

Hydraulic System Cleanliness Principles

MEM18020B: Maintain hydraulic system components

HYDAC unit number: ST-T13-0
Duration: 32 hours (4 days)



This training unit can be nationally recognised through an association with **AiGROUP**

Outline

The condition of the operating fluid is vital to hydraulic or lubrication systems. Up to 70% of all failures in these systems can be attributed to the condition of the fluid.

Learning about the necessity of fluid cleanliness is vital for maintenance technicians, planners, trades people, sales people or engineers, in fact anyone who deals with fluidic systems on a regular basis.

This course is an in-depth look at filtration technology, it covers general information such as nomenclature and filter types. The measurement of contaminants is also discussed in detail, as are the practices of correctly sizing filtration products.

Microscopic analysis or “Patch testing” is a method of quickly evaluating the solid particulate within an operating fluid. A sample of the fluid is drawn through a fine membrane with a vacuum. The membrane traps the contaminants, where they are held, allowing for analysis of the material through a microscope.

It is a tricky method, but once mastered, it can allow a rapid “on the spot” assessment of the contaminant materials and with the aid of reference photographs, an evaluation to a cleanliness class can rapidly be determined. This course introduces the technology, highlights the necessary work practices and shows how to avoid common mistakes.

Topics covered

Filtration

- What is it?
- Which systems need filtration?
- Where can it be fitted within a system?
- Understanding the anatomy of a filter.
- Understanding filter media.

Contamination

- Types of contamination.
 - Solid contaminants.
 - Liquid contaminants.
 - Gaseous contaminants.
 - Heat as a contaminant.
- How can we measure contamination.
- How can we count and quantify the amount of a contaminant?
- How can we assess what level of contamination is acceptable?

Essential knowledge

- Fluid types.
- Understanding filter performance.
- Viscosity change with temperature change.
 - Understanding the test methods of filter media.

Filter sizing

- Calculations.
- Manual.
- Software.
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Microscopic analysis

- Understanding contamination – SE80-T02-0
- Measuring contamination – SE80-T03-0
- Microscopic analysis (Patch testing) – SE80-T04-0
- Hands on experience with sample collection, preparation and analysis.

Outcomes

At the completion of the course, a certificate of acknowledgement will be issued to the participant, stating the course name and all other relevant details.

This course is not nationally recognised as there have been no competencies created to reflect the required knowledge.

Prerequisites

There are no prerequisites for this course, however it is designed for those with some experience in hydraulic technology. This course can only be provided for those fluent in English. Participants must be able to read and write, and to follow instructions.

Lunches

Morning tea, lunch and afternoon tea are provided. If you have any special dietary needs, please contact HYDAC beforehand to arrange alternatives.

Clothing and equipment

Pens, paper, tools and training resources are provided.

Clothing should be neat casual, or cotton drill work clothing is fine, but they must be clean.

Dirty work boots are not to be worn, fully covered footwear such as runners are acceptable. Open toed footwear must not be worn.

Dates and times

Times: 8:30AM to 5:00PM

Dates: Please, check our website (www.hydac.com.au/hydac-training) for information on available dates.

Venue

HYDAC Pty. Ltd.
109 - 111 Dohertys Road
Altona North
Victoria, 3025
Australia

Course fee

Course fee is AUD \$1680 per participant, plus GST
Flights and accommodation are not included in the course fee.

Text book

We also have a 141 page text book available, entitled "Filtration of lubricating oils and hydraulic fluids", it is the supporting text for this course. It can only be purchased by those who attend this course.

Part No: 3613848
Nett price: \$140 plus GST

Price for course and text book is \$1820 Nett, plus GST.

Contact

Technical Training Officer



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