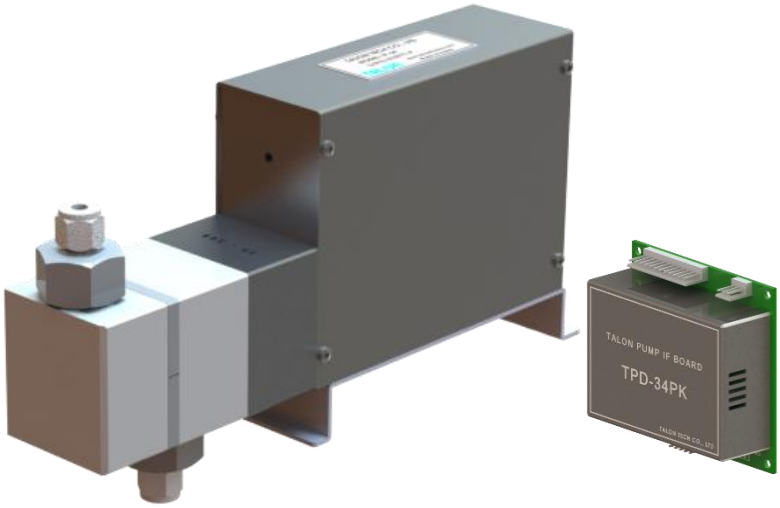
DC servo motor pump for constant dispenses **RRC Signal Pump**

PUMP MANUAL

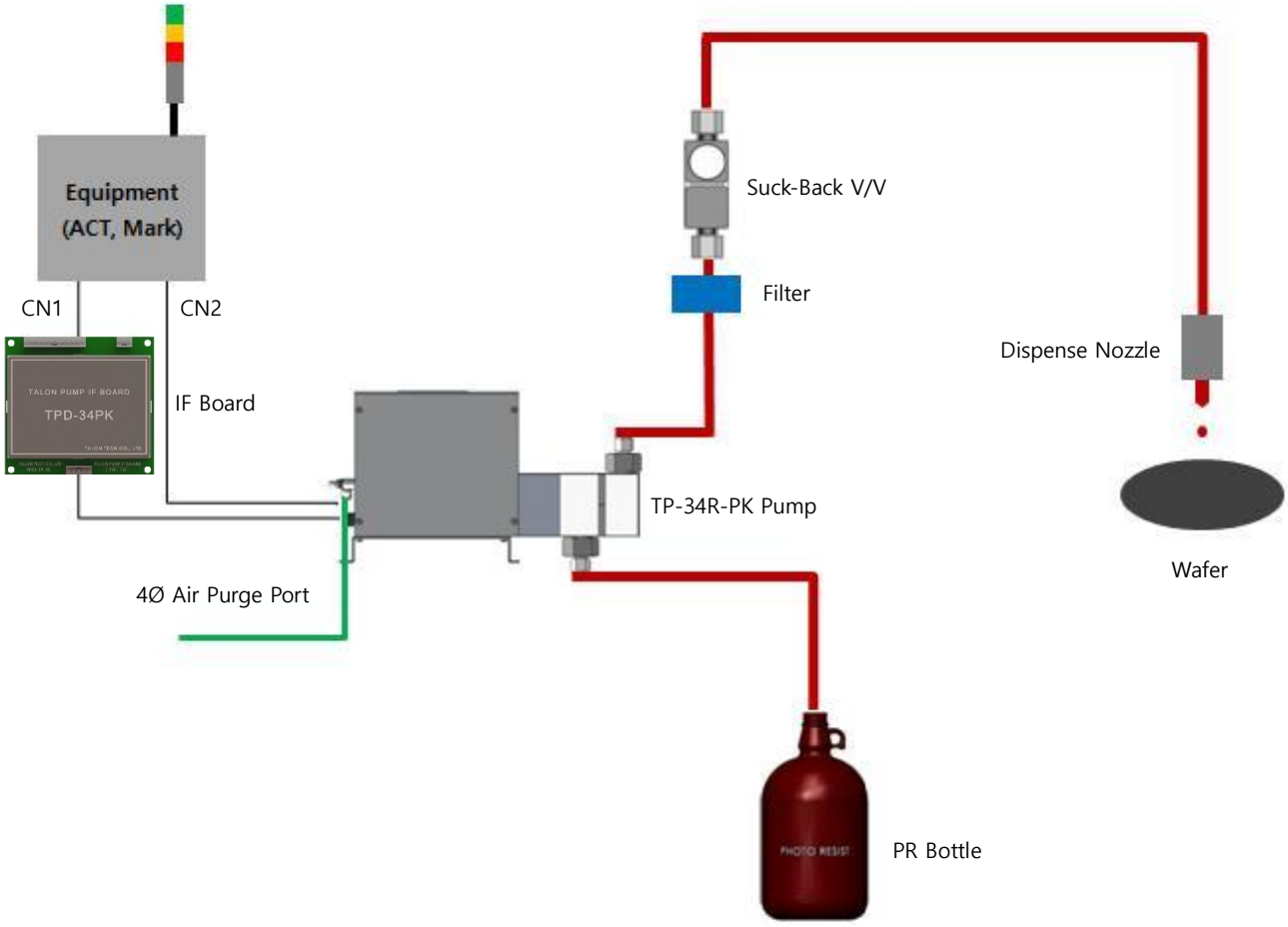
MODEL : TP-34R-PK



TALON TECH CO. LTD.

CONTENTS

1 System Configurations



TP-34R-PK 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(TPD-34PK) replaces RRC driver.

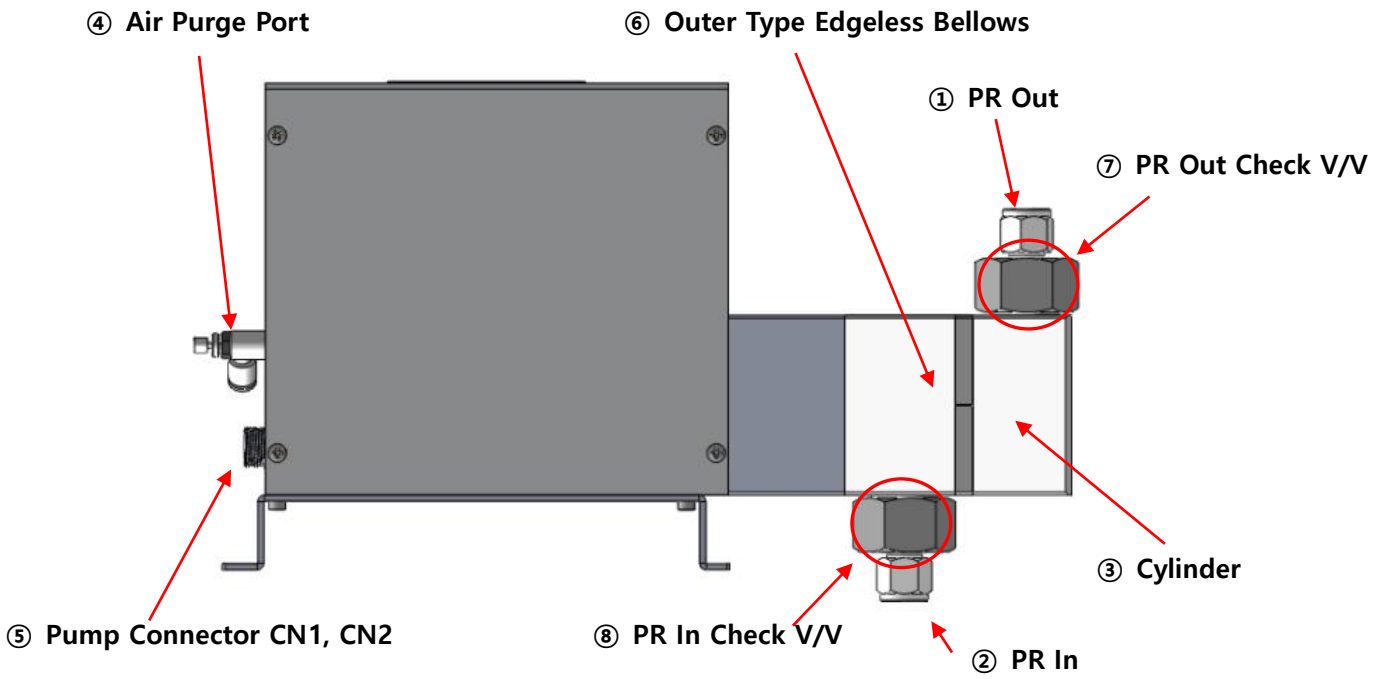
2 System Specifications

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

ITEM	SPEC	REMARKS
Dispense Volume Range	0.5 ~ 10.0cc	
Dispense Pressure	0.2Mpa (2kgf/cm²)	
Dispense Volume Resolution	±0.02cc	
Dispense / Reload Rate	0.3cc/sec ~ 3.0cc/sec	
Dispense Repeatability	≤±0.05 (2.2cp, 23℃)	
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℃	
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(Rev7.0) Exterior Names

① CN1 Connector(3pin)

CN1			
Pin NO.	Signal Name	Color	Description
1	+24V	Brown	DC 24V ±10%
2	G24	Red	
3	X	X	

② CN2 Connector(12pin)

CN2			
Pin NO.	Signal Name	Color	Description
1	CW+	Brown	Line Driver Input
2	CW-	Red	
3	CCW+	Orange	
4	CCW-	Yellow	

③ CN3 Connector(5pin)

CN3			
Pin NO.	Signal Name	Color	Description
1	A	Brown	5Phase Stepping Motor
2	B	Red	
3	C	Orange	
4	D	Yellow	
5	E	Green	

- Applicable contacts and connector housings (Maker : TE)

CN1	Connector Housings	171822-3
	Contacts	170262-1
CN2	Connector Housings	1-171822-2
	Contacts	170262-1
CN3	Connector Housings	171822-5
	Contacts	170262-1

4 Wiring & Signal Interface

4-1 CN1 Pin Assign [Motor Cable]

Pin Assign (ACT & MARK)			
Pin NO.	**Signal Name**	**Color**	**Description**
A	A	Blue	5Phase Stepping Motor
B	B	Red	
C	C	Orange	
D	D	Green	
E	E	Black	

4-2 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 ±0.25V / 0.2A
H	TH S/W	Green	GND

5 Maintenance

5-1 Pump Parts Dis/Assembly

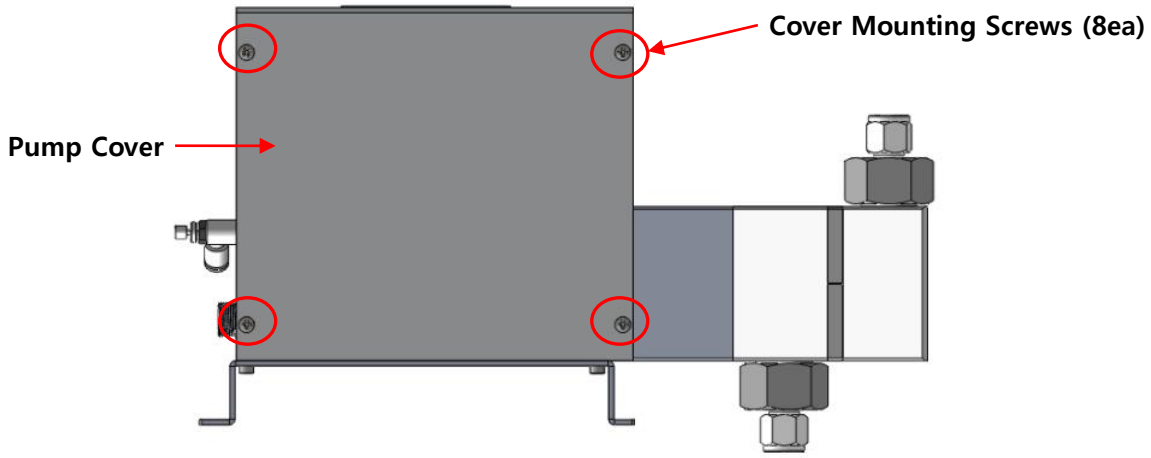
5-1-1 Pump Cover Dis/Assembly

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.

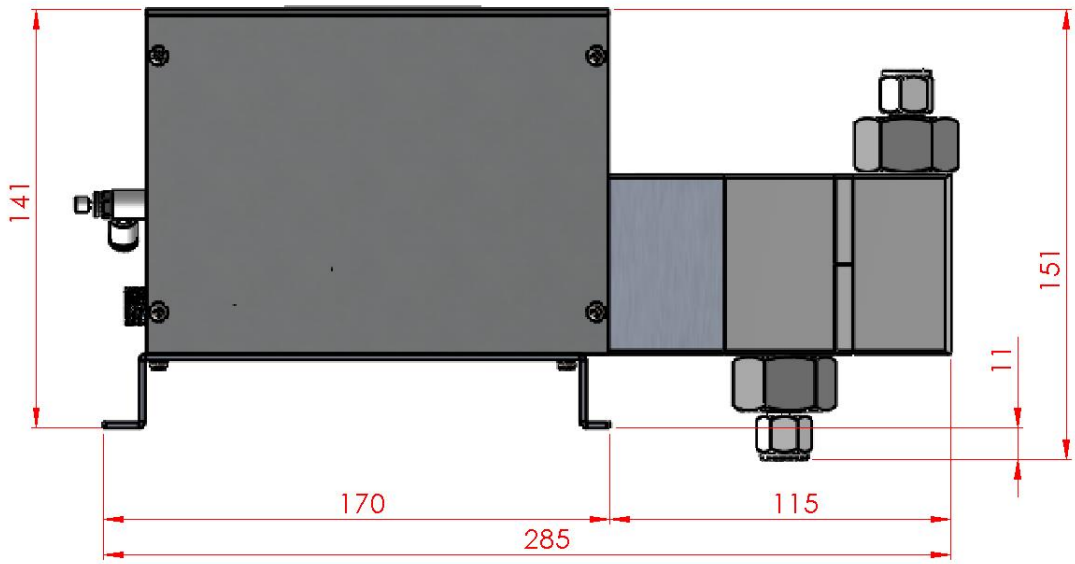
6 Recommended Spares / Mechanical Dimensions

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
Talon Pump I/F Board	TL-34R-EB-003-1	TPD-34PK(Rev7.0)	1

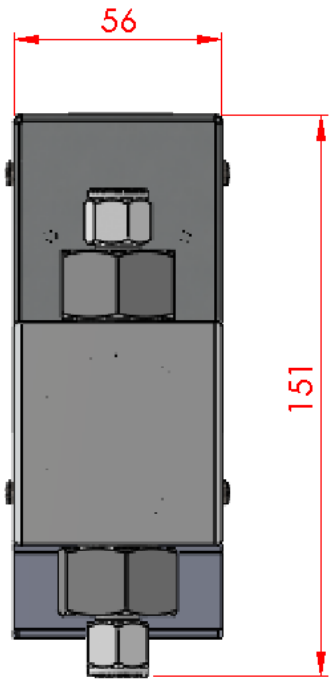
6-2 Pump Dimensions

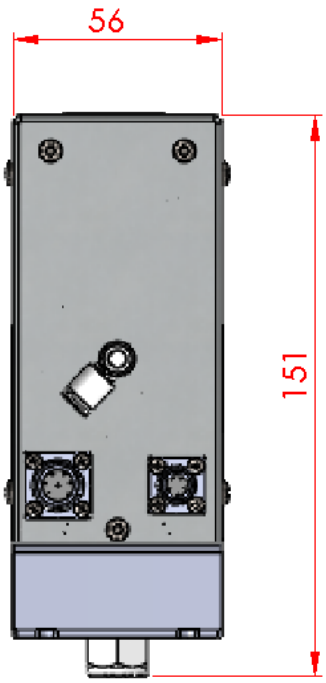
6-2-1 Side View



[Side View]

6-2-2 Front / Rear View

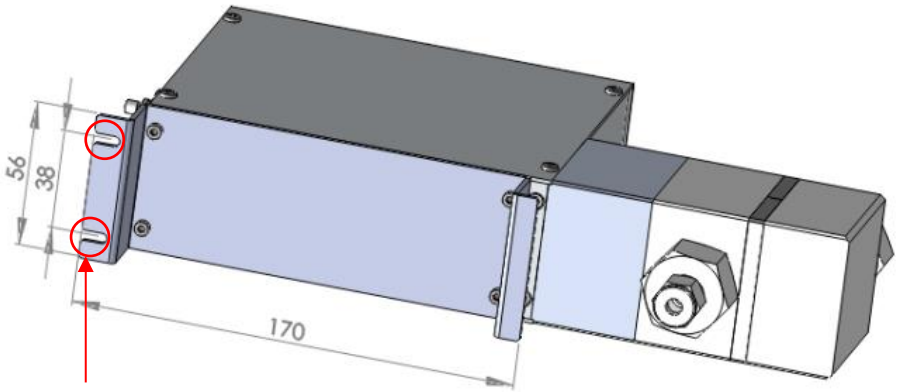




6-3 Installation Method

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

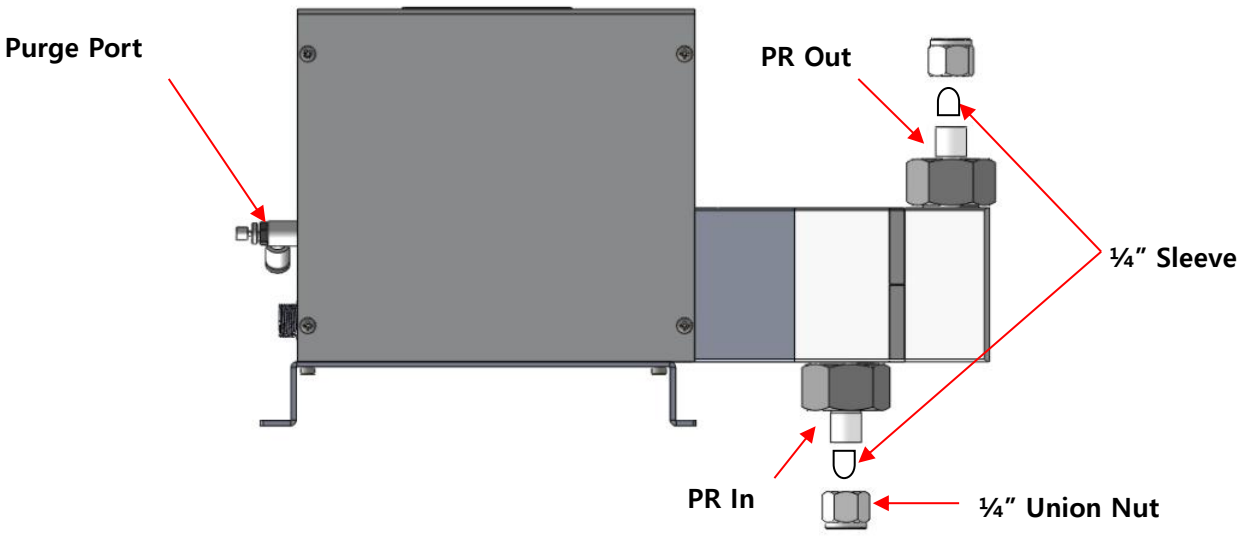
1. PR Tube Piping

1) Insert ¼" union nuts on tube at PR In/Out areas.

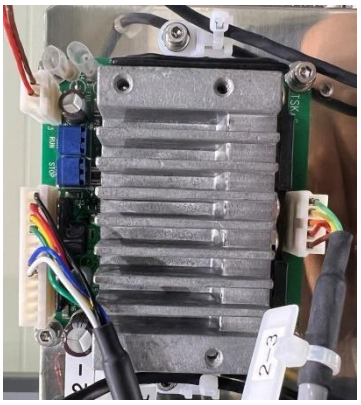
2) Insert ¼" sleeve into tube after enlarging tube with the tube expansion tool and then tighten nut.

2. Purge Line Piping

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



6-3-3 Cable Connection Method [ACT Type]



RRC Motor Driver (CSD5807)

Talon Pump IF Board (REV6.1)

1. De-install RRC pump and install TP-34R Pump.
   (CN1 & CN2 Connectors are connected same.)
2. De-install RRC Driver (CSD5807) and install Talon Pump I/F Board.
3. RRC Motor Driver's Connector CN1, CN2, & CN3 are connected same.
4. After power on the track, check out the pump working status.

<THE END>