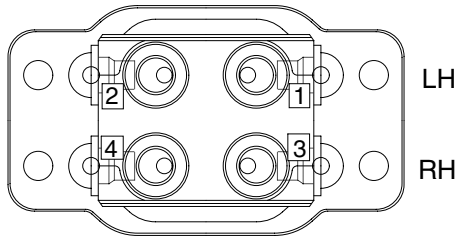
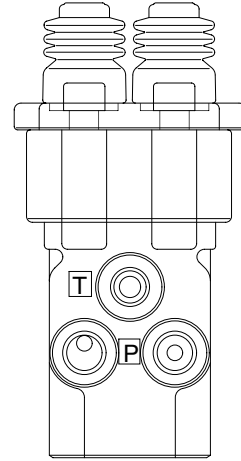
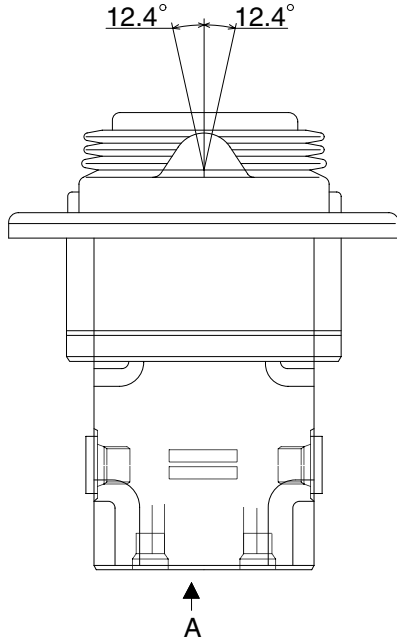


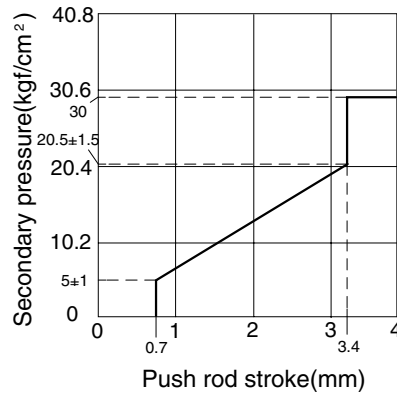
GROUP 6 RCV PEDAL

1. STRUCTURE

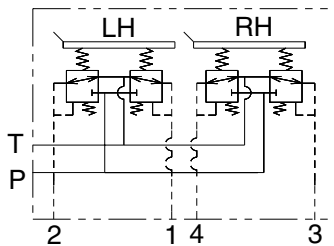
The casing has the oil inlet port P (primary pressure), and the oil outlet port T (tank). In addition the secondary pressure is taken out through ports 1,2,3 and 4 provided at the bottom face.



VIEW "A"



R35Z72RCP01



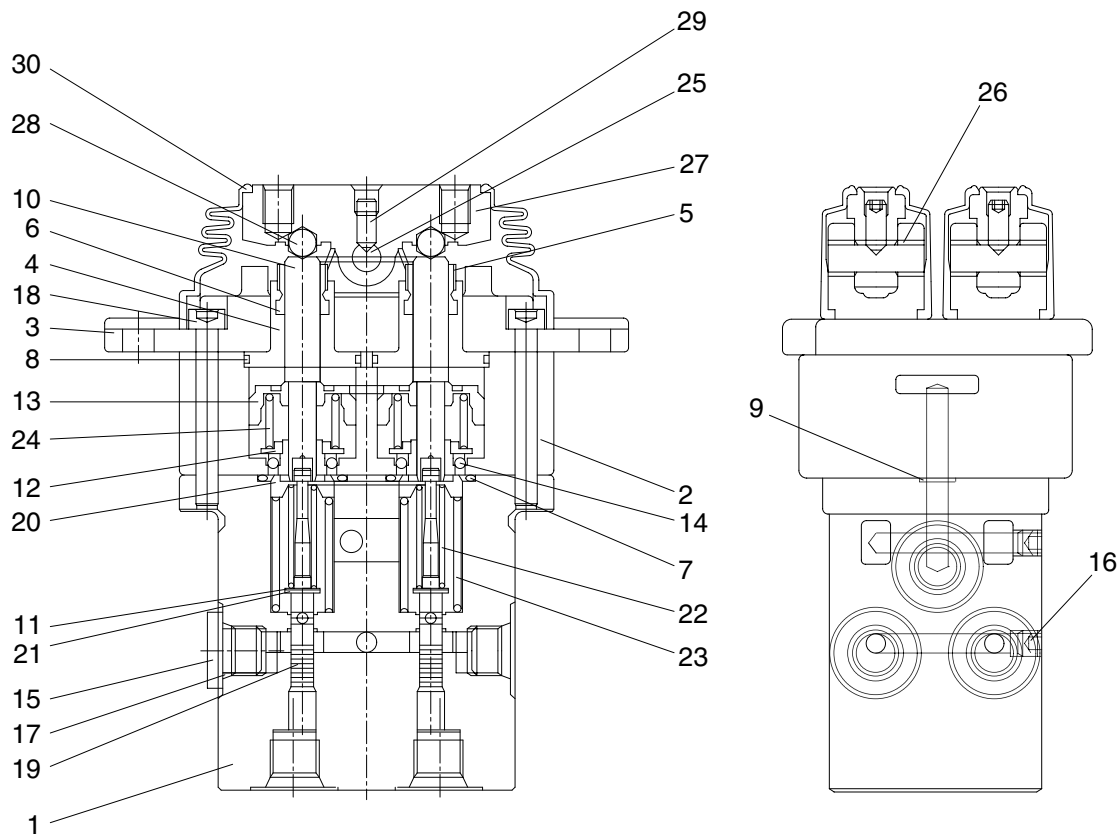
Port	Port name	Port size
P	Pilot oil inlet port	PF 1/4
T	Pilot oil return port	
1	Travel (LH, Backward)	
2	Travel (LH, Forward)	
3	Travel (RH, Backward)	
4	Travel (RH, Forward)	

CROSS SECTION

The construction of the RCV pedal is shown in the below drawing. The casing has vertical holes in which reducing valves are assembled.

The pressure reducing section is composed of the spool (19), spring (22) for setting secondary pressure, return spring (23), spring seat (20) and washer (21). The spring for setting the secondary pressure has been generally so preset that the secondary pressure is 5 to 19 kgf/cm² (depending on the type). The spool is pushed against the push rod (10) by the return spring.

When the push rod is pushed down by tilting pedal, the spring seat comes down simultaneously and changes setting of the secondary pressure spring.



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1	Casing (1)	11	Shim	21	Washer
2	Casing (2)	12	Spring seat	22	Spring
3	Cover	13	Piston	23	Spring
4	Plug	14	Steel ball	24	Spring
5	Grease cap	15	Plug	25	Cam shaft
6	Packing	16	Plug	26	Bushing
7	O-ring	17	O-ring	27	Cam
8	O-ring	18	Hex soc head screw	28	Steel ball
9	O-ring	19	Spool	29	Set screw
10	Push rod	20	Spring seat	30	Bellows

2. FUNCTION

1) FUNDAMENTAL FUNCTIONS

The pilot valve is a valve controls the spool stroke, direction, etc of a main control valve. This function is carried out by providing the spring at one end of the main control valve spool and applying the output pressure (secondary pressure) of the pilot valve to the other end.

For this function to be carried out satisfactorily, the pilot valve is composed of the following elements.

- (1) Inlet port (P) where oil is supplied from hydraulic pump.
- (2) Output port (1, 2, 3 & 4) to apply pressure supplied from inlet port to ends of control valve spools.
- (3) Tank port (T) necessary to control the above output pressure.
- (4) Spool to connect output port to inlet port tank port.
- (5) Mechanical means to control output pressure, including springs that work on the above spools.

2) FUNCTIONS OF MAJOR SECTIONS

The functions of the spool (19) are to receive the supply oil pressure from the hydraulic pump at its port P, and to change over oil paths to determine whether the pressure oil of port P is led to output ports 1, 2, 3 & 4 or the output spool to determine the output pressure.

The spring (22) works on this spool to determine the output pressure.

The change the deflection of this spring, the push rod (10) is inserted and can slide in the plug (4).

For the purpose of changing th displacement of the push rod through the cam (27) and steel ball (28) are provided the pedal that can be tilted in any direction around the fulcrum of the cam (27) center.

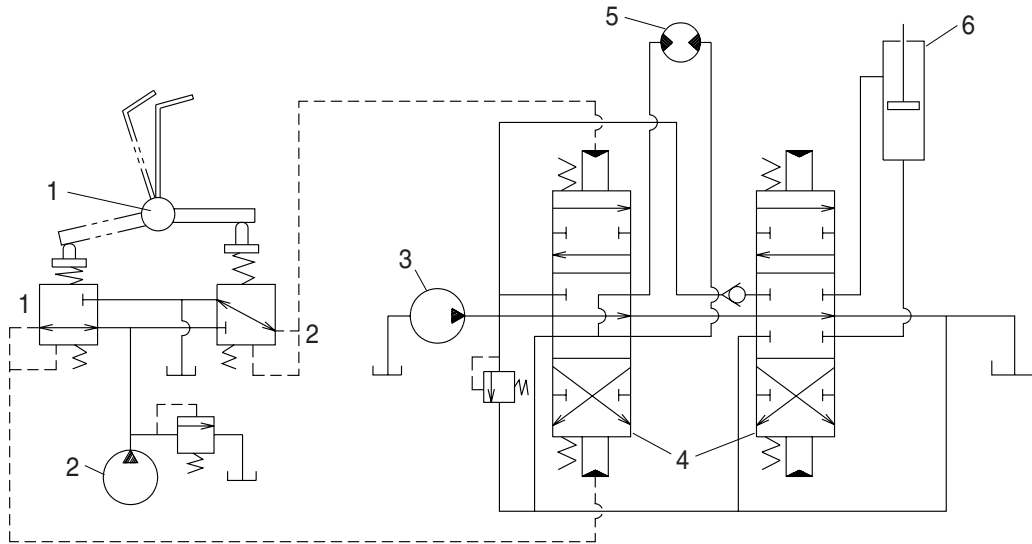
The spring (23) works on the casing (1) and washer (21) and tries to return the push rod (10) to the zero-displacement position irrespective of the output pressure, securing its resetting to the center position.

This also has the effect of a reaction spring to give appropriate control feeling to the operator.

3) OPERATION

The operation of the pilot valve will be described on the basis of the hydraulic circuit diagram shown below and the attached operation explanation drawing.

The diagram shown below is the typical application example of the pilot valve.



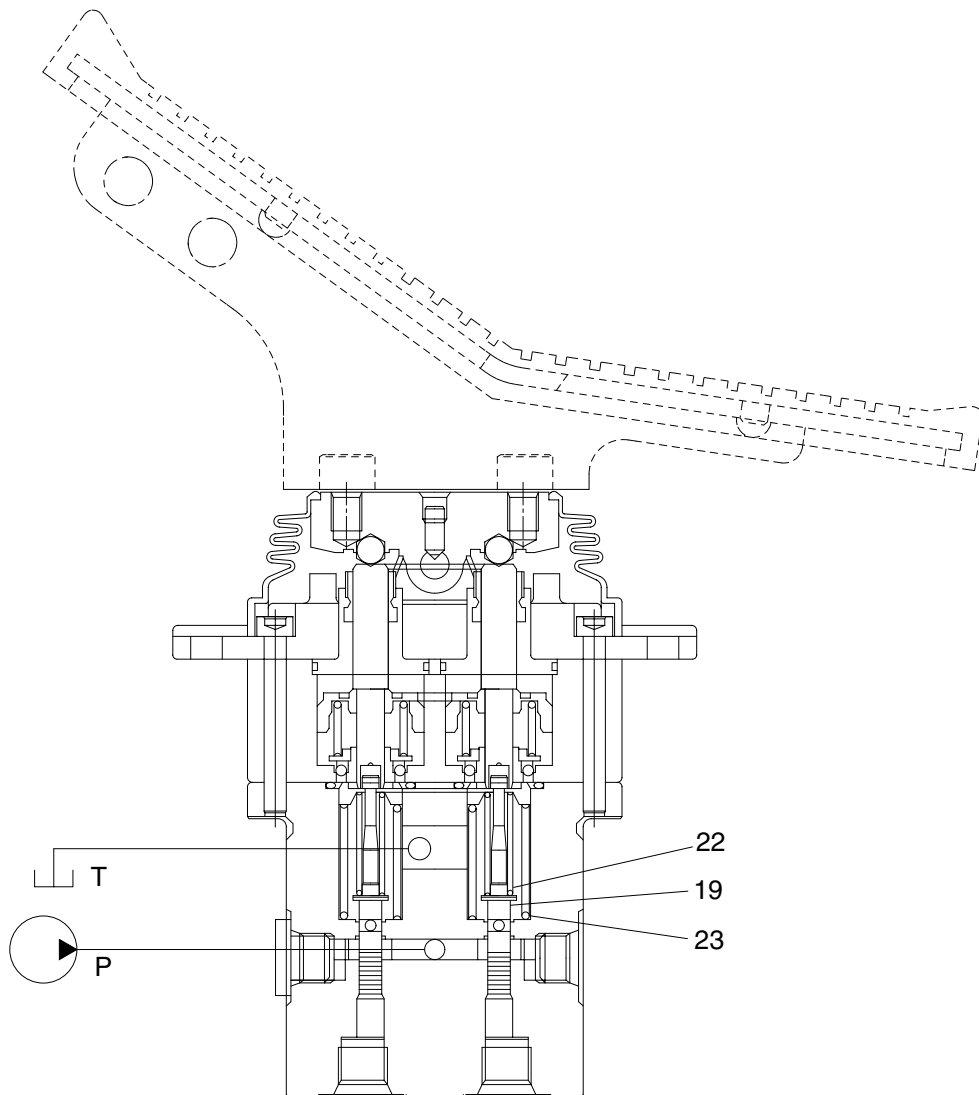
140LC-7 기타2-76

1 Pilot valve
2 Pilot pump

3 Main pump
4 Main control valve

5 Hydraulic motor
6 Hydraulic cylinder

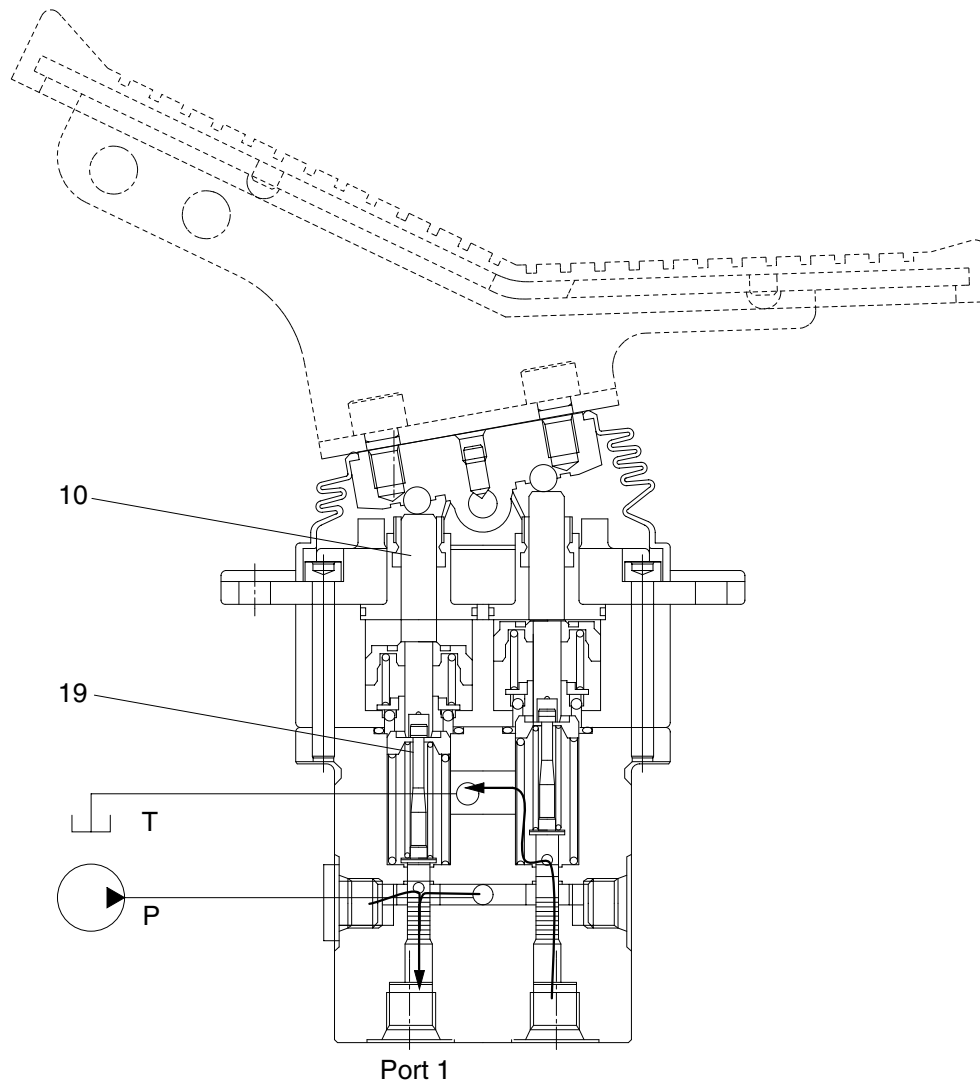
(1) Case where pedal is in neutral position



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The force of the spring (22) that determines the output pressure of the pilot valve is not applied to the spool (19). Therefore, the spool is pushed up by the spring (23) to the position of port 2 in the operation explanation drawing. Then, since the output port is connected to tank port T only, the output port pressure becomes equal to tank pressure.

(2) Case where pedal is tilted



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When the push rod (10) is stroked, the spool (19) moves downwards.

Then port P is connected with port 1, and the oil supplied from the pilot pump flows through port 1 to generate the pressure.

When the pressure at port 1 increases to the value corresponding to the spring force set by tilting the handle, the hydraulic pressure force balances with the spring force. If the pressure at port 1 increases higher than the set pressure, port P is disconnected from port 1 and port T is connected with port 1. If it decreases lower than the set pressure, port P is connected with port 1 and port T is disconnected from port 1.

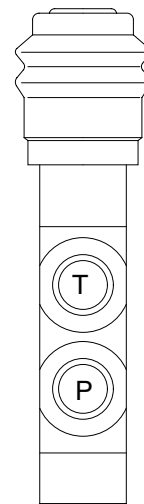
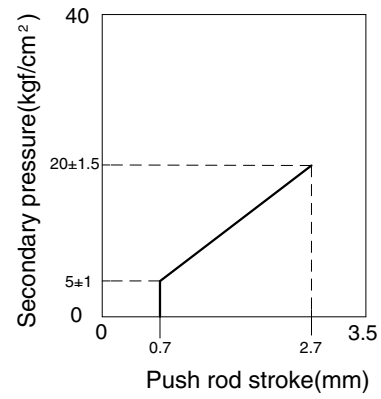
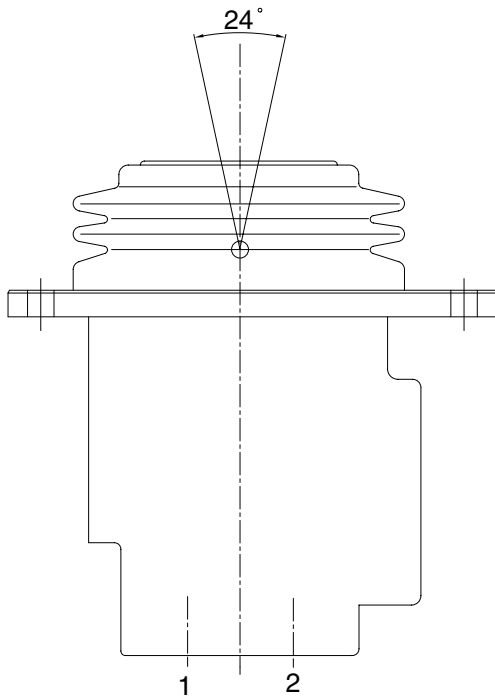
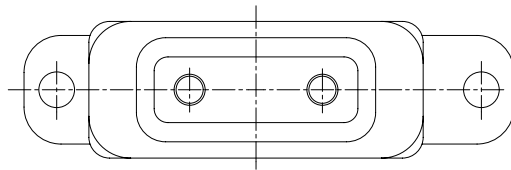
In this manner the secondary pressure is kept at the constant value.

3. BOOM SWING PEDAL

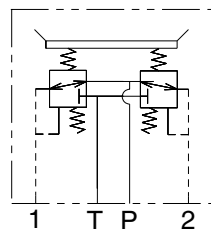
1) STRUCTURE

The casing has the oil inlet P (primary pressure) and the oil return port (tank).

In addition the secondary pressure is taken out through port 1 and port 2 provided at the housing bottom face.



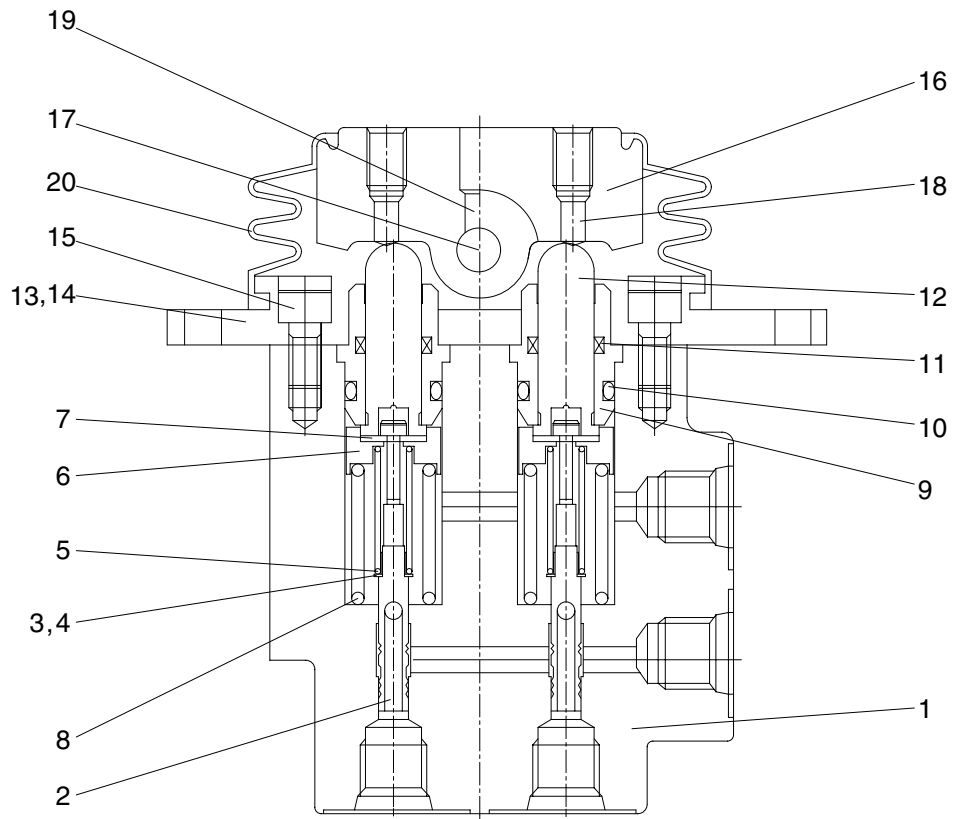
R35Z72RSP01



Hydraulic circuit

Port	Port name	Port size
P	Pilot oil inlet port	PF 1/4
T	Pilot oil return port	
1	Boom swing (LH)	
2	Boom swing (RH)	

2) COMPONENT



R35Z72RSP02

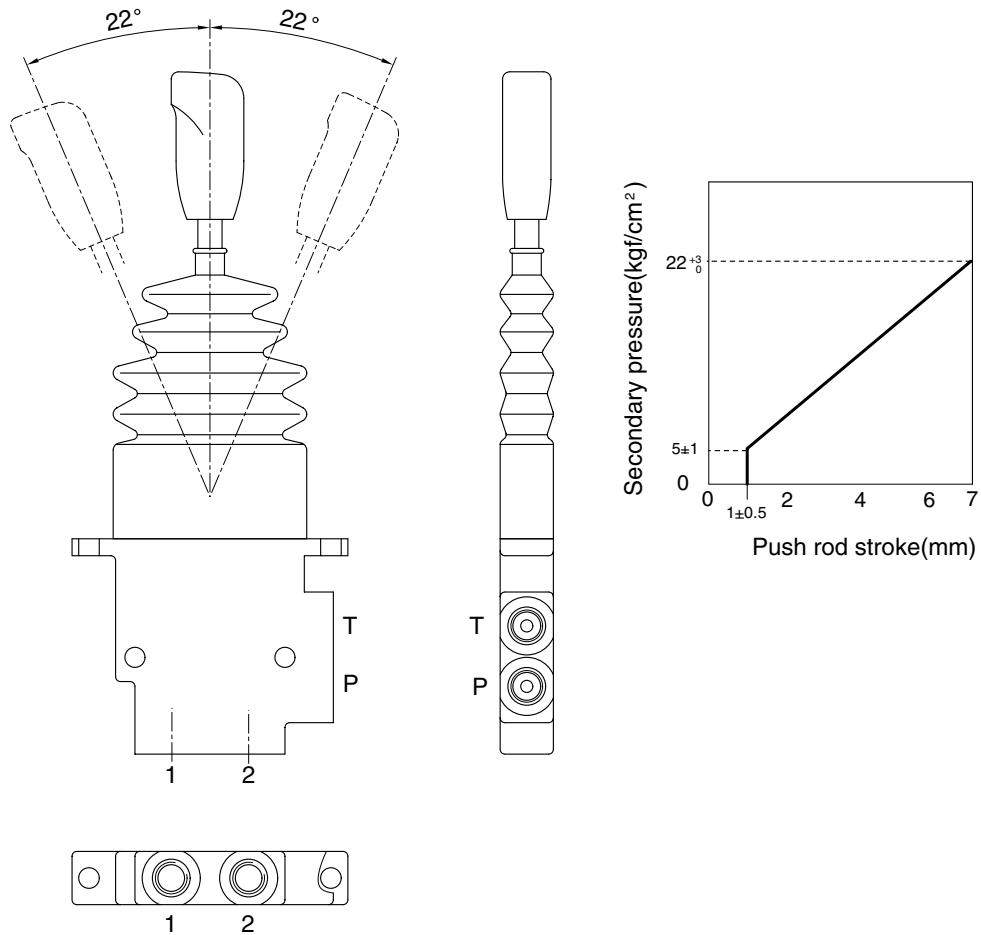
1	Body	8	Stopper	15	DU bush
2	Plug	9	Spring	16	Wrench bolt
3	O-ring	10	Plug	17	Cam
4	Spool	11	O-ring	18	Pin
5	Spring seat	12	Rod seal	19	Adjust screw
6	Spring	13	Push rod	20	Socket bolt
7	Spring seat	14	Cover	21	Bellows

4. DOZER LEVER

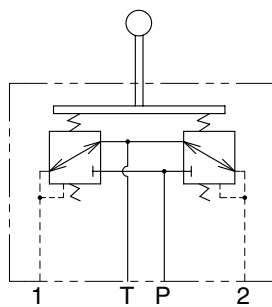
1) STRUCTURE

The casing has the oil inlet P (primary pressure) and the oil return port (tank).

In addition the secondary pressure is taken out through port 1 and port 2 provided at the housing bottom face.



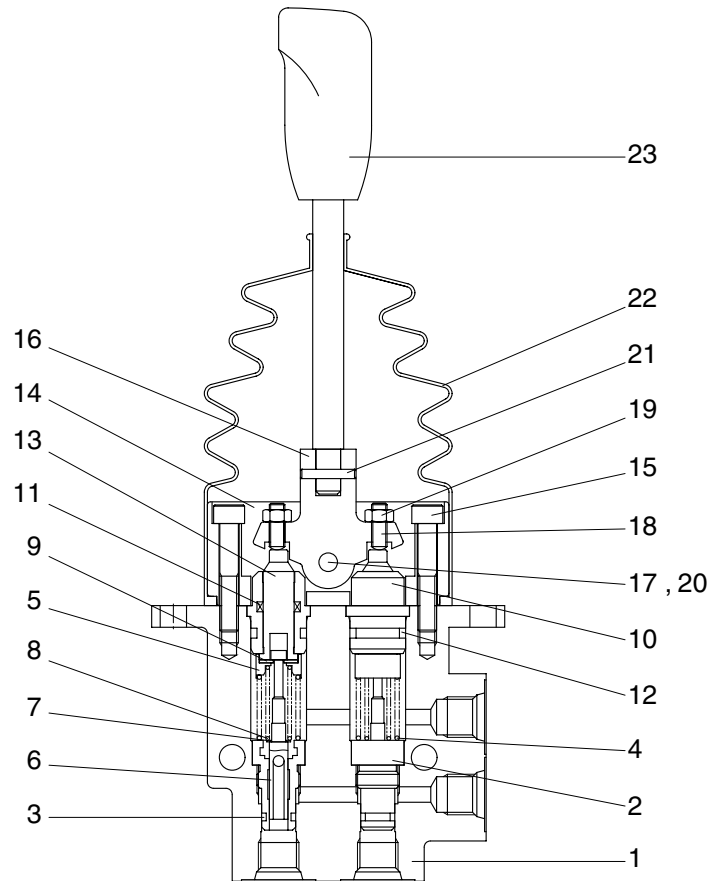
R35Z72DL01



Hydraulic circuit

Port	Port	Port size
P	Pilot oil inlet port	PF 1/4
T	Pilot oil return port	PF 1/4
1	Dozer blade up port	PF 1/4
2	Dozer blade down port	PF 1/4

2) COMPONENT



1	Body	9	Stopper	17	Pin
2	Plug	10	Plug	18	Socket bolt
3	O-ring	11	Rod seal	19	Nut
4	Spring	12	O-ring	20	Snap ring
5	Spring seat	13	Push rod	21	Spring pin
6	Spool	14	Cover	22	Bellows
7	Spring seat	15	Wrench bolt	23	Lever
8	Spring	16	Guide		

R35Z72DL02