

TechniComm News No. 5 – SEPTEMBER 2006

“XF SYSTEM”

The **XF system**, developed in conjunction with the Fassi Gru SpA Research and Development departments and with our specialised hydraulics suppliers (distributors and valves), has successfully achieved its goal to further improve the hydraulic crane performances in terms of speed, precision and movements fluidity for cranes equipped with Danfoss proportional multifunction hydraulic distributor. With the introduction of **new safety check valves** on the inner and outer rams and **oil recycling valve** on the extension boom rams, which have also been completely redesigned and realised according to a new conception, incomparable hydraulic and speed performances have been achieved.

New safety check valves on lifting rams

From a strictly technical point of view, the new safety check valves require a very low and constant piloting pressure. This characteristic, compared to the conventional safety check valves, doesn't influence them from the point of view of the load size applied to the crane. The advantages of these valves are particularly evident when selecting the descent control of the inner or outer boom; in fact, the valve opens correctly, following to the low piloting pressure, in any loading condition applied with a very reduced lever opening (operation).

This allows a bigger stroke for the lever to better check the operation in a smooth and progressive way. The lever becomes a simple tap to be set to achieve the required oil flow and therefore the required operation speed.

The low piloting pressure also reduces the oil heating in the hydraulic circuit.

The **XF system** is standard applied starting from F240B Evolution model and is optional on models from F170A to F215A.

Advantages for the operator:

- Fluid, progressive and precise operation of the articulation booms.
- Increased sensibility.
- Reduced oil heating.

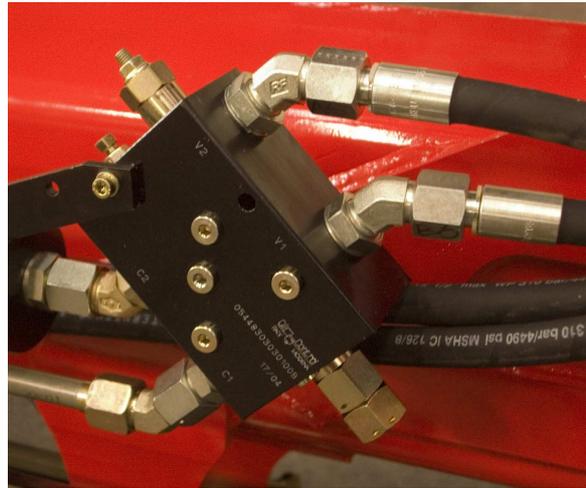


Oil recycling valve on extension rams

From a strictly technical point of view, the oil recycling valve recovers the oil coming from the ram's rod side, which is normally directed into the drain line to the tank, readdressing it to the cylinder side in addition to the oil coming from the pump.

From a functional point of view, obviously the consequent increase of the feeding oil flow to the cylinder side considerably increases the extension speed of the rams and the corresponding extension booms.

With the realisation of new extension rams having a perfect ratio of the push area between the cylinder side and the rod side for the coupling to this type of valve, the increase of the oil flow is fully satisfied producing the maximum speed increase.



The oil recycling valve is standard applied to all the hydraulic jibs (with the exception of the L10 and L21) and on 175A-F195A-F215A-F410A crane models starting from the 4 extensions Evolution and continuous rotation range. It is optional on F170A-F190A-F210A models.



An electric version of the oil recycling valve is also available and can be activated by means of a button or icon available on the control handle of the radio control. This version is named **FL (Full Lift)** and its main feature is the possibility to select, according to the operating needs, the "fast" or "powerful" modes. In "fast" mode, it's possible to obtain the maximum operating speed to a partial disadvantage of the power. In "powerful" mode, the valve works with the oil recycling function excluded to the advantage of the power during the handling of maximum vertical loads.

The **FL** valve is standard applied on the heavy cranes range (continuous rotation) and is optional on F175A-F195A-F215A models equipped with radio control and on the Evolution range.

Advantages for the operator:

- **High operating speed of the extension booms with great reduction of the working times.**
- **Possibility to select "fast" or "powerful" modes (FL version only).**