

Maintenance Technology Specialist

Measure • Analyze • Improve

Haliza 10

MACHINERY ANALYZER



1

MEASURE VIBRATION, PRESSURE & ENGINE SPEED

2

ANALYZE MACHINERY PERFORMANCE

3

IMPROVE PLANT EFFICIENCY & RELIABILITY

Power Plant Diesel Engine | Marine Diesel Engine | Reciprocating Compressor | Gas Engine



PRODUK INDONESIA
KELAS DUNIA

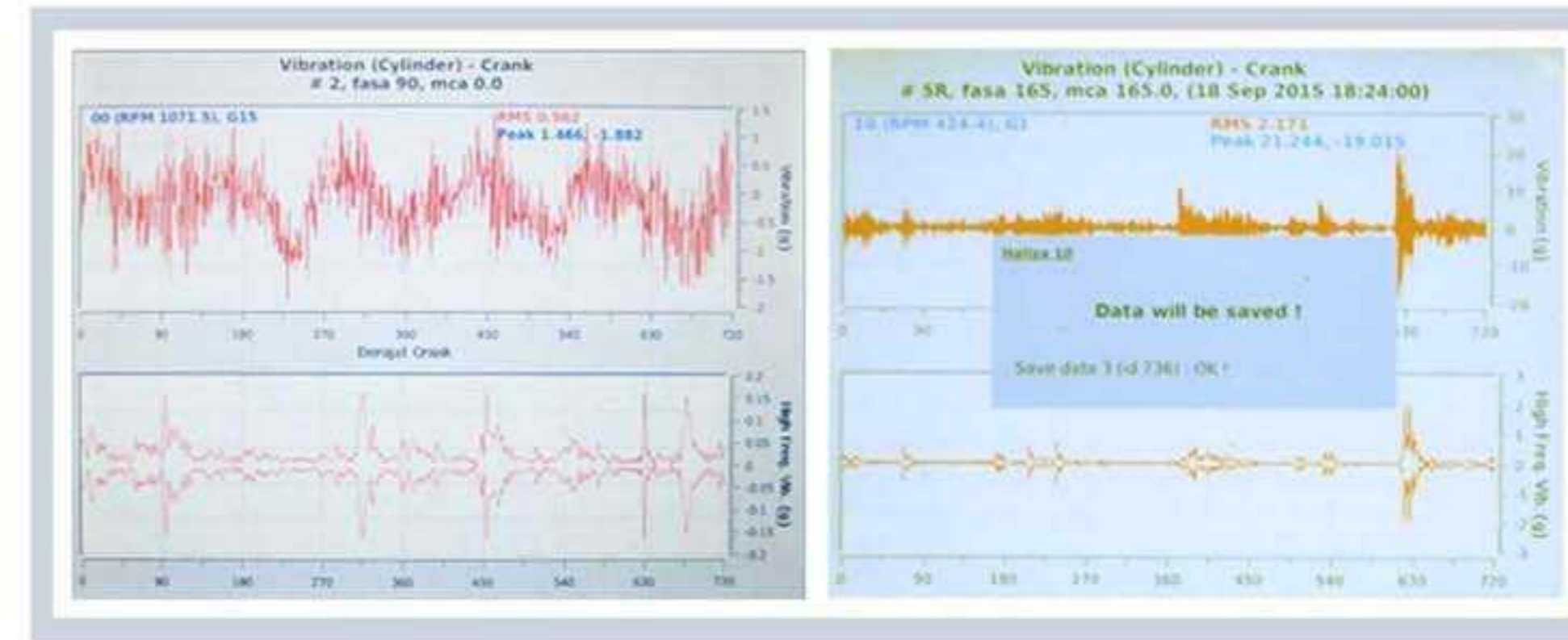


CERT NO.: 2016-1-0206
ISO 9001:2015
CERT NO.: 2022-2-0028
ISO 14001:2015
CERT NO.: OHS-45001-2020-0128
ISO 45001:2018

■ **Diesel Machinery** adalah aset penting yang mahal dari sebuah *plant* dengan biaya operasional dan *maintenance* yang tinggi.

■ Kinerja mesin akan menurun (*derating*) seiring waktu sehingga perlu perawatan berkala sesuai acuan awal berdasarkan kondisi aktual mesin.

■ Mesin tidak bisa bicara, perlu adanya pengukuran kondisi aktual parameter mesin yang akurat dan bisa dipercaya.



1 Reciprocating Engine

2 Haliza 10 (On-site Analysis)

3 SofHaliza (Off-site Analysis)

Vibration Analysis

Pressure Analysis

<p>Internal Combustion Engine Report</p>	<p>Parade Tekanan Pembakaran</p>
<p>Parade Vibrasi Mesin</p>	<p>Parade Tekanan Pembakaran Ditumpuk</p>
<p>Analisa Vibrasi Mesin</p>	<p>Analisa Parade Tekanan Pembakaran</p>

Analyze

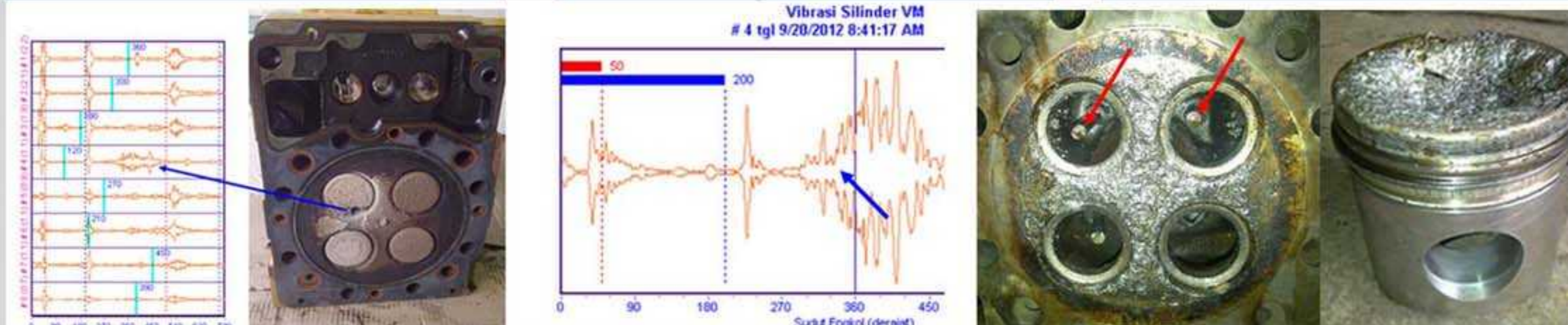
- Indikasi ketidaksesuaian *valve timing*
- Indikasi ketidakseimbangan kompresi pembakaran
- Indikasi kebocoran kompresi pembakaran
- Indikasi kinerja *injektor* (diesel)
- Indikasi keausan pada *mechanical parts*

Improvement Action

- Rekomendasi penyetelan *valve mechanism*
- Rekomendasi pemeriksaan dan perbaikan *valve seat*
- Rekomendasi pemeriksaan *injector*
- Rekomendasi pemeriksaan *cylinder mechanism*
- Rekomendasi pemeriksaan *cooling system*

Result

- Kinerja mesin lebih stabil
- Keseimbangan *peak pressure* tiap silinder
- Keseimbangan daya *output* tiap silinder
- Kinerja mesin kembali ke kondisi awal/baru
- *Firing order* dan *peak pressure* sesuai dengan rekomendasi pabrik



Indikasi vibrasi abnormal

Indikasi kebocoran valve

SPESIFIKASI TEKNIK

HALIZA PORTABLE ANALYZER

SENSORS

Processor & Main System

ARM Cortex A8 Processor

- 1 GHz Processor
- RAM 512 MB
- ROM 4 GB boot flash
- Expandable Micro SD Card 8 GB

Memory

- Debian Linux
- Kernel 3.14

Analog/Digital Converter

- 24 bit Delta Sigma
- Programmable Gain and Low Pass Filter

Sensor/Interface Port

- Accelerometer input
- Pressure input
- Pick-up/Phase input
- Analog DC/AC input

Display & Interfacing

- 5.7 inch TFT LCD
- Transflective
- LED Backlight setting

Communication

- USB 2.0 to Serial FTDI
- Ethernet 10/100 Mbps

Indicator

- RED LED for RPM Indicator and charging
- GREEN LED for keymat indicator response

Battery

- Li-ion 12.6 Volt 4400 mAh
- 7 hours of normal operation
- 4 hours charging (with auto cut off)
- 18 hours standby with minimum backlight

Casing

- Unibody CNC-machined aluminium
- Accompanied with rubber damper for safety
- Weight: 2 kg
- Dimension: 264 x 181 x 41 mm (with rubber sleeve)
- Working environment: 20 - 50 °C

ANALYSIS SOFTWARE

SofHaliza

CERTIFICATION

- EMC/EMI Emission Immunity
- IP65

Vibration Sensor (Accelerometer)

- Response frequency 0.5 Hz - 15 kHz
- Bias voltage 12.5 Volt, 4 mA
- Sensitivity 100 mV/g RMS
- Magnetic base

Cable and Connector

- Sensor cable
- Push-pull non-corrosive connector

Pressure Transducer

- Piezoresistive Pressure Transducer
- Measurement range: 0 - 250 bar
- Fluid temperature range: 10 - 1400 °C

Cooling Method

- Air cooling system, attached to the sensor

Speed/Phase Sensor

- Rotation Pick-Up Sensor
- Once-per-turn pick-up
- Type: Hall effect
- Equipment with magnetics stand
- Cable connection
- Optical type

Timing light

- Cable and connector
- Push-pull non-corrosive connector

Temperature Gun

- Infrared Temperature Gun
- Non-contact infrared with laser pointer
- Effective range: -30/+535 °C

TOOLS & ACCESSORIES

Battery Charger

- Battery Charger 18.5 Volt 3.5 Ah

User Manual

- Wrench 35 mm for pressure transducer
- Hardshell Suitcase



PRODUCT PACKAGE

PRODUCT

- ✓ Haliza machinery analyzer
- ✓ SofHaliza analyzer software

SENSOR

Vibration Sensor

- ✓ Accelerometer & cable (3m)
- ✓ Flat surface magnetic base

Pressure Sensor

- ✓ Transducer & cable (3 m)
- ✓ Cooling fin

Phase Sensor

- ✓ Magnetic pickup
- ✓ Marker cable (30 m)
- ✓ Optical sensor
- ✓ Magnetic stand

TOOLS

- ✓ Portable stroboscope/timing light
- ✓ Infrared temperature gun
- ✓ Communication cable (USB)
- ✓ Battery charger

ACCESSORIES

- ✓ User manual
- ✓ Hardcase
- ✓ Wrench



BENEFIT



- Mempercepat pengambilan keputusan *maintenance*
- Meningkatkan performa mesin
- Meningkatkan efisiensi biaya operasional
- Mengurangi *unplanned downtime*
- Memperpanjang usia aset
- Meningkatkan *plant reliability*

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