

ULTRA COMPACT MQL APPLICATOR



## INSTALLATION and OPERATING INSTRUCTIONS



**FUJI BC**  
**ENGINEERING**

## MICRO MANUFACTURING meets MicroBooster.

MicroBooster  $\mu$  (MB100) offers best practice solution to ultra precision machining and desktop machine.

Stable micro-droplets and atomized lubricant discharged with maximized to 1mL/h.

Our genuine lubricants dedicated to MQL maximally bring out high performance and are friendly to environment.

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### DEFENITION OF TERMS

| TERMS             | DEFENITION  |
|-------------------|---|
| MQL/SEMI-DRY      | This term refers to the metal cutting carried out with atomized droplets of high lubricity cutting fluid applied in a minimum amount to the tool's cutting edge with pinpoint accuracy. The usage of droplets is extremely small a few mL per hour. Machining can be achieved in virtually dry conditions. This process is also known as "MQL (Minimum Quantity Lubrication)," "Near Dry Cut," or "Near Dry Machining." |
| Atomized droplets | Statement of spray mixed in air and lubricant coming from nozzle edge of MQL cutting.   |
| Applicator        | MQL Unit to make lubricant micro and atomized droplets  |

### WARRANTY

All FUJI BC precision applicators are backed with 1-YEAR Limited Warranty against defects in workmanship and/or materials. Warranty applies only when used under normal operating conditions. Any part which is returned to FUJI BC that is determined to be defective in workmanship and/or materials will be repaired or replaced with no charge in warranted term from manufacturing date. All Warranties, expressed and implied, are null and void if the equipment is subject to improper installation, misuse, neglect, and/or accident or if a lubricant other than FUJI BC brand lubricant is used in the warranted equipment.

## OVERVIEW

### ① BEFORE USING

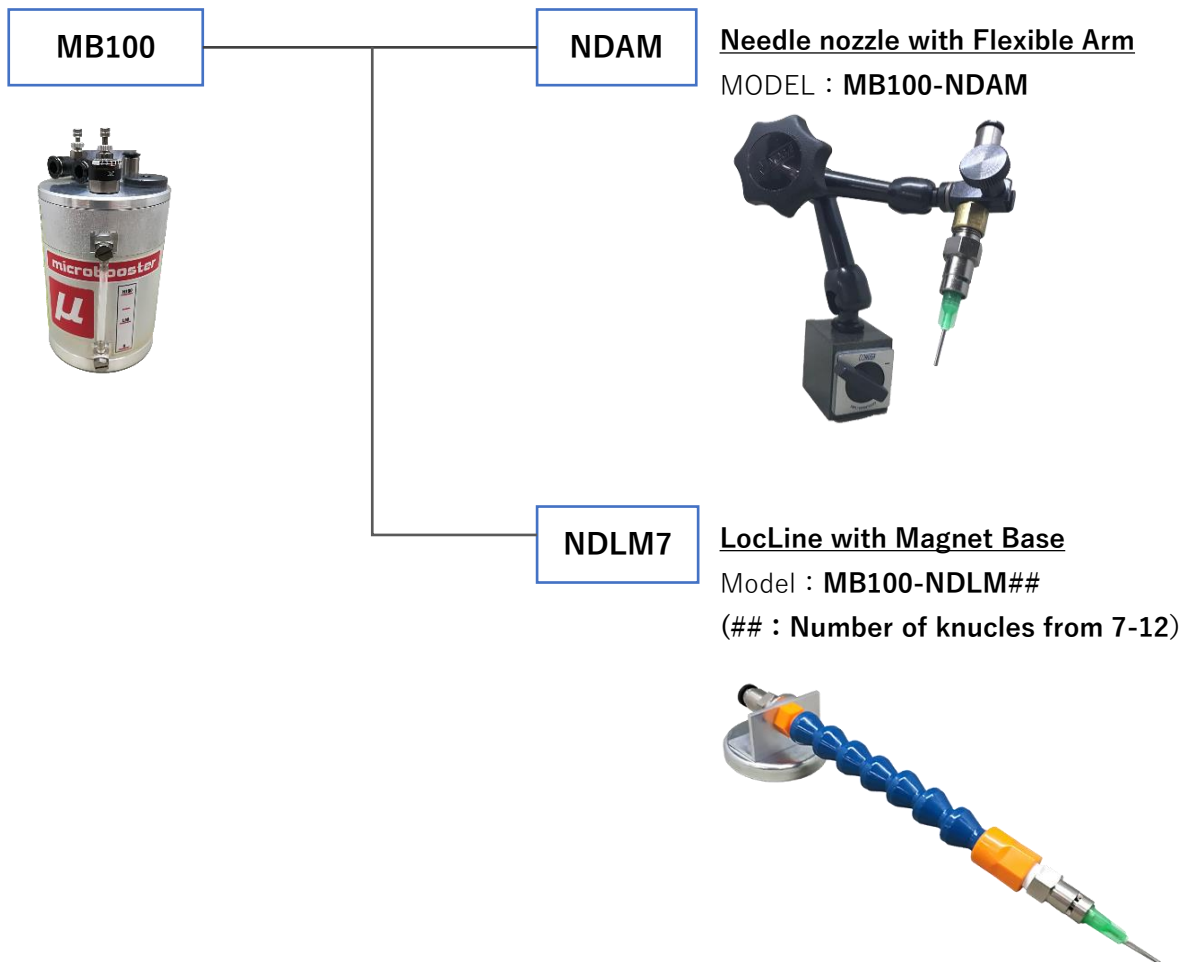
1. Use genuine oil LB-10. Non-genuine lubricant usage would cause applicator malfunctioning.
2. Use dedicated NOZZLE. Atomized-droplets would not come out from unsupported nozzle.

### ② SPECIFICATIONS

| SPECIFICATIONS        | DETAIL   |
|-----------------------|--|
| Supply Air            | Remove dirt, oil content and moisture              |
| Supply Pressure       | 0.3~0.5MPa   |
| Air Flow rate         | 40L/min(ANR) : 0.5MPa                              |
| Operating temperature | +5~+40°C   |
| Lubricant             | Bluebe LB-10 (Available as LB-6000)                |
| Tank Capacity         | 100mL (Operating Range : 50 ~ 100mL)               |
| Discharge rate        | Maximum 1mL/h                                      |
| Supply Air port       | Φ6mm Fittings (2 port valve required)              |
| Outlet                | Φ6mm Fittings                                      |
| Nozzle                | Dedicated nozzle (tip of nozzle diameter: Φ0.84mm) |
| NET Weight            | Approx. 0.7kg                                      |

#### ■ How to select MicroBooster

Select dedicated nozzle from two types.



## PREPARING

### ■ CONTENTS (\*Equipped nozzle vary on specification.)



### ■ Recommended Lubricant

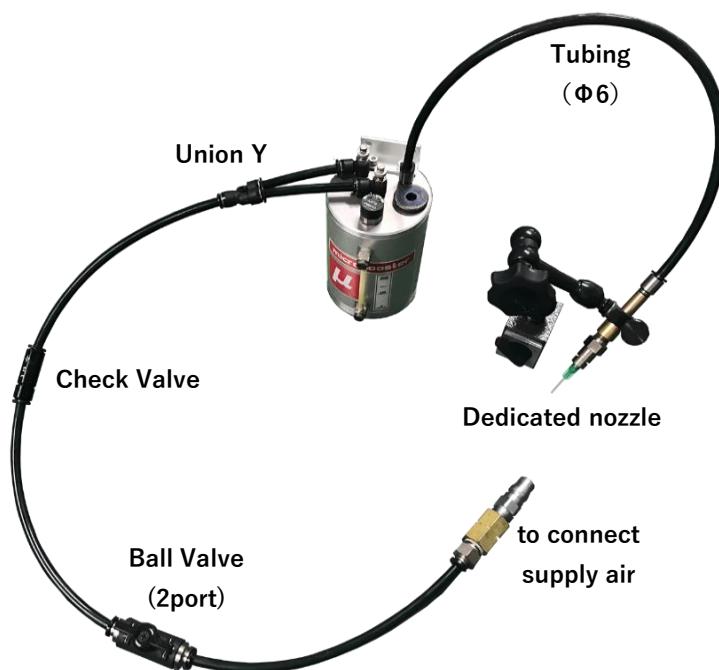


**Product : Bluebe LB-10 (Available as LB-6000)**

Sales Unit : 1 Gallon (3.8L)

## INSTALLATION GUIDE

### ③ INSTALLING



How to connect MicroBooster.

1. Check needle valve on the top of the unit is closed. (Please close needle valve to turn clockwise.)



2. Connect tubing as referring to left image. **【Attention】** Manual valve and Check valve must be installed.
3. Connect Φ6mm fitting to nozzle.
4. Connect tubes on the top of unit to dedicated nozzle with Φ6mm tubing.

**④ FILLING LUBRICANT**

MicroBooster external view of top

1. Check pressure gauge is set to zero.



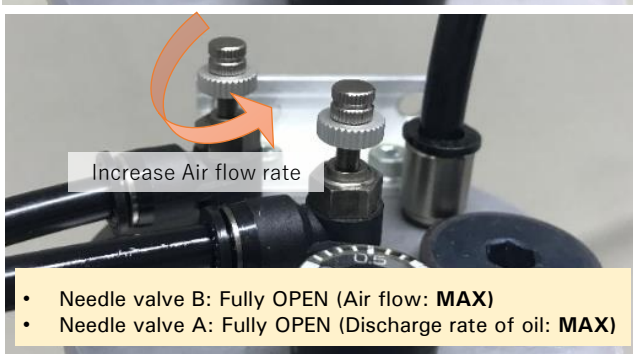
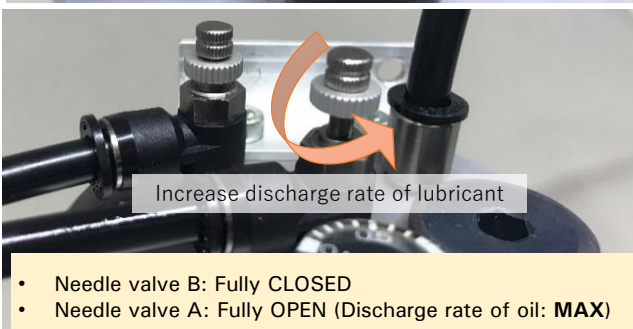
2. Open lid by hex wrench with 6 mm



3. Fill tank with lubricant.



4. Close lid.

**⑤ SETTING LUBRICANT AND AIR CONTROL**

【Discharge rate: 0】

Needle valve A/B: Fully CLOSED.

【Discharge rate: 0 to MAX】

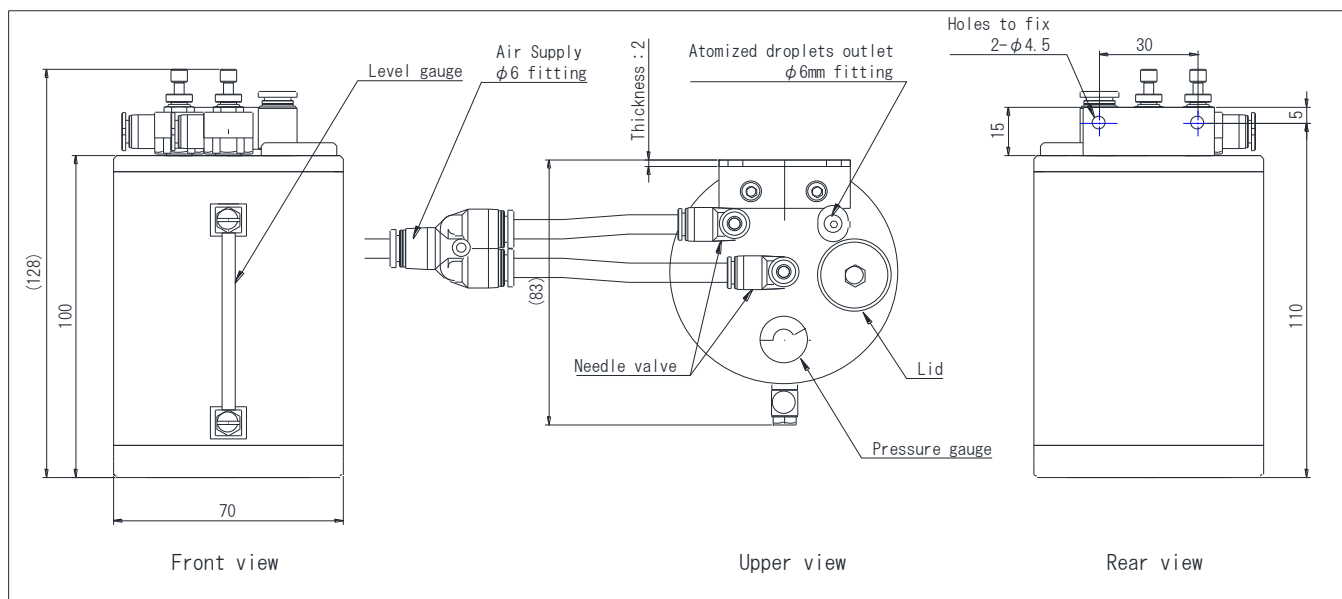
Discharge rate is up to 1 mL/h to turn needle valve A counterclockwise.

※Discharge rate is maximum with valve A fully opened.

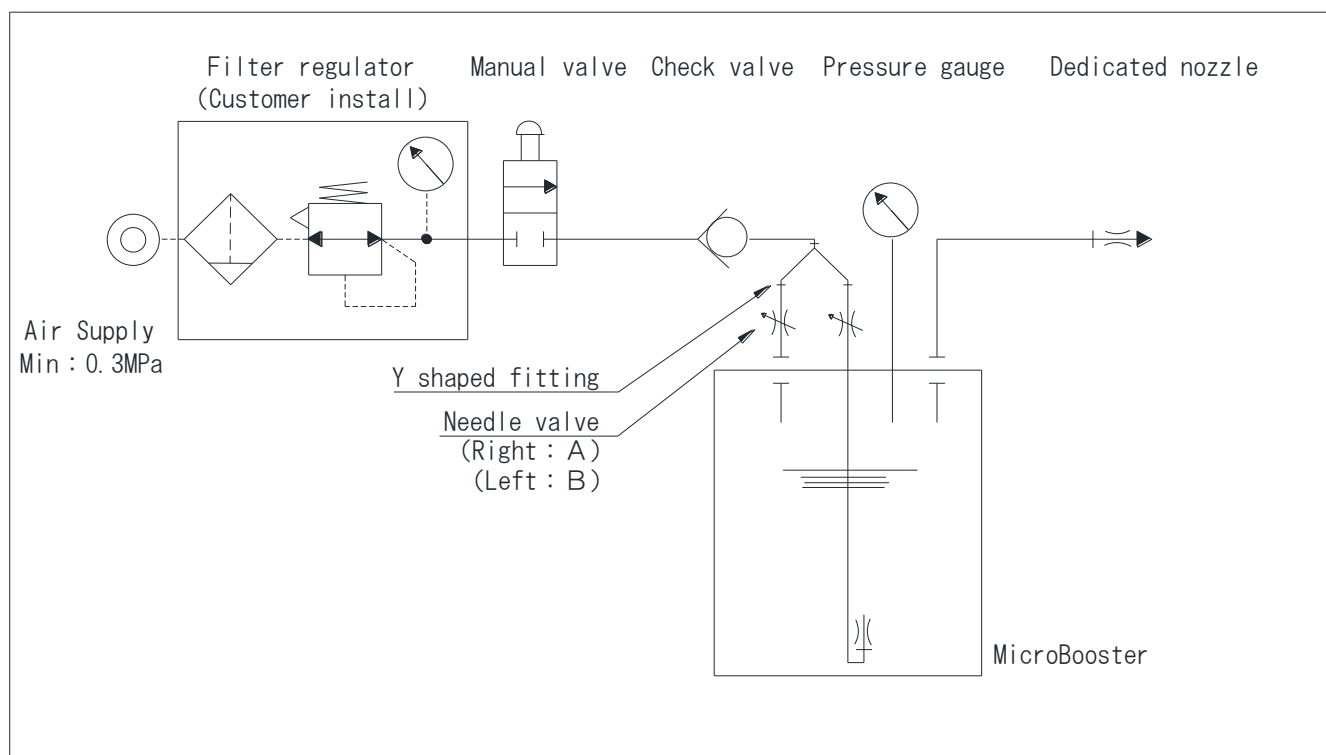
【Increase Air flow /Decrease dense of lubricity】

1. DO NOT turn needle valve A.
  2. Air flow rate is increased to turn needle valve B counterclockwise.
- ※Dense of lubricant is decreased.

## ⑥ DIMENSIONS



## ⑦ SCHEMATICS



## ⑧ REPLACEMENT PARTS (MB100)

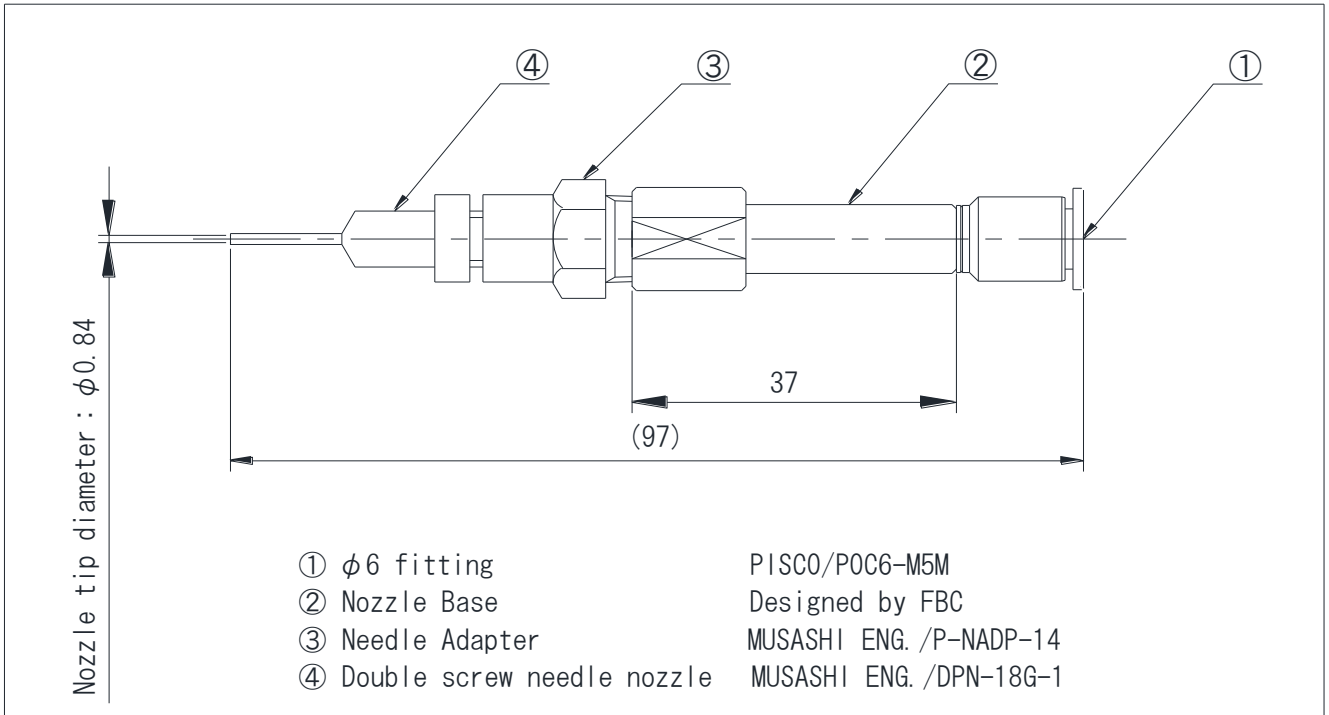
※Customer Replacable Unit ONLY.

| No. | 品名                      | 型式           | メーカー    | 備考                 |
|-----|-------------------------|--------------|---------|--------------------|
| 1   | $\phi 6$ Fitting        | POC6-M5M     | PISCO   | Outlet             |
| 2   | $\phi 6$ throttle valve | JNC6-M5      | PISCO   | Needle Valve A/B   |
| 3   | Pressure gauge          | GPC15-M5     | PISCO   | Pressure gauge     |
| 4   | $\phi 6$ Union-Y        | PY6M         | PISCO   | Y shaped fitting   |
| 5   | Check valve             | CVU6-6       | PISCO   | Union Straight     |
| 6   | SoftNylon Tubing        | TS0604B      | SMC     | Air/Lubricant line |
| 7   | Lubricant               | Bluebe LB-10 | FUJI BC |                    |
| 8   | Ball Valve              | BVU20-0606   | PISCO   | Manual valve       |

## ⑨ EXTERNAL VIEW -NOZZLE-

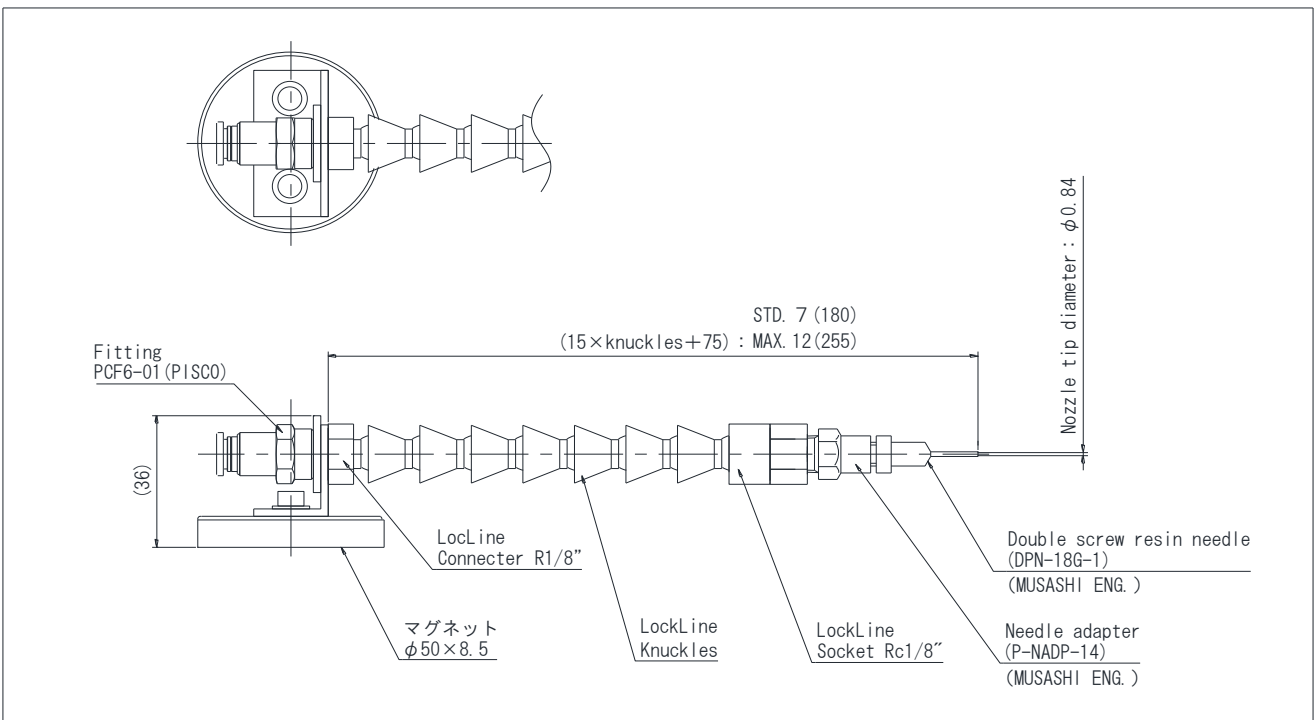
### ■MB100-NDAM NOZZLE

- Needle Nozzle 18G-T6 : MBNZL-18G-T6 (FUJI BC ENGINEERING)
- Popeye FLEX: NF2021 (NOGA JAPAN)



### ■MB100-NDLM NOZZLE

LL Needle with Magnet base 18G-T6-## : MBLMB-R1/8x18G-T6-## (##: Number of knuckles from 7 to 12 / FUJI BC)





**Bluebe**

**M** **Quel**  
エムキュール

セミドライ加工の総合エンジニアリング

**フジBC技研 株式会社**

**FUJI BC ENGINEERING.**

3-1, SHIOIRI-CHO, MIZUHOKU, NAGOYA, 467-0851, JAPAN.

TEL: +81-52-819-5411

FAX: +81-52-819-5410