

# CO<sub>2</sub> gas Revert Recovery

## ASCO CO<sub>2</sub> Gas Revert Recovery Systems

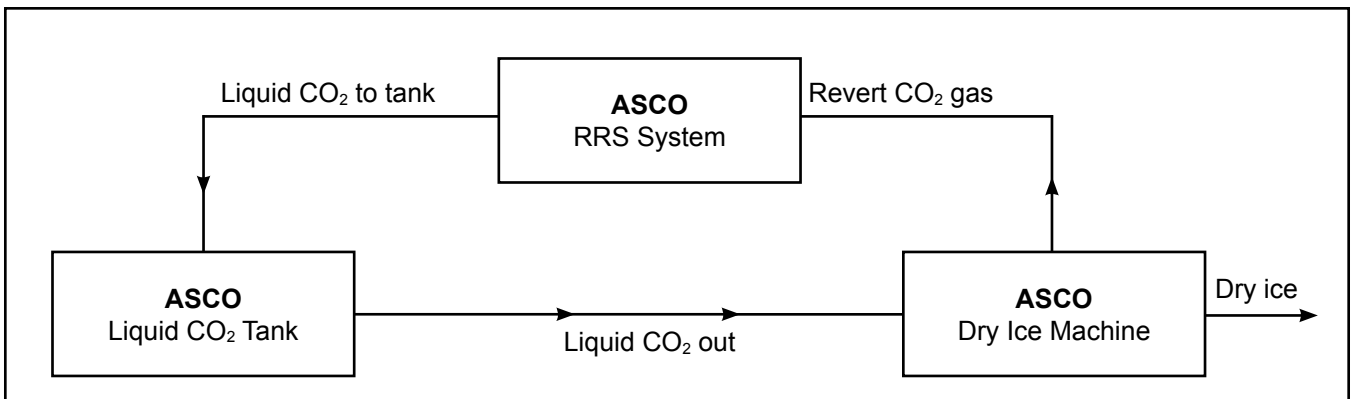


**ASCO** CO<sub>2</sub> Gas Revert Recovery Systems are engineered to efficiently recover the revert CO<sub>2</sub> gas from **ASCO** Dry Ice Pellet and Block Machines which normally direct the revert (flash) gas to the atmosphere.

### Advantages of CO<sub>2</sub> Revert Recovery Systems:

- Reducing dry ice production costs up to 50 % by recovering the normally “lost” CO<sub>2</sub> gas due to vent typical of dry ice manufacturing
- Automatic (PLC) operation
- Heavy duty, compact and efficient design
- Packaged, prepiped and prewired for timely installation

### How the ASCO CO<sub>2</sub> Revert Recovery System interconnects with ASCO Dry Ice Equipment:



### Specifications

Model	Revert CO <sub>2</sub> gas (lb/h)	Absorbed kW (HP) approx.	Est. cooling water consumption m <sup>3</sup> /h (ft <sup>3</sup> /h)	
RRS300*	300 kg/h (661)	77 (103.26)	7.94 (280.4)	Larger sizes available on request
RRS440*	440 kg/h (970)	94 (126.06)	11.64 (411.13)	
RRS560	560 kg/h (1'235)	119 (159.58)	14.82 (523.36)	
RRS1000	1'000 kg/h (2'205)	206 (276.25)	26.46 (934.43)	
RRS1500	1'500 kg/h (3'307)	340 (455.95)	39.69 (1'401.64)	
RRS2000	2'000 kg/h (4'409)	478 (641.01)	52.92 (1'868.85)	

\* available also with air cooling

## ASCO CO<sub>2</sub> Gas Revert Recovery Systems: Special features

CO <sub>2</sub> buffer balloon	Specially designed, made of foodgrade acceptable material, to provide a constant back pressure to the dry ice machine as well as provide constant supply conditions of CO <sub>2</sub> flow to the gas compressor. Local conditions may require reheating of the CO <sub>2</sub> revert gas which can be supplied as required for each application.
CO <sub>2</sub> compressor	A two-stage, watercooled, dry running CO <sub>2</sub> compressor with separate cooler for each stage compresses the revert gas up to approx. 18 to 20 barg.
CO <sub>2</sub> liquefier	Liquefies the compressed CO <sub>2</sub> gas through a standard refrigeration loop. The re-liquefied CO <sub>2</sub> is then returned to the liquid CO <sub>2</sub> storage tank for reuse in dry ice production.
Control system	A central control system automatically controls the entire process and houses the electric motor distribution, starting, operator interface and PLC control system.

### Guarantee:

Our equipment is guaranteed against faulty workmanship or materials for a period of 12 months following date of despatch.

### Modification:

We reserve the right to modify any part of the specifications without prior notice.



## ASCO CO<sub>2</sub> Gas Revert Recovery System and Automatic Dry Ice Machine



Pos. 001

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS300W (water-cooled)

part no. 900142

To recover up to **300 kg/h (661.39 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m) (32.8 ft)
- Central control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph, (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 94.1 / 77 kW (126.19 / 103.26 HP) (connected / absorbed)
- Cooling water flowrate: 7.94 m<sup>3</sup>/h (280.4 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.



Pos. 002

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS440W (water-cooled)

part no. 900144

To recover up to **440 kg/h (970.03 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m 32.8 ft)
- Central control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 115.5 / 94.4 kW (154.89 / 126.59 HP) (connected / absorbed)
- Cooling water flowrate: 11.64 m<sup>3</sup>/h (411.13 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.



Pos. 003

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS560W (water-cooled)

part no. 900145

To recover up to **560 kg/h (1'234.59 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

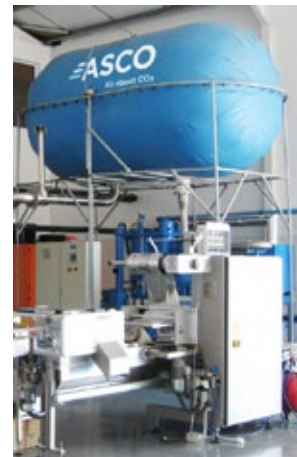
### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m) (32.8 ft)
- Central control centre and control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 145.5 / 119 kW (195.12 / 159.58 HP) (connected / absorbed)
- Cooling water flowrate: 14.82 m<sup>3</sup>/h (523.36 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.



Pos. 004

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS1000W (water-cooled)

part no. 900146

To recover up to **1'000 kg/h (2'204.62 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m) (32.8 ft)
- Central control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 252.5 / 206.2 kW (338.61 / 276.52 HP) (connected / absorbed)
- Cooling water flowrate: 26.46 m<sup>3</sup>/h (934.43 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.





Pos. 005

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS1500W (water-cooled)

part no. 900147

To recover up to **1'500 kg/h (3'306.93 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

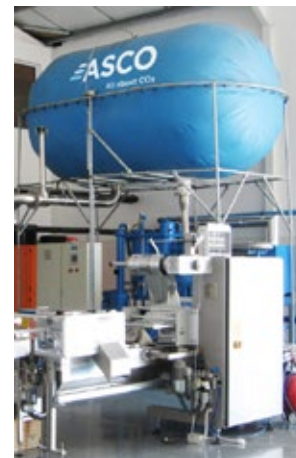
### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m) (32.8 ft)
- Central control centre and control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 415 / 340 kW (556.52 / 455.95 HP) (connected / absorbed)
- Cooling water flowrate: 39.69 m<sup>3</sup>/h (1'401.64 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.



Pos. 006

## ASCO CO<sub>2</sub> Gas Revert Recovery System RRS2000W (water-cooled)

part no. 900148

To recover up to **2'000 kg/h (4'409.25 lb/h)** of revert CO<sub>2</sub> gas from the production of dry ice.

### Scope of supply:

- CO<sub>2</sub> gas balloon buffer storage (mounted remotely or directly on the RRS)
- CO<sub>2</sub> compressor, dry running 2 stage, water cooled
- CO<sub>2</sub> liquefier, refrigerant, water cooled with stainless steel CO<sub>2</sub> condenser
- Allowance for insulated outlet CO<sub>2</sub> liquid line from the RRS to the liquid CO<sub>2</sub> storage tank (up to 10 m) (32.8 ft)
- Central control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

### Utility specifications -excluding options and accessories:

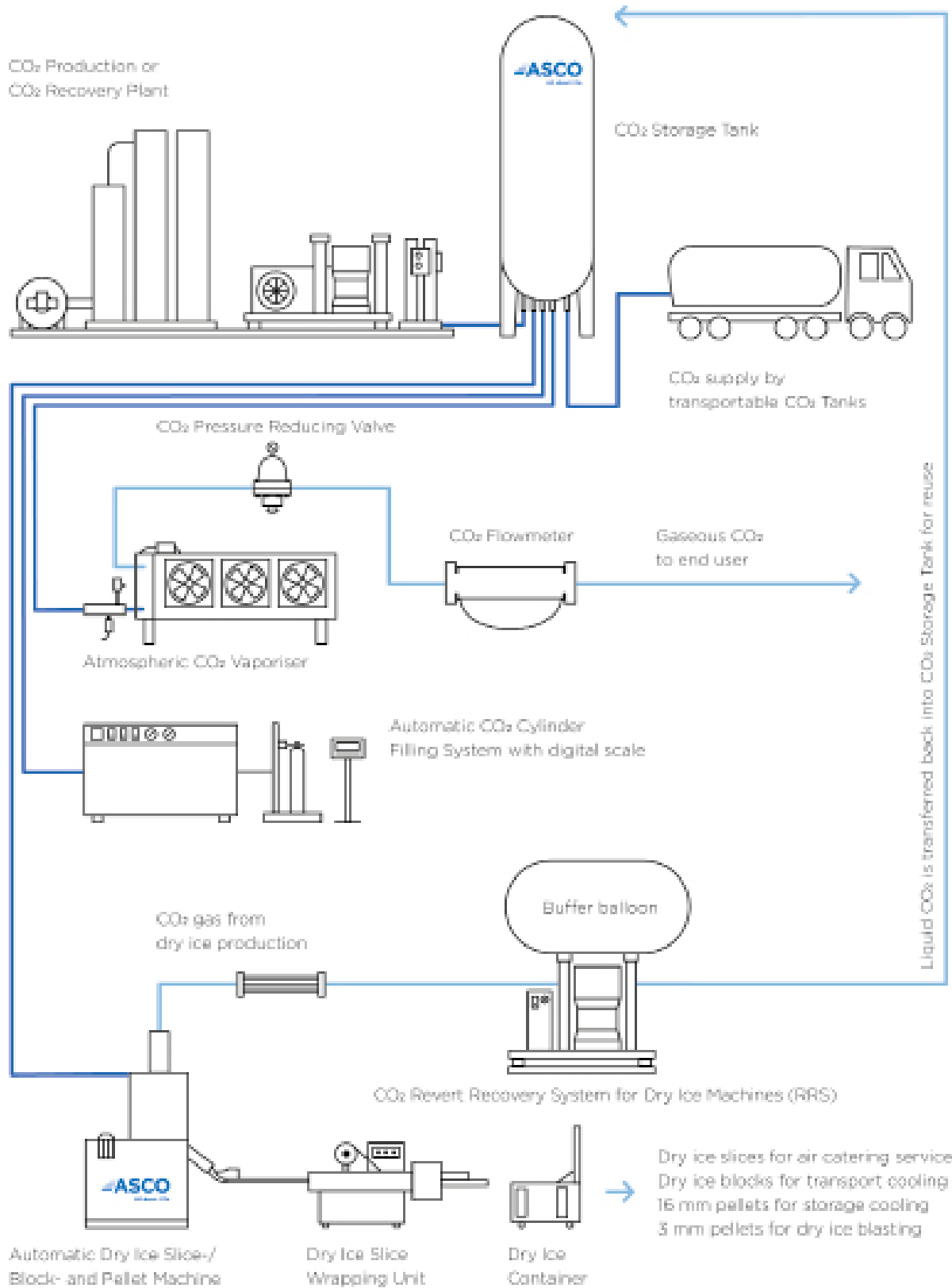
- Power supply 380-415 V, 50 Hz / 440-460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 585.5 / 478.8 kW (785.17 / 642.08 HP) (connected / absorbed)
- Cooling water flowrate: 52.92 m<sup>3</sup>/h (1'868.85 ft<sup>3</sup>/h) (based on max 32 °C inlet temperature)
- Instrument air, 6 bar (87.02 psi), dry, oil free: < 1 Nm<sup>3</sup>/h (35.3 ft<sup>3</sup>/h)

Utility consumptions are approximate and subject to detailed engineering.



# ASCO - the complete CO<sub>2</sub> Solution

Complete your ASCO CO<sub>2</sub> Production- / Recovery Plant with some of our many accessories



All photos and drawings are used for marketing purposes only.