**Manipulators**

**MAN-01-1x series**

**Multi role manipulator**

**Product codes**

- Multi role manipulator
  - with 1mm/ turn  **MAN-01-11**
  - with 0,5mm/ turn  **MAN-01-12**
  - (with 0,25mm/ turn  **MAN-01-13**)

**Material of body: Anodized aluminium (black)**

**Material of shaft: Stainless steel**

**(Dimension: see drawings)**

![Multi role manipulator diagram]

**Basic manipulator**

**Product codes**

- Basic manipulator (?)
  - with 1mm/ turn  **MAN-01-14**
  - with 0,5mm/ turn  **MAN-01-15**
  - (with 0,25mm/ turn  **MAN-01-16**)

![Basic manipulator diagram]
**Simple manipulator**

**Product codes**

MAN-08-01

Material of body: Anodized aluminium (black)
Material of shaft: Stainless steel
The operation length: ~25mm
Mountable to Ø12H7 diameter pole
The thread: 1mm/turn
(The other dimension: see drawings)

Special high nut

Special screw for fixing
SEN-03 family force transducer

MAN-01-93

MAN-01-94
Material of body: Anodized aluminium (black)
Material of shaft: Stainless steel
(The dimension: see drawings)

Product codes
MAN-07-02

Connection for pipe Ø3 (outer)
Basic magnetic stand

Product codes
Magnetic stand with vertical pole, only
L1=50 MAN-06-04
L1=150 MAN-06-05
L1=250 MAN-06-06
Magnetic stand with vertical and horizontal pole
L1= 50 & L2=150 MAN-06-11
L1=150 & L2=150 MAN-06-12
L1=250 & L2=250 MAN-06-13

Material of magnetic base: painted steel
Material of shafts, screws: Stainless steel
Material of adj.joint: PMA (Polyamid, black)
Vertical holding power: 80N
(The dimension: see drawings)
Horizontal pole assortment

Product codes

Simple pole for magnetic stand
L2=100  MAN-06-31
L2=150  MAN-06-32
L2=250  MAN-06-33

Material of shafts, screws: Stainless steel
(The dimension: see drawings)

Pole for ball mounted manipulator
L2=150  MAN-06-34
L2=250  MAN-06-35

Pole with M8 threaded end
L2=50   MAN-06-36
L2=150  MAN-06-37
L2=250  MAN-06-38

Pole with Ø9 ball end
MAN-06-39
Magnetic stand
MAN-06

**Joints**

**Product codes**

**Big joint**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN-06-91</td>
<td>Material of bracket: PMA (polyamid, black)</td>
</tr>
<tr>
<td></td>
<td>Material of shafts, screws, washers: Stainless steel</td>
</tr>
<tr>
<td></td>
<td>(The dimension: see drawings)</td>
</tr>
</tbody>
</table>

![Big joint diagram]

**Joint supporter**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN-06-92</td>
<td>Material of body: PMA (polyamid, black)</td>
</tr>
<tr>
<td></td>
<td>(The dimension: see drawings)</td>
</tr>
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</table>

![Joint supporter diagram]

**Small joint**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN-06-93</td>
<td>Used material: PMA (polyamid, black)</td>
</tr>
<tr>
<td></td>
<td>Anodised aluminium (black)</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td>(The dimension: see drawings)</td>
</tr>
</tbody>
</table>

![Small joint diagram]
Construction elements
For MAN-06 and MAN-01-1x series manipulators

Tool holder
Product codes

MAN-06-51

Material of body: anodized aluminium (black)
Material of shafts, screws: stainless steel
Material of turn knob: Stainless steel
or chromium-plated brass
(The dimension: see drawings)

The holder open Ø2 - Ø6mm

MAN-06-56

Tool holders for micromanipulator (MAN-07)
( Accessories: 4pcs M2,5x6 ISO 4762 )

The holder open Ø2 - Ø6mm
Adaptor for manipulator

Product code:

**MAN-06-52**

Adaptor for connecting tool holder, mounting plate or a second manipulator in 90° direction to manipulator

(Accessories: 4pcs M2,5x6 ISO 4762, 1pc M4x16 ISO 4762)

Material of body: anodized aluminium (black)

Material of shafts, screws: stainless steel

(The dimension: see drawings)

* As a last part, if you use the related adaptor for MAN-01-14, MAN-01-15.*
**Construction elements**
For MAN-06 and MAN-01-1x series manipulators

**Product code:**

**MAN-06-53**
Adator for two manipulator connected in 90°
(Accessories: 8pcs M2,5x6 ISO 4762)

**MAN-06-54**
Adator connecting manipulator to pole
(Accessories: 4pcs M2,5x6 ISO 4762,
1pc fixing screw, product code: MAN-01-90)

Material of body: anodized aluminium (black)
Material of shafts, screws: stainless steel
(The dimension: see drawings)

*As a last part, if you use the related adaptor for MAN-01-14, MAN-01-15.*
Construction elements
For MAN-06 and MAN-01-1x series manipulators

Product code:

MAN-06-54
Turnable adator for mounting the manipulator to magnetic stand pole (Accessories for MAN-09-04: 4pcs M2,5x6 ISO 4762,)

MAN-06-55
for MAN-09-05: 1pc M4x16 ISO 4762)

Material of body: anodized aluminium (black)
Material of shafts, screws: stainless steel
(The dimension: see drawings)
**Construction elements**

For ball mount constructions

**Product code:**

Material of body: POM (polyamid, black)
Material of shafts, screws: stainless steel
(The dimension: see drawings)

**MAN-04-31**

Adaptor for receiving ball-ended pole
(MAN-06-39) Its adaptor can be mounted on right
hand or left hand positions.
(Accessories for: 2pcs M2,5x16 ISO 4762)

Adaptor for MAN-01-14, MAN-01-15 manipulators
(Accessories: 3pcs M2x5 ISO 7046 for all, and for MAN-04-35 1pc M2x3 DIN 916 ?)

- Pin with M4 thread **MAN-04-32**
- Hole with M4 thread **MAN-04-33**
- Hole with Ø2 end fixing screw **MAN-04-35**
Examples
For MAN-06 and MAN-01-1x series manipulators

2D manipulator with tool holder

3D manipulator with tool holder
Examples

Micromanipulator with tool holder built on to the coarse manipulator with turnable adaptor
Examples
Ball mounted manipulator (SEN-12*)

Ball mounted manipulator (SEN-12) and magnetic stand (MAN-06)

Ball mounted manipulator (SEN-12) and other fixing method

* As a last part, if you use the related adaptor for MAN-01-14, MAN-01-15.
In Products
Manipulator in isolated organ bath systems
(ISO-04, -05, -07, -08)

Product codes
Manipulator (1,0mm/turn)
MAN-01-05
MAN-01-06

No longer available
Replacement: MAN-08-01 1mm/turn
MAN-01-21 1mm/turn
(MAN-01-22 0,5mm/turn*)

Manipulator (1,0mm/turn) for SI-H application, with holder for SI-H force transducer

No longer available
Replacement: MAN-01-23 1mm/turn
(MAN-01-24 0,5mm/turn*)

Manipulators
MAN-01-21 1mm/turn
(MAN-01-22 0,5mm/turn*)

* Option

Spare parts
High nut
MAN-01-93
Fixing screw M4x30
MAN-01-94
Fixing screw M8x10
MAN-01-90
**Product codes**

Complete manipulator for needle electrodes
Signal cable length: 150mm,
The connector 2pcs Ø2mm banana, male

- **MAN-04-21** (left hand)
- **MAN-04-22** (right hand)

**Spare parts**
Head with needle
**SEN-12-24**
Product codes

Ball mounted manipulator

**SEN-12-1y**
Only interchangeable head

**SEN-12-2y**
the "y" is depend on the type of head

Material of body: POM (polyamid, black)
Material of shafts, screws: stainless steel
Length of built cable: 2m
Connector. Ø4mm banana male

Attention:
The one-electrode manipulator’s cable is one-cored, it can not be used with a two-electrode head!
Accessory for SEN-12-12: a ground cable, with the connectors a Ø4 babana male and small clip.
(Product code: CAB-092)
(The dimension: see drawings)

Type of head:

The electrode:

<table>
<thead>
<tr>
<th>“y” =&gt;</th>
<th>Bipolar Platina Ø0,2</th>
<th>Bipolar hook Platina Ø0,8</th>
<th>Unipolar Platina Ø0,8</th>
<th>Needle Stanlees steel Ø0,3</th>
<th>Banana female Size: Ø2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Hole for mounting the ball mounted manipulator

Interchageable head