

## HPA 220

Gas analysis in the pressure range of up to 50 mbar

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### Advantages at a glance:

- Provides great flexibility thanks to its 5 manually or electropneumatically operated gas inlet options for analyzing, monitoring and controlling processes up to a pressure of 50 mbar.
- Easy and flexible system integration through a variety of digital and analog inputs and outputs.
- Multiplex operation allows data evaluation of several mass spectrometer systems with a single PC.
- Compact dimensions for flexible integration.

### HPA 220 system overview:

**Mass spectrometer  
PrismaPlus**  
1 – 100 amu  
1 – 200 amu  
1 – 300 amu

**Gas inlet system**  
1,2) Valve interface HPI 040  
3,4) Double gate valve  
5) Gas dosing valve UDV 040

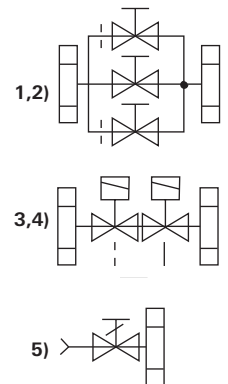


**Vacuum gauge  
ActiveLine PKR 251**  
for monitoring the pressure  
and for protecting the  
filaments

**Valve control unit  
VCU 220**  
for electropneumatic  
gas inlet systems

**Turbopump  
HiPace 80 with  
TC 110 RS**  
with 4 accessory  
ports + backing-  
pump MVP 020-3  
(not shown)

**19" Rack unit  
BRU 220**  
Integrated power supply pack  
TPS 311. Additional options:  
Heating control, display and  
control units (DCU for turbopumps  
and TPG for vacuum gauges)



#### 1,2) Valve interface HPI 040

Manually or electropneumatically operated. Consists of three valves, a bellows-sealed gate valve with a nominal diameter of DN 40 CF for residual gas analysis or leak detection up to  $< 1 \cdot 10^{-4}$  mbar and two valves with exchangeable orifices in the bypass. One 0.03 mm orifice for extending the range to 8 mbar ( $N_2$ ) is enclosed.

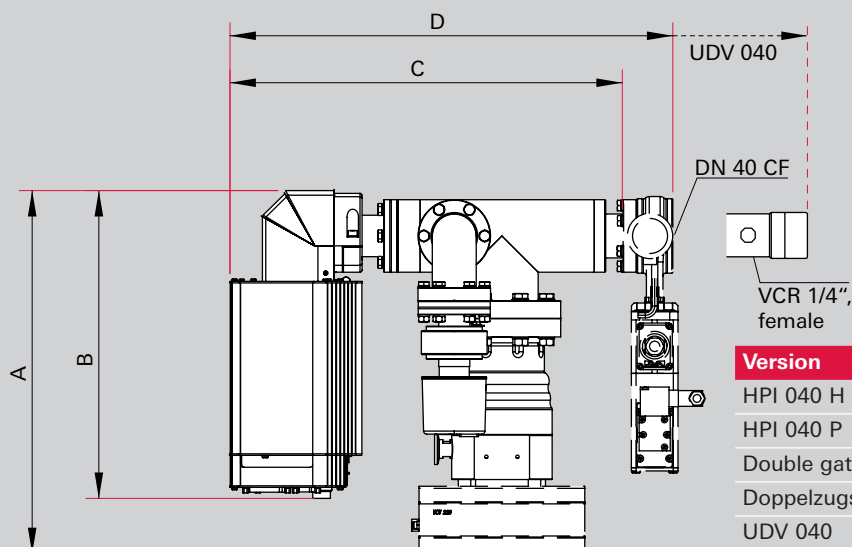
#### 3,4) Double gate valve

Manually or electropneumatically operated. Consists of two bellows-sealed gate valves which are welded together. One gate with a nominal diameter of DN 40 CF for residual gas analysis or leak detection up to  $< 1 \cdot 10^{-4}$  mbar and a second gate with an exchangeable orifice. Delivered ready fitted with a 0.1 mm orifice for the pressure range 0.1 to 1 mbar ( $N_2$ ).

#### 5) Gas dosing valve UDV 040

Manually adjustable gas dosing valve for pressure adjustment up to 50 mbar. The maximum possible and reasonable pressure range is determined particularly by the increasing gas segregation which occurs at progressively high pressures.

## HPA 220 dimensions



Version	A	B	C	D
HPI 040 H	–	290	380	415
HPI 040 P	350	290	380	415
Double gate valve, manual	–	290	380	446
Doppelzugschieber, pneumatisch	350	290	380	446
UDV 040	–	290	380	479

Dimensions in mm

## HPA 220 order matrix

## Order number

PT M 5 a b c d

Mass range	a
1 – 100 amu	1
1 – 200 amu	2
1 – 300 amu	3
Ion source and filament	b
Open ion source, filament: yttriated iridium	1
Open ion source, filament: tungsten	2
Gas inlet system	c
HPI 040 H, bellows-sealed gate valve, DN 40 CF, manually operated, two bypass valves with 0.1 mm and 0.3 mm orifices, 0.03 mm third orifice enclosed	1
HPI 040 P, bellows-sealed gate valve, DN 40 CF, electropneumatically operated, two bypass valves with 0.1 mm and 0.3 mm orifices, 0.03 mm third orifice enclosed	2
Double gate valve, DN 40 CF, manually operated, one gate opens to release full cross-section, one gate with 0.1 mm orifice	3
Double gate valve, DN 40 CF, electropneumatically operated, one gate opens to release full cross-section, one gate with 0.1 mm orifice	4
UDV 040, gas dosing valve, manually operated, VCR 1/4"	5
Cable length and accessory option	d
3 m, without option	0
3 m, with TPG display and control unit	1
3 m, with DCU display and control unit	2
3 m, with TPG and DCU display and control units	3
10 m, without option	4
10 m, with TPG display and control unit	5
10 m, with DCU display and control unit	6
10 m, with TPG and DCU display and control units	7

## Software support

The HPA 220 is supplied with Quadera® software which can be operated intuitively. A software add-in for easy valve control is available for control units with electropneumatically operated gas inlets. In addition Pfeiffer Vacuum provides customer-specific software solutions.