Anaerobic System

ThermoForma

COMPLETE ANAEROBIC SYSTEM

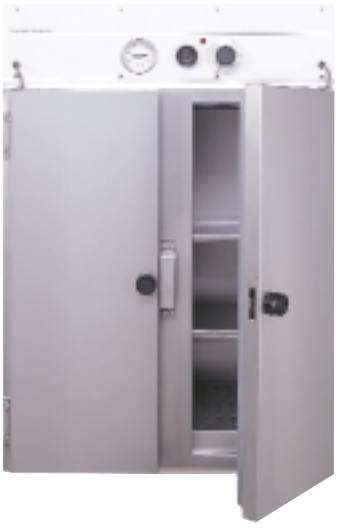
For fast results and accurate diagnosis from a completely centralized oxygen-free work chamber, choose Thermo Forma Anaerobic System Model 1025 (1029).

Safely inoculate, incubate, examine, and subculture even the most fastidious organisms. This complete anaerobic system provides the culture, work, and storage space for all of your needs, and is expandable to accommodate the requirements of growing labs.

Model 1025 (1029) Anaerobic System—a centralized oxygen-free work chamber—shown with optional bench and vacuum pump

FEATURES AND BENEFITS

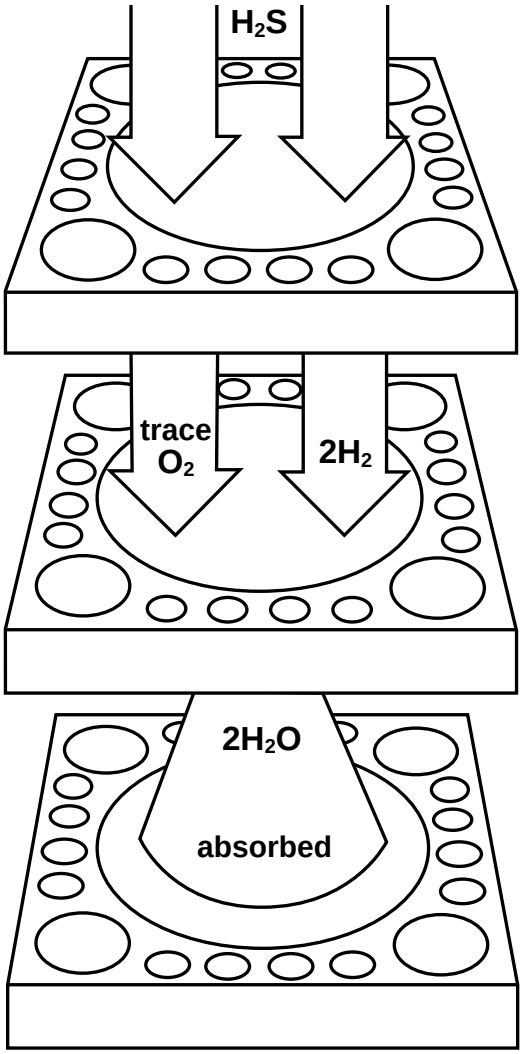
- Condensate-free stainless steel work chamber includes two shelves that are adjustable on 1.0" (2.5cm) centers, four electrical receptacles, two 15 Watt fluorescent lights, and a warm air jacketed incubator.
- Built-in 2.72 cu. ft. (77.0 liters) desiccation-free incubator provides a stable temperature that can be fixed at 35C (95F) or variably set from 4C above ambient to 70C (158F).
- Centrally located oval glove ports allow free access to all areas of the work chamber.
- Soft, clear vinyl front slopes gently for maximum visibility. Optional polycarbonate hard front is available.
- Optional single item entry system in the vinyl front allows rapid movement in and out of the chamber for small items.
- Control panel includes automatic and manual control of the interchange auto-sequence, indicator lights to monitor function status, and fixed and variable temperature control to regulate the incubator temperature.
- Adjustable overtemperature safety thermostat is standard. Audible alarm warns you of overtemperature conditions.
- Easily accessible palladium catalyst and desiccant wafers work together to maintain strict anaerobiosis (less than 10 ppm O_2).
- Charcoal wafer removes hydrogen sulfide (H_2S) and extends the life of the palladium wafer.
- Auto-sequence cycle completely automates oxygen reduction of the interchange atmosphere.
- All utility connections are on the recessed panel at the rear of the cabinet.
- Unit requires only anaerobic grade gas mixture and nitrogen.
- Thermo Forma Anaerobic Systems include a full one year parts and labor warranty.



Built-in incubator for incubation capabilities within the anaerobic environment

ACHIEVING LESS THAN 1% O_2 CONDITIONS

Stringent anaerobiosis is maintained inside the cabinet with a palladium catalyst wafer and a desiccant wafer. Palladium pellets and desiccant crystals, sealed in individual screen wraps, minimize sifting. The reusable palladium catalyst and desiccant wafers can be regenerated periodically in a standard laboratory oven to minimize operating costs.



Charcoal Filter
Removes hydrogen sulfide and extends the life of the palladium wafer.

Longevity: Three months
Regeneration: Cannot be regenerated

Palladium Catalyst Wafer
Bonds trace oxygen to hydrogen in the anaerobic gas mixture, forming water vapor.

Longevity: Two years (at 10% H_2)
Regeneration: Once per week; bake two hours at 160C (320F)

Desiccant Wafer
Absorbs the water vapor.

Longevity: Two years
Regeneration: Two times per week; bake two hours at 160C (320F)

All three wafers are inserted into the airflow system.

The door is closed, and the system continuously circulates the chamber atmosphere through the wafer system.

CONTROL PANEL

Auto-Sequence Cycle – Includes on/off switches for the gas, lights, and catalyst. Also includes manual/auto switches for the vacuum, nitrogen purge, and equalization steps of the cycle. Lights indicate that a function has been activated.

Incubator On/Off Switch

Interchange – Indicates the interchange gas pressure.

Incubator Power – Green light indicates that the incubator is on.

Manual Chamber Fill – Is used to increase the pressure in the chamber.

Heat – Indicates that the incubator is heating.

Chamber Relief – Prevents the chamber from overpressurizing, while keeping out ambient air.

Incubator Temperature Control – Can be set to a constant 35C (95F) or variably set from 4C above ambient to 70C (158F).

Interchange Status – Includes the Start Cycle button and lights that indicate the cycle and door status.

AUTOMATIC INTERCHANGE

The automatic interchange allows you to transfer specimens to the work chamber without exposing the specimens or work chamber to lab air.

- Outer door opens to the front so the anaerobic system can be located against a wall.
- Lights on the control panel indicate chamber functions, including all phases of the automatic interchange. Lights also denote interchange status by signaling when it is safe to transfer specimens without contaminating the anaerobic chamber.
- Interchange compartment features a sliding floor that allows materials to be easily introduced into the working chamber.
- Interchange holds stacked culture dishes, glass jars, test tube racks, and other items used in the work chamber. The oversized compartment accommodates the largest GasPak™ jar.

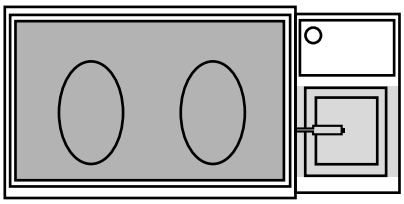
Inner door may be opened and materials moved into the work chamber when the status light on the control panel indicates an anaerobic atmosphere.

GasPak is a trademark of Becton, Dickinson and Co.

AUTO-SEQUENCE CYCLE

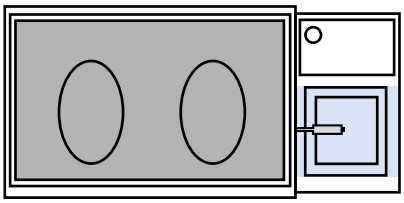
The auto-sequence cycle—a completely automatic oxygen reduction of the interchange atmosphere—is activated by a single, push-button control. Merely press the Start Cycle button after all materials to be transferred are loaded in the interchange, and the outer door is securely clamped.

The auto-sequence cycle is preset for three evacuations, two nitrogen purges, and one pressure equalization of anaerobic gas from the work chamber. When the auto-sequence is completed, the atmosphere in the interchange is anaerobic, as indicated by the Sequence Complete status light on the control panel. You may then open the inner door to move materials from the interchange to the work chamber.



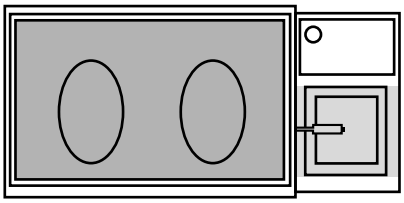
Step 1 – Interchange – Vacuum
Function Time: 18 seconds
Elapsed Time: 18 seconds

Inner and outer interchange doors are sealed. Vacuum pump pulls down to 20 in./Hg. Interchange is 95% oxygen free.



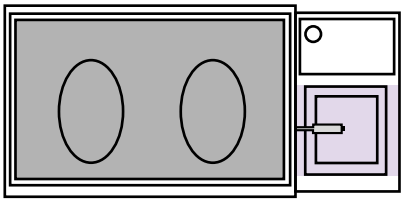
Step 2 – Interchange – N_2 Purge
Function Time: 1 minute, 4 seconds
Elapsed Time: 1 minute, 22 seconds

Interchange fills with pure nitrogen gas until atmospheric pressure is reached.



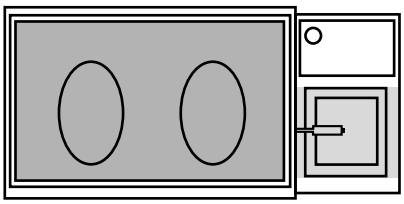
Step 3 – Interchange – Vacuum
Function Time: 18 seconds
Elapsed Time: 1 minute, 40 seconds

Second vacuum pulls down to 20 in./Hg to evacuate nitrogen and trace oxygen to a 96% oxygen-free chamber.



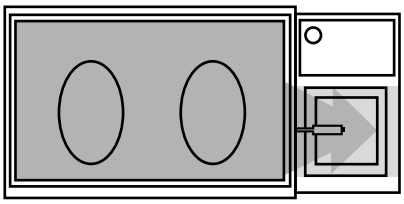
Step 4 – Interchange – N_2 Purge
Function Time: 1 minute, 4 seconds
Elapsed Time: 2 minutes, 44 seconds

Interchange fills with pure nitrogen gas until atmospheric pressure is reached.



Step 5 – Interchange – Vacuum
Function Time: 17 seconds
Elapsed Time: 3 minutes, 1 second

Final vacuum pulls down to 20 in./Hg to evacuate nitrogen and trace oxygen to a 98% oxygen-free chamber.



Step 6 – Interchange – Equalization
Function Time: 1 minute, 31 seconds
Elapsed Time: 4 minutes, 32 seconds

Interchange is purged with anaerobic gas from the work chamber to equalize both pressure and atmosphere. Inner door may be opened after the anaerobic status light (Sequence Complete) is on. Palladium catalyst wafer removes trace oxygen to ensure less than 1% O_2 conditions.

SPECIFICATIONS

Incubator Temperature

Control . . . . . ±0.3C
Range . . . . . 35C (95F) fixed; variable 4C above ambient to 70C (158F)
Thermostat/Alarm . . . . . Adjustable overtemperature safety thermostat and audible alarm

Utility Connections

Mixed Gas . . . . . 1/4" compression fitting
Nitrogen Gas. . . . . 1/4" compression fitting
Vacuum Pump. . . . . 1/2" MPT

Gas Supply

Anaerobic Gas . . . . . High purity grade, 85% N_2/10% H_2/5% CO_2 (or mixture containing 5-7% H_2
Nitrogen Gas. . . . . High purity grade

Vacuum Pump

Optional Vacuum Pump. . . . . Stock No. 901024 – 115V, 60 Hz
Stock No. 901025 – 230V, 50 Hz
7.2 cfm pulls down interchange to 18 in. Hg in 15 seconds. In-house vacuum systems must meet 4 cfm capacity to 24 in. Hg minimum requirements.
(203.7 cfm pulls down interchange to 0.6 bar in 15 seconds. In-house vacuum systems must meet 113.2 cfm capacity to 0.8 bar minimum requirements.)
Optional Foot Switch . . . . . Stock No. 255023 plugs into electrical receptacle included on the unit

Incubator Capacity

Plate Capacity. . . . . 425 (100 x 15mm plates)

Dimensions

Anaerobic System Exterior . . . 60.6"W x 30.0"H x 31.0"F-B (153.9cm x 76.2cm x 78.7cm)
Incubator Interior . . . . . 17.5"W x 22.0"H x 12.0"F-B (44.5cm x 55.9cm x 30.5cm)
Interchange Opening. . . . . 10.6"W x 11.4"H (26.9cm x 29.0cm)
Interchange Depth. . . . . 11.0"F-B (27.9cm)
Work Surface . . . . . 42.5"W x 15.0"F-B (108.0cm x 38.1cm)

Shelves

Work Area . . . . . Two adjustable stainless steel shelves on 1.0" (2.5cm) centers, 18.8" x 13.0" (47.8cm x 33.0cm)
Incubator . . . . . Two adjustable stainless steel shelves on 0.5" (1.3cm) centers, 7.5" x 12.0" (19.1cm x 30.5cm)

Construction

Interchange . . . . . 11 gauge 2B stainless steel
Incubator . . . . . 20 gauge 2B stainless steel
Exterior Work Chamber . . . . . 16 gauge 2B stainless steel, powder coated exterior

Electrical

1025 . . . . . 120V, 60 Hz, 14.6 FLA, includes outlets and vacuum pump (Operating range 108-125V)
1029 . . . . . 220V, 50 Hz, 7.0 FLA, includes outlets and vacuum pump (Operating range 216-250V)
Plug. . . . . NEMA 5-15P (1025), CEE 7/7 (1029)
Convenience Receptacles. . . . 4 receptacles, 1 foot operated; 1025: 5 Amps; 1029: 2 Amps

Weight	**1025**	**1029**
Net	290 lbs. (131.5 kg)	290 lbs. (131.5 kg)
Shipping (Motor).	390 lbs. (176.9 kg)	525 lbs. (238.1 kg)

Continuing research and improvements may result in specification changes at any time.

ACCESSORIES

NUMBER	DESCRIPTION
1018	Add-On Glove Cabinet for Model 1025, Customer Installed
1016	Add-On Glove Cabinet for Model 1029, Customer Installed
1031	Add-On Glove Cabinet with Incubator for Model 1025, Customer Installed
1037	Add-On Glove Cabinet with Incubator for Model 1029, Customer Installed
	All Add-On Glove Cabinets are 43.0"W x 30.0"H x 31.0"F-B (109.2cm x 76.2cm x 78.7cm)
188032	Hard Front Polycarbonate Panel, Customer Installed
188035	Hard Front Polycarbonate Panel (in lieu of vinyl front), Factory Installed
188022	Replacement Vinyl Front Panel, Customer Installed
188027	Vinyl Front Ocular Pouch (adapts the anaerobic system to your microscope), Customer Installed
188012	Single Item Entry Port, Customer Installed
190011	Auxiliary Desiccant/Palladium Dryer for Model 1029, Customer Installed
931024	Auxiliary Desiccant/Palladium Dryer for Model 1025, Customer Installed
191022	Activated Charcoal Filter, Customer Installed
191024	Palladium Catalyst Wafer, Customer Installed
191025	Desiccant Wafer, Customer Installed
961024	Wafer Storage Container
255023	Foot Switch (plugs in to electrical receptacle included on the unit), Customer Installed
901024	Vacuum Pump for Model 1025, Customer Installed
901025	Vacuum Pump for Model 1029, Customer Installed
921025	Disposable Waste Bags, 6.0"W x 12.0"H x 6.0"F-B (15.2cm x 30.5cm x 15.2cm), 100 per package
921036	Absorbent Work Mats, 18.0" x 20.0" (45.7cm x 50.8cm), 350 per case
921031	Size 8 Rubber Gloves (one dozen)
921032	Size 9 Rubber Gloves (one dozen)
921033	Size 10 Rubber Gloves (one dozen)
921034	Size 11 Rubber Gloves (one dozen)
188014	Size 8 Neoprene Sleeve/Glove for Hard Front
188015	Size 9 Neoprene Sleeve/Glove for Hard Front
188016	Size 10 Neoprene Sleeve/Glove for Hard Front
961027	Two-Stage Gas Regulator for N_2
961028	Two-Stage Gas Regulator for Anaerobic Gas
5599000	Anaerobic Bench, 66.0"W x 37.0"H x 30.0"F-B (167.6cm x 94.0cm x 76.2cm)
5599017	Add-On Anaerobic Bench, 44.0"W x 37.0"H x 30.0"F-B (111.8cm x 94.0cm x 76.2cm)
5699997	Caster with Brake for Anaerobic Bench (order 4)

Vacuum pump

Auxiliary desiccant/palladium dryer

THERMO FORMA INCUBATORS

We offer a complete line of cell culture incubators and environmental chambers to meet a wide variety of research and culturing applications. Contact us for complete details.

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- Blood Bank Equipment
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