

TENDER SPECIFICATION MYRO®

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No.	SPECIFICATION
1.	General
1.1.	Sensor-based multitouch therapy surface for movement and cognitive therapy
1.2.	Sensor system for pressure, traction, movement and rotation
1.3.	Object detection for ADL-specific training
1.4.	Push and pull force detection and application
1.5.	Large screen format for enhanced visual exploration
1.6.	Control via finger, large surface area (e.g. fist), platform objects, real-life objects (e.g. pen)
1.7.	Therapy in frontal and transversal plane
1.8.	Can be used in a sitting (chair or wheelchair), standing or lying position
1.9.	Height-adjustable
1.10.	Scalable workspace with adjustable screen tilting
1.11.	Security bar for height and tilting
1.12.	Mouse, mouse pad and keyboard
1.13.	Audio output with 2 speakers (each 10 watts) and output for headphones
1.14.	5 MYRO® objects included: coin, cup, ball, handgrip, empty platform for individual objects
1.15.	Suction cup for force measurements of different finger grips
1.16.	Storage box for MYRO® objects
1.17.	Wi-Fi
1.18.	USB Connection
1.19.	For children and adults
2.	Application
2.1.	Indications: Stroke (cerebral hemorrhages, ischemic damages), Traumatic brain injury (TBI), Spinal cord injury (SCI), Brain tumor, Parkinson's disease, Chronic diseases, e.g. multiple sclerosis (MS), Cerebral palsy (CP), Motor neuron diseases, e.g. amyotrophic lateral sclerosis (ALS), Meningitis, Encephalitis, Muscular dystrophies, Paralysis due to a herniated vertebral disc of the cervical spine, Neglect, Fractures and injuries of the distal upper extremity (remodeling phase)
2.2.	Absolute contraindications: acute pain despite conventional pain therapy in the region of the affected upper extremity, impossibility to adapt the device according to the patient's individually physiologic position especially in case of contractures or severe spasticity (joint is fixed/rigid) of the trained upper extremity, insufficient compliance (e.g. patients suffering from severe psychotic diseases or severe neurotic disorders), high grade ataxia, severe osteoporosis (risk of fractures), unstable or still inadequately consolidated fractures For relative contraindications please refer to the user manual.
2.3.	Acute, sub-acute, chronic phases of rehabilitation
2.4.	Upper extremity rehabilitation for fine and gross motor skills
2.5.	Cognitive therapy
2.6.	ADL- and task-oriented training
2.7.	Uni- and bilateral training
2.8.	Upper extremity ROM
2.9.	Graphomotor skills
2.10.	Force control
2.11.	Visual exploration

2.12.	Visual-spatial perception
2.13.	Pursuit of targets
2.14.	Eye-hand coordination
2.15.	Concentration and reaction
2.16.	Selective attention
2.17.	Planning
2.18.	Creativity
2.19.	Postural control
2.20.	Attention functions (ICF b140)
2.21.	Memory functions (ICF b144)
2.22.	Psychomotor functions (ICF b147)
2.23.	Perceptual functions (ICF b156)
2.24.	Higher-level cognitive functions (ICF b164)
2.25.	Carrying, moving, and handling objects (ICF d430-d449)
2.26.	Control of voluntary movement functions (ICF b760)
2.27.	Sitting & standing balance
2.28.	Weight shift
2.29.	Multitasking
2.30.	Gamification to engage and motivate patients
3.	Software
3a.	General
3a.1	Cross-device TyroS software
3a.2	21 languages
3a.3	User-friendly interface for therapists
3a.4	Therapist control of adjustable movement training parameters
3a.5	Full screen mode
3a.6	Force display: N/kg/lbs
3a.7	Speed display: kmh, mph
3a.8	Reporting at the end of the therapy
3b.	Assessments
3b.1	Force assessment (assess push and pull force of different grip forms)
3b.2	Weight assessment (assess applied pressure and traction)
3b.3	Star assessment (assess ROM, accuracy and execution speed of graphomotor skills)
3b.4	Trace assessment (assess ROM and accuracy of graphomotor skills)
3c.	Therapies
3c.1	1D therapy programs
3c.2	Movement therapies
3c.3	Cognitive therapies
3c.4	Neuropsychological training by Verena Schweizer
3c.5	Active therapy programs with 10 different levels

3c.6	Switching from one level to the next can be done manually or automatically	
3c.7	Amount of time for each therapy can be manually adjusted	
3c.8	Sensitivity can be changed during active therapy selecting from 50%, 75% or 100%	
3c.9	Feedback in form of stars is given after the end of each level	
3c.10	2-player therapy program	
3c.11	Object placement detection	
3c.12	Creativity program	
3c.13	Sequencing option	
3c.14	Visually simplified therapy mode	
3c.15	Different control modes (force, weight displacement, object position, object rotation, touch mode area, direct touch mode)	
3c.16	Directions in 1D therapy programs can be changed easily during the active therapy to enhance cognitive functions	
3c.17	Import personal pictures for patient motivation	
3d.	Database	
3d.1	HL7, version 2.3	
3d.2	Database includes detailed therapy history of each patient	
3d.3	Patient details store assessment and therapy history (date, time, duration, type of therapy, device, comments)	
3d.4	Patient report is generated and reflects progression	
3d.5	Report sheet can be customized by the therapist	
3d.6	Report sheet can be exported (print/PDF/TXT)	
3d.7	Patient data can be archived, saved, deleted, imported and/or exported	
3d.8	Automated data backup	
3d.9	Access to patient data from all Tyromotion devices via server	
3d.10	Database facilitates collaboration between different therapy departments	
3d.11	Databank capacity for more than 500 patients	
3d.12	Data protection can be enhanced by concealing single columns	
3d.13	Scientific i/o interface	
4.	Technical Specification	
4.1.	Classification	The MYRO® system is an active, therapeutic class I medical product according to regulation 1 and 12 of the Council's Directive 93/42/EEC, appendix IX and the current supplement 2007/47/EC.
4.2.	Type of application part	Type B
4.3.	Protection against electric shock	Protection class I device – protective grounding
4.4.	Electromagnetic compatibility	Class A device (CISPR 11) The MYRO® system is suitable for usage in all other facilities apart from apartments and residential dwellings that are directly connected to the PUBLIC POWER GRID that supplies the building. EN60601-1, requirements have been fulfilled.
4.5.	Country of Origin	Austria
4.6.	Power supply voltage	110 – 240V alternating current
4.7.	Supply frequency	50/60 Hz

4.8.	Electricity/Power consumption	5 – 2,5A / 540W
4.9.	Supply grid	Only connect to supply grids with protective ground wiring
4.10.	Operating type	Continuous operation Electrical adjustment drives interval operation (2 min. on/18 min. off)
4.11.	Fuses	Secured for all poles (2x T6, 3A L 250V)
4.12.	Power supply voltage Drives	12/24V DC
4.13.	Max. tipping speed	13-16 mm/second
4.14.	Max. drive power	500N pushing/pulling
4.15.	Measurement range	pressure (table horizontal): screen center 0 – 300N pressure (table vertical): screen center 0 – 200N traction (table horizontal or vertical): screen center 0 – 50N
4.16.	Measurement deviation strength assessment	< ±5%
4.17.	Weight	110kg
4.18.	Dimensions (WxLxH)	Collapsed (in mm): 1504 x 890 x 703 Extended (in mm): 1504 x 890 x 1363 Max. height in extended and tipped state (in mm): 1730
4.19.	Penetration protection	IP20
4.20.	Operation	Temperature: 10 ... 30 °C Humidity: 30 ... 75 % relative humidity
4.21.	Storage and transport	Temperature: -20 ... 60 °C Humidity: 20 ... 90 % relative humidity, no dew
5.	Installation, Service and Warranty	
5.1.	Standard installation (shipping and special installation costs on request)	
5.2.	One-year standard warranty of all equipment items includes parts, scheduled and breakdown services by qualified maintenance personnel	
5.3.	Helpdesk and remote support	
5.4.	Reaction time within 24 hours	
6.	Certificates	
6.1.	CE Certificate	
6.2.	FDA listed	
6.3.	Certificate ISO 13485 EN	
6.4.	Please see list for specific country approvals	
7.	Cleaning and Disinfection	
7.1.	Disinfection of the MYRO® objects after each therapy	
7.2.	Disinfection of the MYRO® user surface and frame after each therapy	
8.	Clinical Application Training	
8.1.	Basic user training	
8.2.	Clinical Application training available	
8.3.	Follow up training for experienced users to become advanced users	
8.4.	E-Learning platform TyroAcademy	