



1979

Established JUNJIN INDUSTRY  
MAINTENANCE & PARTS trade

1991

Established "JUNJIN Heavy Industry"  
Contract Official dealer of PM  
Lunching concrete pump

1995

Lunching JUNJIN concrete pump to  
domestic market  
Develop first 43M pump

1998

Lunching Research & Development center

2005

Develop 63M pump

2012

Export JUNJIN concrete pump over 60 countries

## ENGINEER TRAINING

### HYDRAULIC

Concrete pump general

Main function

Concrete pumping system

Basic of hydraulic

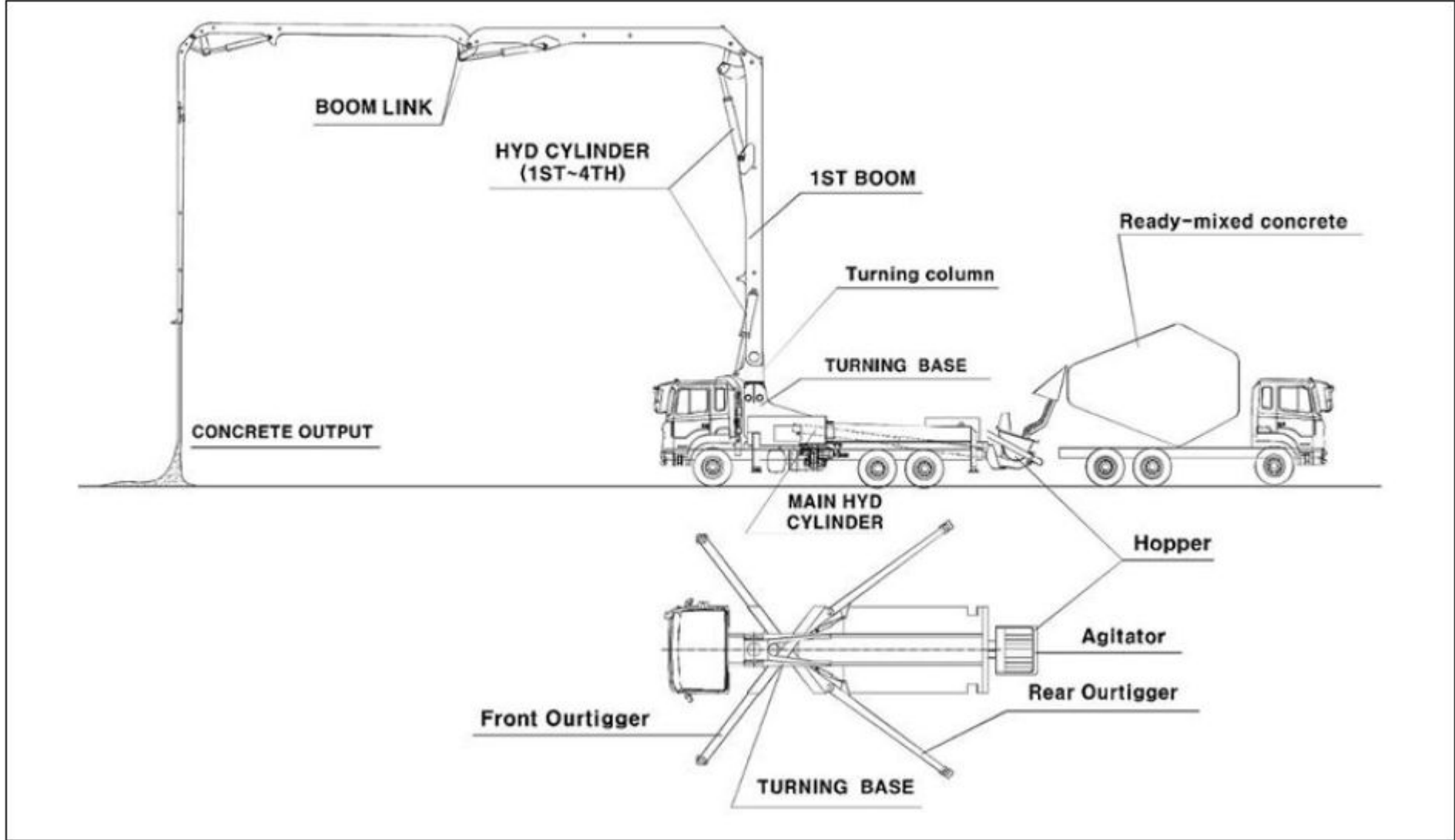
Filter system

Air pressing

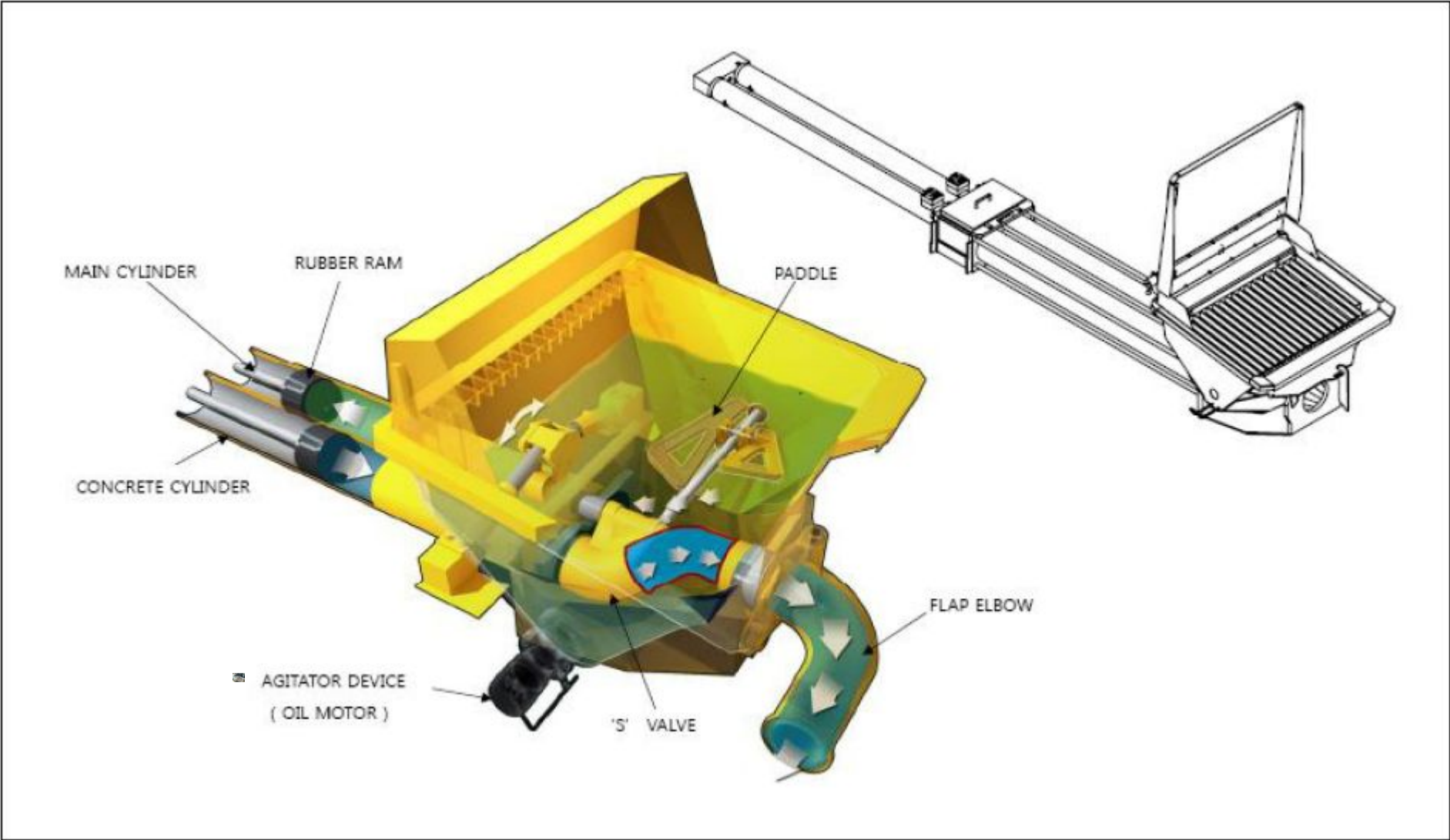
Grease system



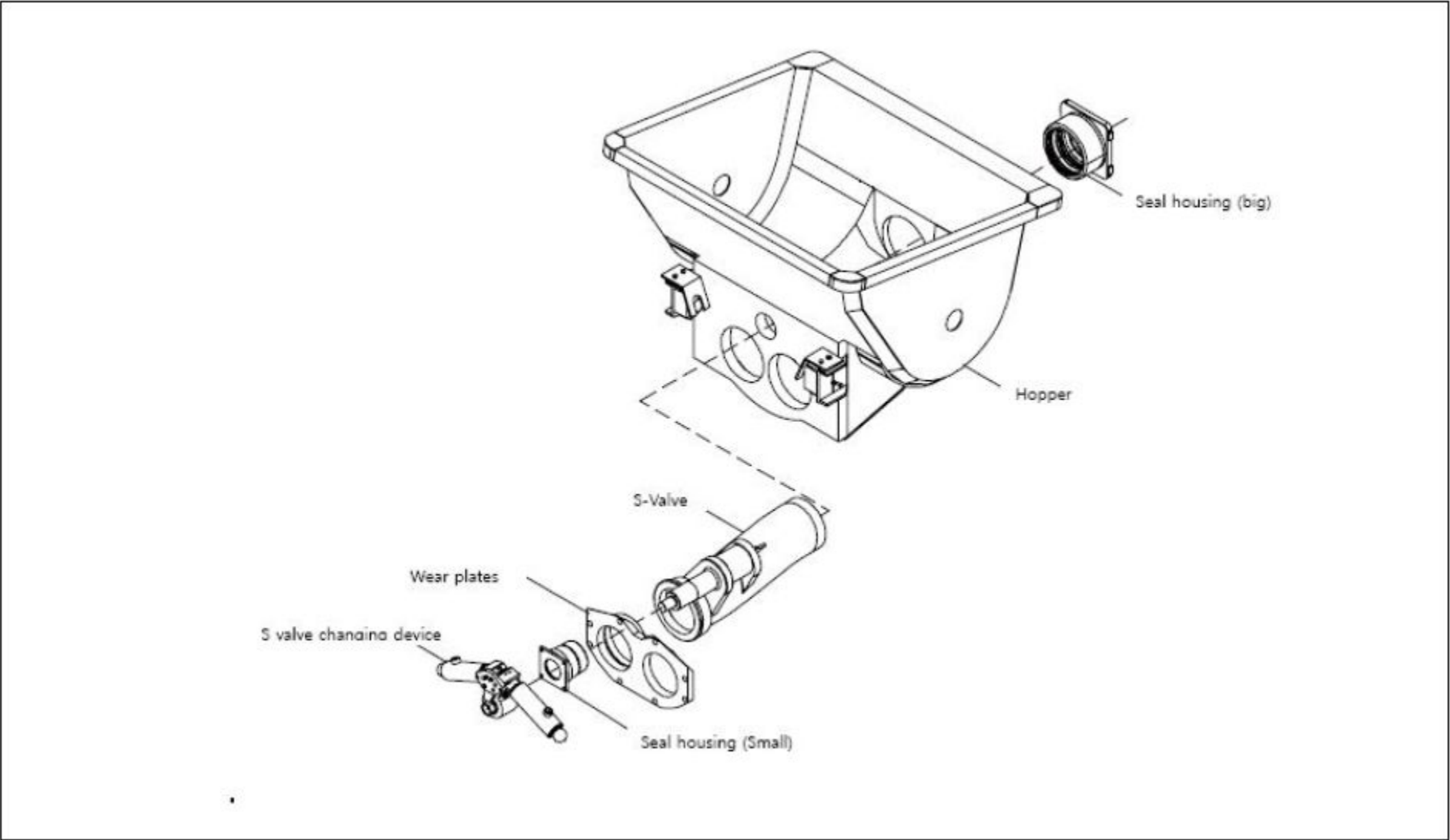
■ What is concrete pump



■ Concrete pump?



■ Concrete pump?





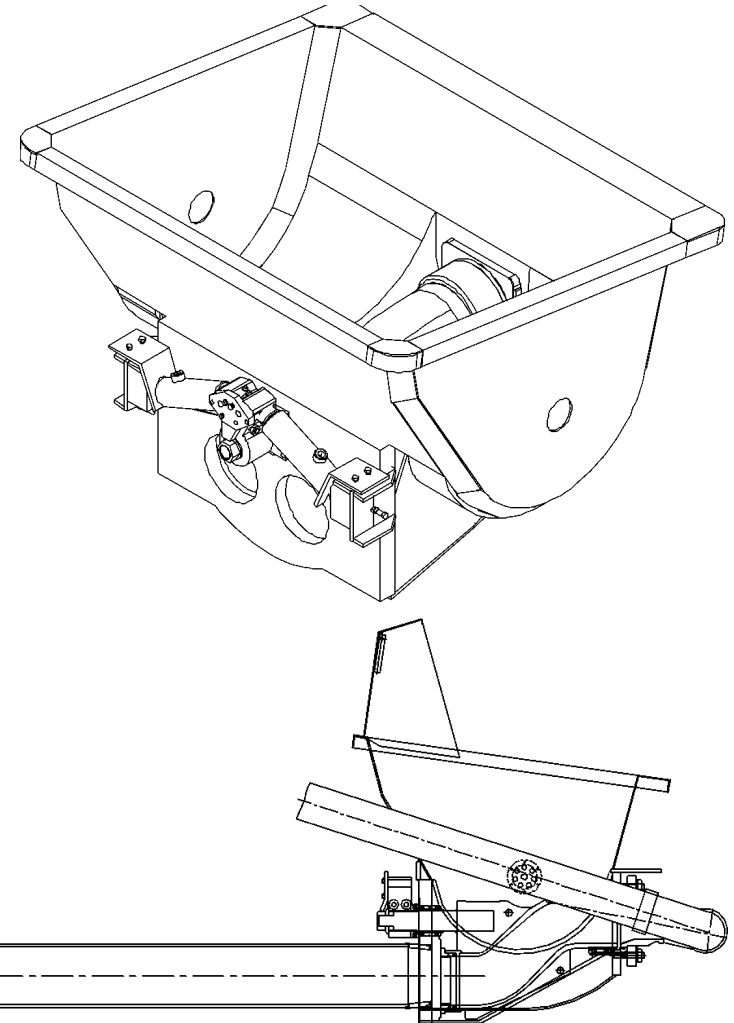
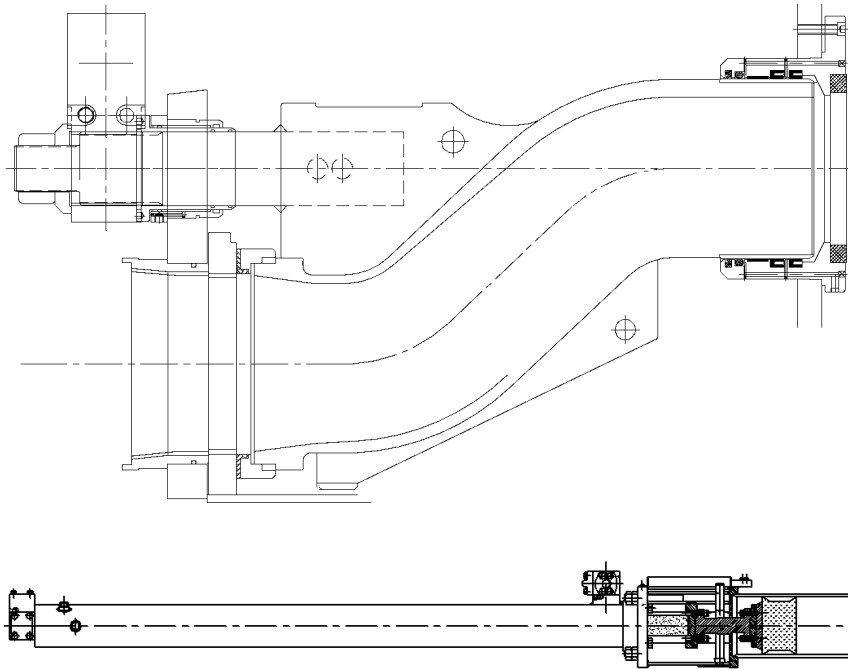
## Concrete pump?

### Concrete pump

CONCRETE PUMPING  
FROM MIXER TO PUMPING POSITION  
POWER TRANSFER LINE

### Main Function

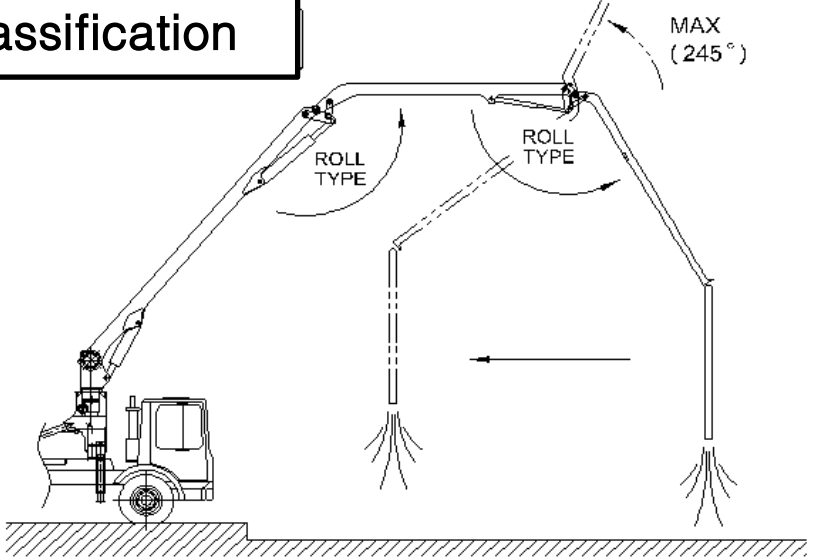
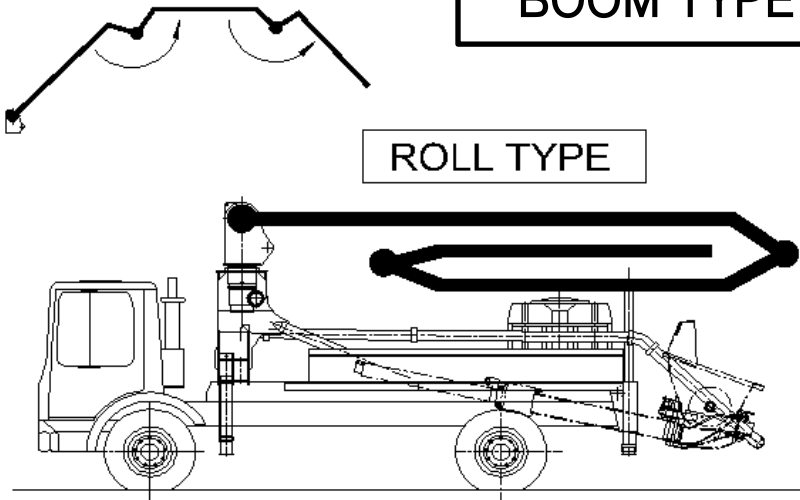
- 1) Main cylinder (Concrete CYL.)
- 2) Plunger cylinder ( 'S' V/V Changing CYL. )



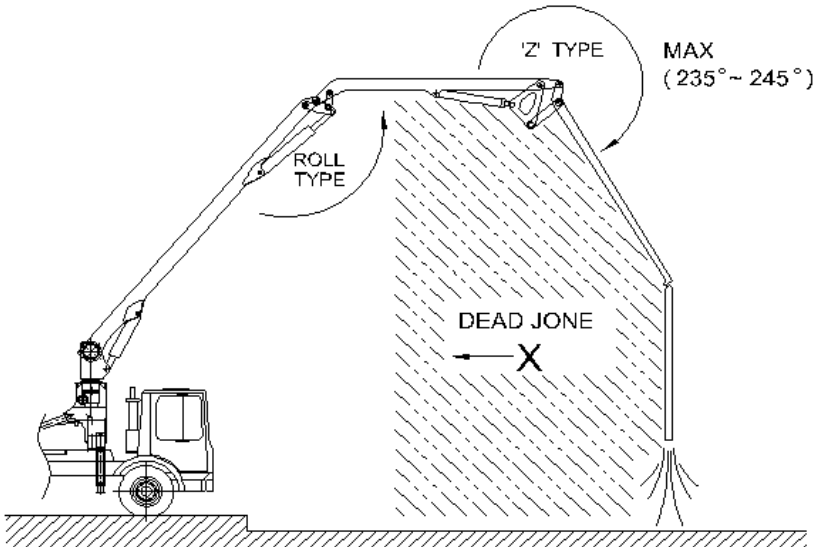
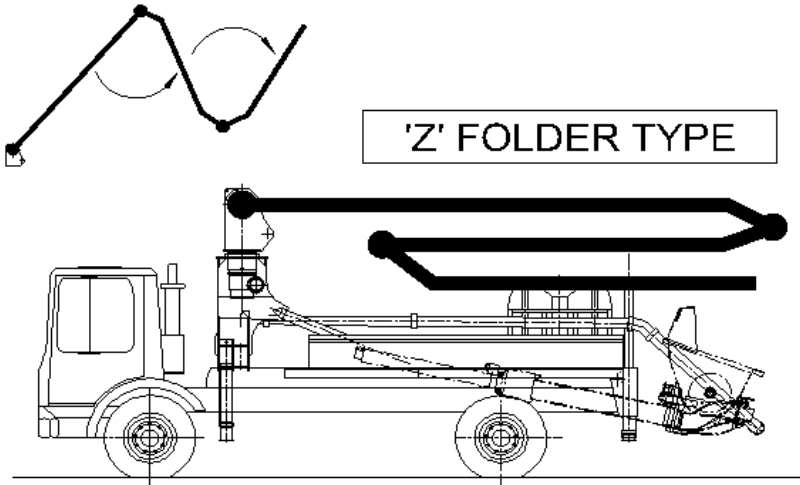
BOOM TYPE

BOOM TYPE Classification

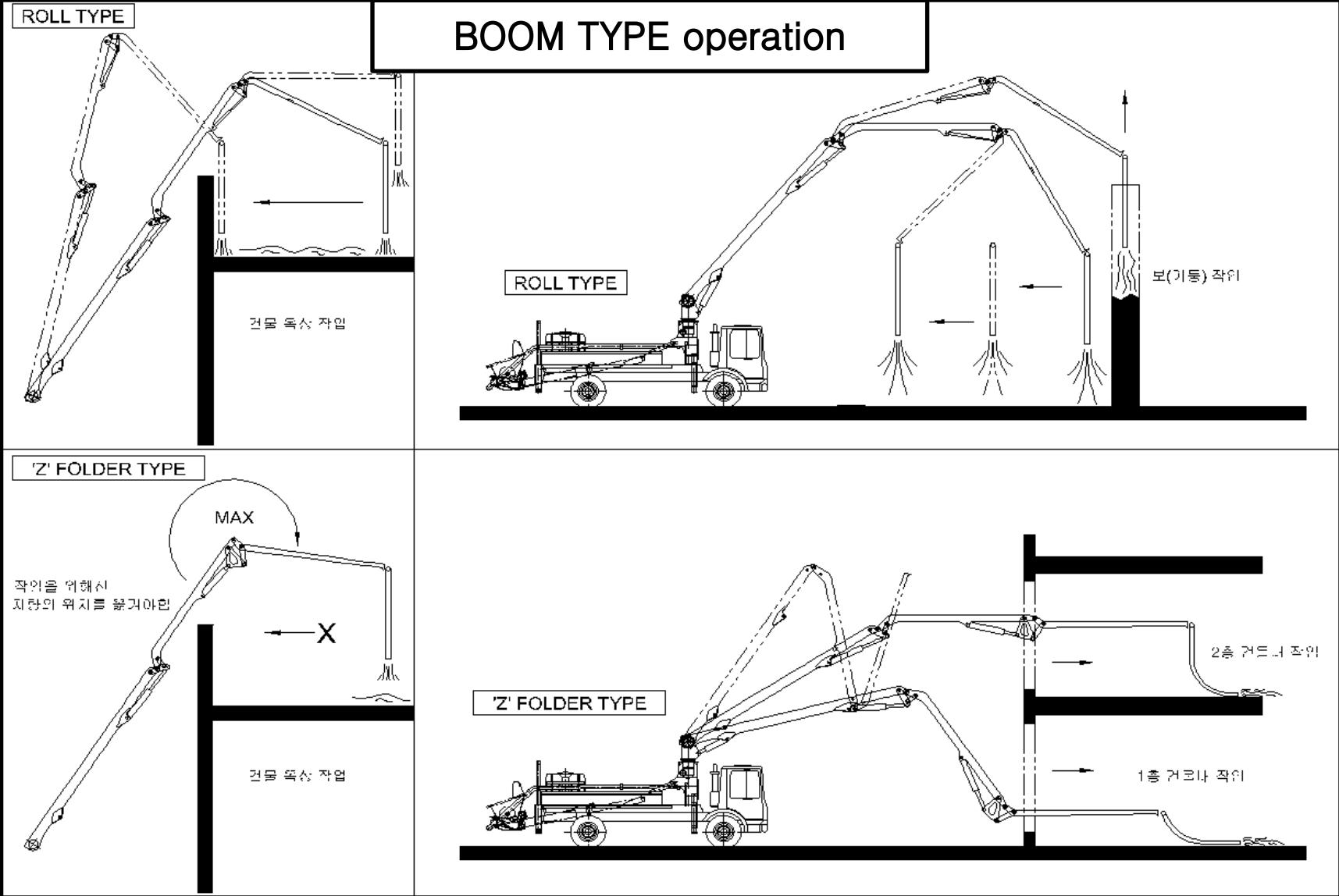
ROLL TYPE



'Z' FOLDER TYPE

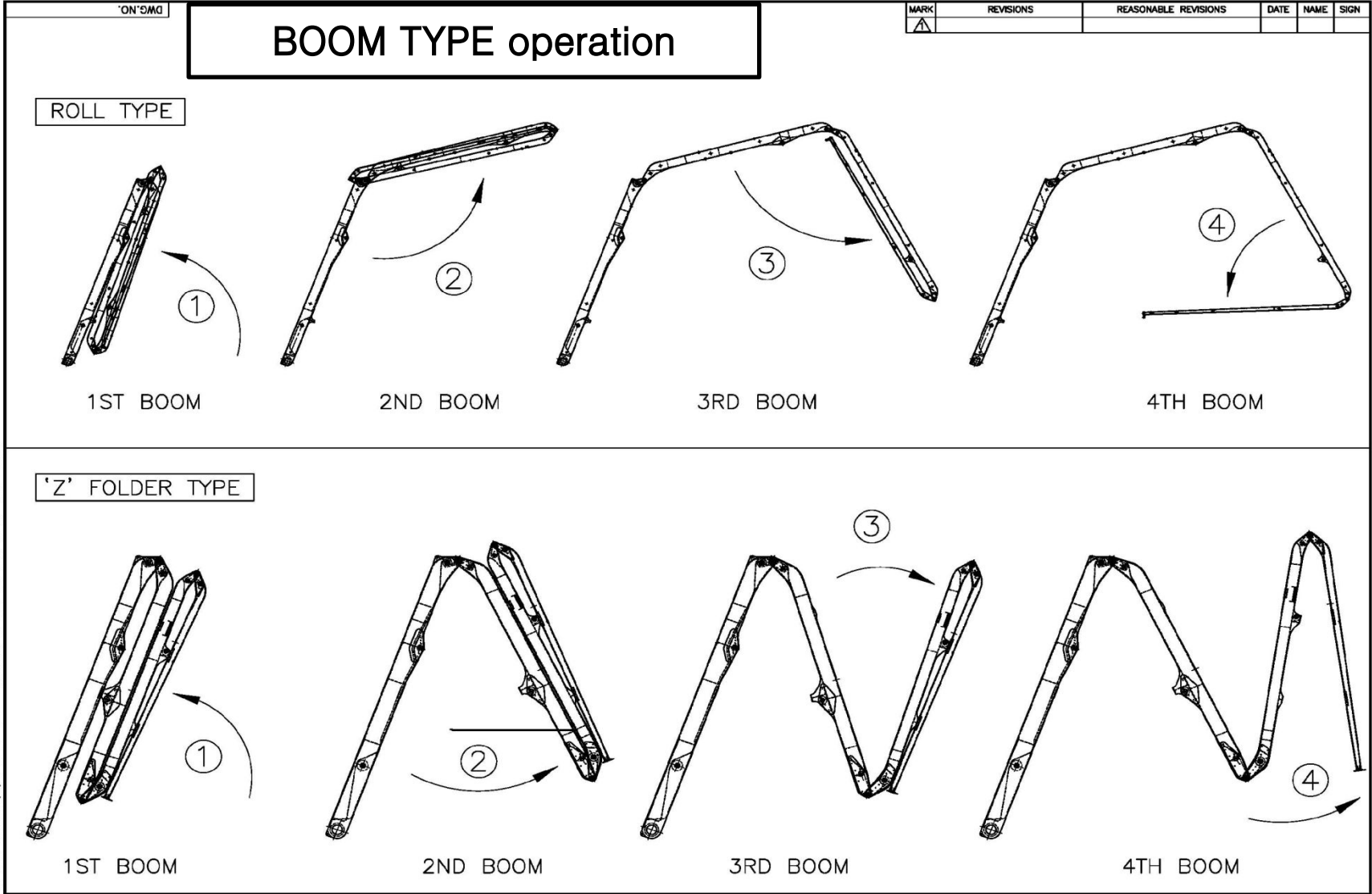


BOOM TYPE



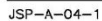


BOOM TYPE



본 도면은 전진중공업(주)의 중요하고 자신으로 사정함이나 불요함이 무관하게는 항상 책임을 다한다.

이(자)영웅(英雄)의(의)인간적(人間的)사건(事件)과(及)정치(政治)정당(政黨)을(를)다룬다."

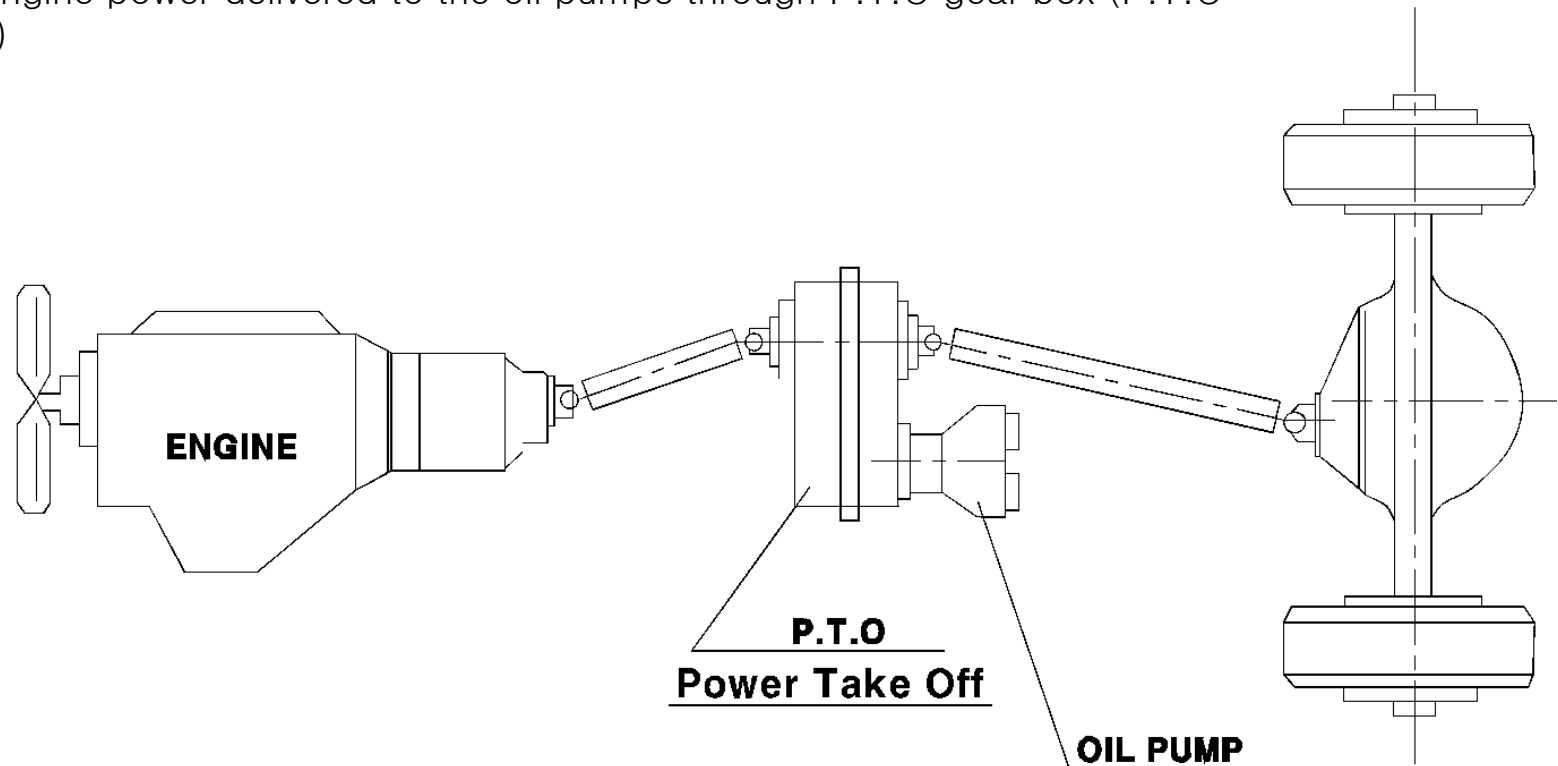


## ■ MAIN FUNCTION

### P.T.O ON – OFF

OFF : Engine power delivered to the differential gear box of rear axle through propeller shaft. (DRIVE MODE)

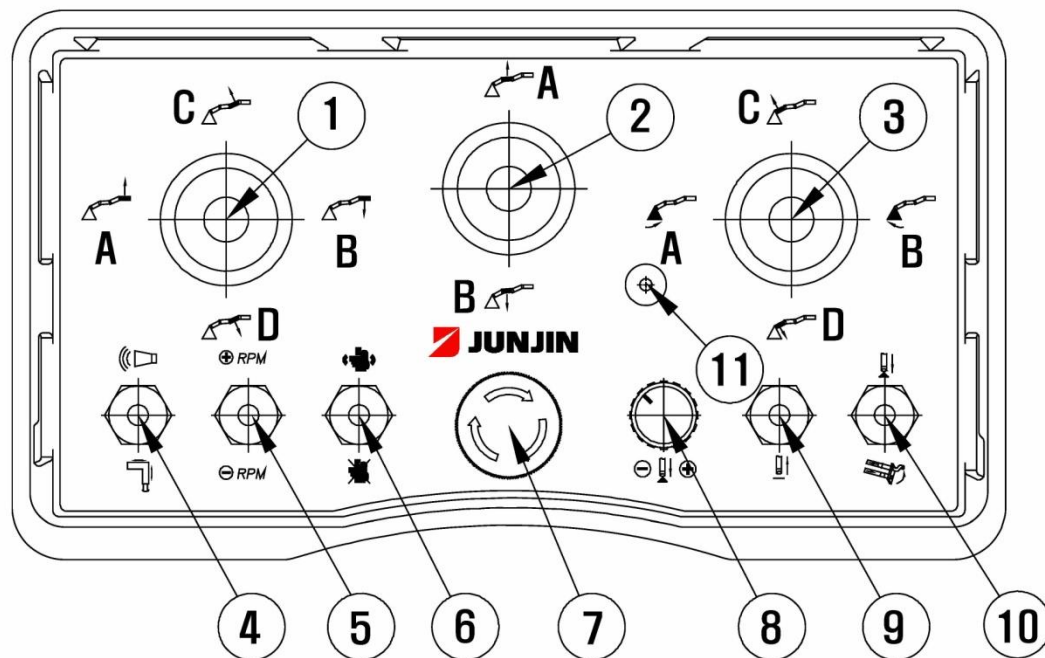
ON : Engine power delivered to the oil pumps through P.T.O gear box (P.T.O MODE)



## ■ MAIN FUNCTION

1. P .T. O ON/OFF
2. PUMPING ON/OFF
3. VOLUMN CONTROL, OIL PUMP VOLUMN
4. COOLING SYSTEM

## MAIN FUNCTION



1,2,3 – Boom control lever

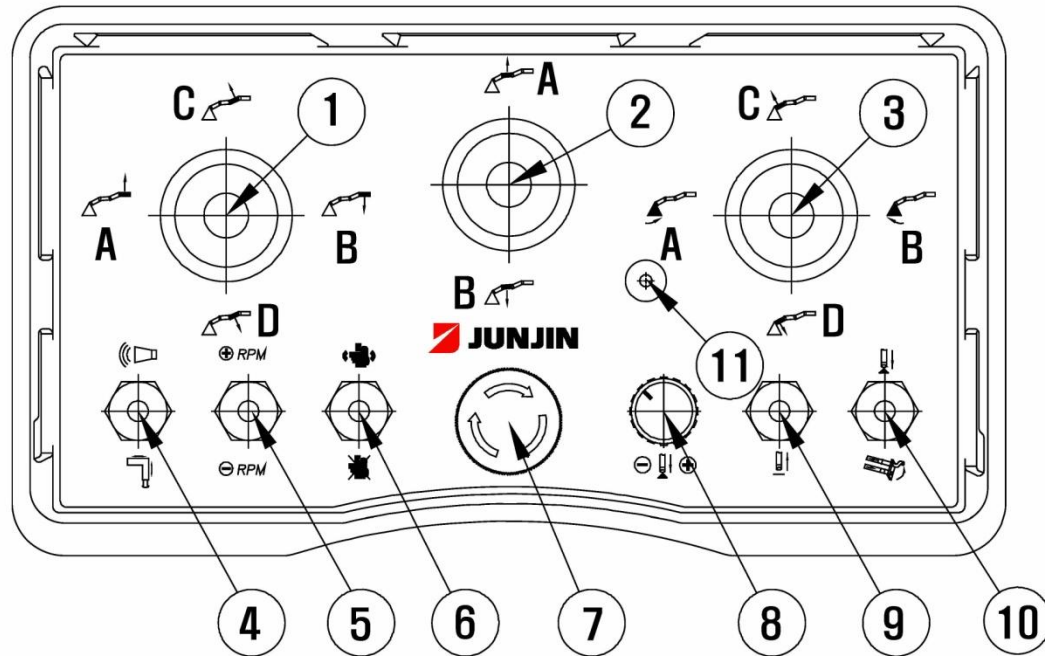
9 – Back pumping switch ON-“OFF”

4 – Outrigger, horn

10 – Pumping switch ON-“OFF”-ON

5 – Engine speed control switch : +increase/-reduce

## MAIN FUNCTION



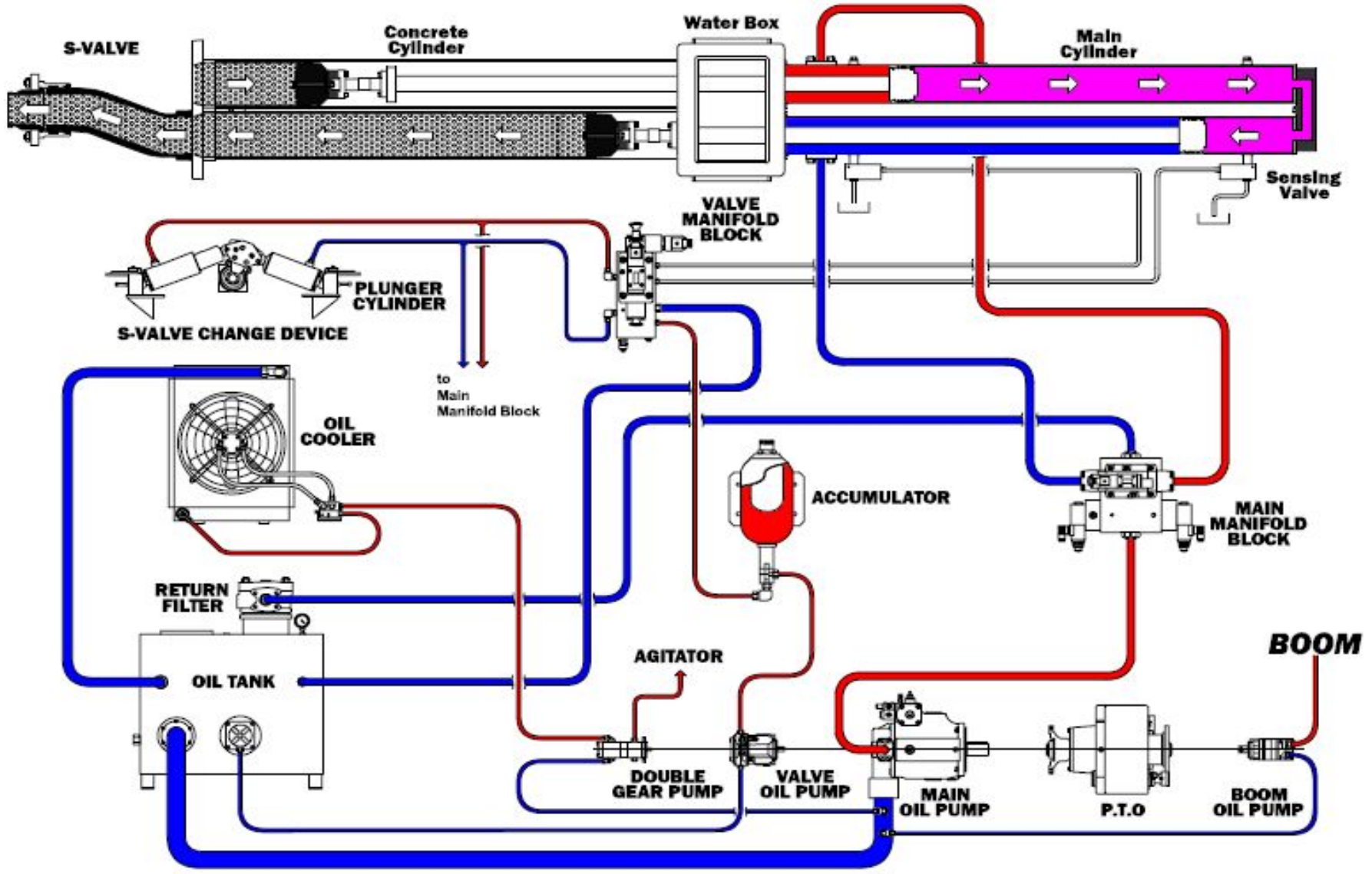
6 – Engine stop / start switch : ON-“OFF”-ON

7 – Emergency shot-down button : PUSH “ON-OFF”

8 – Output adjustment switch : +increase/-reduce



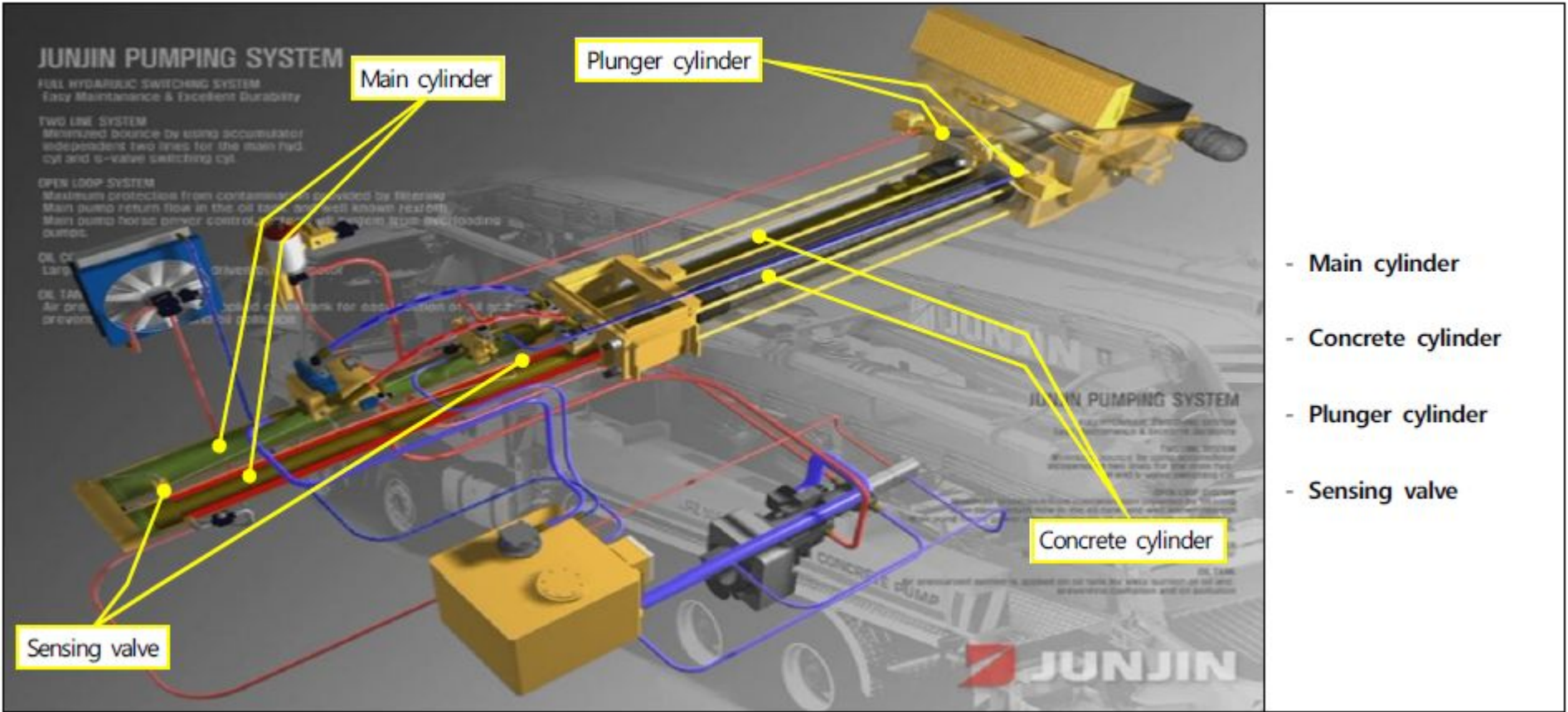
■ Concrete pumping system



## Concrete pumping system

- ① RETURN FILTER : filtering returned oil to the TANK
- ② AGITATOR OIL PUMP : AGITATOR/OIL COOLER runs
- ③ VALVE OIL PUMP : In-charges S-VALVE switching
- ④ MAIN OIL PUMP : In-charges MAIN CYLINDER movement
- ⑤ P.T.O : deliver engine power to the pumping system ON/OFF
- ⑥ BOOM OIL PUMP : In-charges BOOM movement
- ⑦ ACCUMULATOR : accumulate hyd. Oil for fast S-VALVE switching
- ⑧ MAIN MANIFOLD BLOCK : controls MAIN CYLINDER direction
- ⑨ VALVE MANIFOLD BLOCK : controls S-VALVE direction
- ⑩ PLUNGER CYLINDER : Valve oil pump's actuator
- ⑪ OIL COOLER : cooling down the oil
- ⑫ SENSING VALVE : controls MAIN & VALVE manifold block oil flow direction

■ Concrete pumping system



■ Concrete pumping system



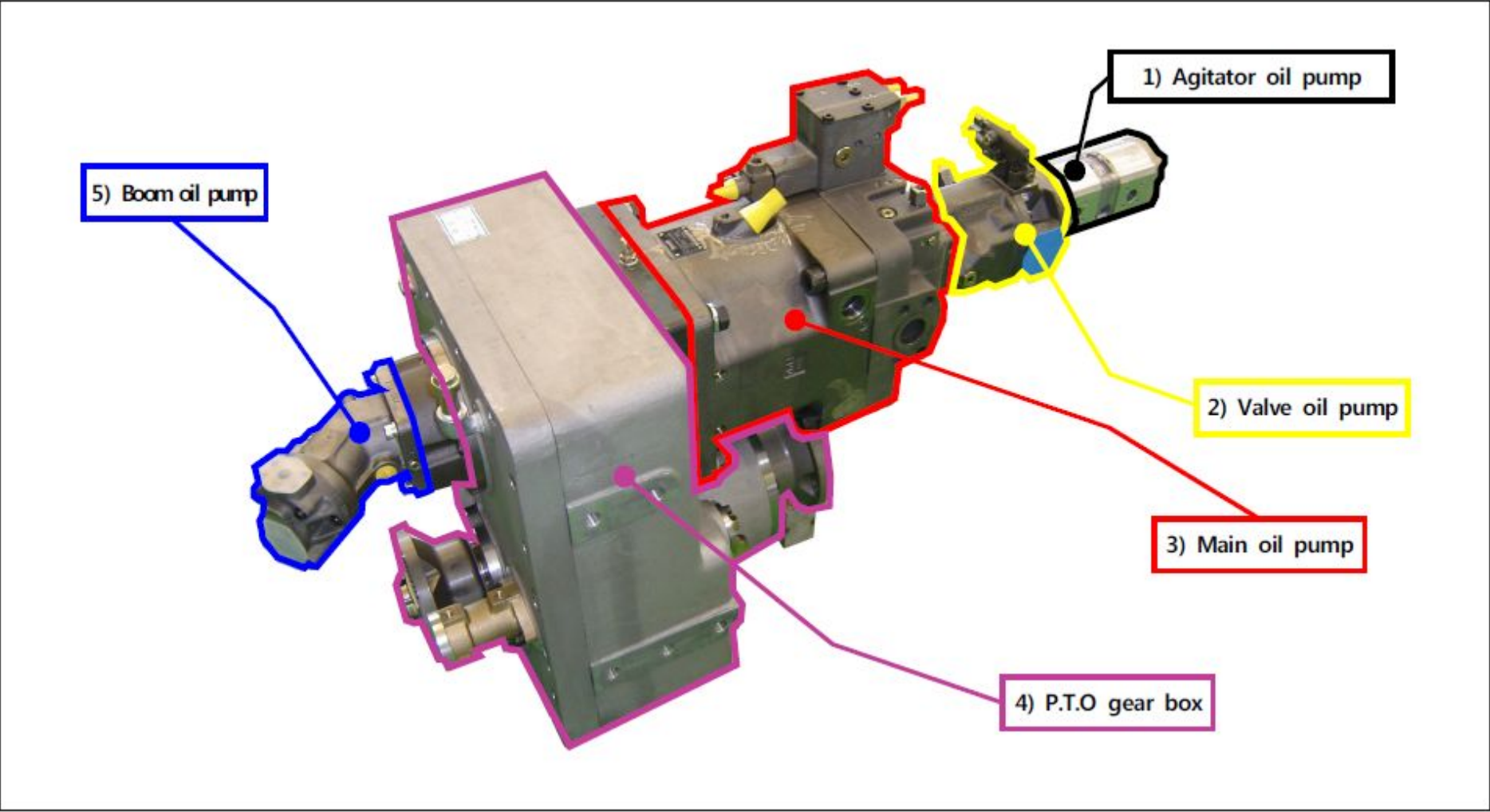
Sensing valve (#12)









Plunger cylinder (#10)



■ Concrete pumping system



■ Concrete pumping system

		
<p>Valve oil pump (#3)</p>	<p>Main oil pump (#4)</p>	<p>P.T.O gear box (#5)</p>
		
<p>Agitator oil pump (#2)</p>	<p>Completed (Assembly)</p>	<p>Boom oil pump (#6)</p>



## ■ Concrete pumping system



- Accumulator

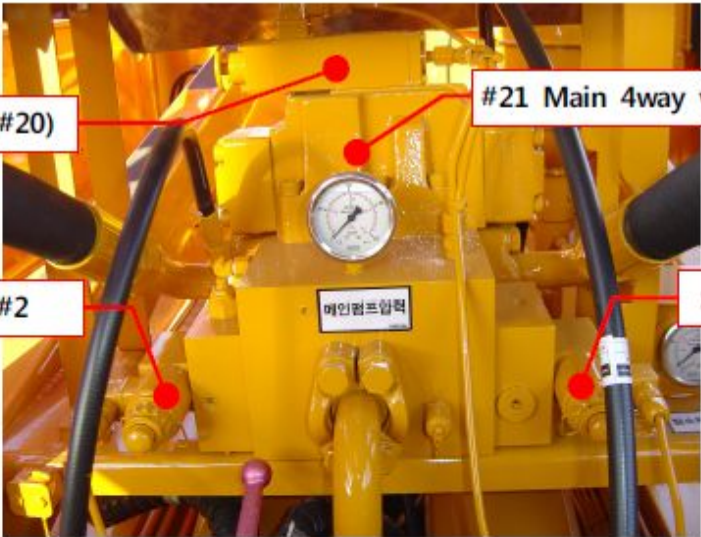
Outvolume control valve  
0 ~ 35BAR (#8)



Reducing valve 40 BAR (#16)

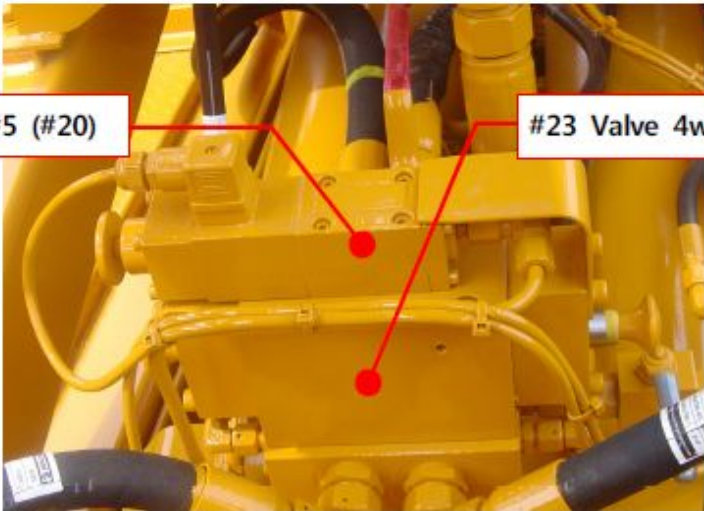
Accumulator (#7)

SOL #5 (#20)



Main manifold block (#08)






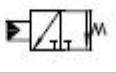

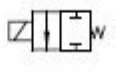

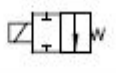

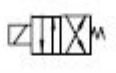


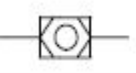

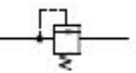

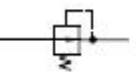

SOL #5 (#20)




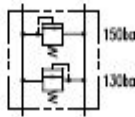


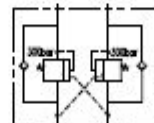


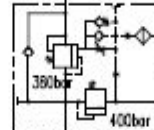

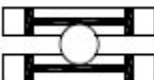
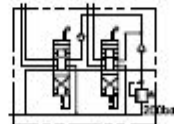
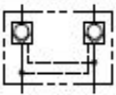
#23 Valve 4way valve

Valve manifold block (#09)

## ■ Basic of hydraulic (Symbol)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FIXED DISPLACEMENT PUMP		LOGIC VALVE
	VARIABLE DISPLACEMENT PUMP		RELIEF LOGIC VALVE
	HYD MOTOR		SENSING VALVE
	PRESSURE GAUGE		SOL. V/V (Normal close)
	STOP VALVE		SOL. V/V (Normal open)
	CHECK VALVE		SOL. V/V (Back pumping)
	PRESSURE TEST COUPLING		4-WAY V/V (HYD. OPERATED)
	SHUTTLE VALVE		4-WAY V/V (HYD. & MANUAL OPERATED)
	RELIEF VALVE		HYD CYLINDER
	REDUCING VALVE		PLUNGER CYLINDER

## ■ Basic of hydraulic (Symbol)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	OIL COOLER		DOUBLE RELIFE VALVE (BRAKE VALVE)
	FILTER		
	HIGH PRESSURE FILTER		COUNTER BALANCE V/V FOR TURNING
	ACCUMULATOR		
	ORIFICE		LOAD HOLDING VALVE
	OIL TANK		
	TURNING CYLINDER		CONTROL VALVE(MANUAL)
	PILOT CHECK VALVE		



## ■ Hydraulic circuit

### ■ PUMPING

#### 1. Pumping ON / OFF

- Safety in pumping STOP
- Holding (pumping STOP)

#### 2. PUMPING ( MAIN CYLINDER RECIPROCATING ACTION )

- SENSING VALVE, MAIN CYLINDER
- BACK PUMPING
- PLUNGER CYLINDER

#### 3. TWO LINE system

- Accumulator, Valve oil pump
- 250BAR Relief valve, 190BAR Relief valve
- Volume control

#### 4. ETC system

- Oil cooler
- Agitator control valve, Water pump
- Filter system

## ■ Hydraulic circuit

### ■ BOOM & OUTRIGGER

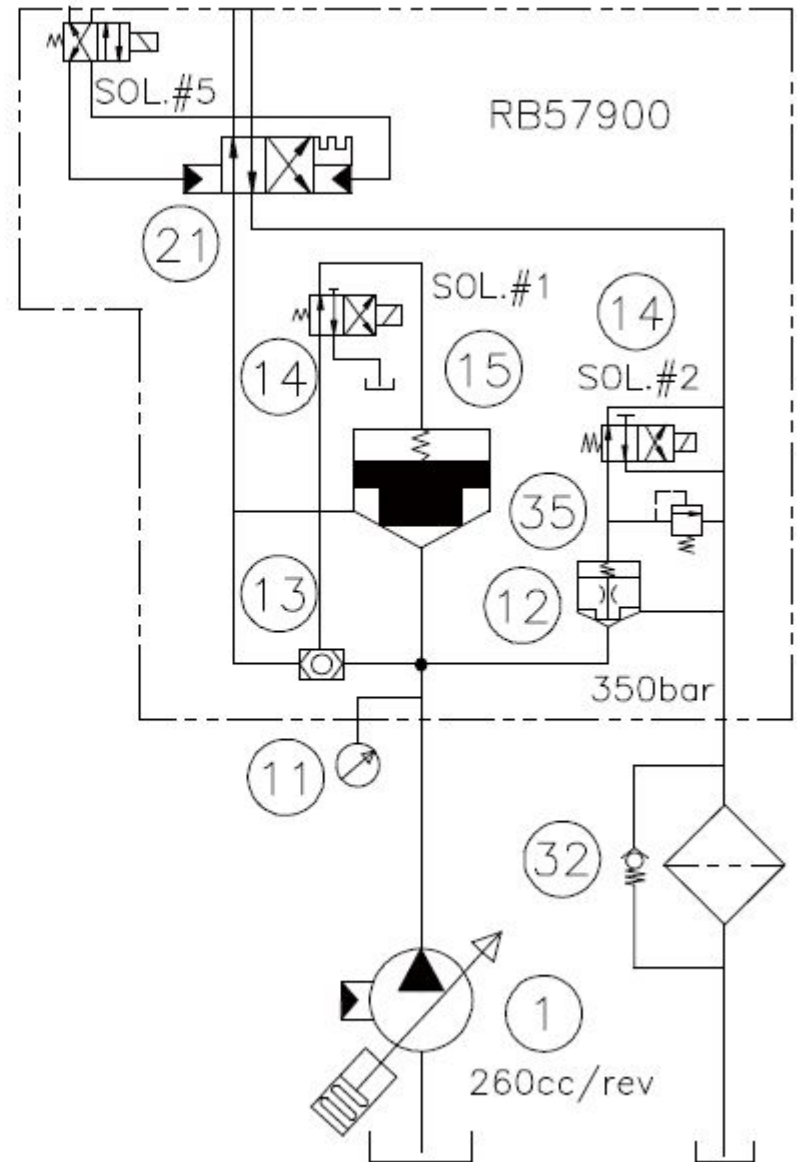
#### 1. Boom control

- Outrigger switch - Boom / Outrigger switching
- 3way compensator
- 2way compensator

#### 2. Load holding valve

- Boom
- Turning

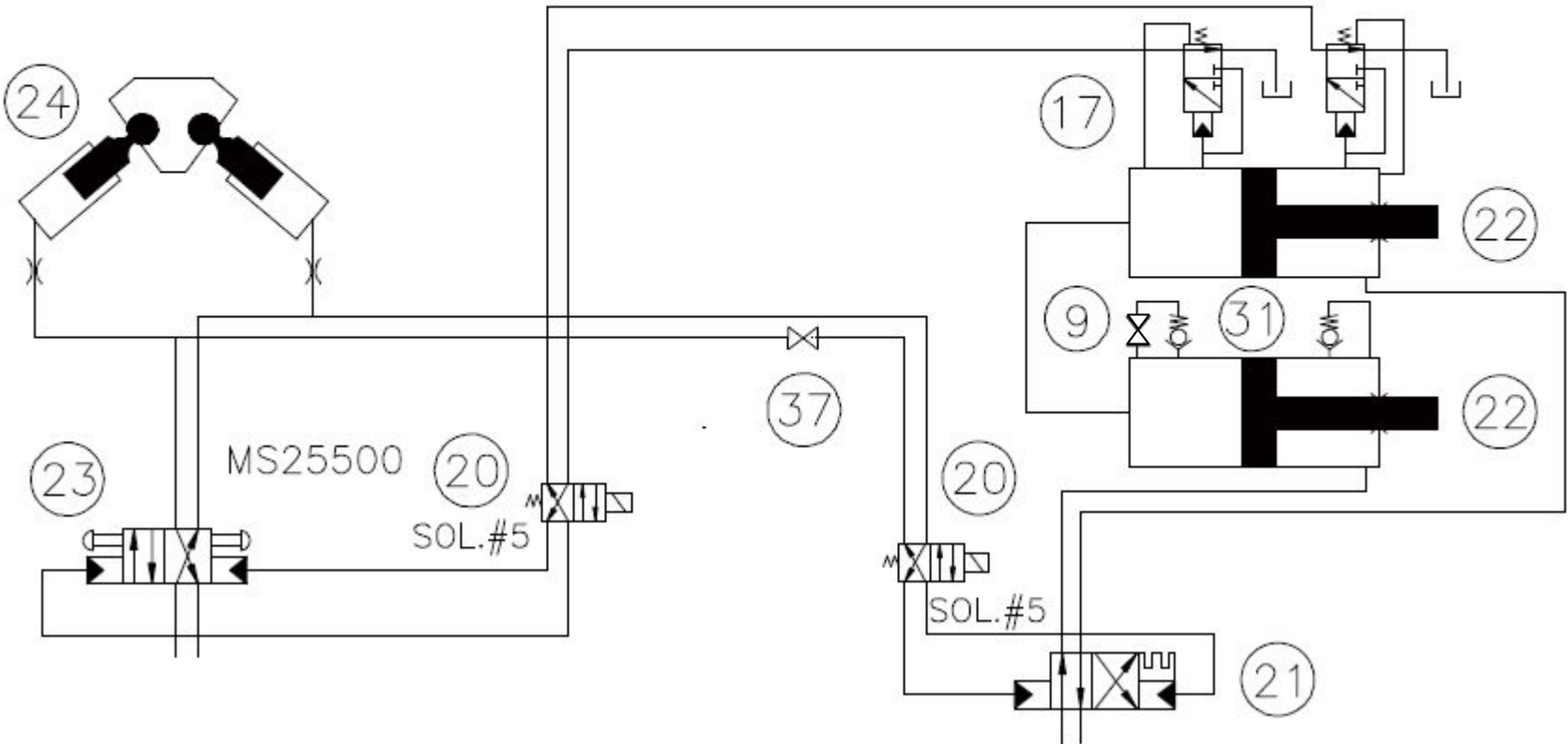




## ■ Hydraulic circuit

### 2. Pumping

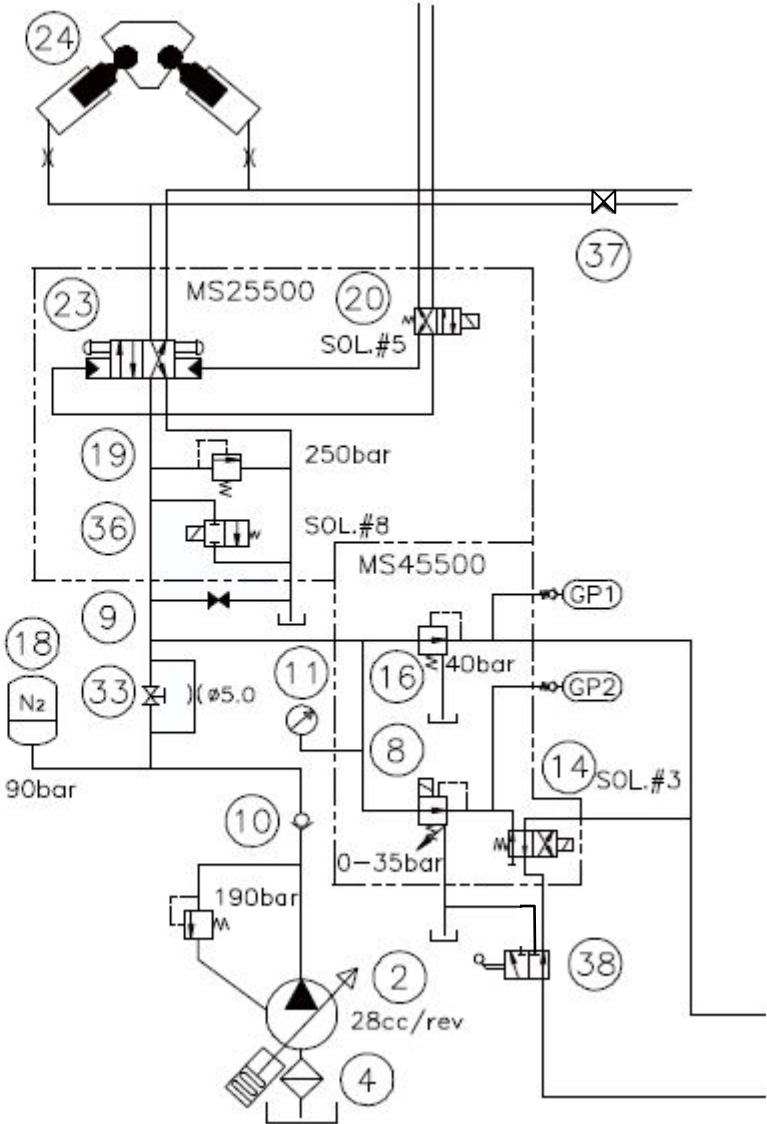
- Pumping (Main cylinder reciprocating)
- Sensing valve, Main cylinder, Plunger cylinder
- Back pumping



# Hydraulic circuit

## 3. TWO LINE system

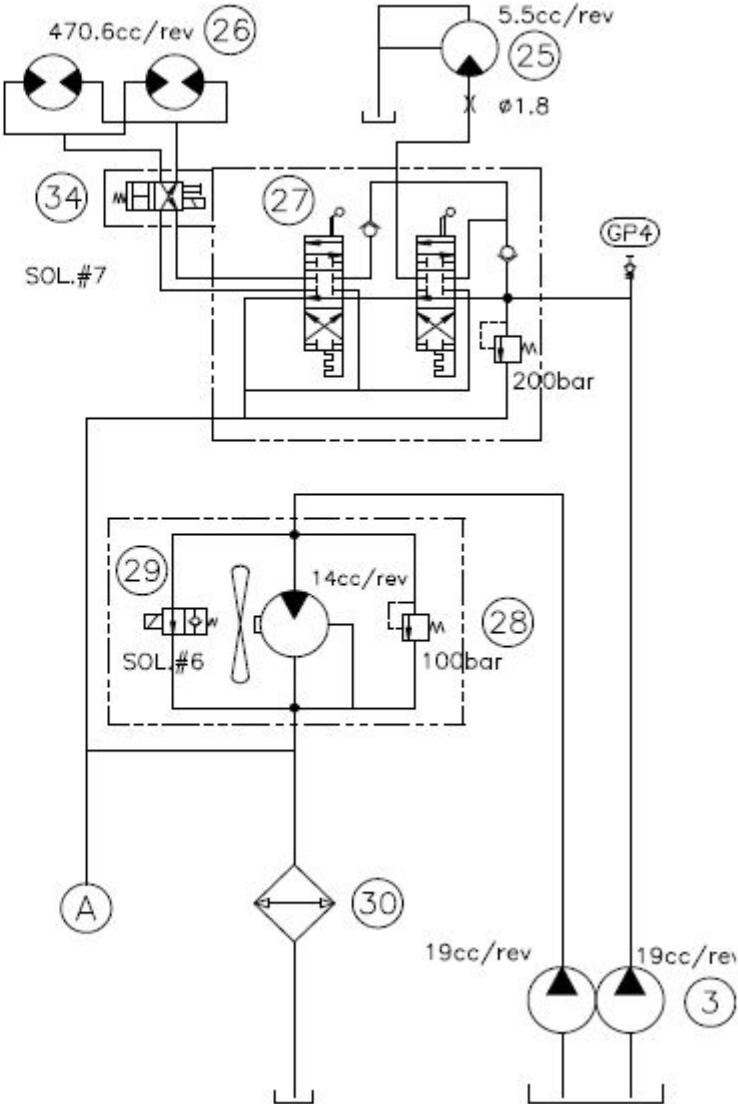
- Accumulator (#18)
- Valve oil pump (#2)
- 250BAR relief valve (#19)
- 190BAR relief valve
- Volume control (#8)



# Hydraulic circuit

## 4. ETC system

- Oil cooler
- Agitator control valve
- Water pump
- Filter system



# Hydraulic components

## Hydraulic Components

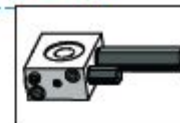
Oil Cooler & Radiator



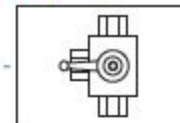
HYD. Filters



Load holding V/V



3 Way ball V/V



Main Cyl.



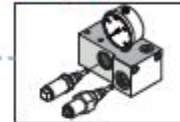
Sensing V/V



Accumulator



Reducing V/V



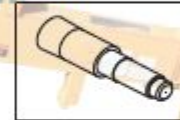
Main oil pump



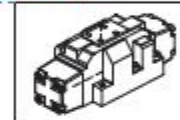
Valve oil pump



Shuttle V/V



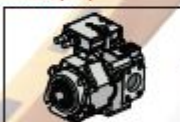
Main 4 Way V/V



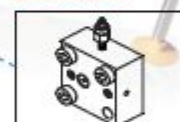
P. T. O BOX



Boom oil pump



350 Bar Relief V/V



Logic V/V



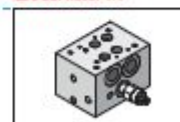
Agitator control V/V



Agitator pump



250 Bar Relief V/V



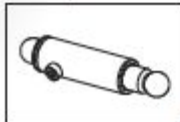
Valve 4 Way V/V



Agitator motor



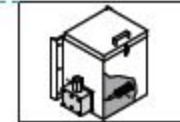
Plunger Cyl.



Water pump

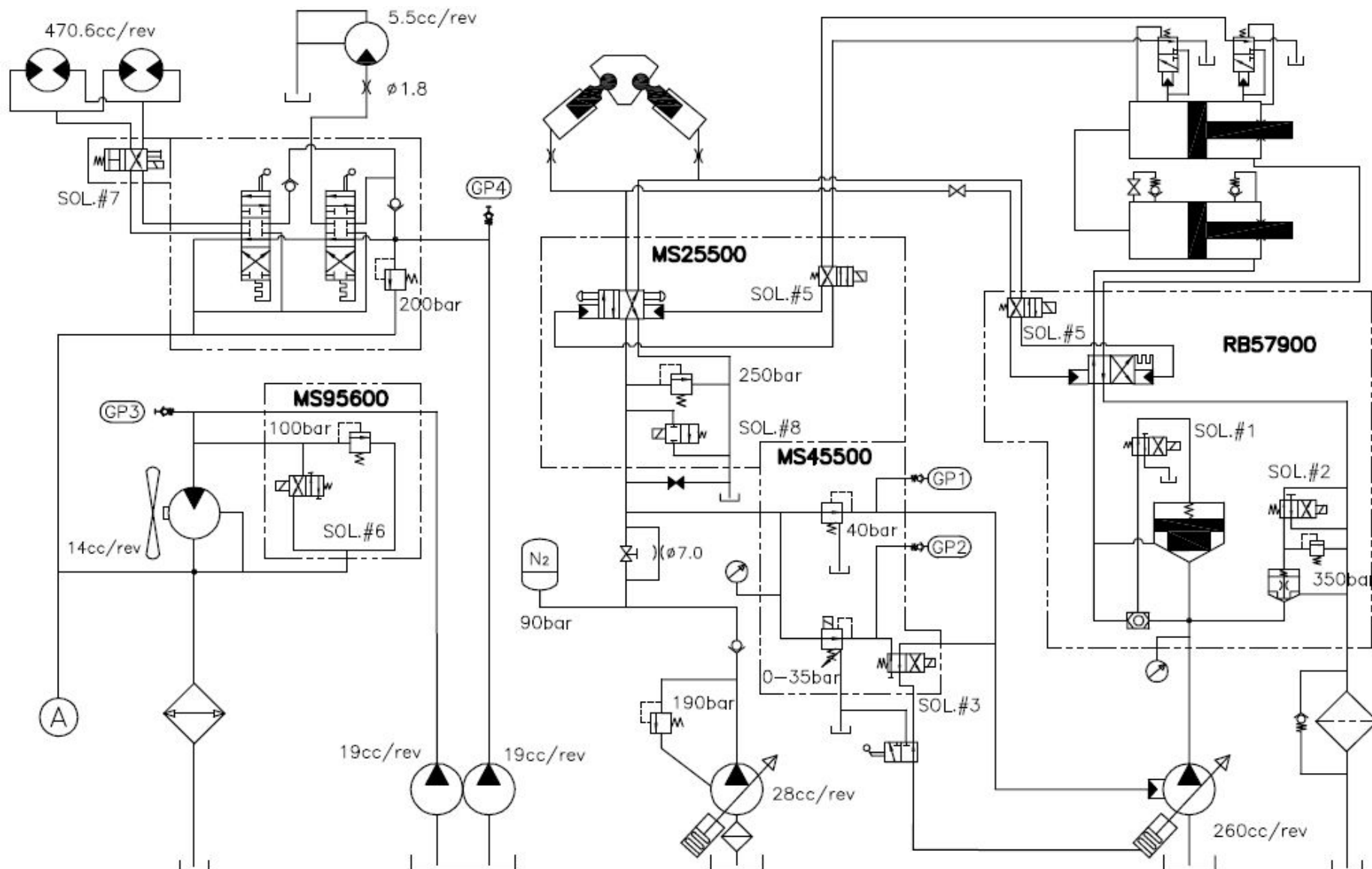


Grease pump



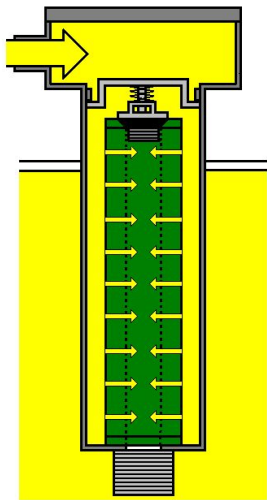


## ■ JUNJIN Hydraulic circuit

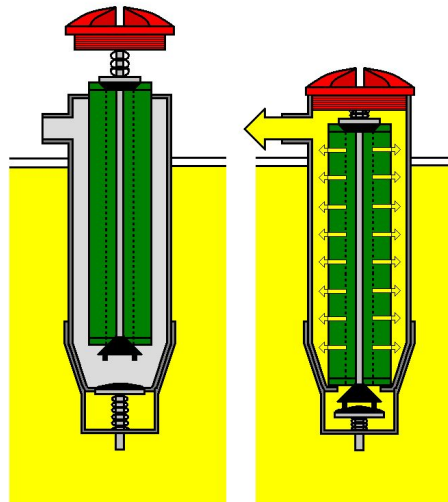


## Filter system

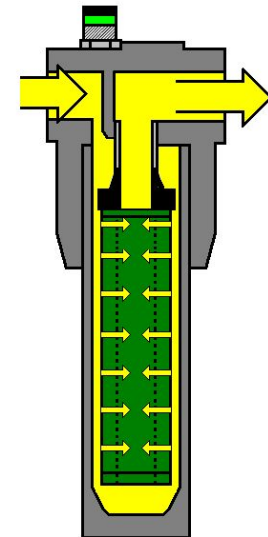
① Main filter



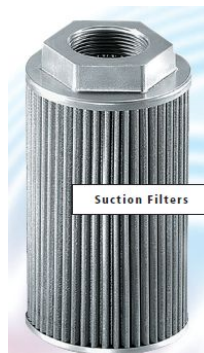
② Suction filter



③ Pressure filter



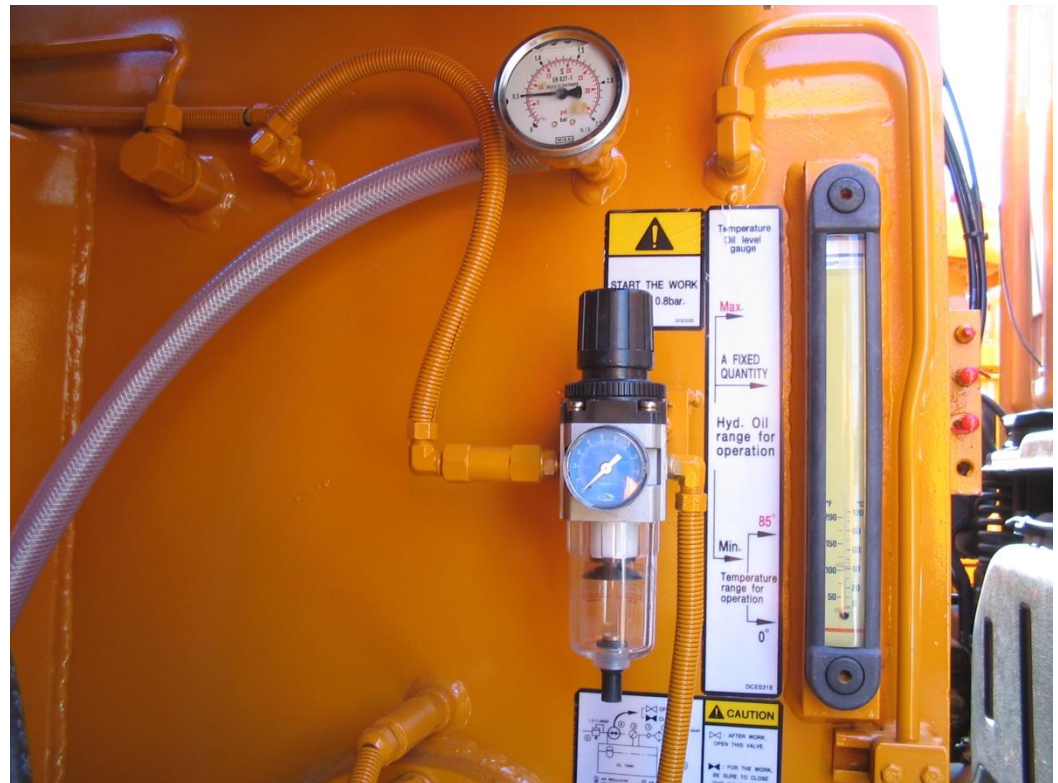
④ Suction strainer



## ■ Air pressing

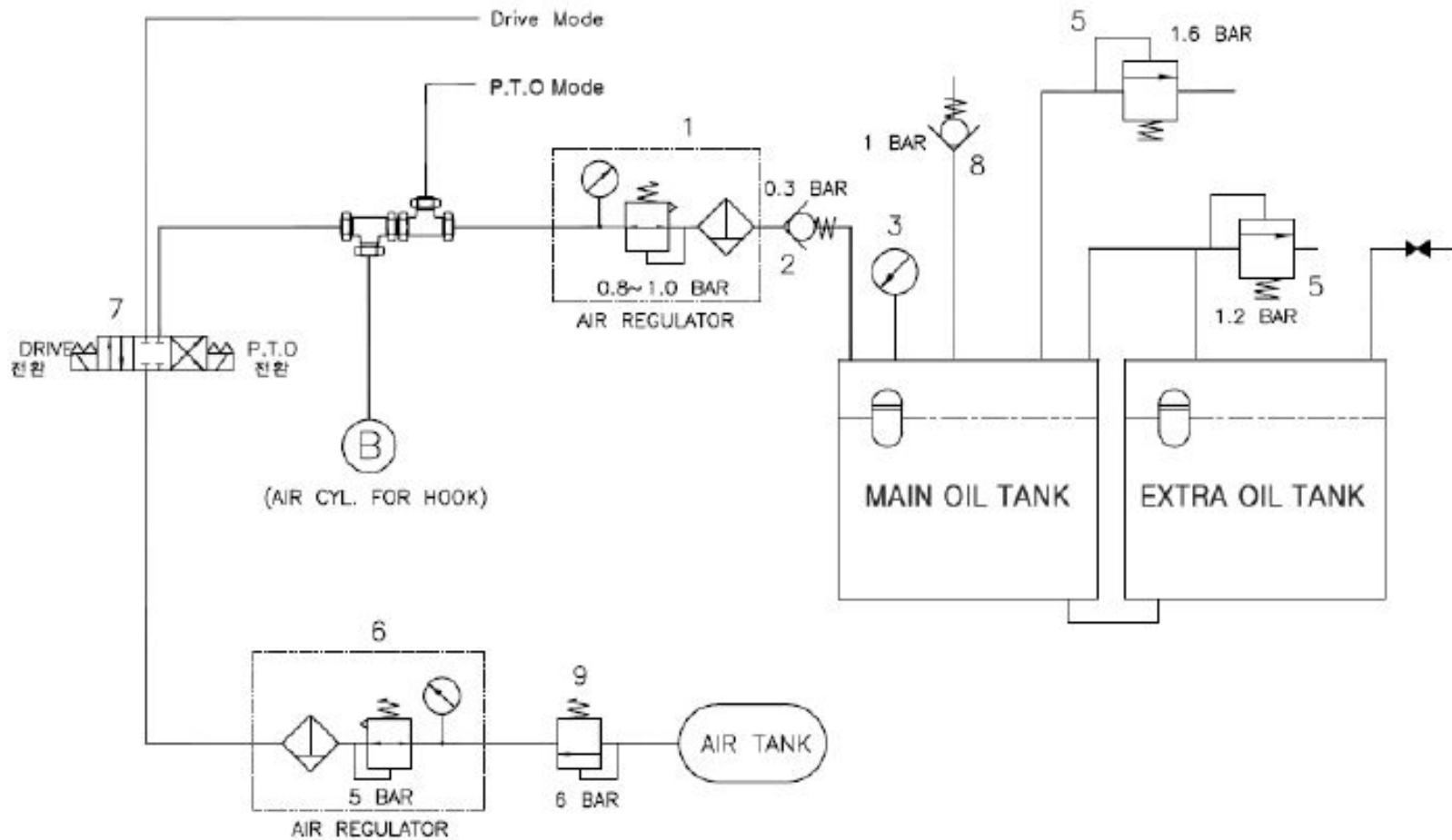
### ① Air pressing device

- Air regulator (5BAR / 1BAR)
- Air check valve

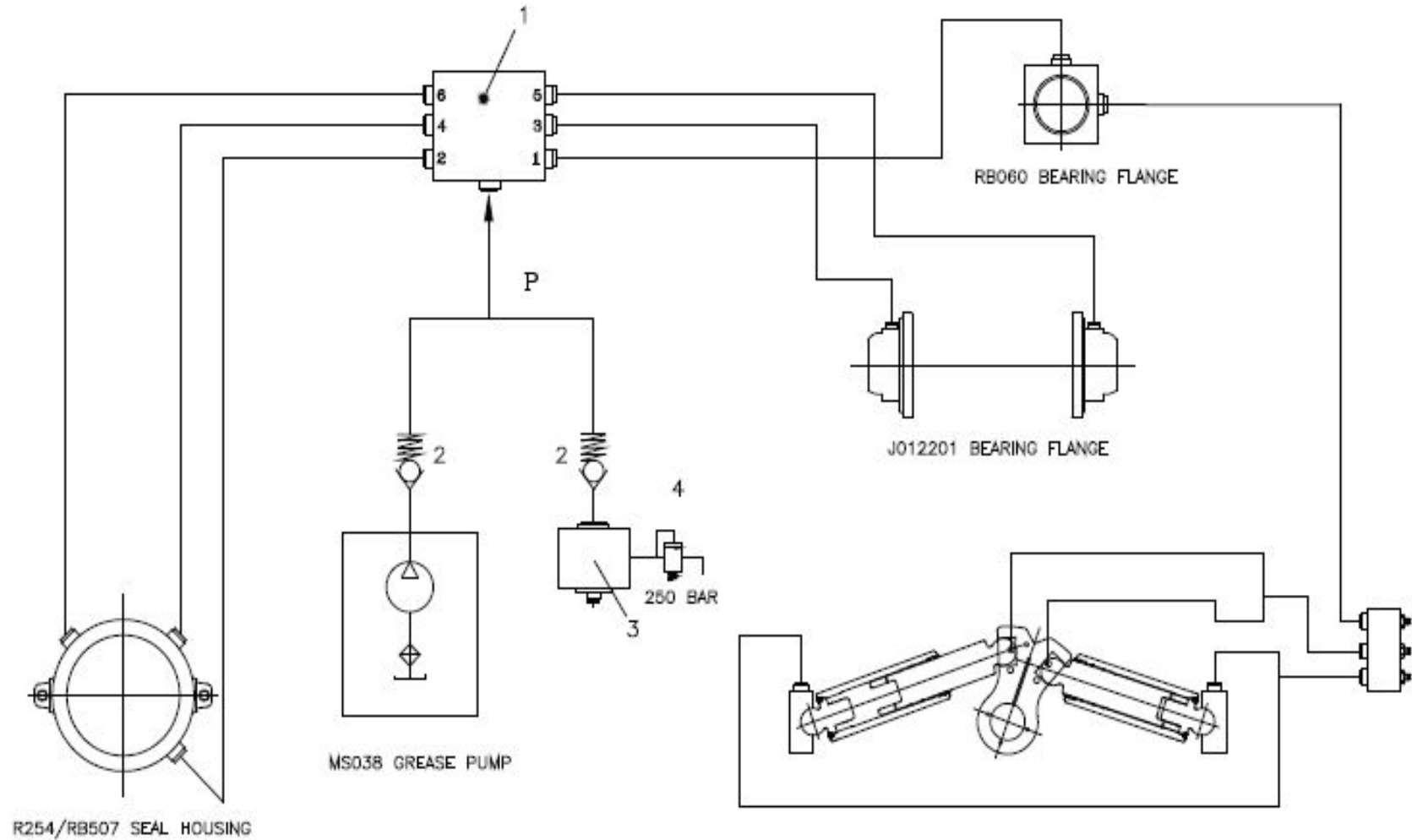


## ■ Air pressing

### ② P.T.O changing



■ Grease system





Thank you!