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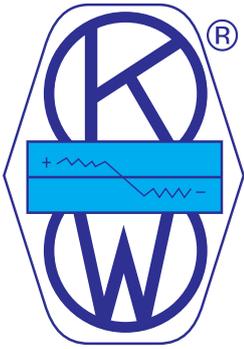
BloodLine



APPARECCHI SCIENTIFICI

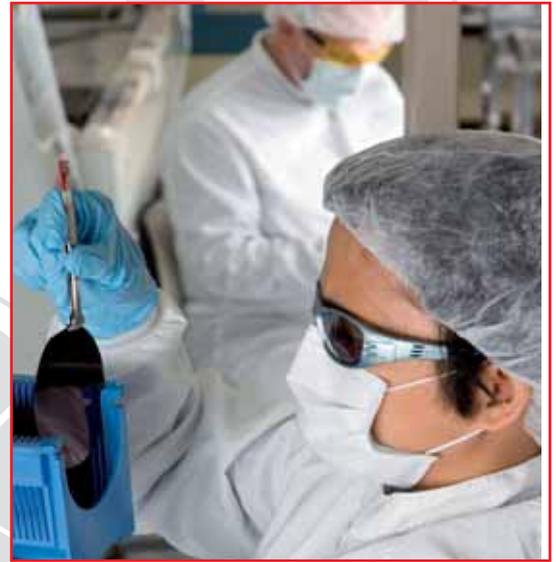
KW®

**PROUDLY
MADE IN ITALY**



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BlueLine
Cold storage equipment

GreenLine
Incubation and microbiological test equipment

RedLine
Ovens, drying and sterilizing equipment

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

BloodLine
Medical devices for transfusion centres

DATA LOG





BloodLine

Devices for blood conservation and its deriv:



Characteristics of this series represent the answer to all conservation exigences: blood, plasma, platelets and red blood cells. kw has realized a very complete series of blood bank refrigerators, cold rooms, freezers, thawers, incubators and portable refrigerators, in order to satisfy requests of little and big blood transfusion centres for hospitals, care houses, analisys laboratories, surgery rooms, etc.

KW Bloodline® series refrigerators and freezers can be validated, following gmp rules, as regards T uniformity and stability.

Blood Banks KLAB-BBR



KLAB-BBR 700V NIA
Blood Bank



CONTROL NIA



Green ICE

Blood Banks Medical Project KBBR-KBPR



KBBR 400V AC



KBBR 180V AC



Green ICE



Antibacterial

Plasma Freezers -40°C -85°C PL - PLL



K54EPL/PLL
Plasma Freezer (-40°C/-80°C)



K60PL/PLL



Green ICE

Plasma Freezers -20°C -45°C



KBPF 600X PP
Plasma freezer



KBPF 600X PP/2D
Plasma freezer

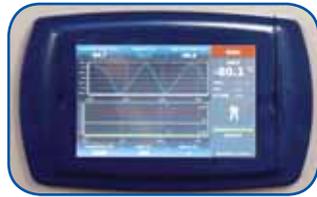
Many capacities available
(from 200 to 600 liters)

Plasma Freezers -20°C -85°C - Biological Bank HPL - HPLL

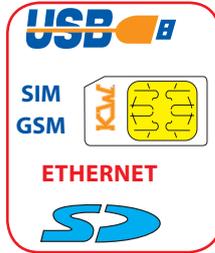
NEW



**TOTAL CONNECTIVITY
TOTAL TRACEABILITY
CONTROLLED ACCESS**



7" TFT Display Touch Screen



CERTIFIED CLASS IIA MEDICAL DEVICE



HPL UltraSlim Freezers -40°C -85°C

NEW



**SAVE SPACE IN YOUR LABORATOR!!!
Reduced Footprint**



7" TFT Display Touch Screen



K58USHPL

Plasma Fast Freezers



KPFF 24B
Plasma Fast Freezing



KPFF 48B
Plasma Fast Freezing

Plasma Thawer/ Red Cell Warmer



WPF - WSCFD 3/6



Platelet Incubator/Agitator



WR-KWAP+AGITATOR



BloodLine

“the cold and incubation chain in the transfusion center
and in certified laboratory”

CERTIFICATION IN CONFORMITY WITH DIRECTIVE 2007/47 ON MEDICAL DEVICES

The refrigeration line of KW (a brand that has been on the market for OVER 60 YEARS!) is made according to manufacturing standards that meet UNI EN ISO 9001:2008 and ISO 13485:2003. It is designed for **medical applications** (transfusion centres, transplant banks, stem cells, test laboratories, etc.) and also for pharmaceutical, biotechnological applications and in any other sector where validation and certification is required.

All models bear the prestigious certification to Directive 2007/47 CE.

THE KPFF series FAST FREEZERS also meet PED DIRECTIVE 97/23 CE.

TRADITION & DIGITAL REFRIGERATION WITH NEW ICE AGE (NIA)

The application of the **NIA controller** (the result of KW's know how and expertise) allows the entire KW range of refrigerators, blood bank fridges and freezers to be connected with a PC, with local data networks and with an external data monitoring and filing system, which can all be tracked from any other site through the Internet, etc. This offers the best and utmost traceability of all the data and all events (alarms, blackouts, door openings/closings, etc.) useful for correct management of the blood, blood components, products and biological materials stored, according to **ISO, SINAL, GLP** standards (also according to CFR21), etc.

GREEN ICE PROJECT

KW is designing its laboratory refrigerators/freezers researching the best performance, with the lowest energy consumption and the least environmental impact. A permanent KW team researches into new solutions implementing dedicated equipment (test chambers) and software for C.O.P. (coefficient of performance) assessment, in accordance with environment protection laws.



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FLEXIBILITY – VERSATILITY – INNOVATION

KW offer a very comprehensive range of equipment from the compact model to the freezer and to the very high capacity refrigerator (over 700 – 1500 litres), to meet all purposes and any functional solution ...

KW offers all types of materials : from stainless steel (AISI 304-AISI316) to painted sheet metals, to plastics ...

KW offers a very comprehensive series of accessories ... -> so customers can custom build their refrigerator from the catalogue ... CUSTOM SOLUTION ...

KW offers GI = GREEN ICE solutions, with low energy consumption and high operating performance through the use of new refrigeration and lighting technologies, new materials, etc.

KW offers unique solutions with regard to ANTIBACTERIAL materials ... special plastic compounds and sheet metals for the utmost hygiene and cleanliness and minimal risk of the growth of microorganisms !!!

KW offers the TG = Twin Group solution, with an exclusive operating logic that consists of two completely independent refrigeration systems, connected functionally and operating alternately.

KW offers SPLIT = remote unit solutions, with remote motor condensing units (away from the work area) owing to matters of size, thermal and noise pollution and ease of maintenance.

UTMOST PRODUCT SAFETY, ENERGY SAVING

The application of the **NIA controller** (together with all the other manufacturing and thermodynamic features) makes KW refrigeration equipment particularly reliable and with a low environmental and energy impact, through a series of functions/parameters that ensure the utmost efficiency, top levels of operating safety and the best compatibility with the environment, including the routine operations of the laboratory for which they are intended.

In particular :

- ✓ **Smart defrost** (on some KLAB models), **no frost solutions** (all appliances, except some KLAB models), **safety control, disaster recovery, environment adaptability, voltage stabiliser, integrated data logger function:**
- **Utmost safety of the material stored, even in the event of T sensor or CPU fault !**
- **Utmost ease of access and reading of all the controls and parameters on the LCD display**
- **Utmost ease of data configuration, programming, control, filing and monitoring, exportation of filed data to PC or in the network**
- **No defrosting (for almost all the range), or SMART- HOT GAS intelligent defrosting (not time-based, but on the measurement of the condition of the frost on the evaporator) which allows really considerable energy saving !**
- **Airtight, noiseless and powerful compressors with specific lubricants for low T**
- **Utmost energy saving**
- **Minimal compressor wear**
- **Utmost stability and uniformity of the inside T**
- **Utmost product protection**
- **Minimal need for maintenance**

MEDICAL DEVICE

DIRECTIVE 2007/47 CE



BloodLine

“the cold and incubation chain in the transfusion center
and in certified laboratory”

ADJUSTMENT, CONTROL, SAFETY, USER FRIENDLINESS,
ECO-FRIENDLINESS

WITH NEW ICE AGE (please see specific technical literature)

- 16-character LCD display
- Access password
- PT 100 sensors in class A
- 2 ch PT 100 for independent T control and alarms
- Key Test = manual alarm simulation
- Disaster recovery (CPU controller fault & appliance working !)
- Safety Control (faulty sensors & appliance working !)
- Environmental adaptability (adaptation to laboratory environmental conditions)
- Data logger functions (continuous recording of all the parameters and alarms)
- Service Check
- Info test
- Data export with IR port + Coldmaster software
- All the possible alarms and electrical autonomy !

and also :

- PK personal Key = which allows door opening/closing and access control through electronic transponder
- High level of user-friendliness with special handle, compensation valve, etc.

High performance thermodynamic project with

- ✓ Very high thermal insulation at very low conductivity (from 140 to 175 mm. in -80°C and -40°C freezers!), also with VIPs (Vacuum Insulation Panels), and many internal counter doors (up to 4)
- ✓ The VIPs are an optional feature; with them KW has measured an energy saving of 18%-20% , retaining the average thickness
- ✓ Environmental impact : also the thermoplastic materials used are recyclable and free of chlorinated substances and heavy metals
- ✓ Insulated internal counter doors to minimise heat returns
- ✓ Triple silicone seal, to minimise heat returns
- ✓ Double outer door (2D), to minimise heat returns
- ✓ Highly extensive range of interior accessories to minimise search times and expose samples not intended for withdrawal to minimum heating
- ✓ Inside/outside pressure compensation valve (from -20°C downwards) to facilitate opening and closing at short intervals
- ✓ No defrosting solutions (except the KLAB series)
- ✓ Hot gas smart defrosting (only in the KLAB series)
- ✓ Led lighting + very low consumption fans (in the KLAB and Medical Project series)
- ✓ WATER CONDENSATION for minimal environmental impact, with pressure switch valve
- ✓ Max energy saving
- ✓ Max warm up time, in case of failure, (for example, over 220 min. for a 350 litre -80°C vertical freezer), essential for correct sample storage
- ✓ Utmost stability and uniformity of the inside T, essential for correct sample storage
- ✓ Minimal recovery time, essential for correct sample storage
- ✓ Max room T over +32°C/+35°C, with air condensation
- ✓ Minimal need for maintenance
- ✓ Utmost product protection
- ✓ Minimal compressor wear

BloodLine

“the cold and incubation chain in the transfusion center
and in certified laboratory”

- ✓ **Powerful airtight compressors (up to 1.7 HP in the higher capacity models)**
- ✓ **Innovative condensers (high turbulence & tubeless ... up to 2600 W of thermal exchange),**
- ✓ **Expansion with STANDARD capillary tube** (except some PLL models)
- ✓ **Expansion with STANDARD thermostatic valve for the PLL series** (from 350 litres upwards), EXTRA cooling energy for the new samples stored (especially plasma bags !)
- ✓ **Expansion with OPTIONAL thermostatic valve for certain models at - 80°C,** EXTRA cooling energy for the samples stored (especially plasma bags !)
- ✓ **TG solutions,** for the highest level of safety -> 2 100% power units
- ✓ **SPLIT solutions,** for minimal impact in the laboratory

✓ **ECOFRIENDLY COOLANTS,** braze welded and airtight circuits, reduced loads with compact circuits (for example, application of single-body systems on the KLAB models)

• **Internal circuit pressure control system of the two refrigerating stages (in - 80°C models).** The system continuously evaluates the T and pressure conditions of the two refrigerating flows, as well as the thermal exchange condition with the environment, in order to establish a constant balance between the flows of the two stages,

- **Minimum pull down time,**
- **Minimum recovery time,**
- **Maximum reserve refrigerating capacity (putting over 12 Kg of water at room T in a 500 l -85°C ultra freezer takes the T to no further than -76°C with a recovery time of 180 min.) = suitable for storing plasma bags, frozen at - 30°C with the KPFF fast freezers, with the storage and further cooling capacity of over 48, 450 ml. /1000 ml. bags at a time**

- **Max room T over +32°C/+35°C**
- **Minimal need for maintenance**
- **Utmost product protection**
- **Minimal compressor wear**
- **Minimal thermal and noise pollution**

- ✓ **CEI EN 61326-1 conformity**
- ✓ **CEI EN 61010 -1 conformity**
- ✓ **Machine Directive 2006/42/EC conformity**
- ✓ **Low Voltage Directive 2006/95 CE conformity**
- ✓ **Electromagnetic compatibility (EMC) 2004/108 CE conformity**

WIRELESS REFRIGERATION

The integration (on KW refrigerators) of the **KW Spy data logger** also enables the radio transmission (wireless) of measurement data; on a monitor, also away from the laboratory, it is possible to continuously view correct operation of the KW fridge/freezer, check and manage alarms and record all the information received on a digital medium.



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“the cold and incubation chain in the transfusion center
and in certified laboratory”

DIGITAL REFRIGERATION WITH NEW ICE AGE & WIRELESS REFRIGERATION

The application (also at the same time) of the two systems allows :

- √ Continuous supervision in safety of the state of preservation of the samples stored
- √ Traceability of all events with continuous and highly accurate recording through a specific software
- √ Considerable operating savings, during purchasing, installation and implementation and due to less samples lost owing to faults, etc.
- √ Flexibility in the use of appliances, through wireless communication and with a broad range of alternative solutions
- √ The solutions proposed by KW are compatible with the accreditation - certification of the laboratory they are intended for

CONTINUOUS RECORDING

- Also in the event of a PC failure/stoppage, both the NIA controller and the KW Spy data logger continue to file data; data downloading is possible at any time via IR transceiver (Coldmaster solution) from the NIA, and subsequently from any integrated Spy data logger!

GUARANTEED AUTONOMOUS OPERATION

- Both the NIA controller and the KW Spy data logger are self-supplied by an internal rechargeable battery and are insensitive to blackouts

MEASURING ACCURACY

- The sensors used allow T measurement to the tenth of one degree centigrade ($\pm 0.1^{\circ}\text{C}$), inserted in air, in a suitable position; the version with PRODUCT SIMULATION SENSOR is an optional feature; a THRU HOLE is provided in the case of connection to the KW Spy data logger

JUST IN TIME ALARMS

- ... the alarms are all recorded in real time
- In the NIA controller storage, with option for network viewing, with Web NIA Server, ...
- Through KW Spy data logger, on the remote PC ...
- Through clean ON/OFF contact ...
- ... in any case communication is possible by e-mail, fax, sms, voice messages, etc.

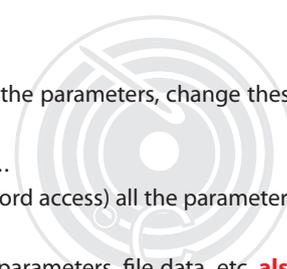
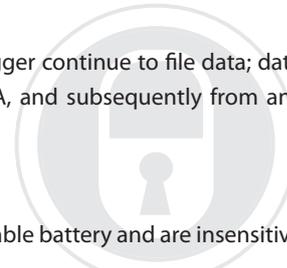
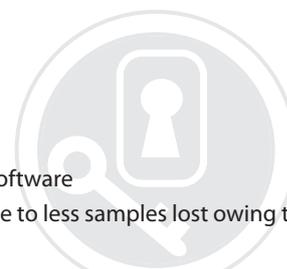
REMOTE CONTROL

- With the NIA controller + WEB NIA SERVER, it is possible to view (with password access) all the parameters, change these parameters (including the SET POINT), file data, etc.

And this is possible from any distance ... the operation takes place by typing the IP address

- With the KW Spy data logger it is possible to remotely view (via radio waves and with password access) all the parameters, file data, etc.
- With the KW Spy data logger it is possible to remotely (with password access) read all the parameters, file data, etc. **also during the transport of samples** (blood bags, plasma bags, vials, etc.)

PLEASE ALSO SEE the KW CATALOGUE/WEB SITE for the KW portable refrigerators



BloodLine

Blood Bank KLAB-BBR



KLAB-BBR 700V NIA



DIRECTIVE 2007/47 CE





BloodLine

Blood Bank KLAB-BBR

SERIES KLAB BLOOD BANKS Medical Device DIRECTIVE 2007/47 CE

BLOOD BANK MODELS	KLAB-BBR 180V	KLAB-BBR 300V	KLAB-BBR 400V
External dimensions (WxDxH)	cm63x56,7x105	cm55x56,5x187,5	cm60x60x190
Internal dimensions (WxDxH)	cm54x41,5x65	cm47,5x47,5x147,5	cm50x50x135
Set Point	+4°C	+4°C	+4°C
Working range	0+10°C	0+10°C	0+10°C
Capacity (litres)	180	300	400
N° Glass door small emittance	1	1	1
Weight Kg	55	100	125
Internal surfaces standard	Coated Steel White	Coated Steel White	Coated Steel White
External surfaces standard	Coated Steel White	Coated Steel White	Coated Steel White
Antibacterial internal surface	NO	NO	ST
Insulation thickness	45mm	45mm	50mm
STANDARD			
N.° inox drawers (DRAX)	√(3)	√(7)	√(7)
N.° aluminium drawers (DRAL)	NO	√(7)	NO
N.° bags da 450 ml	72 (24x3)	98 (14x7)	98 (14x7)
Shelves (SHE)	3	7	7
Key Lock	ST	ST	ST
Small rollers + stabilizing feets	√	√	√
Controller NIA (*)	ST	ST	ST
NTC Probe	ST	ST	ST
RS485 (Serial Access)	ST	ST	ST
AutomaticDefrosting	ST	ST	ST
Automatic evaporation of the condensation water	ST	ST	ST
(*) Controller NIA (display LCD, Smart defrost, HT, LT, BLACK OUT, failure list, door open, switching on/off password, alarm memory, alarm test,			
OPTIONAL ACCESSORIES			
Completely inox	√	√	√
Aisi 304 dividing parts	√	√	√
Plastic dividing parts	√	√	√
Opening door by transponder personal key	NO	NO	NO
Temperature recorder	√	√	√
Web NIA Server (Rete Ethernet + GSM)	√	√	√
Printer (Strip Chart)	√	√	√
SD CARD recording data + software PC	√	√	√
Data logger wireless+software/hardware (temperature management Spy KW)	√	√	√
PT100 Probe	√	√	√
2 ch PT100 (control probe, alarm probe)	√	√	√
Product simulation probe	√	√	√
Additional PT100 probe (free contacts for external data management system: data logger wireless etc.)	√	√	√
IQ/qq/ecc.	√	√	√
SPLIT	NO	NO	√
Internal - External hole	√	√	√

√	OPTIONAL
ST	STANDARD
NO	NOT AVAILABLE
SPLIT= models KLAB-BBR400 - 700 - 850 (also ADV) - 1500 (also ADV)	
CAN BE EQUIPPED WITH REMOTE CONDENSING UNITS	

V= Glass Door

C= Insulated Door

BloodLine

Blood Bank KLAB-BBR



SERIES KLAB BLOOD BANKS Medical Device DIRECTIVE 2007/47 CE

KLAB-BBR 700V	KLAB-BBR 850V	KLAB-BBR 1500V	KLAB-BBR 700V ADV	KLAB-BBR1500V ADV
cm71x80x200	cm85x87x200	cm142x80x200	cm75x80x203	cm145x80x203
cm59x68x140	cm73x75x156	cm127x65x140	cm60x68x140	cm130x65x140
+4°C	+4°C	+4°C	+4°C	+4°C
0+10°C	0+10°C	0+10°C	0+10°C	0+10°C
700	850	1500	700	1500
1	1	2	1	2
150	180	240	150	260
Aisi 304 Stainless sheet	Aisi 304 Stainless sheet	Aisi 304 Stainless sheet	Aisi 304 Stainless sheet	Aisi 304 Stainless sheet
Coated Steel White	Coated Steel White	Coated Steel White	Coated Steel White	Coated Steel White
ST	ST	ST	ST	ST
60mm	60mm	60mm	75mm	75mm
√(7)	√(8) (9)	√(14)	√(7)	√(14)
NO	NO	NO	NO	NO
336	440 (8) - 495 (9)	672	336	672
7	8-9	14	7	14
ST	ST	ST	ST	ST
√	√	√	√	√
ST	ST	ST	ST	ST
ST	ST	ST	ST	ST
ST	ST	ST	ST	ST
ST	ST	ST	ST	ST
ST	ST	ST	ST	ST
SAFETY CONTROL, DISASTER RECOVERY, key alarm test)				
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
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√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√
√	√	√	√	√





BloodLine

Blood Bank KLAB-BBR



SERIES KLAB BLOOD BANKS TG Special Version (Twin-Group)

BLOOD BANK MODELS	BBR 700V TG	BBR 1500V TG	BBR 700V ADV TG	BBR15000V ADV TG
External dimensions (WxDxH)	cm71x80x200	cm142x80x200	cm75x80x203	cm145x80x203
Internal dimensions (WxDxH)	cm59x68x140	cm127x65x140	cm60x68x140	cm130x65x140
Set Point	+4°C	+4°C	+4°C	+4°C
Working range	0+10°C	0+10°C	0+10°C	0+10°C
Capacity (litres)	700	1500	700	1500
N° Glass door small emittance	1	2	1	2
Weight Kg	170	270	180	290
Internal surfaces standard	Aisi 304 Stainless sheet			
External surfaces standard	Coated Steel White	Coated Steel White	Coated Steel White	Coated Steel White
Antibacterial internal surface	ST	ST	ST	ST
Insulation thickness	60mm	60mm	75mm	75mm
STANDARD				
N.° inox drawers (DRAX)	√(7)	√(14)	√(7)	√(14)
N.° aluminium drawers (DRAL)	NO	NO	NO	NO
N.° bags da 450 ml	336	672	336	672
Shelves (SHE)	7	14	7	14
Key Lock	ST	ST	ST	ST
Small rollers + stabilizing feet	√	√	√	√
Controller NIA (*)	ST	ST	ST	ST
NTC Probe	ST	ST	ST	ST
RS485 (Serial Access)	ST	ST	ST	ST
AutomaticDefrosting	ST	ST	ST	ST
Automatic evaporation of the condensation water	ST	ST	ST	ST
(*) Controllore NIA (display LCD, Smart defrost, HT, LT, BLACK OUT, lista guasti, door open, accensione/spengimento password, memoria allarmi, test allarmi, SAFETY CONTROL, DISASTER RECOVERY, key alarm test)				
OPTIONAL ACCESSORIES				
Completely inox	√	√	√	√
Aisi 304 dividing parts	√	√	√	√
Plastic dividing parts	√	√	√	√
Opening door by transponder personal key	√	√	√	√
Temperature recorder	√	√	√	√
Web NIA Server (Rete Ethernet + GSM)	√	√	√	√
Printer (Strip Chart)	√	√	√	√
SD CARD recording data + software PC	√	√	√	√
Data logger wireless+software/hardware (temperature management Spy KW)	√	√	√	√
PT100 Probe	√	√	√	√
2 ch PT100 (control probe, alarm probe)	√	√	√	√
Product simulation probe	√	√	√	√
Additional PT100 probe (free contacts for external data management system: data logger wireless etc.)	√	√	√	√
IQ/qq/ecc.	√	√	√	√
SPLIT	√	√	√	√
Internal - External hole	√	√	√	√

√	OPTIONAL
ST	STANDARD
NO	NOT AVAILABLE
SPLIT= models KLAB-BBR400 - 700 - 850 (also ADV) - 1500 (also ADV)	
CAN BE EQUIPPED WITH REMOTE CONDENSING UNITS	

V= Glass Door

C= Insulated Door



-  = min./max temperature alarm
-  = Internal light
-  = DATA LOGGER function
-  = energy failure alarm
-  = Alarm broken down probe
-  = Open door alarm
-  = Lock
-  = Disaster Recovery / Safety Control
-  = Temperature recorder
-  = Wheels

KW Apparecchi Scientifici, taking into consideration the non change of the principal characteristics of products, has the right to carry out modifications on its products, without prior notice, that it deems necessary.
 This catalogue is on an informative and illustrative basis, the quality of the images and the contents may have come under alterations during printing



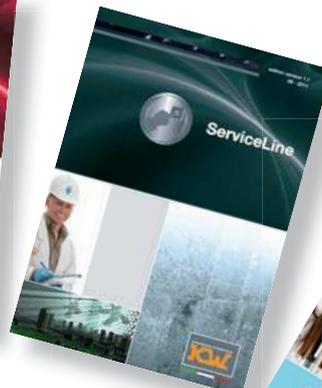
Cold storage equipment



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

