

Dry Ice Production Solutions



coldjet.com

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Providing Dry Ice Manufacturing Solutions for Your Industry.

Cold Jet is a leading provider of dry ice manufacturing solutions to companies globally. Our dry ice manufacturing and handling systems are preferred by the world's largest industrial gas companies and heavy dry ice users.

Our high density dry ice products are optimized for all industrial and commercial applications, including food and medical freezing and shipment, metal fitting, composite materials production, dry ice cleaning and many other uses. To ensure optimum results, Cold Jet developed patented technology that produces high quality, dry ice products.



Cold Jet[®]
the force of nature

We Are Cold Jet

The global experts in environmentally sustainable cleaning, surface preparation and cold chain management solutions.

Dry Ice Production

Our dry ice manufacturing technology offers the greatest level of reliability and the highest quality extruded dry ice. Dry ice production systems are fully automated, provide the best output to footprint ratio and offer dry ice, on demand, and passes UL, USDA, FDA and CE standards.

Dry Ice Cleaning

Cold Jet has developed the most efficient dry ice blast cleaning technology available. Our environmentally responsible systems are used for cleaning, surface preparation and parts finishing. Designed with unrivaled innovation, unmatched performance and based on years of customer input, our systems let you clean better with less effort, which increases productivity and profit.

Integrated Dry Ice Cleaning

Our dry ice cleaning systems are ideal for production integration. Cold Jet's integrated systems combine a pelletizer unit with one or more blasting systems for continuous or fully automated use. They are custom engineered to meet our customer's specific requirements.

Distinct Solutions in Diverse Industries

- Aerospace
- Automotive
- Composites
- Contract Cleaning
- Disaster Remediation
- Electric Motor
- Food & Beverage
- Foundry & Metal Forming
- General Maintenance
- Historic Restoration
- Oil & Gas
- Medical Device Manufacturing
- Packaging
- Plastics
- Power Generation
- Printing
- Restoration
- Textile
- Transportation

Local Company with a Global Presence

We are local. Everywhere. With 13 service centers located in 10 countries - and with the largest install base of human technical resources - when you need us, we will be there. The Cold Jet customer support team is available 24/7 to provide the personal service your business demands.

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Asia Pacific

Australia
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India
Philippines

Indonesia
Thailand

Japan
Vietnam

Malaysia

Singapore

Dry Ice Production Solutions

Outstanding Reliability, Sustained Production



 **Cold Jet**[®]
the force of nature

Why Cold Jet?

Cold Jet is the global leader in dry ice production technology providing superior solutions that save companies time, money and resources. We offer the most advanced dry ice manufacturing and customized engineered systems with superior end product quality, coupled with 24 hour, 7 day a week production capability and customer support.

Cold Jet's dry ice pelletizers, reformers and slice lines have been engineered to offer the greatest level of reliability in the most demanding environments and the highest density dry ice.

Cold Jet's dry ice manufacturing technology offers the widest selection of pelletizers on the market, ranging from small-scale units with a capacity of 120 kg per hour (265 lbs/hr) to very high volume of 1100 kg per hour (2420 lbs/hr).

We carefully evaluate customer's conditions regarding dry ice production, and advise the optimum solution, based on their needs and expectations. Cold Jet manufacturing systems are now the choice of all the major dry ice producers in the United States, Europe and Asia.

Cold Jet Benefits:

- The best consultancy about dry ice technology
- Various delivery options, including turn-key
- Highest quality extruded dry ice
- Fully automated, one-button operation
- Advanced remote service and diagnostics monitoring
- Best output to footprint ratio available
- Several patented dry ice technologies

Industry Leaders Benefiting from Cold Jet

Airgas[®]

Air Liquide
creative oxygen


THE LINDE GROUP

PRAXAIR


SOL
SOLGROUP

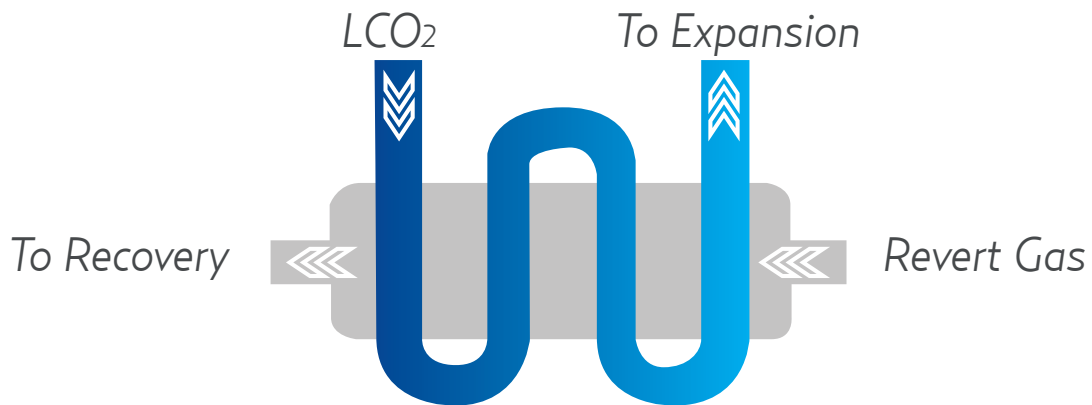

YARA

The Cold Jet Advantage

Cold Jet's dry ice production equipment has been engineered to extrude the highest quality dry ice available. Due to our proprietary knowledge of dry ice, our process creates a longer shelf life, better transportability and offers better performance than our competition. Our dry ice production solutions provide the best conversion factor on the market = 10% better than the competition.

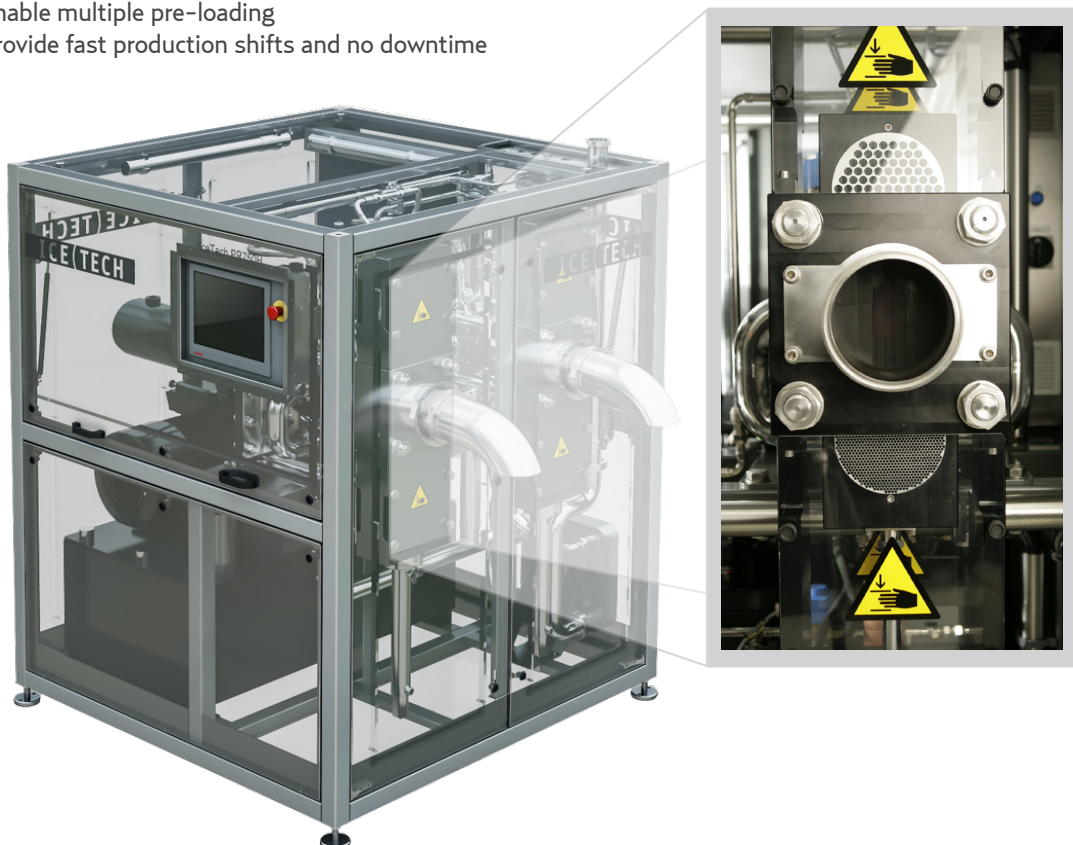
Sub Cooling Technology = Higher Conversion Efficiency

Heat exchanger pre-cools incoming LCO₂ for the best conversion factor (10% better than the competition).



Automatic Change Extruder Plate

- Change dies at the touch of a button
- Enable multiple pre-loading
- Provide fast production shifts and no downtime



Cold Jet CONNECT™

Real-time monitoring

Remote support and diagnostics

Operating manual available via touchscreen display

Display optimized for easy and intelligent control

Windows 7 OS

7-15" touchscreen display



	SP	PV
CO ₂ Temperature	-30.0	17.8
CO ₂ Pressure	10.0	0.0
Hydraulic Temperature	60.0	18.4
Hydraulic Pressure	200.0	0.0
Chamber Pressure	10.0	0.0
Piston Position	0.0	-1.6
Injection Time Extruder	9.0	0.0

Cold Jet. CONNECT

IceTech PR120H

Advanced Remote Service and Maintenance Program

- Service support and monitoring of your pelletizer via Cold Jet CONNECT, remotely from any computer with internet access, and from anywhere in the world

Fully Integrated Smart Machines

- Embedded PC with complete OS for easy integration to production control systems, dynamic monitoring and full bios via the web
- Achieve the ultimate in efficiency, productivity and uptime via 24/7 full telemetry support

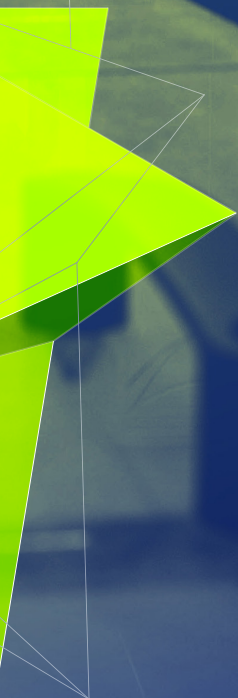
learn more at coldjet.com



Dry Ice Production Systems **High Efficiency & Continuous Operation Pelletizers**

Cold Jet's dry ice production systems are designed for a non-stop operation in the most demanding environments. Offering the best output to footprint ratio and the best production uptime of any dry ice manufacturing equipment on the market, Cold Jet pelletizers consistently produce high quality dry ice.

ICE (TECH
powered by  Cold Jet.



Dry Ice Production Systems

High Efficiency Line



PR120H
up to 120 kg/hr | 265 lbs/hr

PR350H
up to 350 kg/hr | 772 lbs/hr

PR750H
up to 750 kg/hr | 1,653 lbs/hr

Produce fresh, high quality dry ice on demand

Unique Features:

- Sub cooling technology minimizes CO₂ waste
- Conversion ratio: 2.2 kg liquid CO₂ to 1 kg of dry ice pellets
- Fully automated, one-button operation
- Automatic change extruder plates reduce downtime and loss of valuable CO₂
- Closed chamber technology ensures fast production shifts and short startup time
- Stainless steel enclosure reduces noise level below 75db(A) and protects machine components
- Quick startup reduces downtime and loss of valuable CO₂
- Compact footprint
- Free choice of die plates: 3 mm, 10 mm, 16 mm (1/8 in, 3/8 in, 5/8 in)
Custom die plate design program available
- Panel PC with built-in color touchscreen optimized for easy and intelligent control

Dry Ice Production Systems

Continuous Operation Line



P3000
up to 1,090 kg/hr | 2,400 lbs/hr

Worry free production with Absolute reliability

Unique Features:

- Designed for 24/7 production
- Fully automated startup and shutdown
- 3-Phase industrial voltages for global installations
- Open frame design with easy access for maintenance
- 3 mm (1/8 in) high density die comes standard
- Vented liquid CO₂ valves and pressure relief devices for safety
- Pressure gauges conveniently located next to control panel

Dry Ice Production Systems



Dry Ice Production Hub

up to 120 kg/hr | 265 lbs/hr OR up to 350 kg/hr | 772 lbs/hr

The Dry Ice Production Hub is the PR120H or PR350H pelletizer integrated with a 10ft High Cube ISO Transportable Container, capable of producing up to 120 kg/265 lbs or 350 kg/772 lbs of dry ice pellets per hour. The Dry Ice Production Hub is mobile and enables easy setup and handling of dry ice production. It is ready to use by supplying electrical power and liquid CO₂. As a mobile solution, it allows dry ice production in various facilities and in rugged, tough environments. With low ownership and maintenance costs, you can supply fresh, high quality dry ice on demand.

Supply fresh, high quality dry ice on demand with Cold Jet's Integrated Dry Ice Production Hub

Unique Features:

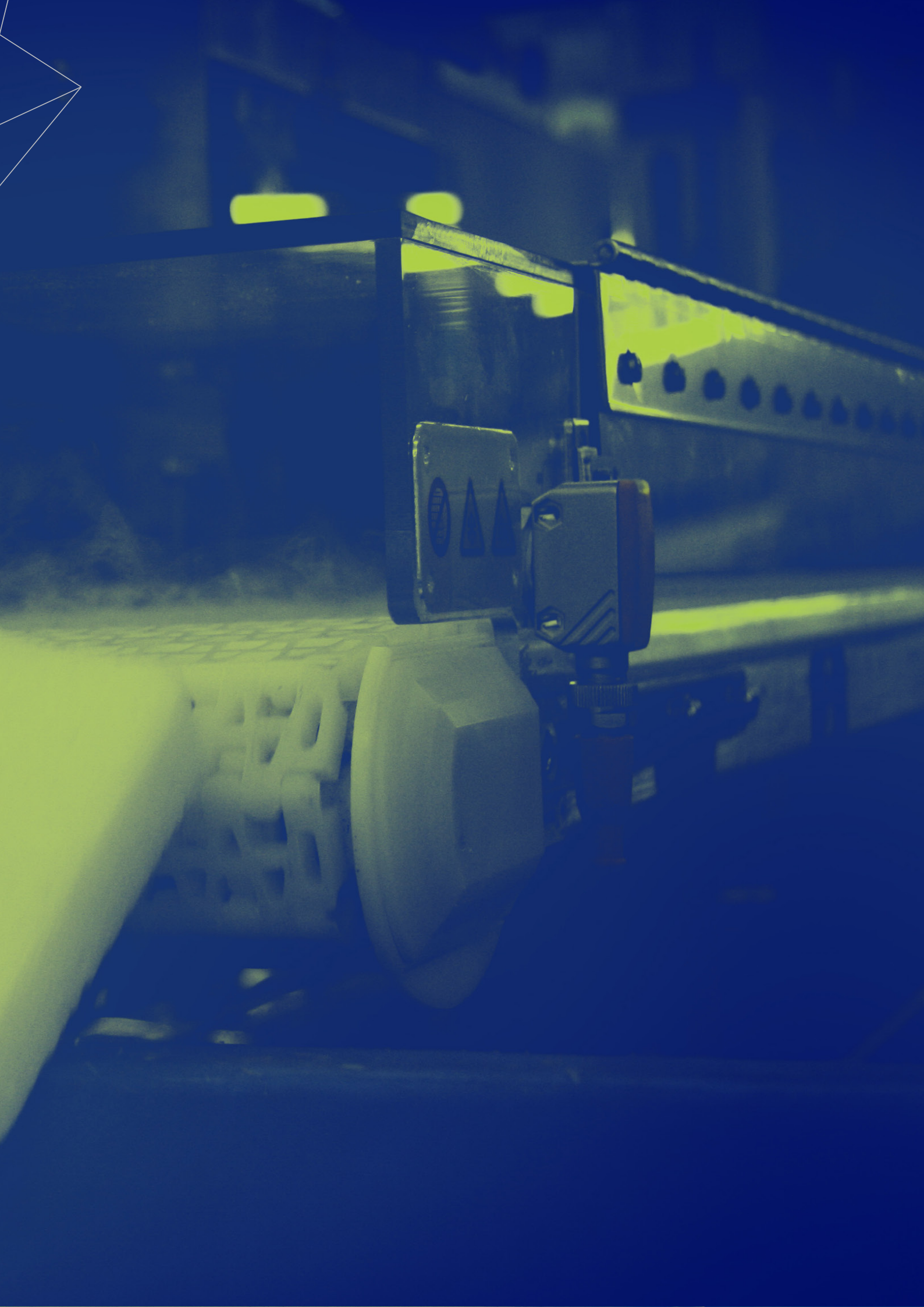
- 10ft high cube ISO transportable container divided into a machine and filling room
- Fully automated, one-button operation
- Control with a touch panel in the filling room
- Noise emission protection
- Automatic production stop with a full dry ice container sensor
- Electrical power and liquid CO₂ as the only utilities
- CO₂ supply piping with a quick connection
- CO₂ safety monitoring system
- Ventilation and heating system to control room temperature
- Equipped with operator instruction and safety procedures
- Customer exterior branding on request
- Cold Jet CONNECT™ monitoring, remote support and diagnostics



Dry Ice Production Systems

Slice Makers & Reformers

Cold Jet's slice makers and reformers have been engineered to offer the most reliable production of high quality dry ice slices. The Slice Press SL1000H produces dry ice slices directly from liquid CO₂ from the first stroke while providing the best output to footprint ratio. Reformer R1000H compress pellets into slices. The pellet-to-slice reforming process eliminates hazards from cutting blocks and reduces CO₂ sublimation loss.



Dry Ice Production Systems

Slice Makers



SL1000H

up to 679 slices/hr OR up to 718 kg/hr

Produce high quality airline dry ice slices from the first stroke

Unique Features:

- Sub cooling technology minimizes CO₂ waste
- Closed chamber technology ensures high product density and integrity
- Moisture-free enclosure protects machine parts, which also reduces the noise level to a minimum below 75 dB(A)
- Stainless steel frame approved for food industry
- Remote control and diagnostic allows for monitoring the efficiency on-site or from anywhere in the world
- 15" color touch display optimized for easy and intelligent control via multi-lingual context
- Integrated slice-elevator
- Custom designed conveyors for slice production automation (available upon request)
- Cold Jet CONNECT™ for remote support and maintenance

Dry Ice Production Systems

Reformers



R1000H
up to 1 ton of dry ice/hr

Diversify your dry ice production capabilities

Unique Features:

- SureFlow dosing and reforming system accepts from 3 to 16 mm (1/8" to 5/8") pellets/nuggets feed
- Vary slice thickness - 16 up to 90 mm (5/8" up to 3 1/2")
- Automatic slice thickness adjustment via HMI screen
- Single, dual and triple slice press head designs provide optimal capacity
- Quick change press head adjusts slice format in less than 15 minutes
- Recipe program enables user to set predefined slice formats
- Superior slice quality with less than 1% breakage
- Servomotors ensure precise and fast mold filling and slice ejecting
- Custom designed conveyors for slice production automation
- Cold Jet *CONNECT™* for remote support and maintenance
- Robust stainless steel enclosure

Integrated Cleaning Systems

COMBI Systems & RoboBlast

Integrated cleaning systems are cost effective solutions with superior cleaning performance and minimal space requirements. Integrated systems provide continuous, uninterrupted and completely automated operations. Each Cold Jet integrated system is custom engineered to meet specific customer requirements.





Integrated Cleaning Systems

COMBI Systems



COMBI 120H
up to 120 kg/hr | 264 lbs/hr

COMBI 350H
up to 350 kg/hr | 772 lbs/hr

Fully automatic machine for dry ice production and dry ice blasting

Several Functions in One Machine:

- Pelletizer unit
- Dry ice blasting unit (one unit for COMBI 120H & two units for COMBI 350H)
- Cutter unit ensures the right pellet size
- Distribution system ensures availability of pellets when needed
- I/O Box for integration in plant control units and automation process
- Optional control for two separate distribution systems to facilitate the connection of several nozzles
- Optional system for heating blasting air to avoid condensation on nozzles
- Optional control for up to four heated nozzles (COMBI 350H only)

Unique Features:

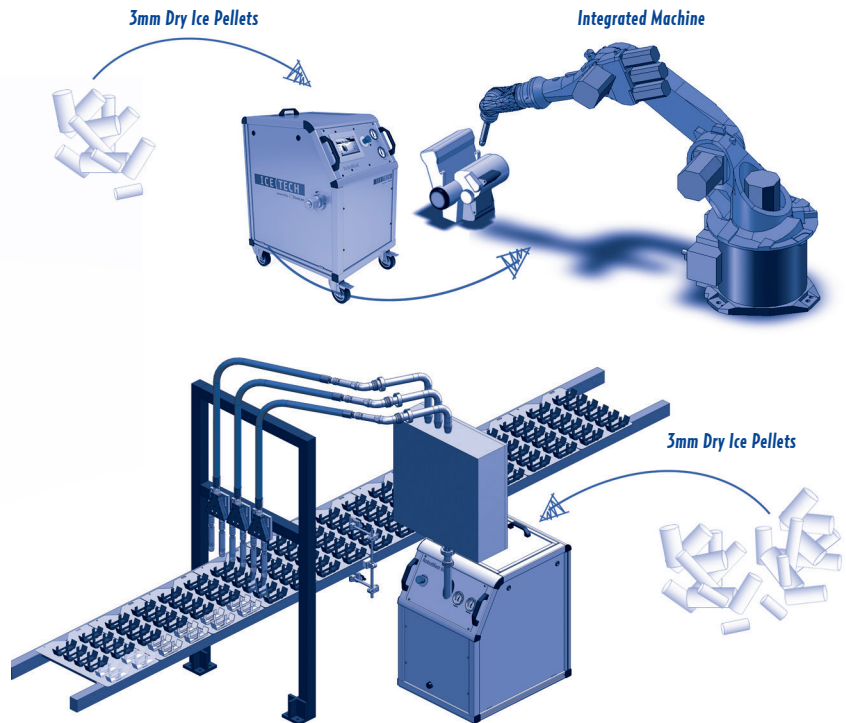
- Stainless steel enclosure reduces noise level below 75 db(A) and protects machine components
 - Fully automated, one-button operation
- Sub Cooling Technology increases CO₂ utilization
 - 15" multi touch built-in control panel
- Quick startup reduces downtime and loss of valuable CO₂
- Shutdown function removes dry ice from the hopper
 - Cold Jet *CONNECT™*
 - Compact footprint

Integrated Cleaning Systems

RoboBlast



RoboBlast
up to 40 kg/hr | up to 88 lbs/hr



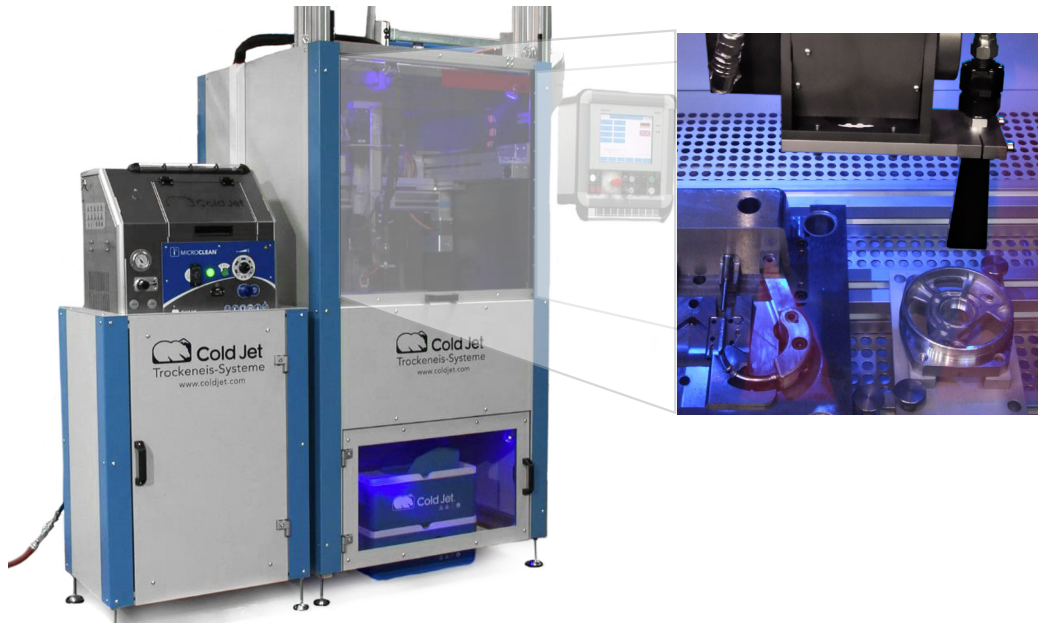
Semi automatic machine for dry ice blasting connected to automatic system

Unique Features:

- Up to 100 kg/hr (3.6 lbs/min) dry ice feed rate
- Operational up to 16 bar (232 psi)
- Delivered with a number of process monitoring functions to ensure perfect blasting process
- Prepared for direct coupling to a robotic control
- The control system-based on Beckhoff Industrial PC and HMI system - provides maximum functionality and a user-friendly 7" touch screen

Integrated Cleaning Systems

i³ MicroClean® Complete Package

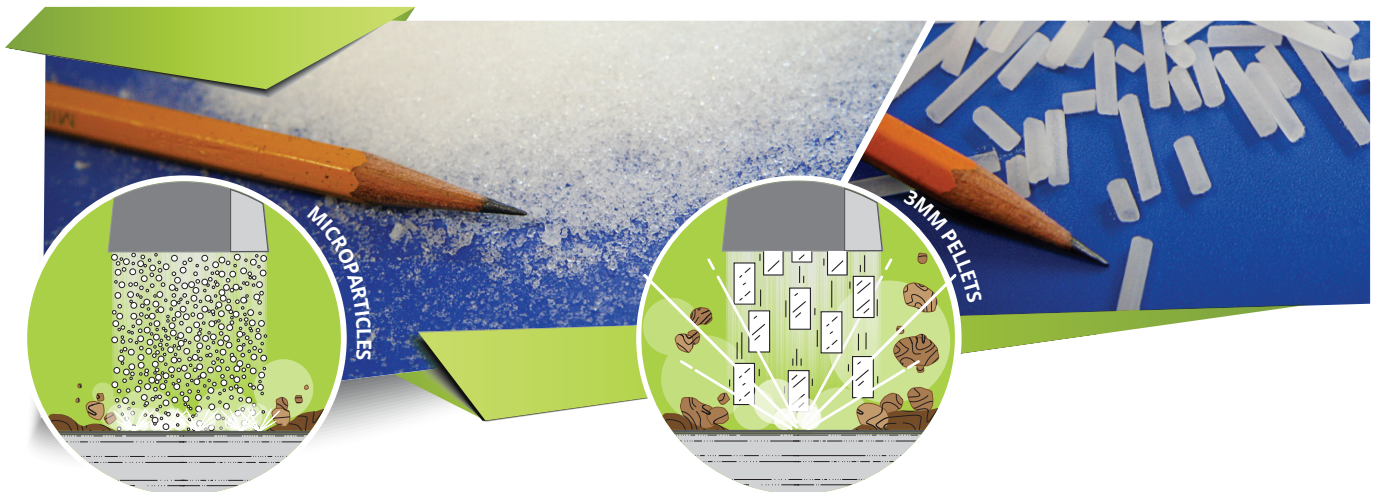


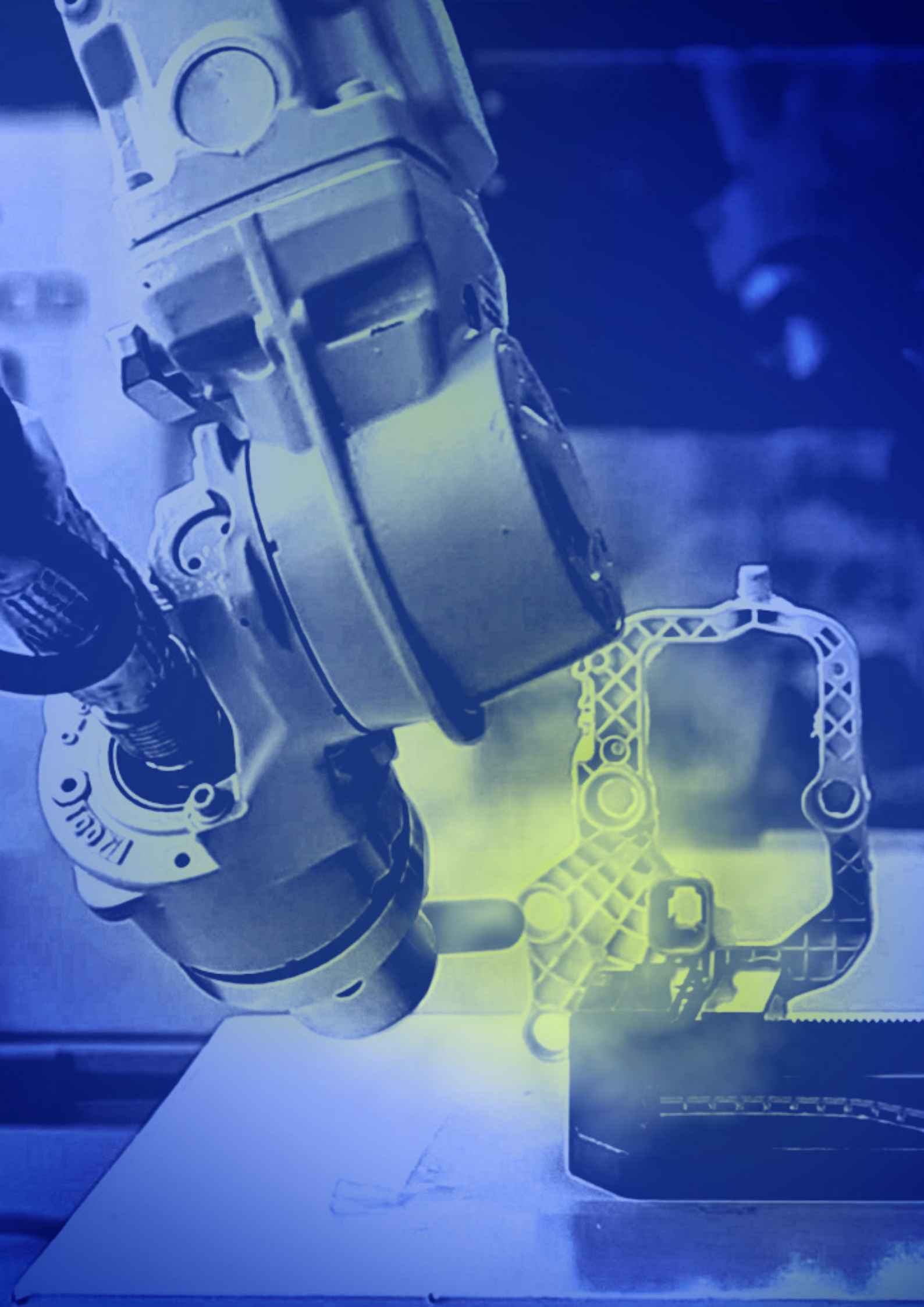
MicroParticle Integration – Less air, less ice, more coverage

Unique Features:

- Cold Jet's shaved dry ice MicroParticle technology provides a thorough, yet delicate, clean for many applications
- i³ MicroClean accepts pellets, nuggets or block with patented shaving technology
- Designed for absolute precision
- Easy to maintain with removable panel design

MicroParticles vs. Pellets:







*Leading the way in dry ice innovation
since 1986*

 **Cold Jet**®
the force of nature

Dry Ice Containers

IT 440




Preserve dry ice quality & minimize sublimation

Unique Features:

- One piece seamless construction of specially formulated, high impact polyethylene that meets FDA, USDA, HPFB and EU requirements for safe food handling
- Next generation press-fit silicone rubber gasket eliminates flaking and provides a more positive lid-to-box seal
- Gas strut holds lid in open position
- Specially formulated foam-in-place urethane insulation provides structural integrity and adhesion to polyethylene walls for optimal long-term thermal performance

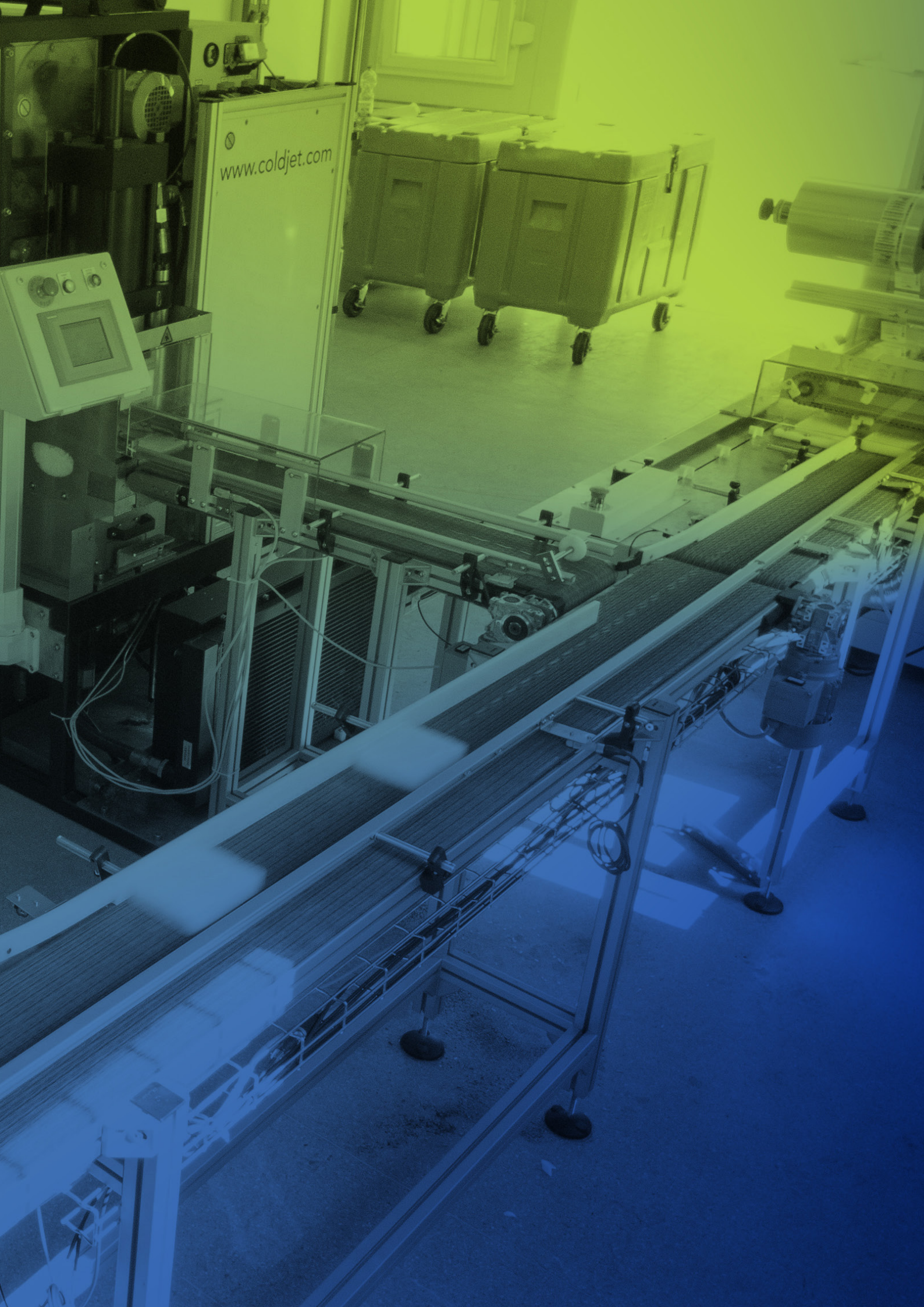
Space-Saving and Easy to Handle:

- Dry ice containers are available in different sizes to serve all purposes
- Modularly constructed and stackable (different models can be stacked onto each other)
- Dimensioned to match EURO pallet to advance maximum utilization of space during transport



The image shows a complex industrial machine, likely a cold-chamber die casting machine. A prominent feature is a large, light-colored safety door on the left side, which is partially open. On the door, there is a circular warning symbol (a lightning bolt inside a circle) and the website address www.coldjet.com. To the right of the door, a glass-enclosed chamber is visible, containing internal mechanical components. In the foreground, a conveyor belt system is in operation, with a white rectangular object being transported. The machine is constructed from various materials, including metal and plastic, and is equipped with numerous rollers, guides, and electrical components. The overall scene is set in a factory or laboratory environment.

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