

ICSV3002 SALT AND SPREADER MODULE

ICSV3002... Quality at low price



VICKERS

**C.I.E. CHAMPION
INDUSTRIAL
EQUIPMENT**

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ICSV3002... Quality at low price

The ICSV3002 valve has been manufactured in order to offer to spreader users a proportional electrohydraulic control that is precise and reliable and this, at a very affordable price. Its simplicity and small size makes it a very wanted valve.

- Works with variable or fixed pumps
- Safety Valve adjusted at 1500 PSI
- Flexible operation
- SAE type connecting ports
- Anodised Aluminium distribution Manifold
- Allows to operate the conveyor manually
- Pressure compensated Flow on conveyor
- Internal Plug option for Series Circuit
- Integrated Load Sensing output signal

The **ICSV3002** answers the expectations of those users who need a proportional and reliable spreading system using a compact and lightweight distribution manifold with low maintenance and repair costs.

Following are some of the manifold features:

Integrated Safety Valve

A Safety Valve is integrated in the manifold. The Safety Valve limits the max pressure of the circuit by bypassing the fluid to the tank when this pressure is reached.

Use with a fixed pump

When there is no electric signal transmitted to the ICSV3002, a valve will direct the oil coming from the pump to the tank. When electric signals are supplied to the conveyor and spinner coils, a flow, proportional to the signal will be transmitted to the actuators. The pressure needed to move the actuators is then transmitted to the valve. This valve compares the load pressure to the inlet pressure. When there is a difference between the two pressures, the valve by-pass the oil excess to the tank. This is the standard setting.

Use with a pressure compensated variable pump

Some users will prefer to use a variable pump that will only provide, as requested, the necessary flow. Also, this type of pump will not send too much oil in the circuit when the diesel motor is in full speed. For the setting with the variable pump, all you have to do is interchange two orifices in the manifold.

Use with a pressure compensated and load sensing variable pump

This type of pump works and uses the same setting as the previous pump. The only difference is a pressure signal that is transmitted to the pump so the highest max pressure of the actuators at the pump outlet will not be exceeded. The main characteristic of this system is to limit loss of energy in heat and to ease the Diesel motor start. This system being the most efficient, we will save on fuel and the temperature of the oil will be lower.

Use of a plug (power beyond plug) to connect valves in series

Some users have to use valves in series to reduce the cost and the dimensions of the system. In order to be protected, it is important to keep the access free from the safety valve to the tank.

It is important to separate the line of the safety valve outlet from the line of the "T" or "PB" port. The standard manifold already has a plug to separate those two lines. An outside line is necessary for the drainage of the safety valve to the tank. A second line could allow the transmission of the fluid from "PB" to supply the second circuit.

For a system without secondary circuit, you can use only one line : the one going to the tank. In that case, you must take the plug off. You will find, in the rest of that document, more info on those systems.

When you purchase an ICSV3002, you can also say that you have purchased Quality at Low price !

Connecting the valve in series

When you'll buy an ICSV3002, the option to connect the valve in series is already included in the manifold. It is important to take the plug off, when you receive the manifold, if your system do not require a layout in series.

We will first specify the differences between the standard layout and the layout in series.

A standard layout is a layout that will supply the ICSV3002 manifold with a flow of oil. The excess of that flow will be automatically sent back to the tank. (See figure 1). This layout is possible only if the plug is taken off the manifold. (See the section Procedure to take the isolation plug out of the manifold, for more details)

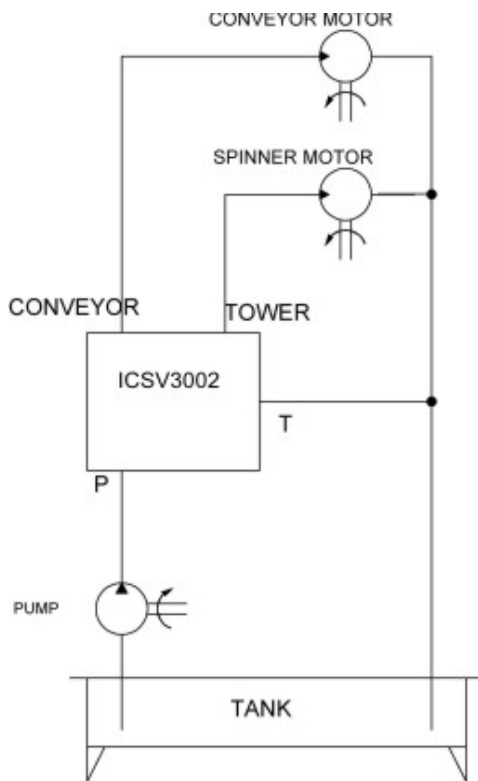


Figure 1

A layout in series must allow the oil excess to be retransmitted to the secondary circuit. In the same time, there must be a protection in case of overpressure. The relief valve integrated in the manifold, allows this kind of protection. (see figure 2)

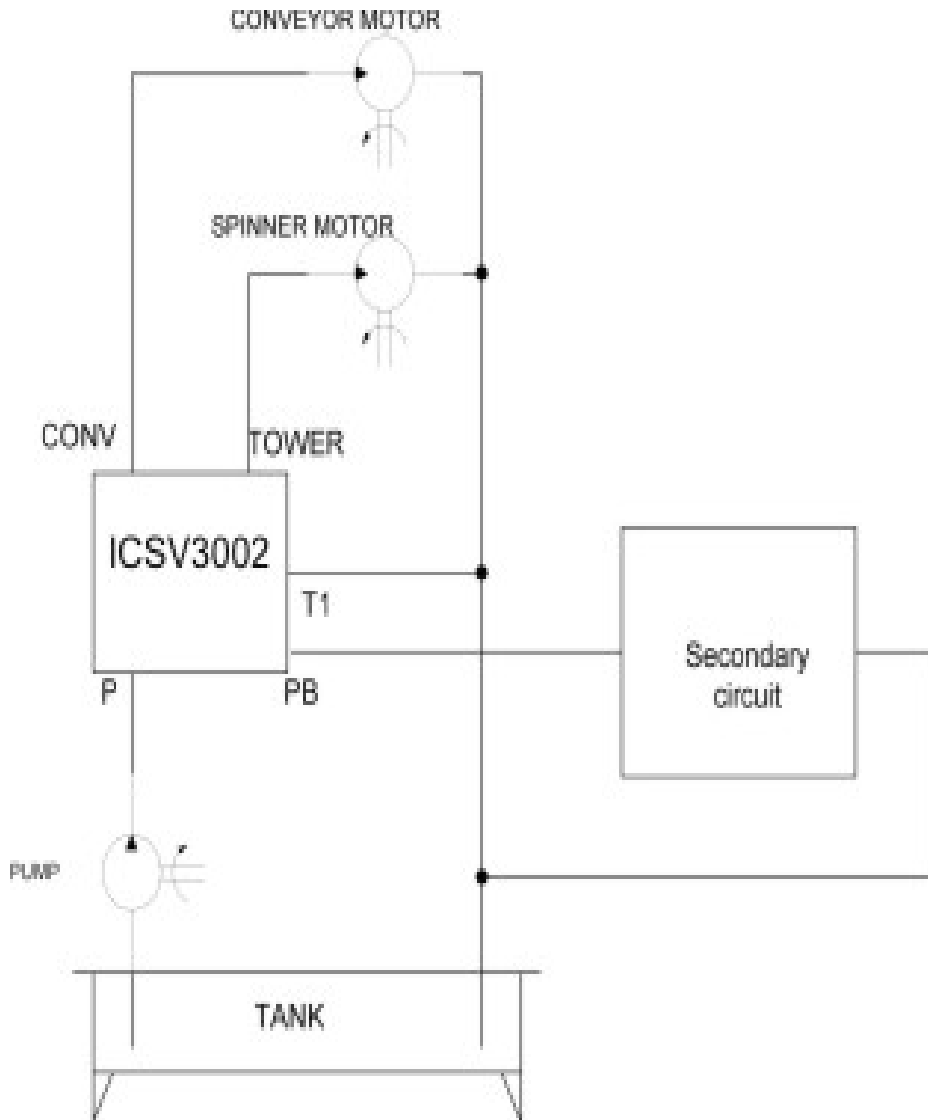


FIGURE 2

We can see that for a layout in series, it is necessary to use a second line. When you use a standard circuit, you can take a plug off to join line "PB" with line "T1".

Important Notice : In the case where you would leave the plug inside, you will be required to use 2 lines : one at "T1" and the other at "PB" and they must join the tank for a standard layout.

Procedure to take the isolation plug out of the manifold

The first thing you have to do is to find the plug that is located under the spreader manifold on the same side as the fixing holes. When you have found it, take the upper plug off to have access to the isolation plug. (see figure 3)



FIGURE 3

After taking the upper plug off, unscrew the isolation plug. (see figure 4).

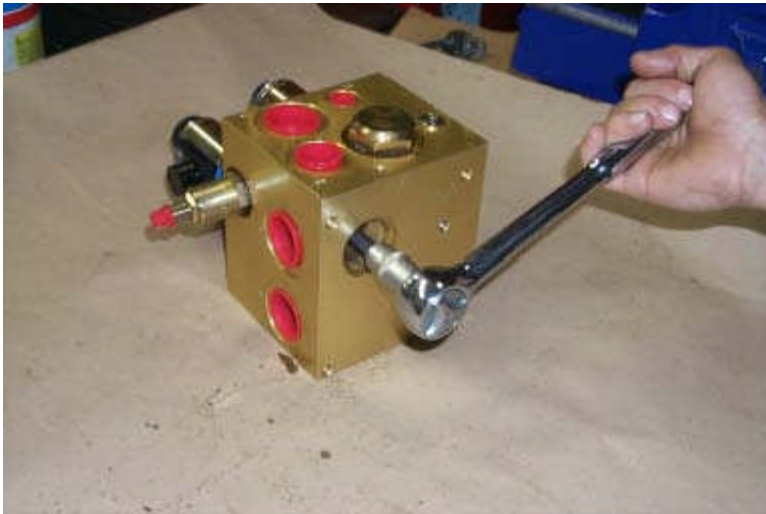


FIGURE 4

Replace the upper plug back on.

Procedure to change the setup from a fixed pump to a variable pump.

The manifold has a standard layout to be used with a fixed pump setup. However, you can change the layout of the manifold and use it with a pressure compensated variable pump (with or without the load sensing option).

Here is how you can do it. You must interchange two plugs inside the manifold. The first plug is located on position 8 under the construction plug # 7 (see figure 5 and 6).



Figure 5

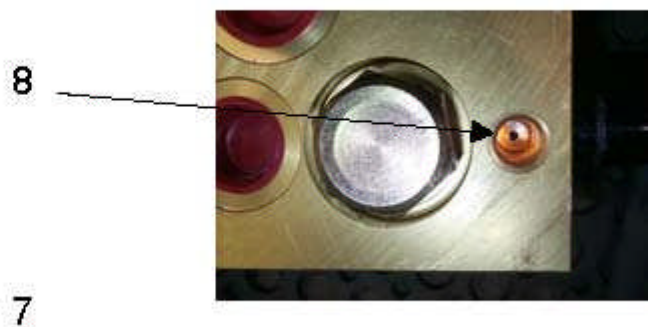


Figure 6

With a 1/4" wrench you can take the construction plug #7 out. You then, have access to the plug position # 8. Using a 1/8" wrench, unscrew and take the plug out. You will see that there is an orifice in the center of the plug.

After that, you must take the plugs # 7 and 14 out. (see figure # 7 and 8)

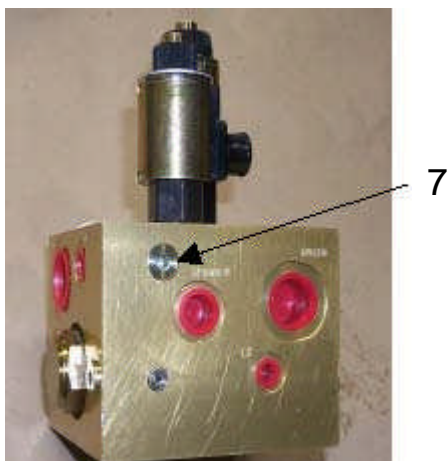


Figure 7

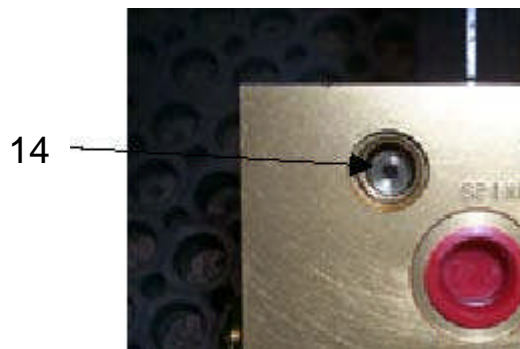


Figure 8

With a 1/4" wrench you can take the construction plug #7 out. You then, have access to the plug position # 14. Using a 1/8" wrench, unscrew and take the plug out. You will see that this time, there is no orifice in the center of the plug.

Now, you must put the plug # 8 where the plug # 14 was and put plug # 14 where plug # 8 was. Place both construction plugs # 7 back in place. The modification is over.

If you have the load sensing option, you will have to install a line from the "LS" port on the manifold to the pump.

Technical Information

Data

Flow Range.....0-150 lpm (0-30 USgpm)Max
Pressure.....200 bars (3000 psi)Pressure
Adjustment Range.....17 to 240 bars (250 to 3500psi)Operating
Temperature.....-20 to 110 C (-4 to 150 F)
Viscosity Range.....13 to 500 cSt (70 to 2300 SUS)
Electrical Power required

On each coil (full flow)1.4 amps at 12 VDCFrequency
Range recommended.....100 to 150 HzElectrical
Connections.....Flying leads or DIN connectorsManual
override.....Screw type on conveyorRecommended
Target Cleanliness Level.* 17/15/12Ports P, T et
T1.....SAE 16 1 5/16-12Ports AUGER et PB
.....SAE 12 1 3/16-12Ports
SPINNER.....SAE 8 3/4-16Ports
"GA".....SAE 6 9/16-18Ports
LS.....SAE 4

Weight.....5.9 kg (13 lbs)

Fluids

In order to have a satisfactory life of hydraulic components, you must use the appropriate fluid for your system. Components wear will be affected by elements such as fluid type, additives of the fluid, fluid viscosity, and cleanliness level

More info regarding Fluid and Contamination Control is available in Vickers publication # 561 " Vickers Guide to Systemic Contamination Control". You can get this publication from the Vickers Distributor in your area.

Additional Information :

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