

TurnCheck

Series-10 Shaft Measurement Systems

Fast, Easy Shaft Measurements

High Speed Optical Metrology

QVI TurnCheck™ Series-10 systems offer a fast, easy way to measure shafts, cylinders and other turned, ground or extruded parts. Just place the part and press GO.

TurnCheck Series-10 systems are precision optical measuring instruments designed for shop floor environments. TurnCheck systems are rugged and reliable, accommodating parts up to 180 mm diameter by 800 mm in length.

TurnCheck will scan and measure a part in seconds using its telecentric, large field of view optical system. With 100 mm wide field of view and vertical range of 400, 600 or 800 mm, TurnCheck Series-10 systems can handle just about any turned or ground part.

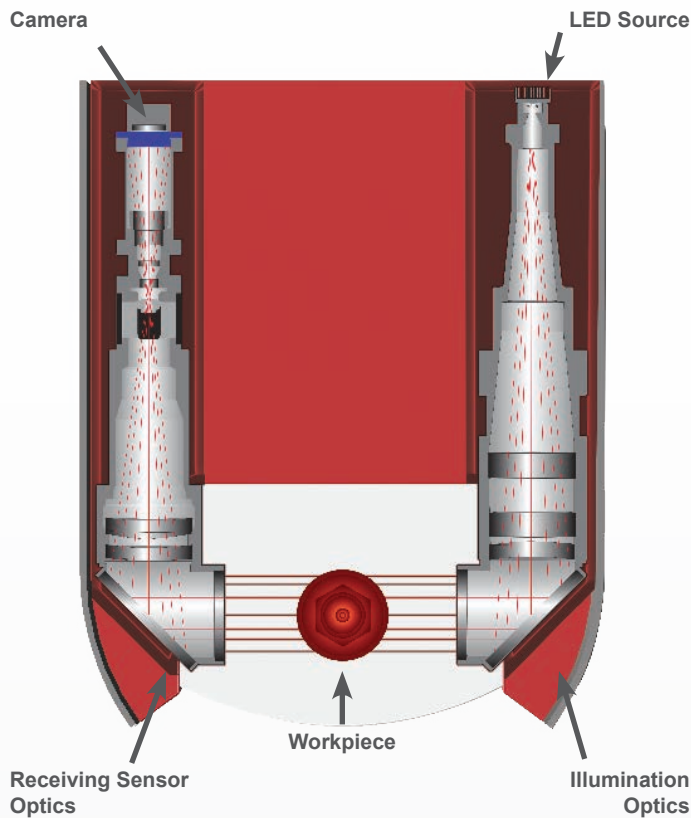
TurnCheck software allows easy measurement of diameters, lengths, distances, angles, radii, form, position, cylindricity, and runout - and can output point data for external analysis.

A Rugged Design That Is Easy To Use

The movable tailstock assembly is designed to be easily operated with one hand for precision mechanical alignment of the workpiece. An optional live tailstock can be built into the base assembly, minimizing the cost of tooling for different size parts. Additional optional workholding kits that fit into the spindle accommodate workpieces that do not have centers.

Series-10	10-40	10-60	10-80
Measuring Capacity & Unit Size			
Vertical Travel (mm)	400	600	800
FOV Diameter (mm)	100	100	100
Measuring Unit Size (mm)	845 x 1055 x 1865	845 x 1055 x 1865	845 x 1055 x 1850
Shipping Weight (kg)	580	570	580
Performance*			
Vertical Scanning Speed (mm/sec)	100		
Rotational Scanning Speed (RPM)	60		
Vertical Scale Resolution (µm)	0.1		
Video Edge Resolution (µm)	0.5		
Rated Spindle Load (kg)	80		
Maximum Part Diameter (mm)	180		
Accuracy*			
Diameter Measurement (µm)	1.8 + L/100		
Diameter Repeatability (µm)	1.0		
Length Measurement (µm)	3.5 + L/150		
Length Repeatability (µm)	2.0		
Rotational Accuracy (Arc Seconds)	±5		
Rotational Resolution (Degrees)	0.001		
Rated Environment & Facilities			
Operating Temperature (°C)	15 - 30		
Rated Temperature (°C)	18 - 22		
Input Voltage (VAC)	100 - 200 or 200 - 240		
Frequency & Phase	50/60 Hz, 1-Phase		
Rated Power (watts)	650		

*Preliminary Specs



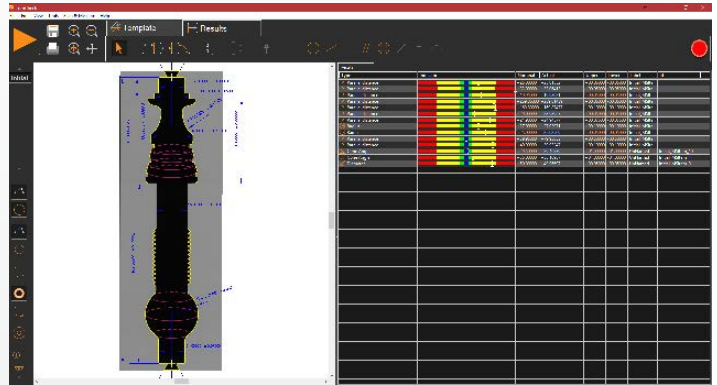
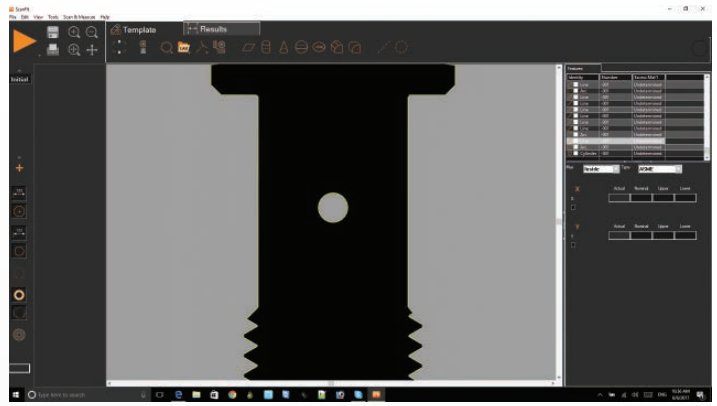
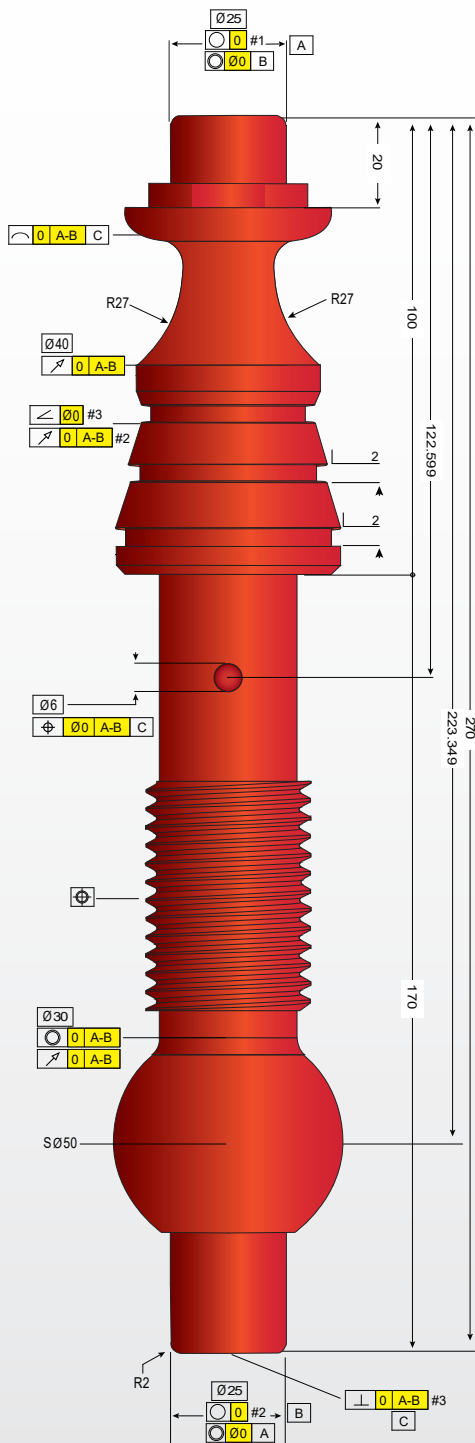
Advanced Optics Make the Difference

TurnCheck Series-10 optics are designed to produce distortion-free images of any part over the full 100 mm field of view. The optics produce a truly telecentric image, preventing all stray light that could influence measurements from entering the optical system. The illumination optics are carefully matched to the imaging optics to supply highly collimated light for nearly perfect back lighting of the workpiece.



Integral Calibration & Thermal Compensation

Calibrating TurnCheck systems is simple. Just load the calibration master onto the machine and the system software does the rest. A complete calibration requires just a few minutes. As a system check, a master ring gage mounted to the spindle is measured at the start of each vertical scan. This check is part of the integral thermal compensation system that works to minimize the adverse effects of temperature variations on measurement accuracy.



Powerful Software

TurnCheck system software offers advanced image analysis technology for high speed optical measurement. Automatic feature extraction immediately finds and measures all part features in a single scan. With vertical scans at speeds up to 100 mm/sec, TurnCheck offers fast and precise measurement of known and unknown parts without programming or a CAD model. TurnCheck offers integral GD&T and best-fitting, and can output all point data for external analysis or reverse engineering.