Next Generation Calorimeters

7400 Automatic Isoperibol Calorimeter & 7200 Precision Isoperibol Calorimeter

Parr Instrument Company is pleased to announce the next generation of calorimeters advancing the design and convenience of Parr Calorimeters.

Building on the calculations and test results Parr users know and trust, the new 7400 and 7200 Calorimeters introduce a more modern software platform, upgraded processing power, and a larger, adjustable touchscreen display to support efficient day-to-day operation in the laboratory.

The new 10-inch high-resolution touchscreen replaces the previous 4-inch display and can be tilted for improved readability, comfort, and ease of use. The updated interface and modern software platform are designed to make operation more intuitive while improving overall performance and efficiency.

The Model 7200 now features a slimmer 17-inch (43 cm) width, reducing its bench footprint. The Model 7400 includes more accessible connections, while both models now include memory for up to eight vessels instead of four, offering added convenience for users managing multiple vessels.

Additional enhancements include an upgraded CPU for faster, more efficient performance; a darker, more robust paint finish designed for harsh environments.



7400 Automatic Isoperibol Calorimeter



7200 Precision Isoperibol Calorimeter

Key Features

- 10-inch adjustable touchscreen display for improved readability and viewing flexibility
- Modern software platform designed for easy, efficient operation
- Upgraded CPU for enhanced performance and responsiveness
- Slimmer 17-inch (43 cm) Model 7200 design to reduce bench space requirements
- Ability to remember up to eight vessels
- Darker, more robust paint finish for demanding laboratory environments
- CE Mark
- MET Certification

Let Us Build One for You.

7400 Automatic Isoperibol Calorimeter

SPECIFICATIONS

Model Number:
7400

Tests Per Hour:
6 – 7

Operator Time Per Test:
1 Minute

Precision Classification:
0.1% Class

Jacket Type:
Isoperibol, Water Jacket

Oxygen Fill:
Automatic

Bucket Fill:
Automatic

Vessel Wash:
Automatic

Vessel Model Options:
1138, 250mL, Alloy 20
1138CL, 250mL, Alloy G30

Balance Communication:
USB

Printer Communication:
USB

Network Connection:
TCP/IP via Ethernet

Dimensions
cm: 42w x 40d x 49h
in: 16.5w x 15.7d x 19.3h



7400 Automatic Isoperibol Calorimeter

The 7400 Automatic Isoperibol Calorimeter features a sleek modern design which includes a large, adjustable touchscreen display, upgraded CPU, and intuitive menu structure to maximize sample throughput in high volume laboratories.

Compact and self-contained, the calorimeter incorporates a closed-loop cooling subsystem. This subsystem uses a thermoelectric chiller assembly with 1 L water tank to supply cooling water to the calorimeter.

The 7400 features a fixed vessel-and-bucket design, allowing for automated bucket and oxygen filling. The 7400 requires only one minute of operator time per test, allowing a technician to operate up to four calorimeters simultaneously.

After each test is complete, the calorimeter automatically rinses the combustion vessel, readying the instrument for the next test.

10-inch Adjustable Touchscreen Display

The 7400 Calorimeter is controlled by a high-resolution touchscreen with excellent touch accuracy and display clarity. The tiltable screen accommodates users and lab benches of any height. The durable, scratch-resistant, screen can be operated with gloves or protective film.

Upgraded CPU and Software Interface

A new CPU board and redesigned menu structure takes maximum advantage of the larger tablet-like display, allowing rapid and intuitive navigation.

Fixed Quick Twist-Lock Vessel and Bucket

The fixed combustion vessel and bucket offer a unique level of automation for the calorimetric determination process, including bucket filling, vessel sealing, washing, and cooling. The patented Quick Twist-Lock closure seals the 1138 Combustion Vessel with a simple one-sixteenth turn, while automated washing reduces manual effort and helps extend vessel service life.

Vessel Wash Filter

For studies involving samples with high ash content or incombustible inorganics, an optional vessel wash filter assembly can be added to the 1138 Vessel to protect the automatic mechanism from debris.

Laboratory Requirements

The calorimeter requires a source of 99.5 percent oxygen, a source of nitrogen or house air at 80 psi, and deionized water.

Expanded System

The 7400 Expanded System is a convenient way to order all of the components necessary for a complete system. The system includes the following parts:

- 7400 Calorimeter
- A1589DD Rinse Tank
- 1761 Printer
- Extra A1450DD Vessel Head Assembly
- 6038 Vessel Maintenance Kit
- 7409B 1 Year Service Kit

7400 Automatic Isoperibol Calorimeter Ordering Guide

Model No.	Voltage	Description
7400	115 V / 230 V	7400 Calorimeter with 1138 Oxygen Vessel of Alloy 20
7400CL	115 V / 230 V	7400 Calorimeter with 1138 Oxygen Vessel of Alloy G30
7400-EXP	115 V / 230 V	7400 Expanded System with 1138 Oxygen Vessel of Alloy 20
7400CL-EXP	115 V / 230 V	7400 Expanded System with 1138 Oxygen Vessel of Alloy G30

7200 Precision Isoperibol Calorimeter



7200 Precision Isoperibol Calorimeter

The 7200 Precision Isoperibol Calorimeter is Parr's most precise model and features a sleek modern design with a large, adjustable display, updated CPU, and intuitive menu structure. The width of the 7200 has been reduced by two inches (5 cm) from the 6200 design, decreasing its benchtop footprint.

The traditional 1108P removable combustion vessel, bucket, and water jacket designs have been retained. These time-tested features afford the user complete control over the combustion process, making the 7200 the ultimate choice for precise research and development and quality control work.

Isoperibol Jacket System

Outstanding thermal jacketing is provided by a circulating water system driven by a built-in, high capacity pump which maintains a continuous forced flow around the sides and bottom of the bucket chamber and through the cover as well. A sealed immersion heater and a built-in heat exchanger, both operated by the calorimeter controller, provide precise jacket temperature control.

10-inch Adjustable Touchscreen Display

The 7200 Calorimeter is controlled by a high-resolution touchscreen with excellent touch accuracy and display clarity. The tiltable screen accommodates users and lab benches of any height. The durable, scratch-resistant, and shatterproof screen can be operated with gloves or protective film.

Upgraded CPU and Software Interface

A new CPU board and redesigned menu structure takes maximum advantage of the larger tablet-like display, allowing rapid and intuitive navigation.

Automatic Oxygen Fill

To speed and simplify operation, the 7200 Calorimeter includes an automated touchscreen-initiated system to execute a filling sequence, once the filling connector has been slipped onto the inlet valve. This sequence charges the vessel with oxygen under the control of the main calorimeter controller.

Laboratory Requirements

The calorimeter requires a source of 99.5 percent oxygen and two liters of water per test. If a closed loop system is chosen, the water handling system must be installed so that the fan will not blow on the calorimeter.

Expanded System

The 7200 Expanded System includes the following components:

- 7200 Calorimeter
- 6510 Water Handling System
- 1761 Printer
- Extra Vessel and Bucket
- 6008P Vessel Maintenance Kit
- 6109P 1 Year Service Kit

SPECIFICATIONS

Model Number:
7200

Tests Per Hour:
4 – 8

Operator Time Per Test:
6 Minutes

Precision Classification:
0.05 - 0.1% Class

Jacket Type:
Isoperibol, Water Jacket

Oxygen Fill:
Automatic

Bucket Fill:
Manual

Vessel Wash:
Manual

Vessel Model Options:
1108P, Alloy 20
1108PCL, Alloy G30
1108, Alloy 20
1108CL, Alloy G30
1108B, Alloy 20
1108BCL, Alloy G30
1108BP, Alloy 20
1108BPCL, Alloy G30
1108V, Vacuum,
1109A, 22mL Semimicro
1109X, 22mL High Strength Semimicro
1104, High Strength

Balance Communication:
USB

Printer Communication:
USB

Network Connection:
TCP/IP via Ethernet

Dimensions
cm: 43w x 43d x 46h
in: 16.9w x 16.9d x 18.1h

7200 Automatic Isoperibol Calorimeter Ordering Guide

Model No.	Voltage	Description
7200	115 V / 230 V	7200 Calorimeter with 1108P Oxygen Vessel of Alloy 20
7200CL	115 V / 230 V	7200 Calorimeter with 1108PCL Oxygen Vessel of Alloy G30
7200-EXP	115 V / 230 V	7200 Expanded System with two 1108P Oxygen Vessels of Alloy 20 and Principal Components
7200CL-EXP	115 V / 230 V	7200 Expanded System with two 1108PCL Oxygen Vessels of Alloy G30 and Principal Components

Calorimeter Comparison Chart

Calorimeter Comparison Chart						
Characteristics	**7400 Automatic Isoperibol Calorimeter**	**7200 Precision Isoperibol Calorimeter**	**6100 Compensated Jacket Calorimeter**	**6050 Compensated Jacket Calorimeter**	**1341 Plain Jacket Calorimeter**	**6725 Semi-micro Calorimeter**
Calorimeter Type	Isoperibol	Isoperibol	Compensated	Compensated	Static	Static
Operator Time per Test	1 Minute	6 Minutes	6 Minutes	6 Minutes	25 Minutes	6 Minutes
Precision Classification	0.10%	0.05 - 0.10%	0.10 - 0.20%	0.20%	0.30%	0.40%
Number of Vessels	Up to 8	Up to 8	Up to 8	Up to 8	1	Up to 4
Tests per Hour	6-7	4-8 as equipped	4-8 as equipped	4-6 as equipped	2	3
Vessel Type & Bucket	Fixed Vessel and Bucket Design	Removable Vessel and Bucket Design	Removable Vessel and Bucket Design	Removable Vessel and Bucket Design	Removable Vessel and Bucket Design	Removable Vessel Dewar Flask
Bucket Filling	Automatic	Manual	Manual	Manual	Manual	Manual
Oxygen Filling	Automatic	Automatic	Automatic	Automatic	Manual	Manual
Vessel Washing	Automatic	Manual	Manual	Manual	Manual	Manual
Memory	1000 Tests	1000 Tests	1000 Tests	PC	None	1000 Tests
Printer Connection	Ethernet or USB	Ethernet or USB	Ethernet or USB	Via PC	None or USB	Ethernet
Balance Connection	USB	USB	USB	Via PC	None or USB	Ethernet
Network Connection	Ethernet	Ethernet	Ethernet	Via PC	None	Ethernet
Temperature Resolution	0.0001 °C	0.0001 °C	0.0001 °C	0.0001 °C	0.002 °C	0.0001 °C

For our latest specifications

Parr Instrument Company is committed to a process for continually upgrading our line of oxygen bomb calorimeters and their accessories. For more information on factors that influence calorimeter selection, please see our **Calorimeter Selection Criteria Tech Note** or contact us for personalized help in selecting your calorimeter.

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