

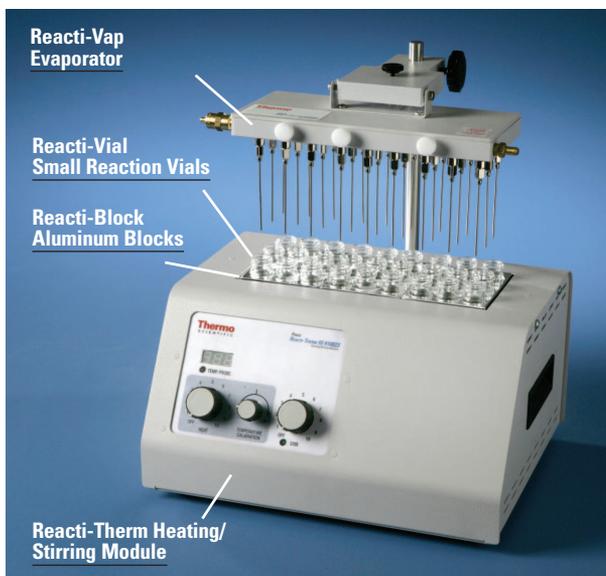


Thermo Scientific
Heating, Stirring & Evaporation Systems

- Heating and Stirring Modules
- Evaporation Systems
- Vials and Accessories

Thermo Scientific Products for Heating/Stirring/Evaporation





Note: Reacti-Therm Units are NOT supplied with a Reacti-Vap and Reacti-Blocks. These items must be purchased separately

Reacti-Therm™ Dry Block Sample Incubation System

Featuring our exclusive Reacti-Therm Modules for dry block heating – and no sample contamination!

The Thermo Scientific Reacti-Therm System delivers uniform dry heat with unmatched convenience and versatility. The dry heat prevents many of the problems associated with water baths, including sample contamination.

Reacti-Therm Modules are easy-to-use, constant-temperature heaters that are ideal for your routine incubations. They also provide constant temperature control for samples held in Thermo Scientific Reacti-Vial Small Reaction Vials, as well as for samples in test tubes, microcentrifuge tubes and other small containers. Most applications that require heating, stirring or evaporation of small samples would benefit from the convenience and efficiency of Reacti-Therm Modules. These applications include:

- Sample incubation
- Sample evaporation
- Protein hydrolysis
- Small-scale reactions
- Vacuum hydrolysis for amino acid analysis
- Derivatization reactions for HPLC and GC

Our Reacti-Therm Modules transfer heat through an aluminum alloy block. They hold a wide variety of interchangeable Thermo Scientific Reacti-Block Aluminum Blocks (page 3-4). Choose from four module designs to meet your exact incubation needs.

Reacti-Therm Heating Modules and Reacti-Therm Heating/Stirring Modules – now quicker than ever!

Reacti-Therm Heating Modules feature a solid state electronic control. This highly efficient control system allows faster and easier temperature settings.

Dual Volt Modules

Product #	Description	Pkg. Size
TS-18820	Reacti-Probe Remote Temperature Probe	1 unit
TS-18821	Reacti-Therm Heating/Stirring Module (Single Block)	1 unit
TS-18822	Reacti-Therm Heating Module (Single Block)	1 unit
TS-18823	Reacti-Therm Heating/Stirring Module (Triple Block)	1 unit
TS-18824	Reacti-Therm III Heating Module (Triple Block)	1 unit
TS-18825	Reacti-Vap Evaporator	1 unit
TS-18826	Reacti-Vap Evaporator	1 unit

Underwriters Laboratories, Inc. Listed

Note: Our Reacti-Therm Modules bear a CE marking for meeting the requirements of the European Union's Low-Voltage and EMC Directives.

Reacti-Vap Evaporators

Sample evaporation made easy!



Thermo Scientific Reacti-Vap Evaporator (9-port) and Reacti-Vap III Evaporator (27-port).

Thermo Scientific Reacti-Vap Evaporators are precision-machined gassing manifolds. They provide simple, efficient evaporation by allowing the simultaneous or separate delivery of nonreactive pressurized gas to samples.

The Reacti-Vap III Evaporator triples the number of samples you can evaporate. Nine needles attach to each of the three individually regulated chambers. The evaporating head tilts back for easy needle attachment and removal.

The standard Reacti-Vap Evaporator attaches easily to single-block Reacti-Therm Modules. The Reacti-Vap III unit attaches easily to Reacti-Therm III Modules.

Ordering Information

Product #	Description
TS-18825	Reacti-Vap Evaporator (9-port) For use with Reacti-Therm Single Block Modules; TS-18822 and TS-18821, Includes 9 needles and plugs
TS-18826	Reacti-Vap III Evaporator (27-port) For use with Reacti-Therm III Modules; TS-18823 and TS-18824, Includes 27 needles and plugs

Reacti-Vap Standard and Teflon Coated Needles

Reduce cross-contamination and corrosion.



Thermo Scientific Reacti-Vap Teflon Coated Needles are made exclusively for use in Reacti-Vap Evaporators. They are blunt-ended, 19-gauge, stainless steel needles that reduce cross-contamination and corrosion when evaporating solvents that contain strong acids.

Each Reacti-Vap Needle has a Luer-Lok® hub for leak-proof attachment to Reacti-Vap Evaporators. Needles are available in 4- and 6-inch lengths.

Ordering Information

Product #	Description	Pkg. Size
TS-18782	Reacti-Vap Replacement Tube Kit 2.5 inch (64 mm)	Pkg. of 9 and plugs
TS-18784	Reacti-Vap Teflon Coated Needles 4-inch (102 mm) x 19 gauge	Pkg. of 9
TS-18786	Reacti-Vap Teflon Coated Needles 6-inch (152 mm) x 19 gauge	Pkg. of 9

Reacti-Vap Replacement Parts

Ordering Information

Product #	Description	Pkg. Size
TS-18827	Replacement Luer-Lok Fitting	Pkg. of 1
TS-18828	Replacement Screws for Mounting Bracket	Pkg. of 4
TS-18829	Replacement Height Adjustment Knob	Pkg. of 1
TS-18830	Replacement Mounting Bracket	Pkg. of 1
TS-18831	Replacement Metal Rod	Pkg. of 1
TS-18832	Replacement Dial for Flow Control	Pkg. of 1
TS-18833	Replacement Long Screws for Mounting Bracket	Pkg. of 4

Reacti-Therm Thermometers

Teflon-coated, designed specifically for dry incubations.

Ordering Information

Product #	Description
TS-18914	Reacti-Therm Thermometer, Mercury-free (0-100°C)
TS-18915	Reacti-Therm Thermometer, Mercury-free (0-200°C)

Reacti-Block Aluminum Blocks

There is one that is right for your sample needs!



Thermo Scientific Reacti-Block Aluminum Blocks are available with many hole configurations, machine-drilled to accommodate almost any size Reacti-Vial Small Reaction Vial (page 5), test tube or microcentrifuge tube. These highly efficient

units are constructed of an aluminum alloy for optimal thermal conductivity. To ensure proper heat transference, be sure to have a close block-to-sample container fit.

Each Reacti-Block Aluminum Block contains a thermometer well 7.1 mm dia. x 36.5 mm deep (excluding blank block J and K). Block dimensions are 9.4 cm long x 7.5 cm wide x 5.1 cm tall for all blocks except F, G, J and M which are 9.4 cm long x 7.5 cm wide x 7.6 cm tall.

The following Reacti-Block Aluminum Blocks can be used with all Reacti-Therm Modules including those equipped with Reacti-Vap Evaporators. Blocks B-1 and T-1 are specifically designed for use with Reacti-Vap Units.

To complete your Reacti-Therm System Order:

1. Reacti-Therm Module
2. Reacti-Block Aluminum Block(s)
3. Reacti-Therm Thermometer
4. Reacti-Vap Evaporator

Ordering Information

Product #		Description
TS-18801		Reacti-Block A-1 Holds 13 x 0.3 ml or 1 ml Reacti-Vials™; 13 holes/14 mm dia. x 23 mm deep
TS-18802		Reacti-Block B-1 Holds 9 x 3 ml or 5 ml Reacti-Vials; 9 holes/21 mm dia. x 32 mm deep
TS-18803		Reacti-Block C-1 Holds 13 x 3.5 ml Screw Cap Septum Vials; 13 holes/15 mm dia. x 34 mm deep
TS-18804		Reacti-Block Z-1 Holds 9 x 0.1mm Reacti-Vials; 9 holes/12mm dia. x 21mm deep
TS-18811		Reacti-Block M-1 Holds 6 x 27.5 ml Reacti-Vials; 6 holes/28.5 mm dia. x 70 mm deep
TS-18816		Reacti-Block S-1 Holds 13 x 13 mm dia. Test Tubes; 13 holes/14 mm dia. x 45 mm deep
TS-18817		Reacti-Block T-1 Holds 9 x 16 mm dia. Test Tubes; 9 holes/17 mm dia. x 45 mm deep
TS-18818		Reacti-Block U-1 Holds 8 x 20 mm dia. Test Tubes; 8 holes/21 mm dia. x 45 mm deep
TS-18819		Reacti-Block V-1 Holds 17 Microcentrifuge Test Tubes; 17 holes/11 mm dia. x 45 mm deep

Reacti-Block Aluminum Blocks (continued)

The Reacti-Block Aluminum Blocks featured below are designed to be used exclusively with the Reacti-Therm Modules. The hole patterns do not match the needle configuration of Reacti-Vap Evaporators.

Ordering Information		
Product #		Description
TS-18806		Reacti-Block F Holds 8 x 6 ml Vacuum Hydrolysis Tubes; 8 holes/10 mm dia. x 64 mm deep
TS-18807		Reacti-Block G Holds 4 x 18 ml Vacuum Hydrolysis Tubes; 4 holes/19 mm dia. x 64 mm deep
TS-18809		Reacti-Block J Blank/no holes (for custom drilling) 7.6 cm tall
TS-18810		Reacti-Block K Blank/no holes (for custom drilling) 5.1 cm tall
TS-18812		Reacti-Block L Holds 16 x 0.1 ml Reacti-Vials; 16 holes/12 mm dia. x 21 mm deep

Reacti-Vial Magnetic Stirrers

Offer faster reaction times with smooth mixing of small samples.



Mounted on a triangular matrix, these small Teflon-coated stirring bars fit the cone portion of 0.3, 1.0, 3.0, 5.0 and 10.0 ml Thermo Scientific Reacti-Vial Small Reaction Vials. For more information on Reacti-Vial Small Reaction Vials, see page 5.

Ordering Information

Product #	Description	Pkg. Size
TS-16000	Reacti-Vial Magnetic Stirrers For use with 3.0, 5.0 and 10 ml Reacti-Vial Small Reaction Vials	Pkg. of 6
TS-16010	Reacti-Vial Magnetic Stirrers For use with 0.3 and 1.0 ml Reacti-Vial Small Reaction Vials	Pkg. of 6

When used with Thermo Scientific Reacti-Therm Heating/Stirring Modules, these efficient stirrers provide:

- Faster reaction times with smooth, efficient mixing of small reaction samples
- Solubilization of sticky concentrated residues such as those found on evaporation of sugar solutions
- Increased speed-of-surface reactions by keeping insoluble reactants in suspension

Reacti-Vial Small Reaction Vials

Make small-sample handling easy and convenient.



Ideal for:

- Residue isolation
- Derivative preparation
- Maximum sample retrieval
- Moisture protection
- Sample storage

Thermo Scientific Reacti-Vial Small Reaction Vials have an internal cone designed to make small-sample collection and handling easy and convenient. The cone feature is particularly useful for removing small quantities of sample with a syringe, even into the microliter range. The extra thick glass wall magnifies the sample, making these units ideal for observing chemical reactions. Reacti-Vial Small Reaction Vials can be used for derivatization, isolation and purification. You can also use Reacti-Vial Small Reaction Vials for precipitations, centrifugations and solvent separations.

Our amber Reacti-Vial Small Reaction Vials are manufactured from amber glass, and are amber throughout. These amber vials assure that your light-sensitive compounds are well protected. All Reacti-Vial Small Reaction Vials are supplied complete with Open-Top Screw Caps and Teflon/Rubber Laminated Discs (other discs can be ordered separately, see optional accessories below).

Reacti-Vial Small Reaction Vials

Size	Dimensions (Diam. x Height) (mm ± 1mm)	Inside Diameter (mm)	Thread Style	Clear	Amber
				Pkg. of 12	Pkg. of 12
				Product #	Product #
100 µl	12 x 32	8	425-8	TS-13100	
0.3 ml	13 x 32	11	425-13	TS-13220	
1.0 ml	13 x 45	11	425-13	TS-13221	TS-13097
3.0 ml	20 x 47	18	425-20	TS-13222	
5.0 ml	20 x 60	18	425-20	TS-13223	TS-13099
10.0 ml	25 x 69	22	425-24	TS-13225	

Optional Accessories

Vial Size	Teflon/ Silicone Discs	Rubber Laminated Discs	Open-Top Screw Caps	Miniert Valves	Reacti-Vial Magnetic Stirrers
	Pkg. of 72	Pkg. of 72	Pkg. of 72	Pkg. of 72	Pkg. of 6
	Product #	Product #	Product #	Product #	Product #
100 µl	TS-12708		TS-13208		
0.3 ml	TS-12712	TS-12412	TS-13215		TS-16010
1.0 ml	TS-12712	TS-12412	TS-13215		TS-16010
3.0 ml	TS-12718	TS-12418	TS-13218	TS-10135	TS-16000
5.0 ml	TS-12718	TS-12418	TS-13218	TS-10135	TS-16000
10.0 ml	TS-12722	TS-12422	TS-13219	TS-10130	TS-16000

*For more information about discs and Mininert™ Valves, see page 7, 8.

*For more information about Reacti-Vial Magnetic Stirrers, see page 4.

Screw Cap Septum Vials

Autoclavable, borosilicate glass available in clear or amber.



- Sample collection – the 40 ml clear or amber vial with a Thermo Scientific Disc is suitable for discrete water sampling under EPA 40 CFR Parts 136 and 141
- Automated GCs and LCs – the 1.5 ml clear and amber vials fit autosamplers using standard 12 x 32 mm vials
- Heavy-duty, flip-top divider box provides easy access to vials; caps and septa and offers a convenient sample storage center

Thermo Scientific Screw Cap Septum Vials are supplied complete with Open-Top Screw Caps.

For economy, convenience and versatility in a vial and closure system, our Screw Cap Septum Vials are your best choice. A wide assortment of special closures and accessories make this system perfect for:

- Storage of reagents and standards under complete seal with instant syringe access
- Small derivatization reactions

Screw Cap Septum Vials

Size	Dimensions (Diam. x Height) (mm ± 1mm)	Inside Diameter (mm)	Thread Style	Clear	Amber
				Pkg. of 12	Pkg. of 12
				Product #	Product #
1.5 ml	12 x 32	8	425-8		TS-13080
3.5 ml	15 x 45	12	425-13	TS-13019	
7.0 ml	17 x 60	13	425-15	TS-13028	
14.0 ml	21 x 70	16	425-18	TS-13043	

Optional Accessories

Vial Size	Teflon/ Silicone Discs	Teflon/ Rubber Laminated Discs	Mininert Valves	Open-Top Screw Caps
	Pkg. of 72	Pkg. of 72	Pkg. of 72	Pkg. of 72
	Product #	Product #	Product #	Product #
1.5 ml	TS-12708			TS-13208
3.5 ml	TS-12712	TS-12412		TS-13215
7.0 ml	TS-12713			TS-13216
14.0 ml	TS-12716			TS-13217
40.0 ml	TS-12722	TS-12422	TS-10130	TS-13218

For more information about discs and Mininert Valves, see page 7, 8.

Teflon/Silicone Discs

Unique discs that combine the inertness of a Teflon coating with the resealability of silicone.



Autoclavable Thermo Scientific Teflon/Silicone Discs are specifically designed to combine the resealability of silicone with the inertness of a Teflon coating. Many sizes are available to fit our Hypo-Vial and Reacti-Vial Screw Cap.

Structurally bonded (not cemented) Teflon coating to silicone. No cement to be leached or baked out of your sample after needle penetration.

Highlights:

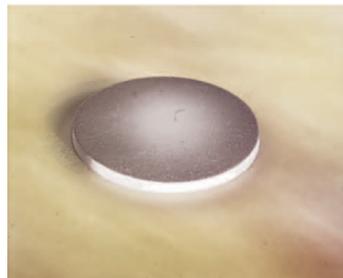
- Reseals instantly puncture after puncture
- Compresses, giving it a “lock-washer” effect in maintaining a tight seal, and forces the Teflon coating to conform to the sealing surface
- No bent needles from a septum that is too hard; standard syringe and CC needles penetrate the entire disc with ease
- Protection of Teflon coating: The Teflon layer is a full 10 mils thick

Thermo Scientific Teflon/Silicone Discs (pkg. of 72)

Product #	Silicone Thickness (mils)	Teflon Thickness (mils)	Fits These Containers
TS-12708	75	10	100 µl Reacti-Vial Small Reaction Vials 1.5 ml; Screw Cap Septum Vials
TS-12712	90	10	0.3 and 1.0 ml Reacti-Vial Small Reaction Vials 3.5 ml Screw Cap Septum Vials
TS-12713	90	10	7 ml Screw Cap Septum Vials
TS-12716	90	10	14 ml Screw Cap Septum Vials
TS-12718	90	10	3 and 5 ml Reacti-Vial Small Reaction Vials
TS-12720	125	10	6-125 ml Hypo-Vial Sample Storage Vials
TS-12722	90	10	25 and 40 ml Screw Cap Septum Vials 10 ml Reacti-Vial Small Reaction Vials

Teflon/Rubber Laminated Discs

For a highly inert and nonreactive seal.



Thermo Scientific Teflon/Rubber Laminated Discs are constructed of white pharmaceutical rubber with 5 mils of Teflon coating bonded to one side. Total thickness of the disc is approximately 60 mils. The discs are excellent for use as cap liners when a highly inert nonreactive seal is desired.

Our rigid Teflon/Rubber Laminated Discs are more difficult to puncture than Teflon/Silicone Discs. Consequently, care must be taken when puncturing these discs to avoid bending the needle.

Our Teflon/Rubber Laminated Discs are auto-clavable and demonstrate no loss of integrity after heating above 100°C for 5 hours.

Thermo Scientific Teflon/Rubber Laminated Discs (pkg. of 72)

Product #	Size	Fits These Containers
TS-12412	12 mm	0.3 and 1.0 ml Reacti-Vial Small Reaction Vials, 3.5 ml Screw Cap Septum Vials
TS-12418	18 mm	3 and 5 ml Reacti-Vial Small Reaction Vials
TS-12422	22 mm	25 and 40 ml Screw Cap Septum Vials

Mininert Valves

Ideal for chemicals that deteriorate or evaporate in conventionally sealed containers.



They're easy to use. Push the green button to open, insert syringe needle and take sample, withdraw needle, then push red button to close. To change needle-seal septa, simply push the old septum out with a 1/8" diameter rod and push a new cylinder septum in. This is done with the valve closed to prevent exposure of contents.

Thermo Scientific Mininert Push-button Valves are highly dependable leak-tight closures for Screw Cap Septum Vials and other laboratory containers. Constructed of chemical-resistant Teflon coating, the valves provide an inert, high-pressure seal.

Mininert Valves are a superior replacement for rubber septum stoppers and ordinary screw caps. You can easily access the contents by inserting a syringe needle. A rubber gasket above the Teflon coating valve stem provides a seal for the needle when the valve is open. The seal prevents leakage and exposure of the contents during sampling.

Mininert Valves are unique and practical seals for these containers:

- Screw Cap Septum Vials
- Thermo Scientific Hypo-Vial Sample Storage Vials
- Thermo Scientific Reacti-Vial Small Reaction Vials

Ordering Information

Product #	Description	Fits these Containers	Size	Pkg. Size
TS-10135	Mininert Valves	3 and 5 ml Reacti-Vial Small Reaction Vials	20 mm	12/pkg
TS-10130	Mininert Valves	40 ml Screw Cap Septum Vials	27 mm	12/pkg

Disc and Septa Compatibility Guide

Closure Type	Resealability	Recommended For Use With	Not Recommended For Use With
Teflon/Silicone Discs	Excellent	DMF, DMSO, organic solvents, pyridine, THF and silylation reactions	Strong corrosives, such as chlorosilanes
Teflon/Rubber Laminated Discs	Poor	Corrosives such as chlorosilanes, DMF, DMSO, organic solvents, pyridine and THF	Trifluoroacetic anhydride

Vacuum Hydrolysis Tubes

For fast, effective protein and peptide hydrolysis

- The upper temperature limit of the Vacuum Hydrolysis Tubes is 260°C; however, do not heat the tubes greater than 100°C in an oven
- Vacuum Hydrolysis Tubes fit conveniently into Reacti-Block Aluminium Heating Blocks

Ordering Information

Product #	Description	Fits these Containers	Size	Pkg. Size
TS-29570	Vacuum Hydrolysis	Tube	1mL	1 Each
TS-29571	Vacuum Hydrolysis	Tube	6mL	1 Each
TS-29572	Vacuum Hydrolysis	Tube	18mL	1 Each

Redefine your expectations

- High temperature stability
- Low bleed
- Superior inertness
- Improved reproducibility

TraceGOLD GC Columns



www.thermoscientific.com/tracegold

Resources

for Chromatographers

Thermo Scientific Chromatography Columns and Consumables Catalog

This extensive catalog offers 590 pages of proven chromatography tools and product selection guides. Available online, with a robust search tool and optimized for your iPad®.

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Chromatography Resource Center

Our web-based resource center provides technical support, applications, technical tips and literature to help move your separations forward.

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