

ABSTRACT

**Installation and process of follow-up of the evolution of the quality of a lubricant,
method of follow-up and use of such a method for determining the iron content of a
lubricant**

This installation (2) for following up the evolution of the quality of a lubricant circulating in a piece of equipment (M) comprises at least one conduit (4) connected, upstream, to the piece of equipment (M) and downstream to a recovery pan. The installation further comprises a first controlled interruption valve (20) for the circulation (F1) of the lubricant in the conduit, a buffer reservoir (26) for accumulating lubricant, a first bypass line (28) connected on the one hand to the conduit (4), upstream from the first valve (20) and, on the other hand, to the buffer reservoir (26). The installation also comprises a second controlled interruption valve (32) for the circulation of the lubricant in the first bypass line (28), a second discharge line (42) for the lubricant, from the buffer reservoir (26) to the recovery pan and a third controlled interruption valve (44) for the circulation of the lubricant in the second discharge line (42). A sensor (50) gives the possibility of determining, with the X fluorescence technology, the content in a predetermined chemical element of a lubricant sample at the outlet of the buffer reservoir. This sensor comprises an X-ray source, an X-ray detector and a cell intended to contain a lubricant sample to be analyzed. The cell is equipped with a wall forming a window for letting through the rays stemming from the source or going towards the detector and which is made in poly(ethylene terephthalate).

Fig. 1