



**intelliSCAN IV**



## Smart and High Dynamic Scanning

The intelliSCAN IV is the latest product in the successful intelliSCAN series. In addition to the traditional intelliSCAN highlights, we have equipped it with the following new ones:

### Outstanding Dynamics

- 48 V power supply
- Classic tracking error tuning or SCANAhead control available
- SCANmotionControl support
- New cooling concept specially adapted for high dynamics

### SCANahead Control

- Fully utilized galvo dynamics for increased throughput
- No tracking error
- Fast marking of circles without necking effects
- Auto delay function of the RTC6: Laser and scanner delays are set automatically

More information in the SCANAhead video:



### Easy Integration and Installation

- Compact, dust- and water-proof housing (IP 66)
- 20-Bit (SL2-100) and 16-Bit (XY2-100) control with automatic recognition
- Interlock connection for integration into a safety circuit

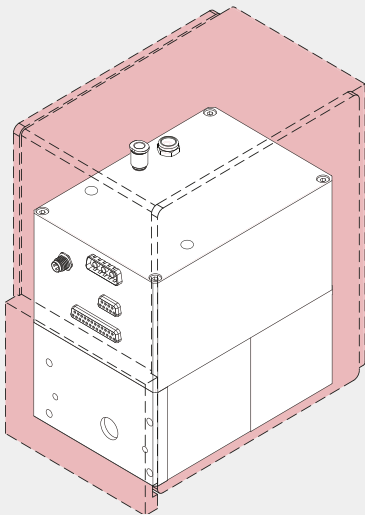
### Ready for SCANmotionControl

- Highest accuracy and precise laser control through trajectory planning
- Shortest process times through optimal use of scanner dynamics and laser power
- Advanced Spot Distance Control (SDC) function
- Simple job planning and simulation: 'What you see is what you get'
- Multi-head and multi-instance capable (up to four scanners)

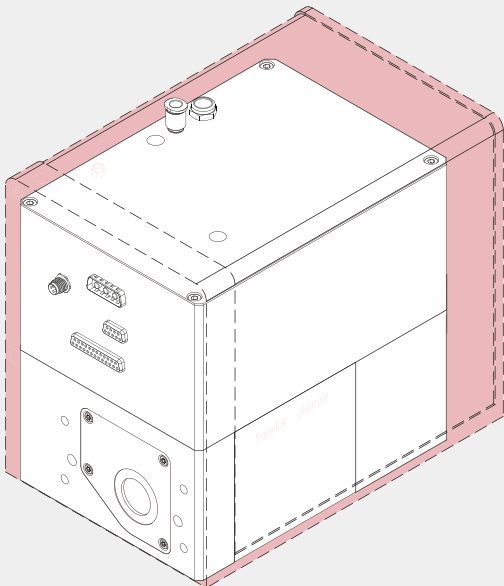
More information in the SCANmotionControl video:



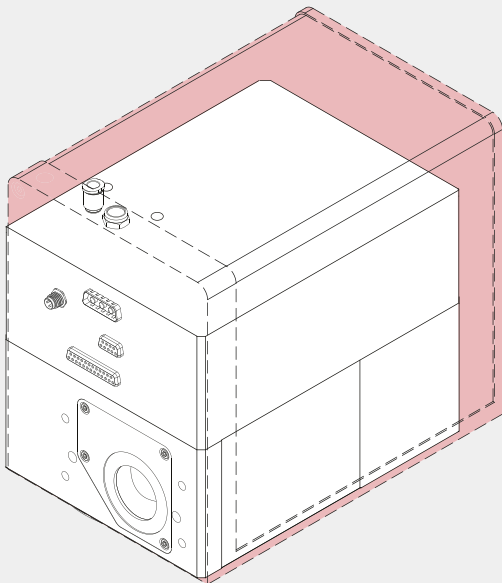
intelliSCAN IV 14



intelliSCAN IV 20



intelliSCAN IV 30



	intelliSCAN (III) 14	intelliSCAN IV 14
Height	156	141
Width	118	102
Depth	165	147

	intelliSCAN (III) 20	intelliSCAN IV 20
Height	180	165
Width	140	126
Depth	206.9	175.5

	intelliSCAN (III) 30	intelliSCAN IV 30
Height	180	144.5
Width	140	140
Depth	206.9	186

all dimensions are in mm

# Preliminary Specifications

New aperture!

Also available as high-power version up to 8 kW!

Dynamics	intelliSCAN IV 14		intelliSCAN IV 20		intelliSCAN IV 30	
Tuning	SCANahead	Vector	SCANahead	Vector	SCANahead	Vector
Tracking error [ms]	0	0.12	0	0.21	0	0.32
Acceleration [rad/s <sup>2</sup> ]	400,000	n.a.	180,000	n.a.	80,000	n.a.
Maximum speed [rad/s]	240	120	120	80	56	50
[m/s] <sup>(1)</sup>	38.4	19.2	19.2	12.8	8.9	8.0
Writing speed						
Good writing quality [cps]	1150	740	760	430		
High writing quality [cps]	940	510	630	320		

## Precision & Stability

Repeatability (RMS) [μrad]	< 2
Dither (RMS) [μrad]	< 5
Nonlinearity [mrad] <sup>(2)</sup>	< 0.7
Temperature drift <sup>(3)</sup>	
Offset [μrad/K]	< 10
Gain [ppm/K]	< 10
Long-term drift	
8-h-drift (after 30 min warm-up) <sup>(4)</sup>	
Offset [μrad]	< 40
Gain [ppm]	< 50
24-h-drift (after 3 h warm-up) <sup>(4)</sup>	
Offset [μrad]	< 70
Gain [ppm]	< 70

## Further Specifications

Optical value	
Typical scan angle [rad]	±0.35
Deviation of the scan angle [mrad]	< 5
Deviation from the zero position [mrad]	< 5
Power requirements (RMS)	48 V, 5 A
Interfaces	SL2-100 & XY2-100
Cooling water circuit material	Aluminum
Weight [kg]	
intelliSCAN IV 14	approx. 3.5
intelliSCAN IV 20	approx. 5.2
intelliSCAN IV 30	approx. 5.7

<sup>(1)</sup> with F-Theta objective, f = 160 mm

<sup>(2)</sup> related to 0.77 rad

<sup>(3)</sup> with water cooling

<sup>(4)</sup> at constant ambient temperature and load  
(all angles are in optical degrees)



More information in the intelliSCAN IV video: