# P MSM or DD motor matching procedure

1. Find a similar motor for complete matching

2. Reset the following parameters

P 00.01 Rated current

P 00.02 Rated speed

P 00.03 Maximum speed

P 00.05 Motor pole pairs

P 00.08 encoder type, if it is incremental encoder, P 00.79=0 shall be set, and the number of pulses per turn P 00.11 shall be set(for A B pulse, this is the number after 4 times multiplication). If the number of pulses per revolution is greater than 1 0000, P 00.09 needs to bereduced to 5.

P 00.24 Motor peak current percentage

P 00.25 Motor rated torque

P 00.27 Motor rotor inertia, in kgcm^2, note that 1 kgm^2 =10000kgcm^2

P 00.29 Motor type

P10.02 equals motor rated current/drive rated current \*100%

3. Confirm encoder connection

### (1) Confirmation method of incremental encoder A BZ +HALL UVW

P 00.13 varies the number of pulses per revolution of the motor.

P 00.17 varies between 1 and 6 when the motor is changed, neither 0 nor 7 appears.

P 09.16 plus or minus 1 for each motor revolution.

As the motor rotates, P09.39 varies between 0 and pulses per revolution, or between 0 and negative pulses per revolution.

### (2) Confirmation method of incremental encoder A BZ

P 00.13 varies the number of pulses per revolution of the motor.

P 09.16 plus or minus 1 for each motor revolution.

As the motor rotates, P09.39 varies between 0 and pulses per revolution, or between 0 and negative pulses per revolution.

(3) Confirmation method of absolute value encoder

P 00.13 varies the number of pulses per revolution of the motor.

## Optical axis Fn 005 self-learning encoder

When using the motor which is not matched with our company, it is necessary to learn the encoder parameters.

Before autotuning, set the autotuning maximum current limit P02. 36 (this value is generally set to 50% of the ratio of motor rated current/drive rated current), maximum motor speed P00.0 3, motor rated speed P00.0 2, motor rated current P00.01, drive rated current P01.03.

The operation steps are as follows:

1. Press the MODE key to switch the mode to the functional operation mode, and the first two digits of the nixie tube display Fn;
2. Set the display value of the digital tube to Fn005 by combining the three keys of "▲"(increase),"▲"(shift) and "▼"(decrease);
3. Click SET to display SEL1;(Self-Learn1)
4. Press the "Shift" key to start self-learning. After self-learning is completed, it will automatically cut off enabling or report fault. The main parameters to be learned are as follows: P00.05 Motor pole pairs, P00. 71Z-point offset, P00.11 Motor encoder resolution, P00. 72 Encoder AB phase sequence.

If in the learning process, reported over current Er.100, can be appropriately reduced parameter P02. 36 (self-learning maximum current limit), P07.01 (current loop proportional gain), P07.02 (current loop integral gain).

Note that this feature has no effect when the driver is enabled.

1. Adjust Gain

Manual adjustment P07.03 P07.04 P07.05