

MTU-9000: Plantwide Monitor

MTU-9000 Master Terminal Unit

The Tymac MTU-9000 is the industry's most powerful central computer system. It collects and stores process variable and management information from LCM-9000s and SuperShots into a central database. This allows the user to generate a virtually limitless variety of reports and graphs for management or analysis requirements. It also continuously reports the current status of every connected die cast machine.



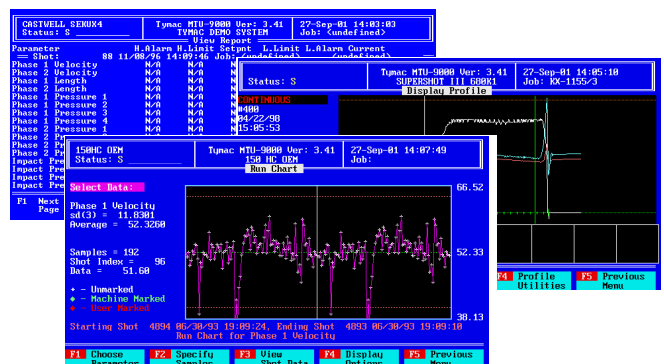
The MTU-9000 consists of a dedicated server and networked workstations. This multi-computer configuration allows the MTU-9000 to provide continuous data collection from each die casting machine, and simultaneous access by multiple users. The shot data is stored in a flexible database that is easily accessible by all users. An easy-to-use menu-style user interface allows even novice computer users to work like pros. Real-time reports, graphs, and data analysis are available even while the system is collecting and saving the shot data. The MTU-9000 is a versatile tool that the die caster can grow with.

The MTU-9000 main screen instantly reports on each and every shot from all active remote units, and lets you know whether the shot was

within limits, exceeding limits, or exceeding alarms. The MTU-9000 creates custom reports and graphs on any range of data stored in the database. In addition, multiple master traces and machine setups may be stored for instant recall.

LCM-9000 #1		Tymac MTU-9000 Ver: 3.41		27-Sep-01 14:01:34	
* ELECTRICAL		TYMAC DEMO SYSTEM		Job: ABCDEFGHIJKLMNOP	
Main Menu					
RTU-01 C	RTU-02 SE	RTU-03 S	RTU-04 S		
RTU-05 P	RTU-06 S	RTU-07 S	RTU-08 S		
RTU-09 S	RTU-10 S	RTU-11 S	RTU-12 S		
RTU-13 S	RTU-14 S	RTU-15 O	RTU-16 O		
RTU-17 O	RTU-18 O	RTU-19 O	RTU-20 O		
RTU-21 O	RTU-22 O	RTU-23 S	RTU-24 O		
RTU-25 O	RTU-26 O	RTU-27 O	RTU-28 O		
RTU-29 O	RTU-30 O	RTU-31 O	RTU-32 O		
RTU-33 O	RTU-34 O	RTU-35 O	RTU-36 O		
▲ - Alarm Limit		▼ - Report Limit		! - Good - - No Limits Set	
F1 Select DCM	F2 Exception Report	F3 Set Poll Type	F4 System Utilities	F5 Management Reports	

High-resolution color graphics include last shot vs. master shot profile analysis, shot status, Run Chart, Scatter Diagram, Distribution Chart, Scrap/Productivity Graphs, Downtime Graphs, and X-Bar & R Charts. Also, reports are available on SPC, data logging, run charts and shot status. The reports and graphs can be user-customized for precise data analysis. The collected data can also be exported to other computers and/or applications for specialized analysis. Parameter sheets are simple to set up and allow the user to modify the parameters at the MTU-9000 and download them to the DCM.



The MTU-9000 ties together all the features necessary to maintain central control over the die cast operation. It provides an easy-to-use operator interface coupled with a versatile, powerful, economical centralized monitoring system.

Tymac Controls Corp

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 US Patents: 3,911,419, 3,878,375, 4,094,490, 4,249,186 4,383,449, 4,504,920, 4,734,869 Canadian Patent: 1-234-902 European Patent: 0 126 174

MTU-9000: Plantwide Monitor

Plant-Wide Monitoring

In a plant, you have several Die Cast Machines. An LCM-9000 is attached to each DCM to record its shot data.

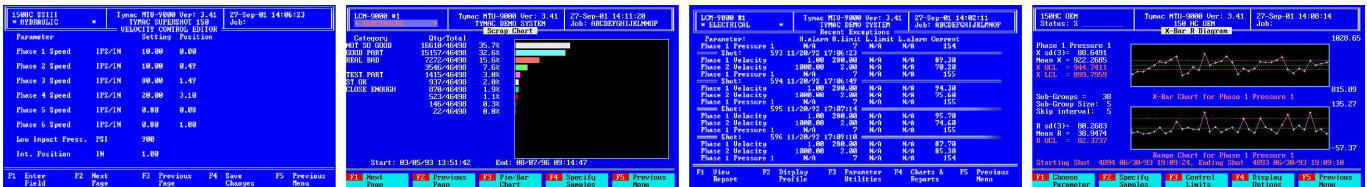
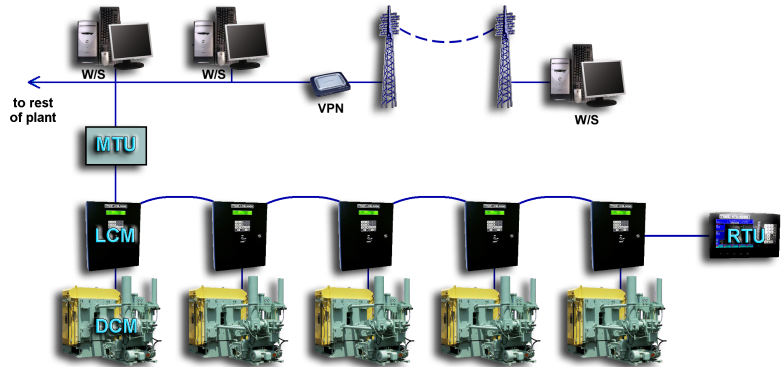
All the LCM-9000s send their data on to the central unit, the MTU-9000. The MTU-9000 displays all activity on the plant floor - every shot from every machine - in real time. It also stores all data from the LCM-9000s in a central database, and prepares that data into many types of charts and reports.

In the drawing, there is an RTU-9000 unit included as well. This is a single-machine operator interface, and it is not necessary when you have an MTU-9000, but it can be very convenient to have a terminal on the plant floor to allow floor personnel access to the information while setting up or checking a job.

Beyond the MTU-9000 are the workstations (W/S), linked to the MTU-9000, which acts as their server. The individual workstations can make use of the SPC/SQC profiles, reports, and other analysis software on the MTU-9000. Again, it is not necessary to have workstations when you have an MTU-9000, but adding them is easy and can be convenient.

Workstations need not be linked physically. A Virtual Private Network utilizes the internet to link distant workstations.

The MTU-9000 is the center of this system, keeping everything coordinated and updated in real time, and keeping track of past and current data.



MTU-9000 Software:

- Continuous Real-Time Machine Status
- Menu-Driven User Interface
- Downtime & Productivity Reporting
- Scrap Reporting
- SPC Reports
- Metal Injection Setup for Hot & Cold Chamber
- Both Position & Hybrid Graphic Plotting
- Color Hard-Copy Reports and Shot Profiles
- Download Setups to Plant Floor
- Export Data to Other Computers & Applications
- Alarm / Report Editor
- Exception Plotting
- Data Log Report
- Shot Summary Report
- Scrap/Productivity Report & Downtime Report
- SPC Summary Report
- Shot Profile
- X-Bar & R Chart
- Run Chart
- Scatter Diagram
- Distribution Chart
- Hi-Lo Range Chart
- Scrap/Productivity Graphs
- Downtime Graphs

MTU-9000 Hardware:

MTU-9000 Server

- Industrial PC-Compatible Processor
- 10+ GB Hard Disk Drive
- 10/100BaseT Ethernet LAN
- Dedicated TymacNet to Plant Floor Equipment
- Windows-Compatible Networked Software

MTU-9000 Workstation

- PC-Compatible Processor
- 10+ GB Hard Disk Drive
- 10/100BaseT Ethernet LAN
- CDROM Drive
- Windows Operating System
- Mouse & Keyboard
- Color Inkjet Printer
- 17" Monitor

MTU-9000 Options:

- Additional Remote Workstations
- Alternate Mass Storage Options
- Flat Panel Display
- Remote Access via Modem / Internet