



Patient Temperature Management

Precise warming and cooling of your patients during surgery and in intensive care for speeding up recovery



Patient Temperature Management

The hypo- and hyperthermia treatment devices HICO-VARIO THERM 550 and 555 and HICO-AQUATHERM 660, combined with suitable HICO water pads, allow user-friendly and efficient control of your patients' temperature - both in perioperative patient warming and in patient cooling, e.g. after resuscitation. Via surface contact with the radiolucent HICO water pads the patient's desired body temperature can be precisely controlled. Due to its good thermal conductivity, water is an ideal medium for the effective and safe transfer of heat and cold.

Properties

- Precise water temperature control between 5 and 40 °C depending on the device
- Uniform and safe temperature transfer via HICO water pads
- Low follow-up costs thanks to reusable, easy-to-clean HICO water pads
- Closed, low-noise systems



Medical-technical expertise for 75 years

The pfm medical hico gmbh was founded by Hans Hirtz in 1945 as Hirtz & Co. KG and offers medical technology competence under the brand name HICO Medical Systems. Started as a wholesale company for medical products, the company quickly became a significant player in the Medical technology industry, driven by own innovations within the branches Patient Temperature Management and Inhalation Products.

Pfm medical hico gmbh is ISO certified since 1997 and thus guarantees the best quality. More than half of the turnover is generated outside Germany. Today, 75 years after it was founded, pfm medical hico is part of the pfm medical group and offers their worldwide customers leading medical technology.

5 – 40 °C

HICO-VARIO THERM 555

Effective patient temperature management in intensive care units



15 – 39 °C

HICO-VARIO THERM 550

Perfect warming & cooling unit for patients in neonatology and pediatrics



35 – 39 °C

HICO-AQUATHERM 660

High-performance patient warming system for use in surgery



HICO-VARIOTHERM 555

Effective patient temperature management in intensive care units



HICO-VARIOTHERM 555 is the allrounder among the hypo-/hyperthermia systems and appreciated for its reliable warming and cooling of patients in intensive care units and operating rooms. Featuring a water temperature range of 5 to 40 °C, this system covers all areas of application.

Properties

- Easy and quick start-up of the non-invasive temperature control system
- Optimum temperature transfer via reusable HICO water pads
- Connections for two HICO water pads
- Optional use of Soft-Temp® single-use pads
- Nursing staff has free access to the patients since they are positioned on the water pads.
- Defibrillation-proof device
- Microprocessor-controlled Peltier technology ensures smooth and quiet operation of the powerful system.
- Compact stationary unit, available with a tilt-resistant castor stand



REF 600001 (220 V – 230 V)

REF 600021 (110 – 115 V)

Connections for 2 pads

Dimensions W x H x D
approx. 20 x 60 x 51 cm

Weight approx. 25 kg (empty)

Noise emission
approx. 45 dB(A)



www.hico.de/en/hico-variotherm-555.html

HICO-VARIOTHERM 550

Perfect warming & cooling unit for patients in neonatology and pediatrics



HICO-VARIOTHERM 550 combines the advantages of HICO warming & cooling systems in one space-saving device. The resulting unit covers a temperature range of 15 to 39 °C and is suitable for different areas of application in neonatology and pediatrics.

Properties

- Easy warming & cooling of patients through surface contact with HICO water pads
- Optimum temperature transfer through reusable HICO water pads
- Connection for one HICO water pad
- Optional use of Soft-Temp® single-use pads
- Nursing staff has free access to the patients since they are positioned on the water pads.
- Closed, hygienic system with low-noise Peltier technology
- Space-saving device, available with a tilt-resistant 5-castor stand



REF 540001 (220 V – 230 V)

REF 540021 (110 V – 115 V)

Connection for 1 pad

Dimensions W x H x D
approx. 20 x 29 x 44 cm

Weight approx. 17 kg (empty)

Noise emission
approx. 50 dB(A)



www.hico.de/en/hico-variotherm-550.html

HICO-AQUATHERM 660

High-performance patient warming system for use in surgery



Being ideally suited for use as a warming system in operating rooms, HICO-AQUATHERM 660 minimizes the drop in patient temperature. Two heating pads protect the patient perioperatively against hypothermia. The water temperature is adjustable within a range of 35 to 39 °C. As a result, there will be fewer wound infections, fewer cardiological complications and less hemorrhaging. Moreover, less time spent in the recovery room ensures a more efficient and economical course of surgery.

Properties

- Active patient warming system for use in operating rooms
- Optimum heat transfer through reusable HICO water pads
- Connections for two HICO water pads
- Optional use of Soft-Temp® single-use pads
- No heat radiated to the surgical team
- Free access of the surgical team to the patients since they are positioned on water pads
- System is rapidly ready for use thanks to a short warm-up time
- Small and handy unit, can be supplied with a tilt-resistant 5-caster stand



REF 590001 (220 V – 230 V)

REF 590020 (110 V – 115 V)

Connections for 2 pads

Dimensions W x H x D
approx. 20 x 29 x 33 cm

Weight approx. 7 kg (empty)

Noise emission
approx. 35 dB(A)



www.hico.de/en/hico-aquatherm-660.html

HICO water pads

Essential accessories for ensuring optimum patient temperature control



Water pads (multi-use)

Due to the good thermal conductivity of water, HICO water pads allow the effective and safe transfer of heat and cold to the patient.

Properties

- Uniform distribution of temperature across the entire pad surface thanks to the unique honeycomb structure
- Radiolucent, lightweight, robust and elastic
- Free of latex and phthalates
- Easy cleaning of the multi-use pads by standard wipe disinfection
- High operational safety as HICO water pads are free of electrical connections



Soft-Temp®



Head wrap for cooling



www.hico.de/en/accessories.html

VARIOTHERM 555

VARIOTHERM 550

AQUATHERM 660

HICO water pads

Water pads (multi-use)

•	•	•	Water pad – Cover	60 x 70 cm	REF 550025
•	•	•	Water pad – Cover	120 x 70 cm	REF 550026
•	•	•	Water pad – Intensive	170 x 50 cm	REF 550046
•	•	•	Water pad – Intensive	92 x 50 cm	REF 550047
•	•	•	Water pad – Surgery	170 x 35 cm	REF 550048
•	•	•	Water pad – Surgery	92 x 35 cm	REF 550049
•	•	•	Water pad – Baby	50 x 30 cm	REF 550044
•	•	•	Cover – For water pad baby		REF 310040
•	•		Cooling cuff – Type A	38 x 26 cm	REF 550081
•	•		Pack – Type A		REF 550091
•	•		Cooling cuff – Type D	27 x 11 cm	REF 550084
•	•		Pack – Type D		REF 550094

Water pads (single-use)

•	•	•	Soft-Temp®	152 x 61 cm	REF 550060
•	•	•	Soft-Temp®	76 x 61 cm	REF 550061
•	•	•	Soft-Temp®	51 x 36 cm	REF 550063
•	•		Head wrap for cooling	adjustable to patient's head	REF 550089
•	•		Cooling vest	adjustable to patient size	REF 550087

VARIOTHERM 555

VARIOTHERM 550

AQUATHERM 660

Further accessories



Castor stands and brackets

•	•		Tilt-resistant safety stand (4-castors)	REF 602810
	•		5-castor stand, incl. vertical bar and support plate	REF 530002
		•	5-castor stand, incl. vertical bar and clamping bracket	REF 590002
		•	Clamping bracket for securing the device to the 5-castor stand, wall rail or operating table	REF 592900

Hose extensions

	•	•	Hose extension (3 m), incl. quick-release couplings, for connecting device and HICO water pad	REF 550022
•	•	•	Hose extension (3 m), incl. quick-release couplings, for connecting device and single-use pads	REF 550069
•			Insulated hose extension (2 m), incl. quick-release couplings, for connecting device and HICO water pad	REF 600022

Disinfection

•	•	•	Sanosil S003 – Disinfectant solution consisting of two basic ingredients (hydrogen peroxide and silver) for use as water additive in all HICO devices and water pads	REF 830111
•	•	•	Sanosil test strips – Quick determination of the Sanosil disinfectant concentration in liquids. 100 strips/sales unit	REF 830112



Technical data

Device	VARIOTHERM 555	VARIOTHERM 550	AQUATHERM 660
Article No. (REF)	600001 (220 V/230 V) / 600021 (110 V/115 V)	540001 (220 V/230 V) / 540021 (110 V/115 V)	590001 (220 V/230 V) / 590020 (110 V/115 V)
Nominal voltage	220 – 230 VAC 50 Hz/60 Hz / 110 – 115 VAC 50 Hz/60 Hz		
Power input	440 W	320 W	530 W (230 V) / 560 W (115 V)
Current consumption	approx. 1.9 A (220 V/230 V) / approx. 3.8 A (110 V/115 V)	approx. 1.5 A (220 V/230 V) / approx. 3 A (110 V/115 V)	approx. 2.3 A (220 V/230 V) / approx. 4.6 A (110 V/115 V)
Nominal temperature range	5 – 40 °C	15 – 39 °C	35 – 39 °C
Safety shutdown	approx. 4 °C and 41.1 – 41.5 °C	41.1 – 41.5 °C	41.1 – 41.5 °C
	(autonomous safety-shutdown) This results in a max. surface temperature on the pad < 41°C		
Correction value	0.5 °C (water temp. – temp. display)		
Sensor element	2 x NTC 5K	2 x NTC 5K	2 x NTC 5K
Pump capacity (free flow)	max. 7 l/min, max. 0.36 bar	max. 5.5 l/min, max. 0.21 bar	max. 19 l/min, max. 0.34 bar
Warm-up time	approx. 5 – 10 min (20 – 37 °C)	approx. 5 – 10 min (20 – 37 °C)	approx. 5 – 10 min (20 – 37 °C)
Cool-down time	approx. 5 – 10 min (20 – 10 °C)	approx. 5 – 10 min (20 – 15 °C)	----
Fuse rating	2 x T 3.15 A; L 250 V (220 V/230 V) / 2 x T 6.3 A; L 250 V (110 V/115 V)	2 x T 3.15 A; L 250 V (220 V/230 V) / 2 x T 5 A; L 250 V (110 V/115 V)	2 x T 3.15 A; L 250 V (220 V/230 V) / 2 x T 5 A; L 250 V (110 V/115 V)
Class/type of protection (IEC 60601-1)	I, BF (defibrillation protected)		
IP protection class (IEC 60529)	IP X1 (drip proof)		
Mains supply	Must comply with the requirements of VDE 0100 Part 710:2012-10 „Electrical safety in medical environ-		
Risk class (93/42/EEC)	II b	II b	II b
Ambient temperature	10 – 30 °C	10 – 30 °C	10 – 30 °C
Relative humidity	approx. 30 – 70 %	approx. 30 – 70 %	approx. 30 – 70 %
Transport/storage temperature	3 – 60 °C	3 – 60 °C	3 – 60 °C
Air pressure	700 – 1060 mbar	700 – 1060 mbar	700 – 1060 mbar
Tank volume	approx. 1.0/2.0 l (min./max.)	approx. 0.5/0.8 l (min./max.)	approx. 0.7/1.4 l (min./max.)
Heat exchanger tank volume	1.5 l	----	----
Coolant	water-glycol mixture	----	----
Permissible height difference	max. 1 m (unit/water pad)		
Dimensions W x H x D	approx. 20 x 60 x 51 cm	approx. 20 x 29 x 44 cm	approx. 20 x 29 x 33 cm
Weight	approx. 25 kg (empty)	approx. 17 kg (empty)	approx. 7 kg (empty)
Noise emission	approx. 45 dB(A)	approx. 50 dB(A)	approx. 35 dB(A)
Alarm level	> 55 dB(A)	> 55 dB(A)	> 55 dB(A)
Test basis	Medical product directive 93/42/EEC, DIN EN 60601-1, DIN EN 60601-1-2, DIN EN 80601-2-35		
UMDNS code	12-068	12-068	17-648



Further product lines



Ultrasonic Nebulization

A wide range of different uses to ensure effective inhalation therapy

Br-54X59X60X-A-en; 2020-10-01; based on Br-54X59X60X-A; www.Drei-K.de



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