



**DESIGN  
ENVELOPE®**

## Intelligent Pumps

with cloud-based  
Active Performance  
Management®

### SOLUTION OUTLINE

FILE NO: 100.111UK  
DATE: JANUARY 2025

SUPERSEDES: 100.111UK  
DATE: NOVEMBER 2024



# DESIGN ENVELOPE

## ENGINEERED BEYOND THE OBVIOUS

Design Envelope technology is a demand-based, intelligent control solution that:

Models equipment and system behaviour

Monitors actual system conditions

Dynamically adjusts equipment operation to match system demand

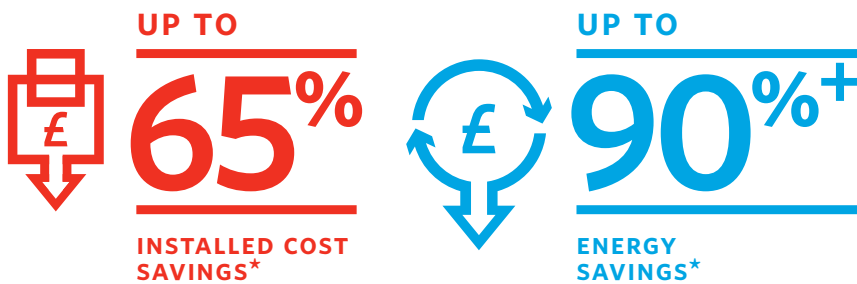


Whether driven by social, environmental or fiscal responsibility, forward-thinking organizations must embrace energy-saving technologies and practices on their path to Net Zero.

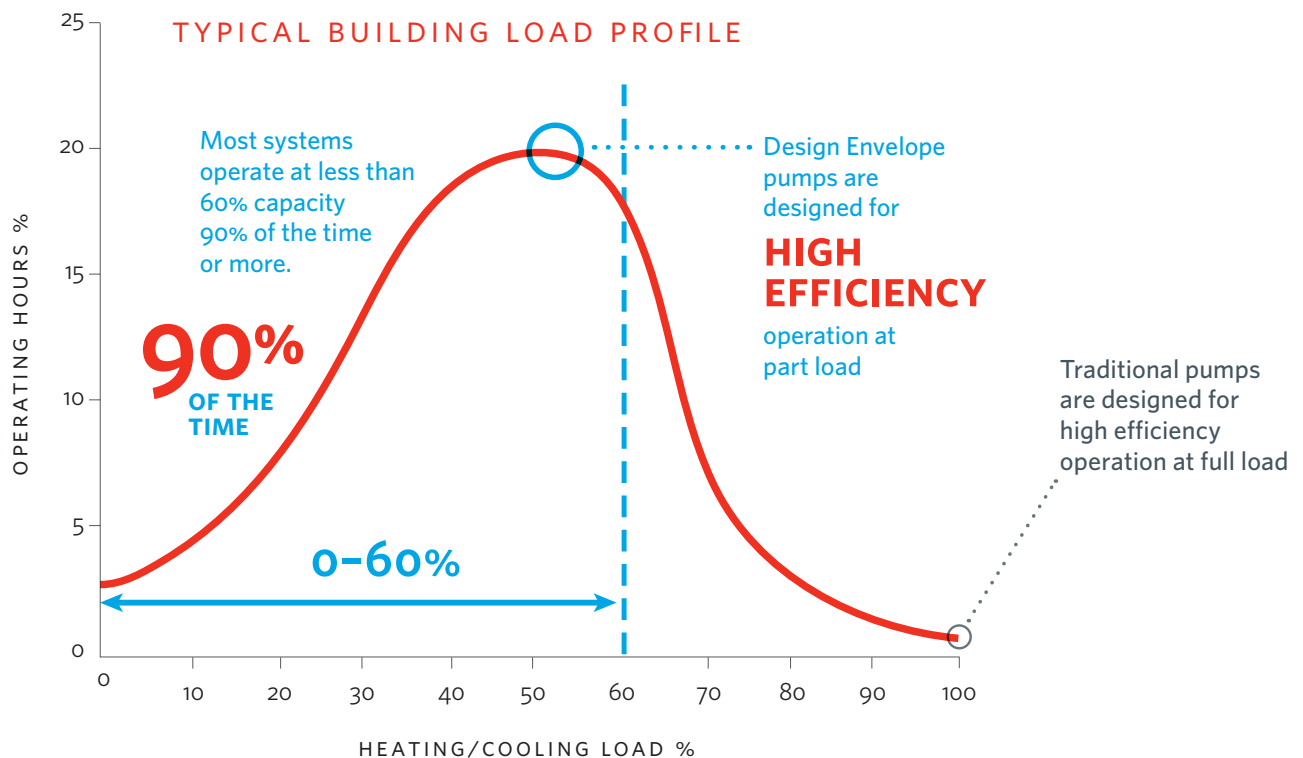


Armstrong Design Envelope pumps are a complete solution for heating, cooling and plumbing systems. The integration of a perfectly matched hydraulics, motive power and intelligent control creates the highest value pumping solution.

# MAXIMUM ENERGY AND COST SAVINGS



- 1 Technology benefits
- 2 How it works
- 3 The solutions
- 4 Armstrong services
- 5 Solution range



## Sizing and selecting for lowest energy consumption

Design Envelope solutions reduce pumping costs through demand-based operation — consuming only the energy required, based on current system demand. Design Envelope pumps use a combination of optimized impeller size, speed control and Active Performance Management for lowest energy use within a given performance envelope. The performance envelopes are selected for

lowest energy consumption where variable flow systems operate most often. This ensures a building's pumping system consumes as little energy as possible. It also helps to ensure that the installation meets or exceeds ASHRAE 90.1 guidelines requiring 70% energy savings at 50% of peak load.

\*Compared to a fixed speed system



# 1

## TECHNOLOGY BENEFITS

### FLOW INFORMS

**T**he rate of fluid flow in an HVAC system is crucial to understanding how the different components are operating. Without information on system flow, it's difficult to diagnose and optimise performance. With accurate flow information, the picture changes entirely. Armstrong can optimise each component and the overall system.

Design Envelope Pumps monitor flow so accurately they function as a flow meter. Industry standards recommend balancing system flows to  $\pm 5\%$  accuracy. Design Envelope pumps deliver accuracy of  $\pm 5\%$ .

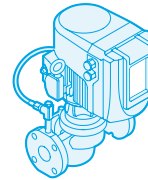
**Highly accurate and reliable:** no issues with fouling, so no need to service or re-calibrate.

**Low installation cost:** easy installation for retrofits.

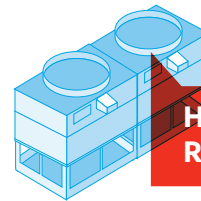
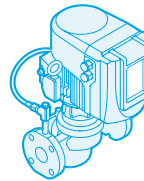
**Integral to pump:** no additional space or wiring required.

**Energy savings:** accurate flow data informs optimisation of an entire HVAC system.

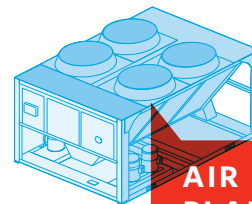
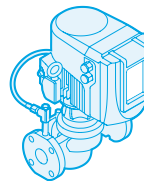
For evaluating an HVAC system, just two flow values and four temperature points provides all the data needed to understand flow rates, heat loads and operating efficiency.



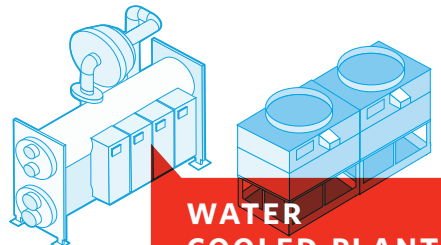
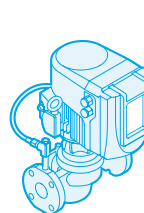
**PUMPING SYSTEMS**



**HEAT REJECTION**



**AIR COOLED PLANT**



**WATER COOLED PLANT**

**$\pm 5\%$**

**FLOW MEASUREMENT ACCURACY**

**ARMSTRONG** 

Flow **34.70 l/s**







# ACTIVE PERFORMANCE MANAGEMENT™

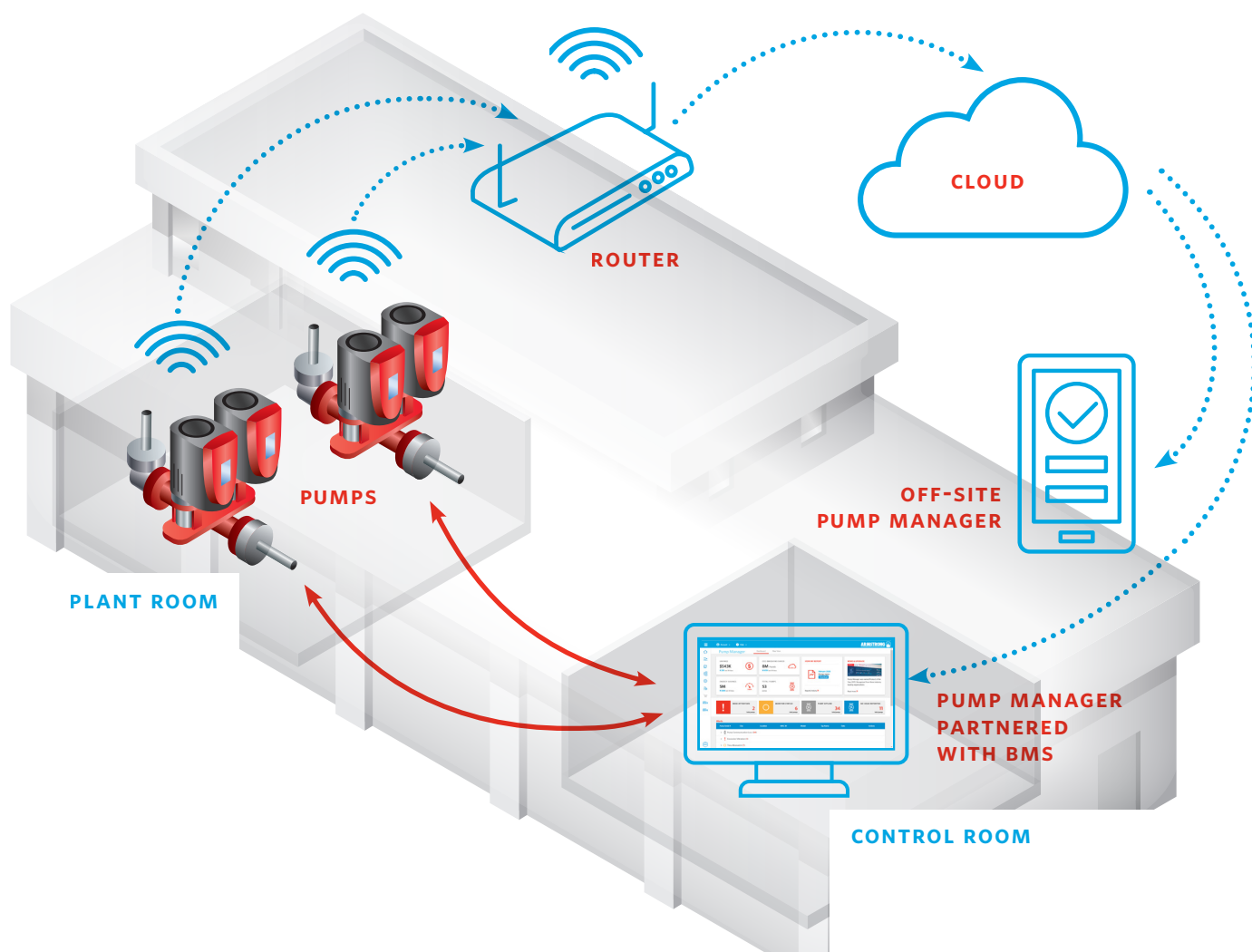
Active Performance Management is a systems management approach that optimises HVAC systems at any stage of a building's life-cycle by continually learning from a broad network of installations and responding to changing HVAC requirements.

The combination of smart commissioning with real-time alerts and system transparency addresses performance drift and maintains occupant comfort.

Bring performance drift under control

With Active Performance Management at the plant level, you can save up to

**40%** Annual cost savings



## THE RESULTS

ENERGY SAVINGS UP TO

90%+



**LOWEST ENERGY USE**

①

Armstrong Design Envelope Pumps provide you with highest energy efficiency.



**LOWEST INSTALLED COST**

②

Design Envelope Pumps provide lowest installed equipment cost, plus savings in infrastructure such as transformers, switch gear, power cables, concrete and cabling.



**LOWEST OPERATING COST**

③

Design Envelope Pumps provide lowest operating and maintenance cost.

## CASE STUDY | National Grid

ANNUAL ENERGY SAVINGS



70%

Armstrong recently completed a project in the United Kingdom, retrofitting pumps in a commercial office building belonging to National Grid. The retrofit included new pump sets that reduced energy consumption by 70%, saving over £22,400 annually.



**FACILITY TYPE**  
Commercial office



**LOCATION**  
Solihull, Birmingham



**SIZE**  
Three-storey building

### ANNUAL ENERGY COST

BEFORE

32,152

£

AVERAGE

AFTER

9,752

£

AVERAGE

ANNUAL COST SAVINGS

22,400 £

### CO<sub>2</sub> EMISSIONS

BEFORE

82,309

kg CO<sub>2</sub>

AVERAGE

AFTER

24,967

kg CO<sub>2</sub>

AVERAGE

ANNUAL CO<sub>2</sub> EMISSION REDUCTION

57,342 kg CO<sub>2</sub>





4

Design Envelope Pumps provide buildings with the lowest operational and embodied carbon.

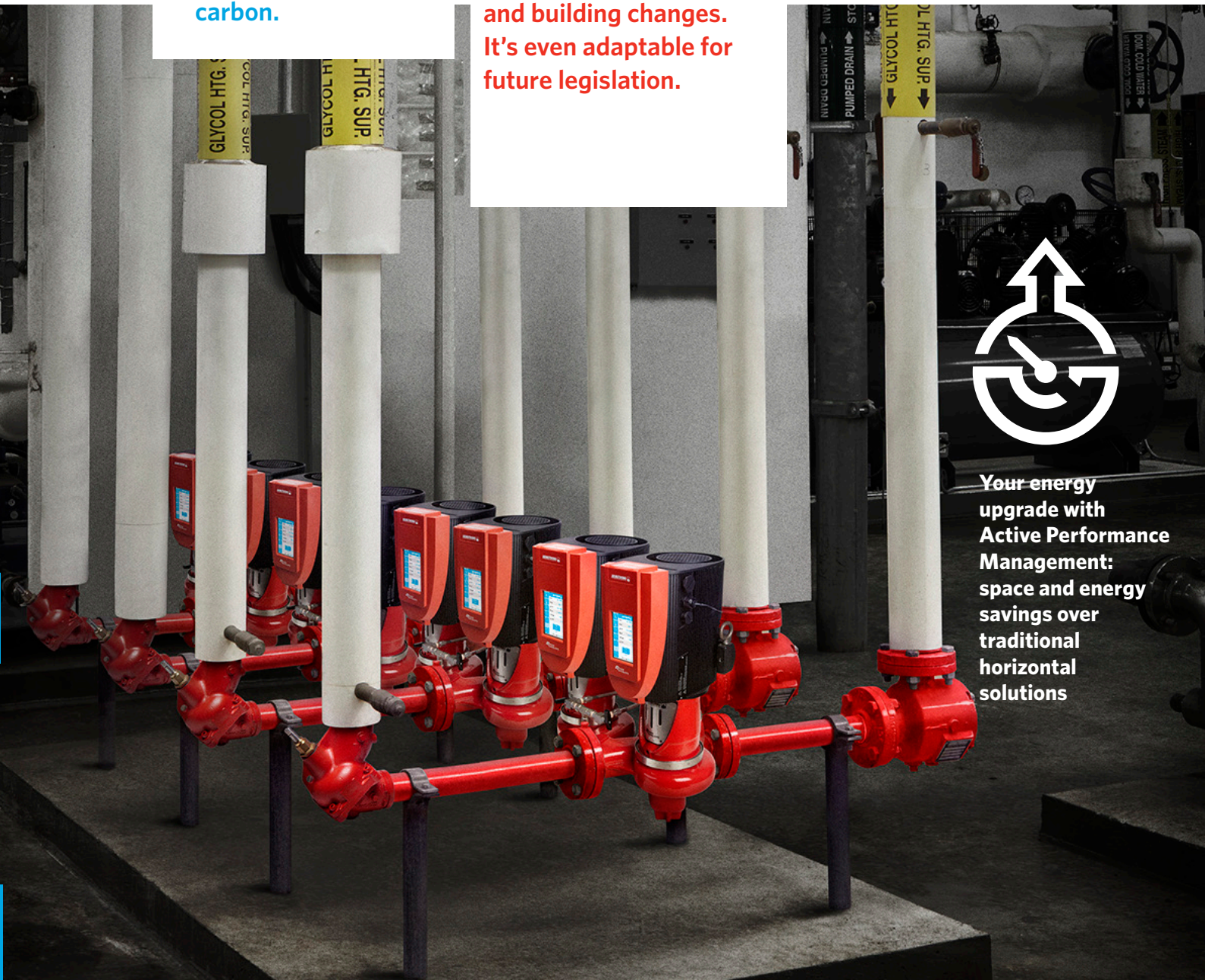


5

Design Envelope Pumps provide lowest project and operating risk, with solutions adaptable to design and building changes. It's even adaptable for future legislation.



Together, these five key benefits of Design Envelope technology provide customer value far beyond alternative variable-speed or constant-speed solutions.



Your energy upgrade with Active Performance Management: space and energy savings over traditional horizontal solutions

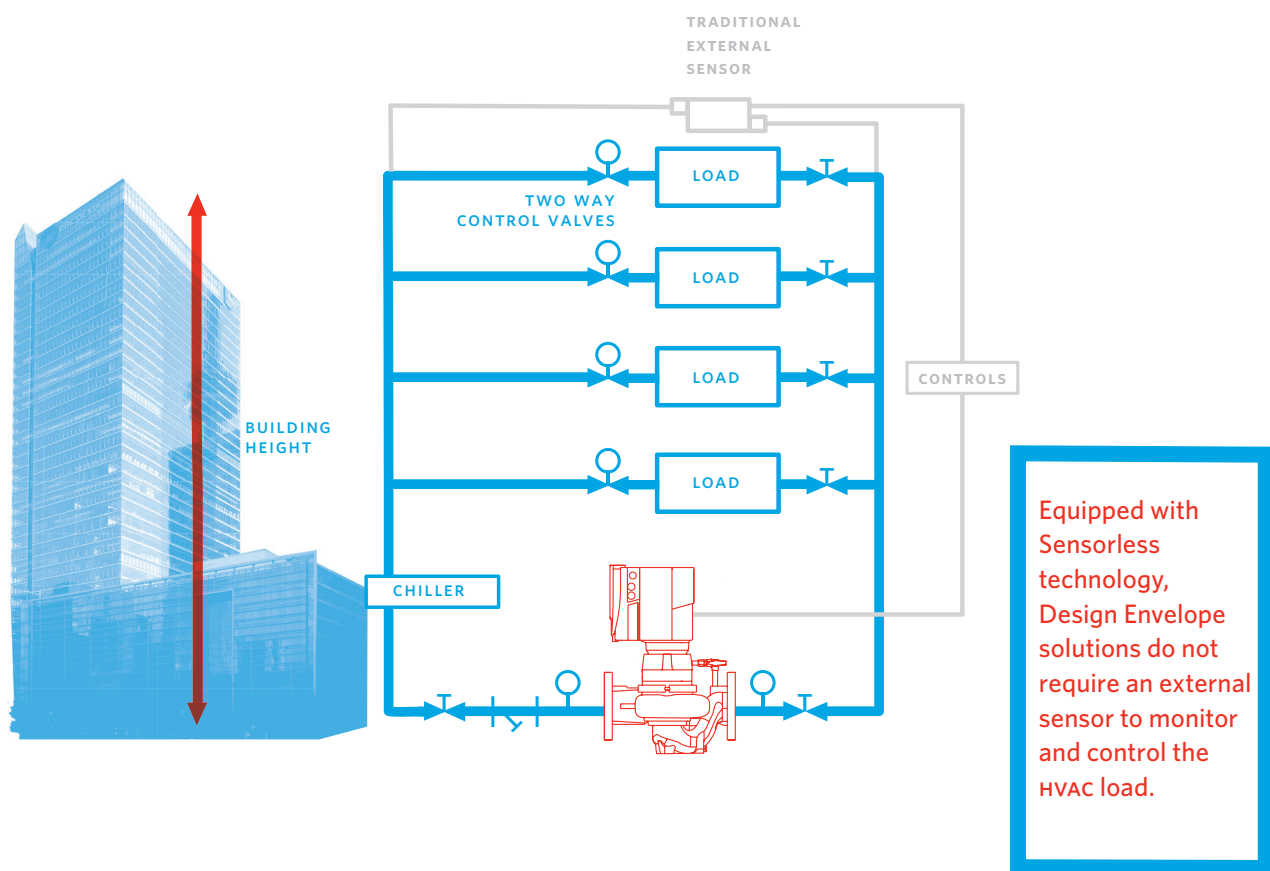


# 2

## HOW IT WORKS

### SENSORLESS TECHNOLOGY

## THE SENSOR WITHIN

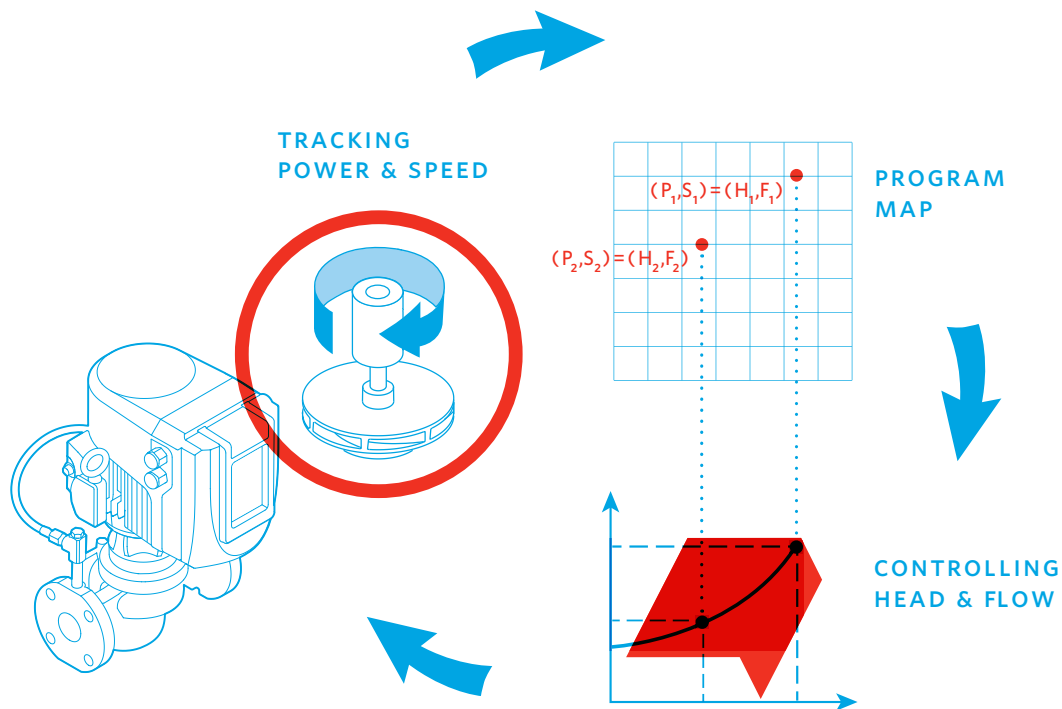


Using Sensorless technology, a Design Envelope pump's performance data (power draw and RPM) and operating curve are pre-programmed into the controller. During operation, the controller monitors the power draw and RPM of the pump and establishes the hydraulic performance and position of the pump's head-flow condition relative to the system requirements.

As the building's control valves open or close to regulate flow to the cooling coils and maintain building occupant comfort, the Sensorless controller automatically adjusts to match the required system pressure and flow.

# MONITOR POWER & SPEED

# CONTROL HEAD & FLOW



**Equipped with Sensorless technology, Design Envelope solutions do not require an external sensor to monitor and control the HVAC load.**

In a chilled water system, a building's temperature controls influence the local flow of control valves that modulate the flow to the cooling coils (load). As the control valves open for more chilled water flow, the differential pressure across the valve decreases.

The controller reacts to this change by increasing the pump speed. If the control valves close to reduce the chilled water flow, the differential pressure across the valve increases and the controller reduces the pump output.

# PARALLEL SENSORLESS

SAVE  
UP TO **30%**

ON OPERATING COSTS

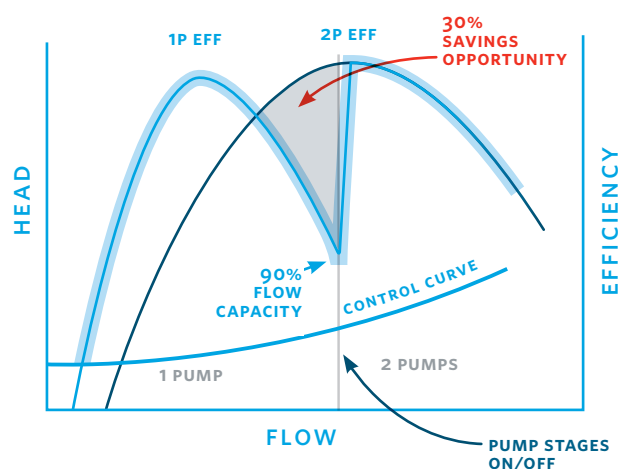
**P**arallel Sensorless Pump Control (PSPC) is a patented technology that improves the efficiency of a multi-pump installation through optimised load sharing.

The traditional approach to control in a multi-pump installation involves staging pumps on the basis of motor speed. Parallel Sensorless Pump Control technology stages pumps based on operating efficiency rather than motor speed and improves the efficiency of the full pump array by up to 30% over traditional multi-pump installations.

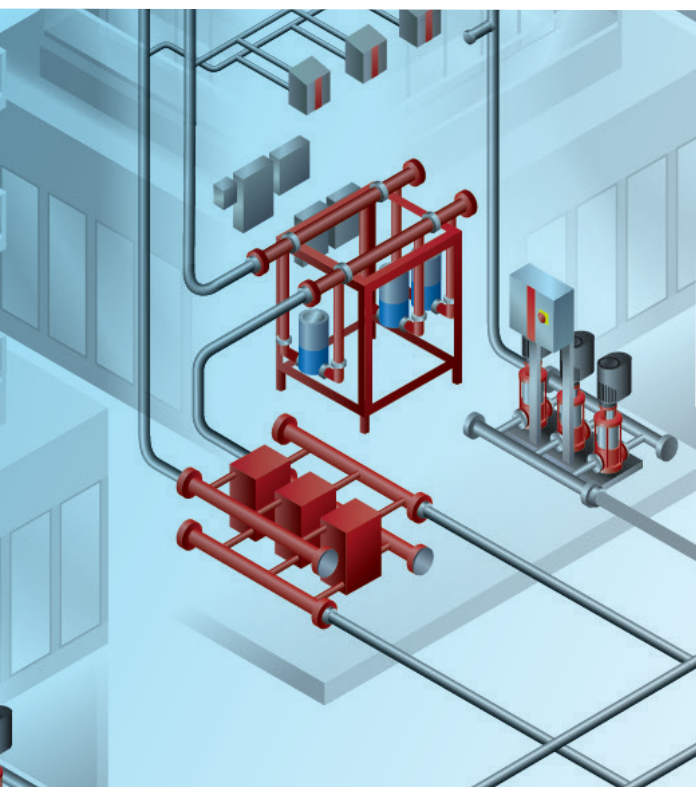
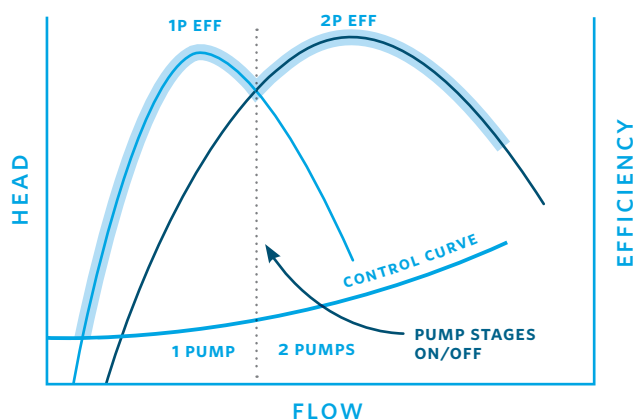
HVAC loads and flow requirements change throughout the day. In the graphs to the right, the grey dotted line intersecting the pump efficiency curves represents the flow level at which one pump in the array should be staged on or off. The solid grey line, however, indicates where staging often occurs with speed-based control, which forces the pump array to operate at efficiency levels that are less than optimal.

In an installation of (up to four pumps) Parallel Sensorless Pump Control monitors pump speed and stages pumps at the correct flow levels to optimise efficiency, as shown in the bottom-right graph.

## TRADITIONAL SPEED-BASED STAGING



## PARALLEL SENSORLESS PUMP CONTROL BEST-EFFICIENCY STAGING

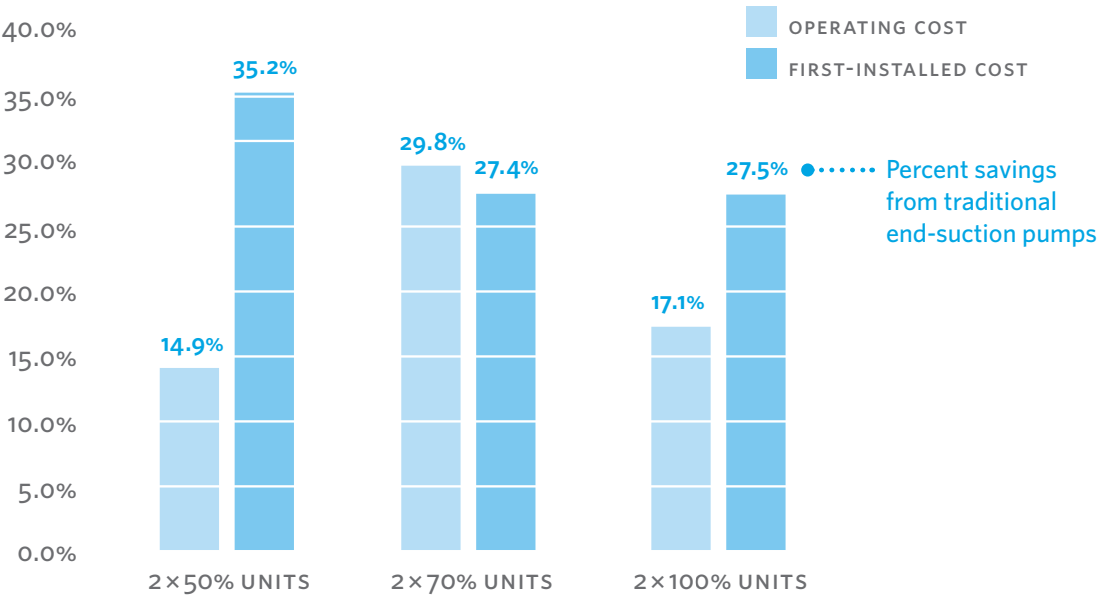




Because HVAC pumping systems mostly operate at part-load, a design using two or more smaller pumps is more efficient than one larger pump. In a two-pump system, if one pump fails, the remaining pump can serve the system

requirements with up to 70% flow redundancy. The capacity split can be adjusted based on the building type and duty requirement.

# REDUNDANCY AND SAVINGS WITH PARALLEL PUMPING



CAPACITY SPLIT	FLOW REDUNDANCY	DUTY REQUIREMENT	TYPICAL BUILDING EXAMPLES
Two pumps running at 50%	If one pump fails, the other will operate at 70%	Generic duty	Schools Apartments
Two pumps running at 70%	If one pump fails, the other will operate at 85%	High comfort sensitivity	Hotels Offices Outpatient clinics
Two pumps running at 100%	If one pump fails, the other will operate at 100%	Mission critical	Blood banks Hospitals Data centers

3

## THE SOLUTIONS

# TANGO

DESIGN  
ENVELOPE

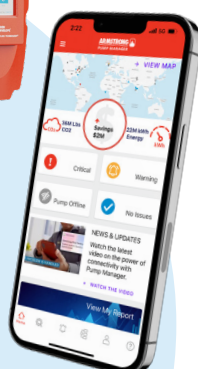
TECHNOLOGY



11-30 kW

A compact, uniquely designed, low-carbon dual pump that ensures uninterrupted fluid flow, even during maintenance

0.25-7.5 kW



## UNMATCHED ENERGY EFFICIENCY

Combines built-in redundancy with leading performance

Includes embedded Parallel Sensorless Pump Control

Lower pump and infrastructure costs

DEPM motors provide Ultra Premium (IE5) efficiency

75% reduction in embodied carbon compared to conventional two-pump base-mounted installations

Improved flow control for high turndown applications

## THE NEED FOR AVAILABILITY

Most building HVAC systems use 100% of design-day capacity for less than 1% of operating hours.

Traditional design approaches over-size components to ensure that the design point can always be met. They also use duplicate, oversized components to achieve 100% redundancy. This needlessly increases both the cost and the carbon footprint of a building.

Design Envelope Tango's dual-pumping configuration modernises system design. Pumps and motors are selected from a range of sizes to achieve a level of redundancy that matches the requirements of the application. Design Envelope technology, in combination with Parallel Sensorless Pump Control, modulates the output of each pump individually, and the entire pump array to meet the flow requirements of the system and minimise energy use.

## Pump Manager™

Real-time operating insights and diagnostic warnings

Full transparency in energy savings and carbon footprint reduction

Reduce pump maintenance cost by up to 50% with predictive maintenance

# FOR ALL DESIGN ENVELOPE SOLUTIONS

## Advanced performance control

Armstrong has reinvented and redesigned pumping solutions to include connectivity and performance management services. Design Envelope Pumps provide optimal lifetime efficiency through:

Expanded performance range (and options)

One-touch auto-flow balancing

Pump speed modulation based on an adjustable quadratic control curve for better part-load efficiency

Flow monitoring accuracy (+/- 5%)

Operating data and notifications to support diagnostics and service

Advanced onboard control functions

## PERFORMANCE PACKAGES

## FUNCTIONS INCLUDED



**Sensorless Bundle**  
(standard)

- Sensorless control
- Flow meter
- Constant flow
- Constant pressure



**Parallel Sensorless**  
(standard on Tango and dualArm)

- Parallel Sensorless control



**Energy Performance Bundle**

- Auto-flow balancing
- Maximum flow control



**Protection Bundle**

- Minimum flow control
- Bypass valve control



**Zone optimisation**

- Accept up to two dP sensor control signals



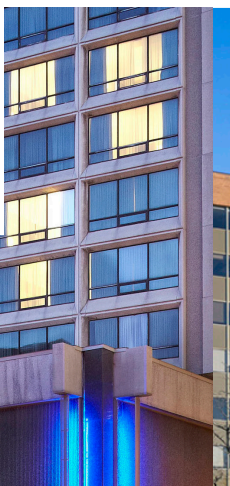
**Dual-season setup**

- Pre-set heating and cooling parameters for two-pipe systems

## CASE STUDY | Delta Hotel

ANNUAL ENERGY SAVINGS

40%



The Delta Hotel commissioned an upgrade of one of their existing pumps to a new Tango. New control algorithms and performance management of the Tango pump proved that the upgrade was the right choice.

The total annual energy cost savings amounted to over \$2,295 with a total kWh savings of 22,957 kWh: a 40% savings overall.



**FACILITY TYPE**  
Hotel



**LOCATION**  
Toronto, Canada



**SIZE**  
300,000 ft<sup>2</sup>

### ANNUAL ENERGY COST

BEFORE

5,659

\$ CAD

AVERAGE

AFTER

3,364

\$ CAD

AVERAGE

ANNUAL COST SAVINGS

\$2,295<sup>CAD</sup>

### CO<sub>2</sub> EMISSIONS

BEFORE

7,923

kg CO<sub>2</sub>

AVERAGE

AFTER

4,709

kg CO<sub>2</sub>

AVERAGE

ANNUAL CO<sub>2</sub> EMISSION REDUCTION

3,214 kg CO<sub>2</sub>



# VERTICAL IN-LINE PUMPS (VIL)

DESIGN  
ENVELOPE

TECHNOLOGY

## Mechanical room space savings

Pumps require minimal floor space  
or can be installed overhead

## Reduced vibration

Optimally-designed, dynamically-balanced  
impeller and shaft assembly operates with  
minimum vibration

## Lowest installed cost and embodied carbon

Component, Material and Labor savings:  
fewer fittings and no housekeeping pad required

## Reliability

Vertical In-Line design requires less  
maintenance, at a lower cost, than any  
other pump configuration

## Easy maintenance

15 minutes to replace the mechanical seal:  
no need for realignment; saves up to £500



For a 10 hp/7.5 kW pump, save  
£1,500 with pipe mounting and  
no inertia base



DEPM Single-  
Phase Pumps  
Available in  
1-phase 200-230v  
up to 2hp

# DEPM IVS

AVAILABLE IN SIZES  
UP TO 45 KW

35-65% lower operating costs over  
conventional integrated pumps

Smaller motor and controls size  
on 40% of hydraulic selections for  
lower pump and infrastructure costs

Simplified handling with single point lifting

Meets Ultra Premium (IE5)  
Efficiency motor levels

50% weight reduction and  
50% embodied carbon  
reduction

Available  
for outdoor  
operation



## CASE STUDY | Carlson Court

ANNUAL  
ENERGY  
SAVINGS



87%

Armstrong replaced six constant speed pumps with new Vertical In-Line pumps. Combining Design Envelope technology and Pump Manager, Armstrong optimised pump operations for annual energy savings of 87%.



**FACILITY TYPE**  
Large Office  
Complex



**LOCATION**  
Toronto,  
Canada



**SIZE**  
300,000 ft<sup>2</sup>

### ANNUAL ENERGY COST



BEFORE

AFTER

\$140,072

CAD

\$18,380

CAD

AVERAGE

AVERAGE

ANNUAL  
COST  
SAVINGS

\$121,692 CAD

### CO<sub>2</sub> EMISSIONS



BEFORE

AFTER

150,847

kg CO<sub>2</sub>

19,794

kg CO<sub>2</sub>

AVERAGE

AVERAGE

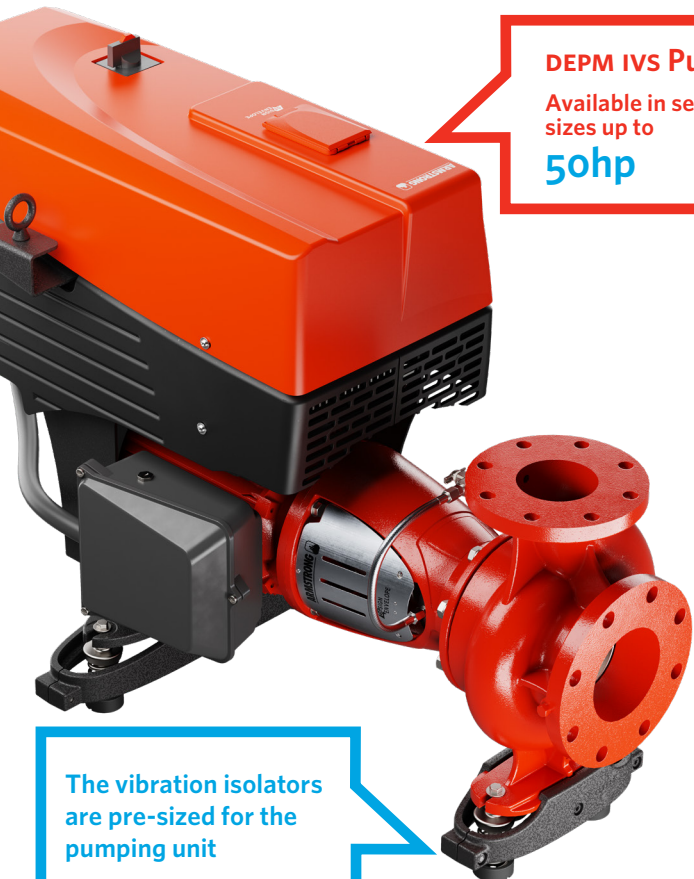
ANNUAL CO<sub>2</sub>  
EMISSION  
REDUCTION

131,053 kg CO<sub>2</sub>

# END SUCTION

DESIGN  
ENVELOPE

TECHNOLOGY



## DEPM IVS Pumps

Available in select  
sizes up to  
**50hp**

The vibration isolators  
are pre-sized for the  
pumping unit

**NO INERTIA BASE NEEDED\***  
= SAVINGS OF  
**\$2,000** \*10hp / 7.5kW or  
smaller



HVAC pumping systems are expected  
to operate smoothly and quietly.

Although it's practical to mount pumps on the floor, this practice can also transmit noise or vibration to the rest of the building. Concrete and inertia bases have traditionally been used to mitigate vibration, but this adds excess weight and cost to the installation.

The Design Envelope End  
Suction pump with DEPM or DEPM  
IVS integrated vibration isolation:

**Eliminates the need for inertia bases**

**Reduces installed costs  
and operating cost**

**70% reduction in embodied carbon  
compared to conventional two-pump  
base-mounted installations**

## EQUIPMENT AND MATERIAL SAVINGS



No inertia base



No coupling  
re-alignment



No concrete



No curing time



Reduced embodied carbon



Integral vibration isolation eliminates the need for inertia bases or baseplates. The following features minimize the transmission of vibration:

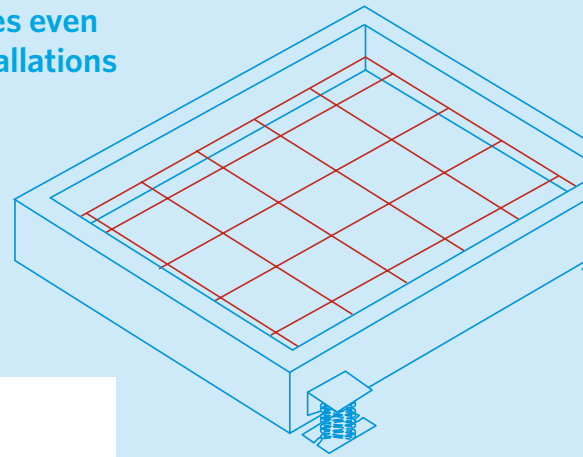
Balanced rotor design

Soft start controls

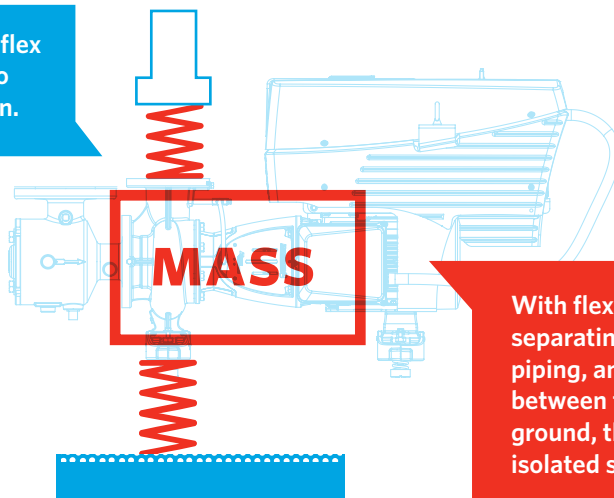
Direct coupling to motor

Reduced overall weight

The ASHRAE handbook recommends the use of inertia bases even for pump installations on grade



The springs and flex connectors act to dampen vibration.



With flex connectors separating the pump from the piping, and vibration isolators between the pump and the ground, the pump floats in an isolated spring system.

## CASE STUDY | Texas Christian University

ANNUAL  
ENERGY  
SAVINGS



63%



In 2018 Armstrong upgraded three constant-speed pumps in the Recreation Center. As a result of the retrofit project, TCU is saving over \$7,500 per year.



**FACILITY TYPE**  
Recreation  
Centre



**LOCATION**  
Fort Worth,  
Texas



**SIZE**  
179,831 ft<sup>2</sup>

### ANNUAL ENERGY COST



BEFORE

**\$12,106**  
USD

AVERAGE

AFTER

**\$4,525**  
USD

AVERAGE

ANNUAL  
COST  
SAVINGS **\$7,581** USD

### CO<sub>2</sub> EMISSIONS



BEFORE

**80,792**  
kg CO<sub>2</sub>

AVERAGE

AFTER

**30,193**  
kg CO<sub>2</sub>

AVERAGE

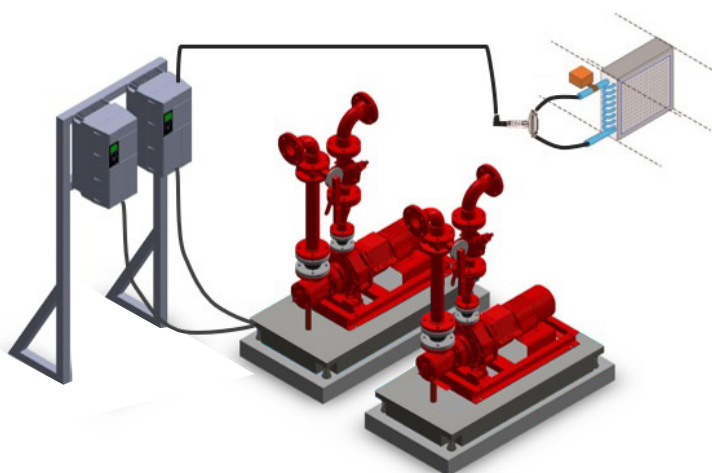
ANNUAL CO<sub>2</sub>  
EMISSION  
REDUCTION **30,193** kg CO<sub>2</sub>






# CHOOSE YOUR CONFIGURATION

## INSTALLATION COST COMPARISON

Armstrong is a leader in Embodied Carbon Reduction in our products.

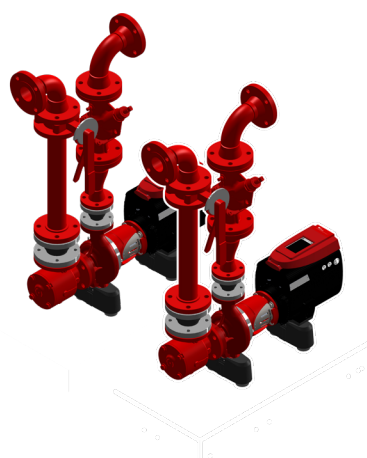
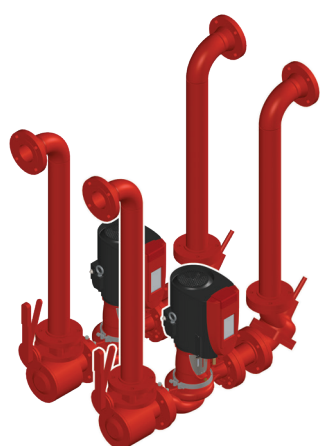
- Less material weight results in less embodied carbon in the product
- Elimination of inertia bases results in less embodied carbon in the construction/installation stage



	2 × End Suction with drive on wall and remote pressure sensor 100% duty/standby	1 Tango pump with sensorless and parallel sensorless control 2 × 50% capacity split, parallel operation
 Total pump weight	309.3 kg	41.3 kg 87% savings
 Installation weight	1007.4 kg	236.3 kg 76% savings
 Embodied carbon	7,671 kg CO <sub>2</sub> e	1,231 kg CO <sub>2</sub> e 84% savings
 Installation footprint	2.47 m <sup>2</sup>	0.54 m <sup>2</sup> 78% savings
 Installation cost	£ 7,163	£ 1,455 80% savings
	<ul style="list-style-type: none"><li>• Legacy design</li><li>• Base case for comparison</li><li>• Time-intensive seal change</li></ul>	<ul style="list-style-type: none"><li>• Managed redundancy and parallel operation replaces duty/standby</li><li>• Smaller units are easier to handle</li><li>• Two rotating devices sharing one casing</li><li>• Reporting and proactive management</li><li>• Optimised lifetime performance</li></ul>

Complete integrated solutions offer the lowest installed cost and add value in lifetime energy and maintenance savings

## DESIGN ENVELOPE CONFIGURATION OPTIONS



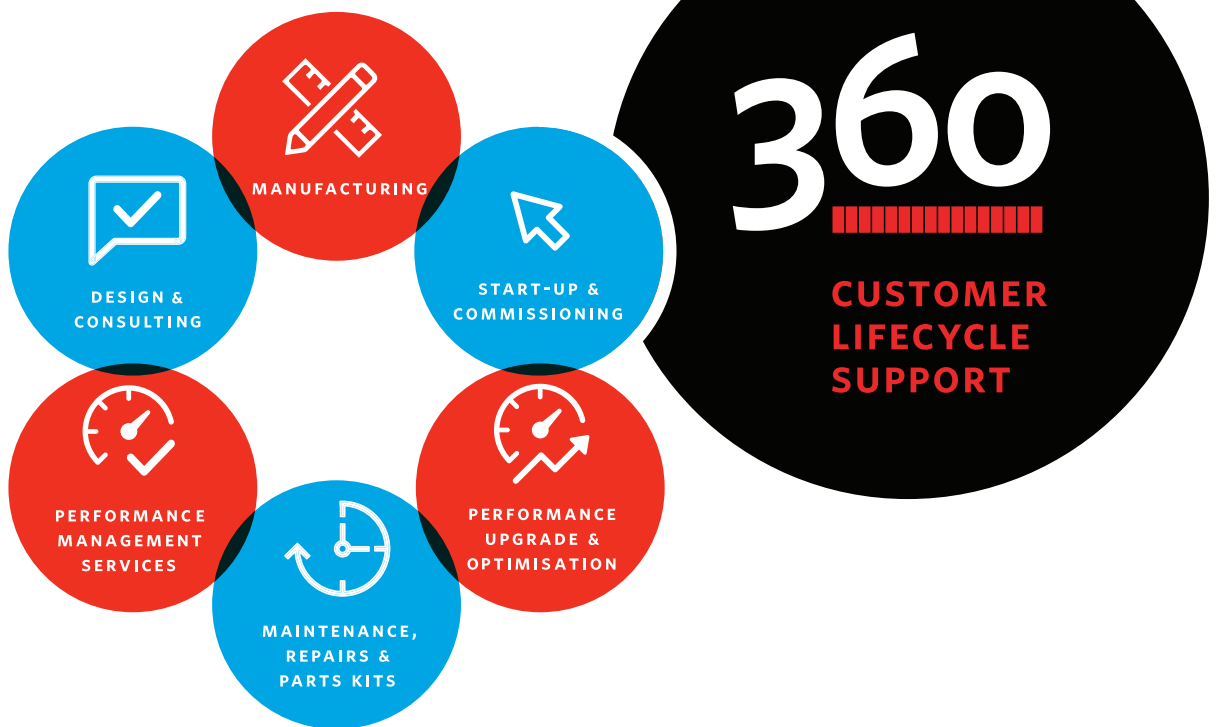
2 × Design Envelope Vertical Inline with sensorless control 100% duty/standby*	2 × Design Envelope End Suction with sensorless control 100% duty/standby*
98.0 kg 68% savings	89.8 kg 71% savings
339.3 kg 66% savings	435.9 kg 57% savings
2,135 kg CO <sub>2</sub> e 72% savings	2,113 kg CO <sub>2</sub> e 72% savings
1.14 m <sup>2</sup> 54% savings	1.68 m <sup>2</sup> 32% savings
£ 3,312 54% savings	£ 3,903 46% savings
<p><b>Eliminates the need for:</b> housekeeping pads, inertia base, flex connections, grouting and alignment</p> <ul style="list-style-type: none"> <li>Reduced installation labour costs</li> <li>Smaller mechanical room footprint (50-75%)</li> </ul>	<p><b>Eliminates the need for:</b> housekeeping pads, inertia base, flex connections, grouting and alignment</p> <ul style="list-style-type: none"> <li>Reduced installation labour costs</li> <li>Smaller mechanical room footprint (50-75%)</li> </ul>

\*May also be sized 2 × 50% parallel

4

## ARMSTRONG SERVICES & PARTS

**A**rmstrong's 360 Service and Support provides complete solution support for engineers, contractors and owners. Working with our network partners, we provide support to help you get the best possible performance from fluid-flow systems.



Rapid response attention

**MATCHED TO  
YOUR NEEDS.**

**+ 24/7 GLOBAL  
RAPID RESPONSE**





## ARMSTRONG PARTS KITS: ENGINEERED AND PRE-ASSEMBLED

**A**rmstrong Parts Kits are engineered combinations of genuine replacement parts — planned, selected and packaged based on solution types and sizes. Use Parts Kits for maintenance projects to add value to your building operators and service personnel.



## CASE STUDY | Commercial Towers

**T**he owners of this pair of commercial towers recently completed an HVAC upgrade, replacing three constant speed pumps with new Design Envelope pumps with Pump Manager.

Along with the energy savings, Pump Manager provided system warnings that helped avoid expensive repairs and energy losses.

SOLUTION  
EMPLOYED

**DESIGN  
ENVELOPE**

VERTICAL IN-  
LINE PUMP



ANNUAL  
ENERGY  
SAVINGS

**77%**



ANNUAL ENERGY COST

BEFORE	AFTER
<b>\$68,185</b>	<b>\$15,918</b>
CAD	CAD
AVERAGE	AVERAGE

ANNUAL COST  
SAVINGS

**\$52,267** CAD



FACILITY TYPE  
Commercial  
office tower



LOCATION  
Toronto,  
Ontario

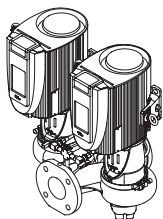


SIZE  
18 floors,  
20,000 ft<sup>2</sup>  
per floor

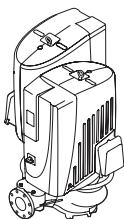
# 5

## DESIGN ENVELOPE PUMP RANGE

**4322/4372**  
Split and  
close-coupled  
Tango



**4332**  
Split-coupled  
Tango



### INDOOR

0.25-7.5 kW

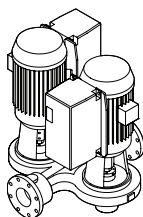
11-30 kW  
with isolation valves

### OUTDOOR

0.25-7.5 kW

11-30 kW  
with isolation valves

**4302**  
Split-coupled  
dualArm



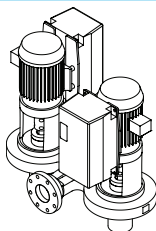
### INDOOR

11-75 kW

### OUTDOOR

11-75 kW

**4312**  
Split-coupled  
Twin



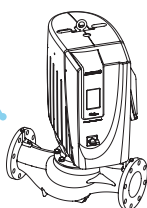
### INDOOR

11-30 kW

### OUTDOOR

0.75-30 kW

**4300**  
Split-coupled  
vertical in-line



### INDOOR

0.25-335 kW

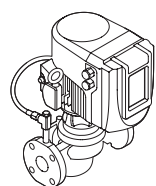
355 kW - 932 kW  
with Standalone control

### OUTDOOR

0.25-90 kW

N/A

**4380**  
Close-coupled  
vertical in-line



### INDOOR

0.25-7.5 kW

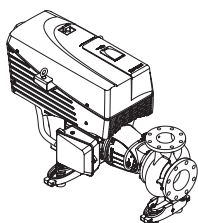
0.75-1.5 kW in Stainless Steel

### OUTDOOR

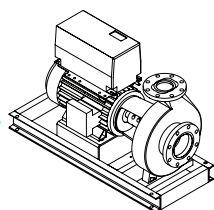
0.25-7.5 kW

N/A

**4200H**  
Split-coupled  
end suction



**4200H**  
Split-coupled  
end suction



### INDOOR

0.75-37 kW with integrated  
vibration isolators

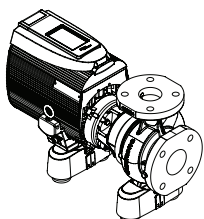
11-90 kW

### OUTDOOR

N/A

N/A

**4280**  
Close-coupled  
end suction



### INDOOR

0.75-7.5 kW with integrated  
vibration isolators

### OUTDOOR

N/A

# OUR SERVICE TO THE PLANET



## PLANET PROPOSITION

**T**hrough our Planet Proposition charter, Armstrong has committed to minimising our impact on the environment. Around the world, Armstrong's Planet Proposition teams have taken on projects that are helping us meet our targets. Two examples of successful projects are:

## NET ZERO CARBON BUILDINGS COMMITMENT

The Net Zero Commitment positions energy efficiency as a central component to achieving decarbonization globally. In signing the Net Zero Carbon Buildings Commitment, Armstrong has pledged to ensure our entire portfolio of buildings operates at Net Zero carbon by the year 2030.



WATCH  
THE  
VIDEO



See how we achieved a key target in reducing greenhouse gas emissions by 2 millions tons

#### TORONTO

23 BERTRAND AVENUE,  
TORONTO, ONTARIO,  
CANADA, M1L 2P3  
+1 416 755 2291

#### BUFFALO

93 EAST AVENUE, NORTH  
TONAWANDA, NEW YORK,  
U.S.A., 14120-6594  
+1 716 693 8813

#### DROITWICH SPA

POINTON WAY, STONEBRIDGE CROSS  
BUSINESS PARK, DROITWICH SPA,  
WORCESTERSHIRE,  
UNITED KINGDOM, WR9 0LW  
+44 8444 145 145

#### MANCHESTER

WOLVERTON STREET, MANCHESTER  
UNITED KINGDOM, M11 2ET  
+44 8444 145 145

#### BANGALORE

#18, LEWIS WORKSPACE, 3<sup>RD</sup> FLOOR,  
OFF MILLERS - NANDIDURGA ROAD,  
JAYAMAHAL CBD, BENSON TOWN,  
BANGALORE, INDIA 560 046  
+91 80 4906 3555

#### SHANGHAI

UNIT 903, 888 NORTH SICHUAN RD.  
HONGKOU DISTRICT, SHANGHAI  
CHINA, 200085  
+86 21 5237 0909

#### BEIJING

ROOM 1612, NANYIN BUILDING NO.2  
NORTH EAST THRID RING ROAD  
CHAOYANG DISTRICT, BEIJING,  
CHINA 100027  
+86 21 5237 0909

#### SÃO PAULO

RUA JOSÉ SEMIÃO RODRIGUES  
AGOSTINHO, 1370 GALPÃO 6 EMBU  
DAS ARTES, SAO PAULO, BRAZIL  
+55 11 4785 1330

#### LYON

93 RUE DE LA VILLETTE  
LYON, 69003 FRANCE  
+33 4 20 10 26 21

#### DUBAI

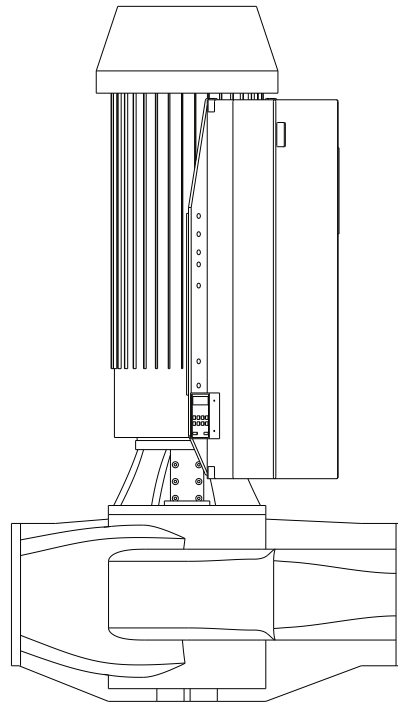
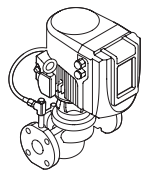
JAFZA VIEW 19, OFFICE 402  
P.O. BOX 18226 JAFZA,  
DUBAI - UNITED ARAB EMIRATES  
+971 4 887 6775

#### JIMBOLIA

STR CALEA MOTILOR NR. 2C  
JIMBOLIA 305400, JUD.TIMIS  
ROMANIA  
+40 256 360 030

#### FRANKFURT

WESTERBACHSTRASSE 32,  
D-61476 KRONBERG IM TAUNUS  
GERMANY  
+49 6173 999 77 55



**0.25 kW**

**Up to 932 kW available**

## SELECT & CONFIGURE

Use ADEPT Select to quickly and easily select

Armstrong products that are right for your projects.

Visit [adept.armstrongfluidtechnology.com](https://adept.armstrongfluidtechnology.com) to learn more

ARMSTRONG FLUID TECHNOLOGY®  
ESTABLISHED 1934

[ARMSTRONGFLUIDTECHNOLOGY.COM](https://armstrongfluidtechnology.com)