


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		
Model	gaitway-3D 150/50	
Dimensions (L x W x H)	220 x 95 x 120 cm (225 x 110 x 255 cm with safety arch)	
Running surface (L x W)	150 x 50 cm	
Sensor load range	Fx, Fy, Fz	10 kN
Sensor overload	Fx, Fy, Fz	24 kN
Interfaces	Ethernet interface Analog force output One start and one stop digital trigger Serial port for treadmill control	

Construction	
Sensors	Strain gauge / Stainless steel tempered
Treadmill model	h/p/cosmos stratos

Performance		
Speed		0 ... 22 km/h
Elevation		0 %
Linearity	Fx, Fy Fz	<0.8 % <0.2 %
Hysteresis	Fx, Fy Fz	<0.8 % <0.2 %
Cross-talk	Fz → Fx, Fy	<2.0 %
Drift	Fx, Fy, Fz	<0.05 N/min
Natural frequency (unloaded)	x-axis y-axis z-axis	≈ 55 Hz ≈ 65 Hz ≈ 65 Hz

Physical	
Mass	273kg (+35 kg for safety arch)
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

Electrical	
Treadmill supply	200 ... 240 Vac / 16 A
Treadmill drive motor	3.3 kW
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)	
Range	1 to 6	x4 / x8 / x16 / x32 / x64 / x128	
		Range 1	Range 6
Measuring range	Fx, Fy	-3 ... 3 kN	-0.38 ... 0.38 kN
	Fz	-1.2 ... 11 kN	-0.05 ... 0.33 kN
Resolution	Fx, Fy	200 mN	25 mN
	Fz	400 mN	12 mN
Noise (peak-to-peak)	Fx, Fy	±2 N	±2 N
	Fz	±2 N	±2 N
Sensitivity at analog interface	Fx, Fy	600 N/V	80 N/V
	Fz	1200 N/V	40 N/V

Speed sensor	
Range	0.2 ... 22 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	100Hz ... 10 kHz

Analog output		
Connector		9-pin Sub-D
Channels		8 channels: 4x Fz, 2x Fy, 2x Fx
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 vertical force under each foot, real-time biofeedback, visualization of acquired data, configuration, recalibration
Compatibility	Windows 7 / 8 / 10
Export file format	Native binary, tab delimited text