ANDREWS SYKES GROUP PLC

Cooling & Heating guide

Hire | Sales | Service

ANDREWS AIR CONDITIONING
ANDREWS HEAT FOR HIRE
ANDREWS CHILLER HIRE
ANDREWS BOILER HIRE

Call Us Free 0800 211 611
Click www.andrews-sykes.com

Contents

Contents

Welcome to Andrews Sykes

The UK's biggest and most reliable independent hire company

Our priority is to ensure you receive an excellent hire service with the best equipment at the most competitive prices.

As the UK's largest independent hire company, Andrews Sykes offers you the widest choice in portable Air Conditioning units Mobile Chillers, Heaters, Mobile Boilers and more – and we supply a large and diverse range of companies. We are your single point of contact for cooling and heating hire services.

Call us free on 0800 211 611 for a fast and friendly local service.

We will deliver on time all the time to any location in the UK. You get the best service every time - our nationwide depot network, manned by expert engineers, planners and sales staff, are on call 24/7 365 days' a year.

You're also guaranteed the most energy-efficient, environmentally friendly products available.

I look forward to working with you in the future.

Regards,

Paul Wood

Paul Wood
Managing Director - Andrews Sykes

With locations across the UK, calling 0800 211 611 is all it takes for our experts to be with you fast. We pride ourselves on delivering a true local service – nationwide.

- Free advice, onsite visits and quotations
- Highly trained cooling and heating engineers plus installation specialists
- For planned cover and the fastest emergency response
- True 24/7 cover, 365 days a year
- We respond within four hours of your call
- The UK's biggest range of fit-for-purpose equipment and services
- Flexible terms: from short-term support to longer-term contract hire

Aberdeen • Ashford • Basildon • Birmingham
Bovey Tracey • Bristol • Coventry • Glasgow
Gloucester • Grangemouth • Leeds • Liverpool
London Charlton • Manchester • Milton Keynes
Norwich • Nottingham • Oldham • Penrith
Peterborough • Pontypridd • Portsmouth
Preston • Scunthorpe • Sedgefield • Slough
St. Austell • Stoke on Trent • Swansea
Wolverhampton

We also have operations in
Europe and the Middle East.

An unbeatable range

We provide the best cooling and heating equipment at the right price, for virtually every need, location and application. This guide should provide all the data you need to choose the right equipment, including detailed technical information. If you have any questions simply call us free on 0800 211 611.

Air conditioning, cooling and chilling

- Fully portable air conditioners for locations large or small
- Stylish portable units for “front of house”
- Mobile fluid chillers and fast chillers – from 6 kW to multi-megawatt packages.
- Low temperature chillers down to -15 ˚C
- Air handlers
- Evaporative coolers
- Cooling fans
- Dehumidifiers and humidifiers
- Pipework, hoses, accessories and all ancillary equipment

Heaters, boilers and dryers

- Heat for hire – safe, fume-free warmth anywhere
- Gas and oil indirect and direct-fired heaters
- Easy to use electric heaters
- Fully mobile boiler plant and packaged boilers for instant heat and hot water
- Site heaters
- Air handlers
- Dehumidifiers and humidifiers
- Ventilation fans
- Pipework, ducts, accessories and all ancillary equipment

Our Customer Charter

- Our mission is to be a world-class cooling and heating equipment hire company, helping our customers to address the challenges they face, whether planned or emergency in the fastest, most expert, professional and cost-effective ways.

Our commitment is to:

- Provide customers with a market-leading, highly focused response at every point of contact with our organisation
- Employ highly qualified engineers and cooling and heating specialists, with the necessary training and experience
- Work hard to understand a customer's needs, in terms of both specific project needs and wider business requirements, and then tailor our equipment and hire services in line with these
- Deliver a prompt and efficient response to enquiries and service requests, with a friendly local service provided nationwide
- Maintain an inventory of and install the highest quality equipment and accessories that are fully tested for reliability and performance, and are fit-for-purpose for their application and working environment
- Understand and respond to environmental issues in the design and operations of our equipment and services, including energy efficiency and using non-ozone depleting refrigerants
- Track customer satisfaction levels to help adjust and improve our approaches
- Make continued investments in our people, research and development, products and services

Who we work for

Our cooling and heating hire customers cut across all industry sectors – in fact, wherever there's a need for fast and cost-effective cooling and heating services.

At any given time, you'll find our equipment working in diverse locations across the UK.

- Business: offices, meeting rooms and entire buildings
- Retail: from shopping centres to high street chains, out of town stores, car showrooms and independent retailers
- Building and construction
- Transport, logistics and distribution
- Manufacturing and industry
- Media and publishing
- Food and beverage processing and packaging
- IT and communications
- Pharmaceuticals
- Education
- Hospitals and health care
- Central and local government
- Hotels, resorts and restaurants
- Conference centres, exhibitions and outdoor events
- Sports, leisure and entertainment
- Corporate hospitality
- Facilities management and building services
- HVAC contractors
- Oil and gas, petrochemicals and refineries
- Civil engineering
- Agriculture
- Warehousing and stores
- Workshops and garages
- Criminal justice system

Get even more from us with our National Account Team

Our bigger clients benefit from a National Accounts structure that provides a single point of contact for all our services, their job is to give you even more.

- Service provision includes keen SLAs and KPIs
- In recognition of preferred supplier status, we offer competitive preferential pricing across all products and services
- Consolidated invoicing and a secure extranet for full self-service reporting
- Frequent review cycles
- OGC status – we are the only government-accredited HVAC supplier

National Account clients have a dedicated Account Manager plus a dedicated Account Co-ordinator. All Account Managers have knowledge and expertise across the full range of our products and services, drawing on our national resources.

Our expert engineers and specialists will meet your needs with a uniquely extensive range of air conditioning equipment, heating, mobile chillers and boilers.

Whatever sector, call 0845 603 9905 and ask for the National Accounts team.

ANDREWS AIR CONDITIONING

The UK's number one in air conditioning and chiller hire services

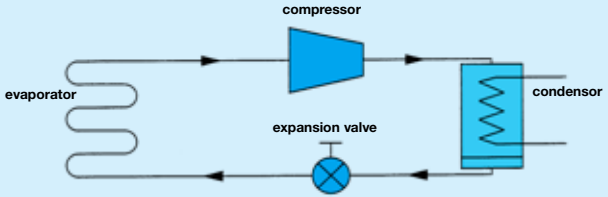
We have the UK's largest range of portable air conditioning units, mobile chillers and more, delivered to you fast from our nationwide depots.

Unlike other suppliers we guarantee a genuine 24/7 fast and friendly service, 365 days a year. We can help you decide which air conditioning unit is best for you, to help create comfortable and welcoming environments.

- Price competitive
- Planned support and the fastest emergency response
- Free site surveys
- Environmentally friendly, energy efficient units for reduced emissions and lower running costs
- All portable units are very easy to use: plug them in and you're in business
- Flexible short and long-term hire options available
- Discounts for continuous periods and special packages for everything from a single room to multiple sites
- The only accredited supplier of air conditioning to the OGCbuying.solutions, the Government buying agency

Air conditioning basics

When the temperature rises, our ability to work suffers and vital equipment can develop faults. In order to prevent these problems, Andrews Sykes offer a wide range of temporary, portable air conditioners, with or without air cooled external heat exchangers.



The basic principle of air conditioning

An air conditioner is a closed refrigerant system, comprising of an evaporator, a compressor, a condenser and an expansion valve (or capillary), which are all connected to each other with refrigerant piping. Refrigerant gas is circulated within the system in the direction shown in the above drawing.

The indoor unit, which is usually installed in the room to be cooled, contains the process where the refrigerant evaporates within the cold element (evaporator). This evaporation is caused because the refrigerant has a very low boiling point of -40.8°C at atmospheric pressure.

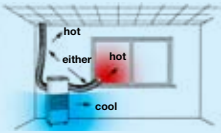
To enable the evaporation, a rise in temperature is necessary. This rise is supplied by the air of the room which is to be cooled and in which the evaporator is situated. As air is passed over the evaporator the air temperature will drop and therefore enable the room air temperature to be reduced.

The compressor draws the vapour refrigerant and reduces the pressure in the evaporator. Because of this pressure reduction the refrigerant evaporates. The vapour which is drawn by the compressor is then compressed. The pressure and temperature of the gas rises as it is compressed into the condenser, where the warm gas is cooled down to the condensation temperature of the refrigerant. Subsequently the vapour returns back to liquid again. In the condenser the process is almost directly opposite to the evaporator. The condensor requires cooling otherwise the temperature and gas pressure will rise too high. For this cooling process either water or air can be used.

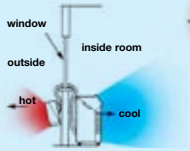
The vapour which has now returned to liquid again is now passed through the expansion valve (or capillary) to the evaporator. Because of the narrowing of the pipework the pressure decreases and the refrigerant evaporates once more. To enable this evaporation the warm air is needed and so the circuit is closed.

Air conditioning types

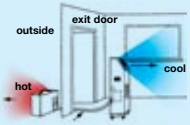
The operation of portable air conditioners: Andrews Sykes offer 3 principle types of portable air conditioners. These are:



Exhaust tube units



Split type units refrigerant



Split type units water

Exhaust tube units

In ET models both the evaporator and condenser are positioned within the room unit. The majority of the air that is passed through the unit is directed over the evaporator and returns back into the room, as cooled air. A smaller volume of air is passed across the condenser to cool the refrigerant gas. This air needs to be removed from the room as it becomes hot. An exhaust tube is used to remove this hot air via an opening in the room (usually through a window). In some cases the exhaust tube may be positioned into a false ceiling void, advice should be sought before using this system.

Split type units (refrigerant)

These are models similar to the PAC14, such units are supplied in 2 parts, a room unit and a condenser. The room unit placed within the area to be cooled comprises of an evaporator and a compressor. The room air enters the unit and once passed across the evaporator is returned into the room as cooled air. The external unit which is connected to the room unit by a flexible pipe, contains the condenser which needs to cooled by ambient air, therefore the external unit needs to be positioned outside of the room to be cooled. Typically the condenser is hung from a window.

Split type units (water)

These units are the PAC15, PAC22 and Zephyr, such units are also supplied in 2 parts, a room unit and a heat exchanger. The principle in operation is very similar to the above. The major difference is that the condenser is placed within the room unit and cooled by water. The water is then circulated to the external unit (heat exchanger) via flexible pipes before returning to the room unit. The system is totally sealed and requires no further water once the unit is in place. The main advantage of this system is that the connection pipes can be extended - up to 30 metres - allowing the heat exchanger to be positioned away from the room unit.

Calculating and applications

Calculating the cooling capacity required and choosing the type of air conditioning

The heat load for each room can vary considerably. This depends on the number of lights, the number of people, glass area facing the sun, and the presence of computers and other equipment. It is therefore essential to determine the capacity correctly.

Rule of thumb for an approximation of air conditioning load are:

Normal Modern Offices:	± 46 W per m3
Portable Buildings:	± 57 W per m3
Tents/Marquees:	± 95 W per m3

NB: Multiply kW by 3412 to obtain Btu

In addition to the type and size of the area to be cooled consideration must be given to any appliances that generate heat in the area. Such appliances are listed below along with the approximate heat emission that they generate.

Personal Computer	± 150 W
Laser Printer	± 500 W
Photocopier Standby	± 200 W
Photocopier In Use	± 1000 W
Fax Machine	± 500 W
Coffee Machine	± 800 W
TV/ Video Screen	± 50 W

Obviously, the Andrews Sykes specialists will be glad to work out an accurate cooling calculation for you.

Applications for temporary air conditioning equipment

- Offices
- Events & Exhibitions
- Temporary accommodation (eg. portable buildings)
- Shops and Restaurant
- Storage of heat-sensitive products (eg. chocolate)
- Computer room air conditioners breakdown
- Setting up new computer before old has been shutdown
- Spot Cooling
- Schools
- Telecommunication rooms
- Laboratories
- Hospitals
- Production Facilities
- Process control rooms
- Hotel and conference centres
- Printing and reprographics

Selection and installation of your portable air conditioner

To select which type of temporary air conditioner you must first consider the capacity of the unit and the possible alternatives to remove the condenser heat.

A room without outside walls or windows often means that a standard PAC (split) unit cannot be used. If an exhaust tube cannot be vented into a ceiling void or out of the room the only alternative may be a water-cooled PAC unit. Again, if it is not possible to position a heat exchanger within 30m of the room unit other alternatives such as a chillier, evaporative coolers or cooling fans may need to be considered.

Before you select your Andrews Sykes portable air conditioner we suggest the following issues should be considered.

- The indoor unit (evaporator) needs to be positioned within 1.5 metres of a 13 amp 230 volt socket and located in a manner to avoid any obstruction to the airflow.
- If you are to use a PAC type unit the heat exchanger (condenser) will need to be positioned outside of the building or in a very well ventilated area that can withstand the heat transferred from the room being cooled. Condensation is discharged from the room unit to the heat exchanger where it is allowed to drain to the outside of the building. If the heat exchanger is placed within the building a separate means of discharging the condensation needs to be provided.
- When using a PAC unit it is always advisable to position the heat exchanger away from direct sunlight or any position where its operation is likely to cause disruption. The heat exchanger can only be positioned within the distance specified by PAC line length. Always aim to keep the PAC line length to a minimum.
- Always ensure that the electrical supply to the unit is adequate and that the operation of the unit will not cause any problems to other sensitive electronic equipment.

Exhaust tube & Split units

The UK leader in portable air conditioners for hire

We offer you the country's biggest range of powerful portable air conditioners, delivered to you fast from depots nationwide: a genuine 24/7 service, 365 days' a year. You can choose from three main types of unit:

- Exhaust tube (ET) models
- Split type portable air conditioner (PAC) units – refrigerant
- Split type portable air conditioner (PAC) units – water

With free site surveys and friendly customer service on 0800 211 611, our specialists can help you decide which one is best for you, helping you create and benefit from a more comfortable and productive environment.

- Price competitive
- Environmentally friendly, energy efficient units
- All units are easy to use
- Planned support and the fastest emergency response
- Discounts for continuous hire periods and special packages for everything from a single room to multiple sites
- The only accredited supplier of air conditioning to the OGCbuying.solutions, the Government buying agency

The ET7 air conditioner is designed to fit discreetly into almost any environment. The ET7 is totally portable and can be positioned to direct welcome cool air anywhere in a room.

Specifications	
Nominal cooling duty	1.7 kW 5,800 btu
Air flow (max)	350 m^3/hr
Typical cooled area	41 m^3
Power supply	230 V 1 ph 50 Hz Run 3 A
Noise level (max)	55 dBA @ 2 metres
Weight	36 kg
Dimensions (L x W x H)	300 x 415 x 900 mm
Exhaust duct	1 metre x 110 mm diameter
Control	Automatic thermostat
Average power consumption	830 W/hr

The ET9 is a compact but powerful air conditioner with a sleek design enabling it to fit discreetly into any environment. The ET9 is totally portable and can be positioned to direct welcome cool air anywhere in a room.

Specifications	
Nominal cooling duty	2.2 kW 7,500 btu
Air flow (max)	320 m^3/hr
Typical cooled area	53 m^3
Power supply	230 V 1 ph 50 Hz Run 3.8 A
Noise level (max)	53 dBA @ 2 metres
Weight	35 kg
Dimensions (L x W x H)	367 x 450 x 870 mm
Exhaust duct	1 metre x 127 mm diameter
Control	Automatic thermostat
Average power consumption	832 W/hr

Polar Breeze

The Polar Breeze is one of our most popular portable air conditioners. The Polar Breeze has a fully automatic thermostat and a remote control, is totally portable and can be positioned to direct a welcome breeze of cool air anywhere in a room.

Specifications	
Nominal cooling duty	2.6 kW 9,000 btu
Air flow (max)	300 m^3/hr
Typical cooled area	63.7 m^3
Power supply	230 V 1 ph 50 Hz Run 7 A
Noise level (max)	55 dBA @ 1 metre
Weight	35 kg
Dimensions (L x W x H)	480 x 380 x 830 mm
Exhaust duct	2 metres x 127 mm diameter
Control	Remote control with automatic thermostat
Average power consumption	1.61 kW/hr

Polar Wind

The Polar Wind is one of our most popular portable air conditioners. The Polar Wind has a fully automatic thermostat and a remote control, is totally portable and can be positioned to direct a welcome breeze of cool air anywhere in a room.

Specifications	
Nominal cooling duty	4.1 kW 14,000 btu
Air flow (max)	360 m^3/hr
Typical cooled area	99 m^3
Power supply	230 V 1 ph 50 Hz Run 9 A
Noise level (max)	56 dBA @ 1 metre
Weight	45 kg
Dimensions (L x W x H)	400 x 480 x 840 mm
Exhaust duct	2 metres x 127 mm diameter
Control	Remote control with automatic thermostat
Average power consumption	1.8 kW/hr

Zephyr ET

The Zephyr ET combines good looks with practicality. The style would grace any office, reception or hospitality unit. The Zephyr is available in Ice Blue and Solar Black.

Specifications	
Nominal cooling duty	4.5 kW 15,000 btu
Air flow (max)	800 m^3/hr
Typical cooled area	97 m^3
Power supply	230 V 1 ph 50 Hz Run 7.6 A
Noise level (max)	57 dBA @ 3 metres
Weight	95 kg
Dimensions (L x W x H)	485 x 746 x 1,018 mm
Exhaust duct	2.5 metres x 140 mm diameter
Optional cold air duct	1.5 metres x 150 mm diameter
Control	Automatic thermostat
Average power consumption	1.75 kW/hr

The ET15 is a highly efficient and sturdy portable air conditioner. This easy to use robust and discreet unit produces huge volumes of cool air.

Specifications	
Nominal cooling duty	4.5 kW 15,000 btu
Air flow (max)	800 m^3/hr
Typical cooled area	97 m^3
Power supply	230 V 1 ph 50 Hz Run 7.6 A
Noise level	57 dBA @ 3 metres
Weight	95 kg
Dimensions (L x W x H)	485 x 695 x 954 mm
Exhaust duct	2.5 metres x 140 mm diameter
Optional cold air duct	1.5 metres x 150 mm diameter
Control	Automatic thermostat
Average power consumption	1.75 kW/hr

ET17

The ET17 is a compact mono block portable air conditioner with integral automatic thermostat. Built with practicality in mind, the ET17's rugged construction will stand up to the rigors of industrial use ideal for process and spot cooling.

Specifications	
Nominal cooling duty	5.0 kW 17,000 btu
Air flow (max)	935 m³/hr
Typical cooled area	120 m³
Power supply	230 V 1 ph 50 Hz Run 8.2 A
Noise level (max)	55 dBA @ 1 metre
Weight	53 kg
Dimensions (L x W x H)	420 x 650 x 1,000 mm
Exhaust duct	2.5 metres x 150 mm diameter
Control	Automatic thermostat
Average power consumption	1.9 kW/hr

ET17 HD

The ET17 HD is a compact mono block portable air conditioner with integral automatic thermostat. Built with practicality in mind, the ET17 HD's rugged construction will stand up to the rigors of industrial use ideal for process and spot cooling.

Specifications	
Nominal cooling duty	5.0 kW 17,000 btu
Air flow (max)	935 m^3/hr
Typical cooled area	120 m^3
Power supply	230 V 1 ph 50 Hz Run 8.2 A
Noise level (max)	55 dBA @ 1 metre
Weight	68 kg
Dimensions (L x W x H)	420 x 650 x 1,000 mm
Exhaust duct	2.5 metres x 203 mm diameter
Optional cold air duct	1.25 metres x 150 mm diameter
Control	Automatic thermostat
Average power consumption	1.9 kW/hr

ET21

The ET21 is a compact mono block portable air conditioner with integral automatic thermostat. Built with practicality in mind, the ET21's rugged construction will stand up to the rigors of industrial use and is ideal for process and spot cooling.

Specifications	
Nominal cooling duty	6.15 kW 21,000 btu
Air flow (Max)	780 m³/hr
Operating range	15°C - 50°C
Power supply	230 V 1 ph 50 Hz Run 11 A
Noise level (max)	68 dBA @ 1 metre
Weight	86 kg
Indoor dimensions (L x W x H)	590 x 490 x 1,300 mm
Duct length (max)	9 metres
Control	High Pressure Switch - 3min. delay timer Thermosatat and relief valve for compressor
Average power consumption	2.41 kW/hr

The ET25 is a compact mono block portable air conditioner with integral automatic thermostat. Built with practicality in mind, the ET25's rugged construction will stand up to the rigors of industrial use and is ideal for process and spot cooling.

Specifications	
Nominal cooling duty	7.33 kW 25,000 btu
Air flow (Max)	960 m³/hr
Operating range	15°C - 50°C
Power supply	230 V 1 ph 50 Hz Run 13 A
Noise level (max)	69 dBA @ 1 metre
Weight	90 kg
Indoor dimensions (L x W x H)	590 x 490 x 1,300 mm
Duct length (max)	12 metres
Control	High Pressure Switch - 3min. delay timer Thermosatat and relief valve for compressor
Average power consumption	2.6 kW/hr

PAC14 Series 4 QC

The PAC14 is a stylish refrigerant - 'Split' portable air conditioner. Split means there are two parts to the system, the room unit and the external condenser unit, the two are connected by a length of flexible hose. With the PAC14 Series 4 QC the smaller condenser unit can be placed up to 4 metres from the room unit.

Specifications	
Nominal cooling duty	3.9 kW 13,300 btu
Air flow (Max)	416 m^3/hr
Typical cooled area	94 m^3
Power supply	230 V 1 ph 50 Hz Run 6.2 A
Indoor noise level (max)	47 dBA @ 2 metres
Outdoor noise level (max)	41 dBA @ 4 metres
Indoor weight	44 kg
Outdoor weight	15 kg
Indoor dimensions (L x W x H)	310 x 470 x 800 mm
Outdoor dimensions (L x W x H)	250 x 490 x 525 mm
PAC line length	2.5 metres (Optional extension 2 or 4 metres)
Control	Automatic thermostat
Average power consumption	1.35 kW/hr

The PAC15, is a stylish water - cooled 'Split' portable air conditioner. Split means there are two parts to the system, the room unit and the external condenser unit, The two are connected by a length of flexible line. With the PAC15 the smaller condenser unit can be placed up to 30 metres from the room unit.

Specifications	
Nominal cooling duty	4.5 kW 15,400 btu
Air flow (max)	750 m^3/hr
Typical cooled area	109 m^3
Power supply	230 V 1 ph 50 Hz Run 7.3 A
Indoor noise level (max)	54 dBA @ 3 metres
Outdoor noise level (max)	62 dBA @ 4 metres
Indoor weight	105 kg
Outdoor weight	8 kg
Indoor dimensions (L x W x H)	330 x 695 x 945 mm
Outdoor dimensions (L x W x H)	285 x 565 x 520 mm
PAC line length	5 metres
Control	Automatic thermostat*
Average power consumption	1.8 kW/hr
***Capable of operating down to 10°C**	

Zephyr PAC

The Zephyr PAC, is a stylish water - cooled 'Split' portable air conditioner. Split means there are two parts to the system, the room unit and the external condenser unit, The two are connected by a length of flexible line. With the Zephyr PAC the smaller condenser unit can be placed up to 30 metres from the room unit. The Zephyr PAC is available in Ice Blue and Solar Black.

Specifications	
Nominal cooling duty	4.5 kW 15,400 btu
Air flow (max)	750 m^3/hr
Typical cooled area	109 m^3
Power supply	230 V 1 ph 50 Hz Run 7.3 A
Indoor noise level (max)	54 dBA @ 3 metres
Outdoor noise level (max)	62 dBA @ 4 metres
Indoor weight	105 kg
Outdoor weight	8 kg
Indoor dimensions (L x W x H)	485 x 740 x 1,018 mm
Outdoor dimensions (L x W x H)	285 x 565 x 520 mm
PAC line length	5 metres
Control	Automatic thermostat*
Average power consumption	1.8 kW/hr
***Capable of operating down to 10°C**	

PAC22 Series 2

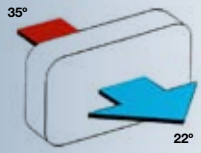
The PAC22 is one of our larger and more powerful stylish water - cooled 'Split' portable air conditioners. Split means there are two parts to the system, the room unit and the external condenser unit, The two are connected by a length of flexible line. With the PAC22 the smaller condenser unit can be placed up to 30 metres from the room unit.

Specifications	
Nominal cooling duty	6.47 kW 22,075 btu
Air flow (max)	1,359 m³/hr
Typical cooled area	156 m³
Power supply	230 V 1 ph 50 Hz Run 11 A
Indoor noise level (max)	65 dBA @ 3 metres
Outdoor noise level (max)	62 dBA @ 2 metres
Indoor weight	110 kg
Outdoor weight	8 kg
Indoor dimensions (L x W x H)	820 x 390 x 1,245 mm
Outdoor dimensions (L x W x H)	285 x 565 x 520 mm
PAC line length	5 metres
Control	Automatic thermostat
Average power consumption	2.4 kW/hr
***Capable of operating down to 10°C**	

Portable evaporative air coolers

The UK leader in portable evaporative coolers for hire

There are many applications where it is impossible or impractical to use portable air conditioners. In such cases an alternative may be the use of an evaporative air cooler.
Often used where access to an external source is unavailable, the Andrews range of stand alone evaporative air coolers are an ideal solution to uncomfortable conditions.



Typical low ambient humidity performance

The evaporative concept is designed to cool fresh air through the process of natural evaporation by drawing air across a wet filter and providing a refreshing air flow. As the air passes the wet filter, a drop in temperature will be experienced, although the overall room temperature will not be reduced. The unit will provide a localised comfort cooling zone.

Applications for the smaller evaporative coolers

- Offices
- Shops
- Restaurants
- Schools
- Kitchens

Applications for the Eventair evaporative coolers

- Sports halls and gymnasiums
- Large manufacturing areas
- Outdoor events and marquees
- Large retails outlets
- Night clubs

Little Cooler

The Little Cooler, portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical. The Little Cooler will deliver large volumes of cooled air for localised comfort cooling.

Specifications	
Cooling media	Anti-fungus, environment friendly honeycomb pad
Air deflection system	Four way
Power supply	220/240 V 1 ph 50 Hz
Blower speeds	3
Weight	25 kg Full 11.5 kg Empty
Dimensions (L x W x H)	460 x 340 x 660 mm
Reservoir capacity	12 litres
Power consumption (max)	170 W/hr

M800

The M800 portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical The M800 will provide 18 m³ of localised comfort cooling.

Specifications	
Average duty	2.1 ltr/hr
Air flow (max)	1030 m³/hr
Typical cooled area	18 m³
Power supply	230 V 1 ph 50 Hz Run 4 A
Noise level (max)	63 dBA @ 1 metre
Weight	15 kg
Dimensions (L x W x H)	262 x 615 x 1,026 mm
Reservoir capacity	17 litres
Average power consumption	90 W/hr

The M3000L portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical The M3000L will provide 30 m³ of localised comfort cooling.

Specifications	
Average duty	2.5 ltr/hr
Air flow (max)	1,750 m³/hr
Typical cooled area	30 m³
Power supply	230 V 1 ph 50 Hz Run 1.6 A
Noise level (max)	66 dBA @ 1 metre
Weight	17 kg
Dimensions (L x W x H)	468 x 637 x 1,157 mm
Reservoir capacity	20 litres
Average power consumption	360 W/hr

M3000C

The M3000C portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical The M3000C will provide 30 m³ of localised comfort cooling.

Specifications	
Average duty	2.5 ltr/hr
Air flow (max)	1,550 m³/hr
Typical cooled area	30 m³
Power supply	230 V 1 ph 50 Hz Run 1 A
Noise level (max)	68 dBA @ 1 metre
Weight	56 kg
Dimensions (L x W x H)	510 x 670 x 1,080 mm
Reservoir capacity	20 litres
Average power consumption	220 W/hr

Double Cooler

The Double Cool, portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical. The Double Cool will deliver 2,550m^3/hr of cooled air for localised comfort cooling.

Specifications	
Water consumption	5.5 ltr/hr (approx)
Power supply	220/240 V 1 ph 50 Hz
Air Delivery	1,750 m^3/hr
Weight	61 kg Full 16.5 kg Empty
Dimensions (L x W x H)	645 x 530 x 915 mm 410 mm stand height
Reservoir capacity	45 litres
Average power consumption	250 W/hr

Cyclone DX

Cyclone DX portable evaporative cooler is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical The Cyclone DX will deliver 2,550m^3/hr of air cooled for localised comfort cooling.

Specifications	
Water consumption	10 ltr/hr (approx)
Power supply	220/240 V 1 ph 50 Hz
Air Delivery	2,550 m^3/hr
Weight	70 kg Full 25 kg Empty
Dimensions (L x W x H)	600 x 530 x 550 mm 410 mm stand height
Reservoir capacity	45 litres
Average power consumption	300 W/hr

Eventair Compact

The Eventair Compact is the most powerful of our portable evaporative coolers and is a good alternative to portable air conditioning. Evaporative coolers are often used where access to the outside is difficult or impractical. The Eventair Compact will produce large volumes of cooled air - up to 100 m³ - where and when you need it.

Specifications	
Average duty	4 ltr/hr
Air flow (max)	2,750 m³/hr
Typical cooled area	100 m³
Power supply	230 V 1 ph 50 Hz Run 2.6 A
Noise level (max)	76 dBA @ 1 metre
Weight	44 kg
Dimensions (L x W x H)	650 x 530 x 920 mm
Resevoir size	40 litres
Average power consumption	598 W/hr

Low temperature chillers

When the need for a low temperature application arises, the Andrews Sykes range of fast chill units have been developed to provide temperatures below -10ºC. The range comprises of 3 models which can be used in a similar configuration to the water cooled PAC units.

Each of the models comprises of 2 parts - a room unit, which must be placed within or ducted into the area that requires cooling, and an external heat exchanger. The room unit which contains the compressor and evaporator is linked via 2 x 32mm diameter flexible hoses to the external heat exchanger. In their standard configuration these flexible lines are supplied in lengths of 15 metres and can be extended up to a maximum of up to 30 metres.

Although larger in size than most PAC units the fast chill units are still portable and can be put to work quickly and with the minimum amount of installation. Each model incorporates a programmable controller which can operate within ±0.5ºC.

Applications for portable chillers

- Cold stores
- Beer cellars
- Vegetable storage
- Fresh meat cold room
- Frozen meat holding room
- Large volume air conditioning
- Temporary body storage
- Archive document storage
- Low temperature production facilities
- Food storage for temporary events
- Standby/emergency backup for cold stores

Calculating the cooling capacity required and choosing the correct model

Due to the many factors that must be considered when selecting a unit for low temperature close control applications, we recommend that a full site survey is carried out by an Andrews Sykes specialist. We can advise not only the best unit for the application but also the best method of installation.

Selection and installation of your portable chiller

The units are portable and can be delivered and installed within a very short period of time. The larger units require a 3 phase 415 volt electrical supply and due to the physical size and weight of the units special consideration should be made for the positioning of both the room units and the heat exchanger. The connection pipes between the room unit and the heat

The Fast Chill 21 is compact, quiet and energy efficient. The Fast Chill 21 has a programmable controller, which can can maintain +/-0.5°C

Specifications	
Nominal cooling duty	6.1 kW 21,000 btu
Air flow (max)	3,000 m³/hr
Plug type	BS4343 230 V 32 A
Power supply	230 V 1 ph 50 Hz Run 24 A
Indoor noise level (max)	55 dBA @ 3 metres
Outdoor noise level (max)	65.1 dBA @ 1 metre
Indoor weight	120 kg
Outdoor weight	75 kg
Indoor dimensions (L x W x H)	715 x 790 x 895 mm
Outdoor dimensions (L x W x H)	690 x 680 x 670 mm
Control	Automatic thermostat
Average power consumption	6 Kw/hr
Line length	15 metres (max 2 = 30 metres)
Operating temp range	-10°C to +30°C
Generator size	12 kVA

FC45

The Fast Chill 45 Fast chiller is compact, quiet and energy efficient. The Fast Chill 45 has a programmable controller, which can can maintain +/-0.5°C

Specifications	
Nominal cooling duty	13.1 kW 45,000 btu
Air flow (max)	5,600 m³/hr
Plug type	BS4343 230 V 16 A
Power supply	415 V 3 ph N+E 50 Hz Run 24 A/hr
Indoor noise level (max)	60 dBA @ 3 metres
Outdoor noise level (max)	70 dBA @ 1 metre
Indoor weight	230 kg
Outdoor weight	75 kg
Indoor dimensions (L x W x H)	700 x 980 x 1,490 mm
Outdoor dimensions (L x W x H)	690 x 1,010 x 580 mm
Control	Automatic thermostat
Average power consumption	17 kW/hr
Line length	15 metres (max 2 = 30 metres)
Operating temp range	-10°C to +30°C
Generator size	20 kVA

The Fast Chill 90 fast chiller is compact, quiet and energy efficient. The Fast Chill 90 has a programmable controller, which can can maintain +/-0.5˚C

Specifications	
Nominal cooling duty	26.3 kW 96,000 btu
Air flow (max)	10,000 m³/hr
Plug type	Hard wire
Power supply	415 V 3 ph N+E 50 Hz Run 37 A/hr
Indoor noise level (max)	63 dBA @ 3 metre
Outdoor noise level (max)	73 dBA @ 1 metre
Indoor weight	497 kg
Outdoor weight	360 kg
Indoor dimensions (L x W x H)	1,730 x 1,250 x 1,600 mm
Outdoor dimensions (L x W x H)	1,196 x 1,032 x 1,616 mm
Control	Automatic thermostat
Average power consumption	27 kW/hr
Line length	15 metres (max 2 = 30 metres)
Operating temp range	-10°C to +30°C
Generator size	30 kVA

Chiller selection and installation

When sizing a chiller for air conditioning applications the same principles should be applied that are mentioned in the air conditioning section of this booklet. The location of the air handlers, fan coils and chiller does require careful consideration and we would therefore suggest that a site survey is carried out by one of Andrews Sykes specialists.

Process applications and breakdown/recovery applications do require a great deal of calculation to guarantee that flow rates, design temperature and other requirements are met, it is therefore essential that an Andrews Sykes specialist is consulted about such applications.

In addition to providing the chillers, air handlers and fan coils Andrews Sykes also provide all necessary accessories and additional equipment. This includes generators, distribution units, cable, flexible hoses, heat exchangers, valves, pipework, adapters, and flexible ducting.

The Andrews Sykes specialist hire team offer a FREE on site survey and advice, together with a delivery, installation and on-site commissioning service. Once the equipment is installed it is supported 24 hours a day, 7 days a week by the Andrews Sykes service back-up from over 30 depots nationwide.

Fluid chillers

The UK leader in fluid chillers, fast chillers and air handlers for hire

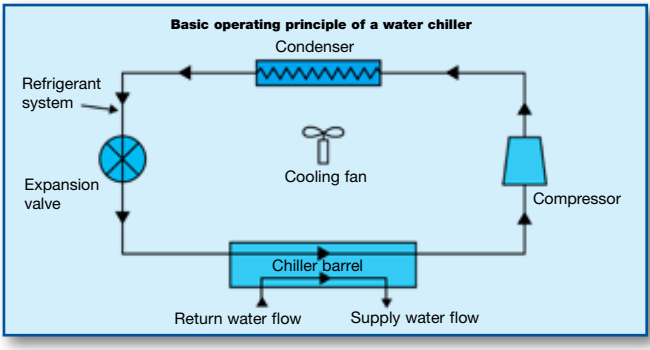
We offer you fully portable fluid and low temperature chillers, delivered and installed fast from depots nationwide: a genuine 24/7 service, 365 days a year. With free site surveys, expert advice and a wide range to choose from, our specialists will help ensure you get the equipment you need at the right price.

Delivering environmentally friendly and energy efficient equipment, we are the only accredited supplier of air conditioning and cooling equipment to the OGCbuying.solutions, the Government buying agency.

Fluid chillers - ideal for applications and locations that need quick and reliable temporary cooling. All chillers can be used in parallel to achieve the cooling capacity you need. They are typically used for:

- Air Conditioning when used with air handlers/fan coils
- Process applications in manufacturing e.g. for volatile petrochemicals, fluids and food products Facilities Management, Building & Construction and HVCA contractors
- Bypassing existing systems for planned maintenance, during breakdowns or for disaster recovery

High capacity fluid chillers



The Andrews Sykes range of high capacity fluid chillers have been developed to provide a fast and efficient solution for many applications that require high volumes of cooling capacity. In the standard format fluid chillers can provide cooling water to production processes or to bypass/assist permanently installed chillers. When used along with our wide range of air handlers and fan coils, fluid chillers provide high capacity air conditioning for a wide range of applications.

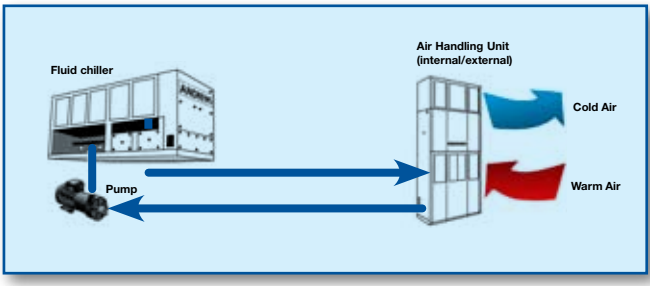
The standard range comprises of units up to 750kW in capacity and can be used in parallel to achieve higher capacities. Larger units for long term applications are also available. A wide range of temperatures can be provided, with units able to achieve water temperatures below -15°C. Heat pump versions are available on some models to provide not only cooling but also heating.

All of the units in the Andrews Sykes fluid chiller range are air cooled and do not require a permanent water supply. The chiller unit must be placed in a well ventilated area that is able to accept the heat dissipation from the area being cooled. Ideally chillers should always be installed on the exterior of the building, where the ambient air can provide cooling.

Each of the units contains a heat exchanger, condenser, control system, compressor and circulating pumps. Mounted on robust base plates complete with lifting facility, the units can be transported and positioned with the minimum of disruption. The water connection on the supply and return pipework is normally achieved with quick action couplings, removing the need for complicated pipe connections. The chillers use flexible hoses to provide chilled water to either the air handlers or the clients own system.

Chillers for air conditioning

The operation of high capacity fluid chillers
Andrews Sykes offer 3 principle methods of using fluid chillers. These are as follows:



This is where a fluid chiller (or chillers) are connected to air handling units (AHU) or fan coils via flexible pipework.

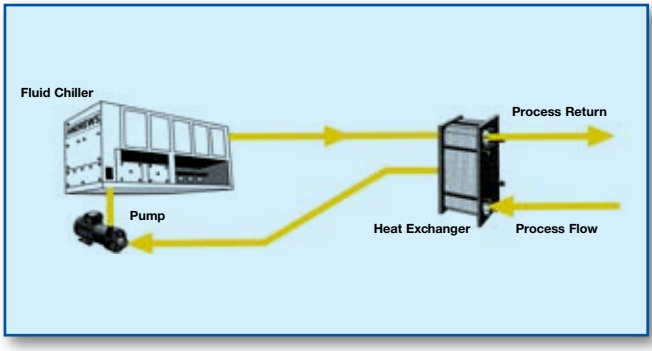
The chiller provides chilled water to each of the fan coils or AHU, which is then pumped through a coil over which the room air is passed. As the air passes over the cold coil the air temperature will drop, the drop in temperature will depend on several factors such as air flow, air temperature and humidity. Each time the air is passed over the cold coil a similar drop in temperature will take place, this will enable the room temperature to be controlled within specified criteria. As the warm air passes over the cold coil the chilled water temperature rises and therefore returns to the chiller as warm water, the water is then chilled again and returned to the air handlers or fan coils and so the circuit is closed.

Some fan coils have thermostatically operated valves which open and close in relation to the room temperature, bringing in chilled water when required and remaining closed when the desired temperature is achieved. The chiller operates as required depending on the water temperature, although the circulating pump operates at all times.

The normal installation has the fan coils units installed within the room that requires cooling, or AHU installed outside of the room with the air ducted into the room and returned via heavy duty flexible ducting. However in some circumstances it is possible to fit flexible ducting to the fan coils and in others it is possible to install the AHU within the room that is to be cooled.

With heat pump versions of the fluid chillers it is possible to generate hot water and thereby use the fan coils and AHUs as heaters rather than air conditioners. In applications that may require heating at night and cooling by day it is possible to fully automate this process.

Chillers for process application

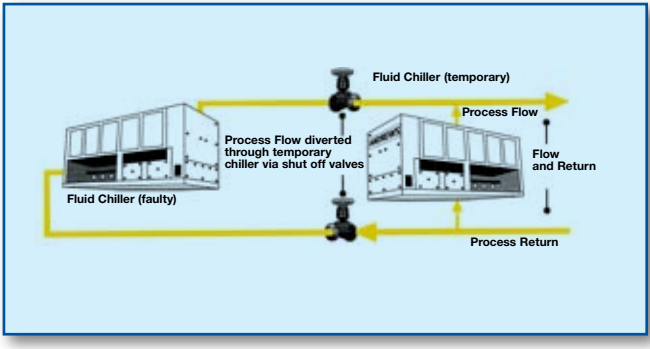


This system is often used where a product requires cooling but due to its nature or consistency cannot come into contact with the refrigeration process. Such products include oil, volatile fluids and food products. Andrews Sykes overcome this problem by using a fluid chiller in conjunction with a process heat exchanger (normally a plate type).

The fluid chiller produces chilled water which is then circulated through the heat exchanger and then returned to the chiller in a closed circuit. The product that requires cooling is also circulated through the heat exchanger but is kept separate from the chilled water at all times. As the product passes through the heat exchanger it is cooled by the chilled water that is being circulated at the same time, this enables the product's temperature to be reduced to the specified level. As the chilled water passes through the same heat exchanger its temperature will rise, as it is effectively being heated by the product. The water will then become warm as it is returned to the chiller to become chilled once more and so the circuit is closed.

The connection between the heat exchanger and the chiller would normally be through flexible pipes with quick release couplings. The temperature can be controlled by the control system within the chiller itself. This application can be easily adjusted to suit most environments.

Chillers for breakdown recovery



This application can normally be used where an existing chiller system has broken down, is required to be taken out of operation or needs additional cooling assistance. Such situations may be due to building modifications, maintenance shut downs, main plant failure or abnormal heat loads within the building.

An Andrews Sykes fluid chiller can be connected into the clients own pipework system using flanged connections which will be fitted with isolating valves and quick release pipe adapters. Flexible hoses would then connect onto the pipework and run to the temporary chiller.

Where possible the client's own pipework, circulating pumps and controls continue to be used. In some situations the circulating pumps within the chiller may be adequate to cope, or can assist the existing pumps.

Careful consideration must be given to the effect of increasing the flow rate of the chilled water, if the temporary chiller is to be used in conjunction with an existing system. Andrews Sykes specialists are able to advise on the correct sizing and correct use of such applications, however it is vital that details of the required flow rates, temperatures and cooling duty are known. A full system diagram of the existing installation is also required. Such systems can be used as a semi-permanent solution or as an emergency back up.

30 kW

The 30 kW fluid chiller is compact but highly efficient and can be used for a multitude of applications. It's quiet in operation and environmentally friendly, as are all Andrews chillers. Not only can the 30 kW cool, it is also available as a heat pump unit. The 30 kW chiller is compatible with all Andrews' air handling units.

Specifications	
Nominal cooling duty	30 kW 102,360 btu
Nominal heating duty (HP version)	30 kW 102,360 btu
Power supply	415 V 3 ph N+E 50 Hz Run 19 A/hr
Plug type	BS4343 32 A 5 pin
Noise level (max)	73 dBA @ 10 metres
Weight	350 kg
Dimensions (L x W x H)	1,600 x 860 x 1,700 mm
Control	Automatic programmer
Average power consumption	10 kW/hr
Generator size	30 kVA
Water connection	1.25" Camlock

The 50 kW fluid chiller is a robust and highly efficient fluid chiller and can be used for a multitude of applications. It's quiet in operation and environmentally friendly, as are all Andrews chillers. Not only can the 50 kW cool, it is also available with a heat pump option, for all year round use. The 50 kW chiller is compatible with all Andrews' air handling units and fan coils.

Specifications	
Nominal cooling duty	50 kW 170,500 btu
Nominal heating duty (HP version)	50 kW 170,500 btu
Power supply	415 V 3 ph N+E 50hz Run 30.25 A/hr
Plug type	BS4343 32 A 5 pin
Noise level (max)	81 dBA @ 10 metres
Weight	600 kg
Dimensions (L x W x H)	1,080 x 1,320 x 1,750 mm
Control	Automatic programmer
Average power consumption	16.21 kW/hr
Generator size	50 kVA
Water connection	1.25" Camlock

100 kW

The 100 kW fluid chiller is a robust powerful and easily portable fluid chiller. This highly efficient chiller and can be used for a multitude of applications where large volumes of cooled air are needed. It's quiet in operation and environmentally friendly, as are all Andrews chillers. Also available with a heat pump option, for all year round use. The 100 kW chiller is compatible with all Andrews' air handling units and fan coils.

Specifications	
Nominal cooling duty	100 kW 341,200 btu
Nominal heating duty (HP version)	100 kW 341,200 btu
Power supply	415 V 3ph +E 50 Hz Run 70 A/hr
Plug type	BS4343 63 A 5 pin
Noise level (max)	58.5 dBA @ 10 metres
Weight	1,790 kg
Dimensions (L x W x H)	4,160 x 1,460 x 2,600 mm
Control	Automatic programmer
Average power consumption	31.6 kW/hr
Generator size	75 kVA
Water connection	2" Bauer

200 kW

The 200 kW fluid chiller is a robust powerful and easily portable fluid chiller. This highly efficient chiller and can be used for a multitude of applications in all industry sectors. It's quiet in operation and environmentally friendly, as are all Andrews chillers. Also available with heat pump option, for all year round use. The 200 kW chiller is compatible with all Andrews' air handling units and fan coils.

Specifications	
Nominal cooling duty	200 kW 682,400 btu
Nominal heating duty (HP version)	200 kW 682,400 btu
Power supply	415 V 3 ph +E 50hz Run 120 A/hr
Plug type	Hard wired
Noise level (max)	53.3 dBA @ 10 metres
Weight	3,500 kg
Dimensions (L x W x H)	4,100 x 2,300 x 2,700 mm
Control	Automatic programmer
Average power consumption	63.2 kW/hr
Generator size	140 kVA
Water connection	3" Bauer

375 kW

Andrews 375 kW fluid chiller is capable of cooling fluid down to -15°C and can be easily connected to existing pipe work using flexible hoses. Andrews chillers are ideal for breakdowns, disaster recovery, occupied refurbishment and events.

Specifications	
Nominal cooling duty	375 kW 1,279,500 btu
Power supply	415 V 3 ph +E 50 hz Run 199 A
Plug type	Hard wired
Noise level (max)	70 dBA @ 10 metres
Weight	4,800 kg
Dimensions (L x W x H)	6,058 x 2 438 x 2 591 mm
Control	Automatic programmer
Average power consumption	99 kW/hr
Generator size	200 kVA dependent on system resistance and pump size
Water connection	4" Bauer

The 550 kW fluid chiller is a highly efficient, and exceptionally strong chiller and can be used for a multitude of applications where large volumes of cooling is needed. There is a heat pump version available. It's quiet in operation and environmentally friendly, as are all Andrews chillers. The 550 kW chiller is compatible with all Andrews' air handling units and accessories.

Specifications	
Nominal cooling duty	550 kW 1,876,600 btu
Nominal heating duty (HP version)	550 kW 1,876,600 btu
Power supply	415 V 3 ph +E 50 Hz Run 320 A/hr
Plug type	Hard wired
Noise level (max)	82 dBA @ 10 metres
Weight	4,100 kg
Dimensions (L x W x H)	2,838 x 2,300 x 2,500 mm
Control	Automatic programmer
Average power consumption	160 kW/hr
Generator size	450 kVA dependent on system resistance
Water connection	4" or 6" Bauer

750 kW

Andrews 750 kW fluid chiller is capable of cooling fluid down to -15°C and can be easily connected to existing pipe work using flexible hoses. Andrews chillers are ideal for breakdowns, disaster recovery, occupied refurbishment and events.

Specifications	
Nominal cooling duty	750 kW 2,559,000 btu
Power supply	415 V 3 ph +E 50 Hz Run 576 A plus pump
Plug type	Hard wired
Noise level (max)	77 dBA @ 10 metres
Weight	7,450 kg
Dimensions (L x W x H)	6,038x 2,438 x 2,591 mm
Control	Automatic programmer
Average power consumption	218 kW/hr
Generator size	550 kVA dependent on system resistance and pump size
Water connection	4" or 6" Bauer

Portable air handlers and fan coils

When Andrews chillers are connected to Air Handling Units (AHUs) and fan coils using pipework and ducting, you have a complete solution for space heating or cooling in any location or environment.

A typical installation has fan coil Units installed in the room or area that requires cooling, or if space is limited, units can be situated outside and cool air can be distributed via temporary duct work.

For even greater flexibility, Andrews range include heat pump versions of our fluid chillers, when connected to our fan coils and AHU's, provide heating and cooling to achieve your desired temperature.

10/20 kW

10 kW fan coil unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling duty	10 kW 34,120 btu
Nominal heating duty (HP version)	20 kW 68,240 btu
Air flow (max)	1,200 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 3 A
Plug type	BS1363 13 A
Noise level (max)	52 dBA @ 1 metre
Weight	68 kg
Dimensions (L x W x H)	540 x 290 x 1,750 mm
Control	Automatic thermostat
Average power consumption	690 W/hr

15 kW fan coil unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling duty	15 kW 51,180 btu
Nominal heating duty (HP version)	30 kW 102,360 btu
Air flow (max)	2,048 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 3 A
Plug type	BS1363 13 A
Noise level (max)	56 dBA @ 1 metre
Weight	96 kg
Dimensions (L x W x H)	650 x 500 x 2,060 mm (with top box)
Control	Automatic thermostat
Average power consumption	690 W/hr

15/30 kW Event fan coil

15 kW fan coil unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling duty	15 kW 51,180 btu
Nominal heating duty (HP version)	30 kW 102,360 btu
Air flow (max)	1,200 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 3 A
Plug type	BS1363 13 A
Noise level (max)	52 dBA @ 1 metre
Weight	70 kg
Dimensions (L x W x H)	540 x 300 x 1,800 mm
Control	Automatic thermostat
Average power consumption	690 W/hr

30 kW fan coil unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling duty	30 kW 102,360 btu
Nominal heating duty (HP version)	60 kW 204,720 btu
Air flow (max)	4,197 m³/hr
Power supply	230 V 1 ph 50 Hz Run 4 A
Plug type	BS1363 13 A
Noise level (max)	58.5 dBA @ 1 metre
Weight	140 kg
Dimensions (L x W x H)	1,050 x 500 x 2,060 mm (with top box)
Control	Automatic thermostat
Average power consumption	920 W/hr

32 kW (Low temp)

32 kW air handling unit can connect to your existing cold water circuit or to an Andrews packaged water chiller. These units are designed to achieve air off as low as 0°C

Specifications	
Nominal cooling duty @ 0˚C	32 kW 109,184 btu
Air flow (max)	13,000 m³/hr
Power supply	415 V 3 ph 50 Hz N+E Run 25.2 A/hr
Plug type	BS4343 5 Pin 32 A
Noise level (max)	82 dBA @ 1 metre
Weight	1,150 kg
Dimensions (L x W x H)	2,260 x 1,980 x 1,700 mm
Duct Length	50 metres
Duct size	2 x 600 mm
Average power consumption	18 kW Heater bank 8 kW Motors

50 kW air handling unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling duty	50 kW 170,600 btu
Nominal heating duty (HP version)	100 kW 341,200 btu
Air flow (max)	4,500 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 4.8 A
Plug type	BS4343 240 V 16 A
Noise level (max)	74 dBA @ 1 metre
Weight	460 kg
Dimensions (L x W x H)	1,500 x 750 x 2,250 mm (with top box)
Average power consumption	1.2 kW/hr

150/300 kW

150 kW air handling unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with fan speed controllers and internal condensate pumps.

Specifications	
Nominal cooling capacity	150 kW 511,800 btu
Nominal heating capacity	300 kW 1,023,600 btu
Air flow (max)	20,160 m^3/hr
Power supply	415 V 3 ph 50 Hz N+E Run 20 A/hr
Plug type	BS4343 5 Pin 32 A
Noise level (max)	84 dBA @ 1 metre
Weight	934 kg
Dimensions (L x W x H)	2,260 x 1,980 x 1,700 mm
Duct Length	50 metres
Duct size	2 x 600 mm
Average power consumption	14.3 kW/hr

300 kW air handling unit can connect to your existing chilled water circuit or to an Andrews packaged water chiller, heat pump or boiler. These units are fitted with an internal condensate pump. A full range of ancillaries are available, including insulated flexible duct, plenum chambers, extraction fans and condensate hose.

Specifications	
Nominal cooling capacity	300 kW 1,023,600 btu
Nominal heating capacity	600 kW 2.047,200 btu
Power supply	415 V 3 ph 50 Hz N+E Run 30 A/hr
Plug type	BS4343 5 Pin 32 A
Noise level (max)	81 dBA @ 5 metres
Weight	2,150 kg
Dimensions (L x W x H)	3,780 x 2,340 x 2,590 mm
Duct length (max)	50 metres
Duct size	4 x 600 mm
Integral thermostat	No
Integral condensate pump	Yes
Fan speed controller	No

ANDREWS
BOILER HIRE

The UK's number one in heat for hire and mobile boiler services

The biggest range, the best service, the hottest prices: we'll help you create a warmer, more comfortable and more productive environment.

The UK leader in portable heat for hire, with safe and cost-effective warmth for any location, we deliver compact yet powerful electric, gas and oil heaters plus mobile boilers for instant heat and hot water, for both long or short-term hire.

We'll be with you fast, with a truly national service 24/7, 365 days a year. We can also supply and manage all the fuel you need at very competitive rates, and ensure you never run out.

- Price competitive
- The UK's most advanced heat for hire, boiler and drying equipment
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days a year
- Installation and servicing by expert engineers
- All staff trained to Heating and Ventilating Contractors' Association (HVCA) standards

Boilers

The UK leader in mobile boiler plant for hire

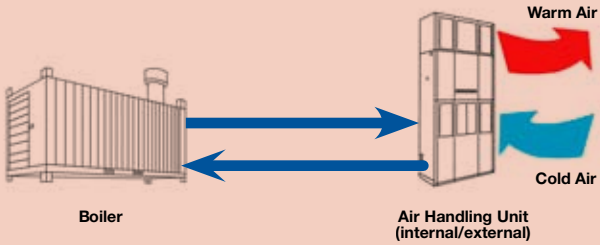
Delivering instant heat and hot water, wherever and whenever they're needed. Whether it's support during maintenance, refits and new build or an emergency following a breakdown, our fully mobile boilers are the most advanced and efficient available. We also guarantee fast delivery and installation from our depots nationwide: a genuine 24/7 service, 365 days' a year.

Our portable oil and gas fired boilers can be coupled to any existing heating and hot water system quickly. All LPHW (Low Pressure Hot Water) boilers deliver large volumes of hot water on demand: for indoor and outdoor locations, at any time of the year, for a range of commercial, industrial and leisure applications.

The range extends from 100 kW to multi-megawatt packages, with every unit featuring high specifications as standard.

- Natural gas and oil fired boilers: the UK's most modern and efficient boiler hire fleet
- 24/7 boiler hire, service and sales support UK-wide - 365 days a year
- We offer a 4 hour response
- Environmentally friendly, energy efficient equipment
- For planned support, disaster recovery and business continuity
- Installation, commissioning and servicing by qualified engineers

Typical Air Handler Setup



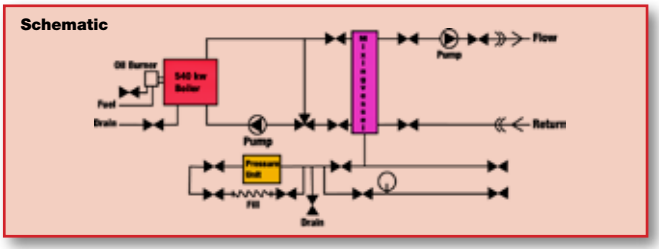
The Andrews Sykes packaged boiler system provides a fast efficient solution to a wide range of applications required hot water.

Andrews Sykes packaged boilers are housed in vandal proof sound and thermally insulated steel containers, finished in discrete silver grey, delivering 550 kW per unit from oil fired burners.

The Andrews Sykes package boilers are equipped with lifting lugs positive fork-lift truck pockets and adjustable feet, for ease of on site locations, with fast coupling technology on all essential connections ensuring fast trouble free installation.

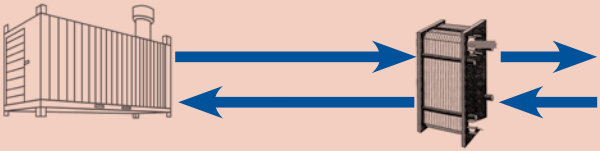
The Andrews Sykes packaged boilers are used in conjunction with our comprehensive range of thermostatically controlled fan coils or air handling units, we supply flexible warm air delivery solutions for many varied applications and locations, including offices, marquees, factories, public buildings etc.

Schematic



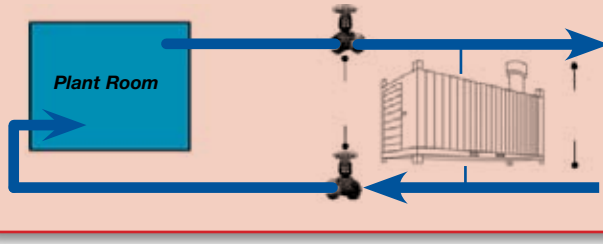
Boiler applications

Processes



This system is often used where a product requires heating but due to the nature of the product it must not come into contact with the boiler circuit. To satisfy this requirement if the boiler is used in conjunction with a heat exchanger, a plate heat exchanger is preferred for this type of application; this will keep separate the boiler flow and the process flow.

Breakdown and recovery



The Andrews Sykes packaged boiler may be used to maintain hot water and heating flow to existing systems, in the event of planned maintenance to existing plant or fast on site temporary installation during breakdown situations.

100 kW Packaged

The 100 kW site container boiler, provides a fast and effective solution to a wide range of applications requiring heat and hot water. These packaged boilers are housed in vandal proof sound and thermally insulated steel containers.

Specifications	
Duty	100 kW 341,200 btu
Power supply	230 V 1 ph N+E 50 Hz Run 8 A
Plug type	BS4343 16 A
Noise level (max)	45 dBA @ 10 metres
Weight	980 kg
Dimensions (L x W x H)	2,030 x 1,310 x 1,780 mm
Fuel type	Gas Oil
Fuel consumption	12.5 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

250 kW Containerised

The 250 kW site container boiler, provides a fast and effective solution to a wide range of applications requiring heat and hot water. These packaged boilers are housed in vandal proof sound and thermally insulated steel containers.

Specifications	
Duty	250 kW 853,000 btu
Power supply	240 V 1 ph N+E 50 Hz Run 10 A
Plug type	BS4343 16 A
Noise level (max)	45 dBA @ 10 metres
Weight	2,000 kg
Dimensions (L x W x H)	3,000 x 2,400 x 2,400 mm
Fuel type	Gas Oil (natural gas burner available)
Fuel consumption	31 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

250 kW Trailer mounted

The 250 kW trailer mounted boiler, provides a fast efficient solution to a wide range of applications that require heating and hot water. This mobile Boiler is housed in a sturdy vandal proof aluminium container mounted on a high speed trailer and is capable of delivering from 100 kW to 250 kW safely and efficiently.

Specifications	
Duty	250 kW 1,706,000 btu
Power supply	230 V 1 ph N+E 50 Hz Run 10 A
Plug type	BS4343 16 A
Noise level (max)	45 dBA @ 10 metres
Weight	2,500 kg
Dimensions (L x W x H)	5,000 x 2,250 x 2,800 mm
Fuel type	Gas Oil
Fuel consumption	31 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

375 kW Trailer mounted

The 375 kW trailer mounted boiler, provides a fast efficient solution to a wide range of applications that require heating and hot water. This mobile boiler is housed in a sturdy vandal proof aluminium container mounted on a high speed trailer and is capable of delivering from 250 kW to 375 kW safely and efficiently.

Specifications	
Duty	375 kW 1,279,500 btu
Power supply	415 V 3 ph N+E 50 Hz Run 10 A
Plug type	BS4343 5 pin 16 A
Noise level (max)	45 dBA @ 10 metres
Weight	2,550 kg
Dimensions (L x W x H)	5,000 x 2,200 x 2,700 mm
Fuel type	Gas Oil only
Fuel consumption	44 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

500 kW Containerised

The 500 kW site container boiler, provides a fast and effective solution to a wide range of applications requiring heat and hot water. These packaged boilers are housed in vandal proof sound and thermally insulated steel containers.

Specifications	
Duty	500 kW 1,706,000 btu
Power supply	415 V 3 ph N+E 50 Hz Run 10 A
Plug type	BS4343 5 pin 16 A
Noise level (max)	45 dBA @ 10 metres
Weight	2,500 kg
Dimensions (L x W x H)	3,000 x 2,400 x 2,400 mm (without flue)
Fuel type	Gas Oil (natural gas burner available)
Fuel consumption	60 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

500 kW Trailer mounted

The 500 kW trailer mounted boiler, provides a fast efficient solution to a wide range of applications that require heating and hot water. This mobile boiler is housed in a sturdy vandal proof aluminium container on a high speed trailer and is capable of delivering from 100 kW to 500 kW safely and efficiently.

Specifications	
Duty	500 kW 1,706,000 btu
Power supply	415 V 3 ph N+E 50 Hz Run 12 A
Plug type	BS4343 16 A
Noise level	45 dBA @ 10 metres
Weight	3,000 kg nett kerb side
Dimensions (L x W x H)	5,000 x 2,200 x 2,500 mm
Fuel type	Gas Oil
Fuel consumption	60 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

540 kW Packaged

The 540 kW site container boiler, provides a fast and effective solution to a wide range of applications requiring heat. These packaged boilers are housed in vandal proof sound and thermally insulated steel containers.

Specifications	
Duty	540 kW 1,842,480 btu
Power supply	415 V 3 ph N+E 50 Hz Run 20 A
Plug type	BS4343 5 pin 32 A
Noise level (max)	45 dBA @ 10 metre
Weight	3,000 kg
Dimensions (L x W x H)	3,500 x 2,450 x 2,600 mm
Fuel type	Gas Oil
Fuel consumption	64 ltrs/hr

550 kW Containerised

The 550 kW site container boiler, provides a fast and effective solution to a wide range of applications requiring heat and hot water. These packaged boilers are housed in vandal proof sound and thermally insulated steel containers.

Specifications	
Duty	550 kW 1,876,600 btu
Power supply	415 V 3 ph N+E 50 Hz Run 20 A
Plug type	BS4343 5 pin 32 A
Noise level (max)	45 dBA @ 10 metre
Weight	2,500 kg
Dimensions (L x W x H)	3,000 x 2,400 x 2,400 mm (without flue)
Fuel type	Gas Oil (natural gas burner available)
Fuel consumption	66 ltrs/hr

This boiler has 2 hot water circuits via plate heat exchangers:
1 for heating circuits 90°/70°c
1 for hot water circuits 60°/45°
These are automatically selected via the demand

Portable humidifiers

The UK leader in portable humidifiers for hire

Helping you deal with low humidity in modern environments. In air conditioned buildings, especially those with lots of electrical and electronic equipment, low humidity and the problems it creates can be a big issue. Our humidifiers mean you can wave goodbye to sore throats, dry eyes and static electric shocks.

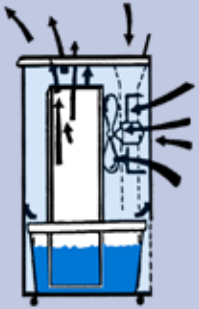
These compact and reliable units add moisture to room air and so increase humidity. Simple to operate and fully portable from room to room, simply add water and plug in to a standard power socket. They are ideal for locations including offices, IT and communications rooms, printing processes, industrial processes and manufacturing, pharmaceuticals, hospitals, museums and art galleries.

With free site surveys and friendly customer service on 0800 211 611, our specialists can help you decide which unit is best for you.

- Price competitive
- Environmentally friendly, energy efficient units
- Discounts for continuous hire periods and special packages for everything from a single room to multiple sites
- The only accredited supplier of air conditioning and cooling equipment to the OGCbuying.solutions, the Government buying agency

Humidifier applications

In today's environment of air conditioned buildings containing large amounts of electrical equipment low humidity is often a problem. In addition to causing problems with essential equipment, dry air also creates a poor working environment, commonly resulting in dry throats and sore eyes. Where electrical equipment is installed, static electricity is also a problem.



To overcome low humidity problems Andrews Sykes offer portable humidifiers which are designed to add moisture to the room air and therefore increase the humidity. The units are simple to operate and are easily portable from room to room. Each unit requires only a standard 3 pin 230 volt socket to operate from - once filled with water you need only switch the unit on for it to start working.

The humidifiers consist of a rotating wheel which is covered in a sponge type material. As the wheel rotates the material travels through a water tank, the sponge absorbs a quantity of the water and continues to rotate. During the rotation a small fan draws in air from the room and blows it past the moist material. As the air is passed over the material a quantity of the moisture is added to the air thus increasing the humidity in the room. The drum continues to rotate and on each pass picks up moisture from the tank and adds it to the air in the room until the desired level of humidity is obtained. The only maintenance required is to refill the tank with mains water on a regular basis.

Applications for humidifiers

- Offices
- Art galleries
- Museums
- Printers
- Industrial processes
- Area with risk of static electricity
- Pharmaceutical processes
- Hospitals

The Century humidifier will improve working environments that have large amounts of electrical equipment or where it is critical to maintain the moisture balance in the atmosphere. The Century will reduce the risk of static electricity, dry throats and dry eyes.

Specifications	
Duty	Evaporation
Rated 20% rh. 25°C	2.4 ltr/hr
Air Flow (max)	500 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 2.2 A
Noise level	59 dBA @ 3 metres
Weight	13 kg
Dimensions (L x W x H)	305 x 610 x 660 mm
Reservoir Capacity	26 litres
Average power consumption	500 W/hr

Century series 4

The Century Series 4 humidifier will improve working environments that have large amounts of electrical equipment or where it is critical to maintain the moisture balance in the atmosphere. The Century will reduce the risk of static electricity, dry throats and dry eyes.

Specifications	
Duty	Evaporation
Rated 20% rh. 25°C	1.8 ltr/hr
Air Flow (max)	500 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 0.65 A
Noise level	57 dBA @ 3 metres
Weight	11 kg
Dimensions (L x W x H)	345 x 550 x 610 mm
Reservoir Capacity	19.5 litres
Average power consumption	150 W/hr

Portable dehumidifiers

The UK leader in portable dehumidifiers for hire

Tackling high moisture problems with reliable refrigerant and desiccant dryers. If you're experiencing moisture problems in a room or building, our powerful and reliable dehumidifiers can handle up to 890 litres dehumidification capacity a day, delivering high levels of drying power. Typical applications include building and construction, offices, industry and manufacturing, agriculture, warehousing and logistics, and even domestic homes.

Two types are available:

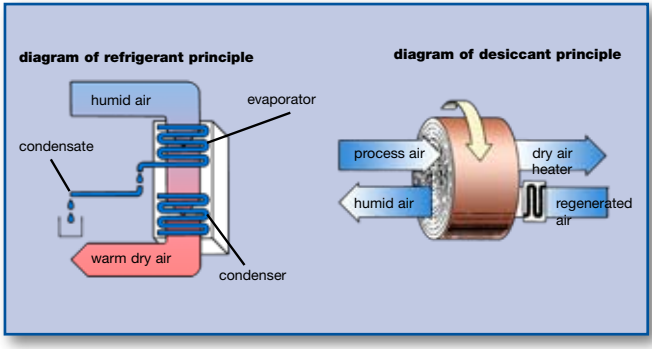
Refrigerant - using an evaporator and condenser, these are the most commonly used in the British climate, providing keep-dry areas up 13,600m^3 and dry out areas up to 6,400m^3.

Desiccant - using moisture-absorbing materials like silica gel, these units are for when very low relative humidity is needed, if work is being carried out at extremely low temperatures, a low dew point is essential, or for when the unit has to be ducted into the area that needs drying.

With free site surveys and friendly customer service on 0800 211 611, our specialists can help you decide which unit is best for you.

- Price competitive
- Environmentally friendly, energy efficient units
- Discounts for continuous hire periods and special packages for everything from a single room to multiple sites
- The only accredited supplier of air conditioning and cooling equipment to the OGCbuying.solutions, the Government buying agency

Dehumidification types



The operation of refrigerant dryers

Refrigerant dryers cool air intake considerably by means of an evaporator section in a closed refrigeration system. As a result of this cooling, the relative humidity of the air over the evaporator raises to above 100% and water vapour condenses. This water (or condensation) is either drained into a reservoir or through a hose to a drain, water container or a suitable outside location. The heat generated in the cooling system condenser is used to warm the returned air to a temperature above that of the original intake. Each time the room air is passed through the dryer a quantity of moisture is removed from the air, therefore the humidity within the room is reduced. Refrigerant dryers are typically positioned within the room to be dried and require little attention whilst in operation.

The operation of desiccant dryers

A desiccant dryer uses the hygroscopic properties of moisture-absorption materials such as silica gel or lithium chloride. These materials are impregnated within a rotating ceramic wheel, over which the humid air from the room is blown. The hygroscopic material absorbs a large percentage of the moisture from the air, therefore reducing the humidity in the area. The wheel is left very wet, it then continues to rotate slowly and the section which is saturated with moisture is heated with an electric heater, to vapourise the water. This warm and very humid air is then expelled outside through a length of flexible ducting. As well as being able to place a desiccant unit within a room that is to be dried, desicccant dryers are often used in applications where it is not possible to position a dryer, such as hazardous areas or areas with limited access such as pipes and tanks.

Applications of refrigerant and desiccant dryers

Refrigerant dryers are most commonly used in the British climate. Dessicant dryers tend to be only used in the following situations:

- a very low relative humidity is required (< 40%)
- the work is being carried out at extremely low temperatures (< -10°C)
- a low dew point is essential (for example tank-coating)
- the unit has to be ducted into the area that needs drying

A refrigerant dryer uses about one third of the energy of a similar desiccant dryer, therefore the obvious advantage (especially on site) is that it requires much less electricity so that running costs are usually reduced. A desiccant dryer is more efficient than a refrigerant dryer at about -5°C.

Typical applications include

- drying out buildings during construction/finishing
- drying out after a fire or flood
- storage of delicate products that are moisture sensitive
- keeping electrical switch rooms dry
- equipment drying rooms on construction sites, outdoor activity centres, fire stations etc
- the drying out of pipework and tanks prior to repainting / coating

Fire and water damage

In the case of fire and water damage immediate, fast and professional action is essential to avoid further damage. Andrews Sykes hire dryers, heaters and fans to reduce relative humidity and to ventilate polluted air. Corrosion (HCL) can be stopped; buildings, furniture and inventory can be saved and thus restoration costs can be minimized.

Building drying

The most important reason for using building dryers is to minimize the total building time by creating the perfect conditions for painting, plastering, finishing floors and ceilings, wall-paper etc. Andrews Sykes has the right dryer available whether you need a building dryer for a house, a cellar, a safe storage or complete utility.

Humidity control during storage

Increasingly, higher demands are made upon the relative humidity standards for all storage including agricultural products, electronic components, sheet steel, food, paper products, powders, objets d'art, antiques etc. The list is almost endless.

Typical relative humidity conditions

Material	% R.H.
Nuts	60-65
Steel	55
Chocolate	40-50
Electronics	55
Onions	65-70
Switch rooms	60
Furniture	50-55
Paper	55-65
Flowerbulbs	70-75
Artwork	55

To avoid mould the relative humidity has to be maintained below 70% R.H.

Dehumidification with an Andrews Sykes refrigerant building dryer is up to 75% cheaper than using heating in combination with ventilation to dry a room.

Dehumidification information

Calculation and selection of the correct dehumidifier or dryer

To correctly decide upon the most efficient way of drying an area many factors need to be considered: temperature, materials, relative humidity and drying time. This calculation is best left to the experts at Andrews Sykes who, armed with a hygrometer and psychrometric chart, will give you the very best advice – free of charge – on how to use our units.

Basic 'rule of thumb' sizing Refrigerant units

These are usually sized taking a typical RH of 75% at an air temperature of 20°C, the performance of the unit will vary greatly as the temperature and RH rises or falls. Typically the units are shown to be able to keep an area in cubic metres dry, based on the above conditions. The dry out area is usually around 50% of this as the area is assumed to be already wet and this moisture needs to be removed.

Desiccant units

In general a desiccant unit is suitable to dehumidify a room with a volume two times bigger than the dry air volume produced by the dryer. A desiccant dryer with a dry air volume of 1,600 m^3/hr is suitable to dry a room of approximately 3,200 m^3.

Installation of a dehumidifier

Before the installation of a dehumidifier, the room to be dried has to be sealed as well as possible. This means the room's windows and doors are kept closed and gaps and ventilation holes are covered so that humid air is prevented from flowing inside from the outside. Plastic covers are suitable for sealing a room – it is not necessary to use heat insulation!

If one dryer is to be used it should be positioned in the middle of the room. For larger rooms, where more dryers are used, the total room should be divided into as many equal sections as dryers to be used. A dryer is installed in the middle of each section to ensure perfect air circulation. The dryer has to be positioned so it can blow dry air without obstruction, and its air inlet grill remains clear. If dryers are used in conjunction with heaters (electrical or indirect fired) make sure hot air is not blown in the direction of the dryers. The condensation from the dryer can be caught in a container or a hose can be used to drain the condensation to outside or to a drain. In this case the water has to be piped off vertically otherwise leakages will occur. Larger Andrews Sykes' dryers remove condensation by means of a condensation pump - a new development in dehumidification technology. This pump allows the condensation to be easily pumped upwards through a window or down to an outside drain. Due to this new development it is no longer necessary to empty and to check the waterbuckets, for example during the weekends and holidays.

Faster drying

For a faster drying process, dryers can be installed together with Andrews Sykes ventilation fans. The increased air circulation results in faster moisture evaporation, minimising the danger of shrink damage from drying out too fast. In some cases the addition of indirect or electrical heaters may be recommended.

FD15 DV

The FD15 DV dehumidifier building dryer, will help minimize the building time by creating the perfect conditions for the 'Wet' trades such as plastering, finishing floors, and ceilings, painting and wallpapering. Our dehumidifiers will also decrease the potential damage caused by fire and water. The FD15 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal extraction duty at 75%	16 litres
Air flow (max)	225 m^3/hr
Keep dry area (typical)	382.5 m^3
Dry out area (typical)	187 m^3
Power supply	230/110 V 1 ph 50 Hz Run 3.8/7.6 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	53 dBA @ 1 metre
Weight	33 kg
Dimensions (L x W x H)	355 x 355 x 570 mm
Control	Adjustable Humidistat
Average power consumption	430 W/hr

The FD30 DV dehumidifier building dryer, will help minimize the building time by creating the perfect conditions for the 'Wet' trades such as plastering, finishing floors, and ceilings, painting and wallpapering. Our dehumidifiers will also decrease the potential damage caused by fire and water. The FD30 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal extraction duty at 75%	34 litres
Air flow (max)	380 m^3/hr
Keep dry area (typical)	646 m^3
Dry out area (typical)	317 m^3
Power supply	230/110 V 1 ph 50 Hz Run 4.1/8.2 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	57 dBA @ 3 metres
Weight	37 kg
Dimensions (L x W x H)	363 x 361 x 805 mm
Control	Manual (Humidistat Option)
Average power consumption	492 W/hr

HD500 DV

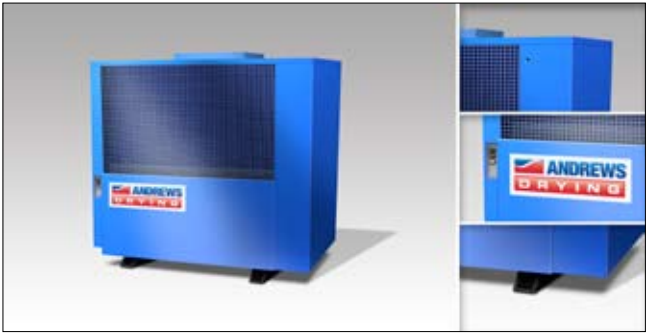
The HD500 DV dehumidifier building dryer, is built to withstand the vigorous treatment of the construction site. The large wheels make it very manoeuvrable. The HD500 DV will help minimize the building time by creating the perfect conditions for the 'Wet' trades such as plastering, finishing floors, and ceilings, painting and wallpapering. Our dehumidifiers will also decrease the potential damage caused by fire and water. The HD500 DV runs on 110 and 230 volt power supply.

Specifications	
Nominal extraction duty at 75%	34 litres
Air flow (max)	480 m^3/hr
Keep dry area (typical)	850 m^3
Dry out area (typical)	400 m^3
Power supply	230/110 V 1 ph 50 Hz Run 4.1/8.2 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	55 dBA @ 3 metres
Weight	59 kg
Dimensions (L x W x H)	940 x 630 x 1,110 mm
Control	Manual (Humidistat Option)
Average power consumption	492 W/hr

The DH150 refrigerant dehumidifier, as with all our refrigerant dryers, is more economical to run than desiccant dryers, typically using about 1/3 of the energy. The DH150 is placed within the room to be dried and requires little attention while in operation. This unit requires a 415 volt 3 ph power supply

Specifications	
Nominal extraction duty at 75%	150 litres/24hr
Air flow (max)	2,500 m^3/hr
Keep dry area (typical)	3,200 m^3
Dry out area (typical)	1,500 m^3
Power supply	415 V 3 ph 50 Hz Run 7 A
Plug type	Hard wire
Noise level (max)	63.83 dBA @ 1 metre
Weight	497 kg
Dimensions (L x W x H)	350 x 660 x 1,313 mm
Control	Humidistat Option
Average power consumption	2.7 kW/hr

DH600



The DH600 refrigerant dehumidifier, as with all our refrigerant dryers, is more economical to run than desiccant dryers, typically using about 1/3 of the energy. The DH600 is placed within the room to be dried and requires little attention while in operation. The DH600 requires a 415 volt 3 ph power supply.

Specifications	
Nominal extraction duty at 75%	600 litres/24hr
Air flow (max)	7,680 m^3/hr
Keep dry area (typical)	13,600 m^3
Dry out area (typical)	6,400 m^3
Power supply	415 V 3 ph N+E 50 Hz Run 18 A
Plug type	Hard wire 5
Noise level	63 dBA @ 1 metre
Weight	63 kg
Dimensions (L x W x H)	1,730 x 1,250 x 1,600 mm
Control	Humidistat option
Average power consumption	12 kW/hr

The DS40 desiccant dehumidifier is best used where the work is being carried out at very low temperatures and very low relative humidity is required. The DS40 desiccant dryer is more efficient than refrigerant dryers at about -5°C.

Specifications	
Nominal extraction duty at 75%	33 litres/24hr
Air flow (max)	300 m³/hr
Keep dry area	380 m³
Power supply	110 V 1 ph 50 Hz Run 19 A
Plug type	BS4343 110 V 32 A
Generator size	3 kVA
Duct length	5 metres
Noise level (max)	66 dBA @ 1 metre
Weight	30 kg
Dimensions (L x W x H)	450 x 455 x 470 mm
Control	Humidistat Option
Average power consumption	2.1 kW/hr

KT1600

The KT1600 desiccant dehumidifier, is best used where the work is being carried out at very low temperatures and very low relative humidity is required. The KT1600 desiccant dryer is more efficient than refrigerant dryers at about -5°C.

Specifications	
Nominal extraction duty at 75%	258 litres/24hr
Air flow (max)	1,600 m³/hr
Power supply	415 V 3 ph N+E 50 Hz Run 24 A
Plug type	BS4343 5 pin 32 A
Generator size	25 kVA
Duct length (max)	40 metres
Noise level (max)	82.75 dBA @ 1 metre
Weight	258 kg
Dimensions (L x W x H)	666 x 1,670 x 1,400 mm
Control	Humidistat option
Average power consumption	17 kW/hr

The KT6000 desiccant dehumidifier, is best used where the work is being carried out at very low temperatures and very low relative humidity is required. The KT6000 desiccant dryer is more efficient than refrigerant dryers at about -5°C. This unit requires a 415 volt 3 ph power supply.

Specifications	
Nominal extraction duty at 75%	888 litres/24hr
Air flow (max)	5,500 m³/hr
Power supply	415 V 3 ph +E 50 Hz Run 72 A
Plug type	Hard wired
Generator size	75 kVA
Duct length	50 metres
Noise level	94 dBA @ 3 metre
Weight	550 kg
Dimensions (L x W x H)	1,600 x 1,000 x 1,800 mm
Control	Humidistat Option
Average power consumption	50 kW/hr

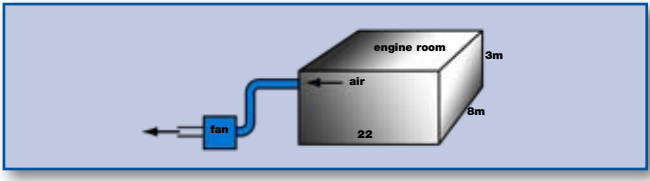
Cooling, ventilation and extraction fans

The UK leader in portable cooling, extraction and ventilation fans for hire

Sometimes, just opening a door or window isn't nearly enough - but good ventilation is not only essential to creating a comfortable working environment, it can also be a government and Health and Safety requirement. Our cooling, extraction and ventilation fans mean you have fresh air circulating as and when you need it.

- Deliver fresher airflows quickly and cost-effectively
- Provide comfort cooling in larger open spaces
- Achieve the number of recommended air changes per hour, whatever your location or activity
- Removes dangerous odours from the workspace like paint vapours, dust, welding fumes and carbon monoxide
- Price competitive
- Environmentally friendly, energy efficient fans
- The only accredited supplier of air conditioning and cooling equipment to the OGCbuying.solutions, the Government buying agency

Ventilation fans tips



Useful tips on calculation and sizing for the correct Andrews Sykes ventilation fan

The selection of the correct fan can be achieved with the help of the following calculation:

- Calculate the volume of the room which needs to be ventilated (W x L x H)
- Select the recommended number of air changes per hour
- Multiply the results of 1 by result 2, this will give the required air volume per hour
- Select the correct fan or fans to achieve this air flow.

Example

An engine room which is 3 metres high x 8 metres wide x 22 metres long requires ventilation due to heat and fume build up. From the chart we can see that the recommended air change is between 15 and 30 depending on the intensity of the application. This case is fairly intense so on the side of caution we can use the ratio of 30 changes per hour.

To calculate;

3 m x 8 m x 22 m = 528 m^3 x 30 changes = 15,840 m^3 per hour

In this situation a model FV900 which has a capacity of 16,500 m^3 per hour would be most suitable.

Important note on using ducted units

If it is necessary to use long lengths of ducting or involve several bends in the ducting, it must be remembered that the resistance in the ducting will increase and the air volume provided will decrease drastically.

Due to high resistance, certain fans can become useless, although the stated air volume at low pressure would not indicate this at first sight. The Andrews Sykes FV fans do have high pressure capacity and can be used with several lengths of ducting.

In some applications it may be better to blow rather than suck the air out, or use a combination of the two. When used in sensitive environments or handling ignitable fumes, special precautions and equipment must be used. If the application is sensitive, complicated or long lengths of ducting need to be used, you should consult your local Andrews Sykes specialist who will be able to provide advice on all types of installations.

The ASF21 cooling fan will create a comfortable and pleasant working environment by circulating clean fresh air, thereby assisting comfort cooling. The ASF21 - as will all our fans - help disperse the dangerous build up of fumes, dust, carbon monoxide, water vapour and other noxious materials. The ASF21 is available with either a 110 or 230 volt power supply.

Specifications	
Air flow (max)	3,600 m³/hr
Power supply	230/110 V 1 ph 50 Hz Run 1.15/3 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	67.5 dBA @ 1 metre
Weight	16 kg
Dimensions (L x W x H)	300 x 640 x 640 mm
Control	Manual variable speed
Average power consumption	265 W/hr

The ASF50 cooling fan will create a comfortable and pleasant working environment by circulating clean fresh air, thereby assisting comfort cooling. The ASF50 - as will all our fans - help disperse the dangerous build up of fumes, dust, carbon monoxide, water vapour and other noxious materials. The ASF50 is available with either a 110 or 230 volt power supply.

Specifications	
Air flow (max)	7,600 m^3/hr
Power supply	230/110 V 1 ph 50 Hz Run 3.7/6.1 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	80 dBA @ 1 metre
Weight	21 kg
Dimensions (L x W x H)	345 x 840 x 820 mm
Control	Manual variable speed
Average power consumption	851 W/hr

ASF950

The ASF950 cooling fan will create a comfortable and pleasant working environment by circulating clean fresh air, thereby assisting comfort cooling. The ASF950 - as will all our fans - help disperse the dangerous build up of fumes, dust, carbon monoxide, water vapour and other noxious materials. The ASF950 is available with either a 110 or 230 volt power supply.

Specifications	
Air flow (max)	37,000 m^3/hr
Power supply	230/110 V 1 ph 50 Hz Run 10/21 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	82 dBA @ 1 metre
Weight	49 kg
Dimensions (L x W x H)	440 x 1050 x 1,170 mm
Control	Manual variable speed
Average power consumption	2.3 kW/hr

The FV100 DV ventilation/extraction fan is a robust high powered fan, used with ducting for the removal of dangerous fumes, dust particles and vapours. The FV100 DV has a maximum ducted length of 10 metres and can be linked to heaters, boilers and chillers to distribute warm or cool air over large areas. The FV100 runs on 110 or 230 volt power supply.

Specifications	
Air flow (max)	1,700 m³/hr
Power supply	230/110 V 1 ph 50 Hz Run 5/10.5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Generator size	5 kVA
Duct size	200 mm
Noise level (max, with duct)	78.6 dBA @ 1 metre
Weight	27 kg
Dimensions (L x W x H)	605 x 440 x 535 mm
Control	Manual
Average power consumption	1.15 kW/hr

FV300

The FV300 ventilation/extraction fan is a robust high powered fan, used with ducting for the removal of dangerous fumes, dust particles and vapours. The FV300 has a maximum-ducted length of 40mtr and can be linked to heaters, boilers and chillers to distribute warm or cool air over large areas. The FV300 runs on 110 volt power supply.

Specifications	
Air flow (max)	4,930 m³/hr
Power supply	110 V 1 ph 50 Hz Run 17 A
Plug type	BS4343 32 A 110 V
Generator size	5 kVA
Transformer size	5 kVA (3.0 kW cont.)
Duct length (max)	40 metres
Duct size	300 mm
Noise level (max)	86.9 dBA @ 1 metre
Weight	130 kg
Dimensions (L x W x H)	920 x 720 x 1,045 mm
Control	Manual
Average power consumption	2 kW/hr

The FV600 ventilation/extraction fan is a robust high powered fan, used with ducting for the removal of dangerous fumes, dust particles and vapours. The FV600 has a maximum-ducted length of 40 metres and can be linked to heaters, boilers and chillers to distribute warm or cool air over large areas. This unit requires a 415 volt 3 ph power supply.

Specifications	
Air flow (max)	12,100 m^3/hr
Power supply	415 V 3 ph 50 Hz +E Run 6 A
Plug type	BS4343 5 pin 16 A 415 V
Generator size	20 kVA
Duct length (max)	40 metres
Duct size	Inlet 600 mm Outlet 450
Noise level (max, with duct)	83 dBA @ 1 metre
Weight	245 kg
Dimensions (L x W x H)	1,115 x 1,115 x 1,350 mm
Control	Manual
Average power consumption	4.25 kW/hr

FV900

The FV900 ventilation/extraction fan is a robust high powered fan, used with ducting for the removal of dangerous fumes, dust particles and vapours. The FV900 has a maximum-ducted length of 40 metres and can be linked to heaters, boilers and chillers to distribute warm or cool air over large areas. This unit requires a 415 volt 3 ph power supply.

Specifications	
Air flow (max)	16,500 m³/hr
Power supply	415 V 1 ph 50 Hz Run 10 A
Plug type	BS4343 3 ph 5 pin 415 V 16 A
Generator size	35 kVA
Duct length (max)	40 metres
Duct size	Inlet 600 mm Outlet 450 mm
Noise level (max, with duct)	86.6 dBA @ 1 metre
Weight	295 kg
Dimensions (L x W x H)	1,230 x 1,170 x 1,500 mm
Control	Manual
Average power consumption	7.1 kW/hr

Portable heating

The UK leader in portable heaters for hire

The biggest range, the best service and the hottest prices: we'll help you create a warmer, more comfortable and productive environment.

The UK leader in portable heat for hire, we provide safe and cost-effective warmth for any location through compact yet powerful direct and indirect fired gas and oil heaters, electric heaters, the new Aurora range, site heaters and mobile boilers for instant heat and hot water - for both long or short-term hire.

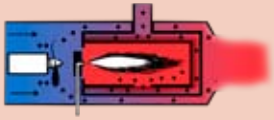
We'll also be with you fast, with a truly national service 24/7, 365 days a year. And we can supply and manage all the fuel you need at competitive rates.

- Price competitive heat for hire
- The UK's most advanced hire fleet of heaters, boilers and drying equipment
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days a year
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

Portable heater types

Direct fired heater

Indirect fired heater



Portable air heaters-which type to choose

Basically there are two distinct types of portable air heaters-direct fired and indirect fired. There is a choice of fuels, too, including Liquified Petroleum Gas (LPG), Kerosene, Gas Oil and Electricity.

Direct Fired

A direct fired heater uses an electric fan to provide combustion air and also the main air flow to give large volumes of heated air. Fuel is injected into a combustion chamber where it is ignited and burnt at a regulated rate mixing with the main air stream from the fan.

Generally referred to as 100% efficient (based on net calorific value of the fuel) because all the heat generated is discharged into the area to be heated. Andrews Sykes direct fired heaters are compact, robust, fully portable and are designed to provide safe controllable heat when and where it is needed. If necessary some can be thermostatically controlled. Direct fired heaters have a wide variety of applications including factories, warehouses, sports halls, churches, loading bays and farm buildings.

Indirect Fired

Indirect fired heater is a more sophisticated form of portable heater which is used to provide large volumes of clean dry heat without any products of combustion. Fuel is injected into a gas tight combustion chamber where it is ignited and burnt at a regulated rate.

The products of combustion are exhausted via a simple flue arrangement to atmosphere. Electric fans provide combustion air and the main air flow which collects heat indirectly from the heated chamber and is then expelled into the area to be heated. Indirect heaters are ideal for areas where there is limited ventilation or where there is danger posed by combustible materials. The clean dry heat produced creates a safe, warm fume free environment. Andrews Sykes indirect heaters are capable, with the addition of an outlet spigot and flexible ducting, of distributing heat to inaccessible locations.

Portable heater calculations

Electrical

Andrews Sykes electric heaters are the surest, fastest and handiest way of heating, drying and thawing. All you need is an electrical socket. There are no exhaust gases, smells or vapours and are therefore ideal for construction projects, marquees, store rooms, workshops, ships, switching stations, garages and in temporary accommodation.

Andrews Sykes Portable Heaters

Andrews Sykes Portable Air Heaters will give you instant, efficient flexible heat wherever you want it and whenever you need it. For over 25 years Andrews Sykes has been the name people have relied upon for portable heaters in homes, offices, schools, colleges, hospitals, warehouses, garages and factories, in industry, commerce, agriculture or horticulture.

Andrews Sykes heaters are designed and manufactured by the recognised specialists in the field. They are built to European Standards and are manufactured under the disciplines of a quality management system which has been assessed and fully approved to the requirement of ISO 9001 and EN 29001.

Calculations

Calculations to determine the correct size of Andrews Sykes portable heaters to use are shown below.

- Determine the temperature rise required inside the space to be heated in °C.
- Find the volume of the space in cubic metres i.e. L x W x H in metres.
- What sort of insulation does the building have?

Well insulated	k = 1.2
Average	k = 2.2
Badly insulated	k = 3.0
Hardly any insulation	k = 4.0

Amount of heat required = Temperature rise °C x Volume in m^3 x K x 4 = Btu/h

NB: divide Btu by 3412 to obtain kW for electric heaters.

For fixed permanent installations a full heat loss calculation must be made to take into account construction of the building, air changes etc. Your local Andrews Sykes depot will be pleased to help when required.

Direct fired gas

The UK leader in portable direct fired gas heaters for hire

Powerful, reliable and economical, these fully portable heaters deliver warmth wherever you are, whenever you need it. We operate the UK's largest hire fleet of heaters and also supply and manage all the fuel you need at competitive rates, ensuring you never run out.

Using LPG fuel, these efficient, compact and robust direct-fired gas heaters are best for places that need large volumes of warm air, such as factories, warehouses, sports halls, loading bays, and farm buildings. They can be used with either 110 volt or 230 volt and, as with all direct fired heaters, need permanent ventilation to the outside environment. Please call for help in choosing the right heater for your needs.

- Price competitive
- The UK's most advanced hire fleet of heaters
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days' a year
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

IMPORTANT NOTE: A FREE site survey by an Andrews heating specialist will help you work out exactly what model and set-up is right for your location and application. For health and safety reasons it is essential that you choose and operate the right type of heater for your location and application. We can advise you on the safest and most appropriate heater(s) to use. All direct fired heaters require permanent ventilation to the outside atmosphere and it's best to allow 6.5cm^3 for every 293kW of heat input. Propane cylinders must be used and stored in accordance with the highly flammable liquids and liquefied petroleum gases regulation 1972, which we will be pleased to explain.

The G30 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G30 DV is very reliable and delivers large volumes of warm air quickly and safely. The G30 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	15 - 38.6 kW 51,180 - 131,703 btu
Air flow (max)	750 m^3/hr
Typical heated area	923 m^3
Power supply	230/110 V 1 ph 50 Hz Run .39/.81 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	72 dBA @ 1 metre
Weight	15.5 kg
Dimensions (L x W x H)	610 x 372 x 480 mm
Control	Manual
Fuel type	LPG Propane only
Fuel consumption	1.15 kg/hr
Minimum cylinder(s)	2 x 47 kg
Max. operating pressure	1.5 bar

G125 DV

The G125 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G125 DV is very reliable and delivers large volumes of warm air quickly and safely. The G125 DV is available with either 110 or 230 volt power supply.

Specifications	
Nominal heating duty	8.8 - 36.6 kW 30,025 - 124,000 btu
Air flow (max)	680 m^3/hr
Typical heated area	875 m^3
Power supply	230/110 V 1 ph 50 Hz Run .41/.86 A
Plug type	BS1363 230 V
Noise level (max)	67.2 dBA @ 1 metre
Weight	16.4 kg
Dimensions (L x W x H)	630 x 380 x 425 mm
Control	Manual only
Fuel type	LPG Propane only
Fuel consumption	2.1 kg/hr
Minimum cylinder(s)	2 x 47 kg
Max. operating pressure	1 bar

The G30 TA is a direct fired gas heater with a integral thermostat, designed for use in well-ventilated areas. The G30 TA is very reliable and delivers large volumes of warm air quickly and safely.The G30 TA runs on 230 volt power supply.

Specifications	
Nominal heating duty	15 - 38.6 kW 51,180 - 131,707 btu
Air flow (max)	750 m^3/hr
Typical heated area	923 m^3
Power supply	230 V 1 ph 50 Hz Run .39 A
Plug type	BS1363 230 V
Noise level	72 dBA @ 1 metre
Weight	15.5 kg
Dimensions (L x W x H)	610 x 372 x 480 mm
Control	Automatic External Controls Available
Fuel type	LPG Propane only
Fuel consumption	1.15 kg/hr
Minimum cylinder(s)	2 x 47 kg
Max. operating pressure	1.5 bar

G100 DV

The G100 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G100 DV is very reliable and delivers large volumes of warm air quickly and safely. The G100 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	67.6 - 102.9 kW 230,000 - 351,094 btu
Air flow (max)	1,800 m^3/hr
Typical heated area	2,486 m^3
Power supply	230/110 V 1 ph 50 Hz Run .47/1 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	75 dBA @ 1 metre
Weight	28.2 kg
Dimensions (L x W x H)	935 x 470 x 532 mm
Control	Manual only
Fuel type	LPG Propane only
Fuel consumption	4.79 kg/hr
Minimum cylinder(s)	3 x 47 kg
Max. operating pressure	2 bar

The AIRFARM 3000 is a direct fired gas heater made entirely from stainless steel, and is ideal for greenhouses and breeding farms. Available in either wheeled or suspended versions, the AIRFARM 3000 is very reliable and delivers large volumes of warm air quickly and safely. The AIRFARM 3000 is set to be connected to a room thermostat and runs on 230 volt power supply.

Specifications	
Nominal heating duty (Propane)	97 kW 331,200 btu
Nominal heating duty (Butane)	106 kW 361,900 btu
Air flow (max)	3,300 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 1.3 A
Weight	28 kg
Dimensions (L x W x H)	1,060 x 415 x 675 mm
Control	Room thermostat
Fuel type	LPG Propane or Butane
Fuel consumption	6.6 kg/hr (Propane) 7.7 kg/hr (Butane)

AIRFARM 6000

The AIRFARM 6000 is a high air output, direct fired gas heater made entirely from stainless steel, and is ideal for greenhouses and breeding farms. Available in either wheeled or suspended versions, the AIRFARM 6000 is very reliable and delivers large volumes of warm air quickly and safely. The AIRFARM 6000 is set to be connected to a room thermostat and runs on 230 volt power supply.

Specifications	
Nominal heating duty (Propane)	97 kW 331,200 btu
Nominal heating duty (Butane)	106 kW 361,900 btu
Air flow (max)	6,000 m^3/hr
Power supply	230 V 1 ph 50 Hz Run 4.5 A
Weight	32 kg
Dimensions (L x W x H)	1,205 x 590 x 705 mm
Control	Room thermostat
Fuel type	LPG Propane or Butane
Fuel consumption	5.27 kg/hr (Propane) 6.16 kg/hr (Butane)

The G33 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G33 DV is very reliable, is designed for ease of service and delivers large volumes of warm air quickly and safely. The G33 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	37.92 kW 129,383 btu
Air flow	1045 m^3/hr
Typical heated area	916 m^3
Power supply	230/110 V 1 ph 50 Hz Run .7/1.3 A
Plug type	BS1363 250 V BS4343 16A 110V
Noise level	79 dBA @ 1 metre
Weight	13 kg
Dimensions (L x W x H)	610 x 325 x 515 mm
Control	Manual
Fuel type	LPG Propane only
Fuel consumption	2.95 kg/hr
Minimum cylinder(s)	2 x 47 kg
Max. operating pressure	1.5 bar

G80DV

The G80 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G80 DV is very reliable, is designed for ease of service and delivers large volumes of warm air quickly and safely. The G80 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	82.43 kW 281.251 btu
Air flow	2190
Typical heated area	1,930 m^3/hr
Power supply	230/110 V 1 ph 50 Hz Run 65/1.3 A
Plug type	BS1363 250 V BS4343 16A 110V
Noise level	77 dBA @ 1 metre
Weight	25 kg
Dimensions (L x W x H)	878 x 450 x 579mm
Control	Manual
Fuel type	LPG Propane only
Fuel consumption	6.4 kg/hr
Minimum cylinder(s)	3 x 47 kg
Max. operating pressure	2 bar

The G260 DV is a direct fired gas heater, designed for use in well-ventilated areas. The G260 DV is very reliable and delivers large volumes of warm air quickly and safely. The G260 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	25.6 - 77.5 kW 87,350 - 264,000 btu
Air flow	2,037 m^3/hr
Typical heated area	1,840 m^3
Power supply	230/110 V 1 ph 50 Hz Run .76/1.6 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level	74.5 dBA @ 1 metre
Weight	28.2 kg
Dimensions (L x W x H)	940 x 490 x 535 mm
Control	Manual only
Fuel type	LPG Propane only
Fuel consumption	5.5 kg/hr
Minimum cylinder (s)	3 x 47 kg
Max. operating pressure	1 bar

Catalytic

This catalytic gas cabinet heater is designed for use in well-ventilated areas. Its reliable manoeuvrable, stylish and delivers warm air quickly and safely.

Specifications	
Nominal heating duty (max)	3.0 kW 10,236 btu
Typical heated area	72.5 m^3
Weight	14 kg
Dimensions (L x W x H)	340 x 420 x 700 mm
Control	Manual
Fuel type	LPG butane
Fuel consumption	.219 kg/hr
Cylinder	15 kg
Max. operating pressure	.28 bar Atmosphere analyser safety as standard

This radiant gas cabinet heater is designed for use in well-ventilated areas. Its, reliable manoeuvrable, stylish and delivers warm air quickly and safely.

Specifications	
Nominal heating duty (max)	4.2 kW 14,330 btu
Typical heated area	101 m³
Weight	13.2 kg
Dimensions (L x W x H)	390 x 420 x 700 mm
Control	Manual
Fuel type	LPG butane only
Fuel consumption	.3 kg/hr
Cylinder	15 kg
Max. operating pressure	.28 bar Atmosphere analyser safety as standard

PTSI Plac Heater

This radiant gas Plac heater is designed for use in well-ventilated areas. Its very reliable and delivers warm air quickly and safely.

Specifications	
Nominal heating duty (nax)	7.03 kW 23,986 btu
Typical heated area	169 m^3
Weight	11.3 kg
Dimensions (L x W x H)	465 x 409 x 1945 mm
Control	Manual
Fuel type	Propane only
Fuel consumption	.5 kg/hr
Cylinder	1 x 47 kg
Max. operating pressure	.37 bar Atmosphere analyser safety as standard

Direct fired oil

The UK leader in portable direct-fired oil heaters for hire

Powerful, reliable and economical, these fully portable heaters deliver warmth wherever you are, whenever you need it. We operate the UK's largest hire fleet of heaters and also supply and manage all the fuel you need at competitive rates, ensuring you never run out.

Using oil as fuel, these efficient, compact and robust direct-fired oil heaters are best for places that need large volumes of warm air, such as factories, warehouses, sports halls, loading bays, and farm buildings. They can be used with either 110 or 230 volt and, as with all direct fired heaters, need permanent ventilation to the outside environment. Please call for help in choosing the right heater for your needs.

- Price competitive
- The UK's most advanced hire fleet of heaters
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days' a year
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

IMPORTANT NOTE: A FREE site survey by an Andrews heating specialist will help you work out exactly what model and set-up is right for your location and application. For health and safety reasons it is essential that you choose and operate the right type of heater for your location and application. We can advise you on the safest and most appropriate heater(s) to use. All direct fired heaters require permanent ventilation to the outside atmosphere and it's best to allow 6.5cm^3 for every 293kW of heat input. Propane cylinders must be used and stored in accordance with the highly flammable liquids and liquefied petroleum gases regulation 1972, which we will be pleased to explain.

Model 30

The Model 30 is a direct fired oil heater, designed for use in well-ventilated areas. The Model 30 can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 30 is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	28 kW 95,536 btu
Air flow (max)	500 m^3/h
Typical heated area	675 m^3
Power supply	230/110 V 1 ph 50 Hz Run 1.6/3.35 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	73 dBA @ 1 metre
Weight	31 kg
Dimensions (L x W x H)	860 x 485 x 530 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	2.6 litres per hour
Tank capacity	30 litres
Hours run	11.3 hours per tank

The Model 100 is a direct fired oil heater, designed for use in well-ventilated areas. The Model 100 can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 100 is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	29 kW 98,948 btu
Air flow (max)	720 m^3/hr
Typical heated area	700 m^3
Power supply	230/110 V 1 ph 50 Hz Run 2.5/5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	72.6 dBA @ 1 metre
Weight	33 kg
Dimensions (L x W x H)	819 x 540 x 514 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	2.8 litres per hour
Tank capacity	34 litres
Hours run	11.9 hours per tank

Model 40

The Model 40 is a direct fired oil heater, designed for use in well-ventilated areas. The Model 40 can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 40 is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	43 kW 146,716 btu
Air flow	1050 m^3/hr
Typical heated area	1050 m^3
Power supply	230/110 V 1 ph 50 Hz Run 2/4.1 A
Plug type	BS1363 230v / BS4343 16A 110v
Noise level	79 dBA @ 1 metre
Weight	37 kg
Dimensions (L x W x H)	930 x 560 x 615 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	4.09 litres per hour
Tank capacity	46 litres
Hours run	11.2 hours per tank

The Model 160 is a direct fired oil heater, designed for use in well-ventilated areas. The Model 160 can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 160 is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	47 kW 160,364 btu
Air flow	1,296 m³/hr
Typical heated area	1,130 m³
Power supply	230/110 V 1 ph 50 Hz Run 2.5/5 A
Plug type	BS1363 230 V BS4343 16 A 110V
Noise level	82.2 dBA @ 1 metre
Weight	43 kg
Dimensions (L x W x H)	1,028 x 546 x 546 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	4.7 litres per hour
Tank capacity	41 litres
Hours run	8.5 hours per tank

Tornado 85DV

The Model 85 DV is a direct fired oil heater, designed for use in well-ventilated areas. The Model 85 DV can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 85 DV is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	85 kW 290,000 btu
Air flow (max)	3,100 m³/hr
Typical heated area	2,191 m³
Power supply	230/110 V 1 ph 50 Hz Run 4.1 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	81 dBA @ 1 metre
Weight	88 kg
Dimensions (L x W x H)	1,600 x 660 x 1,010 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	8.1 litres per hour
Tank capacity	80 litres
Hours run	9.2 hours per tank

The Model 115 DV is a direct fired oil heater, designed for use in well-ventilated areas. The Model 115 DV can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 115 DV is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	115 kW 392,495 btu
Air flow	4,800 m³/hr
Typical heated area	2,191 m³
Power supply	230/110 V 1 ph 50 Hz Run 4.1 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level	73 dBA @ 2 metres
Weight	101 kg
Dimensions (L x W x H)	1,680 x 690 x 1,898 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	10.6 litres per hour
Tank capacity	54.5 litres
Hours run	5.1 hours per tank

Model 300TA

The Model 300TA is a direct fired oil heater with a integral thermostat, designed for use in well-ventilated areas. The Model 300TA can be fuelled by either Gas oil or Kerosene and available with either 230 or 110 volt electric supply. The Model 300TA is very reliable and delivers large volumes of warm air quickly and safely.

Specifications	
Nominal heating duty	88 kW 300,256 btu
Air flow (max)	3,276 m^3/hr
Typical heated area	2,119 m^3
Power supply	230/110 V 1 ph 50 Hz Run 2.7/5.5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	77.5 dBA @ 1 metre
Weight	82 kg
Dimensions (L x W x H)	1,397 x 740 x 940 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	8.37 litres per hour
Tank capacity	137 litres
Hours run	16.1 hours per tank

Indirect fired gas

The UK leader in portable indirect fired gas heaters for hire

Powerful, reliable and economical, these fully portable heaters deliver warmth wherever you are, whenever you need it. We operate the largest hire fleet of heaters in the UK, and can also supply and manage all the fuel you need at competitive rates, ensuring you never run out.

Using LPG fuel, these sophisticated, reliable and highly efficient indirect-fired gas heaters are best used in places where there is limited ventilation, delivering huge volumes of clean, dry, fume-free heat safely and economically. They are ideal for shops, showrooms, marquees, exhibition halls, food preparation areas and factories.

- Price competitive
- The UK's most advanced hire fleet of heaters
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days a year
- Installation and servicing by expert engineers as required
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

IMPORTANT NOTE: A FREE site survey by an Andrews heating specialist will help you work out exactly what model and set-up is right for your location and application. For health and safety reasons it is essential that you choose and operate the right type of heater for your location and application. We can advise you on the safest and most appropriate heater(s) to use. All direct fired heaters require permanent ventilation to the outside atmosphere and it's best to allow 6.5cm^3 for every 293kW of heat input. Propane cylinders must be used and stored in accordance with the highly flammable liquids and liquefied petroleum gases regulation 1972, which we will be pleased to explain.

IDRG30

The IDRG 30 is an indirect fired gas heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The IDRG 30 will deliver huge volumes of safe, dry, fume - free heat. All our heaters are Tested to the highest safety and reliability standards.

Specifications	
Nominal heating duty	26 kW 88,712 btu
Typical heated area	628 m^3
Power supply	230/110 V 1 ph 50 Hz Run 1.2/2.5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	62.3 dBA @ 1 metre
Weight	180 kg
Dimensions (L x W x H)	1,550 x 560 x 1,651 mm
Control	Automatic External Controls Available
Fuel type	LPG propane only
Fuel consumption	1.86 litres per hour
Minimum cylinders(s)	1 x 47 kg
Flue	Optional

The IG60 DV is an indirect fired gas heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The IG60 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are Tested to the highest safety and reliability standards.

Specifications	
Nominal heating duty	51kW 174,012 btu
Air Flow	5,000 m³/hr
Typical heated area	1,232 m³
Power supply	230/110 V 1 ph 50 Hz Run 1.75/3.7 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	71 dBA @ 1 metre
Weight	82 kg
Dimensions (L x W x H)	1,350 x 660 x 950 mm
Max. duct length	10 metres
Duct diameter size	450 mm
Control	Automatic External Controls Available
Fuel type	LPG propane
Fuel consumption	3.64 kg per hour
Minimum cylinder(s)	2 x 47 kg
Optional flue	108 mm x 10 metres max
Optional fresh air intake to burner	150 mm x 10 metres max

IG65 DV 60 kW

The IG65 DV is an indirect fired gas heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The IG65 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are Tested to the highest safety and reliability standards.

Specifications	
Nominal heating duty	60 kW 204,720 btu
Air Flow (max)	3,060 m³/hr
Typical heated area	1,500 m³
Power supply	230/110 V 1 ph 50 Hz Run 15.1 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	73.3 dBA @ 1 metre
Weight	220 kg
Dimensions (L x W x H)	1,500 x 775 x 1025 mm
Max. duct length	30 metres
Duct diameter size	300 mm
Control	Automatic External Controls Available
Fuel type	LPG propane only
Fuel consumption	5.25 kg per hour
Minimum cylinder	3 x 47 kg
Flue	600 x 127 mm

Indirect fired oil

The UK leader in portable indirect-fired oil heaters for hire

Powerful, reliable and economical, these fully portable heaters deliver warmth wherever you are, whenever you need it. We operate the largest hire fleet of heaters in the UK, and can also supply and manage all the fuel you need at competitive rates, ensuring you never run out.

Using Gas oil or kerosene fuel, these sophisticated, reliable and highly efficient indirect-fired gas heaters are best used in places where there is limited ventilation, delivering huge volumes of clean, dry, fume-free heat safely and economically. They are ideal for shops, showrooms, marquees, exhibition halls, food preparation areas and factories.

- Price competitive
- The UK's most advanced hire fleet of heaters
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days a year
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

IMPORTANT NOTE: A FREE site survey by an Andrews heating specialist will help you work out exactly what model and set-up is right for your location and application. For health and safety reasons it is essential that you choose and operate the right type of heater for your location and application. We can advise you on the safest and most appropriate heater(s) to use. All direct fired heaters require permanent ventilation to the outside atmosphere and it's best to allow 6.5cm^2 for every 293 W of heat input. Propane cylinders must be used and stored in accordance with the highly flammable liquids and liquefied petroleum gases regulation 1972, which we will be pleased to explain.

ID70 DV

The ID70 DV is an indirect fired oil heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The ID70 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are tested to the highest safety and reliability standards. The ID70 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	60.51 kW 208,156 btu
Air flow (max)	3,800 m³/hr
Typical heated area	1,474 m³
Power supply	230/110 V 1 ph 50 Hz Run 4/8 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	69 dBA @ 1 metre
Weight	121 kg
Dimensions (L x W x H)	1,570 x 690 x 938 mm
Minimum flue	1 metre
Duct length (max)	16 metres
Duct size	450 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	6.49 ltrs/hr
Tank capacity	100 litres
Hours run (max, with flue adapter)	15 hrs/tank

The ID100 DV is an indirect fired oil heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The ID100 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are tested to the highest safety and reliability standards. The ID100 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	29 kW 98,948 btu
Air flow (max)	1,764 m³/hr
Typical heated area	700 m³
Power supply	230/110 V 1 ph 50 Hz Run 2.4/5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	72 dBA @ 1 metre
Weight	61 kg
Dimensions (L x W x H)	1,185 x 540 x 980 mm
Minimum flue	1 metre x 127 mm
Duct length (max)	5 metres
Duct size	300 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	4.4 kg/hr
Tank capacity	65 litres
Hours run (max, with flue adapter)	12.9 hrs/tank

Mirage ID35 Oil DV

The ID35 DV is an indirect fired oil heater designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The ID35 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are tested to the highest safety and reliability standards. The ID35 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	40 kW 137,600 btu
Air flow (max)	2,050 m³/hr
Typical heated area	974 m³
Power supply	230/110 V 1 ph 50 Hz Run 2.4/5 A
Plug type	BS1363 230 V BS4343 16 A 110 V
Noise level (max)	70 dBA @ 1 metre
Weight	75 kg
Dimensions (L x W x H)	1,250 x 580 x 1,050 mm
Minimum flue	1 metre x 127 mm
Maximum duct length	3 metres
Duct diameter size	300 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	3.39 kg/hr
Tank capacity	51 litres
Hours run (max, with flue adapter)	13.3 hrs/tank

The ID37 DV is an indirect fired oil heater is designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The ID37 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are tested to the highest safety and reliability standards. The ID37 DV runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	31.7 kW 109,063 btu
Air flow (max)	2,000 m^3/hr
Typical heated area	772 m^3
Power supply	230/110 V 1 ph 50 Hz Run 3/6 A
Plug type	BS1363 230 V BS4343 110 V
Noise level (max)	77 dBA @ 1 metre
Weight	70 kg
Dimensions (L x W x H)	1,188 x 620 x 790 mm
Minimum flue	1 metre
Maximum duct length	8 metres
Duct diameter size	300 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	2.88 kg/hr
Tank capacity	51 litres

ID60 DV

The ID60 DV is an indirect fired oil heater is designed for use in places with limited ventilation or if you need heat in an area that has combustible material close by. The ID60 DV will deliver huge volumes of safe, dry, fume - free heat. All our heaters are tested to the highest safety and reliability standards.

Specifications	
Nominal heating duty	60kW 204,720 btu
Air flow (max)	3,060 m³/hr
Typical heated area	1,500 m³
Power supply	230/110 V 1 ph 50 Hz Run 6.2/15.1 A
Plug type	BS1363 230 V / BS4343 16 A 110 V
Noise level (max)	73.3 dBA @ 1 metre
Weight	220 kg
Dimensions (L x W x H)	1,500 x 775 x 1,025 mm
Minimum flue	600 x 127 mm
Maximum duct length	30 metres
Duct diameter size	300 mm
Control	Automatic External Controls Available
Fuel type	Gas Oil or Kerosene
Fuel consumption	6.98 kg/hr
Tank capacity	See fuel buggy details on page 158

High capacity heaters

The UK leader in portable high capacity heaters for hire

Our high capacity heavy-duty heaters give you more firepower, heating spaces up to 8,457m^3. The range has been developed to work unattended and reliably for long periods, even under the most arduous conditions. With an industrial burner assembly and fans capable of high pressures, you get the power you need even when big lengths of ducting are involved. Long distances, up the sides of buildings, working at height, delivering warmth to big structures: no problem.

As a result, our high capacity heaters are ideal for use on building and construction sites, refurbishments and renovations, oil and gas locations, warehousing and storage, distribution and logistics, civil engineering, specialist flooring and painting, manufacturing and industrial processes, shipbuilding, marquees and events. And with introduction of the Aurora range, Andrews has pushed the boundaries of heater technology to the limit, achieving greater than 92% heating efficiency with some of the most environmentally friendly and fuel efficient equipment available.

- Price competitive
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days a year
- Cost-effective fuel supply and management nationwide
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

FH250

The FH250 high capacity heater has been specifically developed to deliver large volumes of clean, dry fume free heat over long distances. The FH250 is very robust and will work, unattended for long periods of time in the most arduous conditions.

Specifications	
Nominal heating duty	73.3 kW 250,000 btu
Air flow (max)	5,436 m³/hr
Typical heated area	1,770 m³
Power supply	110 V 1 ph 50 Hz Run 12.6 A
Plug type	BS4343 16 A 110 V
Generator size	7.5 kVA 1 ph 110 V
Noise level (max)	70.5 dBA @ 1 metre
Weight	Dry 700 kg Fuelled 1,120 kg
Dimensions (L x W x H)	1,870 x 1,190 x 1,630 mm
Minimum flue	1 metre x 203 mm
Duct length (max)	45 metres
Duct size	2 x 300 mm
Control	External Controls Available
Fuel type	Gas Oil/Kerosene (LPG version available)
Fuel consumption	6.6 ltrs/hr
Run time on integral tank	48 hours

The FH500 high capacity heater has been specifically developed to deliver large volumes of clean, dry fume free heat over long distances. The FH500 is very robust and will work, unattended for long periods of time in the most arduous conditions.

Specifications	
Nominal heating duty	147 kW 501,564 btu
Air flow (max)	10,700 m^3/hr
Typical heated area	3,538 m^3
Power supply	415 V 3 ph N+E 50 Hz Run 5.2 A
Plug type	BS4343 16 A 3 ph 5 pin
Noise level (max)	77.5 dBA @ 1 metre
Weight	Dry 830 kg Fuelled 1,250 kg
Dimensions (L x W x H)	2,030 x 1,310 x 1,780 mm
Minimum flue	1 metre x 203 mm
Duct length (max)	45 metres
Duct size	4 x 300 mm
Control	Manual External Controls Available
Fuel type	Gas Oil/Kerosene (LPG version available)
Fuel consumption	12.8 kg/hr
Run time on integral tank	24 hours

Aurora IMA111DV

The Aurora IMA111 is a revolutionary high performance indirect oil fired heater. It is highly fuel efficient, producing more than 92% heating efficiency and therefore more environmentally friendly than most other oil fired heaters. The Aurora IMA111 is fully portable and easily transportable and compact without compromising on power, and at only 80 cm wide it can be used in usually inaccessible areas.

Specifications	
Nominal heating duty	110 kW 375,320 btu
Air Flow (max)	8,000 m^3/hr
Typical heated area	2,440 m^3
Power supply	230/110 V 1 ph 50 Hz Run 9.2/16 A
Plug type	BS4343 230 V 16 A BS4343 110 V 32 A
Noise level (max)	79 dBA @ 1 metre
Weight	800 kg
Dimensions (L x W x H)	2,230 x 780 x 1,340 mm
Duct length (max)	40 metres
Duct size	450 mm
Control	Manual, External controls available (24 V external control circuit)
Fuel type	Gas Oil
Fuel consumption	10.9 ltrs/hr

Aurora IMA185

The Aurora IMA185 is a revolutionary high performance indirect oil fired heater. It is highly fuel efficient, producing more than 92% heating efficiency and there fore more environmentally friendly than most other oil fired heaters. The Aurora IMA185 is fully portable and easily transportable and compact without compromising on power.

Specifications	
Nominal heating duty	193 kW 658,516 btu
Air Flow (max)	15,000 m^3/hr
Typical heated area	4,204 m^3
Power supply	415 V 3 ph +E 50 Hz Run 10.4 A
Plug type	BS4343 4 pin 3 ph 32 A
Generator size	27 kVA
Noise level (max)	82 dBA @ 1 metre
Weight	428 kg
Dimensions (L x W x H)	2,710 x 910 x 1,520 mm
Duct length (max)	40 metres
Duct size	600 mm
Control	Manual, external controls available (24 V external control circuit)
Fuel type	Gas Oil
Fuel consumption	18 ltrs/hr
Flue (min)	1 mtr x 200 mm

Aurora IMAC2000S

The Aurora IMAC2000S is one the most fuel efficient containerised oil-fired heaters in our fleet. It is 92%+ fuel efficient, which means it very environmentally friendly. The Aurora IMAC2000S has a rugged weather resistant stainless steel lockable casing, is very portable, stackable for storable, has a range of ducting outlets and adaptor plates and has crane hooks and fork lift slots.

Specifications	
Nominal heating duty	185 kW 631,220 btu
Air Flow (max)	12,000 m^3/hr
Typical heated area	4,108 m^3
Power supply	415 V 3 ph +E 50 Hz Run 7.5 A
Plug type	BS4343 3 ph 4 pin 32 A
Generator size	25 kVA
Noise level (max)	76.5 dBA @ 1 metre
Weight	545 kg
Dimensions (L x W x H)	2,400 x 800 x 1,370 mm
Duct length (max)	40 metres
Duct size	300 mm x 4
Control	Manual, external controls available (24 V external control circuit)
Fuel type	Gas Oil
Fuel consumption	18.2 ltrs/hr
Flue (min)	1 mtr x 200 mm

The Aurora IMAC4000 is one the most fuel efficient containerised oil-fired heaters in our fleet. It is 92%+ fuel efficient, which means it very environmentally friendly. The Aurora IMAC4000 has a rugged weather resistant stainless steel lockable casing, is very portable, stackable for storable, has a range of ducting outlets and adaptor plates and has crane hooks and fork lift slots.

Specifications	
Nominal heating duty (max)	383 kW 1,306 796 btu
Air Flow (max)	24,000 m^3/hr
Typical heated area	8,457 m^3
Power supply	415 V 3 ph +E 50 Hz Run 20 A
Plug type	BS4343 4 pin 3 ph 16 A
Generator size (soft start)	20 kVA
Noise level (max)	76.5 dBA @ 1 metre
Weight	1300 kg
Dimensions (L x W x H)	3,850 x 1,200 x 2,015 mm
Duct length (max)	40 metres
Duct size	600 mm x 2
Control	Manual, external controls available (24 V external control circuit)
Fuel type	Gas Oil
Fuel consumption (max)	38 ltrs/hr
Flue (min)	1 mtr x 250 mm

Electric Heaters

The UK leader in portable electric heaters for hire

Our portable electric heaters are the easiest, fastest and most convenient way of turning up the heat. All you need is a power socket.

The range includes small electric heaters designed for home, shop or office, DE and CT electric fan heaters, powerful ESH20/40 fan assisted heaters, radiant quartz and radiant ceramic for local spot heating in large areas, Lotus lightweight ceramic heaters, and oil-filled radiators for sensitive areas where the heater can come into contact with the elderly, infirm or young children.

No exhaust gases, smells or vapours: just safe, fume-free warmth. Andrews electric heaters are ideal for locations including offices, shops, domestic homes, building sites, marquees, stores, garages and workshops. A free site survey by an Andrews heating specialist will help you work out exactly what model and set-up is right for your location and application.

- Price competitive
- Free site surveys
- Fast delivery nationwide
- We respond within four hours of your call
- Planned support and the fastest emergency response
- Nationwide sales, support and maintenance 24/7, 365 days' a year
- Installation and servicing by expert engineers
- All staff are trained to Heating and Ventilating Contractors' Association (HVCA) standards

Electric Heating Types

Andrews Sykes can now offer a wide and varied range of electrical heaters for hire, to suit almost any requirement. From the original DE range which has become a market leader in the UK and Europe for over 20 years, to the latest development in Quartz and Electrical Site heaters - the Andrews Sykes range includes units for 110, 230 and 415 volt supplies. With capacities from 2.8 kW up to 40 kW in single portable units.

DE range

Three basic models of electric fan heaters are available. The DE25 is a single phase unit, which is available in a 230 volt version (ideal for offices, retail or load tests) and 110 volt (ideal for use on construction sites or industrial applications). The unit has a single setting of 2.8 kW output. A version of the DE25 is available with a built in thermostat for fully automatic operation. Single phase units are usually supplied with 2 metres of cable and a plug that is appropriate for the voltage of the heater. The DE65 is available in 415 volt 3 ph only, this unit has three settings of either 6.5 kW, 9.5 kW or 13 kW. Similarly the DE95 is also available in 415 volt 3ph and has three settings of either 10 kW, 15 kW or 20 kW. The 3ph units would usually be hard wired in by a qualified electrical engineer to the relevant electrical standards, however the units can also be provided with a short cable tail and a suitable plug, for ease of installation. For automatic operation both the DE65 and the DE95 can be used in conjunction with the T32 control thermostat with integral contractor and adjustable settings. The unrivalled reliability and durability of the DE range has set the standard for electrical heaters in many industrial and commercial applications. All DE units incorporate an overheat protection system for additional safety.

CT range

This also consists of three basic models of electric fan heaters. Developed and manufactured in the same factory as the DE range, the CT heaters have been specially designed to operate with flexible ducting. This enables the units to supply heat to awkward areas where access is difficult. The small, 20CT, which is only available in 230 volt 1 ph, can be fitted with up to 3 metres of flexible ducting and has a capacity of 2.8 kW. The 40CT is available in 415 volt 3 ph, has an output of 10kW (2 settings of 5 kW) and can also be fitted with up to 3 metres of flexible ducting. At the top end of the range, the 80CT which is a 415 volt 3 ph heater, with a capacity of 20 kW (2 settings of 10 kW), can be provided with up to 5 metres of flexible ducting. All of the CT range of heaters feature an integral automatic control stat for additional safety. The double skin construction ensures that a low surface temperature is maintained, whilst the heater is in use. The CT units are built to the same exacting standards we have come to expect from the DE range.

Designed to cater for applications that require a large amount of electrical heating and extend the Andrews Sykes range of electrical heaters up to 40 kW in capacity. This unit is available in a 415 volt 3 ph version, with two settings of 20 kW or 40 kW. The large high capacity, high-pressure fan enables the unit to provide large quantities of heated air and operate through ducting of up to 15 metres in length. Manufactured in a sturdy double skin steel casing with an enamelled finish, to give a low surface temperature and durability. The unit has an electrical protection rating of IP44 and is fitted with an

electrical inlet for ease of installation. An overheat safety system and a 3 ph circuit breaker are fitted for added protection, as standard. Industrial type castors and robust lifting handles ensure the unit remains truly portable. For fully automatic operation, a plug-in external thermostat can be provided separately.

Radiant Quartz

Designed to achieve local spot heating within large areas, these heaters consist of two short wave infra-red quartz emitters housed within a strong steel construction cabinet. Each of the emitters, or tubes, produce 1.5 kW of heat. The tubes can be used separately or together to produce a total of 3 kW per heater. The main advantages of a quartz type heater is that it only heats the area contained within the bright red glow that is emitted, therefore being ideal for spot heating in large warehouses or workshops. The bright red glow also generates a feeling of warmth. Another advantage with this type of unit is that the heat is produced within 1 or 2 seconds of the unit being switched on, without any warm up period. This makes it ideal for areas that need heating for short periods of time quickly and efficiently. The units are for use on a 1 ph supply only, but can be supplied either in 230 or 110 volt versions.

Radiant Ceramic

Very similar in operation to the quartz heater, these units have three ceramic infra-red elements each having an output of 1 kW. The elements can be switched separately or used together to produce a total of 3 kW heating output. The only other real difference between the two models is that the Ceramic heaters do not emit the red glow that is produced by the Quartz units.

Lotus

A smaller lightweight version of the ceramic heater, mounted within small carrying frame. Using the same type of elements as the Ceramic units, the Lotus has 3 settings of 0.8 kW, 1.6 kW and 2.4 kW. These units are only available in 230 volt for operation on a 1 ph supply.

Oil filled Radiator

ideal for use in sensitive areas where the unit can come into contact with the elderly, infirm or young children. This unit has no opening to the heating element, which is insulated within the oil in the radiator. The heat is produced as the element warms the oil, which in turn heats the radiator. Commonly specified in hospitals, nursing homes, schools, public buildings, museums and art galleries. The unit has two settings, with a total output capacity of 2.5 kW and has a built in thermostat for fully automatic operation.

Small Electric heaters

In addition to the units detailed Andrews Sykes also offer a wide range of small electric heaters suitable for use in domestic, retail or office type environments. The range includes both small fan heaters and convector heaters. These are generally for use on 230 volt 1 ph or 110 volt electric supplies, having output capacities of up to 3 kW and are available with a thermostat if required. Please contact your local Andrews Sykes depot for more information on these units.

The DE 25 is a very efficient electric fan heater. There are two versions, a 230 volt for general use and a 110 volt for construction sites and other industrial applications. The DE 25 is available with a built in thermostat for fully automatic and is suitable for virtually any location.

Specifications	
Nominal heating duty	2.8 kW 9,553 btu
Air flow (max)	250 m^3/hr
Typical heated area	67.6 m^3
Power supply	230 or 110 V 1 ph 50 Hz Run 12.2 or 25.4 A
Plug type	BS1363 230 V or BS4343 32 A 110 V
Noise level (max)	50.6 dBA @ 1 metre
Weight	11 kg
Dimensions (L x W x H)	320 x 260 x 360 mm
Control	DE25 Manual or DE25T Automatic (integral thermostat)
Power consumption (max)	2.8 kW/hr

DE65

The DE65 is a very efficient electric fan heater and is available as a 415 volt 3 ph version only. The unit has three settings, 6.5 kW, 9.5 kW or 13 kW and can either be hard wired or supplied with a short cable tail and suitable plug. For automatic operation, the DE65 can be used in conjunction with the T32 control thermostat.

Specifications	
Heating duty (max)	13 kW 44,356 btu
Air flow (max)	600 m^3/hr
Typical heated area	314 m^3
Power supply	415 V 3 ph +E 50 Hz Run 18.2 A (max)
Generator size	16.5 kVA
Plug type	BS4343 3 ph 4 pin 32 A
Noise level (max)	56.6 dBA @ 1 metre
Weight	25 kg
Dimensions (L x W x H)	600 x 360 x 450 mm
Control	Manual (in line automatic thermostat/ contactor available)
Power consumption (max)	13 kW/hr

The DE95 is a very efficient electric fan heater and is available as a 415 volt 3 ph version only. The unit has three settings, 10 kW, 15 kW or 20 kW and can either be hard wired or supplied with a short cable tail and suitable plug. For automatic operation, the DE95 can be used in conjunction with the T32 control thermostat.

Specifications	
Heating duty (max)	20 kW 68,240 btu
Air flow (max)	1,500 m^3/hr
Typical heated area	484 m^3
Power supply	415 V 3 ph 50 Hz Run 28 A (max)
Generator size	25 kVA
Plug type	BS4343 32 A 3 ph 4 pin
Noise level (max)	61 dBA @ 1 metre
Weight	32 kg
Dimensions (L x W x H)	470 x 410 x 580 mm
Control	Manual (in line auto stat/contactor available)
Power consumption (max)	20 kW/hr

CT20

The CT20 has been designed to supply heat to awkward areas where access is difficult and can be fitted with up to 3 metres of flexible ducting. The CT20 is only available as a 230 volt version; has an integral automatic control thermostat and a double skin construction to ensure low surface temperature.

Specifications	
Nominal heating duty	2.8 kW 9,553 btu
Air flow (max)	200 m^3/hr
Typical heated area	67 m^3
Power supply	230 V 1 ph 50 Hz Run 12 A
Noise level (max)	44 dBA @ 1 metre
Weight	10.5 kg
Dimensions (L x W x H)	395 x 332 x 310 mm
Duct length (max)	3 metres
Duct size	100 mm
Control	Automatic integral thermostat
Average power consumption	2.8 kW/hr

The CT40 has been designed to supply heat to awkward areas where access is difficult and can be fitted with up to 3 metres of flexible ducting. The CT40 is only available as a 415 volt 3 ph version with an output of 10 kW; has an integral automatic control thermostat and a double skin construction to ensure low surface temperature.

Specifications	
Nominal heating duty	10 kW 34,120 btu
Air flow (max)	450 m³/hr
Typical heated area	241 m³
Power supply	415 V 3 ph +E 50 Hz Run 14 A
Plug type	BS4343 4 pin 16 A
Generator	12.5 kVA
Noise level (max)	57 dBA @ 1 metre
Weight	17 kg
Dimensions (L x W x H)	670 x 320 x 310 mm
Duct length (max)	3 metres
Duct size	120 mm
Control	Automatic integral thermostat
Average power consumption	10 kW/hr

CT80

The CT80 has been designed to supply heat to awkward areas where access is difficult and can be fitted with up to 5 metres of flexible ducting. The CT80 is only available as a 415 volt 3 phase version with an output of 20 kW has an integral automatic control thermostat and a double skin construction to ensure low surface temperature.

Specifications	
Nominal heating duty	20 kW 68,240 btu
Air flow (max)	900 m^3/h
Typical heated area	483 m^3
Power supply	415 V 3 ph + E 50 Hz Run 28 A
Noise level (max)	62 dBA @ 1 metre
Plug type	BS4343 4 pin 32 A
Generator	25 kVA
Weight	28 kg
Dimensions (L x W x H)	980 x 515 x 480 mm
Duct length (max)	5 metres
Duct size	150 mm
Control	Automatic integral thermostat
Average power consumption	20 kW/hr

The ESH 20/40 fan assisted heater is designed for applications that need a large amount of electrical heating. The unit is only available in a 3 phase 415 volt version. The high pressure, high capacity fan enables the ESH 20/40 to deliver 40 kW of heat through ducting of up to 15 metres in length.

Specifications	
Nominal heating duty	40 kW 136,480 btu
Air flow (max)	3,851 m^3/h
Typical heated area	966 m^3
Power supply	415 V 3 ph + E 50 Hz Run 64 A
Plug type	BS4343 125 A 4 pin
Generator	60 kVA
Noise level (max)	98.6 dBA @ 1 metre
Weight	93 kg
Dimensions (L x W x H)	950 x 720 x 790 mm
Duct length (max)	15 metres
Duct size	450 mm
Control	Manual (Plug in thermostat available)
Average power consumption	40 kW/hr

Oil Filled Radiator

This elegant easy to use oil filled radiator produces 2.5 kW of heat and has a built in thermostat for fully automatic operation. The heater operates very economically from a standard domestic 230 volt socket.

Specifications	
Nominal heating duty	2.5 kW 8,530 btu
Typical heated area	60.4 m^3
Power supply	230 V 1 ph 50 Hz Run 10.86 A (max)
Weight	15 kg
Dimensions (L x W x H)	170 x 500 x 670 mm
Control	Automatic Integral Stat
Average power consumption	2.5 kW/hr

Quartz

Designed to achieve local 'spot' heating within large areas. The Quartz heats up within seconds and delivers up to 3 kW of heat from the two infra-red emitters.The radiant Quartz runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	3.0 kW 10,236 btu
Typical heated area	72 m^3
Power supply	230 or 110 V 1 ph 50 Hz Run 13 or 27.2 A
Plug type	BS1363 230 V or BS4343 32 A 110V
Weight	20 kg
Dimensions (L x W x H)	505 x 477 x 906 mm
Control	Manual
Average power consumption	3 kW/hr

Ceramic

Designed to achieve local 'spot' heating within large areas. The Ceramic heats up within seconds and will deliver up to 3 kW of heat from its 3 independently controllable infrared emitters. The Ceramic runs on 110 or 230 volt power supply.

Specifications	
Nominal heating duty	3 kW 10,236 btu
Typical heated area	72 m^3
Power supply	230 or 110 V 1ph 50 Hz Run 13 or 27.2 A
Plug type	BS1363 230 V or BS4343 32 A 110 V
Weight	20 kg
Dimensions (L x W x H)	505 x 477 x 906 mm
Control	Manual
Average power consumption	3 kW/hr

Lotus Ceramic

The Lotus Ceramic is a small lightweight ceramic heater designed to achieve local 'spot' heating. The Lotus Ceramic heats up within seconds and will deliver 2.4 kW of heat from its 3 independently controllable infrared emitters.

Specifications	
Nominal heating duty	2.4 kW 8,188 btu
Typical heated area	57.9 m^3
Power supply	230 V 1 ph 50 Hz Run 10.4 A
Plug type	BS1363 230 V
Weight	6 kg
Dimensions (L x W x H)	340 x 400 x 490 mm
Control	Manual
Power consumption (max)	2.4 kW/hr

OIL

Gas Oil (Red Diesel)
35 sec. (3 cst 37.8°c) 10.6 kW/Ltr

Kerosene
28 sec. (2 cst 15.6°c) 10.2 kW/Ltr

LPG

BUTANE (13.69 kW/kg) (vapour take-off only)

Capacity	4.5 kg	7 kg	15 kg
Height mm	340 mm	495 mm	580 mm
Diameter mm	240 mm	256 mm	318 mm
Recommended	.14m^3/h	.2m^3/h	.28m^3/h
Take Off	(5 kW/h)	(7 kW/h)	(9.9 kW/h)
Colour	Blue	Blue	Blue
Weight Tare	5.7 kg	8 kg	19 kg

PROPANE (13.89 kW/kg) (vapour take-off only)

Capacity	3.9 kg.	6 kg.	13 kg.	19 kg.	47 kg.
Height mm	340 mm	495 mm	580 mm	800 mm	1290 mm
Diameter mm	240 mm	256 mm	315 mm	315 mm	375 mm
Recommended	.28m^3/hr	.42m^3/hr	.57m^3/hr	.71m^3/hr	1.27m^3/hr
Take Off	(7.5 kW/hr)	(11 kW/hr)	(15 kW/hr)	(19 kW/hr)	(34 kW/hr)
Colour	Red	Red	Red	Red	Red
Weight Tare	5.7 kg	7 kg	12-19 kg	24 kg	47 kg

Gas Accessories

Description	**Part No.**
Pigtail and tee manifold *(propane)*	35000110
Pigtail *(propane)*	2400047
Tee manifold *(propane)*	2400046
Armoured LPG hose per metre *(propane)*	35000112
Butane Regulator Calor	35000105

Fuel tanks and accessories

Fuel buggy

The Andrews Sykes wheeled fuel buggy has a 90 litre capacity. This mobile fuel tank offers a simple easy to locate solution to projects requiring smaller fuel supplies.

Fuel buggy's may be easily connected together via self quick couplers, to provide extended running times where required. The fuel buggy is designed to be used in conjunction with the Andrews Sykes fuel pick-up pipe assembly, which also uses self sealing quick couplings for ease of installation and avoidance of fuel spills.

Bunded fuel tanks

The safe transportation and storage of fuel, especially in environmentally sensitive areas, is an increasing concern for all. Sykes offers a purpose built range of fully bunded fuel tanks for hire, with a capacity range from 1,000 - 3,000 Litres. Fully compliant and tested to ADR and UN requirements for IBC (International Built Container) standards. All manufactured under ISO 9001:2000 requirements.

Fuel pick up pipes

The Andrews Sykes fuels pick up pipe assembly is designed to fit directly into the Andrews Sykes fuel buggy or 45 gallon oil drums. They have an inline fuel filter and non return valves, to avoid fuel running back causing air locks and dirty fuel reaching sensitive equipment. The detachable fuel lines have self-seal quick couplings for ease of installation and avoidance of fuel drips.

Special air diffusers

The Andrews Sykes Special Air Diffuser Box's are available in 950mm or 450mm sizes.They are double skinned and insulated to ensure low surface temperatures are maintained. They provide directable warm air via directional loovers and give that elegant touch in high profile areas such as marquees.

SAD450

Inlet spigot
300 mm or underwall fishtail

Dimensions w/l/h
563 x 300 x 500 mm

Weight
17.2 kg

SAD900

Inlet spigot
300 mm or underwall fishtail

Dimensions w/l/h
1,065 x 300 x 840 mm

Weight
45.3 kg

Generators

Generators

We have a comprehensive range of silenced diesel driven electric generators available for hire, from 10 kVA up to 1,260 kVA.

- Electronic governing for uninterrupted power supplies (UPS) duty.
- Paralleling of larger units and automatic mains failure (AMF) sets are also available on request.
- Installation and supply of distribution systems is offered, which enables us to satisfy most temporary electrical requirements.

Thermostat T16

Power supply volt/amps
110 V or 230 V 1 ph
Max. current 5 A

Weight with 10 metre cable
1 kg

Dimensions w/l/h
83 x 106 x 200 mm

Operation
Manual set point - automatic

Thermostat T32

Power supply volt/amps

415V 3 ph + E 50 Hz
Max. 32 A/ph

Plug type
Input BS4343 3 ph 32 A 4 pin plug
Output BS4343 3 ph 32 A 4 pin inlet

Weight with cable and plugs
3 kg

Dimensions w/l/h
107 x 105 x 200 mm

SUITABLE FOR NEGATIVE PRESSURE EXTRACTION

Heavy duty duct available in

Part No.	Size
35000194	203 mm dia. x 8 metres
35000205	304 mm dia. x 8 metres
35000206	455 mm dia. x 8 metres
35000207	600 mm dia. x 8 metres

Steel helix very heavy duty plasterized material recommended working temperature 80°c.

Suitable for negative pressure.
8 metre lengths may be coupled together using connecting collar.

Connecting collar for heavy duty duct

Part No.	Size
35000260	203 mm dia.
35000261	304 mm dia.
35000274	455 mm dia.
35000235	600 mm dia.

HIGH TEMPERATURE MASTER FLEX

This ducting has a 3 metre section of high temperature material (200ºC) in the 8 metre length which is for the use of connecting to the hot outlets of indirect fired heaters after that standard material may be used.

Master Flex with high temperature section (200°C)

Part No.	Size	
	Complete With Connecting Grips	
35000264	200 mm	x 8 metre
35000265	300 mm	x 8 metre
35000266	450 mm	x 8 metre
35000267	600 mm	x 8 metre

Master Flex standard (suitable for ventilation)

Part No.	Size	
	Complete With Connecting Grips	
35000268	200 mm	x 8 metre
35000269	300 mm	x 8 metre
35000270	450 mm	x 8 metre
35000271	600 mm	x 8 metre

HIGH TEMPERATURE ALUMINIUM

Aluminium ducting high temperature (160°C)

Part No.	Size
35000202	152 mm x 10 metres
35000204	304 mm x 10 metres

Fixing with screw clips

Part No.	Size
35000221	152 mm
35000223	304 mm

Ducting adaptors

Part No.	Size
35000214	1 x 304 mm to 2 x 304 mm 'Y' piece
35000215	1 x 304 mm to 4 x 152 mm

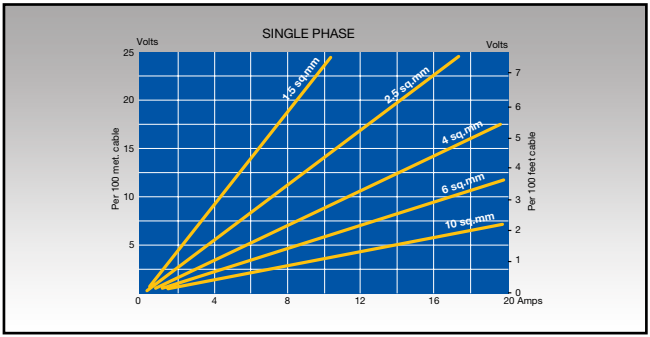
Flue section stainless

Part No.	Size
35000210	127 mm x 1 metre
30102015	210 mm (8 x 1 metre)

Flue cowls stainless

Part No.	Size
35000211	127 mm
30102016	210 mm

Electrical data



Standard electrical supplies in the UK

110 volt single phase (110/1/50) standard voltage found on construction sites for small tools and portable appliances usually only available up to 32 amp.

415 volt three phase (415/3/50) standard voltage on site and within industry for the larger equipment that is not portable.

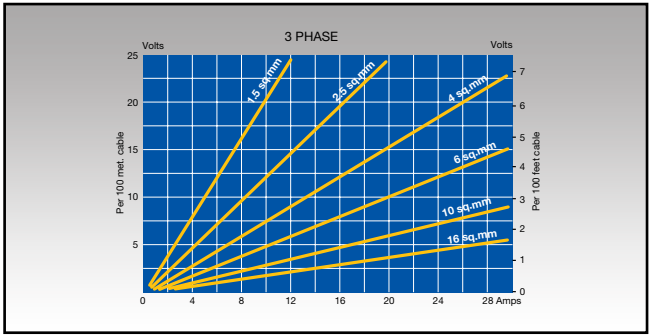
240 volt single phase (240/1/50) standard domestic voltage used for household appliances, retail and light industrial.

Power = kilowatts (kW)

Current = Amps (A)

Voltage = Volts (V)

	Single Phase	Three Phase
kW =	$\frac{\text{Volts x Amps x Eff \%}}{1000 \times 100}$	$\frac{\text{Volts x Amps x Eff \% x PF x 1.73}}{1000 \times 100}$



Volt drop

The amount of voltage lost when using long cable lengths, causes cable to get hot and become unsafe. The motor will also draw excessive current causing overloads to trip and motor to overheat the maximum permissible voltage drop over a length of cable is 2.5%.

To calculate volt drop use table on page 79 or use the following calculation, based on copper cable.

$$\frac{\text{Voltage drop} = \text{Length of cable (m)} \times 0.018 \text{ (resist)} \times \text{Amps} \times 1.73}{\text{Cross sectional area of cable (mm}^2\text{)}}$$

The above will give the voltage lost in cable length (v) divide by the supply voltage will give the % drop which must not exceed 2.5%

Example
16 Amp 3 phase 415 volt pump using 60 metres of 2.5mm cable
$\frac{60 \times 0.018 \times 16 \times 1.73}{2.5\text{mm}^2} = 11.96$
11.96 volt / 415 volt = 2.8% Therefore a larger cable is required as the volt drop exceeds 2.5%

ANDREWS SYKES GROUP PLC

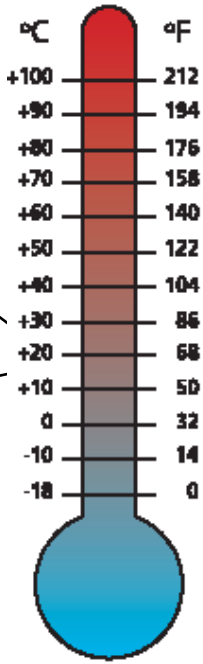
Coversion factors

Inches	x	25.4	=	mm	x	0.0394	=	Inches
Feet	x	0.3048	=	m	x	3.281	=	Feet
Yards	x	0.9144	=	m	x	1.0936	=	Yards
Miles	x	1.609	=	km	x	0.6214	=	Miles
Ft^2	x	0.0929	=	m^2	x	10.764	=	Ft^2
$Miles^2$	x	2.59	=	km^2	x	0.3861	=	$Miles^2$
In^3	x	16387	=	mm^3	x	0.000061	=	In^3
Ft^3	x	0.02832	=	m^3	x	35.31	=	Ft^3
Gals (Imp)	x	4.546	=	L	x	0.22	=	Gals (Imp)
Gals (Imp)	x	0.004546	=	m^3	x	220	=	Gals (Imp)
btu	x	0.000293	=	kW	x	3412	=	btu
LBS	x	0.4536	=	kg	x	2.2046	=	LBS
Tons	x	1016	=	kg	x	0.000984	=	Tons
CFM	x	1.701	=	m^3 / h	x	0.5878	=	CFM
L / sec	x	3.6	=	m^3 / h	x	0.277	=	L / sec
PSI	x	0.06895	=	Bar	x	14.504	=	PSI
HP	x	0.7457	=	kW	x	1.341	=	HP

Temperature conversion

MAXIMUM 23ºC
Recommended by Chartered Institute of Building Services Engineers
CALL ANDREWS AIR CONDITIONING HIRE

MINIMUM 16ºC
Legal minimum Health & Safety Executive Act of 1963
CALL ANDREWS HEAT FOR HIRE



Conversion Centigrade to Fahrenheit
ºC x 1.8+32= ºF
ºF - 32÷1.8= ºC

Definitions

R.H.
Relative Humidity is the relationship between the amount of water vapour in air at any temperature and the maximum amount of water vapour which the air could absorb before condensation takes place. Relative humidity is expressed as a percentage.

Dew Point
The temperature at which water vapour in the air condenses out.

Vapour pressure
The partial pressure in the air due to the presence of water.

Condensation
When humid air cools, the water vapour becomes liquid.

Cold Bridge
An area of physical contact between a warm and cold surface where condensation occurs.

Surface area
L x B = m^2

Volume
L x B x H = m^3

Latent Heat
The heat required to evaporate or condense water with no change in temperature.

K-factor
Heat transmission coefficient.

Wet Bulb Temperature
Temperature of humid air with a thermometer with a wet covering around the mercury reservoir, at an air speed of +/-3 m/sec.

Dry Bulb Temperature
Temperature of humid air, measured with a normal thermometer.

Absolute Humidity
Amount of water vapour, expressed in kg, which is present per kg. of dry air.

Psychrometric Diagram
A diagram in which a relation is given between the absolute and relative humidity at a specified pressure for each temperature.

Pressure
Force per surface unit (n/m^2 - PA).

Depots Nationwide

Call Us Free 0800 211 611

Click www.andrews-sykes.com

Andrews Sykes Hire Limited
Premier House, Darlington Street, Wolverhampton, WV1 4JJ
Telephone: (01902) 328700 Fax: (01902) 422466
E-mail: info@andrews-sykes.com
www.andrews-sykes.com