AVA Software

Jacketed Lab Reactor Control

Advion Interchim scientific®

radleys accelerating chemistry

ava

One software. Two platforms.

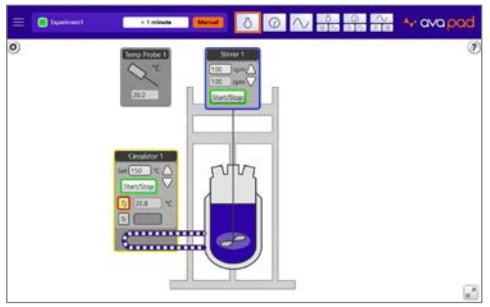
Control your Jacketed Lab Reactor

Subscription free automation

Subscription FREE Software

Connect multiple devices from leading manufacturers

Control devices directly via the apparatus window

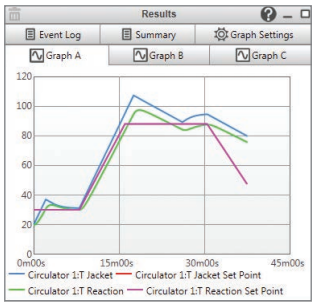


AVA Pad Apparatus Window

Create detailed reports and share data

AVA PC Report Wizard

View process data in real-time graphs



AVA PC Graph Window

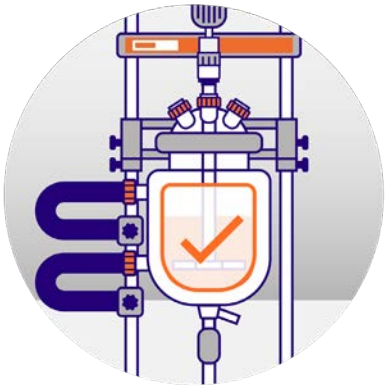
Schedule window to create experiment profiles

AVA Pad Schedule Window

Why choose AVA to automate your Jacketed Lab Reactor?

Boosts productivity by reducing manual tasks

Automate routine or complex operations to free up valuable user time and streamline workflows.



Enhances process safety and control

Improved operator safety through built-in alarms and constant monitoring to keep reactions under control.

Enables precise, repeatable reaction control

Automated dosing with real-time feedback increases accuracy, reproducibility and minimises human error.

Control multi-device reactions

Effortlessly integrates with any jacketed lab reactor for safe and precise automated reaction control and data logging.

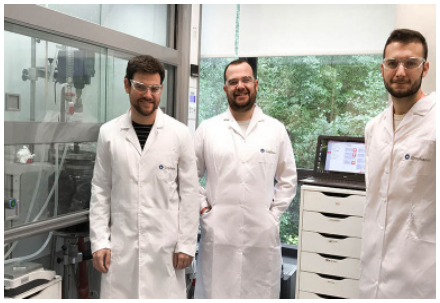
Proven success worldwide

Over 350 systems installed around the world. Trusted by top pharmaceutical companies.

Expert support at every step

Our experienced team offers practical advice to help accelerate your chemistry.

Why choose AVA Jacketed Lab Reactor Control?



AVA helped increase batch-to-batch reproducibility at Graphenea

“In a chemical reaction, many parameters impact the final product - the raw materials, temperature, reaction time, addition time and the order in which chemicals are added. With AVA software, all these parameters can be controlled with a single program in a simple way. When batch to batch reproducibility is needed, automating the chemistry is crucial.”

Beatriz Alonso, Research Chemist, Graphenea, Spain

AVA software aided process safety and design at Sai Life Sciences

“The AVA software is really helpful because it allows us to program the chemistry, to be able to operate those chemistries in the Reactor-Ready and it gathers all of the relevant process data, which actually helps us to understand about the process safety and start to think about how we need to design our process.”

Andrew Kennedy, Vice President & Site Head, Sai Life Sciences

AVA gave chemists at Lubrizol the freedom to work on other things whilst reactions are running

“We can now continue to run reactions overnight, rather than stopping and restarting the following day, which would mean deviating from any potential manufacturing processes. A reaction that could take up to a week can now be completed in a 24-hour period. Our reproducibility has also increased massively since using AVA software, which has saved us time and money.”

Emma Playfoot, Experimental Chemist, Lubrizol

Some of our valued customers

It’s easy to work with AVA

6 simple steps

1. Select your platform
2. Connect your devices
3. Configure your system
4. Control your reactor
5. Collect your data
6. Share your results

1. Select your platform

AVA Pad Reactor Controller

Compact all-in-one controller

Cat No	RR20230
Device Connectivity	Integrated
User Interface	10” Touchscreen
Multiple Reactor Control	No

Suitable for
- Single Reactor
- Dual Reactor

10” Touchscreen
- Graphical display
- Pinch zoom
- Supports USB keyboard & mouse

User Management
- Multiple user profiles
- Password protection per user

ava pad

Integrated connections
- RS232 x 4
- Temp sensor ports x 2
- USB x 2
- Ethernet x 1
- HDMI Output x 1

Fumehood compatible with two mounting options
- Control Pad Benchtop Stand
- Control Pad Support Rod

AVA PC Reaction Control Software

PC based software

Cat No	RR20308
Device Connectivity	Via separate hub
User Interface	Laptop PC
Multiple Reactor Control	Yes - up to 4

Suitable for
- Single Reactor
- Dual Reactor
- Multiple reactors (up to 4)

Laptop PC Controller
- Full keyboard
- 16” LCD Display

User Management
- Single user software
- Single password protection

ava pc

Separate Data Hub connections
- RS232 Ports x 4
- Temp sensor ports x 2
- Ethernet x 1

Download FREE Demo Software www.radleys.com

External to fumehood
- Remote connection to Data Hub via ethernet cable

2. Connect your devices

3. Configure your system

Connect up to 16 devices

Supports all leading manufacturers

- Circulators
- Overhead Stirrers
- Temperature Sensors
- Syringe Pumps
- pH Sensors
- Peristaltic Pumps
- Piston Pumps
- Balances
- Vacuum Pumps
- Gas Flow Controllers
- Stirring Hotplates
- Pressure Sensors
- Conductivity Sensors
- Gas Flow Meters

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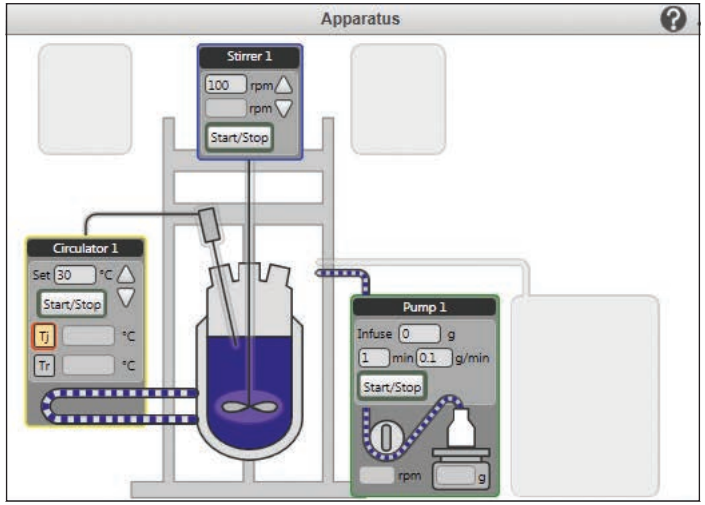
WATSON MARLOW Fluid Technology Solutions
KNAUER
KNF
TELEDYNE
SARTORIUS
OHAUS
VACUUBRAND
Knick
and more...

Configure your reactor

Link devices for advanced control

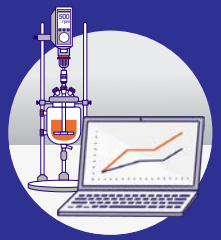


AVA PC Apparatus Window

Intuitive graphical interface to:

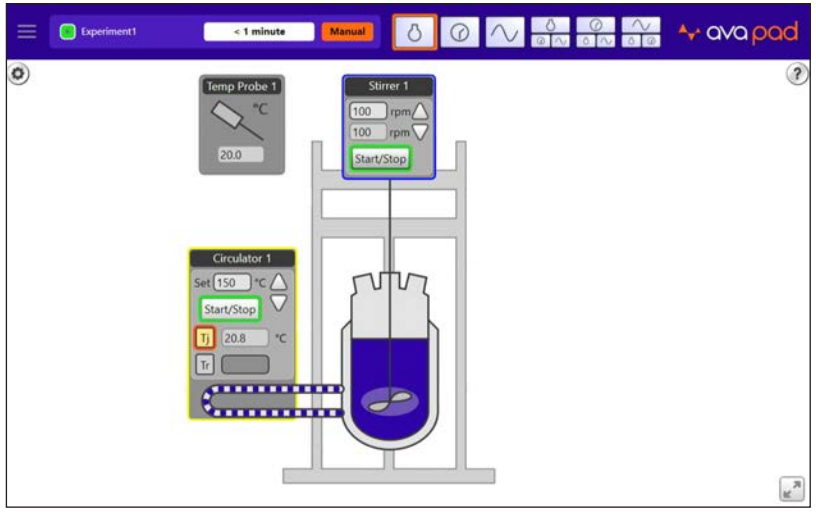
- Assign device location
- Set or modify parameters and individual safety limits
- Select and rename devices
- Link devices for dual control e.g. pump and balance for gravimetric additions
- Set global emergency safe conditions or reaction shut down

4. Control your reactor



Manual Control

Direct control with tracked changes



AVA Pad Apparatus Window

Full reactor control from the Apparatus Window

- Manually control with confidence thanks to continuous safety monitoring and alarms
- Make changes as you go
- AVA records what you do, as you do it

Schedule Control

Experiment profiles with ramps and timed actions

AVA Pad Schedule Window

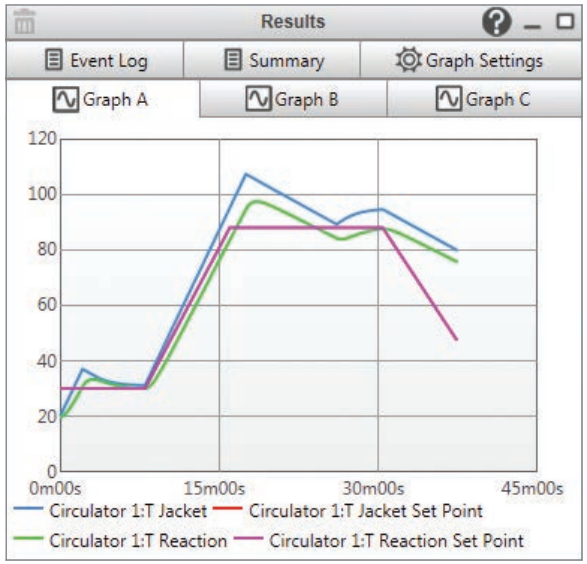
Automate your process from start to finish

- Create ramps, plateaus and timed actions
- Define step end conditions on multiple parameters
- Assign safety feedback loops to individual steps e.g. control addition by process temperature
- Modify, stop, pause or skip steps
- Add user prompts and add notes into the event log

5. Collect your data

View real-time graphs

Automated logging of all process parameters



AVA PC graph view

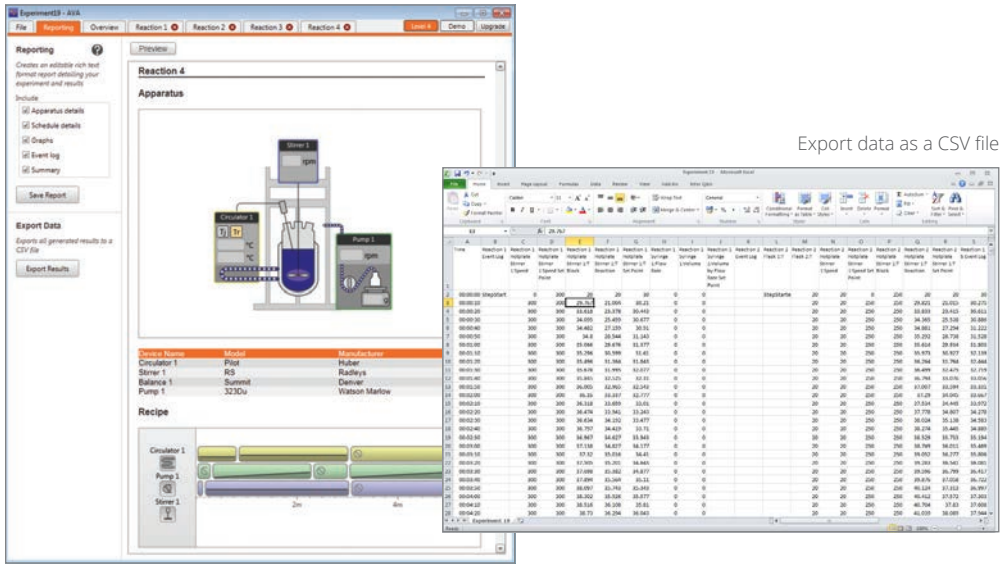
See your data clearly and easily

- Define what to display on the graph
- Zoom in to closer inspect
- All parameters are recorded even if not displayed
- View the event log and add comments

6. Share your results

Create reports

Detailed reports in just a few clicks



Export data as a CSV file

AVA PC report wizard

Report wizard makes sharing easy

- Choose which sections to include
- Save reports in a rich text format
- Export all data as a CSV file
- Share experiments with other AVA users

ava pad - Ordering Information

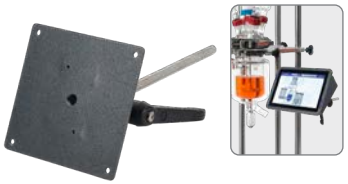
AVA Pad Reactor Controller

'Anytime' Upgrade

AVA Pad 'Anytime' Software Upgrade

	Compact 10" Touch Screen all-in-one Reactor Controller	Upgrade to the latest version of the AVA Pad Software
Cat No	RR20230	RR20235

Control Pad Benchtop Stand



Control Pad Support Rod

Boss head 15-25mm, 8-12mm

	To raise the Pad and provide adjustable viewing angle	To mount the pad directly on the reactor framework	Mounting boss for use with RR20512 Control Pad Support Rod
Cat No	RR20510	RR20512	RR20518

ava pc - Ordering Information

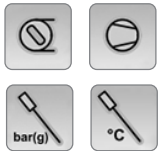
AVA PC Reaction Control Software Kit

AVA PC Reaction Control Software only

AVA Care Support

	AVA PC Reaction Control Software Kit	AVA PC Reaction Control Software only	AVA Care Support
	AVA PC Reaction Control Software, Laptop Controller, 4 Port Data Hub & 1 Year AVA Care Support	AVA PC Reaction Control Software with 1 Year AVA Care Support	AVA Care Support for PC Reaction Control Software - 1 Year
Cat No	**RR20308**	**RR20114**	**RR20144**

Driver Configuration Existing Category



Driver Configuration NEW Category

Laptop Controller

Data Hub 4-port

Ethernet Switch

Ethernet Cable

4-port USB Hub

	Driver Configuration Existing Category	Driver Configuration NEW Category	Laptop Controller	Data Hub 4-port	Ethernet Switch	Ethernet Cable	4-port USB Hub
	Driver Configuration Service - Existing Device Category	Driver Configuration Service - New Device Category	Laptop Controller	For the addition of more devices	To connect more than one Data Hub	Straight through 3 m	To connect more than one USB device
Cat No	**RR20217**	**RR20220**	**RR20250**	**RR20200**	**RR20454**	**RR20212**	**RR20458**

Software Automation Module - Ordering Information

pH Module

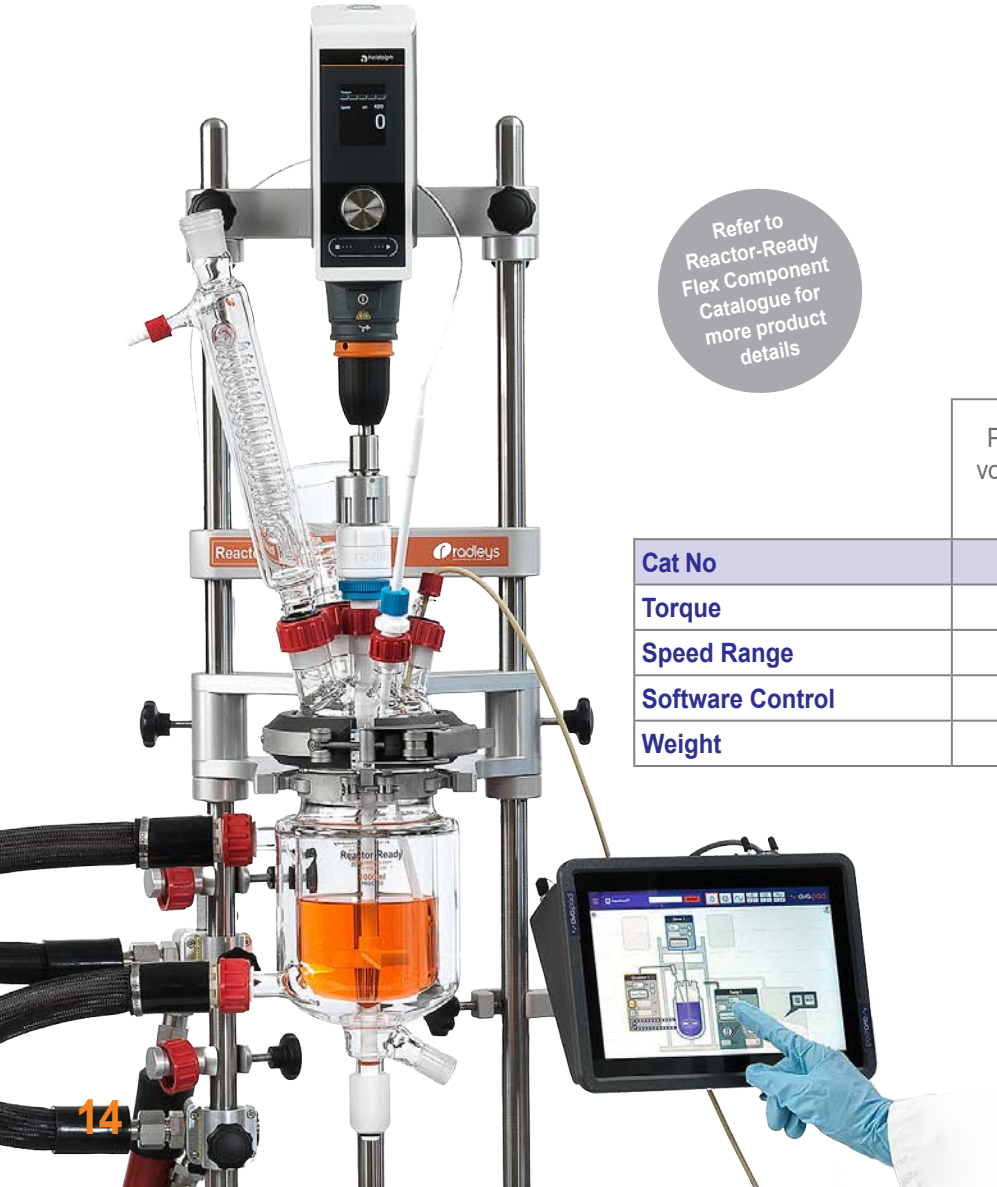
Syringe Pump Additions Module

Gravimetric Additions Module

Vacuum Pump Module

	For the monitoring and logging of pH. Can be used for pH control when combined with an additions module.	For controlled, automated liquid dosing (by volume). Ideal for smaller volumes.	For controlled, automated liquid dosing (by mass). Ideal for larger volumes or continuous additions.		For controlled, automated vacuum control. Optimise distillation and solvent removal automatically.
Cat No	**RR20502**	**RR20504**	**RR20500**	**Cat No**	**RR20506**
Dosing	pH control (acid or base dosing) possible with the addition of a syringe or peristaltic pump	0.1 µl - 60 ml	up to 5 L	**Chemical Resistance**	PTFE diaphragms, ETFE / carbon-fibre reinforced covers, FFKM valves, PTFE gas flow paths etc.
Flow Rate	n/a	up to 35 ml/min	up to 4000 ml/min	**Vacuum**	Ultimate vacuum - 2.0 mbar absolute
Continuous	n/a	No	Yes	**Pump Speed**	2.0 m^3/h
Includes	pH meter, cables and adapters (pH probe not included)	Syringe pump, tubing, cable, adapters	Peristaltic pump, balance, cables, tubing, adapters, bottle	**Includes**	Chemistry diaphragm pump, cables, vacuum hose, gas purge adapter
Safety	Safety feedback loops can be incorporated within the AVA software to minimise exotherms.				

Overhead Stirrer - Ordering Information



Refer to Reactor-Ready Flex Component Catalogue for more product details

	Hei-TORQUE Ultimate 200	Hei-TORQUE Ultimate 400	RS232 Data Cable
	Powerful stirring for a wide range of volumes and viscosities with software control and ramping options	Most powerful stirring for demanding applications with software control and ramping options	Hei-TORQUE RS232 Interface Cable - 9pin to 9pin
Cat No	**501-62020-00**	**501-64020-00**	**14-007-040-72**
Torque	200 Ncm	400 Ncm (2 gears)	n/a
Speed Range	10 - 2000 rpm	10 - 400 rpm and 20 - 2000 rpm	n/a
Software Control	Yes (RS232 and USB)	Yes (RS232 and USB)	n/a
Weight	5.1 kg	5.3 kg	n/a

A choice of popular PTFE stirrer paddles are available

Circulator - Ordering Information

Refer to Reactor-Ready Flex Component Catalogue for more product details

Huber CC-K6

Huber Ministat 230

Huber Ministat 240

Huber Petite Fleur

Huber Unistat Tango

RS232 Data Cable

	Compact open bath unit suitable for small vessels	Open bath unit with good heating and cooling capability	The most popular Ministat, powerful and compact temperature control for small to medium vessels	The smallest Unistat, rapid temperature control for medium sized vessels	Unistat with powerful heating and cooling, suitable for vessels up to 5 L	Huber Control Cable (3m) RS232 / PC
Cat No	**HB2008.0005.01**	**HB2015.0005.01**	**HB2016.0005.01**	**HB1030.0001.01**	**HB1000.0037.01**	**HB55018**
Temperature Range	-25 to +200 °C	-40 to +200 °C	-45 to +200 °C	-40 to +200 °C	-45 to +250 °C	n/a
Example Performance (Process Temperature)	1 L vessel: 20 °C to 150 °C in 38 min 150 °C to 20 °C in 117 min	500 ml vessel: 20 °C to -20 °C in ~ 30 min -20 °C to 150 °C in <30 min	2 L vessel: 100 °C to -20 °C in 95 min -20 °C to 100 °C in 40 min	1 L vessel: 20 °C to 150 °C, then cool to 0 °C in <120 min	2 L vessel: 20 °C to 180 °C, then cool to 20 °C in ~ 60 min	n/a
Heating capacity	1.6-2.1 kW	1.6-2.1 kW	1.8-2.1 kW	1.6-2 kW	3 kW (16 A power supply)	n/a
Cooling capacity	0.15 kW @ 0 °C	0.38 kW @ 0 °C	0.55 kW @ 0 °C	0.45 kW @ 0 °C	0.70 kW @ 0 °C	n/a
Connections	M16	M16	M16	M16	M24	n/a
Software Control	Yes (RS232 and USB)	Yes (RS232 and USB)	Yes (RS232 and USB)	Yes (RS232 and USB)	Yes (RS232 and USB)	n/a

Accelerating chemistry

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Chemistry equipment for safer, cleaner, greener and more productive chemical research.

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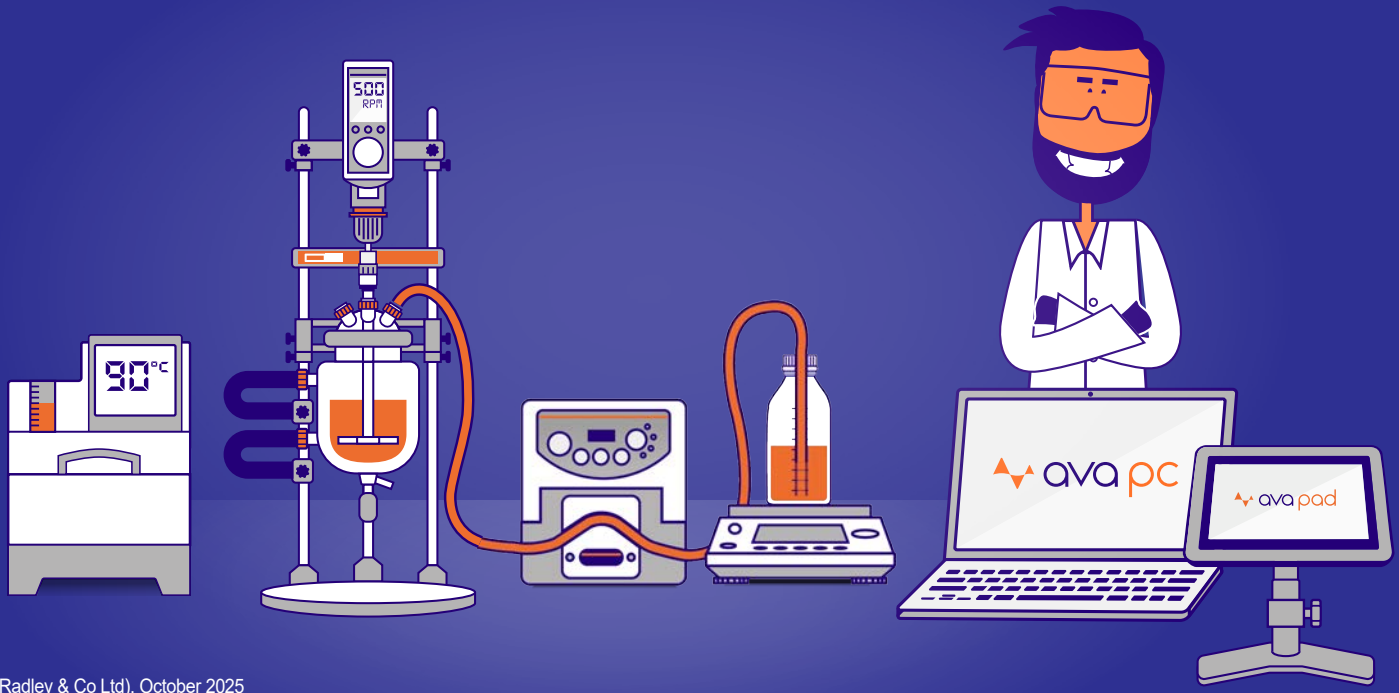

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