



**JACOMEX**

# GP[concept]-II-S

MODULAR GLOVE BOX  
DOUBLE LINE  
HIGH PERFORMANCE

PURIFICATION SYSTEM  
P[SYS]-II-S (IN SERIE)

1 PPM  $O_2$   
1 PPM  $H_2O$

accessories

purifiers

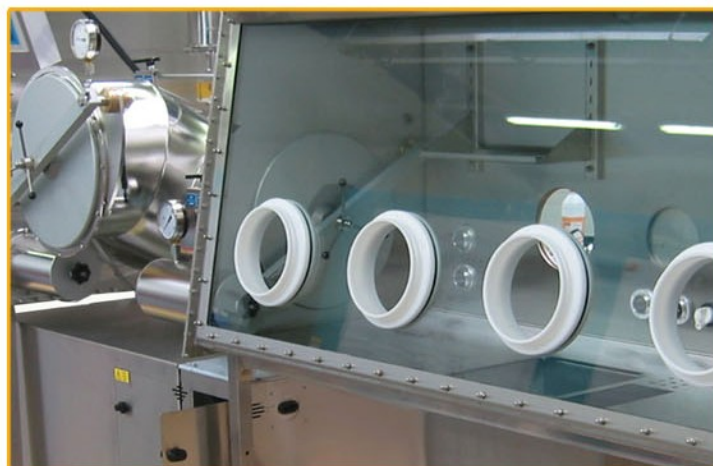
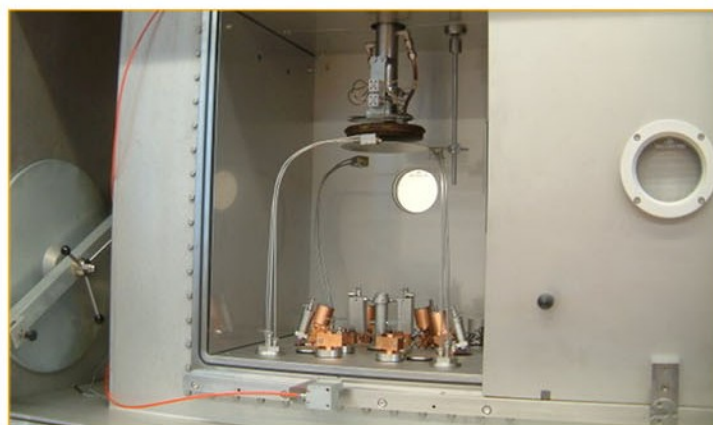
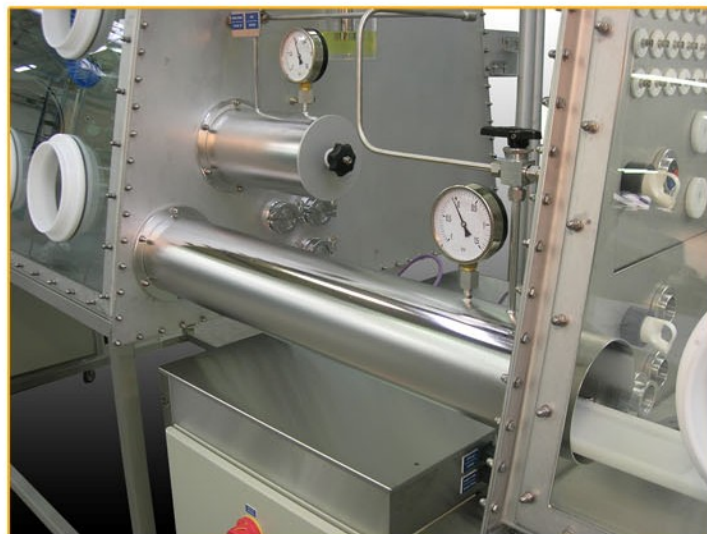
isolators

glove boxes



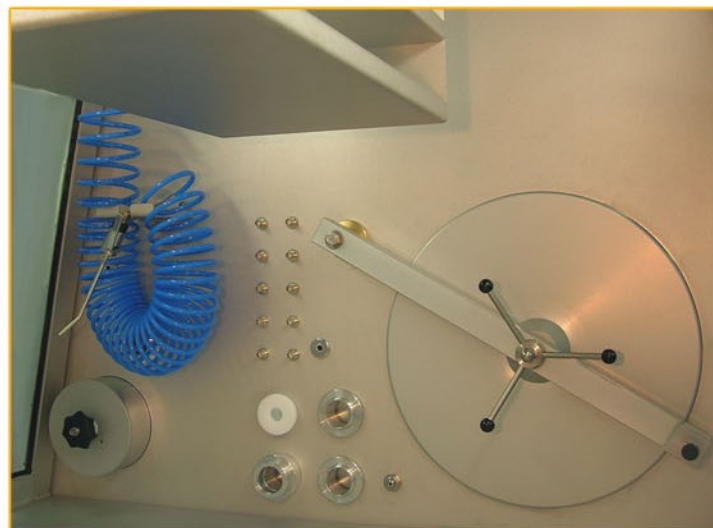
## Glove box

<b>Box shell</b>	Stainless steel X2CrNi18-9 (US 304 L) thickness 3 mm
<b>Pipes</b>	Entirely in stainless steel (US 304 L)
<b>View window</b>	Polycarbonate Inclined panel 10° Bolted, easily dismantable
<b>Glove ports</b>	POM - two grooves 186 mm diameter
<b>Door</b>	Quick lock door 186 mm diameter Practical replacement of the gloves without pollution
<b>Gloves</b>	Butyl thickness 0,6 mm, length 750 mm, ambidextrous - size 7,5 or 8,5
<b>Light</b>	Fluorescent 220 V - with on-off switch
<b>Shelves</b>	2 stainless steel shelves, adjustable height
<b>Supporting frame</b>	Stainless steel Casters and lock-out cylinders
<b>Feedthroughs</b>	1 leaktight electrical feedthrough Bi + T 220 V 2 blanket leaktight feedthroughs ISO KF 40
<b>Filtration</b>	HEPA filter on outlet of the glove box Filter on inlet in option
<b>Tightness</b>	Class 1 according to ISO 10648-2 norm (oxygene method) Leak rate < 5.10 <sup>-4</sup> h <sup>-1</sup>
<b>Box shell dimensions (L x H x D)</b>	T2 : 1200 x 900 x 725 mm T3 : 1500 x 900 x 725 mm T4 : 1800 x 900 x 725 mm



## Vacuum chamber

<b>Dimensions</b>	Cylindrical in stainless steel thickness 3 mm 400 mm diameter, inside lenght 600 mm
<b>Position</b>	On the right or left side of the glove box
<b>External door</b>	Lifting mechanism (vertically) Easy opening through gas cylinder
<b>Internal door</b>	Lifting mechanism (vertically) Easy opening through gas cylinder Gas cylinder external to the glove box for a maintenance without pollution of the atmosphere
<b>Handling</b>	Automatic valves for purging and filling-up Vacuum chamber cycles controlled entirely
<b>Tray</b>	Inner sliding tray in stainless steel
<b>Vacuum control</b>	Analog display vacuo-manometer 0-1 bar
<b>Tightness</b>	Leak rate < 10 <sup>-5</sup> mbar.L.s <sup>-1</sup>
<b>Vacuum pump</b>	2 stages Flow : 21m <sup>3</sup> .h <sup>-1</sup> at 50Hz 25m <sup>3</sup> .h <sup>-1</sup> at 60Hz Mist evaporator Attainable vacuum < 10 <sup>-2</sup> mbar Increased security : stop of the vacuum pump in case of underpressure of the glove box

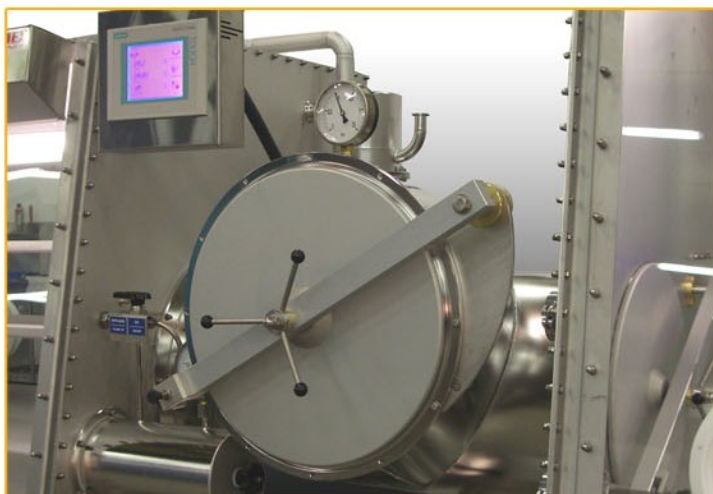


## Pressure control

<b>Operation</b>	Automatic
<b><math>\Delta P</math></b>	Overpressure or underpressure depending on user's choice
<b>Inlet gas</b>	Electro valve controlled thought automate
<b>Outlet gas</b>	System without backscattering thought relief bubbler, independent from the vacuum pump Electro valve controlled through automate

## User interface

<b>Interface</b>	Touch panel English - French - German
<b>User help</b>	Integrated to the touch panel
<b>Display</b>	Pressure (Pa or mm WG) [O <sub>2</sub> ] (ppm) [H <sub>2</sub> O] (ppm or °C DP)
<b>Controls</b>	Vacuum chamber handling Forced flushing Regeneration / Purification
<b>Setting</b>	Vacuum chamber cycle (vacuum/filling up time/number of cycles) Flow of the blower Pressure control Red warning light according to O <sub>2</sub> and/or H <sub>2</sub> O values



## Purification

<b>Process</b>	Closed loop inert gas circulation Regenerable purifying loads
<b>Purification unit</b>	Independant module P[sys]-II-S Significant rise of adsorption capacities for big volumes and glove boxes in underpressure Arrangement right or left side of the glove box
<b>Pipes and reactor</b>	Stainless steel (US 304 L)
<b>Purification</b>	2 purification columns for H <sub>2</sub> O and/or O <sub>2</sub>
<b>Performance</b>	[H <sub>2</sub> O] < 1 ppm [O <sub>2</sub> ] < 1 ppm
<b>Measures [O<sub>2</sub>] and [H<sub>2</sub>O]</b>	Independent analysis circuit for easy maintenance and calibration and without pollution
<b>Capacity</b>	O <sub>2</sub> > 200 L H <sub>2</sub> O : 2800 g
<b>Purification flow</b>	From 0 to 40 m <sup>3</sup> .h <sup>-1</sup> ( $\Delta P$ : 20 mbar)
<b>Blower</b>	Centrifugal blower double stage, in a tight box Adjustable flow Brushless motor with electronic commutation
<b>Cooling system</b>	Integrated air cooling to the the unit (forced convection) No water service pipe (or external cooling) to provide
<b>Regeneration process</b>	Fully automatic Inlet and outlet regeneration gas through electrovalves Reactor insulation through automatic valves
<b>Heating</b>	Integrated temperature regulation controlled through automate and temperature cut-out
<b>Tightness</b>	Leak rate < 10 <sup>-6</sup> mbar.L.s <sup>-1</sup>
<b>Regeneration gas</b>	95% N <sub>2</sub> or Ar + 5% H <sub>2</sub>





## Options

### Front panel

Laminated safety glass

### Quick opening panel

Easy and quick opening of the panel  
Tightness through inflatable gasket  
Manual version (3-way valve)  
Automatic version entirely controlled through PLC and alarm in case of important pressure loss of the gasket

For more information, consult the *quick opening panel* brochure

### Vacuum pump

Dry pump

### Mini vacuum chamber

Ø 100 mm, inside length 300 mm  
Ø 150 mm, inside length 400 mm  
Quick lock doors  
Control through a 3-way hand valve

### Analyser H<sub>2</sub>O

Unit : ppm  
or °C dewpoint  
Precision : +/- 2°C dewpoint  
Scale: -100 / +20 °C dewpoint  
(1 ppm ≈ -76 °C dewpoint at T=20°C)  
For more information, consult the *H<sub>2</sub>O analyser* brochure

### Analyser O<sub>2</sub>

Unity : ppm  
Precision : +/- 1 ppm  
Scale: 0 / 100 ppm  
For more information, consult the *O<sub>2</sub> analyser* brochure

### Solvents trap through activated charcoal

Compact external module high capacity option -CA  
Charcoal quantity > 6 Kg

### Finishing

Electropolishing for an easier decontamination and cleaning

### Rounded corners

Option -CV for an optimal cleanability

### Stainless steel quality

Box shell in stainless steel  
X2CrNiMo17-12-2 (US 316 L)

### Double face

Option -FF (2 work faces)

### Extra feedthroughs

For more information, consult the *tightness feedthroughs* brochure

### Accessories integration

Refrigerator, microscope, spin coater, balance, evaporator...

Photos are not contractual

Version 2.1



# JACOMEX



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