

# CapaciTorr® D 50, D 100, D 200



## HIGHLIGHTS

### General Features

- > Extremely compact and low weight
- > High pumping speed for all active gases
- > High sorption capacity and lifetime
- > Constant pumping speed in UHV and XHV
- > Operation at room temperature without power after activation
- > Oil free and vibration free
- > Operation in presence of high magnetic fields
- > Reversible pumping of hydrogen and its isotopes

### Applications

- > Improving ultimate vacuum in combination with ion, diffusion, cryogenic or turbomolecular pumps
- > Particle accelerators, synchrotron radiation sources
- > Scanning/Transmission electron microscopes
- > Portable vacuum instrumentation
- > Surface analysis systems
- > Process pumps for vacuum devices and deposition chambers
- > Pumping, storing and releasing hydrogen isotopes

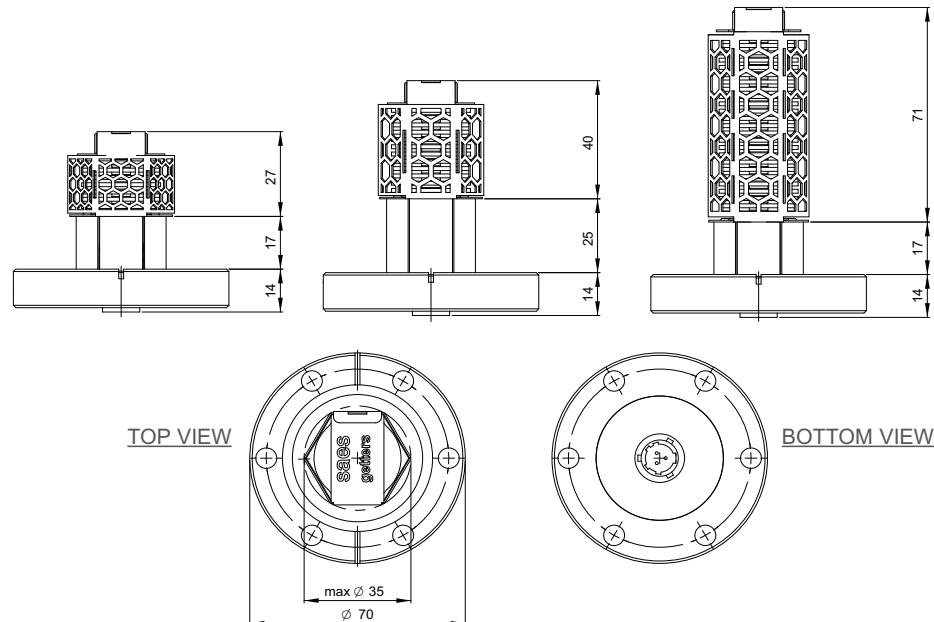
The CapaciTorr® D 50, D 100 and D 200 are three miniature pumps that complement the CapaciTorr line providing large performance in an extremely compact volume.

In spite of their minimal chamber intrusion and small weight (~300 - 400 g), they feature impressive pumping speed for H<sub>2</sub> and for the other active gases present in UHV or XHV systems (H<sub>2</sub>O, O<sub>2</sub>, CO<sub>2</sub>, CO and N<sub>2</sub>).

All the pumps are based on high performance SAES® St 172 sintered porous getter disks, and come on a standard CF35 flange with built-in heater that directly connects to the flange power feed-through (bakeable up to 400 °C). A suitable connector provides easy and fast connection to the pump power supply for the activation.

Only minimal power consumption (30, 45 and 60 W for ~1 hour, respectively) is required during the activation. No power is necessary during normal UHV-XHV operation at room temperature. As all the other SAES NEG (Non Evaporable Getter) pumps they are vibration free and can operate in presence of high magnetic fields.

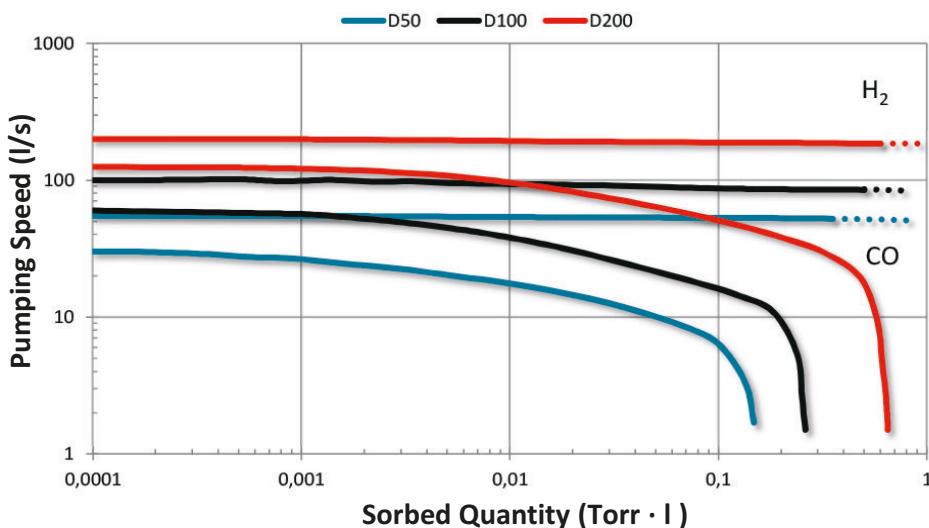
These pumps are thus the perfect choice in applications where space and weight constraints, absence of vibration and minimal electromagnetic interference must be coupled to excellent pumping performance and UHV-XHV standards.



Dimensions in mm

# CapaciTorr® D 50, D 100, D 200

## CapaciTorr® D 50, D 100 and D 200 - sorption test (according to ASTM F798-97)



Typical Pump Characteristics		CapaciTorr D 50	CapaciTorr D 100	CapaciTorr D 200
Alloy Type		St 172	St 172	St 172
Alloy Composition		Zr V Fe	Zr V Fe	Zr V Fe
Getter Mass (g)		7.8	13.5	28
Getter Surface (cm <sup>2</sup> )		66	114	238
Activation Power (W)		32	45	58
Pumping Speed (l/s)	H <sub>2</sub>	55	100	200
	H <sub>2</sub> O	45	85	180
	N <sub>2</sub>	22	40	60
	CO	30	60	125
Sorption Capacity (Torr·l)	H <sub>2</sub>	78	135	280
	H <sub>2</sub> O	3.4	5	10
	N <sub>2</sub>	0.04	0.1	0.25
	CO	0.15	0.25	0.6

**Note:** The activation power are referred to the "nude" configuration (NEG cartridge completely immersed in the vacuum chamber).

The values for H<sub>2</sub>O are estimated.

Capacity based on speed at 5% of the initial value in nude configuration.

>100 reactivations (sorption cycles) are possible.

## Ordering Information

Product	Product description	Code
CapaciTorr D 50 Pump	CapaciTorr D 50	5H0166
CapaciTorr D 100 Pump	CapaciTorr D 100	5H0163
CapaciTorr D 200 Pump	CapaciTorr D 200	5H0168
NEG Pump Power Supply	NEG POWER MINI#	3B0110
Output Cable	NEG cable 3P5A 3MT*§	3B0598

(#) 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)

The SAES manufacturing companies are ISO9001 certified, the Asian and Italian companies are also ISO14001 certified.

Full information about our certifications for each company of the Group are available on our website at:

[www.saesgroup.com](http://www.saesgroup.com)

**D.VS.110.9.24**

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