

# Dry Ice Production

## ASCO Automatic Dry Ice Machine BP420i

part no. 901190



ASCO's automatic Dry Ice Machine BP420i produces slices in ten different thicknesses and two different types of pellets at the push of a button.

The dies for the production of different sizes do not have to be changed manually as they are already built in and can be controlled at the touch screen panel. The BP420i features high density, fully automatic dry ice production for slices in ten different thicknesses. In addition, it is possible to produce pellets in two different sizes with a diameter of 3, 6, 10 or 16 mm (1/8, 1/4, 3/8 or 5/8 "). Standard slice dimensions are 210×125×20-70 mm (8.3×4.9×0.8-2.8 in). Other slice/pellet dimensions are available on request. Depending on the setting, the production capacity ranges from 240 to 400 kg/h (529 to 882 lb/h).

By default, the BP420i operates with a low noise level.

The automatic dry ice block, slice and pellet machine **ASCO** BP420i belongs to the **ASCO** i-Series line. It's equipped with state-of-the-art remote control devices and thus is ready for a wide range of services in the areas of **Remote Access, Remote Data, Remote Management**.

Be it for fast and efficient trouble shooting and maintenance or for gathering production and performance data - the **ASCO** i-Series offers a wide range of possibilities to **link Industry 4.0 with dry ice production**.

To maximise the CO<sub>2</sub> to dry ice conversion ratio the dry ice machine can be connected to an **ASCO** Revert Gas Recovery System.

### Specifications

Production capacity:	400 kg/h (880 lb/h)
Voltage:	480 VAC ± 5 %/60 Hz/3 Ph + PE (other voltages and frequencies on request)
Dimension (L × W × H):	2'540 x 1'100 x 3'750 mm (100 x 44 x 148 in)
Weight net:	1'700 kg (3'740 lb) (without hydraulic oil & options) 1'900 kg (4'180 lb) (with hydraulic oil)
Weight packed:	2'300 kg (5'060 lb) (without hydraulic oil)
Average power consumption:	6 kW (8 HP)
Noise level BP420i standard:	<82 dB (A)
CO <sub>2</sub> inlet connection:	1 × 1/2" BSP female CO <sub>2</sub> liquid 1 × 1/4" BSP female CO <sub>2</sub> gas
CO <sub>2</sub> source:	CO <sub>2</sub> storage tank, liquid phase (15-20 bar) (218-290 psi)
Connectivity and remote access:	LAN, Ethernet, 3G (other data services on demand)

## ASCO Automatic Dry Ice Machine BP420i: Key features

- **SIEMENS PLC SIMATIC ET-200S** - controls the whole process, injection and hydraulic for continuous automatic operation
- **New ASCO HMI** - multilingual 7" touch screen with different access levels, adjustable parameters, on-line production and product information as well as history file for supervisor
- **Remote control devices** - offers a wide range of possibilities to link Industry 4.0 with dry ice production
- **Profibus network** for fast communication between PLC and the numerically controlled hydraulic piston pump for a precise control of the flow and pressure to optimize the dry ice quality
- **Linear encoder** - for precise position control of piston and shutter plate (PCO)
- **Independent oil cooling and filtration system (ICFS)** - to increase lifetime of hydraulic equipment and to reduce oil consumption
- **10 different slice thicknesses and 2 pellet sizes** - possible at the push of a button (to be specified at time of order)
- **Auto-compensation** - of CO<sub>2</sub> pressure and temperature variation of CO<sub>2</sub> storage tank (ACPT) to ensure slice thickness control fully automatic
- **High quality stainless steel pressing chamber** - to protect the chamber against corrosion and reduce the cost of maintenance
- **Slide incl. slice speed reducing device** to appropriately decelerate the produced blocks for further processing
- **CO<sub>2</sub> gas recovery possible**
- **Easy operation and maintenance**
- **Simple and quick installation**
- **Quality components, e.g. Siemens, ATOS**

### Slice, block and pellet information

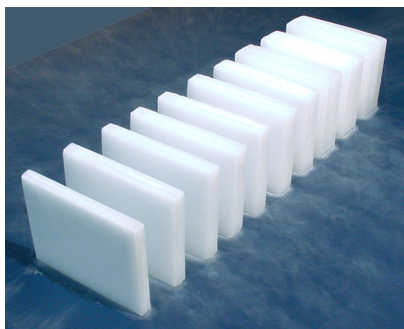
Dry ice product	Standard block / slice dimensions 210 × 125 mm (8.3 x 4.9 in)										Pellets
Thickness in mm (Thickness in in)	20 (0.8)	22 (0.9)	25 (1)	30 (1.2)	35 (1.4)	40 (1.6)	45 (1.8)	50 (1.9)	60 (2.4)	70 (2.8)	all Ø
Weight in gr/slice (Weight in lb/slice)	820 (1.8)	900 (2.0)	1'020 (2.2)	1'210 (2.7)	1'410 (3.1)	1'620 (3.6)	1'820 (4.0)	2'020 (4.5)	2'420 (5.3)	2'830 (6.2)	-
Capacity in kg/h (Capacity in lb/h)	240 (529)	250 (551)	300 (661)	240 (529)	270 (595)	300 (661)	330 (728)	350 (772)	330 (728)	390 (860)	400 (882)

This choice of sizes is only an extract and helps as production indication. The thickness of the blocks is adjustable by 1 mm from 20 to 70 mm (0.8 to 2.8 in). Our machines can be made to produce almost any size of slices / blocks upon special request. If you have a special need, please let us know.

Standard pellets sizes are diameters of 3, 6, 10 or 16 mm (1/8, 1/4, 3/8 or 5/8 "). Other sizes are available on request.

## Automatic ASCO Dry Ice Machine BP420i: Applications

Airline catering (20-25 mm thickness) (0.8 -1 in), transport cooling (thicker blocks) or pellets for other cooling or for dry ice blasting purposes: The automatic **ASCO** Dry Ice Machine BP420i produces high quality dry ice blocks, slices and pellets to cover all different market requests.



### Catering services

10 different slice thicknesses

- Airline trolleys
- Transport cooling
- etc.



### Cooling

6, 10 and 16 mm pellets (1/4, 3/8, 5/8")

- Food transportation
- Fishing industry
- Ice cream industry
- Laboratories
- Wineries
- etc.



### Dry ice blasting

3 mm pellets (1/8 ")

- Foundries
- Tyre production
- Rubber-, food- and printing industry
- etc.

## Automatic ASCO Dry Ice Machine BP420i: Options

Pos. 001

### Ice Loader for Dry Ice blocks/ slices

For reasons of weight and occupational health and safety, we recommend using the Ice Loader instead of the standard block brake for a controlled and timed handover of blocks / slices from 1.2 kg (2.7 lb) or 30 mm (1.2 in) thickness.

The Ice Loader is tailored to the production capacities of the BP420i and designed for the standard block / slice sizes of 210 × 125 mm (8.3 × 4.9 in). It has its own electrical switch cabinet with logo PLC control and is controlled and protected via the main switch cabinet of the BP420i.

A pneumatic connection is required for mechanical operation (min. 6 bar).

For the production of dry ice pellets, the Ice Loader can be manually decoupled from the dry ice machine.

part no. 901370



## Automatic ASCO Dry Ice Machine BP420i: Options

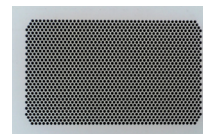
### Pos. 002

#### Upgrade D3 mm (1/8 ")

To produce 3 mm (1/8 ") pellets in addition to blocks with the same machine at the press of a button.

Capacity with 3 mm (1/8 ") pellets = 400 kg/h (882lb/h)

part no. 22858



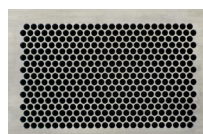
### Pos. 003

#### Upgrade D6 mm (1/4 ")

To produce 6 mm (1/4 ") pellets in addition to blocks with the same machine at the press of a button.

Capacity with 6 mm (1/4 ") pellets = 400 kg/h (882lb/h)

part no. 22861



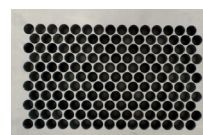
### Pos. 004

#### Upgrade D10 mm (3/8 ")

To produce 10 mm (3/8 ") pellets in addition to blocks with the same machine at the press of a button.

Capacity with 10 mm (3/8 ") pellets = 400 kg/h (882 lb/h)

part no. 22859



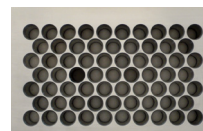
### Pos. 005

#### Upgrade D16 mm (5/8 ")

To produce 16 mm (5/8 ") pellets in addition to blocks with the same machine at the press of a button.

Capacity with 16 mm (5/8 ") pellets = 400 kg/h (882lb/h)

part no. 22860



### Pos. 006

#### Set of spares

Recommended set of spare parts for approx. one to two years normal operation.

part no. 4066340



Sample image

### Pos. 007

#### Exhaust pipe set 250 - 160

For discharging exhaust gas into the atmosphere.  
Height approx. 300 cm / 100"

part no. 4045163



Sample image