

# Air Release Value Apparatus 15840-0

## Air Release Properties of Lubricating and Hydraulic Products

ASTM D3427; IP 313; BS 2000 Part 313; ISO 9120; DIN 51 381; NFT 60-149

- Integrated solution
- Multi-station sample handling
- Touch screen display
- Simple test menu
- Automated density monitoring
- Circulated sample heating
- Quick connectors for easy handling
- Integral sinker warmer
- Automatic result calculation
- Memory for 10,000 tests results
- Full LIMS connectivity
- CE marked
- Automated Calibration procedure



Hydraulic Fluids • Lubricating Oils

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### Air Release Value

The NEW Seta Apparatus is designed to determine the air release properties of hydrocarbon based oils in accordance with ASTM, IP and other methods. The apparatus is a benchtop instrument with integrated density balance, heater, temperature control system, sinker warmer, pressure regulation and microprocessor based control system. A unique slider arrangement allows easy positioning of the test vessel throughout the test cycle.

### Typical Applications

Lubricant and Oils containing excess amounts of entrained air can lead to serious disruptions of equipment in operation, increased oxidation tendency and shortened lubricating efficiency. The ARV (Air Release Value) test determines the time taken for hydraulic fluids and lubricating oils to release entrained air and gases.

### Test Method

The sample is heated and subjected to airflow at a specified rate, the duration needed for entrained air to reduce in volume is recorded as the air bubble separation time.



### Operator Interface

**Start of Test**

Operator: Operator

Sample Id: 123

Test Temp: 50

Comment: TEST

GO

Quickly and easily start test

**Test Preparation**

Test Temp: 50 °C

Probe Temp: --- °C

Air Temp: --- °C

✓ Glassware Cleaned

✓ Water bath heated to 50°C

✓ Glass sinker heated to 50°C

✓ Sample heated to 60°C

Cancel

Next

Complete test preparation

**Test in Progress**

Test Temp: 50 °C

Probe Temp: --- °C

Air Temp: --- °C

Pour sample into test vessel

Back

Cancel

Next

Follow simple test method guide

**Viewing a Result**

Test Temp: 75 °C

Air Release Time: 22:26

Initial Density: 887.83 kg/m³

Sample Id: SC01000

Operator: EF

Target Density: 886.06 kg/m³

Aeration Time: 7:00 min

SOFTWARE TEST

Density over Time

Graph showing Density (kg/m³) vs Time (s)

View results with key parameters highlighted and a graphical representation

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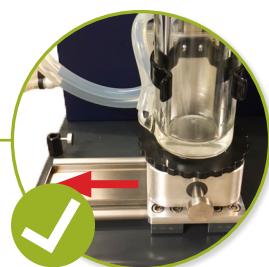


### Operator Safety

- No need to handle hot sample vessel
- Exhaust filter system extracts oil vapours
- Control interlock prevents heating when there's no air flow
- Safety cut-out prevents overheating
- Protective safety shield around vessel during aeration

### Ease Of Use

- Removes traditional operator problems
- **Dropping the balance sinker into the hot sample** - no longer a concern, the sinker remains permanently fixed to the balance and is either immersed in the sample by raising the test vessel platform or warmed in an integral air bath
- **Transferring from aeration to density measurement** - a sliding, raising and lowering platform allows the sample to be quickly and precisely moved between the test modes without delay or risk to the operator

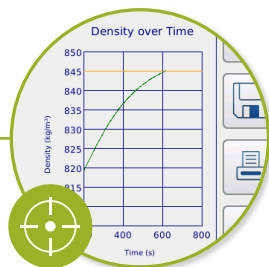


### Precision and Accuracy

- Automatic timing, temperature control, regulated aeration and integrated density measurement ensures test repeatability

### Enhanced Test Throughput

- Automated test sequence optimises time taken for each stage of the test
- Less reliance on an operator to maintain the various controls for airflow, temperature and density
- Quick-connectors on glass vessels minimise assembly and cleaning time
- Allows preheated samples to be tested in rapid succession
- Automatic Calibration procedure



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### Technical Specifications

Seta Air Release Value Apparatus 15840-0	
Air supply	Compressed air or external pump requires 75 kPa and 40 l/min
Sample size	180 ml $\pm$ 5 ml
Test temperature range	Ambient to 75°C (air to 85°C)
Set temperatures	25°C 50°C 75°C (custom temperature available in software)
Sample temperature stability	$\pm$ 0.1°C
Air temperature stability	$\pm$ 0.2°C
Water supply	10 l/min, adjustable from 25°C to 80°C
Density	0.0001 g/ml (0.1 kg/m <sup>3</sup> )
Voltage	100 to 240 AC (switched) 50/60Hz
Current (MAX)	3.5A
Display	Widescreen 7" TFT LCD 800 x 480 resolution
Connectivity	USB type A - test results can be saved to memory stick  Ethernet RJ45 for connection to LIMS  Printer - Ethernet
Size (H x W x D)	82 x 44 x 50 cm
Weight	29 kg

### Minimal Servicing



#### Weekly:

- Check the accuracy of the balance once a week



#### Monthly:

- Check temperature calibration monthly

### Required Accessories

Part Number		Description
15870-5		Circulating water bath, for test vessel and sinker warmer  Stainless steel compact thermostatic bath with built-in stirrer and pump to enable use as a circulator for external apparatus
20290-4		Air pump, for aeration  Oil free rotating vane (non-pulsating) for air and non-corrosive gases

### Optional Accessories

Part Number		Description
99200-3		Laboratory drying oven  A digitally controlled oven suitable for heat storage, heat treatment and drying processes at temperatures up to 300°C for timed periods up to 999 hours
82012-0		Precision plus digital thermometer  Range -199 to +199°C. Resolution 0.01°C. 5 point UKAS calibration at 30, 37.8, 55, 90 and 150°C