DOP5000
Specifications

Ultrasonic emission

Emitting frequency	from 10.5 MHz down to 450 kHz step of 1 kHz
Emitting power	3 levels, approximated instantaneous maximum power: Low = 0.5W, Medium = 8 W, High = 35W
Number of emitted cycles	from 2 to 32, step of 2 cycles
Pulse repetition frequency	from 0.1 Hz to 15'625 kHz (100'000 µs to 64 µs step 1 µs)

Reception

Number of gates	from 4 to 1000 gates, step of 1 gate	
Position of first gate	movable by step of 1 gate, but not earlier than the end of the emitted burst	
Amplification (TGC)	Uniform:	-40 dB to +40dB, step 1 dB
	Slope mode:	linear in dB
	custom mode:	number of cells from 1 to 2048
SensitivitydBm	5 levels, from > -100 dBm to >85 dBm	

Sampling volume

Lateral size	defined by the acoustical properties of the transducer
Longitudinal size	defined by the burst length internal IQ filter bandwith : 250 kHz (around 0.8mm for C=1500 m/s, defined at 6dB)
Display resolution	distance between the center of each sampling volume selectable from 0.160 to 20 µs, step of 0.160 µs,

Environment

Configuration parameters	9 saved configurations with description
Ultrasonic interface	16 BNC, probe In/Out (1 for each channel)
Logic interface	3 BNC, Logic input,output selectable (user defined) 1 BNC, logic Trigger input
Power interface	Used for optional devices (multiplexer)
Operating system	Windows (starting from XP version)
Power supply	110 - 220 VAC, 50 - 60 Hz
Communication	USB 2, Connector type B
Temperature	5 - 35 degrees
Sizes	256 x 56 x 204 mm
Weight	1.9 Kg

Options

	2D /3D software package

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Ultrasonic processor

Doppler frequency	computation based on a correlation algorithm. 5 levels of the received Doppler energy may disable the computation Output value: signed byte format
Wall filter	IR high-pass filter 2nd order
Emissions per profile	from 2 to 512, any values minimum acquisition time per profile: about 2-3 ms
Filters on profiles	moving average: from 2 to 1000 profiles zero values included or rejected median:from 3 to 32 profiles
Velocity resolution	1 LSB, Value given in a signed byte format. Depends on velocity scale and emitting frequency
Velocity	variable positive and negative velocity range, movable origin. automatic computation of the projected velocity component along the flow axis
Compute and display	velocity profile, with or without histogram Doppler energy, with or without histogram echo profile, with or without histogram velocity profile with echo profile or Doppler energy velocity profile with v(t) of a selected gate power spectrum of one selected gated velocity profile and time-space velocity profile and flowrate
Cursor	4 available cursors in tracking mode (follow the displayed curve). Statistical values available (mean, standard deviation, minimum, maximum)
Additional tools	auto correction of the aliasing measurement of the ultrasonic field raw data acquisition (15'000 demodulated IQ values

Acquisition

External Trigger	manual or external signal (logic state) automatic record capability trigger delay: up to 32s, step of 1 ms
Data format	binary ASCII (only statistical values if desired)
Dynamic	14 bits
Replay mode	replays a recorded measure
Acquisition mode	save the past (sizeable circular memory) record the futur
Internal memory size	from 1 to 65'536 blocks each block containing from 1 to n profiles, n fixed by the amount of available memory

Multiplexer

Number of channels	16 divided in 4 groups each channel has its own set of parameters except in simultaneous acquisition inside a group where they have all the same parameters, excepted: - the velocity scale - the velocity offset - the Doppler angle - the sound velocity
Switching time	inside a group: < 20 ns between groups: < 1µs
Acquisition of profiles	inside a group: simultaneaous or sequential between groups: sequential
Cross talk bewteen channels	inside a group: > 50 dB between groups: > 30 dB