

PRODUCT BROCHURE

FALLING FILM CHILLER

Vertical pillow plate chillers exploiting gravity driven thin film evaporation for energy efficient process cooling.

CONTACT US

Website	www.calvion.net
Email	info@calvion.net
Address	305, Business Hub, Karve Road, Karvenagar, Kothrud, Pune – 411052, Maharashtra, India



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FALLING FILM CHILLER

Product Overview

APPLICATIONS

- Milk Cooling
- Juice Concentration
- Brewery Cooling
- Pharmaceutical Chilling

KEY BENEFITS

- + High heat transfer coefficient
- + Low refrigerant charge
- + Gentle product handling
- + Low pressure drop
- + Energy efficient operation

FEATURES

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|-----------|---|
| 01 | Vertical panel orientation |
| 02 | Gravity film distribution header |
| 03 | Low refrigerant inventory |
| 04 | Compatible with natural refrigerants (NH ₃ , CO ₂) |
| 05 | Defrost capability |

AT A GLANCE



Gravity film distribution across the pillow plate surface

SS304 / SS316L

Constructed for hygienic, corrosion resistant service across dairy, brewery and pharmaceutical process lines.

Engineered for continuous duty industrial cooling - talk to Calvion engineering about a configuration for your process.

WORKING PRINCIPLE

Process liquid is distributed across the top of the vertical pillow plate and flows downward as a thin film. Refrigerant evaporating inside the plate channels absorbs the heat from the film, chilling it to the required temperature before collection at the base.



Pillow plate surface — gravity film distribution detail

CONFIGURATIONS

Single panel

Multi panel bank

With integral collection trough

With CIP spray system

TECHNICAL SPECIFICATIONS

Refrigerant	NH ₃ , CO ₂ , HFO, Glycol
Evaporation Temperature	-10 to +5°C typical
Process Fluid Outlet	Down to +1°C
Panel Height	1,000 – 4,000mm
Operating Pressure	Up to 30bar
Material	SS304 / SS316L

MATERIALS OF CONSTRUCTION

AISI 304

Standard austenitic stainless steel

AISI 316L

Enhanced corrosion resistance

All materials supplied with 3.1 EN 10204 certificates. Alternative alloys available on request — consult Calvion engineering for material suitability in specific process environments.