

INSTRUCTION FOR USE

HSM 600

INSTRUMENT TABLE



Warning!

Before using this product, read the instructions carefully. This contains important information regarding user safety.

1 Introduction

With your decision to purchase an HSM 600 instrument table, you have placed a high degree of trust in us. We thank you for that. You have chosen a well-engineered product and modern design. Technical changes in the sense of further developments and product improvements are subject to change without notice.

1.1 Purpose of use

The HSM 600 instrument table is designed for use in ophthalmic practices, eye clinics and practices of optometrists and opticians as a carrier for ophthalmological examination equipment.

1.2 Areas of applications of the device

This device is intended for use in professional healthcare facilities such as medical practices and optometrist and optician premises. It must not be operated in the vicinity of high-frequency surgical systems and within shielded rooms of ME systems for nuclear spin tomography. Portable radio frequency devices such as mobile phones or other RF telephone accessories, including antennas, may affect the function of medical devices. Such devices must always be at least 30 cm away from any part of the instrument. Failure to observe this precaution may impair the proper functioning of the instrument. Do not use in emergency- and operating rooms.

1.3 Contraindications

For examinations with this instrument table no absolute contraindications are known. Professional judgment and caution are appropriate.

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2 Symbols















	Follow instructions for use
	Disconnect from the power before opening
	Warning! Always follow the instructions.
	Electrical appliances of protection class I, protective earth,
	CE Certificate of Conformity
	Manufacturer
	Year
	Serial number
	Reference
	Application part of type B
	Note Disposal
	Warning! Electricity
	Forbidden! In case of non-observance danger.
	Important notes

Table 1 Symbols

3 General environmental conditions

Before using the instrument tables HSM 600 for the first time, please read the operating instructions. The instrument table may only be operated in compliance with the instructions for use.

Transport	Temperature Air pressure Humidity	from from from	-10 C° 500 hPa 10%	to to to to	+70 C° 1060 hPa 65 %
Storage	Temperature Air pressure Humidity	from from from	-10 C° 500 hPa 10%	to to to to	+70 C° 1060 hPa 65 %
Use	Temperature Air pressure Humidity	from from from	+10 C° 700 hPa 10%	to to to	+35 C° 1060 hPa 65 %

Table 2 Environmental conditions

4 Shipment

4.1 Transport



Transport, lifting or shifting work

Transport, lifting or shifting work, all relevant safety complies with regulations. This also means that only suitable and tested hoists may be used!



Uneven ground

Note that on an uneven floor or similar. The goods must be secured professionally against slipping sideways!



Transport on EURO pallet

The table components are usually delivered on EURO pallets. Only suitable pallet trucks or heavy-duty wheeled boards may be used to transport or move the pallets be used.

During transport and storage, the following general environmental conditions apply:

- Dry
- Frost free
- Dust-proof
- Corrosion resistant (for example saltwater)

4.2 Unpacking

Before unpacking the goods, check that the packaging shows traces of improper handling or damage. If so, notify the carrier that delivered the goods to you. Create a log of any damaged parts.

Leave the instrument tables or parts in the packaging for a few hours before unpacking (Condensation). After unpacking the goods must be checked for damage. Defective instrument tables or parts must be returned in appropriate packaging.

4.3 Installation of the devices!



Forbidden!

Never use electric instrument tables in hazardous areas where volatile solvents (alcohol, petrol, etc.) and flammable anesthetics are used.



Warning!

The unit must be installed in such a way that it can be disconnected from the power supply at any time.

The instrument table may not be set up and operated in damp rooms. Avoid dripping and splashing water. Assembly and disassembly as well as repair, maintenance and repair work may only be carried out by Haag Streit or by authorized technical service of Haag Streit sales partners.

If an external device is connected, must this be done in accordance with standard EN 60601-1. Only original HS spare parts may be used.

4.4 Liability for function or damage

If the instrument table is changed or repaired by unauthorized persons or if improper maintenance is carried out, the manufacturer is not liable. In addition, all warranty claims expire.

The product must be handled in accordance with the instructions for use. Improper handling may result in damage to the product. This will void all warranty claims.

If a product damaged by improper handling continues to be used, this can lead to personal injury. The manufacturer is not liable in this case.

5 Device safety

The assembly and installation of the instrument table is carried out exclusively by trained specialist persons. The power cable must only be connected to a correctly installed power supply. This must be installed in accordance with the VDE guidelines.



Risk of electric shock

In order to avoid the risk of electric shock, this device may only be connected to a supply network with protective conductor.

The instrument table must be checked according to EN 62353 (IEC 62353) before commissioning. In the event of damage from electrical cables, the instrument table must be disconnected from the power and must be secured against unintentional operation.



Power voltage

The power voltage on the nameplate must match the local voltage.

Other power voltages will damage the table.



Opening the table (column)

The instrument table must be disconnected from the power before opening by pulling the power plug. (Put it into a de-energized state)

Be sure to check that there is no voltage before starting any further work.



Impairment of EMC

Operation of other electrical equipment in the immediate vicinity or stacked may adversely affect EMC. The situation must be evaluated by the system designer.

The requirements of standards EN 60601-1 and EN 60601-1-2 must be observed.



External devices

If an external device is connected, this has to be done in consideration of the standard EN 60601-1. The connection of further electrical devices to the internal multiple socket leads to the installation of a ME system, which can result in a reduced degree of safety. The requirements of EN 60601-1 must be complied with.

The user must report serious incidents relating to the product to the manufacturer and the competent authority.

6 Overview instrument tables HSM 600



BX900

7220613	230V
7220614	120V
7220615	230V LAN
7229616	120V LAN



SL LARGE

7220609	230V
7220610	120V
7220611	230V LAN
7220612	120V LAN



SL PS LED SMALL

7220601	230V
7220602	120V
7220603	230V LAN
7220604	120V LAN



SL RM 02 SMALL

7220605	230V
7220606	120V
7220607	230V LAN
7220608	120V LAN



OCTOPUS 600

7220625	230V
7220626	120V
7220627	230V LAN
7220628	120V LAN



OCTOPUS 900

7220621	230V
7220622	120V
7220623	230V LAN
7220624	120V LAN



LENSTAR 900

7220617	230V
7220618	120V
7220619	230V LAN
7220620	120V LAN

Table 3 Overview instrument tables HSM 600

7 Assembly / Installation HSM 600



Connectors/Accessories

Check: the connecting parts of the accessories are tightened.
Danger! Instability can cause equipment to fall and be damaged.



Assembly, Maintenance

Instrument table may only be mounted, repaired or replaced by trained specialist personnel.
Improper installation can lead to hazards, electric shock or mechanical instability.



Device modifications

The instrument tables may not be altered without the permission of the manufacturer.
Only original spare parts may be used for repairs.

7.1 Connecting the lifting column



Check power voltage!

The lifting column is supplied in 230 V or 120 V with or without LAN cabling. Please compare the power voltage with the existing voltage on the label.



Columns with LAN option

Columns with LAN option have an integrated LAN cable prefabricated with RJ45 socket in the column below and RJ45 extender on the column above. LAN cables must be preassembled according to 8connecting the lifting column, earthing cable.

Place the HSM 600 table-top with the back facing upwards. Make sure that the downward facing top is on soft material (to avoid damage or scratches).



Figure 1 Connection lifting column; disassembly metal cover

Only remove the two screws (M6x16) on the side of the lifting column.
Slide the metal cover to the right. The cover can now be easily removed through the wide openings.



Note:

It is not necessary to remove complete the other 6 screws (3 each on the right and left side).



Figure 2 Connecting lifting column; connect earthing cable, secure cable with cable tie.

Plug the green-yellow earthing cable into one of the two cable lugs of the device column (see arrow Figure 2 Connecting lifting column; connect earthing cable, secure cable with cable tie). Then secure the cable with a cable tie.



Figure 3 Connecting the lifting column; mounting the cable whip and the earthing cable.

Insert the cable and the ground cable into the cable duct.

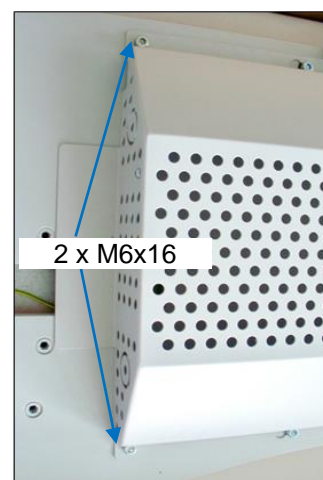
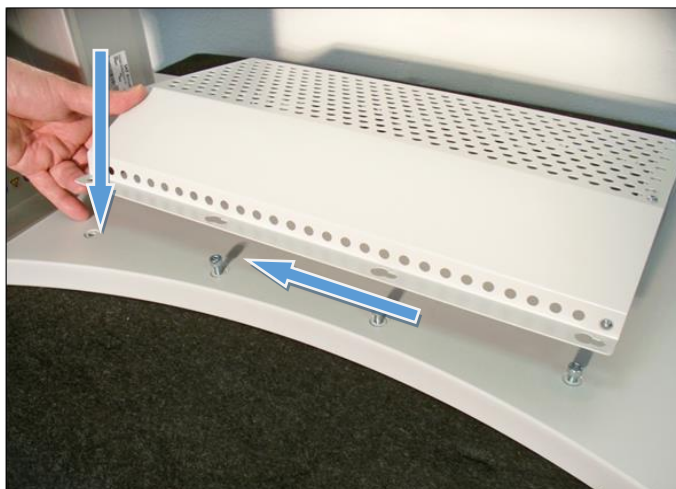


Figure 4 Connecting the lifting column; mounting the metal cover.

7.2 Mounting the lifting column

The lifting column is fully retracted during transport. Connect the lifting column to the power supply. Before inserting the screws, move the lifting column approx. 5 cm upwards.

Switch the lifting column ON (toggle switch "green" illuminated). Press the black rocker switch to raise the lifting column. (Operation HSM 600, page15).



Figure 5 Connection column; connection power cable and mounting column.

Place the lifting column on the 8 predrilled holes (4 holes each on the right and left side).

Now insert the 8 screws:

4x M6x16 (on the front panel)

4x M6x25 incl. washer (at the rear of the column)



Note:

Fix the lifting column with the 8 screws.

Tighten the screws firmly!



Figure 6 Connection column; fixing the column with 8 screws.

7.3 Mounting base plate

Wheels are preinstalled at the factory (on the doctor's side there are wheels with brakes).



Note:

The stable base plate weighs 24 kg!
Two persons are required for safe installation.



Figure 7 Mounting the Base Plate; preparation.

Before further installation, please be within easy reach: 4 screws (M6x45 incl. washer) and hexagon socket screwdriver.

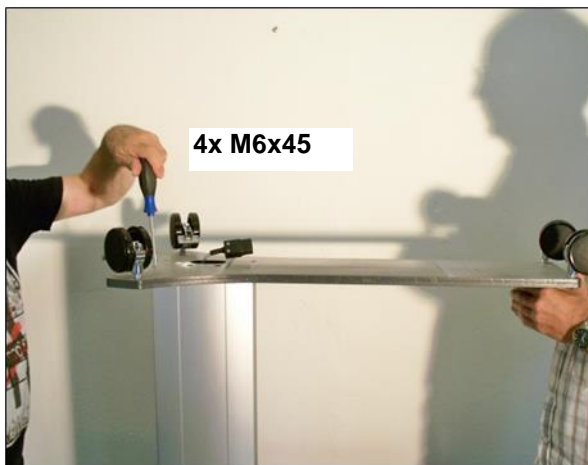


Figure 8 Mounting the base plate; inserting and tightening the 4 Screws.

Inserting the 4 screws (M6x45 incl. washers)



Note!

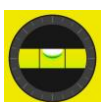
Tighten all 4 screws firmly and check that they are properly tightened.



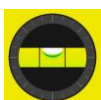
Figure 9 Mounting the base plate; wiring and securing with cable ties.

Connect the appliance plug of the lifting column to a local power supply cable.
 Insert the power connection cable into the cable holder and fix it with a cable tie.
 Fix the green-yellow ground cable to the base plate.
 (1x screw M4x10 with spring washer, washer and toothed washer are preassembled).

7.4 Leveling HSM 600 Instrument table



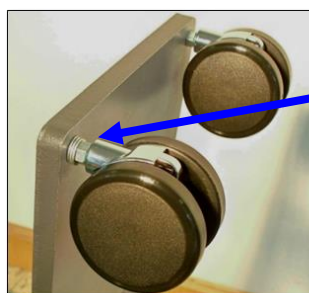
The HSM 600 tables are factory leveled and are supplied with the named washers and mounted wheels on the base plates. The mounted wheels are secured with screw locking lacquer.



If the HSM 600 table plate is not in the scale (e.g. uneven floor), the se can be levelled using 6 washers Ø 8.4 mm. A maximum of 3 washers per wheel are permitted.



Note:
 Before starting work, carefully place the HSM 600 instrument table on a thick foam base.



A maximum of 3 washers per wheel are permitted.

Figure 10 Leveling HSM 600 Instrument table.

7.5 Octopus 600 instrument table (special version)

Install the lifting column and base plate as described above.



Figure 11 Assembly Octopus 600 instrument table (special version)

Remove the metal cable cover.

Pass the cable whip through the opening of the table-top and reinstall the cable cover. (Tighten both screws firmly)

7.6 Installation of optional trays (PC tray or standard tray)

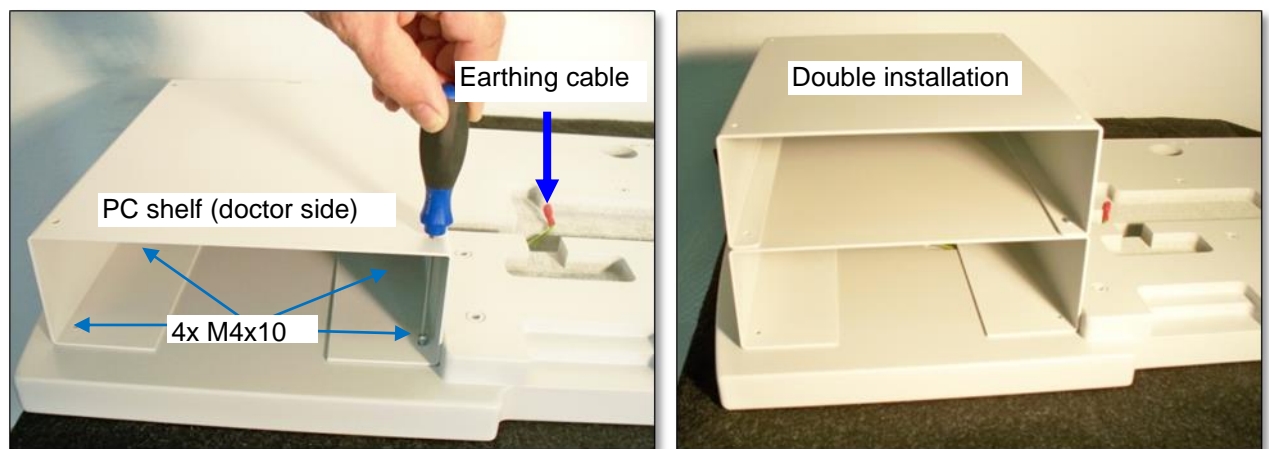


Figure 12 Mounting optional shelves



Note!

A suitable set of screws is supplied with each shelf.

Insert the green-yellow earthing cable into the cable duct and plug the earthing cable into one of the two cable lugs on the lifting column. Then tie the cable with a cable tie.
Insert the 4 screws M4x10 and tighten them firmly.

For double installation from PC storage and standard storage compartment, 4 additional screws M4x10 (ISO 7380) incl. nuts and washers are included in the scope of delivery.

7.7 Screw sets.



Figure 13 Screws and cable ties

Base bag

2 x cable ties
1x SCREW SET 1
1x SCREW SET 2

SCREW SET 1 (base plate)

4x screws M6x45 incl. 4 washers (DIN 912)

SCREW SET 2 (lifting column)

4x screws M6x16 (DIN 912); for control panel on device column
4x screws M6x25 incl. washers (DIN 912); for lifting column

8 Commissioning / Operation / Decommissioning



Attention! For load operation

Height adjustment of the instrument table Execute load operation for a maximum of 1 minute, then pause for at least 9 minutes.



Attention! Operation

Operation only by qualified and trained personnel.
Training is the responsibility of the operator.

8.1 Commissioning HSM 600

If the instrument table HSM 600 is connected to the power, it is ready for operation.



WARNING! Risk to clamp!

Before changing the table height, make sure that the movement path is free of extremities of the patient (e.g. legs) or of obstacles. If this is not done, there is a risk of clamping the patient's thighs or other extremities or other things.

8.2 Operation HSM 600

The HSM 600 instrument table has an electromotive lifting column. The control panel is mounted at the top of the table-top front (operator side). The height can be adjusted via the rocker switch (right). A green illuminated toggle switch (left) is the "ON/OFF" switch.



Figure 13 Operating the HSM600 Rocker and toggle switch (operator side)

8.3 Transport of the HSM 600



Risk of damage to persons and table-top appliances

Before camouflage sports, all equipment on the table must be removed, as slipping and falling can damage people and equipment on the table.

8.3.1 Short distances



Watch your step! Note cable length

Limited cable lengths can damage the cable or plug by pulling it. After transport to the desired position, snap the brakes back into place.

Release the brakes on the 2 wheels and move the table to the desired position.

8.3.2 Longer distances



Watch your step! Note cable length

Limited cable lengths can damage the cable or plug by pulling it. After transport to the desired position, engage the brakes again.

Place the table board in the lowest position and disconnect the power cable from the power supply. Loosen the locking device on the doctor's side and roll to the desired position.

8.4 Decommissioning HSM 600

When the HSM 600 is taken out of operation, disconnect the instrument table from the power supply by pulling the power plug.

8.5 Technical data

Electrics	
230 V (see type label*)	
input voltage	230 V 50/60 Hz / 900 VA
output voltage	230 V 50/60 Hz / 850 VA
120 V (see type label*)	
input voltage	120 V 50/60 Hz / 750 VA
output voltage	120 V 50/60 Hz / 700 VA
Fuses:	
230 V Version	2 x T4.0 AL /250V
120 V Version	2 x T6.3 AL / 250V
degree of protection	IP 20
protection class	I
Mechanics	
wheels**	4
Weight load (kg)	50
stroke length	300 mm
lifting speed	15 mm/s

*The type label is located on the underside of the control panel (operator side).

** The HSM 600 instrument table for Octopus 600 has 4 adjustable feet (no wheels).

Table 4 Technical data

8.6 Dimensions / Weights

Type HSM 600 for Slit Lamp small	
Tabletop dimension (mm)	860 x 440
Height (min/max in mm)	680 / 980
Weight (kg)	46
Type HSM 600 for Slit Lamp large	
Tabletop dimension (mm)	1150 x 440
Height (min/max in mm)	680 / 980
Weight (kg)	49
Type HSM 600 for BX 900	
Tabletop dimension (mm)	1150 x 440
Height (min/max in mm)	680 / 980
Weight (kg)	49
Type HSM 600 for Lenstar	
Tabletop dimension (mm)	1150 x 440
Height (min/max in mm)	680 / 980
Weight (kg)	49
Type HSM 600 for Octopus 900	
Tabletop dimension (mm)	1080 x 480
Height (min/max in mm)	700 / 1000
Weight (kg)	54
Type HSM 600 for Octopus 600	
Tabletop dimension (mm)	560 x 640 mm
Height (min/max in mm)	625 / 925
Weight (kg)	32

Table 5 Dimensions/Weight (without packaging and optional attachments)



Note:

The HSM 600 instrument table does not come with a power cord.

To connect the HSM 600 instrument table to the local power supply, use only country-specific power cables.

9 Maintenance / fuse replacement / cleaning / wipe disinfection

9.1 Maintenance

The HSM 600 instrument tables are virtually maintenance free and require minimal maintenance to function to your complete satisfaction for as long as possible. However, we recommend that maintenance be carried out by authorized service technicians every three years. HAAG STREIT or your local sales partner will be happy to give you further information.

Repeat testing after repair from medical electrical devices according to DIN EN 62353 (IEC 62353) are prescribed by HS DOMS GMBH every two years.
Observe the country-specific regulations.

9.2 Fuse replacement



Fuse replacement

Only fuses as described in the corresponding table under chapter "Technical data" may be

The fuses F1 and F2 are located on the right side of the control panel below the tabletop. (Page 17)

Voltage 230 V = 2 x T4.0 AL / 250V

Voltage 120 V = 2 x T6.3 AL / 250V

Disconnect the power cord.

Unlock the fuse holder with a screwdriver and pull out the holder.

Replacing the fuse

Replace the fuse holder and lock it with the screwdriver.

Reconnect the power cable.



Figure 14 Fuse replacement; fuses F1 and F2.

9.3 Cleaning



Warning!

Avoid liquids. Do not use solvents, alcohol, corrosive or abrasive agents.

It is enough to wipe the HSM 600 instrument table with a soft, dry cloth.

The table can also be cleaned with a lint-free cloth moistened with a mild soap solution.

9.4 Wipe disinfection

The plastic-coated surfaces and the aluminium-anodised surface of the lifting column cladding are suitable for wipe disinfection. From HS DOMS GMBH for wipe disinfection the following products are released:



Cleaning work/wiping disinfection

No liquid may enter the instrument table or the operating element during cleaning work/wiping disinfection. Always switch off the "On/Off" toggle switch (see page 15) before starting this work. The switch lighting must not light up). Before switching on the lift table again, make sure that it has dried out.

Meliseptol rapid - Rapid disinfectant Ref. 18564

Meliseptol Foam pure - Ref.19171

(Manufacturer: Braun Melsungen AG D-34209 Melsungen, www.bbraun.de)

Incidin liquid Ref. 3011340

(Manufacturer: Ecolab Deutschland GmbH, Ecolab-Allee 1,40789 Monheim am Rhein
www.ecolab.com)

Aseptix Sterimax Wipes Ref. SMXWI100

Aseptix Sterimax Spray Ref. SMX750

(Manufacturer: Aseptix BV 3632 AD Loenen aan de Vecht/Netherland www.aseptix.com)

Bacillol 30 Foam Ref. 981307

Bacillol 30 Tissues Ref. 981312

(Manufacturer: BODE Chemie GmbH D-22525 Hamburg www.bode-chemie.com)

10 Legal regulations / classification / disposal / standards

10.1 Legal regulations

The HSM 600 instrument tables are designed and manufactured according to the following standards EN 60601-1, EN 60601-1-2 Production, inspection, assembly, maintenance and repair in accordance with applicable EU regulations.

The EN 60601-1 standard must be observed when combining various medical and / or non-medical electrical devices.

Conformity of the HSM 600 instrument table with Directive 93/42/EEC is confirmed by the CE marking.

A copy of the declaration of conformity and the EMC information (electromagnetic compatibility) can be requested from HS DOMS GMBH.

The statutory accident prevention regulations must be observed.

10.2 Classification

EN 60601

Protection class I

CE Directive 92/42/EEC

Class I

10.3 Disposal

Electrical and electronic equipment must be disposed of separately from household waste!

This appliance was put on the market after 13. 08. 2005. Disposal is carried out via the local collection point or via your Hague Dispute Sales Partner.



10.4 Standards

EN 60601-1

EN 60601-1-2

11 Notes and declaration regarding electromagnetic compatibility (EMC)



Installation according to EMC instructions!

Medical electrical equipment and systems are subject to special EMC measures and must be installed in accordance with the EMC instructions contained in these operating instructions. Portable and mobile HF communication devices can influence electrical medical devices.



Connecting external devices

Connecting other equipment to the same wall outlet may reduce the safety of the system. If an external device is connected, this must be done in accordance with the EN 60601-1-2 standard.



Other accessories

Operation from cables or accessories other than those specified from HS-DOMS GmbH may result in increased emission or reduced immunity of the device.



Interference

In case of unusual behavior of the device, switch off the device.

Switch on again after approx. 1 minute. If the fault persists, contact the customer service.

11.1 General information

HSM 600 instrument tables meet the requirements of electromagnetic compatibility according to EN 60601-1-2. The instrument tables are constructed in such a way that the generation and emission of electromagnetic disturbances is limited to such an extent that other devices are not disturbed in their intended operation and themselves exhibit adequate immunity to electromagnetic disturbances.

11.2 Interfering emissions

(Standard table 1)

Guidelines and manufacturer's declaration - Electromagnetic emissions		
This product is intended for use in an environment as specified below. The customer or user of the product should ensure that it is operated in such an environment.		
Emission measurement	Consensus	Electromagnetic environment / Guidelines
HF emissions according to CISPR11	Group 1	This product uses HF energy exclusively for its internal function. Therefore, its RF radiation is very low and it is unlikely that adjacent equipment will be disturbed.
HF emissions according to CISPR11	Class B	This product is intended for use in all establishments, including residential areas and those directly connected to a public supply network that also supplies buildings used for residential purposes.
Emissions from harmonics according to EN 61000-3-2	Class A	
Voltage fluctuations and flicker according to EN 61000-3-3		Requirements are met

Table 6 Interference emissions (Standard table 1)

12 Classification



Medical Product, classification 1



HS DOMS GmbH
Langenschader Straße 67
D-07318 Saalfeld, Germany
Phone: +49 3671 54 50 0
Fax: +49 3671 54 50 20
info@hs-doms.eu
www.hs-doms.com

Subject to changes in design and form without prior notice.