

*Atmospheric Version Shown*

# IPC400

## Pumping Packages

**FLEXIBLE DESIGN FOR MANY APPLICATIONS**



# Design an easy-to-use pumping package that extends your sampling range.

INFICON IPC400 pumping packages extend the sampling range of Transpector Gas Analysis Systems. These dry pumping packages are small, lightweight and portable. Combined with any standard open ion source INFICON Transpector, they can sample any process from two atmospheres to high vacuum.

## MULTIPLE INLET OPTIONS

- The proven IPC-2A Pressure Converter
- New single orifice inlet, manual or electropneumatic versions, for applications with one pressure range
- Dual inlets from the high end CIS2 design – these include various process connections (CF40, KF40 and KF25) in an in-line orientation
- Dual inlets with a high pressure by-pass for process pressures greater than 5 Torr (improves response time)
- Multi-capillary inlet – for applications from 100 Torr to two atmospheres

## IPC400 FEATURES AT A GLANCE

- Simple operation - single Start/Stop button.
- Flexible - two types of pumping packages (corrosive and non-corrosive applications), several inlets and can be used with any INFICON RGA.
- Small and simple design – fits on various tools or vacuum systems and can be quickly installed by the customer.
- Manual or remote control – IPC400 controller allows for manual or remote operation as well as interlocking the system.
- Mobile - fits on a cleanroom compatible cart for easy movement between systems (see separate brochure).

## KEY APPLICATIONS

- Industrial processes
- Vacuum furnaces
- Lasers
- Gas analysis
- Automotive

Also in semiconductor processes: RTP, typically at atmosphere; CVD, some etch applications, high pressure PVD such as IMP, 300mm applications such as Degas module

## SIMPLE, DEPENDABLE OPERATION

INFICON IPC400 Pumping System has an integrated compound pump which allows interlocking the RGA easily. The 24v DC diaphragm pump is small and lightweight and can be used worldwide. The IPC400 controller provides for valve operation and a single start / stop button. A new line of cleanroom compatible heaters is also controlled via the controller. These single temperature 150°C heaters provide uniform heating for cleaning the vacuum surfaces as well as the RGA.

## DESIGN YOUR OWN SYSTEM

By simply choosing the appropriate RGA for your budget or application, you will have a powerful sampling system designed for monitoring contaminants down to the 10-100 ppm level (gas dependent).

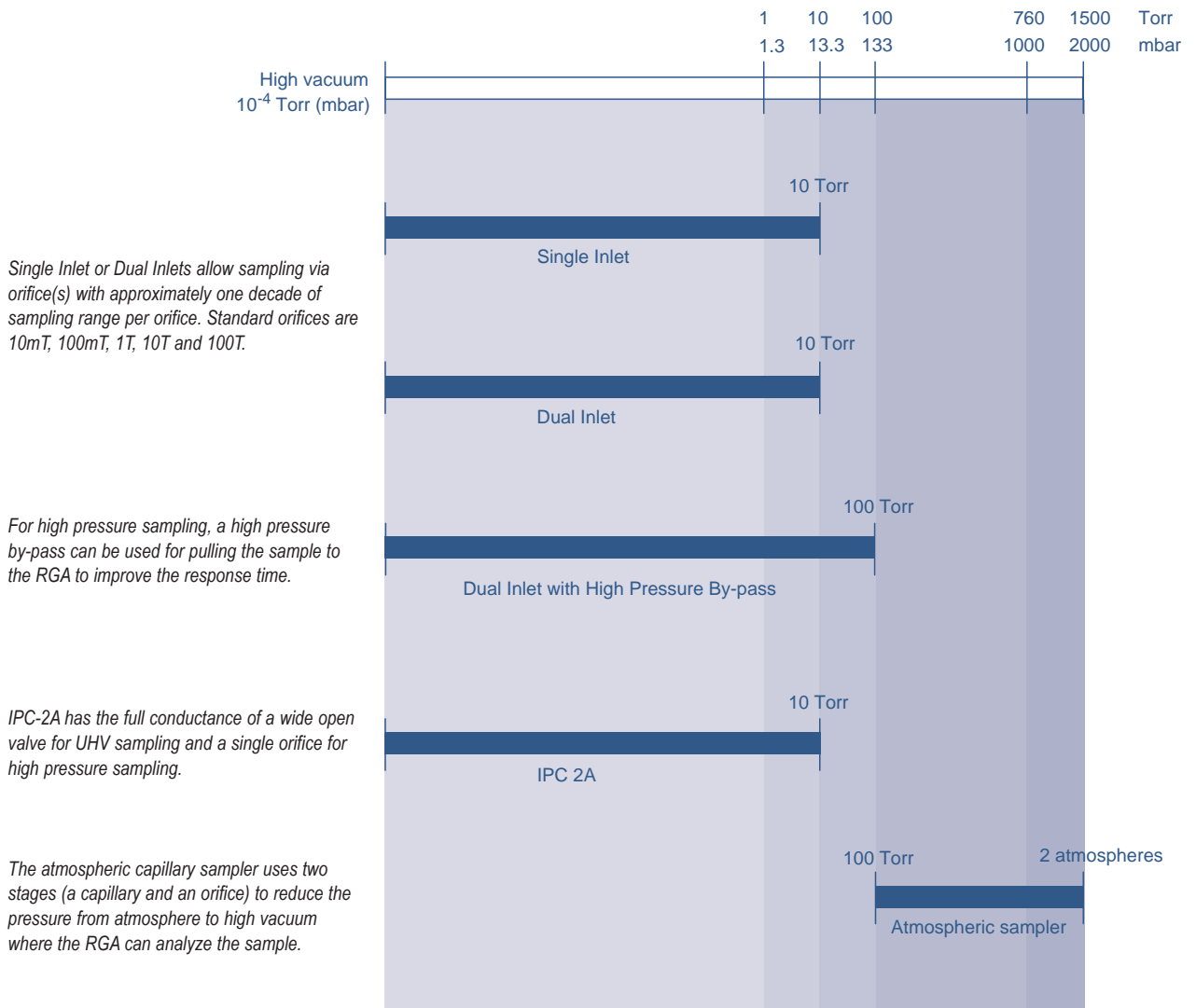
- INFICON IPC400 combined with the reliable Compact FC or EM/FC Transpector 2 provides the smallest package.
- INFICON IPC400 can be matched with any High Performance Transpector 2 to cover a mass range up to 300 AMU.

# Why use a pressure converter?

Several gas analysis applications involving gas pressures too high for direct exposure to the quadrupole sensor (pressures greater than  $1 \times 10^{-4}$  Torr/mbar) require a pressure converter to reduce the pressure and keep the sensor at high vacuum. With a pressure converter, a quadrupole sensor may be used for such high-pressure applications as sputtering, vacuum furnace analysis, and analysis of laser gases.

Pressure converters use orifices and/or capillaries to reduce the partial pressure of the gas-mixture by a fixed proportion, without mass discrimination.

An orifice, a small disk with a defined hole, acts as a conductance limitation. When both the volume and the high vacuum pump speed are constant, the orifice hole size determines the pressure at the quadrupole sensor. Orifices are available in various sizes to cover various pressure ranges.



## SPECIFICATIONS

Ultimate pressure	Torr (mbar)	$\leq 2 \times 10^{-8}$
Inlet pressure	mbar	Inlet Dependent
Available Inlets: IPC-2A Manual or Electropneumatic version w/heater IPC-2A Orifices Available:	Torr (mbar)	3 mTorr ( $4 \times 10^{-3}$ mbar), 15 mTorr ( $2.0 \times 10^{-2}$ mbar), 150 mTorr ( $2 \times 10^{-1}$ mbar), 1 Torr (1.3 mbar), 10 Torr (13 mbar)
Single Orifice Inlet (Manual or Electropneumatic versions) Dual Inlet, In line, KF25 process connection with heater Dual Inlet, In line, KF25 process connection with high pressure by-pass with heater Dual Inlet, In line, KF40 process connection with heater Dual Inlet, In line, KF 40 process connection with high pressure by-pass with heater Dual Inlet, In line, CF40 process connection with heater Dual Inlet, In line, CF 40 process connection with high pressure by-pass with heater Single and Dual Inlet Orifices Available:		No orifice (for pressures less than 1 mTorr) 10 mTorr ( $1.3 \times 10^{-2}$ mbar), 100 mTorr ( $1.3 \times 10^{-1}$ mbar), 1 Torr (1.3 mbar), 10 Torr (13 mbar) and 100 Torr (133 mbar)
Atmospheric Inlet - Multi-capillary (two capillaries) with inlet heater (no capillary heater) Atmospheric Inlet Capillaries Available:		1.5 meters and 3 meters
Process connection flange		Inlet Dependent - KF25, KF40, CF40 (dual inlet), 1/4" MVCR (single inlet) and 1/16" OD capillary (atm inlet)
Inlet valve control		Manual using IPC400 controller
Pumping system: (standard) (corrosive)		ATH 31+ with leak tight dry diaphragm pump ATH 31C with leak tight dry diaphragm pump
IPC400 controller		Interlocks RGA filament and pumping system, single start / stop button, manual control of inlet valves, 24V power for complete system
IPC400 remote capabilities		Remote Start / Stop TTL signal Remote Inlet Valve TTL signals (3)
IPC400 power		Switchable: 100/120 VAC or 220/240 VAC
IPC400 operating temperature		20°C to 50°C
Relative humidity		$\leq 80\%$
Heating jackets		Fixed single temperature – 150°C
Compressed air (valve operation)		Required – 70-110 psig (5.8 - 8.6 bar)
Nitrogen (compound pump purge)		Required for corrosive pumping system - <sup>1</sup> 15 psig (1.3 bar) of dry nitrogen

<sup>1</sup>Note: Corrosive version comes with a regulator to allow 70-110 psig of dry nitrogen to be used for both the valve control and nitrogen purge.

Note: Contact the sales office nearest you for ordering information.



### GLOBAL HEADQUARTERS:

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