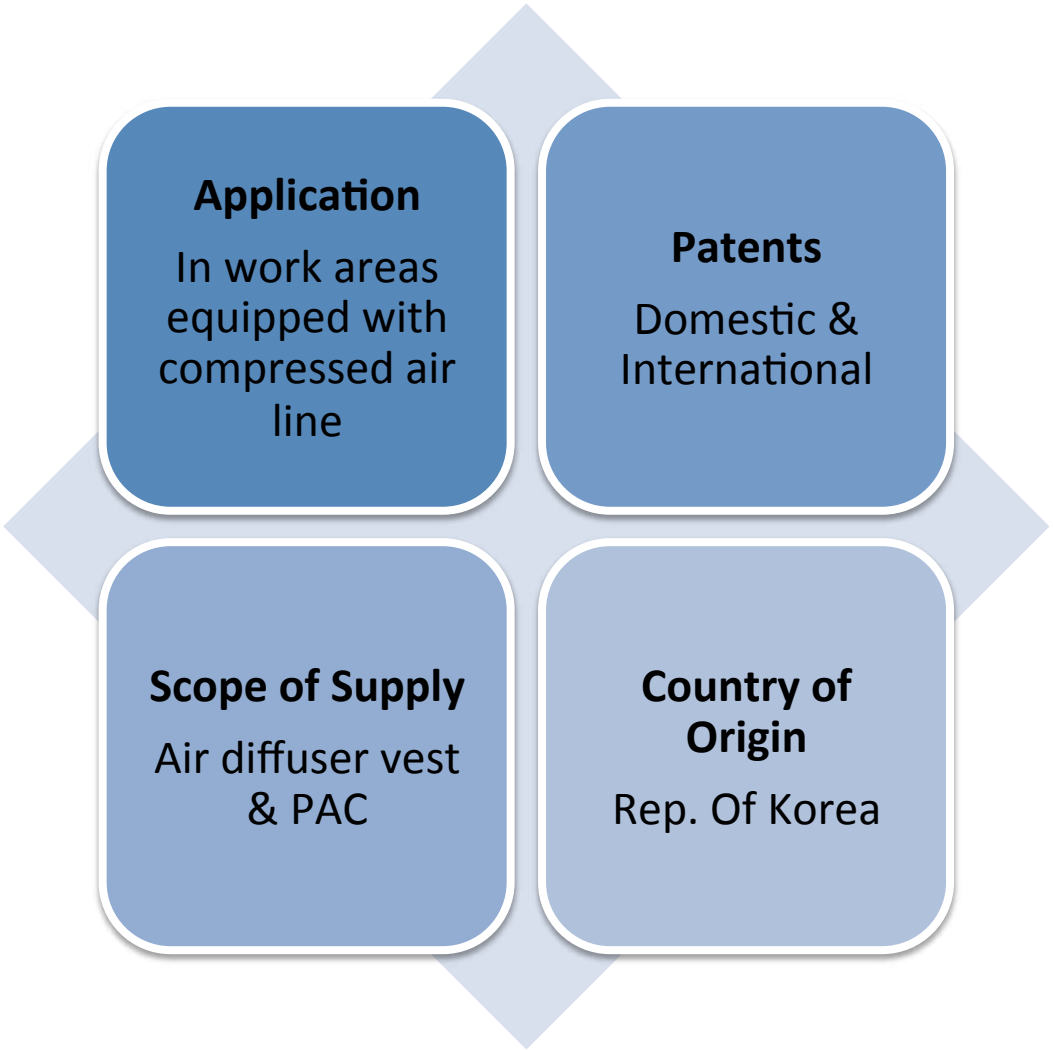
Compressed Air Cooling Vest with Vortex Tube

Absolute Coolness !

KYOUNGDO Co., Ltd.

Introduction



Benefits

The PAC is able to produce a steady stream of cold and hot air when connected to a compressed air supply. The cold air is circulated through a diffuse air vest to cool the user. The hot air is vented out.

- Reduces incidents related to heat stress
- Improves productivity and efficiency
- Reduces the frequency of non productive cooling breaks
- Consistent cooling for prolonged duration
- Easy temperature adjustment
- Upto 40 deg C temp differential

Scope of Supply

VEST

KD-A700A

- Type :Slim half-body Air vest
- Material : Synthetic leather, mesh
- Size : One size fits all

KD-A700B

- Type :Slim Full-body Air vest w/ leg loop
- Material : Synthetic leather, mesh
- Size : One size fits all

KD-A700C

- Type :Std Half body Air vest
- Materia:l Polyester
- Size : One size fits all

COOLING VORTEX TUBE

KD-A7001

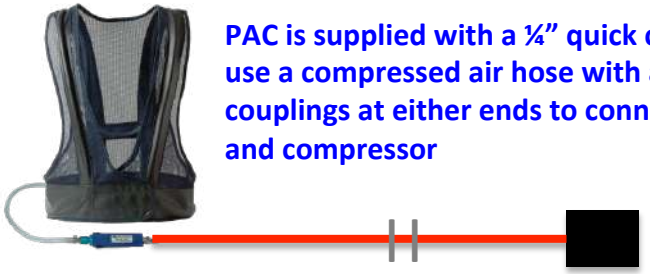
Personal Air Conditioner (PAC)

(Supplied with ¼" quick coupler on one side and hose connecting to vest on the other)

SCOPE OF SUPPLY

ONLY VEST + KD-A7001

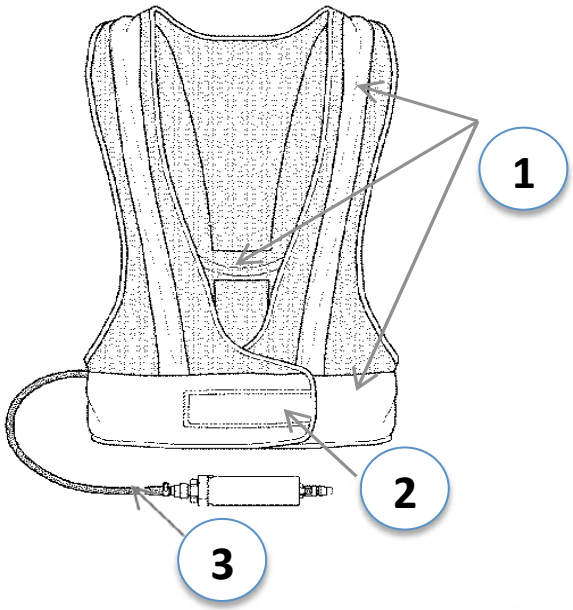
Compressed air hose with connectors NOT SUPPLIED



PAC is supplied with a ¼" quick coupler. Please use a compressed air hose with appropriate couplings at either ends to connect to the PAC and compressor

---------Not supplied with vest----------

Parts



No.	Part names
①	Hose with air holes punched every 10cm
②	Velcro
③	Connecting hose to PAC(KD-A700)

No.	Part names
①	Cooled air outlet coupler
②	Compressed air inlet coupler (1/4”) Quick connect (Can be changed if required)
③	Compressed air inlet control valve (Brown)
④	Hot air outlet
⑤	Cold air control valve (blue colour)

Cooling Capacity

***Test Condition**

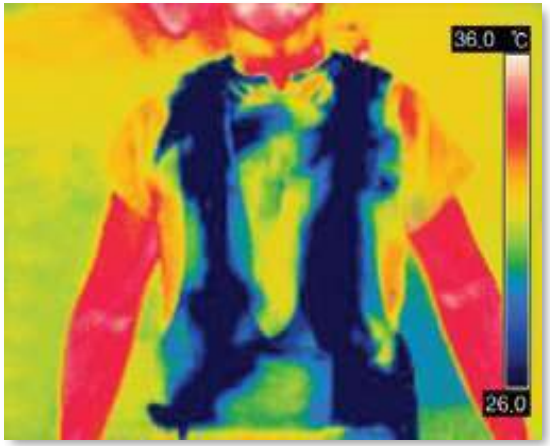
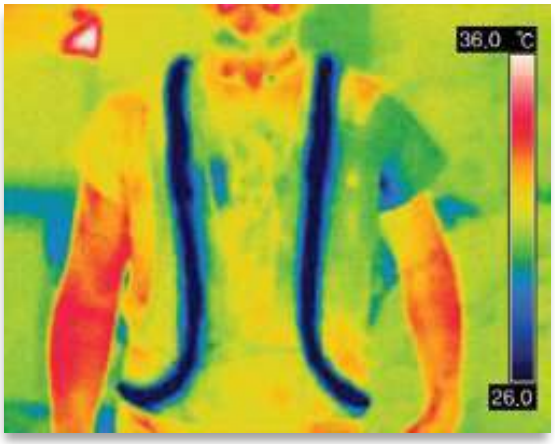
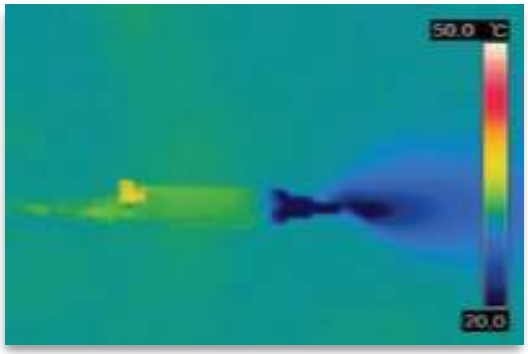
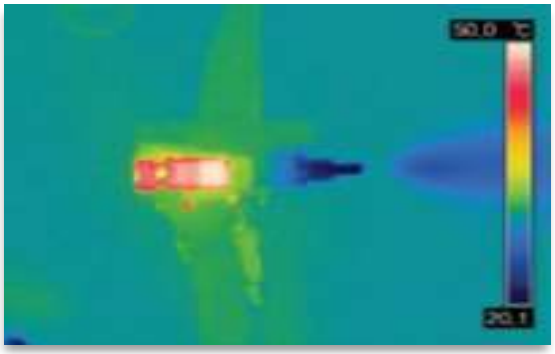
Incoming air pressure		Ambient air temperature
4.0 bar	0.4 MPa	35 deg C

***Cooling Performance**

Cooling air temp.	Temp. differential	Total air consumption	Hot air exhaust	Cooled air	Cooling capacity	
-5 deg C	40 deg C	400 LPM	200 LPM	200 LPM	591 BTU/hr	149 Kcal/hr

** Min inlet pressure of 4bar to be maintained.
DO NOT operate PAC at compressed air pressure above 10.3 bar
Wear appropriate gloves to avoid accidental burns

Performance Comparison

	KD-A7001	Competitor's product
Cooling Performance		
Hot air outlet temperature		

Minimized heated zone comparing to existing products to avoid burn hazard
** Gloves recommended during use

Patents

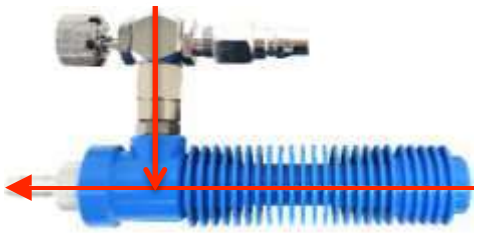
- ‘I’ shaped air flow with inlet/outlet in the same line compared to ‘T’ shaped configuration in competitor’s product

Air inlet

Air outlet

KD-A7001

Air inlet



Competitor’s product

- Reduced overheating and chance of burn injuries

Applications

- Welding Operations
- Ship yards
- Sand Blasting
- Work shops
- Power Plants
- Boiler Rooms
- Metal Industries
- Casting/ Forging Shops
- Mines
- Smelters
- Foundries
- Steel Mills
- HAZMAT Operations
- Warehouses without air conditioning

Instructions for use

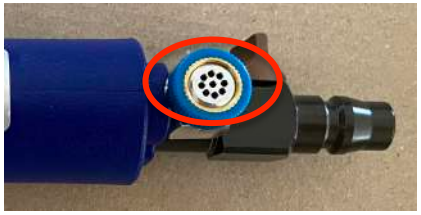
Items required to connect to PAC (not supplied with air vest)

- Compressed air hose with appropriate couplings on either side (1/4” quick connect coupling provided on the PAC)
- Compressor (Incoming pressure to PAC to be min 4 bar)

How to use

- Wear the vest and adjust the velcro for a secure fit
- Pass the provided belt through the loop on the PAC pocket and secure around waist/ leg as desired
- Connect the PAC to the compressor
- The inlet air volume can be regulated to a certain extent by turning the brown valve

- Adjust cold air flow as desired by turning the blue dial



Please refer to precautionary measures recommended

General Safety & performance considerations

WARNING: COMPRESSED AIR COULD CAUSE DEATH, BLINDNESS OR INJURY.

- Do not operate a Personal Air Conditioner at air pressures above 150 psig (10.3 bar)
- The area around the hot air outlet can be hot. Exercise caution and wear appropriate gloves to avoid accidental burns
- Use appropriate couplers with air hose to connect to PAC
- Avoid direct contact with compressed air.
- Do not direct compressed air from a nozzle or orifice at any person.
- When using compressed air, wear safety glasses with side shields.
- The area near the temperature adjustment valve may be hot: use gloves when adjusting the valve to avoid burns.
- Ensure all connections and couplings are secure, and hold the open end of the hose firmly to avoid uncontrolled “whipping” of the hose
- The compressed air supply must be filtered (5 micron maximum) to remove water and dirt for optimal performance
- **THE PAC IS TO BE USED WITH COMPRESSED AIR ONLY AS PRESCRIBED. MUST NOT USE OXYGEN, LPG, OR ANY OTHER TYPE OF GAS.**

TROUBLESHOOTING

Insufficient air flow may be caused by the following:

1. Undersized compressed air pipe or hose diameter.
2. Compressed air hose too long (excessive pressure drop through hose).
3. Compressed air pressure too low.
4. Insufficient compressed air volume.
5. Partial or complete blockage of internal compressed air path
6. Loose cold air outlet fitting (if disassembled for cleaning).

Manufactured by

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