Technical performace		Tot. 45
Sub Criteria	Value	Points
	Theta ≥ 360°	1,91
Gantry Rotation Angle (Theta)	220° ≤ Theta < 360°	0,96
-	Theta < 220°	0,00
	GRS ≥ 1 rpm	0,48
Gantry Rotation Speed (GRS)	$0.5 \text{ rpm} \le \text{GRS} < 1 \text{ rpm}$	0,24
	GRS < 0.5 rpm	0,00
	Yes	0,48
Aultiple selection of the gantry rotation speed	No	0,00
	≤ 0.25°	0,48
antry angle accuracy	> 0.25°	0,00
	≤ 3°	0,48
antry residual rotation after emergency stop at maximum speed (Rot)	3° < Rot < 5°	0,00
	redundant	0,48
Anticollision software / hardware system for couch, gantry and imaging system	not redundant	0,00
vidence that the gantry, the CBCT and the Patient Positioning System are compatible with	Yes	0,48
he treatment of anaestethized patients	No	0,00
	automatic from remote	0,48
lignment lasers: manual or automatically from remote moved	manually	0,00
	Weight ≥ 180 kg	0,48
atient Positioning System max patient load (table top weight not included)	$150 \text{ kg} \le \text{Weight} < 180 \text{ kg}$	0,24
	Weight < 150 kg	0,00
	Yes	0,96
atient weight compensation system	No	0,90
	≥ 180°	0,48
able top rotation in treatment mode	< 180°	0,48
	≤ 75 cm	0,48
owest height of the table top	> 75 cm	0,48
	≥ +/-5°	0,00
oll and pitch angles	<pre></pre>	0,48
Vidth of the volume usable for treatment and imaging (within which the accuracy of the	≥ 50 cm	0,00
ouch position is guaranteed)	< 50 cm	0,48
Height of the volume usable for treatment and imaging (within which the accuracy of the	≥ 40 cm	0,00
ouch position is guaranteed)	< 40 cm	0,48
Length of the volume usable for treatment and imaging (within which the accuracy of the	≥ 100 cm	0,00
ouch position is guaranteed)	< 100 cm	0,48
		•
Distance between center of treatment volume and couch rotation axis	≥ 80 cm	0,48
	< 80 cm ≤ 0.5 mm	0,00
bsolute position accuracy of the couch		0,48
	> 0.5 mm	0,00
bsolute rotation accuracy of the couch at isocenter	≤ 0.5°	0,48
	> 0.5°	0,00
	≥ 25 x 40	4,79
/laximum treatment Field Size at the isocenter (cm ²)	between 20 x 24 and 25 x 40	0,96
	$\leq 20 \times 24$	0,00
	≤ 1 mm	0,48

Insert Value	

> 1 mm	0,00
≤1 mm	0,48
>1 mm	0,00
≤ 10%	0,48
> 10%	0,00
≤1mm	0,48
> 1 mm	0,00
≤ 0.01 MU	0,48
> 0.01 MU	0,00
≤ 0.5%	0,48
> 0.5%	0,00
≤ 1%	0,48
> 1%	0,00
≤ 60 s	0,48
> 60 s	0,00
≤ 60 s	0,48
> 60 s	0,00
≤ 10 s	0,48
> 10 s	0,00
≤ 150 us	0,48
> 150 us	0,00
	1,44
1	0,00
Yes	0,48
	0,00
MLC	0,48
	0,24
	0,00
> 30 x 30 cm ² at the isocenter	0,48
	0,00
	0,48
	0,00
	0,48
•	0,00
	0,48
	0,00
	0,48
	0,00
	1,91
	0,00
	0,48
	0,00
	0,48
	0,00
	0,48
•	0,00
> 1 mm	
≥ 1 rpm < 1 rpm	0,48
	$ \leq 1 \text{ mm} \\ > 1 \text{ mm} \\ \leq 10\% \\ > 10\% \\ \leq 1 \text{mm} \\ > 1 \text{mm} \\ \leq 0.01 \text{ MU} \\ \leq 0.01 \text{ MU} \\ \leq 0.5\% \\ > 0.1 \text{ MU} \\ \leq 0.5\% \\ > 0.5\% \\ \leq 1\% \\ > 1\% \\ \leq 60 \text{ s} \\ > 60 \text{ s} \\ \leq 60 \text{ s} \\ > 60 \text{ s} \\ \leq 60 \text{ s} \\ > 60 \text{ s} \\ \leq 10 \text{ s} \\ > 10 \text{ s} \\ \leq 10 \text{ s} \\ > 10 \text{ s} \\ \leq 150 \text{ us} \\ > 150 \text{ us} \\ > 150 \text{ us} \\ > 1 \\ 1 \\ Yes \\ \text{No} $

CDCT IIIIage typical reconstruction time at the end of acquisition	> 15 s	0,00
Multiple image recolution conchility	Yes	0,48
Multiple image resolution capability	No	0,00
Turnical image registration time $(2D/2D)$	≤ 30 s	0,48
Typical image registration time (2D/3D)	> 30 s	0,00
Mean Beam Transport System efficiency calculated as 4/(1/eps1 + 1/eps2 + 1/eps3+1/eps4)	> 0.3	4,79
Transport efficiency defined as current at the isocenter divided by accelerated current into the machine at the extraction energy	0.1 < eps ≤ 0.3	3,59
Efficiency at the maximum energy (eps1)	0.05 < eps ≤ 0.1	2,39
Efficiency at 150 MeV at isocenter (eps2) Efficiency at 100 MeV at isocenter (eps3)	0.02 < eps ≤ 0.05	1,20
Efficiency at minimum energy (specify) (eps4)	≤ 0.02	0,00
Maximum nominal current in the machine at the extraction energy	l ≤ 10 nA	1,91
(for standard treatments)	10 < l < 100 nA	0,96
	l ≥ 100 nA	0,00
	Absent	0,96
Waiting time for cooling machine parts necessary to allow access in the accelerator room for	t≤1h	0,72
quick inspection purposes (after a typical week of operation). Dose rate in the room shall be <	1< t ≤ 6h	0,24
10 microSv/h - H*(10)	t > 6h	0,00
	Absent	0,96
Waiting time for cooling machine parts necessary to allow access	t ≤ 1 h	0,72
in the accelerator room for machine maintenance purposes (after a typical working week)	1< t ≤ 12 h	0,24
	t > 12 h	0,00
	≤ 0.5 volume changes per hour	1,91
Minimum air exchange rate in the accelerator vault because of technological needs (R)	0.5 < R ≤ 3 volume changes per hour	0,96
	>3 volume changes per hour	0,00
Required area for the bunker containing accelerator, gantry and treatment room	Smaller area	0,96
including standard shields (<1 mSv / y - H*(10) in contact)	Other offers (as long as they are compatible	0,96* Minimum area/area
	with the space available)	offered
Volume required for the bunker containing accelerator, gantry and treatment room	Smaller volume	0,96
including standard shields (<1 mSv / y - H*(10) in contact)	Other offers (as long as they are compatible	0,96* minimum
	with the space available)	volume/volume offered
	Minimum power requirement	0,96
Typical power requirements to run the machine and its ancillary systems including cooling and ventilation (average on one year, 13 hours/day, 240 d/y)	Other offers	0,96*Minimum power/power offered
Control system multi-mode exercise (aliainal shuring coming)	Yes	0,48
Control system multi mode operation (clinical, physics, service)	No	0,00

Operation, maintenance and training		Tot. 15
Sub Criteria	Value	Points
Beam time availability to CNAO personnel for research, a part from beam time devoted to clinical activities and preventive maintenance	≥ 32 hours/week	2,50
	16 ≤ hours/week < 32	1,25
	< 16 hours/week	0,00

_	_	

Insert Value	

	12 months	2,50
Full risk guarantee extension included besides the standard 24 months	6 months	1,25
	no	0,00
Number of days required in two years for planned maintence during weekends or nights (approximately from 22:00 to 6:00) in order to guarantee the availability of the	≤30	2,50
machine 24/7	30 < Days ≤ 45	1,25
	> 45	0,00
Number of working days required in two years for planned maintence in order to guarantee	≤ 10 days	2,50
the availability of the machine 24/7	10 < days ≤ 15	1,25
	> 15 days	0,00
Training program for the CNAO personnel (operation, maintenance, repair)	Program, organization and quality will be evaluated	up to 5

Research and development		Tot. 10
Sub Criteria	Value	Points
	The presentation of future research	up to 5
	programmes performed by the Contractor	
	using the technology, or related to it, is	
	required. The number as well the quality of	
	the programmes proposed will be evaluated.	
	The conditions, priority and the exclusivity to	
	involve CNAO shall be declared and will be	
	evaluated.	

This item shall be indicated

by the Bidder in the document: **Programma di formazione del personale CNAO** [art. 16 lett. e) Disciplinare di gara]

Insert Value

This item shall be indicated by the Bidder in the document: **Proposta strategica delle attività di ricerca e sviluppo** [art. 16 lett. f) Disciplinare di gara]