



JACOMEX

GP[concept]-II-P

MODULAR GLOVE BOX
DOUBLE LINE
HIGH PERFORMANCE

PURIFICATION SYSTEM
P[SYS]-II-P (IN PARALLEL)

1 PPM O₂
1 PPM H₂O

accessories

purifiers

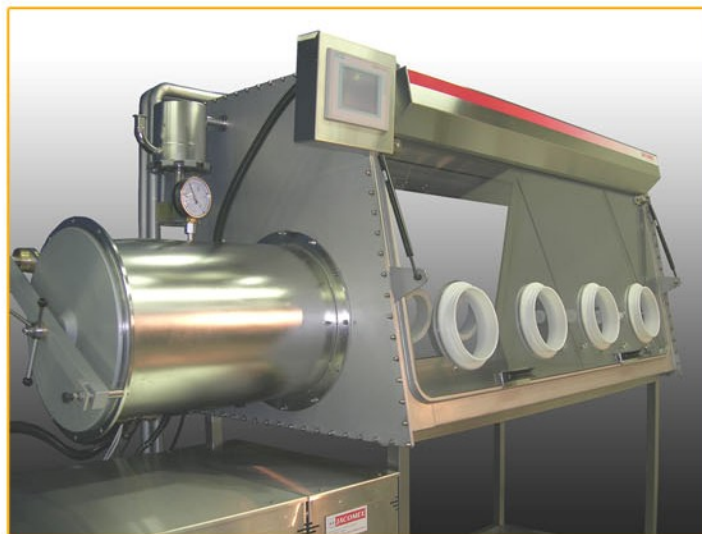
isolators

glove boxes



Glove box

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



Vacuum chamber

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

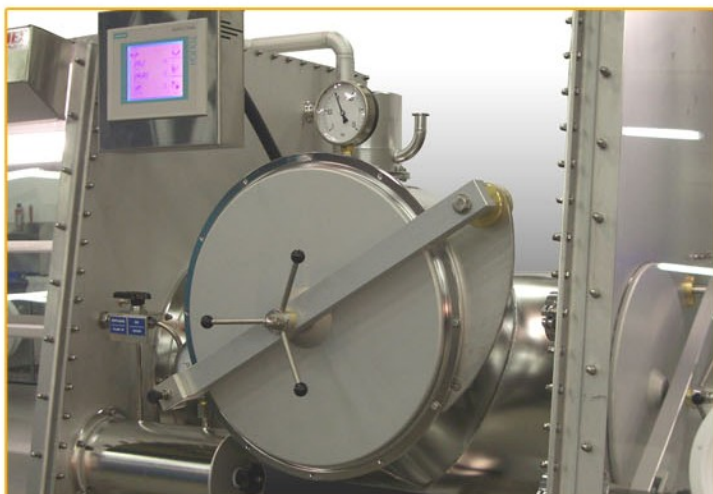


Pressure control

Operation	Automatic
ΔP	Overpressure or underpressure depending on user's choice
Inlet gas	Electro valve controlled thought automate
Outlet gas	System without backscattering thought relief bubbler, independent from the vacuum pump Electro valve controlled through automate

User interface

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



Purification

Process	Closed loop inert gas circulation Regenerable purifying loads
Purification unit	Independent module P[sys]-II-P Continuous functioning Purification capacities multiply by 2 Arrangement right or left side of the glove box
Pipes and reactor	Stainless steel (US 304 L)
Purification	2 purification columns for H ₂ O and/or O ₂
Performance	[H ₂ O] < 1 ppm [O ₂] < 1 ppm
Measures [O₂] and [H₂O]	Independent analysis circuit for easy maintenance and calibration and without pollution
Capacity	O ₂ : 2 X 30 L H ₂ O : 2 X 1400 g
Purification flow	From 0 to 40 m ³ .h ⁻¹ (ΔP : 20 mbar)
Blower	Centrifugal blower double stage, in a tight box Adjustable flow Brushless motor with electronic commutation
Cooling system	Integrated air cooling to the the unit (forced convection) No water service pipe (or external cooling) to provide
Regeneration process	Fully automatic Inlet and outlet regeneration gas through electrovalves Reactor insulation through automatic valves
Heating	Integrated temperature regulation controlled through automate and temperature cut-out
Tightness	Leak rate < 10 ⁻⁵ mbar.L.s ⁻¹
Regeneration gas	95% N ₂ or Ar + 5% H ₂





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 H₂O

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 *H₂O analyser* brochure

Analyser O₂

Unity : ppm
Precision : +/- 1 ppm
Scale: 0 / 100 ppm
For more information, consult the *O₂ 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 2.2.



JACOMEX



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