

CombiFlash[®]R_f

Automated Flash Chromatography Systems

- Medicinal Chemistry
- Natural Products
- Peptides & Polymers
- Organic Synthesis Purifications



Speed • Performance • Reliability

 **TELEDYNE ISCO**
A Teledyne Technologies Company

Improve Your Productivity With RFID Technology

Teledyne Isco's CombiFlash® Rf flash chromatography systems save time and increase sample security for chemists performing organic purifications. Method automation through the use of RFID technology reduces setup time and the potential for errors.

Easy-To-Use Software

Teledyne Isco's intuitive PeakTrak® software lets you access everything you need from a single screen.

Key features include:

- ◆ Real-time method control and method editing
- ◆ Click-and-drag gradients
- ◆ Control and monitor via touch screen, desktop, laptop, and remote access

Designed for Lab Safety

Safety features exceed regulatory requirements for CE and CSA.

Key safety features include:

- ◆ 100% grounded solvent flow path
- ◆ Vapor sensors for immediate leak detection
- ◆ Over-pressure sensors
- ◆ Rack verification through RFID so tubes are not missed or overfilled
- ◆ Waste level sensing prevents overfilling
- ◆ Air purge to leave columns dry for easy disposal
- ◆ Automatic end of run shut-down



1

Compact design saves valuable bench space. Optional Rf 4x Module can be added to provide 4 times the productivity in only 8.5 inches of space.

2

Large, bright touch screen 10.5" (26.7 cm) allows easy instrument use and programming with the touch of your finger.

3

Large fraction capacity (up to 216 fractions) for longer runs without changing racks. Fraction capacity is virtually unlimited with rack changes.

4

RFID technology - (Radio Frequency Identification) reduces setup time and the potential for errors.

- RediSep Rf columns
 - Column recognition provides quick method setup
 - Column usage history displayed for reusable columns
 - Recalls the last run on a column and continues where it was left off
- Rf racks
 - Rack recognition for accurately filled tubes
 - Recalls the last sample collected in rack



Multiple Rack Sizes

5

Easy networking provides remote monitoring and control of your purifications.

6

Easy scale-up with built-in method-scaling from mg to multigram. Saves time when increasing reaction size.

Flash Chromatography Easy



Choose the Flash Chromatography System



CombiFlash[®] Rf 200 psi

The CombiFlash Rf can be relied on to perform all types of flash chromatography purifications under normal and reversed phase conditions.

- ◆ 200 psi MPLC pressure capabilities for versatile use, including Reversed Phase
- ◆ Precision, high pressure binary gradient formation
- ◆ Automated, self-cleaning injection valve
- ◆ Rapid column air purge for safer disposal
- ◆ Active waste level-sensing prevents overflow conditions
- ◆ Active inlet level-sensing ensures adequate solvent for purification
- ◆ Quarternary solvent source with automated switching during the run
- ◆ UV and UV-Vis PDA detector options with all wavelength collection capability
- ◆ Scale up easily from mg to multigram purification with the click of a button
- ◆ External input for alternative detection technology



CombiFlash[®] Rf 4x 200 psi

The CombiFlash Rf 4x module, used together with the CombiFlash Rf system, offers walk-away automation, and up to four sequential purifications.

- ◆ Fully updated with Rf 200 capabilities
- ◆ Deliver four times the productivity in only 8.5 inches of additional bench space
- ◆ Load and program new runs without interrupting purifications in progress
- ◆ Swap racks for unlimited fraction capacity






CombiFlash[®] Rf 75 psi

This system provides basic flash chromatography needs with the same, simple design of the CombiFlash Rf.

- ◆ Upgrades available:
 - Variable, dual UV wavelength with all wavelength capability
 - 4-solvent selection valve
 - 4-port manual injection valve

System Best Suited to Meet Your Needs

System Selection Chart

	CombiFlash Rf - 200 psi		CombiFlash Rf - 75 psi
			
Part Number	68-5230-006	68-5230-008	68-5230-007
Add on 4x Module	68-5237-046		Not Available
Sample Sizes	4 mg - 33g		
Column Sizes	4g to 330g; up to 3 kg with adapters		
Pumping System	5-200 mL/min delivered flow rate, up to 200 psi		10-100 mL/min, up to 75 psi
Detection	200-360 nm dual-wavelength	200-780 nm dual-wavelength	254 nm fixed wavelength*
Programmable Gradients	Linear, step, isocratic		
Gradients	Four solvent, binary		Two solvent,* binary
Gradient Accuracy	Accuracy: <1% full scale		Better than 5% full scale; select
Sample Injection	Automated, self-cleaning valve		Direct*
Controller	10.5" touchscreen (26.7 cm)		
Software	On-screen method development with PeakTrak® software		
Fraction Collection	Internal fraction collector		
Solvent Management	Level sensing for inlets and waste container		None
Dimensions	24" H x 14.1" W x 17" D; with 4x module: 22.6" W		24" H x 14.1" W x 17" D

* Upgrades available. Contact the factory for details.

CombiFlash® Rf & RediSep® Rf - A Powerful Combination

Fast & Reliable Separations

CombiFlash Rf systems work best with RediSep Rf columns, 4g to 330g. Method automation through the use of RFID technology reduces setup time and the potential for errors. RFID allows communication between the system and column to maximize performance.

RediSep Rf columns are available in a wide variety of media including silica gel, C18, Amine, Cyano, Diol, SAX, SCX, and Alumina.

Our newest columns, RediSep Rf Gold® columns, are available in silica gel, C18, C18Aq, Amine, Cyano or Diol.



RediSep Rf Gold® High Performance Columns

RediSep Rf Gold columns provide faster purifications with higher resolution. By using 20-40 µm spherical media, you get superior performance without the excessive back pressure of typical irregular media.



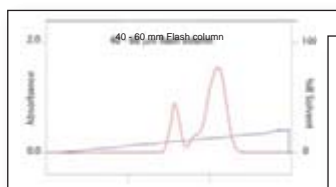
You can choose to run RediSep Rf Gold high performance columns for maximum resolution or maximum speed.

Gold Resolution $\Delta Rf \leq 0.1$

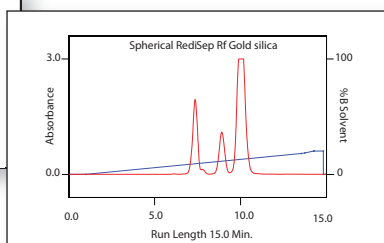
- ◆ Purify isomers and minor components
- ◆ Provide near Prep HPLC separations with C18

Gold Speed $\Delta Rf > 0.1$

- ◆ Save 30% in time and solvent costs
- ◆ Utilize RediSep Rf Gold's superior speed with optimized methods
- ◆ Reduce evaporation time by 2/3 by collecting in fewer tubes



Application Note #70
"Higher Resolution Results with RediSep Rf Gold Silica Columns"



Find out more about RediSep Rf Gold columns, by visiting our Liquid Chromatography Application Note library at www.isco.com/lcappnotes.

CombiFlash® Rf Accessories

Teledyne Isco provides a wide range of media for use with flash chromatography systems. RediSep media includes columns, TLC plates, cartridges and bulk media - designed to help you perform purifications as quickly and reliably as possible.

RediSep Rf Columns

RediSep Rf columns are precision-packed for high resolution and reproducibility, featuring an easy luer design with no adapters, valves, barrels, or other accessories. Scale up easily from mg to hundreds of grams.

RediSep TLC Plates

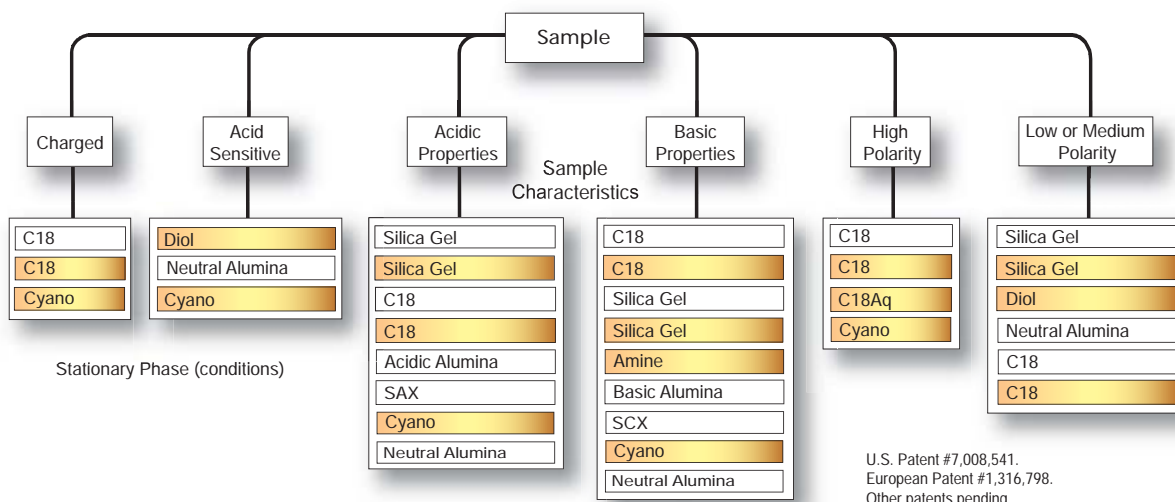
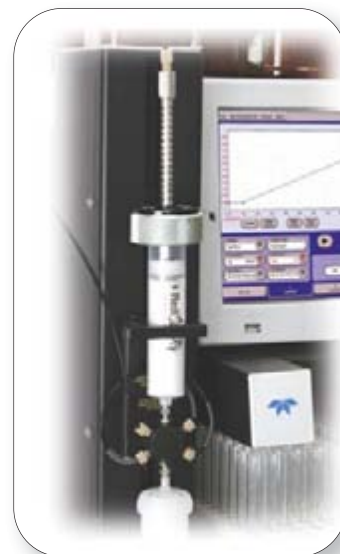
RediSep glass-backed TLC plates match the media used in RediSep Rf columns. Available in silica, C18, Amine, and Alumina.

Solid Load Cartridges

Easily introduce your low solubility samples with the right amount of silica using our solid load cartridges. Cartridges allow complete automation from equilibration to separation. They also eliminate gradient changes due to high polar loading solvents.

RediSep Bulk Silica

RediSep quality silica is available in bulk. 450 g, 950 g and 25 kg quantities are available.



U.S. Patent #7,008,541.
European Patent #1,316,798.
Other patents pending.

40 - 60 µm irregular media RediSep Rf columns.
 20 - 40 µm spherical media RediSep Rf Gold™ high performance columns.

CombiFlash® Rf Ordering Information

CombiFlash Rf Automated Flash Chromatography Systems

Integrated single-channel systems include PeakTrak® software control via 10.5" Touchscreen or remote. The Rf systems' standard options include one set of two collection racks for (140) 18 x 150mm test tubes, a 25g Adjustable Solid Load Cartridge Cap and necessary plumbing. 234V Rf systems ship with a set of two Rf collection racks for (150) 16 x 150mm test tubes. Substitutions for racks and Solid Load Cartridge Caps, excluding 65g, must be specified on purchase order.

CombiFlash Rf 200 Systems

CombiFlash Rf 200 System with UV variable, dual wavelength detection, 200-360nm	68-5230-006
CombiFlash Rf 200 System with UV-Vis variable, dual wavelength detection, 200-780nm	68-5230-008
External detector interface kit, includes flow splitter and detector connect cable	68-5237-063

CombiFlash Rf 4x Module

Space-saving modular addition to the Rf 200 system	68-5237-046
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CombiFlash Rf 75 System	68-5230-007
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Upgrades

Variable wavelength UV detection upgrade for CombiFlash Rf 75	60-5237-059
4-solvent selection valve upgrade package for CombiFlash Rf 75	60-5237-065
4-port manual injection valve upgrade package for CombiFlash Rf 75	60-5237-064

CombiFlash Rf Racks

13 x 100mm tube racks, qty. 2, 108 tubes/rack	60-5237-013
16 x 100mm tube racks, qty. 2, 75 tubes/rack	60-5237-061
16 x 125mm tube racks, qty. 2, 75 tubes/rack	60-5237-031
16 x 150/160mm tube racks, qty. 2, 75 tubes/rack	60-5237-032
18 x 150mm tube racks, qty. 2, 70 tubes/rack	60-5237-033
18 x 180mm tube racks, qty. 2, 70 tubes/rack	60-5237-034
25 x 150mm tube racks, qty. 2, 30 tubes/rack	60-5237-035
480ml French square bottle rack, qty. 1, 12 bottles	60-5237-040
Scintillation vial racks, qty. 2, 20 mL, (28 x 61 mm), 27 vials/rack	60-5394-469
Scintillation vial racks, qty. 2, 40 mL, (28 x 95 mm), 30 vials/rack	60-5394-468

Adjustable Solid Load Cartridge Caps (SLCC) - for 200 psi performance

5g SLCC. Includes one loading rod	60-5237-047
25g SLCC. Includes one loading rod	60-5237-048
65g SLCC. Includes one loading rod	60-5237-044

Contact the factory for a complete list of RediSep consummable products.



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CombiFlash® Rf

For complete information about our Flash chromatography systems and media, visit our web site @ www.isco.com/lc.