


Features

- Extremely wide measuring range
- Excellent measuring accuracy
- L/R vertical force under each foot
- Real-time user feedback
- Built-in amplifier with acquisition system
- Start and stop triggers
- LAN connection
- Control & acquisition software included
- Cost-effective

Applications

- Biomechanics
- Rehabilitation
- Exercise training

Overview		150/50	170/65	190/65
Instrumentation model		P001	P002	P021
Treadmill model		stratos	stellar	pulsar
Dimensions (L x W x H) with safety arch		220 x 95 x 120 cm 220 x 95 x 255 cm	245 x 120 x 150 cm 245 x 120 x 245 cm	265 x 120 x 150 cm 265 x 120 x 245 cm
Mass (with safety arch)		273kg (308kg)	328kg (363kg)	366kg (401kg)
Running surface (L x W)		150 x 50 cm	170 x 65 cm	190 x 65 cm
Sensor load range	Fx, Fy, Fz	10 kN		
Sensor overload	Fx, Fy, Fz	24 kN		
Interfaces		Built-in amplifier Ethernet interface Analog force and speed output One start and one stop digital trigger Serial port for treadmill control		

Performance		150/50	170/65	190/65
Speed		0 ... 18 km/h	0 ... 25 km/h	0 ... 40 km/h
Elevation	optional	0 ... 20 %	0 ... 20 %	0 ... 20 %
Linearity	Fx, Fy	<0.8 %	<0.8 %	<0.8 %
	Fz	<0.2 %	<0.2 %	<0.2 %
Hysteresis	Fx, Fy	<0.8 %	<0.8 %	<0.8 %
	Fz	<0.2 %	<0.2 %	<0.2 %
Cross-talk	Fz → Fx, Fy	<1.0 %	<1.0 %	<1.0 %
Drift	Fx, Fy, Fz	<0.05 N/min	<0.05 N/min	<0.05 N/min
Natural frequency (unloaded, no elevation)	x-axis	≈ 45 Hz	≈ 40 Hz	≈ 35 Hz
	y-axis	≈ 60 Hz	≈ 55 Hz	≈ 45 Hz
	z-axis	≈ 70 Hz	≈ 55 Hz	≈ 45 Hz

Physical	
Operating / storage temperature	10 ... 40°C / -25 ... 40°C
Operating / storage humidity	30 ... 70% (non condensing) / 0 ... 95% (non condensing)
Air pressure	700 ... 1060 hPa (max 3000m altitude)
Ingress protection	IP 00
Audible noise	Noise emission LpA < 70 dB(A) (63db) acc. EN 957-6 Noise emission under load is higher than without load.
Anchorage	26 x HILTI HKD M10x40 or HIT-IC M10x80
Sensors	Strain gauge / Stainless steel tempered

Electrical	150/50	170/65	190/65
Treadmill supply	200 ... 240Vac / 16A	200 ... 240Vac / 16A	200 ... 240Vac / 16A or 3 x 400Vac / 16A
Treadmill drive motor	2.2kW	3.3 kW	4.3kW
Amplifier supply	12V DC @ 800 mA		

Amplification		
Amplifier	8 channels: 4x Fz, 2x Fy, 2x Fx	
Analog filter	Bessel 8-pole low pass filter cut-off frequency: 125 Hz	
Programmable gain	x1 / x2 / x4 / x8 / x16 / x32 / x64 / x128	
Default range (X:64 Y:64 Z:16)		
Measuring range	Fx, Fy Fz	-0.76 ... 0.76 kN -0.4 ... 2.64 kN
Resolution	Fx, Fy Fz	50 mN 96 mN
Noise (RMS)	Fx, Fy Fz	< 1 N < 1 N
Sensitivity at analog interface	Fx, Fy Fz	160 N/V 320 N/V

Speed sensor	
Range	0.2 ... 40 km/h
Resolution	<0.3% of speed

Ethernet interface	
Connector	RJ-45
Data rate	10 / 100 Mbit/s
Analog-to-digital converter	Built-in, 8 channels, 16-bit resolution, simultaneous sampling
Sampling rate	100 Hz ... 10 kHz

Analog output		
Connector	15-pin Sub-D (HD)	
Channels	9 channels: 4x Fz, 2x Fy, 2x Fx, 1x speed	
Range	Fx, Fy, Fz	0 ... 10 V
Type	Fx, Fy, Fz	Single-ended ground referenced

Digital input		
Auto-zero	BNC	5V digital TTL/CMOS, isolated
Trigger in	BNC	5V digital TTL/CMOS, isolated
Auxiliary in	BNC	5V digital TTL/CMOS, isolated, can be used as trigger

Digital output		
Sync out	BNC	5V digital TTL/CMOS, isolated

Software	
Data acquisition	gaitway-3D software ©
Functions	data monitoring, acquisition and storage, biomechanical parameters of gait, left/right force under each foot, real-time biofeedback, visualization of acquired data, configuration, reporting, data streaming
Compatibility	Windows 10
Export file format	Native binary, tab delimited text