

DESCRIPTION

The Tactical Electronics Optic Fiberscope is a precision Fiber Optic Inspection Tool utilizing a 6mm, two-way, 120 degree articulating probe for inspection of enclosed objects. The non-conductive tip makes the unit suitable for inspection of volatile liquids. The FSNET Optic Fiberscope can be ordered in 1 or 2 meter lengths.

CHARACTERISTICS

The Optic Fiberscope has a flexible body to facilitate insertion into the area to be viewed. The articulating section significantly simplifies guiding the flexible portion through complicated bends.

A sharp, well-defined, bright image is viewed due to high quality light fibers and a high resolution optical system.

The articulating section can move up or down in a single plane and then be locked in a precise location.

The flexible metal cable, used to protect the light guide and the stainless steel sheathing used over the flexible body, increases the fiberscope's strength and durability.

The flexible portion (flexible body and articulating section) is hermetically sealed and water resistant. This allows it's use in liquid environments. However, this does not apply to the handle (hand held control section of fiberscope).

The FS1NET's flexible body can be one of the following lengths: 1000/1500/2000/2700 mm. Selection of needed working length should be based upon individual requirements and consideration of the geometric parameters of the article or object to be inspected, viewed or checked.

OPERATIONAL PARAMETERS

THE FS1NET IS INTENDED FOR USE WITHIN THESE ENVIRONMENTAL PARAMETERS:

FLEXIBLE BODY AND ARTICULATION SECTION (FLEXIBLE PORTION)

- air temperature of operation • -10 ~ +80° C
- water temperature of operation • 0 ~ +30° C
- range of pressure in air • 1 ~ 1.3 at
- range of pressure in water • 1 ~ 1.3 at
- flexible portion is stable in a water solution of 5% NaCl

FIBERSCOPE HOUSING (HANDLE) AND LIGHT GUIDE

- air operating temperature • -10 ~ +50° C
- range of pressure in air • 1 ~ 1.1 at
- water resistance - to light splashes or drops hitting the device



DESIGN AND DESCRIPTION

Flexible Part of Fiberscope

The flexible portion of the fiberscope is covered with flexible plastic tubing for water resistance and stainless steel sheathing for strength.

Articulating Section

The articulating section can bend within the bend plane $\pm 120^\circ$. The cavity to be investigated must have a distance of at least 40 mm for full articulation in one direction.

End Tip Articulation Section

The end tip has threads for connecting the protective cap or the 90° end tip. The flat area on the tip is for correctly aligning the 90° end tip.

90° viewing tip

The 90° end tip allows for a 90° view without bending the articulation section. This allows side investigation in a much smaller cavity. It must be seated fully for proper use.

Control Lever

The control lever is located on the right hand side and extends down and below the scope's housing for easy use with the right hand and thumb. The control lever can be in one of two positions:

The FREE MOVEMENT POSITION is extreme left.

The LOCKED POSITION is extreme right.

The FREE MOVEMENT POSITION allows easy movement during insertion. The LOCKED POSITION freezes the tip for stable viewing at the inspection site.

Ocular

You will observe the INDEX mark when viewing the image through the eyepiece. The INDEX mark is located in the up position of the bend plane of the articulating section of the fiberscope.

Focusing Ring

This allows for sharp focus based on the individual operator's vision.

Eye-Shade

The ocular eye-shade isolates the observer from the metal parts.

Eye-Cup

The eye-cup fits over the ocular eye-shade to provide a darker background for the field of view. The eye-cup can be included in the fiberscope kit at the customer's request.

Light Guide

The fiberscope light guide includes the light guide cable and plug. The light guide cable is protected by rust-resistant cable casing. Do not allow excessive bending or coiling of the cable (less than 1.38 in. radius).

Light Guide Plug

The plug should be inserted into light source with operator only touching plastic grip of plug. This is to avoid



BASIC PARAMETERS

60° ◦ field of view angle

◦ observation direction angle

0° ◦ end tip cap

90° ◦ 90° viewing tip

5 mm⁻¹ ◦ resolving power of the optical system for operating distance of 15 mm

5 to 100 mm ◦ range of operating distance

9.45 in ◦ length of housing

39.37 in ◦ length of flexible body

6 mm ◦ maximum diameter of flexible body

1.97 in ◦ length of the articulating section

+/- 120° ◦ range of articulating section angular deviations

+/- 1.38 in ◦ maximum range of linear (radial) deviations of the articulating sections

1.38 in ◦ minimum radius of the flexible body bend

5.29 in ◦ light source length

0.5 kg ◦ weight of Fiberscope, not more than

16.13 in ◦ overall size of Fiberscope case L/W/H
 x12.42 in
 x6.75 in

