



# PUMPSMART™

PROCESS SYSTEMS

## Innovative Pumping Solution:

- *Significantly lowers life cycle cost*
- *Significantly increases MTBF*
  - *Will not cavitate*
  - *Will not run dry*
- *Will not run against closed suction or discharge valves*
- *Eliminates flow control valves*
  - *Eliminates flowmeters*
  - *Eliminates starters*
- *More effective process control*

**BECAUSE FAILURE IS NOT AN OPTION**

Goulds Pumps



ITT Industries  
*Engineered for life*

# PUMP SMART™

PumpSmart systems utilize a standard process pump in conjunction with Goulds Pumps' unique and patented PumpSmart Control Systems and Software.\*

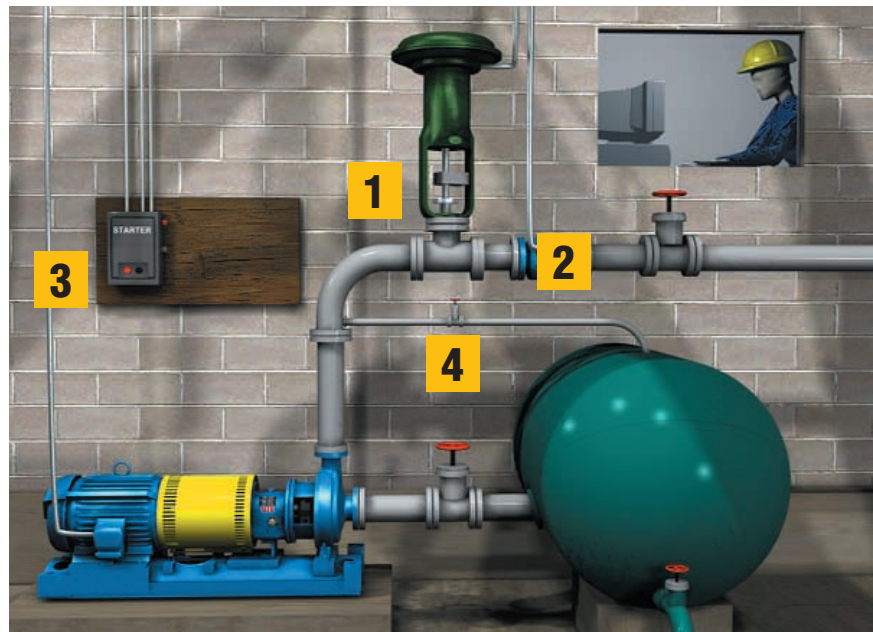
The software, which resides on the controller microprocessor chip, is the brains of the system, allowing the pump to monitor and REACT to any system condition. The result is lower lifecycle costs. **Here's How:**

*\*Patent pending*

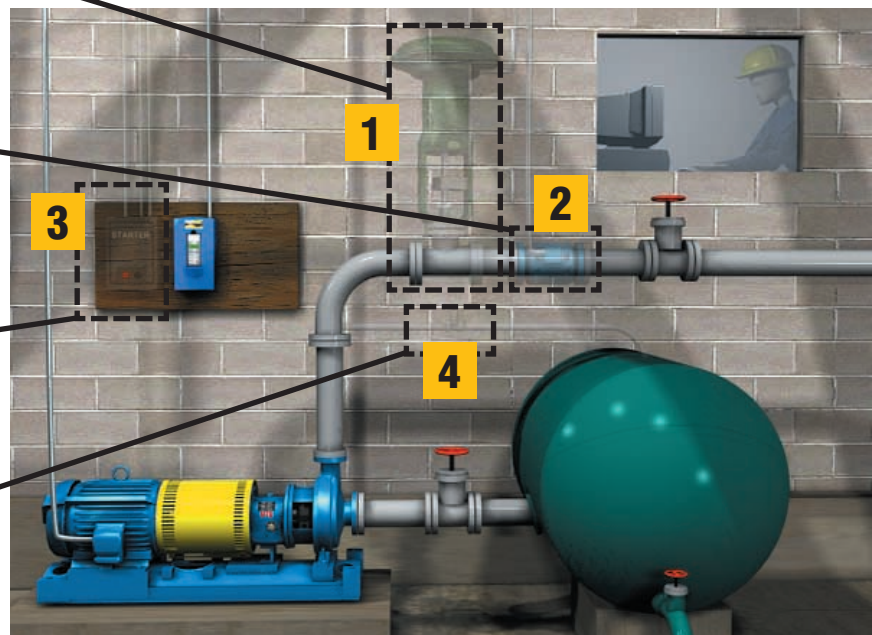
## Reduced Initial Capital Costs



### Conventional Pumping System



### PumpSmart Process Systems

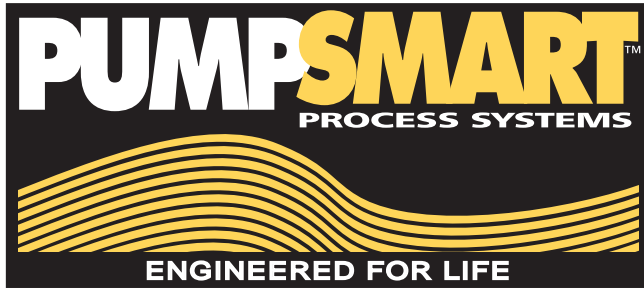


**1** Control valves may be eliminated - PumpSmart systems match pump performance to exact system conditions.

**2** Flowmeters may be eliminated - PumpSmart systems utilize patented internal flow measurement.

**3** Starters may be eliminated - PumpSmart systems have an integral starter.

**4** Recirculation lines and valves may be eliminated - PumpSmart systems provide low flow protection.



## Reduced Installation Costs

\$

- Wiring and piping of valves, flowmeters and recirculation lines may be eliminated.

## Reduced Maintenance Costs

\$

- Valve and flowmeter maintenance is often eliminated.
- Variable speed control operates the pump at Best Efficiency Point and at a slower speed (rpm).
- Failure prevention features protect against Cavitation, Dry Run, Close Valves and Low Flow Operation, significantly extending MTBF.

## Reduced Operating Costs

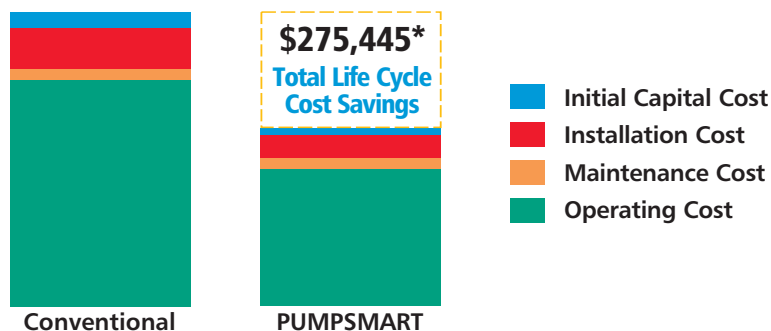
\$

- Pump operation matches system requirements without control valves. Energy savings up to 50%!
- Energy consuming control valves, flowmeters and recirculation lines may be eliminated.
- Savings are calculated and displayed at the DCS or on the PumpSmart keypad.

Goolds Pumps has developed proprietary LifeCycle Costware™ Program that assists our customers in quantifying life cycle cost savings...

## TYPICAL LIFE CYCLE COST COMPARISON\*

	Conventional System <sup>1</sup>	PUMPSMART <sup>2</sup>
Rating, design	2600 GPM @ 120 TDH	2600 GPM @ 74 TDH
Rating, actual		3196XLT, 8x10-13
Pump Model and Size	3196XLT, 8x10-13	3196XLT, 8x10-13
RPM	1,780	1,435
Yearly hours of Operation	8,760	8,760
Actual BHP	97	58
Maximum BHP	98	64
Installed Motor Size (HP)	100	75
Equipment Life (Years)	15	15
Estimated Cost/Repair	\$2,500	\$2,500
<b>Initial Cost</b>		
<b>Total Life Cycle Initial Costs</b>	<b>\$20,600<sup>1</sup></b>	<b>\$19,800<sup>2</sup></b>
<b>Installation Cost</b>		
Pump & Motor Assembly	\$53,000	\$50,000
PumpSmart	0	\$3,750
Control Valve	\$14,000	Not Required
Flowmeter	\$13,000	Not Required
Starter	\$3,000	Not Required
<b>Total Life Cycle Installation Costs</b>	<b>\$83,000</b>	<b>\$53,750</b>
<b>Operating Costs</b>		
Yearly Energy Use (kW-hr)	674,048	419,301
Years Operating	15	15
Total Energy Use (kW-hrs)	10,110,725	6,289,517
Electricity Cost (\$/kW-hr)	\$0.06	\$0.06
<b>Total Life Cycle Operating Cost</b>	<b>\$606,644</b>	<b>\$377,371</b>
<b>Maintenance Costs</b>		
Average MTBF (months)	18	32
Total No. Repairs	10	6
Total Pump Maintenance Cost	\$25,000	\$13,877
PumpSmart Maintenance	0	\$1,000
Control Valve Maintenance	\$3,200	Not Required
Flowmeter Maintenance	\$2,800	Not Required
<b>Total Life Cycle Maintenance Costs</b>	<b>\$31,000</b>	<b>\$14,877</b>
<b>Life Cycle Savings</b>		
Initial Purchase		\$800
Installation		\$29,250
Operating		\$229,272
Maintenance		\$16,123
<b>Total Savings</b>		<b>\$275,445</b>
<b>Present Value of Savings</b>		<b>\$151,751</b>
<b>PumpSmart Payback</b>		<b>Immediate</b>



<sup>1</sup> Includes pump and motor, flow control valve, flowmeter and starter.

<sup>2</sup> Includes pump and motor and PumpSmart Process System. Flow control valve, flowmeter and starter are eliminated.

\*This comparison is for a typical system as outlined. Other comparisons may vary depending on particular design.

Visit our website at [www.gouldspumps.com](http://www.gouldspumps.com)

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