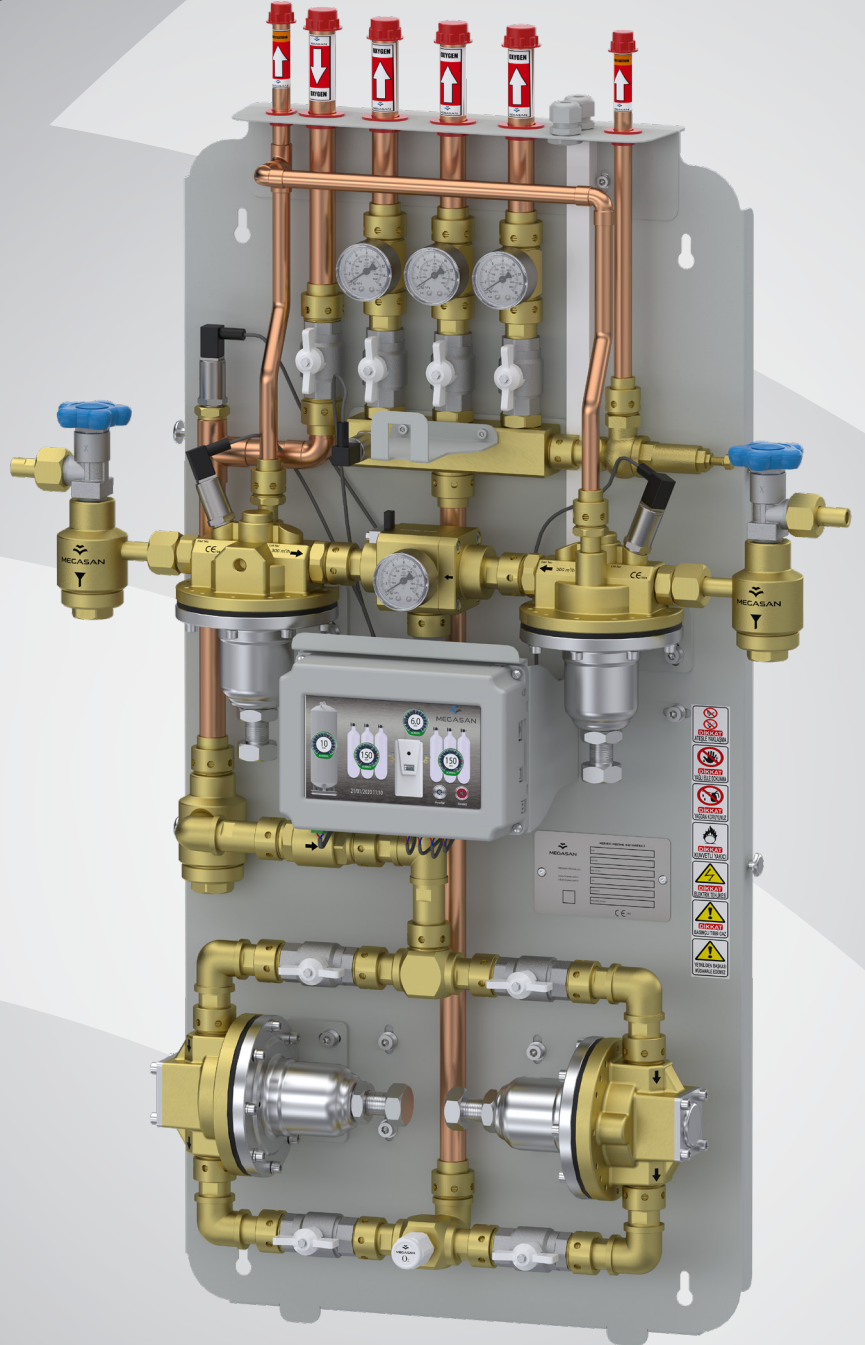
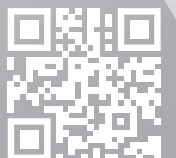




MEGASAN



Central Gas Plants



www.megasan.com.tr



MEGASAN Medikal entered the sector in 1981 with assembly and maintenance works and started production in 1998.

It continues its activities in its production facility established on a total area of 70 thousand m² with a closed area of 14 thousand m². There is also a showroom in Ankara where the R&D and sales departments are located. Today, **MEGASAN Medikal A. Ş.** is one of the largest medical gas manufacturers in Europe. In addition to central medical gas plants in its product range, it produces medical vacuum plants, medical air plants, area valve service units, medical gas outlets, patient service units, intensive care and emergency service units, pendants, gas adapters.

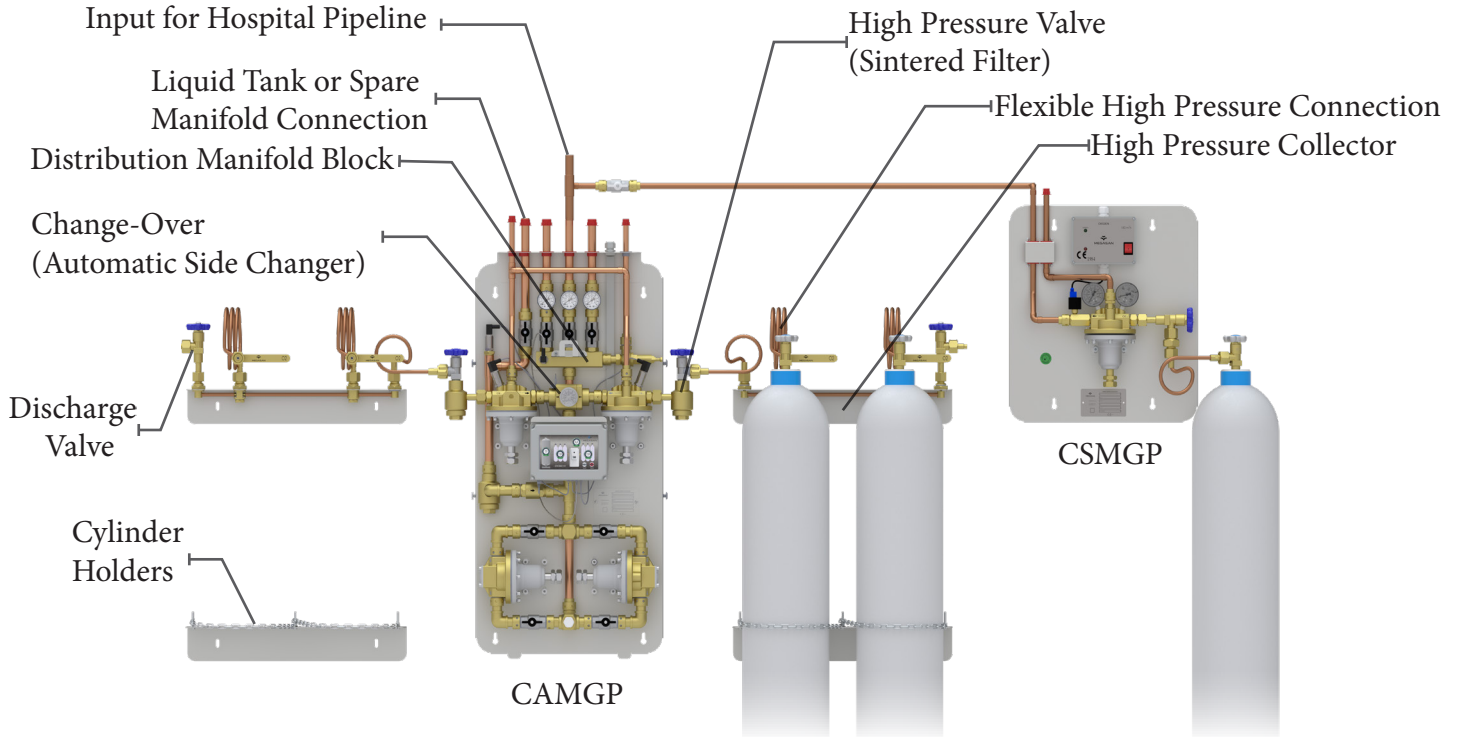
Today, **MEGASAN** has the rightful pride of offering dozens of best quality products and serves in gas installation projecting, installation and maintenance with its modern manufacturing building equipped with sensitive technological devices and equipments, engineers, extremely well-trained technicians, assembly and maintenance personnels. **MEGASAN Medikal**, is proud of its values and determined mind about getting better day by day.

Our aim; By closely following scientific and technological developments and following a policy parallel to the globalization process in the world, we aim to maintain our leading position in our sector and become a more respected company around the world, while also strengthening this leadership.

Megasan, has the CE (Conformity of Europe) certificate which is very rare in the medical sector in Turkey, proudly states once again that while providing the best service to all its customers;

"The quality of our products is our best reference."





High Pressure Reducers ensure that the pressure of medical gases (O_2 , CO_2 , N_2O , compressed air) coming at high pressure (230 bar) through collectors connected to gas cylinders is adjusted to the required pressure values and safely supplied to the installation.

It is mostly reduced to 4-8 Bar values.

Intended Use:

By reducing the pressure of the cylinders coming in at high pressure, it ensures that the medical devices and instruments on the installation are adjusted to safe working pressures and guarantees uninterrupted gas flow thanks to the automatic switching system.

Place of Use:

It provides the supply of high pressure medical gases in gas cylinders to patients and/or devices by reducing and limiting them to a certain pressure value. As for the location, it is usually installed in the basements of hospitals or in medical gas plants rooms within the hospital campus, taking into account safety reasons (against combustion and explosions). The important point here is to keep flammable and high pressure gases such as oxygen and nitrogen away from elements such as burners or oil as much as possible. For this reason, flammable gases such as oxygen and nitrogen should be kept away from oily systems such as air and vacuum power plants and must be installed in separate rooms.

Product Conforming to the following Standards

- ✓ EN ISO 15223-1:2021
- ✓ EN ISO 10524-1:2019
- ✓ EN 62366-1:2015
- ✓ EN ISO 10524-2:2019
- ✓ EN ISO 11197:2016
- ✓ EN ISO 10524-3:2019
- ✓ EN ISO 14971:2020
- ✓ EN ISO 10524-4:2008
- ✓ EN ISO 20417:2021
- ✓ EN ISO 7396-1:2016
- ✓ EN ISO 15001:2012
- ✓ EN 60601-1:2009
- ✓ EN ISO 21969:2010
- ✓ EN 60601-1-2:2016
- ✓ EN ISO 15002:2010
- ✓ EN 60601-1-8:2008
- ✓ EN 62304:2009
- ✓ HTM02-01

Fully Automatic High Pressure Reducer Stations And Equipment

Technical Specifications

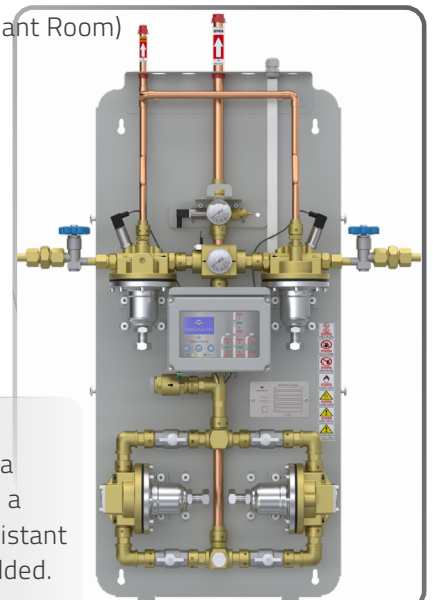
Product Code	: MG-YBDNx "x:O (Oxygen), A (N ₂ O), SA (Pure Nitrogen), KG (Mixed Gas), K (CO ₂),
Product Name	: Fully Automatic High Pressure Reducer Unit
Input Pressure	: Max. 230 Bar
Output Pressure	: 4 – 7 Bar
Capacity	: 220m ³ /h
Input Number	: 4 (Primary Ramp, Spare Ramp, External Supply Point, Emergency Supply Point)
Operating Temperature Value	: (+10) - (+45) C°
Power Supply	: 200-240 V 50-60 Hz 100 Watt
Package Type	: Carton Box
Package Sizes	: 107 x 75 x 24 cm
Alarm System	: Digital LCD, Alarm, Voice Alert, Touch Screen Alarm Panel (optional)
Connection Type	: 2xModBus



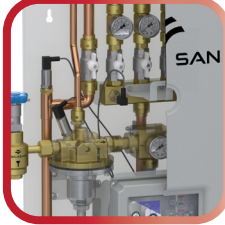
- 1- High Pressure Reducer Relief Line (Exit from the Switchboard)
- 2- Liquid Tank and Generator Input
- 3- Distribution Collector (Operating Theatre, Intensive Care, Patient Floor)
- 4- Plant Evacuation Line (Out of the Plant Room)
- 5- 220 Volt Electric Input
- 6- Cylinder Supply System Input Right
- 7- Cylinder Supply System Input Left
- 8- Nist Connection

Basic - No Intended Option

As an option, a third-party connection, a 7" LCD Alarm with touchscreen display, a Distribution Manifold, an ABS cover resistant to breakage, and a large filter can be added.



OPTIONAL FEATURES



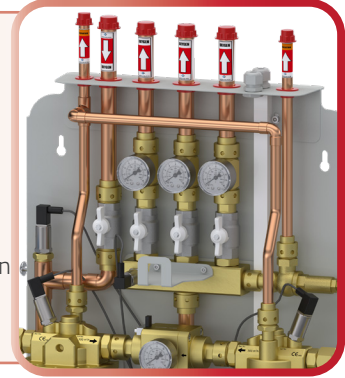
Alternative Supply

Elimination of the need for additional control panel by adding inlet for liquid tank and generator connection.

Distribute, Cut, Spare

While safe gas distribution is provided to the required areas thanks to the collector system it contains; The line to be serviced, maintained or any repaired is safely repaired by stopping the gas passage thanks to the relevant distribution collector system, and while this process is being carried out, the gas flow in other distribution lines continues safely. In addition, any malfunctions that may occur on the pipeline can be backed up with a double line thanks to this system.

*The diameters of the distribution collector, outlet valves and pipes are produced in accordance with the relevant project and hospital requirements.



Protective Safety Cover

Hygienic and durable safe cover made of ABS plastic, which protects the entire system from external factors, does not contain a sharp surface.

STANDART FEATURES

Smart Direction Indicator

During cylinder supply, it shows the gas inlet direction on the alarm from the main or backup side. It is a guide for technical personnel indicating that it is time to change the cylinder.



Emergency Supply

Addition of a gas-specific emergency entrance with nist connection to the power plant in order to feed the installation in case of possible malfunctions that may occur in the Central Medical Gas Plant.

Don't Get Tired! We'll Change it

The ramp changer, which is mechanically designed especially considering power outages, has a Change-Over system, and thanks to its visual and sensory alarm systems, it notifies that the gas flow is interrupted in any or all of the primary and backup ramps and that the cylinders need to be replaced.



Single High Pressure Reducer Unit

Intended Use:

It ensures that the pressure of the medical gases needed in hospital installations is brought to the ideal values and the installation is fed. In general, it acts as a backup of the fully automatic oxygen plant. It is connected to the installation of the relevant gas with bypass in parallel with the fully automatic high pressure converter. It ensures the continuity of the supply of the installation in case of failure or service-maintenance of the fully automatic high pressure reducer. It can also be used individually in places that do not require intensive gas utilisation.



Technical Specifications

Product Code	: MG-YBDTx "x:O (Oxygen), A (N2O), SA (Pure Nitrogen), KG (Mixed Gas), K (CO2), H (Dry Air)"
Product Name	: Single High Pressure Reducer Unit
Input Pressure	: Max. 230 Bar
Output pressure	: 4 – 8 Bar
Capacity	: 220m ³ /h
Input Number	: 1
Operating Temperature Value:	(+10) - (+45) C°
Power Supply	: 200-240 V 50-60 Hz 100 Watt
Package Type	: Carton Box
Package Sizes	: 65 x 58 x 21 cm
Alarm System	: Visual and Sensory alarm

High Flow Rate
Chemical compatibility
Input Filter (optional)
Alarm System(Optional)
Gas Specialisation
Mechanical Pressure Reading
Discharge Line
Isolation plugs before use
Insulation Separator



Alarm Unit

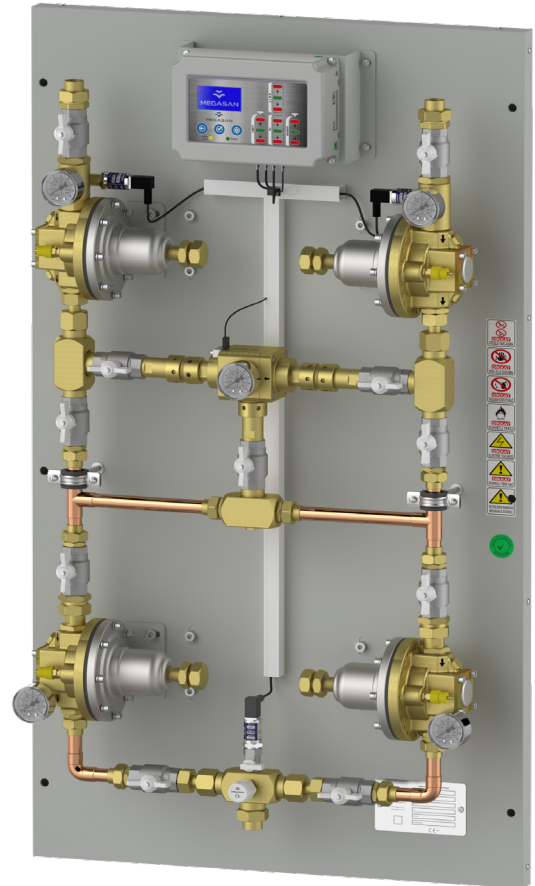
It is a system that warns the technical personnel visually and audibly in case the pressure from the unit to the line falls below the ideal values and ensures that the alarm unit is switched off when the use is not required. When the line value is at the ideal value, the green light lights up, when it is below the ideal value, the red light lights up and gives an audible warning. This warning means that the cylinders are over. The only way to reset the alarm is to bring the pressure to ideal values. That is to renew the cylinders.

Change Over Panels

Intended Use:

It is a system that automatically activates the backup system in case of any problem in the liquid tanks used in the supply of the hospital installation. It makes the gas flow uninterrupted.

Chemical compatibility
Isolation plugs before use
Insulation Separator
Mechanical Reading
Alarm Unit (optional)



Technical Specifications

Product Code	: MG-LOCP
Product Name	: Liquid - Cylinder Cycle Unit
Input - Output Pressure	: 4 - 7 Bar
Capacity	: 150 m ³ /h
Input Number	: 4 Pieces (Primary Ramp, Spare Ramp, External supply point and Emergency supply socket)
Operating Temperature Value	: (+10) - (+45) C°
Power Supply	: 220 V 50 Hz 100 Watt
Package Type	: Carton Box
Package Sizes	: 118 x 67 x 24 cm
Package Weight	: 45 Kg
Alarm System	: Visual and Sensory, Digital Pressure Gauge

Generator- Cylinder Changover Unit

Intended Use

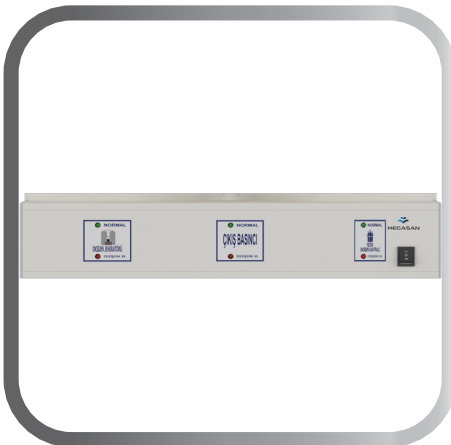
When there is any problem in the O₂ production system, the backup system is activated without the need for intervention.



Technical Specifications

Product Code	: MG-JOCP
Product Name	: Generator - Cylinder Cycle Unit
Input - Output Pressure	: 4 - 7 Bar
Capacity	: 150 m ³ /h
Input Number	: 2 (Primary Ramp, Spare Ramp)
Operating Temperature Value	: (+10) - (+45) C°
Power Supply	: 220 V 50 Hz 100 Watt
Package Type	: Carton Box
Package Sizes	: 55x66x19 cm
Package Weight	: 14 Kg
Alarm System	: Visual and Sensory Alarm

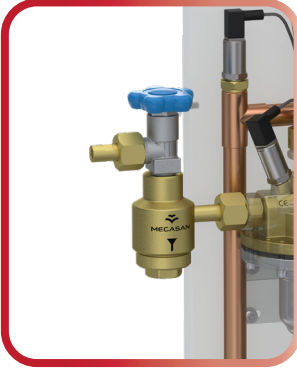
Chemical compatibility
Isolation plugs before use
Insulation Separator
Mechanical Reading



Alarm Unit

These are the systems that warn the technical personnel visually and audibly in case the pressure from the unit to the line falls below the ideal values and automatically enables the other ramp to be used. When the value of the input lines on it is at the ideal value, the green light lights up, when the pressure value decreases below the ideal value, the red light of that line lights up and gives an audible warning. This warning means that the pressure in the supply plants has decreased. The only way to reset the alarm is to bring the pressure to ideal values.

OPTIONAL FEATURES



Input Filter

Thanks to the newly designed filter system, the diameter narrowing in the gas inlets is prevented and the possible particles that may enter the power plant from the gas sources are retained, thus extending the life of the power plant.

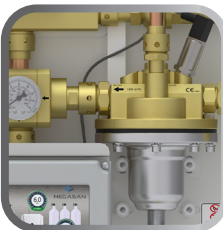
*There is a small filter inside, since the filter clogs quickly, a large size filter is recommended.

Functional Alarm System

A 7" alarm system that can be added on the panels at any time, can show the pressure value in the ramps, gives visual and audible alarms, can repeat the alarms given and keep them under record, has ModBus integration, cannot be accessed except by authorised personnel thanks to its password, shows the area where it is installed and can be used with PLC display or touch LED display if desired. For detailed information on alarm units, please see the MEGASAN Functional Alarm Systems catalogue.



STANDART FEATURES



High Flow Rate

In cases where the hospital must operate above its capacity (natural disasters, pandemics, etc.), the product meets the needs of the hospital in a long-term and safe manner at maximum limits.

Gas Specialisation

Thanks to ISO 32 colour coding on manometers, valve cups, NIST covers, pipe labels indicating the inlet and outlet direction on copper pipes, and gas-specific markings on the bodies, all gases can be distinguished and technical personnel can avoid mixing gases.



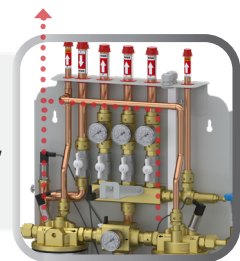


Chemical Compatibility

All gas contact surfaces are made of copper, brass and gaskets which are compatible with all medical gases, including oxygen. All types of medical gases do not react to the materials they are passing through.

Discharge Line

In cases where there is a sudden increase in pressure inside the product, it ensures the safe operation of the system by evacuating the high pressure wave in a pressure-sensitive manner, while ensuring that the environment where the product is located is safe by discharging these flammable gases outside the building.



Beautiful in its Simplicity

In addition to its stylish and minimal design, making the system more useful, economical, understandable and simple has been one of the primary goals of our R&D in this product design. The result has become as simple, understandable and easy to intervene as possible.

Isolation Plugs Before Use

When the product is installed on site, there are pre-use isolation plugs to prevent the unit from contaminating the unit and thus contaminating the installation in the time before it is welded with the pipeline.



Mechanical Reading

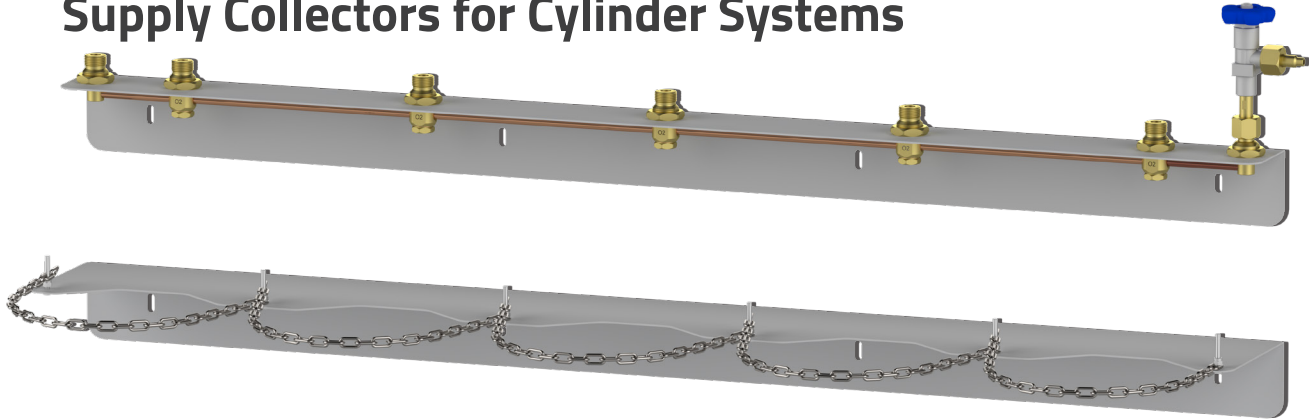
In case of any power failure, the panel cover can be opened and the installation pressures can be observed by looking at the fully mechanically operated pressure gauges.

Insulation Separator

A plastic bracket is used to prevent the panel sheet from damaging the copper pipes and to prevent corrosion and oxidation of the copper pipes.



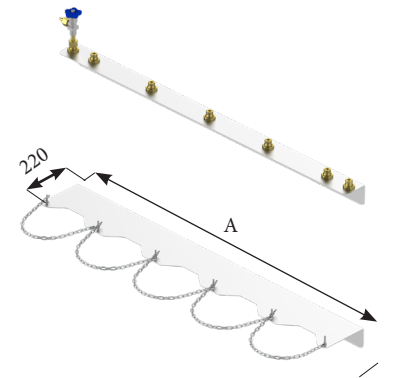
Supply Collectors for Cylinder Systems



Intended Use

It provides fast and safe connection of high pressure cylinders feeding medical gas plants through flexible copper pipes. It can be configured according to the required gas volume with 2-5 high pressure cylinder connection options.

Technical Data		
Product Code	Number of Cylinders	Dimensions
MG-KOLx1	1	400x 200
MG-KOLx2	2	600 x 200
MG-KOLx3	3	900 x 200
MG-KOLx4	4	1200 x 200
MG-KOLx5	5	1500 x 200



Technical Specifications

Product Code : MG-KOLxy "x:O (Oxygen), A (N2O), SA (Pure Nitrogen), K (Carbon Dioxide), H (Dry Air), "

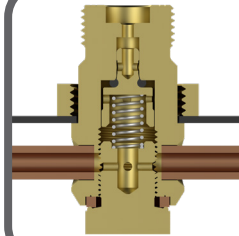
Product Name : Cylinder Supply Unit Collector

Package Type : Package



Drain Valve

It manually evacuates the medical gases remaining in the collector system during maintenance and malfunction to provide a safer working environment



Check-Valve Safety System

It prevents the line from discharging from the tube connection points of the flexible connection pipes during high pressure cylinder change. In this way, the gas pressure required on the line can be changed without any change during cylinder replacement.

Gas Specific

DIN 477, AFNOR, BS 341, ABNT, CGA, IRAM 2539, ISO 5145, ITC EP-6, NEN 3268, UNI, AS 2473.2; production is made specific to each gas according to these standards.

Secure Connection

Thanks to the tube positioning slots and connection chains on the product, it prevents the tubes connected to the collector from tipping over due to any external factors and prevents damage and accidents that may occur due to this.

Easy Service and Maintenance

Collectors are maintained quickly and easily with the necessary tools thanks to the wide intervention area. during maintenance.

Flexible Connection Pipe

Intended Use

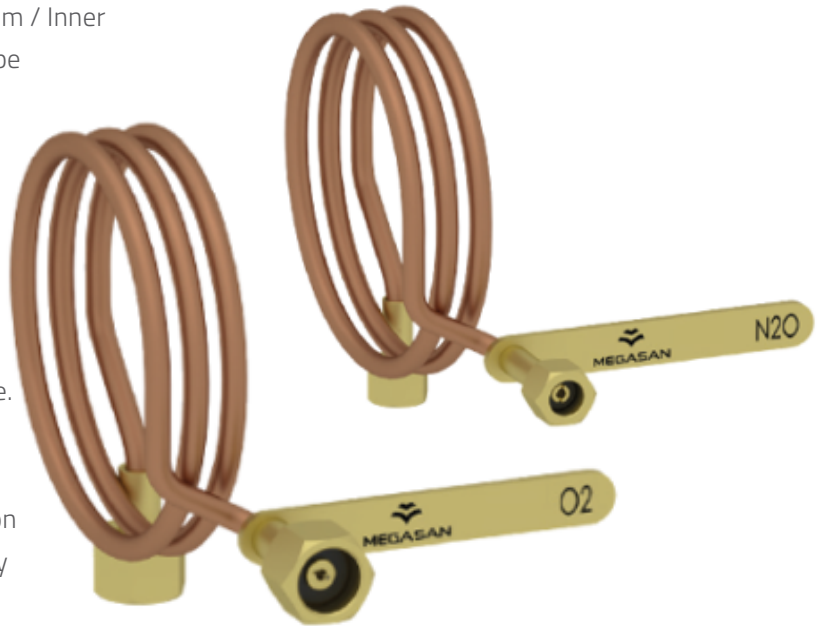
Product Code	: MG-TIJx
Product Name	: Flexible Connection Pipe
Connection Dimensions	: DIN 477, AFNOR, BS 341, ABNT, CGA, IRAM 2539, ISO 5145, ITC EP-6, NEN 3268, UNI, AS 2473.2 It shows intergaseous exchange in accordance with the norms. "x:O (Oxygen), A (N2O), SA (Pure Nitrogen), K (Carbon Dioxide), H (Dry Air), "
Pipe Diameter	: Outer Diameter : Ø 9.5mm / Inner
Diameter	: Ø 5.5mm Coil Copper Pipe
Pipe Wall Thickness	: 2 mm
Pipe Length	: 130 cm
Operating Pressure	: Max 230 Bar
Package Type	: Package

Sealing

The package comes with a sealing, long-lasting gasket. In this way, there is no possibility of leakage.

Easy to Use

Thanks to the handle on the fitting, possible rotation and flexing during connection is prevented and easy connection is ensured. Thanks to the durability and flexibility of the copper pipe, the connection point is easily pulled up to the outlet of the tube and easily connected.

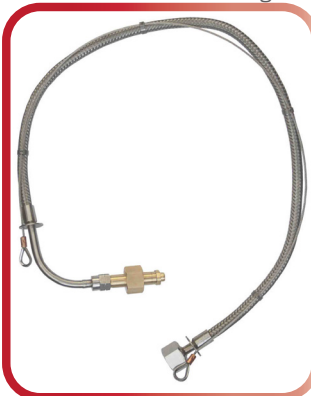


Gas Specificity

DIN 477, AFNOR, BS 341, ABNT, CGA, IRAM 2539, ISO 5145, ITC EP-6, NEN 3268, UNI, AS 2473.2; according to these standards, production is made specific to each gas.

Filtering

The newly designed filter system will ensure that any particles that may enter the power plant from gas sources are retained, thus extending the life of the power plant.



Stainless Steel Connection Pipe Assembly

Pipe Diameter; Outer Diameter	: Ø 10mm /
Inner Diameter	: Ø 6mm
Pipe Length	: 1; 1,5 and 2,5 meters
Operating Pressure	: Max 300 Bar

		DIN 477	BS	NF
Oxygen (O₂)		9	3	F
	Measure	G 3/4"	G 5/8"	SI 22,91 x 1,814 LH
	Standard	DIN 477	BS 341	NF E 29-650
	Valve Type	A	B	B
Pure Nitrogen (N₂)	Exit	10	3	C
	Measure	W 24,32 x 1/14"	G 5/8"	SI 21,7 x 1,814
	Standard	DIN 477	BS 341	NF E 29-650
	Valve Type	A	B	A
Medical Carbon Dioxide (CO₂)	Exit	6	8	C
	Measure	W 21,80 x 1/14"	0,860" x 1/14"	SI 21,7 x 1,814
	Standard	DIN 477	BS 341	NF E 29-650
	Valve Type	A	A	A
Mixed Gas (MIX)	Exit			
	Measure			
	Standard	W 5/8"	BS 341	NF E 29-650
	Valve Type		B	B
Dry Air (KH)	Exit	13	3	D
	Measure	G 5/8"	G 5/8"	W 24 x 2
	Standard	DIN 477	BS 341	NF E 29-650
	Valve Type	B	B	A
Nitrogen Protoxide (N₂O)	Exit	11	13	G
	Measure	G 3/8"	11/16" x 1/20"	SI 26 x 1,5
	Standard	DIN 477	BS 341	NF E 29-650
	Valve Type	A	B	B

* You can obtain the table of which standards are used in which country from MEGASAN.

**Please contact us if you need a different standard other than table.

HARNESSING THE POWER OF THE SUN FOR A SUSTAINABLE FUTURE!



MEDİKAL GAZ SİSTEMLERİ TIBBİ ALET ve CİHAZLAR A.Ş.

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