

CoolCheck[®] 2

AUTOMATED COOLANT AND DIESEL EXHAUST FLUIDS ANALYSIS SYSTEM

Accurate, on-location testing in seconds



Cooling systems play a vital role in preserving overall engine heat balance and in protecting engine components. Testing your coolant and maintaining your system at optimum levels will help prevent:

- Corrosion, pitting, rust build-up
- Damaged seal/coolant leaking into oil
- Overheating, boil-over, engine seize-up
- Engine damage from freezing

As an added benefit, CoolCheck 2 tests for correct DEF levels. An incorrect DEF mixture can also be harmful:

- Reduces engine efficiency
- Negates emission reduction efforts

CoolCheck 2 provides measurement and profiling of coolant condition and diesel exhaust fluid (DEF) integrity.

- Designed for use by the non-expert
- Executes 9 different tests in less than 45 seconds
- Measured results are also graded as:
> NORMAL > ABNORMAL > SEVERE
- Provides corrective advice to avoid potential failures before they happen
- Replaces hazardous chemicals, time-consuming titration methods and inaccurate test strips used in manual testing

CoolCheck 2 helps prevent the most common problems with cooling systems

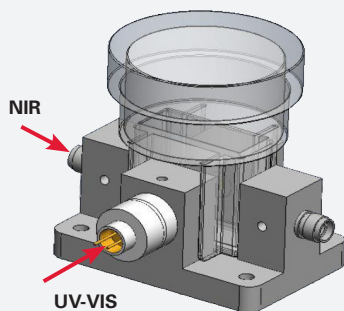
- Mixed fluid types
- Depletion of key performance additives
- System contamination

COOLANT TESTS

- Coolant type
- Clarity
- Color
- Contamination
- Glycol content (%)
- Boil point
- Freeze point
- Nitrites (ppm)

DEF TESTS

- % Urea
- % DEF



Patented Near IR/UV-VIS Dual Spectrometer



| ABNORMAL | | Re-Print |
|-----------------|--------------|-------------|
| ID: | 8267 | |
| Type: | Conventional | |
| Clarity: | Clear | N |
| Contamination: | None | N |
| Color: | Green | |
| Freeze Point: | -5 F | A |
| Glycol Content: | 34.9% | A |
| Boil Point: | 219 F | A |
| Nitrites: | <300 PPM | A |
| | | Export |
| | | Repeat Scan |
| | | Finish |

Principle of Operation

The core of CoolCheck 2 coolant and DEF analyzer is the patented near IR (NIR) and UV/Visible dual spectrometer that measures the absorption spectrum at these two wavelengths simultaneously using a unique sample vial. Physical parameters are extrapolated from the obtained spectrum with special calibrations (done in the factory). Alarm limits stored in the device provide a traffic light style report for immediate decision making. The entire test takes less than a minute.

CoolCheck 2 Product Information

| PRODUCT INFORMATION | |
|-------------------------------|--|
| Part Number | 42000-00 CoolCheck 2 Analyzer Requires 29701-00 Standard Accessory Kit |
| Accessories | POS printer (included) LubeTrak® data management software (optional) |
| Applications | Cooling systems and Diesel Exhaust Fluid (DEF) Analysis |
| Operating Mode | Multi-parameter Tests |
| OUTPUT | |
| Coolant | Coolant Type, Clarity, Contamination, Color, Freeze Point, Glycol Content, Boil Point, Nitrites |
| Diesel Exhaust Fluids (DEF) | % Urea; DEF Amount |
| DEVICE SPECIFICATIONS | |
| Spectral Range | 200-1100 nm |
| Detectors | Dual-Path multi-wave spectrometer – UV/Vis (200-750 nm) and NIR (750-1100 nm); Dual Xenon light source |
| Calibration | 3 Standard fluids generate a polynomial 2nd / 3rd order fit |
| OPERATIONAL SPECIFICATIONS | |
| Sample Volume Required | 0.5 oz. (15 ml) |
| Sample Time Required | 45 seconds |
| Ambient Operating Temperature | 0-40 C |
| Operational Humidity | 5-95% (non-condensing) |
| Ambient Altitude | up to 11,500 feet (3000 meters) |

| USER INTERFACE SPECIFICATIONS | |
|--|---|
| Display | Panel touch screen |
| Data Entry | touchscreen / USB port for computer mouse |
| Data Storage | 16 GB internal |
| Data Transfer | LAN/wireless (FTP) to online reporting |
| Communication | Port 21 (online reporting through LubeTrak) |
| POWER REQUIREMENTS | |
| Power | 115/230V 50/60 Hz (single-phase) |
| Power Consumption | 20 Watts |
| MECHANICAL SPECIFICATIONS | |
| Dimensions | 10.5" (L) x 9" (W) x 4.5" (H) (28cm x 23cm x 11.5 cm) |
| Weight | 4.6 lbs. (2.1 kg) |
| ACCESSORIES & CONSUMABLES | |
| 29140-01 | CoolCheck 2 sample vials, disposable single-use (500) |
| 29313-00 | Thermal Printer Paper |
| 29700-00 | CoolCheck 300 Sample Kit |
| 29034-00 | Sample extractor tubing |
| 29717-00 | Control Sample Kit |
| Accessories (Included with instrument and accessory kit) | Sample bottles (200), sample extractor and tubing, printer and paper, coolant and DEF control sample set, fan replacement filters, universal cable kit. |

LUBETRAK
Online Reporting Tools

Normal Abnormal Critical

Coolant Analysis Report

Unit ID : DT084
Component ID : 1
Component Type : Coolant
Component Description :
Sample Date : 08/15/2015
Sample ID : OSA400168-710
Results : For Future Use.

| TEST | RESULTS | GRADE |
|----------|---------|---------|
| Boil | 223 | N |
| Clarity | Cloudy | A |
| Color | Red | Unknown |
| Contam | Heavy | S |
| Freeze | -24 | N |
| Glycol | 44.7 | N |
| Nitrites | <300 | A |

N = Normal A = Abnormal C = Critical

Optional LubeTrak® Software allows managers to effectively maintain the health and efficient operation of equipment. Users can organize test data and maintenance recommendations from the CoolCheck 2 in a database with easy to use analysis and tracking capability.

- Stores analysis history
- Tracks equipment results
- Displays 'red flag' problems
- Sends alerts to computer or smart phone
- Exportable data

| Unit Type | Last Condition | Last Sample Date | Posted Date |
|-----------|----------------|------------------|-------------|
| COOLANT | ABNORMAL | 8/26/2015 | 8/26/2015 |
| COOLANT | CAUTION | 8/26/2015 | 8/26/2015 |
| COOLANT | CAUTION | 8/26/2015 | 8/26/2015 |
| COOLANT | CAUTION | 8/26/2015 | 8/26/2015 |
| COOLANT | CAUTION | 8/26/2015 | 8/26/2015 |
| COOLANT | ABNORMAL | 8/25/2015 | 8/25/2015 |

| Last Condition | Last Sample Date | Posted Date | ComponentRef |
|----------------|------------------|-------------|-----------------|
| ABNORMAL | 08/25/2015 | 08/25/2015 | OSA400168-DR050 |
| CAUTION | 07/26/2015 | 07/26/2015 | OSA400168-DR050 |
| CAUTION | 06/23/2015 | 06/23/2015 | OSA400168-DR050 |
| NORMAL | 05/28/2015 | 05/28/2015 | OSA400168-DR050 |
| CAUTION | 05/14/2015 | 05/13/2015 | OSA400168-DR050 |
| CAUTION | 05/13/2015 | 05/13/2015 | OSA400168-DR050 |

| Unit Type | Last Condition | Last Sample Date | Posted Date |
|-----------|----------------|------------------|-------------|
| COOLANT | ABNORMAL | 8/25/2015 | 8/25/2015 |
| COOLANT | ABNORMAL | 8/25/2015 | 8/25/2015 |
| COOLANT | CAUTION | 8/25/2015 | 8/25/2015 |
| COOLANT | CAUTION | 8/25/2015 | 8/25/2015 |
| COOLANT | CAUTION | 8/24/2015 | 8/24/2015 |
| COOLANT | CAUTION | 8/22/2015 | 8/22/2015 |