

P-Scan Stack System

Developed for operators by operators

The best specs in the business

In the lightest and most flexible
all-in-one ultrasonic inspection
system on the market

The P-Scan Stack System with Phased Array
represents a completely new way of thinking when
it comes to automated ultrasonic inspection



Technical specifications for the P-Scan Stack System

PROCESSOR		
Channels	Number of Phased Array channels	Up to 256/512
	Number of standard UT channels	Up to 32
Transmitter	Pulse type	Rectangular, bipolar
	Amplitude	80 V - 200 V (± 40 V - ± 100 V)
	Rise time	7 ns
	Width	20 ns - 2 μ s
Receiver	Dynamic range	>100 dB @ 5 MHz
	Frequency range	0.05 - 30 MHz
	Rectification	Digital, user selectable
	Filters	Digital, user selectable
	Input noise	<2 nV/ \sqrt Hz
Digitisation	Sampling rate	120 MHz
	Resolution	22 bit
	Maximum number of samples	131.072
	Dynamic depth focusing	Yes
	Number of focal laws	8.192
	Real time data compression	User selectable
Connectors	Phased Array connectors	Up to 8
	Phased Array connector type	I-Pex
	Phased Array probe recognition	Automatic
	Standard UT connectors	Up to 8 (32 channels)
	Standard UT connector type	Fischer
	Scanner connector	Fischer
	Link connectors	2 x Fischer
	External module connector	Fischer
	Click-and-play connectors	2 x MILL-MAX
	Ethernet connector	RJ45 (IP54 protected)
PC connection	Network interface	Ethernet 1000Base-T
	Data throughput	Up to 15 MB/sec
Other features	Integrated scanner controller	Yes
	Battery operation	Yes, including scanner
	Self check	Yes
	Air intake	No
Physical specifications	Environmental protection	IEC class IP54 (Protected against dust and splashing water)
	Temperature range	0 - 40° C (32 - 104 °F) standard 0 - 50° C (32 - 122 °F) extended

PROCESSOR PA 32

Channels	Number of Phased Array channels	32/64
	Phased Array connector	1 x I-Pex
	Number of standard UT channels	8
	Standard UT connectors	2 x Fischer (8 channels)
Physical specifications	Size (H x W x D)	171 x 223 x 255 mm (6.7 x 8.8 x 10.0 in)
	Weight	5.7 kg (12.6 lb)

PROCESSOR PA 64

Channels	Number of Phased Array channels	64/128
	Phased Array connectors	2 x I-Pex
	Number of standard UT channels	8
	Standard UT connectors	2 x Fischer (8 channels)
Physical specifications	Size (H x W x D)	171 x 223 x 255 mm (6.7 x 8.8 x 10.0 in)
	Weight	6.1 kg (13 lb)

PROCESSOR PE 8

Channels	Number of standard UT channels	8
	Standard UT connectors	2 x Fischer (8 channels)
Physical specifications	Size (H x W x D)	171 x 223 x 255 mm (6.7 x 8.8 x 10.0 in)
	Weight	5.3 kg (11.7 lb)

P-SCAN PHASED ARRAY PROBES

To see the probe specifications, please visit www.p-scan.com

BATTERY 4

Battery	Battery type Batteries Battery capacity Battery management	Li ion 4 Up to 8 hours, including scanner Hot swapping
Connectors	Click-and-play connectors	2 x MILL-MAX
Physical specifications	Size (H x W x D) Weight (without batteries) Weight (with batteries) Environmental protection Temperature range	104 x 223 x 255 mm (4.1 x 8.8 x 10.0 in) 3.3 kg (7.3 lb) 5.1 kg (11.2 lb) IEC class IP54 (Protected against dust and splashing water) 0 - 50° C (32 - 122 °F)

POWER 2

Input/Output	Input Output	100 - 240 V AC, 47 - 440 Hz 24 V DC, 250 W
Connectors	Input connector Click-and-play connectors	IEC C14 2 x MILL-MAX
Physical specifications	Size (H x W x D) Weight Environmental protection Temperature range	79 x 223 x 255 mm (3.1 x 8.8 x 10.0 in) 2.9 kg (6.4 lb) IEC class IP54 (Protected against dust and splashing water) 0 - 50° C (32 - 122 °F)

PUMP 4

Pressure	Maximum pressure	4 bar
Flow	Flow rate	Adjustable
Hose fittings	Input/output	8 mm OD hose
Connectors	Link connector Click-and-play connectors	Fischer 2 x MILL-MAX
Physical specifications	Size (H x W x D) Weight Environmental protection Temperature range	79 x 223 x 255 mm (3.1 x 8.8 x 10.0 in) 3.2 kg (7.1 lb) IEC class IP54 (Protected against dust and splashing water) 0 - 50° C (32 - 122 °F)

SOFTWARE

Software platform	Operating system Input mode	Windows 7 / Windows 8 (64-bit) Touchscreen, keyboard, mouse
File storage	Maximum data file size	Limited to hard drive size
Hardware requirements	Processor RAM Hard drive type Hard drive size Network interface Screen size Screen format Screen resolution Screen type	Intel i7 Quadcore Min. 8 GB SSD Min. 128 GB Ethernet 1000Base-T Min. 13" 16:9 Min. 1680x1050 Touchscreen (optional)

SCANNER AUS-5

Speed	X-direction Y-direction	0-50 mm/s 0-150 mm/s
Y-stroke	Standard Y-module rail	0-280 mm
Pipe diameter	Circumferential scanning	From OD 75 mm
Safety	Emergency switch	Top mounted push-button
Physical specifications	Size (H x W x D) Weight Environmental protection Temperature range	101 x 347 x 235 mm (4.0 x 13.7 x 9.3 in) 5.5 kg (7.1 lb) IEC class IP55 (Protected against dust and water jets) 0 - 50° C (32 - 122 °F)
Options		Curved Y-modules with radius from R150 mm Sleeves for non ferritic pipes Chain guide with stainless steel chain

The ultimate in automated ultrasonic inspection



Developed for operators by operators, the P-Scan Stack System with Phased Array delivers the highest specs of any automated ultrasonic inspection system on the market. As a result, you can perform high-precision inspections quickly and accurately - even in the most challenging environments.

With the highest dynamic range and amplitude resolution available, you know you'll never miss a signal, no matter how high or low the amplitude. The high frequency range and pulser voltage of the Phased Array channels enable you to inspect a wide range of materials, including challenging materials that you couldn't previously inspect. And, with high data throughput and unlimited data file size, you get faster inspections, no matter how big the test object. All this in the lightest and most robust all-in-one system available.

Combining standard Pulse Echo, TOFD and Phased Array in a highly customisable system that includes an integrated scanner controller and full battery operation, the P-Scan Stack System represents the next step in automated ultrasonic inspection.

Lift the flap to see the best specs on the market



Introducing the unique click-and-play stack system

The P-Scan Stack System contains everything you need for on-site automated ultrasonic inspection. But no two jobs are the same, so we designed the P-Scan Stack System with flexibility in mind.

The unique click-and-play stack system enables you to configure your set-up for any job in a matter of minutes, saving you valuable time between scans. Simply stack the modules in the order you want - there are no connecting wires or cables - and click them into place. The scanner and PA probes are recognised automatically and you're ready to go.

See the P-Scan Stack System in action at www.p-scan.com

Even smaller, even lighter

If there's a module you don't need, simply take it out to make the system smaller and even easier to carry.



Fewer cables, greater reliability

All connecting cables between modules are built into the system. Just click the modules into place and they connect automatically.



Never run out of power

The battery powers all modules as well as the scanner, and the system supports battery hot-swapping so you never run out of power.



The ultimate all-in-one system



P-Scan Stack Handle

Light, tough and ergonomically designed, the P-Scan Stack Handle makes the entire system easy to carry.



P-Scan Stack Battery

Including 4 batteries, the battery pack delivers up to 8 hours running time to all modules, as well as the scanner.



P-Scan Stack Power

The P-Scan Stack System can run on AC or DC input and the power pack simultaneously charges the batteries while powering the system.



P-Scan Stack Processor

With the best specs available, the P-Scan Stack Processor gives you faster and more precise inspections, even on the most challenging materials.



P-Scan Stack Pump

Control the pump parameters through the P-Scan Software to adjust water flow and improve data quality.



P-Scan Stack Feet

It's got to stand on something, right?



“When you’re working in tough conditions, you need equipment you can trust.”

When you’re hundreds of miles from home and only have a short window in which to complete a scan, you need an ultrasonic inspection system that you know will work – first time, every time.

Designed by operators who know what it’s like to work in tough conditions, the P-Scan Stack System gives you the ultimate in usability, flexibility and reliability, so you can concentrate on the data and not the equipment.

The lightest all-in-one automated ultrasonic inspection system available, the P-Scan Stack System is ideal for work in isolated and hard-to-reach locations. It contains everything you need in an

automated ultrasonic inspection system, from an integrated scanner controller to a unique battery that delivers power to all modules, as well as the scanner.

The anodised aluminium frame is built to withstand bumps, drops and pretty much anything you can throw at it. And, because we know that cables are often the first things to break, there are no connecting wires or cables. All electrical connections between the modules are built into the stack.

The result is an automated ultrasonic inspection system that you know won’t let you down, however challenging the job.

Tailored training courses

Our highly customised training courses are designed specifically for your operators’ level and range of tasks to ensure all education is directly relevant to your business. All our courses are run by experienced operators and can be delivered at your site or at our headquarters in Copenhagen.





Tough and robust

The P-Scan Stack System is built to withstand the toughest conditions and harshest environments.

Global support

At FORCE Technology, we pride ourselves on providing dedicated second-to-none personal service. Our service team is available to give you phone, email or remote system support. And, if we can't solve your issue remotely, you can send your system to us for servicing - or we can come to your site to make sure you're back up and running with a minimum of downtime.



New software built from the ground up

Do you prefer touchscreen, mouse or keyboard?
With the new P-Scan Stack System, the choice is yours.

The all-new Windows 8 style software has been developed from the ground up to ensure every step is intuitive. The customisable interface shows exactly the information you need for each stage in the process - to make operation fast and simple and reduce the risk of errors - and the software can be configured to suit your level and range of tasks.

Your job, your software

P-Scan Stack Software comes in three versions, so you always see the data you need.

- P-Scan Stack Software PE 1.0
- P-Scan Stack Software PA 1.0 (with Phased Array)
- P-Scan Stack Software Viewer 1.0

• Perfect pre-sets

All the basic data sets are pre-defined, so you only need to perform calibration checks before you start.

• Real-time scanning

With data throughput up to 15 MB/sec and unlimited file size, you get faster and more accurate inspections no matter how big the test object - and you can collect and store all data down to noise level.

• Unbeatable data quality

The dynamic range of 100 dB and amplitude resolution of 22 bit gives you an unrivalled signal to noise level so you never miss a signal, even at high or low frequencies.



“My job is to prevent accidents so I need to know I have the best data possible.”

“There is always a P-Scan scanner for the job”



The best scanners on the market

Widely recognised as the best scanners on the market, P-Scan scanners deliver unbeatable durability, precision and usability - and the new P-Scan AUS-5 is no different.

A new generation universal scanner, the P-Scan AUS-5 includes an integrated touchscreen so you can operate it directly on the object or remotely from your PC. The compact design ensures you can quickly adjust the scanner for any job, and the robust finish makes it ideal for work in tough environments.

The P-Scan Stack System is fully compatible with scanners developed for P-Scan System 4, or can be combined with the new P-Scan AUS-5 to deliver the ultimate in automated ultrasonic inspection.

Find out more about P-Scan scanners at www.p-scan.com

- **Touchscreen control**

With integrated touchscreen, you can operate the scanner directly on the object or remotely from your PC.

- **Ideal for most surfaces**

The extremely flexible transducer mount makes the P-Scan AUS-5 ideal for almost any job, from small pipes to planar surfaces.



Probe



Probe holder

Intelligent probes for faster set-up

With intelligent P-Scan Phased Array Probes, all relevant probe parameters are imported during set-up to save you time and reduce the risk of operator error.



About FORCE Technology

FORCE Technology is a leading technological consultancy, equipment and service provider, focusing on production optimisation, operation, testing and maintenance of industrial facilities and processes.

With headquarters in Denmark, we have subsidiaries in Sweden, Norway, the USA, Russia, China and Singapore - and work with a number of local companies to deliver second-to-none personal and local service.