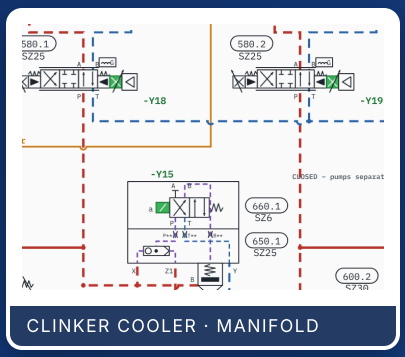
MACHYD

# Hydraulic troubleshooting built on your machine and your schematic.

MACHYD runs your clinker cooler or mill hydraulics as a live circuit, state by state. When something goes wrong, it ranks the likely causes and names the best next check: your hydraulic expert, on every shift.




CLINKER COOLER · MANIFOLD

OUR UNIQUE VALUE · BUILT FROM YOUR DRAWINGS

## Six ways MACHYD is your machine, not a textbook circuit

**1 Your schematic**
Redrawn from your hydraulic schematic and parts list.

**2 Your item numbers**
Every valve, gauge and solenoid carries your tags.

**3 Your states**
Every mode in your mode table, oil flowing as it really does.

**4 Your faults**
Failure modes for every part, with what the crew sees.

**5 Your gauges**
Healthy readings worked out at your set points.

**6 Your checks**
Field checks your crew can do with the tools at hand.

Schematics hide it. Visio explains it. **MACHYD runs it.**

### 01 MACHINES COVERED

- **Clinker coolers:** MMC, SF and CB clinker cooler drives and power units.
- **Vertical roller mills:** OK, ATOX and FRM roller tensioning and spring systems.
- Valves, cylinders and accumulators move in time; every part shows its function, its lines and how it fails.

### 02 TROUBLESHOOTING, STEP BY STEP

- **Tick what the crew sees,** in plain words.
- **Read the gauges:** MACHYD compares them with a healthy machine.
- **See the likely causes,** ranked by how well each explains everything so far.
- **Do the best next check:** one look or measurement that splits the causes.
- **Print the field checklist:** every check, result and time on one sheet.

### 03 WHAT PLANTS GET FROM IT

- **Shorter breakdowns:** crews go straight to the check that matters instead of swapping parts.
- **An expert on every shift,** including nights and weekends.
- **Faster learning:** new technicians see how the circuit works, state by state.
- **A record of every case,** kept as signed field checklists.

### 04 SIMPLE TO RUN

- Standard **Windows laptop, fully offline,** with no link to the PLC or DCS.
- **Priced to pay back on the first breakdown it shortens.**
- Annual support, with updates, costs less than an hour of downtime.
- Your drawings stay private and are never shared.

### 05 FROM YOUR SCHEMATIC TO YOUR MACHINE · WITHIN A WEEK PER SYSTEM

**STEP 1**
**Send**
Hydraulic schematic, parts list, mode table and any troubleshooting notes.

**STEP 2**
**Build**
Circuit redrawn; every part, state and failure mode modelled and checked.

**STEP 3**
**Review**
Open points marked and confirmed with your maintenance team.

**STEP 4**
**Use**
Installed on your laptops, ready for the next breakdown and for training.

**Built by cement people.** MACHYD is developed by Macprotec Engineering in Houston, whose team has designed, commissioned and operated cement plants around the world.

**Send us your schematic. We'll show you your machine.**

MACPROTEC ENGINEERING
Makers of MACHYD · Excellence in Process

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