iControl RC1*e*™ Quick Reference

Design, Run, and Evaluate your Experiments

Getting started
- Startup circulation of an external cooling source.
- Power up RC1*e*™, RTCal™ Box and if necessary UCB or RD10.
- Power up any external devices such as balances, pumps and transmitters.
- Start the computer and open iControl RC1*e*™.

iControl RC1*e*™ Start Page
Including all important links, the start page can be used for navigation throughout all important program areas including:

Experiment

(1) "Start Experiment" – starts with current "Lab Equipment"

(2) "Design Experiment" – blank or based on template

(3) "Open Experiment"

Chemicals

(4) Add "New Chemical" to the database or edit existing entries. Physical properties, formula and CASRN can be saved.

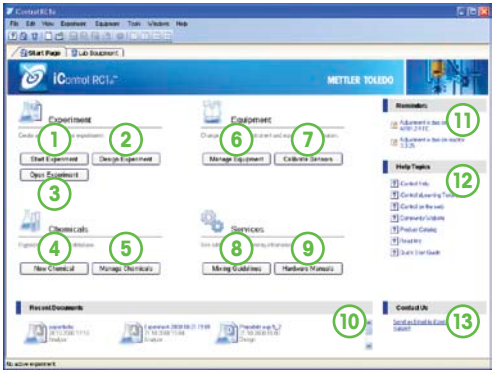
(5) "Used Chemicals" can be selected from the database and all required values (e.g. density and cp-value) will be transferred to the experiment.

Equipment
Define new accessories:

(6) "Manage Equipment" or (7) "Calibrate Sensors"

Services

(8) Review "Mixing Guidelines" or access (9) "Hardware Manuals"



Recent Documents

(10) Most recent documents are accessible in the "Start Page" bottom section. An index indicates the experiment status:
- **D:** Design experiments are new methods or experiments that have not been carried out yet.
- **A:** Analyze stands for a finished experiment that is no longer online.
- **R:** Run appears when an experiment is running.

Reminders

(11) Pending actions such as license activation, RTCal™ sensor validation, and instrument service are displayed.

Help Topics

(12) Browse the "Help Topics" to collect information about your system.

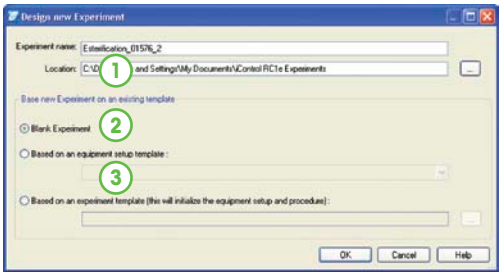
Contact

(13) If any support is needed please contact your local distributor or the support hotline.

METTLER TOLEDO

1. Design New Experiment

Click on "Design Experiment" to open the dialog.



(1) Enter an experiment name.
Note: You can also rename the experiment later.

Choose the type of template:

(2) "Blank Experiment" – experiment with no predefined equipment

(3) "Based on a template" – choose between equipment setup template and experiment template.
Note: You can choose any saved experiment.

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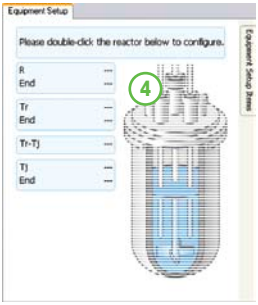
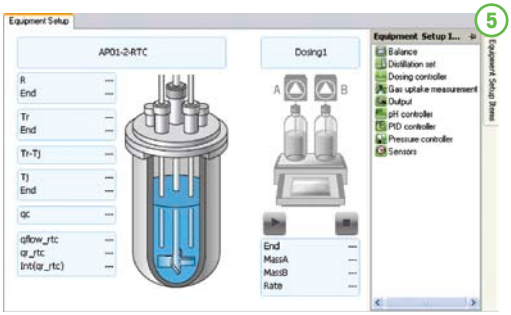
2. Equipment Setup





Define Reactor:

(4) Double-click to configure or edit setup items.

Follow the setup window for all equipment you insert. Choose all settings according to the actual setup.

For example a reactor could be configured including:

Reactor:	AP01-2-RTC
Cover:	AP01/SV01
Stirrer:	Propeller downward, glass
Tr-sensor:	Tr sensor, glass
Cal. Heater:	Calibration heater 25 W, glass

Define additional equipment:

(5) Move mouse cursor over tab to expand.

Insert "Equipment Setup Items" to "Equipment Setup" by drag & drop.
Note: To insert RC1$_e$™ and RD10 devices to an "Equipment Setup" they must be defined in the "Equipment Database".

Equipment that is not defined can not be used.
Sensor values will not be recorded if they are not part of the "Equipment Setup".

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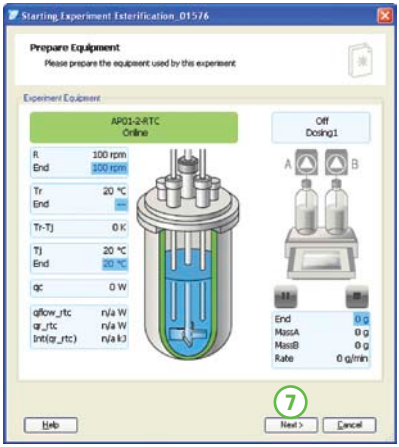
3. Start Experiment

(6) Click button to start the experiment.

Upon "Start" equipment can be controlled directly by overwriting set values in the "Prepare Equipment" section.

Advanced commands can be executed by double- or right-click on the equipment to be controlled.
Operations carried out at this stage are not logged.

Click (7) "Next" to run the experiment.



4. Procedure

The "Procedure" consists of a sequence of operations to be carried out during an experiment. Blank experiments only include the start phase and the "Start Operation" which can't be deleted. The "Start Operation" consists of stirrer and temperature control as well as information on the first fill.

- "Procedure" is executed from top to bottom.
- "Operations" can be aligned to start in parallel or as a series.
- "Phases" can be used to group operations and to synchronize the start time of parallel operations.

"Operations" are color coded depending on their status:

- pending	white	- aborted	red
- in progress	green	- paused	yellow
- finished	gray		

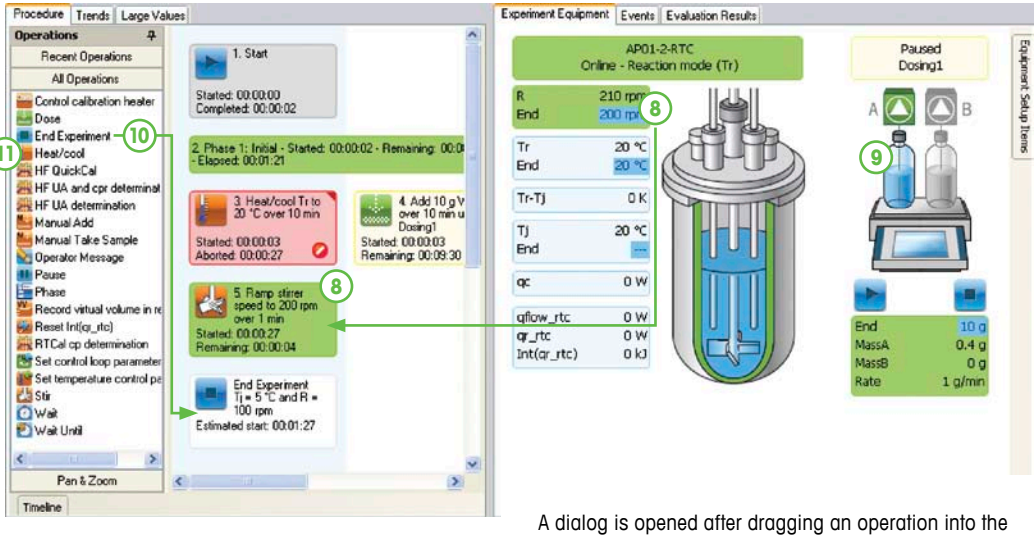
Three methods are available to add operations to a "Procedure":

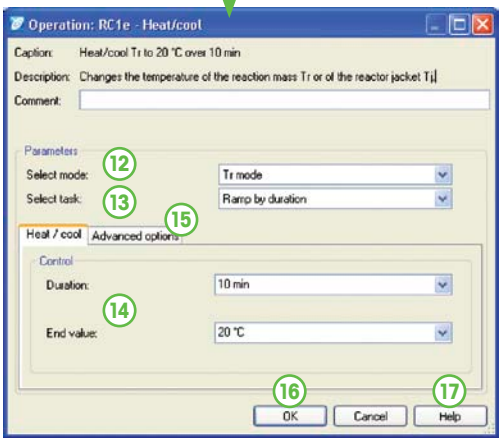
(8) Overwrite end values in the "Experiment Equipment". Press enter to confirm.

(9) To access all operation features, double- or right click the equipment.

(10) Drag & drop operations from the list. A "Command Window" opens when needed.

The list of operations is depending on what equipment is configured. Available operations can be dragged into the "Procedure". pane





A dialog is opened after dragging an operation into the "Procedure" pane. Depending on the operation different modes can be selected. For controllers a "Task" must be selected such as ramp by duration or rate.
The example shows possible settings for a (11) "Heat/cool" operation:

(12) "Select mode" – Temperature can be controlled by Tr (temperature of reactor contents), Tj (temperature of reactor jacket), Tr-Tj (distillation/crystallization mode).

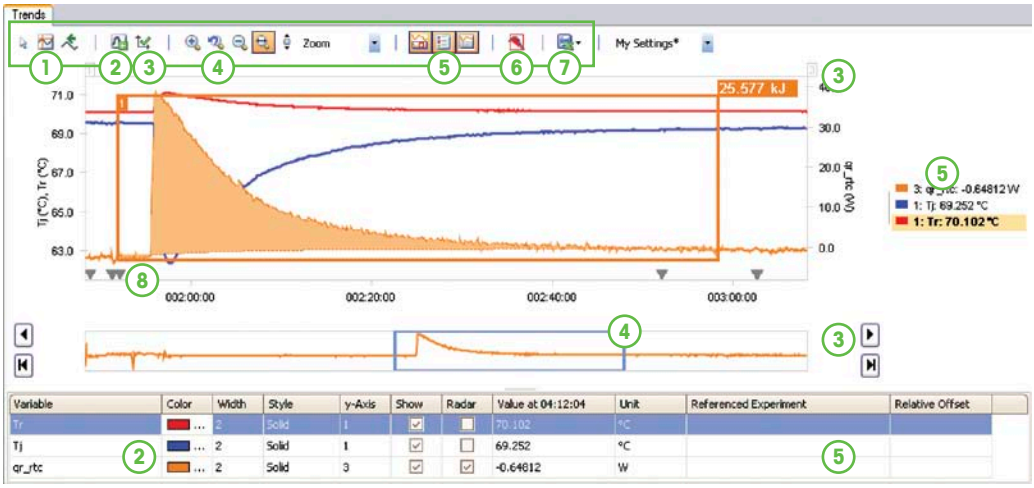
(13) "Select task" – choose task, end value, duration, rate

(14) Enter values for temperature "Control".

(15) "Advanced options" – change safety limits for the operation.

(16) Add "Operation" to "Procedure" by clicking "OK".

(17) Check the "Help" file for detailed instructions.

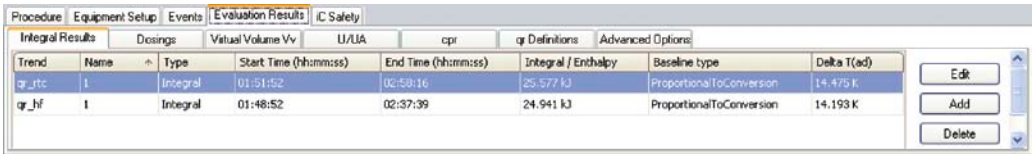


5. Trends

Select a trend by clicking on it. Selected trends are displayed bold. Deselect a trend by clicking in the background area.

1. Move/place readout marker line. Values for all variables listed in a legend will be displayed.
2. Add curve to graph and legend. Change trend color, width, style, and axis in extended legend section below.
3. Edit axis properties manually.
4. Zoom in, undo last zoom step, reset zoom, zoom time window, auto scale y-axis. By shifting the blue frame in the radar section a time window can be selected.
5. Show/hide buttons for radar section, extended legend section (bottom) and legend section (right).
6. Select a trend and drag a frame to integrate.
7. Export graph data to selected location (Excel, printer or Clipboard).
8. Show annotation by moving mouse marker over marking. Click right to show/hide labels.

Note: Right-click the background area to annotate.



6. Evaluation Results

Review and change basic experiment data. Double-click to edit. Please check the "Help" file for detailed instructions.

www.mt.com/iControlRC1e

For more information

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