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Patient Temperature Management

- › HICO-Variotherm 555
- › HICO-Variotherm 550
- › HICO-Aquatherm 660

Precise warming and cooling of your patients during surgery and in intensive care.

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The hypo- and hyperthermia treatment devices **HICO-Variotherm 550** and **555** and **HICO-Aquatherm 660**, combined with suitable HICO-Polyurethane-Waterpads, allow user-friendly and efficient control of your patients' temperature - both in peri-operative patient warming and in patient cooling, e.g. after resuscitation. Via surface contact with the radiolucent HICO-Polyurethane-Waterpads 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.

Overview



HICO-Variotherm 555

- ▶ Patient temperature management in intensive care units
- ▶ 5-40 °C



HICO-Variotherm 550

- ▶ Warming and cooling unit for patients in neonatology and pediatrics
- ▶ 15-39 °C



HICO-Aquatherm 660

- ▶ Patient warming system for use in surgery
- ▶ 35-39 °C

General Benefits

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

HICO-Variotherm 555

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.

View



Benefits

- ▶ Easy and quick start-up of the non-invasive temperature control system
- ▶ Optimum temperature transfer via reusable HICO-Polyurethane-Waterpads
- ▶ Connections for two HICO-Polyurethane-Waterpads
- ▶ 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 base

Order Information

REF	Nominal Voltage (V)	Connection	Dimensions (W × H × D / cm)	Weight (kg)	Noise emission (dB(A))
600001	220-230	Connections for 2 pads	approx. 20 × 60 × 51	approx. 25 (empty)	approx. 45
600021	110-115				

HICO-Variotherm 550

Warming and Cooling Unit for Patients in Neonatology and Pediatrics

HICO-Variotherm 550 combines the advantages of HICO warming and 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.

View



Benefits

- ▶ Easy warming and cooling of patients through surface contact with HICO-Polyurethane-Waterpads
- ▶ Optimum temperature transfer through reusable HICO-Polyurethane-Waterpads
- ▶ Connection for one HICO-Polyurethane-Waterpad
- ▶ 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
- ▶ Closed, hygienic system with low-noise Peltier technology
- ▶ Space-saving device, available with a tilt-resistant five-caster base

Order Information

REF	Nominal Voltage (V)	Connection	Dimensions (W × H × D / cm)	Weight (kg)	Noise emission (dB(A))
540001	220-230	Connection for 1 pad	approx. 20 × 29 × 44	approx. 17 (empty)	approx. 50
540021	110-115				

HICO-Aquatherm 660

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.

View



Benefits

- ▶ Active patient warming system for use in operating rooms
- ▶ Optimum heat transfer through reusable HICO-Polyurethane-Waterpads
- ▶ Connections for two HICO-Polyurethane-Waterpads
- ▶ 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
- ▶ Defibrillation-proof device
- ▶ System is rapidly ready for use thanks to a short warm-up time
- ▶ Small and handy unit, can be supplied with a tilt-resistant five-castor base

Order Information

REF	Nominal Voltage (V)	Connection	Dimensions (W × H × D / cm)	Weight (kg)	Noise emission (dB(A))
590001	220-230	Connections for 2 pads	20 × 29 × 33	approx. 7 (empty)	approx. 35
590020	110-115				

HICO-Polyurethane-Waterpads

Essential Accessories for Ensuring Optimum Patient Temperature Control

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

View



Water pads (multi-use)

Benefits

- ▶ 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-Polyurethane-Waterpads are free of electrical connections



Soft-Temp® (single-use)

Order Information

Water Pads (multi-use)

REF	Item Description	Dimensions (W × H / cm)
550144	HICO-Polyurethane-Waterpad SP	50 × 30
550146		170 × 50
550147		92 × 50
550148		170 × 35
550149		92 × 35
550125		70 × 60
550126		120 × 70




Water Pads (single-use)

REF	Item Description	Dimensions (W × H / cm)
550060	Soft-Temp® Hypo-Hyperthermia Blanket Adult	152 × 61
550061	Soft-Temp® Hypo-Hyperthermia Blanket Pediatric	76 × 61
550063	Soft-Temp® Heat Therapy Pad Medium	51 × 36

Further Accessories and Components

Order Information

Castor Bases and Brackets

REF	Image	Item Description	Variotherm 555	Variotherm 550	Aquatherm 660
602810		Unit carrier, tilt-resistant safety base (4-castors)	•	•	
532832		Five-castor base, incl. vertical bar and stand plate complete Full assembly = REF 530002; components must be ordered separately		•	
542810		Stand plate complete			
532832		Five-castor base, incl. vertical bar and clamping bracket Full assembly = REF 590002; components must be ordered separately			•
592900		Clamp holder, clamping bracket for securing the device to the five-castor base, wall rail or operating table			

Hose Extensions

550090	HICO-Hose extension SP, 3 m, for connecting device with Polyurethane-Waterpad SP	•	•	•
600090	HICO-Hose extension SP thermo insulated, 2 m, thermally insulated / for connecting device with Polyurethane-Waterpad SP	•	•	•
550069	HICO-Hose extension (disposable pads), 3 m, for connecting device with Soft-Temp® waterpad	•	•	•

Disinfection

830111	Sanosil S003 - disinfectant solution consisting of two basic ingredients (hydrogen peroxide and silver) for use as water additive in all HICO devices and Polyurethane-Waterpads	•	•	•
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Technical Data

Device	Variotherm 555	Variotherm 550	Aquatherm 660
REF	600001 (220/230 V) / 600021 (110/115 V)	540001 (220/230 V) / 540021 (110/115 V)	590001 (220/230 V) / 590020 (110/115 V)
Nominal voltage	220-230 VAC 50/60 Hz or 110-115 VAC 50/60 Hz		
Power input	440 W	320 W	530 W (230 V) / 560 W (115 V)
Current consumption	approx. 1.9 A (220/230 V) approx. 3.8 A (110/115 V)	approx. 1.5 A (220/230 V) approx. 3 A (110/115 V)	approx. 2.3 A (220/230 V) approx. 4.6 A (110/115 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 × NTC 5K	2 × NTC 5K	2 × 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 × T 3.15 A; L 250 V (220/230 V) / 2 × T 6.3 A; L 250 V (110 /115 V)	2 × T 3.15 A; L 250 V (220/230 V) / 2 × T 5 A; L 250 V (110/115 V)	2 × T 3.15 A; L 250 V (220/230 V) / 2 × T 5 A; L 250 V (110/115 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 environments“		
Risk class ((EU) 2017/745)	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 × H × D	approx. 20 × 60 × 51 cm	approx. 20 × 29 × 44 cm	approx. 20 × 29 × 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	Regulation (EU) 2017/745: NB MDR 0598, IEC 60601-1, IEC 60601-1-2, IEC 60601-1-8, IEC 60601-2-35		
EMDN code	Z12040208	Z12040208	Z12040208

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Picture Credit: Adroit Medical Systems, Inc. (product photo Soft-Temp®, p. 6); Frank Stöckel (all other product photos)

Contact

Should you have any questions our Customer Solutions Team will be glad to advise you.

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