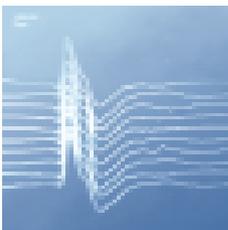
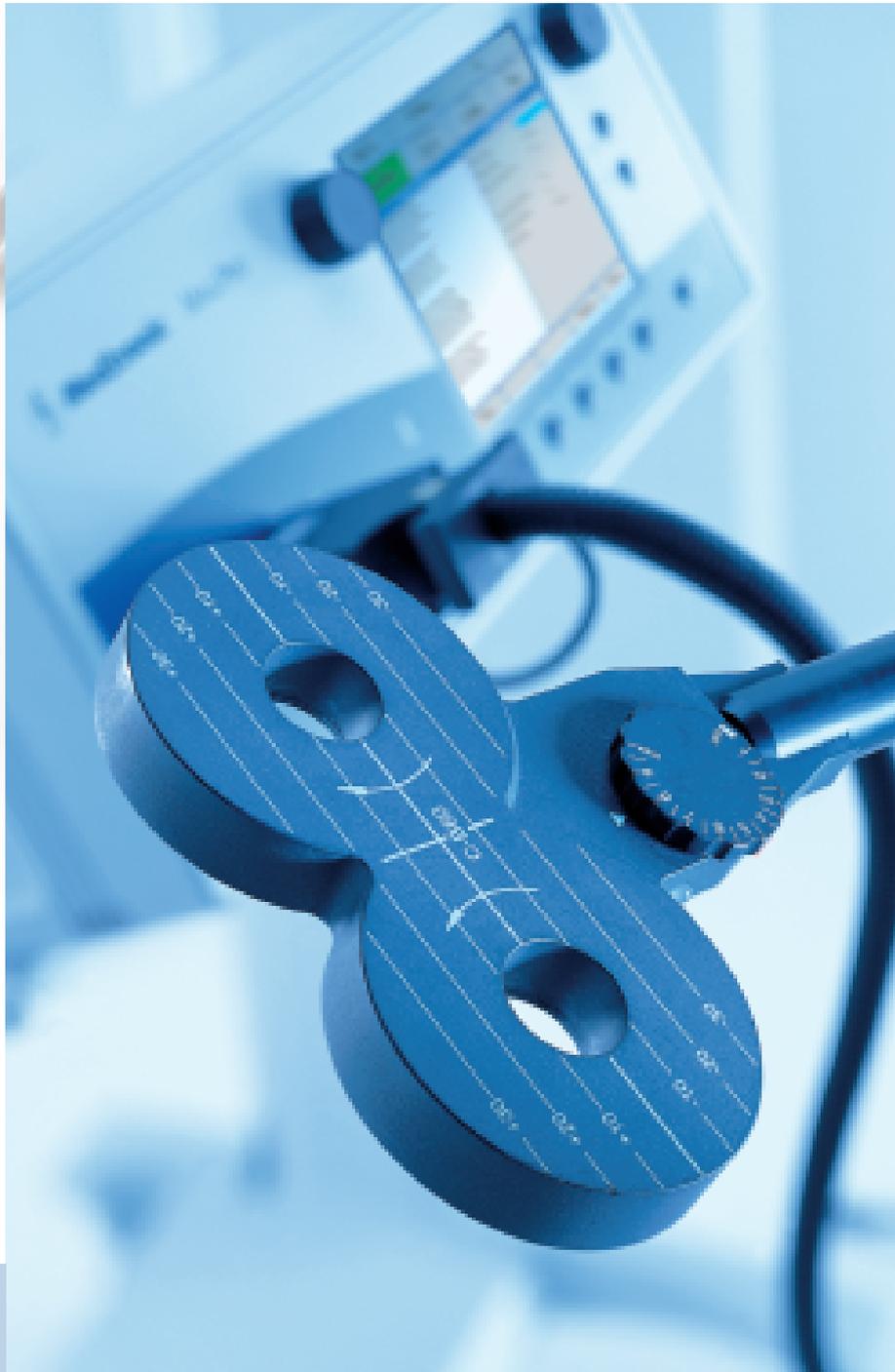
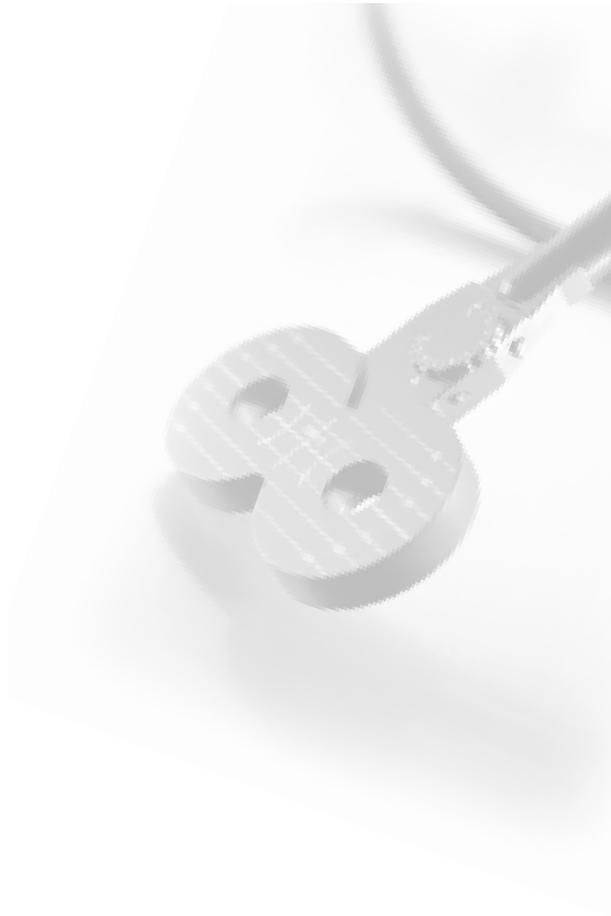




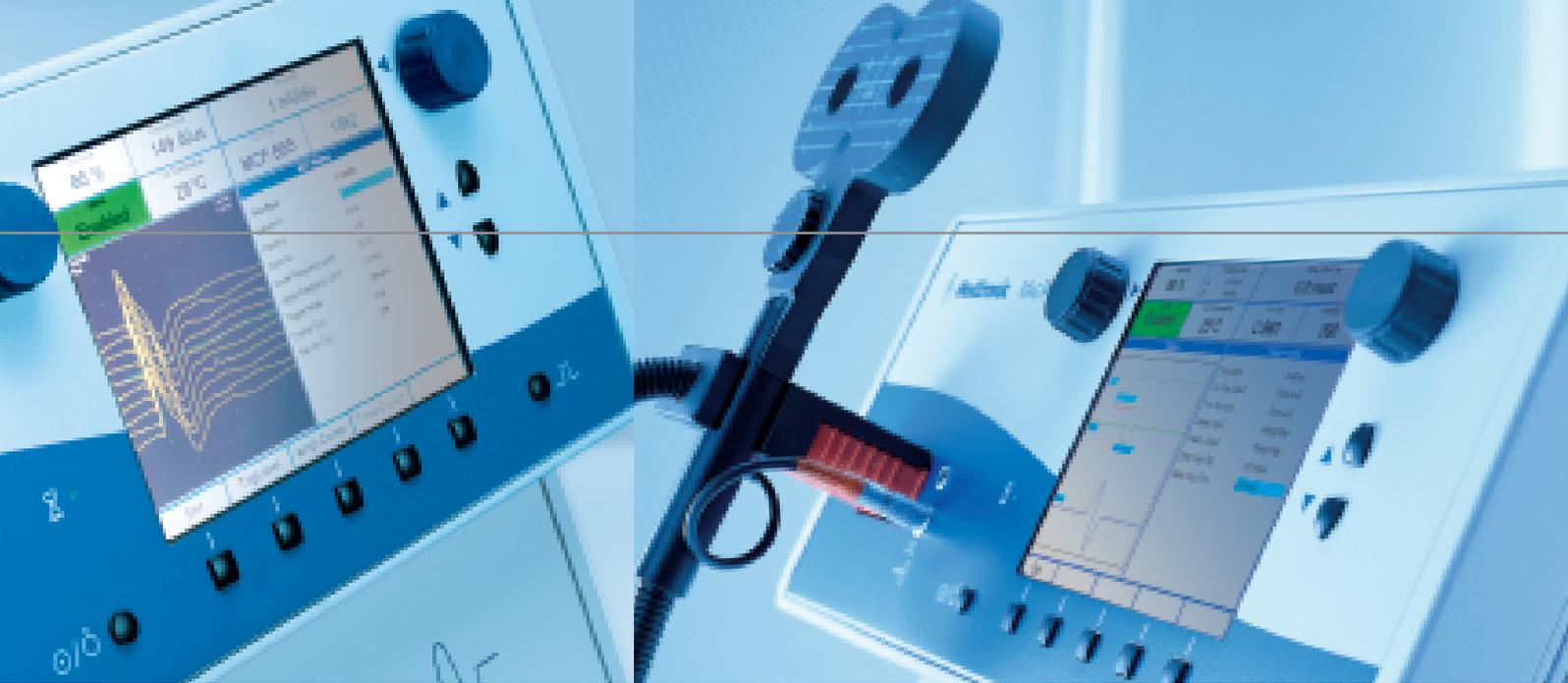
**Medtronic**

# MAGPRO

Versatility in Magnetic Stimulation



For clinical and research use



## Magnetic Stimulation From A World Leader

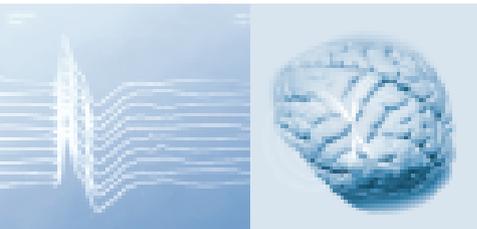
MagPro is a complete line of non-invasive magnetic stimulation systems, including both dedicated and general-purpose stimulators.

Medtronic Neuro Diagnostics is a market leader with products and procedures supported by the full resources and expertise of a truly global organization. In all its activities, Medtronic is committed to one fundamental goal: to contribute to human welfare by applying medical engineering to alleviating pain, restoring health, and extending life.

Medtronic Neuro Diagnostics is your assurance of outstanding product and applications support and user training, via our global network of support and application specialists.

	Waveform	Pulse mode	Max. Stimulation rate at Maximum Power	MEP Monitor	Applications
<b>MagPro Compact</b>	Biphasic	Standard	5 Hz		Clinical MEP
<b>MagPro R30</b>	Biphasic	Standard	30 Hz	Optional	Clinical MEP Therapeutic researches
<b>MagPro R30 with MagOption</b>	Biphasic Monophasic	Standard Dual Twin	30 Hz for single pulses 5 Hz for dual pulses	Optional	Advanced clinical MEP Brain research Advanced researches
<b>MagPro X100</b>	Biphasic Monophasic	Standard Burst (x5)	100 Hz	Optional	Clinical MEP Brain research Therapeutic researches
<b>MagPro X100 with MagOption</b>	Biphasic Monophasic Half sine	Standard Burst (x5) Power (140%) Dual Twin	100 Hz for single pulses 20 Hz for dual and twin pulses	Optional	Advanced clinical MEP Advanced researches in brain stimulations and treatments

Maximum frequency of inter-peaks in modes Dual, Twin and Burst: 1000 Hz  
MagPro Family has equal maximum output power (> 300 Joules)



## Freedom Of Choice

The MagPro series of non-invasive magnetic stimulators is designed for clinical examinations and therapeutic applications within neurophysiology, neurology, rehabilitation and psychiatry. The range consists of the **MagPro X100**, addressing a wide range of research purposes including deep nerve stimulation, the **MagPro R30**, primarily for examination and therapeutic applications in the clinic, and the **MagPro Compact** for clinical examinations.

## Long Line Of Benefits

### All-in-one stand-alone solution – no PC necessary

- Automatic sequence setup and user-definable protocols with unique, built-in computer storage
- PC-compliant technology enables transfer of data between the stimulator and a PC (optional)
- Built-in monitor with graphical user interface

### Wide Choice Of Functions

- Wide range of stimulation waveforms
- Fast stimulation series with high-frequency pulse series
- Double stimulation features in the same stimulator
- More waveforms in the same stimulator
- Selectable coil current direction

### Extra Power

- Extra power to overcome high motor threshold in physical structures and for deep stimulation, for example in the brain

### Ease Of Use

- Ergonomic design with simplified one-handed operation using controls built into the coil
- Stimulation control via manual button on the coil handle, or triggers received from external source
- Easy interface with standard EMG and EP equipment



## High-performance, non-invasive magnetic stimulators for use in both the clinic and in medical research

### MagPro X100

The MagPro X100 is an advanced, high-performance magnetic stimulator designed primarily for research purposes.

#### Applications

- Examination of the physiology of the motor pathways in the central and peripheral nervous system
- Examination of functional aspects of motor nerve stimulation
- Examination of human cortical physiology
- Improving muscle function in a therapeutic manner
- Modifying brain activity in a therapeutic manner

#### Features

- Waveform: Biphasic, Monophasic, Burst
- Selectable current direction
- Stimulation rates up to 100 pps
- Stimulus sequences and Flexible protocols controlled via a built-in computer

### MagOption (X100)

The MagOption can be added to the MagPro X100 for enhanced stimulation capabilities including:

- Dual pulses with up to 20 pulse pairs per second repetition rate
- Advanced power pulse feature adding 40% additional stimulation power
- Additional waveform: Half sine

### MEP Monitor Option

The MEP Option can be added to the MagPro X100 and the MagPro R30 for enhanced Compound Muscle Action Potential recording capabilities including:

- Display and controls in MagPro
- Rasters up to 10 responses with superimpose function
- Latency and amplitude measurements

10 000 pulses coil - with dynamic cooling device





## MagPro R30

The MagPro R30 is an advanced, high-performance magnetic stimulator designed primarily for clinical use.

### Applications

- Examination of the physiology of the motor pathways in the central and peripheral nervous system
- Improving muscle function in a therapeutic manner
- Modifying brain activity in a therapeutic manner

### Features

- Biphasic waveform
- Stimulation rates up to 30 pps
- Stimulus sequences and Flexible protocols controlled via a built-in computer

## MagOption (R30)

The MagOption can be added to the MagPro R30 for enhanced stimulation capabilities including:

- Dual pulses with up to 5 pulse pairs per second repetition rate
- Additional waveform: Monophasic

MagPro X100, MagPro R30 and Magpro Compact can all be connected to an EMG system.



## MagPro Compact

The MagPro Compact is designed for clinical use together with EMG equipment.

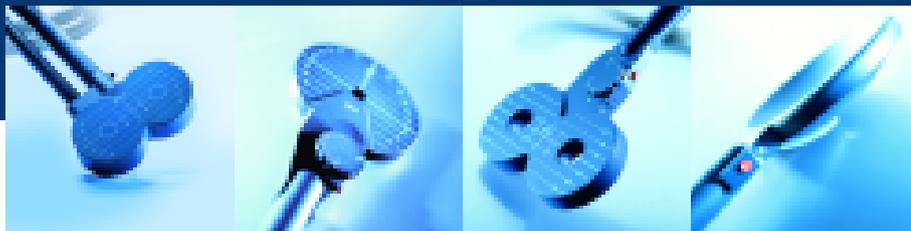
### Application

- Examination of the physiology of the motor pathways in the central and peripheral nervous system

### Features

- Biphasic stimulation waveform
- Stimulation rates up to 5 pulses per second, independent of output intensity
- Output intensity set-up integrated into the coil handle together with the trigger button
- Maximum output power equal to that of the MagPro X100
- Highly mobile and simple-to-use

# COILS



Customized coils can also be supplied for specific applications. For more information, please contact Medtronic Neuro Diagnostics at the address below.

Models	Description	Diameter	Magnetic gradient	Number of pulses *	Applications
MC-125	Circular coil	120 mm	45 kT/s	400 pulses	General purpose Deep-lying nerves Brain tissue
C 100	Circular coil Built-in remote	110 mm	45 kT/s	300 pulses	General purpose Deep-lying nerves Brain tissue
MMC 140	Parabolic coil Head-shaped +30% power	140 mm	45 kT/s	300 pulses	Brain tissue
MCF-75	Circular coil Fluid cooling	65 mm	43 kT/s	500 pulses	Train stimulation Deep-lying nerves Brain tissue Paediatric Neck stimulation
MCF-125	Circular coil Fluid cooling	120 mm	45 kT/s	2 000 pulses	Train stimulation Brain tissue
C-B60	8 coil Built-in remote	2 x 75 mm	45 kT/s	250 pulses	General purpose Focussed stimulations Deep-lying nerves Brain tissue
MC-B65-HO /2 2m cable /8 8m cable	8 coil Orthogonal handle	2 x 75 mm	45 kT/s	350 pulses	Use in MR scanners Deep-lying nerves Brain tissue
MC-B70	Crossed 8 coil Head-shaped +10% power	2 x 100 mm	45 kT/s	375 pulses	Brain tissue
MCF-B65	8 coil Fluid cooling	2 x 75 mm	45 kT/s	2 000 pulses	Train stimulation Brain tissue
Cool-B65	8 coil Dynamic cooling device	2 x 75 mm	45 kT/s	10 000 pulses	Train protocol Long train stimulation Brain tissue
DB80	8 coil – 120° angle	2 x 80 mm	35 kT/s	350 pulses	Focussed MEP
MC-P-B70	Crossed 8 placebo coil Sound level = MC-B70 Shielded	2 x 100 mm	Power reduction 80%	375 pulses	Placebo
MCF-P-B65	8 placebo coil Sound level = MCF-B65 Shielded Fluid cooling	2 x 75 mm	Power reduction 80%	1 600 pulses	Placbo Train stimulation

\* Number of stimulation before warm-up, mean output 75% of maximum (3.9 – 35 Tesla) at 1pps

Note 1: Maximum power output is manufacturer and equipment dependent: MagPro features on-screen display of both estimated % output, relative to the individual equipment, and accurate

Note 2: High quality standards on MagPro Coil with standardized inductance value ( $\mu\text{H}$ ) ensure the specified stimulus duration time, independent of the coil type.



**Medtronic**  
When Life Depends on Medical Technology

Western Europe Head Office:  
Medtronic A/S  
Tonsbakken 16-18  
DK-2740 Skovlunde, Denmark  
E-mail : mfd@medtronic.com  
Phone : +45 44 57 90 00  
Fax : +45 44 57 90 10  
www.mfd.medtronic.com

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