







To make your next project an even greater success, Armstrong offers a solution for both commercial and industrial facilities: the Design Envelope iFMS.





THE VALUE

THE RESULT

Simplified mechanical room design through drag and drop of 3-D CAD models More than 20% faster design • Savings on design time and component selections

Modular construction approach offering greater design flexibility Project risk reduced by more than 30%

Fast and easy installation

Lowest installed cost

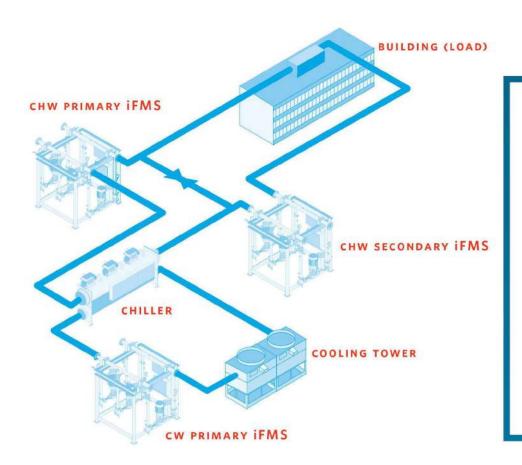
Energy savings

Lowest life cost

Confidence in system design and manufacturing quality

Reduced risk with ensured quality and performance





ENERGY SAVINGS

DESIGN 70%

rawing on Armstrong's Design Envelope technology, the pumps in an iFMS system integrate a perfectly matched Vertical In-Line pump, motor and intelligent controller.

The Design Envelope control methodology maximizes pumping efficiency by adjusting pump speed in response to system demand. The Design Envelope approach to sizing uses a combination of

IMPELLER SIZE AND SPEED

for most efficient operation. The performance envelopes are mapped for the best efficiency at 50% of the design flow rate, where variable flow systems operate most often. This ensures a building's hydronic pumping system consumes as little energy as possible. It also ensures that the installation exceeds ASHRAE 90.1 guidelines requiring 70% energy savings at 50% of peak load.

FOR DETAILS ON

- Design Envelope selections
- Demand-based variable speed operation
- Sensorless technology
 please see the Design
 Envelope IVS solution
 outline (FILE NO. 100.11);



kWh



	CONTROL CONFIGURATION	SCOPE OF CONTROL	SYSTEM INTEGRATION
1	Design Envelope pumping system integrated with IPC 11550 controls	All variable speed chiller plant — including multiple pumps, chillers, cooling towers and valves	Advanced chiller plant controller, independent of BAS systems
2	Design Envelope pumping system integrated with IPS 4000	Optimized control of multiple parallel pumps	Dedicated/Standalone pump controller that easily integrates with major BAS system
3	Integrated Design Envelope Control	Individual pump control in Sensorless mode	Integration with major BAS systems

① Integrated controls with Design Envelope IPC 11550

The Armstrong Design Envelope Integrated Plant Controller (IPC) 11550 is a dedicated chilled water plant automation system designed for occupant comfort and energy efficiency. The IPC uses patented control technology that allows typical chiller plants to operate at 0.5 kW/ton (7.0 cop) on an annual average basis.

② Integrated controls with Design Envelope IPS 4000

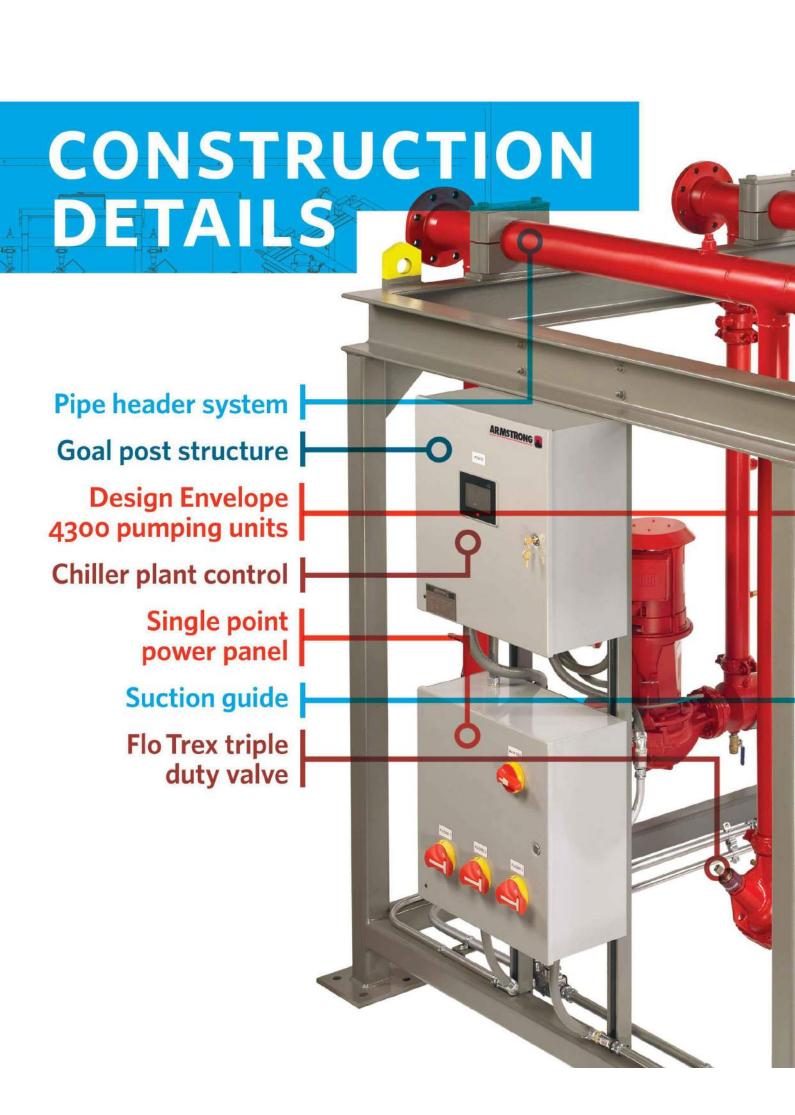
The Armstrong Design Envelope IPS 4000 is a high-value controller solution. The IPS 4000 provides control of multiple parallel pumps in Sensorless mode, optimized pump efficiency and seamless compatibility with major BAS systems.

③ Integrated controls with Design Envelope Sensorless technology

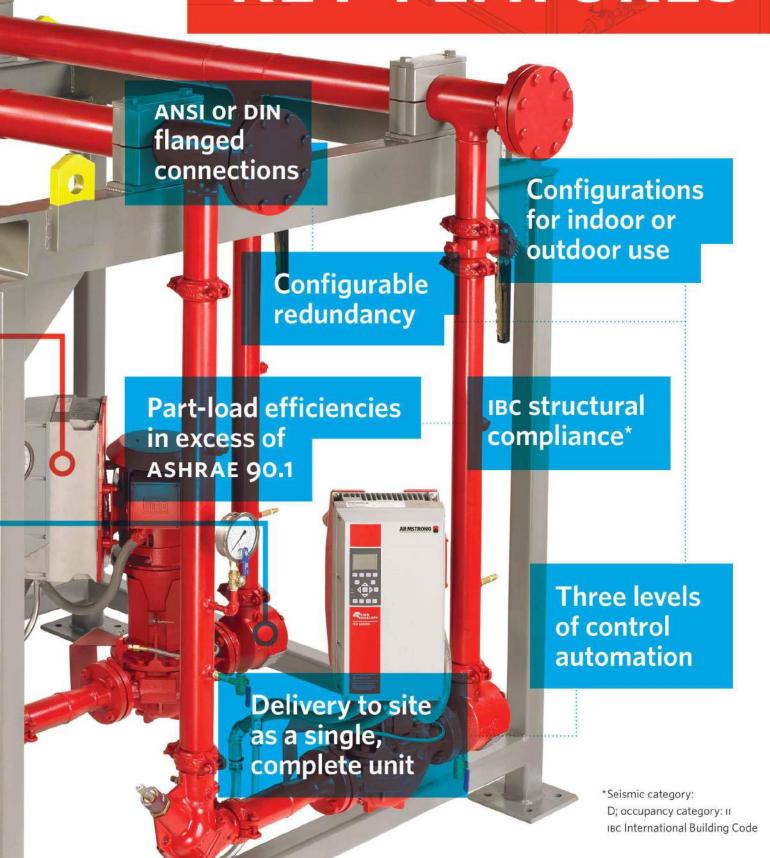
The Sensorless intelligence embedded in Armstrong Design Envelope pumping units can adjust output to meet the immediate load on the HVAC system without relying on external sensors.

Armstrong Design Envelope iFMS packages provide value far beyond a pumping system assembled from loose components. For savings in design time, installation and related project costs, as well as energy and maintenance costs, talk to your Armstrong representative about the Design Envelope iFMS.





KEY FEATURES



iFMS APPLICATION RANGE

Chilled water systems

Chilled water primary, chilled water secondary and condenser loop

Hot water systems

Hot water distribution loop

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PERFORMANCE RANGE

CAPACITY RANGE	1000 TONS (3516 kW)	
MAX FLOW RATE	3400 USgpm	
HEAD PRESSURE	150 ft	
CONFIGURATION	DUPLEX/TRIPLEX	
MAX HEADER SIZE	12 in	
TOTAL MAX hp	450 hp	

For more information, contact your Armstrong representative or visit us at armstrongfluidtechnology.com/ContactUs



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