



torqualizer®

sports, diagnostics, medical and rehabilitation ergometer series

reliable ergometers made in germany

German Engineering since 1988

Benefit from our experience since 1988 in building and servicing standard and customized solutions around the globe.

h/p/cosmos standard

h/p/cosmos has been developing and building treadmills since 1988 in Germany for various fields including fitness, competitive sports, sports medicine, orthopaedic and neurological rehabilitation, sport science, biomechanics, uniformed services, performance diagnostics, cardiopulmonary diagnostics and rehabilitation. This experience, maximum standards in quality and advanced technology are the foundation of our business and reflect in every h/p/cosmos product.

The torqualizer® series is the perfect addition to the existing portfolio of treadmills to support therapists and trainers with a matching series of reliable ergometers for professional use. Correspondingly, all components are manufactured in best quality, jointly creating reliable and durable ergometers. The outstanding level of h/p/cosmos products and service as well as attractive prices form the h/p/cosmos standard.

The perfect match for your cardio circle

To allow a seamless look and feel as well as a perfect integration of h/p/cosmos treadmills into a torqualizer® cardio circle, the pluto® ef med treadmill is equipped with the same userterminal as the torqualizer® series.

Your advantages

The known highest quality and safety standards form the basis for each h/p/cosmos treadmill and of course these standards also apply for the torqualizer® series.

All torqualizer® ergometers can be ordered according to the planned application either as sports or as medical devices (MDD 93/42/EEC certified with CE labelling).

With a keen eye on therapeutic demands, a very low step through allows easy access to the ergometers for patients with limited mobility. The multi-color backlit display with biofeedback indications is easy to handle, clearly readable and grid independent (except when ordering RS232 interface with potential isolation). Optional connectivity via RS232 allows the direct connection to external devices.

Customer-specific configuration for individual solutions

Ergometers off the peg can be many, at h/p/cosmos you can also get your individualized torqualizer® ergometer with a large selection of options and accessories. Various options and pre-configured packages allow you to customize your ergometer for the planned application from basic, to comfort or testing.



h/p/cosmos torqualizer® ef med 600 with multi-colour backlit display



stainless steel length adjustable cranks [cos30021ef-acr] allow an easy, fast and tool-free adaptation of the ergometer to every patient



gas springs support the therapist, trainer or patient for an easy horizontal seat adjustment of the recumbent ergometer

Overview of the h/p/cosmos torqualizer® series:

	bike-ergometer	h/p/cosmos torqualizer® ef med 600 h/p/cosmos torqualizer® ef 600
	order number	cos30021ef-med600 / cos30021ef-600
	applications	endurance training cycling, stress device for performance testing
	functions	multi-color backlight display with bio-feedback low step through / easy access, horizontally and vertically adjustable saddle RS232 interface (not galvanically isolated) coded POLAR® pulse receiver
	power range*	25...500 watts rpm independent (optional 750 watts at extra charge) 25...1,000 watts rpm dependent; workload steps: 5
	recumbent-ergometer	h/p/cosmos torqualizer® recumbent ef med 600 h/p/cosmos torqualizer® recumbent ef 600
	order number	cos30031ef-med600 / cos30031ef-600
	applications	endurance training legs / obese patients / long training sessions
	functions	multi-color backlight display with bio-feedback low step through / easy access horizontal seat adjustment in minimal increments coded POLAR® pulse receiver RS232 interface (not galvanically isolated)
	power range*	25...500 watts rpm independent (optional 750 watts at extra charge) 25...1,000 watts rpm dependent; workload steps: 5
	arm-ergometer	h/p/cosmos torqualizer® arm ef med 600 h/p/cosmos torqualizer® arm ef 600
	order number	cos30030ef-med600 / cos30030ef-600
	applications	endurance training, mobilisation & stabilisation of upper body / arms
	functions	multi-color backlight display with bio-feedback gas pressure supported height adjustment of the drive unit length-adjustable crank arms, synchronous & asynchronous mode long seat for optimal positioning easy dismantling of the seat for wheelchair access rpm dependent and independent mode RS232 interface (not galvanically isolated)
	power range*	25...500 watts rpm independent 25...1,000 watts rpm dependent; workload steps: 5
	cross-ergometer	h/p/cosmos torqualizer® cross ef med 600 h/p/cosmos torqualizer® cross ef 600
	order number	cos30032ef-med600 / cos30032ef-600
	applications	full body endurance training, easy on the joints
	functions	multi-color backlight display with bio-feedback forwards and backwards movement coded POLAR® pulse receiver rpm limit adjustable for extra safety RS232 interface (not galvanically isolated)
	power range*	100...500 watts rpm independent (optional 750 watts at extra charge) 100...1,000 watts rpm dependent; workload steps: 5
	stair-ergometer	h/p/cosmos torqualizer® stair ef med 600 h/p/cosmos torqualizer® stair ef 600
	order number	cos30033ef-med600 / cos30033ef-600
	applications	endurance training legs / coordination / activity of daily life (ADL)
	functions	multi-color backlit display with bio-feedback RS232 interface (not galvanically isolated) coded POLAR® pulse receiver pedal independent system cushioned pedal suspension automatic weight detection for precise calculation of performance

*Power range of all medical torqualizers®: 15...500 watts rpm independent (optional 750 watts at extra charge), 15...1,000 Watt rpm dependent.

Available software packages:

	quick	watt	pulse	watt sensitive	isokinetic	therapy	interval	K-Cal	Hill	Random	Distance	IPN	Astrand	PWC	Lactate	Standard	Conconi
basic	X	X	X														
therapy	X	X	X	X	X	X	X	X	X	X	X						
test**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

** Test Package only available for h/p/cosmos torqualizer® ef med 600 (cos30021ef-med600) | h/p/cosmos torqualizer® ef 600 (cos30021ef-600)

configuration pluto® ef med: rehabilitation and diagnostics

To allow a seamless look and feel as well as a perfect integration of h/p/cosmos treadmills into a torqualizer® cardio circle, the pluto® ef med treadmill is equipped with the same userterminal as the torqualizer® series. The specific terminal must be originally equipped and cannot be retrofitted to existing pluto® treadmills. Many further h/p/cosmos accessories can be retrofitted.



recommended configuration rehabilitation and diagnostics pluto® ef med

pos.	qty.	order number	product description		
1.	1	cos30027-01va14	h/p/cosmos treadmill pluto® ef med running surface 150 x 50 cm, speed range 0 ... 18 km/h, elevation 0 ... 20 %, max. user weight 150 kg multicolor backlight with bio-feedback-system, RS232 interface		
2.	1	cos10079-01va01	Safety arch 50 with harness & chest belt / stop function, fall protection for all applications (mandatory for high risk applications); running surface 50 cm wide		
3.	1	cos102522va03	Packing treadmill 150/50 (SA) , packed part assembled on pallet with cardboard hood, incl. safety arch (L: 274 cm / W: 122 cm / H: 94 cm)		
4.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
5.	1	cos10194	installation, commissioning and instruction through authorised and trained personnel		
			total price net, excluding VAT, excluding custom duties		
			VAT (19 % in Germany, other VAT and/or custom duties may apply in other countries)		
			system price h/p/cosmos solution for gait training: please ask your dealer for a quotation		

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Our recommended upgrades for torqualizer® ergometers:



adjustable handrails [cos102010va05] allow an easy, fast and tool-free
adaption of the handrail height and width



upgrade the max. user weight from 150 kg to 200 kg [cos30021ef-muw]
if needed for therapy or training with special patients or athletes



the optional flying data package [cos103697] allows wireless (RFID based)
transmission of training data to compatible PC software

configuration torqualizer® ef med 600: therapy basic

recommended configuration therapy basic torqualizer® ef med 600



pos.	qty.	order number	product description		
1.	1	cos30021ef-med600	h/p/cosmos torqualizer® ef med 600 hybrid brake system with 15...500 watts, 20...120 rpm, max. user weight 150kg multicolor backlight with bio-feedback-system, RS232 interface		
2.	1	cos30021ef-thp	Therapy package for medical devices 8 further training programs (Watt sensitive; Isokinetics; Therapy; Interval; K-cal; Hill; Chance; Distance)		
3.	1	cos30021-B-EF-AL-640	Packing torqualizer® for bicycle ef (med) 600 , (L: 140 cm / W: 80 cm / H: 185 cm) packed full assembled on pallet with metal frame and cardboard hood for bicycle-ergometer		
4.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
5.	1	cos60098010001	installation, commissioning and instruction through authorised and trained personnel		
			total price net, excluding VAT, excluding custom duties		
			VAT (19 % in Germany, other VAT and/or custom duties may apply in other countries)		
			system price h/p/cosmos solution for gait training: please ask your dealer for a quotation		

configuration torqualizer® ef med 600: cardiac testing and training

recommended configuration cardiac testing and training torqualizer® ef med 600



pos.	qty.	order number	product description		
1.	1	cos30021ef-med600	h/p/cosmos torqualizer® ef med 600 hybrid brake system with 15...500 watts, 20...120 rpm, max. user weight 150kg multicolor backlight with bio-feedback-system, RS232 interface		
2.	1	cos30021ef-pup	Extended max. workload - 750 watts increase of the maximum power/workload - rpm independent max. 750 watts from 100 rpm		
3.	1	cos30021ef-tep	Test package for medical devices consisting of Therapy med & Test package (IPN test; Astrand test; PWC test; lactate test; standard test; Conconi test)		
4.	1	cos30021ef-eps	Ear clip heart rate sensor heart rate measuring process with ear clip sensor		
5.	1	cos30021ef-epc	Electrical connection Power cable 35 cm length; jack connection, power supply 9 Volt stabilized, complies with EN/EC 60601		
6.	1	cos30021ef-if	RS232 interface for EKG Hardware and software package, RS232 connection, galvanically isolated and mains connection on the underside of the monitor, incl. power supply 9 Volt		
7.	1	cos30021ef-ud	Power supply under the device Lay the RS232 connection and the power connection under the device.		
8.	1	cos30021ef-subD-10m	Cable null-modem 9 pin subD-socket to 9 pin SubD-socket, length 10.0m Cable to connect torqualizer® devices with PC via RS 232 interface 10 meters		
9.	1	cos30021-B-EF-AL-640	Packing torqualizer® for bicycle ef (med) 600 , (L: 140 cm / W: 80 cm / H: 185 cm) packed full assembled on pallet with metal frame and cardboard hood for bicycle-ergometer		
10.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
11.	1	cos60098010001	installation, commissioning and instruction through authorised and trained personnel		
			total price net, excluding VAT, excluding custom duties		
			VAT (19 % in Germany, other VAT and/or custom duties may apply in other countries)		
			system price h/p/cosmos solution for gait training: please ask your dealer for a quotation		

configuration torqualizer® recumbent ef med 600: therapy basic

recommended configuration therapy basic torqualizer® recumbent ef med 600



pos.	qty.	order number	product description		
1.	1	cos30031ef-med600	h/p/cosmos torqualizer® recumbent ef med 600 hybrid brake system with 15...500 watts, 20...120 rpm, max. user weight 150kg multicolor backlight with bio-feedback-system, RS232 interface		
2.	1	cos30021ef-thp	Therapy package for medical devices 8 further training programs (Watt sensitive; Isokinetics; Therapy; Interval; K-cal; Hill; Chance; Distance)		
3.	1	cos30031-B-EF-AL-170	Packing torqualizer® for recumbent ef (med) 600 , (L: 217 cm / W: 85 cm / H: 175 cm) packed full assembled on pallet with metal frame and cardboard hood for bicycle-ergometer		
4.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
5.	1	cos60098010001	installation, commissioning and instruction through authorised and trained personnel		
			total price net, excluding VAT, excluding custom duties		
			VAT (19 % in Germany, other VAT and/or custom duties may apply in other countries)		
			system price h/p/cosmos solution for gait training: please ask your dealer for a quotation		

specifications torqualizer® ef med 600

specifications torqualizer® ef 600

bike-ergometer	h/p/cosmos torqualizer® ef med 600	h/p/cosmos torqualizer® ef 600
manufacturer:	emotion fitness GmbH & Co. KG / Germany	emotion fitness GmbH & Co. KG / Germany
order number:	cos30021ef-med600	cos30021ef-600
applications:	endurance training cycling, stress device for performance testing	endurance training cycling, stress device for performance testing
functions:	easy to handle, multicolor, backlit display with Bio-Feedback; easy step-trough horizontally and vertically adjustable saddle; coded Polar® pulse receiver	easy to handle, multicolor, backlit display with Bio-Feedback; easy step-trough horizontally and vertically adjustable saddle; coded Polar® pulse receiver
max. user weight:	150 kg (optional 200 kg available at extra charge)	150 kg (optional 200 kg available at extra charge)
voltage supply:	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)
control:	via UserTerminal with keyboard & display, integrated interface (RS232)	via UserTerminal with keyboard & display, integrated interface (RS232)
power range:	15...500 watts rpm independent (optional 750 watts at extra charge) 15...1,000 watts rpm dependent, workload steps: 5 watts	25...500 watts rpm independent (optional 750 watts at extra charge) 25...1,000 watts rpm dependent, workload steps: 5 watts
speed range:	20...120 rpm	20...120 rpm
brake:	hybrid-brake-system (HBS)	hybrid-brake-system (HBS)
safety:	CE 0633; medical device directive 93/42/EEG, DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.	CE DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1-2. Not UL-certified. Device not for sale in Canada and the USA.
classification:	medical device risk class IIa according to MDD, therapeutic medical device and diagnostic medical device	sports and fitness device; not for medical, not for therapeutical applications
usage class:	S, I according to ISO 20957-1	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to DIN EN ISO 20957-5	A (high accuracy) according to DIN EN ISO 20957-5
digital interface:	1x RS232 com1 (optional USB-RS232 converter available)	1x RS232 com1 (optional USB-RS232 converter available)
programs:	quick start, watts, heart rate, optional therapy and test package available	quick start, watts, heart rate, optional therapy package available
colour of frame:	grey-aluminum RAL 9007 (powder coated)	grey-aluminum RAL 9007 (powder coated)
size of frame:	L: 125 cm (4ft 10.1") W: 65 cm (2ft 1.6") H: 148 cm (4ft 8")	L: 125 cm (4ft 10.1") W: 65 cm (2ft 1.6") H: 148 cm (4ft 8")
net. weight:	device approx. 63 kg (139 lbs)	device approx. 63 kg (139 lbs)
gross weight:	device approx. 83...119 kg (176.4...262.4 lbs)	device approx. 83...119 kg (176.4...262.4 lbs)

Weight and dimensions may differ depending on accessories.

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specifications torqualizer® recumbent ef med 600

specifications torqualizer® recumbent ef 600

bike-ergometer	h/p/cosmos torqualizer® recumbent med 600	h/p/cosmos torqualizer® recumbent 600
manufacturer:	emotion fitness GmbH & Co. KG / Germany	emotion fitness GmbH & Co. KG / Germany
order number:	cos30031ef-med600	cos30031ef-600
applications:	endurance training legs, stress device for performance testing, obese patients, long training session	endurance training legs, stress device for performance testing, obese patients, long training session
functions:	Multi-color backlit display, with biofeedback, easy access, gas spring supported horizontal seat adjustment in minimal increments Grid independent, Coded Polar® receiver, RS232-interface	Multi-color backlit display, with biofeedback, easy access, gas spring supported horizontal seat adjustment in minimal increments Grid independent, Coded Polar® receiver, RS232-interface
max. user weight:	150 kg (optional 200 kg available at extra charge)	150 kg (optional 200 kg available at extra charge)
voltage supply:	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)
control:	via UserTerminal with keyboard & display, integrated interface (RS232)	via UserTerminal with keyboard & display, integrated interface (RS232)
power range:	15...500 watts rpm independent (optional 750 watts at extra charge) 15...1,000 watts rpm dependent, workload steps: 5 watts	25...500 watts rpm independent (optional 750 watts at extra charge) 25...1,000 watts rpm dependent, workload steps: 5 watts
speed range:	20...120 rpm	20...120 rpm
brake:	hybrid-brake-system (HBS)	hybrid-brake-system (HBS)
safety:	CE 0633; medical device directive 93/42/EWG, DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.	CE DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1-2. Not UL-certified. Device not for sale in Canada and the USA.
classification:	medical device risk class IIa according to MDD, therapeutic medical device and diagnostic medical device	sports and fitness device; not for medical, not for therapeutic applications
usage class:	S, I according to ISO 20957-1	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to DIN EN ISO 20957-5	A (high accuracy) according to DIN EN ISO 20957-5
digital interface:	1x RS232 com1 (optional USB-RS232 converter available)	1x RS232 com1 (optional USB-RS232 converter available)
programs:	quick start, watts, heart rate, optional therapy package available	quick start, watts, heart rate, optional therapy package available
colour of frame:	grey-aluminum RAL 9007 (powder coated)	grey-aluminum RAL 9007 (powder coated)
size of frame:	L: 152 cm (4ft 9.8") W: 67 cm (2ft 1.9") H: 138 cm (4ft 5.3")	L: 152 cm (4ft 9.8") W: 67 cm (2ft 1.9") H: 132 cm (4ft 5.3")
net. weight:	device approx. 105 kg (231 lbs)	device approx. 105 kg (231 lbs)

Weight and dimensions may differ depending on accessories.

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specifications torqualizer® arm ef med 600

specifications torqualizer® arm ef 600

arm-ergometer	h/p/cosmos torqualizer® arm ef med 600	h/p/cosmos torqualizer® arm ef 600
manufacturer:	emotion fitness GmbH & Co. KG / Germany	emotion fitness GmbH & Co. KG / Germany
order number:	cos30030ef-med600	cos30030ef-600
applications:	endurance training upper body / arms	endurance training upper body / arms
functions:	easy to handle, multicolor, backlit display with Bio-Feedback; easy step-trough, easily removable seat; coded Polar® pulse receiver	easy to handle, multicolor, backlit display with Bio-Feedback; easy step-trough, easily removable seat; coded Polar® pulse receiver
max. user weight:	150 kg (optional 200 kg available at extra charge)	150 kg (optional 200 kg available at extra charge)
voltage supply:	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)
control:	via UserTerminal with keyboard & display, integrated interface (RS232)	via UserTerminal with keyboard & display, integrated interface (RS232)
power range:	15...500 watts rpm independent 15...1,000 watts rpm dependent, workload steps: 5 watts	25...500 watts rpm independent 25...1,000 watts rpm dependent, workload steps: 5 watts
speed range:	20...120 rpm	20...120 rpm
brake:	hybrid-brake-system (HBS)	hybrid-brake-system (HBS)
safety:	CE 0633; medical device directive 93/42/EWG, DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.	CE DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1-2. Not UL-certified. Device not for sale in Canada and the USA.
classification:	medical device risk class IIa according to MDD, therapeutic medical device and diagnostic medical device	sports and fitness device; not for medical, not for therapeutic applications
usage class:	S, I according to ISO 20957-1	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to DIN EN ISO 20957-5	A (high accuracy) according to DIN EN ISO 20957-5
digital interface:	1x RS232 com1 (optional USB-RS232 converter available)	1x RS232 com1 (optional USB-RS232 converter available)
programs:	quick start, watts, heart rate, optional therapy package available	quick start, watts, heart rate, optional therapy package available
colour of frame:	grey-aluminum RAL 9007 (powder coated)	grey-aluminum RAL 9007 (powder coated)
size of frame:	L: 116 cm (3ft 8.1") W: 77 cm (2ft 5.2") H: 155 cm (5ft 1")	L: 116 cm (3ft 8.1") W: 77 cm (2ft 5.2") H: 155 cm (5ft 1")
net. weight:	device approx. 108 kg (238 lbs)	device approx. 108 kg (238 lbs)

Weight and dimensions may differ depending on accessories.

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specifications torqualizer® cross ef med 600

specifications torqualizer® cross ef 600

cross-ergometer	h/p/cosmos torqualizer® cross med 600	h/p/cosmos torqualizer® cross 600
manufacturer:	emotion fitness GmbH & Co. KG / Germany	emotion fitness GmbH & Co. KG / Germany
order number:	cos30032ef-med600	cos30032ef-600
applications:	full body endurance training, easy on the joints	full body endurance training, easy on the joints
functions:	Multi- color backlit display, with biofeedback, RS232 interface (not galvanically isolated), forward and backward movement as standard feature, coded Polar® pulse receiver, rpm limit for extra safety	Multi- color backlit display, with biofeedback, RS232 interface (not galvanically isolated), forward and backward movement as standard feature, coded Polar® pulse receiver, rpm limit for extra safety
max. user weight:	150 kg (optional 200 kg available at extra charge)	150 kg (optional 200 kg available at extra charge)
voltage supply:	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)
control:	via UserTerminal with keyboard & display, integrated interface (RS232)	via UserTerminal with keyboard & display, integrated interface (RS232)
power range:	100...500 watts rpm independent (optional 750 watts at extra charge) 100...1,000 watts rpm dependent, workload steps: 5 watts 15...500 watts rpm independent brake resistance (can be set in menu)	100...500 watts rpm independent (optional 750 watts at extra charge) 100...1,000 watts rpm dependent, workload steps: 5 watts 15...500 watts rpm independent brake resistance (can be set in menu)
speed range:	20...120 rpm	20...120 rpm
brake:	hybrid-brake-system (HBS)	hybrid-brake-system (HBS)
safety:	CE 0633; medical device directive 93/42/EEG, DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.	CE DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1-2. Not UL-certified. Device not for sale in Canada and the USA.
classification:	medical device risk class IIa according to 93/42 EEC, therapeutic medical device and diagnostic medical device	sports and fitness device; not for medical, not for therapeutic applications
usage class:	S, I according to ISO 20957-1	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to DIN EN ISO 20957-5	A (high accuracy) according to DIN EN ISO 20957-5
digital interface:	1x RS232 com1 (optional USB-RS232 converter available)	1x RS232 com1 (optional USB-RS232 converter available)
programs:	quick start, watts, heart rate, optional therapy package available	quick start, watts, heart rate, optional therapy package available
colour of frame:	grey-aluminum RAL 9007 (powder coated)	grey-aluminum RAL 9007 (powder coated)
size of frame:	L: 200 cm (6ft 5.6") W: 65 cm (2ft 1.9") H: 165 cm (4ft 3.3")	L: 200 cm (6ft 5.6") W: 65 cm (2ft 1.9") H: 165 cm (4ft 3.3")
net. weight:	device approx. 103 kg (231 lbs)	device approx. 103 kg (231 lbs)

Weight and dimensions may differ depending on accessories.

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specifications torqualizer® stair ef med 600

specifications torqualizer® stair ef 600

stair-ergometer	h/p/cosmos torqualizer® stair ef med 600	h/p/cosmos torqualizer® stair ef 600
manufacturer:	emotion fitness GmbH & Co. KG / Germany	emotion fitness GmbH & Co. KG / Germany
order number:	cos30033ef-med600	cos30033ef-600
applications:	endurance training legs, coordination, activity of daily life (ADL)	endurance training legs, coordination, activity of daily life (ADL)
functions:	Multi- color backlit display, with biofeedback, RS232 interface (not galvanically isolated), coded Polar® heart rate receiver Pedal independent system, Cushioned pedal suspension Automatic weight detection for precise calculation of performance	Multi- color backlit display, with biofeedback, RS232 interface (not galvanically isolated), coded Polar® heart rate receiver Pedal independent system, Cushioned pedal suspension Automatic weight detection for precise calculation of performance
max. user weight:	150 kg	150 kg
voltage supply:	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)	torqualizer® ergometer is grid independent (except when ordering RS232 interface with potential isolation)
control:	via UserTerminal with keyboard & display, integrated interface (RS232)	via UserTerminal with keyboard & display, integrated interface (RS232)
power range:	Isokinetic mode of operation for 4-27 m / min falling speed	Isokinetic mode of operation for 4-27 m / min falling speed
brake:	hybrid-brake-system (HBS)	hybrid-brake-system (HBS)
motor system:	calibrated drive unit	calibrated drive unit
safety:	CE 0633; medical device directive 93/42/EWG, DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.	CE; DIN EN ISO 20957-1; DIN EN ISO 20957-5; DIN EN 60601-1-2; Not UL-certified. Device not for sale in Canada and the USA.
classification:	medical device risk class IIa according to MDD, therapeutic medical device and diagnostic medical device	sports and fitness device; not for medical, not for therapeutic applications
usage class:	S, I according to ISO 20957-1	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to DIN EN ISO 20957-5	A (high accuracy) according to DIN EN ISO 20957-5
digital interface:	1x RS232 com1 (optional USB-RS232 converter available)	1x RS232 com1 (optional USB-RS232 converter available)
programs:	quick start, watts, heart rate, optional therapy package available	quick start, watts, heart rate, optional therapy package available
colour of frame:	grey-aluminum RAL 9007 (powder coated)	grey-aluminum RAL 9007 (powder coated)
size of frame:	L: 105 cm (3ft 4.4") W: 65 cm (2ft 1.3") H: 160 cm (5ft 2.4")	L: 105 cm (3ft 4.4") W: 65 cm (2ft 1.3") H: 160 cm (5ft 2.4")
net. weight:	device approx. 65 kg (143 lbs)	device approx. 65 kg (143 lbs)

Weight and dimensions may differ depending on accessories.

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specifications pluto® ef med

treadmill	pluto® ef med
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30027-01va14
applications:	endurance training walking and running stress device for performance testing, gait analysis and gait training
control:	via easy-to-use Multicolor-Display with keyboard, Bio-Feedback, optional RFID / NFC identification or via integrated interface coscom® v3 / v4 or optional keyboard
running surface:	L x W: 150 x 50 cm (4' 11.1" x 1' 7.6") access height: 23 cm (9.1") - shock load reduction for the joints - running belt with slip resistant surface - max. permissible load: 150 kg (330 lbs) - max. permissible load: 250 kg (551 lbs) at extra charge
speed range:	0.0...18.0 km/h (0.0...5.0 m/s) (0.0...11.2 mph) available at extra charge: 0.0...22.0 km/h (0.0...6.1 m/s) (0.0...13.6 mph)
acceleration:	1 acceleration / deceleration level
elevation:	0...20 % (0...11.3°) motorized adjustment 0...25 % (0...14.0°) optional at extra charge (-25 %...+25 % when using optional reverse belt rotation)
running direction:	reverse belt rotation at extra charge. Without fall prevention the max. speed for reverse belt rotation is limited to 5 km/h (3.1 mph)
motor systems:	2.2 kW (3 HP) 3-phase AC motor, maintenance free and brushless 10 years warranty on main drive motor For high-performance applications we recommend models with a 3-phase 3x400 Volt power supply and a running surface min. 190/65 cm
power transmission:	frequency inverter, poly-V-belt, very quiet operation
safety systems:	CE 0123: medical device directive MDD 93/42/EEC, machinery directive 2006/42/EC; IEC 60601-1; EN 60601-1-2 (EMC tested); IEC 62304; ISO 20957-1; EN 957-6; EN 14971; emergency-stop mushroom push button (drives power off), potential equalization bolt; transformer for potential-isolation from the mains
degree of protection:	appliance class I (⊕) / type B (⚡) / IP 00
classification:	medical device risk class IIb according to MDD, active therapeutic medical device and active diagnostic medical device
usage class:	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to EN 957-6
earth leakage current:	< 0.2 mA
ambient condition:	0...+40 °C; 20...90 % humidity, 700...1060 hPa air pressure 3,000 m (~10,000 ft) max. altitude without pressurization
display (resolutions) parameter: (via RS232 and coscom® interface and para control® software)	5.5" Multicolor LCD Display, speed (0.1 km/h or m/s or m/min or mph), time (00:00) in hours, minutes & seconds, elevation (0.1 % or degrees), distance (1 m...999.9 km or miles), METS (1 MET), program step / number, energy (1 kJ / kcal), fitness index (1), power (1 Watt), heart rate (1 bpm / beat per minute)
resolution:	1 decimal place
units:	metric
heart rate monitoring:	heart rate receiver included (5kHz), automatic control of speed and elevation according to programmed target heart rate („cardio mode")
digital interface:	1 x RS232 com1 with 9,600 bps, incl. coscom® v3/v4 protocol optional at extra charge: USB-RS232-converter; com2: com3 with 115,200 bps
programs: (via RS232 and coscom® interface and para control® software)	4 programs / profiles Quick, Time, heart rate speed, heart rate elevation
PC software (incl.):	para control® for display & remote control
accessory (incl.):	instruction for use on Media stick, drinking bottle holder, service box, special oil
colour of frame:	pure white RAL 9010 (powder coated)
handrails:	steel tube handrails diameter 60 mm on both sides, over min. 1/3 of treadmill length, easily exchangeable Other lengths and designs at extra charge.
voltage supply:	200 ... 240 Volt AC 1~N/PE 50/60 Hz 16A fuse; dedicated circuit, line and protection

size of frame:	L: 210 cm (6ft 11") W: 86 cm (2ft 9.9") H: 126 cm (4ft 1.6")
mass of device:	device approx. 240 kg (474 lbs)
mass of packaging:	50...260 kg (110...575 lbs) depending on requirement

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Weight and dimensions may differ depending on accessories.

Optionally available at extra charge are special frame colours, other handrail designs, special voltage supply, other options and accessories. Weight and package specifications can deviate according to options, accessories packing and way of transport. E&OE. Subject to alterations without prior notice. Please consider the natural and physical performance limitations of the single phase 230 volt power supply. The single phase 230 volt power supply is sufficient up to normal fitness or therapy applications. For all special high performance applications (speed running, controlled jump-ons, sidesteps, heavy subjects at higher speed, extreme elevations, etc.), we recommend models with a 3-phase, 3x400 volt power supply (for example model h/p/cosmos quasar med 3p, pulsar 3p, venus or saturn).

Warning! Installation, commissioning, instruction, maintenance and repair work only to be conducted by h/p/cosmos trained and authorised personnel. For treadmills with oversized deck (width >65cm), for children, special applications, without sufficient safety space behind the treadmill, for subjects and / or patients with health or other limitations (e.g. visual impairment, etc.), for running at high speed and / or for all individuals, where a fall triggers a dangerous risk of injury or death (e.g. newly operated hip patients, invasive probes, etc.), a fall prevention system is obligatory (e.g. safety arch with chest belt and harness or a weight support system). For more information see the instructions for use. Safety space behind the treadmill: min. L: 2 m (6ft 6.74") x treadmill width. Children are only allowed to be on the treadmill, if under permanent supervision and secured by a fall prevention system.



specifications pluto® ef

treadmill	pluto® ef
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30027-01va13
applications:	endurance training walking and running
control:	via easy-to-use Multicolor-Display with keyboard, Bio-Feedback, optional RFID / NFC identification or via integrated interface coscom® v3 / v4 or optional keyboard
running surface:	L x W: 150 x 50 cm (4' 11.1" x 1' 7.6") access height: 23 cm (9.1") - shock load reduction for the joints - running belt with slip resistant surface - max. permissible load: 150 kg (330 lbs) - max. permissible load: 250 kg (551 lbs) at extra charge
speed range:	0.0...18.0 km/h (0.0...5.0 m/s) (0.0...11.2 mph) available at extra charge: 0.0...22.0 km/h (0.0...6.1 m/s) (0.0...13.6 mph)
acceleration:	1 acceleration / deceleration level
elevation:	0...20 % (0...11.3°) motorized adjustment 0...25 % (0...14.0°) optional at extra charge (-25 %...+25 % when using optional reverse belt rotation)
running direction:	reverse belt rotation at extra charge. Without fall prevention the max. speed for reverse belt rotation is limited to 5 km/h (3.1 mph)
motor systems:	2.2 kW (3 HP) 3-phase AC motor, maintenance free and brushless 10 years warranty on main drive motor For high-performance applications we recommend models with a 3-phase 3x400 Volt power supply and a running surface min. 190/65 cm
power transmission:	frequency inverter, poly-V-belt, very quiet operation
safety systems:	CE; machinery directive 2006/42/EC; EN 60335-1; EN 60601-1-2 (EMC tested); IEC 62304; ISO 20957-1; EN 957-6; EN 14971; emergency-stop mushroom push button (drives power off)
degree of protection:	appliance class I (⊕) / IP 00
classification:	sports and fitness device; not for medical, not for therapeutic applications
usage class:	S, I according to ISO 20957-1
accuracy class:	A (high accuracy) according to EN 957-6
earth leakage current:	< 2.0 mA
ambient condition:	0...+40 °C; 20...90 % humidity, 700...1060 hPa air pressure 3,000 m (~10,000 ft) max. altitude without pressurization
display (resolutions) parameter: (via RS232 and coscom® interface and para control® software)	5.5" Multicolor LCD Display, speed (0.1 km/h or m/s or m/min or mph), time (00:00) in hours, minutes & seconds, elevation (0.1 % or degrees), distance (1 m...999.9 km or miles), METS (1 MET), program step / number, energy (1 kJ / kcal), fitness index (1), power (1 Watt), heart rate (1 bpm / beat per minute)
resolution:	1 decimal place
units:	metric
heart rate monitoring:	heart rate receiver included (5kHz), automatic control of speed and elevation according to programmed target heart rate („cardio mode“)
digital interface:	1 x RS232 com1 with 9,600 bps, incl. coscom® v3/v4 protocol optional at extra charge: USB-RS232-converter; com2: com3 with 115,200 bps;
programs: (via RS232 and coscom® interface and para control® software)	4 programs / profiles Quick, Time, heart rate speed, heart rate elevation
PC software (incl.):	para control® for display & remote control
accessory (incl.):	instruction for use on Media stick, drinking bottle holder, service box, special oil
colour of frame:	pure white RAL 9010 (powder coated)
handrails:	steel tube handrails diameter 60 mm on both sides, over min. 1/3 of treadmill length, easily exchangeable Other lengths and designs at extra charge.
voltage supply:	200 ... 240 Volt AC 1~N/PE 50/60 Hz 16A fuse; dedicated circuit, line and protection
size of frame:	L: 210 cm (6ft 11") W: 86 cm (2ft 9.9") H: 126 cm (4ft 1.6")
mass of device:	device approx. 225 kg (495 lbs)
mass of packaging:	50...260 kg (110...575 lbs) depending on requirement

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Weight and dimensions may differ depending on accessories.

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sports / athletics



sports
quasar®



cycling & athletics
saturn® med 300/100r



performance diagnostics
pulsar® med 3p

h/p/cosmos®

German Engineering since 1988



inline skating
saturn® med 300/125r



functional training
pulsar® med 3p + robowalk®



**cross country skiing
skating / biathlon**
saturn® med 450/300rs



wheelchair
saturn® med 300/125r



speed training / speedlab®
quasar® 3p



fitness
pluto® / mercury® / quasar® / pulsar®



motion analysis
quasar® med



expander training
robomove®



bike ergometer
torqualizer®



**biomechanics
gait parameters**
optogait

rehabilitation



active gait correction
robowalk® expander / mercury® med



senior fitness
mercury®



orthopaedic rehabilitation
mercury® med / arm support / airwalk® ap



cardiac rehabilitation
mercury® med



**body weight supported
treadmill therapy**
airwalk® ap / mercury® med



angiography
mercury® med



gait analysis / biomechanics
gaitway® 3d with force and pressure measurement



**cardiovascular stress
testing / CPET**
mercury® med



locomotion therapy
locomotion® med 150/50



therapeutic bar training
parawalk®

special applications



**environmental & climate
chambers**
quasar® med 3p with external UserTerminal



biomechanics
gaitway® 3d



military / army
quasar® special version



speed training
sprint trainer comet®



**fire fighter ladder
training & fitness**
discovery®

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