Thermoconductive Tube Racks

Thermoconductive Tube Rack modules are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C).

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. They ensure +/-0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Thermoconductive Tube Rack for 6 Microcentrifuge Tubes (formerly CoolRack® M6)

BCS-163 | Thermoconductive Tube Rack for 6 Microcentrifuge Tubes (formerly CoolRack M6) | With Tubes

Thermoconductive Tube Racks for 6 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**

- Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
- Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 6 Microcentrifuge Tubes**
Dimensions (L x W x H)	6.0 x 4.3 x 3.8cm
Number of wells	6
Well dimensions (diam x depth)	11.1 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	1.5ml or 2.0ml microfuge tubes

Ordering Information

Use these part numbers to request a quote, a demo or to contact an expert:

Part number	**Description**
Thermoconductive Tube Rack for 6 Microcentrifuge Tubes For use with 1.5ml or 2.0ml microfuge tubes, 6 cylindrical wells	
BCS-163 **BUY ONLINE***	gray; 1 module
BCS-164 **BUY ONLINE***	green; 1 module
BCS-165 **BUY ONLINE***	orange; 1 module

**Online availability to US only*

Thermoconductive Tube Rack for 12 x 5ml Microcentrifuge Tubes (formerly CoolRack® XT 5ml)

BCS-539 | Thermoconductive Tube Rack for 12 x 5ml Microcentrifuge Tubes (formerly CoolRack XT 5ml) | With Tubes

Thermoconductive Tube Racks for 12 x 5ml Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- SBS footprint

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk

- All samples <4°C and uniform in temperature (+/- 0.1°C)
- Samples organized, secure and dry
- All tubes upright and indexed

- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 12 x 5ml Microcentrifuge Tubes**
Dimensions (L x W x H)	12.7 x 8.6 x 5.0cm
Number of wells	12
Well dimensions (diam x depth)	16.5 x 48.7mm

Well shape	conical
Row spacing	28.0mm
Column spacing	28.0mm
For use with	5.0ml centrifuge tubes

Ordering Information

Use these part numbers to request a quote, a demo or to contact an expert:

Part number	**Description**
Thermoconductive Tube Rack for 12 x 5ml Microcentrifuge Tubes For use with 5.0ml centrifuge tubes, 12 conical wells	
BCS-539 **BUY ONLINE***	gray; 1 module

**Online availability to US only*

Thermoconductive Tube Rack for 15 Microcentrifuge Tubes (formerly CoolRack® M15)

Thermoconductive Tube Rack for 15 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**

- Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
- Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	Thermoconductive Tube Rack for 15 Microcentrifuge Tubes	Thermoconductive Tube Rack for 15 Microcentrifuge Tubes, Conical Wells
Dimensions (L x W x H)	10.2 x 6.4 x 3.8cm	
Number of wells	15	
Well dimensions (diam x depth)	11.1 x 32.7mm	11.1 x 35.3mm
Well shape	cylindrical	conical
Row spacing	17.8mm	
Column spacing	17.8mm	
For use with	1.5ml or 2.0ml microfuge tubes	1.5ml conical microfuge tubes

Ordering Information

Use these part numbers to request a quote, a demo or to contact an expert:

Part number	Description
Thermoconductive Tube Rack for 15 Microcentrifuge Tubes For use with 1.5ml or 2.0ml microfuge tubes, 15 cylindrical wells	
BCS-125 **BUY ONLINE***	gray; 1 module
BCS-125G **BUY ONLINE***	green; 1 module
BCS-125O **BUY ONLINE***	orange; 1 module

Thermoconductive Tube Rack for 15 Microcentrifuge Tubes, Conical Wells For use with 1.5ml microfuge tubes, 15 conical wells	
BCS-127 **BUY ONLINE***	orange; 1 module

**Online availability to US only*

Thermoconductive Tube Rack for 24 Microcentrifuge Tubes (formerly CoolRack® XT M24)

Thermoconductive Tube Racks for 24 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- SBS footprint

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)

- Samples organized, secure and dry
- All tubes upright and indexed

- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 24 Microcentrifuge Tubes**
Dimensions (L x W x H)	12.8 x 8.5 x 3.8cm
Number of wells	24
Well dimensions (diam x depth)	11.1 x 32.7mm

Well shape	cylindrical
Row spacing	19.40mm
Column spacing	19.40mm
For use with	1.5ml or 2.0ml microfuge tubes

Ordering Information

Use these part numbers to request a quote, a demo or to contact an expert:

Part number	**Description**
Thermoconductive Tube Rack for 24 Microcentrifuge Tubes For use with 1.5ml or 2.0ml microfuge tubes, 24 cylindrical wells	
BCS-535 **BUY ONLINE***	gray; 1 module

**Online availability to US only*

Thermoconductive Tube Rack for 30 Microcentrifuge Tubes (formerly CoolRack® M30)

Thermoconductive Tube Racks for 30 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**

- Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
- Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	Thermoconductive Tube Rack for 30 Microcentrifuge Tubes	Thermoconductive Tube Rack for 30 Microcentrifuge Tubes, Conical Wells
Dimensions (L x W x H)	12.0 x 10.2 x 3.8cm	
Number of wells	30	
Well dimensions (diam x depth)	11.1 x 32.7mm	11.1 x 35.0mm
Well shape	cylindrical	conical
Row spacing	17.8mm	
Column spacing	17.8mm	
For use with	1.5ml or 2.0ml microfuge tubes	1.5ml conical microfuge tubes

Thermoconductive Tube Rack for 30 Microcentrifuge Tubes, 500ul (formerly CoolRack® M30-PF 500ul)

Thermoconductive Tube Racks for 30 Microcentrifuge Tubes, 500ul are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing

- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 30 Microcentrifuge Tubes, 500ul**
Dimensions (L x W x H)	12.0 x 10.2 x 3.8cm
Number of wells	30
Well dimensions (diam x depth)	4.1 x 26.9mm
Well shape	conical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	500ul conical microfuge tubes

Thermoconductive Tube Rack for 90 Microcentrifuge Tubes (formerly CoolRack® M90)

Thermoconductive Tube Racks for 90 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing

- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 90 Microcentrifuge Tubes**
Dimensions (L x W x H)	26.8 x 11.2 x 3.8cm
Number of wells	90
Well dimensions (diam x depth)	11.1 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	1.5ml or 2.0ml microfuge tubes

Thermoconductive Tube Rack for 96 Microcentrifuge Tubes (formerly CoolRack® M96 ID)

Thermoconductive Tube Racks for 96 Microcentrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing

- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- Row and column indexing

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - A-H and 1-12 row and column indexing for easy sample identification
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 96 Microcentrifuge Tubes**
Dimensions (L x W x H)	25.4 x 15.2 x 3.8cm
Number of wells	96
Well dimensions (diam x depth)	11.1 x 31.75mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	1.5ml or 2.0ml microfuge tubes

Thermoconductive Tube Rack for 15 Cryo or FACS Tubes (formerly CoolRack® CF15)

Thermoconductive Tube Racks for 15 Cryo or FACS Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 15 Cryo or FACS Tubes**
Dimensions (L x W x H)	10.2 x 6.4 x 3.8cm
Number of wells	15
Well dimensions (diam x depth)	12.7 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	cryogenic vials or FACS tubes

Thermoconductive Tube Rack for 24 Cryo or FACS Tubes (formerly CoolRack® XT CFT24)

Thermoconductive Tube Racks for 24 Cryo or FACS Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- SBS footprint
- "Gripping" wells for one-hand vial opening/closing

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - "Gripping" wells for one-hand vial opening/closing
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 24 Cryo or FACS Tubes**
Dimensions (L x W x H)	12.8 x 8.5 x 3.8cm
Number of wells	24
Well dimensions (diam x depth)	12.7 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	cryogenic vials or FACS tubes

Thermoconductive Tube Rack for 30 Cryo or FACS Tubes (formerly CoolRack® CFT30)

Thermoconductive Tube Racks for 30 Cryo or FACS Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- "Gripping" wells for one-hand vial opening/closing

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - "Gripping" wells for one-hand vial opening/closing
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air

- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 30 Cryo or FACS Tubes**
Dimensions (L x W x H)	12.0 x 10.2 x 3.8cm
Number of wells	30
Well dimensions (diam x depth)	12.7 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	cryogenic vials or FACS tubes

Thermoconductive Tube Rack for 45 Cryo or FACS Tubes (formerly CoolRack® CF45)

Thermoconductive Tube Racks for 45 Cryo or FACS Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 45 Cryo or FACS Tubes**
Dimensions (L x W x H)	17.3 x 9.7 x 3.8cm
Number of wells	45
Well dimensions (diam x depth)	12.7 x 32.7mm
Well shape	cylindrical
Row spacing	17.8mm
Column spacing	17.8mm
For use with	cryogenic vials or FACS tubes

Thermoconductive Tube Rack for 96 x 0.5ml Barcoded Tubes (formerly CoolRack® 96x0.5ml)

Thermoconductive Tube Racks for 96 x 0.5ml Barcoded Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 96 x 0.5ml Barcoded Tubes**
Dimensions (L x W x H)	13.1 x 8.9 x 3.6cm
Number of wells	96
Well dimensions (diam x depth)	8.4 x 24.6mm
Well shape	cylindrical
Row spacing	9.0mm
Column spacing	9.0mm
For use with	0.5ml 2D storage tubes

Thermoconductive Tube Rack for 96 x 1ml Barcoded Tubes (formerly CoolRack® 96x1ml)

Thermoconductive Tube Racks for 96 x 1ml Barcoded Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 96 x 1ml Barcoded Tubes**
Dimensions (L x W x H)	13.2 x 8.9 x 3.6cm
Number of wells	96
Well dimensions (diam x depth)	8.3 x 32.7mm
Well shape	cylindrical
Row spacing	14.0mm
Column spacing	17.8mm
For use with	1.4ml 2D storage tubes

Thermoconductive Tube Rack for 96-Well PCR Plates (formerly CoolRack® XT PCR96)

Thermoconductive Tube Racks for 96-Well PCR Plates are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells of a microplate providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All wells upright and indexed
- Reproducible method
- SBS footprint

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air

- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 96-Well PCR Plates**
Dimensions (L x W x H)	12.7 x 8.6 x 2.5cm
Number of wells	96
Well depth	13.2mm
Well shape	tapered
Row spacing	9.0mm
Column spacing	9.0mm
For use with	one 96 well PCR plate, strip wells, tubes

Thermoconductive Tube Rack for 384-Well PCR Plates (formerly CoolRack® XT PCR384)

Thermoconductive Tube Racks for 384-Well PCR Plates are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells of a microplate providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All wells upright and indexed
- Reproducible method
- SBS footprint

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - Reproducible method
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*

- Vapor barrier protects from ambient air
- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 384-Well PCR Plates**
Dimensions (L x W x H)	12.7 x 8.6 x 1.9cm
Number of wells	384
Well depth	7.6mm
Well shape	tapered
Row spacing	4.5mm
Column spacing	4.5mm
For use with	one 384 well PCR plate

Thermoconductive Tube Rack for Microcentrifuge Tubes Plus Strip Wells (formerly CoolRack® XT M-PCR)

Thermoconductive Tube Racks for Microcentrifuge Tubes Plus Strip Wells are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all tubes or wells of a strip providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All wells upright and indexed
- Reproducible method
- SBS footprint

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

On dry ice

- Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
- Eliminates ethanol from snap freezing
- Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

In liquid nitrogen

- Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
- Vapor barrier protects from ambient air
- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**PCR tube strips**	**Microfuge tubes**
Dimensions (L x W x H)	12.7 x 8.6 x 3.8cm	
Number of wells	48	12
Well depth	13.2mm	32.7mm
Well shape	tapered	cylindrical
Row spacing	9.0mm	14.0mm
Column spacing	9.0mm	20.3mm
For use with	6 PCR tube strips	12 x 1.5 or 2.0ml microfuge tubes

Thermoconductive Tube Rack for 12 x 2ml Injectable Cell Therapy Ampules (formerly CoolRack® SV2)

Thermoconductive Tube Racks for 12 x 2ml Injectable Cell Therapy Ampules are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

On ice

- Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
- Samples and labels stay dry
- Hours of ice cooling without direct ice contact

On dry ice

- Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
- Eliminates ethanol from snap freezing
- Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

In liquid nitrogen

- Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
- Vapor barrier protects from ambient air
- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 12 x 2ml Injectable Cell Therapy Ampules**
Dimensions (L x W x H)	12.7 x 8.6 x 3.8cm
Number of wells	12
Well dimensions (diam x depth)	16.0 x 24.0mm
Well shape	cylindrical
Row spacing	27.0mm
Column spacing	30.0mm

For use with	2.0ml injectable cell therapy ampules

Thermoconductive Tube Rack for 12 x 10ml Injectable Cell Therapy Ampules (formerly CoolRack® SV10)

Thermoconductive Tube Racks for 12 x 10ml Injectable Cell Therapy Ampules are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

Regardless of temperatures source

- Samples stand upright and organized
- Reproducible method

On ice

- Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
- Samples and labels stay dry
- Hours of ice cooling without direct ice contact

On dry ice

- Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
- Eliminates ethanol from snap freezing
- Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

In liquid nitrogen

- Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
- Vapor barrier protects from ambient air
- No direct contact between samples and LN2

Heat sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

**Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 12 x 10ml Injectable Cell Therapy Ampules**
Dimensions (L x W x H)	12.7 x 8.6 x 3.8cm
Number of wells	12
Well dimensions (diam x depth)	23.6 x 27.9mm
Well shape	cylindrical
Row spacing	25.9mm

Column spacing	32.1mm
For use with	10.0ml injectable cell therapy ampules

Thermoconductive Tube Rack for 12 x 15ml Centrifuge Tubes, with Insulative Exterior (formerly CoolRack® L)

Thermoconductive Tube Racks for 12 x 15ml Centrifuge Tubes, with Insulative Exterior are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- Thermo-conductive base, insulating exterior

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)

- Samples organized, secure and dry
- All tubes upright and indexed
- Thermo-conductive base, insulating exterior

- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 12 x 15ml Centrifuge Tubes, with Insulative Exterior**
Dimensions (L x W x H)	13.7 x 9.5 x 11.8cm
Number of wells	12
Well dimensions (diam x depth)	17.5 x 105.4mm

Well shape	cylindrical
Row spacing	25.4mm
Column spacing	30.5mm
For use with	15.0ml centrifuge tubes

Thermoconductive Tube Rack for 9 x 15ml Centrifuge Tubes (formerly CoolRack® 15ml)

Thermoconductive Tube Racks for 9 x 15ml Centrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**

- Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
- All samples <4°C and uniform in temperature (+/- 0.1°C)
- Samples organized, secure and dry
- All tubes upright and indexed
- Thermo-conductive base, insulating exterior

- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 9 x 15ml Centrifuge Tubes**
Dimensions (L x W x H)	8.9 x 8.9 x 10.7cm
Number of wells	9

Well dimensions (diam x depth)	17.1 x 106.7mm
Well shape	cylindrical
Row spacing	26.7mm
Column spacing	26.7mm
For use with	15.0ml centrifuge tubes

Thermoconductive Tube Rack for 4 x 50ml Centrifuge Tubes (formerly CoolRack® 50ml)

Thermoconductive Tube Rack for 4 x 50ml Centrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - Thermo-conductive base, insulating exterior
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 4 x 50ml Centrifuge Tubes**
Dimensions (L x W x H)	8.9 x 8.9 x 10.7cm

Number of wells	4
Well dimensions (diam x depth)	29.5 x 101.6mm
Well shape	cylindrical
Row spacing	40.6mm
Column spacing	40.6mm
For use with	50.0ml centrifuge tubes

Thermoconductive Tube Rack for 1 x 250ml Centrifuge Tubes (formerly CoolRack® 250ml)

Thermoconductive Tube Racks for 1 x 250ml Centrifuge Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be

autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - Thermo-conductive base, insulating exterior
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 1 x 250ml Centrifuge Tubes**	**Thermoconductive Tube Rack for 1 x 250ml Centrifuge Tubes, Conical Well**

Dimensions (L x W x H)	8.9 x 8.9 x 7.2cm	8.9 x 8.9 x 14.0cm
Number of wells	1	1
Well dimensions (diam x depth)	73.6 x 66.5mm	60.4 x 133.3mm
Well shape	cylindrical	conical
For use with	250.0ml centrifuge tubes	250.0ml centrifuge tubes

Thermoconductive Tube Rack for 9 13 x 75mm Blood Tubes (formerly CoolRack® VS13)

Thermoconductive Tube Racks for 9 13 x 75mm Blood Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 9 13 x 75mm Blood Tubes**
Dimensions (L x W x H)	8.9 x 8.9 x 6.1cm

Number of wells	9
Well dimensions (diam x depth)	13.0 x 61.0mm
Well shape	cylindrical
Row spacing	26.7mm
Column spacing	26.7mm
For use with	13.0 x 75.0mm blood tubes

Thermoconductive Tube Rack for 9 13 x 100mm Blood Tubes (formerly CoolRack® V13)

Thermoconductive Tube Racks for 9 13 x 100mm Blood Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top

cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 9 13 x 100mm Blood Tubes**

Dimensions (L x W x H)	8.9 x 8.9 x 8.4cm
Number of wells	9
Well dimensions (diam x depth)	13.0 x 83.8mm
Well shape	cylindrical
Row spacing	26.7mm
Column spacing	26.7mm
For use with	13.0 x 100.0mm blood tubes, or 5.0ml cryogenic vials

Thermoconductive Tube Rack for 9 16 x 100mm Blood Tubes (formerly CoolRack® V16)

Thermoconductive Tube Racks for 9 16 x 100mm Blood Tubes are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources.

Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**
  - Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
  - Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	Thermoconductive Tube Rack for 9 16 x 100mm Blood Tubes
Dimensions (L x W x H)	8.9 x 8.9 x 8.4cm
Number of wells	9
Well dimensions (diam x depth)	16.0 x 83.8mm
Well shape	cylindrical
Row spacing	26.7mm
Column spacing	26.7mm
For use with	16.0 x 100.0mm blood tubes

Thermoconductive Tube Rack for 12 x 13mm or 16mm Blood Tubes, with Insulative Exterior (formerly CoolRack® LV)

Thermoconductive Tube Rack for 12 x 13mm or 16mm Blood Tubes, with Insulative Exterior are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material, designed to evenly distribute temperature across all wells providing uniform and consistent temperature to all samples (+/-0.1°C)

- Ideal for cooling, snap freezing, heating or thawing
- Helps keep samples organized and dry
- All tubes upright and indexed
- Reproducible method
- Thermo-conductive base, insulating exterior

Overview

Thermoconductive Tube Rack modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing.

Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

Key Features

- **Secure Sample Preparation**
  - Removes all problems created by placing sample directly in ice: variable sample temperature, wet labels, contamination risk
  - All samples <4°C and uniform in temperature (+/- 0.1°C)
  - Samples organized, secure and dry
  - All tubes upright and indexed
  - Thermo-conductive base, insulating exterior
- **Versatility & Performance**

  Regardless of temperatures source

  - Samples stand upright and organized
  - Reproducible method

  On ice

  - Adapts from ambient (25˚C) to <4˚C in 60-90 seconds*
  - Samples and labels stay dry
  - Hours of ice cooling without direct ice contact

  On dry ice

  - Adapts from ambient (25˚C) to -78˚C in approximately 5-7 minutes*
  - Eliminates ethanol from snap freezing
  - Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry

  In liquid nitrogen

  - Adapts from ambient (25˚C) to approximately -150˚C in approximately 12-14 minutes*
  - Vapor barrier protects from ambient air
  - No direct contact between samples and LN2

  Heat sources

  - Use with water baths, hot plates, incubators and other heat sources to keep samples warm

  **Average cooling rate from room temperature*

- **How it Works: Ease of Use**

- Thermoconductive Tube Rack on ice: heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN2) until equilibrium is reached
- Thermoconductive Tube Rack in water bath: heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached

Specifications

Parameter	**Thermoconductive Tube Rack for 12 x 13mm or 16mm Blood Tubes, with Insulative Exterior**
Dimensions (L x W x H)	13.7 x 9.5 x 9.6cm
Number of wells	12
Well dimensions (diam x depth)	16.6 x 83.3mm
Well shape	cylindrical
Row spacing	25.4mm
Column spacing	30.5mm
For use with	13.0mm or 16.0mm blood tubes

Thermoconductive Tube Module Sleeve

Colorful elastic sleeves for color-coding thermoconductive tube modules

- Compatible with ice, dry ice and water baths
- Four colors: purple, green, orange, pink

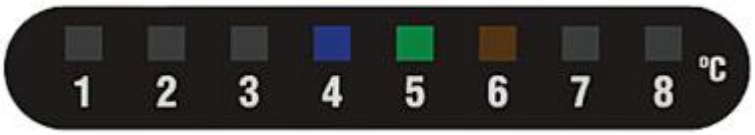
Overview

Colorful elastic sleeves brighten your lab and allow you to color-code your experiments, while providing a comfortable grip when handling cold, warm or wet Thermoconductive Tube Rack modules.

Key Features

- **Properties & Use**
  - For color-coding your experiments
  - Comfortable grip when handling cold, warm or wet Thermoconductive Tube Racks
  - Compatible with ice, dry ice and water baths
  - Four colors available: purple, green, orange, pink
- **Thermoconductive Tube Rack Compatibility**
  - All 15-well Thermoconductive Tube Rack modules
  - All 30-well Thermoconductive Tube Rack modules
  - Thermoconductive Tube Rack for 9 x 15mL Centrifuge Tubes
  - Thermoconductive Tube Rack for 4 x 50mL Centrifuge Tubes
  - Thermoconductive Tube Rack for 9 13x75mm Blood Tube
  - Thermoconductive Tube Rack for 9 13x100mm Blood Tubes
  - Thermoconductive Tube Rack for 9 16x100mm Blood Tubes

Thermoconductive Tube Module Temperature Strip



Liquid-crystal temperature display strip shows the temperature of a surface with 1℃ resolution

- For use with thermo-conductive modules
- Permanent adhesive backing
- Not removable
- Not autoclavable

Overview

Liquid-crystal temperature display strip shows the temperature of a surface with 1℃ resolution. Ideal for placement on Thermoconductive Tube Rack, Thermoconductive Sink and Thermoconductive Tray modules.

Key Features

- **Properties**

- LCD display
- Helps monitor temperature
- For use with Thermoconductive Tube Rack, Thermoconductive Sink and Thermoconductive Tray modules
- Permanent adhesive backing
- Not removable
- Not autoclavable

Specifications

Parameter	Thermoconductive Tube Module Temperature Strip
Dimensions (L x W x H)	10.2 x 1.3 x 0.13cm
For use with	Thermoconductive Tube Racks, Thermoconductive Sinks and Thermoconductive Trays

ryo Tube Gripper

Cryo Tube Grippers are the perfect tool to protect fingers when extracting frozen tubes from Hinged CryoBoxes, Thermoconductive Racks or Cell-Freezing Containers

- Grips cryogenic vials by the cap
- Fit for internal and external thread cryo vials
- Compatible with microcentrifuge tubes

Overview

Cryo Tube Gripperss are the perfect tool to protect fingers when extracting frozen tubes from Hinged CryoBoxes, Thermoconductive Racks or Cell-Freezing Containers.

Key Features

- **Properties & Use**
  - Unique design grips cryogenic vials by the cap
  - Allows you to lift the tube and move its position
  - Compatible with internal and external thread cryo vials
  - Also compatible with most microfuge tubes
  - Made of polypropylene polymer
  - Do not autoclave

Specifications

Parameter	Cryo Tube Gripper
Dimensions (L x W)	14.2 x 2.8cm (5.6 x 1.1in)