#### **FOAMING**

## ASTM D892 (I, II, III) IP 146 ISO 6247 DIN 51566 FOAMING CHARACTERISTICS OF LUBRICATING OILS

This test method covers the determination of the foaming characteristics of lubricating oils at  $24^{\circ}$ C ( $75.2^{\circ}$ F) and  $93.5^{\circ}$ C ( $200.3^{\circ}$ F) Means of empirically rating the foaming tendency and the stability of the foam are described

## ASTM D6082 (IV) HIGH TEMPERATURE FOAMING CHARACTERISTICS OF LUBRICATING OILS

This test method describes the procedure for determining the foaming characteristics of lubricating oils (specifically transmission fluid and motor oil) at 150°C (302°F)

Consists of a tank fitted with cover with two hole, which allows two cylinders to get through, and a cooling coil, leakage protection vessel made of tempered glass supplied with cork disk supporting and stainless steel base. Stainless steel control box on the cover, temperature controlled by digital thermoregulator PID with PT100 probe class A and overtemperature alarm, stainless steel heater, cooling coil for improved control near to ambient temperature, motor stirrer, safety internal level for low liquid with warning lamp. Plate base painted with antiacid epoxidy products with rack for 2 flowmeters 25-250 ml/min. Complete with: 2x flowmeters, 2x graduated cylinders, 2x diffuser ball-shape, 2x rubber plug and diffuser tubes.

Technical specifications:

- Temperature: from ambient to +150°C (302°F)

Stability: ±0.1°CCapacity: about 23 I

- Power supply: 230V ±10% 50/60Hz

- Power: 2200W

1900/2 FOAMING BATH LIQUID MODEL (2 POSITIONS)

Consists of two tanks, one for working 24°C (75.2°F) and one for working up to 150°C (302°F), fitted with cover with two hole each, which allows two cylinders to get through, leakage protection vessel made of tempered glass supplied with cork disk supporting and stainless steel base. Stainless steel control box on the cover, temperature controlled by digital thermoregulator PID with PT100 probe class A and overtemperature alarm, stainless steel heater, cooling coil for improved control near to ambient temperature, motor stirrer, safety internal level for low liquid with warning lamp. Plate base painted with anti-acid epoxidy products, rack for 4 flowmeters 25-250 ml/min. Complete with: 4x flowmeters, 4x graduated cylinders, 4x diffuser ball-shape, 4x rubber plug and diffuser tubes.

Technical specifications:

- Temperature: from ambient to  $+150^{\circ}\text{C}$  (302°F)

Stability: ±0.1°CCapacity: about 23+23 I

- Power supply: 230V  $\pm 10\%$  50/60Hz

- Power: 1200+2200 W - Dimensions: 76x50x77 cm

- Weight: 65 kg.

1900/4 FOAMING BATH LIQUID MODEL (4 POSITIONS)

# **CONSUMABLES x 2 YEARS**

15-1904 GRADUATED CYLINDER, 1000 ml. x2 15-1903 DIFFUSER BALL-SHAPE x2

Made of alundum

SPARE PARTS

DIFFUSER TUBE, pack of 2 pcs 15-1902 15-1905 RUBBER STOPPER, pack of 2 pcs 15-1906 **FLOWMETER** 14-0002 PROBE PT100A 11-0012/19 HEATER (for bath 24°C) 11-0016 **HFATFR** 15-0003/120 LEVEL SWITCH 16-0005 DIGITAL THERMOREGULATOR 15-0015 STATIC RELAY **BIPOLAR GREEN SWITCH** 15-0004 15-0005 **BIPOLAR YELLOW SWITCH** 12-0001 MOTOR STIRRER

Consisting of stainless steel tank 2 positions with system for connection of an external chilled mixture; insulate interspace with frontal tempered window and light. Temperature controlled by a digital thermoregulator PID with PT100 probe class A and overtemperature alarm, rack for 2 flowmeters 25-250 ml/min. Complete with: 2x flowmeters, 2x graduate cylinders, 2x diffuser balls-shape, 2x rubber plug and diffuser tubes.

Tecnical specifications:

- Temperature: from ambient to +150°C (302°F)

- Stability: ±0,5°C

- Power supply: 230V 50/60Hz

- Power: 2200W

1900/AIR/2

**FOAMING BATH AIR MODEL** 

(2 POSITIONS)

Consisting of 2 stainless steel tanks, one for working 24°C (75,2°F) with system for connection of an external chilled mixture and one for working up to 150°C (302°F), each with 2 positions; insulate interspace with frontal tempered window and light. Temperature controlled by a digital thermoregulator PID with PT100 probe class A and overtemperature alarm, rack for 4 flowmeters 25-250 ml/min.

Complete with:  $4 \times 1000$  flowmeters,  $4 \times 1000$  graduate cylinders,  $4 \times 1000$  diffuser balls-shape,  $4 \times 1000$  rubber plug and diffuser tubes.

Tecnical specifications:

- Temperature: from ambient to +150°C (302°F)

- Stability: ±0,5°C

- Power supply: 230V 50/60Hz

- Power: 2200W

1900/AIR/4

FOAMING BATH AIR MODEL (4 POSITIONS)

ACCESSORIES ON REQUEST		
10-1901	CERTIFIED DIFFUSER BALL-SHAPE	
	Made of Alundum	
10-1904	DIFFUSER CYLINDRICAL-SHAPE	
	Made of stainless steel	
10-1904/C	CERTIFIED DIFFUSER CYLINDRICAL-SHAPE	
	Made of stainless steel	
10-1905	DRYING TOWER, 300 mm	
	20-mm layer of cotton, 180-mm layer of	
	indicating desiccant, 20-mm layer of cotton	
10-1905/V	EMPTY DRYING TOWER, 300 mm	
10-1906	AIR VOLUME METER	
	1-60 l/h	
10-1907	GAS VOLUME METER	
	5-360 l/h	
10-1908	DIFFUSER TEST APPARATUS	
	For maximum pore diameter and permeability diffusers.	
	Consisting of: U-tube manometer, gas volume	
	meter 5-360 l/h, 500 ml vacuum flask, 250 ml	
	cylinder, needle valve	
2460/2180	PUMP	
10-0332	DIGITAL STOPWATCH	
	7 digit LCD, max.10 hours, 1/100 sec,	
	digit h=8 mm	
T-AS12C	THERMOMETER ASTM 12C IP 64C	
T-AS41C	THERMOMETER ASTM 41C IP 81C	





# **COOLANTS**

#### ASTM D1881 FOAMING TENDENCIES OF ENGINE COOLANTS IN GLASSWARE

This test method covers a simple glassware test for evaluating the tendency of engine coolants to foam under laboratory-controlled-conditions of aeration and temperature.

10-1901

10-0332

Consisting of a small electric heater, borosilicate glass 4 I, 500 ml graduated cylinder with metal ballast on the bottom, a porous stone with a diffuser ball-shape, a 3-way stopcock, blowing pump and flowmeter 60  $\rm I/h$ 

Technical specifications:

- Temperature: from ambient to 100°C (212°F)

- Stability: ±1°C

- Power supply: 230V  $\pm 10\%$  50/60Hz

- Power: 700W

#### 1915 COOLANTS FOAMING APPARATUS



	Made of Alundum
10-1905	DRYING TOWER, 300 mm
	20-mm layer of cotton, 180-mm layer of
	indicating desiccant, 20-mm layer of cotton
10-1905/V	EMPTY DRYING TOWER, 300 mm
10-1908	DIFFUSER TEST APPARATUS
	For maximum pore diameter and permeability
	diffusers.
	Consisting of: U-tube manometer, gas volume
	meter 5-360 l/h, 500 ml vacuum flask, 250 ml
	cylinder, needle valve

CERTIFIED DIFFUSER BALL-SHAPE

DIGITAL STOPWATCH
7 digit LCD, max.10 hours, 1/100 sec,

digit h=8 mm

T-AS1C THERMOMETER ASTM 1C

# **CONSUMABLES x 2 YEARS**

**ACCESSORIES ON REQUEST** 

Made of Alundum

15-1915/C GRADUATED CYLINDER, 500 ml. x2

15-1903 DIFFUSER BALL-SHAPE x2

Made of alundum

## SPARE PARTS

15-1902 DIFFUSER TUBE, pack of 2 pcs

15-1915/F FLOWMETER

15-1915/T SILICONE STOPPER, pack of 2 pcs

15-1915/J JAR, 4 l

15-1915/R 3-WAY STOPCOCKE