

Anexa 1

LOT 1 Baie de apa termoreglabila , volum de 27 L cu agitare pentru carcase de gaini

Parametri ceruti	Parametri oferiti
<p>Constructie metalica cu perete dublu, cu bazin de inox in interior incalzire cu element protejat, echipat cu termostat                      -control digital al temperaturii: 5°C peste temperatira camerei ...100°C                      buton de pornire iluminat,                      precizie temperatura 0,1 °C                      timer : 1 ...9999 min                      diplay digital dublu:temperatura si timp;                      semnal acustic pentru supraincalzire                      putere: 1,5 k W                      capacitate : 27 L                      dimensiune interioara: 600 x 245 x 165 mm (lungime x latime x inaltime)                      dimensiune exterioara :510 x 490 x 476 mm (lungime x latime x inaltime)                      Alimentare: 230V /50 -60 Hz</p>	<p>Constructie metalica cu perete dublu, cu bazin de inox in interior incalzire cu element protejat, echipat cu termostat                      -control digital al temperaturii: 5°C peste temperatira camerei ...99.99°C                      buton de pornire iluminat,                      precizie temperatura 0,1 °C                      timer : 1 ...99 H 59 min, sau lucru continuu                      diplay digital dublu:temperatura si timp;                      semnal acustic pentru supraincalzire                      putere: 1,6 k W                      capacitate : 21 L total, 15 L util                      dimensiune interioara: 505x300x145mm (lungime x latime x inaltime)                      dimensiune exterioara : 590x405x275mm (lungime x latime x inaltime)                      Alimentare: 230V /50 -60 Hz  <b>Model Nuve NB20</b></p>

Anexa 23

LOT 23 Vortex

Parametri ceruti	Parametri oferiti
Aparat pentru omogenizare. Structural, este un mic mixer cu rotație orbitală (funcționează pe principiul excentric). Este necesar pentru cercetarea bacteriologică.	Aparat pentru omogenizare. Structural, este un mic mixer cu rotație orbitală (funcționează pe principiul excentric). Este necesar pentru cercetarea bacteriologică. Biosan V-1 plus

Anexa 25

LOT 25 Shaker cu platforma

Parametri ceruti	Parametri oferiti
Miscare 3D cu platforma (20-25*20-25) viteza si timpul reglabil	Miscare 3D cu platforma (21.5*21.5 cm) viteza(1-100RPM) si timpul(0-250 sec, sau 1-5 sec) reglabil Multi Bio 3D, Biosan

Anexa 31

LOT 31

Rotor compatibil cu Vortex Multispin MSC-6000 (BIOSAN)

Parametri ceruti	Parametri oferiti
Pentru 2 benzi de 8 x 0,2 ml	Pentru 2 benzi(stripuri) de 8 x 0,2 ml Rotor SR-16



## Anexa 32

## LOT 32 Centrifuga cu răcire

Parametri ceruti	Parametri oferiti
<p>Maxim rcf: 16 100 x g  Viteza de rotatie: 800-13 200 rpm, cu pasi de 200 rpm  Timpul de accelerare pana la viteza maxima:  Maxim 13 s,Ti Maxim 11 s  Controler timp: 30sec ... 99m sau functionare continua  Dimensiuni (W x D x H): 29 x 45 x 23 cm  Greutate: 21.2 Kg  Alimentare: 230 / 50-60 Hz,Putere : 300 W  <b>ACCESORII:</b>  Denumire accesoriu / COD  Rotor unghiular la 45°, cu capac din polipropilena, pentru 24 tuburi x 1.5 ml / 2 ml - F-45- 24 -11 5425 725 000  Rotor unghiular la 45°, cu capac etans din aluminiu, protectie la aerosoli, pentru 24 tuburi x 1.5 ml / 2 ml - FA-45-24-11 5425 737 009  Rotor unghiular la 45°, cu capac din polipropilena pentru 36 tuburi x 0.5 ml - F-45-36-8 5425 730 004  Adaptoare de 0.5 ml sau 0.6 ml - 6 buc./set 5425 716 001  Adaptoare de 0.4 ml - 6 buc./set 5425 717 008  Adaptoare pentru tuburi PCR de 0.2 ml - 6 buc./5425 715 005  Adaptoare pentru tuburi PCR de 0.2 ml pentru rotorul de F-45-36-8 - 6 buc./set 5425 723 008</p>	<p>Maxim rcf: 21 382 x g  Viteza de rotatie: 500-15 000 rpm, cu pasi de 100 rpm  Timpul de accelerare pana la viteza maxima:  Maxim 13 s,Ti Maxim 11 s  Controler timp: 30sec ... 99m sau functionare continua  Dimensiuni (W x D x H): 28.1 x 55.3 x 26 cm  Greutate: 28 Kg  Alimentare: 230 / 50-60 Hz,Putere : 630 W  <b>ACCESORII:</b>  Denumire accesoriu / COD  <b>Rotor</b> unghiular la 45°, cu capac din plastic(Bioseal), pentru 24 tuburi x 1.5 ml / 2 ml – <b>cod 2434</b>  <b>Rotor</b> unghiular la 45°, cu capac etans din bioseal, protectie la aerosoli, pentru 24 tuburi x 1.5 ml / 2 ml – <b>cod 2428</b>  <b>Rotor</b> unghiular la 45°, cu capac din polipropilena pentru 30 tuburi x 0.5 ml – <b>cod 2437</b>  <b>Adaptoare</b> de 0.5 ml sau 0.6 ml - 6 buc./set – <b>cod 2023</b>  <b>Adaptoare</b> de 0.4 ml - 6 buc./set – <b>cod 2024</b>  <b>Adaptoare</b> pentru tuburi PCR de 0.2 ml - 6 buc. – <b>cod 2024</b>  <b>Adaptoare</b> pentru tuburi PCR de 0.2 ml pentru - 6 buc./set – <b>cod 2024</b>  <b>Mikro 200 R, Andreas Hettich</b></p>

## LOT 33 Boxă UV p/u purificare ADN / ARN

Parametri ceruti	Parametri oferiti
<p>Material pereți din spate- oțel inoxidabil, părți și față- sticlă (EUROGLASS, Germania)  Lampă UV deschisă 1 x 25W încorporat bactericid UV-C, TUV 25W 1SL / 25  Materialul suprafeței de lucru oțel inoxidabil  Nivelul radiației UV 18 mW / cm<sup>2</sup> / sec  Setarea timpului digital al expunerii directe la UV 1 min – 24 ore/non-stop (increment 1 min)  Lampă de zi (pentru iluminarea zonei de lucru) 1xTLD-15W  Grosimea ecranului 4-8mm</p> <p>Transmisie optică 92-95%  Protecție UV&gt; 96%, folie de protecție UV  Suprafață de lucru 645 × 490 mm  Dimensiuni de deschidere (ecran de protecție complet ridicat) 645 × 190/165 mm  Caracteristici de siguranță : Lampa UV, automată se deconectează când ecranul este deschis  Dimensiuni (L×A×H) 700/720×580/535×555 mm  Greutate (net / brut) 23-29/33-39 kg  Consum de energie 67 W  Tensiune nominală de funcționare 100-240 V, 50 / 60Hz</p>	<p>Material pereți din spate- oțel inoxidabil, părți și față- sticlă (EUROGLASS, Germania)  Lampă UV deschisă 1 x 25W încorporat bactericid UV-C, TUV 25W 1SL / 25  Materialul suprafeței de lucru oțel inoxidabil  Nivelul radiației UV 18 mW / cm<sup>2</sup> / sec  Setarea timpului digital al expunerii directe la UV 1 min – 24 ore/non-stop (increment 1 min)  Lampă de zi (pentru iluminarea zonei de lucru) 1xTLD-15W  Grosimea ecranului 4 pe lateral, 8mm vitrina frontala</p> <p>Transmisie optică 95%  Protecție UV&gt; 96%, folie de protecție UV  Suprafață de lucru 645 × 490 mm  Dimensiuni de deschidere (ecran de protecție complet ridicat) 645 × 190 mm  Caracteristici de siguranță : Lampa UV, automată se deconectează când ecranul este deschis  Dimensiuni (L×A×H) 700×580×555 mm</p> <p>Greutate (net / brut) 28.8/39 kg  Consum de energie 67 W  Tensiune nominală de funcționare 100-240 V, 50 / 60Hz  <b>UVC/T-M-AR DNA/RNA UV-cleaner box, Biosan</b></p>

Anexa 36

LOT 36 Centrifugă p/u 24 tuburi

Parametri ceruti	Parametri oferiti
Display digital Viteza / Turatie reglabila : 200 – 14000 RPM RCF maxim. : 15,994 xg Rotor : 18 x 1.5/2.0 ml Timer : setabil 59 min 50 s / pasi de 10 s sau 99 h 59 min / pasi de 1 min Dimensiune : 28 x 24 x 35 cm Greutate : 12 Kg	Display digital Viteza / Turatie reglabila : 500 – 14000 RPM RCF maxim. : 18,188 xg Rotor : 24 x 1.5/2.0 ml Timer : setabil 59 min 50 s / pasi de 10 s sau 99 h 59 min / pasi de 1 min Dimensiune : 28.5x36x24.5 cm Greutate : 13 Kg NF 048 Rotor B 50 019 Angle 24 x 1,5/2 ml.

Anexa 37

LOT 37 Baie ultrasunet

Parametri solicitati	Parametri oferiti model: <b>Ultrasonic Free9 (TecnoGaz/Italia)</b>
Putere ultrasonică: 240W Frecvență ultrasonică: 40kHz Numar de transducere: 4 Cronometru: 1 – 99 min cu oprire automată Putere de încălzire: 300W Temperatură: pina la 800C Volum rezervor: 10.0 litri Valva pentru golire: DA Cordon de alimentare: Tip F, 220V/50Hz	Putere ultrasonică: 300W Frecvență ultrasonică: 38kHz Numar de transducere: 4 Cronometru: 1 – 30 min Putere de încălzire: 300W Temperatură: pina la 300C Volum rezervor: 8.2 litri Valva pentru golire: DA Cordon de alimentare: 230 VAC +/-10 % /50Hz



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*IQNet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world.  
IQNet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.*

**CERTIFICATO N. 9124.TGA2**  
**CERTIFICATE N.**

SI CERTIFICA CHE IL SISTEMA QUALITA' DI  
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY

**TECNO-GAZ SPA**

STRADA CAVALLI 4 - 43038 SALA BAGANZA (PR)  
UNITA' OPERATIVE / OPERATIVE UNITS

STRADA CAVALLI 4 - 43038 SALA BAGANZA (PR)  
VIA 8 MARZO 4 - 42025 CAVRIAGO (RE)

E' CONFORME ALLA NORMA / IS IN COMPLIANCE WITH THE STANDARD

**ISO 13485:2016**

PER LE SEGUENTI ATTIVITA' / FOR THE FOLLOWING ACTIVITIES

Progettazione, produzione ed assistenza di dispositivi per analgesia sedativa.  
Progettazione, produzione e collaudo di piccole autoclavi. Produzione ed assistenza di kit di primo soccorso e palloni rianimatori. Produzione e commercializzazione di prodotti ed accessori destinati ai settori medicale, odontoiatrico e primo soccorso. Gestione della manutenzione, installazione e riparazione di apparecchiature per radiologia, aspiratori chirurgici, riduttori di pressione per l'utilizzo con i gas medicali e riuniti dentali

*Design, manufacture and service of sedative analgesia devices. Design, production and testing of small autoclaves. Production and service of first aid kits and resuscitators bags.*

*Production and sale of products and accessories intended for the medical, dental and first aid. Maintenance management, installation and repair of radiology equipment, suction pumps, pressure regulators for use with medical and dental units gas*

Ulteriori informazioni riguardanti l'applicabilità dei requisiti ISO 13485:2016 possono essere ottenute consultando l'organizzazione  
Further clarifications regarding the applicability of ISO 13485:2016 requirements may be obtained by consulting the organization

IL PRESENTE CERTIFICATO E' SOGGETTO AL RISPETTO DEL  
REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI DI GESTIONE

THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE  
REQUIREMENTS OF THE RULES FOR CERTIFICATION OF MANAGEMENT SYSTEMS

<b>DATE:</b>	PRIMA CERTIFICAZIONE	EMISSIONE CORRENTE	SCADENZA
	FIRST CERTIFICATION	CURRENT ISSUE	EXPIRY
	2007-01-19	2018-12-12	2022-01-18

IMQ S.p.A. - VIA QUINTILIANO, 43 - 20138 MILANO ITALY  
Management Systems Division - Flavio Ornago



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SGQ N° 005 A

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC  
Signatory of EA, IAF, and ILAC Mutual Recognition Agreements

La validità del certificato è subordinata a sorveglianza annuale e riesame completo del Sistema di Gestione con periodicità triennale  
The validity of the certificate is submitted to annual audit and a reassessment of the entire Management System within three years

**DICHIARAZIONE CE DI CONFORMITÀ**  
**CONFORMITY CE DECLARATION - DECLARATION CE DE CONFORMITE**  
**KONFORMITÄTSERKLÄRUNG - DECLARATION CE DE CONFORMIDAD**

Modulo: TPM999 (ref. ISO/IEC 17050-1)

Nome del rilasciante - Manufacturer's name - Nom de la Société délivrante - Name des Hersteller - Nomgre de expedidor

**TECNO-GAZ S.p.A.**

**Strada Cavalli n. 4, 43038, Sala Baganza, Parma, ITALY**

Oggetto della dichiarazione - Subject of declaration - Objet de la déclaration - Betreffvon Erklärung - Objeto de la declaración

**FREE 3 - 6 - 9 - 12 - 30      ULTRASONIC CLEANING**

TECNO-GAZ dichiara sotto la propria responsabilità che l'oggetto della dichiarazione sopra descritto è conforme ai requisiti dei seguenti documenti:  
TECNO-GAZ declares under its own responsibility that The object of the declaration described conforms to the requirements of the following documents:

TECNO-GAZ déclare sous sa responsabilité que l'objet de la déclaration décrit ci-dessus est conforme aux exigences des documents suivants

TECNO-GAZ erklärt, dass der Gegenstand dieser Erklärung den Anforderungen folgender Unterlagen beachtet:

TECNO-GAZ declara bajo su responsabilidad que el objeto de la declaración se ha descrito anteriormente se ajusta a los requisitos de los siguientes documentos

DIRETTIVA 2011/65/UE DEL PARLAMENTO EUROPEO E DEL CONSIGLIO dell'8 giugno 2011, sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche. - DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment. - DIRECTIVE 2011/65/UE DU PARLEMENT EUROPÉEN ET DU CONSEIL du 8 juin 2011, relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques. - RICHTLINIE 2011/65/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 8. Juni 2011, zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten. - DIRECTIVA 2011/65/UE DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 8 de junio de 2011, sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos.

DIRETTIVA 2014/35/UE | DIRECTIVE 2014/35/EU | RICHTLINIE 2014/35/EU | DIRECTIVA 2014/35/UE

DIRETTIVA 2014/30/UE | DIRECTIVE 2014/30/EU | RICHTLINIE 2014/30/EU | DIRECTIVA 2014/30/UE

\*Direttiva 93/42/CEE e successive modifiche e integrazioni | Directive 93/42/EEC and following modifications and supplements | Directive 93/42/CEE et modifications ultérieures et supplémentaires | Richtlinie 93/42/EWG und folgende Änderungen und Ergänzungen | Directiva 93/42/CEE e siguientes variaciones e adiciones.

Recepta in Italia dal Decreto Legislativo n.46 del 24 Febbraio 1997 e successive modifiche e integrazioni.

La procedura di valutazione della conformità è conforme all'allegato VII della direttiva 93/42/CEE | The conformity assessment procedure is in accordance with Annex VII of Directive 93/42/EEC | La procédure d'évaluation de la conformité est en conformité avec l'annexe VII de la directive 93/42 /CEE | Das Konformitätsbewertungsverfahren ist gemäß Anhang VII der Richtlinie 93/42/EWG | El proceso de evaluación de la conformidad se conforma al anexo VII de la directiva 93/42/CEE.

Classe I - Class I - classe I - Klasse I - Clase I .

IEC 61010-2-010

EN 61010-1

EN 61326-1

Data di produzione | Production date | Date de fabrication | Produktionsdatum | Fecha de producción **13/11/2017**

Marchio CE è stato apposto sul prodotto in data 13/11/2017 | CE mark have been affixed to this product on 13/11/2017 | Le marquage CE a été apposée sur le produit le 13/11/2017 | Die CE Markierung wurde am 13/11/2017 angebracht | Marca CE se ha puesto sobre el producto en la fecha 13/11/2017

Luogo e data di rilascio - Place and date of issue - Lieu et date de délivrance - Ort und Datum - Lugar de producción

**Sala Baganza (PR), 13/11/2017**

**Paolo Bertozzi**

**Presidente - Chairman - Président - Vorstandvorsitzender - Presidente**



**Free<sup>3</sup>**

VU002ZVU

**Free<sup>9</sup>**

VU004ZVU

**Basic<sup>3</sup>**

VU001ZVU

**Basic<sup>9</sup>**

VU003ZVU

ULTRASONIC CLEANER

<i>Istruzioni per l'uso</i>	<i>ITALIANO</i>
<i>Instructions for use</i>	<i>ENGLISH</i>
<i>Mode d'emploi</i>	<i>FRANCAIS</i>
<i>Instrucciones de uso</i>	<i>ESPAÑOL</i>
<i>Bedienungsanleitung</i>	<i>DEUTSCH</i>

*0ZVUI0001*  
*19/05/2015*

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# CONTENTS

- 1. APPLICATION AND INTENDED USE**
- 2. SAFETY**
  - 2.1 SAFETY MARKING
  - 2.2 DISPOSAL
- 3. SPECIFICATIONS**
- 4. UNPACKING**
- 5. COMPONENT DESCRIPTION**
- 6. INSTALLATION**
- 7. OPERATION OF THE APPLIANCE**
  - 7.1 CONTROL PANEL
  - 7.2 CYCLE SETTING
- 8. OPERATING INSTRUCTIONS**
- 9. MAINTENANCE**
  - 9.1 CLEANING
  - 9.2 BATH CLEANING
- 10. REPORTS - ERRORS**
  - 10.1 ERRORS
  - 10.2 GENERAL PROBLEMS
- 11. PROCEDURES FOR SERVICE AND ASSISTANCE**
- A. DRAWINGS**



**1**

**APPLICATION AND INTENDED USE**

<b>INTENDED USE</b>	<b>The ultrasonic bath has been designed to clean instruments used in many fields including the medical, dental, cosmetic, and veterinary areas as well as all sectors requiring ultrasonic cleaning.</b>
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By ultrasonic cleaning (cavitation), the device enables to sanitize hard-to-reach spots, difficult to be manually cleaned, without the risks resulting from handling contaminated instruments.

Recommended steps when using in the dental field:









<b>DISINFECTION</b>	Chemical disinfection is only performed if suitable liquid disinfectant is used in the percentages and times specified by the manufacturer.
<b>CLEANSING</b>	This step reduces the amount of microbial contamination by over 90%. It removes the residual organic material resulting from the previous procedure.
<b>RINSING</b>	After cleansing, it is necessary to rinse the instruments subjected to cleaning. This step removes any residual disinfectant / detergent.
<b>DRYING</b>	After rinsing, the instruments must be dried to remove water residues which can compromise the subsequent sterilization process.






**The ultrasonic bath must be used only for cleaning instruments and materials that are compatible with the ultrasonic cleaning system, and generally only for the purposes intended by the manufacturer.**

## 2

## SAFETY

	The device must not be used in potentially explosive atmospheres.
	Place the device away from sources of heat or electromagnetic radiation.
	DO NOT OPEN THE DEVICE DO NOT IMMERSE IN WATER DO NOT WASH UNDER RUNNING WATER
	Do not insert any items that may get in contact with the bottom of the bath
	Do not pour acids (e.g. HCl) or chlorides into the bath
	When cleaning, do not touch the liquid and items that transmit ultrasound.
	The bath, frame, and cleaning liquid may heat up; avoid direct contact to prevent burns.
	Risk of fire and explosion; do not use flammable cleaning agents during ultrasound treatment
	Follow the instructions on the safety data sheet of the liquid detergent / disinfectant used.
	Under certain conditions, ultrasound can produce high noise. <b>Wear suitable PPE.</b>
	The electrical system must comply with the rating plate data and the regulations in force. Verify that the system is appropriate for the characteristics of the device.
	Check the integrity of the power cord before connecting the device.
	Situations where it is essential to disconnect the power supply: <ul style="list-style-type: none"> <li>- FAILURE</li> <li>- DANGER DUE TO LIQUID INTRUSION INTO THE DEVICE</li> <li>- MAINTENANCE</li> <li>- CLEANING</li> </ul>
	Do not remove the rating plate
	In accordance with the regulations in force, the manufacturer is responsible for the product placed on the market. Responsibility ceases the moment when operations are performed on the device by unqualified personnel or with non-original spare parts. The manufacturer declines all responsibility for damage to people or property if the device is used improperly.

**2.1 Safety marking**

	<p>DANGEROUS VOLTAGE</p>
	<p>HIGH TEMPERATURE</p>
	<p>GROUND CONNECTION</p>

**2.2 Disposal**



*This product is subject to Directive 2002/96/EC of the European Parliament and of the Council of the European Union on waste electrical equipment (WEEE). In jurisdictions adopting this Directive, the product was launched on the market after 13 August 2005 and must not be disposed of as non-recyclable household waste. Use local WEEE collection facilities for the disposal of this product, or comply with the regulations in force.*

## 3

## MECHANICAL

## SPECIFICATIONS

Operating temperature	+5°C to +30°C
MAX relative humidity at 30°C	80%

## ELECTRICAL

Power supply voltage	230 VAC +/-10 % single phase
Frequency	50 Hz
Power cord	2 + 1 x 1 mm <sup>2</sup>

## BATH SPECIFICATIONS

MODEL:	BASIC3	BASIC9	FREE3	FREE9
DESCRIPTION				
<b>Bath volume (l)</b>	2.8	8.2	2.8	8.2
<b>Water load volume (l)</b>	2.2	6	2.2	6
<b>Fast-acting fuses (A)</b>	2	4	2	4
<b>Bath internal size L x D x H (mm)</b>	235x135x100	332x227x120	235x135x100	332x227x120
<b>Bath external size L x D x H (mm)</b>	305x168x248	418x259x268	305x178x248	418x269x268
<b>Basket internal size L x D x H (mm)</b>	185x100x50	286x191x56	185x100x50	286x191x56
<b>Weight (Kg)</b>	3.7	7.1	4	7.4
<b>Number of transducers</b>	1	4	1	4
<b>Frequency (KHz)</b>	38	38	38	38
<b>Ultrasonic power (W)</b>	150	300	150	300
<b>Heating (W)</b>	/	/	100	300
<b>Bath material</b>	Stainless steel AISI 316			
<b>Integrated drain</b>	/	/	Yes	Yes
Size	/	/	3/4 G	
Valve	/	/	Stainless steel AISI 316	

**04**

**UNPACKING**

Packaging boxes must not be subject to impact and should be handled with care, avoiding rolling or dropping them.

The device is contained in a corrugated cardboard packaging box, internally reinforced by a protective structure.

Open the corrugated cardboard packaging box, remove the reinforced parts and take out the device.



The packaging box must be kept throughout the warranty period.  
The manufacturer will not accept returns without the original packaging box.





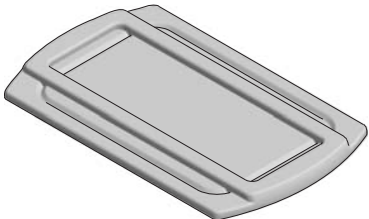

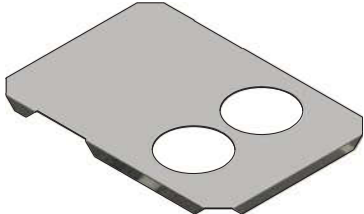


Remove the packaging box and check the condition of the device.



Do not use devices that show visible damage due to transport.

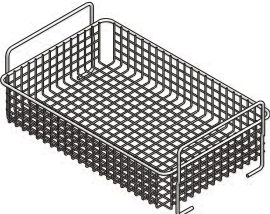
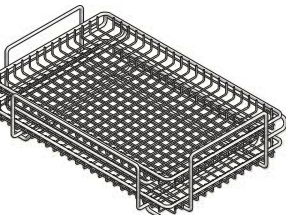

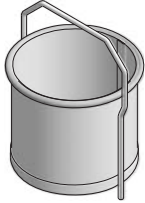

**05****COMPONENT DESCRIPTION**

POS	PICTURE	DESCRIPTION	CODE
		<i>POWER CORD (L 2.5 m)</i>	<b>CECG006</b>
<b>32</b>		<i>COVER FOR A 3-LITRE BATH</i>	<b>1ZVUA0012</b>
<b>34</b>		<i>BASKET FOR A 3-LITRE BATH 185 x100 H50 (mm)</i>	<b>1ZVUA0025</b>
<b>41</b>		<i>CUP HOLDER FOR A 3-LITRE BATH</i>	<b>1ZVUA0051</b>
<b>79</b>		<i>COVER FOR A 9-LITRE BATH</i>	<b>1ZVUA0013</b>
<b>80</b>		<i>BASKET FOR A 9-LITRE BATH 286x191 H56 (mm)</i>	<b>1ZVUA0026</b>
<b>78</b>		<i>CUP HOLDER FOR A 9-LITRE BATH</i>	<b>1ZVUA0052</b>

ENGLISH

40		<b>N°2 CUP CUP SEAL CUP COVER</b>	<b>VU800ZVU</b>
43			
39			
64		<b>DRAIN VALVE</b>	<b>CPRG034</b>
65		<b>DRAIN PLUG</b>	<b>3MECQ0011</b>

Please refer to Sec. **A - DRAWINGS**

<b>ACCESSORIES NOT INCLUDED</b>		
	<p>Only 9-litre version  <b>BASKET WITH SUPPORT RACK FOR THE BOTTOM OF THE BATH</b>                      180 x 280 H60 (mm)</p>	<p><b>SVMA069</b></p>
	<p>Only 9-litre version</p>	
	<p><i>TRAY HOLDER (OPTIONAL)</i></p>	<p><b>VM801ZVM</b></p>
	<p><i>N°1 TRAYS (OPTIONAL)</i></p>	<p><b>SVMA070</b></p>
	<p>Only 9-litre version  <b>FEET GASKETS</b></p>	<p><b>CM50080</b></p>
	<p>Only 9-litre version  <b>CUTTER HOLDER</b>                      ( D 70 mm H 60 mm )</p>	<p><b>SVMA072</b></p>
<b>DETERGENTS</b>		
	<p><b>D2 - 2.5-LITRE LIQUID DETERGENT</b>                      4-PIECE PACKAGE</p>	<p><b>VM002ZVM</b></p>
	<p><b>D3 - STRONG LIQUID DETERGENT</b>                      1-PIECE PACKAGE</p>	<p><b>2222S</b></p>



## 06

## INSTALLATION



The electrical system must comply with the regulations in force. Verify that the system is appropriate for the characteristics of the device.

Make sure that the measured value of the mains voltage corresponds to that specified on the rating plate of the device.

Place the device near a power outlet, in a dry place, protected from impact or liquid spillage.

Place the device on a perfectly horizontal surface, stable and suitable for the weight of the appliance

**The device must be moved only using the appropriate side handles.**

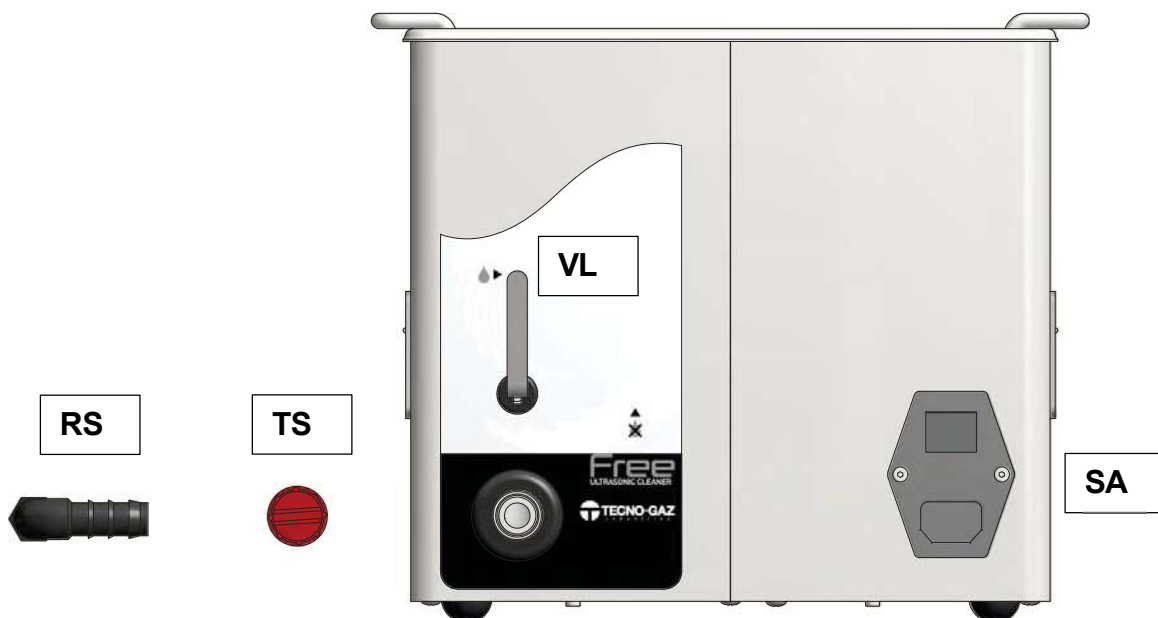
### DRAIN VALVE CONNECTOR (Only for versions with drain)

**Remove the cap on the exhaust (TS)** (unscrew the cap counter-clockwise).

**Screw the supplied drain (RS)** (turn clockwise).

Connect a drain hose to the desired length (accessory not supplied) suitable for fitting (fitting diameter 10-12 mm).

Tighten the hose with a hose clamp (accessory not included).



**POWER CORD CONNECTION**

**Check the integrity of the power cord.**



**Do not connect with extensions, reductions or adapters**

**Connect the power cord to the socket on the back of the device**

**TURN ON THE MACHINE USING ITS OWN SWITCH**

**NOTES**

**Use only recommended liquids suitable for ultrasonic cleaning.**



**Do not mix liquids inside the device, because the resulting chemical reactions can cause significant damage to the device and to people.**

**7 OPERATION OF THE APPLIANCE**

The device has a removable cover for accessing the cleaning bath.

Place the special basket in the middle of the cleaning bath; place the items to be cleaned in the basket; for optimal cleaning, do not overlap items but distribute them evenly.




**DO NOT START THE ULTRASOUND OR / AND HEATING, IF ANY, IF THE TANK WAS NOT FILLED PROPERLY: GENERATORS OF ULTRASOUND AND HEATING ELEMENTS MAY BE DAMAGED. CHECK REGULARLY THE CORRECT LEVEL OF CLEANING PRODUCT**

STEP	DESCRIPTION
------	-------------

<b>1</b>	<p><b>Loading water (Before supplying power to the device)</b>                      Fill the bath with water, preferably distilled, up to about 2/3 of its maximum volume.  <b>THE BASKET MUST BE COMPLETELY IMMERSSED.</b></p>
----------	---



<b>2</b>	<b>Add the detergent to the bath in the percentage specified by the manufacturer</b>	
	<b>Selected percentage</b>	<b>3-litre bath volume (ml)</b>
	1%	22
	2%	44
	3%	66
	4%	88
	5%	110
	6%	132
<b>3</b>	<b>Heating</b>	
	<p>The device proceeds to heating the cleaning liquid. It stops when the set temperature is reached.                  Note that during the ultrasonic cleaning, the cleaning liquid temperature increases.</p>	
<b>4</b>	<b>Degassing (DEGAS)</b>	
	<p>The device proceeds by intermittently activating ultrasound. This process reduces the gases dissolved in the liquid improving the effectiveness of the subsequent cleaning.</p>	
<b>5</b>	<b>Ultrasonic cleaning</b>	
	<p>Cleaning step by ultrasonic cavitation.</p>	
<b>9</b>	<b>SWEEP</b>	
	<p>Ultrasound frequency is modulated by reducing the adverse effects of standing waves and increasing the distribution of ultrasonic energy in the cleaning liquid. Cleaning is more effective (cavitation is improved)</p>	
<b>9</b>	<b>Drain</b>	
	<p>In versions without drain, the bath is emptied manually.</p>	<p>In versions with drain, the bath is emptied by opening the appropriate valve <b>VL</b> par 06.</p>
	<b>Before handling the device, detergents and accessories:</b>	
	<ul style="list-style-type: none"> <li>- Unplug the power cord</li> <li>- Check the temperature of the device - danger of burns</li> <li>- Check the liquid detergent - corrosive liquids</li> <li>- <b>Wear appropriate Personal Protective Equipment</b></li> </ul>	

**USE OF THE ACCESSORIES see Sec. A DRAWINGS**

The use of glasses is suitable for the cleaning of very small objects. it is also possible to use different detergents in the two glasses.

Place the cup holders on the tub after .

Place the glasses with special seals in the correct areas so that they are immersed in the liquid for about 1/3 of their height.

Fill the tank so as to reach 2/3 of the total volume.

Fill the glasses with the detergent so as to cover the objects to be treated.

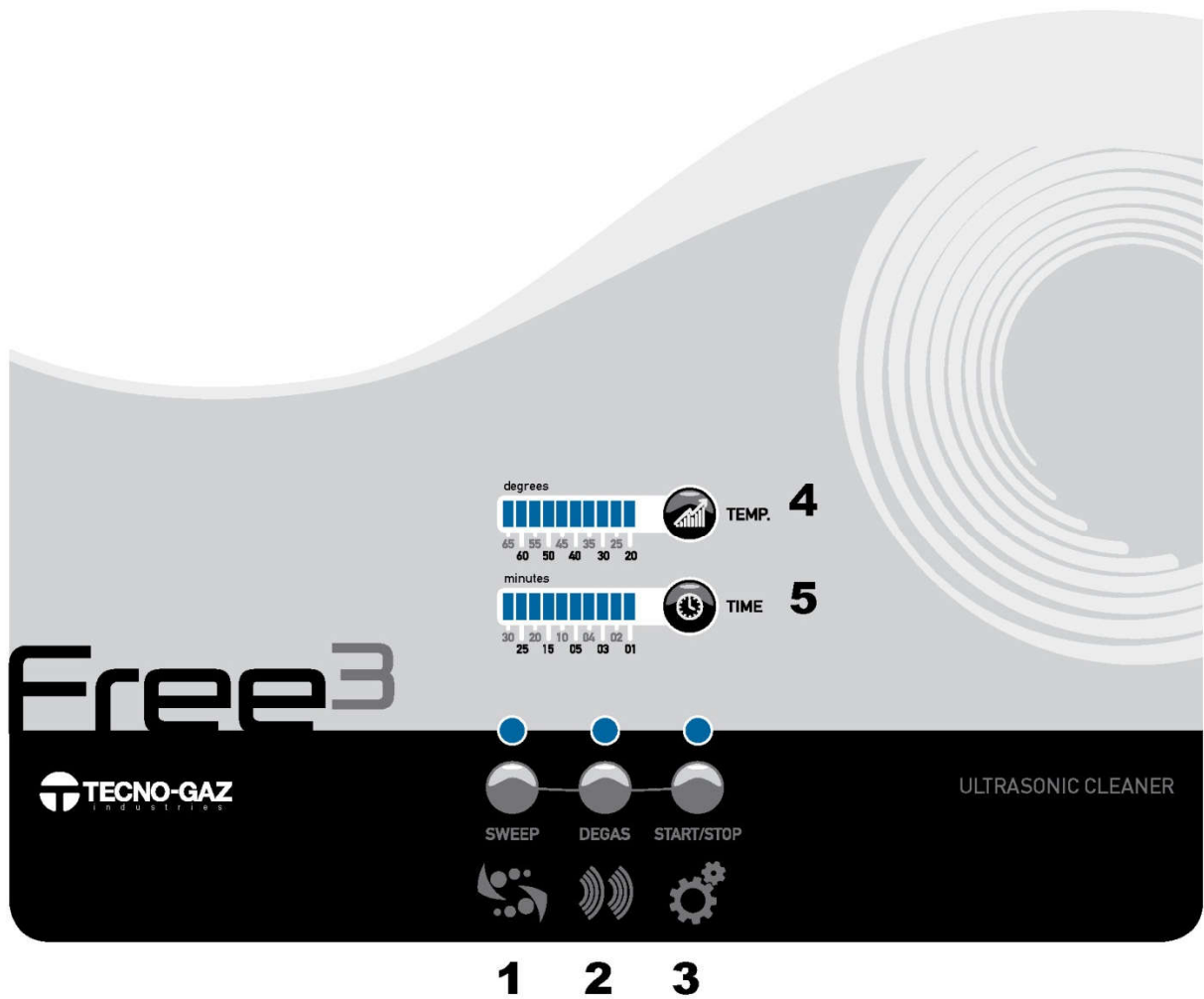
The glasses can be used with different detergents at different percentage (example: 1 Glass filled with detergent to 5%, 2 glass filled with disinfectant to 10%)

In version 3 It is not possible to use stainless steel basket.

In version 9It is possible to use stainless steel basket,put it on the opposite side of the tub.



7.1 Control panel



**CYCLE START/STOP BUTTONS**

1	<b>START</b>	START CYCLE
	<b>STOP</b>	STOP CYCLE

**SETTING BUTTONS**

2	<b>DEGAS</b>	ENABLE THE DEGAS FUNCTION
3	<b>SWEEP</b>	ENABLE THE SWEEP FUNCTION
4	<b>TEMP.</b>	TEMPERATURE SETTING
5	<b>TIME</b>	TIME SETTING



**CYCLE START/STOP BUTTONS**

1	<b>START</b>	START CYCLE
	<b>STOP</b>	STOP CYCLE

**SETTING BUTTONS**

2	<b>DEGAS</b>	ENABLE THE DEGAS FUNCTION
3	<b>SWEEP</b>	ENABLE THE SWEEP FUNCTION
5	<b>TIME</b>	TIME SETTING

## 7.4 Cycle setting

### TEMPERATURE from 20 to 65°C (VERSION WITH HEATING)

To set the cleaning temperature: press the TEMP button; by doing so, the led can be scrolled through the setting BAR; stop at the desired temperature.

### TIME from 1 to 30 minutes

To set the cleaning time: press the TIME button; by doing so, the led can be scrolled through the setting BAR; stop at the desired cleaning time.

### DEGAS

Press the DEGAS button: if the corresponding LED lights up, the function is set

### SWEEP

Press the SWEEP button: if the corresponding LED lights up, the function is set

**At the end of the cleaning cycle, settings are stored and re-proposed for the next cycle.**

### DEGAS and SWEEP

The DEGAS and SWEEP functions can be enabled and disabled by pressing the appropriate buttons.

These functions can be set before starting a cycle or enabled during cleaning.

The duration is determined by the initial setting of the cleaning time.

The DEGAS and SWEEP functions are mutually exclusive: if DEGAS is set and SWEEP is pressed, the DEGAS function is automatically disabled while the SWEEP one is enabled.

### AUTOMATIC FUNCTIONS

They are enabled by pressing and holding a specific button for longer than 6 sec.

**DEGAS:** By pressing and holding the corresponding button for a time  $\geq 6$  sec, the device automatically performs a 5-minute DEGASSING cycle; it is not necessary to press the START button. To stop, press the STOP button before the 5 minutes have elapsed.

#### CYCLE START ONLY IN THE VERSIONS WITH HEATING

It is possible to start a cleaning cycle automatically after the device has reached the set temperature.

**PRESS AND HOLD** the START button for a time  $\geq 6$  sec. The device starts operating; the operation LED starts flashing; the cleaning liquid starts heating up. When the set temperature is reached, the cleaning cycle will start and run for the set time.



**FILLING THE BATH**

Fill the bath with water (preferably distilled)

Add the detergent, suitable for the type of cleaning to be performed, in the percentage specified by the manufacturer.

**LOADING**

Place the items to be cleaned into the basket provided as standard, distributing them evenly on the bottom of the basket. Overlapping items reduces cleaning effectiveness.

For proper cleaning, the material to be cleaned must be completely immersed in the cleaning liquid.

Close the bath with the cover provided

**SWITCHING ON THE DEVICE**

The main power switch is located above the power plug.

Turn off the main power switch when the device is not used.

Move the main power switch to I (on)

Set the cycle by entering the desired parameters.

**START CYCLE**

Press the **START** button

The start of the cycle is displayed by the corresponding flashing LED

The device displays:

**Time:** a fixed LED indicates the set time, a flashing LED the time remaining to the end of the cycle.

**Temperature:** a fixed LED indicates the set temperature, a flashing LED the actual temperature of the cleaning liquid.

**Degas:** it is enabled if the corresponding led is on

**Sweep:** it is enabled if the corresponding led is on

**END OF CYCLE**

The end of the cycle is displayed by the corresponding **START / STOP** fixed led light.

Lift the cover paying careful attention to condensation.

Rotate the cover and place it close to the device.

Remove the basket and place it on top of the cover.

Proceed by rinsing the items.



Replace the cleaning solution periodically, following the instructions given by the detergent/disinfectant manufacturer. Always replace the solution when exhausted.

For effective cleaning, frequently replace the cleaning solution.

### Use of ACCESSORIES

( the supplied accessories vary depending on the product purchased )

<b>CUP HOLDER</b>	Suitable for holding 2 glass cups
<b>SEAL</b>	To properly position the cup
<b>CUPS</b>	Suitable for cleaning small items and using detergents that cannot be added directly to the bath.
<b>SMALL BASKET</b>	An accessory of the 9-litre bath, it can be used along with the cups.
<b>HOLDER CUTTER BASKET</b>	Suitable for small items that could fall to the bottom of the bath (optional, not included)
<b>BASKET WITH SUPPORT RACK FOR THE BOTTOM OF THE BATH</b>	(180 mm X 28 mm H60mm) (optional, not included)
<b>TRAY HOLDER INCLUDING 2 TRAYS</b>	(optional, not included)

**9**

**MAINTENANCE**

**9.1 CLEANING**

Maintenance and **repair operations** must be carried out with the machine disconnected from the power supply and cold.



**Do not immerse the device in water**



**Use detergents that are not aggressive toward plastics**



**Use detergents suitable for stainless steel**

**9.2 Bath cleaning**

Remove any possible deposits or debris to prevent potentially obstructing materials from entering into the drain circuit.

To reduce scale formation, we recommend using distilled water.

For cleaning, common detergents can be used, provided they do not contain any Hydrochloric Acid (muriatic acid) or its compounds.

In the event of stubborn stains, try using specific products for stainless steel.

For cleaning, do not use steel wool pads or anything that could scratch or grind.

Proper maintenance of the device ensures a smooth operation of the same as well as significant time and assistance cost savings.

## 10

## REPORTS - ERRORS

## 10.2 Errors

In case of an error report, you need to reset the device in order to start a new cycle. Errors are signaled by the **simultaneous flashing of the DEGAS and SWEEP leds**

The type of error is reported on the time LED bar:

**All errors are reset by pushing any button for 5"**

Display	Causes	Solutions
1M LED	Mains failure during the cycle	Reset and restart the cycle if necessary
4M LED	Temperature probe (open)	Contact support to replace the probe
5M LED	Temperature probe not working (short circuit)	Contact support to replace the probe

## 10.4 General problems

Problems	Possible causes	Solution
Poor cleaning	- Presence of non-pretreated elements (cement, alginates)	- Pre-treat with suitable detergents.
	- Incorrect cycle settings	- Change parameters, increasing cleaning time.
	- No noise from ultrasound can be heard during the cleaning phase	- Please contact technical support
Some instruments become damaged	- Instruments unsuitable for ultrasonic cleaning (e.g. mirrors)	- Do not sanitize unsuitable instruments by ultrasonic cleaning

**11 PROCEDURES FOR SERVICE AND ASSISTANCE**

In case of failure or revision, please contact **MEDILINE ITALIA s.r.l.** helpline

<b>PHONE</b>	<b>+39 0522 94.29.96</b>
<b>FAX</b>	<b>+39 0522 94.47.98</b>
<b>@</b>	<b><a href="mailto:service@tecnogaz.com">service@tecnogaz.com</a></b>

The Service Department will evaluate whether the machine must be returned to the manufacturer or the intervention of a technician is required and, after inspecting the machine, an estimate will be drawn up and forwarded to the distributor, who will then transmit it to the end customer for acknowledgement and signature.

After receiving the estimate signed for acceptance, the device will be processed and shipped within the time indicated in the estimate.

The following steps are mandatory if the machine must be shipped to the company:

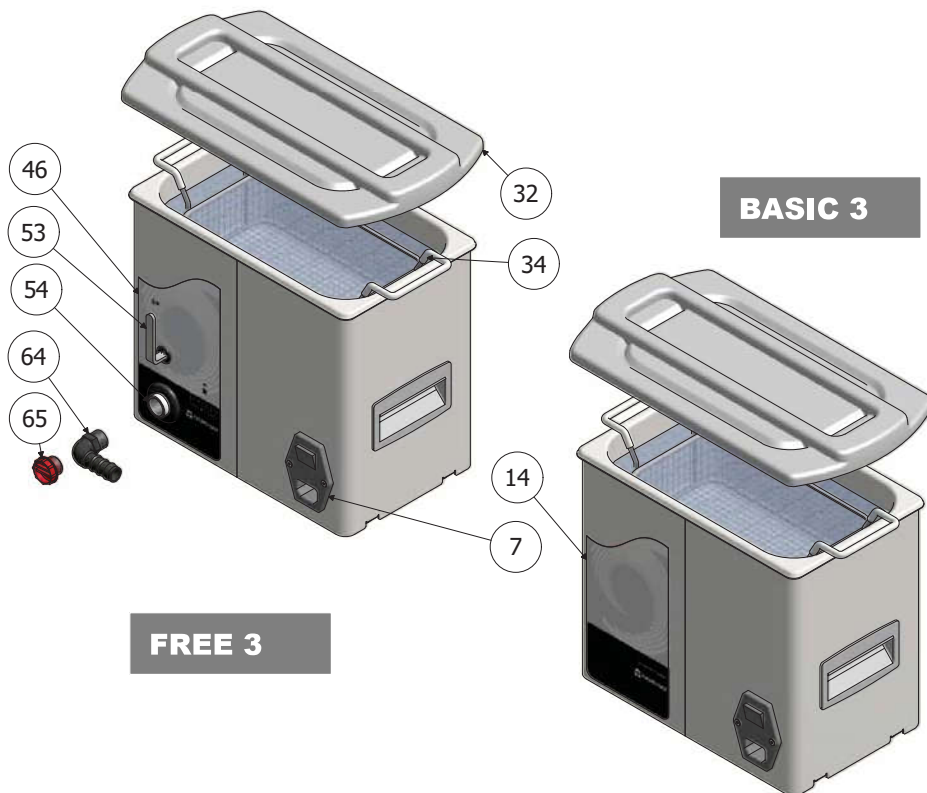
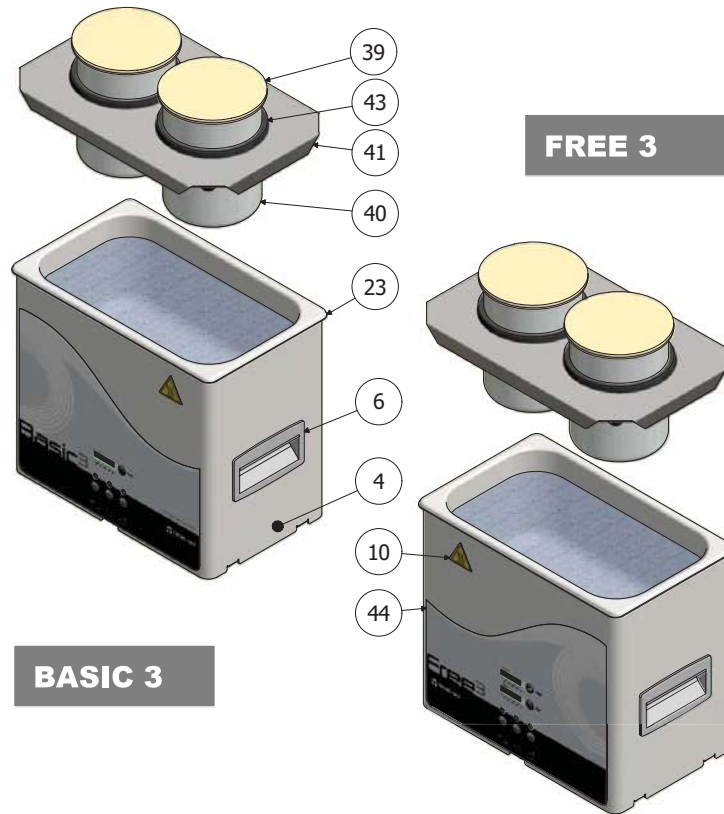
- Use the original packaging box. If you no longer have it, use adequate packaging. Transport risks are borne by the sender.
- Ship only the device (do not add any component contained in the accessory kit).
- Thoroughly clean the bath, before shipping it. Should it come dirty, you will be charged for the cost of cleaning and disinfection.
- Specify the anomaly in writing, placing a document clearly indicating the anomaly noted or the service you are requesting inside the package.
- Always send with carriage paid, otherwise you will be charged for the transport costs incurred.

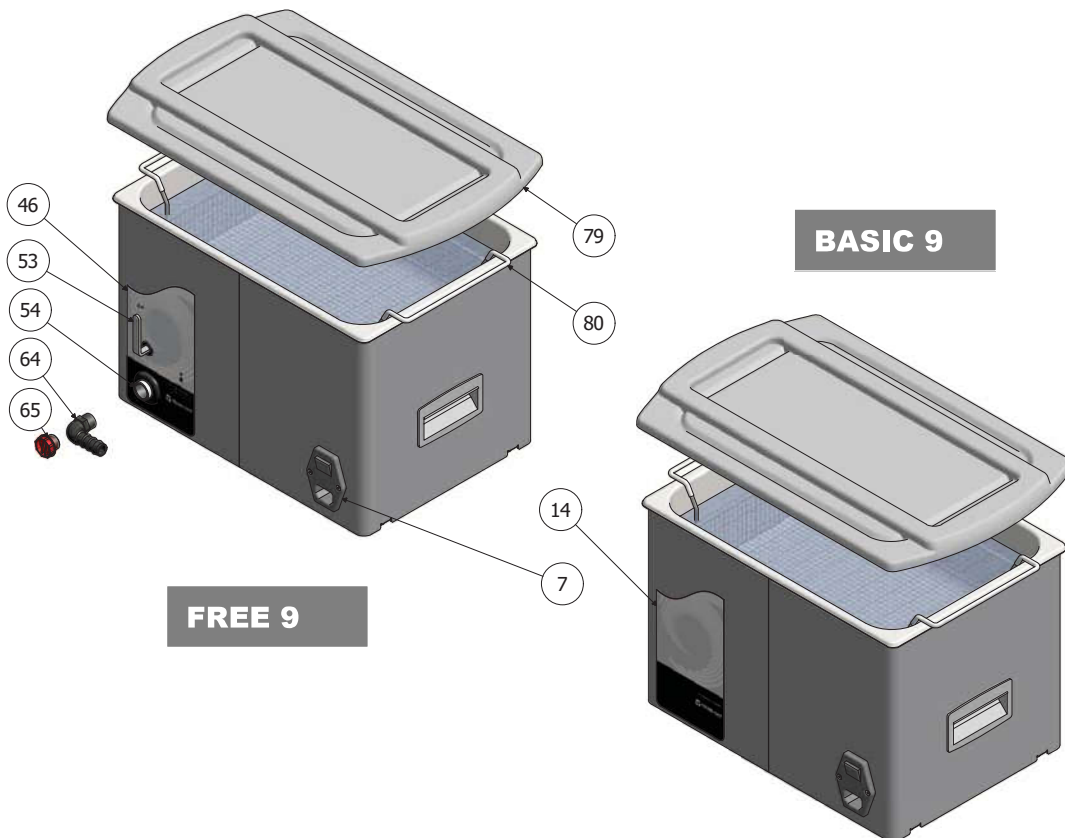
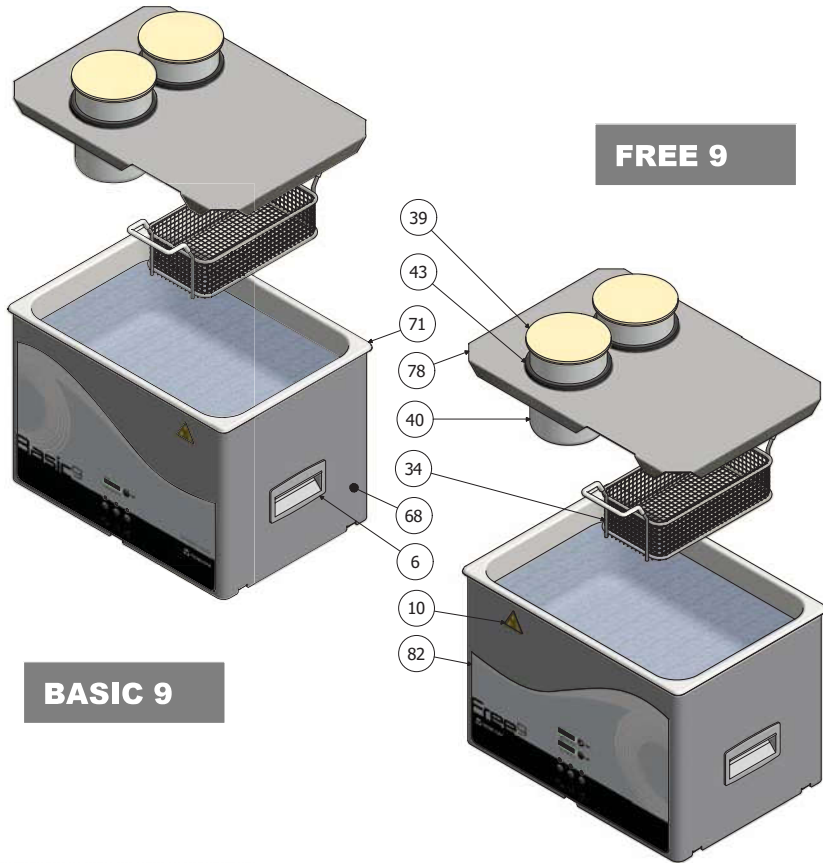
All non-original packaging that we receive will be disposed of.

The device will be returned in its original packaging box (you will be charged for the packaging cost) through your shipping agent.

**A**

**DRAWINGS**





# EC DECLARATION OF CONFORMITY

We, NÜVE Sanayi Malzemeleri İmalat ve Ticaret A.Ş.  
Saracalar Mah. Saracalar Kümeevleri No: 4/2  
Akyurt 06750 Ankara / TURKEY

Herewith declare that the following described product meets the provisions of the following directives. All supporting documentation is retained under the premises of the manufacturer.

**PRODUCT:** MICROLITRE AND HAEMATOCRIT CENTRIFUGE

**MODEL:** NF 048

**APPLICABLE EC DIRECTIVES** LVD : 93/68/EEC & 2006/95/EC  
EMC :92/31/EEC & 2004/108/EC

**APPLICABLE HARMONISED STANDARDS:** EN 61010-1  
EN 61010-2-020  
EN 61000-6-2  
EN 55011

**DATE OF ISSUE:** March 01, 2014

**SIGNATURE:**



**Beril İZGİN**  
General Manager

**CE**



## NÜVE SANAYİ MALZEMELERİ İMALAT VE TİCARET ANONİM ŞİRKETİ

SARACALAR MAHALLESİ SARACALAR KÜMEEVLERİ NO:4/2  
AKYURT – ANKARA – TURKEY

with a scope of

**DESIGN, MANUFACTURE, SALES AND AFTER SALES  
SERVICES OF LABORATORY AND STERILIZATION EQUIPMENTS**

Has established a quality management system in accordance  
with international standard.

*“ Following elements of the standard are excluded “*

*“None“*

### ISO 9001:2015

Certificate No : M 8215  
Initial Certification Date : 28 April 2010  
Certification Date : 19 February 2019  
Expiration Date : 18 February 2022



Quality Management System  
TS EN ISO/IEC 17021-1  
AB-0006-YS



TÜRKAK BDS NO  
YS-4AF4-45D4



General Manager

Kiwa Certification Services Inc.

ITOSB 9. Cadde No. 15 Tepeören Tuzla - Istanbul - Turkey

Tel: + 90 216 593 25 75 Faks : + 90 216 593 25 74

Web: [www.kiwa.com.tr](http://www.kiwa.com.tr) E-mail: [info@kiwa.com.tr](mailto:info@kiwa.com.tr)

*Certificate is valid till expiration date, subject to successful completion of periodical surveillance audits.*

Please contact above numbers for detailed information.



CERTIFICATE

## NÜVE SANAYİ MALZEMELERİ İMALAT VE TİCARET ANONİM ŞİRKETİ

SARACALAR MAHALLESİ SARACALAR KÜMEEVLERİ NO:4/2  
AKYURT – ANKARA – TURKEY

with a scope of

**DESIGN, MANUFACTURE AND AFTER SALES SERVICES OF  
LABORATORY AND STERILIZATION EQUIPMENTS**

Medical devices - Quality management systems - Requirements for  
regulatory purposes

*"Following elements of the standard are excluded"*

*" 7.5.5 " " 7.5.7 " " 7.5.9.2 "*

### EN ISO 13485:2016

Certificate No : M 8216  
Initial Certification Date : 28 April 2010  
Certification Date : 19 February 2019  
Expiration Date : 18 February 2022



Medical Device Q M S  
TS EN ISO/IEC 17021-1

AB-0006-YS



TÜRKAK BDS NO  
YS-4DCF-FE40

General Manager

Kiwa Certification Services Inc.  
ITOSB 9. Cadde No. 15 Tepeören Tuzla - Istanbul - Turkey  
Tel: +90 216 593 25 75 Faks : +90 216 593 25 74  
Web: [www.kiwa.com.tr](http://www.kiwa.com.tr) E-mail: [info@kiwa.com.tr](mailto:info@kiwa.com.tr)

*Certificate is valid till expiration date, subject to successful completion of periodical surveillance audits.*

Please contact above numbers for detailed information.

# EC DECLARATION OF CONFORMITY

We, **NÜVE Sanayi Malzemeleri İmalat ve Ticaret A.Ş.**  
Saracalar Mah. Saracalar Kümeevleri No: 4/2  
Akyurt 06750 Ankara / TURKEY

Herewith declare that the following described product meets the provisions of the following directives. All supporting documentation is retained under the premises of the manufacturer.

**PRODUCT:**

**WATER BATH**

**MODEL:**

**NB 5 – NB 9 – NB 20**

**APPLICABLE EC DIRECTIVES**

**LVD : 93/68/EEC & 2006/95/EC**

**EMC :92/31/EEC & 2004/108/EC**

**APPLICABLE HARMONISED STANDARDS:**

**EN 61010-1  
EN 61000-6-3  
EN 60601-1-2**

**DATE OF ISSUE:**

**March 01, 2014**

**SIGNATURE:**



**Beril İZGİN  
General Manager**

**CE**





# NB SERIES

## Unstirred Water Baths

- Designed for many general and special applications in microbiology, research and industrial laboratories
- Excellent temperature control of liquid for uniform and stable temperatures
- Reliable and accurate N-Prime™ programmable PID microprocessor control system
- User friendly control panel including large bright LED displays for temperature and time
- Easy programming with one button, just turn and push
- Password protected menu to secure the operation
- Programmable alarm limits
- Data recording on memory stick by means of USB port up to 125 days
- Programmable delayed start function
- Safety thermostat to prevent running without water and audible and visual alarms against over heating
- Seamless corrosion resistant stainless steel tank for a longer life
- Minimized risk of contamination by the rounded corners and smooth surfaces of the tank
- Silicon sheet heaters surrounding the tank from three sides for uniform heating
- Triple insulation consisting of glass wool, aluminium layer and air gap for high efficiency
- Angled front panel to protect the controller from accidental water spillage
- Efficient tank usage as there is no obstruction in the tank such as circulation pump or heater
- Convenient drain for discharging the liquid in the tank quickly
- Footprint almost equal to the tank dimensions to save valuable bench space.



N-prime

## TECHNICAL SPECIFICATIONS

	NB 5	NB 9	NB 20
Tank Volume, litres	6	9,5	21
Useful Volume, litres	4	7	15
Temperature Range	Ambient Temp + 5°C / 99,9°C		
Temperature Sensor	Fe-Const		
Control System	N-Prime™ Programmable Microprocessor		
Temperature Set and Display Sensitivity	0,1°C		
Temperature Variation @37°C	± 0,2°C*		
Temperature Fluctuation @37°C	± 0,1°C*		
Programmable Alarm Limits	± 0,5°C / 5°C		
Timer	1 minute – 99,9 hours + Hold Position		
Delayed Start Timer	1 minute – 99,9 hours		
Selectable Recording Frequency on Memory Stick	10 or 30 seconds, 1, 5, 30 or 60 minutes		
Internal Material	Stainless Steel		
External Material	Epoxy - Polyester Powder Coated Steel		
Power Consumption	600 W	800 W	1600 W
Power Supply	230 V, 50/60 Hz		
Internal Dimensions (WxDxH) mm	150x300x150	240x300x145	505x300x145
External Dimensions (WxDxH) mm	240x400x270	320x405x275	590x405x275
Packing Dimensions (WxDxH) mm	300x460x480	390x450x480	650x450x480
Net / Packed Weight kg.	8 / 11	9 / 12	13 / 17

\*At 22°C ambient temperature with closed lid

### ACCESSORIES

K 04 290	Plexiglass lid for NB 5 (Resists up to 60°C)
K 52 010	Stainless steel lid for NB 5
K 04 286	Plexiglass lid for NB 9 (Resists up to 60°C)
K 52 007	Stainless steel lid for NB 9
K 04 289	Plexiglass lid for NB 20 (Resists up to 60°C)
K 52 003	Stainless steel lid for NB 20
K 52 008	Lid with 4 holes for NB 9 (Hole dia. 95 mm)
K 52 005	Lid with 4 holes for NB 20 (Hole dia. 95 mm)
K 52 006	Lid with 6 holes for NB 20 (Hole dia. 95 mm)
K 52 014	Lid with 8 holes for NB 20 (Hole dia. 95 mm)
A 08 051	Tube rack 52 x Ø 13 mm, wide 70 mm
A 08 050	Tube rack 30 x Ø 16 mm, wide 70 mm
A 08 021	Tube rack 27 x Ø 18 mm, wide 70 mm
A 08 049	Tube rack 12 x Ø 30 mm, wide 70 mm



**NUVE SANAYİ MALZEMELERİ İMALAT VE TİCARET A.Ş.**

Saracalar Mah. Saracalar Kümeevleri No: 4/2 Akyurt 06750 ANKARA / TURKEY t. +90 312 399 28 30 f. +90 312 399 21 97  
nuve.com.tr sales@nuve.com.tr

ISO 9001: 2008  
ISO 13485: 2003



**BUREAU VERITAS**  
Certification



## Certification

Awarded to

**SIA "Biosan"**

Rātsupītes iela 7, korp.2, Rīga, LV-1067, LATVIA

**Bureau Veritas Certification certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standard detailed below**

STANDARD

**ISO 9001:2015**

SCOPE OF CERTIFICATION

DEVELOPMENT, PRODUCTION, SALES AND SERVICE OF LABORATORY EQUIPMENT.

Original cycle start date: 25.05.2004.

Recertification Audit date: 09.04.2019.

Recertification cycle start date: 26.05.2019.

Subject to the continued satisfactory operation of the organisation's Management System,  
this certificate expires on: 25.05.2022.

Certificate Number : LVRIG24119A

Version: 1 Revision date: 11.04.2019.

Certification Manager  
Iveta Lazdina

Certification body address: Bureau Veritas Latvia SLA, Dunties street 17a, Riga, LV-1005, Latvia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.  
To check this certificate validity please call +371 67323246





# EU Declaration of Conformity

**Unit type** Rockers, shakers, rotators, vortexes

**Models** **MR-1, MR-12;**  
**3D, Multi Bio 3D, PSU-10i, PSU-20i, MPS-1, PSU-2T;**  
**Bio RS-24, Multi Bio RS-24, Multi RS-60;**  
**V-1 plus, V-32, MSV-3500**

**Serial number** 14 digits styled XXXXXYYMMZZZZ, where XXXXXX is model code, YY and MM – year and month of production, ZZZZ – unit number.

**Manufacturer** SIA BIOSAN  
Latvia, LV-1067, Riga, Ratsupites str. 7/2

**The objects of the declaration described above is in conformity with the following relevant Union harmonization legislations:**

<b>LVD 2014/35/EU</b>	<b>LVS EN 61010-1:2011</b> Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements. <b>LVS EN 61010-2-051:2015</b> Particular requirements for laboratory equipment for mixing and stirring.
<b>EMC 2014/30/EU</b>	<b>LVS EN 61326-1:2013</b> Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements.
<b>RoHS3 2015/863/EU</b>	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
<b>WEEE 2012/19/EU</b>	Directive on waste electrical and electronic equipment.

**I declare that the Declaration of Conformity is issued under sole responsibility of the manufacturer and belongs to the above-mentioned objects of the declaration.**

Svetlana Bankovska  
Managing director



\_\_\_\_\_  
Signature

07.02.2020.  
\_\_\_\_\_  
Date

# V-1 plus, Personal Vortex

**Basic Plus**  
Product Class

## DESCRIPTION

Vortex **V-1 plus** is an ideal instrument for gentle mixing to vigorous resuspension of cells and biological and chemical liquid components in tubes using eccentric mechanism.

Vortex has two modes:

1. Continuous operation;
2. Impulse operation (activated by pressing the cap with the tube's bottom).



## SPECIFICATIONS

Eccentric mixing principle	+
Speed control range	500-3000 RPM
Acceleration time	<1 s
Maximum continuous operation time	24 h
Mixing module for tubes	from 0.2 to 50 ml
Maximum mixing volume	30 ml
Orbit	4 mm
Overall dimensions (W×D×H)	90x150x80 mm
Weight	0.8 kg
Input current/power consumption	12 V, 320 mA / 3.8 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

## CAT. NUMBER

BS-010203-AAG	230VAC 50/60Hz Euro plug
BS-010203-AAK	230VAC 50/60Hz UK plug, 230VAC 50/60Hz AU plug, 100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010203-BK	IQ OQ document
BS-010203-CK	PQ document



# Multi Bio 3D, Programmable mini-shaker

## DESCRIPTION

Programmable mini-shaker **Multi Bio 3D** is designed for a variety of applications: hybridization reactions, cell growing, gel washing, soft extraction and homogenisation of biological components in solutions.

**Multi Bio 3D** provides realization of several types of motion in one module. This option of Biosan instruments essentially extends possibilities and enhances efficiency of preparation of test samples as well as allows selecting the mixing type according to individual requirements.

Microprocessor control allows performing not only (1) **Orbital 3D rotation** of the platform, but also (2) **Reciprocal 3D motion** (of ping-pong type) as well as (3) **Soft vibrating rocking**. These three motion types can be performed separately, pairwise and in cycles, periodically repeating the sequence of three motion types. The shaker is designed for laboratories with increased demands for quality of mixing, extraction and cell growing processes.

Non-slip, temperature resistant, silicone mat located on the shaker platform provides stable position for vessels during shaking. Optional dimpled PDM mat fixes tubes of different sizes.

Programmable shaker can be used in cold rooms or incubators, operating at ambient temperature range +4°C to +40°C.

Optional dimpled mat **PDM** prevents different size tubes from rolling around the platform.

## SPECIFICATIONS

Speed control range	1 - 100 RPM (Orbital and reciprocal motion) (1) (2)
Timer sound signal	+
Turning angle	0°–360° (increment 30°) (Reciprocal motion) (2)
Rocking angle	0°–5° (increment 1°) (Vibro motion) (3)
Fixed platform tilt angle	7°
Maximum continuous operation time	24 hours
Orbit	22 mm
Maximum load	1 kg
Non-slip silicone mat is supplied as standard	+
Time setting range for (1) (2)	0-250 sec
Time setting range for (3)	0-5 sec
Number of cycles	0 - 125 times
Platform working area	215x215 mm
Overall dimensions (WxDxH)	235x235x140 mm (with platform)
Weight	1.8 kg
Input current/power consumption	12 V, 380 mA / 4.6 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V



## CAT. NUMBER

BS-010125-AAG	230VAC 50/60Hz Euro plug
BS-010125-AAK	230VAC 50/60Hz UK plug, 230VAC 50/60Hz AU plug, 100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010125-BK	IQ OQ document
BS-010125-CK	PQ document



PDM  
PDM  
dimpled mat

Dimpled mat PDM prevents different size tubes from rolling around the platform.

# EU Declaration of Conformity

**Unit type** Rockers, shakers, rotators, vortexes

**Models** **MR-1, MR-12;**  
**3D, Multi Bio 3D, PSU-10i, PSU-20i, MPS-1, PSU-2T;**  
**Bio RS-24, Multi Bio RS-24, Multi RS-60;**  
**V-1 plus, V-32, MSV-3500**

**Serial number** 14 digits styled XXXXXYYMMZZZZ, where XXXXXX is model code, YY and MM – year and month of production, ZZZZ – unit number.

**Manufacturer** SIA BIOSAN  
Latvia, LV-1067, Riga, Ratsupites str. 7/2

**The objects of the declaration described above is in conformity with the following relevant Union harmonization legislations:**

<b>LVD 2014/35/EU</b>	<b>LVS EN 61010-1:2011</b> Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements. <b>LVS EN 61010-2-051:2015</b> Particular requirements for laboratory equipment for mixing and stirring.
<b>EMC 2014/30/EU</b>	<b>LVS EN 61326-1:2013</b> Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements.
<b>RoHS3 2015/863/EU</b>	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
<b>WEEE 2012/19/EU</b>	Directive on waste electrical and electronic equipment.

**I declare that the Declaration of Conformity is issued under sole responsibility of the manufacturer and belongs to the above-mentioned objects of the declaration.**

Svetlana Bankovska  
Managing director



\_\_\_\_\_  
Signature

07.02.2020.  
\_\_\_\_\_  
Date

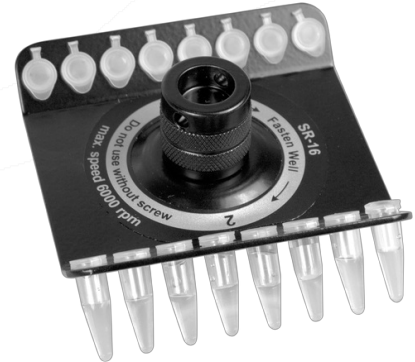
# SR-16, rotor

## DESCRIPTION

Rotor for 2 x 8-section 0,2 ml microtube strips

## SPECIFICATIONS

8-section strips	2
Amount of 0.2 ml tubes	16



## CAT. NUMBER

BS-010202-AK	Rotor SR-16
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## ACCESSORIES



**FV-2400 Micro-Spin**

Including rotors R-1.5M, R-0.5/0.2M  
 Mini-Centrifuge/Vortex

Mini-centrifuge/vortex Micro-Spin **FV-2400** is specially designed for genetic engineering research (for PCR-diagnostics experiments). Units can be used in microbiological, biochemical, clinical laboratories and industrial biotechnological laboratories.

Micro-Spin provides simultaneous mixing ...

[read more](#)



**FVL-2400N Combi-Spin**

Including rotors R-1.5, R-0.5/0.2  
 Mini-Centrifuge/Vortex

Mini-centrifuge/vortex Combi-Spin **FVL-2400N** is specially designed for genetic engineering research (for PCR-diagnostics experiments). Units can be used in microbiological, biochemical, clinical laboratories and industrial biotechnological laboratories.

Combi-Spin provides simultaneous mixing ...

[read more](#)



**MSC-3000**

Including rotors R-1.5, R-0.5/0.2  
 Centrifuge/Vortex Multispin

Centrifuge/vortex Multi-Spin **MSC-3000** is product of many years evolution of Spin-Mix-Spin technology that is intended for collecting micro volumes of reagents on the microtube's bottom (first centrifugation spin), following mixing ...

[read more](#)



**MSC-6000**

Including rotors R-1.5, R-0.5/0.2  
 Centrifuge/Vortex Multispin

Centrifuge/vortex Multi-Spin **MSC-6000** is product of many years evolution of Spin-Mix-Spin technology that is intended for collecting micro volumes of reagents on the microtube's bottom (first centrifugation spin), following mixing ...

[read more](#)



# CERTIFICATE



This is to certify that the company

## Andreas Hettich GmbH & Co.KG

Föhrenstraße 12  
78532 Tuttlingen  
Germany

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope of certificate and applicable country-specific requirements:

Design and development, Manufacturing, Distribution and Servicing of laboratory centrifuges, centrifuges for separation of blood components for transfusion purposes, microbiological incubators

**-AUS (a), BRA, CND, JPN, USA (a,b,c,d)**

Through an audit, documented in a report, performed by DQS Medizinprodukte GmbH, it was verified that the management system fulfills the requirements of the following standard:

## ISO 13485 : 2016 (MDSAP Audit Model Edition 2)

including country-specific requirements as shown in the scope  
(full references are listed in the annex)

Certificate registration no.	546262 MDSAP16
Certificate unique ID	170761874
Effective date	2020-03-26
Expiry date	2023-03-25
Frankfurt am Main	2020-03-26



### DQS Medizinprodukte GmbH

Sigrid Uhlemann  
Managing Director

Szymon Kurdyn  
Product Manager

August-Schanz-Straße 21, 60433 Frankfurt am Main,  
Tel. +49 (0) 69 95427-300, [medical.devices@dqs-med.de](mailto:medical.devices@dqs-med.de)

**DQS Medizinprodukte GmbH is recognized under the Medical Devices Single Audit Program.**  
Visit <https://www.mydqs.com/en/customers/customer-database.html> to validate this certificate.



**Annex to certificate**  
**Certificate registration No.: 546262 MDSAP16**  
**Certificate unique ID: 170761874**  
**Effective date: 2020-03-26**



## **Andreas Hettich GmbH & Co.KG**

Föhrenstraße 12  
78532 Tuttlingen  
Germany

### **Audited site**

**Andreas Hettich GmbH & Co.KG**  
Föhrenstraße 12  
78532 Tuttlingen  
Germany

### **DUNS No., site scope and country-specific requirements**

Design and development, Manufacturing,  
Distribution and Servicing of laboratory  
centrifuges, centrifuges for separation of blood  
components for transfusion purposes,  
microbiological incubators

**AUS (a), BRA, CND, JPN, USA (a,b,c,d)**  
**DUNS No.: 316403245**



## Annex to certificate

Certificate registration No.: 546262 MDSAP16

Certificate unique ID: 170761874

Effective date: 2020-03-26

## Andreas Hettich GmbH & Co.KG

Föhrenstraße 12  
78532 Tuttlingen  
Germany

### Full references of country-specific requirements of MDSAP participating Regulatory Authorities

Abbreviation	Jurisdiction	Reference
AUS	Australia	(a) Therapeutic Goods (Medical Devices) Regulations 2002, Schedule 3, Part 1 – Full Quality Assurance Procedure (b) Therapeutic Goods (Medical Devices) Regulations 2002, Schedule 3, Part 4 – Production Quality Assurance Procedure
BRA	Brazil	RDC ANVISA n. 16/2013 RDC ANVISA n. 23/2012 RDC ANVISA n. 67/2009
CND	Canada	Medical Device Regulations SOR/98-282, Part 1
JPN	Japan	MHLW Ministerial Ordinance No. 169 (2004) as amended by MHLW Ordinance No. 128 (2014), Articles 4 to 68 Japan PMD Act (as applicable)
USA	United States	(a) 21 CFR Part 803 (b) 21 CFR Part 806 (c) 21 CFR Part 807 (d) 21 CFR Part 820 (e) 21 CFR Part 821



Management Service

# CERTIFICATE

The Certification Body  
of TÜV SÜD Management Service GmbH

certifies that



**Andreas Hettich GmbH & Co. KG**  
Föhrenstr. 12  
78532 Tuttlingen  
Germany

has established and applies  
a Quality Management System for

**Development, production and distribution of  
laboratory equipment, accessories, spare parts  
with the associated services.**

An audit was performed, Order No. **707111087**.

Proof has been furnished that the requirements  
according to

**ISO 9001:2015**

are fulfilled.

The certificate is valid from **2021-06-10** until **2024-06-09**.

Certificate Registration No.: **12 100 59604 TMS**.

Head of Certification Body  
Munich, 2021-05-27



CERTIFICAT



CERTIFICADO



СЕРТИФИКАТ



認證證書



CERTIFICATE



ZERTIFIKAT



## MICROLITRE CENTRIFUGES

# — MIKRO 200 | 200 R

### FASTER RESULTS IN MOLECULAR BIOLOGY

The MIKRO 200 are amongst the highest-speed microliter centrifuges in their class. Rotors are designed to spin microliter and PCR tubes. MIKRO 200 achieves a maximum RCF of 21,382 with up to 30 tubes, enabling rapid processing of samples and optimal separation, at low noise levels of 54 dB(A).

This unit is available with refrigeration and a temperature range from -10 °C to +40 °C (MIKRO 200 R).



### — HIGHLIGHTS

- RPM: 500 - 15,000 min<sup>-1</sup>  
Adjustable in increments of 10
- max. RCF: 21,382
- max. capacity: 30 x 2.0 ml
- Choice of 4 rotors
- IVD-conform according to directive 98/79/EC
- impulse key for short cycle mode
- easy operation with keypad and control knob
- 4 program memories for more individuality
- 9 individual acceleration and deceleration stages
- model 200 R coolable from -20 to +40 °C with pre-cooling function

### — FEATURES





- metal housing and lid
- viewing port in the lid
- powered one-hand lid lock
- lid dropping protection
- emergency lid lock release
- stainless steel chamber
- automatic rotor recognition
- brushless drive
- error display
- display in °C and °F possible
- imbalance switch-off
- backlit panel with actual values of all parameters
- audio message after completion of the centrifugation run

## TECHNICAL DATA

	MIKRO 200 non-refrigerated	MIKRO 200 R refrigerated
voltage *)	200 – 240 V 1 ~	200 – 240 V 1 ~
frequency	50 – 60 Hz	50 Hz
consumption	240 VA	450 VA
emission, immunity	EN/IEC 61326-1, class B	EN/IEC 61326-1, class B
max. capacity	30 x 1.5 / 2.0 ml	30 x 1.5 / 2.0 ml
max. RPM	15,000 min <sup>-1</sup>	15,000 min <sup>-1</sup>
max. RCF	21,382	21,382
running time	1 – 99 min: 59 s, ∞ continuous run, short cycle mode (impulse button)	1 – 99 min: 59 s, ∞ continuous run, short cycle mode (impulse button)
dimensions (WxDxH)	275 x 344 x 260 mm	281 x 553 x 260 mm
weight	approx. 11.5 kg	approx. 28 kg
noise level	≤ 58 dB (A) with rotor 2434	≤ 51 dB (A) with rotor 2437
temperature control, infinitely variable	-	from -10 to +40 °C
<b>Cat. No.</b>	<b>2400</b>	<b>2405</b>
100 – 127 V 1 ~ / 50–60 Hz	2400-01	2405-01
consumption	270 VA	630 VA
emission, immunity	FCC class B	FCC class B

\*) Other voltages on request.

## AVAILABLE ROTORS

ANGLE ROTORS	angle	max. RPM	max. capacity	Cat. No.	page
 angle rotor, 24-place	45°	15,000 min <sup>-1</sup>	24 x 2 ml	<b>2434</b>	3
 angle rotor, 30-place	45° inside / 55° outside	15,000 min <sup>-1</sup>	30 x 2 ml	<b>2437</b>	3
 angle rotor, 24-place for spin column kits	45°	15,000 min <sup>-1</sup>	24 x 2 ml	<b>2428</b>	4
 angle rotor, 4-place	45°	15,000 min <sup>-1</sup>	4 x 8 PCR strips	<b>2418-A</b>	4

## — ANGLE ROTOR, 24-PLACE | 2434



<b>Rotor</b>	
max. RPM   max. RCF	15,000 min <sup>-1</sup>   21,382
max. capacity	24 x 2 ml
run up   run down, braked in sec	20   28
angle   max. noise level	45°   53 dB (A)
temperature in °C <sup>1)</sup>	+4
<b>Cat. No.</b>	<b>2434</b>

+ Lid bioseal<sup>9)</sup>  
Cat. No. **INCLUSIVE**



<b>Vessels</b>							
capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
Ø x L in mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	11 x 38	10.7 x 36
max. RCF <sup>2)</sup>	21,382	21,382	21,382	21,382	21,382	21,382	20,376
radius in mm	85	85	85	85	85	85	81
<b>Cat. No.</b>	<b>microliter tubes</b>						<b>Pediatric</b>

<b>Adapter</b>						
boring Ø x L in mm	6 x 40	6 x 40	8 x 40	8 x 40	-	11.2x42.6
vessels per rotor	24	24	24	24	24	12
<b>Cat. No.</b>	<b>2024</b>	<b>2024</b>	<b>2023</b>	<b>2023</b>	<b>2031<sup>7)</sup></b>	<b>0788</b>

## — ANGLE ROTOR, 30-PLACE | 2437



<b>Rotor</b>	
max. RPM   max. RCF	15,000 min <sup>-1</sup>   21,382
max. capacity	30 x 2 ml
run up   run down, braked in sec	22   30
angle   max. noise level	45° inside / 55° outside   51 dB (A)
temperature in °C <sup>1)</sup>	+4
<b>Cat. No.</b>	<b>2437</b>

+ Lid bioseal<sup>9)</sup>  
Cat. No. **INCLUSIVE**

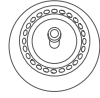


<b>Vessels</b>							
capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	0.5
Ø x L in mm	6 x 18	6 x 45	8 x 30	8 x 45	11 x 38	11 x 38	10.7 x 36
max. RCF <sup>2)</sup>	21,382	21,382	21,382	21,382	21,382	21,382	20,376
radius in mm	85	85	85	85	85	85	81
<b>Cat. No.</b>	<b>microliter tubes</b>						<b>Pediatric</b>

<b>Adapter</b>						
boring Ø x L in mm	6 x 40	6 x 40	8 x 40	8 x 40	-	11.2x41.3
vessels per rotor	30	30	30	30	30	15
<b>Cat. No.</b>	<b>2024</b>	<b>2024</b>	<b>2023</b>	<b>2023</b>	<b>2031<sup>7)</sup></b>	<b>0788</b>

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.  
 2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.  
 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.  
 7) For centrifugation at high speeds, we recommend to use conical, phenol-resistant adapters. Cat. No. 2031.

## — ANGLE ROTOR, 24-PLACE | 2428



### Rotor

max. RPM   max. RCF	15,000 min <sup>-1</sup>   21,382
max. capacity	24 x 2 ml
run up   run down, braked in sec	20   28
angle   max. noise level	45°   53 dB (A)
temperature in °C <sup>1)</sup>	+4

**Cat. No.** **2428**



### Lid bioseal<sup>5)</sup>



**Cat. No.** **INCLUSIVE**



### Vessels



capacity in ml	0.2	0.4	0.5	0.8	1.5	2.0	1.5	2.0	0.5
Ø x L in mm	6x18	6 x 45	8 x 30	8x45	11x38	11x38	11x38	11x38	10.7x36
max. RCF <sup>2)</sup>	21,382	21,382	21,382	21,382	21,382	21,382	21,382	21,382	20,376
radius in mm	85	85	85	85	85	85	85	85	81

**Cat. No.** **microliter tubes** **micro spin columns** **Pediatric**



### Adapter



boring Ø x L in mm	6 x 40	6 x 40	8 x 40	8 x 40	-	10.2x19	-	11.2x426	11.2x39
vessels per rotor	24	24	24	24	24	24	24	24	12

**Cat. No.** **2024** **2024** **2023** **2023** **2031<sup>7)</sup>** **-** **2031<sup>7)</sup>** **-** **0788**

## — ANGLE ROTOR, 4-PLACE | 2418-A



### Rotor

max. RPM   max. RCF	15,000 min <sup>-1</sup>   14,338
max. capacity	4 x 8 PCR strips
run up   run down, braked in sec	19   28
angle	45°
temperature in °C <sup>1)</sup>	+4

**Cat. No.** **2418-A**



### Lid



**Cat. No.** **E3243**



### Vessels



capacity in ml	0.2	0.2
Ø x L in mm	6x18	-
max. RCF <sup>2)</sup>	14,338	14,338
radius in mm	57	57

**Cat. No.** **-** **PCR strips**



### Adapter

boring Ø x L in mm	6.5x15.5	6.5x15.5
vessels per rotor	32	4 x 8

**Cat. No.** **-** **-**

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.  
 2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.  
 5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.  
 7) For centrifugation at high speeds, we recommend to use conical, phenol-resistant adapters. Cat. No. 2031.

## CERTIFICATIONS / REGISTRATIONS

Product certification:



Product registration:



Company certifications:

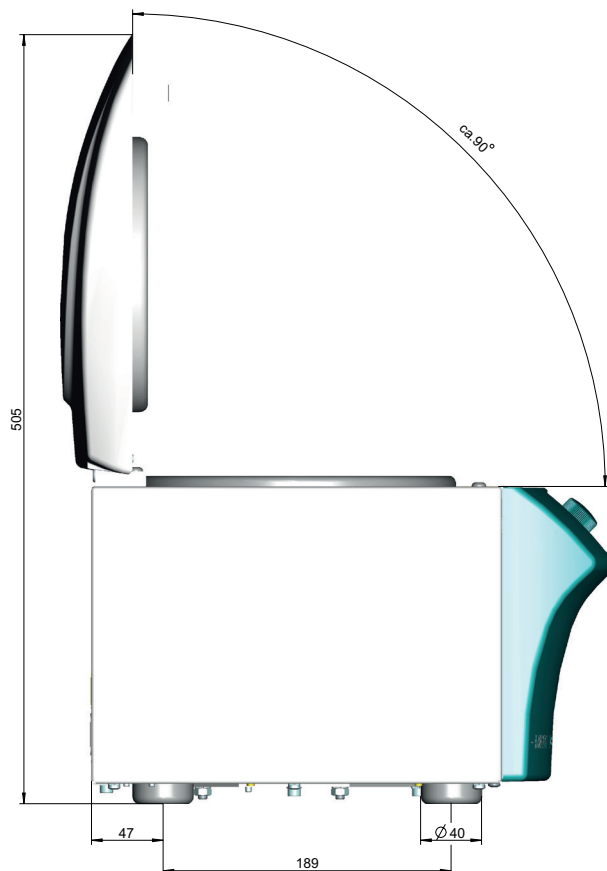


## DOWNLOADS

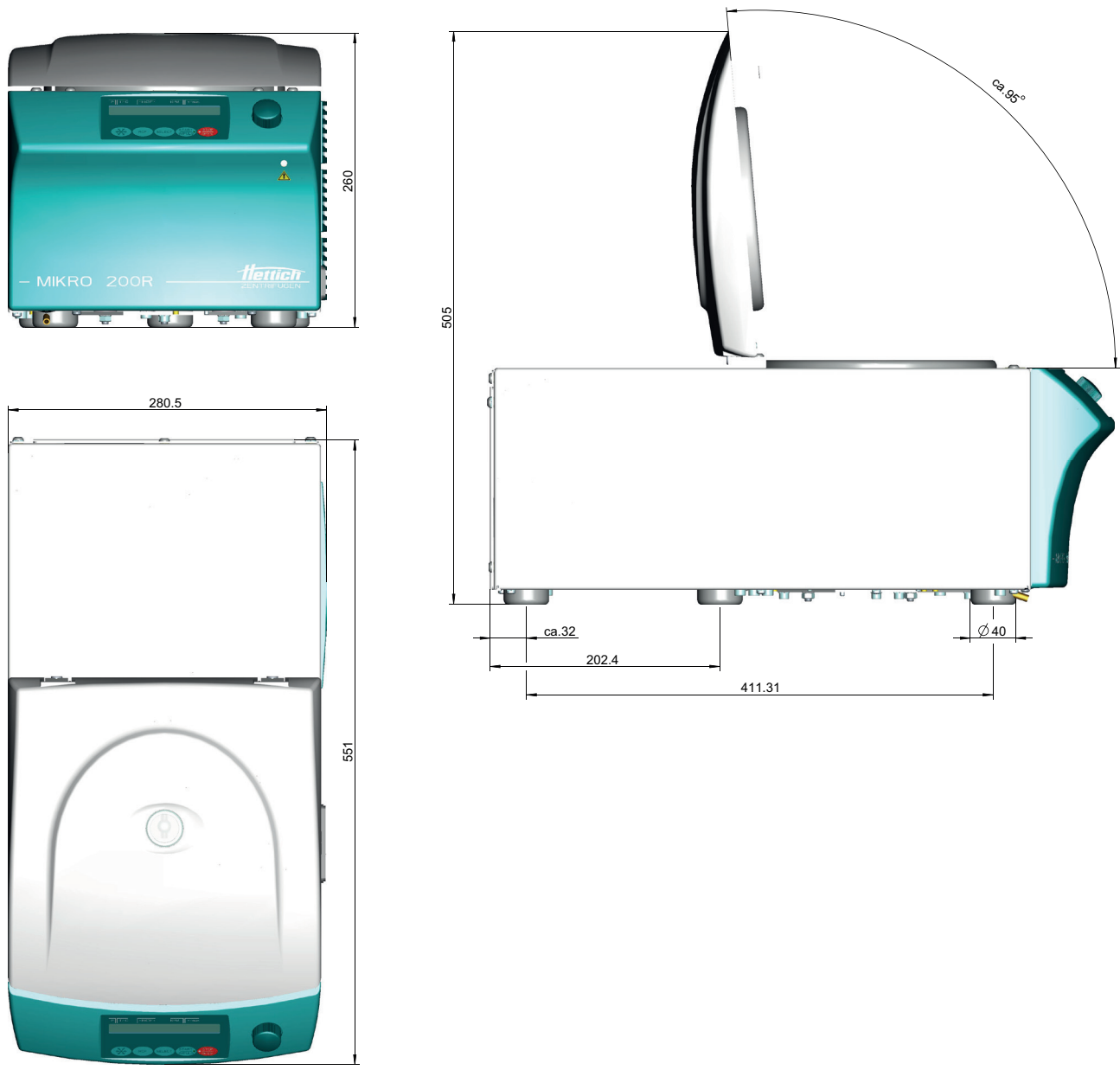
[↓ Operating manual – MIKRO 200 | 200 R](#)

[↓ General Catalog](#)

## DIMENSIONS – MIKRO 200



— DIMENSIONS – MIKRO 200 R



# EU Declaration of Conformity

**Unit type** DNA/RNA UV-cleaner boxes

**Models** **UVV/T-AR, UVV/T-M-AR, UVV-T-B-AR, UVV-T-S-AR**

**Serial number** 14 digits styled XXXXXXYYMMZZZZ, where XXXXXX is model code, YY and MM – year and month of production, ZZZZ – unit number.

**Manufacturer** SIA BIOSAN  
Latvia, LV-1067, Riga, Ratsupites str. 7/2

**The objects of the declaration described above is in conformity with the following relevant Union harmonization legislations:**

<b>LVD 2014/35/EU</b>	<b>LVS EN 61010-1:2011</b> Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements.
<b>EMC 2014/30/EU</b>	<b>LVS EN 61326-1:2013</b> Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements.
<b>RoHS3 2015/863/EU</b>	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
<b>WEEE 2012/19/EU</b>	Directive on waste electrical and electronic equipment

**I declare that the Declaration of Conformity is issued under sole responsibility of the manufacturer and belongs to the above-mentioned objects of the declaration.**

Svetlana Bankovska  
Managing director



\_\_\_\_\_  
Signature

07.02.2020.  
\_\_\_\_\_  
Date