

NEG Pumps for FAIR



- Specifications for NEG cartridge and NEG cartridge / ion-getter-combination pumps should be ready end Q2/2019. Specs don't include controllers.
- Start procurement via call for tender (or if SAES getters is the only supplier) by direct order. Gamma Vacuum delivers NEG cartridge pumps up to 400l/s. To be discussed with GSI/FAIR procurement department.
- Start delivery Q3/2020 until Q4/2021

Subproject	Type	Quantity (pcs)
HESR	CapaciTorr D1000 (NEG cartridge)	90
HEBT	NexTorr D1000-StarCell (NEG cartridge/ion-getter-combination pumps)	2
SIS100	CapaciTorr D3500 (NEG cartridge)	44 (+17)
SIS100	NexTorr D500-5 or NexTorr-StarCell (NEG cartridge/ion-getter-combination-pumps)	94 (+7)
CR	NexTorr D1000-10 (or NexTorr D1000-StarCell) (NEG cartridge/ion-getter-combination-pumps)	75

NexTorr® pumps by SAES Getters combining NEG and ion pumping technologies



Three Types:

NEXTorr® “D” series:

pumps are based on St172 NEG material, operating in the field of UHV/XHV applications since early '90s. Ion pump: noble diode, pumping speed up to 2000l/s for H₂ and 10l/s for Ar (type D2000-10)

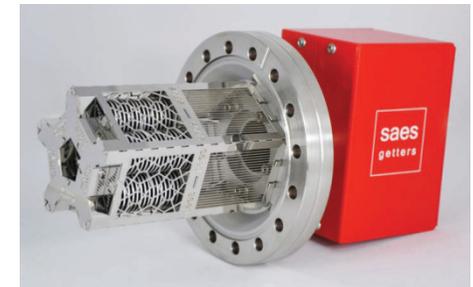
NEXTorr® “Z” series:

pumps integrate the new **ZAO** UHV NEG alloy further improving:

- pumping performance for H₂
- mechanical robustness
- outgassing during the activation

Ion pump: noble diode

pumping speed up to 400l/s for H₂ and 6l/s for Ar (type NexTorr Z 300)



NEXTorr® -StarCell

combining the **sintered NEG technology** by SAES with the highly reputed **StarCell ION pump** by Agilent Technologies. Pumps are based on St172 NEG material pumping speed up to 1000l/s for H₂ and 21l/s for Ar (type NexTorr D1000-StarCell)

- FAIR/GSI did not finally decide up to now, which of the three types will be used in the various subprojects. Will be discussed in the course of writing the specifications.
- If the pumps will be controlled by the available combined controller or the ion pump and the NEG cartridge individually is not decided. Will be discussed in the course of detailing of operation scenario and vacuum control system.
- Procurement strategy to be discussed:
 - a. separate call for tender for NEG cartridge pumps and combination pumps
 - b. common call for tender for both types
- **What does BINP needs for the CR?**

