

# Numerex DB 900

Dual Beam CMM

**ZEISS**



Industrial Measuring  
Technology Division

## Specifications



**Proven Dual Beam  
Technology**

**Accurate  
Measurement of  
Large Workpieces**

**Excellent  
Price/Performance**

General		Numerex DB 900	
Design	Bridge type machine with elevated Y axis rail, dual beam design with stationary machine table		
Probe head	Touch trigger for dynamic data acquisition		
Drives	High performance DC servo drives. Electronic monitoring and thrust force limitation on all axes		
Control	Microprocessor control (3-axis vector control)		
Operation	Keyboard, touch tablet, touch screen or graphic operator panel depending on software system		
Special features	Granite X and Y axis, Ceramic Z axis for maximum rigidity and minimum moving mass Pneumatically counterbalanced Z axis with carbon piston air cylinder Pre-loaded high performance air bearings on all axes		

Dimensions & Weights		4860-36	4880-36	4896-36	6060-36	6080-36
Measuring Range	X inch (mm)	46 (1168)	46 (1168)	46 (1168)	58 (1473)	58 (1473)
	Y inch (mm)	58 (1473)	78 (1981)	94 (2388)	58 (1473)	78 (1981)
	Z inch (mm)	34 (864)	34 (864)	34 (864)	34 (864)	34 (864)
Workpiece Capacity 1	X inch (mm)	61 (1549)	61 (1549)	61 (1549)	73 (1854)	73 (1854)
	Y inch (mm)	84 (2134)	104 (2642)	120 (3048)	84 (2134)	104 (2642)
	Z inch (mm)	38 (965)	38 (965)	38 (965)	38 (965)	38 (965)
Table Surface Height	inch (mm)	20 (508)	22 (559)	24 (610)	22 (559)	24 (610)
External dimensions	Width inch (mm)	87 (2210)	87 (2210)	87 (2210)	98 (2489)	98 (2489)
	Length inch (mm)	84 (2134)	104 (2642)	120 (3048)	84 (2134)	104 (2642)
	Height inch (mm)	120 (3048)	122 (3099)	124 (3150)	122 (3099)	124 (3150)
Maximum workpiece weight	lb (kg)	3770 (1710)	4636 (2103)	5816 (2638)	8340 (3783)	10325 (4683)
Machine weight	lb (kg)	11575 (5250)	15770 (7153)	19650 (8913)	13555 (6148)	16782 (7612)

Performance Data		4860-36	4880-36	4896-36	6060-36	6080-36
Linear Performance 2	X inch (mm)	.00030 (.0076)	.00030 (.0076)	.00030 (.0076)	.00035 (.0089)	.00035 (.0089)
	Y inch (mm)	.00040 (.0102)	.00045 (.0114)	.00060 (.0152)	.00045 (.0114)	.00055 (.0140)
	Z inch (mm)	.00025 (.0064)	.00025 (.0064)	.00025 (.0064)	.00025 (.0064)	.00025 (.0064)
Volumetric Performance 3	inch (mm)	.00070 (.0178)	.00080 (.0203)	.00110 (.0279)	.00110 (.0279)	.00120 (.0305)
Length-measuring uncertainty as per VDI/VDE 2617 (optional) L=measured length in inch (mm)	u1 inch (mm)	.000256 + L/250,000 (6.5 + L/250)			.000314 + L/200,000 (8.0 + L/200)	
	u3 inch (mm)	.000295 + L/250,000 (7.5 + L/250)			.000354 + L/150,000 (9.0 + L/150)	
Repeatability 4	inch (mm)	.00016 (.0040)				
Resolution	inch (mm)	.00004 inch (.001mm)				
Anti-vibration system	Passive anti-vibration system					
Maximum Velocity (DCC)	8 Inches per second					
Maximum Acceleration (DCC)	.04g					

Supply Data	
Power Requirements	115, 220 V (±10%); 50/60 Hz, 20 AMP Motor Drive and DCC
Air Supply (incl. pneumatic counterbalance in Z-axis)	Supply pressure 87 to 116 PSI (6 to 8 bars) prefiltered Max. consumption 2-3 CFM (57-85 l/min) at 80 PSI (5.5 bar) operating pressure

Ambient Requirements		
Humidity	40% to 60%	
Temperature ranges in which measuring uncertainties are guaranteed	Temperature (nominal)	68 °F (20 °C)
	Temperature variation	±2 °F (±1.1 °C)
	Temperature cycle	2 °F/8hr (1.1 °C/8hr)
	Temperature gradient	2 °F (1.1 °C) over machine envelope

1. Clearance under bridge of machine without probe in Z-shaft  
2. Linear performance: Bandwidth at 68 °F, verified with laser interferometer per ANSI/ASME B89.1.12M-1990, section 5.4  
3. Volumetric performance per ANSI/ASME B89.1.12M-1990, section 5.5  
4. Repeatability (Bandwidth) is determined per ANSI/ASME B89.1.12M-1990, section 5.3, at 68 °F

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Specifications subject to change without notice.