



TPS-50

## SPS & TPS Series Features

- NEMA 1 electrical.
- No flow indicator and back-flow preventor.
- Pump isolation valves.
- Pump failure indicator and ON/OFF switch.
- Pump sequencer (TPS series).
- Automatic lead/lag (TPS series).
- Adjustable timing sequencer (TPS series).
- Totally enclosed fan controlled (TEFC) motor.

## SPS & TPS Series Options

- Water inlet/outlet temperature and pressure gauge.
- No-flow and low-water level shutdown.
- Mixing valve, sight glass, water strainer, and circuit breaker.
- Audible alarm for high temperature.
- Pressure relief bypass.
- Two pump auto start (TPS series only).
- Fused disconnect.
- Automatic fill.
- Larger expansion tank.
- High outlet temperature warning light.
- High efficiency water filter.
- NEMA 7 explosion proof motor.
- NEMA 4 or 12 electrical for single/twin pumping station.

The **Aircel SPS & TPS Series (3.0 - 100)** is offered in two series: Single (SPS) or Twin (TPS), which are pre-piped and mounted on a single skid with all the controls. Higher capacity pumping stations are available please contact your Aircel representative for selection. Both pumping systems provide fully-automatic operation for applications with 20 to 130 gpm and require head pressure of 10-130 feet. Combining the latest technology, the Aircel Pumping Station delivers excellent efficiency and provides low maintenance costs by combining highly serviceable design and high quality components for long service life.

As one of the world's leading manufacturers of compressed air purification equipment, Aircel has built a comprehensive engineering, manufacturing, and customer support network to meet the most demanding applications. Aircel manufactures an efficient Industrial Closed-Loop Fluid Cooling System and Pumping Station that extends the life of your fluid-cooled machinery by eliminating organic, mineral scale and corrosion problems. The Single or Twin Pumping Station can be designed specific to your application requirements and environment.

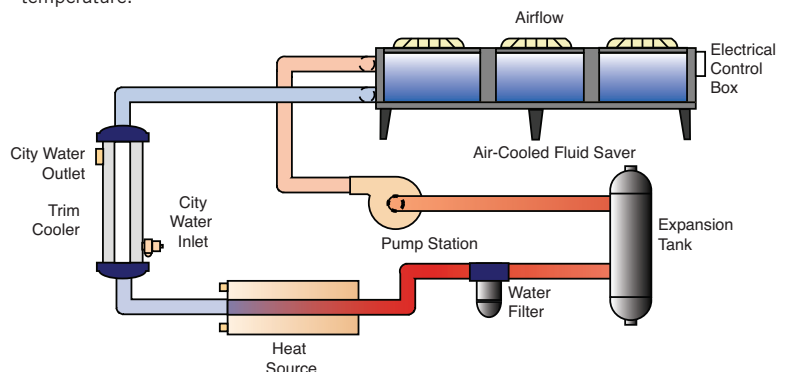
## Typical Pumping Station Application with Fluid Saver

Glycol/water mixture cools the water leaving the industrial processes in the heat source. It then exits the heat source and enters the optional water filter for scales and particulate removal.

The glycol mixture then flows through the expansion tank and then to the inlet side of the pump, which keeps the water/glycol mixture flowing through the entire closed loop system. It then enters the fluid saver to be cooled within 5°F to 25°F of the ambient temperature.

It later enters the trim cooler (optional), which further cools the glycol mixture if necessary during extreme ambient temperature conditions through a thermostatic water regulating valve (standard with trim cooler).

The valve regulates the flow of city water or chilled water through the trim cooler. The glycol mixture then enters the heat source and the process is continuously repeated.



# SPS & TPS SERIES TECHNICAL SPECIFICATIONS



## SPS & TPS SERIES Model Comparison

	Models	HP	GPM FT/head	Connection (in. FNPT/ANSI)	Expansion Tank (Gallon)	Dimensions (inches)			Weight (lbs)
						Length	Width	Height	
SPS SERIES	SPS-3.0	1/3	23@35	1-1/2	6	35	30	45	200
	SPS-5.0	1/2	23@35	1-1/2	6	35	30	45	250
	SPS-7.5	3/4	38@58	1-1/2	10	35	30	45	275
	SPS-10	1	45@60	1-1/2	10	35	30	45	300
	SPS-15	1.5	60@60	1-1/2	10	35	30	45	350
	SPS-20	2	70@70	1-1/2	15	45	35	53	390
	SPS-30	3	85@82	1-1/2	15	45	35	53	420
	SPS-50	5	120@120	2	15	45	35	53	460
	SPS-75	7.5	180@110	2	25	35	30	45	530
	SPS-100	10	240@100	3	25	52	39	58	560
TPS SERIES	TPS-3.0	1/3	23@35	1-1/2	6	60	30	45	320
	TPS-5.0	1/2	23@35	1-1/2	6	60	30	45	400
	TPS-7.5	3/4	38@58	1-1/2	10	60	30	45	440
	TPS-10	1	45@60	1-1/2	10	60	30	45	480
	TPS-15	1.5	60@60	1-1/2	10	60	30	45	560
	TPS-20	2	70@70	1-1/2	15	60	30	45	624
	TPS-30	3	85@82	1-1/2	15	65	40	53	672
	TPS-50	5	120@120	2	15	65	40	53	736
	TPS-75	7.5	180@110	2	25	65	40	53	848
	TPS-100	10	240@100	3	25	76	49	58	896

Due to a continuous program of product improvement, specification and dimensions are subject to change without notice.  
Larger pumping stations are available please contact your Aircel representative for selection.

## SPS/TPS SERIES Sizing Correction Factors

### Formula

- $(\text{GPM} \times \text{HEAD}) / 2000 = \text{approx. horsepower}$  (head is head loss in feet, includes anticipated friction losses + vertical losses)
- Round approximate horsepower up to the next logical HP step
- Logical steps are: 0.25, 0.33, 0.5, 0.75, 1, 1.5, 2, 3, 5, 7.5, and 10
- If needed, the conversion from PSI to FT-head is:  $\text{PSI} \times 2.31 = \text{FT-Head}$

### Application Sizing Examples

Move 86 GPM through 47 feet of loss.

**EXAMPLE 1:** Formula:  $\text{GPM} \times \text{HEAD} / 2000 = \text{approx HP}$   
Example:  $86 \times 47 / 2000 = 2.021$   
Round up Horse Power = 3 HP

Model Selection = **SPS-30 or TPS-30**

Move 32 GPM of water straight up two stories and through a heat exchanger. Estimated loss in the pipe, fittings, and heat exchangers is 20 PSI.

**EXAMPLE 2:**  
Formula: Total head loss = vertical rise (20 feet) + est loss through pipes  
Conversion from PSI to Feet-Head Formula:  $(\text{PSI}) \times 2.31 = \text{FT-Head}$   
 $20 \text{ PSI} \times 2.31 = 46.2$   
Total head loss is 20 feet (vertical) + 46.2 feet (pressure loss) = 66.2 feet

Example:  $32 \text{ GPM} \times 66.2 / 2000 = 1.059$   
Rounded Up HP = 1.5 HP

Model Selection = **SPS-5.0 or TPS-5.0**



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