CapaciTorr® HV 2100

The CapaciTorr® HV 2100 pump is based on high performance SAES® ZAO® sintered porous getter disks. The pump provides high pumping performance in the high vacuum (HV) regime (i.e. 10^{-7} - 10^{-9} Torr range) for all the getterable gases like H_2, N_2, H_2O, CO/CO_2 and O_2.

In order to exploit its high capacity, the getter cartridge must be operated permanently warm, at moderate temperature ($\approx$200 °C).

Thanks to the extremely high gas sorption capacity, the pump can cope with large air leakages or sudden gas burst typical of high vacuum systems.

The use of the pump in UHV range is also possible, by operating the getter cartridge at room temperature.

The CapaciTorr HV 2100 consists of:

> a built-in heater that directly connects to the flange power feedthrough;

> an external housing with CF200 connecting flange;

> a NEG cartridge incorporating the ZAO sintered disks.

The NEG cartridge is very durable and designed for prolonged operation.

Once exhausted, it can be easily replaced.

A bakeable connector provides easy and fast connection to the pump power supply to activate and power the NEG cartridge.

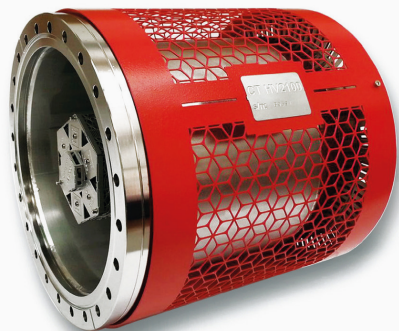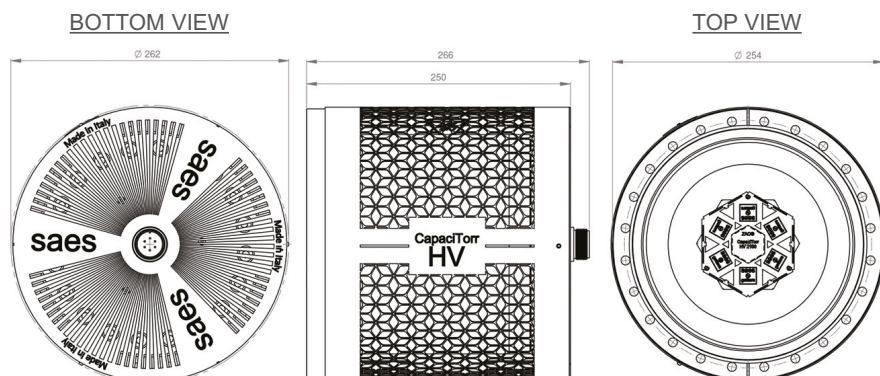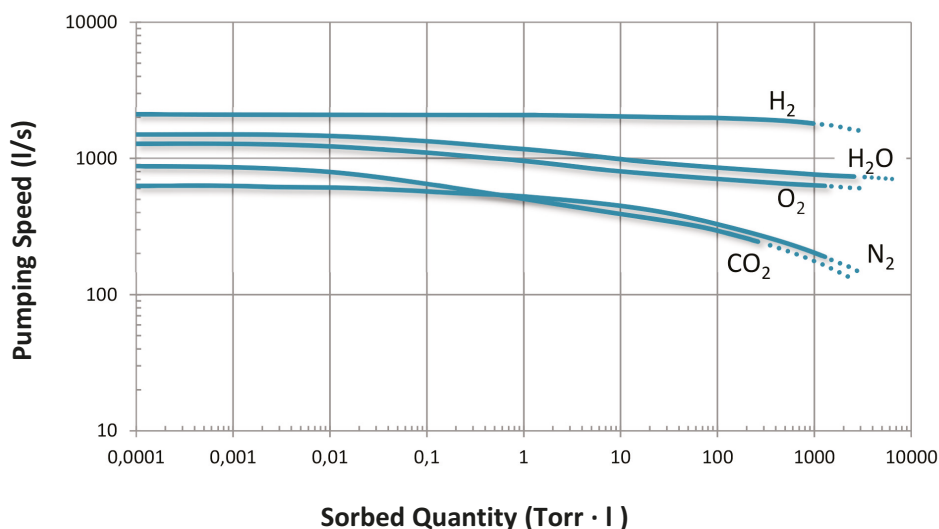## HIGHLIGHTS

General Features

> Extremely compact and low weight

> High pumping speed for all active gases

> High sorption capacity and lifetime

> Constant pumping speed in HV and UHV

> Oil free and vibration free

> Operation in presence of high magnetic fields

> Reversible pumping of hydrogen and its isotopes

> Fast pumpdown after air venting and without baking

> Capable of coping with large air leaks

> Suitable for viton-sealed systems

Applications

> Improving ultimate vacuum in combination with ion, diffusion, cryogenic or turbomolecular pumps

> Particle accelerators, synchrotron radiation sources and related equipment

> Scanning/Transmission electron microscopes

> Portable vacuum instrumentation

> Surface analysis systems

> Process pumps for vacuum devices and deposition chambers

> Thin films deposition systems

> Pumping, storing and releasing hydrogen isotopes

> Impurities removal in rare gas filled devices

BOTTOM VIEW

TOP VIEW

Dimensions in mm

saes
high vacuum

CapaciTorr® HV 2100

CapaciTorr® HV 2100 - sorption test (according to ASTM F798-97)

Graph: Pumping Speed (l/s) vs Sorbed Quantity (Torr · l). Curves labeled H_2, H_2O, O_2, N_2, CO_2.

Typical Pump Characteristics		CapaciTorr HV 2100
Alloy Type		ZAO
Alloy Composition		Zr V Ti Al
Getter Mass (g)		1130
Getter Surface (cm^2)		3580
Activation Power (W)		363
Working Power (W)		38
Pumping Speed (l/s) @ 200 °C	H_2	2100
	H_2O	1500
	O_2	1250
	N_2	625
	CO_2*	880
Sorption Capacity (Torr•l)	H_2	22600
	H_2O Single cycle at 200 °C	2600
	O_2 Single cycle at 200 °C	1300
	N_2 Single cycle at 200 °C	1300
	CO_2*Single cycle at 200 °C	260
Number of sorption cycles		>20 cycles

Note: Pumping speed data refer to the initial values measured at pump inlet.
The "Single cycle" capacity is intended as the recommended absorbed quantity per run allowing to perform more than 20 sorption cycles. In case of operation under lower gas loads or at RT, the pump can be reactivated 100 times or more.
The values for H_2O are estimated.
(*) The values for CO can be assumed very similar to those reported for CO_2.

Ordering Information		
Product	**Product description**	**Code**
CapaciTorr HV 2100 pump	CAPACITORR HV 2100	5H0158
HV 2100 replacement cartridge	C 2100 HV	4H0497
Power supply	NEG POWER C1[#]	3B0501
Output Cable	NEG cable 6P10A 3MT**[§]	3B0602

(#) Other NEG POWER models which can simultaneously activate up to four pumps are available
(**) Other length cables are available on request
(§) Bakeable cables up to 250 °C, and radiation resistant (1000 Mrad)

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