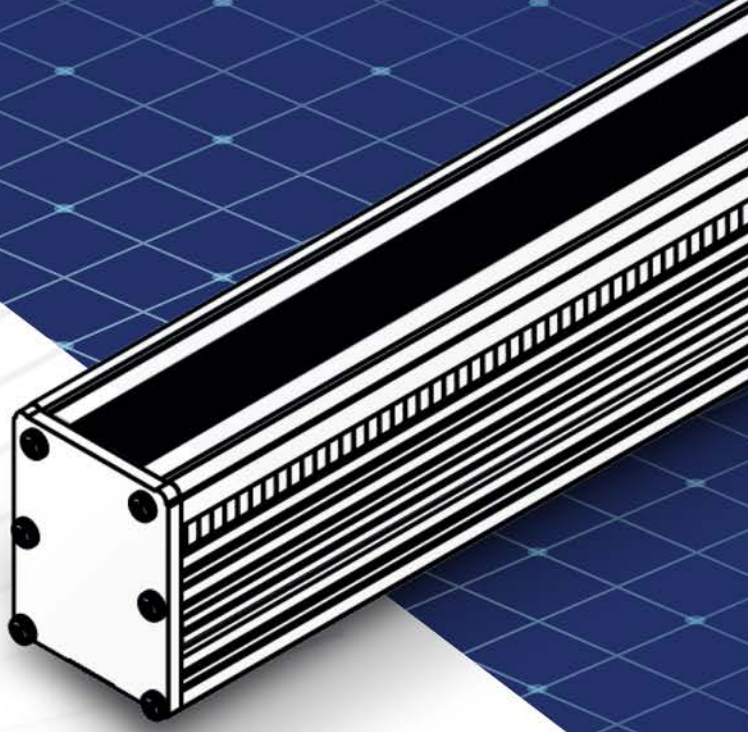
FABRIC SCANNER

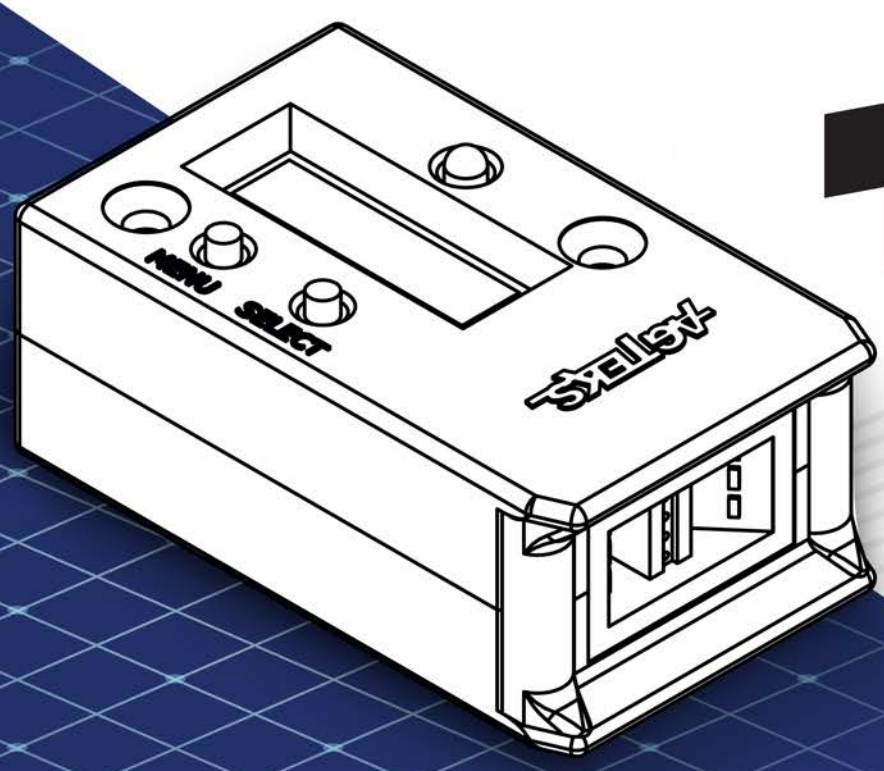


AGTEKS sensing

Smart Quality Scanners

for Textile Industry 4.X

YARN SCANNER



Quality Bar

General Description

Quality Bar is a genuine high-resolution online fabric inspection system with multi-modes scanning processes and simultaneous front & back lighting with RGB+IR light sources.

Quality Bar may be installed on a weaving loom or on a fabric inspection machine or even on a fabric spreading machines to check any kind of woven or knitted fabrics.

Quality Bar detects and reports all quality issues such as fabric irregularity, lump, knot, hole, irregular edge, missing weft /wrap irregular weft or warp, weft slope, fabric pattern error etc. on the fabric. If needed it can even give the stop command to the loom while detection. Also, all of issues can be sent to the cloud or webservice etc. for Industry 4.X.

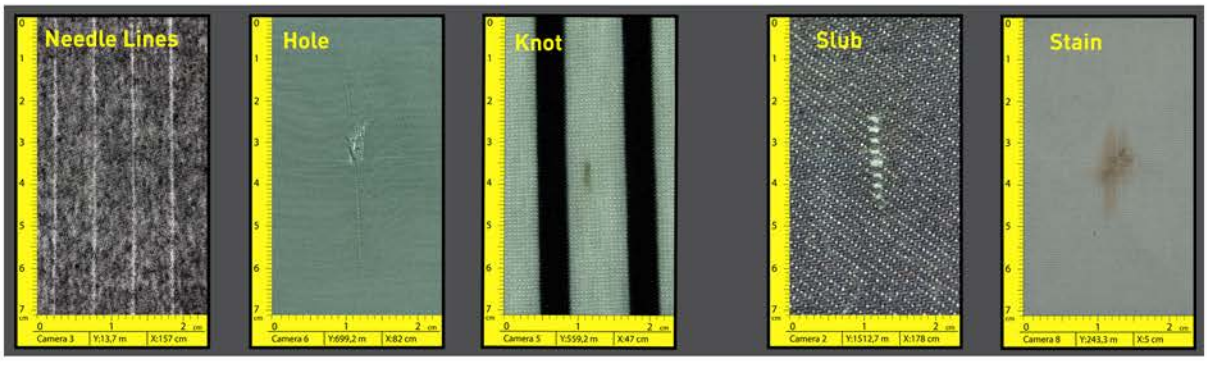
Technology

Quality Bar is equipped with specially designed high-resolution scanning sensors supported by high level image processing algorithms to achieve highest precision and fastest online fabric inspection processes up to 100 m/min fabric speed*

* Scanning resolutions can be selected as 300 or 600 dpi.

* Fabric speed depends on resolution specs.

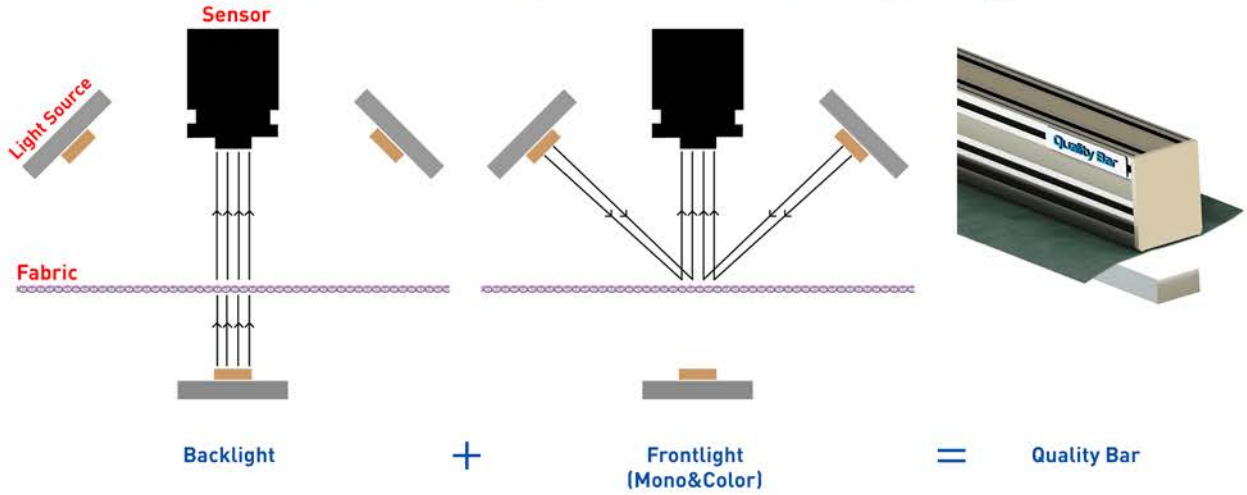
Some Examples of Fabric Defects



Back Lighting

Front Lighting

| Simultaneous Front & Back Lighting |



| Features |

Fabric Defects

- Fabric width
- Stain
- Fabric irregularity
- Fabric pattern defects

Vertical Defects

- Missing warp
- Warp density
- Irregular warp
- Broken needles

Horizontal Defects

- Irregular weft
- Irregular edge
- Weft slope
- Slub on the weft
- Missing / Incompleted weft

Spot Defects

- Slub
- Corky
- Fluff
- Lump
- Knot
- Hole

etc.

General

- Online check
- Machine stopping feature
- Number of warp detection
- Defect Map

| Technical Information |

Technology	High Speed Scanning Sensor
Sensor resolution	Up to 600 dpi
Scanning length	Up to 600 cm
Depth of focus	0-3 mm
Scanning speed	Up to 100 meter/min
Sensing speed	6000 lps
Faulty detection	Fabric defects, weft defects, warp defects

Fabric	Woven, non-woven or knitted fabrics
Output	NPN, open collector output, max 50mA
Parameter Input	2 pcs. External Input
Program Control	Multi-core embedded computer control
Recording	Defect Time, Defect Position (X, Y) on the fabric, Machine Number, Defect Size, Defect Picture, Defect Name etc.

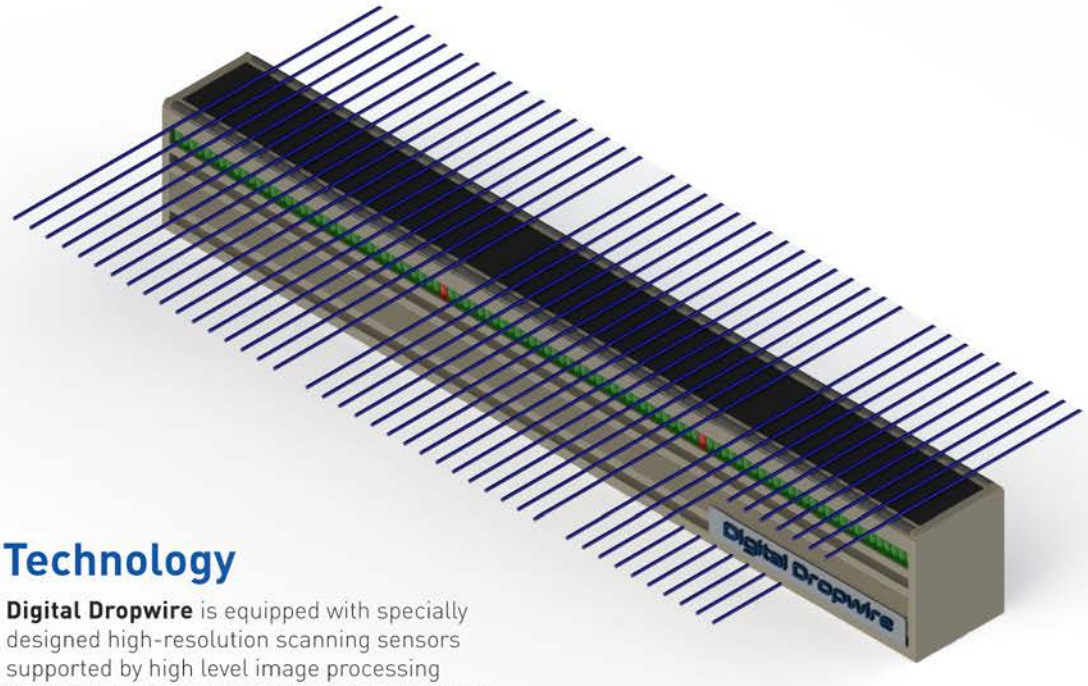
International Patent Pending!

Digital Dropwire

General Description

Digital Dropwire that is a revolution of the mechanical dropwires is high resolution online optical dropwire system to sense the yarn breaks and defects on the wrapping, rebeaming, before-weaving looms* for especially denim yarns or any kind of yarns.

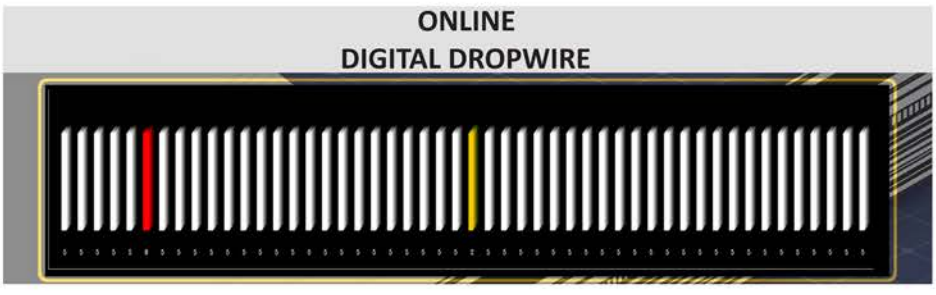
Digital Dropwire detects the broken yarn and defects then can give the stop command to the loom immediately or report the all issues.



Technology

Digital Dropwire is equipped with specially designed high-resolution scanning sensors supported by high level image processing algorithms and fastest online optical dropwire system up to 600 m/min.

*Depends on warp density.



Red : Thick Yarn
Yellow : Thin Yarn

| Technical Information |

Technology	High Speed Scanner Sensor
Sensor resolution	Up to 600 dpi
Scanning length	Up to 600 cm
Sensing speed	6000 lps
Faulty detection	Yarn breaks, yarn defects

Communication	Ethernet or Wi-Fi
Output	2 pcs. NPN, open collector, max 50mA
Recording	Defect Time, Defect Pos. (X, Y), Machine Number, Defect Size, Defect Pic., Defect Name etc. in defect detection mode.

International Patent Pending!

Finishing Bar

General Description

Finishing Bar is an online fabric inspection system for fabric finishing processes with mono & colored camera and front & back lighting.

Finishing Bar may be used on a dyeing, sizing, fixing, dipping etc. processes for any kind of fabrics.

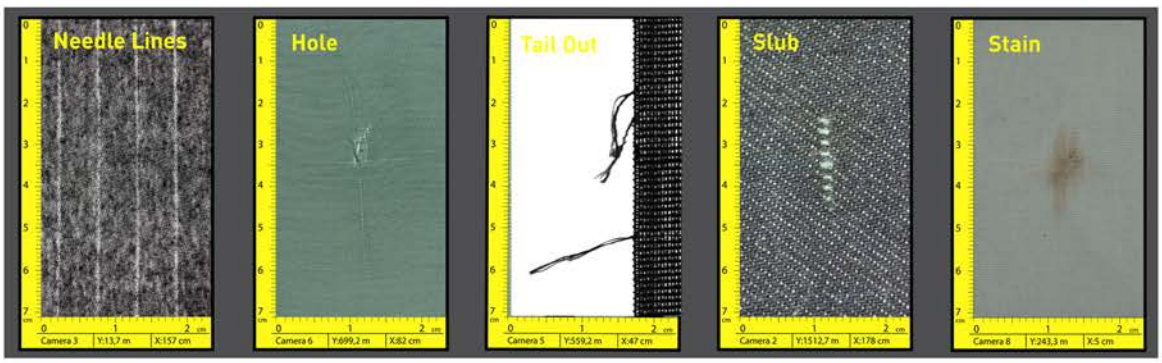
Finishing Bar detects and reports all quality issues such as fabric irregularity, lump, knot, hole, irregular edge, irregular weft or warp, fabric pattern error etc. on the fabric. If needed it can even give the stop command to the loom while detection. Also, all of issues can be sent to the cloud or webservice etc. for Industry 4.X.

Technology

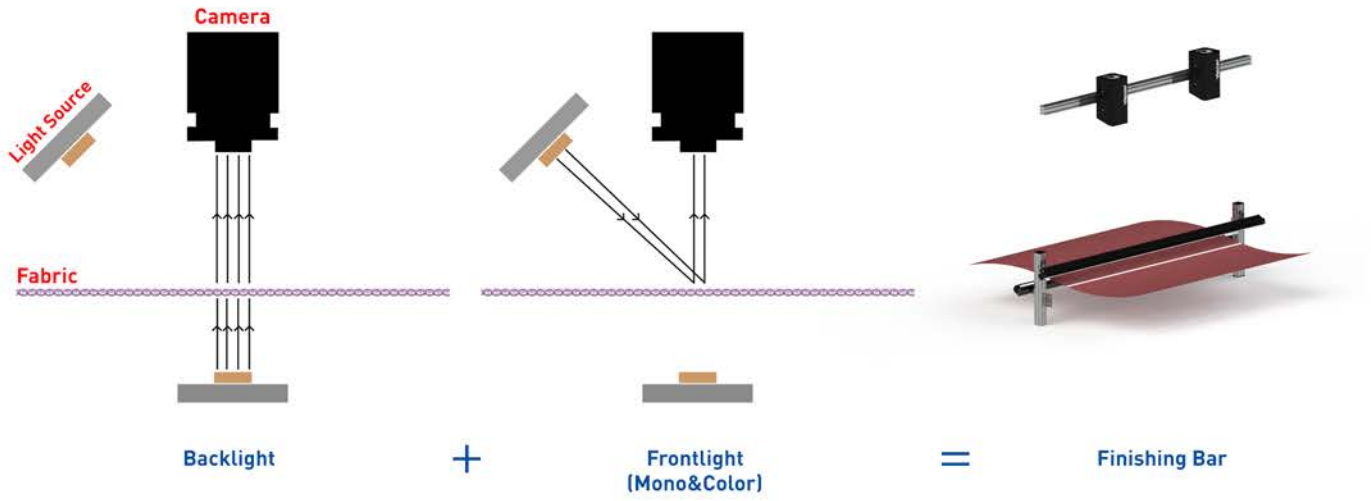
Finishing Bar is equipped with high-resolution line scan cameras supported by high level image processing algorithms to fastest online fabric inspection system up to 450 m/min fabric speed*.

*Finishing Bar detects all quality issues every 100 um at 150 m/min.

Some Examples of Fabric Defects



| Simultaneous Front & Back Lighting |



Fabric Defects

- Fabric width
- Stain
- Fabric irregularity
- Fabric pattern defects

Vertical Defects

- Missing warp
- Warp density
- Irregular warp
- Broken needles

Horizontal Defects

- Irregular weft
- Irregular edge
- Weft slope
- Slub on the weft
- Missing / Incompleted weft

Spot Defects

- Accumulation
- Fluff
- Lump
- Knot
- Hole
- Water or grease stain etc.

General

- Online check
- Machine stopping feature
- Number of warp detection
- Defect map

| Technical Information |

Technology	High Speed Line Scan Camera
Camera resolution	Up to 8K
Scanning length	Up to 600 cm
Sense res. at speed	Up to 450 meter/min
Sensing speed	26.000 lps
Faulty detection	Fabric defects, weft defects, warp defects
Communication	Ethernet or Wi-Fi

Fabrics	Woven, non-woven or knitted fabric
Output	2 pcs. NPN, open collector, max 50mA
Parameter Input	2 pcs. External Input
Program Control	Multi-core computer control
Indication	Graphic view on PC
Recording	Defect Time, Defect Position (X, Y) on the fabric, Machine Number, Defect Size, Defect Picture, Defect Name etc.

International Patent Pending!

HS-Quality Eye 1D/2D

General Description

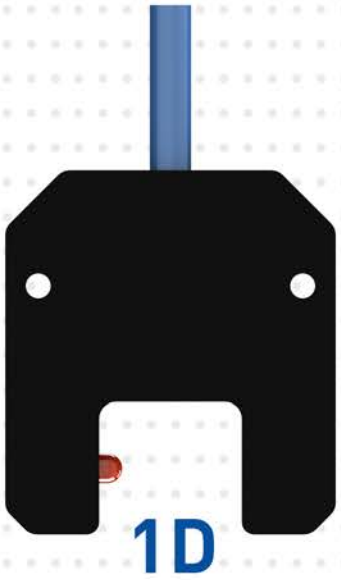
HS-Quality Eye 1D is a solid state one-dimensional online yarn quality sensor with optical scanning technology specially to sense slub and dtex/denier value for fibers & yarns up to 6000 m/min.

HS-Quality Eye 2D is a solid state two-dimensional online yarn quality sensor with optical scanning technology specially to sense slub and high-accuracy dtex/denier value for fibers & yarns processes up to 6000 m/min.

HS-Quality Eye 1D/2D detects and reports all quality issues such as yarn break, high- accuracy dtex/denier value and variation, slub, splice recognition and measures pollution, thickness and length. It has four outputs to send informatin to the machine or PLC etc. for defects. Also, all of issues can send to the cloud or webservice etc. for Industry 4.X.

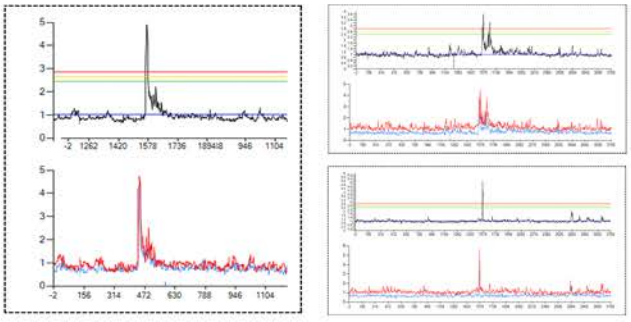
Technology

HS-Quality Eye uses specially designed high-resolution scanning sensors and back lights for yarns in all kind of color. Scanning speed can be up to 60.000 lines per second with 400 dpi resolution, 8 mm scanning area.



HS-Quality Eye has two colored light source and spectrum filter as blue and red on each axis.

Some Examples of Yarn Defects



Slub

Dtex Lower

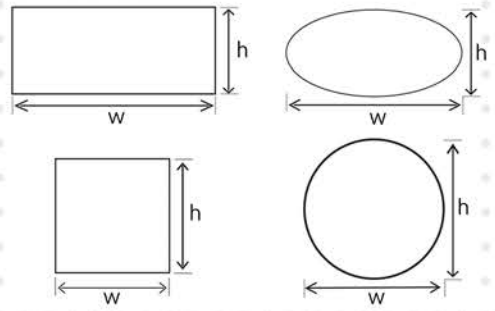
Dtex Higher

Dtex/Denier Value

| Comparison |

	X Sensor	HS-Quality Eye 1D	HS-Quality Eye 2D
Sensor Type	Photo diode	Linear Image Array	Linear Image Array
Pixel Count	1	128	2 x 128
Resolution	-	400 dpi	2 x 400 dpi
Axis	No axis	1 axis	2 axis
Dtex Value	-	Absoulute Value	High-Accuracy Absoulute Value
Signal from sensor	Only Relative Change	Absoulute Thickness	Absoulute Thickness
Pollution Level	No	Yes	Yes
Yarn Speed	2500 m/min	6000 m/min	6000 m/min

| Dtex Calculation |

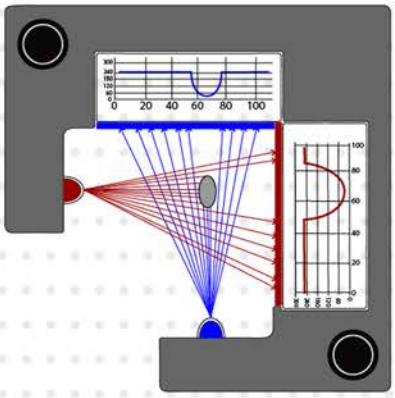


Area = h x w x shape constant

HS-Quality Eye calculates the dtex value as below using areas on X and Y axis of yarn.

Area = ∫f(x)dx × ∫f(y)dy

| Analog Signal |



HS-Quality Eye shows analog signal for each axis.

| Technical Information |

Technology	High Speed Scanning Sensor
Sensor resolution	400 dpi
Scanning length	8 mm
Sensing speed	60000 lps
Faulty detection	Thickness, thinness, dtex variation, slub, yarn break

Communication	Ethernet or Wi-Fi
Output	4 pcs. NPN, open collector, max 50mA
Program Control	Multi-core embedded computer control
Dimensions	1D: 40x44x8 mm / 2D: 45x45x8
Recording	Data-time, faulty lenght(time based), machine number,error code,thickness, meter,total fault number to server PC

International Patent Pending!

Quality Eye

General Description

Quality Eye is a solid-state online yarn quality sensor with optical scanning technology for twisting or winding processes with wide range of any kind of yarns up to 100 m/min*.

Quality Eye detects and reports all quality issues such as yarn break, dtex variation**, slub, corky screw**, splice recognition and measures the length, thickness, thinness, hairiness and tension of the yarn. If needed it can even give the stop command to the machine while detection. Also, all of issues can be implemented for the cloud or webservice etc. for Industry 4.X.

Technology

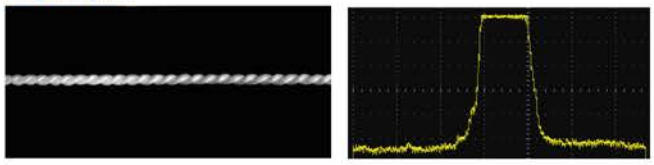
Quality Eye uses specially designed high-resolution scanning sensors and infrared lights for yarns in all kind of color. Scanning speed can be up to 1.000 lines per second with 600 dpi resolution and 8 mm scanning area.

*Quality Eye detects all quality issues every 1 mm at 60 m/min.

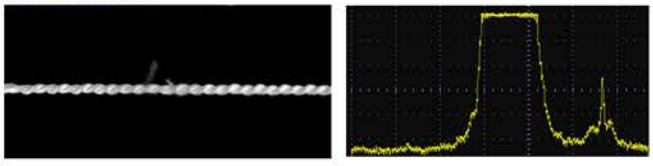
**Depends on type of yarns.

Some Exmples of Pattern Recognation

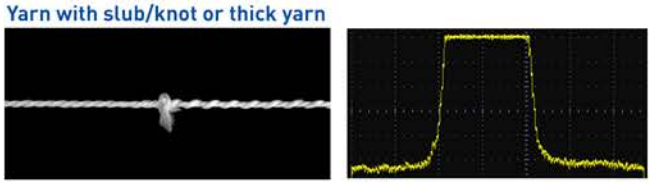
Regular yarn



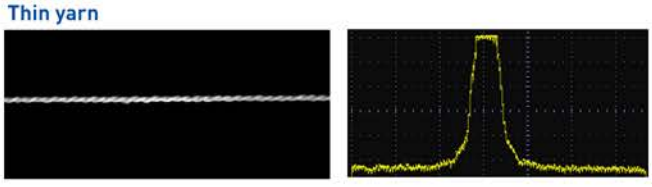
Branched Yarn



Yarn with slub/knot or thick yarn

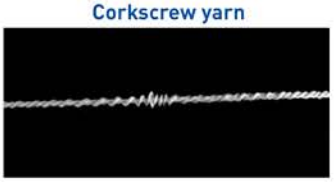


Thin yarn



Spliced yarn

Corkscrew yarn



| Measurements |

Quality Eye learns the yarn thickness during the first a few seconds after machine starting.
Then starts to measure the percentages of relative changes on thickness, hairiness etc.

| Technical Information |

Technology	High-Resolution Scanning Sensor
Sensor resolution	600 dpi
Scanning length	8 mm
Scanning speed	1 mm sensing at 60 meter/min
Sensing speed	1000 lps
Indication	Bi-color indication LED
Faulty detection	Thickness, thinness, dtex variation slub, corky screw,yarn break,hairiness tension.

Communication	CANBUS + Ethernet
Display	OLED display
Output	NPN, open collector output, max 50mA
Parameter Input	Touch panel screen parameter input
Program Control	Microprocessor control
Dimensions	54x32x21 mm
Recording	Data-time, faulty lenght, machine number, pindle number, meter, error thickness, milisecond.

International Patent Pending!

Scan me

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