



## **PSC CLEANING SYSTEMS INC.**

### **MULTI-STAGE / CENTRALIZED PUMPING AND PRESSURE WASHING SYSTEMS**



4S2010EAS - 80 GPM @ 1000 PSI  
WITH STAINLESS STEEL FRAME, PUMP BASES  
AND BELT GUARDS



2S1430EAS - 28 GPM @ 3000 PSI  
WITH CAT PUMPS AND  
THERMOSTATIC SHUTDOWN



2S820EASTF- 16 GPM @ 2000 PSI  
WITH CIRC. PUMP, LOW WATER LEVEL AND  
LOW WATER PRESSURE SHUTDOWN

#### **WHAT IS A MULTI-STAGE CLEANING SYSTEM?**

CERTAIN CLEANING OPERATIONS REQUIRE MORE THAN ONE PERSON TO BE CLEANING AT THE SAME TIME. USING SINGLE OPERATOR UNITS AT EACH CLEANING JOB CAN BE EXPENSIVE AND PLACES THE RESPONSIBILITY FOR THE CARE OF THE EQUIPMENT IN THE OPERATOR'S HANDS. THE SOLUTION TO THESE PROBLEMS IS A PSC MULTI-STAGE SYSTEM.

A PSC MULTI-STAGE CLEANING SYSTEM IS A SERIES OF MOTOR/PUMP PACKAGES CONNECTED TO THE SAME SET OF CONTROLS AND RESPONDS TO THE DEMAND FOR HIGH PRESSURE WATER BY AUTOMATICALLY STAGING IN OR STARTING ONLY THE NUMBER OF PUMPS NEEDED TO MEET THIS DEMAND. CONVERSELY, AS THE DEMAND FOR WATER DECREASES, THE PUMPS STAGE OUT OR TURN OFF.

#### **HOW DOES IT WORK?**

THE HIGH PRESSURE WATER (USUALLY BETWEEN 1000 AND 3000 PSI) LEAVES THE PUMPING UNIT AND TRAVELS THROUGH A NETWORK OF HIGH PRESSURE PIPING TO THE AREAS WHERE CLEANING IS REQUIRED. THE TERMINATION POINTS OF THE PIPE ARE VERTICAL DROPS APPROXIMATELY FIVE FEET FROM THE GROUND AND USUALLY CONSIST OF A PSC CS-1 OR CS1-3 REMOTE CLEANING/CHEMICAL STATION WITH A QUICK CONNECT. THE CS-1 OR CS1-3 ALLOWS FOR THE INTRODUCTION OF CLEANING CHEMICALS INTO THE HIGH PRESSURE WATER STREAM, WHERE IT IS THEN DISCHARGED THROUGH A HIGH PRESSURE HOSE ASSEMBLY WITH A TRIGGER GUN AND WAND, WITHOUT EFFECTING THE OVERALL SYSTEM PRESSURE.

THE SYSTEM IS CONTROLLED BY AN AUTOMATIC START/STOP CIRCUIT (TRIGGER GUN ACTIVATED) CONSISTING OF A FLOW SWITCH WIRED TO THE PUMP MOTOR CONTROL. ONCE THE TRIGGER GUN IS ENGAGED, THE FLOW SWITCH SENSES A DEMAND FOR WATER AND SIGNALS THE CONTROL TO START THE PUMP MOTOR; WITH HOT WATER SYSTEMS, THE HEATER IS NOW AUTOMATICALLY ENGAGED. DEPENDING ON HOW MUCH PIPING IS USED IN THE DISTRIBUTION SYSTEM, THE ENTIRE PROCESS, WHETHER ONE OR MORE TRIGGER GUNS ARE ACTIVATED, USUALLY TAKES PLACE IN LESS THAN A SECOND. A TIMER AUTOMATICALLY SHUTS OFF THE MULTI-STAGE SYSTEM AFTER 10 TO 15 SECONDS IF NO HIGH PRESSURE WATER IS CALLED FOR, PREVENTING THE EXCESSIVE STARTING AND STOPPING COMMON TO MULTIPLE PUMP SYSTEMS.

#### **THE ADVANTAGES!**

BECAUSE THE MULTI-STAGE SYSTEM IS NOT MOVED FROM PLACE TO PLACE, IT OFFERS THE POSSIBILITY OF USING LARGER PUMP/MOTOR COMBINATIONS FOR MULTIPLE OUTLET APPLICATIONS AND WHEN USED IN CONJUNCTION WITH A HEATER POSITIONED DOWNSTREAM OF THE PUMPS, WILL ONLY HEAT THE WATER BEING CALLED FOR. ADDITIONALLY, WITH THE USE OF A PSC ELECTRIC HEAT EXCHANGER, NO FLAMMABLE FUEL SOURCE OR VENTING IS REQUIRED, ALLOWING THE SYSTEM TO BE INSTALLED ANYWHERE.

A PSC MULTI-STAGE/CENTRALIZED CLEANING SYSTEM ALLOWS FOR HIGHER PRODUCTIVITY AND LONG-TERM COST SAVINGS WHEN COMPARED TO PORTABLE PROPANE OR OIL-FIRED EQUIPMENT AND, MORE IMPORTANTLY, OFFERS THE FLEXIBILITY DEMANDED IN TODAY'S WORKING ENVIRONMENT; PSC MULTI-STAGE/CENTRALIZED CLEANING SYSTEMS ARE DESIGNED TO ADDRESS YOUR CLEANING REQUIREMENTS, THUS ELIMINATING THE NEED OF HAVING TO ADAPT YOUR REQUIREMENTS TO AN OFF-THE-SHELF MACHINE.

## SYSTEM CONTROLS INCLUDE:

- ◆ **LOW INLET WATER PRESSURE PROTECTION & EXCESSIVE INLET WATER TEMPERATURE PROTECTION.** MONITORS THE INLET WATER PRESSURE AND INLET WATER TEMPERATURE AND STOPS THE SYSTEM WHEN UNSAFE CONDITIONS ARE EXPERIENCED. WHEN SAFE LEVELS ARE RESTORED, THE SYSTEM CAN BE RESET AND CLEANING CAN CONTINUE.
- ◆ **COMPLETE AUTOMATIC OPERATION.** CONTROLLED BY FLOW SWITCHES, THE OPERATOR DOES NOT NEED TO BE IN THE SAME AREA AS THE EQUIPMENT TO OPERATE IT. WHEN CONNECTED TO A NETWORK OF HIGH PRESSURE PIPING, CLEANING CAN BEGIN BY SIMPLY CONNECTING A HIGH PRESSURE HOSE/GUN ASSEMBLY TO STRATEGICALLY PLACED CLEANING STATIONS, OPENING A BALL VALVE AND SQUEEZING A TRIGGER GUN. TIME CONSUMING SET UP AND RELOCATING OF EQUIPMENT IS ELIMINATED. ADDITIONALLY, THE POTENTIAL FOR MISUSE OF THE EQUIPMENT IS ELIMINATED.
- ◆ **SELECTOR SWITCHES.** INDIVIDUAL PUMP CONTROL SWITCHES AND A PRIMARY PUMP SELECTOR SWITCH PROVIDE THE ABILITY TO ALTERNATE WHICH PUMP IS TO START FIRST, AS WELL AS ALLOWING ANY OF THE PUMPS TO BE TAKEN OFF LINE FOR SERVICING.
- ◆ **MOTOR CIRCUIT PROTECTION.** MOTOR CIRCUIT FUSING, OVERLOAD PROTECTION AND CONTROL CIRCUIT FUSING ARE STANDARD WITH ALL PSC MULTI-STAGE MODELS.

## PUMP SYSTEM:

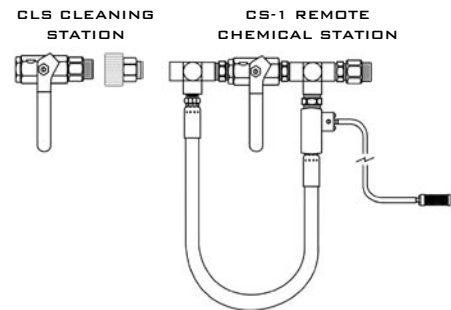
CONTINUOUS-DUTY RATED PISTON OR PLUNGER PUMPS ARE BELT DRIVEN BY HIGH EFFICIENCY MOTORS. THE SYSTEM IS FLOW SWITCH ACTIVATED AND MONITORED, AND INCLUDES SOLID STATE TIMER DELAY SHUTDOWN TO PROTECT THE SYSTEM COMPONENTS FROM SEVERE LOADS DUE TO THE VARIOUS GUNS OPENING AND CLOSING. REGULATING UNLOADER VALVE(S) MAINTAIN THE SYSTEM PRESSURE AND CHECK VALVES ARE FITTED ON EACH PUMP UNIT TO ISOLATE AND PROTECT THEM. THE SYSTEM IS MOUNTED ON A HEAVY-DUTY, POWDER COAT PAINTED STEEL FRAME WITH INDIVIDUAL STEEL PULLEY GUARDS (OPTIONAL STAINLESS STEEL FRAME, PUMP BASES AND PULLEY GUARDS ARE AVAILABLE). INLET AND DISCHARGE ACCUMULATORS ARE INCLUDED.  
\* IN CASES WHEN THE FEED WATER IS SUPPLIED FROM A HOLDING TANK, WE RECOMMEND THAT A CIRC. PUMP BE FITTED TO THE FEED TANK TO ENSURE THAT THE HIGH PRESSURE PUMPS DO NOT STARVE FOR WATER (CAVITATION). THE CIRC. PUMP CAN BE CONNECTED TO THE MULTI-STAGE SYSTEM CONTROLS MAKING IT COMPLETELY AUTOMATIC AS WELL.

## TYPICAL APPLICATIONS:

- FOOD PROCESSING FACILITIES
- PHARMACEUTICAL MANUFACTURING FACILITIES
- PULP AND PAPER MILLS
- CARGO SHIPS
- RENDERING PLANTS
- AUTOMOTIVE DEALERSHIPS
- HOTELS AND CONVENTION CENTRES
- ANY MULTI-OPERATOR CLEANING APPLICATION

## FACTORY ADDED OPTIONS:

CLS	CLEANING STATION ASSEMBLY (FOR MULTI-USER APPLICATIONS) C/W 1/2 IN. 2000 PSI RATED BALL VALVE AND HOSE QUICK CONNECT
CLS-3	CLEANING STATION ASSEMBLY (FOR MULTI-USER APPLICATIONS) C/W 1/2 IN. 3000 PSI RATED BALL VALVE AND HOSE QUICK CONNECT
CS-1	CHEMICAL INJECTION STATION (FOR MULTI-USER APPLICATIONS) C/W ADJUSTABLE CHEMICAL INJECTOR, 2000 PSI RATED WASH/RINSE CONTROL VALVE AND SWIVEL CONNECTION
CS1-3	CHEMICAL INJECTION STATION (FOR MULTI-USER APPLICATIONS) C/W ADJUSTABLE CHEMICAL INJECTOR, 3000 PSI RATED WASH/RINSE CONTROL VALVE AND SWIVEL CONNECTION
CS1-SSB	CS-1 CHEMICAL STATION HOUSED IN LOCKABLE STAINLESS STEEL PANEL BOX
CS1-3-SSB	CS1-3 CHEMICAL STATION HOUSED IN LOCKABLE STAINLESS STEEL PANEL BOX



CONSULT YOUR PSC DISTRIBUTOR FOR PRICING AND ASSISTANCE IN DETERMINING THE RIGHT MULTI-STAGE/CENTRALIZED SYSTEM FOR YOUR CLEANING APPLICATION



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