Introduction:
Carbon dioxide is used in the food industry in carbonated beverages, brewing, and flash drying. Its industrial uses, welding, chemical feedstock, inert gas, firefighting, and solvent extraction as a supercritical fluid. It is an essential ingredient in medical oxygen, where in low concentrations it acts as a breathing stimulant.

<table>
<thead>
<tr>
<th>The major CO2 sources that can be considered are:-</th>
<th>Industrial and other uses:-</th>
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<tbody>
<tr>
<td>• Natural sources</td>
<td>Carbonated Beverages.</td>
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<td>• CO2 wells</td>
<td>Dry Ice making.</td>
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<td>• Industrial byproducts</td>
<td>Fertilizer Industry.</td>
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<td>• Natural gas sweetening</td>
<td>Waste Water Treatment.</td>
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<td>• Synthesis gas production</td>
<td>Spice Industry.</td>
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<td>• Flue gases</td>
<td>Firefighting.</td>
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<td>• Fossil fuel-fired power plants</td>
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<td>• Industrial furnaces</td>
<td></td>
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<td>• Engine exhausts</td>
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WHY SOKAZ CO2 RECOVERY PLANT??

Solarkaz International (Pvt.) Ltd. as a provider of complete heat recovery solutions for past 2 decades now offers **CO2 stack gas recovery systems with various capacities.** The revolutionary **SOKAZ CO2 stack gas recovery technology** features the following **key benefits:**

- Reliable and economic source of CO2 to the end user as opposed to self-burning processes or purchasing liquid CO2
- **The SOKAZ technology brings to the CO2 stack gas recovery plant tremendous reduction in total energy usage.**
- The SOKAZ technology brings to the CO2 stack gas recovery plant innovations such as **reduced solvent consumption** again contributing reduced operating cost.
- The specially formulated SOKAZ CO2 stack gas recovery system is **resistant to any level of oxygen** typical of flue gas sources allowing greater system efficiencies and longevity of the plant
- CO2 stack gas recovery systems offers capacities of wide ranges.
- **Solarkaz’s CO2 stack gas recovery technology** extracts nearly the total volume of CO2 gas content in flue gas streams. This technology not only offers the end user a reliable CO2 source but as well considered by many a green approach to the overall concept to CO2 gas recovery. Not only this the CO2 stack gas recovery system utilizes stainless steel process towers and pumps to ensure long and effective equipment life and reliable performance for years to come.
HOW DOES IT WORK?

SOKAZ CO2 recovery plant from the stack gases is composed of Scrubbers, Absorbers, Heat Exchanger and gas travelling vessels.

It’s remarkably efficient cycle uses water as coolant and uses M.E.A solution as the absorbent. The entire processes occur in specially designed energy efficient vessels. This process is a continuous process but just to clarify it please find below the process flow chart.
ECONOMICS OF THE PLANT:

- **Example:**
  - For production of 1 Kg. CO2 you will need to supply us with: (Approximately)
    1. 2 Kg. of steam @ 4 bar and 140 C
    2. 0.25 kWh electrical power
  - **One genset of 1MW** can produce **800 kg/h** of **steam** then approx **250 Kg/Hr. of CO2**
  - **One 5 TPH** boiler/Equivalent burnings can produce approx **250Kg/Hr. of CO2**

- **What we would need from your side:**
  1. exhaust flow rate.
  2. exhaust temperature.
  3. Stack Gases Composition OR Composition of fuel you are burning.
  4. A 40 feet X 25 Feet Space for a 300 Kg./Hr. Plant OR proportionally for the other two capacities.

- **What we provide:**

  We provide you with an efficient CO2 Recovery plant with the filling station. The price of our standard sizes are mentioned below for your kind review.

  1. **300 Kg/Hr. CO2**
  2. **600 Kg./Hr. CO2**
  3. **1000Kg./Hr. CO2**
SOKAZ CO2 Recovery Plant at M/s Artistic Milliners

Pictures of the SOKAZ CO2 RECOVERY PLANT:

Real Time Graphs of CO2 Gas from SOKAZ RECOVERY PLANT.
Test Reports from PRD and TANTEX.

PERAC RESEARCH & DEVELOPMENT FOUNDATION

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<tbody>
<tr>
<td>Customer's Ref</td>
<td>E-mail</td>
<td>Reporting Date</td>
<td>26-08-2014</td>
</tr>
<tr>
<td>Date</td>
<td>20-08-2014</td>
<td>Sample Code</td>
<td>1173</td>
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<tr>
<td>Sample Description</td>
<td>CO₂ Gas</td>
<td>Sampling Date</td>
<td>26-08-2014</td>
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<tr>
<th>TEST RESULTS</th>
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<tr>
<td>METHOD</td>
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<td>D-1945</td>
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Prepared by

Section In charge (E)

Head R&ASD

The analysis based on Sample(s) provided to us by the Client. The interpretation or opinion expressed represent the best judgment (F & O.E.). We have no responsibility and warranty or representation in connection with which such report is used.

Rev. No. 0  Dated: 21-01-2000  F-10-05
# TEST REPORT

**Customer's Name:** ARTISIC MILLINERS  
**Test Report No:** 01  
**Customer's Ref:** Solarkaz Co2 Plant  
**Reporting Date:** August 21, 2014  
**Date:** August 21, 2014  
**Sampling code:** n//05  
**Sample description:** Co2 Gas  
**Sampling Date:** August 21, 2014

## TEST RESULTS

<table>
<thead>
<tr>
<th>TEST METHOD</th>
<th>METHOD TITLE</th>
<th>SOLARKAZ INTERNATIONAL CO2 PLANT</th>
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</table>
| Flue Gas Analising | Flue gas from co2 Plant was collected in a test bottle and the sample was tested by flue gas analizer which instantly records the analized parameters | Oxygen content 0.5%  
Carbon Dioxide content 99.5% |

**Prepared by**  

**Section Incharge (E)**  

**Head R& ASD**

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The Analysis based on sample (S) provided to us by the client. The interpretation or opinions expressed represents the best Judgment (E & OE). We have no responsibility & warranty or representation in connection with which such report is used.

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