



# Technical Manual

Multi Function Modules for Integration into Dental equipment



**Micromotor Module : NBX with iMD**

TM-E0007E



Powerful Partners®


|   |  |
|---|--|
| <b>Indication</b>   |  |
| <b>Treatment</b>  |  |
| NBX motor   | <ul style="list-style-type: none"> <li>- Tooth cutting</li> <li>- PMTC (Professional Mechanical Tooth Cleaning)</li> <li>- Endodontic treatment</li> </ul> |
| <ul style="list-style-type: none"> <li>- The product may be damaged if the setting is not correct.</li> <li>Some switches and potentiometers may not be necessary for NBX motor.</li> <li>Check wiring diagram case and iMD connections, and select the proper connection.</li> <li>- When jumper setting is wrong, the product will not work properly and may be damaged.</li> </ul> |  |


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**iMD Individual Components**

**iMD Driver PCB**

|   |   |                        |
|---|---|------------------------|
| <b>iMD Driver (PCB with case)</b>         |   |                        |
| Dimensions with case: W86 x D57 x H33(mm) |  | MODEL<br>iMD           |
|   |   | ORDER CODE<br>U1124001 |







|   |   |                        |
|---|---|------------------------|
| <b>iMD BS Driver (PCB with case)</b>  |   |                        |
| Dimensions: with case:W86 x D57 x H33(mm)<br>There is no endo function for this product |  | MODEL<br>iMD BS        |
|   |   | ORDER CODE<br>U1124002 |

**Selector PCB**


|                                     |   |                        |
|-------------------------------------|---|------------------------|
| <b>Selector PCB (PCB with case)</b> |   |                        |
| Dimensions: W62 x D50 x H21.6 (mm)  |  | MODEL<br>iMD SEL       |
|                                     |   | ORDER CODE<br>U1124050 |

## NBX Individual Components

### Micromotors and cords


|  |   |                               |
|--|---|-------------------------------|
| <b>Micromotor with cord</b> <b>Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>Max. 40,000min<sup>-1</sup></li> </ul>  |    | MODEL<br><b>NBX MCB</b>       |
|  |   | ORDER CODE<br><b>E1059001</b> |
| <b>Micromotor</b> <b>Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>Max. 40,000min<sup>-1</sup></li> <li>Micromotor only ( Cord not included )</li> </ul>         |    | MODEL<br><b>NBX</b>           |
|  |   | ORDER CODE<br><b>E1059051</b> |
| <b>Motor Cord</b> <b>Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>With constant current</li> <li>Motor Cord only</li> <li>For NBX</li> <li>2.2m</li> </ul>      |   | MODEL<br><b>NBX CDB</b>       |
|  |   | ORDER CODE<br><b>E1059061</b> |
| <b>Micromotor with cord</b> <b>Non-Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>Max. 40,000min<sup>-1</sup></li> </ul>  |  | MODEL<br><b>NBX N MCB</b>     |
|  |   | ORDER CODE<br><b>E1074001</b> |
| <b>Micromotor</b> <b>Non-Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>Max. 40,000min<sup>-1</sup></li> <li>Micromotor only ( Cord not included )</li> </ul>         |  | MODEL<br><b>NBX N</b>         |
|  |   | ORDER CODE<br><b>E1074051</b> |
| <b>Motor Cord</b> <b>Non-Optic</b>   |   |                               |
| <ul style="list-style-type: none"> <li>Without constant current</li> <li>Motor Cord only</li> <li>For NBX N</li> <li>2.2m</li> </ul> |  | MODEL<br><b>NBX N CDB</b>     |
|  |   | ORDER CODE<br><b>E1074061</b> |

### Lead Connectors


| Motor   |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>U1124053  |

| RS-232C   |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>20000902  |

| Lamp  |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>U1124052  |

| Power with fuse   |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>U1124057  |

| A/B select  |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>20000907  |

| Power   |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>U1124058  |

| External I/F  |                         |
|---|-------------------------|
|  | MODEL<br>LEAD CONNECTOR |
|   | ORDER CODE<br>U1124054  |

## Multi Pad

The Multi Pad can control the iMD and also Varios 170.

### Multi Pad for iMD (Manual Selection Type)

Manual Selection Type :

Selects instruments by pressing the Esc key.

This is add-on type to be installed on an existing chair unit.



MODEL

MP03

ORDER CODE

U1018003

MODEL

MPS03

(MP03 with Angle Plate)

ORDER CODE

Y

### Multi Pad AX for iMD (Auto Selection Type)

Auto Selection Type :

Selects instruments automatically.

This is suitable for designing Multi-Pad-embedded chair units.

Instrument holder switch and Foot Control need to be designed for this type of Multi Pad.



MODEL

MP04

ORDER CODE

U1018004

MODEL

MPS04

(MP04 with Angle Plate)

ORDER CODE

Y

## Options

### Varios 170 Optic Complete Set

With a harness connectable to the Multi Pad.



MODEL

VA170LUXS5

ORDER CODE

Y1002114

### Varios 170 Non-Optic Complete Set

With a harness connectable to the Multi Pad.



MODEL

VA170S5

ORDER CODE

Y1002115

### Magnetic Solenoid Valve



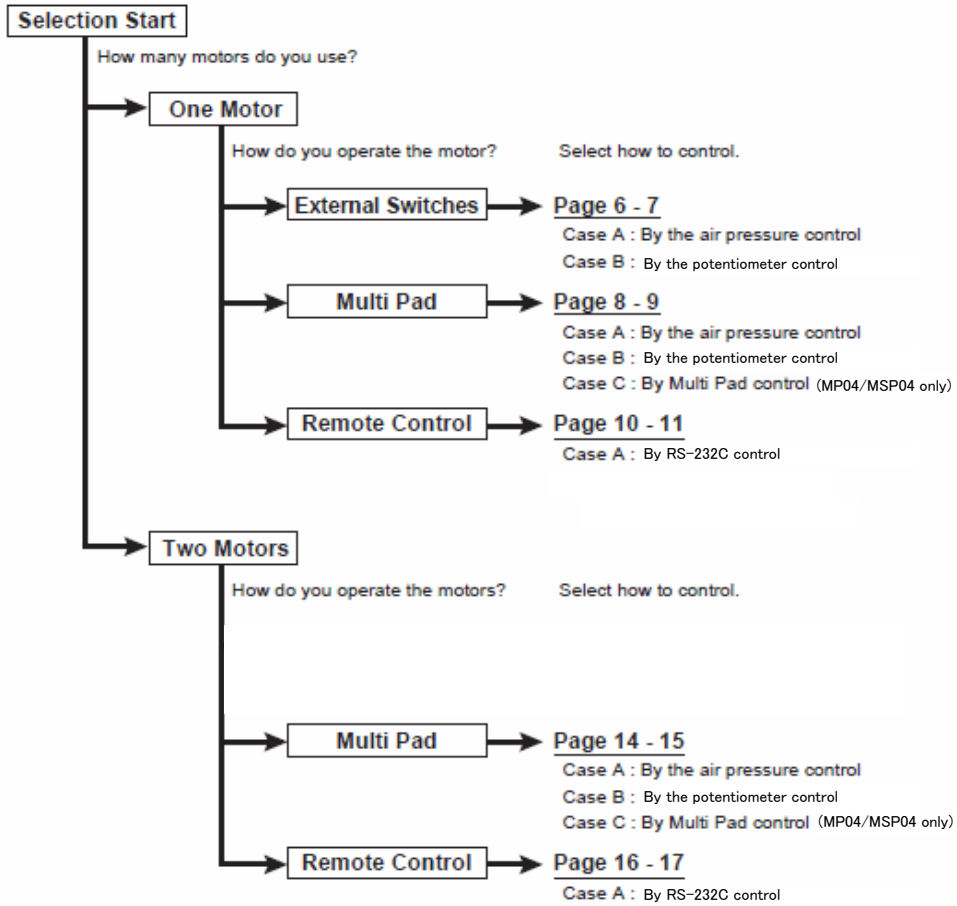
MODEL

SOLENOID VALVE  
(OPTION)

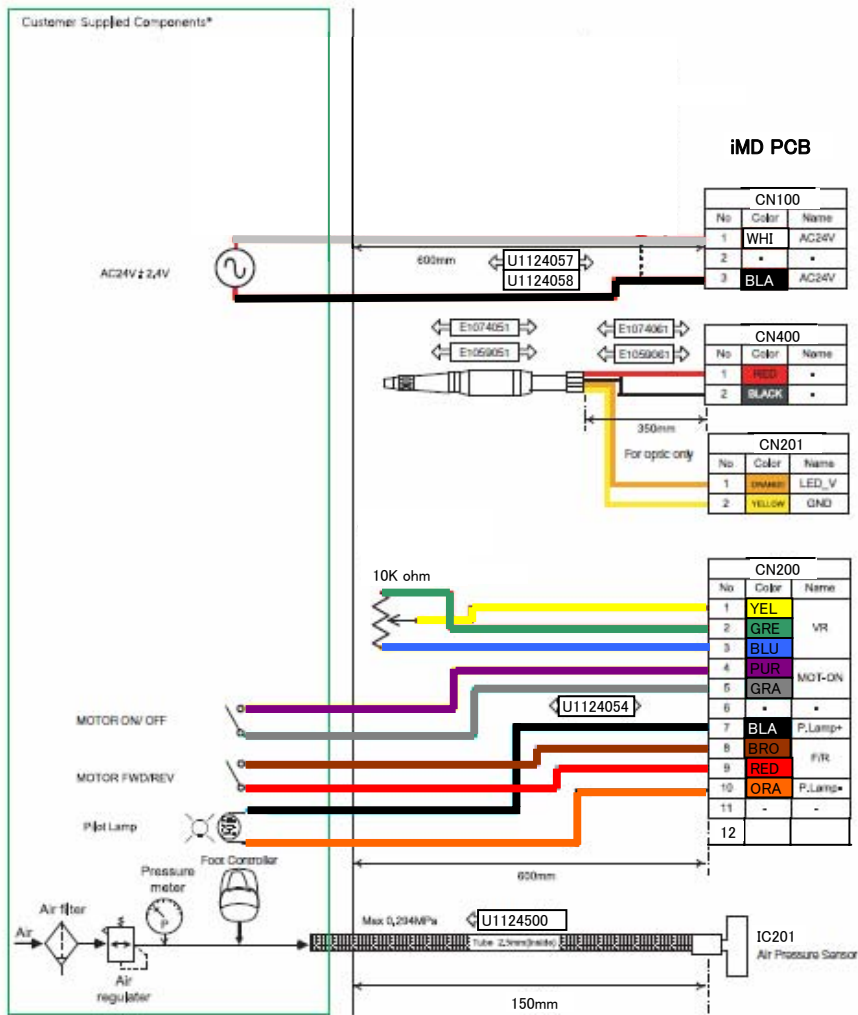
ORDER CODE

U387014

## Selection Chart



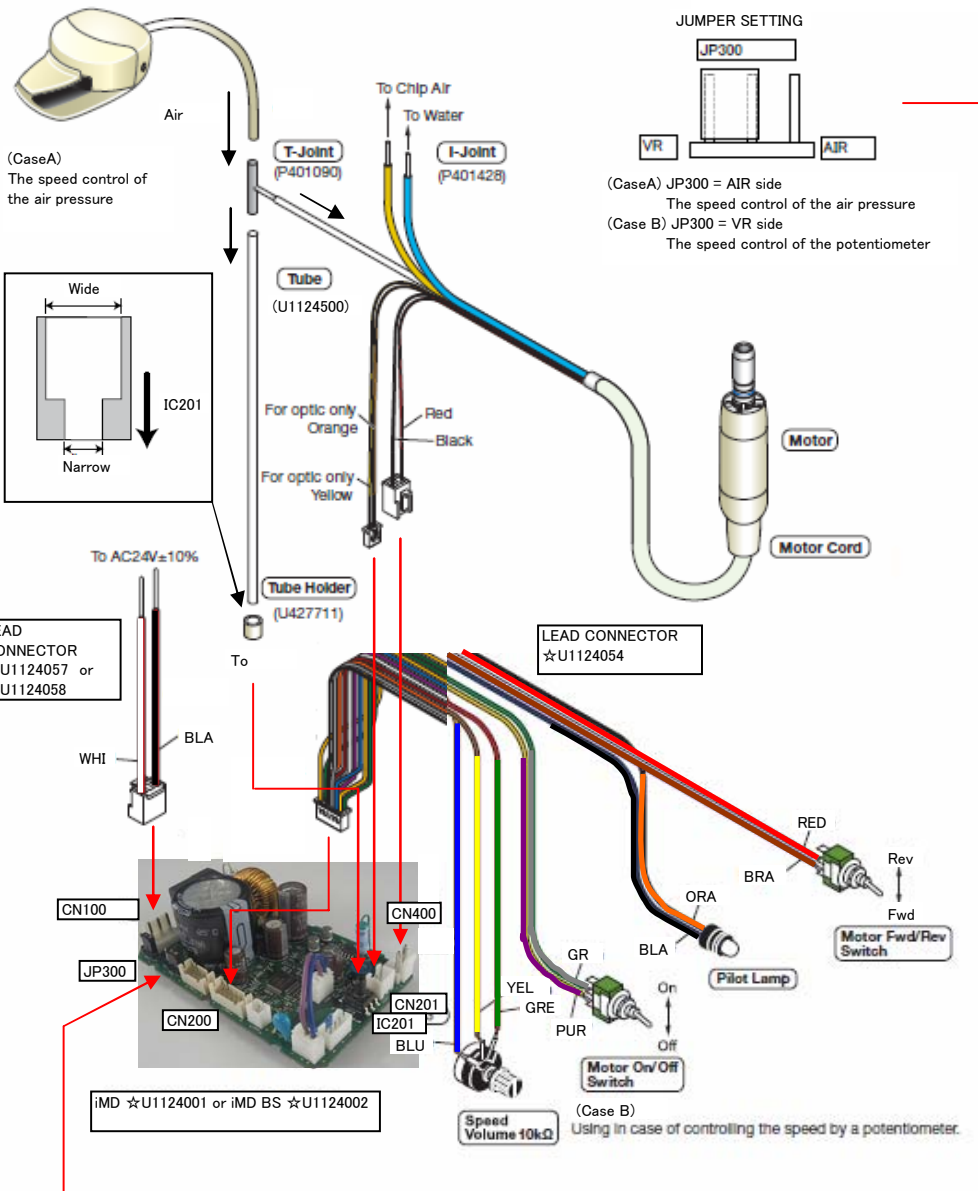
**iMD Connections - One Motor External I/F Control**



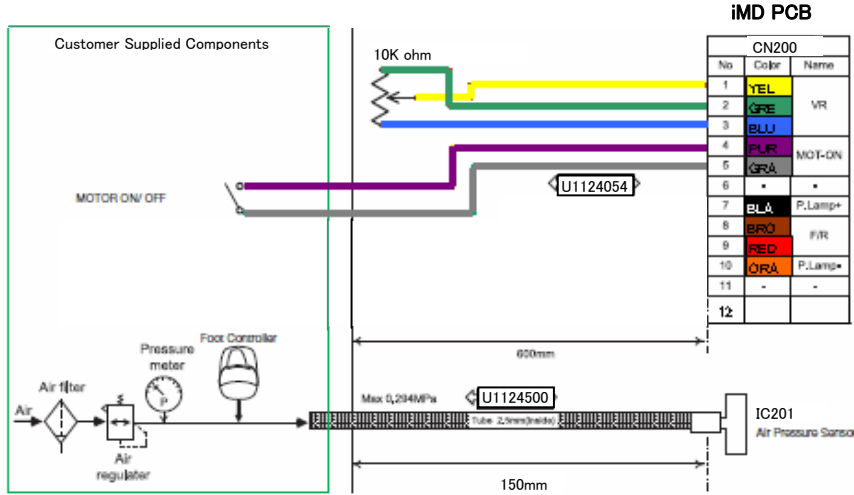


## Wiring Diagram Case1 - Using External Interface

☆: ORDER CODE

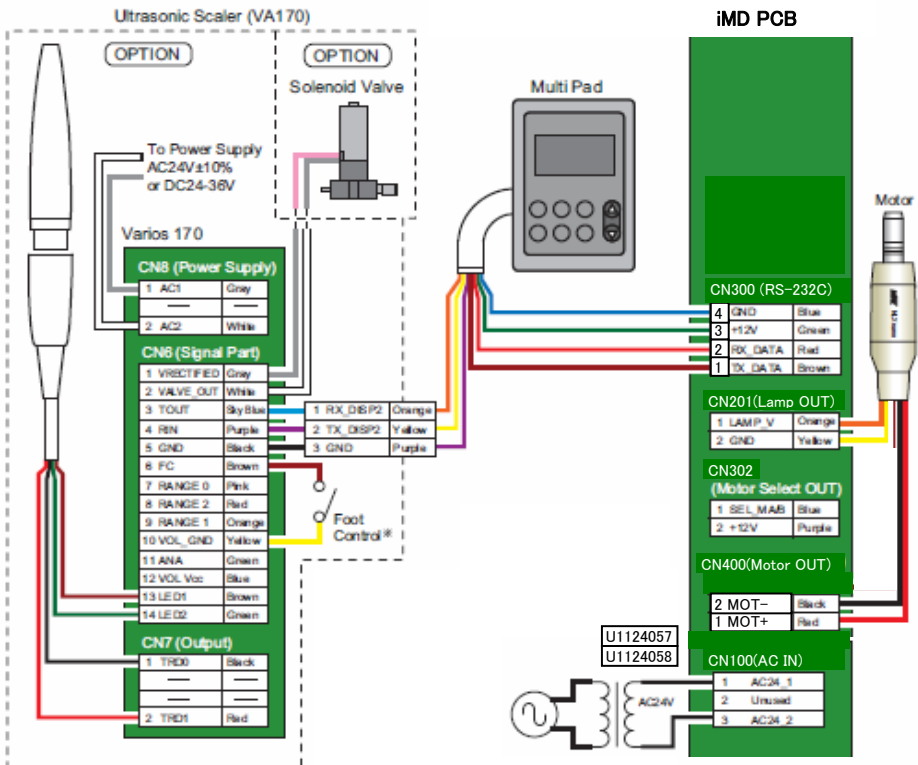


**IMD Connections - One Motor Multi Pad Control**



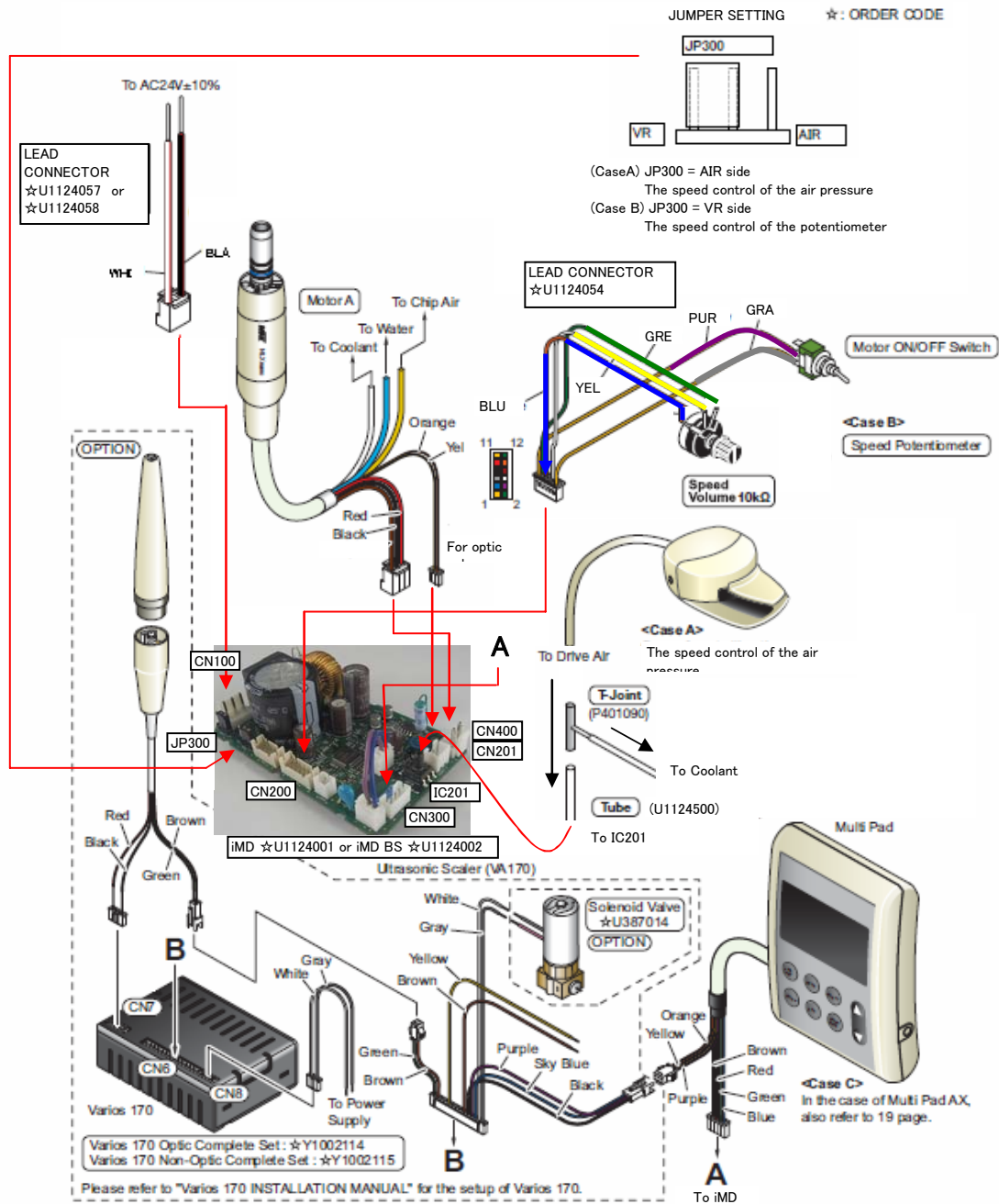
**IMD PCB**

| CN200 |       |         |
|-------|-------|---------|
| No    | Color | Name    |
| 1     | YEL   |         |
| 2     | GRN   | VR      |
| 3     | BLU   |         |
| 4     | PUR   | MOT-ON  |
| 5     | GRA   |         |
| 6     | *     | *       |
| 7     | BLA   | P.Lamp+ |
| 8     | BRO   | #IR     |
| 9     | RED   |         |
| 10    | ORA   | P.Lamp+ |
| 11    | -     | -       |
| 12    |       |         |



※ Not necessary when using Multi Pad control (MP04/MPS04)

## Wiring Diagram Case2 - One Motor Multi Pad Control

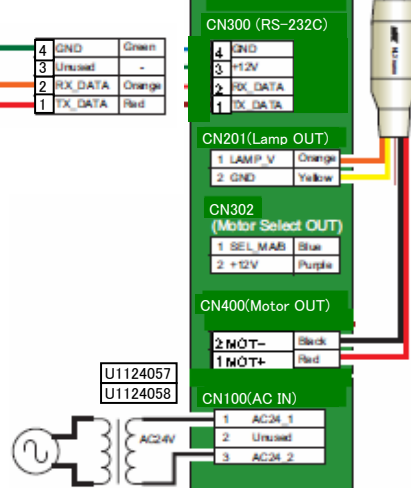


iMD PCB

| CN200 |       |         |
|-------|-------|---------|
| No    | Color | Name    |
| 1     | YEL   |         |
| 2     | GRN   | VR      |
| 3     | BLU   |         |
| 4     | PLR   | MOT-ON  |
| 5     | GRY   | *       |
| 6     | *     | *       |
| 7     | BLA   | P.Lamp+ |
| 8     | BRO   | F/R     |
| 9     | RED   |         |
| 10    | ORA   | P.Lamp+ |
| 11    | -     | -       |
| 12    |       |         |



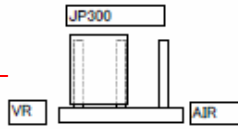
iMD PCB



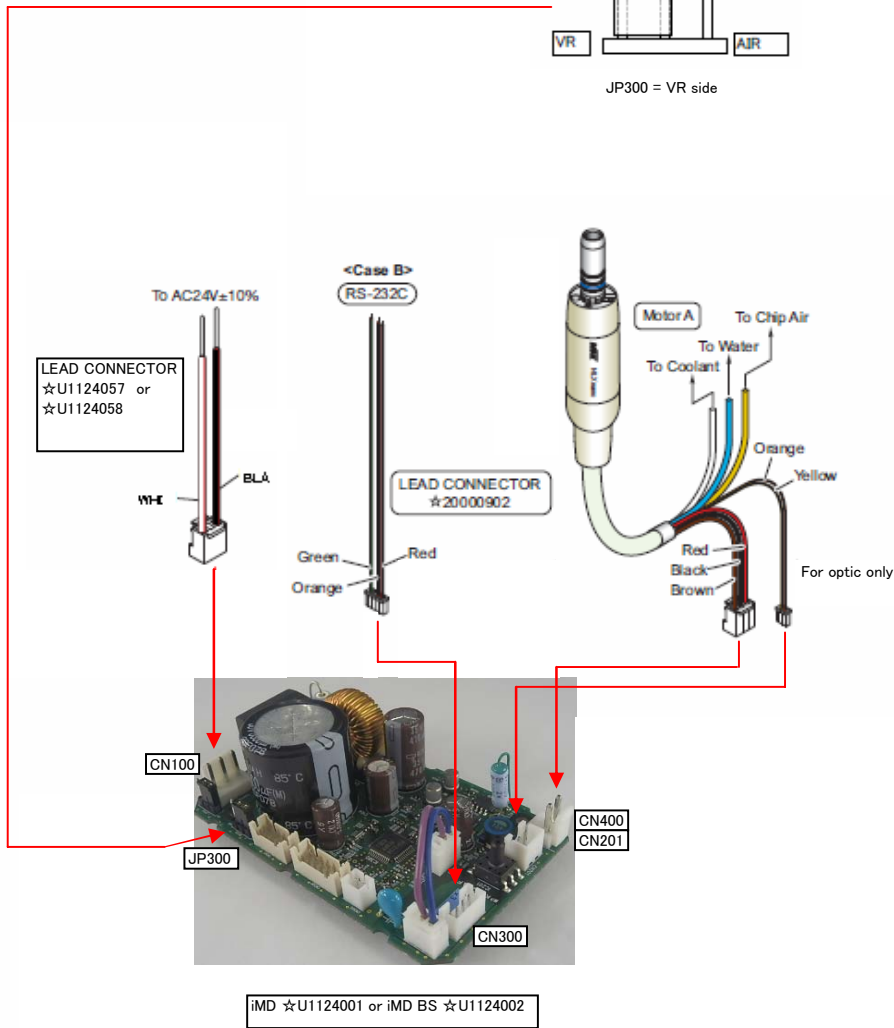
## Wiring Diagram Case3 - One Motor Remote Control

☆: ORDER CODE

### JUMPER SETTING



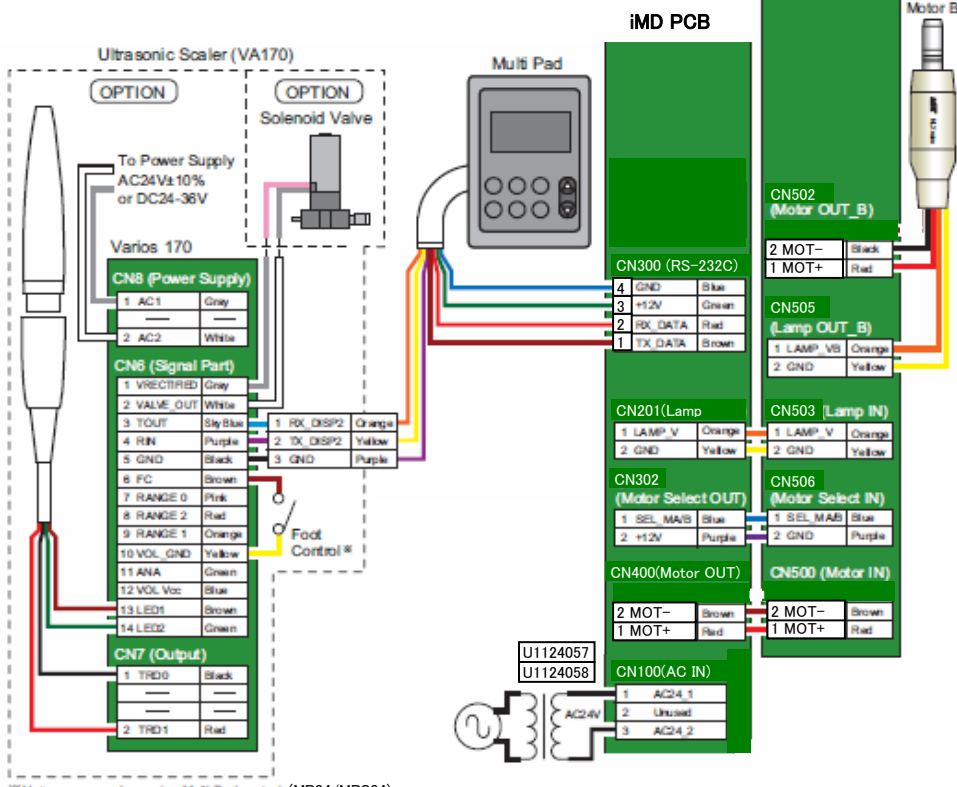
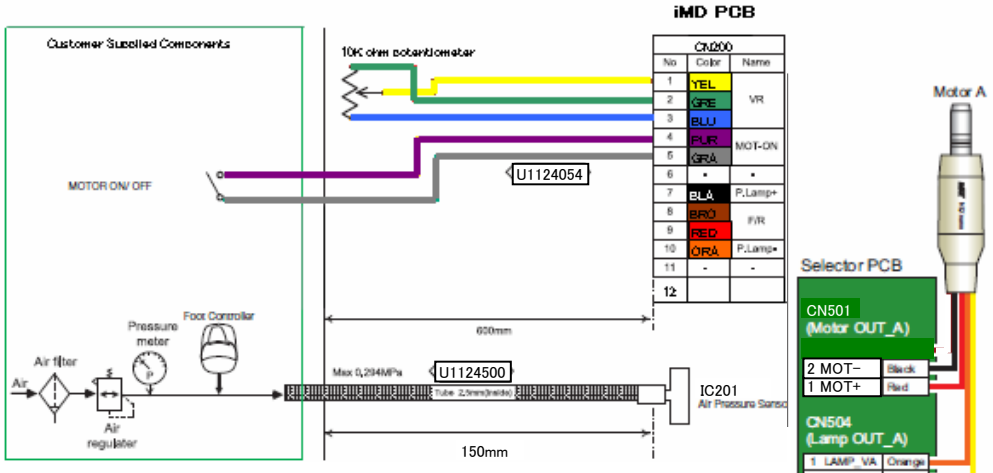
JP300 = VR side







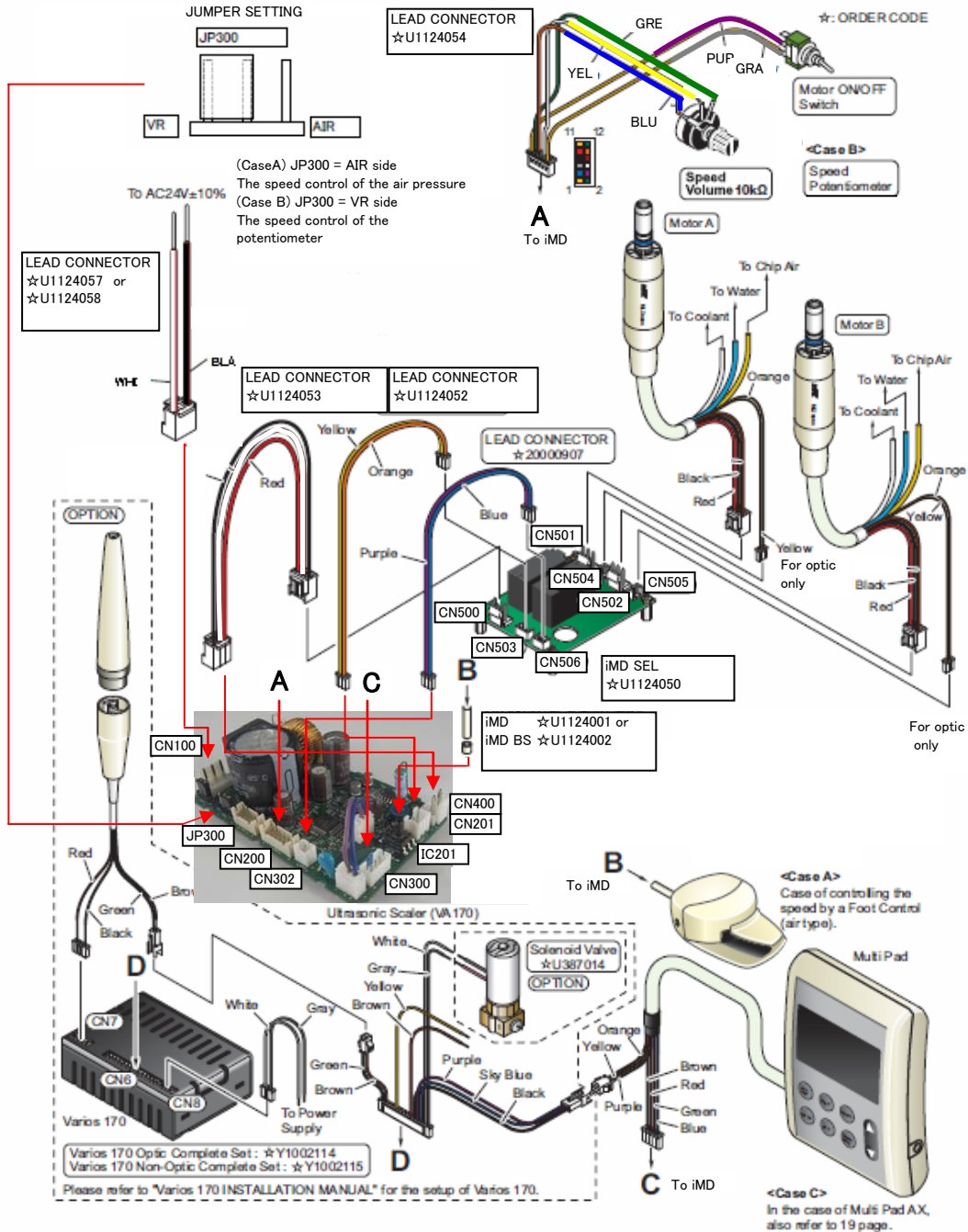
**iMD Connections - Two Motors Multi Pad Control**



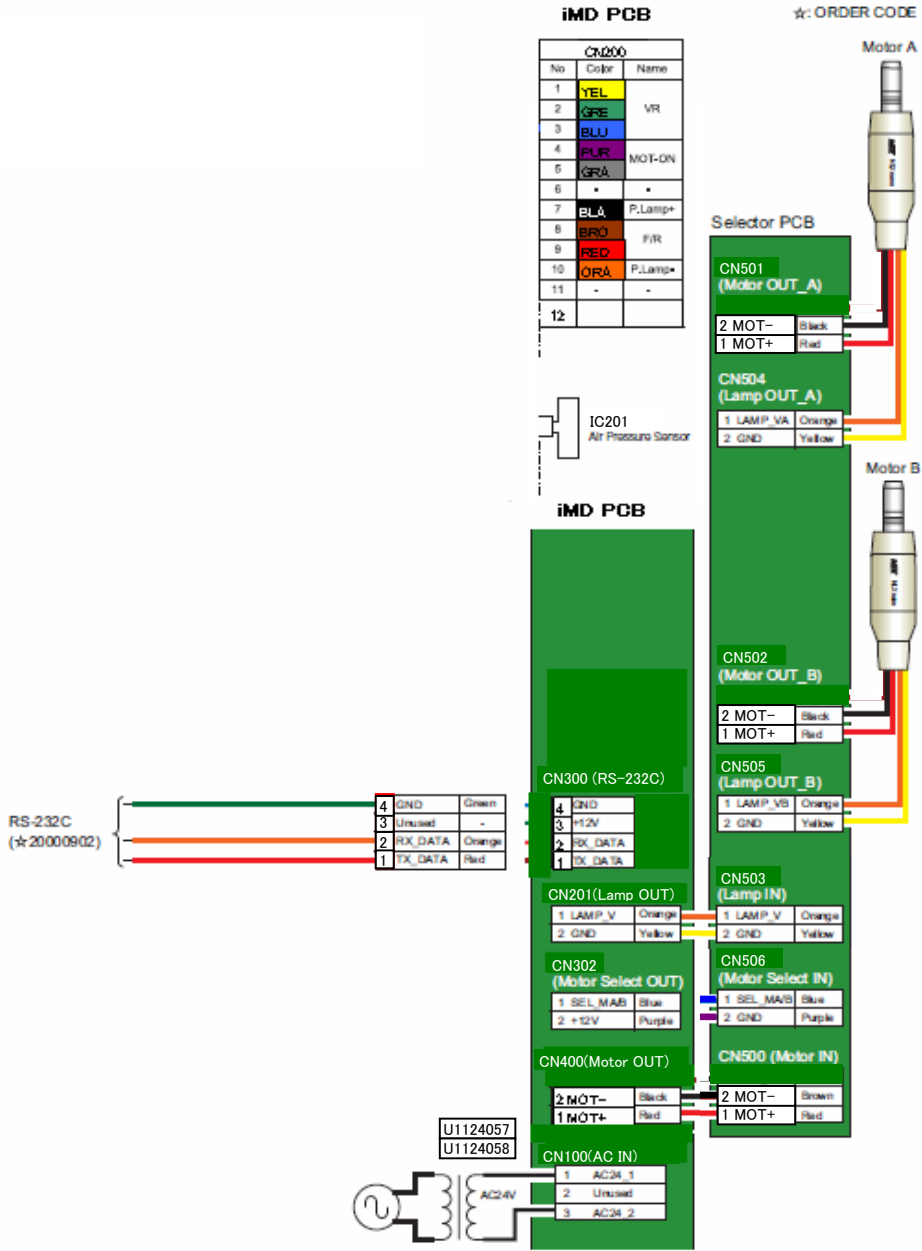
※Not necessary when using Multi Pad control (MP04/MPS04)



## Wiring Diagram Case4 - Two Motors Multi Pad Control



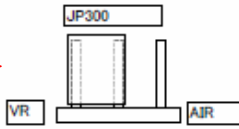
**iMD Connections - Two Motors Remote Control**



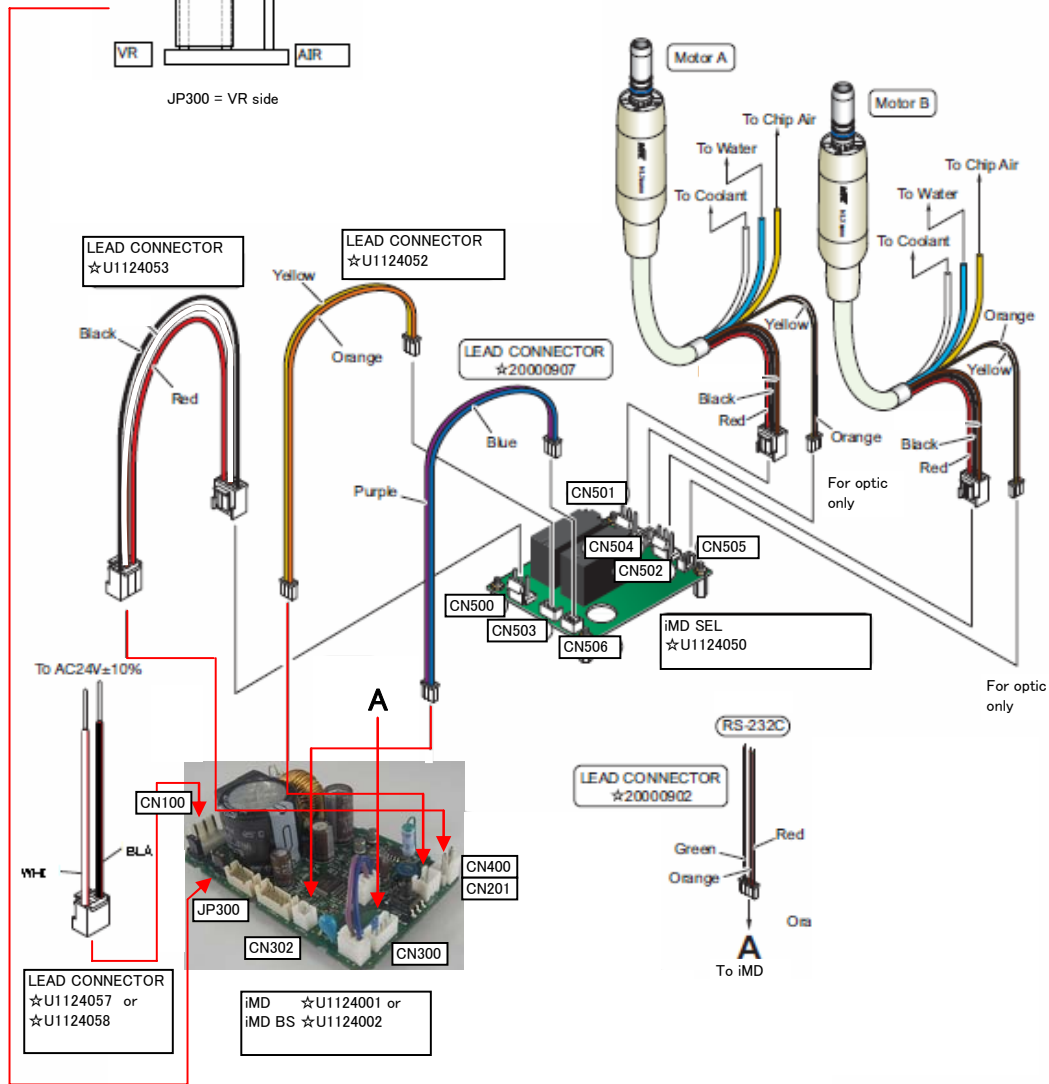
## Wiring Diagram Case5 - Two Motors Remote Control

☆: ORDER CODE

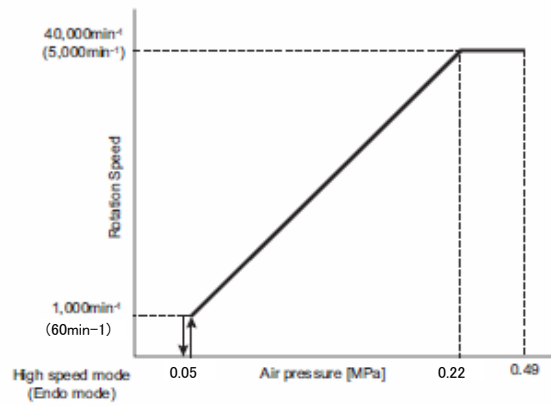
### JUMPER SETTING



JP300 = VR side

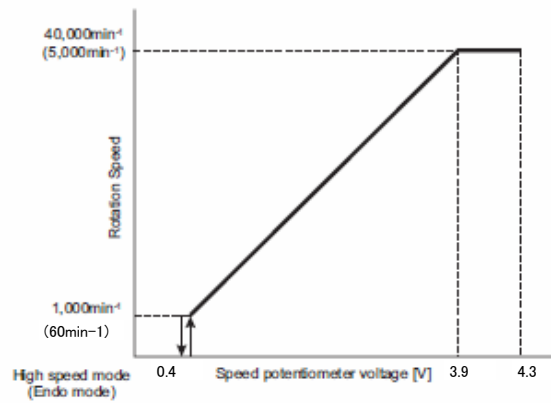


### Correlation of the Motor Speed and the Air Foot Control Pressure

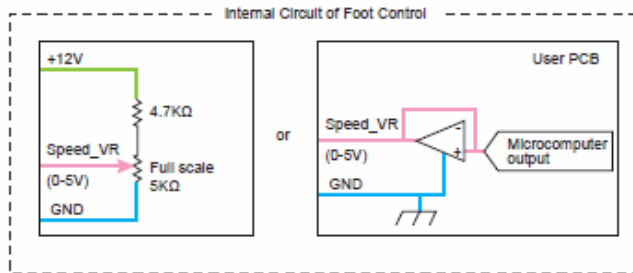
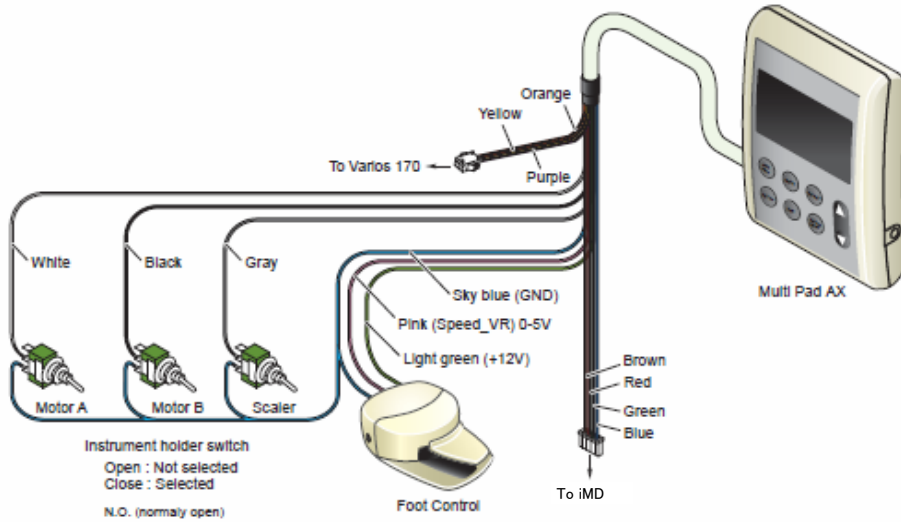


In the case of Multi Pad control, the air pressure of the motor start and maximum speed can be adjusted in the setting menu of Multi Pad.

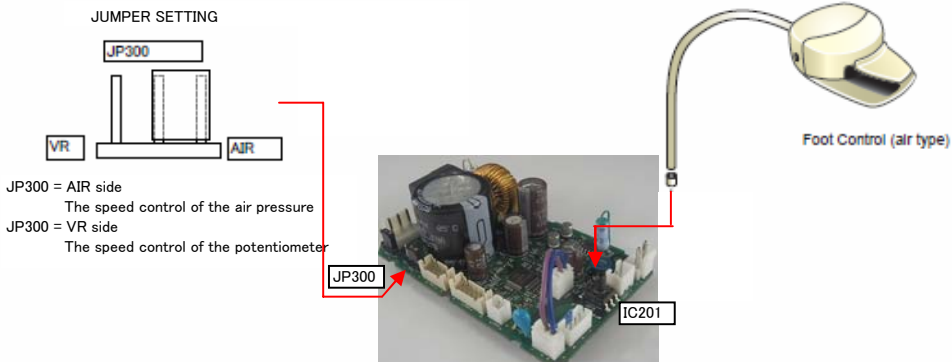
### Correlation of the Motor Speed and Voltage of the External I/F Speed Potentiometer



**Wiring Diagram MP04/MPS04 (Multi Pad AX)**



<In case that the system needs to be adjusted by air pressure>  
No electric wiring for the Foot Control is needed. (Wiring for the switches are needed.)  
Use the air tube and connect to the IC201 of iMD PCB. Also To change the position of the short bar at JP300.



Insulate and bundle the wires which are not being used to avoid short-circuit.