



Dry Ice Manufacturing Systems and Accessories Catalog



www.coldjet.com

Americas. Asia. Europe.



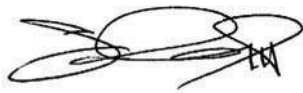
Dear Valued Customer,

Thank you for choosing Cold Jet as your dry ice manufacturing system provider.

With over 25 years of experience, Cold Jet has become the leading provider of high capacity, quality on-site dry ice manufacturing equipment, globally, serving both industrial gas and end-user companies around the world, as we have made significant and continuous investments in innovation, technology and our development of a global service and support organization.

We are committed to your complete satisfaction in your Cold Jet investment, and we look forward to continuing to earn your trust in order to supply all your needs for dry ice production systems and support – whether for cooling, transport and/or cleaning application needs.

Sincerely,



Gene Cooke III
CEO and President
Cold Jet Technologies LLC

About Cold Jet

Since 1986, Cold Jet has led the development of dry ice blasting and dry ice production technology setting the standard for quality, performance and reliability. With thousands of customers worldwide, Cold Jet's success has been the result of our superior technology, dedication to customer service, and establishment of a global infrastructure for product support. Cold Jet is committed to developing dry ice solutions for the betterment of industry and the environment through a relentless pursuit of technology. Cold Jet is a private company with global headquarters in Cincinnati, Ohio and international operations in Europe, Asia, the Middle East, Canada, and Mexico. For more information, visit www.coldjet.com or call:

US: +1-800-337-9423

Belgium: +32 (0) 13 53 95 47



Global Headquarters >>
LOVELAND, OH



Dry Ice Manufacturing | Systems & Accessories Catalog

P.3 DRY ICE PELLETIZERS

P.4 P325/P650

P.5 P750

P.6 P1500

P.7 P3000

P.8 Extrusion Die Plates

P.9 Pelletizer Accessories

P.10 Pelletizer Spare Parts Packages

P.11 Pelletizer Legacy System Upgrades

P.12 PORTFOLIO OF SYSTEMS

P.14 DRY ICE REFORMERS

P.15 PR750

P.16 R1500

P.17 R3000

P.18 Pellet-to-Slice Integrated Systems

P.19 Reformer Accessories & Configurations

P.20 Integrated Systems Overview

P.21 Service & Maintenance/ Remote Monitoring

P.22 Customer Service

P.23 Notes





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DRY ICE MANUFACTURING DRY ICE MANUFACTURING DRY ICE MANUFACTURING DRY ICE MANUFACTURING

Our dry ice manufacturing systems are designed for non-stop operation in the most demanding environments and represent the culmination of over 25 years experience servicing the largest global industrial gas and heavy dry ice users.

Airgas



Linde



SHOWA TANSAN CO., LTD.



Pelletizers

Key Features

- 24 hour a day, 7 day a week reliability
- Automatic pellet production
- Maximum productivity with minimum floor space requirements
- Open frame design allows for easy maintenance
- All operator controls are conveniently located together on one side, away from dry ice discharge
- Easy to use and maintain
- Equipped with vented liquid CO₂ valves and pressure relief devices
- Safe
- Power and control electric systems meet international directives



P3000

System	Dry Ice Output	Description
P325 (P650*)	Up to 300 lbs per hour (136 kgs per hour)	<ul style="list-style-type: none"> • One electro-hydraulic linear extruder • Choice of one precision extrusion die to produce high density pellets (3 mm), or nuggets (6 mm, 9 mm, 13 mm, and 16 mm) <p>*Upgrade your P325 to a P650 for capability of up to 600 lbs (273 kg) of dry ice per hour</p>
P750 (1500**)	Up to 600 lbs per hour (273 kgs per hour)	<ul style="list-style-type: none"> • One electro-hydraulic linear extruder • Choice of one precision extrusion die to produce high density pellets (3 mm), or nuggets (6 mm, 9 mm, 13 mm, 16 mm, and 19 mm) <p>**Upgrade your P750 to a P1500 for capability of up to 1,200 lbs (546 kg) of dry ice per hour</p>
P1500	Up to 1,200 lbs per hour (546 kgs per hour)	<ul style="list-style-type: none"> • Two electro-hydraulic linear extruders • Choice of two precision extrusion dies to produce high density pellets (3 mm), or nuggets (6 mm, 9 mm, 13 mm, 16 mm, and 19 mm)
P3000	Up to 2,400 lbs per hour (1,090 kgs per hour)	<ul style="list-style-type: none"> • Four electro-hydraulic linear extruders • Choice of four precision extrusion dies to produce high density pellets (3 mm), or nuggets (6 mm, 9 mm, 13 mm, 16 mm, and 19 mm) • Separate control panels to run cylinder banks independently



P325/
P650



P750



P1500

P325/P650 Pelletizer

Up to 300/600 lbs/hour
(136/273 kg/hour)

Small, powerful and reliable. Ideal for heavy dry ice users.

The fully automatic P325 will produce on demand up to 300 lbs (136 kg) per hour of consistent, high-density dry ice pellets or nuggets using Liquid CO₂ and electrical power. Compact and reliable, the P325 puts dry ice production in your hands with the ability to upgrade capacity to 600 lbs (273 kg) per hour so you can grow as your demands grow.

Operational & Maintenance

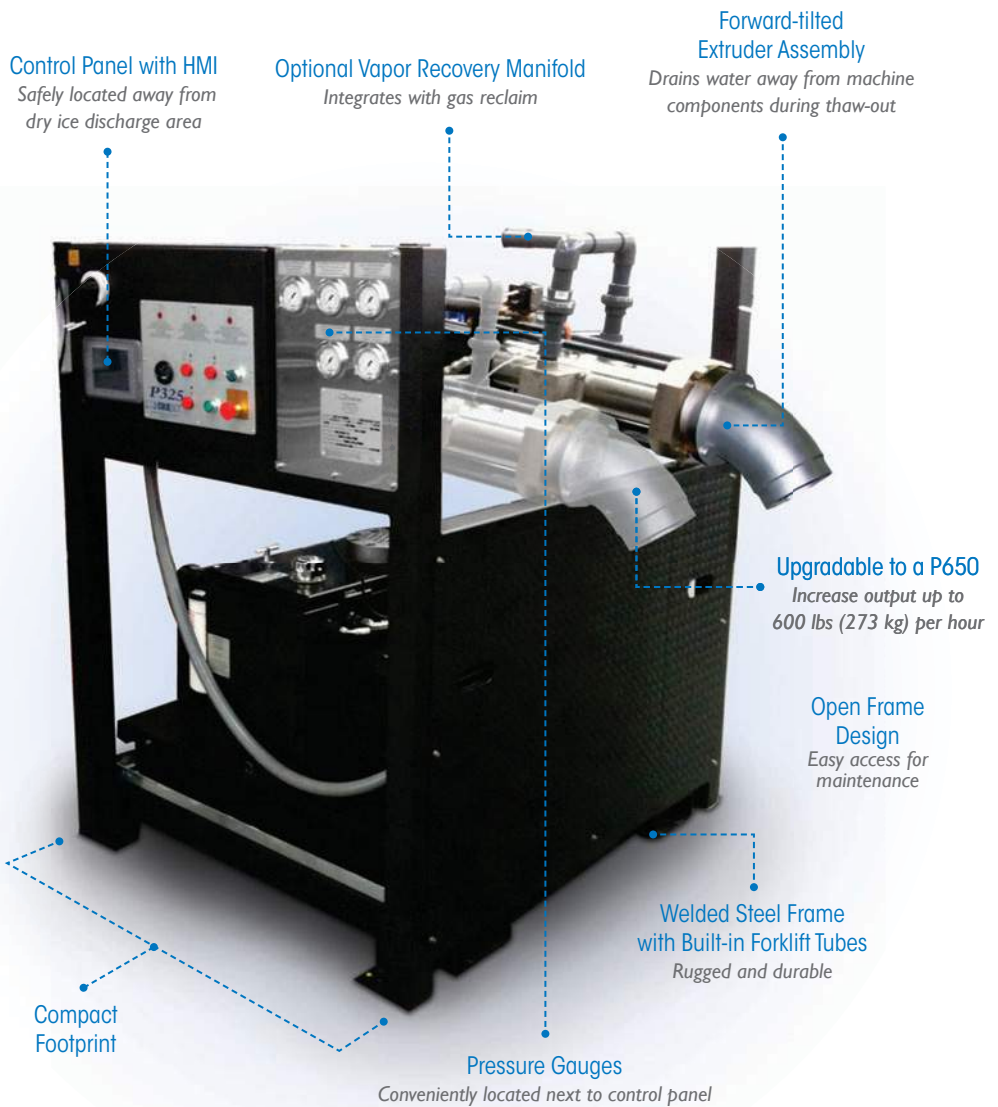
- Compact footprint
- Fully automated start up and shut down
- 3-Phase industrial voltages for global installations
- Upgradable to P650 production capacity (600 lbs (273 kg) per hour)

Comprehensive Package

- 3 mm (1/8 in) high density die, standard
- 25 gallons of hydraulic oil (95 liters) standard
- Vented liquid CO₂ valves and pressure relief devices for safety
- Pressure gauges conveniently located next to control panel
- Optional manifold for connecting to vapor reclaim recovery system

Human Machine Interface (HMI) Touch Screen

- Standard Equipment
- Capable of full diagnostics
- Multi-language



DIMENSIONS (L x W x H)	WEIGHT	LIQUID TO SOLID CO ₂ RATIO	PELLET DIAMETER RANGE	LIQUID CO ₂ PRESSURE RANGE
57 x 54 x 64.5 in	1,750 lbs	approximately 2.5:1 w/out recovery	1/8, 1/4, 3/8, 1/2 & 5/8 in 3, 6, 9, 13 & 16 mm	200-300 psig
145 x 137 x 164 cm	795 kg			14-20 bar

P750 Pelletizer

Up to 600 lbs/hour
(273 kg/hour)

Flexible enough to grow with your business.

The fully automatic P750 will produce on demand up to 600 lbs (273 kg) per hour of consistent, high-density dry ice pellets or nuggets using a source of Liquid CO₂ and electrical power. With the ability to upgrade capacity to 1,200 lbs (546 kg) per hour, the P750 is the most flexible industrial grade solution for heavy users of dry ice.

Operational & Maintenance

- Designed for 24 hour a day , 7 day a week production
- Compact Footprint
- Fully automated start up and shut down
- 3-Phase industrial voltages for global installations
- Upgradeable to P1500 production capacity (1200 lbs (546 kg) per hour)

Comprehensive Package

- 3 mm (1/8 in) high density die, standard
- 40 gallons of hydraulic oil (150 liters) standard
- Vented liquid CO₂ valves and pressure relief devices for safety
- Pressure gauges conveniently located next to control panel
- Optional manifold for connecting to vapor reclaim recovery system

Human Machine Interface (HMI) Touch Screen

- Standard Equipment
- Capable of full diagnostics
- Multi-language



DIMENSIONS (L x W x H)	WEIGHT	LIQUID TO SOLID CO ₂ RATIO	PELLET DIAMETER RANGE	LIQUID CO ₂ PRESSURE RANGE
84 x 49 x 84 in	2,700 lbs	approximately 2.5:1 w/out recovery	1/8, 1/4, 3/8, 1/2, 5/8, & 3/4 in 3, 6, 9, 13, 16 & 19 mm	200-300 psig
214 x 125 x 214 cm	1,227 kg			14-20 bar

P1500 Pelletizer

Up to 1,200 lbs/hour
(546 kg/hour)

Worry Free Production. Absolute Reliability.

The fully automatic P1500 will produce on demand up to 1,200 lbs (546 kg) per hour of consistent, high-density dry ice pellets or nuggets using a source of Liquid CO₂ and electrical power. The P1500 provides 24 hour a day, 7 day a week production capability and unrivaled reliability, putting you in charge of meeting daily demands.

Operational & Maintenance

- Designed for 24 hour a day, 7 day a week production
- Compact footprint
- Fully automatic start-up and shut down
- 3-Phase industrial voltages available for global installs

Comprehensive Package

- 3 mm (1/8 in) high density die, standard
- 40 gallons (150 liters) of hydraulic oil, standard
- Vented liquid CO₂ valves & pressure relief devices for safety
- Pressure gauges conveniently located next to control pane
- Optional manifold for connecting to vapor reclaim recovery system

Human Machine Interface (HMI) Touch Screen

- Standard equipment
- Capable of full diagnostics
- Multi-language



DIMENSIONS (L x W x H)	WEIGHT	LIQUID TO SOLID CO ₂ RATIO	PELLET DIAMETER RANGE	LIQUID CO ₂ PRESSURE RANGE
84 x 49 x 84 in	3,725 lbs	approximately 2.5:1 w/out recovery	1/8, 1/4, 3/8, 1/2, 5/8, & 3/4 in 3, 6, 9, 13, 16 & 19 mm	200-300 psig
214 x 125 x 214 cm	1,693 kg			14-20 bar

P3000 Pelletizer

Up to 2,400 lbs/hour
(1,090 kg/hour)

Power, Performance and Reliability.

The fully automatic P3000 will produce on demand up to 2,400 lbs (1,090 kg) per hour of high-density dry ice pellets or nuggets using a source of Liquid CO₂ and electrical power. With the ability to run all four barrels simultaneously or a set of two barrels independently, the P3000 is ready to meet any level of demand.

Operational & Maintenance

- Designed for 24 hour a day, 7 day a week production
- Compact footprint
- Fully automatic start-up and shut down
- 3-Phase industrial voltages available for global installs
- Lowest cost of ownership in the industry

Comprehensive Package

- 3 mm (1/8 in) high density die, standard
- 85 gallons (322 liters) of hydraulic oil, standard
- Vented liquid CO₂ valves & pressure relief devices for safety
- Pressure gauges conveniently located next to control panel
- Optional manifold for connection to vapor reclaim recovery system

Human Machine Interface (HMI) Touch Screen

- Standard equipment
- Capable of full diagnostics
- Multi-language



DIMENSIONS (L x W x H)	WEIGHT	LIQUID TO SOLID CO ₂ RATIO	PELLET DIAMETER RANGE	LIQUID CO ₂ PRESSURE RANGE
108 x 72 x 88 in	6,825 lbs	approximately 2.5:1 w/out recovery	1/8, 1/4, 3/8, 1/2, 5/8, & 3/4 in 3, 6, 9, 13, 16 & 19 mm	200-300 psig
275 x 183 x 224 cm	3,102 kg			14-20 bar

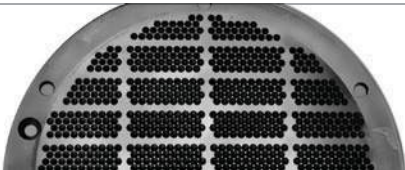

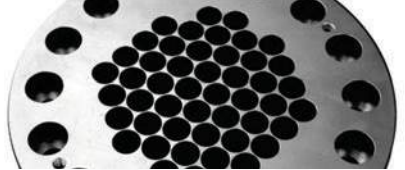

Pelletizers - Precision Extrusion Die Plates

Machined to extremely high tolerances, our extrusion dies are mechanically optimized to maximize dry ice density while utilizing energy more efficiently and extending the useful life of the hydraulics. Dry ice produced through Cold Jet dies offers the best blast cleaning performance and better transportability, significantly reducing fines and waste.



Fully Interchangeable

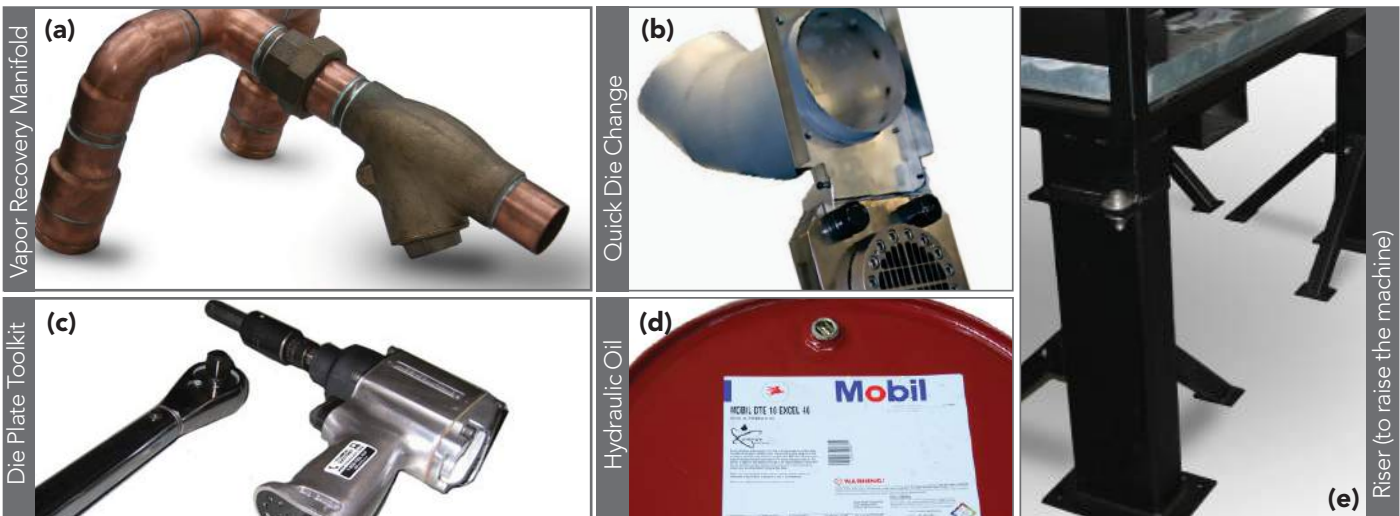
Die plates can be changed within 30 minutes, allowing you to produce a variety of dry ice dimensions throughout the day.

Interchangeable Die Plate Sizes	Description
3 mm (1/8") Pellet Die 	High Density Pellets (Rice Sized) for the Best Dry Ice Cleaning Performance
6 mm (1/4") Nugget Die 	
16 mm (5/8") Nugget Die 	
19 mm (3/4") Nugget Die (not available for the P325) 	High Density Nuggets Used for Transport Cooling, Manufacturing and Processing Applications
Other sizes available upon request:	<ul style="list-style-type: none"> • 1 mm (3/64") Pellet Die • 9 mm (3/8") Nugget Die • 13 mm (1/2") Nugget Die • 22 mm (7/8") Nugget Die (not available for the P325)

Pelletizers - Accessories

Standard Equipment	Description
Vapor CO ₂ Exhaust Manifold	Standard exhaust manifold used to vent vapor CO ₂ directly to the atmosphere
Stainless Steel Dry Ice Chute	Standard fixed discharge chute (not swing-away type for quick die changing)
ISO 46 Oil	Standard hydraulic oil

Optional Equipment	Description
Vapor Recovery Manifold (a)	Copper CO ₂ vapor exhaust manifold for connecting pelletizer to reclaim recovery system
Quick Die Change (QDC) Chute (b)	Swing-away type discharge chute for rapid die plate changeover (not available on P325)
Quick Die Change (QDC) Toolkit (c)	Tools for rapidly changing over one die plate diameter to another (e.g. 9 mm to 16 mm)
ISO 46 FM Oil (d)	Food grade hydraulic oil
Frame Risers (e)	Frame extensions to raise the pelletizer discharge height for direct feeding of a Cold jet R1500 or R3000 reformer, or dry ice blast cleaning system
Pellet Cutter Assembly	Interconnect assembly and pellet sizing system used to integrate pelletizer-to-blaster, and pelletizer-to-reformer systems
Low Flow CO ₂ Vapor Purge	Introduces a very low flow of CO ₂ vapor into the extrusion chamber at shutdown, preventing water ice formation by drying out internal system components
Heater - Low Flow CO ₂ Vapor Purge	Heats the low flow CO ₂ vapor to maximize purge performance; also ideal for low ambient temperature conditions
Winterization Kit	Hydraulic tank fluid heater for low ambient temperature operation



Pelletizers - Spare Parts Packages



PREVENTATIVE MAINTENANCE KIT

Required for every 1,000 hours,
or 12 months of production

- Replacement Liquid CO₂ filter
- Replacement hydraulic oil filter
- Replacement Liquid CO₂ circuit components



UPTIME CRITICAL PARTS KIT

To ensure maximum production efficiency,
this kit includes all items most critical to production

- Replacement electrical and pneumatic components
- Hydraulic wear components
- Replacement Liquid CO₂ supply line components
- High wear mechanical and diagnostic components



COMPREHENSIVE SPARE PARTS KIT

The complete parts solution for total control over your equipment
-- ideal for production facilities in remote locations --

- All components from the "Uptime Critical Parts Kit"
- Plus:
 - Extrusion Piston
 - Mono Seals
 - Directional Valve
 - Tie Rods
 - Exhaust Collectors
 - Proximity Switch

Pelletizers - Legacy System Upgrades

System Upgrade Options	Description
'Duty Cycle' Hydraulic Pressure Switch <i>(some older units may require an electrical upgrade for retrofit)</i>	<ul style="list-style-type: none"> • Detects high piston retract pressure indicative of snow behind piston; shuts machine down, reducing piston breakage by 90% • Reduces chill-down cycle time for faster build up to full production • Automatically shifts from chill-down cycle to run-cycle when 1000 psi (69 bar) is reached
Low Flow CO₂ Vapor Purge	<ul style="list-style-type: none"> • Prevents water build-up on dies and collector screens, preventing high extrusion and chamber pressures resulting in system shut-downs and wear on the hydraulic unit • Increases useful life of hydraulics, piston components and rod seals • Ensures consistent, repeatable start-up • Keeps water from forming on vent screens and dies during shut-down
Heater - Low Flow CO₂ Vapor Purge	<ul style="list-style-type: none"> • Heats vapor purge CO₂ to prevent water ice build-up on internal components and dies • Very useful when producing at ambient temperatures below utility machine requirements
Oversized Discharge Chute	<ul style="list-style-type: none"> • Increases discharge chutes diameter from 6" to 8" • Helps to eliminate ice jams in humid environments
Automatic Controls <i>(for machines manufactured between 1997-2004)</i>	<ul style="list-style-type: none"> • Converts unit from Manual to a Fully Automatic operation -- greatly simplifying operation and training of operators • Automatic, quick, repeatable, and safe start-up and shut-down • Eliminates time consuming steps that if performed incorrectly can cause damage, or affect system performance
Electric, Control Panel, and Ethernet Capable PLC	<ul style="list-style-type: none"> • Replacement of relays and input cards with most up-to-date version • Replacement of obsolete PLC with up-to-date version that has full Human Machine Interface (HMI) and Ethernet compatibility • Updates PLC to current program standards
Lighted LED's on Electrical Components	<ul style="list-style-type: none"> • Install LED indicators on critical components • Rapid, visual identification of energized coils • Simplifies troubleshooting
Spacers Over Extrusion Cylinder Tie Rods	<ul style="list-style-type: none"> • Ensures proper alignment of the barrel and cylinder • Ensures even torque on all rods – reduces tie rod stress/breakage • Prevents buckling ("Hour Glass Effect") of the barrel • Ensures die plate will bolt flush to the end plates, eliminating the risk of end plate warping
Replacement or Rebuild of Damaged Snow Barrels	<ul style="list-style-type: none"> • Replaces or reconditions damaged or warped barrel assemblies • Eliminates buckling ("Hour Glass Effect") of the barrel • Ensures proper alignment of the barrel and cylinder, reducing the chance of piston bolt breakage • Ensures even torque on all rods – reduces tie rod stress/breakage • Ensures die plate bolts flush to the end plates, eliminating the risk of end plate warping
Replacement or Rebuild of Extrusion Piston	<ul style="list-style-type: none"> • Replacement of damaged extrusion piston or total rebuild • Increases the life of piston head wear bands and o-rings • Reduces probability of hydraulic fluid in dry ice

Pelletizer Portfolio - Pellet and Nugget



System	P325	P750	P1500	P3000
Max Output	up to 300 lb/hr (136 kg/hr)	up to 600 lb/hr (273 kg/hr)	up to 1,200 lb/hr (546 kg/hr)	up to 2,400 lb/hr (1,090 kg/hr)
Output Size	1/8, 1/4, 3/8, 1/2, 5/8 in (3, 6, 9, 13, 16 mm)	1/8, 1/4, 3/8, 1/2, 5/8, 3/4 in (3, 6, 9, 13, 16, 19 mm)		
Unit Dimensions (L x W x H)	57 x 54 x 64.5 in (145 x 137 x 164 cm)	84 x 49 x 84 in (214 x 125 x 214 cm)	108 x 72 x 88 in (275 x 183 x 224 cm)	180 x 144 in (458 x 366 cm)
Floor Space Requirements (L x W)	129 x 126 in (328 x 320 cm)	156 x 121 in (396 x 308 cm)		
Weight	1,750 lbs (796 kg)	2,700 lbs (1,227 kg)	3,725 lbs (1,693 kg)	6,825 lbs (3,102 kg)
Oil Capacity	25 gallons (95 Liters)	40 gallons (151 Liters)		85 gallons (322 Liters)
Power Requirement	8.5 kW	17 kW	17 kW	34 kW
Liquid CO ₂ Pressure		200-320 psi (14-20 bar)		
Liquid to Solid CO ₂ Ratio		approximately 2.5:1 (without recovery)		

Reformer Portfolio - Pellet-to-Slice



Pellet & Slice System



Slice Only



Slice Only



Integrated Pellet & Slice System



System	PR750	R1500	R3000	P1500 + R3000
Pellet & Nugget Max Output	up to 600 lbs/hr (273 kg/hr)	n/a	n/a	Up to 2,400 lbs/hr (1090 kg/hr)
Slice Output	up to 300 slices/hr	up to 500 slices/hr	up to 1,000 slices/hr	
Slice Dimension (L x W)		5 x 8 in (125 x 210 mm) 6 x 6 in (150 x 150 mm) --others available upon request--		
Slice Thicknesses		7/10 in (18/19 mm) 3/4 in (25 mm) 1 in (30 mm) 2 in (50 mm)		
Unit Dimensions (L x W x H)	100 x 54 x 92 in (254 x 137 x 234 cm)	83 x 53 x 76 in (211 x 135 x 193 cm)	83 x 53 x 76 in (211 x 135 x 193 cm)	145 x 48 x 105 in (368 x 122 x 267 cm)
Floor Space Requirements (L x W)	180 x 134 in (455 x 338 cm)	155 x 125 in (394 x 318 cm)	155 x 125 in (394 x 318 cm)	311 x 125 in (790 x 318 cm)
Weight	5,123 lbs (2,333 kg)	4,000 lbs (1,818 kg)	4,500 lbs (2,045 kg)	~11,3505 lbs (150 kg)
Oil Capacity	60 gallons (227 Liters)	60 gallons (227 Liters)	60 gallons (227 Liters)	100 gallons (416 Liters)
Power Requirement	17 kW		34 kW	51 kW

Reformers



R3000

Key Features

- 24 hour a day, 7 day a week reliability
- Easily integrated with a Cold Jet pelletizer (P750, P1500, P3000)
- Minimal energy consumption
- Proprietary Sure Flow Dosing System Technology
- Superior slice quality with less than 2% breakage
- Quick Change Press Heads – change in less than 15 minutes
- Vary slice weights from 7/10" to 2" thickness (18 mm to 50 mm)
- Human Machine Interface (HMI) Touch Screen
- Food Grade Hydraulic Oil
- Remote diagnostics ready

System	Slice Output	Description
PR750	Up to 300 slices, or 600 lbs (273 kgs) pellets/nuggets per hour	<ul style="list-style-type: none"> All-in-one system provides pellet/nugget production and reforms into slices Reforms 1/8" (3 mm) dry ice pellets into 6" x 6" (150 mm x 150 mm) slices, or 5" x 8" in (125 x 210 mm) slices
R1500	Up to 500 slices per hour	<ul style="list-style-type: none"> Ability to integrate with a Cold Jet P750 or P1500 pelletizer for continuous pellet/nugget production Reforms 1/8" to 3/4" (3 mm to 19 mm) dry ice pellets into 6" x 6" (150 mm x 150 mm) slices, or 5" x 8" in (125 x 210 mm) slices
R3000	Up to 1,000 slices per hour	<ul style="list-style-type: none"> Ability to integrate with a Cold Jet P1500 or P3000 pelletizer for continuous pellet/nugget production Reforms 1/8" to 3/4" (3 mm to 19 mm) dry ice pellets into 6" x 6" (150 mm x 150 mm) slices, or 5" x 8" in (125 x 210 mm) slices

Reforming pellets into slices reduces dry ice consumable cost and is safer for the operator compared to the traditional block cutting process. The pellet-to-slice reforming process eliminates hazards and reduces CO₂ sublimation loss by ~80% producing less CO₂ "smoke."



PR750



R1500

PR750 Reformer

Up to 300 slices per hour, or
up to 600 lbs (273 kgs) pellets/nuggets per hour

Multi-Form Production System

The PR750 is an all-in-one production system, designed to meet your multi-form dry ice demands -- slices, pellets or nuggets. When in full slice production mode it can reform 1/8" (3 mm) pellets into 6" x 6" (150 mm x 150 mm) or 5" x 8" (125 x 210 mm) dimensions, up to 300 slices per hour.

In full pellet/nugget production mode, the PR750 can produce up to 600 lbs (273 kgs) per hour of 1/8" to 3/4" (3 mm to 19 mm) sized pellets or nuggets. Dry ice produced can be fed directly into insulated transport totes, making the process simple, efficient and safe.

Operational & Maintenance

- Designed for 24 hour a day, 7 day a week production
- Minimal energy consumption

SureFlow Dosing System

- Accepts 3 mm pellets
- Superior slice quality with less than 2% breakage
- Weighing within +/- 50g of specification

Quick Change Press Heads

- Change dimension of press in less than 15 minutes
- Vary slice thickness (7/10" up to 2" or 18 up to 50 mm)

Human Machine Interface (HMI) Touch Screen

- Full diagnostic capability
- Tune critical parameters (e.g. pressure & cycle time)
- Remote diagnostics ready (i.e. Siemens S7 PLC with PROFIBUS communication)



DIMENSIONS (L x W x H)	WEIGHT	ELECTRICAL SUPPLY	PELLET DIAMETER RANGE	LIQUID CO ₂ PRESSURE RANGE
100 x 54 x 92 in	5,123 lbs	380/415 or 460/480 VAC 3-phase 50/60Hz	1/8, 1/4, 3/8, 1/2, 5/8, & 3/4 in 3, 6, 9, 13, 16 & 19 mm	200-300 psig
254 x 137 x 234 cm	2,333 kg			14-20 bar

R1500 Reformer

Up to 500 slices per hour

Dry Ice Pellet-to-Slice System

Cold Jet's R1500 Pellet-to-Slice Reformer is fully automated, with the flexibility to reform 1/8" to 3/4" (3 mm to 19 mm) dry ice pellets or nuggets into 6" x 6" (150 mm x 150 mm), or 5" x 8" (125 x 210 mm) slices. Combine with a P750 or P1500 pelletizer to produce and reform up to 500 high density dry ice slices per hour.

Operational & Maintenance

- Designed for 24 hour a day, 7 day a week production
- Easily integrated with a pelletizer
- Minimal energy consumption

SureFlow Dosing System

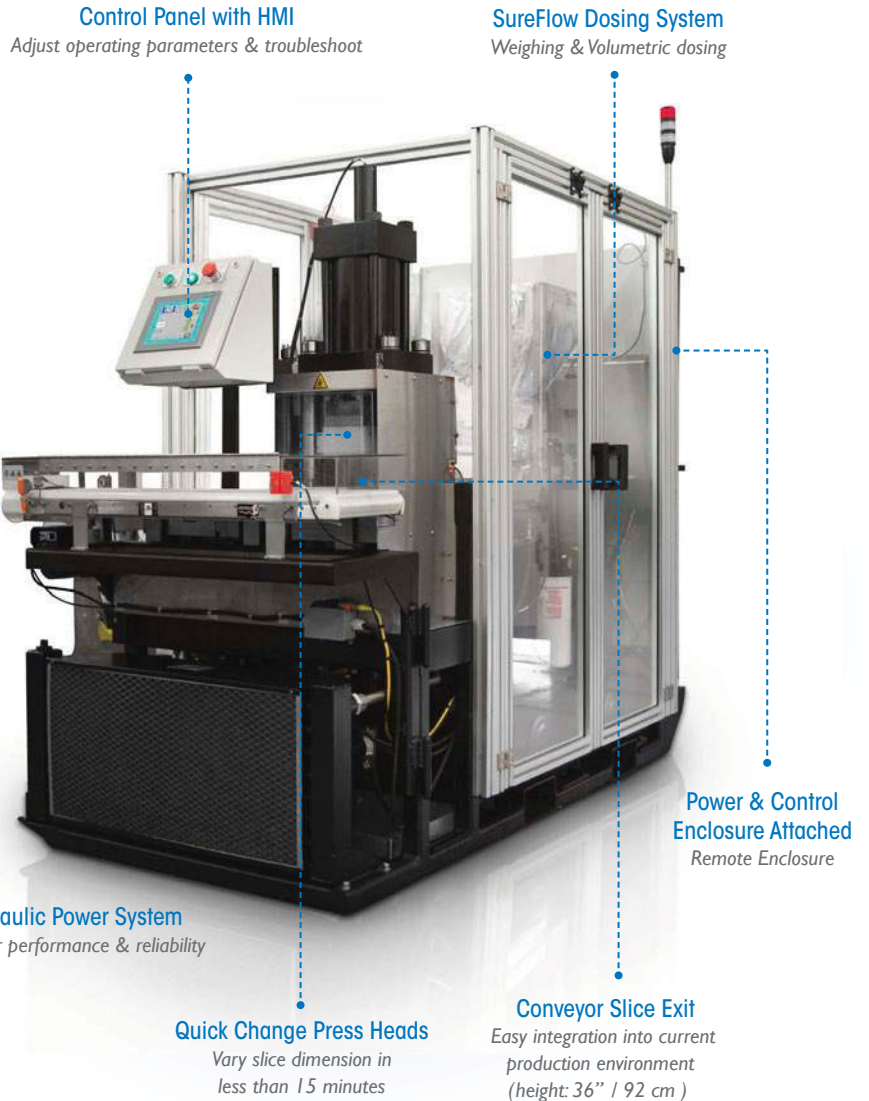
- Accepts pellets or nuggets
- Superior slice quality with less than 2% breakage
- Weighing within +/- 50g of specification

Quick Change Press Heads

- Change dimension of press in less than 15 minutes
- Vary slice thickness (7/10" up to 2" or 18 up to 50 mm)

Human Machine Interface (HMI) Touch Screen

- Full diagnostic capability
- Tune critical parameters (e.g. pressure & cycle time)
- Remote diagnostics ready (i.e. Siemens S7 PLC with PROFIBUS communication)



DIMENSIONS (L x W x H)	WEIGHT	ELECTRICAL SUPPLY	HYDRAULICS	NOISE
83 x 53 x 76 in	4,000 lbs	380/415 or 460/480	20HP	Under 80 dBA
211 x 135 x 193 cm	1,818 kg	VAC 3-phase 50/60Hz		(at 6.5feet/2meters)

R3000 Reformer

Up to 1,000 slices per hour

Dry Ice Pellet-to-Slice System

Cold Jet's R3000 Pellet-to-Slice Reformer is fully automatic, with the flexibility to reform 1/8" to 3/4" (3 mm to 19 mm) dry ice pellets or nuggets into 6" x 6" (150 mm x 150 mm), or 5" x 8" (125 x 210 mm) slices. Combine with a P1500 or P3000 pelletizer to produce and reform up to 1,000 high density dry ice slices per hour.

Operational & Maintenance

- Designed for 24 hour a day, 7 day a week production
- Easily integrated with a pelletizer
- Minimal energy consumption

Sure Flow Dosing System

- Accepts pellets or nuggets
- Superior slice quality with less than 2% breakage
- Weighing within +/- 50g of specification

Quick Change Press Heads

- Change dimension of press in less than 15 minutes
- Vary slice thickness (7/10 up to 2" or 18 up to 50 mm)

Human Machine Interface (HMI) Touch Screen

- Full diagnostic capability
- Tune critical parameters (e.g. pressure & cycle time)
- Remote diagnostics ready (i.e. Siemens S7 PLC with PROFIBUS communication)



DIMENSIONS (L x W x H)	WEIGHT	POWER	HYDRAULICS	NOISE
83 x 53 x 76 in	4,500 lbs	380/415 or 460/480 VAC 3-phase 50/60Hz	20HP	Under 80 dBA
211 x 135 x 193 cm	2,045 kg			(at 6.5feet/2meters)

Pelletizer to Slice Reformer Integrated Systems

P1500 - R1500 with Packaging

CONTROL YOUR COOLING COSTS: Just-in-time systems configured to meet your average and peak demands

Aside from being inefficient to order, transport and store, dry ice is also a major expense for many companies. With this in mind, Cold Jet engineered a line of fully integrated pelletizer to Slice Reformer systems that produce dry ice slices in standard 6" x 6" (150 mm x 150 mm) and 5" x 8" (125 mm x 210 mm) configurations. Custom sizes are also available upon request.

Cold Jet systems allow end users to produce dry ice "just-in-time", on-site, putting the control to meet daily demands back into your hands. By better managing dry ice volumes, keeping sublimation loss low and improving product quality, cost containment and overall process efficiency are greatly improved.

Cold Jet offers systems that combine patented technology, globally available components and a unique understanding of your applications.

Our systems are:

- Fully automated
- 24/7 Capability
- Produce superior dry ice quality
- Easy & efficient to use
- Vary slice size in less than 15 minutes

Process Overview

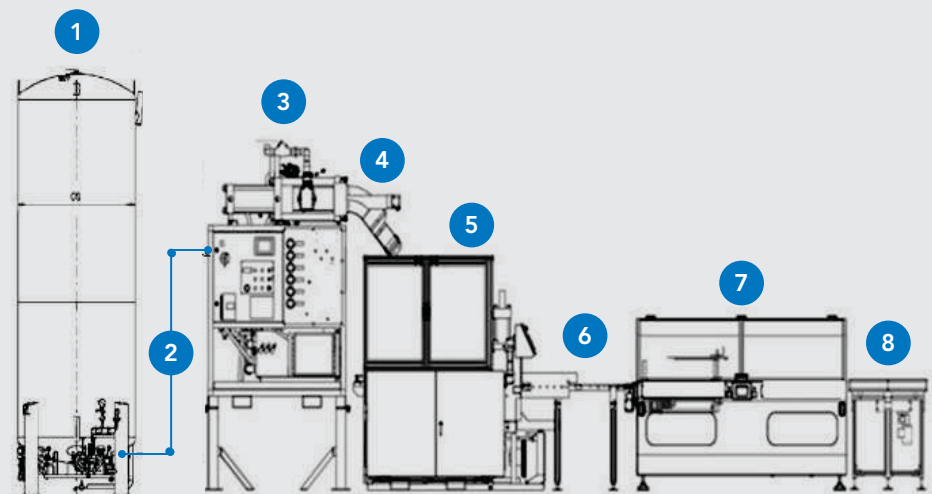
Dry ice is made from Liquid CO₂ (LCO₂) maintained in a temperature controlled, pressurized storage vessel (1). Insulated lines (2) rated at 600 psi (40 bar) connect the storage vessel to the pelletizer production unit (3).

LCO₂ is then released inside a closed chamber and rapidly expands into both a gas vapor and dry ice snow. The snow is then compressed into a cake and extruded through die plates to form high density 3 mm pellets.

Pellets are then transferred by an interconnect assembly (4) into a dry ice reformer (5).

The reformer measures dry ice pellets and doses a predetermined amount into a press assembly where it is formed into slices of standard dimensions.

Slices are then moved down a conveyor (6) into a wrapping machine (7) which delivers the wrapped slices to a loading station (8).



Reformer - Accessories and Configurations

Optional Equipment	Description
Sure Flow Dosing System*	<ul style="list-style-type: none"> Two proprietary dosing systems options are available -- Volumetric & Weight Based *PR750 is only offered with the Volumetric system
'Quick Change' Slice Die Kits	<ul style="list-style-type: none"> Standard kit sizes include (L x W): 6" x 6" (150 mm x 150 mm) and 5" x 8" (125 mm x 210 mm) Custom kit sizes available upon request, consult your sales associate
Dry Ice Pelletizer Integration & Pellet Sizing System	<ul style="list-style-type: none"> Cold Jet's R1500 and R3000 reformers can be seamlessly integrated with P750, P1500 or P3000 pelletizer to automatically reform high density dry ice into slices on demand
Packaging System Integration	<ul style="list-style-type: none"> Depending on your available floor space and desired configuration, a packaging machine can be integrated with a conveyor system either in-line, or to left / right of the reformer
Packaging System	<ul style="list-style-type: none"> Automatic packager for slices, can be configured to accept polyolefin, polyethylene, or polypropylene
Accumulation Table	<ul style="list-style-type: none"> Rotating table to accumulate wrapped slices for transferring into insulated storage totes
Safety Systems	<ul style="list-style-type: none"> Ventilation system to remove CO₂ vapor from the production area Monitoring system to monitor CO₂ vapor in the production area

Reformer - Spare Parts Kits

PREVENTATIVE MAINTENANCE KIT

Includes all the required spare parts to perform routine preventative maintenance every 1,000 production hours, or every 12 months.

- Replacement hydraulic oil filter and components
- Replacement Liquid CO₂ circuit components (PR750 only)

UPTIME CRITICAL PARTS KIT

(Items most critical to day-to-day operation)

Ensure high production efficiency with no waiting on critical spare parts delivery.

Kit includes:

- Replacement hydraulic system components
- Replacement electrical and control system components
- Replacement hopper and thumper components
- Replacement Liquid CO₂ circuit components (PR750 only)

Integrated Systems - Overview

From simple customization to full-automation, we design innovative solutions using a proprietary knowledge of dry ice

From spinning blast nozzles to proprietary radiation decontamination systems, we design and build Integrated Systems which link our pelletizers with our best-in-class blast cleaning systems. Each system is custom engineered to your requirements. Integrated systems are currently used extensively in the automotive OEM, tire, aerospace, semiconductor, and many other industries.

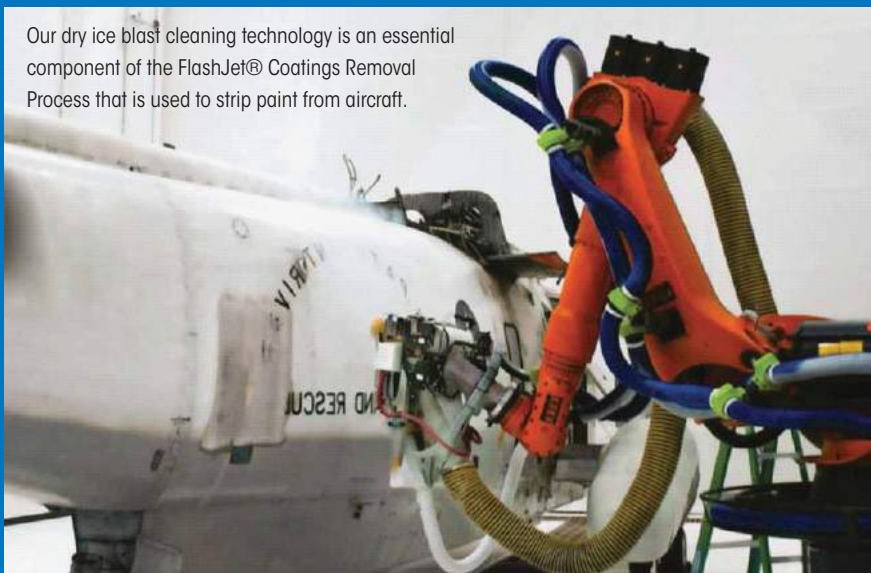
Key Features

- Fully automated - ideal for integration with production lines
- Can run multiple blast cleaning nozzles from a single system
- Can be integrated with a robot, or operated manually
- Operating pressure up to 300 psi (20.7 bar)

Key Benefits

- "Just-in Time" manufacturing - no storage waste
- 24 hours a day, 7 day a week operation
- Easy to connect with work cell and robotic controllers
- Improved process consistency and reliability
- Reduced labor and associated costs

Our dry ice blast cleaning technology is an essential component of the FlashJet® Coatings Removal Process that is used to strip paint from aircraft.



Service and Maintenance

Service Program	Description
Site Inspection (prior to installation)	An application engineer, or senior service technician, will review your production area requirements, inspect the environmental conditions, advise on installed utilities, and consult on the manpower requirements needed to meet your application.
On-site Training and Installation Support	Our service technicians will travel to your site, train your team on proper operating procedures, review your installation and ensure utility requirements are met for optimum system performance. Training includes proper pre-operation checks, start-up/ shut down procedures, and operational checks.
Preventative Maintenance Training	Our service technicians will travel to your site and provide your maintenance team with Preventative Maintenance fundamentals, including visual inspections, wear component removal/replacement, adjustable component fundamentals, and review all Cold Jet Service & Maintenance offerings.
Preventative Maintenance Inspection	Inspection includes, but is not limited to verifying: <ul style="list-style-type: none"> • performance of hydraulic cylinder and pump • hydraulic oil and CO₂ leaks • proper hydraulic pressure • dry ice quality • proper extrusion chamber pressure (pelletizers)

Monitor your systems remotely from any computer with internet access. This feature aids in alerting you of issues before they occur making solutions more proactive than ever before. Benefits of remote monitoring include the ability to track:

- Rate of production and output
- Cycle times
- Equipment status and alarms
- Hydraulic oil temperature and pressure
- All tracking is visible in a variety of time frames such as; 7 day range, current day, last 60 minutes, last 24 hours, and last 7 days

Remote Monitoring





Service and Maintenance Programs

Extended Service Plans

- Maintains a comprehensive list of spare parts at your facility
- Regularly scheduled preventative maintenance for maximum system efficiency
- Periodic training of your personnel
- Additional Technical Support

Legacy System Upgrades

We want you to benefit from the latest technology advancements in Dry Ice Manufacturing, Environmental Cleaning and Surface Preparation technologies. This program allows you to upgrade your older model to a current Cold Jet dry ice manufacturing system.

Training

On-site training covering proper start up, shut down, operation, safety issues and basic troubleshooting tips is available at installation commissioning or as periodically needed.

We also have training centers in:

- Cincinnati, OH, USA
- Rancho Cucamonga, CA, USA
- Heusden-Zolder, Belgium

24 Hour Technical Support

As a turn-key provider of service, Cold Jet's technical support team is available 24 hours a day, 7 days a week.

When technical support is required, you can expect Cold Jet to provide:

- Prompt, courteous service from a qualified technician
- Access by telephone, fax, or electronic mail
- A comprehensive solution to your problem with appropriate accessories and upgrades that maximize performance
- The highest quality Cold Jet authorized parts
- Best-in-class information related to product use, configuration, and troubleshooting

Additional Services

Other services, available at competitive rates, include:

- Installation & Commissioning
- Maintenance or repair at your site, or at a Cold Jet Service Center
- Site surveys
- System layouts & integration
- Turn-key project management

To learn more about Cold Jet's service capabilities, including Extended Warranties, Used Equipment, Leasing or Accessories and Spare Parts Packages, Programs visit www.coldjet.com, or call +1-800-337-9423.



Our dedicated team will work with you until you are completely satisfied with the performance levels of your system.

For more information on dry ice manufacturing technology and the many benefits of owning a Cold Jet system, please visit us at www.dryiceproduction.com

P3000



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Global Headquarters

Loveland, OH USA
+1 800.337.9423 USA
+1 513.831.3211 International

European Headquarters

Heusden-Zolder, Belgium
+32 (0) 13 53 95 47

Canada

Ontario, Canada
+1 800.337.9423 x501

Germany

Weinsheim, Germany
+49 (0)6551 9606.0

Latin America

Monterrey, NL Mexico
+52 (81)10 97 0445

Asia - Pacific

Tokyo, Japan
+81 3 4360 8200

www.coldjet.com

Americas. Asia. Europe.