

Quality
Performances
Satisfaction

...Quality Unbeatable



'Awarded Most Famous Brand in Asia'



ASHIRWAD CARBONICS

(INDIA) PVT. LIMITED

Manufacturer & Exporter of Gas Plants (CO₂, N₂, O₂, Nox, Acetylene, Argon), Cryogenic & Non Cryogenic Vessels, Automation Integrators & Heavy Fabrication)

about US

Ashirwad Carbonics (India) Pvt Limited Formerly Known as Ashirwad Carbonics Industries an ISO 9001:2015 Certified Organization & Rated By CRISIL is producing the services in the sector of gas producing plants and equipments. Ashirwad Carbonics (India) Pvt Limited is headed by a qualified team of engineers promoted under the guidance of Mr. J.P.Kaushik -Managing Director who has done his graduation from Rajasthan university & having more than thirty years of experience in serving the gas industries and Mr. Mayank Kaushik Director (Projects) who has done his graduation in mechanical engineering and generating a young and dynamic team of engineers and Mr. Mohit Kaushik— Head Business Development who has done his graduation in management and promoting his products worldwide who are committed to a globally supply of super quality products to gas industries and allied services. The company is also providing consultancy services for Gas, Breweries, Beverages, Chemicals sector industries.



Ashirwad Carbonics (India) Pvt Limited Had started as consultancy providers in 2000 but in 2007 we started our manufacturing of gas plants and become leading manufacturer and supplier of gas plants and we are now regarded as one of the leading manufacturer, Designers & associated service providers of gas plant industries. Our team of dedicated members also provided installation of these plants at clients manufacturing unit. All these functions are performed by making use of at most advanced machines and equipments, which are sourced from trusted suppliers. We also keep a check on the quality of the manufactured products by conducting stringent in house and outsourced tests on the range we offer. The company was established as consultancy provider in the year of 2000 but in 2007 we had started as one of the leading manufacturer, designer supplier & installer of the plants and the equipments for CO₂, N₂, CO₂ & chemical sector industries.

J.P. Kaushik

Chairman Managing Director

The company is the associated member of :



FEDERATION OF INDIAN
EXPORT ORGANISATIONS
Set up by Ministry of Commerce, Government of India
ISO 9001:2015 Certified

एन एस आई सी
NSIC
ISO 9001 : 2008



'Awarded Most Famous Brand in Asia'

Ashirwad Carbonics (India) Pvt. Limited

has been honored with an award of "Well known Brand in Asia" MSME in 2012 and World Quality Commitment Award 2014 at the Asia Brand Ceremony held at Disney land Hong Kong and Paris.

Mr. J.P. Kaushik (M.D.) received the award at the glittering function attended by the senior Officials of top brands in Asia.

TESTING FACILITIES



Ashirwad Carbonics Major Clients



OUR QUALITY POLICY



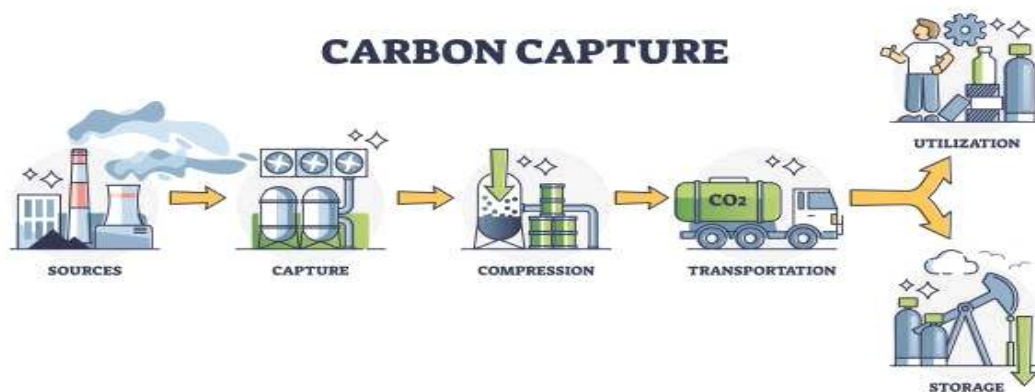
Mayank Kaushik
C.E.O



Mohit Kaushik
C.O.O

We At Ashirwad Carbonics (India) Private Limited Is well Known For Our Quality Products. ACIPL is ISO 9000:2008 Certified Organization and we promises our customer that we will give the utmost high quality products to our customer for which they will never face any problem in future while operating the plants and machinery. Our all products which are manufactured in our factory are made with the help of latest machinery and the best and quality materials available in the markets. Ashirwad Carbonics never compromises In their product quality because if we are not providing the quality product to the customer then no one will come to us for further purchasing of machinery. We are having the latest machinery at our premises so that the works can be easier and can be completed on time and the customer gets his products delivery on time.

As our Slogan Is THE QUALITY UNBEATABLE that's what we offering our customers the unbeatable quality of Carbon dioxide Plants, Nitrogen Plants, Oxygen Plants, LPG Pipings, Pressure Vessels, Cryogenic Vessels, Heat Exchangers, Industrial Liquefaction Systems, Ammonia Receivers, Heavy Fabrication, Vaporizers and many more that's our quality policy.



AWARDS AND ACHIEVEMENTS



Ashirwad Carbonics (India) Private Limited Wins the First Prize for Highest Exporter in 2023 from Hon. Shri Yogi Adityanath in Lucknow Hon. Chief Minister of Uttar Pradesh Government for their Dedication and Hard work in serving Gas Industries for more than 20 Years.



PESO (Petroleum & Explosive Safety Organization) Approved Workshop for Manufacturing of Cryogenic & Non Cryogenic Pressure Vessels, Cryogenic Vessels.

License Number: A/S/HQ/UP/PVM/1 (S87366)

OUR MANUFACTURING FACILITY



CO₂ RECOVERY PLANT

Our precision engineered range of CO₂ Recovery Plant is available in various capacities and models as per the clients' specific requirements. These are designed as per client specifications and can store liquids and gases under high pressures. The CO₂ recovery plant we design and manufacture for clients is a fully automated plants, which is meant to recover the revert CO₂ gas and has the capacity of handling large quantity of carbon dioxide every hour.

It is manufacturing from best quality stainless steel in order to avoid any sort of problem related to corrosion in future. Some of the features of the range we offer. Ashirwad CO₂ Recovery plants are fully automatic and use a low concentration, efficiently and safely produce highest and purest quality of liquid carbon dioxide.

Capacity: 5MT To 500 MT Per Day

Source: Distilleries, Breweries, Fertilizers





* Larger Capacities are available on request as per customer requirement.

CO₂ RECOVERY PLANT PROCESS DESCRIPTION

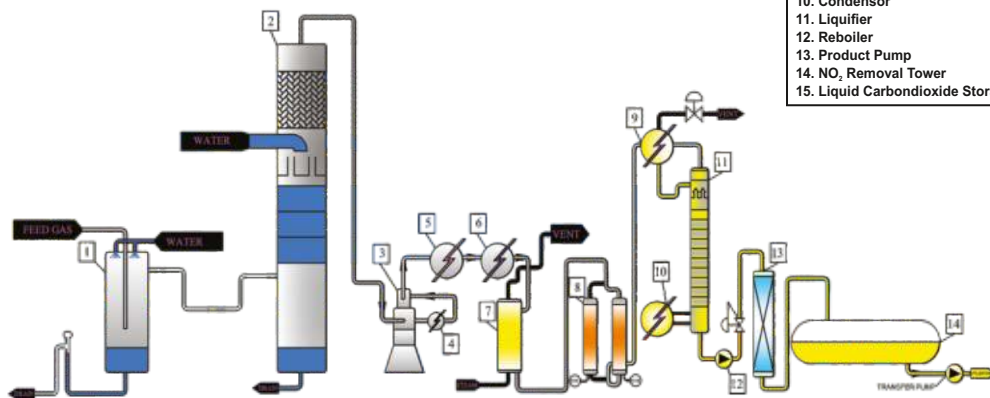
First we are getting raw gas from Fermenters/Brewers and then we will take this gas in to our system then we take gas in foam trap where we remove the foams come along the gas and then with the help of booster blower we will push the gas in to the scrubbing systems. In this scrubber we wash the CO₂ gas by means of water and then raw gas gets buffer in a buffer vessel and then it goes to two stage CO₂ compressor where it compresses up to a desired pressure and then raw gas goes to the Single tower activated carbon filter where the odour of raw gas removed and then raw gas enters into the high pressure pre-cooler and then enters into the Dual Tower CO₂ dryer and then into the liquefaction system and then the liquid goes directly to the Storage tank where the gas stores for a particular period of time.

This Continuous process is efficient, reliable and safe and also meets the international food grade quality standards and can be used in soft drinks companies, breweries and many more related sectors.

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED (CO₂, N₂O₂ Plants & Equipment, LPG Tanks & Piping)

Recovery System

● Distillery Fermentation



Components Legends

1. Foam Trap
2. Booster Blower (Air)
3. Scrubber Tower
4. Compressor
5. Aftercooler
6. Aftercooler
7. High Pressure Pre-Cooler
8. Activaterd Carbon Filter
9. Dual Tower Dryer
10. Condensor
11. Liquifier
12. Reboiler
13. Product Pump
14. NO₂ Removal Tower
15. Liquid Carbondioxide Storage Tank

Fluid Legends

- Vapor Carbondioxide
- Potable Water
- Cooling Water
- Activated Carbon
- Desiccant
- NO₂ Absorbent
- Liquid Carbondioxide
- Cold Refrigerant
- Hot Refrigerant

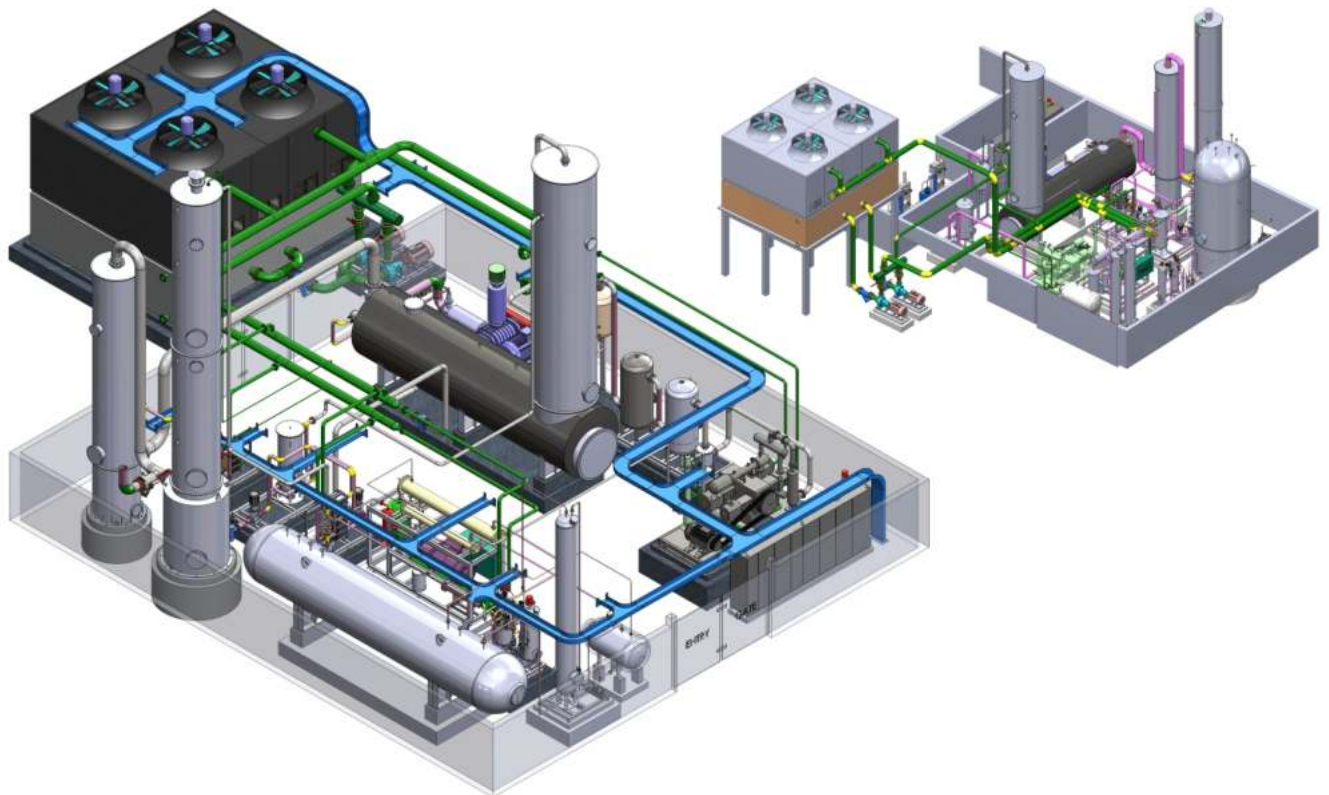
www.ashirwadco2.com/www.aciplco2gasplants.com

CO₂ PRODUCTION PLANT

Our precision engineered range of Co2 Generation Plant is available in various capacities and models as per the clients' specific requirements. These are designed as per client specifications and can store liquids and gases under high pressures. Our quality range of Diesel Base Plant is based on a very sturdy design including cross head and stuffing box, which ensures complete isolation between the combustion chamber and the lubricating oil and thus prevents contamination of the lubricating oil.

The Diesel Base Plant offered by us is in high demand all across the globe and is manufactured using quality raw material procured from reliable sources. Compact simple to generate, operate and maintain high performance Co2 generator runs from low sulphur content diesel, kerosene, Natural gas. Ashirwad Co2 production plants are fully automatic and use a low concentration, aqueous monoethanolamine solution to efficiently and safely produce highest and purest quality of liquid carbon dioxide.

Capacity : 25 Kg/Hr. To 2000 Kg/Hr.
Source : Diesel Fired/ Natural Gas Based/Kerosine
Application : Soft Drinks. Cylinder Fillings. Breweries



Each Plant is assembled and tested to the fullest extent possible and finish painted in our factory (Assembly done) and at Clients Site (Complete trial run). Plant Construction is done very carefully by selecting proper and suitable raw material to give a good balanced between plant life, strength and careful operation and maximum value of money. Ashirwad plants are compact to design and layout to make best use of space at your factory and to give you pure carbon dioxide.



CO₂ PRODUCTION PLANT PROCESS DESCRIPTION

First we are getting raw gas from Fermenters and then we will take this gas in to our system then we take gas in foam trap where we remove the foams come along the gas and then with the help of booster blower we will push the gas in to the chain/series of scrubbing systems consists of pre water scrubber, Kmno₄ scrubber with dosing facilities and then after water scrubber. In this chain of scrubber we wash the co₂ gas by means of water and then raw gas gets buffer in a buffer vessel and then it goes to two stage co₂ compressor where it compresses up to a desired pressure and then raw gas goes to the Dual tower activated carbon filter where the odor of raw gas removed and then raw gas enters into the high pressure precoolers and then enters into the Dual Tower co₂ dryer and then into the liquefaction system and Nox Removal Tower and then the liquid goes directly to the Storage tank where the gas stores for a particular period of time.

This Continuous process is efficient, reliable and safe and also meets the international food grade quality standards and can be used in soft drinks companies, breweries and many more related sectors.

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

(CO₂ N₂ O₂ Plants & Equipment, LPG Tanks & Piping)

Production System

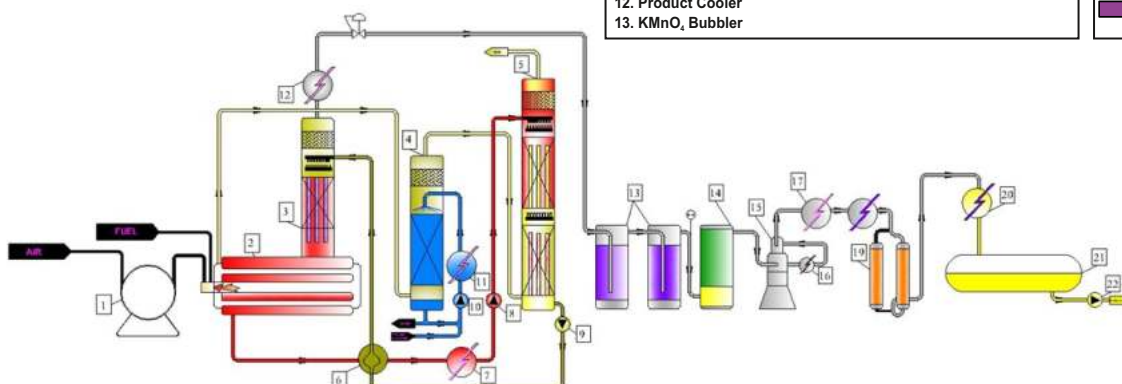
• Direct Fired

Components Legends

- | | |
|-----------------------------------|-----------------------------|
| 1. Air Blower | 14. Witfill Tower |
| 2. Reboiler | 15. Compressor |
| 3. Stripper Tower | 16. Intercooler |
| 4. Direct Contact Cooler/Scrubber | 17. Aftercooler |
| 5. Absorber Tower | 18. High Pressure Precooler |
| 6. Lean/Rich Heat Exchanger | 19. Dual Tower Dryer |
| 7. Trim Cooler | 20. Liquefier |
| 8. Lean Pump | 21. Liquid Storage Tank |
| 9. Rich Pump | 22. Transfer Pump |
| 10. Recirculation Pump | 23. Burner |
| 11. Recirculation Cooler | |
| 12. Product Cooler | |
| 13. KMnO ₄ Bubbler | |

Fluid Legends

- | | |
|--|---------------------------|
| | Vapor Carbondioxide |
| | Potable Water |
| | Cooling Water |
| | Activated Carbon |
| | Desiccant |
| | NO ₂ Absorbent |
| | Liquid Carbondioxide |
| | Cold Refrigerant |
| | Hot Refrigerant |



Nitrous Oxide Gas Plants:-



Safe and economical, the Nitrous Oxide plant from Ashirwad Carbonics (India) Private Limited is a plant with an efficient Generation system which reduces power consumption and adds on to safety. A storage battery assembly for separation of Nitrogen is another safety feature with our Plants. The gas manufactured conforms to all International (European, American, Indian) standards and is stored in liquid state which can be directly filled into cylinders and can be used for different Industry for Different Purposed.

Salient Features of Nitrous Oxide Plants:-

- Product purity meets world standards.
- Special safety features incorporated in the plant.
- Stainless Steel Construction.
- Decomposer and Melter separately mounted and controlled.
- Online moisture meter installed
- Complete laboratory equipment for testing of gas is provided with plant as standard accessory.
- Double drier provided.
- Skid mounted; modular design occupies less space.



CO₂ RECOVERY PLANT

BREWERY BASES

□ We are engaged in manufacturing and exporting brewery base plants, which is manufactured using quality grades of raw material by our experienced team of designers and professionals. Our range is renowned for high performance, sturdy construction and corrosion resistant.

APPLICATION AREAS:

- Soft drinks
- Beer
- Food preservation

Our precision engineered range of CO₂ Recovery Plant (Brewery Bases) is available in various capacities and models as per the clients' specific requirements. These are designed as per client specifications and can store liquids and gases under high pressures. The CO₂ recovery plant (Brewery Based) we design and manufacture for clients is a fully automated plants, which is meant to recover the revert CO₂ gas and has the capacity of handling large quantity of carbon dioxide every hour. It is manufacturing from best quality stainless steel in order to avoid any sort of problem related to corrosion in future. Some of the features of the range we offer. Ashirwad Co2 Recovery plants are fully automatic and use a low concentration, efficiently and safely produce highest and purest quality of liquid carbon dioxide.

Capacity : 25 Kg/Hr. To 1500 Kg/Hr.

Application : Soft Drinks. Cylinder Fillings. Breweries



Each Plant is assembled and tested to the fullest extent possible and finish painted in our factory (Assembly done) and at Clients Site (Complete trial run). Plant Construction is done very carefully by selecting proper and suitable raw material to give a good balanced between plant life, strength and careful operation and maximum value of money. Ashirwad plants are compact to design and layout to make best use of space at your factory and to give you pure carbon dioxide.



* Larger Capacities are available on request as per customer requirement.

CO₂ RECOVERY PLANT PROCESS DESCRIPTION

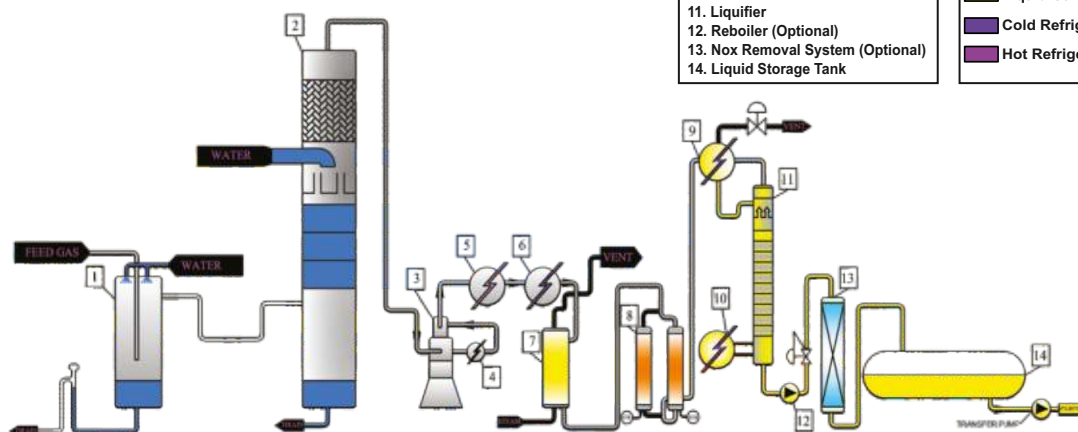
First we are getting raw gas from Fermenters and then we will take this gas in to our system then we take gas in foam trap where we remove the foams come along the gas and then with the help of booster blower we will push the gas in to the chain/series of scrubbing systems consists of pre water scrubber, Kmno₄ scrubber with dosing facilities and then after water scrubber. In this chain of scrubber we wash the co₂ gas by means of water and then raw gas gets buffer in a buffer vessel and then it goes to two stage co₂ compressor where it compresses up to a desired pressure and then raw gas goes to the Dual tower activated carbon filter where the odor of raw gas removed and then raw gas enters into the high pressure precooler and then enters into the Dual Tower co₂ dryer and then into the liquefaction system and Nox Removal Tower and then the liquid goes directly to the Storage tank where the gas stores for a particular period of time.

This Continuous process is efficient, reliable and safe and also meets the international food grade quality standards and can be used in soft drinks companies, breweries and many more related sectors.

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

(CO₂ N₂ O₂ Plants & Equipment, LPG Tanks & Piping)

Production System • Direct Fired



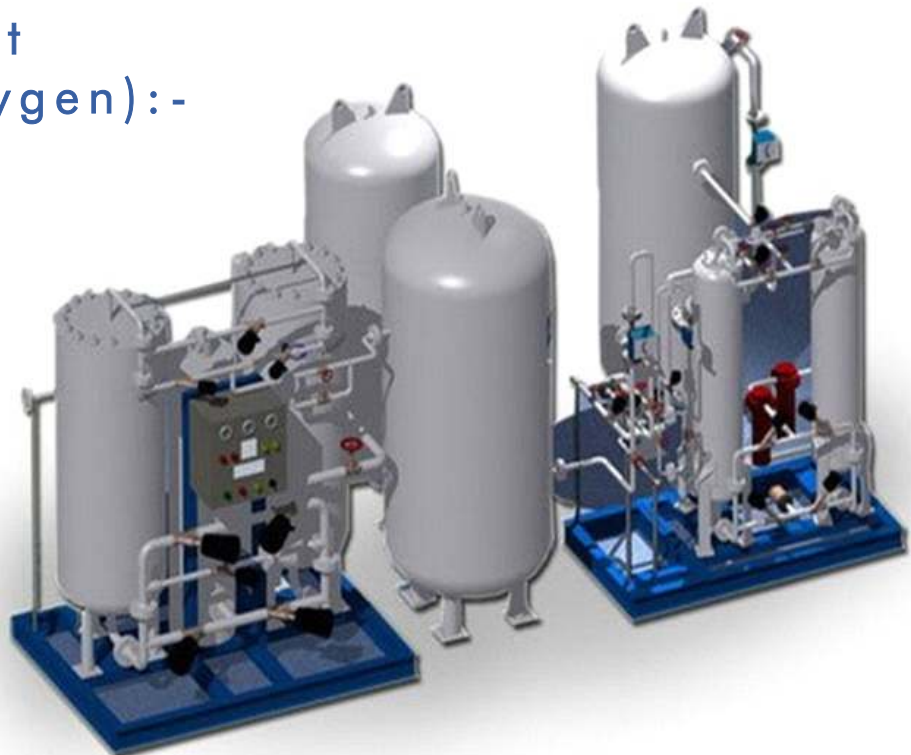
Components Legends

1. Foam Trap
2. Scrubber Tower
3. Compressor
4. Intercooler
5. Aftercooler
6. High Pressure Pre-Cooler
7. Activated Carbon Filter
8. Dual Tower Dryer
9. Condensor
10. Product Pump
11. Liquifier
12. Reboiler (Optional)
13. Nox Removal System (Optional)
14. Liquid Storage Tank

Fluid Legends

- Vapor Carbon dioxide
- Potable Water
- Cooling Water
- Activated Carbon
- Desiccant
- NO₂ Absorbent
- Liquid Carbondioxide
- Cold Refrigerant
- Hot Refrigerant

PSA Plant (Nitrogen, Oxygen):-



Key Features:

- Very compact skid-mounted units supplied, duly assembled from our factory
- Start-up time only 5-minutes to get nitrogen of desired purity
- No petroleum fuels required – only electrical power and cooling water needed for nitrogen generation
- Life of carbon molecular sieves guaranteed for more than 10 years on continuous operation basis
- All the plants are tailor made and adjusted to give nitrogen of desired quality depending upon its application

Process Descriptions:

- It works on pressure swing absorption technology developed by carbon tech, Germany(the technology inventors) and upgraded by our vast experience on the system
- The Nitrogen plant consists of twin tower system that is filled with a special grade of carbon molecular sieves
- Two absorption towers are interconnected with auto change over valves
- Nitrogen gas of desired purity(up to- 10 ppm level) is stored in the nitrogen surge tank
- For big size plants nitrogen produced from PSA skid is approximate with 1% oxygen which is reduced to the desired level up to 1 ppm by providing deoxo/ dryer system in the downstream as per the client's requirement
- To monitor the impurities (Oxygen Moisture)in the product gas, online analyzers are provided

Purity Of Oxygen	95+-3%
Flow Rate(LPM)/(Nm3/hr)	100 LPM / 6 Nm3/Hr
Air Compressor (kW)	11 kW
Technology Used	VPSA (VacuumPressure Swing Adsorption)
Purity Of Nitrogen	95+-3%
Application	Industrial / Medical
Approval & Licenses	ISO
Brand	Ashirwad Carbonics
Type of Compressor	Lubricated Screw Air Compressor
Compressor Brand	Reputed Make
Type of Dryer	Refrigerated Type Air Dryer
No. of Air Receiver	2
No. of Storage Tank / Buffer Tank	2
Buffer Tank Size	1
Power Supply / Consumption	1
Automation Grade	Fully-Automatic
Design	Standard
Filtration Stages	3 Stage

STORAGE TANK



LIQUID CO₂ Storage Tank (PUF Insulated)

We offers a superior range of pressure vessels to clients in global markets. These vessels are available In Horizontal As well as in vertical Arrangement. Some of the distinct characteristic of our range are as follows:

We manufacture a precision engineered range of PUF (Polyurethane Foam) Insulated Liquid Storage Tank, which is widely used for chemical storage purpose & underground purposes. These are designed as per client specifications and can store liquids and gases under high pressures.

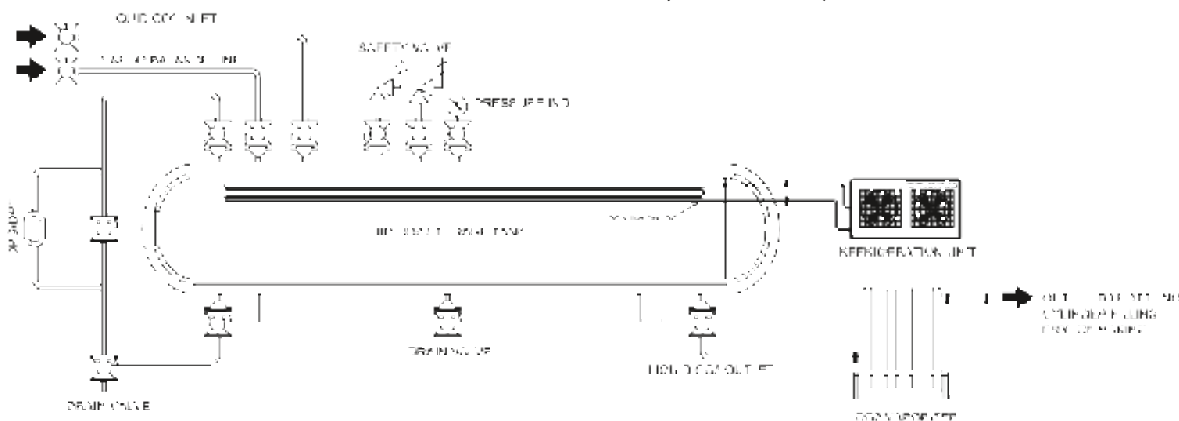
Further, our range is stringently checked for excellent performance, quality, durability and flawlessness.

Features:

- Due to PUFF, these tanks are more sturdy
- PUFF protects the tank from any drastic change in temperature

Capacity: 1MT TO 300 MT

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED **LIQUID CO₂ STORAGE TANK (PUF INSULATED)**



Schematic Diagram Showing Process Streams Only

SPECIFICATIONS OF STORAGE TANKS :

Pressure Vessel	: ASME/European Standard/IS-2825 coded for maximum working pressure of 350 psig (24 barg)
Piping	: Schedule 40/80 seamless pipe, 300# forged steel fittings, ball type valves.
Safeties	: IS-2825 WITH SMPV RULES approved direct spring loaded or pilot operated, sized for unconfined outdoor installation.
Insulation	: 8" (200 mm) polyurethane
Outer Jacket	: (1.0mm) pre-finished aluminium
Vaporizers	: OPTIONAL - water heated vaporiser - capacities to 500 lbs/hr (227 kg/h)
Liquid Level Gauge	: load cell, DPT
Pressure Gauge	: 0 to 400 psig (0 to 28Kg/cm ² g) with 6" (152.4 mm) dial
Electrical Characteristics	: Included in Local panel

LIQUID CO₂ Storage Tank (ISO Tank)

We offers a superior range of pressure vessels to clients in global markets. These vessels are available In Horizontal As well as in vertical Arrangement. Some of the distinct characteristic of our range are as follows:

We manufacture a precision engineered range of PUF Insulated ISO Tank, which is widely used for liquid storage purpose & underground purposes. These are designed as per client specifications and can store liquids and gases under high pressures. Further, our range is stringently checked for excellent performance, quality, durability and flawlessness. We offers a superior range of pressure vessels to clients in global markets. These vessels are available In Horizontal As well As in vertical Arrangement.



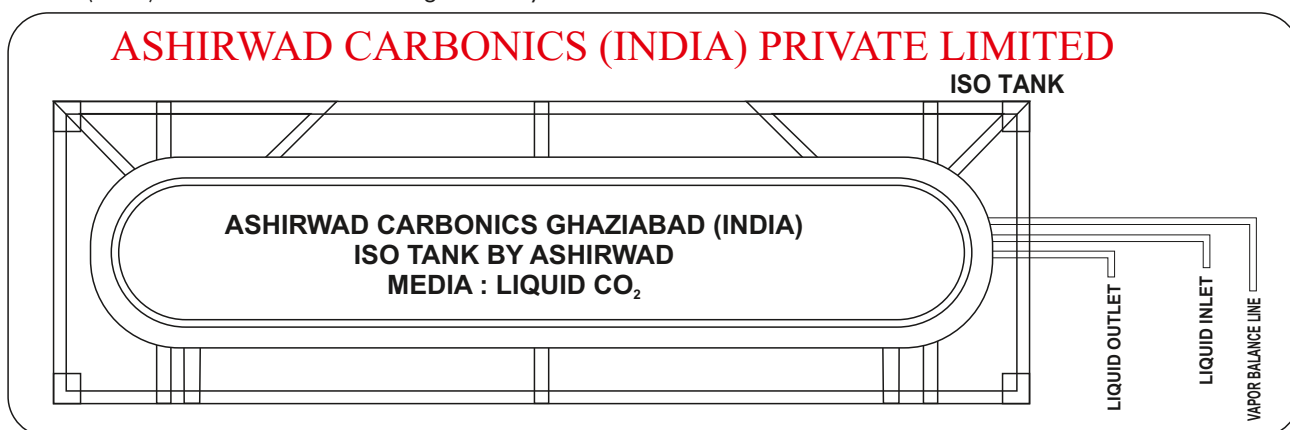
Capacity: 20', 40'.

Design Code: ASME SEC VII DIV-1&3, PD-5500 . IS-2825

Insulation: PUF insulation with AL cladding/vacuum insulated

SOME KEY FEATURES OF ISO TANKS:

- Ashirwad Carbonics ISO Container is manufactured for transporting liquid carbon dioxide by truck or ship to destinations worldwide.
- Ashirwad Carbonics ISO Container Hold time from 250 psig (17.2 bar) to 350 psig (24.1 bar) is greater than 30 days at 122°F (50°C) without the use of a refrigeration system



Pressure Vessel	: ASME/European Standard/IS-2825 coded for maximum working pressure of 300 psig (24 barg)
Piping	: Schedule 40/80 seamless pipe, 3000 lb forged Stainless steel fittings, ball type valves
Safeties	: IS-2825 WITH SMPV RULES approved direct spring loaded or pilot operated, sized for unconfined outdoor installation
Insulation	: Perlite Insulation minimum 200MM Thickness/PUF Insulation.
Inner Jacket Specification	: ASME Code Section VIII, Division I Material: SA 516 Grade 70 normalized and Impact Tested. Total Volume: 4200 water gallons (15,900 liters) Nominal L-CO2 Capacity: 34,200 lb (15,512.8 kg) Design Pressure: 24 Kg/Cm2 G. Test Pressure: 32 Kg/Cm2 G. Maximum Allowable Working Pressure: 17 Kg/Cm2 G. Baffles: One Set Carbon Steel Design Temperature: -40°C)
Outer Jacket	: Pre-Finished Aluminium for PUF Insulation/ Outer Jacket SS -304 For Vacuum Insulation.
Liquid Level Gauge	: Differential Pressure Gauge.
Pressure Gauge	: 0 to 350 psig (0 to 28Kg/cm2g) with 6" (152.4 mm) dial

LIQUID CO₂ Storage Tank (Vacuum)Jacketed

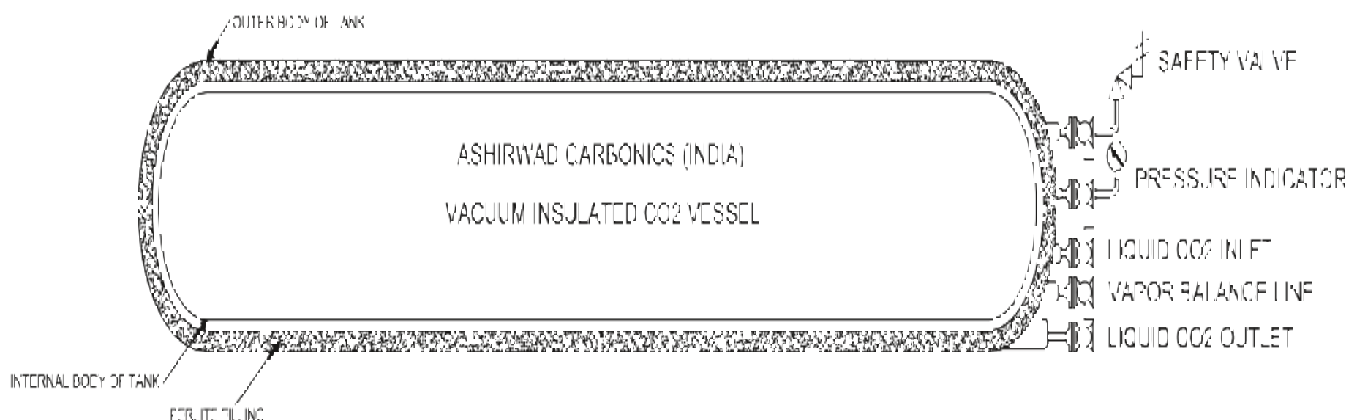
Some Key Features of Vacuum Insulated Tanks:

- Ashirwad Carbonics Designed the Vacuum Insulated Storage Vessels to meet ASME specifications and other International Specification Codes:
- Ashirwad Carbonics Units Contains all stainless steel piping, nozzles, valves on storage unit as per standard.
- Ashirwad Carbonics Vacuum Storage Tanks has been vacuum insulated perlite insulation standard.
- We designed to limit normal liquid charge up to 93% of the normal volumetric capacity of the storage unit.
- Designed to limit normal liquid charge up to 93% of the normal volumetric capacity of the storage unit.



ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

(LIQUID CO₂ STORAGE TANK (VACUUM INSULATED))



Specifications of Cryogenics Vessels:

Type	Storage Tank & Thermosiphon Tank
Design Code	ASME/EN13458/IS2825
Capacity of Tanks	1KL to 150 KL and as per Client Requirements.
Working Pressure	6Bar to 45 Bar and as per Client Requirements.
Design Temperature	(-) 196 Deg C to (+) 49 Deg C
Service	LCO ₂ /LOX/LIN/LN ₂ O/LAR
Insulation	Perlite+Vacuum/MLI
Flow Rate	Can be customized up to 30,000 NM ³ /Hr.

LIQUID CO₂ Storage Tank (Mobile Tanker)

Our range of Liquid Carbon Dioxide, Liquid LOX (liquid oxygen), NOX (nitrogen dioxide), and LAR Tanker is highly renowned for high functionality and corrosion resistant features. Our range is used to transport liquid CO₂ from one place to another and can store liquids and gases under high pressures without any risk of rupture.

FEATURES :

- DURABLE
- STURDY
- APPLICATION SPECIFIC DESIGN

Capacity: 2.5MT to 25 MT

Design Code: ASME SEC VII DIV-1&3, PD-5500. IS-2825

Insulation: PUF insulation with AL cladding/vacuum insulated

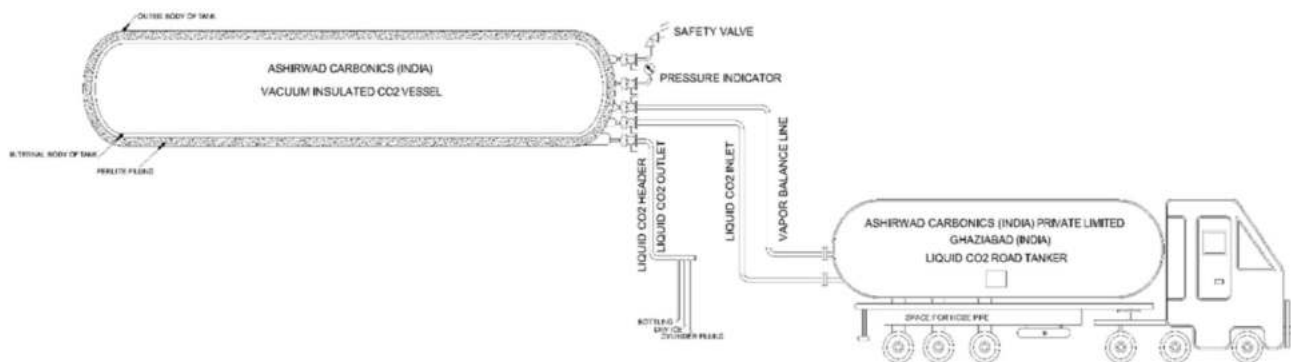


Some Key Features Of Mobile Tanks :

- Ashirwad Carbonics Mobile Tanker are made for transporting liquid from one part to another with minimum losses of liquid.
- Ashirwad Carbonics ISO Container Hold time from 250 psig (17.2 bar) to 350 psig (24.1 bar) without or with the use of a refrigeration system.

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

(LIQUID CO₂ TRANSPORTATION TANKER)



Some Key Features Of Mobile Tanks :

- | | |
|----------------------------|--|
| Pressure Vessel | : ASME/European Standard/IS-2825 coded for maximum working pressure of 300 psig (24 barg) |
| Piping | : Schedule 40/80 seamless pipe, 3000 lb forged Stainless steel fittings, ball type valves |
| Safeties | : IS-2825 WITH SMPV RULES approved direct spring loaded or pilot operated, sized for unconfined |
| Insulation | : outdoor installation |
| Inner Jacket Specification | : Perlite Insulation minimum 200MM Thickness/PUF Insulation. <ul style="list-style-type: none"> • ASME Code Section VIII, Division I • Material: SA 516 Grade 70 normalized and Impact Tested. • Design Pressure: 24 Kg/Cm² G. • Test Pressure: 32 Kg/Cm² G. • Maximum Allowable Working Pressure: 17 Kg/Cm² G. • Baffles: One Set Carbon Steel |
| Outer Jacket | : Pre-Finished Aluminium for PUF Insulation/ Outer Jacket SS-304 For Vacuum Insulation. |
| Liquid Level Gauge | : Differential Pressure Gauge. |
| Pressure Gauge | : 0 to 350 psig (0 to 28Kg/cm ² g) with 6" (152.4 mm) dial |

PORTABLE TANKERS



□ We offer a superior range of pressure vessels to clients in global markets. These tanks are already installed on the skid and ready to use at any time you want. These vessels are available in horizontal as well as in vertical arrangement. Some of the distinct characteristics of our range are as follows:

- Capacity : 1MT TO 2 MT
- Design Code : ASME SEC VII DIV-1&3, IS-2825
- INSULATION : PUF INSITU INSULATION WITH AL CLADDING

CO2 DOSING SYSTEMS



Ashirwad Carbonics India private limited has a brand name in manufacturing the world class dosing system. We recently supply the world largest CO2 dosing system in UAE of capacity 1100mt per day.

NITROGEN TANKS



We manufacture a precision engineered range of nitrogen/oxygen storage tanks, which are widely used for chemical storage purposes & underground purposes. These are designed as per client specifications and can store liquids and gases under high pressures. Further, our range is stringently checked for excellent performance, quality, durability and flawlessness. We offer a superior range of pressure vessels to clients in global markets. These vessels are available in horizontal as well as in vertical arrangement.

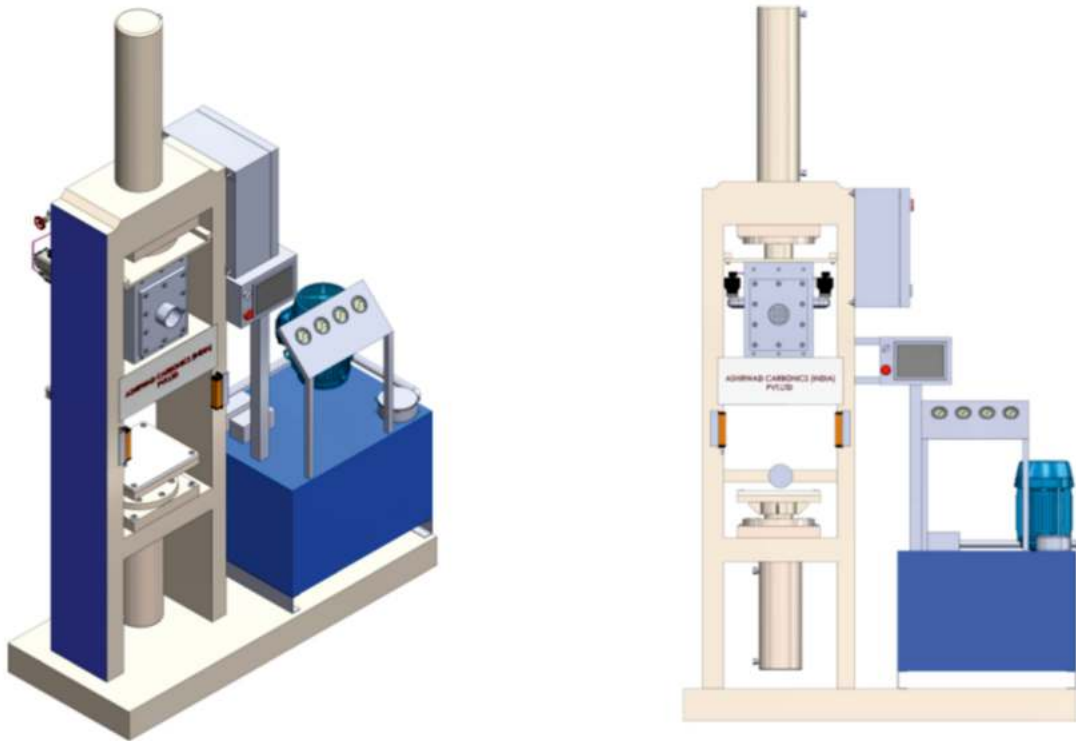
COMBINED HOT & COLD TANKS



We offer a superior range of hot & cold tanks to clients in global markets. These tanks are made by the latest material available to the market and for the medicine factories. These tanks are available in horizontal as well as in vertical arrangement. Some of the distinct characteristics of our range are as follows:

- Capacity : 1MT TO 15 MT
- Design Code : ASME SEC VII DIV-1&3, IS-2825
- INSULATION : PUF/glasswool insulation with Al cladding

DRY ICE MACHINE



Developed to convert liquid CO₂ quickly and economically into dry ice, ACIPL dry ice pelletizers are hard at work around the world. On-site dry ice production cuts storage and transport losses and improves product quality. Our company offers a wide range of Dry Ice Equipment, which is specially designed to produce the highest density extruded dry ice available. The dry ice manufactured has a longer shelf life, better transportability, and offers better blasting aggression. These equipment are fully automatic and require less maintenance. Manufactured using excellent quality raw material, the range of Square / Round Block Machine is extremely durable and possess high tensile strength. We use latest technology while manufacturing these keys and provide them efficiency and accuracy in dimensions. Our team of professionals assists us in manufacturing range, which is at par with industry standards and is catering to the diverse applications.

Types of dry ice machines are as follows:

- Round/Square Block Machines
- Pelletizers
- Slicers

TYPES OF DRY ICE MACHINES:-

1. DRY ICE MINI PELLETIZERS

Capacity: 25 Kg/Hr. The 25 Kg/Hr. dry ice mini pelletizer has been specially developed so that you can produce small quantities of high quality, 3 or 19 mm diameter, dry ice pellets whenever you want.

APPLICATION:

3 mm pellets for dry ice blasting and wineries to control the temperature of the fermentation process

19 mm pellets for cooling purposes

TECHNICAL SPECIFICATIONS :

Capacity	: 25kg/hr. for 3 mm and 19 mm pellets
Equipment Code	: ACIPL/25Kg/Hr.
Weight	: 77 kg net
Power Supply	: 400 V/50Hz/3 Ph.
Power Consumption	: 1.1 kw
CO ₂ Supply	: Low pressure CO ₂ Storage tank with a minimum content of 3 t, 15-20 bar pressure

2. Dry ice pelletizers (200Kg/Hr.)

The dry ice pelletizer 200 kg/hr. incorporates a heavy duty type hydraulic system controlled by an integrated PLC with touch screen interface. Fully automatic control of oil temperature and dry ice snowing process warrants continuous dry ice production without any supervision right from the start at the press of a button. Using high quality controls and sensors like Siemens, Schneider, etc. for the hydraulic system ensures reliable operation and, therefore, very little maintenance is necessary. The available extruder plates can be quickly exchanged manually.

Dimensions(LxWxH):	: 1700 x 1100 x 3700 mm
Weight net:	: approx. 1700 kg
Production capacity:	: 200 Kg/Hr.
Power Consumption:	: 13 kW
Voltage:CO ₂ inlet	: 400 Vac/50Hz/3 Ph. (other voltages on request)
connection:CO ₂	: 1/2" BSP female CO ₂ liquid or as per Clients Requirement. 1/4" BSP female CO ₂ gas or as per clients requirement.
source:	: CO ₂ storage tank, liquid phase (15 - 20 bar)

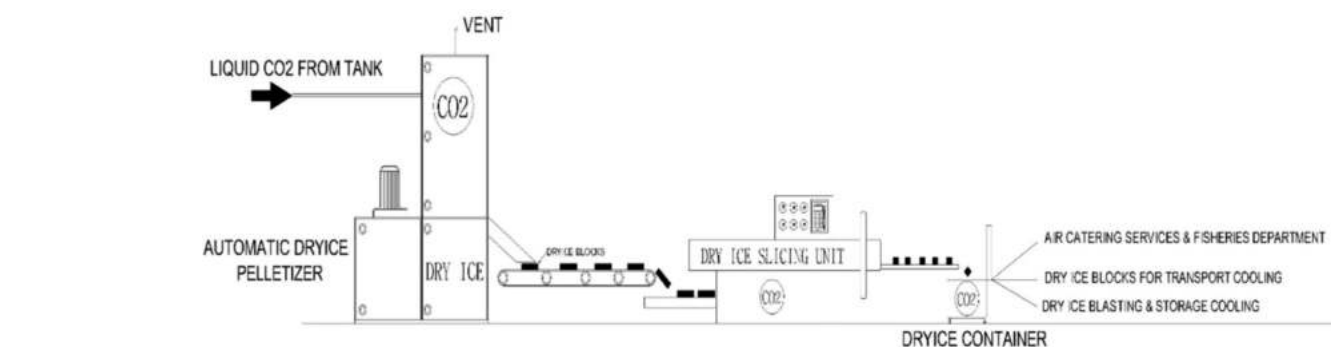
3. Dry IceBlock Machine (100-500 Kg/Hr.):

An in-house dry ice production guarantees a maximum of quality and flexibility in the daily working process. The dry ice pelletizer is also the ideal tool for gas companies as it permits the building of independent production centres to correspond to local market requirements with fresh dry ice. The dry ice pelletizer features instant push button start and all functions are controlled by an inbuilt PLC. To ensure continuous, reliable operation of the pelletizer, oil temperature, oil level, cycle time, motor overload, CO₂ inlet pressure and hydraulic pressure are monitored and displayed on the control panel.

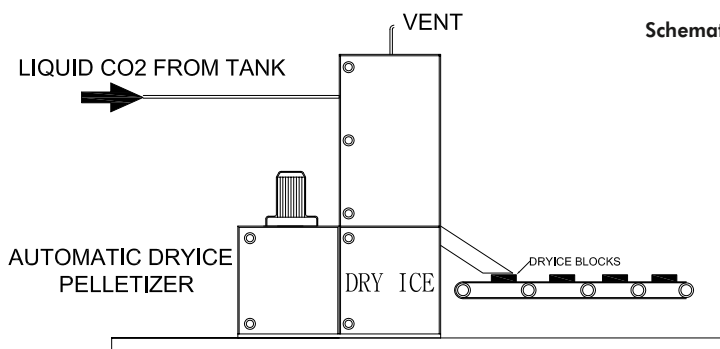
Production capacity:	: 100-500 kg/hr. bei 17.5 bar inlet pressure (max. production capacity with 1.7 mm pellets is 95 kg/hr.)
Voltage:	: 400 V / 50 Hz / 3 Ph. + E
Power consumption:	: 4 kW
CO ₂ source:	: CO ₂ storage tank, liquid phase (13-21 bar)

ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

(LIQUID CO₂ TRANSPORTATION TANKER)



Schematic Diagram Showing Process Streams Only



DETAILS OF DRY ICE MACHINES
AND ITS ACCESSORIES

Larger Capacities are available on request as per customer requirement.

DRY ICE REVERT RECOVERY



Ashirwad Carbonics Co₂ gas revert recovery systems are engineered to efficiently recover the revert Co₂ gas from our dry ice pellet and block machines which normally direct the revert (flash) gas to the atmosphere.

ADVANTAGES OF Co₂ REVERT RECOVERY SYSTEMS:

- I Reducing dry ice production costs up to 50 % by recovering the normally "lost" Co₂ gas due to vent typical of dry ice manufacturing
Automatic (PLC) operation
- II Heavy duty, compact and efficient design
- I Packaged, prepiped and prewired for timely installation

PROCESS DESCRIPTIONS:

When dry ice is produced the conversion rate from liquid Co₂ to dry ice is approx. 40-45 %. This means 55-60 % are lost. This conversion rate is a physical fact and therefore, unfortunately, not to change. With a Co₂ revert recovery system, however, most of the Co₂ can be recovered which leads to a final conversion rate of approx. 90-95 %. This way, the dry ice production costs are reduced up to 50 %.

Capacity: 25 Kg/Hr to 1000 Kg/Hr.



PRODUCTION DESCRIPTION

INDUSTRIAL REFRIGERATION UNIT

Our company is offering Industrial Refrigeration Units, which are equipped with Microcomputer control systems with process interfacing and Special heat exchanger aterials and protective coatings. Our range is offered in customized as well as standard forms. Our quality range of Freon / Ammonia refrigerant base Industrial Liquefaction System for CO₂/ Biogas is a system, basically used for liquefying industrial gas wherein industrial gas is compressed to two levels using a first and a second compression system. This gas is then processed in a heat exchanger having horizontally oriented sensible heat exchange passages and vertically oriented condensing heat exchange passages.

Features :

- High reduction cost.
- Application in various industrial sectors and the low added value of biomass wastes.
- Alternative to the usual biomass wastes processing systems.

INDUSTRIAL LIQUEFACTION SYSTEM

Our quality range of Freon / Ammonia refrigerant base Industrial Liquefaction System for

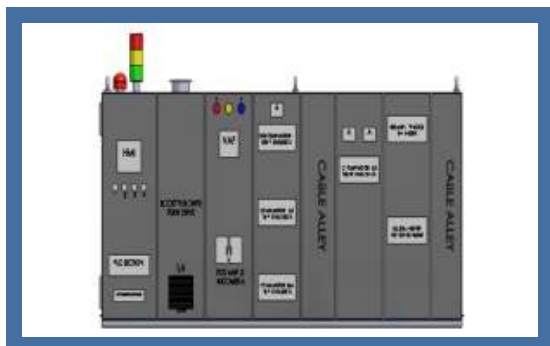
industrial gases system, basically used for liquefying industrial gases wherein industrial gas is compressed to two levels using a first and second stage compression system. This gas is then processed in a heat exchanger having horizontally oriented sensible heat exchange passages and vertically oriented condensing heat exchange passages. The main part of liquefaction units are

- Chillers .
- Compressor.
- Condenser.
- Oil separator, instrumentation, coils, expansion valves.

ETHYLENE OXIDE FILLING SYSTEM

Many specialty gases are sold in cylinders. Before these cylinders can be filled again, they must be completely emptied, and carefully examined for possible failures. Even in the filling station itself, an amount of dangerous gas can rest behind after filling and closing of the cylinder. This gas must be carefully removed, and the flexible must be vacuumed, before the cylinder can be disconnected from the flexible. Multi-Purpose Scrubbers We have special multi-purpose scrubbers for both tasks. The cylinders are attached to these scrubbers, and the gas residues are removed. Next, they are chemically transformed into much more harmless products, with a higher boiling point. In some cases, these products can be used as secondary raw materials. Vacuum The scrubber immediately generates a vacuum in the cylinders, eliminating the need for a vacuum pump. The flexible in the filling station are also emptied and vacuumed, preventing the escape of dangerous gases to the environment. Security To avoid that any reactive scrubber solution could be sucked back into the vacuumed cylinder or flexible, 4 distinct security mechanisms are active. Because of these precautions, our scrubbers handle power interruptions, pump failure or other unexpected incidents without any safety risks

ACCESSORIES



Control Panels

The range of control panels we have been offering to our clients is used for Automation For Plants process controls. These panels have the facility of locking the supply of gas when it is not required, thereby saving the fuels as well as reducing the cost price. These panels are fully automatic with PLC programmes. Some of the key features of these panels are as follows:

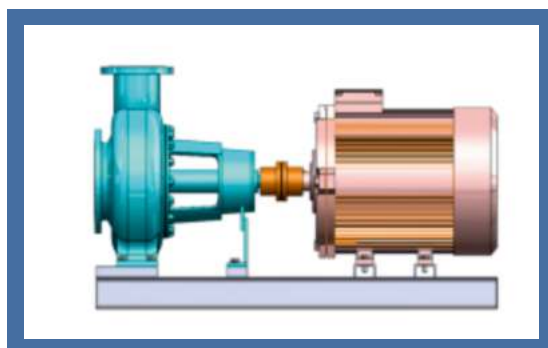
- These panels are highly reliable
- Utilization of DC controls result in silent operation
- Our panels can be directly installed into the wall, which restrict any sort of obstruction in corridors and other places

GAS FILLING PUMPS

These days cylinders are filled more and more with the help of a special liquid pump which pumps the liquid from the liquid source to the cylinder filling system. The pumps is of special design to handle liquid CO₂ at extremely low temperature at pressure (approx, 22kg/ cm²) and pumping the same to 80 kg/cm or more in cylinders. The entire piping circuit is made that the pumps run continuously and the excess liquid is returned back to the storage system.

Special Features:

Extremely low NPSH requirement, only 0.1 to 0.5 m
Gland packing specially developed for leak less operation, hence reduced gas loss
Indigenously developed, high reliability
Minimal maintenance, all parts available off the shelf
Quick cool down
Designed for continuous operation



CYLINDER FILLING MANIFOLD

Our company is offering Filling Manifolds, which is equipped with two headers, each having provision for filling 30 cylinders at a time. These are mainly required to fill cylinders with gases or liquids after they are processed and produced in gas plants. Our company is engaged in offering Cylinder Filling Systems, which is a system for rapidly filling cylinders with gas while avoiding high temperature excursions. Our range is renowned for corrosion resistance, abrasion resistance and application specific design. We are offering Liquid CO₂ Filling Station, which are designed to fill liquid carbon dioxide into cylinders. The system consists of a maximum of three weighing platforms and three high-pressure filling manifolds controlled by PLC. The system is operated for two platforms

WEIGHING SCALE

•We offer superior quality Weighing Scales, which are acknowledged for simple, reliable and weather resistant features. The weighing scale is comprised of a hanging element, high-precision load cell and A/D converter. Durable and sturdy these table top weighing scales are available in standard as well as customized models. Ashirwad Carbonics is having a brand name in weighing scale. Our weighing scale is accompanied with the latest technology in the markets and having best quality of materials that no one can beat us.



ACCESSORIES



Ambient Vaporizers

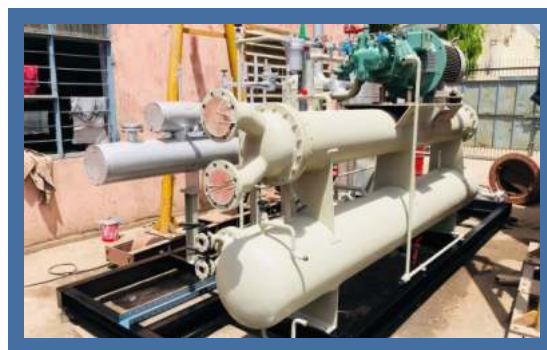
The ACIPL Ambient CO₂ Vaporizer is an evaporating coil type heat exchanger in which ambient air at a minimum of 50°F (10°C) is blown across the dual set of evaporating coils. The air provides the heat to vaporize the liquid CO₂. The dual coils (located in one casing) are utilized due to the forming of ice between the fins of the coil, which results from the humidity in the air. Over a period of time, the ice will impede the heat transfer, so the coils are alternated every few minutes so that any ice found is defrosted and no reduction in CO₂ vaporizing capacity occurs. The unit comes completely packaged and includes all controls necessary for fully automatic operation.

Minimal energy requirement :-

No steam or large electric heating elements needed for vaporization duty. Ambient air temperature provides heat input for vaporization.

CONDENSERS

We offer efficient Plant Reconditioning services for Co₂ cylinders extensively used in breweries base, distilleries base, fertilizers base and natural springs. We undertake testing for their quality as per the international standards and provide complete installation services.



AIR HEATED VAPORIZERS

The ACIPL Ambient CO₂ Vaporizer is an evaporating coil type heat exchanger in which ambient air at a minimum of 50°F (10°C) is blown across the dual set of evaporating coils. The air provides the heat to vaporize the liquid CO₂. The dual coils (located in one casing) are utilized due to the forming of ice between the fins of the coil, which results from the humidity in the air. Over a period of time, the ice will impede the heat transfer, so the coils are alternated every few minutes so that any ice found is defrosted and no reduction in CO₂ vaporizing capacity occurs. The unit comes completely packaged and includes all controls necessary for fully automatic operation.



WATER VAPORIZERS

•The ACIPL Water Heated CO₂ Vaporizer is a shell and tube heat exchanger in which circulating water gives off its heat to vaporize liquid CO₂. Because any water which requires cooling can be used, an important secondary benefit can be realized in the reduction of the plant refrigeration load. Completely packaged, the unit includes all controls necessary for fully automatic operation. Any interruption in the water flow or drop in the CO₂ gas temperature or pressure beyond the preset limit will automatically result in the liquid CO₂ being shut off and an alarm is sounded to notify operators.



ACCESSORIES

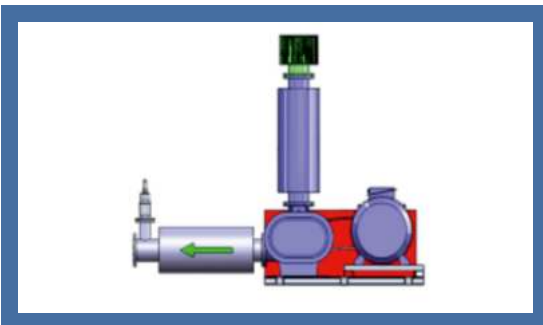


CYLINDER TESTING KIT

We at ACIPL provide latest and upto date cylinder testing kit for various gas industries. These machines are made from the latest and the best machinery, raw material available and these machines are fully automatic so the customer do not have any problem in operating the system or it can be made as per the requirement of customers

PROCESS TOWER

The once-through water CO₂ scrubber design operates at a higher impurity removal efficiency than the recirculating design, as purified gas exiting the scrubber is cleaned by fresh water, compared to water which already contains impurities. Once-through scrubbers operate with an ethanol removal efficiency of 99%+ while consuming less water. Power consumption is eliminated and maintenance reduced, as a recirculation pump is not required. With greater impurity removal, downstream purification components will operate more efficiently, as they are now required to remove significantly fewer impurities.



AIR BLOWERS

ACIPL is the leading supplier of the gas blowers made with the latest technology and the best materials available in the market

AMMONIA RECEIVERS

•ACIPL has a brand name in manufacturing of ammonia receivers and other receivers by the latest technology we have. Our receivers are leakage proof and manufactured by keeping the safety of equipment in mind. Customers who buy receivers from ACIPL are fully satisfied and we have not hear any complaint about the equipment till date



CARBON DIOXIDE TRANSFER EQUIPMENT

The range of carbon dioxide transfer equipments we offer to clients are used for transferring bulk liquid co₂ into mobile tankers and many more areas. These equipments have got a high transferring rate and are capable of filling bulk amount of co₂ within less time period. The equipment consume less electricity and have the capacity of transferring 5000KG/HR TO 15000KG/HR.

ENGINEERING CONSULTANCY



PRESSURE VESSEL DESIGNING

We offer Pressure Vessel Designing services, which are catering to the requirements of refineries, chemical plants, power plants, nuclear plants and other processing facilities. Our experts provide design of structural systems and supports for continued operation of leaked vessels or vessels that violate the minimum required thicknesses based on structural considerations. We also undertake evaluation of Pressure Vessels after accidental over-pressurization.

RECONDITIONING OF OLD CO₂ PLANTS

We offer efficient Plant Reconditioning services for Co₂ cylinders extensively used in breweries base, distilleries base, fertilizers base and natural springs. We undertake testing for their quality as per the international standards and provide complete installation services.



DESIGN & ENGINEERING FOR CO₂ PLANTS

We provide consultancy for designing & engineering for CO₂ plants. We provide consultancy from our team of experts in the field of carbon dioxide plant layout and design execution. We are engaged in offering Engineering Consultancy services, which are provided as per the clients' specific requirements. We adhere to latest treatment technologies, conceptual designing and process engineering for designing of plants as per the process requirements. All our solutions are combined with site supervision for all engineering activities and proper and timely installation of the machines.

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FEASIBILITY REPORT

•We offer complete solutions for designing, detailed engineering and consultancy serviced to our clients. Our feasibility reports include review of all available reports and published information about project road and project influence area and value analysis/value engineering and project costing. These engineering and consultancy services are specific for complete power plant solution.



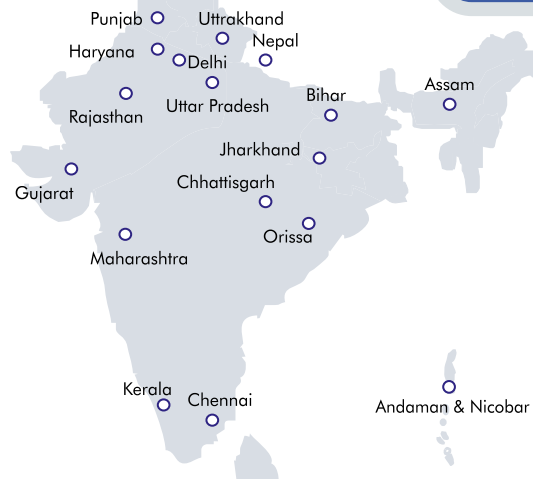
EXHIBITION PICTURES & MANUFACTURING PICTURES:



OUR WORLD WIDE REFERENCE



OUR INDIAN REFERENCES



ASHIRWAD CARBONICS (INDIA) PRIVATE LIMITED

ASHIRWAD CARBONICS INDUSTRIES

REGISTERED OFFICE:

Level-15, Eros Corporate Tower, Nehru Place, New Delhi (INDIA) 110019.

Tel : +91-11-66155350, Fax : +91-11-55155221

HEAD OFFICE:

Ashirwad House, 6/148, Chiranjiv Vihar, Ghaziabad
Uttar Pradesh India 201002

WORKS:

An23, UPSDIC Industrial Area, MG Road, Phase-III, Dasna , Hapur,
Uttar Pradesh, India 201015

Website: www.ashirwadco2.com, www.aciplco2gasplants.com

Email: info@ashirwadco2.com, project@ashirwadco2.com, coo@ashirwadco2.com

Ashirwad Overseas Trading-FZCO

IFZA Property FZCO, Dubai Silicon Oasis, DDP,
Building A1, Dubai, United Arab Emirates