

Vector 22

Flaw Detection and Material Property Evaluation in Metal Products



A highly versatile Eddy Current unit that is aimed at the inspection of metal products in a wide range of industries. Flexibility of input and output signal options mean that it integrates easily with in-line and off-line processes for testing product, such as Automotive components, for Hardness, Heat Treatment, cracks and other quality critical conditions.

- **Easy to Install** - Option of Rack Mounting or Bench Mounting.
- **Expandable** - From 2 channels up to 16 Channels by synchronising multiple units.
- **Easy to integrate** - A wide range of options allow easy connection to external devices such as, PLC's, Marking Units, Flaw counters and other external processes.
- **Easy to Configure** - Single Menu screen gives the Supervisor the ability to immediately see all critical settings
- **High Speed and Reliable Inspection** - Vector 22 can be set up to check all product even on high speed production lines, 24 hours a day, 7 days a week.



Flexible and Scaleable - The Vector Concept

Modern production processes need to be run in the most efficient way possible. The Vector range of products provides a self contained inspection solution that can be easily integrate into existing facilities.

The extensive I/O on the Vector 22 allows connectivity to a range of peripherals to increase quality levels and line throughput.

The unit is designed for extremely easy set-up and installation and can be left to run reliably without further intervention. Once in place, the equipment can be set up to evaluate material properties such as hardness, alloyed condition and electrical conductivity, and can also be used for the detection of cracking, deviations in consistency and other conditions.

The Vector 22 allows connection to up to 8 other Vector 22 units, and can provide 16 simultaneous probe inspections using this synchronisation.

The unit requires no PC knowledge to set-up and operate, and the wipe down keypad, and industrial designed user interface give a user friendly and purpose built interface.

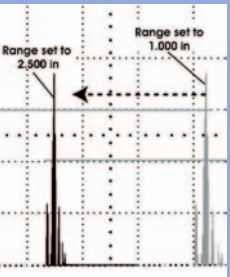
Rear Panel of Vector 22



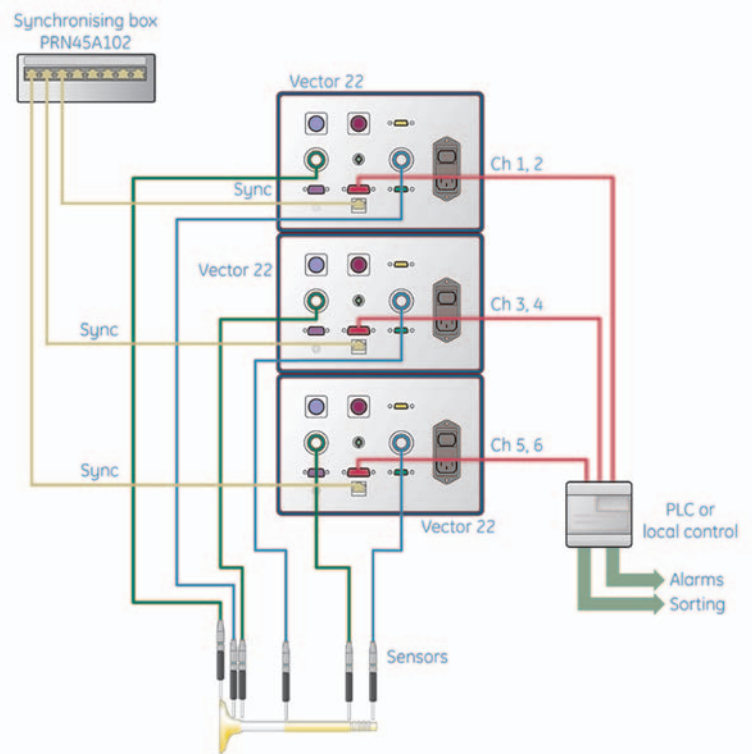
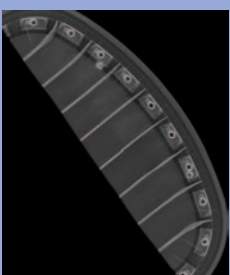
X-Ray



Ultrasonics

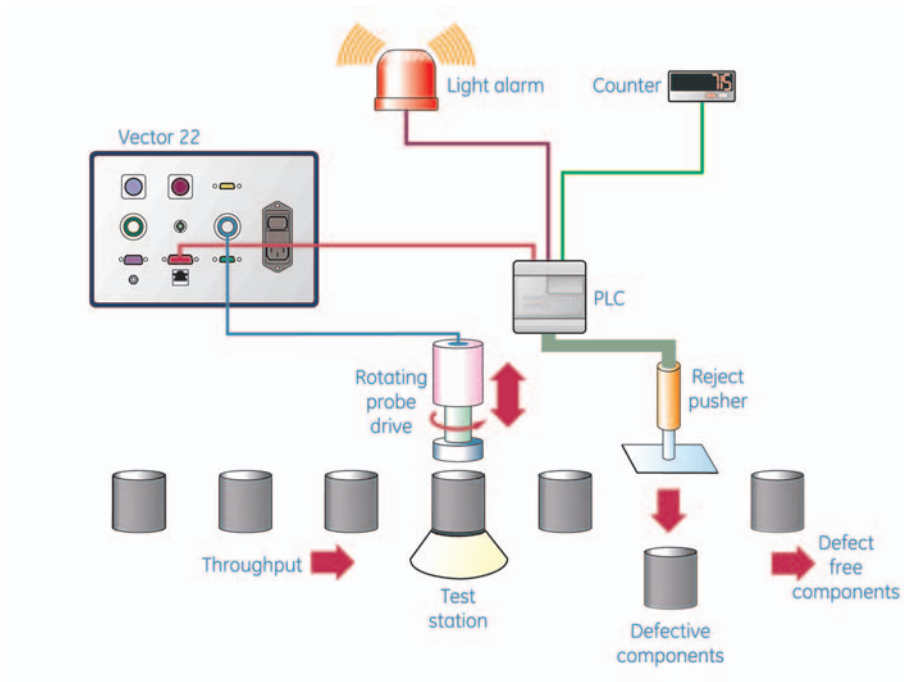


Inspection Software

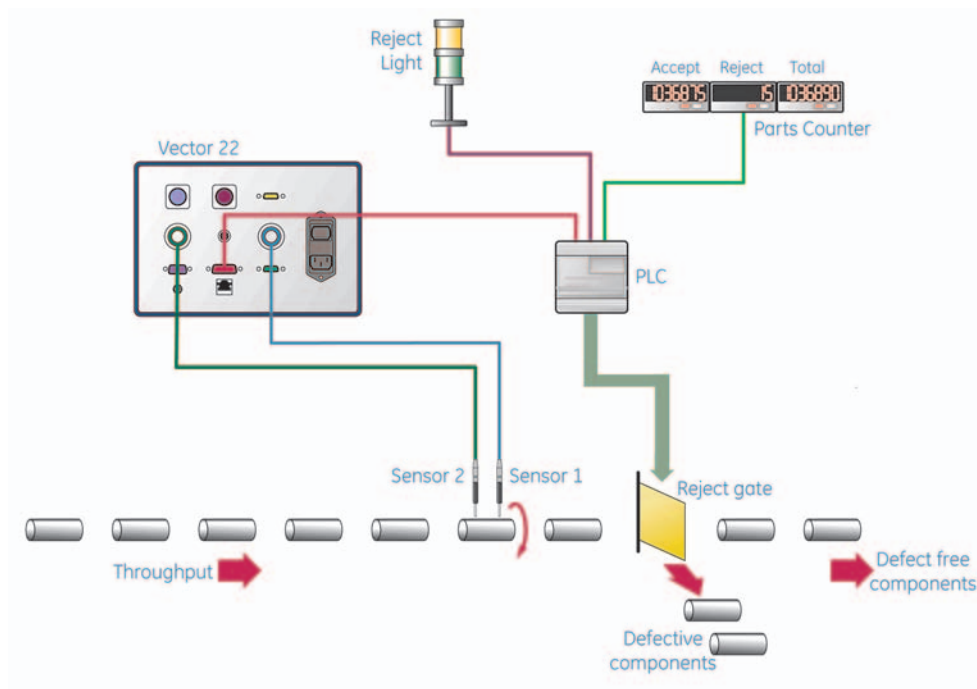


3 Vector 22 units synchronised for multiple probe inspection with Synchronising box

Typical Applications



Inspection of the Internal Bore of cast cylinder sleeves with rotating probe drive. The system has two sensors to increase inspection speeds and to maintain high detectability of short defects.



Simultaneous Surface crack Inspection of two areas on manufactured components with, sorting, counting and light alarm.

Product Variants - AC or DC Relays

The Vector 22 is available in two variants, with either AC or DC Relays fitted. This is specified at time of order. The built-in relays allow the connection to standard material handling and sorting accessories, such as alarms and flipper gates without the requirement for any further logic, and the choice of DC or AC is determined by these accessories.

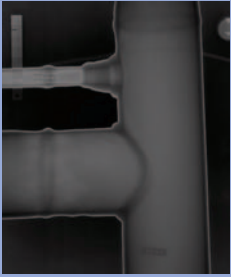
Advantages of the Vector 22

The Vector 22 uses the Eddy Current Technique, which has some key real-world advantages for manufacturers of quality products;

- **Sensitive:** The Vector 22 is a highly economic and effective technique for coverage of surface and near surface flaws in metals, covering areas that Ultrasonic cannot inspect .
- **Speed:** The Vector 22 has a 16kHz sample rate which allows for very high line speeds, especially when compared to alternative techniques such as X-ray or ultrasonic. Eddy Current has no waste product, or couplant requirement - significantly simplifying the management process.
- **Scaleable:** The ability to add extra channels as required gives a fully scalable solution, and because of the Vector 22's extensive Inputs and outputs, interfacing with parts handling can be as simple or as sophisticated as required
- **Surface Tolerant:** The ability of Eddy Current to inspect through paint and other non-conductive surface coatings means that preparation for inspection is minimal. The probe can even inspect without contact with the part.

Basic Specifications

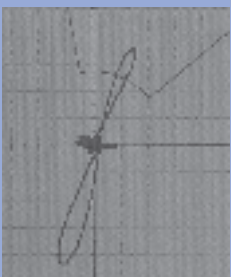
Display	6.5" (165mm) VGA Color display with CCFT Backlight. Selectable color for each channel.
Frequency Range	50 Hz to 10 MHz
Low Pass Filters	20 Hz to 5 kHz
High Pass Filters	DC, Ultra 0.01 Hz to 0.5 Hz, Normal 10 Hz to 2 kHz
Channels/Probes	2 per unit. Up to 8 Vector 22 units can be synchronised using optional synchronisation unit
Temp. Range	32°F to 122°F (0° to 50°C)
Max. Dimensions	Dimensions in case (without feet) 9.2" x 7" x 10" 235.4 mm W x 177 mm H x 255 mm D
Power	90 - 264V (47-63Hz, 440Hz). No battery options.
Alarms	Independent on each channel. Choice of Sector, Level or Box Gate alarm.
Alarm Stretch	Range from 50mS to 10 seconds
Alarm Delay	Menu Selectable from 0.1 to 9.5 seconds
Balance	Independent or Combined for each probe. Separate front panel balance keys. Remote balance.
Trace Record/Replay	Up to 30 seconds of trace internally recordable.
Internal Relays	AC or DC chosen at time of order. Amphenol connector on rear of unit, mating items available as accessories.
Analog Out	6 Independantly selectable Analog outputs.
Synch Input	Via RJ45 connector to rear panel
Probe Connectors	Lemo size 4, 16 Way connector
RS232	Provided on 9 way D Type for Standard I/O
Auto Power On	User Defined option using internal link to power on when power is applied.



Testing Machines



Computed Radiography



Eddy Current