

Pressure Systems Inc
Sales / Service / Parts / Manufacturing

Call for a Quote
602-253-9579 / 800-264-6417
 “Experience Makes a Difference
 Working With Water Since 1965”

- We represent 24 Pressure Washer Mfg's.
- 38+ Brands of Pumps / Motors / Engines
- We Maintain a Complete Parts Inventory On Site
- Experienced Service / Engineering Department

Mistair High Pressure Outdoor Cooling Systems

Subscribe to Get Our (Unadvertised) HOT Deal Sheet Every 2 Weeks

Enter your email

Misting Magic

*“The **Secrets** of
 Controlling the Weather
 in Your Back Yard”*



by

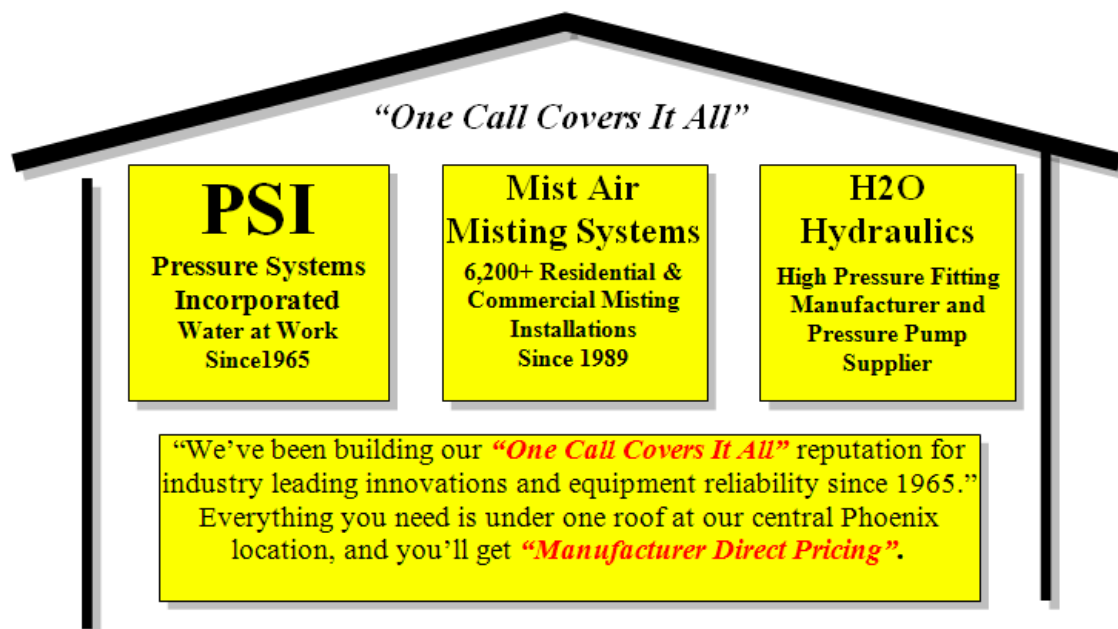
MIST AIR

*“Once in a Great While
 Something Comes Along that
EXCEEDS Your Expectations.”*

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Check Out - The Mist Air Advantage

You're dealing direct with an experienced and established local manufacturer.
We handle every detail for "Commercial and Residential" installations... under 1 roof!



"One Call Covers It All"

PSI
Pressure Systems
Incorporated
Water at Work
Since 1965

Mist Air
Misting Systems
6,200+ Residential &
Commercial Misting
Installations
Since 1989

H2O
Hydraulics
High Pressure Fitting
Manufacturer and
Pressure Pump
Supplier

"We've been building our *"One Call Covers It All"* reputation for industry leading innovations and equipment reliability since 1965." Everything you need is under one roof at our central Phoenix location, and you'll get *"Manufacturer Direct Pricing"*.

Research & Development:

As the manufacturer we're constantly field-testing our units in the desert heat to improve the efficiency of our systems in practical situations.

Design and Engineering:

Whether it's a "1 of a kind" custom job or on-site technical consulting our staff can work with your architect, contractor, and engineers.

In-House Manufacturing:

We control the quality and compatibility of the complete system from the pump to the nozzles, so you're assured efficient long-term operation and a long-term warranty.

Licensed Residential & Commercial Installation

Protect yourself! Protect your project.
Be sure you hire an experienced "licensed & insured" contractor.

Fully Stocked Parts Department

We inventory parts for both our manufacturing and service divisions PLUS most misting systems ever sold ... we'll always have the parts you'll need - when you need them.

Service & Maintenance:

We take total responsibility for what we sell, so we service and maintain everything that leaves our shop. (Monthly maintenance contracts available.)

"We've been Manufacturing Outdoor Comfort Since 1989"

"We Know Our Reputation - Is Based On Your Satisfaction." Call Mist Air 602-253-6200

A Little Education on the Evolution of Pressure Mist Lines



The start of the misting business began with the need to keep chickens cool - to increase egg production. It seems a "cool chicken" is a "productive chicken"

The development of an inexpensive mist head in 1982 was the start of the misting business.

Egg farmers drilled and tapped (P.V.C.) poly vinyl chloride pipe and inserted mist heads to create the first practical misting system.

The results were dramatic, the chickens lived longer and produced more eggs.

In 1986 hydraulic plastic hose was adapted as a mist line to carry mist pressures

from 250 - 1000 psi.

Unfortunately, it had a short life span and frustrating problems with leaks and blown fittings.

The break through concept of hydraulic hose was that the "cooling effect" was dramatically increased with higher pressures in the system.

Stainless steel tubing arrived in 1988. The strength of stainless let pressures go up to 2000 psi - which led to the "High Pressure Humidification" of storage warehouses. The systems worked - but the fittings were very expensive!

The development and adaptation of aircraft style welded fittings is what made high pressure misting practical, reliable and affordable.

"Pressure Systems Inc." was the leader in adapting this technology and literally started the outdoor cooling revolution.

Along with the development of stainless mist lines was the development of "L" copper lines. Copper lines are less costly than stainless, but have a number of limitations. They are limited to 800 psi operation which gives them less cooling for the money, and they should never be placed underground or inside structure walls!

In 2009 Pressure Systems Industries continues its leadership in research and development and created the next step in misting line technology - **The Perfect Mist System™**

The system includes proprietary **H2O Hydraulics "Tech Weld Fittings"** and **Perfect Match Color Coordination** (Regardless of paint or trim color - the perfect match system will let you duplicate it - exactly!)

A Quick Review

P.V.C. - A very popular low pressure system, but does not blend into house lines and gets you wet!

Synflex Hydraulic Hose - Not a practical or good choice.

Copper Tube - Not practical when you can get higher cooling capacity with stainless at the same cost.

Aircraft Stainless Tube - The backbone of high pressure systems.

Tech Weld Stainless - The **new standard** in misting line technology, that makes stainless work perfectly.

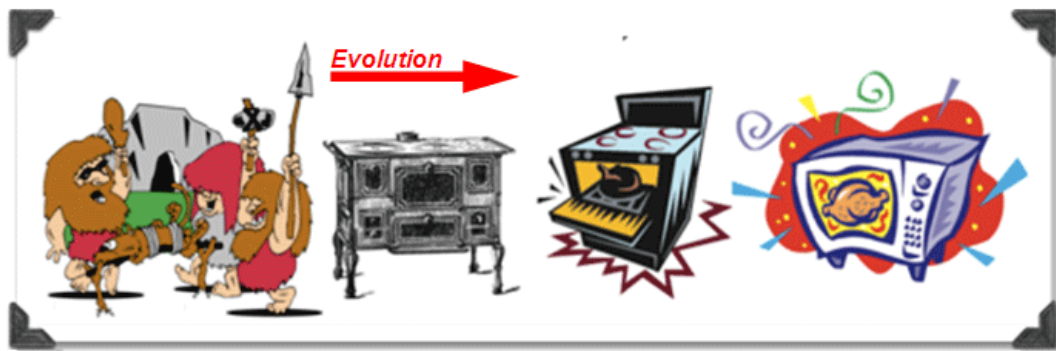
Perfect fittings, perfectly straight mist plumes, perfect color matching.

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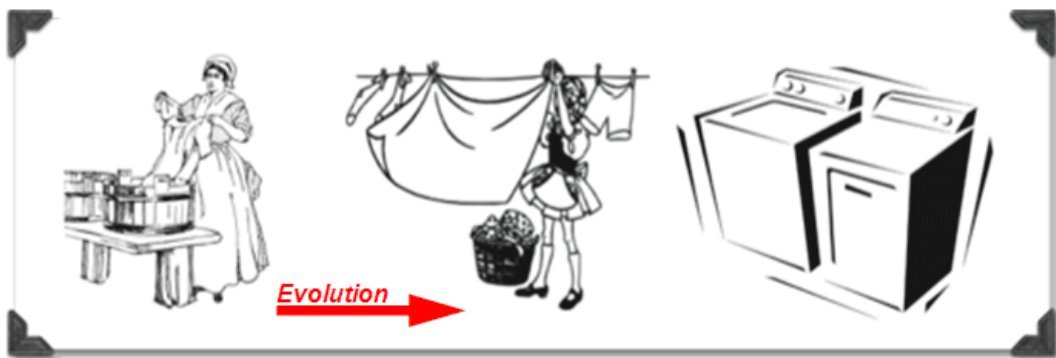
The Evolution of the Most Useful Appliances in Your Home The Stove

The Old vs. The New



From out-door fires and wood stoves, to the development of the electric range and the microwave; we're constantly looking for the best appliance solution we can find!

The Washer / Dryer The Old vs. The New



50 years ago a washer dryer combination was two wash tubs and a clothes line!
Now they've been replaced with today's modern washer / dryer appliances.

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Cooling the Inside of Your Home / Air Conditioning The Old vs. The New

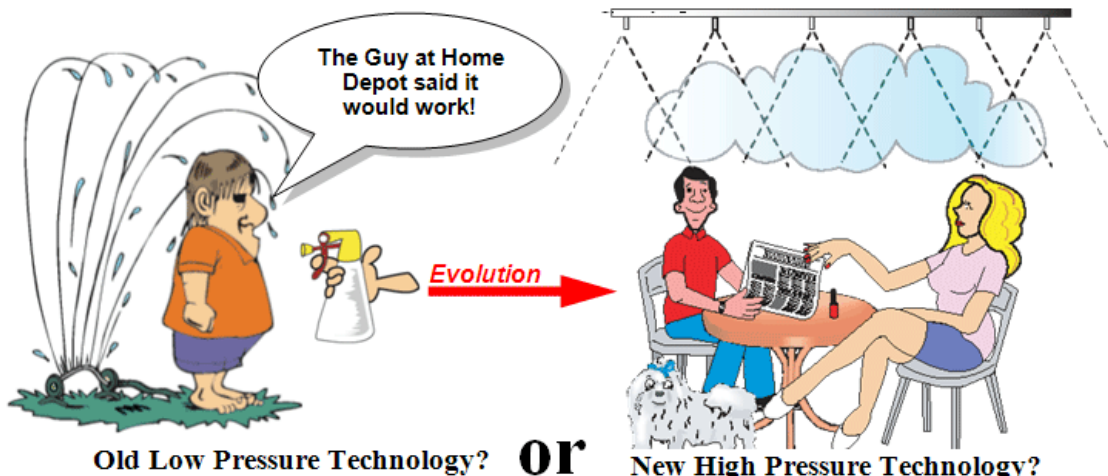


Cooling the inside of your home has progressed from a block of ice and a fan to individual room air conditioning. But in the desert, we rely on the engineering and reliability of a **"Total Home Cooling Appliance"** -- the central air conditioning unit.

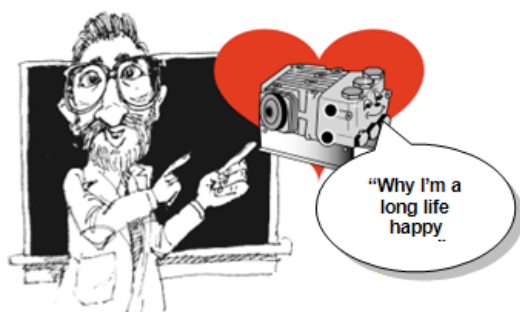
Cooling the Outside of Your Home with Mist Evaporation

The Old vs. The New

Mist Air's Tech Weld



Outdoor cooling requires the same **"Total Cooling Appliance"** approach. All misting systems create a cooling effect by delivering water for evaporation, but **ONLY high pressure systems** keep you **cool and dry**, instead of cool and wet! Choose your misting system like you choose the other vital appliances around your home. Look for **quality engineering** and manufacturing and **long term reliability!**



Engineering and Technical Information About Mist Pumps

Explaining: Why most pumps are **NOT** happy!

How **smoothly** water goes through your pumping system will dramatically affect its performance and longevity!

(All other things being equal - the less turbulence in your system the longer its life.)

A positive displacement pump will produce a normal volume of liquid from suction to discharge - per operating cycle (stroke or revolution). A lesser amount leaks back due to the internal clearances (slip). These elements of flow are emphasized by inlet suction and discharge piping.

The piping elbow is the most common, and the single greatest cause of turbulence. The geometry of the elbow causes the fluid to separate. The fluid then becomes turbulent - causing a reverse flow area and a concentrated accelerated flow area on the downside of the elbow.

Turbulence can also be created from the wrong placement of filters and screens within the system, or from the wrong placement of "T-offs" that directly affect pressure loss.

Once "Flow Turbulence" is created it causes cavitation, vibration, and excessive noise - negatively affecting the performance and life span of the pump and pump components.

The only solution is to properly engineer a system to smooth the flow right from the start. Supplemental components can also be added on the inlet/outlet which enhance smoother flow, eliminate spikes and make for a quieter operation of the entire system.

WARNING:

“Each year hundreds of thousands of dollars are wasted maintaining pumps that are installed in systems ... designed to FAIL!”

A pump is merely a “component” in the system. The pump and the motor are usually the ONLY moving parts and therefore the weakest link. Companies repair what is thought to be the “cause of failure”. This may be a component part like a seal, a bearing, or valve.

“The truth is that the root cause failure may NOT be due to the component - but rather to a poorly engineered system”

For a pumping system to operate correctly and on a long-term basis, it must be properly installed with the correct engineering principles for positive displacement systems.

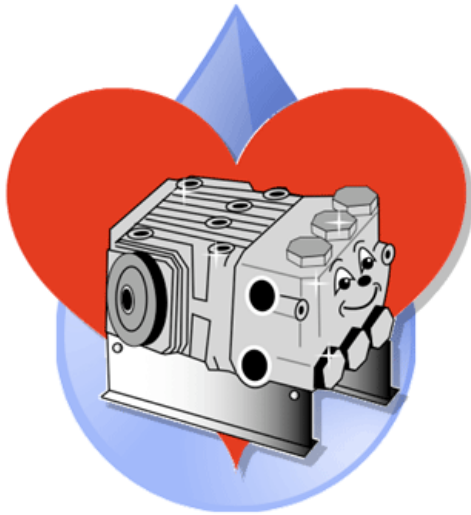
A pumping system operates properly where the pump curve and the system resistance curve intersect.

This is one of the MOST OVER-LOOKED concepts when designing or troubleshooting a system.

System resistance is the change in flow on the inlet / outlet of water inside the pump. Resistance causes turbulence. Turbulence causes accelerated wear and tear on the components of the pump and dramatically shortens the life of the system.

Static water boxes, anti-hammer valves, pulsation dampeners, soft inlet hoses, and proper plumbing and sizing can all help reduce turbulence.

♥ “ P. S. I. uses all these innovations to give you what we affectionately call a **HAPPY PUMP!**” ♥



“The **“Happy Pump”** Is The Heart
Of your P.S.I. System
And
the key To Long-Term
Reliability & Performance”

Q: Why do we put so much attention and engineering into our pumps?

A: To make sure you get reliability, longevity, and the right performance from your investment.

We recognize that the manufacturers of pumps and pump component parts have their operational and performance specifications set at the high limits of their equipment.

The engineering challenge is to make the equipment operate reliably 8+ hours a day, year in and year out, thus creating the **“Happy Pump”**.

Mist Air has engineered **“A Total Pump System”** for both commercial and kennel installations. This includes **9 special adaptations** to give your system the maximum reliability and longevity.

1. **Pump revolutions per minute are lowered up to 50%** - while maintaining nozzle capacity.
2. **Operating pressures are dropped 50-75%** from their factory run ratings on each pump.
3. We add additional lubrication - **DOUBLING the crank case space** for additional oil reserves.
4. Incoming water has an **“Anti-Cavitation Valve”**, which creates smoother operation.
5. Exiting high pressure water goes through a **“Pulse Eliminator” (Shake Stopper)**.
6. Only **non-ferrous metal** is used in the manufacturing process.
7. A constant 10% **“By-Pass Regulator”** is added for proper operation.

- 8. On multiple zone systems a “Cooling Radiator” is installed.
- 9. The electrical system is “Weather Proof” and meets existing code.

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How Perfect Nozzle Placement **Increases** the Cooling Effect of Your System

(And why you should always demand a “Perfect Plume” Installation)



Effective Cooling Requires a **Balanced Nozzle Placement** to Eliminate **HOT Spots** & **Moisture Drips**. Any variation destroys the “Perfect Plume”.



Effective cooling requires a **BALANCED nozzle placement** to eliminate **HOT Spots**.

Each nozzle location has its’ own area to cool, and improper placement **NEGATES** the available cooling effect.

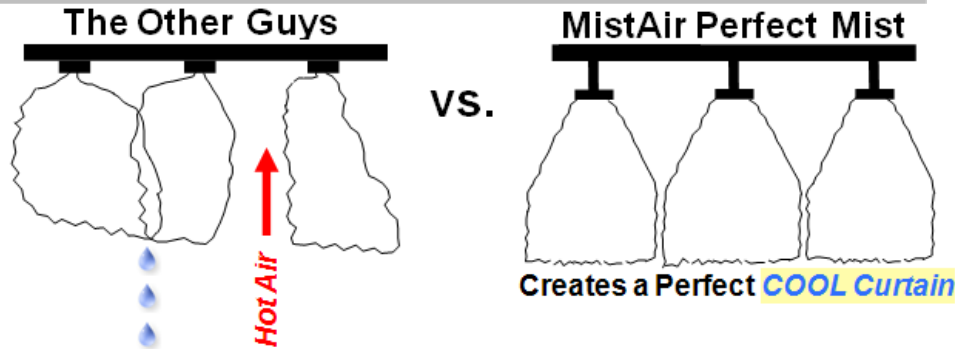
Nozzles that **DO-NOT** put out a **perfect plume** leave an opening for **HOT Spots**, or overlap one another creating unnecessary and unwanted **moisture drips**.



Optimizing the the **Perfect Plume** requires these considerations:

- Direction of the patio opening?
- Height of the patio roof?
- Where the power and water will be located
- Is soft-water available? (it helps)
- Are there any additional areas requiring cooling or fog effects?
- Is .250 or .375 tubing correct for the G.P.M. (Gallons Per Minute) and linear feet?

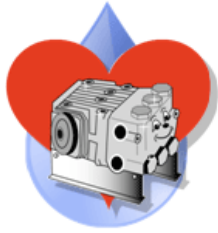
1. The alignment fixture to attach nozzles to the water supply line are perfectly aligned at 90 degrees to the tubing through a special milling process.
2. The longitudinal attachment is a stabilizer preventing less mist at the plume edges.
3. The nozzle orifice blends with the “Spin Pin” producing EXACT mist uniformity.



Don't Accept anything less than **Perfect Mist** and you'll achieve **20% better cooling**. Drop the temperature with **MistAir MAXIMUM** Efficient Highest B.T.U. (SEER) Rated Total System!

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Happy Pump Systems



**Low R.P.M. Pump - Hand Carry Frame
Budget Priced Economy Misting**

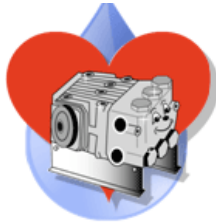
Maximum Volume - 1.5 G.P.M. Maximum Pressure - 1, 000 P.S.I.



**Premium Pump - Open Frame
Maximum Volume - 2.4 G.P.M Maximum Pressure - 1,500 P.S.I**

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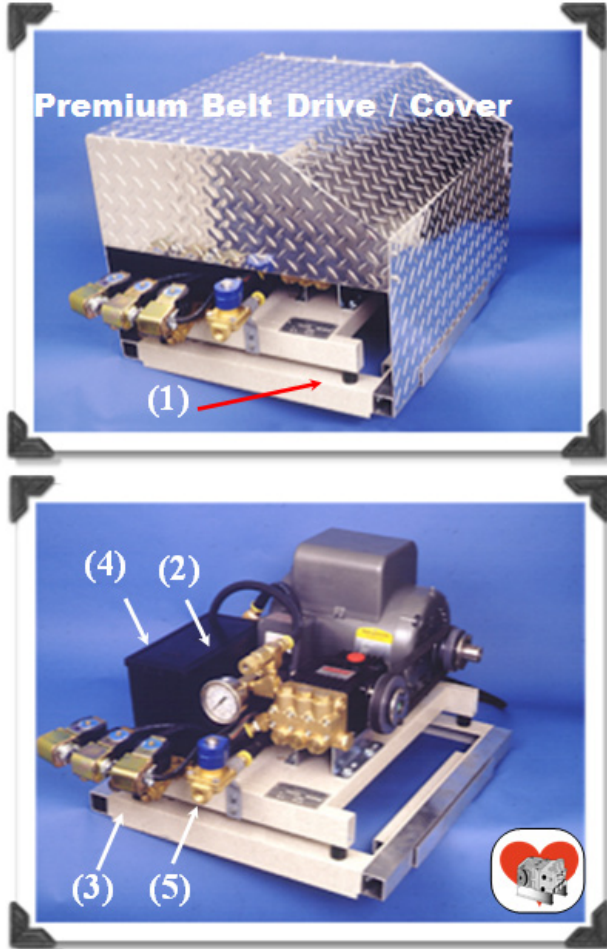
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Happy Pump Systems

Pump System Overview - "Premium Belt Drive"



Vibration Isolated Upper Frame (1)

Static Water Radiator By-Pass (2)

Powder Coat Baked Enamel Finish (3)

Water Inlet Solenoid To Float Valve (4)

High Pressure Solenoid Atmosphere Control (5)

Up to 3 Horsepower Drive

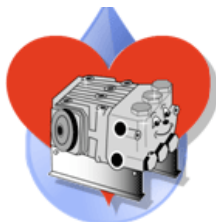
Up to 1,500 P.S.I.

1.0 - 3.5 G.P.M.



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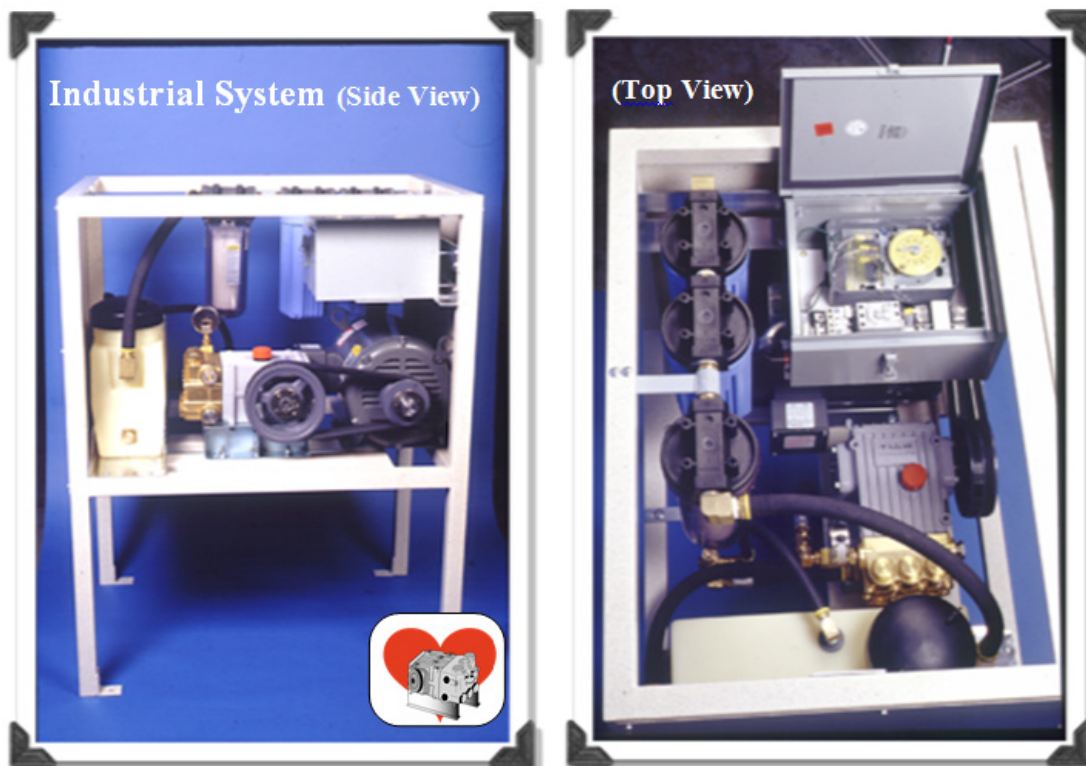
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Happy Pump Systems

Pump System Overview - "Industrial System"



Industrial Pump System (Without Hinged Cabinet Covers)

- Powder Coat Baked Enamel Finish
- 13 G.P.M. Rated Pump
- Cross Linked Enclosed Supply Tank / Triple Filtration
- Dual Belt Drive
- 24 Hour Automated Timer with 1 Hour Din-timer
(Capable of dispensing fragrances and / or fly control)
- Maximum Volume - Up to 8 G.P.M. / Maximum Pressure - Up to 2,000 P.S.I.

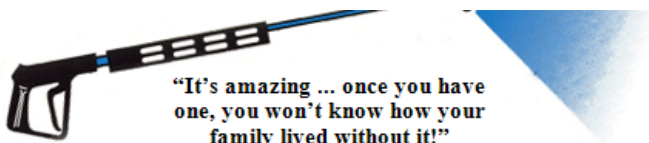
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**Clean Without Chemicals with an
"On Demand..."**



**"Pressure Washer Connections"
Strategically Located *Anywhere* on
Your Property**



"It's amazing ... once you have one, you won't know how your family lived without it!"

Make cleaning FAST & EASY! Imagine having the adjustable power of a true *2,200 plus P.S.I. pressure washer right at your fingertips ... *anywhere* on your property.

Pressure-wash your car, truck, horse trailer, or RV at home, instead of going to the car wash.
Remove the cobwebs from the eaves all around your house, gazebo, or patio.
Scrub the grease and grime off the grill without getting your hands dirty.
Power-scrub the cool deck and dust off your patio furniture in seconds.
There's even special low-pressure nozzles designed to clean your animals. Horses love it! And Dogs aren't afraid of it ... because it's so quiet.
We even have a speciality nozzle designed to unclog drains. (Great for horse barns and garages.)



We can put pressure washer connections anywhere on your property.
NO electrical power or wiring is needed at the connection point!
*Our standard high-pressure systems are engineered to have the power and capacity for pressure washer connections.



The system is specifically engineered to be **QUIET**; all you'll hear is the sound of scrubbing water. For **added sound insulation** the pump will be located in a utility area away from people and/or animals.

An amazing fact is that a pressure washer at 2,200 P.S.I. only uses 2 to 4 gallons a minute, and your garden hose at 20-35 P.S.I. uses over 6-9 gallons of water a minute.

Go Green!- Save the Water ... Pressure Clean!

Specialty Nozzles Include:

- | | |
|--------------------------------|-----------------------------------|
| Standard "Vehicle Wash" Nozzle | Low Pressure "Animal Wash" Nozzle |
| "Gum Removal" Nozzle | "Chemical Application" Nozzle |
| Building "Cob Web" Nozzle | "Drain Cleaner" Nozzle |
| Hard Surface "Impact" Nozzle | |

***Please Note:** Pressure washers need a pump with a minimum 2 gallon a minute capacity to operate efficiently.

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