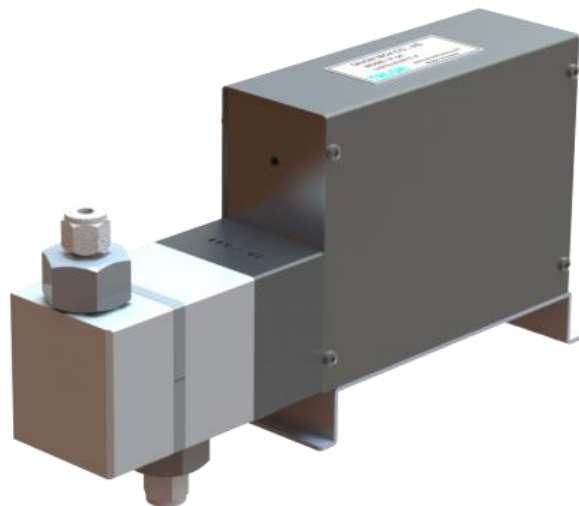


DC servo motor pump for constant dispenses

RRC Signal Pump

# PUMP MANUAL

MODEL : TP-34R



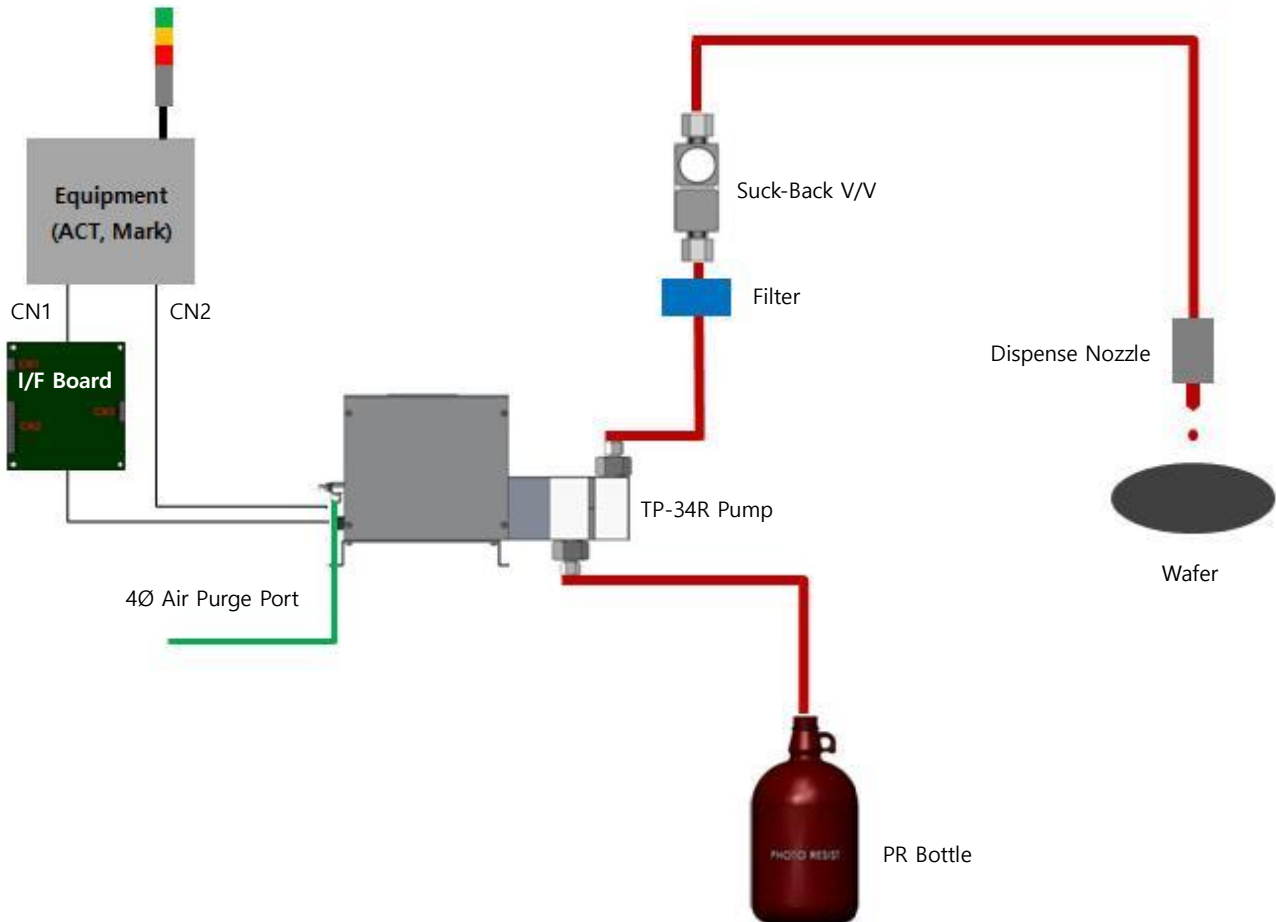
**TALON TECH CO. LTD.**

# CONTENTS

<b>1. System Configurations</b> .....	<b>1</b>
<b>2. System Specifications</b> .....	<b>2</b>
2-1. Pump [TP-34R].....	<b>2</b>
<b>3. System In/Exterior Names</b> .....	<b>3</b>
3-1. Pump In/Exterior Names.....	<b>3</b>
3-1-1. Pump Name Explanation.....	<b>4</b>
3-2. I/F Board Exterior Names.....	<b>4</b>
3-2-1. I/F Board Name Explanation.....	<b>4</b>
<b>4. Wiring &amp; Signal Interface</b> .....	<b>5</b>
4-1. ACT Type CON1 Pin Assign [Motor Cable].....	<b>5</b>
4-2. ACT Type CON2 Pin Assign [Track Cable].....	<b>5</b>
4-3. Mark Type CON1 Pin Assign [Motor Cable].....	<b>5</b>
4-4. Mark Type CON2 Pin Assign [Track Cable].....	<b>6</b>
<b>5. Maintenance</b> .....	<b>7</b>
5-1. Pump Parts Dis/Assembly.....	<b>7</b>
5-1-1. Pump Cover Dis/Assembly.....	<b>7</b>
5-1-2. Driving Shaft Condition Check & Grease up on Ball Screw.....	<b>7</b>
<b>6. Recommended Spares/Mechanical Dimensions</b> .....	<b>8</b>
6-1. TP-34R Spare Parts.....	<b>8</b>
6-2. Pump Dimensions.....	<b>9</b>
6-2-1. Side View.....	<b>9</b>
6-2-2. Front/Rear View.....	<b>9</b>
6-3. Installation Method.....	<b>10</b>
6-3-1. Pump Installation Sequence.....	<b>10</b>
6-3-2. Piping Method.....	<b>10</b>
6-3-3. CON1, 2 Connection Method [ACT-8 Type].....	<b>11</b>
6-3-4. CON1, 2 Connection Method [Mark7, 8 Type].....	<b>12</b>
6-3-5. I/F Board Installation Method .....	<b>14</b>

1

**System Configurations**



TP-34R pump can be used as the above configuration and has been developed conveniently to be compatible with Mark & ACT series systems.

Be careful to use the pump by following this manual or Talon Tech's acceptance. Or, other defects should be paid even under the warranty period.

※ **Features & Merits**

1. All the PR contacting points are made by Teflon.
2. Driving Method : Outer type Edgeless Bellows, No ripple, & No shaking.
3. Signal is same as RRC Pump. (ACT/MARK)
4. Talon I/F board replaces RRC driver.

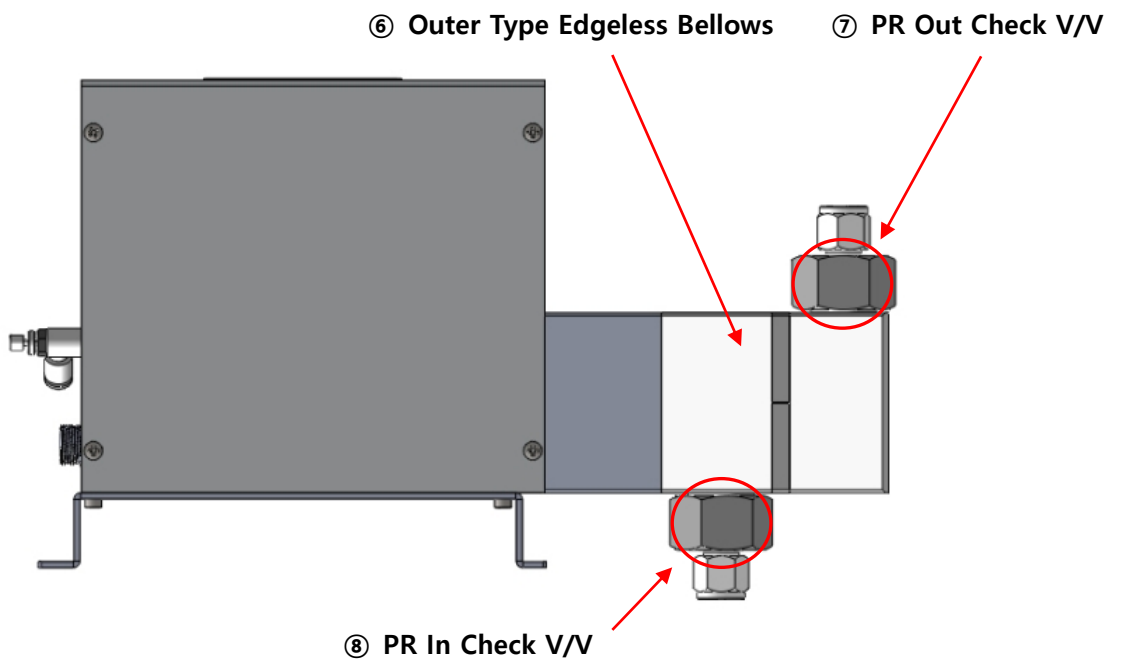
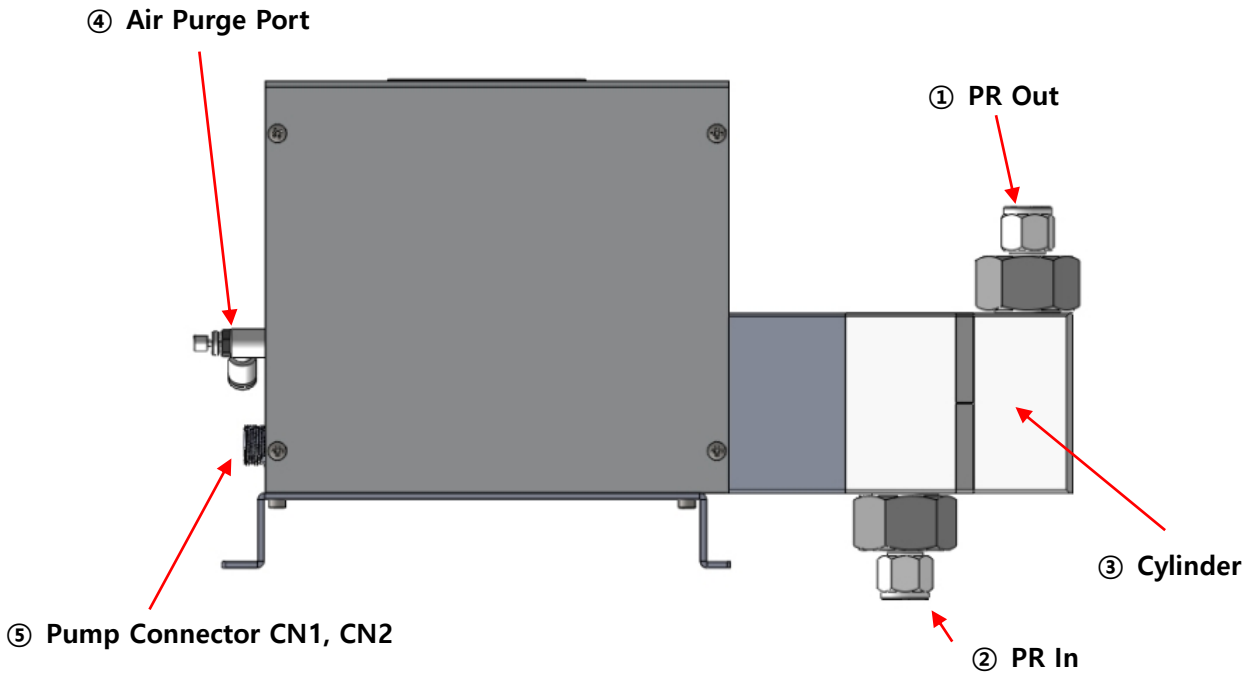
## 2 System Specifications

### 2-1 Pump [TP-34R]

ITEM	SPEC	REMARKS
Dispense Volume Range	0.5 ~ 10.0cc	
Dispense Pressure	0.2Mpa (2kgf/cm <sup>2</sup> )	
Dispense Volume Resolution	±0.02cc	
Dispense / Reload Rate	0.3cc/sec ~ 3.0cc/sec	
Dispense Repeatability	≤±0.05 (2.2cp, 23°C)	
Viscosity	Max : 800cp	
Driver System	DC Servo Motor Driver Current : 300~500mA/Cycle	
Control System Power	Motor Power : DC24V, Home Sensor : DC5~24V	
Input Pulse VS Dispense Volume	812 pulse (Full Step) / 1cc	
Input Pulse VS Encoder Output Pulse	Full Step-1:1	
Resist In/Out	¼ Inch Teflon	
Ambient Temperature	16 ~ 30°C	
Weight	2.6kg	
Pump Dimension	W : 56mm, L : 285mm, H : 151mm	

### 3 System In/Exterior Names

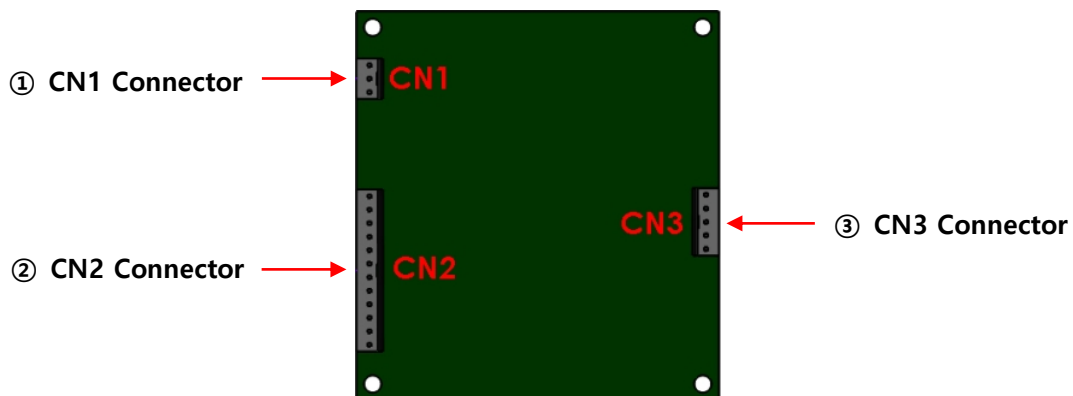
#### 3-1 Pump In/Exterior Names



### 3-1-1 Pump Name Explanation

- ① **PR Out**
  - Chemical Dispense. (¼ Inch Teflon)
- ② **PR In**
  - Chemical Supply. (¼ Inch Teflon)
- ③ **Cylinder**
  - Function of containing PR and dispensed by bellows.
- ④ **Air Purge Port**
  - Air Cooling function (4Ø Air Tube)
- ⑤ **Pump Connector CN1, CN2**
  - CN1(Motor) : Connector for Pump Operation (Round Panel Mount 5P Female)
  - CN2(Track) : Connector for Pump Operation (Round Panel Mount 8P Female)
- ⑥ **Outer Type Edgeless Bellows**
  - Outer Type Bellows for chemical dispense
- ⑦ **PR Out Check V/V**
  - check valve for on/off at PR outlet
- ⑧ **PR In Check V/V**
  - check valve for on/off at PR inlet

### 3-2 I/F Board Exterior Names



### 3-2-1 I/F Board Name Explanation

- ① **CN1 Connector**
  - 3P Connector linked to Pump I/O Conn Board CN130
- ② **CN2 Connector**
  - 12P Connector linked to Pump I/O Conn Board CN1~9
- ③ **CN3 Connector**
  - 5P Connector linked to the existing RRC Pump(TP-34R Pump) CN1

## 4 Wiring & Signal Interface

### 4-1 ACT Type CN1 Pin Assign [Motor Cable]

ACT Type Pin Assign			
Pin NO.	Signal Name	Color	Description
A	CW+/CCW+	White/Gray	DC Servo Motor
B	CW-	Black	
C	CCW-	Brown	
D	+24V/ACT	Orange	
E	G24V/ACT	Black	

### 4-2 ACT Type CN2 Pin Assign [Track Cable]

ACT Type Pin Assign			
Pin NO.	Signal Name	Color	Description
A	EA+	Blue	Encoder A Phase Output
B	EA-	Orange	
C	EB+	Yellow	Encoder B Phase Output
D	EB-	Gray	
E	G5/LGC	Black	GND
F	Home Sensor	Blue	Output(Open Collector), 5VDC, 1c=100mA
G	+5V/LGC	Red	5V $\pm$ 0.25V / 0.2A
H	TH S/W	Green	GND

### 4-3 Mark Type CN1 Pin Assign [Motor Cable]

Mark Type Pin Assign			
Pin NO.	Signal Name	Color	Description
A	CCW+	Gray	DC Servo Motor
B	CW-	Black	
C	CCW-	Brown	
D	CW+	Orange	
E	G24V/ACT	Black	

#### 4-4 Mark Type CN2 Pin Assign [Track Cable]

Mark Type Pin Assign			
Pin NO.	Signal Name	Color	Description
A	EA+	Blue	Encoder A Phase Output
B	EA-	Orange	
C	EB+	Yellow	Encoder B Phase Output
D	EB-	Gray	
E	G5/LGC	Black	GND
F	Home Sensor	Blue	Output(Open Collector), 5VDC, 1c=100mA
G	+5V/LGC	Red	5V $\pm$ 0.25V / 0.2A
H	+24V/ACT	Gray	DC Servo Motor



## 5 Maintenance

### 5-1 Pump Parts Dis/Assembly

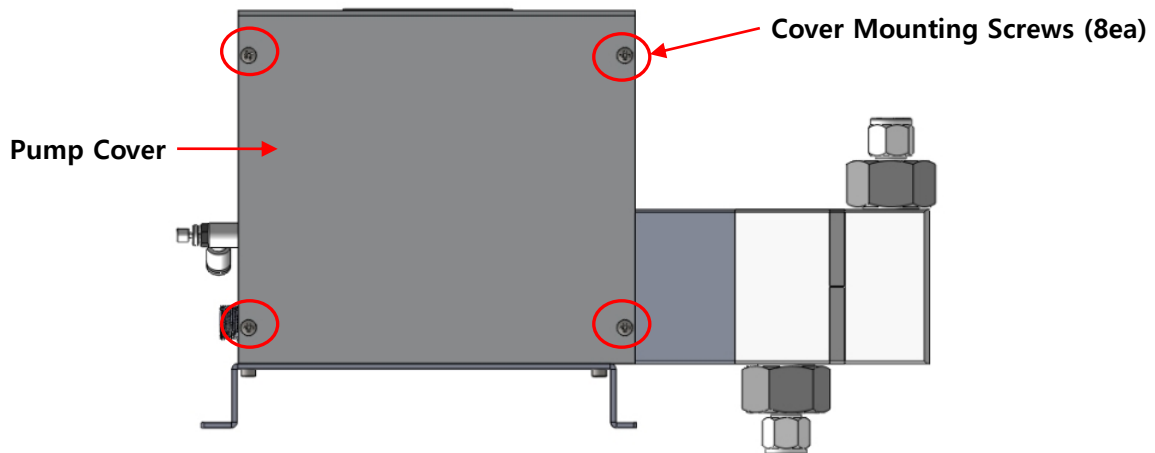
#### 5-1-1 Pump Cover Dis/Assembly

1. Open the cover by loosening the pump cover mounting screw (8ea) with screw driver (+) as the below [PIC 1].

**[Notice]**

**Be careful not to cut the fingers on cover open.**

**Don't disassemble the drive shaft parts inside the pump.**



[PIC 1]

#### 5-1-2 Driving Shaft Condition Check & Grease up on Ball Screw

1. Check the motor's vibration & noise when the pump works.
2. Check the bolts tightening condition and ball screw worn-out condition.
3. Check any interruption between cables & moving parts.
4. Check the conditions of linear bushing /shaft when the pump works.
5. Grease up on ball screw & LM linear bushing.
6. Grease up every 6 months.

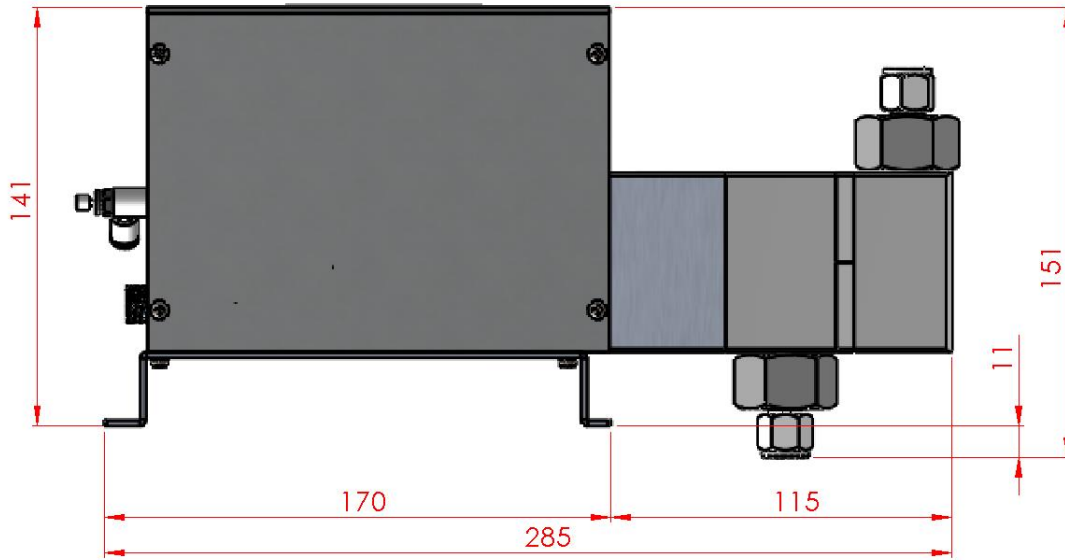
## 6 Recommended Spares / Mechanical Dimensions

### 6-1 TP-34R Spare Parts

Division	Part NO.	Description	Qty
Pump	TL-34R-TA-001	Cylinder	1
	TL-34R-TA-002	Outer Type Edgeless Bellows (10cc)	1
	TL-34R-TA-003	Check Valve Ass'y	2
	TL-34R-TA-004	Nut	2
	TL-34R-TA-005	Fitting	2
	TL-34R-TA-006	¼ Inch PFA Fitting Nut	2
	TL-34R-EB-001	Motor	1
	TL-34R-MA-001	Ball Screw	1
	TL-34R-MA-002	Support Unit	1
	TL-34R-MA-003	LM Guide	1
	TL-34R-ET-001	Motor Pulley	1
	TL-34R-ET-002	Ball Screw Pulley	1
	TL-34R-ET-003	Timing Belt	1
	TL-34R-ET-004	O-Ring (Cylinder)	1
	TL-34R-ET-005	O-Ring (Check Valve)	2
	TL-34R-EB-002	Encoder	1
	TL-34R-EA-001	Photo Sensor	2
	TL-34R-CA-001	Air Speed Control	1
	I/F Board	TL-34R-EB-003	I/F Board

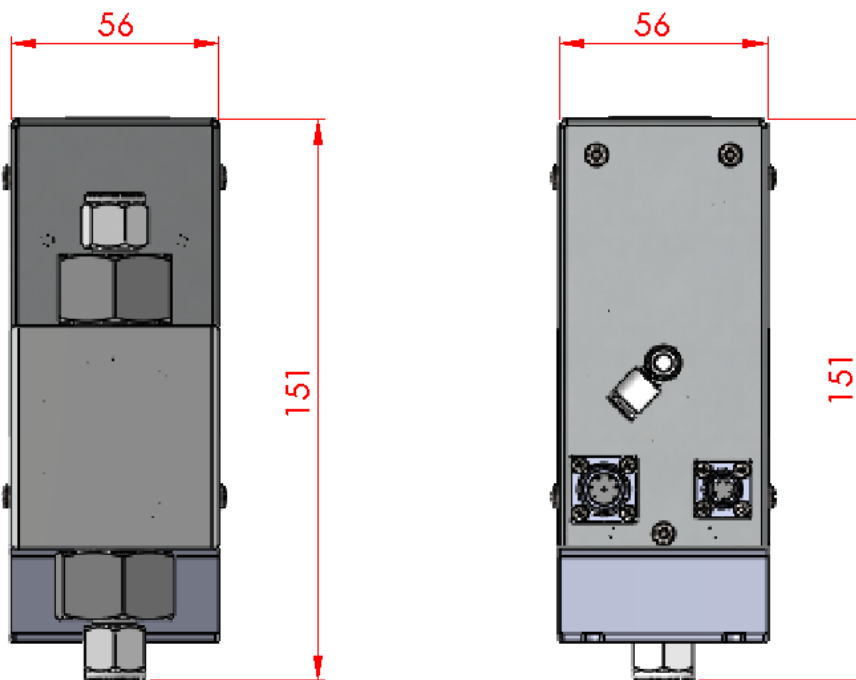
## 6-2 Pump Dimensions

### 6-2-1 Side View



[ Side View ]

### 6-2-2 Front / Rear View



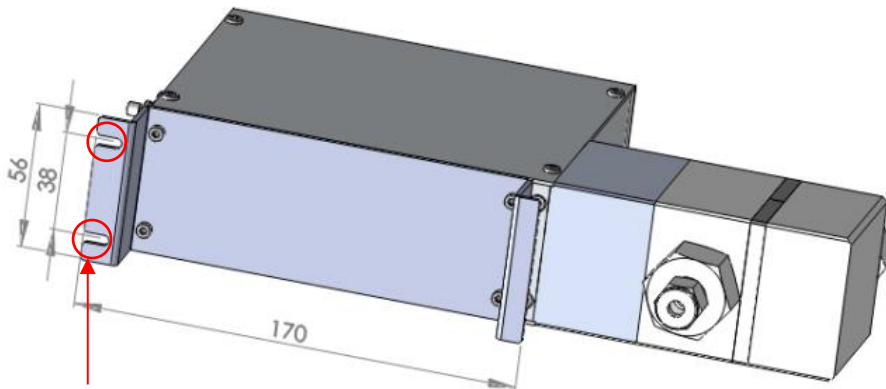
[ Front View ]

[ Rear View ]

## 6-3 Installation Method

### 6-3-1 Pump Installation Sequence

1. Prepare the space for the pump installation.
2. Tighten the panel base plate with 2 pieces of M3 screw.



Make 2.6 mm hole and tap M3

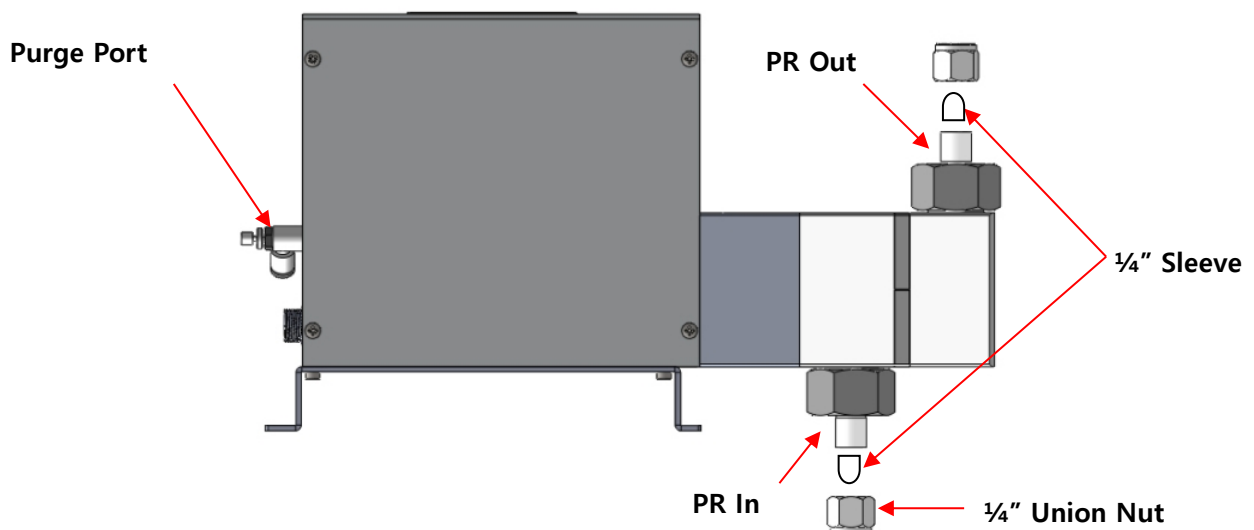
### 6-3-2 Piping Method

#### 1. PR Tube Piping

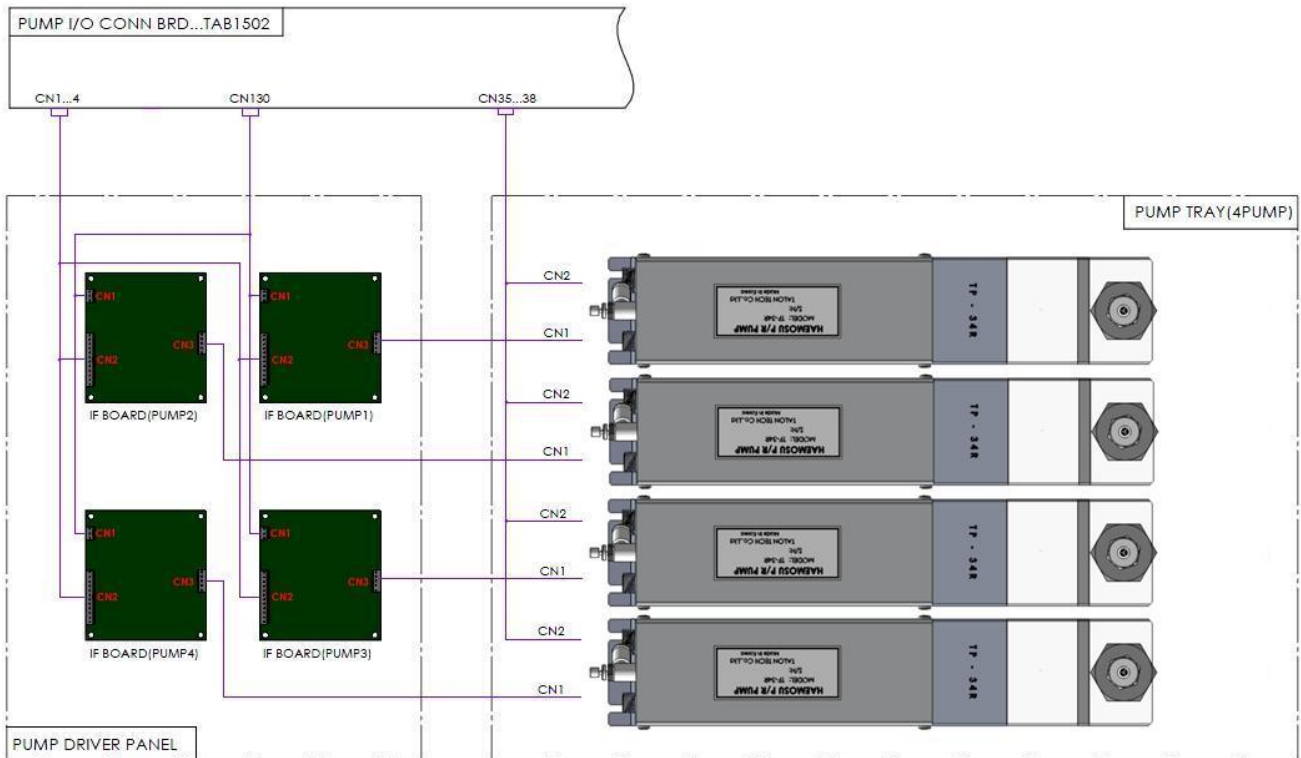
- 1) Insert ¼" union nuts on tube at PR In/Out areas.
- 2) Insert ¼" sleeve into tube after enlarging tube with the tube expansion tool and then tighten nut.

#### 2. Purge Line Piping

- 1) Connect 4Ø of air tube into the air speed control valve.



### 6-3-3 CN1, 2 Connection Method [ACT-8 Type]

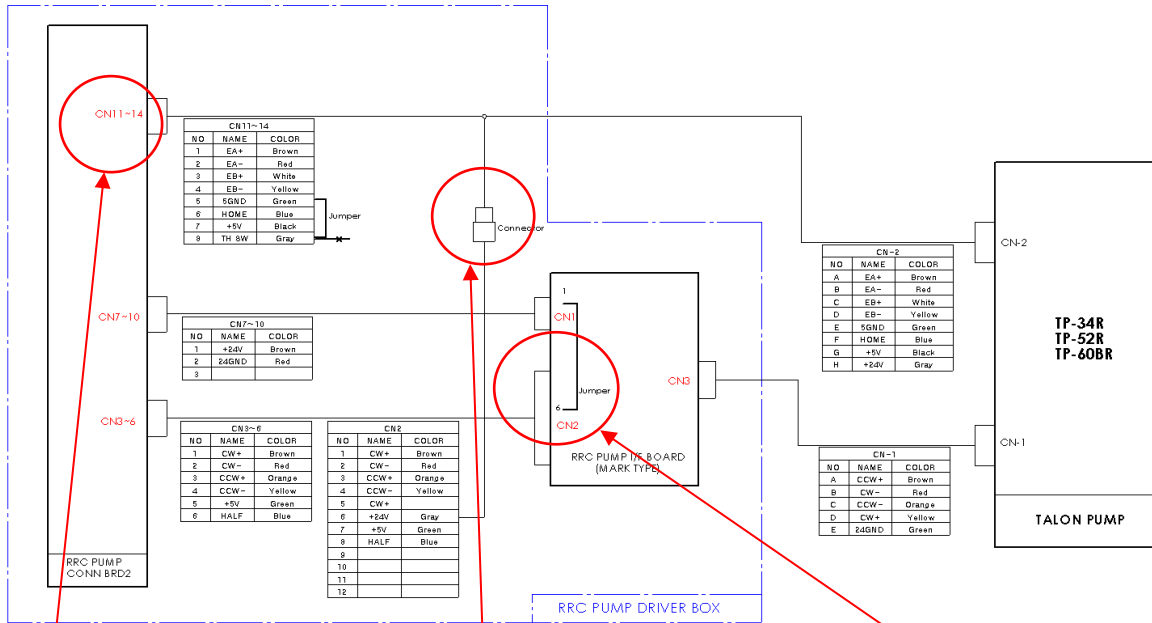


1. De-install RRC pump and install TP-34R Pump.  
(CN1 & CN2 Connectors are connected to TP-34R pump same as RRC pump.)
2. De-install RRC Driver (CSD5807) and install Talon I/F Board (only for TP-34R).
3. RRC Driver's Connector CN1, CN2, & CN3 are connected to the same position of Talon I/F board.

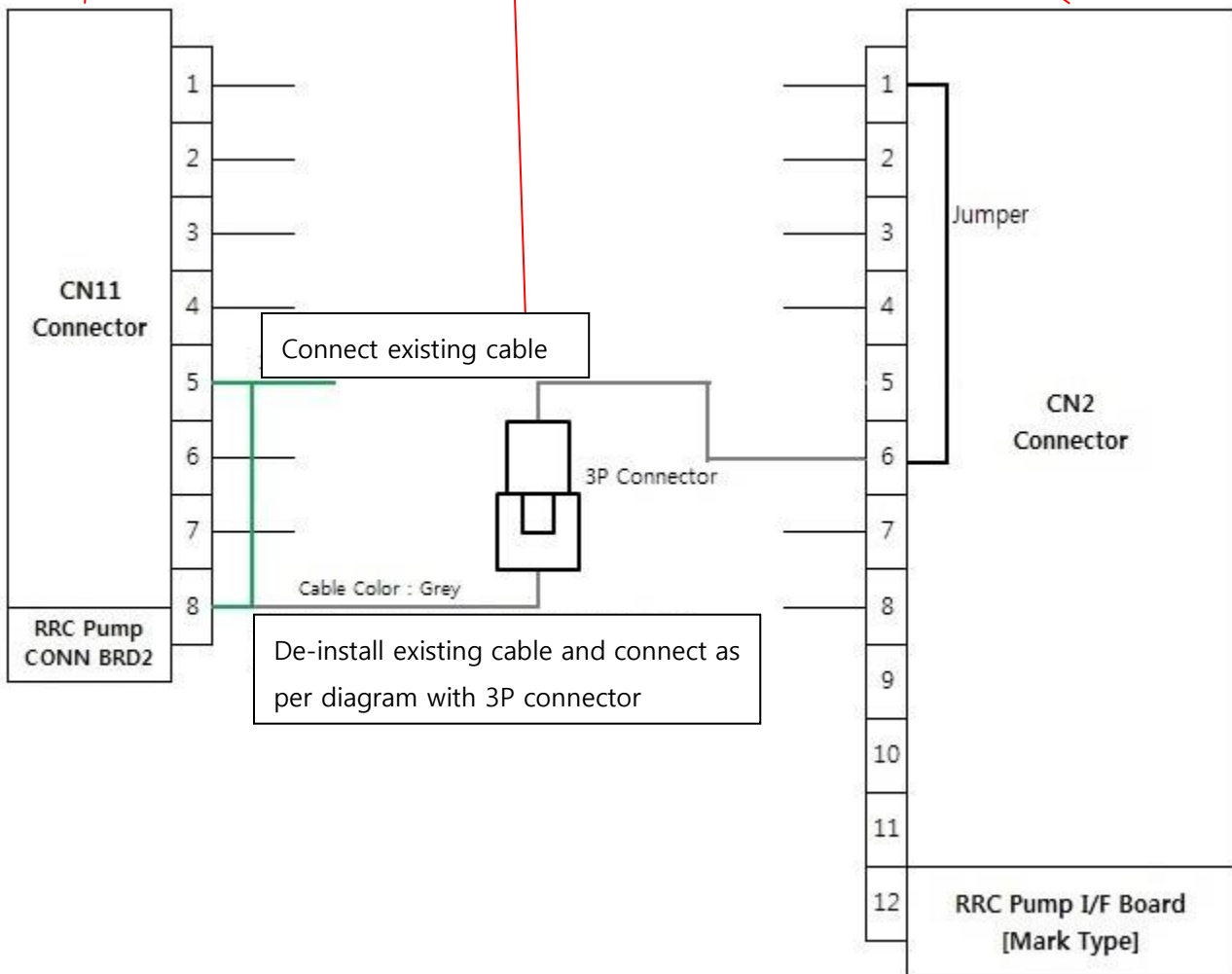
**[Notice]**

**TP-34R Pump uses DC Servo Motor. So, Motor Driver is built-in inside the motor.**

**6-3-4 CN1, 2 Connection Method [Mark7, 8 Type]**



- Detail diagram on each connector

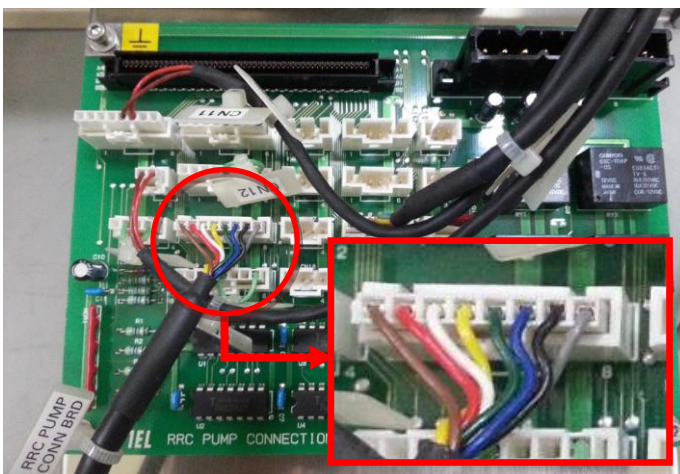


1. De-install RRC pump and install TP-34R Pump.  
(CN1 & CN2 Connectors are connected to TP-60BR pump same as RRC pump.)
2. De-install RRC Driver (CSD5807) and install Talon I/F Board (only for TP-34R Mark type).
3. Disconnect RRC Connection Board CN11 8P Connector.
4. Disconnect CN11 #5 pin (green) Cable and put together the 5<sup>th</sup> pin cable and the other green cable with pin. Connect it to Connector #5.
5. Disconnect CN11 #8pin (gray). The other green cable, which jumped with #5 pin (green), connect to Connector #8.
6. #6 pin of Mark RRC I/F Board CN2 12P Connector #6 pin attaches RRC Connection Board CN11 8P Connector #8 pin (gray) with Molex 3P Connector.

**[Notice]**

**TP-34R Pump uses DC Servo Motor. So, Motor Driver is built-in inside the motor.**

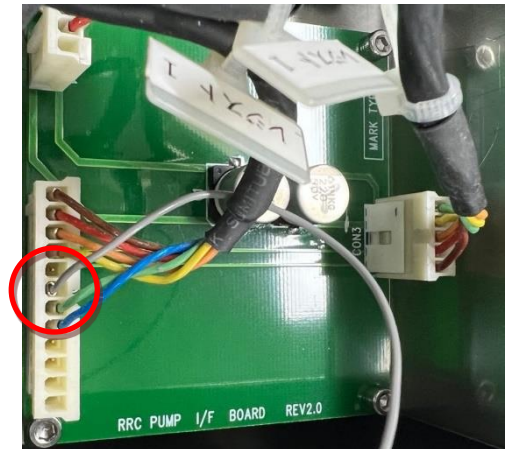
**★ How to exchange RRC Driver with Talon I/F board ★**



Original RRC Driver Condition



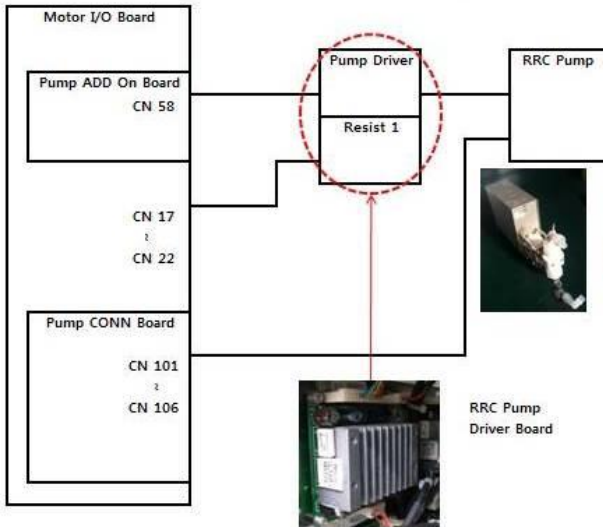
Talon I/F Board Condition



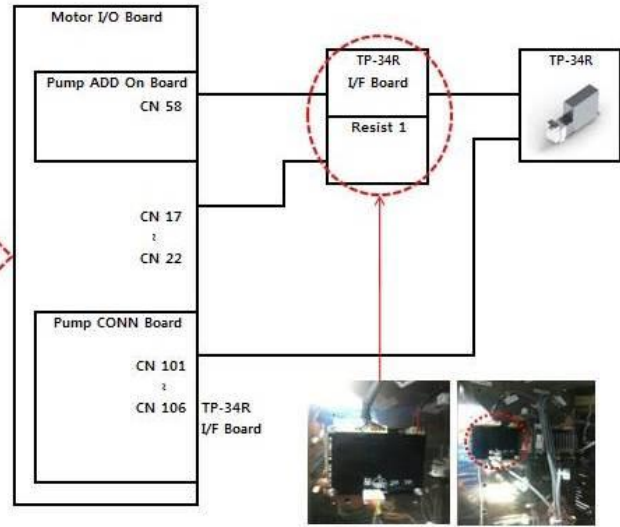
**6-3-5 I/F Board Installation Method**

◆ TP-34R Pump Modify Method

★ RRC Pump Cable Assignment(Original)



★ TP-34R Pump Cable Assignment



<THE END>