



**ELIMINATE
HEAT INDUCED
FATIGUE**

**The World Leader
in Personal Cooling**

COOL SHIRT® Pro Air & Water System

Congratulations on your purchase of the world's finest Driver Cooling System

The **COOL SHIRT® Pro Air & Water System** is the finest *Driver Cooling System* available today. The *Pro Air & Water System* delivers temperature-controlled cooled water to the driver's **COOL SHIRT®** while providing cooled, HEPA-4 filtered, blower-enhanced air to the driver's helmet.

COOL SHIRT® Personal Cooling Systems are manufactured in the USA and contain the highest quality components available. With proper installation and maintenance, your system will provide you with years of dependable service. *Please inspect your purchase to ensure that your system contains the selected components listed below. If there are any discrepancies, please contact Shafer Enterprises Customer Service at 800-345-3176 immediately.*

<u>Quantity</u>	<u>Part#</u>	<u>Description</u>
_____	1 PSAW-24 or PSAW-12	<i>Platinum Series</i> Cooling Unit w/heat exchanger & internal pump
_____	1 H-8	8-foot insulated water hose with quick disconnects
_____	1 CW-(size)	COOL SHIRT® Cool Water shirt
_____	1 FC-2	Dual Flow Temperature Control Switch for the air and water
_____	1 MT-12 or MT-24	Mounting Tray with tie-down strap
_____	1 AIRH-8	8-foot x 1 1/2" diameter heavy-duty clear Helmet Air Hose
_____	2 HEF-1 1/2	Blue Air Hose Connectors: 1 1/2" diameter
_____	1 HEF-H	Blue Helmet Connector for Air Hose
_____	1 A-3x3FT	3' x 3" heavy duty clear Intake Air Hose
_____	1 HEF-4	4" blue Intake Air Hose-to-Blower connector
_____	1 FS-10	HEPA-4 Micron Air Filters: 10 per package
_____	1 FS-1	Metal Screen for Air Filter
_____	1 BF-235	235CFM Blower with 1 1/2 inch Blue Filter Housing attached
_____	2 IC	Block Ice Container

Available accessories for your Pro Air & Water System:

<u>Part#</u>	<u>Description</u>
_____	FWS-LS Long-Sleeve Firewear fire-retardant Hans-Friendly COOL SHIRT®
_____	FWS-SS Short-sleeve FireWear fire-retardant Hans-Friendly COOL SHIRT®
_____	C-NCW-LS CarbonX fire-retardant Hans-Friendly COOL SHIRT®
_____	NCW-LS Long-sleeve Nomex Hans-Friendly COOL SHIRT®
_____	BCW COOL BLUE Shirt / Hans-Friendly
_____	PRC-2 Emergency Safety Pull Release Connector Kit
_____	HEF-H-45 45 degree Helmet Hose Adaptor
_____	UK-1 Universal Connector and Drain Kit
_____	Other _____

Order packed by: _____

System Specifications

	<u>Dimensions</u>	<u>Cooling Time</u>	<u>Dry Weight</u>	<u>Power Required</u>
PSAW-12:	14"L x 9.5"W x 11"H	Max 3 hours	6 lbs.	235 CFM Blower: 2.9A, 12V Water Pump: 2.0A, 12V
PSAW-24:	15.5"L x 10.5"W x 13"H	Max 6 hours	7 lbs.	235 CFM Blower: 2.9A, 12V Water Pump: 2.0A, 12V

COOL SHIRT® Pro Air & Water System

Installation Instructions

MOUNTING TRAY and COOLING UNIT

(Part #: MT-12 or 24) (Part#: PSAW-24 or PSAW-12)

- 1) Select mounting tray location and permanently attach the tray to the racecar with any appropriate hardware (not provided). Place cooling unit into the mounting tray.
- 2) Thread the tie down strap through one of the two slots provided on the cooling unit, then run the strap down through the slot on the same side of the mounting tray. Run the strap lengthwise *under* the cooling unit *between* the mounting tray and cooling unit, through the slot on the other side of the mounting tray and up through the slot in the top of the cooling unit.
- 3) Use the clamp provided on the strap to secure the cooling unit to the tray. The cooling unit and mounting tray were packaged this way from the factory prior to shipping to illustrate proper placement of tie-down strap.

Note: *Ensure that the 8-foot water hose and the 8-foot x 1½ inch air hose can reach the driver. Do not allow any hoses to come into contact with any hot metals as this may damage the hoses.*

BLOWER (Part #: BF-235)

- 1) Select the cockpit location for the blower and permanently mount the blower to the racecar using any appropriate hardware (not provided).
- 2) Make sure that the 3-inch air intake is pointed towards the outside of the car. Place filter and screen and fasten with a tie-wrap or clamp (not provided). **CAUTION: DO NOT OVER TIGHTEN as this can cause damage to the fan blades.**

TEMPERATURE CONTROL SWITCH (Part #: FC-2)

- 1) Select the location for the Temperature Control Switch and permanently mount the switch to the racecar using any appropriate hardware (not provided). The switch has a faceplate that allows for convenient in-dash mounting or it may be mounted at any location that is accessible by the driver.
- 2) Wire the cooling unit and the blower to the Temperature Control Switch using appropriate lengths of wire (not provided). As the instructions provided with the switch illustrate: Cooling Unit: *brown* = + (positive), *black* = - (negative), Blower: *yellow* = + (positive), *black* = - (negative). Now wire the Temperature Control Switch to the racecar's 12V system and ground properly using the instructions provided with the switch.

INTAKE AIR HOSE and HELMET AIR HOSE

(Part #: A-3x3FT) (Part #: AIRH-8)

- 1) Determine the length of 3-inch hose needed to pick up outside air and cut the hose to the appropriate length.
- 2) Slide one end of the 3-inch hose over the intake side of the blower. If you have a NACA duct, connect the hose to the duct appropriately.
- 3) Attach the other end to blower using the 4-inch blue adaptor provided.
- 4) Attach the 1½ Helmet Air hose to the blue adaptor already attached to the other side of the blower.
- 5) Determine length of 1½ inch hose needed to connect to the driver's helmet and cut the hose to the appropriate length.
- 6) Attach to the helmet with the blue adaptor provided.

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Instructions for Use

- 1) Pour ½ gallon of water into the cooling unit. Fill the unit with block ice (preferable) or cubed ice to the top of the unit.
- 2) Put on the COOL SHIRT® next to your skin with the tubing facing out. Put on your driver's suit and route the hoses outside of your suit via the side pocket or front zipper.
- 3) Connect hose to cooling unit and COOL SHIRT®. Listen for an audible "click" - that ensures a good connection.
- 4) Attach helmet hose. Using FC-2 Switch, turn the unit on and select your setting preference.

Troubleshooting

- 1) **Leaks:** check to see if all fittings are properly connected. Listen for audible "click".
- 2) **Not pumping:** recheck electrical connections.
- 3) **Water not flowing:** Check the hoses to be sure that your seat belt or harness is not crimping the tubing. If the pump is running but not pumping water, add one more quart of water.
- 4) **Air not circulating:** Recheck electrical connections.

Maintenance

- 1) **COOL SHIRT®:** Turn the shirt inside out and wash in washing machine on the gentle cycle in warm or cold water.
- 2) To prevent scum build-up and algae growth, once per month or just before long-term storage, add 8 ounces of rubbing alcohol to the cooling unit with ½ gallon of water and circulate via the cooling unit through the hose and shirt. Or drain the hose and shirt with the Universal Connector & Drain kit (Part# UK-1)

All products are guaranteed for one year from the initial date of purchase for defects in material and workmanship. If you have any questions, please call Shafer Enterprises Customer Service at (800)345-3176. We appreciate your interest in our personal cooling products.

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