

OIL REFINERY

DropsA also specializes in building large oil mist systems typically found in oil refineries. This case study is taken from the Abadan oil refinery, Iran. It is common that green field projects for refineries specify an oil mist lubrication system for pumps and motor bearings.

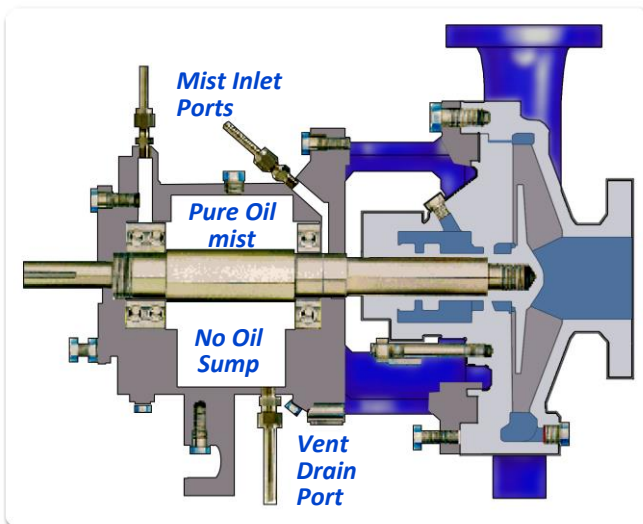
During the refining of the oil, the process pump used to transfer oil must be lubricated with Nebol (mist system). Nebol systems have to be customized designed for each refinery.



DropsA would analyse the refinery layout and determine best positions of the Nebol OMG (oil mist generator). The system can be open or closed loop depending on customer requirements. Then DropsA would calculate mist flow to each of the lubricating points. Some points can be PURE and some can be PURGE. The following diagrams show the difference between PURE and PURGE.

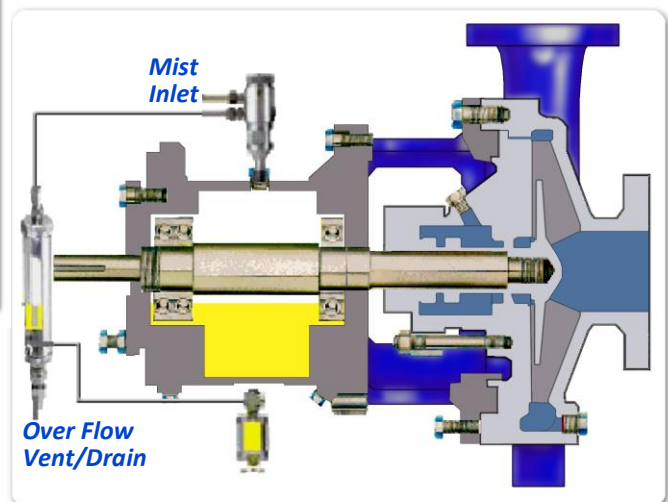
The following diagrams show the difference between PURE (B1) and PURGE (B2).

Pure Oil Mist Application B1



*Oil mist flow is from outboard to inboard.
Coalesced oil and oil mist vents/drains out the bottom port*

Pure Oil Mist Application B2



To determine the correct quantity of oil mist that goes into the lube points DropsA selects from their range of classifiers. These essentially are nozzles which, dependent on orifice size, determine the precise mist quantity allowed through to the bearing.

DropsA proposed:

▪ **Oil Mist Cabinet Generator**

The mist header is included in the cabinet assembly with reservoir control panel and back up unit. The alarms can communicate to the DCS. The parts included are ATEX certified.

▪ **Mist Manifold**

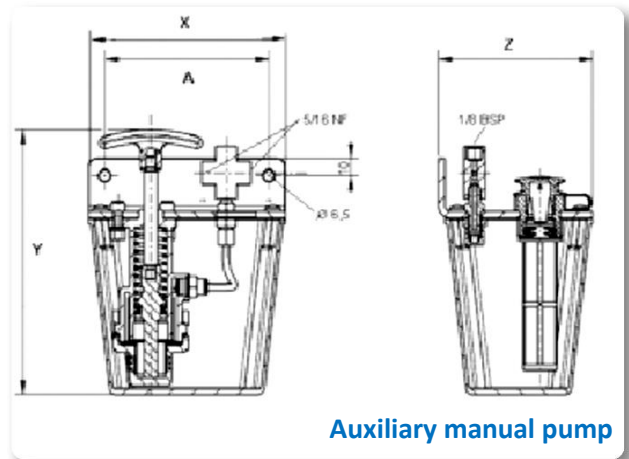
Mist manifold is used to divide correctly the mist from the main line. Normally it is placed above the pumps and it can be used up to 8 lubrication points.

▪ **Reclassifies**

DropsA reclassifiers are studied to obtain better result depending on the pump application

▪ **Auxiliary manual pump**

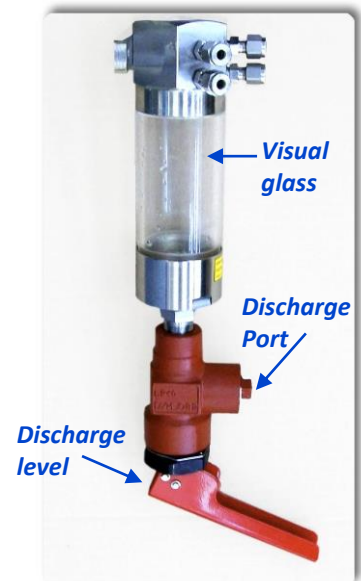
In a closed loop system the lubricant must be returned to the main station. The manual pump can help to do this work easily.



Oil Mist Generator



Mist manifold - 1 to 6 outlets



Reclassifiers

