

Catalog Medical Fluids Distribution





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Air Liquide Healthcare is a world leader in medical gases, home healthcare services and specialty ingredients. Our 16,300 employees support 1.8 Million chronic patients at home, and supply medical gases solutions and associated services for 15,000 hospitals and new places of care.

Air Liquide Medical Systems, a subsidiary of Air Liquide Healthcare, is an expert in ventilation and respiratory assistance equipment. Its employees are involved in the design, manufacture and sale of innovative products and services, for hospital and home ventilation, distribution and administration of medical gases, aerosol therapy.

Always attentive to improving the care given to patients and meeting the expectations of healthcare professionals, Air Liquide Medical Systems develops adapted solutions combining quality and ergonomics.

Innovation

Innovation is at the heart of Air Liquide Medical Systems' product ranges. Participating in the quality of care, optimizing patient comfort and simplifying the use of products are our priorities.

Expertise

For 40 years, Air Liquide Medical Systems has listened to its customers and worked with healthcare professionals to provide the most appropriate solutions to changes in medical practices.

Commitment

Safety, quality and environment

The design of our products is based on safety and quality, with respect for patients and users, our employees and regulatory requirements. Air Liquide Medical Systems is committed to a continuous process of reducing its environmental impacts.

Service

Proximity and responsiveness

In all situations, our hotline and our local technical teams place their expertise at your service. They help you ensure the safety of your patients and the best performance of your equipment.

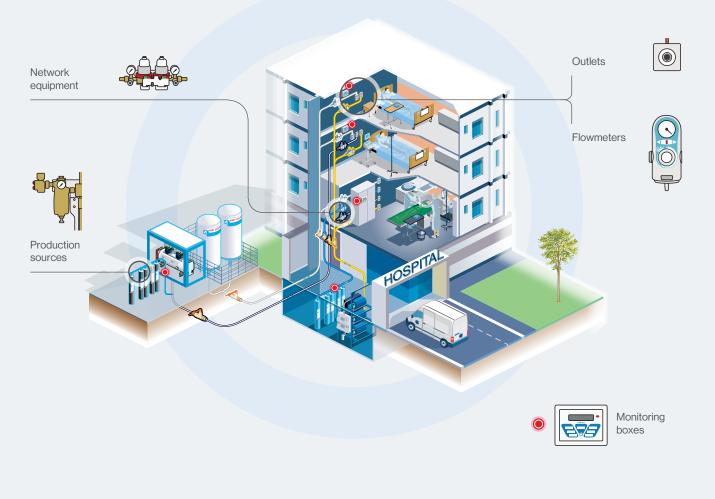
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Our offer for Medical Fluids Networks

A complex environment with multiple needs and a common goal: **"Continuity of gas distribution to patients".** Air Liquide Medical Systems offers solutions adapted to all levels of distribution.

- Hospitals need medical fluids available in the care departments at all times.
- Air Liquide Medical Systems offers a comprehensive set of equipment to be connected to a network.
- Each piece of equipment offered is suitable, reliable and of sufficient quality to ensure system security.



All of our products are designed and manufactured by Air Liquide Medical Systems in France.

Production sources

- DANUBE[™] station
- Connection accessories
- Safety accessories
- . References

DANUBETM station

The **DANUBE**[™] high pressure station, specially designed for medical gas distribution, has a fully automatic switchover system to provide a continuous supply to medical gas networks from cylinders or bundles of cylinders. This equipment is available in Single Stage Network (SSN) and Double Stage Network (DSN) and can be used as a main source or as a backup source for your gas network.

Optimized reliability

- 100% automatic pneumatic inversion
- Piston regulator with patented design
- Pressure stability optimized
- Immediate pressure readings (pressure gage always visible)

Simplified installation

- Two parts assembly using a sliding connector to facilitate lifting
- Only standard tools required for mounting

Proven product

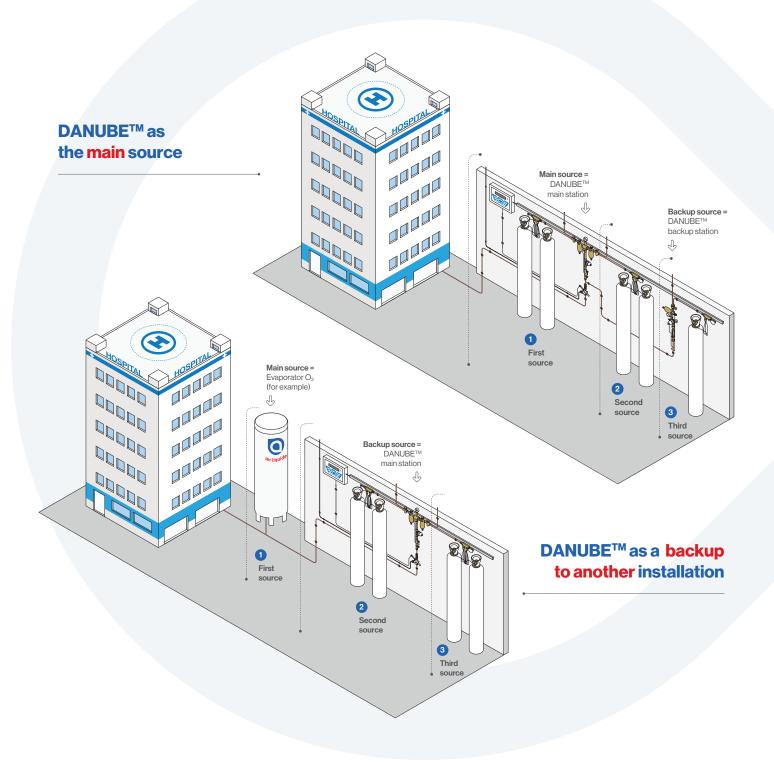
- Marketed since 2012
- More than 5,000 stations installed

Available for	O_2 , Air, N_2O , CO_2 , N_2 (Not compatible with acetylene and corrosive gases)	Inlet connection	With double ring for 5 x 10 copper tube
Number of cylinders	1 to n cylinders	Outlet connection	With double ring for 12 x 14 copper tube
Outlet avecause	SSN unit: between 4 and 5 bar (preset at 5 bar)		SSN unit: Main: 456 x 772 (mm) Backup: 236 x 714 (mm)
Outlet pressure	DSN unit: between 8 and 9 bar (preset 8.5 bar)	Dimensions	DSN unit: Main: 456 x 608 (mm) Backup: 236 x 714 (mm)
Inlet pressure	Up to 200 bar	Weight of main station	Between 13.5 kg and 16.7 kg depending on the reference
Flow rate	SSN = 40 and 80Nm ³ /h	Weight of backup station	Between 6.1 kg and 9.5 kg depending on the reference
	DSN = 80Nm ³ /h	Class	IIb class medical device
Standards	ISO 7396-1 and ISO 10524-2 standards	Lifetime	15 years

Types of installation

DANUBE[™] can be used as the main source and can also be used as a backup to another installation.

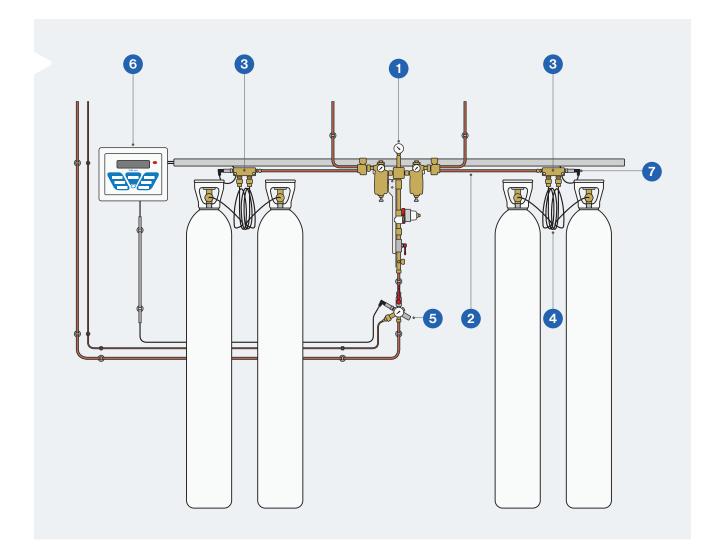
DANUBE™ range also offers its own backup module in the event of supply shortage for the main **DANUBE™** station.



Composition of the station



DANUBE[™] Video to help you use the product Installation and maintenance



Main station	backup	Connection accessories	Safety accessories
DANUBE™ Single Stage Network	DANUBE™ Single Stage Network backup	High pressure copper pipe degreased 2	Line valve assembly 5
		High pressure valve box 3	Sensor Connection Valve
DANUBE [™] Double Stage Network 1	DANUBE [™] Single Stage Network backup	Pigtails for cylinders 4, and/or Cylinder bundle station	Rack for cylinder fixing on the wall
Network	Network backup		Protective cover
			Safety and instructions poster
			VIGI™alarm 6
			Pressure sensor 7

Connection accessories

The valve box

The valve box connects the station to its gas sources.

It allows the connection either of **pigtails** for the use of individual cylinders or of HP hoses for the use of cylinder bundles.

High level of safety

- No risk of pigtail flapping when changing the cylinders thanks to its non-return valve
- Limited risks associated with adiabatic compression (flash fire) thanks to its "zero plastic" design



Type of connection	1/4" high pressure gas connection for 5 x 10 mm copper pipe	Weight	1kg
Allowable pressure	Up to 200 bar	Materials	Brass
Wall mounting	spacers and screws supplied	Dimensions	67 mm (H) x 112 mm (L) x 26 mm (W)
Standard	ISO 7396-1	Lifetime	15 years

Pigtail

The **pigtails** are the final connectors of the high pressure station. They connect the valve boxes to the cylinders.

Strength

- Robust design with induction brazing
- Stainless steel

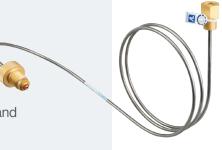
Simplified use

• Cylinders replaceable by simply screwing/unscrewing them by hand

Guaranteed safety

Connected by hand, impossible to disconnect under pressure

Gases available	O ₂ , Air, N ₂ O, CO ₂ 2, N ₂ ,	Weight	712.5 g
Working pressure	Up to 200 bar	Materials	316 L stainless steel tube, brass fittings
Inlet connection	NF and other standards	Lifetime	15 years
Class	Class Ila Medical Device	Standard	ISO 21969



The Bundle kit

To connect the **DANUBE**[™] station to cylinder bundles, it is possible to use a bundle station. The **bundle station** can include 1 or 2 valve boxes. The connection between the bundle station and the bundles is made using a high pressure hose and the connection to the gas station via a copper tube.

Strength

- Robust design
- Stainless steel
- Built-in and protected non-return valve box

	-
Gases available	O ₂ , Air, N ₂ O, CO ₂ , N ₂
Supply pressure	Up to 200 bar
Inlet connection	Bundle connection according to gas
Outlet connection	$1\!$
Dimensions	750 mm (H) x 250 mm (L) x 250 mm (W)
Weight	5.8 kg
Materials	Stainless steel bundle station, brass fittings and valve box
Attachment to the floor	4 holes diameter 11 mm, spacing 190 mm x 190 mm
HP safety cable attachment	Two holes in the bundle station then attachment of the HP safety cable



Line Valve Assembly (LVA)

The LVA secures the high pressure medical gas network. This all-in-one device isolates the high pressure gas station from the downstream network, evacuates excess pressure and enables a continuous supply of the network during maintenance. Combined with the pressure sensors, the LVA is used to monitor the network.

Performance

· Sealing provided by the ball valve

Simplified use

• Direct supply to the network with its built-in connector

Guaranteed safety

Network monitoring via pressure sensors

Reliable

• Design validated by many years of feedback from the field



Gases available	O2, Air, N2O, CO2, N2	Input/Output	Connection with 1 ring for copper pipe ø 14 mm
Pressure gage class	1.6	Dimensions	260 mm (H) x 260 mm (L) x 80 mm (W)
May flow pay approates		Valve calibration	SNP: Full opening at 10 bar/Closing above 7 bar
Max flow per connector	NIST: 60 m ³ /h; NF: 80 m ³ /h	valve calibration	DNP: Full opening at 12 bar/Closing above 9.5 bar
Passage diameter	712.5 g	Materials	Nickel-plated brass and brass
Sensor connection	M10 x 100	Standard	ISO 7396-1 standard
SNP connector standard	SNP: NIST DNP: NF	Lifetime	15 years
Weight	1.7 kg	Class	Medical device class Ila

Sensor Connection Valve (SCV)

The **sensor connection valve** is intended to be installed at the outlet of the high pressure station.

It complements the **line valve assembly** by allowing the connection of additional sensors and the analysis of the quality of medical gases.



• References

Stations

Description	Reference
DANUBE™ DSN 9b 80 m³/h	AD078200
DANUBE [™] SSN 5b 40 m³/h	AD078500
DANUBE [™] DSN 9b 80 m³/h	AD078000
DANUBE™ BACKUP SSN 5b 80 m³/h	AD078300
DANUBE™ BACKUP SSN 5b 40 m³/h	AD078600
DANUBE™ BACKUP SSN 9b 80 m³/h	AD078400
DANUBE [™] BACKUP DSN 9b 80 m³/h	AD078100

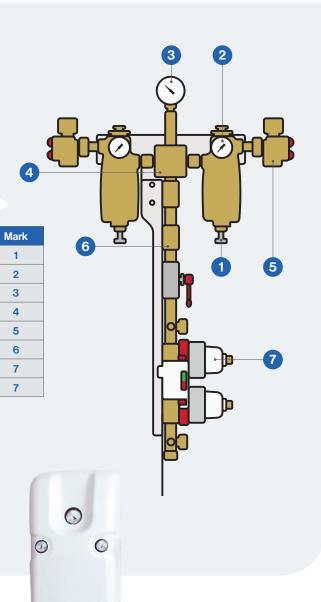
Station spare parts

Description	Reference	Mark
HP regulator 100 m ³ /h Danube	CE061400	1
Manometer 0-315 bar ø 40 for HP regulator	CX071000	2
Manometer 0-40 bar ø 50 for switch-over	CX092800	3
Automatic swich-over	AG060700	4
Purge valve with sintered filter	AE071100	5
Non-return valve	AD070600	6
MP regulator module DSN	BB021500	7
MP regulator module SSN	BB026100	7

Description	Reference
Manometer 0-40 bar ø 50 for backup station	CX012600
Manometer 0-40 bar ø 40 for backup station	BY020700
Diabolo gasket for manometer (x20)	CX079200
5 years maintenance kit for HP regulator	CY008200
Filter kit for purge valve	CY009000
5 years maintenance kit for purge valve	CY008100
5 years maintenance kit for MP module (x10)	CY008800

Covers _

Description	Reference
DANUBE [™] protective cover for main station	AD078700
DANUBE [™] protective cover for backup station	AD078800



Connection accessories

Valve box

Description	Reference
Valve box HP	AC101100
Valve box HP O ₂ ES/IT	AC106100
Valve box HP AIR ES/IT	AC102400
Valve box HP N₂O ES/IT	AC102500
Valve box HP $N_2 CO_2 ES$	AC102600
Valve box HP CO ₂ IT	AC106000
Valve box HP N2 IT	AC106700

Spare parts

Description	Reference	Mark
Copper gasket 11 x 6 x 2 (x 10)	YJ101600	3
Plug H19 1/4" gas	CX086301	4

Valve box accessories

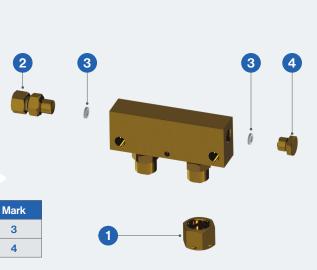
Description	Reference	Mark
Plug M20 x 1.5	AC101600	1
Plug M20 x 1.5 Air for Spain/Italy	AC105100	1
Plug M20 x 1.5 N_2 O for Spain/Italy	AC105200	1
Plug M20 x 1.5 N_2 - CO ₂ for Spain	AC105300	1
HP fitting 5 x 10 1/4" gas in brass (x 5)	AE070300	2
HP fitting 6 x 8 1/4" gas stainless steel (x 5)	AE070500	2

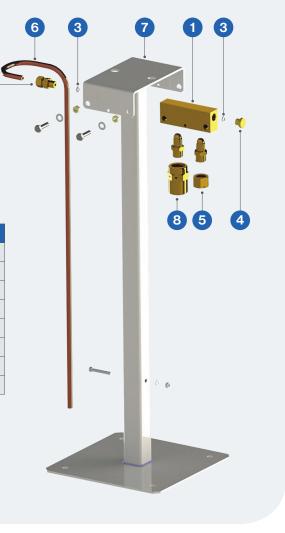
Composition of a complete valve box:

- 2 fixing spacers
- 2 connectors for 5 x 10 copper pipe for connection to the high pressure station and to another valve box
- 1 outlet plug for installation at the end of the manifold

Other connection accessories

Description	Reference
HP copper pipe 5 x 10, 2 meters long	YD021100
HP copper pipe 5 x 10, 1 meter long	YD021200
Union fitting Ermeto 5 x 10	AC052000
Tee fitting Ermeto 5 x 10	AC052300





Bundle station

Reference	Mark
AB090700	1à7
AB092000	1à6
AB090900	8
AB091000	8
AB091100	8
AB091200	8
AE070300	2
YJ101600	3
	AB090700 AB092000 AB09000 AB091000 AB091100 AB091200 AB091200 AE070300

Pigtails

Description	Reference	Raccord d'entrée
Pigtails O2 NF X2	AC107000	NF type F
Pigtails AIR NF X2	AC107100	NF type D
Pigtails N ₂ O NF X2	AC107200	NF type G
Pigtails N ₂ CO ₂ NF X2	AC107300	NF type C
Pigtails O2 DIN X2	AC108000	DIN type 9
Pigtails AIR DIN X2	AC108100	DIN type 13
Pigtails N ₂ O DIN X2	AC108200	DIN type 11
Pigtails CO ₂ DIN X2	AC108400	DIN type 6
Pigtails N ₂ DIN X2	AC108300	DIN type 10
Pigtails O2 IT X2	AC104600	Italy type 2
Pigtails AIR IT X2	AC104300	Italy type 6
Pigtails N ₂ O IT X2	AC104400	Italy type 9
Pigtails CO ₂ IT X2	AC106600	Italy type 10
Pigtails N₂ IT X2	AC104500	Italy type 10
Pigtails O ₂ NF X2	AC107500	Spain type F
Pigtails AIR ES/IT X2	AC107600	Spain type B
Pigtails N ₂ O ES X2	AC107700	Spain type U
Pigtails $N_2 CO_2 ES X2$	AC107800	Spain type C

Pigtails are supplied in 2: one pigtail for connecting the cylinder on the left and one pigtail for connecting the cylinder on the right. The length of the pigtails is 3 m for Italian pigtails and 2m for the other standard pigtails.

Accessories Pigtails

Description	Reference	Gas Cylinder
Pigtail plug O2	AC101500	NF Type F
Pigtail plug Air	AC101900	NF Type D
Thoric gasket R5 silicone (x10)	YJ040600	NF All gas
Thoric gasket EP851 10.5 x 2.7 (x10)	YJ102500	Valve box side
Thoric gasket R10 SILICONE (x 10)	YJ069000	DIN O ₂ type 9
Nylon joint 17.5 X 11 X 2 (x 10)	YJ105400	Italy O ₂ type 2
Thoric gasket 9.19 x 2.62 (x 10)	YJ086500	Spain Air type B
Thoric gasket R7 SILICONE (x 10)	YJ067800	Spain N₂O type U

Safety accessories

Line Valve Assembly

Description	Reference
VSP SSN NISTO ₂	BA062100
VSP SSN NIST Air	BA062200
VSP SSN NIST N₂O	BA062300
VSP SSN NIST CO ₂	BA062500
VSP SSN NIST N ₂	BA062400
VSP DSN NF O2	BA063100
VSP DSN NF Air	BA063200
VSP DSN NF N₂O	BA063300
VSP DSN NF CO2	BA063500
VSP DSN NF N₂	BA063400
Sensor connection assembly	BA070000



Spare parts

Description	Reference	Mark
Manometer 0-16 bar / M10 x 100	BY005900	1
Diabolo gasket for manometer (x 20)	CX079200	2
Safety valve 10 bar for VSP SSN	AH011000	3
Safety valve 12 bar for VSP DSN	AH011200	3
Cap for NIST inlet with flat gasket	BY017000	4
Plug H19 1/4" gas	CX086301	4

Other accessories

Description	Deferrer
Description	Reference
Cylinder rack in stainless steel	AC024100
Safety label for HP gas-station	YL003200
Safety label for N ₂ O specificity	YL003000
Label "O ₂ " (x10)	YF254078
Label "AIR" (x10)	YF254079
Label "CO ₂ " (x10)	YF254080
Label "N2O" (x10)	YF254081
Label "N2" (x10)	YF254083
Seal in white plastic with AL logo 185 mm (x10)	YA011100



- VIGI™ alarm system
- Accessories
- . References



VIGITM alarm system

VIGI™ alarm system assure the safety of the medical gas network from the source to the wall outlet.



Performance and modularity

- Monitors up to 7 channels simultaneously
- Detailed display of pressures
- Compatible with logic or analog sensors
- Connection with relay boxes available
- Building Management System communication with the MODBUS link

Safety

- Signaling by LED and sound alarm
- Explicit message on the LCD screen
- Memorization of events in the event of a power failure

Quick installation

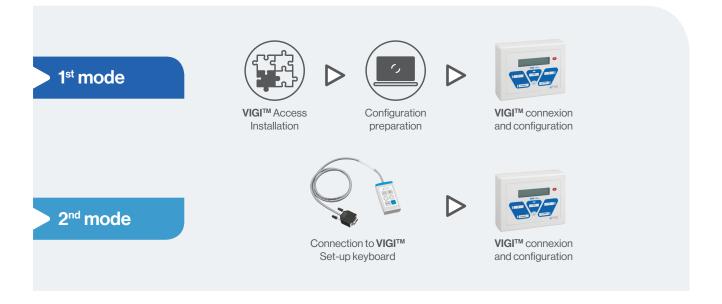
- Usual pre-saved configurations for quick setup
- Parameter setting by wired keyboard or VIGI Access software

Number of channels	3, 5 or 7	Power supply	Mono 115 VAC/230 VAC (± 10%) Electrical class: class 1
Type of inputs	Analog (4-20 mA) or logic (dry contacts normally closed)	Weight	Main: 1.7 kg - Relay: 0.44 kg
Dimensions main box	Main box (wall mount only): 165 mm (H) x 210 mm (W) x 60 mm (D)	Materials	Treated anti-UV ABS plastic housing
Palaykay	Flush (185 x 70 x 40 mm, Legrand ref. 080103)	Weight of magnetic	Main box: < 50 g Relay box: 145 g
Relay box	Surface-mounted (208 x 80 x 42 mm, Legrand ref. 080286)	materials	
Standards	ISO 7396-1/ISO 60601-1/ISO 60601-1-2 standards. Class IIb medical device	Lifetime	10 years

Installation

The **VIGI**[™] alarm ensures the safety of 3, 5 or 7 channels simultaneously. To optimize network security, the **VIGI**[™] alarm system must be configured depending on the monitored elements.

Air Liquide Medical Systems offers two configuration modes, via **VIGI™** Access software or via the **VIGI™** configuration keyboard.



Analog pressure sensors

Logic or analog pressure sensors are the key elements of pressure monitoring. Placed throughout the network, from the high pressure station to the wall outlet, they are the source of information for **VIGI**TM. The parameters of the analog sensors distributed by Air Liquide Medical Systems are programmed in **VIGI**TM, it is however possible to connect it to other sensors by configuring them.

Electrical connection	Mini-DIN, Pin 3: + Power supply, Pin 1: Signal, red: + Power supply, Blue: Signal	
Standard	ISO 60601-1-2 standard	Analog pressure and vacuum
Lifetime	10 years	sensors 4-20 mA







VIGI[™] 3004 relay box

Accessories and spare parts

Description	Reference	Characteristics
Pressure sensor 4-20 mA - 0/16 bar	AF005000	Analog, 3 m cable, M10 x 100 connection
Pressure sensor 4-20 mA - 0/250 bar	AF005200	Analog, 1/4" gas connection
Vacuum sensor 4-20 mA - 0 / -900 mbar	AF005100	Analog, 3 m cable, M10 x 100 connection
Vacuum sensor 4-20 mA - 0 / -1000 mbar	AF005300	Analog, 1/4" gas connection
HP contact switch 2 wires 0/240 bar	AF070600	1/4" gas logic
1/4" male gas adapter - M10 x 100 female (x 5)	CX090500	-
1/4" female gas adapter - Ermeto	AF070700	-
14 x 16 mm T adapter with M10 x 100 connection for analog vacuum sensor	BB011100	-
Flat seal (x10) for 0/16 bar or vacuum sensor M10 x 100	BY008700	-
Copper seal 11 x 6 x 2 mm (x10) for 0/250 bar sensor	YJ101600	-

Tools

Description	Reference
VIGI [™] configuration keyboard	AF022500
USB/RS232 cable for PC/VIGI [™] connection	YR191685
VIGI™ Access - Free software on demand	Consult us

- DAMAO™ pressure regulator
- DALIAN™ Area Valve Section Unit
- References



DAMAO[™] pressure regulator

DAMAO[™] is an essential device in double pressure level piping networks. This pressure regulator secures the expansion of medical fluids between medium and low pressure and enables the network to be backed up in an emergency. It is available as a single or double regulator for increased safety.

Safety

- Upstream and downstream pressure gauge
- Safety plate: coding ensuring that you always have a regulator in operation
- 1 emergency regulator permanently available (with double DAMAO[™])
- Locations for pressure sensors

Easy maintenance

- Upstream and downstream connectors
- Continuous gas distribution, the modules can be maintained separately (with double DAMAO[™])
- Single-piece interchangeable regulation module for on-site maintenance

Gases available	O ₂ , Air, N ₂ O, CO ₂ , N ₂ , Air-800	Double regulator dimensions	157.5 mm (H) x 259 mm (L) x 107 mm (I)
Notched connectors	NF	Cover Dimensions	216 mm (H) x 303 mm (L) x 120 mm (I)
Supply pressure	5.5 to 10 bar	Cover weight	0.3 kg
Downstream pressure	Preset at 4 bar (8 bar for engine gas), adjustable from 0 to 10 bar	Weight	Single regulator: 2.91 kg
Maximum flow	40 Nm ³ /h	(cover not included)	Double regulator: 3.95 kg
Network connection	Ready-to-braze copper tube 10 x 12 mm diameter	Weight of magnetic	Single Damao [™] : 80 g
Upstream pressure gage	0 to 16 bar	materials	Double Damao™: 145 g
Pressure gage accuracy	± 2.5% of the full scale	Sensor connection	M10 x 100
Standards	ISO 10524-2/ISO 7396-1 standards	Downstream pressure gage	0 to 10 bar (0 to 16 bar for the Air-800)
Lifetime	10 years	Class	Medical device class Ilb

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DALIAN™ Area Valve Section Unit

DALIAN[™] is an essential element in single pressure level piping networks.

This area valve section unit secures the distribution of medical fluids, identifies faults and enables the network to be powered in the event of an emergency.

Modularity

- Compatible with all medical gases
- Flexible configuration: from 1 to 3 types of gas, with or without alarm, surface or flush mounting

Safety

- Pressure gauge with built-in sensor
- Built-in emergency valve and socket allowing the connection of a cylinder to supply the network
- Hand unlocking emergency system

Efficient assembly

- Standardized pre-assembly of pipes
- Easy attachment of the gas kit in a single gesture



Gases available	O_2,Air,N_2O,CO_2,N_2 and Air-800	- Weight	Weight of the flush-mounted box: 10 kg (including 3 kits and 1 VIGI™)
Pressure	5 bar		Weight of the surface-mounted box: 12 kg (including 3 kits and 1 VIGI™)
Power supply	NIST	Network connection	Ready-to-braze copper tube, diameter 13/15 and 20/22 mm
Sensor connection	M10 × 100	Weight of magnetic materials	7 kg
Mounting version	Flush-mounted or surface-mounted	Lifetime	10 years
Standards	ISO 7396-1/ISO 60601-1/ISO 60601-1-2	Class	Medical device class IIa



DAMAO[™]

Description	Reference
DAMAO [™] Single regulator 4 bar O₂	BB023100
DAMAO [™] Single regulator 4 bar Air	BB023300
DAMAO [™] Single regulator 4 bar N ₂ O	BB023200
$DAMAO^{TM}$ Single regulator 4 bar CO_2	BB023700
DAMAO [™] Single regulator 4 bar N ₂ O	BB023500
DAMAO [™] Single regulator 8 bar Air-800	BB023400
$DAMAO^{TM}$ Double regulator 4 bar O_2	BB022100
DAMAO [™] Double regulator 4 bar Air	BB022300
$DAMAO^{TM}$ Double regulator 4 bar N_2O	BB022200
$DAMAO^{TM}$ Double regulator 4 bar CO_2	BB022700
$DAMAO^{TM}$ Double regulator 4 bar N_2O	BB022500
DAMAO [™] Double regulator 8 bar Air-800	BB022400



DAMAO[™] Simple regulator



DAMAO[™] Double regulator

The safety plate makes the **OFF/OFF** position impossible.



Accessories and tools

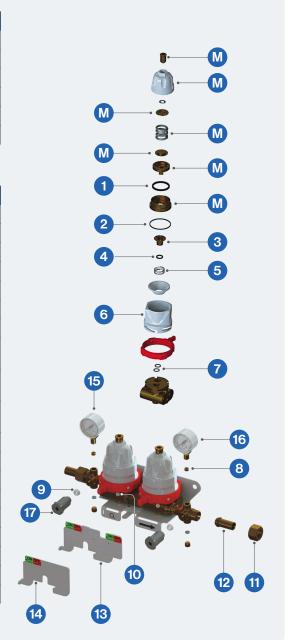
Description	Mark
Protective cover (x5)	BB022000
White plastic seal with AL logo 185 mm (x10)	YA011100
Valve key for Damao expansion module	CY011800
Reversibility kit (x5) 12 elastic pins, 5 UD double arrow labels, 10 diabolo joints for pressure gage	BB021900

Spare parts

CY008800, 2 year maintenance kit:

Description	Mark
Thoric gasket R25 (x10)	1
Thoric gasket 46 x 2 (x10)	2
Valve (x10)	3
Thoric gasket 11.6 x 2.4 (x10)	4
Filter (x10)	5
Thoric gasket 12.5 x 2 (x20)	7

Description	Reference	Mark
Regulation module 4 bar	BB021300	M + 1-6
Regulation module 8 bar	BB021400	M + 1-6
Safety plate double DAMAO™	BY015800	13
Safety plate single DAMAO TM	BY016300	14
Screw CHC M4 x 8	YV036500	10
Nut	AD050400	11
Brazing socket 10 x 12	AD050300	12
Manometer 16B D40 RR M10 x 1 primary network	CX110400	15
Manometer 10B D40 RR M10 x 1 Secondary network	CX110300	16
Manometer 16B D40 RR M10 x 1 Secondary network	CX110500	16
Diabolo gasket for manometer (x20)	CX079200	8
Terminal unit NF O₂ BP	CK023501	17
Terminal unit NF Air BP	CK026100	17
Terminal unit NF CO ₂ BP	CK029100	17
Terminal unit NF N₂O BP	CK026200	17
Terminal unit NF Air-800 BP	CK033200	17
Nylon shoulder gasket (x100)	CX075600	9
Label for module DAMAO [™] 4 bar	YF178400	6
Label for module DAMAO [™] 8 bar	YF178500	6



DALIAN™

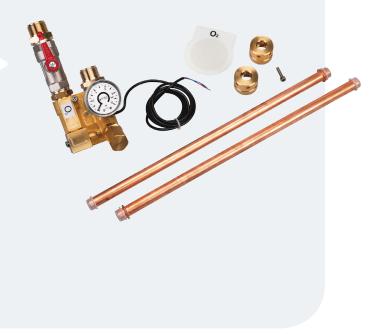
Select a DALIAN[™] box

Description	Reference
DALIAN [™] flush mounted box with alarm	AD073400
DALIAN [™] surface mounted box with alarm	AD073300
DALIAN [™] flush mounted box without alarm	AD072200
DALIAN [™] surface mounted box without alarm	AD072100



Select the gas kits matching the needs of your facility

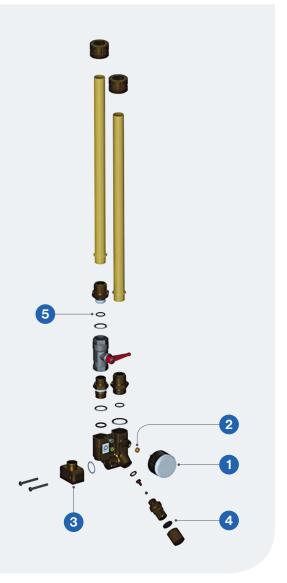
Description	Reference
Gas kit DALIAN [™] O₂ ø 13 x 15 mm	AD072300
Gas kit DALIAN [™] O₂ Ø 20 x 22 mm	AD073700
Gas kit DALIAN™ Air ø 13 x 15 mm	AD072400
Gas kit DALIAN [™] Air ø 20 x 22 mm	AD073800
Gas kit DALIAN [™] N₂ ø 13 x 15 mm	AD072500
Gas kit DALIAN [™] CO₂ ø 13 x 15 mm	AD072600
Gas kit DALIAN [™] N₂O ø 13 x 15 mm	AD072700
Gas kit DALIAN™ Air-800 ø 13 x 15 mm	AD072800
Gas kit DALIAN [™] Vacuum ø 20 x 22 mm	AD072900
DALIAN [™] protective cap	AD073000



Spare parts

Description	Reference	Mark
DALIAN [™] copper pipes ø 13 x 15 mm (x2 with fixing nuts)	AD073100	-
DALIAN [™] copper pipes ø 20 x 22 mm (x2 with fixing nuts)	AD073200	-
Manometer with analogue sensor 0-10 bar all gases, 4-20 mA	BY017900	1
Manometer with analogue sensor 0-16 bar for Air-800, 4-20 mA	BY018200	1
Manometer with analogue sensor 0/-1000 mbar for Vacuum, 4-20 mA	BY018000	-
Diabolo gasket ¼" gas for manometer (x10)	YJ104400	-
EPDM gasket 5 x 3 for vacuometer (x10)	YJ073900	2
Fitting 14 x 16 for vacuum analogue sensor (M10 x 100)	BB011100	-
Permanent isolating block (with 2 gaskets and screws)	BY016500	3
Cap for NIST inlet with flat gasket	BY017000	4
Nitrile gasket for Dalian copper pipe (x10)	YJ074500	5
Nitrile gasket for Dalian copper pipe (x10)	YJ074600	5

Description	Reference
Label for DALIAN [™] "O ₂ "	YF182600
Label for DALIAN™ "Air"	YF182700
Label for DALIAN™ "N₂"	YF182900
Label for DALIAN [™] "CO ₂ "	YF183000
Label for DALIAN [™] "N₂O"	YF183100
Label for DALIAN™ "Air-800"	YF183200
Label for DALIAN™ "Vacuum"	YF182800



Valves

Other network accessories

Description	Reference	mm	inch
BS valve	BS001000	08 x 10	3/8"
BS valve	BS001200	10 x 12	3/8"
BS valve	BS001400	12 x 14	3/8"
BS valve	BS001500	13 x 15	3/8"
BS valve	BS001600	14 x 16	1/2"
BS valve	BS001800	16 x 18	1/2"
BS valve	BS002000	18 x 20	3/4"
BS valve	BS002200	20 x 22	3/4"
BS valve	BS002800	26 x 28	1"
BS valve	BS003200	30 x 32	11/4"
BS valve	BS004200	40 x 42	11/4"
BS valve	BS005200	50 x 52	2"



Accessory

Description	Reference
Sealable box for BS valve (until diameter 20 x 22)	BB010600

- BM medical gas outlet
- DIN outlet
- AGSS terminal unit
- References



• BM medical gas outlet

The **BM medical gas outlet** designed according to the French standard (NF), allows quick connections to the medical fluids network. It is used to supply the medical gases essential for patient care. It is fitted with a valve/filter cartridge that can be easily replaced for maintenance.



- Sold for more than 20 years
- More than 3 million connectors installed worldwide
- The most widely used NF wall outlet in France

The advantages of the one-piece

- Quick installation
- Reduced risk of leakage
- Single maintenance part only



Gases available	O ₂ , Air, N ₂ O, CO ₂ , N ₂ , Air-800, Vacuum	
3 types of mounting	In trunk, flush, surface	
Nominal supply pressure	4 to 5 bar for gases, 8 to 10 bar for Air-800, - 0.6 bar for vacuum	
Max pressure	10 bar for gases, 20 bar for Air-800	
Max flow	150 L/min for all gases, 100 L/min for vacuum	
Inlet	Nickel-plated brass spool piece ø 10 mm	
Hinge plate Dimensions	64 mm (L) x 64mm (W)	
Surface-mounted box dimensions	64 mm (L) x 64mm (W) x 45 mm (D)	
Weight	Outlet body 290 g, Housing: in trunk 140 g, flush-mounted 200 g, surface-mounted 180 g	
Weight of magnetic materials	26.1g (MRI compatible)	
Materials	Nickel-plated brass body, nickel-plated brass filter cartridge, Zamak hinge plate	
Filter	60 µm for gases and 350 µm for vacuum	
Standard	ISO 9170-1 standard. Medical device class Ila	
Lifetime	10 years	

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Outlet housing

The outlet housing protect the outlet. There are three types of housing corresponding to the different types of installation.

Dimensions of the hinge plate	64 mm (L) x 64 mm (W)
Surface-mounted box dimensions	64 mm (L) x 64 mm (W) x 45 mm (D)
Weight	Box: in 140 g trunk, flush: 200 g, surface: 180 g
Materials	Surface-mounted and flush in plastic case bottom, painted Zamak hinge plate



Trunking mounting



Flush mounting

Surface mounting

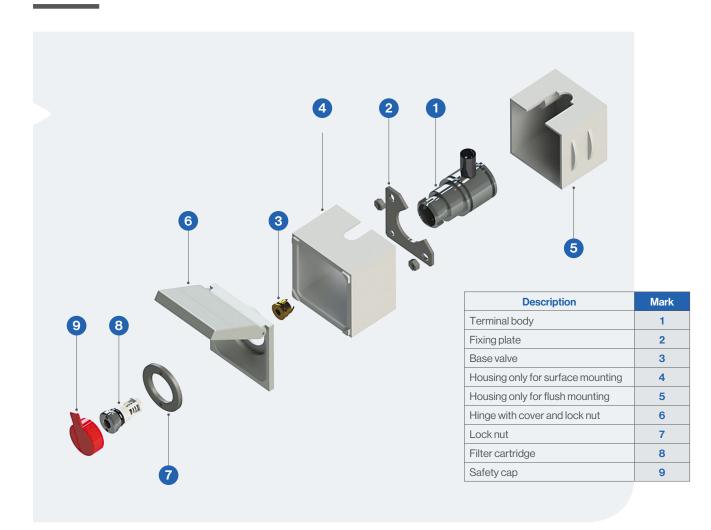
The heart of the NF gas outlet: the all-in-one filter cartridge

The **filter cartridge** is the sole maintenance part for the BM outlet. It contains a filter and a valve and can be replaced by simply screwing/ unscrewing.

Identification of the filter cartridge	 On each filter cartridge are: The diameter allowing the gas to be identified instantly The code (letter + number) guaranteeing visual traceability and thus the proper execution of maintenance
Maintenance	Replacement of the filter cartridge tip guide once a year for heavy services, every 2 years for other services



The BM medical outlet composition



Other outlets

DIN outlet

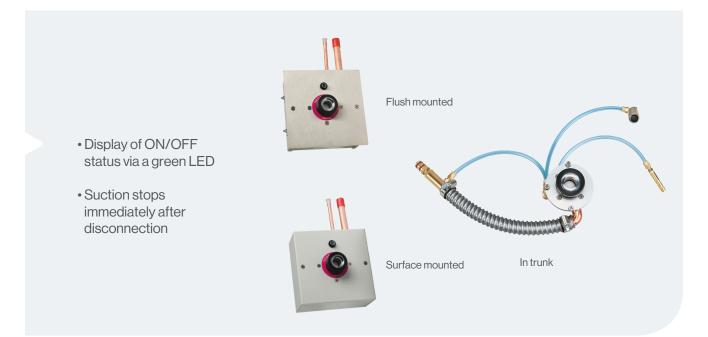
The **DIN wall outlet** is designed according to the German standard to make quick connections without the risk of interchanging medical fluids.



Gas operating pressure5 bar \pm 0.5 bar, Motor air = 8-10 bars, Vacuum: -0.7 bar \pm 0.2 bar	
Types of mounting In trunk, flush depth in the wall: approximately 62 mm), surface-mounted	
Plastic equalizer 13 mm (only for flush mounting)	
Max flow	200 L/min for all gases (500L/min for motor air) and 60 L/min for vacuum
Weight (excluding motor air)In trunk: 400 g, flush: 640 g, surface: 730 g	
Motor air weight	In trunk: 720 g, flush: 2160 g, surface: 2300 g
Materials	Metal: locking parts, valve body (nickel-plated and chrome-plated), Plastic connector body: push button, stainless steel: stainless steel locking parts
Standards ISO 9170-1 and DIN 13260-2 standards	
Lifetime	15 years

AGSS terminal unit

The **AGSS** connector is an essential device for operating rooms. During medical operations, the use of anesthetic gases contributes to the pollution of the room. For the operation to be successful, these gases must be evacuated. The anesthetic gas scavenging system **(AGSS)** creates a pressure drop and sucks up the pollutant gases.



Suction flow	45-50 L/min
Air consumption	40 to 60 L/min
Suction volume	max 80 L/min
Air connection	Copper pipe 6 x 8 mm
Suctioned gas connection	Copper pipe 13 x 15 mm
Air use pressure	5 bar
Types of mounting	In trunk, flush, surface
Front panel dimensions	160 x 160 mm
Dimensions of the flush-mounted box	150 x 150 x 60 mm
Plastic equalizer	20 mm
Weight	In trunk: 670 g, flush: 1,850 g, surface: 2,100 g
Standard	ISO 9170-2 standard
Lifetime	15 years



Outlets (supplied with valve, safety cap and original fitting end guide)

Fluid	Reference
O ₂	BM000100
Vacuum	BM000200
Air	BM000300
N ₂ O	BM000400
N ₂	BM000500
CO ₂	BM000800
Air-800	BM005000

Label	Reference	Label	Reference
O ₂	YF254078	Air-800	YF254084
Vacuum	YF254082	Oxygenio (Portugal)	YF033500
Air	YF254079	Ar respiravel (Portugal)	YF033800
N ₂ O	YF254081	Vacuo (Portugal)	YF033600
N ₂	YF254083	Oxygen	YF254085
CO ₂	YF254080	Vacuum	YF254086

Tools

- YA003900 BM outlet nut wrench
 - YA004400 filter cartridge wrench



Securing systems

Description	Reference
Hinge plate and lock nut	BM001200
BM mouting kit - Flush	BM001000
BM mouting kit - Surface	BM001100
Fixing plate	BM050700

Filter cartridge

Description	Reference
Filter cartridge ø 6 (x10) Air-800	BM051600
Filter cartridge ø 7 (x10) O ₂ , Air, N ₂ O, CO ₂	BM055200
Filter cartridge ø 8 (x10) N2	BM055300
Filter cartridge ø 8 (x10) Vacuum	BM055400

Spare parts

Description	Reference
Base valve (gas)	BM050800
Base valve (vacuum)	BM050900
Box alone for surface mounting	BM050200
Lock nut	BL050100

DIN outlets

Description	Reference
DIN gas outlet O ₂ - Trunking	BM003100
DIN gas outlet Air - Trunking	BM003300
DIN gas outlet Vacuum - Trunking	BM003200
DIN gas outlet Air motor - Trunking	BM003500
DIN gas outlet O ₂ - Flush	BM004100
DIN gas outlet Air - Flush	BM004300
DIN gas outlet N ₂ O - Flush	BM004400
DIN gas outlet Vacuum - Flush	BM004200
DIN gas outlet Air motor - Flush	BM004500
DIN gas outlet O ₂ - Surface	BM002100
DIN gas outlet Air - Surface	BM002300
DIN gas outlet N ₂ O - Surface	BM002400
DIN gas outlet Vacuum - Surface	BM002200
DIN gas outlet Air motor - Surface	BM002500
Socket gasket DIN gas outlet Kit	BM062000

AGSS terminal unit

Description	Reference
AGSS terminal unit - Trunking	BM003600
AGSS terminal unit - Surface	BM002600
Socket gasket AGSS terminal unit KIT	BM061800
AGSS terminal unit green light	BM061900
AGSS terminal unit valve	BM062100

- SELECTAFLOTM
- ALIZETM
- References



• SELECTAFLOTM

SELECTAFLO[™] is a calibrated orifice flowmeter allowing the flow of gas delivered to the patient to be adjusted in a simple and direct manner. For greater precision and safety, its built-in regulator ensures stability of the flows delivered.

Ergonomic

- Natural grip
- Firm and stable flow selection

Precision

- Window indicating the selected flow rate
- Built-in pressure regulator "for an optimized" flow stability

Hygienic and durable

- Smooth and professional finish
- Shock resistant
- Treated anti-UV housing



Gases available	O ₂ , Medical Air	Supply pressure	P1 = 4 to 5 bar (± 10%) => 3.6 to 5.5 bar
Flow ranges (L/min)	0 - 0,5 - 1 - 1,5 - 2 - 2,5 - 3 - 4 -5 - 7 0 - 1 - 1,5 - 2 - 3 - 4 - 6 -9 - 12 - 15	Dimensions	56 (Ø) x 116 (H) mm
Flow accuracy	± 30% of the value read up to 1.5 L/min, ± 20% of the value read after 1.5 L/min	Materials	Brass - EPDM - Glass fiber filled polyamide
Inlet connection	NF - DIN	Lifetime	10 years
Outlet nozzle	M12 x 125 or 9/16"	Weight	205 g (for NF standard)
Weight of magnetic materials	6.58 g	Standards	Medical device class IIa, EN ISO 10524-4 standard



ALIZE[™] is designed for precise regulation of suction, using a standardized medical vacuum connector. **ALIZE[™]** allows the safe suction of fluids and secretions from the patient.

Sturdy and ergonomic

- Compact and robust design
- Instant on/off system retaining the previous setting
- Indicator window indicating device status (Green/Red)
- Wall connection with EASYCLIC orientating system
- Double scale mbar/mmHg pressure gage

Precise and adapted

- Precise regulation of suction force
- 4 models adapted from neonatology to surgery

Safe and hygienic

- Vacuum network protected thanks to the 2 in 1 filter: hydrophobic and bacteriological
- Flat, smooth surfaces for easy daily cleaning



Supply	Medical vacuum	Safety valve	-240 mbar (for ALIZE™ 250 and 250 20 L)
Maximum inlet vacuum	-950 mbar	Adjustable vacuum (depending on model)	0 to -200 mbar = 0/-150 mmHg, 0 to -500 mbar = 0/-375 mmHg, 0 to -800 mbar = 0/-600 mmHg
Vacuum gage accuracy	± 2.5 % of the full scale	Max flow (depending on model)	20, 75 or 80 l/min depending on model and configuration
Dimensions	174 (H) x 85 (W) x 125 (D)mm	Weight	347 g (NF Easyclic version) including 4.2 g of magnetic weight
Storage temperature	0 °C to + 55 °C	Operating temperature	5 °C to 40 °C
Storage and operating humidity	40% to 70%	Standards	Normes ISO 7396-1 / ISO 10079-3
Lifetime	10 years	Class	Medical device class Ila



SELECTAFLO™

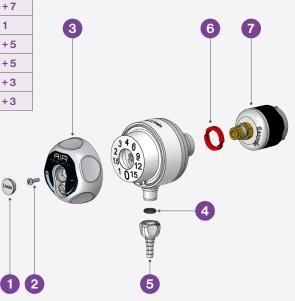
Description	Reference	Inlet connector	Output nozzle
SELECTAFLO [™] O ₂ 0-7 L NF 12 x 125	CM096300	NF	12 x 125
SELECTAFLO [™] O ₂ 0-15 L NF 12 x 125	CM096400	NF	12 x 125
SELECTAFLO [™] Air 0-7 L NF 12 x 125	CM096500	NF	12 x 125
SELECTAFLO [™] Air 0-15 L NF 12 x 125	CM096600	NF	12 x 125
SELECTAFLO [™] O ₂ 0-7 L NF 9/16	CM096900	NF	9/16
SELECTAFLO [™] O ₂ 0-15 L NF 9/16	CM097000	NF	9/16
SELECTAFLO [™] Air 0-7 L NF 9/16	CM097100	NF	9/16
SELECTAFLO [™] Air 0-15 L NF 9/16	CM097200	NF	9/16
SELECTAFLO [™] O ₂ 0-15 L DIN 9/16	CM098400	DIN	9/16
SELECTAFLO [™] Air 0-15 L DIN 9/16	CM098600	DIN	9/16

Accessories and spare parts

Description	Reference	Mark
Adapter male 9/16 female 12 x 125	KY383800	-
Easyclic NF O ₂ connector	BJ030200	6+7
Easyclic NF Air connector	BJ030100	6+7
Button protection (x10)	CM097800	1
Output nozzle 9/16 with seal (x10)	CM097700	4+5
Output nozzle 12 x 125 with seal (x10)	CM097600	4+5
Air adjustment knob + cover	CM097500	2+3
O2 adjustment knob + cover	CM097400	2+3

EASYCLIC NF inlet connector: safe connection

- One-handed operation, solid and precise connection
- No risk of pinching fingers
- Robust inlet connection: chrome-plated brass
- 360° nozzle rotation



ALIZE™

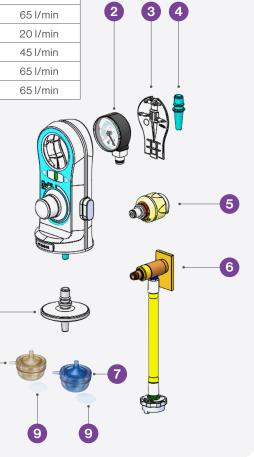
Description	Reference	Adjustment range	Flow
ALIZE [™] 250 20 L NF + filter	FB082700	0-200 mbar	20 l/min
ALIZE [™] 250 NF + filter	FB082800	0-200 mbar	45 l/min
ALIZE [™] 600 NF + filter	FB082900	0-500 mbar	65 l/min
ALIZE [™] 1000 NF + filter	FB083000	0-800 mbar	65 l/min
ALIZE [™] 250 20 L NU NF without filter	FB083800	0-200 mbar	20 l/min
ALIZE [™] 250 NU NF without filter	FB083900	0-200 mbar	65 l/min
ALIZE [™] 600 NU NF without filter	FB084000	0-500 mbar	80 l/min
ALIZE [™] 1000 NU NF without filter	FB084100	0-800 mbar	80 l/min
ALIZE [™] 250 20 L Rail NF Rail + filter	FB087900	0-200 mbar	20 l/min
ALIZE [™] 250 Rail NF Rail + filter	FB088000	0-200 mbar	75 l/min
ALIZE [™] 600 Rail NF Rail + filter	FB088100	0-500 mbar	80 l/min
ALIZE [™] 1000 Rail NF Rail + filter	FB088200	0-800 mbar	80 l/min
ALIZE [™] 250 20 L NF BRESIL + filter	FB084600	0-200 mbar	20 l/min
ALIZE [™] 250 NF BRESIL + filter	FB084700	0-200 mbar	45 l/min
ALIZE [™] 600 NF BRESIL + filter	FB084800	0-500 mbar	65 l/min
ALIZE [™] 1000 NF BRESIL + filter	FB084900	0-800 mbar	65 l/min
ALIZE [™] 250 20 L TYP BRESIL + filter	FB089100	0-200 mbar	20 l/min
ALIZE [™] 250 Rail TYP BRESIL + filter	FB089200	0-200 mbar	45 l/min
ALIZE [™] 600 Rail TYP BRESIL + filter	FB089300	0-500 mbar	65 l/min
ALIZE [™] 1000 Rail TYP BRESIL + filter	FB089400	0-500 mbar	65 l/min
ALIZE [™] 250 20 L DIN + filter	FB085000	0-200 mbar	20 l/min
ALIZE [™] 250 DIN + filter	FB085100	0-200 mbar	45 l/min
ALIZE [™] 600 DIN + filter	FB085200	0-500 mbar	65 l/min
ALIZE™ 1000 DIN + filter	FB085300	0-800 mbar	65 l/min
ALIZE [™] 250 20 L Rail DIN + filter	FB087000	0-200 mbar	20 l/min
ALIZE [™] 250 Rail DIN + filter	FB087100	0-200 mbar	45 l/min
ALIZE [™] 600 Rail DIN + filter	FB087200	0-500 mbar	65 l/min
ALIZE [™] 1000 Rail DIN + filter	FB087300	0-800 mbar	65 l/min

Accessories and consumables

Description	Reference	Mark
2 in 1 filter (X50)	FB081900	1
Cold disinfected jar	FB077800	7
Autoclavable 134 °C jar	FB078000	8
Bacteriological filter (x100) for jar	FY000700	9
Security nozzle	FB072900	4

Spare parts

Description	Reference	Mark
Vacuum gauge ALIZE [™] -250 mbar	FY004400	2
Vacuum gauge ALIZE [™] -600 mbar	FY004600	2
Vacuum gauge ALIZE [™] -1000 mbar	FY004800	2
Back trapdoor ALIZE™	FY002800	3
Easy click connector	BJ030000	5
Rail connector NF	FY006700	6



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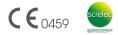




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