
Personal Air Conditioners

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1 Personal Air Conditioners

Personal Worker Comfort in Hot or Cold Environments

1.1 Overview

Workers in extreme temperatures wear Personal Air Conditioners (PACs) to minimize heat stress and fatigue and improve comfort and productivity. Vortec PACs have two components: a cooling/heating tube with belt that generates cold (or hot) air to provide air flow to the worker;

a diffuse air vest through which the cold/hot air flows to cool the worker's torso and neck.



1.2 Features

- Provide continuous, consistent cooling, unlike ice or gel packs
- Easy temperature adjustment by user, even with gloved hands
- Three cooling capacities available; one model has both heating and cooling capability
- All PAC models are supplied with an adjustable waist belt and an Industrial Interchange style quick connect for attachment to the compressed air supply
- Air is delivered at up to $\pm 60^{\circ}$ F differential from the compressed air inlet
- Can be worn under other protective clothing
- Three vest sizes available to fit all workers, plus a vest extension for varying sizes
- Vest is impermeable to sweat, dirt and other contaminants; easily cleaned
- Collar unfolds to deliver air to the neck and face
- Vest allows full range of motion with no airflow restrictions
- Vest collar unfolds to deliver air flow to neck and face
- Vest is non-flammable; material conforms to MIL-C-43006F type 2

1.3 Benefits

- Improves worker safety
- Eliminates the incidence of worker heat stress
- Reduces non-productive cooling and warming work breaks
- Maximizes worker productivity and comfort in extreme temperatures
- Eliminates the need to air condition large warehouse or shop areas

1.4 Applications

Work in temperature extreme conditions

1.5 Uses

- Foundries
- Powder Coating
- Welding Operations
- Steel Mills
- Sand Blasting
- Asbestos Abatement
- Power Plants
- Mines
- Casting Shops
- Smelters
- Boiler Rooms
- Metal Production
- Paint Baking Operations
- Forging Shops
- Refrigerated Lockers
- Hazardous Waste Removal
- Unconditioned Warehouses

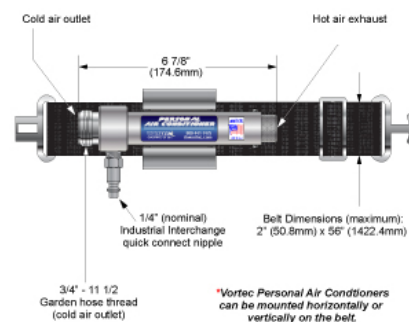
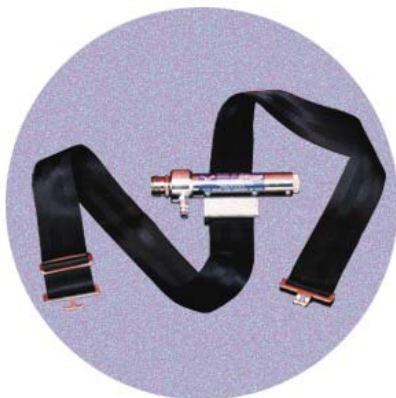
2 Models

2.1 Personal Vortex Cooling Systems

PACs are available in three cooling capacities, and one model that provides versatility to switch back and forth between heating and cooling. All four models are adjustable by the worker using an integral temperature adjust knob; and can achieve temperatures of ± 60 deg F from the inlet compressed air temperature using vortex tube technology.

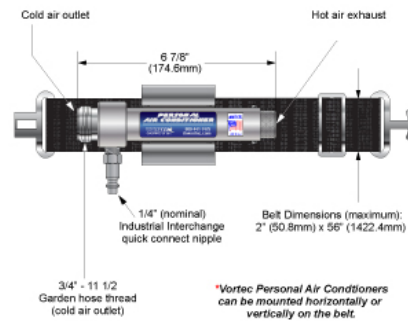
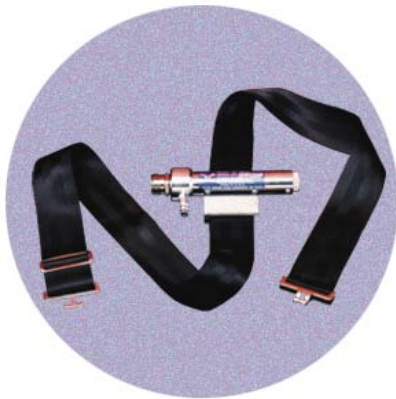
22815: Personal Air Conditioner with Belt (900 BTU/h)

Model	22815
Description	Cooling only
Cooling Capacity (BTU/hr)	900
Air Consumption @ 100 psig (scfm)	15
Temperature Drop or Change (deg F)	60

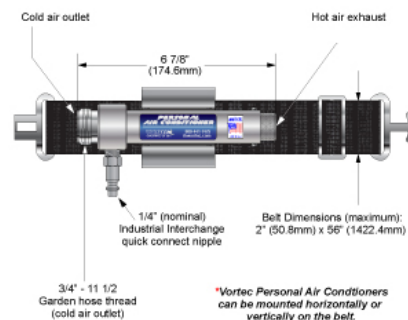
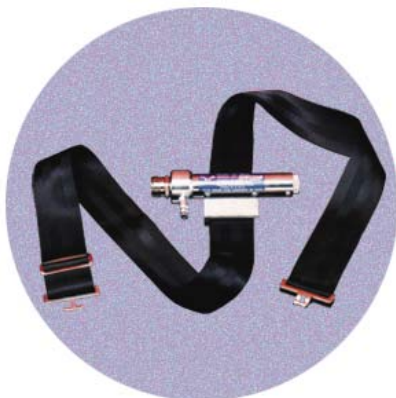


22825: Personal Air Conditioner with Belt (1500 BTU/h)

Model	22825
Description	Cooling only
Cooling Capacity (BTU/hr)	1500
Air Consumption @ 100 psig (scfm)	25
Temperature Drop or Change (deg F)	60

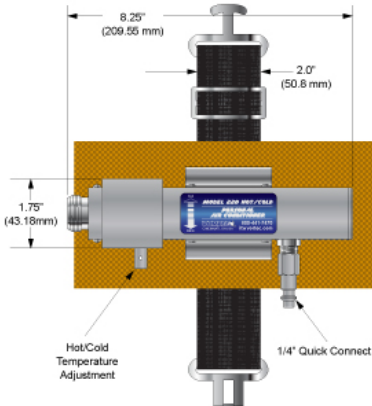
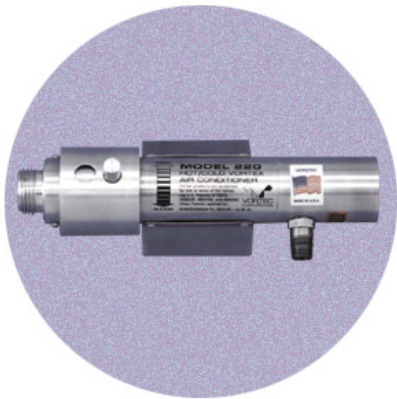
**22835: Personal Air Conditioner with Belt (2500 BTU/h)**

Model	22835
Description	Cooling only
Cooling Capacity (BTU/hr)	2500
Air Consumption @ 100 psig (scfm)	35
Temperature Drop or Change (deg F)	60



220: Personal Air Conditioner with Belt, Heating and Cooling (1500 BTU/h)

Model	220
Description	Heating and Cooling
Cooling Capacity (BTU/hr)	1500
Air Consumption @ 100 psig (scfm)	25
Temperature Drop or Change (deg F)	+/-60



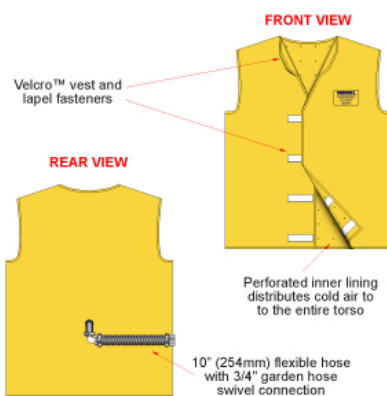
2.2 Diffuse Air Vests

The diffuse air vest is available in three sizes and provides continuous cooled (or heated) air through its perforated inner lining. The durable plasticized PVC vest allows full range of motion with no airflow restrictions; and does not absorb sweat or other contaminants. The vest can be worn under other protective clothing and features a collar that can be unfolded to deliver airflow to the neck and face. A vest extension is also available to accommodate varying sizes.

855: Diffuse Air Vest (Large)

Diffuse Air Vest to be used with Personal Air Conditioner

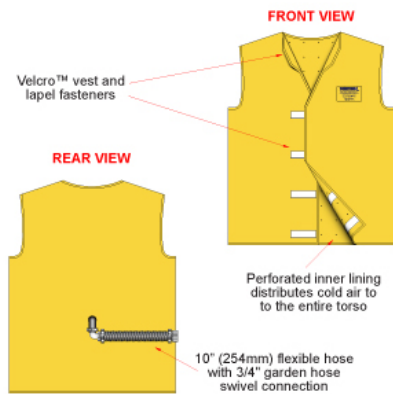
Model	855
Size	Large
Girth (inches)	36 to 41



857: Diffuse Air Vest (XLarge)

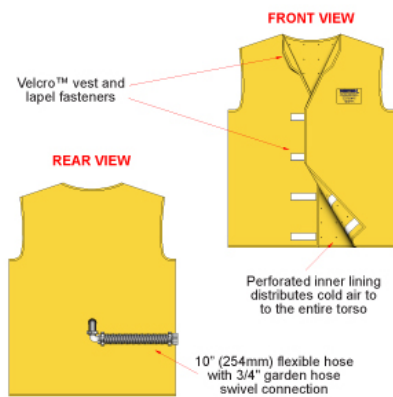
Diffuse Air Vest to be used with Personal Air Conditioner

Model	857
Size	X-Large
Girth (inches)	41 to 46

**859: Diffuse Air Vest (XXLarge)**

Diffuse Air Vest to be used with Personal Air Conditioner

Model	859
Size	XX-Large
Girth (inches)	46 to 52



863: Diffuse Air Vest Extension

Model

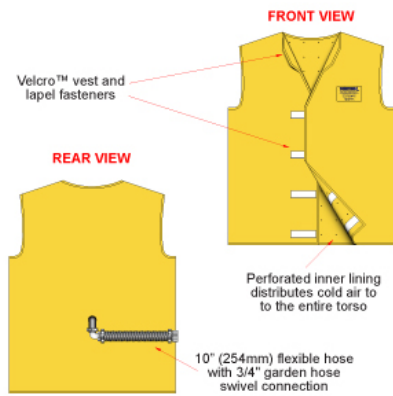
863

Size

Vest Extension

Girth (inches)

4 to 5



3 Technical data

Personal Vortex Cooling Systems

Model	Description	Cooling Capacity (BTU/hr)	Air Consumption @ 100 psig (scfm)	Temperature Drop or Change (deg F)
22815	Cooling only	900	15	60
22825	Cooling only	1500	25	60
22835	Cooling only	2500	35	60
220	Heating and Cooling	1500	25	+/-60

Diffuse Air Vests

Model	Size	Girth (inches)
855	Large	36 to 41
857	X-Large	41 to 46
859	XX-Large	46 to 52
863	Vest Extension	4 to 5