ParlorMetrix

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ParlorMetrix

Welcome

ParlorMetrix is a tool that monitors, collects, and stores information during the milking cycles at your facility. This tool allows you to perform analysis of your parlor's efficiency, milking sequences, errors, and side/turn ratios. ParlorMetrix works with both parallel/herringbone and rotary configurations.

There are three charts that you will work with when analyzing data.

Events Summary chart

Sequence chart

Sides/Turns chart

This help system is designed to define the various charts and features available.

Notes:

To see the version number of the software, click on the ParlorMetrix logo in the upper left corner of the main screen.

If you are connected to the internet, you can send email comments to the Bou-Matic Technical staff about the ParlorMetrix program by clicking on the Bou-Matic logo in the upper right corner of the main screen.

About the Toolbar

The ParlorMetrix toolbar is used for common tasks and is defined below:

- Report-Click to create a report of the chart that is being displayed.
- Print-Click to print the displayed chart or the report.
- Options-Click to display the dialog that allows you to set the Sequence Chart colors. This tool is only active if the Sequence Chart is visible.
- Open-Click to access another set of Milking data for analysis.

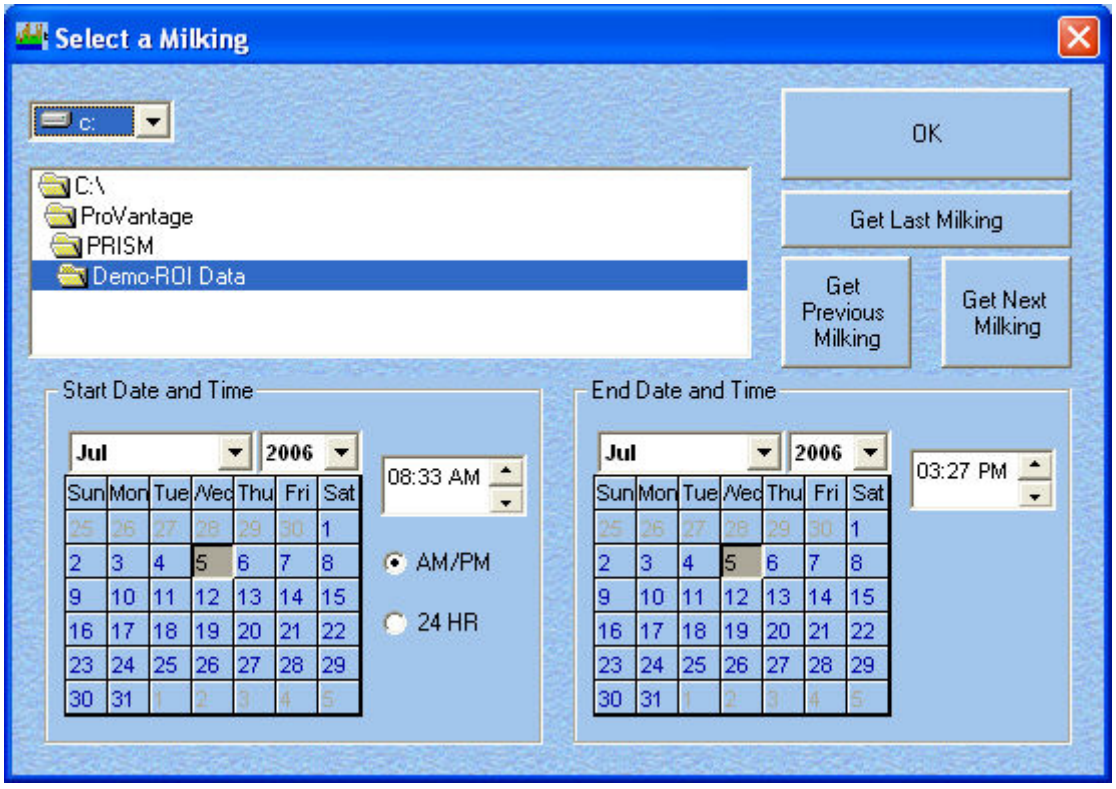
Opening a Milking File

ParlorMetrix saves the information to a data file during every milking cycle. This data file is saved, by default, in the following directory:

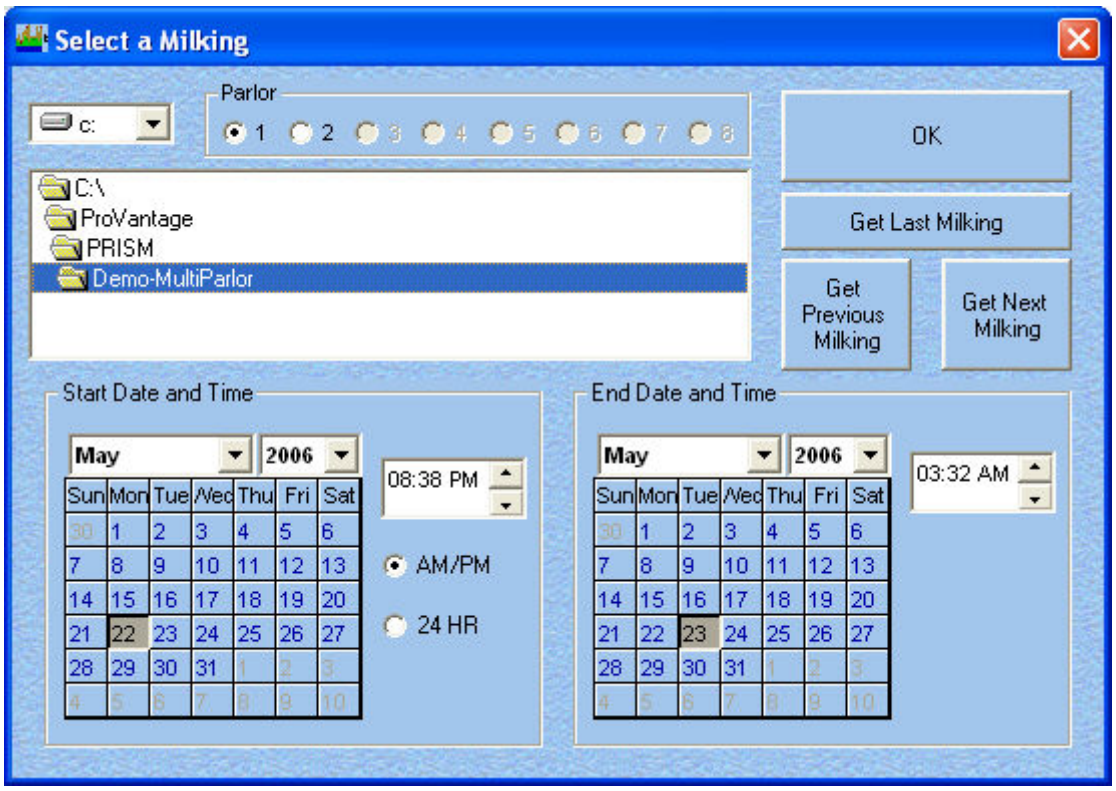
C:\ProVantage\Prism

You may open a Milking file at any time to perform analysis.

1. Click the Open Icon to display the Select a Milking dialog.



If the data file has data for a multi-parlor system, the parlor selector will be visible as shown below (only the parlors in the system will be enabled). Click on a parlor number to see the data for that parlor. You can only view data for one parlor at a time. While viewing any of the charts (Events, Sequence, or Sides/Turns), you can press the number key (1,2,3, etc.) of the parlor you want to change parlors without returning to this screen.



2. Select the drive and directory where the data has been collected (normally this will be set automatically by the data collection program). If you select a directory that does not have a valid data file in it, the buttons to the right will be disabled.

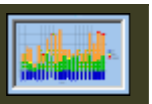
3. If you want to look at the current or most recent milking, click the Get Last Milking button. You can move through the data one milking at a time with the Get Previous Milking and Get Next Milking buttons.

4. If you want to look at a milking from a specific date, select the month and year from the drop-down menus, then select the date from the calendar.

5. Enter the start and end times of the milking period you want to review. Note that the end time can not be more than 24 hours after the start time. Times can be viewed in either AM/PM format or 24 hour format by clicking the appropriate choices.

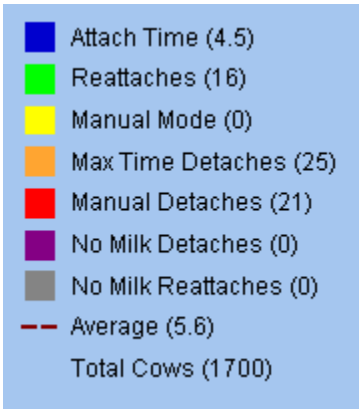
6. Click the OK button to begin analysis.

About the Event Summary Chart



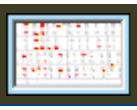
This bar chart displays the events that occurred during a particular milking. Each vertical bar represents a stall in your parlor and its color blocks can display multiple event types.

The color/label legend located on the right of the chart defines what each colored block represents. The numbers that follow each color/label are the total event occurrences recorded during the respective milking (except the Attach Time, which shows the overall average time for the milking). The Average (dashed) line shows the average event count for all stalls. Also shown is the total number of cows that were part of the milking session.



SequenceChart

About the Sequence Chart



The Sequence Chart represents the parlor's milking over a specific period of time. This topic defines the chart by identifying its different tools and features.

- Zoom Factor tool
- Data Key legend
- Time Sliders
- Parallel and Rotary display
- Gate markers
- Stall measures
- Lot Change Indicators
- Changing the Start and End time on the chart

Zoom Factor tool

Click the desired radio button to increase or decrease the chart's magnification.

Data Key legend

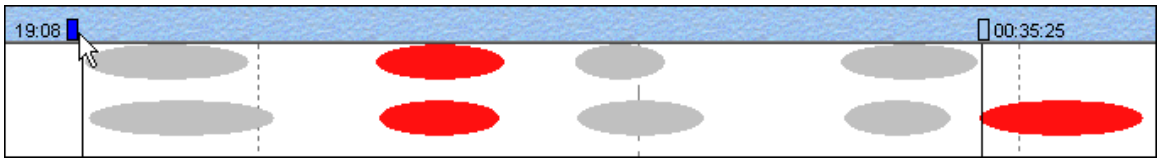
This legend displays the color designations for the data "bubbles" within the chart. You may set the color values that are used in the data key. Moreover, you may set the parameters for these items to fit your milking parlor.

Time sliders

The ParlorMetrix application measures milking times. The time sliders can assist you in determining time-frames within the milking.

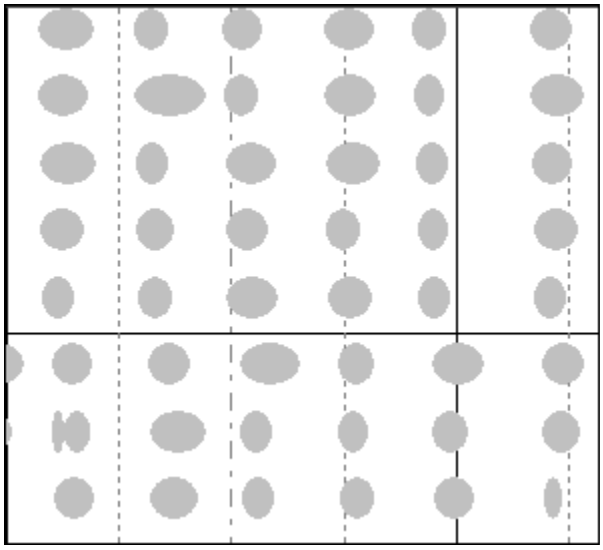
- The left slider represents the beginning of the milking or if it is moved it shows the time of day for that point in the display.
- The right slider represents the total time in relation to the left slider.

In the below example, the left slider displays a time of 7:08 PM (19:08 in 24-hour mode). The right slider displays 35 minutes and 25 seconds of elapsed time from the left slider.

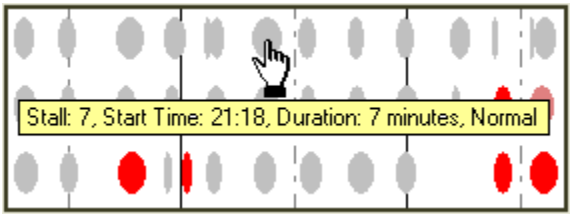


Parallel and Rotary display

ParlorMetrix can determine what parlor configuration is being used: Parallel or Rotary. The Sequence Chart displays the parlor's milking in accordance with the configuration. Note that the display for a Herringbone parlor is identical to that for a Parallel parlor.

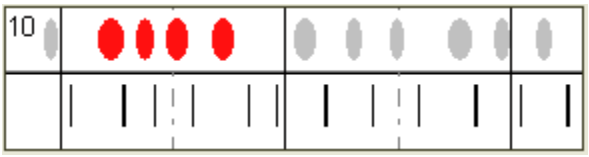
Parallel (Herringbone)	Rotary
	

Position the mouse pointer over a "bubble" to display its information. Note that the information being presented is derived from the image on the screen. At low zoom factors, the durations will be shown in whole minutes.



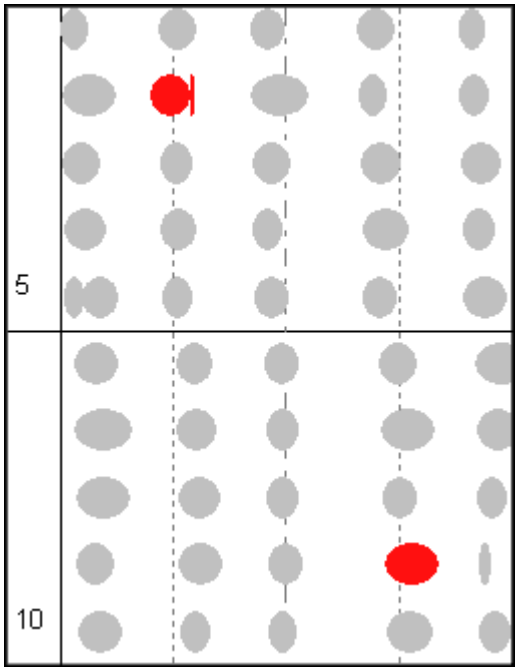
Gate markers (Parallel/herringbone display only)

These markers represent the opening and closing of gates during a milking. As cows work their way through the stalls, the gate openings are measured, captured, and displayed. Gate Markers are represented by black vertical lines that appear in the lower portion of the chart. There is a set of gate markers for each side of the parlor.



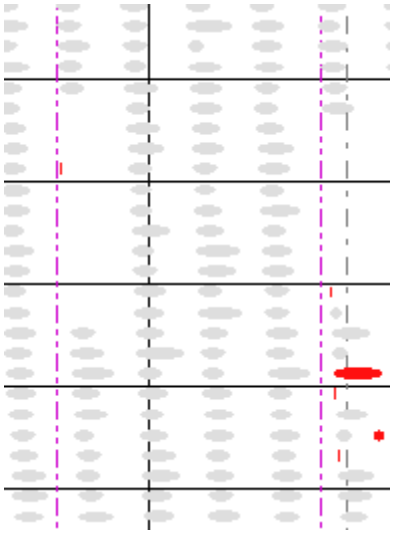
Stall measures

The milking data is displayed to reflect your parlor's stalls. The Sequence Chart is laid-out to reflect the parlor configuration that you use. The stalls are grouped by five for easy reference.



Lot Change Indicators

If you are using the Lot Change feature in the ParlorMetrix controls, the lot changes will show up on the sequence chart as vertical dashed magenta lines, as shown here.



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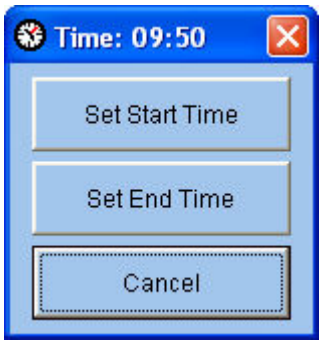
Changing the Start and End time on the chart

To analyze a particular time segment of the chart, right click where you want the analysis to start, then click Set Start Time. Likewise, right click the point on the chart where you want the analysis to stop, and then click Set End Time.



To reset the analysis to show the entire milking, click on the Refresh Milking button in the lower right corner of the screen. The two buttons below the Refresh Milking button will move to the previous and next milkings in the data without using the Open File tool.

Setting Sequence Chart Colors

The Sequence Chart allows you to customize the colors and milking condition parameters used to display data on the chart.

Selecting custom colors

You may customize the colors used to display the following:

- Normal conditions
- Caution situations that may require investigation
- Warning situations that indicate potential problems
- Error situations alert you to situations that indicate problems are occurring in the parlor

Color changes will remain set until you change them again. This tool will only be visible if the Sequence Chart is displayed.

1. Double-click the color that you want to change. The Windows Color Picker will display.

2. On the Windows Color Picker, click the color swatch you would like to use.
   Optionally, you may click the **Define Custom Color** button to create a custom color.
3. Click the **OK** button when you are finished.

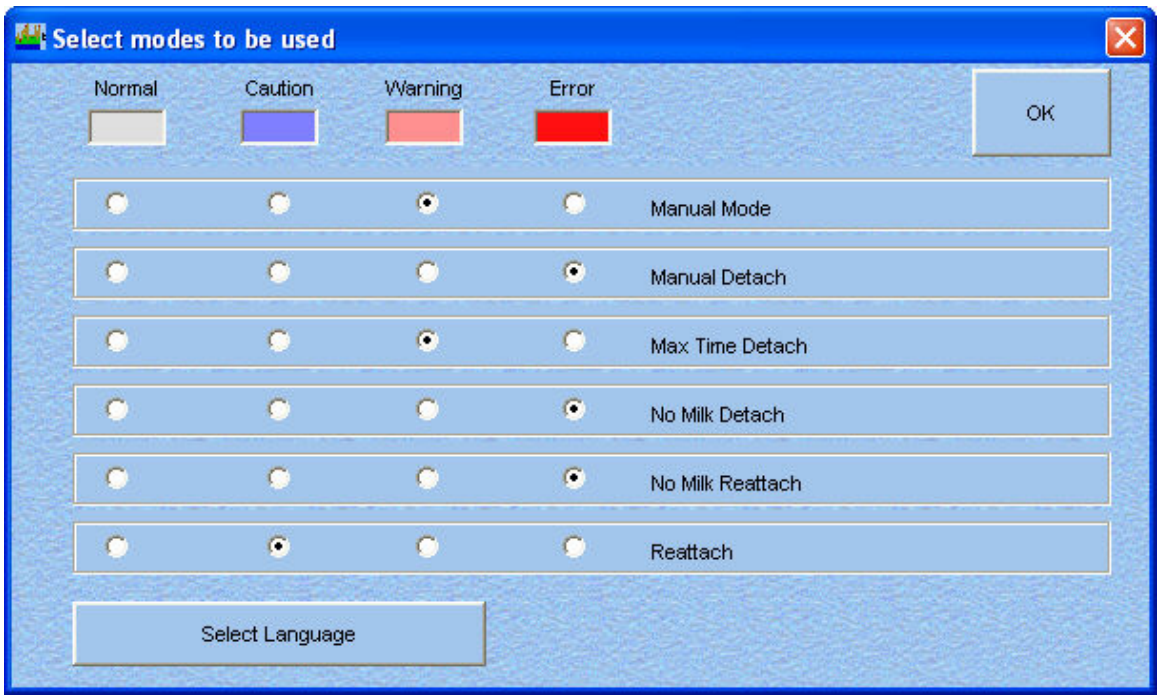
   Repeat steps 1-3 to change other data key colors.

Setting the parameters for milking conditions

ParlorMetrix monitors six milking conditions: Manual Mode, Manual Detach, Max Time Detach, No Milk Detach, No Milk Reattach, and Reattach. These conditions, by default, are displayed at different "alert" levels. Alert levels can be customized to be more suitable to your milking parlor's preferences. As a result, the milking conditions for each cow are displayed in accordance to your preferences.

Normal mode is simply the condition when none of the other three conditions are met.

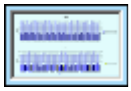
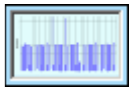
1. Click the Options tool. The **Select Modes to be used** dialog will display.



2. Click the radio button under the alert level that you want for the specific milking condition.
3. The program will normally start running in the default language used by the Windows operating system. If you need to change to one of the other supported languages, click on the Select Language button and select your desired language.
4. Click the **OK** button to set and exit the dialog.

About the Sides/Turns Chart

This chart reflects the parlor configuration that you use: Sides (Parallel/Herringbone) or Rotary (Turns). Depending on your parlor configuration, you will see one of the following icons:

Sides	Turns
	

These charts display how your parlor is being utilized (the efficiency) and measures how your cows are being serviced during a milking. The display of these variables is slightly different depending on the parlor. The average time for all stalls is shown on the graph to help compare individual stalls to the group.

Parlor	Chart description
Rotary	The Turns chart displays the elapsed time between a complete attachment in Stall X to complete attachment to Stall Y. This time frame measures consistency within the milking shift. As a result, you may use this chart to compare consistency between shifts.
Parallel/Herringbone	The Sides chart displays two items: amount of time between cow groups and downtime when milking is not occurring. • The First Attach bar measures the first cow attachment from milking string X to the first cow attachment from milking string Y • The Last Attach bar measures the amount of time from detachment from one cow to reattachment of a new cow

Analyzing the Data

The various charts offer specific information focused on the different aspects of your milking parlor. As a result, each chart can be analyzed differently when investigating issues. The following sections provide some tips on how to interpret the data per chart.

The Event Summary Chart

Error Condition	Description
Attach Time	The attach time should be consistent from stall to stall. A stall with a high attach time may not be detaching correctly. Check the flow sensor. A stall with a low attach time may indicate that the claw is not staying attached to the cows properly. Check the claw, liners, and milk hose.
Reattaches	Reattaches should be rare. A stall with an unusually high number of reattaches may be detaching early. Check the flow sensor.
Manual Mode	Manual mode is used to keep the detacher from detaching, and should therefore not be used very often. A stall with a high number of manual mode errors may be detaching early. Check the flow sensor.
Max Time Detaches	Max Time detaches occur when the unit reaches the specified maximum attach time. If a stall has a lot of Max Time Detaches, check for: › unit not detaching correctly; check the flow sensor › unit put in Manual Mode; check the Sequence Chart › Max Time set too low
Manual Detaches	Manual Detaches occur when the operator uses the Attach/Detach switch instead of letting the automatic detach function work. If a stall has a lot of Manual Detaches, check for: › operators manually detaching cows to move to next string (check the Sequence Chart) › unit not detaching correctly; check the flow sensor If all stalls have a lot of manual detaches, you may have the Flow Sensor Takeoff Resistance set too high.
No Milk Detaches	No Milk detaches occur when the unit reaches the end of the letdown delay and there is no milk detected in the sensor. If a stall has a lot of No Milk Detaches, check for: › unit not sensing milk flow correctly; check the flow sensor › cows are being milked out before the letdown delay is done; reduce the letdown delay

	‣ cows are being milked that should not be milked, or are being remilked
No Milk Reattaches	No Milk Reattaches occur when the operator reattaches the unit to a cow that is already milked out. If a stall has a lot of No Milk Reattaches, check for: ‣ operators not properly checking cows for milk out ‣ unit not detaching correctly; check the flow sensor

The Sequence Chart

The Sequence Chart allows you to see the entire milking at a glance, or zoom in to look at details in parts of the milking. You can readily examine attach sequences, gaps in the milking process, and milker activity. Errors are color coded to make them easy to identify. You can use the Options tool to change the colors and look at individual types of errors.

The Turn/Side Chart

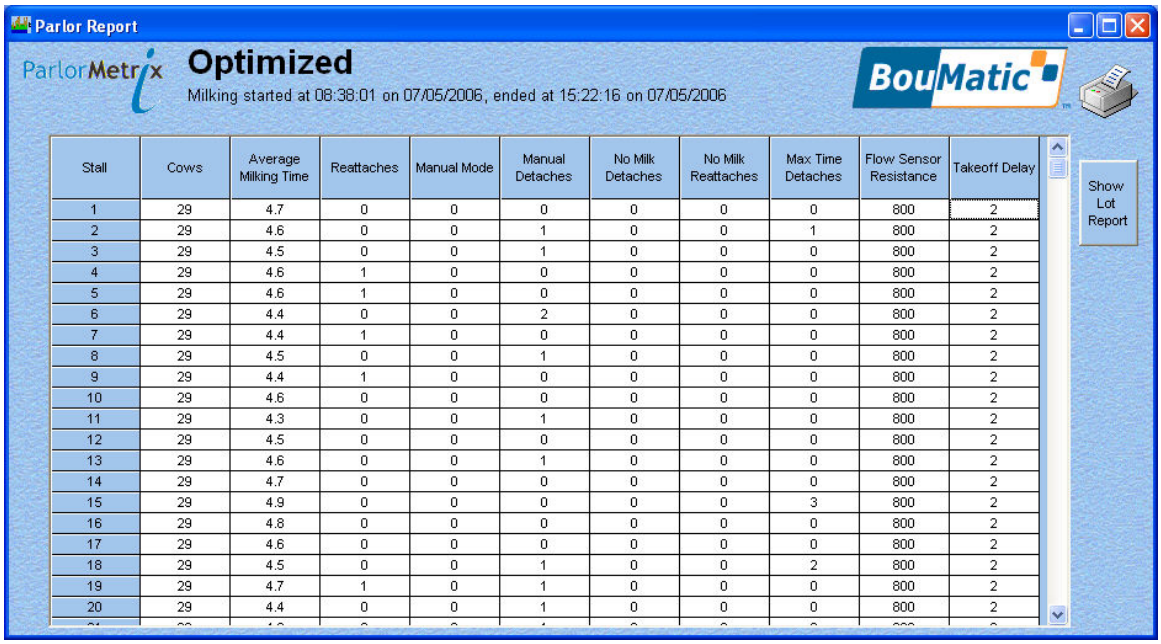
This chart will be either Turn (rotary) or Side (parallel/herringbone) depending on your parlor's configuration.

The Turn and Side charts allow you to see how efficiently and consistently your installation is being used.

Reports

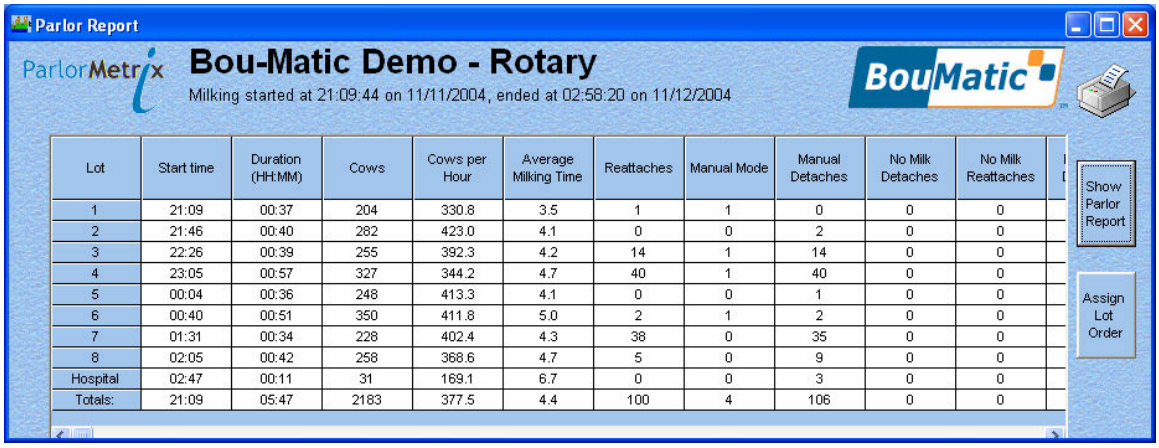
The Report Icon is independent of the chart displayed.

Clicking this icon will create a new window that will display the information from the Event Summary chart in a tabular format more suitable for printing.



Stall	Cows	Average Milking Time	Reattaches	Manual Mode	Manual Detaches	No Milk Detaches	No Milk Reattaches	Max Time Detaches	Flow Sensor Resistance	Takeoff Delay
1	29	4.7	0	0	0	0	0	0	800	2
2	29	4.6	0	0	1	0	0	1	800	2
3	29	4.5	0	0	1	0	0	0	800	2
4	29	4.6	1	0	0	0	0	0	800	2
5	29	4.6	1	0	0	0	0	0	800	2
6	29	4.4	0	0	2	0	0	0	800	2
7	29	4.4	1	0	0	0	0	0	800	2
8	29	4.5	0	0	1	0	0	0	800	2
9	29	4.4	1	0	0	0	0	0	800	2
10	29	4.6	0	0	0	0	0	0	800	2
11	29	4.3	0	0	1	0	0	0	800	2
12	29	4.5	0	0	0	0	0	0	800	2
13	29	4.6	0	0	1	0	0	0	800	2
14	29	4.7	0	0	0	0	0	0	800	2
15	29	4.9	0	0	0	0	0	3	800	2
16	29	4.8	0	0	0	0	0	0	800	2
17	29	4.6	0	0	0	0	0	0	800	2
18	29	4.5	0	0	1	0	0	2	800	2
19	29	4.7	1	0	1	0	0	0	800	2
20	29	4.4	0	0	1	0	0	0	800	2

Click on the Show Lot Report button to get a report showing the summary data by lots.

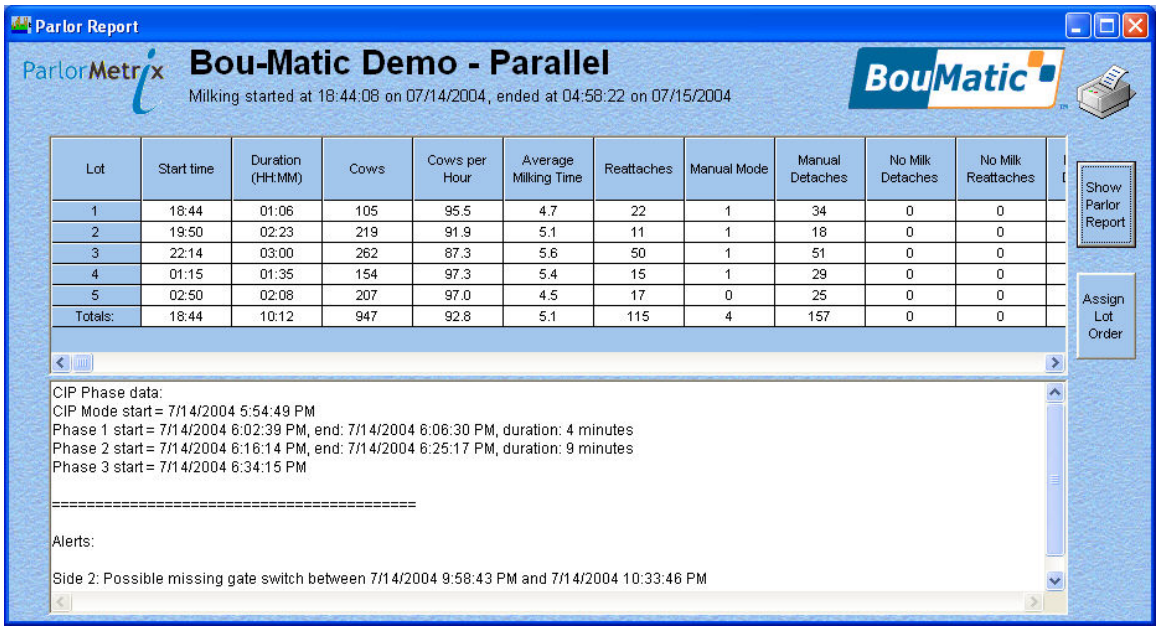


Lot	Start time	Duration (HH:MM)	Cows	Cows per Hour	Average Milking Time	Reattaches	Manual Mode	Manual Detaches	No Milk Detaches	No Milk Reattaches
1	21:09	00:37	204	330.8	3.5	1	1	0	0	0
2	21:46	00:40	282	423.0	4.1	0	0	2	0	0
3	22:26	00:39	255	392.3	4.2	14	1	14	0	0
4	23:05	00:57	327	344.2	4.7	40	1	40	0	0
5	00:04	00:36	248	413.3	4.1	0	0	1	0	0
6	00:40	00:51	350	411.8	5.0	2	1	2	0	0
7	01:31	00:34	228	402.4	4.3	38	0	35	0	0
8	02:05	00:42	258	368.6	4.7	5	0	9	0	0
Hospital	02:47	00:11	31	169.1	6.7	0	0	3	0	0
Totals:	21:09	05:47	2183	377.5	4.4	100	4	106	0	0

Reports can be sorted by any single column. Left click the mouse on any column heading to sort by that column from lowest value to highest value. Double click on a heading to sort from highest to lowest. Note: when sorting the Lot report by the Start time, if the milking ran over

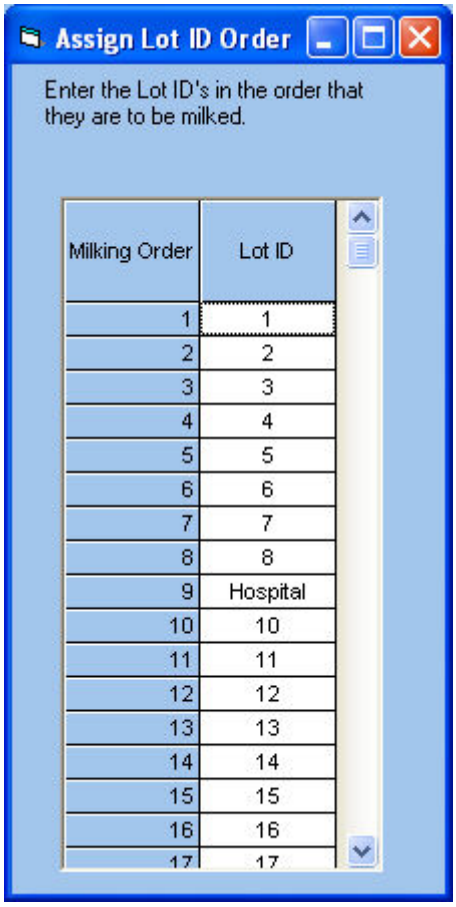
midnight, the times after midnight will sort out as lower values than the times before midnight, so the report may not sort to the original order by time.

If there are any alerts or CIP phase data available, they will be listed below the Lot report.



Lot	Start time	Duration (HH:MM)	Cows	Cows per Hour	Average Milking Time	Reattaches	Manual Mode	Manual Detaches	No Milk Detaches	No Milk Reattaches
1	18:44	01:06	105	95.5	4.7	22	1	34	0	0
2	19:50	02:23	219	91.9	5.1	11	1	18	0	0
3	22:14	03:00	262	87.3	5.6	50	1	51	0	0
4	01:15	01:35	154	97.3	5.4	15	1	29	0	0
5	02:50	02:08	207	97.0	4.5	17	0	25	0	0
Totals:	18:44	10:12	947	92.8	5.1	115	4	157	0	0

Click on the **Assign Lot Order** button to assign names or actual lot numbers to the lots in the report.



Clicking on the printer icon in the upper right will print both reports.

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