

Bore Gauge BG40



reliable process control

replaces postprocess measuring station

machine-independent measuring system

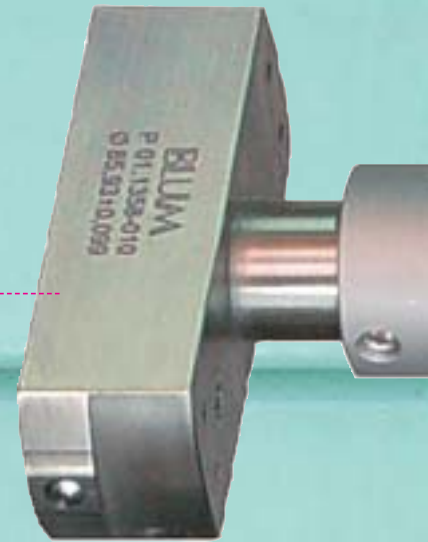
BLUM

BG40/BG41

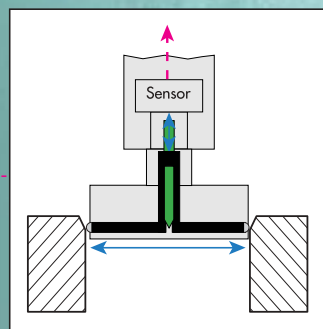
High precision Bore Gauge for the mass production of parts with the same bore diameter

- on-machine measuring
- extremely fast measuring cycle and data transmission
- provides instant process control, calculates tool compensation values, prevents costly production of scrap when tolerance limits are exceeded
- robust construction for durable usage in high production manufacturing environments
- provides closed loop machining by communicating with third party active tools (i.e. adjustable boring bars)
- instant wireless data transmission to machine control or SPC systems
- superior accuracy due to self-contained floating measuring system which is independent from machine axis feedback
- integrated Z axis collision protection
- increased productivity, significant ROI due to elimination of costly post process measuring station

Collision protection generates emergency stop of Z axis



Custom solution for a variety of applications

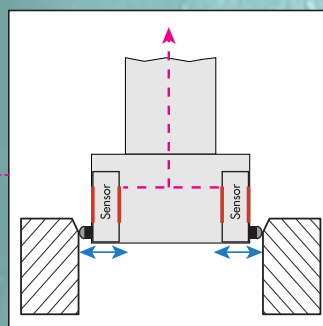


BG40 designed with floating measuring system for diameter measurement only

Ø diameter

Benefits:

- economical solution
- float principle provides accurate diameter even when machine is not perfectly positioned in bore center
- self-contained, machine independent, measuring principle



BG41 designed with multiple sensors to measure:

Ø diameter
⊕ position
⊘ cylindricity
○ roundness

Benefits:

- customized solution to provide complete bore quality characteristics
- self-contained, machine independent, measuring principle

- IC55 maintenance free state-of-the-art IR technology with integrated air nozzle



- hardened glass ring protects electronics
- microprocessor controlled transmission technology
- circularly arranged diodes ensure full 360° IR coverage



- LED display to provide status of function, mode and battery capacity

- standard toolholder for Komet ABS50
- special short tool holder upon request

- easy and fast alignment



- up to 150,000 measurements due to low power consumption
- easy to exchange standard battery

Applications

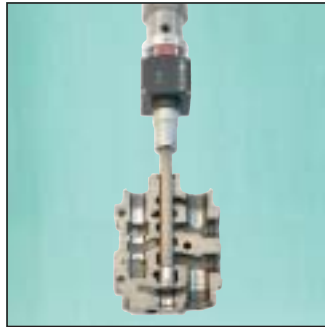
Engine block production

Process control for finishing of cylinder bores



Valve production

Continuous process monitoring and control for honing of highprecision hydraulic valve bores



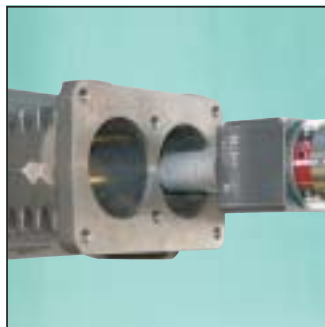
Cylinder block

Complete process control with active tool:
machining – measuring – correction
machining



Compressor production

Process control for finishing of cylinders for truck-brake compressors



Special types of multi-function measuring heads

Cylinder block production

Recording the position of a cylinder block after pallet change



Simultaneous measuring of all diameters and concentricity in the crankshaft bearings



BG40/BG41

Typical applications:

- Motor production
 - cylinder block bores
 - crankshaft bearings
 - camshaft bearings
 - valves
- Gear production
- Hydraulics
- Mass production of parts with the same bore diameters

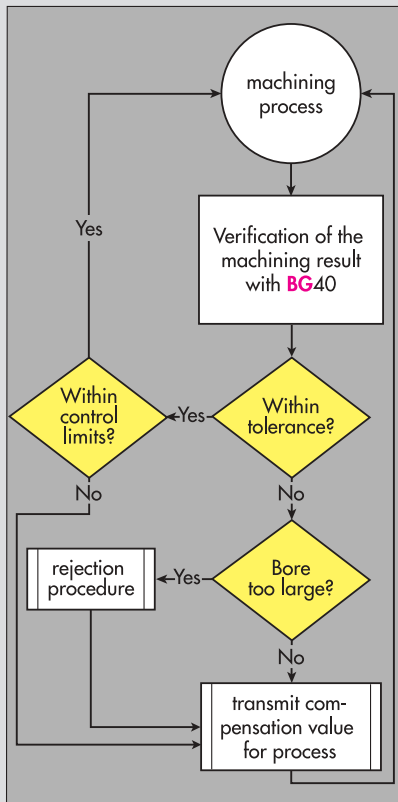
BG42

Customized solution with up to 8 individual measuring elements

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BG40

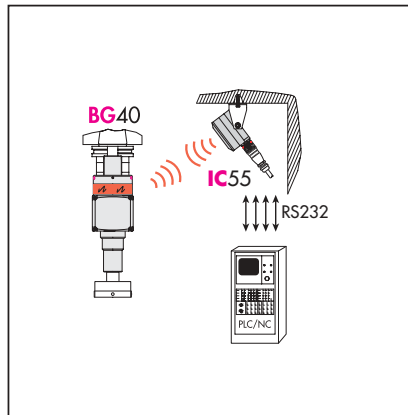
Simplified version of a process control flow diagram



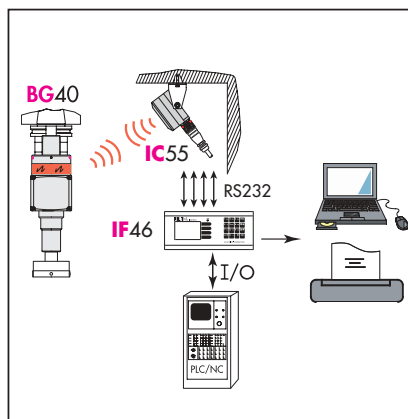
Benefits: Cost savings due to

- Unmanned operation
- Improved part quality
- Reduction of defective parts

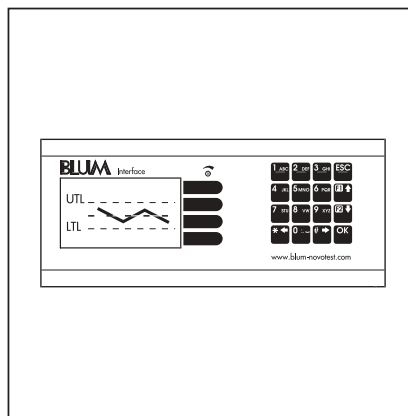
System Solutions by BLUM



Standard connection via V24 Interface Control and measuring result evaluation through machine control system

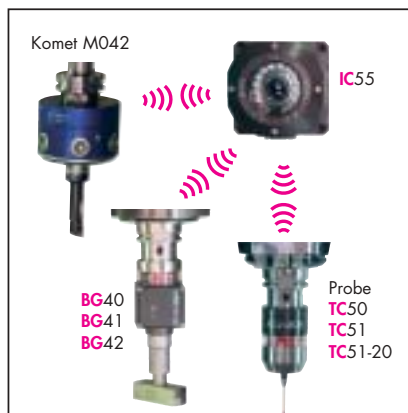


Easy integration with BLUM Logic Interface IF46



IF46

Interface IF46 designed for communication between machine controls and bore gauge. Available with integrated SPC and printer interface

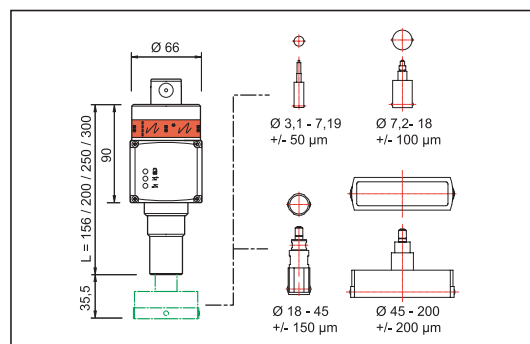


IC55

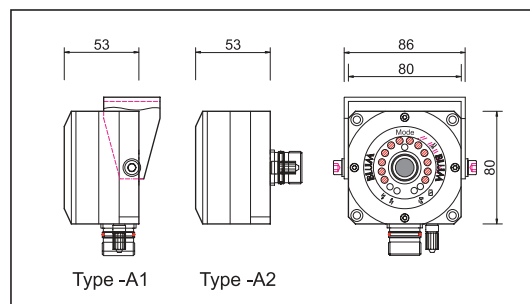
- Standard for all products
- IR Controller with microprocessor
- Latest design for data transmission and receiving technology
- Reliable IR Transmission
- Robust design, protection class IP68
- Easy to install and integrate
- Integrated air nozzle

BG40

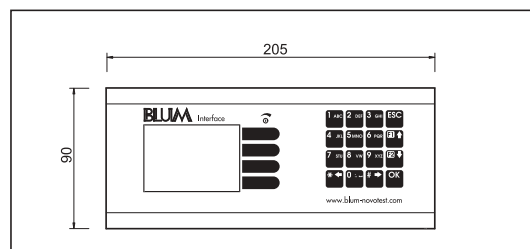
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IC55



IF46



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Technical Data BG40/BG41

Protection class	IP67
Signal transmission	Infrared
Tool holder	Komet ABS 50 / HSK – SK – BT
Transmitter operating range	approx. 3 m ± 60° in Z, ± 360° in X/Y
Battery Life	6LR61 (9V), > 150,000 cycles
Resolution	12 Bit / 0,15 µm
Measuring range	up to 400 µm (depending on diameter)
Weight	1530 g (L=156 mm) incl. measuring head Ø 50 mm

Technical Data IC55

Protection class	IP68
Power supply voltage	15-30 V DC / 100 mA
Inputs	3 x 10 mA
Outputs	4 x 50 mA Push-pull output
Air nozzle	integrated
Interface	RS232
Transmitter operating range	3 m / ± 25°
Receiver operating range	3 m / ± 50°

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Cincinnati, USA

Blum Laser Measuring Technology Inc.
Los Angeles, USA

KK Blum Laser Measuring Technology
Nagoya, Japan

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