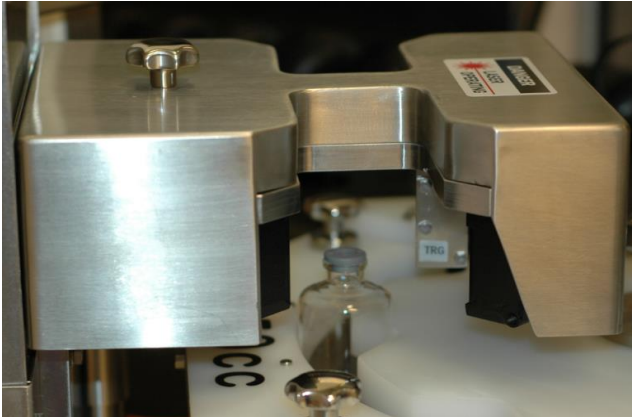


The World's Leading Stopper Gap Detection System



Specifications

Performance*

Max Process Speed [vial/min]	600
Gap Measurement Precision [mm (Mil)]	+/- 0.03 (1.18)
Laser Type	Multi-wavelength micrometer
Laser Repeatability [mm (Mil)]	0.010 (0.39)
Laser Sampling Rate [μs]	490
Displaced Stopper Gap Range [mm (in)]	0 (0) -> 28 (1.10)

*Precision shown at +/- 1σ. Achieved performance will be application dependent.

Electrical

Configuration Port	RS-232 Serial
Discrete IO	24 VDC
Discrete Output	Pass, Fail, & Stopper Present
Analog IO	0-5 V, 0-10 V, -5 V to +5 V, or 1-10 mA
Analog Output	Stopper Gap Measurement
Controls System Required	All that support RS-232

Mechanical

Unit Dimensions LxWxH [mm (in)]	200 (8) x 240 (9.5) x 100 (4)
Control Box Size LxWxH [mm (in)]	250 (10) x 300 (12) x 150 (6)
Construction Material	300 Series SST
Star Wheel Pitch Dia. Range [mm (in)]	200 (8) to 1000 (40)

Environment & Regulatory

Regulatory Compliance	CFR Part 11 EudraLex Annex 1
Controls Enclosure Rating	NEMA Type 4X
Cleaning Chemicals	VHP, Isopropyl & Ethyl Alcohol

Description

- AnnexCheck is the laser based solution to displaced stopper detection, specifically designed to meet Annex 1 requirements.
- The most robust and reliable method to measure gaps between vials and unseated stoppers on filling and lyophilization lines
- Provides three times better accuracy than competing vision measurement systems

Features

- **High Speed** with rates up to 600 vials/min
- **Flexible** with rapid product change-over
- **Compliant** with
 - EudraLex Annex 1
 - CFR Part 11
 - Electrical Standard EN 60204-1
 - CE when required
 - GMP, GAMP, & OSHA guidelines
- **Easy Calibration**
 - with optional precision calibration tooling machined to known gaps sizes
- **Stable**
 - with changes in the size and color of vials and stoppers
 - with changes in surrounding light not effecting the laser
- **Integratable**
 - with any new line or existing line
 - with standard mounting or complete turnkey solution options
 - with **full customization** ability for complex applications

AnnexCheck Product Specification Sheet

Fully Configurable, High Speed

Selection Guide

AC3100 — $\frac{A}{a} - \frac{2}{b} - \frac{24}{c} - \frac{###}{d} - \frac{###}{e} - \frac{003}{f} - \frac{100}{g}$

a

Mounting Configuration	
Code	Description
A	Standard Square flange
B	Vertical mount fixed height
C	Vertical mount w/ manual height adjust
D	Vertical mount w/ servo height adjust
E	Custom mount

b

IO Connector Type	
Code	Description
1	RS-232
2	Other

c

Power Supply	
Code	Voltage, Amps
24	24VDC, 3amp
00	Other

d

Star Wheel Size	
Description	Code
Pitch Diameter [mm]	###

e

Number of Star Wheel Vial Pockets	
Description	Code
Pockets	###

Vial Volume Range

Description	Code
Min. Vol. [cc]	### <i>f</i>
Max. Vol. [cc]	### <i>g</i>

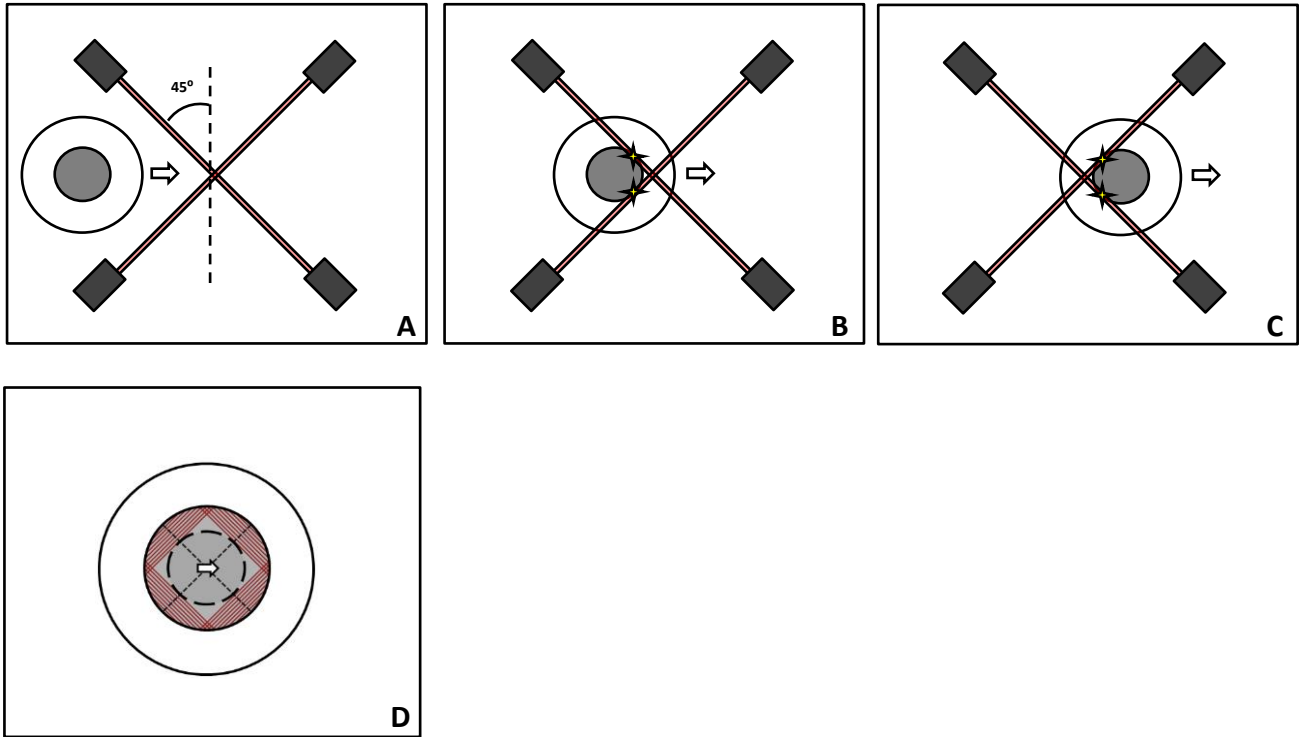
AnnexCheck Product Specification Sheet

Fully Configurable, High Speed

Process Description

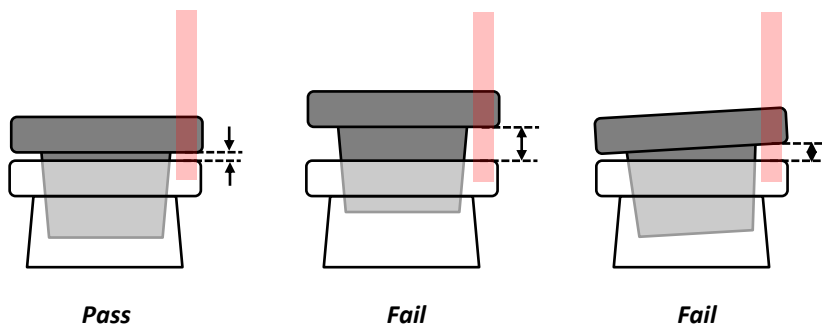
Four Quadrant Measurements

- A. Vial approaching AnnexCheck conveyed on rotary or linear vial handling system
- B. Leading edges of the stopper gap scanned by AnnexCheck
- C. Trailing edges of the stopper gap scanned by AnnexCheck
- D. Fully scanned vial is analyzed and largest gap determined by AnnexCheck



Adjustable Gap Threshold

- A. User provides acceptable gap height to AnnexCheck
- B. Stopper gap exceeding threshold
- C. Tilted stopper exceeding threshold



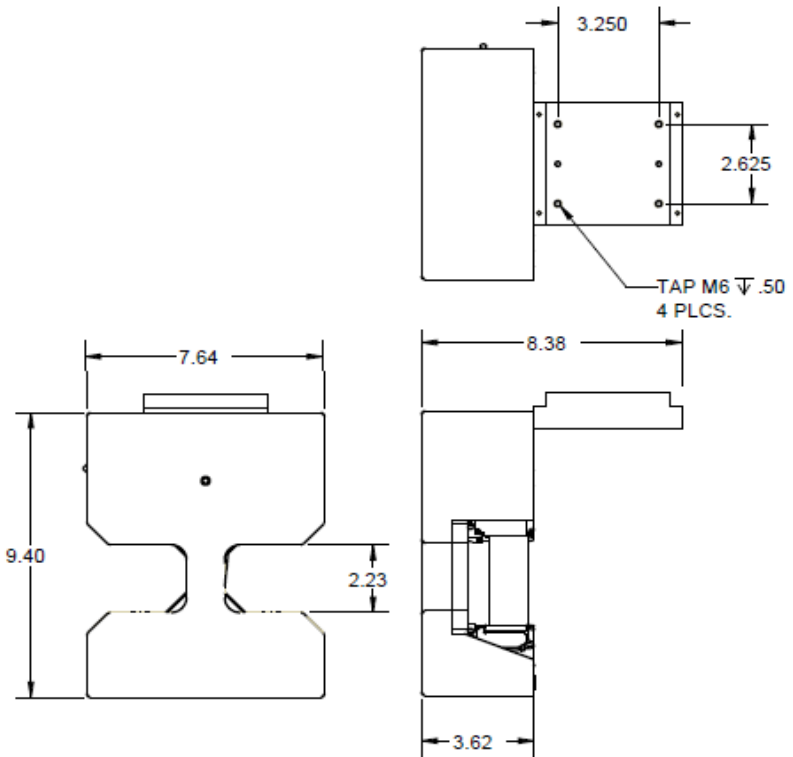
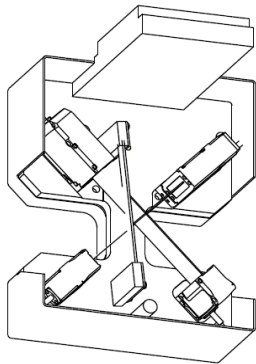
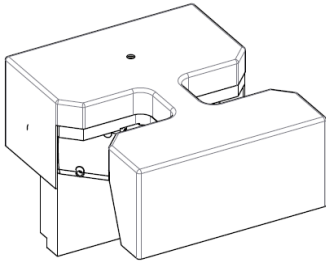
AnnexCheck Product Specification Sheet

Fully Configurable, High Speed

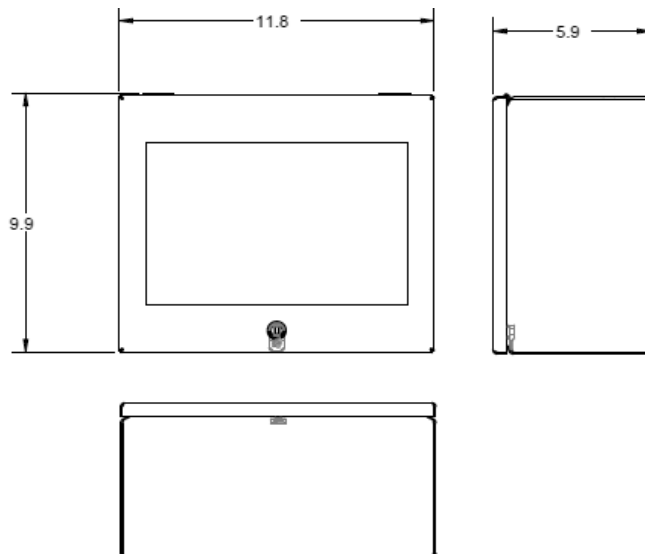
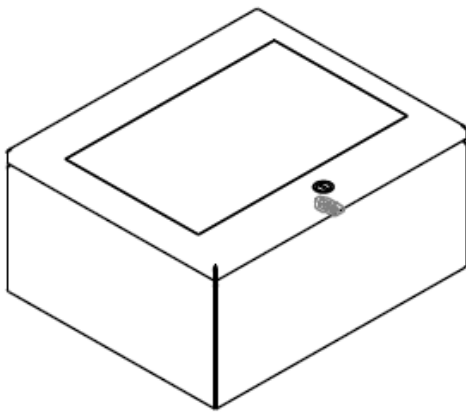
Approximate Dimensions [in.]

1. Standard AnnexCheck sensing unit shown

- Standard square flange mount to allow for easy integration (AC3100 - A - ...)
- Sensing unit and mounting can be customized as required



2. Standard remote mounted control box



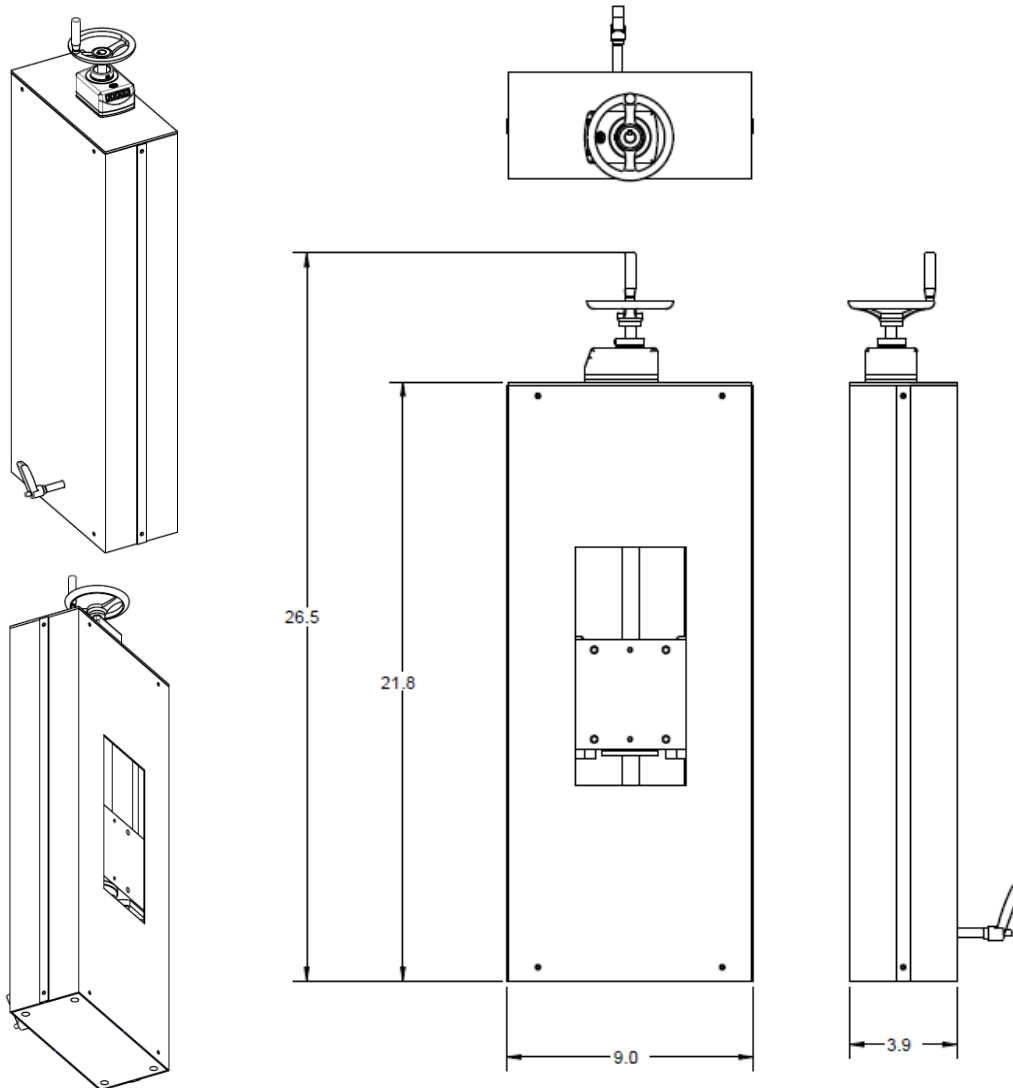
AnnexCheck Product Specification Sheet

Fully Configurable, High Speed

Mounting Accessories - Approximate Dimensions [in.]

3. Vertical mount options

- Fixed height (AC3100 - B - ...)
- Manual height adjustment (AC3100 - C - ...)
- Manual servo driven height adjustment (AC3100 - D - ...)
- Vertical mount can be customized as required (AC3100 - E - ...)



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