


Technical data sheet

Model : Vectio® Long Beam Line 6m for Cyclone®	Ref : TDS_C_152_IBA_VEC_Beam Line 6 _R03
Manufacturer: IBA	Revision date : 27/09/2012
	Reference Person: JGE
<p>Description </p> <p>The beam line extension is the tool of choice for solid target work (like the NIRTA® compact solid target irradiation system) and for research with proton/deuteron beam as well as having a beam in a separate target/experiment vault (long beam line). The beam line offers some adaptation of the beam profile thanks to a set of magnetic lenses and steering magnet.</p>	

Technical description |

The beam transport line system includes:

- An aluminium beam tube (dia 110mm) fixed on a strong support
- Steering magnet XY
- Drum collimator (entrance) and four-fingers collimator (at target station, option)
- Four quadrupoles mounted on the beam line, in two sets of doublets (3.5 kG each)
- Two diffusion pump, primary pump and vacuum valves on pumping cubes
- Complete control system integrated to Cyclotron Zephiros
- Cooling, air-water manifold and power supplies
- Faraday beam stop 2 kW or viewer (*optional items*)
- Neutron shutter to allow separated vault access.

The beam line allows transport of 18 MeV 150 µA proton or 9 MeV 60 µA deuteron

Optional end of line items |

The following items could be installed at the end of beam line:

- Beam dump (standard) for tests
- IBA Nirta Solid compact target
- IBA Switching magnet 5 ports for up to 5 targets installation

Weight and dimensions |

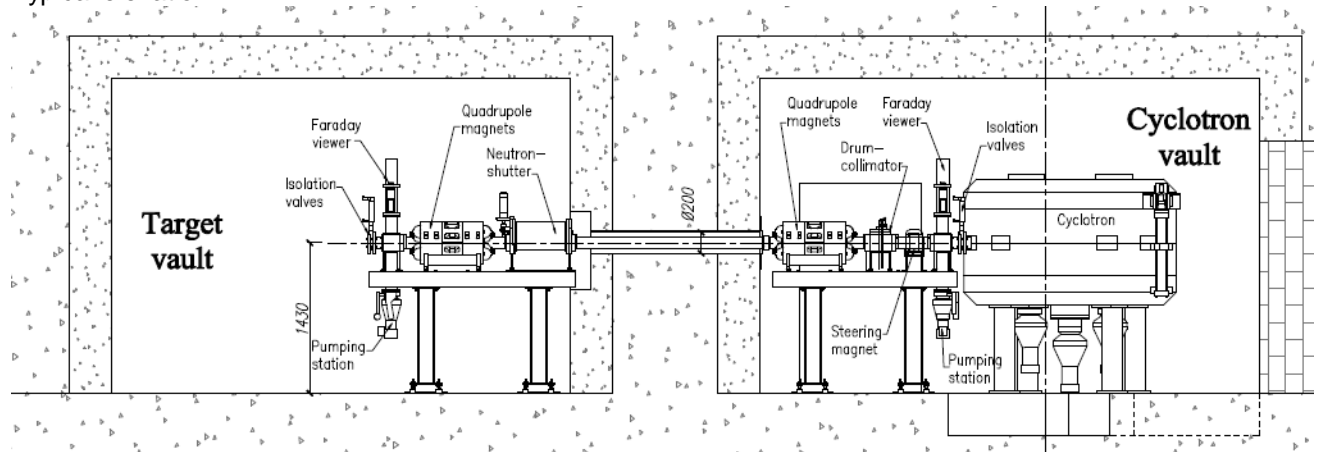
Typical length: +/- 6 meters from cyclotron to target
 Typical inter-vault wall thickness : 1.5 to 1.8 m

Installation |

For complete information, please refer to IBA Site Guide and customized layout

The median plane (beam height) is 1430 mm from the finished floor allowing easy access to all the components installed around the beam line.

Typical elevation



Control Interface |

Beam Line Long

Beam line ready

Beam line interlocks

- Quads subsystem interlocks
 - Beam line water cooling system
- Quads external interlocks
 - Safety
- Viewers subsystem interlocks
 - Beam line water cooling system
- Beam request interlocks
 - Beam line water cooling system
 - Safety
 - Target beam requested

1.2E-006 mbar

Beam line High Vacuum

Quads & Steering

Parameters

Readings

Viewer cyclo side current	0.00 μ A	Beam line drum left current	0.00 μ A	Viewer target side current	0.00 μ A
		Beam line drum right current	-0.02 μ A	Beam line collimator current	-1.53 μ A
		Drums + 4 jaws + collimator	0.00 μ A	Beam line target current	0.00 μ A

Power supply control

Steering X	-2.40 A	Quad A	47.70 A	Quad C	48.75 A
Steering Y	0.29 A	Quad B	41.80 A	Quad D	34.20 A

Integrators

Integrated target current	0.00 μ A	Transmission ratio	0.00 %	Extraction ratio	0.00 %	Integrated target delay	0.00 min
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