# DIAPATH

# Donatello® Series 3

Donatello® Series 3 automatic processor for histological samples

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#### Manufacturer

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Donatello® Series 3 is a closed-loop, vacuum/pressure floor processor.

# **Iconic Design**

The design, in the most complete aesthetic and functional definition of the instrument, has enabled Donatello® to win the **A'Design** Award, a prestigious international competition in the "Medical Devices and Medical Equipment Design Award" category

https://competition.adesignaward.com/design.php? ID=68691



#### **Advanced Innovation & Technology in Tissue Processing**

Tissue processing is a one-way process in which a series of chemical steps and physical conditions irreversibly determine the correct and adequate treatment of the sample for morphological (H&E), IHC and molecular analysis. The quality of the tissue sample can heavily influence the diagnosis. The high levels of technology introduced in Donatello® Series 3 allow safe handling and monitoring during all processing phases, both for the operator and the unique and unrepeatable histological sample. The technology and sensors with which Donatello® Series 3 is equipped make it the smartest and safest instrument ever.

#### 1. Instrument layout

- maximum capacity of 420 standard cassettes, in three levels of 140 cassettes each
- 3 paraffin containers of 4.4-4.7L each
- 12 positions for reagent tanks
- Adjustable chamber temperature during protocol creation

# 2. Dimensions and packaging

- Floor instrument: Minimum load-bearing capacity of the floor 200 kg/sq.m.
- Size with packaging (WxDxH): 800x950x1560 mm



# Donatello® Series 3 features

# 1. GENERAL FEATURES

- · Closed-loop floor processor with vacuum/pressure system and controlled functions for paraffin and reagent heating
- Stainless steel processing chamber with 8 litre capacity
- Three-laver stainless steel basket, 420 samples with integrated suction system
- Stainless steel basket for Super-Mega-Cassettes, 56 samples (standard Super-Mega-Cassettes) or 112 samples (Slim Super-Mega-Cassettes)
- 4 capacitive and adaptive level sensors capable of detecting the presence of the reagent and the correct filling level even in the presence of residues deposited on the sensor surface, to prevent samples from being left without reagent
- Emergency level sensor to prevent overfilling of the chamber
- Closure check capable of detecting incorrect closure of the process chamber and alerting the operator (within 4 seconds) in order to prevent process start-up failure
- Temperature sensors and thermostats designed to more sensitively and specifically control the temperature during the processing steps. Accurate measurement and proper temperature management within the processing chamber during the processing steps, especially in temperature-dependent steps (e.g. FAST processing, paraffin step) is essential in order to preserve the integrity of the proteins
- 15" colour touch-screen
- Easy-to-use icon-based software for total control of the instrument's functions
- Unlimited number of protocols settable via software
- **Customisable** protocols for each protocol step; the user can adjust the incubation time, the pressure/vacuum cycles, the temperature, bubbling and the safety reagent.
- Reverse protocol: possibility to automatically reverse an existing protocol in order to recover incorrectly processed tissues
- Validated Biomarkers Protocols already present in the instrument for the preservation in the biological sample of nucleic acids and antigens such as PD-L1. Demonstrating the interference of tissue processing in the evaluation of tissue biomarkers: the case of PD-L1\*.
  - https://www.sciencedirect.com/science/article/pii/S0344033823003059
- Fast Processing System (FPS) technology, which makes it possible for small biopsies to be processed quickly (<1 mm in less than an hour)
- ID Colour Code offers the possibility of associating a colour to the protocol for easy identification by the operator
- Downloadable reports in different formats verifiable by the operators with the possibility of setting filters for searches
- Different users can be set up with different mapping of the functions accessible to each one
- E.V.A.+ (Emergency eVoluted Algorithm): intelligent virtual algorithms designed for enhanced security. In the event of a mechanical blockage, especially in unmanned process stages, they are able to perform fully automatic troubleshooting operations without interrupting the ongoing processing.
- SelfCheck+ and SelfCheck fast: a self-diagnostic system for checking and monitoring the functional status of the most sensitive parts of the instrument that is automatically activated before each processing, giving the operator a few minutes to know the instrument's suitability status at the start of the process
- Customised Safe Reagent for each processing step that, in the event of a power outage, will be loaded into the process
  chamber to keep the samples safe until the arrival of Laboratory personnel (only if connected by UPS or generator). The Safe
  Reagent will not only intervene in the event of a power outage, but also following the various attempts of the emergency
  procedure carried out by E.V.A., in the event of a mechanical blockage, if not resolved.
- ABS (Avoid Block System), which makes the instrument less susceptible to impurities, such as the accidental presence of organic and inorganic substances and foreign bodies that may accidentally circulate inside the instrument.
- **Paraffin dumping** in 2 user-selectable modes: **PWD** (Protect Wax Dumping), in an empty tank pre-installed inside the processor or **EWD** (External Wax Dumping) through an insulated external pipe
- WCS (Wax Cleaning System): automatic and manual paraffin purification procedure
- Activated carbon filter suitable for filtering vapours from aldehyde-based reagents or solvents, with depletion control software module
- Option of connection to external suction (optional accessory, on request)
- **Total traceability** thanks to the possibility of uniquely and securely identifying the baskets and samples processed, all the operations that take place during the process steps, the operations and reagents used during reagent change operations, and identifying the users who interact with the instrument.



- Reagent tank identification: RFID tag system enabling the recognition of reagent tanks, thus avoiding any errors during reagent replacement
- Possibility of setting reagent limits through a calculation based on the number of cassettes (DAF) and processes or only based on the processes performed
- **MultiSense technology:** during the initial setup of the processor, the software enables the operator to choose between different setup parameters in order to identify the most suitable configuration for the laboratory routine (STANDARD, GREEN, OPEN)
- **LED flashing system** positioned at each reagent tank (12 LEDs per instrument) to guide the operator when changing tanks and to display the instrument status during Selfcheck+
- Reagent status and consumption easily displayed via main software screen by changing icon colour
- **Automatic** reagent **mapping** allowing the correct positioning of the processing steps during protocol creation: the software will only allow the insertion of reagents compatible with the previous step in the protocol
- Energy Monitoring System capable of monitoring the instrument's energy consumption in real time
- Possibility of using green substances as well as traditional solutions
- Remote assistance: real-time monitoring and support
- Donatello<sup>®</sup> Series 3 allows you to perform all Firmware and Software updates directly remotely without physical intervention from technical support.

# 2. Sample Processing Chamber (SPC)

Processing chamber made of stainless steel, resistant to solvents and heat:

- 4 capacitive and adaptive level sensors: sensors capable of detecting the presence of the reagent and the correct filling
  level even in the presence of dirt or residues deposited on the sensor surface, to prevent samples from being left without
  reagent. The fourth is also the emergency level sensor to prevent overfilling of the chamber
- Closure check: system capable of detecting the incorrect closure of the process chamber and alerting the operator (within 4 seconds) in order to prevent process start-up failure
- **Temperature detection:** the position of the temperature sensors and thermostats is designed inside the process chamber and on the lid to more sensitively and specifically control the temperature during the processing steps. Accurate measurement and proper temperature management within the processing chamber during processing steps, especially in temperature-dependent steps (e.g. FAST processing, paraffin step) is essential in order to preserve protein integrity.



#### 3. SOFTWARE

Easy-to-use icon-based software for total control of the instrument's functions.

# **Processing protocols**

- Unlimited number of protocols settable via software
- Customisable protocols: for each protocol step, the user can adjust the incubation time, the pressure/vacuum cycles, the temperature, bubbling and the safe reagent.
- Reverse protocol: possibility to automatically reverse an existing protocol in order to recover incorrectly processed tissues

# Validated protocols

• The processing protocols already present in the instrument are validated by Diapath S.p.A and by reference Hospitals, Laboratories and IRCCS [Scientific Institutes for Research, Hospitalization and Healthcare] where they are used daily for the processing of histological samples for diagnosis and immunohistochemistry, in situ hybridisation and molecular biology investigations for the identification of biomarkers predictive of response to cancer therapy. Below is the scientific publication describing, in a comparative study, the interference of tissue processing in the evaluation of biomarkers useful in selecting patients who are candidates for Immunotherapy

Demonstrating the interference of tissue processing in the evaluation of tissue biomarkers: the case of PD-L1\* <a href="https://www.sciencedirect.com/science/article/pii/S0344033823003059">https://www.sciencedirect.com/science/article/pii/S0344033823003059</a>

# **FPS (Fast Processing System)**

Makes it possible to run a fast protocol lasting less than 1 hour (see specialised protocol guidelines).

The FPS module enables the reagent to be heated before its actual use within the processing chamber.

 Procedure making it possible for small biopsies (< 1 mm thickness) to be processed quickly in less than 1 hour (Effective reagent incubation time)

#### ID Colour Code - Protocols associated with the colour code

From the protocol creation screen, it is possible to associate a colour to the protocol for easy identification by the operator. It will be possible to distinguish protocols by colour and by start-up type (immediate, overnight, customised).

# **SmartView**

Dual screen for complete monitoring of process operations:

- Main screen for starting processing and washing, reagent replacement, monitoring operating status and displaying the history of operations performed
- > Extended screen for monitoring all instrument functions in one intuitive screen. In addition to the options already selectable on the main screen, it additionally shows the event log, filter and condensate status, and the energy consumption of the instrument.
- Smart wizards: the software is equipped with wizards for increased safety during operations involving operator intervention (reagent change, paraffin replacement, process chamber opening)
- During interactions with the instrument, the operator is supported by the voice prompts of the advanced E.V.A.+ (Emergency, eVoluted Algorithm) system
- Multilingual Software

# **Bokeh Pop-up**

Feature designed to foreground a specific area of text when important messages appear for the operator for which confirmation is required for the initiation of an execution operation required by the instrument.

# **ID User Management System**

It enables the creation and management of different user profiles and types by coding and assigning specific permissions according to the type of operator. Features:

- There is a hierarchy of permissions per user type based on 6 access levels: Guest operator, User operator, Advanced User/Laboratory Manager operator, Application Specialist operator, Service operator, Diapath operator
- ID-CARD RFID Technology based: the login that identifies the user is done quickly and securely via a personalised RFID card or barcode
- Traceability of the operations performed by each operator



# **Reports and statistics**

Downloadable reports in different formats verifiable by operators with the possibility of setting filters for searches, relating to:

- installed processing/washing protocols
- processing/washing protocols performed
- alarm list
- operations carried out by the operators
- tank replacement and related information such as batch and expiry date,
- · Possibility to save or import processing protocols, instrument settings and reagent configuration to an external storage device



### 4. SAFETY



# E.V.A.\* (Emergency eVoluted Algorithm) Safe diagnosis

Donatello<sup>®</sup> Series 3 features intelligent virtual algorithms designed for enhanced security. In the event of a possible mechanical blockage, especially during unmanned processing stages such as overnight processing, Donatello<sup>®</sup> Series 3 is able to perform fully automatic troubleshooting operations without interrupting the ongoing processing. Should critical situations occur in the absence of an operator, E.V.A.<sup>+</sup> is able to make the best choice for the safety of samples under all conditions and process steps. E.V.A.<sup>+</sup> is also equipped with communicative capabilities thanks to the synthesisation of a virtual voice that communicates verbally with the operator, actively supporting them during their use of the instrument. E.V.A.<sup>+</sup> becomes an essential technological instrument in the implementation of safety standards for the diagnostic specimen and the operator. System features:

- Integrates software wizards with virtual voice and video support user interface for increased safety when performing manual operations (reagent change, paraffin replacement, process chamber opening)
- Thanks to advanced algorithms, it is able to manage recovery processes autonomously, deciding which solution is the most suitable for samples in the event of an adverse event
- By interacting with the chamber sensors, it ensures the proper filling of the process chamber adaptively to the number of baskets and samples present
- Possibility to set up audio interactions with virtual male, female voice or in traditional mode with beeps
- Possibility to upgrade algorithms to increasingly advanced versions for all instruments connected to our control and monitoring support system



#### SelfCheck<sup>+</sup> and SelfCheck fast

Self-diagnostic system for checking and monitoring the functional status of the most sensitive parts of the instrument which is automatically activated before each process, providing the operator with the instrument's suitability status within minutes. The procedure has an important predictive connotation in that it has the ability to intercept any anomalies (see aerospace pre-take-off check list) that could generate unexpected blockages during overnight processing.

#### Safe Reagent

Donatello® Series 3 provides for the setting of a customised safety reagent for each step of the processing. This is the only way to ensure an effective "safety reagent" system that preserves samples in case of problems.

In the event of a power failure, a previously set safe reagent will be loaded into the process chamber to keep the samples safe until Laboratory personnel arrive. In order to guarantee this functionality, connection to a UPS or generator set is required. The Safe Reagent will not only intervene in the event of a power failure, but also after the various attempts of the emergency procedure carried out by E.V.A. In addition, if there is more than one tank of the reagent family for the selected safe reagent and a problem occurs on the first useful tank, Donatello® will automatically attempt to take the reagent needed to perform the step from the other tank (of the same family). If the UPS is not connected and/or in the absence of a generator, in the event of a power failure the status of processing or flushing will be saved and then resumed when the instrument is restarted from the point at which the interruption occurred

# **ABS (Anti Block System)**

Donatello<sup>®</sup> Series 3 is equipped with the **ABS** system, which makes it less susceptible to impurities, such as the accidental presence of organic substances (release of tissue components in processing), inorganic substances and foreign bodies (residues of dye powders e.g. eosin, tissue marking dyes and colouring inks, suture threads, staples, paraffin fragments) that may accidentally circulate inside the instrument. Insoluble fragments circulating within any hydraulic system have the potential to cause blockage phenomena of an embolism-like nature

**ABS** is a three-component system consisting of:

- SoLenoID Technologies Valves: "fluid-separated valves" designed to avoid interference from contaminants
- More powerful and quieter "diaphragm coated" pump
- Enhanced fluidics system

By helping to improve the fluid-dynamic system of the instrument, ABS also contributes to the reduction of cross-contamination between reagents by extending the shelf-life of process reagents.



#### **ABS** accessories

3 baskets especially designed with dirt retention grid

3 paraffin filters designed with debris retention grid







#### Validated Biomarkers Protocols

Validated protocols for preserving nucleic acids and antigens such as PD-L1 in the biological sample.

Demonstrating the interference of tissue processing in the evaluation of tissue biomarkers: the case of PD-L1\*

<a href="https://www.sciencedirect.com/science/article/pii/S0344033823003059">https://www.sciencedirect.com/science/article/pii/S0344033823003059</a>

# **Bubbling**

Reagent mixing procedure in the process chamber during the different steps of the protocol.

From the protocol creation screen, it is possible to choose, for each processing step, for how many minutes the bubbling procedure will be carried out during the reagent incubation phase in the process chamber

#### **Activated carbon filter**

Suitable for filtering vapours from aldehyde-based reagents or solvents, with depletion control software module. Option of connection to external suction (optional accessory, on request)



#### 5. TRACEABILITY

# **Traceability and statistics**

Donatello® Series 3 enables full traceability, thanks to the ability to uniquely and securely identify processed samples.

#### Features:

- Traceability of the basket inserted in the process chamber by means of a unique code.
- Traceability of the sample placed in the basket by means of a unique code. It can identify when a sample was processed, in which basket and with which protocol. This feature makes it possible to identify possible critical actions linked to the sample in the "processing history" in case of improper or irregular processing
- Reagent traceability: possibility of uniquely identifying the reagents used thanks to RFID technology
- **Operator traceability**: possibility to trace operations performed by the operators (start processing, change reagents, open reagent compartment, pause processing, stop processing, change safety reagent)
- **Security sensor** able to track the possible removal of reagent tanks by means of a sensor that can verify the opening of the reagent compartment (date, time and Operator)
- Donatello<sup>®</sup> Series 3 makes it possible to download all data and logs generated and stored during tracking operations, providing auditable and exportable statistics for operators relating to the tracking of protocols, alarms, users, replacement and reagent batches with the possibility of setting filters for specific searches.

# Reagent Management System and unique Identification of reagent tanks using RFID technology

Donatello<sup>®</sup> Series 3 is equipped with 9 stations for processing reagent tanks, 2 stations for washing reagent tanks, 3 paraffin melting cylinders, 1 station for internal dumping of spent paraffin into tanks.

Reagent tank identification is performed by means of an RFID tag system, first introduced by Diapath Spa that revolutionised reagent handling security in the processing of histological samples, now further improved and evolved.

Each reagent is equipped with an RFID tag that makes it possible to perform allows the reagent change procedure in a totally secure manner:

- Avoids reagent mismatching errors and the use of unsuitable reagents
- . It makes for traceability of the type of reagent, expiry, batch number and operator installing the reagent
- Possibility of setting reagent limits through a calculation based on the number of cassettes (DAF) and processes or only based on the processes performed
- · Automatic reagent depletion level management with visual warning in case of need for replacement
- Software and LEDs guide the reagent replacement procedure

Reagent status and consumption easily displayed via the main software screen by changing the colour of the "reagent tank" icons:

- Green: reagent ready
- Red: reagent to be replaced
- Orange: reagent 75% depleted; information-predictive status enabling the operator to check the availability of replacement reagent before its expiry date
- Blue: reagent in use
- Grey: reagent not installed
- Black: unassigned tank
- Purple with Clock Icon: paraffin not yet melted (possibility to enter and declare already liquid paraffins)

LED flashing system located at each reagent tank (12 LEDs per instrument) to detect:

- Tank present and correctly installed: LED off
- Tank present, reagent to be replaced: LED On to visually indicate the tanks to be replaced
- Tank being replaced: flashing LED
- Tank in use during the processing/washing protocol: LED on



# 6. EFFICIENCY

# **MultiSense Technology**

Donatello<sup>®</sup> Series makes it possible to choose between different setup parameters in order to identify the most suitable configuration for the Laboratory routine (STANDARD, GREEN, OPEN).

- Possibility to set the start mode for each protocol, among 5 possible alternatives: Immediate, Overnight, Weekend, Fast –
  Half load, Custom
- Possibility to automatically reverse an existing protocol in order to recover incorrectly processed tissues
- Automatic reagent mapping enabling the correct positioning of the processing steps during protocol creation: the software will only allow the insertion of reagents compatible with the previous step in the protocol

# **Smart UPS management**

In the event of a power failure, Donatello<sup>®</sup> Series 3 offers the possibility of connecting to an external UPS system. The UPS system does not switch on after a predefined and determined time (e.g. after 10 minutes) after power failure, but rather according to the functional parameters of the instrument. This maximises UPS battery life performance.

# **Energy Monitoring System**

Donatello<sup>®</sup> Series 3 is equipped with a system capable of monitoring the instrument's energy consumption in real time, maximising the instrument's energy efficiency, i.e. its ability to use less energy while increasing overall performance. Provides power consumption data, via software icons, optimising instrument power requirements and maximising energy savings



Energy ECO: energy consumption up to 500 W



Energy NORMAL: power consumption between 500 W and 1000 W



Energy POWER: energy consumption greater than 1000 W



**Energy unplugged:** the machine is powered by the UPS in the absence of mains supply



# 7. ASSISTANCE

# **Remote support**

Donatello<sup>®</sup> Series 3 was specifically designed with optimal and effective remote connectivity in mind. Our authorised technical and specialist service centres can monitor in real time and intervene on the instrument to guarantee a level of reliability and aftersales service that is unparalleled in today's world. Remote assistance software is available for real-time interventions on the instrument

To connect it is necessary to use the remote assistance router, available as an accessory, in combination with the SIM card. In order to guarantee the reliability of the instrument over time, it is NOT intended to be connected to the hospital/laboratory network requiring the installation of software in addition to the standard, such as antivirus or firewall not provided by Diapath Spa. The instrument can however be interfaced with any external application through the sharing of data and signals in web-service mode, with the application envisaged and available in the Diapath Spa price list.

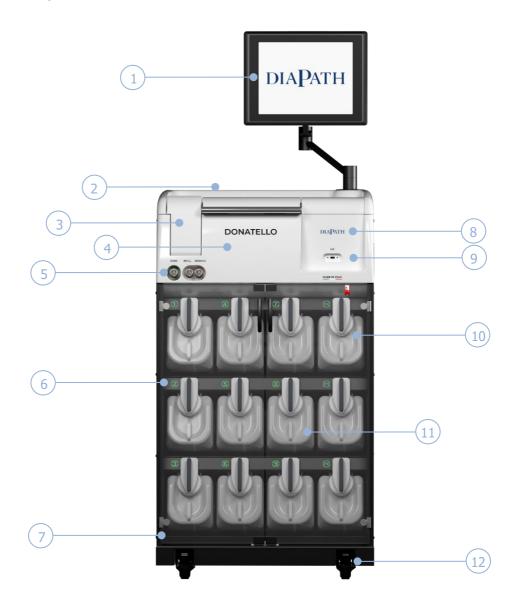
# **Remote Firmware & Software Update**

Donatello® Series 3 allows all Firmware and Software updates to be carried out directly remotely without physical intervention by technical support.



# **Donatello® Series 3**

(CODE SDSDT9000)



- 1. All-In-One PC, 15" colour touchscreen
- 2. 3 paraffin containers (capacity 4.4-4.7L each)
- 3. Processing chamber locking system
- 4. Stainless steel processing chamber (total capacity 8L and 420 standard cassettes)
- 5. Connectors for manual reagent loading/unloading
- 6. Dynamic LED system (12 LEDs) for each reagent station
- 7. Door opening detection sensor
- 8. RFID technology for fast and secure identification of reagents and user login.
- 9. USB port for database and log export
- 10. PWD tank for internal dumping of spent paraffin
- 11. 12 reagent tanks
- 12. Wheels for transporting the instrument



#### **AVAILABLE MODELS**

Donatello® Series automatic processor for histological samples SDSDT9000

#### **AVAILABLE ACCESSORIES**

Complete filtering basket kit (3 layers and handle), 420 cassettes SDSPA9084 **Basket for Super Mega cassettes** SDSPA9066 Pipe support **SDSPA9069** Spanner for UN tanks 5/10/20 L R5000 **UPS** CRDEA903-IIIPRO **Support for UPS GP2000** Paraffin level measuring rod **SDSPA0129** Rack tray SDSPA9060 Remote assistance router CRD-RT01N LAN cable extension 3 m SDXCE0167 Auto Dialer for remote alarm 539018 Auto Dialer for remote alarm with SIM SDSAD0001 **Cable kit for Autodialer** SDSAD9001 Universal power supply for Autodialer SDSAD0002 Spatula for paraffin removal GP14008 Barcode Reader for Donatello® Series 3 SDSBR0001 QRcode cards for rapid operator identification and plastic card holder, 10 pcs. SDXCE9000

#### **CONSUMABLES AVAILABLE**

Interface Software module

Activated carbon filters kit SDSPA9050

RFID cards for rapid operator identification and card holders 5 pcs.

SDXCE9005

SDSDT8000



#### **TECHNICAL FEATURES**

# **Dimensions and weight**

Dimensions (WxDxH)700x750x1550 mmDimensions with packaging (WxDxH)800x950x1560 mm

Empty weight240 KgWeight with accessories305 kgWeight with packaging336 kg

#### **Process chamber**

Capacity 3 x 140 cassettes
Maximum processing chamber volume 8L

**Temperature (paraffins)**50 to 65°C (settable by the operator) **Temperature (processing reagents)**20 to 65°C (settable by the operator)

Temperature (washing reagents)

Filling vacuum

Drainage pressure

20 to 65 °C (settable by the operator)

-50 kPa

50 kPa

Pressure/Vacuum 4 options (ambient, vacuum only, pressure only,

# Capacity

Maximum capacityUp to 420 cassettes processed simultaneouslyBasket description3-layer stainless steel basket, 140 cassettes per levelBasket for 56 standard Super-Mega-Cassettes (max.) or 112

slim Super-Mega-Cassettes (max.)

pressure/vacuum cycle)

**Reagent tank number**9 stations for tanks canisters with processing reagents (5L), 2 stations for tanks with washing reagents (5L)

Processing chamber level sensors

Processing and washing protocols

4 capacitive and adaptive sensors

No limit on the number of protocols

- Max. duration per step: 99 hours, 59 minutes and 59 seconds

- Maximum delay time: no limit

 Protocol start step: user-adjustable at the beginning of each run

Reagent Management System (RMS) Processing reagents: cassettes (DAF)/cycles

Washing reagents: cycles

Reagent mix

User adjustable (5 min up to 30 min)

Filters

Specific active carbon filters (also in the

Specific active carbon filters (also in the process chamber)
Option of connection to external suction (optional accessory,

on request)

#### **Paraffin containers**

Paraffin containers 3

Capacity 4.4-4.7 L each

Paraffin melting time 8 hours (depending on type of paraffin)

Paraffin cleaning cycle WCS (Wax Cleaning System) automatic and manual paraffin

purification procedure

Paraffin dumping 2 modes, user selectable: PWD (Protect Wax Dumping), in an

empty tank pre-installed inside the processor or EWD (External Wax Dumping) through an insulated external pipe

# **Hardware and Software**

**Display** 15" colour touchscreen display



**Graphics** Icon-based, user-friendly, software in different languages USB

3 USB 3.0 ports, 1 USB 2.0 port, DC 5V

Alarm management Intelligent management system via E.V.A. (Emergency

eVoluted Algorithm) on premises

Remote assistance software available for real-time intervention

on the instrument

User management Diversified mapping of functions accessible to different users **Statistics** 

Downloadable in different formats and verifiable by operators on all protocols performed and all processing and washing protocols installed on the instrument, alarms, operations performed by the operators, tank replacement and related information, such as batch and expiry date, with the possibility

to set filters for searches

LIS Possibility of interfacing with LIS and/or traceability system

Saving statistics and databases Save or import to external storage device

Yes, external (optional)

Technical specifications

Voltage 115-230 V~ ±10%

Frequency 50-60Hz Installed power 2500 VA Power cable Type F (schuko)

**Fuses** 2 x T16A 250V Breaking capacity 500A@250Vac

**Environmental specifications** 

**Altitude** Up to 2000 m

From +10°C to +40°C **Operating temperature** From +10°C to +40°C Storage and transport temperature

**Operating humidity** 80% for temperatures up to 31 °C, decreasing linearly up to

50% at 40 °C

Storage humidity 80%

Minimum floor capacity 200 Kg/sq.m. Minimum distance from the wall 20 cm Noise level < 70 dBA

**Pollution degree** 

**General specifications** 

Certifications CE - IVD and Compliance with Regulation 746/17

# **Accessories supplied on purchase**

Code	Description	Quantity
SDSDT9039	RFill/RDrain tube	02 pcs
SDSDT9040	External paraffin discharge pipe EWD	01 pcs
13.TAN5LT	Tank 5 L	12 pcs
SDSPA9036	Rear spacer	02 pcs
SDSPA9084	420-place filter basket	01 pcs
SDSPA0129	Level measuring rod for paraffins	01 pcs
SDSPA0146	Filter for paraffin cylinder	03 pcs