

Risk assessment EN ISO 14971:2000 Annex A : Identification of medical device characteristics that could impact on safety.

| Section | Question | Answer Y / N | Risk Y / N |
|---------|---|-----------------|---------------|
| A.2.1 | Q. What is the intended use? A. | | |
| | Diagnosis? | N | N |
| | Prevention? | N | N |
| | Monitoring? | N | N |
| | Treatment or alleviation of disease? | N | N |
| | Compensation for injury or handicap? | N | N |
| | Replacement or modification of anatomy? | N | N |
| | Control of conception? | N | N |
| A.2.1 | Q. What is the intended purpose? A. | | |
| | Life sustaining? | N | N |
| | Life supporting? | N | N |
| A.2.1 | Q. How is the medical device to be used? A. | | |
| | The patient can control the use? | N | N |
| | The patient can influence the use? | N | N |
| | Mental abilities of the user? | N | N |
| | Physical abilities of the user? | N | N |
| | Skill of the user | N | N |
| | Training of the user? | Y | Y |
| | Used by handicapped persons? | N | N |
| | Used by the elderly? | N | N |
| | Used by children? | N | N |
| | Used by individuals with various skill levels? | N | N |
| | Used by individuals from various cultural backgrounds? | Y | Y |
| A.2.2 | Q. Is the medical device intended to contact the patient or other persons? A. | Y | Y |
| | Surface contact? | N | N |

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| | The period of contact? A. Short term | N | N |
| | The frequency of contact? A. During required use. | N | N |
| | Invasive contact? | N | N |
| | The period of contact? | N | N |
| | The frequency of contact? | N | N |
| | Implantation? | N | N |
| | The period of contact? | N | N |
| | The frequency of contact? | N | N |
| A.2.3 | Q. What materials and/or components are incorporated in the medical device or are used with, or are in contact with, the medical device? | N | N |
| A.2.4 | Q. Is energy delivered to and/or extracted from the patient? | N | N |
| A.2.5 | Q. Are substances delivered to and/or extracted from the patient? A. | N | N |
| | Single substance? | | |
| | Range of substances? | | |
| | The maximum and minimum transfer rates and control thereof? | | |
| A.2.6 | Q. Are biological materials processed by the medical device for subsequent re-use? | N | N |
| A.2.7 | Q. Is the medical device supplied sterile or intended to be sterilized by the user, or are other microbiological controls applicable? | N | N |
| | The shelf life? | | |
| | Any limitation on the number of re-use cycles? | | |
| | Any limitation type of sterilization process to be used? | | |
| | Limitation on the number of cleaning cycles? | | |
| | The effectiveness of routine cleaning and disinfection? | | |
| A.2.9 | Q. Is the medical device intended to modify the patient environment? | Y | Y |
| | Temperature? | | |
| | Humidity? | | |
| | Atmospheric gas composition? | Y | Y |
| | Pressure and light? | | |
| | Light? | | |
| A.2.10 | Q. Are measurements taken? | Y | Y |
| | The variables measured? | | |
| | The accuracy? | Y | Y |
| | The precision of the measurement results? | | |
| A.2.11 | Q. Is the medical device interpretative? | N | N |

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| | Conclusions are presented by the medical device from input data? | | |
| | Conclusions are presented by the medical device from acquired data? | | |
| | Conclusions are presented by the medical device from the algorithms used? | | |
| | Conclusions are presented by the medical device from input or acquired data, the algorithms used and confidence limits? | | |
| A.2.12 | Q. Is the medical device intended for use in conjunction with medicines or other medical technologies? | Y | Y |
| A.2.13 | Q. Are there unwanted outputs of energy or substances? | N | N |
| | Noise? | | |
| | Vibration? | | |
| | Heat? | | |
| | Radiation? | | |
| | Ionizing? | | |
| | Non-ionizing? | | |
| | Ultraviolet? | | |
| | Visible? | | |
| | Infrared? | | |
| | Contact temperatures? | | |
| | Leakage currents? | | |
| | Electric fields? | | |
| | Magnetic fields? | | |
| | Discharge of chemicals? | | |
| | Discharge of waste products? | | |
| | Discharge of body fluids? | | |
| A.2.14 | Q. Is the medical device susceptible to environmental influences? | Y | Y |
| | Operational? | | |
| | Transport storage environments? | | |
| | Light? | | |
| | Temperature? | Y | Y |
| | Vibrations? | | |
| | Spillage? | | |
| | Susceptibility to variations in power? | | |
| | Susceptibility of cooling supplies? | | |
| | Electromagnetic interference? | N | N |
| A.2.15 | Q. Does the medical device influence the environment? | N | N |

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| | The effects on power supplies? | | |
| | The effects cooling supplies? | | |
| | Emission of toxic materials? | | |
| | The generation of electromagnetic interference? | | |
| A.2.16 | Q. Are there essential consumables or accessories associated with the medical device? | Y | Y |
| A.2.17 | Q. Is maintenance and/or calibration necessary? | Y | Y |
| | Carried out by the operator? | Y | N |
| | Carried out by the user? | Y | N |
| | Carried out by a specialist? (Manufacturer) | N | N |
| | Are special substances necessary for proper maintenance and/or calibration? | N | N |
| | Is special equipment necessary for proper maintenance and/or calibration | N | N |
| A.2.18 | Q. Does the medical device contain software? | Y | Y |
| | Is software intended to be installed? | N | N |
| | Is software intended to be verified? | | |
| | Is software intended to be modified? | | |
| A.2.19 | Q. Does the medical device have a restricted shelf-life? | N | N |
| | Labeling? | | |
| | Indicators? | | |
| | The disposal of such medical devices? | Y | Y |
| A.2.20 | Q. Are there any delayed and/or long-term use effects? | N | N |
| | Ergonomic? | | |
| | Cumulative effects? | | |
| A.2.21 | Q. To what mechanical forces will the medical device be subjected? A. | N | N |
| | Under the control of the user? | | |
| | Controlled by interaction with other persons? | | |
| A.2.22 | Q. What determines the lifetime of the medical device? A. | N | N |
| | Ageing? | N | N |
| | Battery depletion? | Y | Y |
| | User care? | Y | N |
| A.2.23 | Q. Is the medical device intended for single use? | N | N |
| A.2.24 | Q. Is safe decommissioning or disposal of the medical device necessary? | N | N |
| | Does it contain toxic material? | Y | Y |
| | Does it contain hazardous material? | | |
| | Does it contain recyclable material? | | |
| A.2.25 | Q. Does installation or use of the medical device require special training? | N | N |
| A.2.26 | Q. Will new manufacturing processes need to be established or introduced? | N | N |

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| A.2.27 | Q. Is successful application of the medical device critically dependent on human factors such as the user interface? | Y | Y |
| A.2.27.1 | Q. Does the medical device have connecting parts or accessories? | Y | Y |
| | Connections? | Y | Y |
| | Connection force? | N | N |
| | Feedback on connection integrity? | N | N |
| | Over tightening? | N | N |
| | Under tightening? | N | N |
| | Spacing? | N | N |
| | Coding? | N | N |
| | Grouping? | N | N |
| A.2.27.2 | Q. Does the medical device have a control interface? | Y | Y |
| | Mapping, | | |
| | Modes of feedback? | | |
| | Blunders? | | |
| | Slips? | | |
| | Control differentiation? | | |
| | Visibility? | | |
| | Direction of activation or change? | | |
| | Are the controls continuous? | | |
| | Are the controls discrete? | | |
| | The reversibility of settings or actions? | | |
| A.2.27.3 | Q. Does the medical device display information? | Y | N |
| | Visibility in various environments? | | |
| | Orientation? | | |
| | Populations and perspectives? | | |
| | The clarity of the presented information? | | |
| | Units? | | |
| | Colour coding? | | |
| | The accessibility of critical information? | | |
| A.2.27.4 | Q. Is the medical device controlled by a menu? | N | N |

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| | Complexity? | | |
| | Number of layers? | | |
| | Awareness of state | | |
| | Location of settings? | | |
| | Navigation method? | | |
| | Number of steps per action? | | |
| | Sequence? | | |
| | Clarity and memorization problems? | | |
| | Importance of control function relative to its accessibility? | | |
| A.2.28 | Q. Is the medical device intended to be mobile or portable? | Y | N |
| | Grips? | | |
| | Handles? | | |
| | Wheels? | | |
| | Brakes? | | |
| | Mechanical stability? | | |
| | Mechanical durability? | | |