	OK
8.2	Tissues of animal origin must originate from animals that have been subjected to veterinary controls and surveillance adapted to the intended use of the tissues. Notified Bodies shall retain information on the geographical origin of the animals. Processing, preservation, testing and handling of tissues, cells and substances of animal origin must be carried out so as to provide optimal security. In particular safety with regard to viruses and other transferable agents must be addressed by implementation of validated methods of elimination or viral inactivation in the course of the manufacturing process.	NA		Product do not classified as biological medical device.	OK

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8.3	Devices delivered in a sterile state must be designed, manufactured and packed in a non-reusable pack and/or according to appropriate procedures to ensure they are sterile when placed on the market and remain sterile, under the storage and transport conditions laid down, until the protective packaging is damaged or opened.	A	EN ISO 11607-1:2020 GB/T 19633.1-2015 YY/T 0681 series	Product Test Report Packaging Validation	OK
8.4	Devices delivered in a sterile state must have been manufactured and sterilised by an appropriate, validated method.	A	EN ISO 11135:2014 ISO 11737-1:2018 GB 18279-1:2015	Sterilization Validation for EO sterilizatio	OK
8.5	Devices intended to be sterilised must be manufactured in appropriately controlled (e.g. environmental) conditions.	A	Product technical requirements EN ISO 10993-7：2008 EN ISO 11135:2014(GB18279)	Sterilization Validation for EO sterilization Product test report, No.: M2017110101	OK
8.6	Packaging systems for non-sterile devices must keep the product without deterioration at the level of cleanliness stipulated and, if the devices are to be sterilised prior to use, minimise the risk of microbial contamination. The packaging system must be suitable taking account of the method of sterilisation indicated by the manufacturer.	NA		Product do classified as sterilized medical device.	OK
8.7	The packaging and/or label of the device must distinguish between identical or similar products sold in both sterile and non-sterile condition.	NA		Product do classified as sterilized medical device.	OK
9.	**Construction and environmental properties**				
9.1	If the device is intended for use in combination with other devices or equipment, the whole combination, including the connection system must be safe and must not impair the specified performance of the devices. Any restrictions on use must be indicated on the label or in the instruction for use.	NA		Product is used independently	OK

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9.2	Devices must be designed and manufactured in such a way as to remove or minimise as far as possible: • the risk of injury, in connection with their physical features, including the volume/pressure ratio, dimensional, and where appropriate the ergonomic features, • risks connected with reasonably foreseeable environmental conditions, such as magnetic fields, external electrical influences, electrostatic discharge, pressure, temperature or variations in pressure, and acceleration, • the risks of reciprocal interference with other devices normally used in the investigations or for the treatment given, • risks arising where maintenance or calibration are not possible (as with implants) from ageing of the materials used or loss of accuracy of any measuring or control mechanism.	A	EN ISO14971:2019 YY/T 0316-2016	Design drafts. Product test report	OK
9.3	Devices must be designed and manufactured in such a way as to minimise the risks of fire or explosion during normal use and in single fault condition. Particular attention must be paid to devices whose intended use includes exposure to flammable substances which could cause combustion.	NA		Product do not exposed to combustibles, combustibles, or in combination with combustible or combustible substances.	OK
10.	**Devices with a measuring function**				
10.1	Devices with a measuring function must be designed and manufactured in such a way as to provide sufficient accuracy and stability within appropriate limits of accuracy and taking account of the intended purpose of the device. The limits of accuracy must be indicated by the manufacturer	NA		Product do not classified as diagnose or measure function instrument.	OK
10.2	The measurement, monitoring and display scale must be designed in line with ergonomic principles, taking account of the intended purpose of the device	NA		Product do not classified as diagnose or measure function instrument.	OK
10.3	The measurements made by devices with a measuring function must be expressed in legal units conforming to the provisions of Council Directive 80/181/EEC. (OJ No L 39, 15. 2. 1980, p. 40. Directive as last amended by Directive 89/617/EEC (OJ No L 357, 7. 12. 1989, p. 28))	NA		Product do not classified as diagnose or measure function instrument.	OK

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11.	**Protection against radiation**				
11.1	General	NA		Product emits none of harmful radiation.	OK
11.1.1	Devices shall be designed and manufactured such that exposure of patients, users and other persons to radiation shall be reduced as far as possible compatible with the intended purpose, whilst not restricting the application of appropriate specified levels for therapeutic and diagnostic purposes.				
11.2	*Intended radiation*	NA		Product emits none of harmful radiation	OK
11.2.1	Where devices are designed to emit hazardous levels of radiation necessary for a specific medical purpose the benefit of which is considered to outweigh the risks inherent in the emission, it must be possible for the user to control the emissions. Such devices shall be designed and manufactured to ensure reproducibilty and tolerance of relevant variable parameters.				
11.2.2	Where devices are intended to emit potentially hazardous, visible and/or invisible radiation, they must be fitted, where practicable, with visual displays and/or audible warnings of such emissions.	NA		Product emits none of harmful radiation	OK
11.3	*Unintended radiation*	NA		Product emits none of harmful radiation	OK
11.3.1	Devices shall be designed and manufactured in such a way that exposure of patients, users and other persons to the emission of unintended, stray or scattered radiation is be reduced as far as possible.				

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11.4	*Instructions*	NA		Product emits none of harmful radiation	OK
11.4.1	The operating instructions for devices emitting radiation must give detailed information as to the nature of the emitted radiation, means of protecting the patient and the user and on ways of avoiding misuse and of eliminating the risks inherent in installation.				
11.5	*Ionising radiation*	NA		Product emits none of harmful radiation	OK
11.5.1	Devices intended to emit ionising radiation must be designed and manufactured in such a way as to ensure that, where practicable, the quantity, geometry and quality of radiation emitted can be varied and controlled taking into account the intended uses.				
11.5.2	Devices emitting ionising radiation intended for diagnostic radiology shall be designed and manufactured in such a way, as to achieve appropriate image and/or output quality for the intended medical purpose whilst minimising radiation exposure of the patient and user.	NA		Product emits none of harmful radiation	OK
11.5.3	Devices emitting ionising radiation intended for therapeutic radiology shall be designed and manufactured in such a way as to enable reliable monitoring and control of the delivered dose, the beam type and energy and where appropriate the quality of the radiation.	NA		Product emits none of harmful radiation	OK
12.	**Requirements for medical devices connected to or equipped with an energy source**			Product does not contain software	
12.1	Devices incorporating electronic programmable systems must be designed to ensure the repeatability, reliability and performance of these systems according to their intended use. In the event of a single fault condition (in the system) appropriate means should be adopted to eliminate or reduce as far as possible consequent risks	NA			OK
12.2	Devices where the safety of the patients depends on an internal power supply must be equipped with a means of determining the state of the power supply.	NA		Product do not classified as active medical device.	OK
12.3	Devices where the safety of the patient depends on an external power supply must include an alarm system to signal any power failure.	NA		Product do not classified as active medical device.	OK
12.4	Devices intended to monitor one or more clinical parameters of a patient must be equipped with appropriate alarm systems to alert the user of situations which could lead to death or severe deterioration of the patient's state of health.	NA		Product do not classified as active medical device.	OK

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12.5	Devices must be designed and manufactured in such a way as to minimise the risks of creating electromagnetic fields which could impair the operation of other devices or equipment in the usual environment.	NA		Product do not classified as active medical device.	OK
12.6	*Protection against electrical risks* Devices must be designed and manufactured in such a way as to avoid, as far as possible, the risk of accidental electric shocks during normal use and in single fault condition, provided that the devices are installed correctly.	NA		Product do not classified as active medical device.	OK
12.7 12.7.1	*Protection against mechanical and thermal risks* Devices must be designed and manufactured in such a way as to protect the patient and user against mechanical risks connected with, for example, resistance, stability and moving parts.	NA		Product do not classified as active medical device.	OK
12.7.2	Devices must be designed and manufactured in such a way as to reduce to the lowest possible level the risks arising from vibration generated by the devices, taking account of technical progress and of the means available for limiting vibrations, particularly at source, unless the vibrations are part of the specified performance.	NA		Product do not classified as active medical device.	OK
12.7.3	Devices must be designed and manufactured in such a way as to reduce to the lowest possible level the risks arising from the noise emitted, taking account of technical progress and of the means available to reduce noise, particularly at source, unless the noise emitted is part of the specified performance.	NA		Product do not classified as active medical device.	OK
12.7.4	The terminals and connectors to the electricity, gas or hydraulic and pneumatic energy supplies which the user has to handle must be designed and constructed in such a way as to minimise all possible risks.	NA		Product do not classified as active medical device.	OK
12.7.5	Accessible parts of devices (excluding any parts or areas intended to supply heat or reach given temperatures) and their surroundings must not attain potentially dangerous temperatures under normal use.	NA		Product do not classified as active medical device.	OK
12.8 12.8.1	*Protection against the risks posed to the patient by energy supplies or substances* Devices for supplying the patient with energy or substances must be designed and constructed in such a way that the flow rate can be set and maintained accurately enough to guarantee the safety of the patient and of the user.	NA		Product do not provide any energy or substances	OK

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12.8.2	Devices must be fitted with the means of preventing and/or indicating any inadequacies in the flow-rate which could pose a danger. Devices must incorporate suitable means to prevent, as far as possible, the accidental release of dangerous levels of energy from an energy and/or substance source.	NA		Product do not provide any energy or substances	OK
12.9	The function of the controls and indicators must be clearly specified on the devices. Where a device bears instructions required for its operation or indicates operating or adjustment parameters by means of a visual system, such information must be understandable to the user and, as appropriate, the patient.	NA		This product does not contain power software	OK
13.	**Information supplied by the manufacturer**				
13.1	Each device must be accompanied by the information needed to use it safely and to identify the manufacturer, taking into account of the training and knowledge of the potential users. This information comprises the details on the label and the data in the instructions for use. As far as practicable and appropriate, the information needed to use the device safely must be set out on the device itself and/or on the packaging for each unit or, where appropriate, on the sales packaging. If individual packaging of each unit is not practicable, the information must be set out in the leaflet supplied with one or more devices. Instructions for use must be included in the packaging for every device. By way of exception, no such instruction leaflet is needed for devices in Class I or Class IIa if they can be used completely safely without any such instructions	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK
13.2	Where appropriate, this information should take the form of symbols. Any symbol or identification colour used must conform to the harmonised standards. In areas for which no standards exist, the symbols and colours must be described in the documentation supplied with the device	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK

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13.3 *The label* must bear the following particulars:			Instruction for use	OK
a) the name or trade name and address of the manufacturer. For devices imported into the Community, in view of their distribution in the Community, the label, or the outer packaging, or the instructions for use, shall contain in addition the name and address of either the person responsible referred to in Article 14 (2) or of the authorised representative of the manufacturer established within the Community or of the importer established within the Community, as appropriate;	A	EN ISO 15223-1:2021 ISO 20417:2021	Labels Drawing of packing box Label	
b) the details strictly necessary for the user to identify the device and the contents of the packaging;	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use	OK
c) where appropriate, the word "STERILE";	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK
d) where appropriate, the batch code, preceded by the word "LOT", or the serial number;	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	
e) where appropriate, an indication of the date by which the device should be used, in safety, expressed as the year and month;	A		Instruction for use Labels	OK
f) where appropriate, an indication that the device is for single use;	A		Instruction for use Labels	OK
13.3 g) if the device is custom made, the words "custom made device";	NA			
h) if the device is intended for clinical investigations, the words "exclusively for clinical investigations";	NA			
i) any special storage and/or handling conditions;	NA			
j) any special operating instructions;	NA			
k) any warnings and/or precautions to take;	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use	OK

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	l) year of manufacture of active devices other than those covered by e). This indication may be included in the batch or serial number;	NA			
	m) where applicable, method of sterilisation.	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK
13.4	If the intended purpose of the device is not obvious to the user, the manufacturer must clearly state it on the label and in the instructions for use.	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use	OK
13.5	Wherever reasonable and practicable, the devices and detachable components must be identified, where appropriate in terms of batches, to allow all appropriate action to detect any potential risk posed by the devices and detachable components.	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK
13.6	Where appropriate, the instructions for use must contain the following particulars:				
	a) the details referred to in 13.3, with the exception of d) and	A			
	b) the performances referred to in section 3 and any undesirable side effects;	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels Drawing of packing box Label	OK
	c) if the device must be installed with or connected to other medical devices or equipment in order to operate as required for its intended purpose, sufficient details of its characteristics to identify the correct devices or equipment to use in order to obtain a safe combination;	NA		This product is not used in combination with other devices.	
	d) all the information needed to verify whether the device is properly installed and can operate correctly and safely, plus details of the nature and frequency of the maintenance and calibration needed to ensure that the devices operate properly and safely at all times;	NA			
	e) where appropriate, information to avoid certain risks in connection with implantation of the device;	NA			
	f) information regarding the risks of reciprocal interference posed by the presence of the device during specific investigations or treatment;	NA			

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g) the necessary instructions in the event of damage to the sterile packaging and, where appropriate, details of appropriate methods of re-sterilisation	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use Labels	OK
h) if the device is reusable, information on the appropriate processes to allow reuse, including cleaning, disinfection, packaging and, where appropriate, the method of sterilisation of the device to be re-sterilised, and any restriction on the number of reuses. Where devices are supplied with the intention that they may be sterilised before use, the instructions for cleaning and sterilisation must be that, if correctly followed, the device will still comply with the requirements in Section I;	A		Disposable product Instruction for use Labels	OK
i) details of any further treatment or handling needed before the device can be used (for example, sterilisation, final assembly, etc.)	NA			
j) in the case of devices emitting radiation for medical purpose, details of the nature, type intensity and distribution of this radiation	NA			
The instruction for use must also include details, allowing the medical staff to brief the patient on any contra-indications and any precautions to be taken. These details should cover in particular:	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use	OK
k) precautions to be taken in the event of changes in the performance of the device;	A	EN ISO 15223-1:2021 ISO 20417:2021	Instruction for use	
l) precautions to be taken as regards exposure, in reasonably foreseeable environmental conditions, to magnetic fields, external electrical influences, electrostatic discharge, pressure or variations in pressure, acceleration, thermal ignition sources etc.;	NA			
m) adequate information regarding the medicinal product or products which the device in question is designed to administer, including any limitations in the choice of substances to be delivered;	NA			
n) precautions to be taken against any special, unusual risks related to the disposal of the device;	NA			

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	o) medicinal substances incorporated into the device as an integral part in accordance with section 7.4; p) degree of accuracy claimed for devices with a measuring function.	NA NA			
14.	Where conformity with the essential requirements must be based on clinical data, as in section 1 (6), such data must be established in accordance with Annex X	A	MEDDEV2.7/1 rev.4 MEDDEV2.12/2 rev.2 EN ISO14155:2020	Clinical evaluation data	OK