GALAXY....THE RIGHT CO_2 INCUBATOR FOR YOUR LAB

Galaxy incubators are offered in a range of three sizes and two models, with an unrivaled number of options.

All Galaxy incubators feature:

SIX-SIDED, DIRECT HEATING PROFILE:

Pioneered in Galaxy incubators, the unique direct-heat profile gently bathes the cells in a consistent atmosphere through gentle convection. This system guards against wide fluctuations in temperature and CO_2 that can shock cells, as seen in traditional forced-air culture systems.

FANLESS DESIGN:

Galaxy incubators pioneered elimination of conventional fans, replacing them with our unique heating profile, which sets up a gentle circulation of air. By removing the fan, Galaxy incubators have eliminated a classic source of repeated contamination, allowing the entire incubator — including upper shelf — to be utilized while maintaining uniformity. In addition, since there is no fan, there is no need for an expensive internal HEPA filter that needs to be replaced frequently.

IR CO_2 SENSOR:

Standard in all Galaxy models, is our unique InfraRed (IR) CO_2 sensor. This sensor offers specific measurement and accurate control of CO_2 levels. The traditional thermal conductivity (TC) sensor is highly sensitive to changes in chamber humidity and temperature fluctuations, and is therefore fundamentally unsuitable for use in CO_2 incubators. Uniquely, the Galaxy IR Sensor can remain in the chamber during the entire high-temperature disinfection cycle, ensuring that all chamber components are sterilized.

SIMPLIFIED CLEANING:

On all models, the chambers are pressed from a single sheet of stainless steel, with no welds or seams, eliminating another potential source of contamination. In combination with the easily-removable, replaceable shelves, this makes chamber cleaning a rapid and efficient process, so more time can be spent engaged in science and less with maintaining the instrument.

UNIQUE RANGE OF MODEL SIZES:

In common with our 170L incubators, our 48L and 14L incubators incorporate all of the superior design and innovation of the larger units, in a smaller format. These units offer the ideal environment for hypoxic applications, research requiring isolation, and IVF research.

OPTIONS: (see page 10 for added details)

Galaxy CO_2 incubators come with a wide variety of options allowing customization to meet your exact requirements and level of sophistication. With High-Temperature Disinfection (HTD), three levels of O_2 control, and new active disinfection and humidification options, there is a Galaxy incubator for every application.

NEW FEATURES:

- **25mm Access Port Standard**
  Available for adding instrumentation or additional probes.
- **RS-232 Port Standard**
  For communication and external instrument logging.
- **Perforated Shelves**
  The unique design of the perforated shelving system optimizes temperature, CO_2 and especially RH recovery to minimize the effects of door openings and closings.
- **Innovative Sealed Inner Glass Door**
  Available on 170L models, the new sealed inner glass door system allows viewing access to the samples while maintaining complete sample and environmental integrity. This system is designed to minimize costly CO_2 and N_2 consumption and to provide optimal sample stability and uniformity throughout the culturing process.

Available in 14L, 48L & 170L capacities, and in choice of sophisticated "R" models with advanced controller, or economical "S" models with LED display. Back row: Galaxy 170 S (left) & 170 R. Front row: Galaxy 14 S (left) and 48 R. Galaxy 48 S not shown.

Galaxy 14 S is a unique, mini-sized 14L (0.5 cu. ft.) CO_2 incubator — originally designed for but not limited to *in-vitro* fertilization (IVF) work. Its compact size is ideal for individually supporting and isolating cultures for specific patients or samples. The 14 S easily fits into IVF work-stations and under laminar flow hoods for complete minimization of contamination risk.

It is ideal for stem cell and IVF applications, including oocyte collection and preparation, pre-implantation diagnostics, embryo transfers, and sperm preparation. When adding the 1 - 19% oxygen control option, the 14 S becomes a small hypoxic incubator, consuming a minimal amount of nitrogen.

GALAXY 14 S

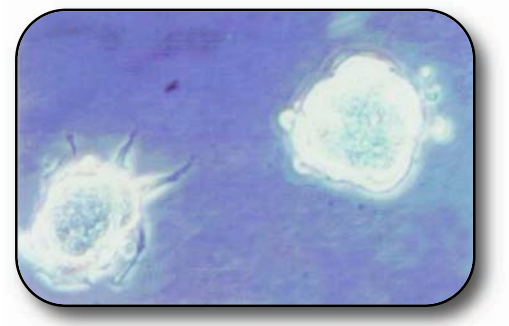
The 14 S provides an LED interface with RS-232 and 25mm access port as standard. A small footprint, yet spacious chamber, allows for specific applications to be carried out in isolation from general cell culture, ensuring assay validity.

FEATURES:

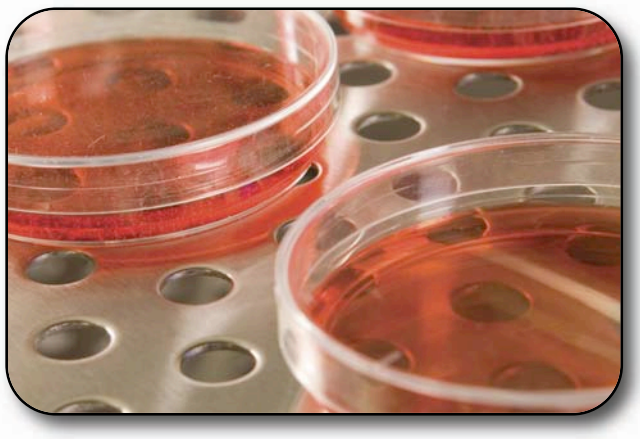
- **Convenient benchtop size and footprint.**
- **Size allows for incorporation in workstations and laminar hoods.**
- **Seamless, fanless chamber design.**
- **RS-232 and 25mm access port standard.**
- **Low gas consumption.**
- **Perforated shelving** to allow for faster recoveries.
- **External CO_2 supply line HEPA filtration.**

OPTIONS (See page 10 for details):

- **1 - 19% O_2 control.**
- **Single inner glass door.**
- **BMS alarm relay contacts.**



Using Galaxy's advanced 1 - 19% oxygen control option, stem cells can be cultured in near-to in-vivo conditions, avoiding cell differentiation.



Rapid recovery of temperature, CO_2 and RH after door opening is facilitated with our unique new perforated shelf design.

CUSTOMIZE YOUR INCUBATOR WITH THESE OPTIONS

HIGH TEMPERATURE DISINFECTION:

Available on the 170 R & S, and 48 R models.

- 120°C 4-hour cycle.
- One-touch operation.
- CO_2 Sensor remains in the chamber.
- Ensures a clean and disinfected environment for cell culture.

O_2 CONTROL:

Available on the 170 R, 48 R, and 14 S.

- Up to three levels of control options.
- 1 - 19% for most common hypoxic applications.
- 0.1 - 19% for more stringent oxygen requirements.
- 1 - 95% for hyperoxic and hypoxic incubation.
- Ideal for Stem Cell, Oncology, and IVF studies.

NEW ACTIVE HUMIDIFICATION SYSTEM (AHS):

Available on the 170 R.

- Rapid humidification of the CO_2 chamber.
- User-defined humidification settings to 95%.
- Non-condensing humidity.
- Ideal for low sample volume and microtiter plate applications.
- External UV disinfection of humidified atmosphere.

NEW COOLING SYSTEM:

Available on the 170 R.

- Allows studies at or below ambient temperature.
- Effectively cools to 10°C below ambient temperature.
- Redesign offers an efficient and uniformly cooled chamber.

UV DISINFECTION SYSTEM:

Available on the 170 R.

- Active and continuous UV disinfection of internal atmosphere.
- Gently passing air over an external UV module.
- No risk to cells of UV exposure.

BUILDING MANAGEMENT SYSTEM (BMS) RELAY:

Available on all models.

- Relay for integration with building alarm system.

COPPER CHAMBER:

Available on 170 R and S.

- Oxidizing copper chamber provides an added contamination protection.

SPLIT INNER DOORS:

Available on 170 R & S, and 48 R & S.

- 4 or 8 Split inner glass door options available on 170 R & S models.
- 2-Split inner glass door option available on 48 R & S models.
- Offers enhanced chamber temperature uniformity and reduced gas consumption.
- Maintains easy access to samples.

BIOCOMMAND® SFI:

Available on all models.

- Data logging and control software designed specifically for our CO_2 Incubators.
- Provides historical data logging and report generation to local computer, and for multiple units.
- Connects through RS-232 port.

Galaxy Incubator Model **	170 R	170 S	48 R	48 S	14 S
Standard, 120V	CO170R-120-0000	CO170S-120-0000	CO48R-120-0000	CO48S-120-0000	CO14S-120-0000
Standard, 230V	CO170R-230-0000	CO170S-230-0000	CO48R-230-0000	CO48S-230-0000	CO14S-230-0000
With High-Temp. Disinfection, 120V	CO170R-120-1000	CO170S-120-1000	CO48R-120-1000	—	—
With High-Temp. Disinfection, 230V	CO170R-230-1000	CO170S-230-1000	CO48R-230-1000	—	—
With 1 - 19% O_2 Control, 120V	CO170R-120-0200		CO48R-120-0200	—	CO14S-120-0200
With 1 - 19% O_2 Control, 230V	CO170R-230-0200	—	CO48R-230-0200	—	CO14S-230-0200
With High-Temp. & 1-19% O_2 Control, 120V	CO170R-120-1200	—	CO48R-120-1200	—	—
With High-Temp. & 1-19% O_2 Control, 230V	CO170R-230-1200	—	CO48R-230-1200	—	—
Additional Factory-Installed Options					
O2 Control, 0.1 - 19%	P0628-5410	—	P0628-6280	—	—
O2 Control, 1 - 95%	P0628-5400	—	P0628-5260	—	—
Cooling System (below ambient) ø	P0628-6810	—	—	—	—
Active Humidification ø	P0628-6800	—	—	—	—
Active UV Disinfection System ø	P0628-6790	—	—	—	—
Building Management System Relays	P0628-5540	P0628-5651	P0628-5340	P0628-5341	P0628-6300
Single Inner Glass Door	Standard	Standard	—	—	P0628-6210
Split Inner Doors - 2	—	—	P0628-5330	P0628-5330	—
Split Inner Doors - 4	P0628-6780	P0628-6780	—	—	—
Split Inner Doors - 8	P0628-6781	P0628-6781	—	—	—
Humidity Alert Package (Display and Alarm)	P0628-6820	—	P0628-6770	—	—
Internal Sealed Power Supply (IP66)	P0628-5560	P0628-5560	P0628-5350	P0628-5350	—
Copper Chamber	P0628-5430	P0628-5430	—	—	—
Accessories - Gas Management & Analysis					
Two Stage CO_2 Regulator	P0628-5010	P0628-5010	P0628-5010	P0628-5010	P0628-5010
Two Stage N_2 Regulator	P0628-7220	—	P0628-7220	—	P0628-7220
CO_2 Supply Line HEPA Filters (2)	P0628-5020	P0628-5020	P0628-5020	P0628-5020	P0628-5020
CO_2 In-line Pressure Regulator	P0628-5030	P0628-5030	P0628-5030	P0628-5030	P0628-5030
CO_2 Cylinder Auto-Changeover Controller	P0628-5000	P0628-5000	P0628-5000	P0628-5000	P0628-5000
Auto-Zero HEPA Filters (5)	P0628-5060	P0628-5060	P0628-5060	P0628-5060	P0628-5060
CO_2 Gas Analyzer Kit	P0628-5040	P0628-5040	P0628-5040	P0628-5040	P0628-5040
Spare CO_2 Gas Analyzer Tubes (10)	P0628-5050	P0628-5050	P0628-5050	P0628-5050	P0628-5050
Electronic CO_2 Gas Analyzer	P0628-6150	P0628-6150	P0628-6150	P0628-6150	P0628-6150
Electronic CO_2 & O_2 Gas Analyzer	P0628-6831	P0628-6831	P0628-6831	P0628-6831	P0628-6831
Electronic CO_2 & O_2 Gas A. w/ °C & RH meas.	P0628-6832	P0628-6832	P0628-6832	P0628-6832	P0628-6832
Calibration Gas 5%, 20L Disposable Canister	P0628-7211	P0628-7211	P0628-7211	P0628-7211	P0628-7211
Control Valve & Flow Indicator for 20L Canister	P0628-6061	P0628-6061	P0628-6061	P0628-6061	P0628-6061
Calibration Gas 5%, 105L Disposable Canister	P0628-7210	P0628-7210	P0628-7210	P0628-7210	P0628-7210
0.3L/min Flow Regulator w/ pressure Gauge ††	P0628-7221	P0628-7221	P0628-7221	P0628-7221	P0628-7221
Accessories - Shelves, Pans & Stacking Stand					
Multi-Position Shelf Rack	Standard	P0628-6390	P0628-5100	P0628-5100	P0628-6170
Additional Shelf, non-perforated	P0628-6241	P0628-6241	P0628-5070	P0628-5070	P0628-6180
Additional Shelf, perforated	P0628-6251	P0628-6251	P0628-5080	P0628-5080	P0628-7200
Additional Humidity Pan †	P0628-6260	P0628-6260	P0628-5940	P0628-5940	P0628-6200
Stacking Kit and Stand	P0628-6270	P0628-6270	P0628-6720	P0628-6720	P0628-6230 øø
Stacking Kit - No Stand, with casters	P0628-6490	P0628-6490	P0628-5090	P0628-5090	—
Accessories - Electronics & Software					
BioCommand® SFI Software	M1291-0054	M1291-0054	M1291-0054	M1291-0054	M1291-0054

** Part numbers subject to change without notice. Additional incubator configurations are also available. Ordering them, or ordering custom options, will affect delivery and shipping. Not all options are compatible. Ask your NBS Sales Rep for quotation. All models are 50/60 Hz units.

† 2.5L humidity pan in 170L incubators, 0.5L pan in 48L units, and 0.3L pan in 14L systems. †† For Reusable 105L cylinder.

ø Please check availability before ordering. Cooling option cannot be combined with High Temperature Disinfection options.

øø Mounting bracket for stacking two units.

		Galaxy 170 R & S	Galaxy 48 R & S	Galaxy 14 S
Chamber	Volume	170 liters / 6.0 cu. ft.	48 liters / 1.7 cu. ft.	14 liters / 0.5 cu. ft.
Temperature Management	Range	4ºC above ambient to 50ºC	4ºC above ambient to 50ºC	5ºC above ambient to 50ºC
	Control	± 0.1ºC	± 0.1ºC	± 0.1ºC
	Stability	± 0.1ºC	± 0.1ºC	± 0.1ºC
	Uniformity	≤ ± 0.4ºC	≤ ± 0.3ºC	≤ ± 0.2ºC
CO_2 Gas Management	Range	0.2 – 20%	0.2 – 20%	0.2 – 20%
	Control	± 0.1%	± 0.1%	± 0.1%
	Stability	± 0.2%	± 0.2%	± 0.2%
	Uniformity	± 0.1%	± 0.1%	± 0.1%
	Recovery (up to 90% setpoint)	0.7%/minute	0.7%/minute	> 0.7%/ minute
	Connections	6mm tubing	6mm tubing	6mm tubing
	Gas Service Pressure	0.35 bar / 5 psi	0.35 bar / 5 psi	0.35 bar / 5 psi
Humidity	Reservoir	Removable stainless pan	Removable stainless pan	Removable stainless pan
	Volume	2.5 liters	0.5 liters	0.3 liters
	Rh (@ 37°C)	up to 95%	Normal 90 - 95%	> 90% at 37°C
Shelves	Dimensions per Shelf ø	51.9 x 42.6 cm (20.4" x 16.8")	35.1 x 26.1 cm (13.8" x 10.3")	22.0 x 18.4 cm (8.7 x 7.2")
	Shelves Provided	4	3	2
	Adjustability	R: 8 position. S: 4 position	6 position	4 position
Dimensions		**W x D x H**	**W x D x H**	**W x D x H**
	Chamber (mm)	540 x 451 x 693 mm	401 x 308 x 401 mm	233 x 208 x 294 mm
	Chamber (inches)	21.3″ x 17.8″ x 27.3″	15.8″ x 12.1″ x 15.8″	9.2″ x 8.2″ x 11.6″
	External (mm)	685 x 677 x 848 mm	484 x 475 x 648 mm	313 x 285 x 454 mm **
	External (inches)	27″ x 26.7″ x 33.4″	19.1″ x 18.7″ x 25.5″	12.3″ x11.2″ x 17.9″
	Shipping Container (mm)	830 x 830 x 1100 mm	630 x 630 x 920 mm	580 x 440 x 400 mm
	Shipping Container (inches)	32.7″ x 32.7″ x 43.3″	24.8″ x 24.8″ x 36.2″	22.8″ x 17.3″ x 15.7″
Electrical	Voltage	120 V & 220 - 240 V, 50/60 Hz	100 - 120 V & 220 - 240V, 50/60 Hz	100 -120 V & 220 - 240 V, 50/60 Hz
	Power	500 W	500 W	700 W
	Power, High Temp. Option	1000 W	1000 W	N/A
	Consumption to 37°C	< 0.08 kWh	< 0.1 kWh	< 0.06 kWh
Weight	Net	83 kg / 183 lbs	32 kg / 71 lbs	12.5 kg / 28 lbs
	Shipping	100 kg / 220 lbs	50 kg / 110 lbs	18.5 kg / 41 lbs
Warranty	Coverage	Comprehensive 2-year warranty on parts and labor †		
	Maintenance Contracts	Ask your NBS sales representative about our extended maintenance contracts		
Certification	CE Certified			

* Specifications subject to change without notice. All tests performed at ambient temp. of 22°C, the incubator set at 37°C and 5% CO_2. Recovery data follows a 15 second door opening. ø Shelf dimensions are shown wide x deep x high.

** Galaxy 14 S Dimensions are for single unit. When double-stacked, allow 313 x 285 x 887 mm (12.3″ x 11.2″ x 34.9″).

† O_2 sensor has a one year warranty.