

Kirari NINJA® -DSR

Automatic Photographic Device for Marine Engine Cylinder

- ◆ Compact and lightweight
(compatible with cylinders with bore 35 or more)
- ◆ Easy to operate using only the buttons on the body
- ◆ Image transfer to PC by an external USB port or Wi-Fi



< Changes in the successor model >

- ◆ Change from consumer materials to industrial materials

Benefits

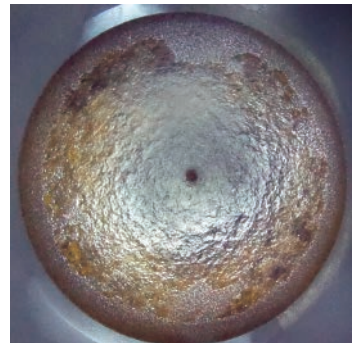
In conventional methods for inspecting the inside of cylinders, a worker enters inside (open-up inspection) or inspects the inside by viewing from scavenging ports. Open-up inspection, however, takes long time, and workload is high. Furthermore, a test run (or re-assembly in some cases) may be required after the re-assembly.

Kirari NINJA®-DSR, once set on top of a piston, can photograph all 360-direction in the cylinder automatically in one round of the piston movement.

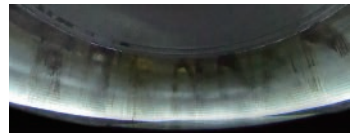
By using the Kirari NINJA®-DSR, workload and time can be drastically reduced. Captured images make it possible to see the inside condition of the combustion chamber in detail and analyze the condition.

< Images of a Combustion Chamber >

- No need to open up the engines.
 - Ease the burden on workers.
 - Removes the risk of reassembling.
- Photographing is available when vessels are in ports.
 - Data of changes over time for each cylinder can be acquired.
 - Preventive maintenance detecting a sign of failure is available.



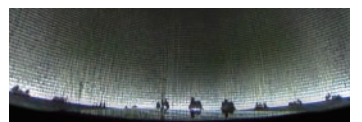
Exhaust Valve (Fire Side)



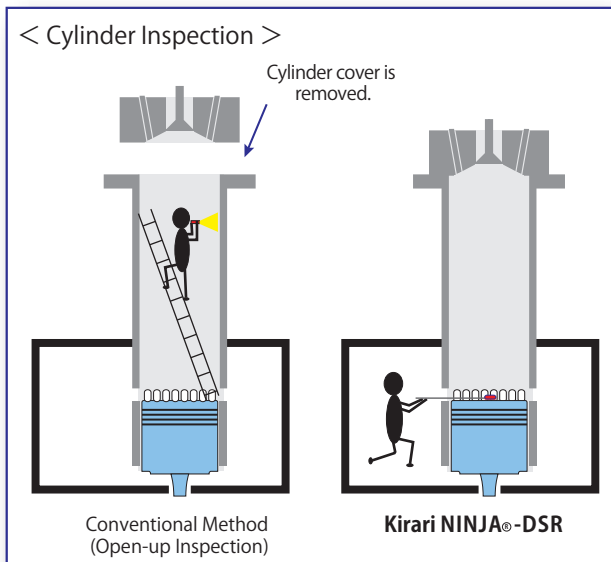
Top Dead Center



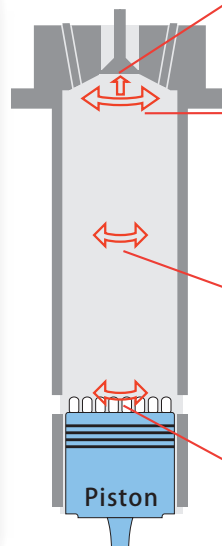
Oil Feed Hole



Bottom Dead Center



Camera points in a cylinder



Basic Specifications

Operating Requirement	Capable to insert from the scavenging port of the cylinder	Internal Memory	Approx. 8GB Image size: 5376× 2688 (approx. 5000 images)
Heat Resistance	Max. temperature in cylinder : 70° C or less		
Lighting Range	Cylinder I.D. Max. 980 mm	Accessories	<ul style="list-style-type: none"> • Magnetic insertion and removal jig • Charger, four AA NiMH batteries • Four AA NiMH batteries (spare) • Album software (in the included USB memory) • Instruction manual (in the included USB memory) • Dummy box • USB Cable for PC
Battery Life	Approx. 90 min/fully charged*		
Camera Mode	Still image mode		
Dimensions	W74× D215× H25mm		
Weight	Approx. 350g (with batteries)		
Image	Still image JPEG		

* Under recommended operating conditions

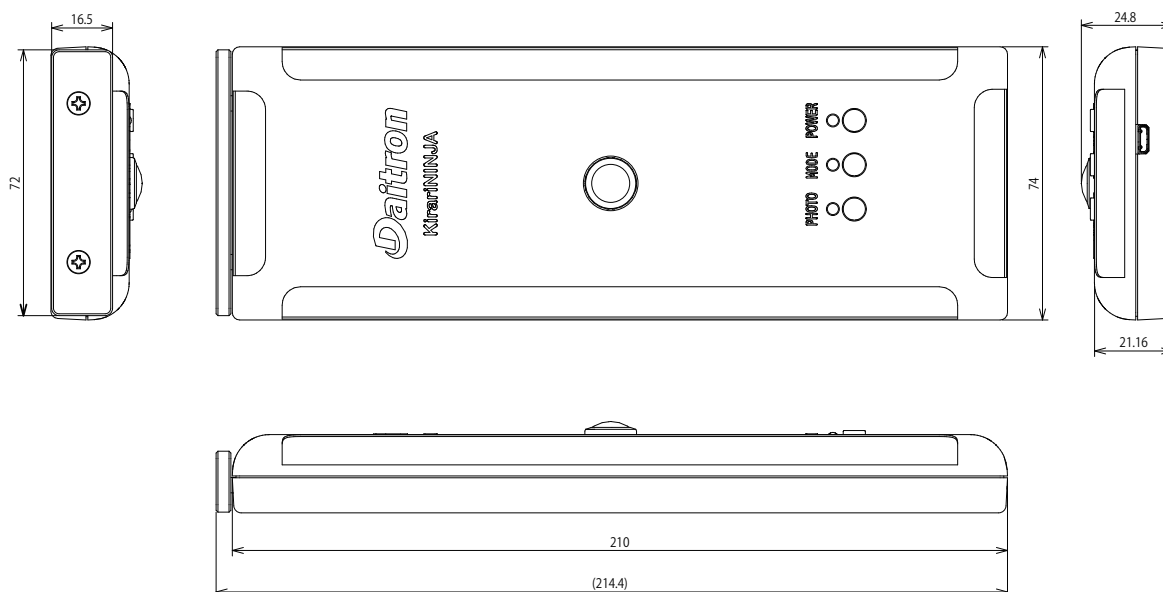
• The specifications are subject to change without prior notice.

• Kirari NINJA[®] is the system name.

• Kirari NINJA[®] used herein is a registered trademark of Daitron Co., Ltd.

Dimensions

(Unit : mm)



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