



# Dilvac Range of Products

Dewar Flasks and  
Portable Dry Ice Maker

# Applications of Dewar Flasks



## Pharmaceutical & Life Sciences

- **Sample storage & transport** – Maintaining temperature-sensitive pharmaceuticals, vaccines, and biological samples.
- **Cryopreservation** – Storing cells, tissues, and other biological specimens at ultra-low temperatures.
- **Stability testing** – Using dry ice and Dewars to simulate cold chain logistics conditions.
- **Clinical trials** – Transporting trial samples under strict temperature controls.

## Laboratory & Research

- **Cryogenic liquid handling** – Safely storing and dispensing liquid nitrogen or dry ice for experimental protocols.
- **Specimen freezing** – Flash-freezing biological specimens for molecular biology or histology.
- **Low-temperature reactions** – Supporting chemical reactions requiring sub-zero conditions.
- **Sample snap freezing** – For preserving RNA/DNA integrity in genomics and proteomics work.

## Logistics & Cold Chain

- **Shipping perishable goods** – Maintaining required temperatures for items like reagents or food samples.
- **Backup temperature control** – Providing passive cooling during power outages or transport delays.

## Agriculture & Food Industry

- **Food sample preservation** – Keeping test samples at safe temperatures during transport and testing.
- **Cryogenic grinding** – Flash freezing food for fine particle milling without degradation.

## Forensics & Law Enforcement

- **Evidence preservation** – Storing biological or trace evidence (e.g., blood, DNA) during transport.
- **Crime scene investigation kits** – Including Dewars or dry ice for temporary storage in field conditions.

## Health, Hygiene & Diagnostics

- **Transport of diagnostic kits** – Ensuring rapid and safe transport of temperature-sensitive test kits.
- **Specimen preservation in pathology** – Dewars and dry ice preserve sample integrity for accurate diagnosis.
- **Vaccine cold chain** – Supporting safe distribution of vaccines that require sub-zero storage.

# DEWAR FLASKS BY DILVAC



For safe use & transportation of liquid gases  
LABORATORY RANGE

## Dewar Flasks

Designed for safe use, handling and transportation of liquid gases. All Dilvac Dewar flasks by Day-Impex are manufactured to exacting standards and represent the highest quality units available today for laboratory use to provide lasting performance.



Dilvac Dewar flasks in containers all utilise the proven borosilicate glass inner vessels. Offered in stove-enamelled steel and hygienic satin finish stainless steel, with capacities ranging from 200cc to 10 litres.

The Dewars are designed with practicality and safety in mind. Many of the range of 21 models have features such as vented, clamped lids, carrying handles and rubber-cushioned bases.



Dewar Flasks are also commonly referred to as Vacuum Flasks, Thermos Flasks, and Cold Storage Containers.





### Universal Style: With Handle and Lid

Fitted in highest-quality stainless steel containers, therefore rust-free, anti-corrosive, all hygienic and strong.

These Dewars have an all stainless steel lid with self-contained insulation. Toggle-clamps secure the lid to the body for safe transportation.



### Shallow Form with Wide Mouth

Wide-mouthed shallow glass Dewar Flasks are dish-shaped, fitted in stainless steel protective containers. Can be used with a magnetic stirrer, designed to accept standard boiling flask up to 2 litres in capacity, for rapid freezing tempering of stirring rods, pestles, etc.

The shallow form configuration allows for minimum amount of coolant to be used.



### Blue Enamelled Mild Steel: Wide and Narrow Mouth

A range of low-cost utility Dewar flasks specially designed for laboratory, hospital and industrial use. Safe for use with all liquid gases and ideal for cold traps.

High-quality borosilicate glass inner flasks, ultra-low evacuated in attractive blue stove-enameled steel outer container, available in 8 capacities.

There are also 4 sizes in this multi-purpose range with models that have an insulated lid, fold-down carrying handle and cushioned base to prevent benchtop damage.



### Vacuum-insulated Stainless Steel Flasks

These vacuum-insulated Dewar flasks are made entirely of stainless steel and are designed specifically for those special applications where no glass can be used.

Lightweight and compact in 6 standard sizes from 1/2 litres to 6 litres capacity, these Dewars are designed for low temperature and high-temperature applications.



### DILVAC glass Dewars and Specials

Skilfully made in borosilicate glass, DILVAC Dewars are ultra-low evacuated to allow the safe and efficient handling of all liquified gases, freezing-mixtures and specimens.

A wide of sizes and capacities can be supplied either fully silvered, silvered with viewing-strips, or unsilvered. Tailed, spherical or any special shape of Dewar flask can be manufactured by our craftsmen in our well-equipped factory.



### Universal Blue Enamelled Mild Steel: With Lid and Handle

This range offers a lower-cost alternative to the stainless steel range and are identical dimensionally inside and out to their stainless steel cousins. This makes them ideally suitable for longer-term transportation of liquids and specimens.

## Models DSS 1000 to DSS 6000 each have a detachable steel handle.

These Dewars can be used for ultra-low or very high-temperature applications. From the storage and transportation of dry ice (-80°C), liquid nitrogen (-196°C) right up to high temperature ovens of +300°C. For use in physics, chemistry and biological situation, cold traps, oil baths, water baths; for the storage or carrying of frozen substances; for heat tempering or transporting high temperature objects, for medical study of frozen cells etc. The list of applications is endless.

We can repair, re-silver or re-pump any damaged Dewar you may have. Ice-bowls and refills for other proprietary brand vacuum flasks can also be supplied, no matter how old they are or where they came from. For these and all other special requirements, we are pleased to advise and assist you in any way we can.

MODEL NO.	CAPACITY (Litres)	INTERNAL (Diameter x Depth - mm)	OVERALL (Diameter x Depth - mm)	NET WEIGHT (kg)
DSS500	0.5	65 x 180	87 x 204	0.46
DSS1000	1.0	85 x 206	107 x 232	0.85
DSS1000W	1.0	100 x 157	122 x 177	0.63
DSS2000	2.0	100 x 285	122 x 313	1.23
DS3000	3.0	185 x 160	200 x 190	1.50
DS6000	6.0	185 x 270	200 x 300	2.12

## Standard Sizes, Capacities and Refills

### Containers and Glass Refills

TYPE	CONTAINER REF.	SIZE (Dia. x Width mm)	REFILL REF.	SIZE (Dia. x Height mm)	CAPACITY
Stainless Steel Container (with clamp lid attachment, vent and handle)	SS111	116 x 228	470111	85 x 185	1.0 L
	SS222	142 x 268	470222	109 x 205	2.0 L
	SS333	182 x 350	470333	150 x 280	4.5 L
	SS700	245 x 335	470700	200 x 285	7.0 L
Stainless Steel Container (shallow form, no handle or lid)	SS77SH	105 x 75	47077SH	75 x 50	0.17 L
	SS100SH	130 x 90	470100SH	99 x 65	0.38 L
	SS115SH	150 x 95	470115SH	99 x 65	0.57 L
	SS138SH	175 x 105	470138SH	114 x 70	1.0 L
	SS150SH	186 x 138	470150SH	129 x 80	1.9 L
Enamelled Steel Container (with handle and lid)	MS111	116 x 228	470111	85 x 185	1.0 L
	MS222	142 x 268	470222	109 x 205	2.0 L
	MS333	182 x 350	470333	150 x 280	4.5 L
	MS200	245 x 445	470200	200 x 285	10.0 L
Enamelled Steel Container (with clamp lid attachment, vent and handle)	MS111+C	116 x 228	470111+C	85 x 185	1.0 L
	MS222+C	142 x 268	470222+C	109 x 205	2.0 L
	MS333+C	182 x 350	470333+C	150 x 289	4.5 L
Enamelled Steel Container (with no handle or lid)	MS40	68 x 215	47040R	41 x 70	0.2 L
	MS57	81 x 350	47057R	55 x 315	0.7 L
	MS67	94 x 285	47067R	66 x 240	0.75 L
	MS77	106 x 275	47077R	75 x 235	1.1 L
	MS90	126 x 290	47090R	90 x 240	1.5 L
	MS100A	137 x 280	470100AR	104 x 240	1.5 L
	MS100B	137 x 330	470100BR	104 x 290	2.0 L
	MS135	175 x 290	470135R	134 x 230	3.0 L

# Applications of Dry Ice Maker



## Laboratory & Research

- **Sample preservation** – Rapid cooling or freezing of biological, clinical, or chemical samples.
- **Cryogenic grinding** – Freezing samples before pulverisation to prevent degradation during processing.
- **Cold traps** – Creating dry ice for use in vacuum systems and solvent evaporation setups.
- **Fieldwork logistics** – Portable dry ice production for off-site sample handling or temporary storage.



## Pharmaceutical & Biotech

- **Cold chain management** – Ensuring medicines, vaccines, or diagnostic kits remain stable during transit.
- **Clinical trials** – On-site production of dry ice for precise, low-temperature handling of trial samples.
- **Tissue transport** – Keeping biological materials (e.g. organs, biopsies, tissue cultures) cold in transit.



## Forensics & Law Enforcement

- **Evidence preservation** – Keeping forensic samples like blood, tissue, or DNA viable in transit.
- **Crime scene management** – Mobile cooling option in remote or temporary setups.



## Food & Beverage

- **Cold transport** – Maintaining freshness of perishables or specialty items (e.g. seafood, dairy).
- **Presentation & special effects** – Used in catering and food styling for visual impact (e.g., fog effects).



## Health, Hygiene & Diagnostics

- **Infection control logistics** – Temporary cooling for temperature-sensitive disinfectants or reagents.
- **Mobile diagnostic units** – Generating dry ice where commercial supply is unavailable or inconsistent.



## Medical & Healthcare

- **Pathology labs** – Preserving biopsy specimens and tissue samples before analysis.
- **Dental/medical transport** – Cold storage for sensitive equipment or compounds during shipping.
- **Cryotherapy prep** – Generating dry ice for use in minor skin treatments or therapeutic cooling.



## Industrial & Engineering

- **Shrink fitting** – Cooling metal parts with dry ice to contract them before assembly.
- **Machinery maintenance** – Removing adhesives, resins, or residues via dry ice blasting.
- **Thermal testing** – Simulating extreme cold for stress testing of components.



## Shipping & Logistics

- **Packaging support** – Creating dry ice for temperature-controlled packaging in-house.
- **Emergency cooling** – Backup for refrigeration failures or temperature-sensitive emergencies.

# DILVAC DRY ICE MAKER



Dry Ice Maker  
LABORATORY RANGE

## Dewar Flasks

**The DILVAC Portable Dry Ice Maker is the fastest way of providing a block of dry ice to your laboratory.**



It is compact and lightweight, requires no electric power, and is safe and simple to use. Most importantly, it is always there in the lab to give you immediate access to dry ice when you need it.

The economy of having your dry ice 'on tap' can provide considerable financial savings over a relatively short period as the cost of having dry ice delivered to your lab can be prohibitive.

The DILVAC Portable Dry Ice Maker produces a block of approx. 1kg in weight in less than 2 minutes, and all you have to do is connect the unit to a cylinder of CO<sub>2</sub> (with an internal siphon), and unscrew the valve.



### WARNING

Gaseous CO<sub>2</sub> vapours can cause suffocation, so use the unit only in well-ventilated areas. Also, use the unit only on a level supporting surface. Never allow the unit to hang from the feed hose.

Do not handle dry ice without gloves. It is very cold (circa -80°C).



## How does it work?

The unit comes with easy to follow operating instructions. Briefly, this is how it works:

- Connect unit to liquid CO<sub>2</sub> cylinder and turn on. Monitor flow of liquid by means of pressure gauge provided
- When the block is made, turn off 'gas on' cylinder; unclip lid and sides of unit
- Remove block. Gloves must be worn. Replace sides and lid of unit to instantly make another block if required.

## Specifications

**Block Dimensions:** 80 mm x 110 mm x 180 mm

**Box Dimensions:** 160 mm x 160 mm x 225 mm

**Block Weight:** 1 kg ± 10%

**Yield from 34 kg cylinder:** 5 – 6 blocks\*

*Please note we have adapter fittings for the USA and ROW so they can be adapted to work throughout the world.*

The DILVAC Portable Dry Ice Maker works on the principle of adiabatic expansion (the Joule-Thompson effect).

The liquid CO<sub>2</sub> in the cylinder is at a pressure greater than 60 kg/cm<sup>2</sup>, so when it is released into the unit, which is at atmospheric pressure, the liquid CO<sub>2</sub> vaporises and expands. As a result of this expansion, the liquid changes to snow and is compacted into a block within the unit. The block measures 80mm x 110 mm x 180 mm and weighs approx. 1 kg.

*\*A 34 kg cylinder at room temperature will contain approx. 30 kg of useable liquid CO<sub>2</sub>, the balance is vapour, which does not convert to solid dry ice. Yield can be appreciably increased at lower ambient temperatures, i.e. @ 5°C approx. 1/3 more blocks may be produced.*



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