



Nunc Cell Factory equipment

Develop an automated, consistent, and proven commercial-scale process for adherent cell culture



Ideal applications

- Large-scale cell culture
- Cell therapeutics
- Vaccine production
- Other biological products

The integrated solution for Nunc Cell Factory systems

Take your Nunc Cell Factory systems to the next level

Thermo Scientific™ Nunc™ Cell Factory™ equipment delivers a solution for quick and easy scale-up of your existing Thermo Scientific™ Nunc™ Cell Factory™ systems. Nunc Cell Factory equipment automates the filling, emptying, harvesting, and trypsinization steps of adherent cell culture. Realize process consistency, optimization, and standardization when scaling up and manipulating multiple Nunc Cell Factory systems simultaneously with this trusted equipment. All equipment is compliant with cGMP.

Automated solutions

- **Thermo Scientific™ Nunc™ Automated Cell Factory™ Manipulator**—fully programmable automation for filling and emptying twelve 10-layer or four 40-layer Nunc Cell Factory systems; designed for use in clean room environments
- **Thermo Scientific™ Nunc™ Cell Factory™ Incubator**—mobile solution for incubation of forty-eight 10-layer Nunc Cell Factory systems or sixteen 40-layer Nunc Cell Factory systems: available with and without CO₂ control
- **Thermo Scientific™ Nunc™ Cell Factory™ Shaker System**—automated solution for the detachment of cells from Nunc Cell Factory systems

Accessories

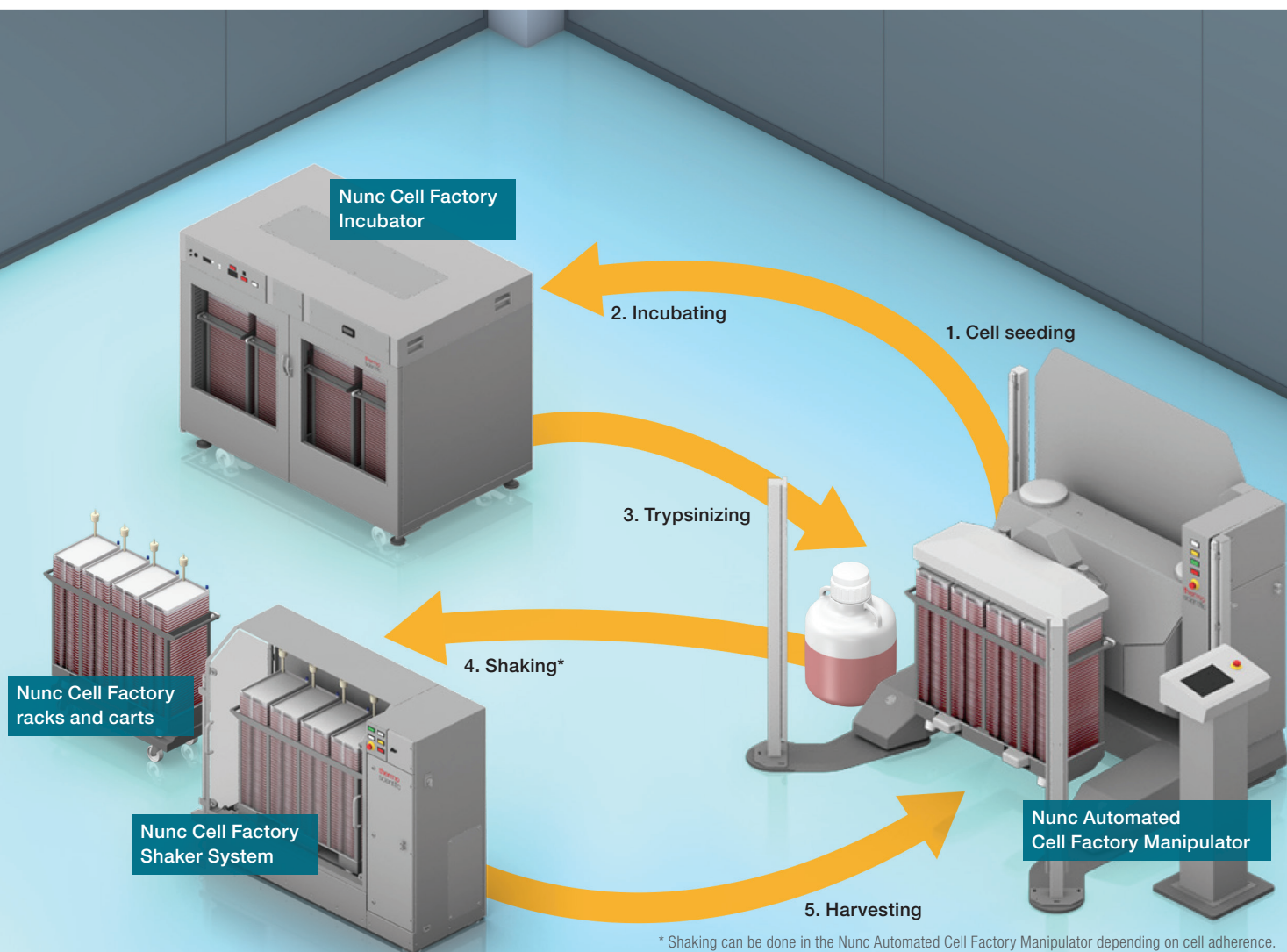
- **Thermo Scientific™ Nunc™ Cell Factory™ racks and carts**—each rack can hold up to twelve 10-layer or four 40-layer Nunc Cell Factory systems; designed to integrate perfectly with all Nunc Cell Factory equipment
- **Thermo Scientific™ Nunc™ Cell Factory™ hand manipulator systems**—designed for the safe and efficient handling of 10-layer and 40-layer Nunc Cell Factory systems
- Additional Nunc Cell Factory systems and connectivity accessories are available

Production scale-up solutions

Utilizing the Nunc Cell Factory equipment portfolio

The following steps highlight a cell expansion process and where to use the Nunc Cell Factory equipment:

1. Seed cells into four 40-layer Nunc Cell Factory systems using up to 8 L cell culture medium per 40-layer Nunc Cell Factory system
2. Incubate overnight at 37°C
3. Trypsinize
 - Empty 40-layer Nunc Cell Factory systems of cell culture medium using the Nunc Automated Cell Factory Manipulator
4. If cells are especially adherent, shake using the Nunc Cell Factory Shaker System
5. Add 1 L stopping solution (cell culture medium) and harvest suspension
 - Wash with up to 1.6 L PBS, then remove PBS using Nunc Automated Cell Factory Manipulator
 - Add/cover cells with 600 mL of pre-warmed 0.25% trypsin-EDTA using Nunc Automated Cell Factory Manipulator
 - Incubate at room temperature or 37°C until 90% cell detachment is achieved



Nunc Automated Cell Factory Manipulator

Increase processing speed and eliminate manual handling

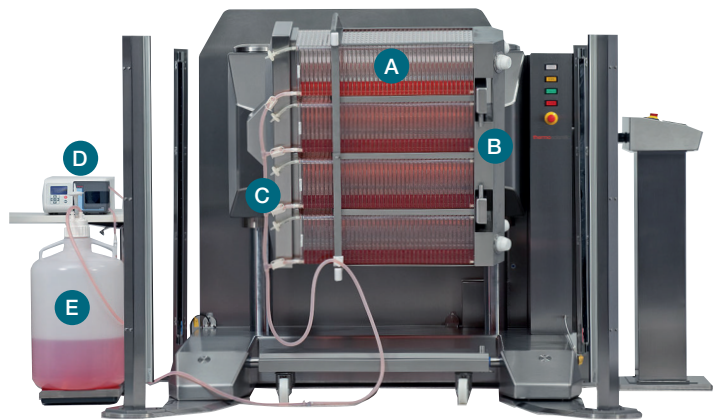
The Nunc Automated Cell Factory Manipulator is a high-quality, fully programmable system that automates the handling of Nunc Cell Factory systems. Keep your proven adherent cell culture practices and simplify your scale-up to achieve consistent and reliable results. Designed for use in clean room environments and compatible with closed system workflows, all functions can be activated by the touch of a button.

Features

- Can handle twelve 10-layer or four 40-layer standard Nunc Cell Factory systems (twelve 13-layer or four 52-layer Thermo Scientific™ Nunc™ High Density Cell Factory™ systems)*
- Standard safety light curtain
- All visible components made of 316L stainless steel for easy cleaning
- Comes with a total of 29 programs: 11 fixed basic programs and 18 preinstalled, modifiable wash programs
- Programs to help automate filling, washing, emptying, trypsinizing, and harvesting steps of Nunc Cell Factory systems
- Optional Process Field Bus (PROFIBUS) data interface
- Can be part of a closed system workflow
- Compatible with many “sensitive” cell lines

Consumables customization

Nunc Cell Factory systems can be configured with tubing sets and manifolds to enable a closed system workflow that works seamlessly with the Nunc Automated Cell Factory Manipulator. These tubing sets are customized to your specific needs through our configuration service.



Required accessories

- A. Nunc Cell Factory systems (ten 40-layer Standard Nunc Cell Factory systems or thirteen 52-layer High Density Nunc Cell Factory systems)
- B. Nunc Cell Factory racks and carts
- C. Tube sets and filter assemblies
- D. Peristaltic pump
- E. Thermo Scientific™ Nalgene™ Carboys, BPEs, or other containers

Nunc Automated Cell Factory Manipulator

Specifications	
Footprint (W x D x H)	206.8 x 179 x 194.4 cm (max) 81.4 x 70.47 x 76.54 in. (max)
Construction	1.4404 (AISI 316L) stainless steel
Unit weight	1,050 kg (2,314.9 lb)
Load capacity	>200 kg (>440.9 lb)
Rated voltage	208–400 V, triple phase, 50/60 Hz**
Current draw	6.5–15.5 A (each phase)
Connected load	4.5–5.6 kVA
Declaration of conformity	
Machinery directive	2006/42/EC
Electromagnetic compatibility directive	2014/30/EC

* A simple component adjustment is needed for use with Nunc High Density Cell Factory systems.

** Other voltages on request.

Nunc Cell Factory Incubator

An incubation unit designed for Nunc Cell Factory systems

Achieve process consistency with Nunc Cell Factory Incubators. Mitigate the risk of spillage from moving full cell factories. The convenient floor-level height of the shelves makes it easy to load and unload carts. This equipment is designed to seamlessly accommodate four racks of 10-layer or 40-layer Nunc Cell Factory systems.

Features

- Can handle forty-eight 10-layer or sixteen 40-layer standard Nunc Cell Factory systems (forty-eight 13-layer or sixteen 52-layer Nunc High Density Cell Factory systems)
- Available with and without CO₂ control (0–20% CO₂)
- Optional CO₂ sensor with infrared technology
- Equipped with warning and alarm systems
- Temperature control from 7°C to 50°C
- Incubator cabinet and interior made of stainless-steel grade 316L for easy cleaning
- Can be part of a closed system workflow



Nunc Cell Factory Incubator

Specifications

Footprint (W x D x H)	186 x 118.5 x 148.9 cm 73.23 x 46.65 x 58.62 in.
Construction	1.4404 (AISI 316L) stainless steel
Unit weight	600 kg (1,322.8 lb)
Load capacity	600 kg (1,322.8 lb)
Rated voltage	208–240 V, single phase, 50/60 Hz
Rated power	1.25 kVA at 230 V
Current draw	5.4 A at 230 V
Range	7°C above ambient to 50°C
Uniformity	±0.6°C at 37°C
Power consumption	320 Wh/h at 37°C operation

Declaration of conformity

Machinery directive	2014/35/EC
Electromagnetic compatibility directive	2014/30/EC

Nunc Cell Factory Shaker System

Uniformly detach especially adherent cells

The Nunc Cell Factory Shaker System offers a high-quality, automated solution for the consistent detachment of especially adherent cells from Nunc Cell Factory systems. It eliminates the need for shaking and pounding, supporting workflow dependability and efficiency.

Features

- Can handle twelve 10-layer or four 40-layer standard Nunc Cell Factory systems (twelve 13-layer or four 52-layer Nunc High Density Cell Factory systems)
- Performs a continuous, horizontal accelerated and decelerated movement
- Programmable shaking time
- Shaking frequency can be adjusted between 0 and 2 Hz
- All visible components made of 304L stainless steel for easy cleaning
- Standard safety light curtain
- Can be part of a closed system workflow



Nunc Cell Factory Shaker System

Specifications	
Footprint (W x D x H)	170.6 x 59 x 128.2 cm 67.2 x 23.2 x 50.5 in.
Construction	1.4301 (AISI 304L) stainless steel
Unit weight	650 kg (1,433.0 lb)
Load capacity	>125 kg (275.6 lb)
Rated voltage	208–240 V, single phase, 50/60 Hz
Rated power	1 kVA
Current draw	4.3 A
Connected load	1.0 kVA
Declaration of conformity	
Machinery directive	2006/42/EC
Electromagnetic compatibility directive	2104/30/EC

Nunc Cell Factory racks and carts

Integration with all Nunc Cell Factory equipment

Easily store and transport Nunc Cell Factory systems safely and efficiently using Nunc Cell Factory racks and carts. Each rack can hold up to four Nunc Cell Factory 40-layer systems or twelve Nunc Cell Factory 10-layer systems. Racks and carts are designed to integrate perfectly with all Nunc Cell Factory equipment, adding consistency to and streamlining your process.

Features

- Can handle twelve 10-layer or four 40-layer standard Nunc Cell Factory systems (twelve 13-layer or four 52-layer Nunc High Density Cell Factory systems)
- Optional tubing clamp for 13.5 mm or 16 mm OD tubing
- Designed for use in clean room environments
- Side-loading design for easy loading and unloading
- Made of 316L stainless steel for easy cleaning
- Movable rack designed to come off from cart and interact seamlessly with other Nunc Cell Factory equipment
- Nunc Cell Factory 40-layer carts can accommodate other layered adherent cell culture systems
- Nunc Cell Factory 10-layer carts can be customized to accommodate other layered adherent cell culture systems



Nunc Cell Factory racks and carts

Specifications

Footprint (W x D x H)	103.5 x 36 x 96.6 cm 40.7 x 14.2 x 38 in.
Construction	1.4404 (AISI 316L) stainless steel
Unit weight	65 kg (143.3 lb)
Load capacity	60 kg (twelve 10-layer Nunc Cell Factory systems)
	80 kg (four 10-layer Nunc Cell Factory systems)

Integrates with:

- Nunc Cell Factory Incubator
- Nunc Automated Cell Factory Manipulator
- Nunc Cell Factory Shaker System
- Nunc Cell Factory hand manipulators
- Fluid transfer assemblies

Nunc Cell Factory hand manipulator systems

Manipulate Nunc Cell Factory systems with ease

Nunc Cell Factory hand manipulators are designed for the safe and efficient handling of individual 10-layer and 40-layer Nunc Cell Factory systems. Constructed of quality stainless steel, they are ideal for clean room environments. The Thermo Scientific™ Nunc™ Cell Factory™ 40-layer hand manipulator is mobile and includes a foot brake for safe placement. The Thermo Scientific™ Nunc™ Cell Factory™ 10-layer hand manipulator is compact and ideal for use within in a biosafety cabinet.

Nunc Cell Factory hand manipulator system

Specifications	
10-layer	
Footprint (W x D x H)	30.3 x 55.7 x 36.6 cm 11.9 x 21.9 x 14.4 in.
Construction	1.4301 (AISI 304L) stainless steel
Unit weight	9.5 kg (20.9 lb)
40-layer	
Footprint (W x D x H)	76.5 x 67 x 135.2 cm (max) 30.1 x 26.4 x 53.2 in. (max)
Construction	1.4301 (AISI 304L) stainless steel
Unit weight	27 kg (59.5 lb)



10-layer Nunc Cell Factory hand manipulator system



40-layer Nunc Cell Factory hand manipulator system

Nunc Cell Factory equipment applications

Vaccine production

This system can play an integral part in the passaging, inoculation, and harvest steps of the vaccine production workflow.

Cell therapy

Nunc Cell Factory equipment can be used in the cell line expansion of mesenchymal stem cells (MSCs).

Gene therapy and virus production

This system can be used in the passaging, inoculation, and harvesting steps of virus production from lentiviral and AAV cell lines.

Ordering information

Description	Cat. No.
Nunc Automated Cell Factory Manipulator	
Nunc Automated Cell Factory Manipulator Gen 10, with safety light curtain and membrane foil keypad, 3N/PE, 400 V, 50/60 Hz	120288
Nunc Automated Cell Factory Manipulator Gen 10, with safety light curtain and membrane foil keypad, 3N/PE, 208 V, 50/60 Hz	120405
Nunc Cell Factory Incubator	
Nunc Cell Factory Incubator, Gen 5, 208–240 V, 50/60 Hz, single phase	120100
Nunc Cell Factory Incubator, with CO ₂ control, Gen 5, 208–240 V, 50/60 Hz, single phase	120300
Nunc Cell Factory Shaker System	
Nunc Cell Factory Shaker, Gen 2, 208–240 V, 50/60 Hz, single phase	132849
Nunc Cell Factory Shaker, Gen 3, 208–240 V, 50/60 Hz, with data logging	132854
Nunc Cell Factory racks and carts	
Side Loading Rack with Cart for 40-Layer Nunc Cell Factory systems and 52-Layer Nunc High Density Cell Factory systems	140503
Side Loading Rack with Cart for 10-Layer Nunc Cell Factory systems and 13-Layer Nunc High Density Cell Factory systems	140504
Retrofit Clamping Kit for Racks for Use with Shaker	120289
Nunc Cell Factory hand manipulator system	
Nunc 10-Layer Cell Factory Hand Manipulator System	132752
Nunc 40-Layer Cell Factory Hand Manipulator System	176953

Find out more at thermofisher.com/cfequipment