

h/p/cosmos®



sports, diagnostics, medical and rehabilitation treadmills

ahead of time®



reliable treadmills made in germany

German Engineering since 1988

Benefit from our experience since 1988 in building and servicing standard and customized treadmill 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, orthopedic 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 also reflected in the pulsar® med treadmills. The outstanding level of h/p/cosmos products and service as well as attractive prices form the h/p/cosmos standard.

Stable and low-maintenance

With their stable frame, the treadmills are almost indestructible, very low-maintenance and offer both runner or patient a pleasant running feeling thanks to their state-of-the-art design. They also stand out due to their smooth running, their versatile functions, their powerful drive system and their timeless and user friendly design.

Medical device (class IIb) and sports treadmills

Our treadmills are available as risk class IIb medical treadmills as well as sports treadmills. As a medical device, they are particularly suitable for the use in the fields of cardiology, neurology, cardiological rehabilitation and physiotherapy. The interface via coscom® v4 of the h/p/cosmos treadmill and ergometer series enables the connection to ECG, ergospirometry systems, blood pressure monitors and software programs.

Customer-specific configuration for individual solutions

Treadmills off the peg can be many, at h/p/cosmos you can also get your individually assembled treadmill solution with a large selection of options and accessories. Too little budget for the desired configuration? Changed demands on the treadmill system due to new business areas or new areas of application? No problem, most options and accessories can also be retrofitted at a later date. With h/p/cosmos you are always on the right track, because you cannot make the wrong decision due to the flexible and modular design.

flexible handrail concept

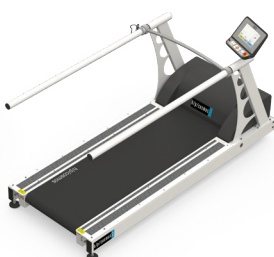


The renewed h/p/cosmos handrail concept allows quick and flexible adaptations of the treadmill to various demands.

Some of our best selling handrail configurations:



pulsar® (MCU5)
with standard handrails



pulsar® med (MCU6)
with optional long handrails [cos103877]



pulsar® (MCU5)
with optional adjustable handrails [cos102551-01]



pulsar® med (MCU6)
with optional speed handrails [cos103651] and extra
wide footboards left [cos14764] and right [cos102187]



pulsar® (MCU5)
with optional very short handrails [cos103867]



pulsar® med (MCU6)
with optional speed handrails [cos103651]

Standard and long handrail

The ingeniously simple plug-in concept makes it a child's play to change the handrails and adapt them to the required application. As standard we deliver all treadmills of the pulsar® series with handrails, which cover about one third of the running surface length. By quickly loosening two hex head screws, the short handrail can be easily removed and replaced by the therapist or trainer with a long handrail (reaching to the end of the running surface), either on one side or on both sides (for extended safety when stepping onto the running deck).

Adjustable handrail

The pulsar® treadmills can also be supplied with height and width adjustable handrails. This variant is ideal if you serve a heterogeneous clientele (adjustment range is from 765...1215 mm in height and 665...1315 mm in width, serving most subjects). They offer the different patient types (from children, to small and large persons as well as for obese patients) optimal conditions for therapy and/or training. In combination with the optional arm support, you also enable patients to train more safely and without fear. As an additional feature, the optional arm support offers the possibility of a manual unweighting by the patient relieving their partial body weight on these stable pads.

Very short handrail

For special applications, the handrails can be completely removed. Due to safety reasons, a crossbar must then be used, which is mounted on two very short handrails or on speed handrails with additional grips for better jump-on and jump-off during hyperspeed sprint trainings. This variant makes sense, for example, if a video analysis in the sagittal plane is carried out or an ECG stress test in cardiology (handrail might interfere with cable routing).



Additional options for your individual treadmill solution

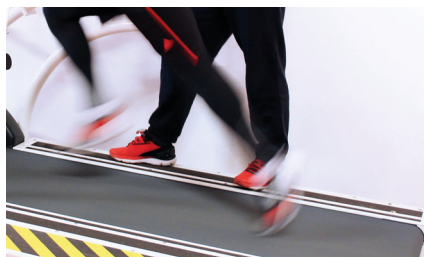
The numerous additional options allow you to adapt h/p/cosmos treadmills exactly to your needs and your field of application. Some of our most successful options:

Safety arch fall prevention

In the event of a fall, the patient or athlete is caught with a safety harness and the treadmill is automatically stopped. The h/p/cosmos safety arch with chest belt prevents falling in case of tripping and by loss of coordination in the exhaustion phase. The fall-stop stops the treadmill immediately and automatically by use of a quick-stop system. With this feeling of safety it is possible to train right up to the limit which is important for precise diagnostics.



h/p/cosmos treadmill with safety arch [cos10079-01va02] and chest belt [cos14903-04-M]



powerful, reliable and accurate drive systems enable precise measurements as well as high performance applications



pushing athletes to and beyond their limits is only possible if they feel safe and rely on the safety systems and material

Performance, high-speeds & -acceleration with 3-phase power supply systems

Although performance diagnostics of marathon runners or triathletes only place moderate demands on a treadmill system due to the very economical running style, the diagnosis of athletes from many other sports requires clearly increased performance. Also when sprint and speed tests are conducted with large and heavy athletes, the treadmill system must provide, in these short-term peak loads, accurate repeatable results. Single phase power supplies with only 230 volts are often overwhelmed. To deal with these requirements, we offer 3 phase power supplies for most of our treadmills.

The h/p/cosmos pulsar® 3p features above all a 3-phase power supply with 3 x 400 volts AC in addition to the larger running surface of 190 x 65 cm and the built-in reverse belt rotation for downhill training. Diagnostics for heavier athletes and many special applications are therefore possible up to 40 km/h (standard, optional 45 km/h). The high power capacities of 3-phase power drive systems allow extreme accelerations and to reach the maximum speed of 40 (or optional 45) km/h within 3 seconds when connected to 3 phase power supply! Sufficient power for sprint and acceleration trainings!

Built-in reverse belt rotation

As a standard on the pulsar series, the running direction of the belt can be reverted. With the incline set at the same time, downhill running can be simulated. The option is available for all h/p/cosmos treadmills with incline option.

Additional keyboard

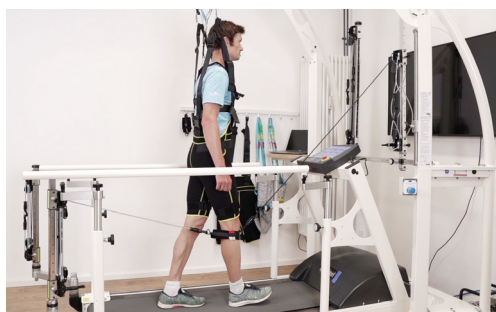
The additional keyboard allows trainers or therapist to perfectly control the treadmill from the ideal external spot around the treadmill.



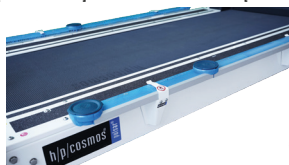
options



h/p/cosmos treadmills with UserTerminal MCU6 allow direct connections to virtual realities and a large variety of training applications. The optional tablet mount [cos102488_vesa] keeps the tablet in sight.



h/p/cosmos treadmill with adjustable handrails [cos102551-01], airwalk® ap unweighting system [cos30028], robowalk® front [cos30022-02va04], back [cos30023-03] and reverse belt rotation [cos10181-03]



h/p/cosmos speedcontrol [cos100699_LED], based on an optometric system, allows automatic speed and inclination adaption based on the subject's position on the running belt.



Sudden accelerations and stops of the running belt simulate slips (left) and trips (right)

Extended connectivity

Especially in sports medicine, biomechanics and research there are often many different systems connected to a treadmill: ECG, spirometry, blood pressure monitor, EMG and also remote terminals to control the treadmill. To cope with this demand, all h/p/cosmos treadmills rely on the coscom® protocol and can be equipped with up to (optionally) 4 PC interfaces with different data rates (from 9.200 bps to 115.200 bps). With the current UserTerminal MCU6, Bluetooth® connections allow a direct communication with heart rate sensors and smart devices. Implemented protocols grant (e.g. FTMS that allows a unilateral transfer of treadmill parameters such as speed, inclination, cadence etc.) connection to virtual realities and training applications, pushing motivation for athletes as well as for patients.

Unweighting system airwalk® ap (with optional emergency stop)

Early return to training and activities can be the key to a quick rehabilitation and to rebuilding strength. The airwalk® ap unweighting system allows dynamic and continuous weight relief (adjustable approx. 0.5...80 kg). The optional emergency stop stops the treadmill in case of a fall (patient or athlete is caught in a vest or neoprene short). For operation of the airwalk® ap, a compressor is needed.

Active gait correction robowalk® expander

The h/p/cosmos robowalk® is a patented expander-pulley system for h/p/cosmos treadmills. The test person's legs are connected to the force level and force vector adjustable rubber cables via cuffs and offer support and resistance during the walking and running movement. Especially the traction support by the rubber cords is a valuable help for patients and therapists to perform exercises physiologically and longer, thus improving the therapy success.

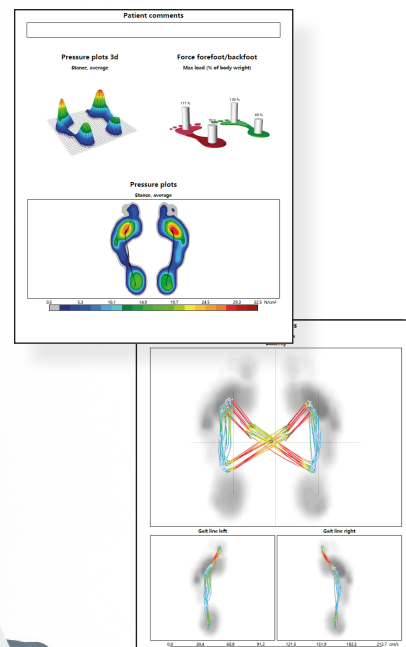
Speedcontrol

Adapting the treadmill speed to your current speed can be a tough or even distracting task, when running at higher paces. h/p/cosmos speedcontrol has been built to handle speed and inclination according to your individualized presets.

Perturbation

Sudden stops and accelerations of the running belt simulate slips and trips, aiming at enhanced gait stability. This new feature is optional for all h/p/cosmos treadmills with MCU6 UserTerminal. A safety arch is mandatory for this application.

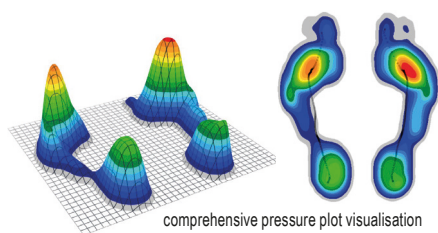
options



zebris® pressure distribution

The pulsar® series treadmills can be equipped or retrofitted with an integrated pressure distribution platform from the German manufacturer zebris®.

This upgrade allows versatile applications for rehabilitation, training and analysis. Underneath the belt, a pressure sensor matrix is installed that contains several thousand calibrated, capacitive pressure sensors. The belt movement is compensated, so stable gait and roll-off parameters can be analysed and displayed in a comprehensive software interface as well as in reports - a well proven and established tool amongst therapists.



comprehensive pressure plot visualisation



adaptive visual cueing [cos101291-01] with projected steps on the treadmill belt



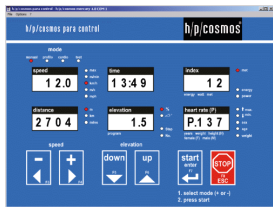
gait and coordination training on a treadmill using virtual feedback [cos101062] and dual-tasking

Gait training and adaptive visual & acoustic cueing

The initial gait analysis is carried out without any measuring preparations to be done on the patient. The measuring process can be observed on the screen in real-time and a report is automatically generated. In order to prepare the gait training using adaptive visual cueing, the parameters from the gait analysis (step length & width and foot rotation) are automatically transferred and can be individually adjusted according to training objectives. The values remain constant or gradually approach the target settings during the course of the training. During training the steps are projected onto the treadmill belt in the shape of the actual footprints, or alternatively as rectangles. Throughout the gait training the patient is instructed to position his or her feet as accurately as possible within the projected area. The gait training including visual stimulation/cueing is also possible when using an unweighting system and thus also allows for patients who are suffering from severe functional limitations to start therapy even at an early stage. The report documents the adherence to the target settings. On that basis, the target parameters can be adjusted to the patient's individual capability. For an optimal training control, two gait analyses are compared, e.g. before and after a training period.

Gait and coordination training using virtual feedback

Physical and cognitive abilities are simultaneously demanded during dual-task-training in the virtual walking environment. The patient solves simple perceptual and memory tasks as well as arithmetic problems while walking and observing his or her footprints. Thus, reaction time and attentiveness are improved while simultaneously supporting automated walking. The various modules allow the training to be individually adapted to each patient.



pulsar® 3p with MCU5 [cos30004va04]



pulsar® med with MCU6 [cos30004-01va02]

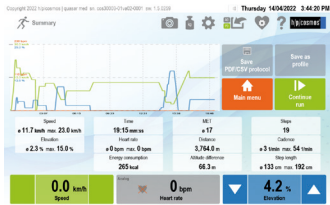
technical comparison

Discover the h/p/cosmos medical treadmills pulsar® series.

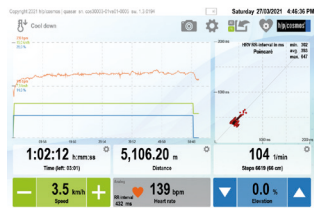
The pulsar® med series offers a wide range of options and accessoires. With the next generation UserTerminal MCU6 with a graphic user interface (GUI) as well as a widely advanced connectivity and additional features, a new milestone in treadmill experience has been set.

model name	pulsar® 3p (MCU5)	pulsar® med (MCU6)
Article number:	cos30004va04	cos30004-01va02
Device dimensions:	L: 250 x W: 105 x H: 145 cm	L: 250 x W: 105 x H: 149 cm
Device weight:	384 kg	365 kg
Running surface:	L: 190 x W: 65 cm	
Max. user weight:	300 kg	
Speed range:	0...40 km/h (optional at extra charge: 45 km/h)	0...25 km/h
Elevation:	-25...+25%	
Drive motor system:	4.3 kW (5.8 HP) 3-phase AC motor	3.3 kW (4.5 HP) 3-phase AC motor
Running belt:	reinforced running belt with profiled surface, ~ 5 mm thick	
Wireless heart rate:	5 kHz receiver incl. POLAR® chest belt	5 kHz & Bluetooth® receiver incl. POLAR® chest belt
Power supply:	400 Volt AC 3~/N/PE, 15...16A fuse; dedicated line	230 Volt AC, 15...16A fuse, dedicated line
UserTerminal, Features, Displays & Resolutions:	MCU5 with 6 LCD displays, 4 LEDs for operation modes, 20 LEDs for display of units & profile no, steps, etc. speed (0.1 km/h or m/s or m/min or mph), time 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), RS232 interface (optional USB adapter) with coscom® v3 and v4	MCU6 with 10.1" TouchScreen (1280x800) & Windows® 10, 9 hardware keys for manual control with medical gloves or under sweaty conditions, interface coscom® v4, parameter: 1 or 2 decimal places, speed, time, elevation, distance, METS, energy consumption, altitude, power, pace, heart rate, heart rate variability (digital & scatter diagram), RFID / NFC Reader (optional), 4x USB 2.0 (1x USB 3.0 internal), Bluetooth® / WiFi / WLAN (optional) 1x LAN / RJ45, 1x HDMI connection, 1x RS232 1x connection for safety arch fall stop
Classification & safety for medical devices	CE 0123; risk class IIb; machinery directive 2006/42/EC; ISO 20957-1; EN 957-6; EN 14971; EN ISO 13485; IEC60601-1; EN 60601-1-2 (EMC approved); IEC 62304	
Classification & safety for sports devices	pulsar® sport (MCU6) cos30004-01va01 CE; machinery directive 2006/42/EC; EMC directive 2014/30/EU; ISO 20957-1; EN 957-6; EN 60335-1	

configuration pulsar® med (mcu6): performance diagnostics



The MCU6 summary screen shows all relevant data of the workout including average and max. speed, elevation, duration and heartrate as well as biomechanical indicators such as steplengths and cadence.



The cardio mode allows target heart rate in combination with maximum speed range definition for controlling the physical load by means of a combination of speed & elevation.



configuration pulsar® med (mcu6): performance diagnostics

recommended configuration performance diagnostics pulsar® med (MCU6)

pos.	qty.	order number	product description		
1.	1	cos30004-01va02	h/p/cosmos treadmill pulsar® med (certification pending) running surface 190 x 65 cm, speed range 0 ... 25 km/h, elevation 0 ... 25 %, UserTerminal MCU6 with keyboard and display, integrated interface and coscom® v3/v4 protocol		
2.	1	cos101000_NFC	NFC / RFID module for MCU6		
3.	1	cos101000_sound	Sound module for MCU6 , additional adjustable loudspeaker in MCU6 User Terminal, 2 watt nominal load capacity		
4.	1	cos101000_wifi	WLAN / WIFI module for MCU6		
5.	1	cos101000_bluetooth	Bluetooth® for MCU6		
6.	1	cos101000_FTMS	Bluetooth® FTMS Interface for MCU6		
7.	1	cos16586	Footboard left extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
8.	1	cos102288	Footboard right extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
9.	1	cos10079-01va02	Safety arch 65 with harness & chest belt / stop function, fall protection for all applications (mandatory for high risk applications); running surface 65 cm wide		
10.		cos14425-01-rep	Height Upgrade for safety arch for users up to 220 cm		
11.	1	cos14903-04-S	Chestbelt S for safety arch system, colour code: red, for chest measurement approx. 65-95 cm		
12.	1	cos14903-04-M	Chestbelt M for safety arch system, colour code: blue, for chest measurement approx. 85-115 cm		
13.	1	cos14903-04-L	Chestbelt L for safety arch system, colour code: yellow, for chest measurement approx. 105-135 cm		
14.	1	cos14903-04-XL	Chestbelt XL for safety arch system, colour code: green, for chest measurement approx. 125-155 cm		
15.	1	cos12769-01	USB to RS232 converter , converter from USB to serial port RS232 (Sub-D 9-pin male)		
16.	1	cos14827-02	Lactate test strips sirius® 72 for Lactate Scout , 72 strips per box		
17.	1	cos100650-02	Starter kit sirius® with Lactate Scout lactate test meter , includes cos14825-03, cos14854-01, cos100773, 6x cos100774		
18.	1	cos100668v6	Software h/p/cosmos para analysis® 6 (evaluation software for performance diagnostics, heart rate and lactate analysis and training management)		
19.	1	cos10177	Packing treadmill 170&190/65(SA) , packed partly assembled on pallet with cardboard hood, incl. safety arch (L: 274 cm / W: 122 cm / H: 94 cm)		
20.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
21.	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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configuration pulsar® 3p: performance diagnostics & sprint training



configuration pulsar® 3p: performance diagnostics & sprint training

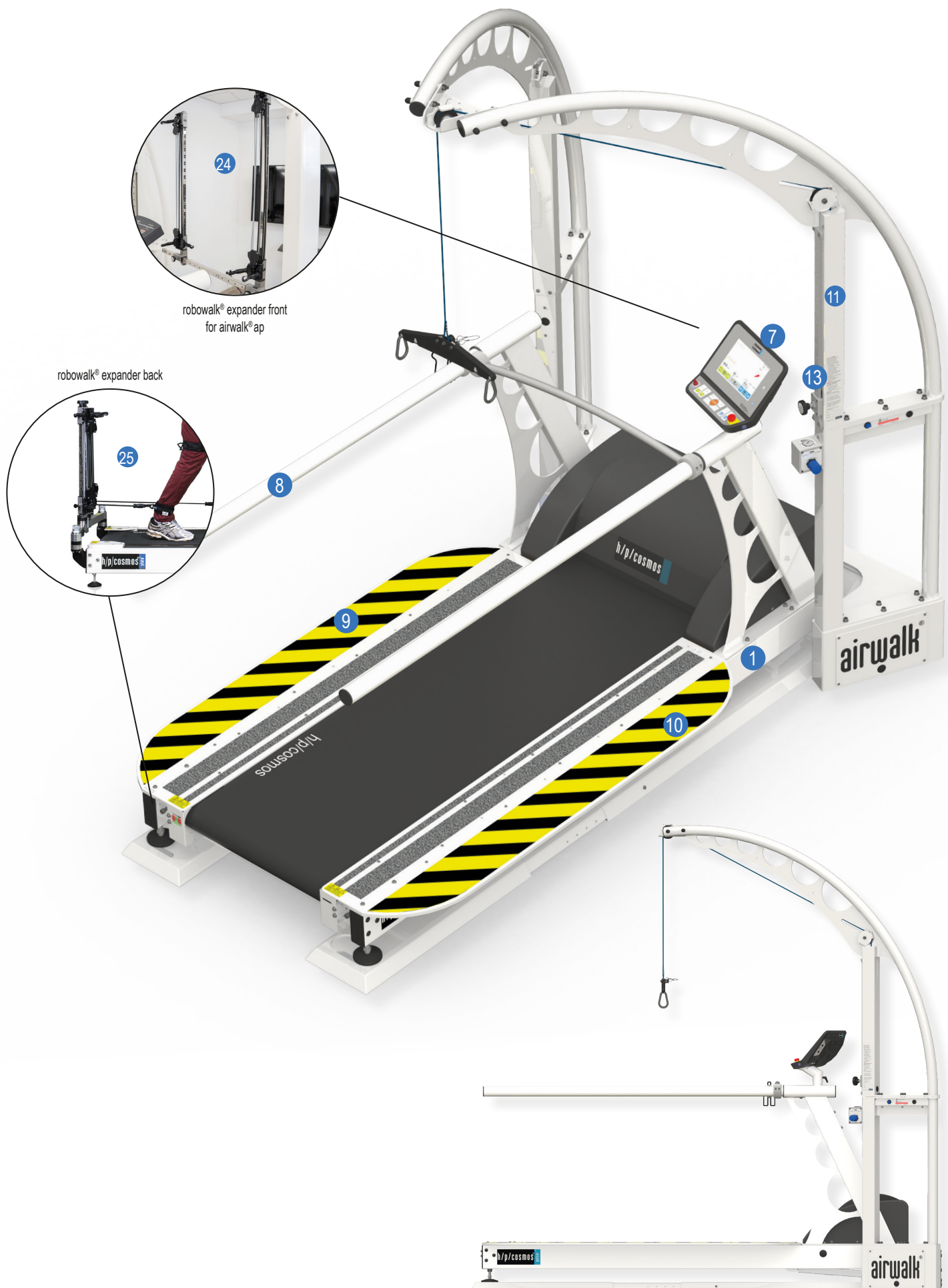
recommended configuration performance diagnostics & sprint training pulsar® 3p

pos.	qty.	order number	product description		
1.	1	cos30004va04	h/p/cosmos treadmill pulsar® 3p running surface 190 x 65 cm, speed range 0 ... 40 km/h, elevation 0 ... 25 %, via UserTerminal MCU5 with keyboard and display, integrated interface or via optional remote control		
2.	1	cos10159va06	Special speed 0...45 km/h		
3.	1	cos103651	Handrail speed pluggable , with special grip (for left and right side)		
4.	1	cos16586	Footboard left extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
5.	1	cos102288	Footboard right extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
6.	1	cos10079-01va02	Safety arch 65 with harness & chest belt / stop function, fall protection for all applications (mandatory for high risk applications); running surface 65 cm wide		
7.	1	cos14903-04-S	Chestbelt S for safety arch system, colour code: red, for chest measurement approx. 65-95 cm		
8.	1	cos14903-04-M	Chestbelt M for safety arch system, colour code: blue, for chest measurement approx. 85-115 cm		
9.	1	cos14903-04-L	Chestbelt L for safety arch system, colour code: yellow, for chest measurement approx. 105-135 cm		
10.	1	cos14903-04-XL	Chestbelt XL for safety arch system, colour code: green, for chest measurement approx. 125-155 cm		
11.	1	cos10177	Packing treadmill 170&190/65(SA) , packed partly assembled on pallet with cardboard hood, incl. safety arch (L: 274 cm / W: 122 cm / H: 94 cm)		
12.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
13.	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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configuration pulsar® med: sports rehabilitation & return to activity



configuration pulsar® med: sports rehabilitation & return to activity

recommended configuration sports rehabilitation & return to play pulsar® med (MCU6)

pos.	qty.	order number	product description		
1.	1	cos30004-01va02	h/p/cosmos treadmill pulsar® med (certification pending) running surface 190 x 65 cm, speed range 0 ... 25 km/h, elevation 0 ... 25 %, UserTerminal MCU6 with keyboard and display, integrated interface and coscom® v3/v4 protocol		
2.	1	cos101000_NFC	NFC / RFID module for MCU6		
3.	1	cos101000_sound	Sound module for MCU6 , additional adjustable loudspeaker in MCU6 User Terminal, 2 watt nominal load capacity		
4.	1	cos101000_wifi	WLAN / WIFI module for MCU6		
5.	1	cos101000_bluetooth	Bluetooth® for MCU6		
6.	1	cos101000_FTMS	Bluetooth® FTMS Interface for MCU6		
7.	1	cos102488_iph-vesa	Smartphone holder for MCU6 UserTerminal		
8.	1	cos103877	Handrail long , long handrails straight (not for USA/Canada)		
9.	1	cos16586	Footboard left extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
10.	1	cos102288	Footboard right extra wide (speed) , for safe on and off stepping during fitness trainings and exercises for speed & sprint training safety arch is an obligatory requirement.		
11.	1	cos30028	airwalk® ap , unweighting device dynamic up to ca. 80 kg, compressor or compressed air supply required (max. 250 kg / 551 lbs body weight), incl. chest belt size M		
12.	1	cos103058	Compressor for airwalk® ap , 8 bar		
13.	1	cos102342-01	Emergency stop for airwalk® ap , additional function of airwalk ap also as fall prevention system (safety arch) with autom. treadmill belt stop		
14.	1	cos100432-01	Extension sling set 60 cm for h/p/cosmos airwalk ap, i.e. for small subjects (children) in airwalk vest XS		
15.	1	cos102785-01	Express sling/loop 18 cm , 1x express sling/loop 18 cm for extension of pulling rope		
16.	1	cos14903-04-S	Chestbelt S for safety arch system colour code: red, for chest measurement approx. 65-95 cm		
17.	1	cos14903-04-L	Chestbelt L for safety arch system colour code: yellow, for chest measurement approx. 105-135 cm		
18.	1	cos10095-vest-S	Vest S for h/p/cosmos airwalk® , size S (thorax circumference: 85-92 cm), colour code red		
19.	1	cos10095-vest-L	Vest L for h/p/cosmos airwalk® , size L (thorax circumference: 106-114 cm), colour code green		
20.	1	cos10095-neo-S	Neoprene shorts S for h/p/cosmos airwalk® (all models), size S (waist: 55-92 cm)		
21.	1	cos10095-neo-M	Neoprene shorts M for h/p/cosmos airwalk® (all models), size M (waist: 93-105 cm)		
22.	1	cos10095-neo-L	Neoprene shorts L for h/p/cosmos airwalk® (all models), size L (waist: 106-114 cm)		
23.	1	cos10095-neo-XL	Neoprene shorts XL for h/p/cosmos airwalk® (all models), size XL (waist: 115-123 cm)		
24.	1	cos30022-02va04	robowalk® expander front for airwalk® ap, for the front area		
25.	1	cos30023-03	robowalk® expander back (rear)		
26.	1	cos101050-S	Leg cuff thigh S (250 - 390 mm), 1 pair		
27.	1	cos101050-M	Leg cuff thigh M (350 - 510 mm), 1 pair		
28.	1	cos101050-L	Leg cuff thigh L (490 - 750mm), 1 pair		
29.	1	cos101051-XS	Leg cuff shank XS (140 - 270mm), 1 pair		
30.	1	cos10177	Packing treadmill 170&190/65(SA) , packed part assembled on pallet with cardboard hood, incl. safety arch (L: 274 cm / W: 122 cm / H: 94 cm)		
31.	1	cos102538va02	Packing airwalk® ap , part assembled, packed part assembled on pallet with cardboard hood (L: 230 cm / W: 109 cm / H: 90 cm)		
32.	1	cos60098010021	transport / shipping charge (please specify if truck, sea or air freight; for overseas sea shipment is recommended)		
33.	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		

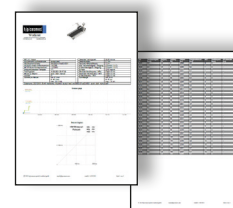
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The MCU6 summary screen shows all relevant data of the workout including average and max. speed, elevation, duration and heart rate as well as biomechanical indicators as step lengths and cadence.



Cardio mode allows target heart rate in combination with maximum speed range definition for controlling the physical load by means of a combination of speed & elevation.



Summary report can be saved in PDF and .csv format with automatically generated informative and editable file name to the connected USB stick.

specifications pulsar® 3p (MCU5)

treadmill:	pulsar® 3p
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30004va04
applications:	endurance training walking and running, stress device for performance testing, gait analysis and gait training
control:	via UserTerminal MCU5 with keyboard and display, integrated interface or via optional remote control
keyboard:	6 keys for manual control, easily controllable with medical gloves and under sweaty conditions
running surface:	L: 190 cm (6ft 2.8") B: 65 cm (2ft 1.6") access height: 23 cm (9.1") - shock load reduction for the joints - running belt with slip resistant surface - reinforced running belt with profiled surface, 5 mm thick - max. permissible load: 300 kg (660 lbs)
speed range:	0...40.0 km/h (0...11.1 m/s) (0...24.8 mph) special speed available at extra charge
acceleration:	7 acceleration / deceleration levels between 131 s and 3 s from 0 to max. or from max. to 0; equals 0.053 ... 2.315 m/s² programmable via para control® PC software
elevation:	0 %...+25.0 % (0...14.0°) motorized adjustment, (-25...+25% when using reverse belt rotation)
running direction:	switch for reversing running belt direction at extra charge, max. permissible reverse speed 5 km/h (3.1 mph) if no safety-harness with fall-stop prevention system is used.
motor systems:	4.3 kW (5.8 HP) 3-phase AC motor, maintenance free and brushless; 20 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; EMC directive 2014/30/EU; IEC 60601-1; EN 60601-1-2 (EMC tested); IEC 62304; EN 14971; ISO 20957-1; EN 957-6; emergency-stop mushroom push button (for drive system power-off), emergency-stop switch (safety lanyard with actuator, pull-cord and clip); potential equalization bolt; transformer for potential-isolation from the mains.
degree of protection:	appliance class I (⚡) / type B (⚡) / IP 20
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:	temperature: +10...+40 °C (-30...+50 °C on request) humidity: 30...70 % (up to 100 % on request) air pressure: 700...1060 hPa; 3,000 m (~10,000 ft) max.altitude without pressurization
display (resolutions) paramter:	6 LCD displays, 4 LEDs for operation modes, 20 LEDs for display of units & profile no, steps, etc. 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 / imperial
heart rate monitoring:	POLAR chest belt & wireless transmitter, 1 channel receiver automatic control of speed and elevation according to programmed target heart rate („cardio mode“)
digital interface:	1 x RS 232 com1 with 9600 bps: incl. PC-protocol, h/p/cosmos coscom® & printer protocol serial. optional at extra charge: USB-RS232-converter; com2; com3 with 115200 bps; com 4.

programs:	42 programs / profiles - 6 exercise profiles (scalable, more than 100 variations) - 28 test profiles (UKK 2 km Walktest, Bruce, Graded test, Naughton, Ellestad, Gardner, Conconi, Ramp, etc.) - 8 free definable programs with 40 program steps each
PC software (incl.):	h/p/cosmos para control® for display & remote control; h/p/cosmos para graphics® including 1 x RS232 interface cable 5m (16 ft 4.85")
PC software: (extra charge)	para analysis® & para motion® PC software for control, monitoring, recording & analysis
accessory (incl.):	instruction for use on USB stick, drinking bottle holder, service box, special oil, PE potential equalization cable, POLAR chest belt
colour of frame:	pure white RAL 9010 (powder coated)
handrails:	steel tube handrails Ø 60 mm on both sides, over min. 1/3 of treadmill length with front-handrail crossbar other handrail designs at extra charge
voltage supply:	400 volt AC 3~/N/PE 50/60 Hz 16A fuse; dedicated circuit, line and protection;
size of frame:	L: 250 cm (8ft 2.4") W: 105 cm (3ft 5.3") H: 145 cm (4ft 9.1")
mass of device:	device approx. 385 kg (845 lbs)
mass of packaging:	75...265 kg (165...585 lbs) depending on requirements

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Optionally available at extra charge are special frame colours, other handrail designs, special voltage supply and 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 authorized 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 pulsar® med (MCU6)

treadmill:	pulsar® med
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30004-01va02
applications:	endurance training walking and running, stress device for performance testing, gait analysis and gait training
control:	via UserTerminal MCU6 with keyboard, touch display and Windows® 10 operating system, integrated interface coscom v4
keyboard:	9 keys for manual control, easily controllable with medical gloves and under sweaty conditions
running surface:	L: 190 cm (6ft 2.8") B: 65 cm (2ft 1.6") access height: 23 cm (9.1") - shock load reduction for the joints - running belt with slip resistant surface - reinforced running belt with profiled surface, 5 mm thick - max. permissible load: 300 kg (660 lbs)
speed range:	0...25.0 km/h (0...6.9 m/s) (0...15.5 mph) special speed available at extra charge: 0...10 km/h (0...6.2 mph)
acceleration:	7 acceleration / deceleration levels between 131 s and 3 s from 0 to max. or from max. to 0; equals 0.053 ... 2.315 m/s² programmable via para control® PC software
elevation:	0 %...+25.0 % (0...14.0°) motorized adjustment, (-25...+25% when using reverse belt rotation)
running direction:	switch for reversing running belt direction at extra charge, max. permissible reverse speed 5 km/h (3.1 mph) if no safety-harness with fall-stop prevention system is used.
motor systems:	3.3 kW (4.5 HP) 3-phase AC motor, maintenance free and brushless; 20 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. 190/65cm.
power transmission:	frequency inverter, poly-V-belt, very quiet operation
safety systems:	CE 0123; MDR medical device regulation (EU) 2017/745; machinery directive 2006/42/EC; EMC directive 2014/30/EU; IEC 60601-1; EN 60601-1-2 (EMC tested); IEC 62304; EN 14971; ISO 20957-1; EN 957-6; emergency-stop mushroom push button (for drive system power-off), emergency-stop switch (safety lanyard with actuator, pull-cord and clip); potential equalization bolt; transformer for potential-isolation from the mains.
degree of protection:	appliance class I (⊕) / IP 20
classification:	certification pending - medical device risk class IIb according to MDR, 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:	temperature: +10...+40 °C (-30...+50 °C on request) humidity: 30...70 % (up to 100 % on request) air pressure: 700...1060 hPa; 3,000 m (~10,000 ft) max.altitude without pressurization
display (resolutions) paramter:	25.9 cm/10.1" (1280x800), color touch display parameter: speed, time, elevation, distance, METS, energy consump- tion, altitude, power, pace, heart rate, heart rate variability (digital and scatter diagram), diagram view of heart rate and load parameter parameter export to .pdf and .csv tables to USB
resolution:	1 decimal place
units:	metric / imperial
heart rate monitoring:	pulse receiver incorporated (analogue 5kHz + digital Bluetooth®), incl. chest belt POLAR H10, automatic control of speed and elevation according to programmed target heart rate („cardio mode")
digital interface:	RFID / NFC® Reader (optional at extra charge) 4x USB 2.0 (1x USB 3.0 internal) Bluetooth®, WiFi / WLAN (optional at extra charge) 1x LAN / RJ45, 1x HDMI connection 1x RS232, 1x connection for safety arch fall stop

programs:	18 programs / profiles (predefined) - 8 exercise profiles (scalable) - 10 test profiles (UKK 2 km Walktest, Conconi, Graded test, Naughton, Ellestad, Cooper, Balke, etc.) - min. 100 free definable programs import / export of profiles from / to USB stick also for further processing
PC software (incl.):	h/p/cosmos para control® for display & remote control; h/p/cosmos para graphics® including 1 x RS232 interface cable 5m (16 ft 4.85")
PC software (extra charge):	PC software for control, monitoring, recording & analysis
accessory (incl.):	instruction for use on USB stick, drinking bottle holder, service box, special oil, PE potential equalization cable, POLAR chest belt
colour of frame:	pure white RAL 9010 (powder coated)
handrails:	steel tube handrails Ø 60 mm on both sides, over min. 1/3 of treadmill length with front-handrail crossbar other handrail designs at extra charge
voltage supply:	230 Volt AC 1~/N/PE 50/60 Hz 15...16A fuse; dedicated circuit, line and protection;
size of frame:	L: 250 cm (8ft 2.4") W: 105 cm (3ft 5.3") H: 149 cm (4ft 10.7")
mass of device:	device approx. 385 kg (850 lbs)
mass of packaging:	75...265 kg (165...585 lbs) depending on requirements

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Optionally available at extra charge are special frame colours, other handrail designs, special voltage supply and 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 authorized 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 pulsar® sport (MCU6)

treadmill:	pulsar® sport
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30004-01va01
applications:	endurance training walking and running
control:	via UserTerminal MCU6 with keyboard, touch display and Windows® 10 operating system, integrated interface coscom v4
keyboard:	9 keys for manual control, easily controllable with medical gloves and under sweaty conditions
running surface:	L: 190 cm (6ft 2.8") B: 65 cm (2ft 1.6") access height: 23 cm (9.1") - shock load reduction for the joints - running belt with slip resistant surface - reinforced running belt with profiled surface, 5 mm thick - max. permissible load: 300 kg (660 lbs)
speed range:	0...25.0 km/h (0...6.9 m/s) (0...15.5 mph) special speed available at extra charge: 0...10 km/h (0...6.2 mph)
acceleration:	7 acceleration / deceleration levels between 131 s and 3 s from 0 to max. or from max. to 0; equals 0.053 ... 2.315 m/s² programmable via para control® PC software
elevation:	0 %...+25.0 % (0...14.0°) motorized adjustment, (-25...+25% when using reverse belt rotation)
running direction:	switch for reversing running belt direction at extra charge, max. permissible reverse speed 5 km/h (3.1 mph) if no safety-harness with fall-stop prevention system is used.
motor systems:	3.3 kW (4.5 HP) 3-phase AC motor, maintenance free and brushless; 20 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. 190/65cm.
power transmission:	frequency inverter, poly-V-belt, very quiet operation
safety systems:	CE machinery directive 2006/42/EC; EMC directive 2014/30/EU; EN 60335-1; ISO 20957-1; EN 957-6; emergency-off safety stop switch (mushroom push button for drive system power-off); emergency stop switch (safety lanyard with actuator, pull cord and clip)
degree of protection:	appliance class I  / IP 20
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:	< 1.5 mA
ambient condition:	temperature: +10...+40 °C (-30...+50 °C on request) humidity: 30...70 % (up to 100 % on request) air pressure: 700...1060 hPa; 3,000 m (~10,000 ft) max.altitude without pressurization
display (resolutions) parameter:	25.9 cm/10.1" (1280x800), color touch display parameter: speed, time, elevation, distance, METS, energy consumption, altitude, power, pace, heart rate, heart rate variability (digital and scatter diagram), diagram view of heart rate and load parameter parameter export to .pdf and .csv tables to USB
resolution:	1 decimal place
units:	metric / imperial
heart rate monitoring:	pulse receiver incorporated (analogue 5kHz + digital Bluetooth®), incl. chest belt POLAR H10, automatic control of speed and elevation according to programmed target heart rate („cardio mode")
digital interface:	RFID / NFC® Reader (optional at extra charge) 4x USB 2.0 (1x USB 3.0 internal) Bluetooth®, WiFi / WLAN (optional at extra charge) 1x LAN / RJ45, 1x HDMI connection 1x RS232, 1x connection for safety arch fall stop
programs:	18 programs / profiles (predefined) - 8 exercise profiles (scalable) - 10 test profiles (UKK 2 km Walktest, Conconi, Graded test, Naughton, Ellestad, Cooper, Balke, etc.) - min. 100 free definable programs import / export of profiles from / to USB stick also for further processing

PC software (incl.):	h/p/cosmos para control® for display & remote control; h/p/cosmos para graphics® including 1 x RS232 interface cable 5m (16 ft 4.85")
PC software (extra charge):	PC software for control, monitoring, recording & analysis
accessory (incl.):	instruction for use on USB stick, drinking bottle holder, service box, special oil, PE potential equalization cable, POLAR chest belt
colour of frame:	pure white RAL 9010 (powder coated)
handrails:	steel tube handrails Ø 60 mm on both sides, over min. 1/3 of treadmill length with front-handrail crossbar other handrail designs at extra charge
voltage supply:	230 Volt AC 1~/N/PE 50/60 Hz 15...16A fuse; dedicated circuit, line and protection;
size of frame:	L: 250 cm (8ft 2.4") W: 105 cm (3ft 5.3") H: 149 cm (4ft 10.7")
mass of device:	device approx. 365 kg (800 lbs)
mass of packaging:	75...265 kg (165...585 lbs) depending on requirements

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Warning! Installation, commissioning, instruction, maintenance and repair work only to be conducted by h/p/cosmos trained and authorized 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 airwalk® ap

unweighting device:	airwalk® ap
manufacturer:	h/p/cosmos sports & medical gmbh / Germany
order number:	cos30028
applications:	body weight support (during treadmill therapy/training) fall protection (during treadmill therapy/training) unweighted and/or secured balance training unweighted and/or secured functional and gait training overspeed/hyperspeed and excess frequency training
control:	pneumatic valve with rotary knob
max. body weight:	250 kg (551 lbs) valid for frame and rope textiles such as vest and shorts excluded
max. body height:	200 cm (6,5 ft.) (standard) 225 cm (7,4 ft.) (optionally at extra charge) possible restrictions with treadmill inclination >10%
body weight support:	dynamic, continuously adjustable at 6 bar: max. 50 kg (110 lbs) at 8 bar: max. 70 kg (150 lbs) at 10 bar: max. 90 kg (200 lbs) optionally at extra charge at 8 bar: max. 120 kg (265 lbs) vertical amplitude approx. 70 cm (2.3 ft.) max. rotation 1 x 360°
safety systems:	CE, MDR medical device regulation (EU) 2017/745 ; machinery directive 2006/42/EC; ISO 20957-1; EN 14971; EN ISO 13485
classification:	medical device risk class I according to MDR, active therapeutic medical device
usage class:	S, I according to ISO 20957-1
ambient conditions:	temperature: +10...+30 °C humidity: 30...75 % air pressure: 700...1060 hPa
display:	analog manometer on device (standard)
resolution:	approx. 2.5 kg (5 lbs)
accessories (incl.)	instructions for use, 1 unweighting vest cos10095-vest-M (size M, thorax circumference 93...105 cm) 1 safety harness cos14903-M (size M, chest circumference 85 ... 115 cm) further sizes XXS ... XL at extra charge neoprene pants size. S, M, L at extra charge [cos10095-neo]
compatibility:	h/p/cosmos treadmills pluto®, mercury®, locomotion®, quasar®, pulsar® external devices only with written confirmation by h/p/cosmos treadmill not within scope of delivery
frame color:	standard: pure white RAL 9010 (powder coated)
comp. air supply:	coupling plug acc. to ISO4414
size of frame:	L: 236...276 cm (7.7 ... 9.1 ft.) (depending on treadmill) W: 177 cm (5.8 ft.) H: 273 cm (9.0 ft.) (standard) individual height (e.g. 248 cm or 298 cm) optionally at extra charge
net weight:	approx. 310 kg (683 lbs)
gross weight:	see separate position
optionally available:	compressor 0.8 bar (0...116 psi) (cos103058) attention: 8 bar pressure correspond to max. 70 kg support compressor 0...10 bar (0...145 psi) (cos103016) 10 bar compressor incl. soundproofing hood

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Weight and dimensions may differ depending on accessories.

Alternative: connection to existing compressed air system with 8...10 bar.

Furthermore optionally available at extra charge: emergency stop for running belt of an h/p/cosmos treadmill, pneumatic spring mode, robowalk expander, max. body weight support 160 / 240 kg (353 / 529 lbs), special frame colours, other options and accessories.

Weight and package specifications can deviate according to options, accessories, packing and way of transport. E&OE. Subject to alteration without notice.

Warning! Installation, commissioning, instruction, maintenance and repair work only to be conducted by h/p/cosmos trained and authorised personnel. Inspect the rope (cos 102317) at least once a month visually for wear or damage. Rope has to be replaced annually or even earlier at first sign of wear or damage. For any application where falling might cause an unacceptable risk (e.g. newly operated hip patients, invasive probes, osteoporosis, etc.) the subject has to be secured by a safety harness [cos14903] additionally.

For more information see the instructions for use.



Your project notes:

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

sports / athletics



sports
quasar®



cycling & athletics
saturn® med 300/100r



performance diagnostics
pulsar® med 3p

h/p/cosmos®

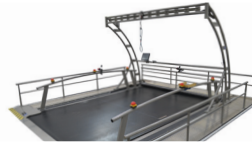
German Engineering since 1988



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



angiology
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



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sprint trainer comet®



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

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