Corrigendum I
PR No.1000011785 (RFx No.6100000183)
Pumps for Sputtering Chamber

Please Note that Technical Specifications are modified and Due Date is extended for RFx No.6100000183 Pumps for Sputtering Chamber.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Technical Specification and Online RFx Clause</th>
<th>Previous Clause</th>
<th>Changed Clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bid Submission End Date &amp; Time of Submission (Online RFx Clause)</td>
<td>24.10.2019 at 13.00</td>
<td>01.11.2019 at 13.00</td>
</tr>
<tr>
<td>2.</td>
<td>Bid Opening Date &amp; Time (Online RFx Clause)</td>
<td>24.10.2019 at 15.00</td>
<td>01.11.2019 at 15.00</td>
</tr>
</tbody>
</table>

Joint Registrar (MM)
Specifications for pumps for UHV sputtering chamber

1. Magnetically levitated turbo molecular pump
   - Inlet flange – DN200CF
   - Pumping speed:
     - Nitrogen – at least 1000 l/s
     - Hydrogen – at least 800 l/s
   - Desired compression ratio:
     - Nitrogen – at least $10^8$
     - Hydrogen – at least $10^5$
   - Ultimate Pressure in chamber must be in the order of $10^{-10}$ torr
   - Maximum continuous outlet pressure – 0.1 torr
   - Maximum pump speed rating - at least 35000 rpm
   - Maximum inlet flange temperature - 120°C
   - Must be completely oil free
   - Must be water cooled
   - Must come with appropriate power cable with length at least 5 metres

2. Rotary vane pump (1 phase supply)
   This pump will be used for backing the above turbo pump and for roughing the chamber.
   - Minimum Displacement volume:
     - At 50Hz – at least $32m^3/hr$
     - At 60Hz – at least $38m^3/hr$
   - Minimum speed:
     - At 50Hz – at least $27m^3/hr$
     - At 60Hz – at least $33m^3/hr
- Ultimate vacuum while roughing:
  - Without gas ballast – at least till $1\times10^{-3}$ mbar
  - With Gas ballast – at least till $2\times10^{-2}$ mbar
- Inlet connections – NW25 flange
- Outlet connection - Nozzle 15 mm external Ø removable from 3/4 in BSP tapped hole
- Maximum allowed pressure at outlet – 0.5 bar
- Max inlet pressure for water vapour – 30 mbar
- Minimum water vapour pumping rate – 0.7 kg/hr
- Must be operational in the temperature range 15 to 40°C
- Nominal rotation speed:
  - At 50Hz – at least 1400 rpm
  - At 60Hz – at least 1700 rpm
- Must include power cable, mist filter and spare oil for at least 1 refill