

Storm™ & Breeze™ Work Stations

Provides controlled heating
& cooling for Carousel 6,
Tornado & Heat-On
from -65°C to +200°C

Controlled
heating/cooling
from -65°C to
+200°C



Storm & Breeze Heating/Cooling Work Stations...

Storm and Breeze expand the temperature and control capabilities of Radleys parallel and single reactors such as the Carousel 6/Tornado and Heat-On...



Breeze Work Station



Storm Work Station

Storm Vs Breeze: What's the difference?

Storm and Breeze are both heating and cooling work stations but have different features and are therefore suitable for different reactions and applications.

Storm is the larger of the two work stations and features a sophisticated internal fluid path that combines with a high performance insulated case to maximise thermal transfer. These features create a temperature control module that has a wide operating range with excellent heat transfer, making Storm ideal for steady state reactions from -65°C to +200°C that require stable temperatures for extended periods, with minimal variation across the heated surface.

Breeze is compact, with a small bench-top footprint. It also features a removable stand for stability and easy clamping. Breeze has no insulation resulting in a smaller operating range of -30°C to +165°C but has a much faster response time to required changes in temperature. This makes Breeze more suitable for applications that require solution control such as crystallisation studies.

Storm and Breeze are temperature control modules that provide heating and cooling to the Carousel 6/Tornado combination or Heat-On. Both Storm and Breeze provide rapid, powerful temperature control...

Using Storm or Breeze replaces the need for the Carousel Stirring Hotplate and/or Cooling Reservoirs, creating controlled experimental processes, saving time and costs.

Accepts a wide range of reactors, heating blocks and vessels...

Both Storm and Breeze are compatible with the Carousel 6/Tornado and Heat-On as well as any other reactors, blocks or even glass vessels that would normally locate on to the top plate of a stirring hotplate with a diameter of 135mm or larger.

Powerful heating and cooling using an external thermoregulator...

The Storm and Breeze are designed to work with all leading thermoregulators or circulators, with thermofluids operating in the range of -85°C to +235°C. Storm and Breeze feature M24 and M16 hose fittings respectively. Radleys offer a full range of thermoregulators, insulated hoses, hose adapters, valves and thermofluids.

Controlled temperature ramps and profiles...

With the appropriate thermoregulator and control software, heating/cooling gradients and ramps can be undertaken for the precise temperature control needed for your chemistry.

Perform parallel reactions with the Carousel 6/Tornado...

Storm and Breeze were designed as add-on modules for the Carousel 6 Reaction Station when used in combination with the Tornado Overhead Stirring System. The combination of products creates a powerful Parallel Process Reactor that heats and cools, mechanically stirs up to 6 round bottom flasks under an inert atmosphere, with built-in refluxing, making it the ideal process optimisation and development tool. The Carousel 6/Tornado combination holds up to 6 round bottom flasks, available in a variety of styles and sizes from 50ml to 250ml.

Perform single reactions with Heat-On...

Storm or Breeze can also be used with the full range of Heat-On blocks from 10ml to 5 litres to perform individual heated/cooled reactions in a round bottom flask. When combined with an overhead stirrer such as IKA or Heidolph they provide the perfect way of performing controlled reactions.

Technical Specifications

Description	Storm	Breeze
Solution Temperature Range	-65°C to +200°C	-30°C to +165°C
Thermofluid Operating Limits	-85°C to +235°C	-85°C to +235°C
Control by Solution Temperature	No	Yes
Typical Applications	Steady state temp reactions such as parallel chemistry	Variable temp reactions such as crystallisation
Hose Fittings	M24 (24mm)	M16 (16mm)
Dimensions (mm)	367 x 143.5mm	135 x 80mm
Insulated	Yes	No
Weight	13kg	Without stand 1.6kg (With stand 3.2kg)

Performance Data

Description	Heating Power (kW)	Cooling Power at 0°C (kW)	Storm		Breeze	
			Cooling to -30°C	Heating to 100°C	Cooling to -30°C	Heating to 100°C
Huber Ministat 230 (-33°C to +200°C)	2.0	0.35	n/a	34 mins	n/a	30 mins
Huber Unistat 705 (-75°C to +250°C)	1.5	0.65	44 mins	56 mins	60 mins	44 mins
Huber Unistat 825 (-85°C to +250°C)	3.0	2.2	27 mins	27 mins	85 mins	n/a

Storm Heating/Cooling Work Station...

Combined with a suitable circulator or thermoregulator the powerful Storm can provide controlled steady state heating and cooling from -65°C to $+200^{\circ}\text{C}$...



Storm with a 250ml Heat-On block

Designed to accommodate the Carousel 6/Tornado or Heat-On...

Storm is compatible with the Carousel 6/Tornado and Heat-On as well as any other reactors, blocks and glass vessels that locate on to the top plate of a stirring hotplate with a diameter of 135mm or larger.

Powerful, even heating...

Storm was created using computer modelling techniques to develop a unique thermofluid path design which maximises heat transfer and minimises surface temperature variation. This combined with the high performance external insulation ensures a small Delta-T between the thermofluid temperature and the solution temperature of the reactor(s), making Storm ideal for steady state reactions.

High performance insulation...

Storm is packed with thermal insulation which minimises heat-loss, protects the user and provides Storm with a thermofluid operating range of -85°C to $+235^{\circ}\text{C}$, providing a reaction solution temperature range of -65°C to $+200^{\circ}\text{C}$.

PTFE insulating plate improves performance and energy efficiency...

A removable PTFE insulating plate has been designed to fit over the surface of the Carousel 6 Place. The insulating plate not only provides a thermal barrier that improves heating/cooling performance, but it also increases energy efficiency and reduces condensation and ice formation on the block and flasks when cooling. The insulating plate also acts as an effective safety barrier protecting the user from extreme surface temperatures.

Integral safety...

The insulated outer case of the Storm prevents the user from coming into contact with the extreme temperatures of the thermofluid.

Storm & Breeze Technical Data Sheet Available on Request



Storm with Carousel 6, Tornado, overhead stirrer and PTFE insulating plate

Breeze Heating/Cooling Work Station...

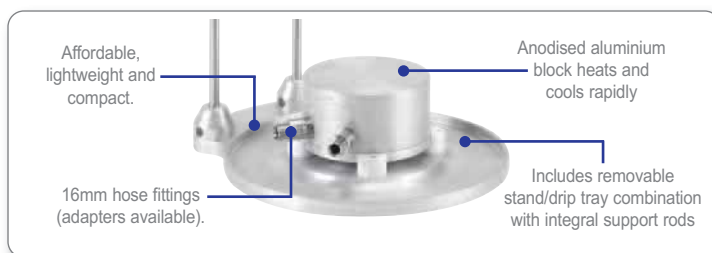
The compact Breeze provides rapid heating and/or cooling from -30°C to $+165^{\circ}\text{C}$, making it ideal for applications requiring control by solution temperature...

Suitable for solution control...

Breeze has a small internal volume and no insulation which means it is quick to respond to changes in thermofluid temperature and ideal for experiments that require solution control. When controlling by solution temperature a thermoregulator with an external temperature probe will be required.

Includes removable stand and drip tray...

Breeze comes with a removable stand and support rods that makes setting up the Carousel 6 Place/Tornado or Heat-On simple and safe. The stand also acts as a drip-tray for any condensation that may form when using sub-ambient temperatures.



Breeze with Carousel 6, Tornado and overhead stirrer



Breeze with 250ml Heat-On, stand and overhead stirrer

Storm & Breeze Heating/Cooling Work Stations

Storm & Breeze Work Stations

RR96200	Storm Work Station & Carousel 6 Insulating Plates
RR96210	Breeze Work Station & Stand
RR96220	PTFE Insulating Plates for Carousel 6

Accessories

Thermo fluids

RR96350	Silicone Oil -40°C to +165°C - 10 litres
RR96352	Silicone Oil -20°C to +235°C - 10 litres
RR96354	DWTherm -90°C to +200°C - 10 litres

Insulated Hoses

RR96300	Insulated Hose - 100cm long, with M16 thread
RR96302	Insulated Hose - 150cm long, with M16 thread
RR96304	Insulated Hose - 200cm long, with M16 thread
RR96306	Insulated Hose - 300cm long, with M16 thread
RR96320	Insulated Hose - 100cm long, with M24 thread
RR96322	Insulated Hose - 150cm long, with M24 thread
RR96324	Insulated Hose - 200cm long, with M24 thread
RR96326	Insulated Hose - 300cm long, with M24 thread

Hose Adapters & Valves

RR96308	M16 Female to M24 Male Adapter
RR96310	M16 Female to M30 Male Adapter
RR96312	M16 90 Degree Adapter
RR96314	M16 Ball Valve
RR96316	M16 Thread Protection Cap
RR96328	M24 Female to M16 Male Adapter
RR96330	M24 Female to M30 Male Adapter
RR96332	M24 90 Degree Adapter
RR96334	M24 Ball Valve
RR96336	M24 Thread Protection Cap
RR96340	M30 Female to M16 Male Adapter
RR96342	M30 Female to M24 Male Adapter
RR96344	M30 90 Degree Adapter
RR96346	M30 Ball Valve
RR96348	M30 Thread Protection Cap

Prices are in Pounds Sterling or Euros and exclude VAT and delivery.

Carousel™ 6 Reaction Station

Carousel 6 will increase the productivity of your chemistry...

Choose from 5ml, 10ml, 25ml, 50ml, 100ml, 170ml or 250ml round bottom reaction flasks. The Carousel 6 utilises the same technology as the popular Carousel 12 to simultaneously stir, heat and reflux in six round bottom flasks.

The Carousel 6 is designed to be used by individual chemists in their own fume cupboard. The affordability of the Carousel 6 brings all the benefits in productivity of multiple parallel synthesis to the chemist at a fraction of the cost of any other comparable system.

- Wide choice of reaction flask options from 5 - 250ml, including Azeotropic flasks (Dean & Stark).
- Simultaneously performs up to six heated and stirred reactions.
- Fits on a standard IKA or Carousel stirrer, Storm or Breeze.
- Compatible with Storm and Breeze Work Stations.
- Compatible with Tornado IS6 for overhead mechanical stirring.



Tornado™ IS6 Overhead Stirring System

Powerful overhead stirring of 6 round bottom flask simultaneously...

The Tornado IS6 facilitates powerful, controlled mechanical stirring of up to six round bottomed flasks with the Carousel 6 Reaction Station; offering unrivalled stirring for both viscous samples and for the dispersion of delicate solids in solution.

- Easy to set up and use.
- Integrates with Carousel 6 to provide up to six heated and stirred reaction positions.
- Uses a single overhead stirrer to agitate up to six 250ml flasks.
- Compatible with all leading brands of mechanical overhead stirrer.
- Evenly distributes high torque to all 6 positions, with 2-speed drive (1:1 and 2:1) means that overhead stirrers with less power/torque can be used for high viscosity liquids.
- Speeds of up to 1,000rpm are achievable in a low viscosity solutions.
- Maximum viscosity 10,000cps at 500rpm.



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