

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

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

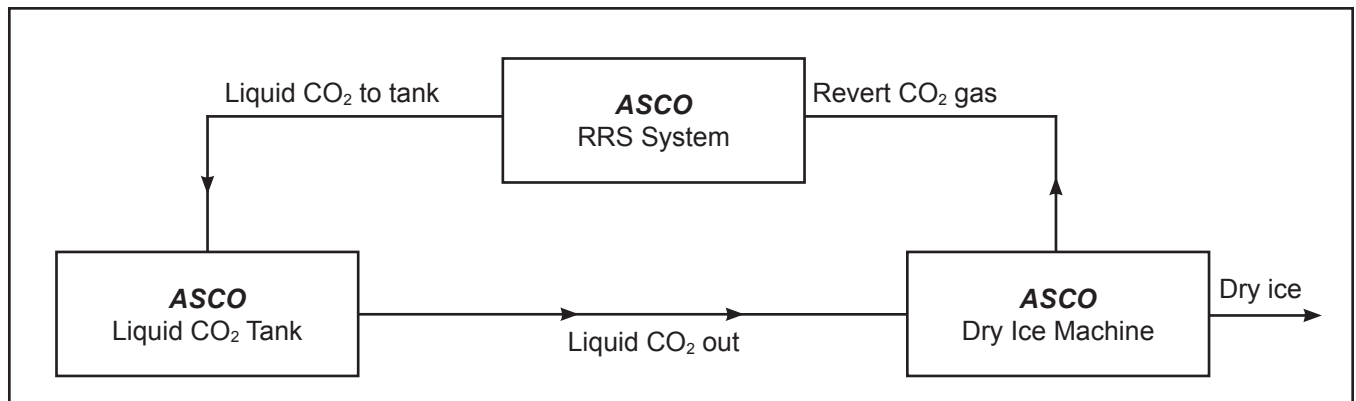


**ASCO** CO<sub>2</sub> Gas Revert Recovery Systems are engineered to efficiently recover the revert CO<sub>2</sub> gas from **ASCO** Dry Ice Pellet and Block Machines which normally direct the revert (flash) gas to the atmosphere.

### 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	Dry ice output up to approx.	Revert CO <sub>2</sub> gas	Absorbed kW approx.	Est.Cooling Water (m <sup>3</sup> /hr)	
RRS300*	260 kg/hr	300 kg/hr	62	16	Larger sizes available on request
RRS440*	380 kg/hr	440 kg/hr	92	23	
RRS560	490 kg/hr	560 kg/hr	108	29	
RRS1000	870 kg/hr	1000 kg/hr	169	52	
RRS1500	1'310 kg/hr	1'500 kg/hr	253	78	
RRS2000	1'750 kg/hr	2'000 kg/hr	337	104	

\* available also with air cooling

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

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> recompressor 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. The special CO <sub>2</sub> condenser utilized makes unsightly overhead condensers obsolete and offers greatly reduced footprint.
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.



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



## Available standard CO<sub>2</sub> Gas Revert Recovery System capacities:

Pos. 001

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

part no. 915001

To recover up to **300 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 260 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- 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: 74 / 62 kW (connected / absorbed)
- Cooling water flowrate: 16 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.



Pos. 002

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

part no. 915003

To recover up to **440 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 380 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- 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: 108 / 92 kW (connected / absorbed)
- Cooling water flowrate: 23 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar.g, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.



## Available standard CO<sub>2</sub> Revert Recovery System capacities:

Pos. 003

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

part no. 915004

To recover up to **560 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 490 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- 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: 150 / 108 kW (connected / absorbed)
- Cooling water flowrate: 29 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.



Pos. 004

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

part no. 915008

To recover up to **1'000 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 870 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- 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 : 242 / 169 (connected / absorbed)
- Cooling water flowrate: 52 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.





## Available standard CO<sub>2</sub> Revert Recovery System capacities:

Pos. 005

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

part no. 915009

To recover up to **1'500 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 1'310 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- 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: 292 / 253 (connected / absorbed)
- Cooling water flowrate: 78 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.



Pos. 006

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

part no. 915010

To recover up to **2'000 kg/hr** of revert CO<sub>2</sub> gas from the production of dry ice. This revert gas recovery rate is suitable for dry ice production rates up to 1'750 kg/hr. Partial recovery is also possible.

#### 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, R404a, 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)
- Central control panel with operator interface
- Modularized design is prepiped, prewired and precabled for fast installation

#### Utility specifications - excluding options and accessories:

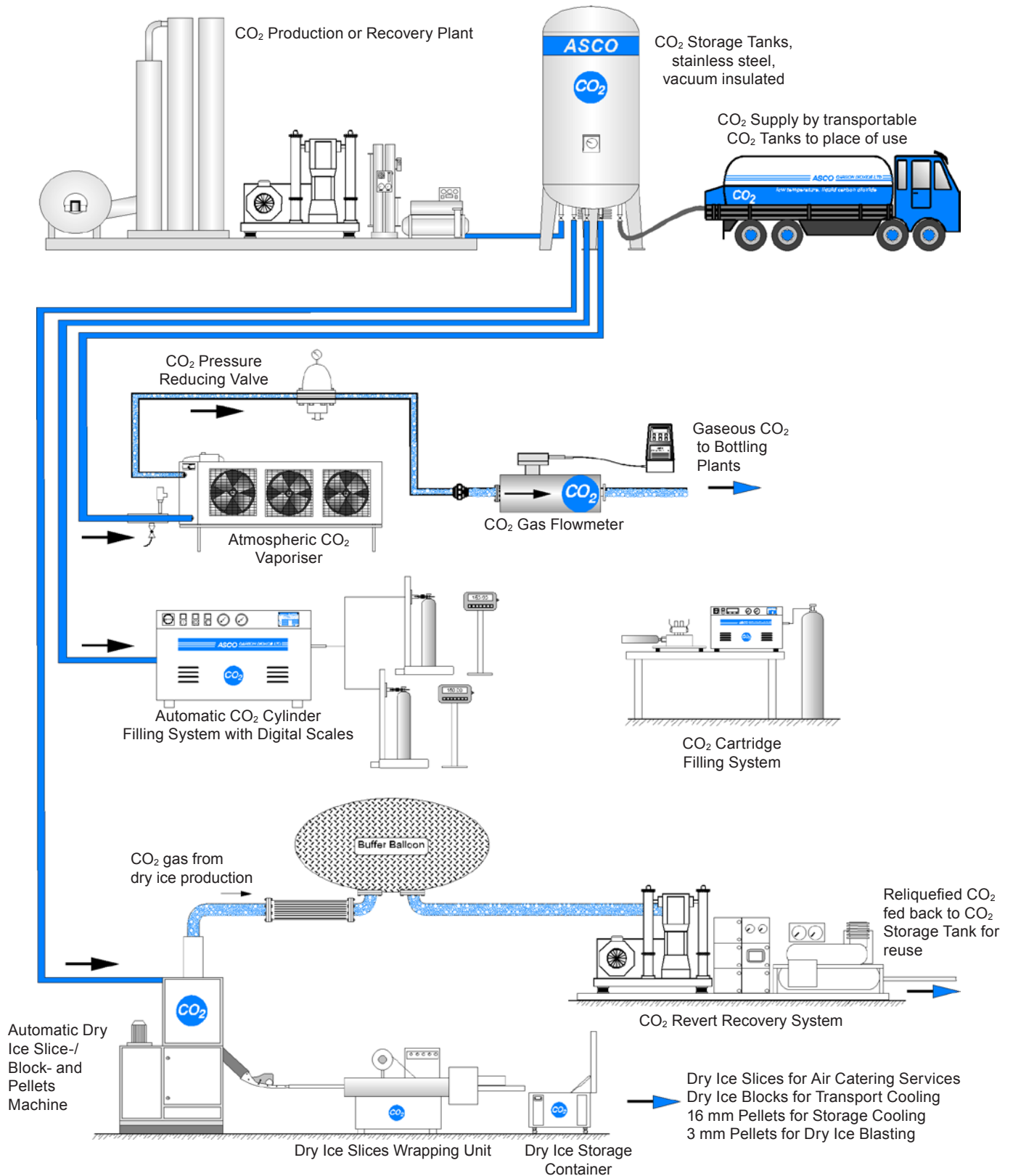
- Power supply 380 - 415 V, 50 Hz / 440 - 460 V, 60 Hz, 3 Ph (other voltages available on request)
- Power consumption at 400 V, 50 Hz: 400 / 337 (connected / absorbed)
- Cooling water flowrate: 104 m<sup>3</sup>/hr (based on max 32 °C inlet temperature)
- Instrument air, 6 bar, dry, oil free: < 1 Nm<sup>3</sup>/hr

Utility consumptions are approximate and subject to detailed engineering.



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

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



All photos and drawings are used for marketing purposes only.