

ACETYLENE

ACETYLENE (C_2H_2) is a slightly lighter than air, flammable, colorless gas, with a distinct garlic-like odor. When mixed with Oxygen, it gives flame temperatures up to $3,100^{\circ}C$ ($5,612^{\circ}F$). It is spontaneously combustible in air, at pressures above 2 BAR (30psi).

- Boiling point: $-83.8^{\circ}C$ ($-118.8^{\circ}F$)
- Trade name: Acetylene

Precautions

- Although it is non-toxic, acetylene is anesthetic if inhaled. Acetylene concentrations higher than 20% can cause unconsciousness, so areas of storage and use should always be well ventilated.
- Acetylene is explosive when mixed with air, however large or small the quantity. Explosive reactions may occur on ignition. It reacts explosively with halogens and halogenated compounds and will form an explosive compound with copper; therefore, equipment containing more than 65% copper should not be used. Acetylene is also not compatible with mercury or silver.
- Storage temperature should be kept under $54^{\circ}C$ ($130^{\circ}F$).
- For cutting and welding, safety goggles or glasses must always be used.



OXYGEN

OXYGEN (O_2) is a gas heavier than air, colorless, odorless and taste free. Although it is a non-flammable natural born gas Oxygen, can still enforce combustion.

- Boiling point: $-182.97^{\circ}C$ ($-297.35^{\circ}F$)
- Trade name: Oxygen

Precautions

- Grease, oil or other flammable materials, may react violently on contact with Oxygen under pressure. Therefore, they must never mix with any welding or cutting equipment. Moreover, Oxygen must never be used as a substitute for compressed air in pneumatic equipment, since this type of equipment contains flammable lubricants.
- Storage temperature should be kept under $54^{\circ}C$ ($130^{\circ}F$). Moreover, areas of storage should be dry and well ventilated.
- Breathing high concentrations of O_2 , causes symptoms of hyperoxia, which in some cases may be fatal.
- For cutting and welding, safety goggles or glasses must be used.



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ARGON

ARGON (Ar) is a slightly heavier than air, colorless and odor free gas. It is an inert gas, commonly used as a shielding gas for the Tungsten Inert Gas (TIG) welding, primarily to clean the molten pool. It is non-toxic and non-combustible.

- Trade name: Argon

Precautions

- As with all inert gases, argon displaces Oxygen in non ventilated areas, this can cause asphyxiation and death. Therefore, areas of storage and use should always be well ventilated and have the possibility for a fast evacuation. In addition, precautions should be taken in order to avoid any leakage.
- Store temperature should be kept under 45°C (113°F).
- For welding, safety goggles or glasses should be used.



ARGON - CO₂ MIXTURES

ARGON - CO₂ mixtures are very useful in MIG/MAG welding as shielding gases. MARIGASES 80–20 mixture (80% Argon and 20% CO₂) is ideal for welding the unalloyed and low-alloyed carbon steels. It protects the molten pool against contaminants in the atmosphere.

Precautions

- Store temperature should be kept under 45°C (113°F).
- For welding, safety goggles or glasses should be used.

NITROGEN

NITROGEN (N₂) is a colorless, tasteless, and an odorless inert gas, slightly lighter than air; it is used for purging tanks and pipelines and for the removal of moisture from refrigeration systems. It does not react with any substance or gas and is non toxic. Nitrogen is also non combustible and does not burn nor does it affect the respiratory system. It is slightly soluble in water and most other liquids and is a poor conductor of heat and electricity. It can also be used for providing a safe blanket for cargo, preventing reactions with Oxygen.

- Trade name: Nitrogen

Precautions

- As with Argon, Nitrogen displaces Oxygen in non ventilated areas, this can cause asphyxiation and in prolonged cases, even death. Therefore, areas of storage should always be well ventilated and have the possibility for a fast evacuation for your staff.
- Extra precautions should be taken to avoid the possibility of leakages.
- Storage temperature should be kept under 45°C (113°F).

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Technical Data

CYLINDER TYPE		AC-40	OX-40	Ar-50	Ar/CO ₂ -50 80-20%	N ₂ -50 99.9%	N ₂ -50 99.999%
Cylinder Capacity	ltr	40	40	50	50	50	50
Gross Weight	kg	71.4	60	99.3	98.4	92.7	92.7
Nominal Tare	kg	65.2	52.2	81.2	81.2	81.2	81.2
Nominal outside diameter	mm	229	230	231.5	231.5	231.5	231.5
Overall length	mm	1357	1337	1664	1664	1664	1664
Color		Maroon	Blue	Grey	Grey/Yellow	Green	Green
Valve Type		Forged brass	Forged brass with nickel bursting disc	Forged brass with nickel bursting disc	Forged brass with nickel bursting disc	Forged brass with nickel bursting disc	Forged brass with nickel bursting disc
Valve Outlet Connection		W26.4 x 1/14RH int.	W21.8 x 1/14RH ext.	W24.32 x 1/14RH ext.	W24.32 x 1/14RH ext.	W24.32 x 1/14RH ext.	W24.32 x 1/14RH ext.
PRODUCT CONTENT AT 15° C, 1 ATU							
Volume	m ³	5.6	6.4	11	11	10.2	10.2
Weight	kg	6.2	7.8	18.1	17.2	11.5	11.5
Nominal filling pressure	bar	15	147	200	200	200	200
Cylinder test pressure	bar	60	250	300	300	300	300
Gas refill Order Number		330201	330202	330211	330212	330231	330232
Cylinder Order Number		324001	324002	325011	325012	325031	325031

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