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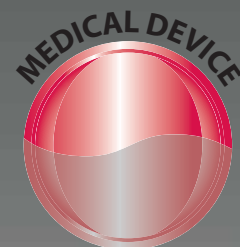
BloodLine





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WR-KWAP (Platelet incubator/agitator)
by KW Apparecchi Scientifici srl



control panel



WR-KWAP + agitator

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KW Apparecchi Scientifici has developed a new line of platelet incubators/ agitators that offers solutions with many capacities in free-standing and bench-top models.

They are certified as **Medical Device**, in accordance with CEE Directive 93/42 and subsequent amendments and integrations.

They are provided with their own power lead to be able to be inserted in the corresponding KW incubator or in another thermostating appliance.



Incubator specifications: T set +22°C ±1°C

Model	Ext. Measure	Int. Measure	Capacity	Bags (450ml)	T Stability	T Uniformity	Power (W)	Weight (kg)*
W18RT	72x69x110	62x55x51	170 lt	Max 18	≤ ± 0,5°C	≤ ± 0,5°C	650	105
W48RT	65x63x86	56x47x47	120 lt	Max 48	≤ ± 0,5°C	≤ ± 0,8°C	650	50
W96RT	98x65x105	80x50x65	200 lt	Max 96	≤ ± 0,5°C	≤ ± 0,8°C	650	70
W85RF	110x75x200	75x55x105	430 lt	Max 108	≤ ± 0,5°C	≤ ± 0,5°C	850	230
WRV700	72x80x202	67x59x151	700 lt	Max 200	≤ ± 0,5°C	≤ ± 0,5°C	750	130
WRV1500	144x80x202	67x130x151	1500 lt	Max 400	≤ ± 0,5°C	≤ ± 0,5°C	900	210

T = bench-top version F = free-standing version (*) No Agitator

Agitator specifications: :

Model	Mis. Est. WxDxH (cm)	Capacity bags	Incubator	Power (W)	Weight (kg)
KWAP18	62x55x51	18	W18RT	600	33
KWAP48	52x37x43	48	W48RT	450	30
KWAP96	52x37x63	96	W96RT	450	40
KWAP54	70x49x67	54	W85RF	600	50
KWAP108	70x49x100	108	W85RF	600	80



WRV700 + agitator





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Incubators:

T range:

+18°C +22°C for models W48RT and W96RT

+5 °C +45°C for models W18RT and W85RF

Power supply V230/50 Hz

Structure and system

External structure and door in sheet steel prepainted or plastic-coated in zinc; on model W85RF an external structure made entirely of AISI 304 stainless steel is an optional feature.

Insulation in natural mineral fibres, with high insulating power (**energy saving**), for models W18RT and W85RF; insulation with polyurethane expanded in situ with a density of 40 kg/mc, for models W48RT and W96RT. The higher capacity model is fitted with a **led light** that turns on when the door is opened.

GREEN ICE project.

Internal chamber and shelves in AISI 304 stainless steel; with rounded edges; the shelves can be positioned as desired through mobile supports on racks; these are placed on the internal walls.

All models have a transparent door (in toughened glass), fitted with magnetic PVC seal.

This allows observation of the platelets without altering the internal T.

The door is key-lockable for the utmost safety.

All WR incubators are easy to clean and decontaminate.

The heating is obtained with special heating elements with low thermal density, for maximum temperature stability; cooling is achieved by a special KW designed evaporator; all heat exchangers are placed in an area separated from the internal chamber, in order to create a very uniform temperature control in the working volume. The temperature control flow is driven by a high efficiency helical fan; in the W85RF model, the temperature control flow can be regulated with an angular speed variator of the fan itself (optional).

The refrigeration system is composed of an air condensing unit, with expansion by means of a capillary tube. There is plenty of condensing surface to allow it to function correctly even at very high ambient temperatures (> +32°C) and/or in environments with little ventilation and poor air exchange.

There is a device that collects and evaporates the condensation water.

The refrigerants used are non-toxic, non-flammable, non-explosive and above all eco-friendly (ODP=0).

Temperature regulation and controls include a membrane panel with:



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- **main ON/OFF** key switch, to prevent inadvertent manipulation for the utmost operating and product safety
 - **power ON warning led**
 - **digital μ P electronic controller with double led display with viewing of the set point and process value (real time); RTD Pt 100 class A sensor**
 - **for heating, P.I.D.** (proportional, integral, derivative) regulating action for the utmost stability of the T parameter; use of Ssr static relay (zero crossing); this also makes it possible to maximise energy saving. **GREEN ICE project**
 - **for refrigeration, ON/OFF** regulating action; use of Ssr static relay.
- Possibility of optimising the regulation parameters from the keypad to minimise heating times and prevent dangerous overshooting.
- A timer function is also available for setting and storing temperature cycles.
- **heating in progress warning light (led)**
 - **cooling in progress warning light (led)**
 - **timer function ON warning light (led)** for programmed temperature cycles
 - **set point reached condition warning light (led)**
 - **T min/max alarm**, with buzzer and indicator (led)
 - **door open alarm**, through microswitch
 - **energy failure alarm**, mains failure, with 12 Vdc, 2 Ah back up battery with an autonomy of over 12 hours; for longer autonomy, (battery with a capacity of > 2 Ah); ...
- Buzzer warning and indicator (led)**
- **agitator movement alarm**; max prevention against electrical and mechanical failures; buzzer warning and indicator (led).
 - **Overtemperature alarm**; obtained through overtemperature controller, (independent from the main regulator), with adjustable setting; in conformity with DIN Std. 12880 with separate sensor (protection class 3.1), with visual alarm warning on the panel (led) and with heating function cutoff; for the utmost safety of the product, appliance and environment.
 - **Muting button** for silencing alarms. All the alarms are remotod through N. C. free contacts.

Panel summary:

- Switch O / The key for the ignition**
- Switch Run (also serves as a silencing audible alarm)**
- Switch Func (prametri to change the setting, the set, etc.).**
- Button to increase**
- Button to decrease**
- T RED ALARM LED** indicates alarm conditions of T min / max
- RED LED HEATING**, indicates the heat is on
- LED RED T COOLING**, indicates cooling in place
- RED LED TIMER** function indicates the thermal cycle on (in effect)
- LED RED SP**, indicates that you are changing the set point
- LED RED DOOR OPEN**, alarm indicating the door is opened
- RED LED FAILURE Agitator**, indicating absence alarm movement by platelet agitator (OPTIONAL)
- RED POWER FAILURE LED** indicates power failure alarm
- TEMPERATURES OVER RED LED** indicates over-temperature alarm (see security system)
- GREEN POWER ON LED** indicates the power of the machine
- Mute button** to silence the buzzer on alarm

A standard feature is a graphic temperature recorder on disk with weekly cycle, powered at 1.5VDC, or, alternatively, a class A Pt100 sensor, arranged for connection to a wireless data logger (Spy KW)





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AGITATORS:

Structure and system

The linear alternative agitators **KWAP18 (18 bags - 3 shelves)**, **KWAP54 (54 bags - 6 shelves)**, **KWAP108**

(108 bags - 12 shelves), **KWAP48 (48 bags - 7 shelves)** and **KWAP96 models (96 bags - 14 shelves)** allow the organised storage of human blood platelets in plastic bags.

Each unit is characterized by alternate movement and suspended on guides having linear pads; this ensures that the movement is silent and of high reliability. The upper part moves from side to side with a course of 1" or 1 1/2" at a frequency of 114 courses per minute. Each shelf has an "open" surface that allows for a ventilation.

The agitator has legs, in metallic material, suitable for placement on the work bench or on the right support.



KWAP108



KWAP48



KWAP96

In the KWAP18 (18 bags - 3 shelves), KWAP54 (54 bags - 6 shelves) and KWAP108 (108 bags - 12 shelves) models, all the shelves are made of AISI 304 stainless steel; in the KWAP48 (48 bags - 7 shelves), KWAP96 (96 bags - 14 shelves) models, all the shelves are made of painted steel sheet and plastic material; the shape and surfaces are in any case all suitable for facilitating cleaning and ensuring long life.

Each shelf may be extracted in order to reach them, while the motor is in movement, without any disturbance to the agitation of the platelets. Furthermore each shelf has a posterior "STOP" that impedes the complete discharge for eventual errors and permits an almost horizontal position suitable to loading the bags without any intervention of the user.

When the shelf has to be removed entirely for cleaning, it must be raised in order to by-pass the "STOP". On the inferior frontal of the appliance there is the command panel with the ON-OFF switch for power supply, having visual signalling.

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TEMPERATURE REGULATION AND CONTROLS

The agitator has its own power supply and power lead to be able to be inserted in the corresponding KW incubator, or in another thermostating appliance. On the front panel there is the main O/I switch with warning light;

PLATELET AGITATOR OSCILLATION SPEED VARIATOR (Optional)

In the KWAP 18-54-108 models, the KWAP platelet agitator can be fitted with an oscillation speed regulator, obtained through a knob outside the appliance. Regulation takes place between about half of the number of nominal oscillations (around 36 strokes a minute), obtained turning the knob to the MIN position, and the number of nominal oscillations, obtained turning the knob to the MAX position (about 72 strokes a minute).

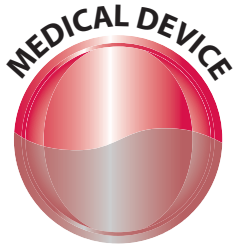
PLATELET AGITATOR MOVEMENT ALARM (Optional)

All the agitators can be fitted with a movement alarm, obtained through a special sensor positioned inside the agitator itself. Should agitating be interrupted following a failure, an alarm is activated on the incubator for the utmost product safety. The alarm is cut off when the incubator door is opened and the agitator movement is stopped for operator safety.

In the incubators/agitators it is possible to install:

- Pt 100 sensor, class A, for connection to a wireless data logger (Spy KW) or to another T monitoring system
- **Personal Key**, with electronic lock, for controlled access and traceability





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KW SPY



**802.11 WiFi telemetry system
with Medical Device certification**



DESCRIPTION:

The supervision system **KW SPY**, is a SCADA (Supervisory Control and Data Acquisition) capable of monitoring equipment, Biological Laboratories.

KW SPY, certified as a medical device. Is a modular system consisting of:

- The Wi-Log modules (Data Logger with built-in memory) that control field devices via PT1000 probes . The Wi -Log can be to a probe (Wi -Log P1) for detecting a temperature , or to two probes (Wi -Log P2) for the detection of two temperatures;
- The PC (connected to the intranet of the structure) using the software KW maintains a database and performs the function of web server.

Thanks to the system KW SPY it is possible to monitor in real time the status of all the controlled equipment. The plants of the laboratories are shown with synoptic reports, to scale

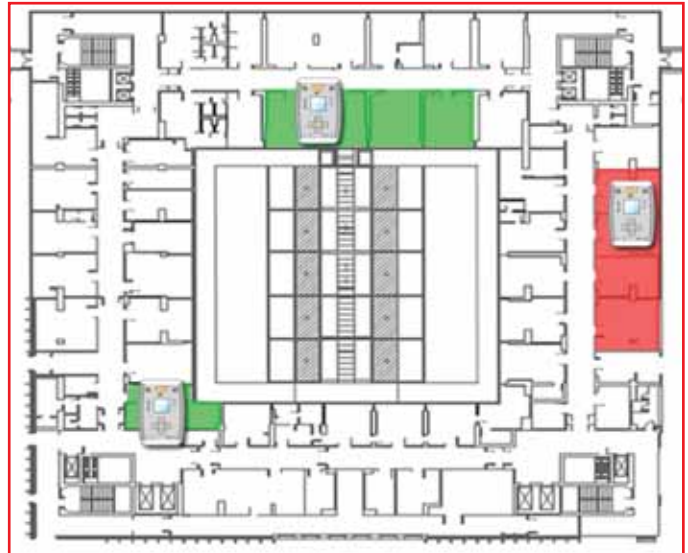
It is possible to interact with the maps using the appropriate menu.

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Among the main features :

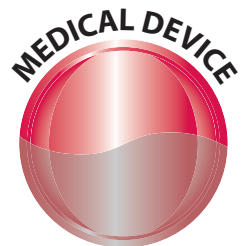
- Real-time display of the alarms detected
- Real-time display of temperatures.
- Storage of measured values with a frequency set by the operator
- Storage of events and alarms
- Reconstruction of the data in graphical and tabular form , exportable in excel format
- Submission of reports alarms via telephone dialer S140 in voice form and / or SMS on GSM network
- inspection by intranet and / or Internet via eagle viewer .
- Ability to make an "inspection" by operators with periodic releases that the check of the entire system .
- Ability to change the alarm thresholds can be local or remote (on as Administrator)
- Ability to create reports and store data that conforms to 21 CFR Part 11
- Multilingual Support

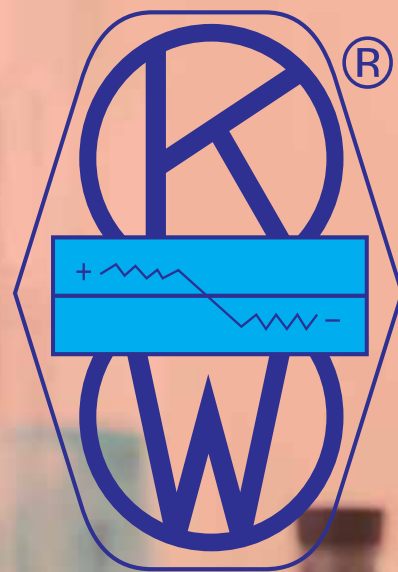


The system is based on a powerful DBMS via which it is possible to reconstruct in tabular or graphical form the trend of the recorded quantities. Similarly, in the database are stored alarms occurring in the plant with date-time - event activation and restoration of the normal condition.

The system is used by multiple operators connected in a local network (intranet) or remote (internet). Thanks to the Internet, skilled technicians are able to provide immediate support in case of anomalies.

The software is KW SPY CE0051 certificate , in accordance with **Directive 93/42/EEC** and 2007/47/EC, Annex II, defined in Class IIa according to Annex IX, Rule 2 .





CONTACTS:

Managing Director: **management@kwkw.it**
Technical Production Manager: **technician@kwkw.it**
Tender Commercial Office: **customerservice@kwkw.it**
International Sales Manager: **expdpt@kwkw.it**
Technical Support & Spare Parts: **assistenza@kwkw.it**
Service line: **service@kwkw.it**
Delivery Office: **delivery@kwkw.it**
Administration: **administration@kwkw.it**

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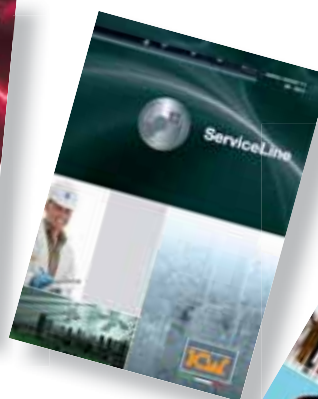
Cold storage equipment



Incubation and microbiological test equipment



Ovens, drying and sterilizing equipment



Maintenance, IQ, OQ, PQ, hardware and software for equipment management



Medical devices for transfusion centres

APPARECCHI SCIENTIFICI



KW APPARECCHI SCIENTIFICI s.r.l.
53035 Monteriggioni (SI) Via della Resistenza, 119
Tel. +39 0577 309143 / 309145
www.kwkw.it kw@kwkw.it - expdpt@kwkw.it