

How do I choose the right Cell Factory system for my application?

The Thermo Scientific™ Nunc™ Cell Factory™ system is available in several styles and configurations. The key to selecting the appropriate Cell Factory system is in the answers to these two questions:

- **How many cells do you need to produce per batch?**
- **What are your cells used for?**
 - Research
 - Process scale-up
 - Pilot scale (non-GMP)
 - GMP production
 - Seeding a larger vessel (i.e. bioreactor) for GMP production

To select the Cell Factory system size you need, simply complete the following equations.

Step 1:

Estimate your maximum cell density per Cell Factory layer by:
(Required cell density per cm^2) \times (632cm^2) = cell density per layer
Example: $10^4 \times 632 \text{ cm}^2 = 6.3 \times 10^6$

Step 2:

Calculate the number of layers needed per batch by:
(Number of cells required per batch) / (cell density per layer) = number of layers needed
Example: $6 \times 10^8 / 6.3 \times 10^6 = 9.5 \text{ layers}$

Result: A 10-layer Cell Factory system would be an ideal solution for this example.

Step 3:

Choose the Cell Factory system that best matches your process and work environment from the application chart provided below.





Summary

There is a Nunc Cell Factory system for every scale:

Standard Cell Factory

The standard Nunc Cell Factory system features two standard ports, providing a closed aseptic system ideal for commercial-scale production of large quantities of adherent cells.

EasyFill Cell Factory

Highly versatile and easy to use, the Thermo Scientific™ Nunc™ EasyFill™ Cell Factory™ system offers a sterile, single-use solution designed to optimize valuable incubator space and reduce repetitious manual handling. Suitable for both research and commercial-scale production.

Cell Factory with Active Gassing

This patented design promotes a uniform culturing environment from layer to layer through the equal distribution of gasses. It is ideal for large-scale manufacturing of, stem cells and difficult-to-grow cell lines.

New! High Density Cell Factory

Need even more cells? The Nunc High Density Cell Factory system offers 30% more surface area and yield* in the same footprint as the standard Cell Factory system. Compatible with all standard Cell Factory system accessories. Expand your capacity without consuming valuable manufacturing space.

* The increase in yield may vary depending on the type of cells cultured.

Process scale/type	High Density Cell Factory system			Standard Cell Factory system				EasyFill Cell Factory system				Cell Factory with Active Gassing				
	No. of Layers			No. of Layers				No. of Layers				No. of Layers				
	3	13	52	1	2	4	10	40	1	2	4	10	40	4	10	40
Research	•			•	•				•	•						
Process scale-up	•	•				•	•				•	•				
Pilot scale (non-GMP)												•	•			
GMP production		•	•			•	•	•				•	•		•	•
Seeding a larger vessel (i.e. bioreactor) for GMP production		•	•				•	•				•	•			
Difficult-to-grow cell lines with pH and environmental sensitivity														•	•	•

NOTE: The above are only suggestions. The versatility of the Cell Factory systems enables any size to be used for each of these scales and types.

For more information about Nunc Cell Factory systems, visit www.thermoscientific.com/cellfactory or contact your local Thermo Scientific sales representative for assistance.

www.thermoscientific.com/cellfactory

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