

# HIGH PERFORMANCE IS-MACHINES INTELLIGENT CENTRAL LUBRICATION

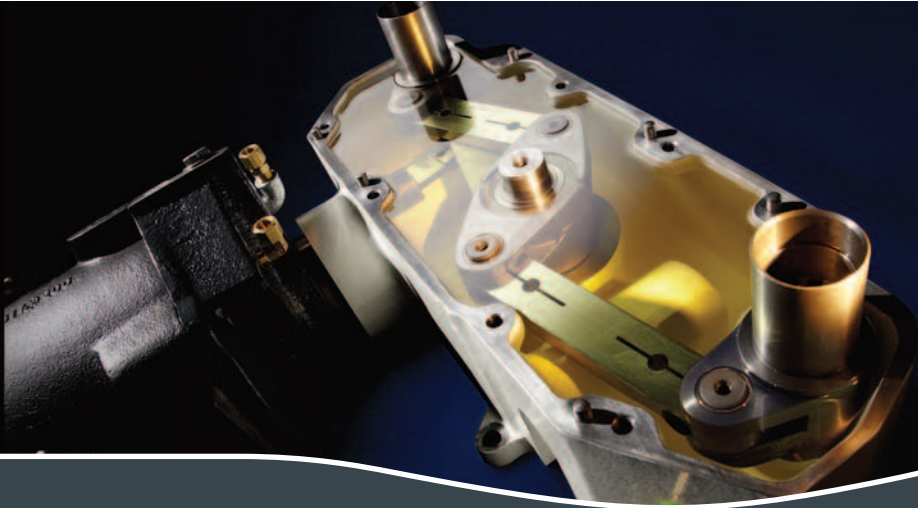
HiPERFORM



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# MULTI-ZONE EFFICIENCY



The distribution and quantity of lubrication points in an IS-Machine necessitate the use of a central lubrication system. When this technology was developed, the main priority was sufficient lubrication. At that time, lubricant consumption and system monitoring were not a priority. A reliable level of lubrication was certainly achieved, but the lubricant was not used optimally and faults were difficult to diagnose.

With its patented multi-zone system, Heye International is setting new standards in efficiency, stability and usability for your system.

## TEMPERATURE-GUIDED LUBRICATION INTERVALS

When a production line is in use, its lubrication points have to be re-lubricated continuously. If a single circuit lubrication system is used, nearly all injectors are lubricated at the same time during each lubrication cycle. As the individual lubrication points differ in their requirements for re-lubrication, this results in increased consumption of lubricant due to excessive lubrication.

The multi-zone system allocates injectors that operate under similar thermal conditions to temperature circuits. For the first time ever, the patented temperature-guided lubrication interval control allows temperature deviations at the lubrication point and the quality of the lubricant to be taken into account. Sensors in the temperature circuits, each positioned at the hottest lubrication point, regularly transmit signals that are used as input parameters to control the lubrication intervals. Lubricants used in IS-Machines are characterised by a very low loss of volume from evaporation. Using the evaporation characteristics of the lubricant, as determined in laboratory tests, the times between lubrication cycles can be calculated for each temperature circuit.

No lubrication point is supplied with lubricant either too soon or too late. Lubricant consumption is therefore reduced without compromising the level of lubrication.

The ability to regulate the time span between lubrication cycles also makes it possible to take optimum advantage of the low evaporation loss of fully synthetic oils for the first time.



## ADJUSTABLE INJECTOR CAPACITIES

The central lubrication systems of IS-Machines mainly use only a single type of injector throughout the machine. Accordingly, all lubrication points are supplied with the same amount of lubricant during each lubrication cycle. The Heye International multi-zone system allocates a specific injector capacity to each lubrication point. In this way, each lubrication point is supplied only with the amount required to wet the surface of the bearing. Excessive lubrication is thus avoided and lubricant consumption reduced. This also minimises the contamination of the machine from excess oil.

- Intelligent on-demand lubrication
- Optimal lubricant use
- Lubricant consumption and costs are reduced

## ENVIRONMENTAL EFFECTS

Protecting the environment and improved working conditions become more and more important. Our intelligent lubrication systems help to:

- Reduce oil consumption up to 70% (depending on specific application)
- Reduced evaporation of oil, thus less oil-emissions into the air
- Lower maintenance costs for oil-separator

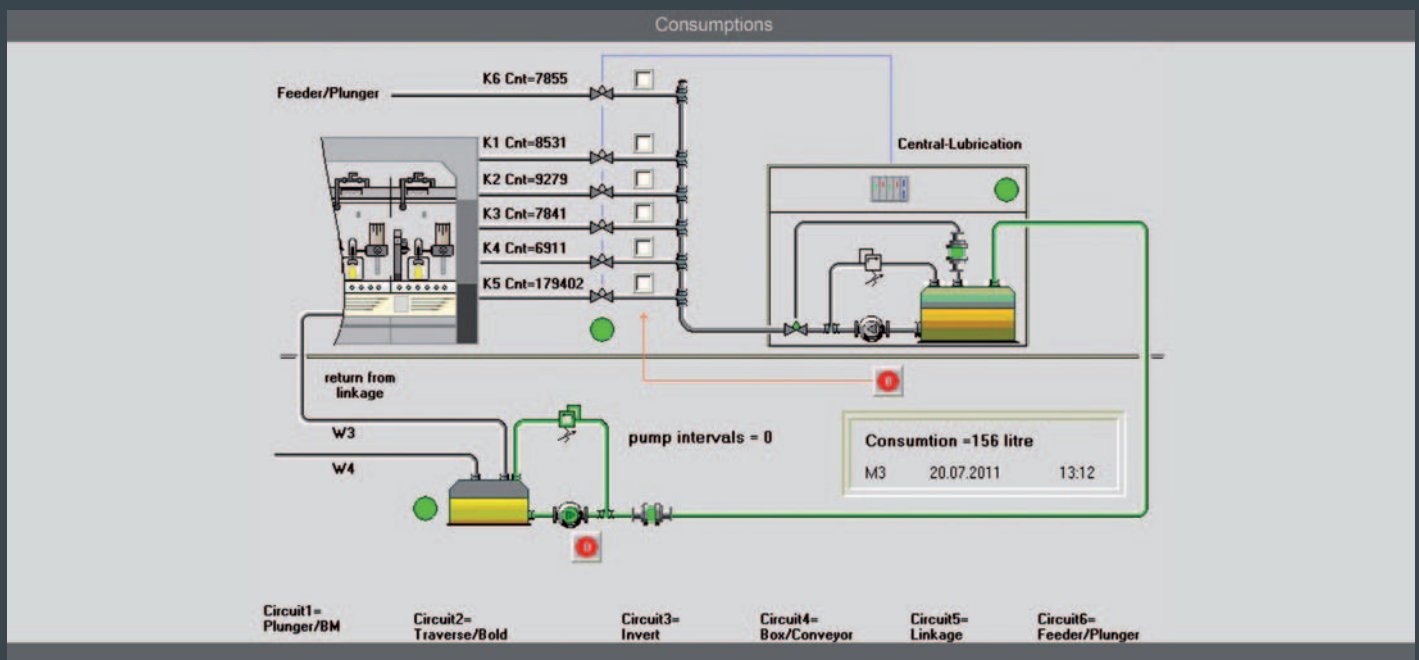
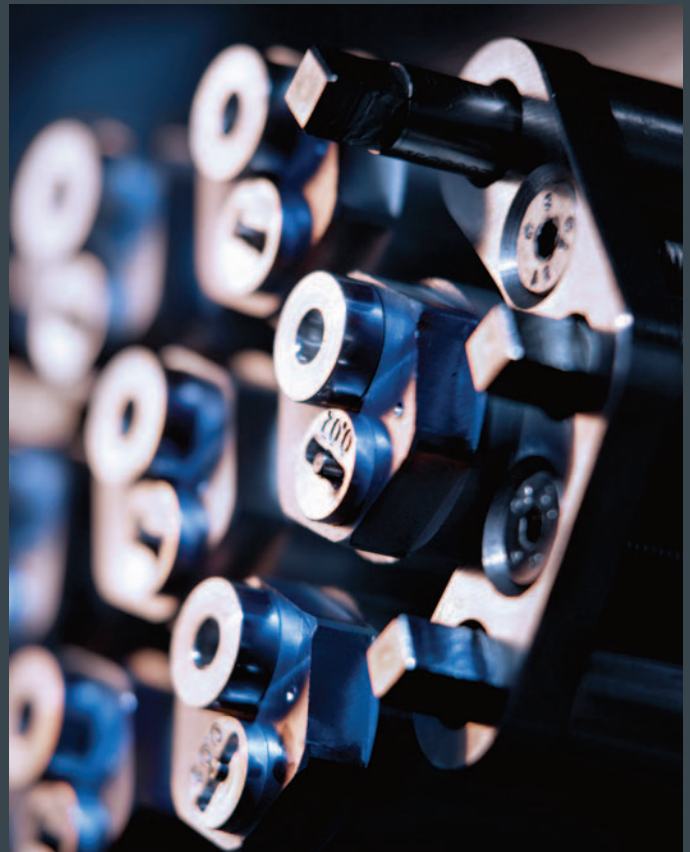
## SYSTEM MONITORING

The complex structure of traditional central lubrication systems makes troubleshooting by visual inspection almost impossible. Faults such as leakages are rarely identified in time and machine breakdown, resulting in unscheduled downtime, quite often follows.

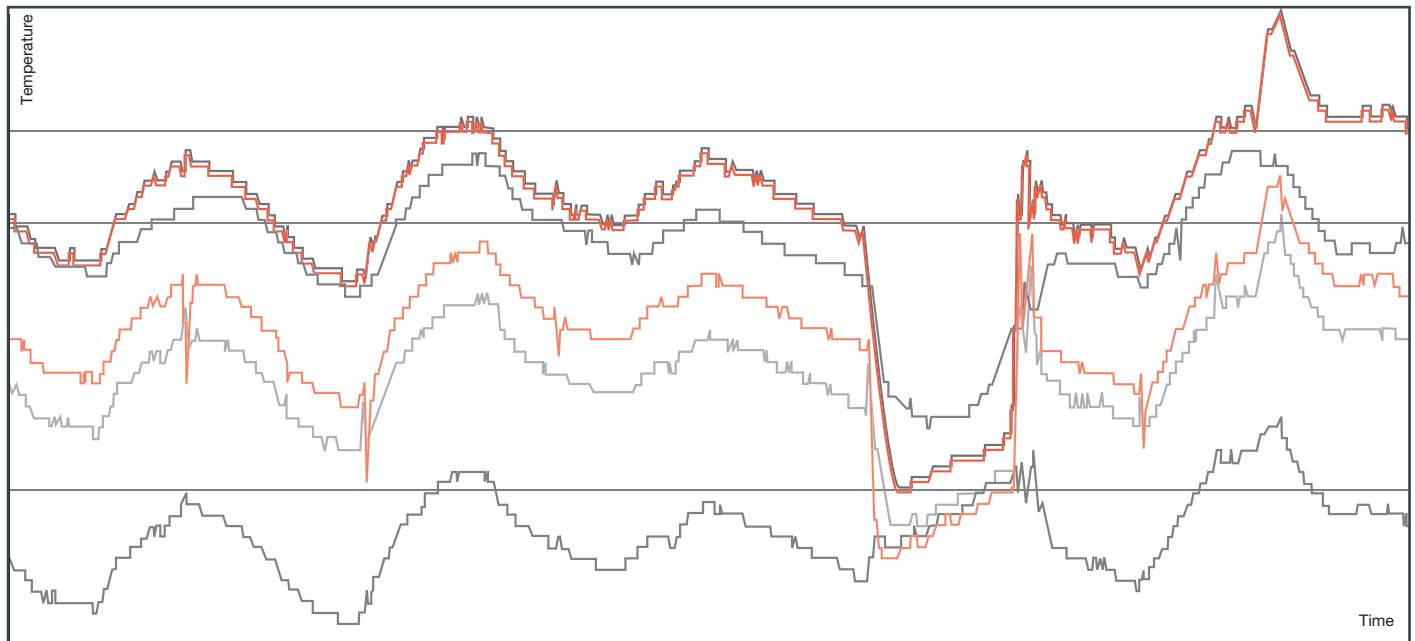
The Heye International multi-zone system shows all system messages on the visualisation display of the central server. In addition to actual error messages, it provides hints and warnings, allowing servicing to be planned and executed preventatively. The system messages are based on monitoring and measuring values such as:

- Filling levels of linkages, grease pumps and lubricant tanks
- Contamination of filters throughout the entire hydraulic system
- Flow control to detect broken pipes, leakages or clogging
- Measurement of the pressure course during all phases of the lubrication cycle
- Operation of the electrical components (e.g. motor, fuses, etc.)

The integrated filling level control constantly checks whether the linkages are lubricated in an optimal way. This helps to ensure a long life.



## THERMAL CURVES OF THE SIX TEMPERATURE CYCLES



### OPTIMAL USABILITY

The visualisation interface of the Heye Modular Servo Technology (HMST) gives access to all servo components, including the multi-zone system. Thus, the operator receives detailed information on the status of the system at a glance. The temperature curves of the six temperature cycles provide an insight into the thermal situation within the machine.

By means of remote access, Heye International can check and evaluate the condition of your system worldwide. Using this method, software updates can be carried out simply and safely.

### HEYE INTERNATIONAL SOLUTION PORTFOLIO

Hot End production equipment

Cold End inspection solutions

Project management

Plant engineering

Hot End detail engineering

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