

Summary

The Winflo VLW-E pump is a vertical in-line split-coupled pump with a motor-mounted variable-speed drive and integrated pump controls. Supplied as one coordinated package, it reduces plantroom space, site wiring, separate control-panel requirements and commissioning work. The rigid split-coupled design also provides fast seal access without disturbing the motor or pipework.

Typical applications: Chilled-water, heating-water, condenser-water, district-cooling and heat-exchanger circuits.

Key Features

- **Ultra-compact installation** — can save up to 80% floor space compared with a conventional split-case pump arrangement of equivalent duty.
- **Fast & simple maintenance** — rigid split-coupled design with internal mechanical seal provides permanent shaft alignment, easy seal access without disturbing motor or pipework.
- **Superior seal reliability** — internally flushed mechanical seal eliminates external flush lines and offers maintenance free design with improved resistance to dirt, debris and abrasive water conditions compared with conventional split coupled pumps with outside mechanical seals.
- **Premium construction** — high-strength ductile-iron casing with corrosion-resistant coating, AISI 316L stainless-steel impeller and shaft options.
- **Highest-efficiency pumps**—IES2 drive systems with CFD optimized hydraulics minimize kW selection and energy consumption.
- **HVAC-optimised control** — includes specialized HVAC pumping controls for constant flow, pressure, ΔP , and ΔT control.
- **Flexible control architecture** — operate using built-in pump controls or integrate with an external BMS/BAS, chiller-plant controller or PLC.
- **Multi-pump control*** — optional multi-pump control software using embedded controller to operate up to 8 parallel variable-speed pumps with multi-master redundancy.
- **Predictive condition monitoring*** – optional cloud-free embedded monitoring detects and provides early warnings to operators of developing operating and equipment issues.
- **Sensorless estimation*** – estimate pump flow and head without dedicated flow meter or pressure sensors.
- **Configure only what you need** — select only the functions and accessories required today, with flexibility to add more later.

**optional configurable features.*



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Applications



HVAC



Industrial



Water supply



Irrigation

Motor Options

Parameter	VLW-E-IM	VLW-E-PM
Motor technology	Asynchronous induction	Permanent-magnet synchronous
Motor protection	IP55	IP55
Insulation class	F	F
Nominal supply	3-phase, 400 V, 50 Hz	3-phase, 400 V, 50/60 Hz
Efficiency class	IE3 / IE4 / IE5	IE5

Other voltage, motor and enclosure configurations are available upon request.

Operating Envelope

Parameter	Value
Capacity	Up to 1,300 m ³ /h
Head	Up to 85 m
Nominal diameter	DN40-DN300
Max. working pressure	16 bar (default), 25 bar
Liquid temperature	-25 °C to +110 °C
Ambient temperature	-20 °C to +40 °C; special selection up to +55 °C
Protection Class	IP55; IP66 available upon request
Duty	S1 continuous

Integrated Drive & Pump Intelligence

Function	Description
Control modes	Constant Pressure, ΔP, flow, temperature, ΔT, level, constant curve and open-loop speed.
Closed-loop control	Integrated PID process controller with guided auto-tuning.
Basic cascade	Duty/assist/standby sequencing for up to 3 pumps with automatic alteration and runtime balancing.
Digital cascade	Coordinated control of up to 8 variable-speed pumps with backup-master and hot-swap capability.
Low-demand operation	No-flow/low-flow detection with automatic sleep and wake-up.
Hydraulic protection	Dry-run and end-of-curve monitoring, controlled pipe fill, check-valve ramp-down and dedicated start/stop ramps.
Commissioning	Guided water-system setup, automatic motor adaptation and process-controller tuning.

Communication, Monitoring & I/O

Function	Description
Local interface	Graphical backlit display for status, setup, trends, warnings and alarms. Dedicated physical input buttons for Auto-On / Hand-On / Off / Reset operation.
External communication	Modbus RTU, BACnet MS/TP, Metasys N2, FLN via built in RS-485
Other communication modules*	BACnet/IP, PROFINET, EtherNet/IP, Modbus TCP, PROFIBUS DP and DeviceNet via optional modules.
Control I/O	6 digital inputs, 2 configurable digital I/O, 2 analog inputs (0–10 V / 0/4–20 mA), 1 analog output (0/4–20 mA), 2 programmable potential-free relay outputs (NO/NC).
Operating data	Speed, current, power/energy, run hours, starts, sensor feedback, I/O status, warnings and alarms.
Condition-based monitoring*	Learns a normal load envelope; optional sensor inputs (vibration, pressure, temperature, flow) supports condition-based maintenance of additional parameters.
Sensorless Estimation*	Selected configurations can estimate operating flow and head from pump-curve data without external sensors.
BMS/BAS data	Operating mode, setpoint, run/fault status, maintenance state and event information can be shared.

*optional configurable features and hardware modules.

Materials of Construction

ID	Component	Materials
A	Pump casing	Ductile iron
B	Impeller	AISI 316L (default); AISI 304 or cast iron
C	Shaft	AISI 316L (default); AISI 420, AISI 431
D	Mechanical seal	Silicon Carbide/Silicon Carbide (default), Silicon Carbide/Graphite
E	O-ring	EPDM (default), NBR, FKM, FFKM

Options

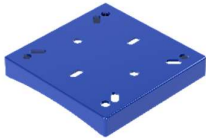
ID	Option	Description
1	Digital Multi-Pump Cascade Controller – Software Add-On	Software license for coordinated control of up to 8 variable-speed pumps with multi-master redundancy and hot-swap functionality. Note: the license is a onetime lifetime transferable license.
2	Edge-Based Condition Monitoring – Software Add-On	Software license for coordinated control of up to 8 variable-speed pumps with multi-master redundancy..
3	Sensorless estimation	Estimates pump flow and head without dedicated flow or pressure sensors.
4	Drive with Integrated mains disconnect switch	Built-in local electrical isolation for easier and safer servicing. Availability depends on drive size and configuration
5	Wireless Communication Panel	Wireless panel can be used in place of the standard graphical interface panel to enable wireless commissioning, monitoring and configuration from mobile devices and computers.
6	IP66 / NEMA 4X Drive Enclosure	Enhanced protection against dust, water and demanding installation environments.
7	PROFIBUS DP Communication	Plug-in module for PROFIBUS DP networks.
8	DeviceNet Communication	Plug-in module for DeviceNet networks.
9	PROFINET Communication	Plug-in Ethernet module for PROFINET networks.
10	EtherNet/ IP Communication	Plug-in Ethernet module for EtherNet/IP networks.
11	Modbus TCP Communication	Plug-in Ethernet module for Modbus TCP networks.
12	BACnet/IP Communication	Plug-in Ethernet module for BACnet/IP BMS integration.
13	Extended Digital & Analogue I/O Module	Adds 3 digital inputs, 2 analogue inputs, 2 digital outputs and 1 analogue output for additional sensors, commands and control functions.
14	Extended Analogue I/O & Temperature Module	Adds 3 analogue/temperature inputs and 3 analogue outputs, with real-time clock backup. Suitable for additional pressure, temperature, setpoint and actuator signals.
15	Additional Relay Output Module	Adds 3 relay outputs for alarms, interlocks, auxiliary equipment and external control functions.
16	Extended Relay & Digital I/O Module	Adds 7 digital inputs, 4 changeover relays and 2 analogue outputs for more complex interlocks and auxiliary controls.
17	Temperature & Process Sensor Input Module	Adds 3 PT100/PT1000 temperature inputs and 1 additional 0/4–20 mA sensor input for motor, bearing or process monitoring.
18	PTC Thermistor Motor Protection Module	Dedicated motor thermistor protection for applications requiring enhanced PTC-based overtemperature protection.
19	24 V DC Control Power Backup Module	Keeps the drive controls, operator interface, communication and installed options active from an external 24 V DC supply when mains power is unavailable.

Certifications & Standards

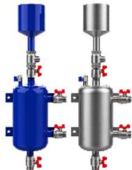


- Flange connection: BS EN 1092-2
- Pressure testing: BS EN 12266-1

Accessories

			
Outdoor Weather shield	Pump Baseplate	Suction diffuser	Triple-duty valve
			
Butterfly valve	Silent globe check valve	Common Mode Filter	Differential-pressure transmitter
			
Pressure transmitter	Temperature transmitter	Combined Pressure and Temperature Transmitter	Vibration sensor
			
Flow meter		BTU meter	

Other Hydronic Solutions

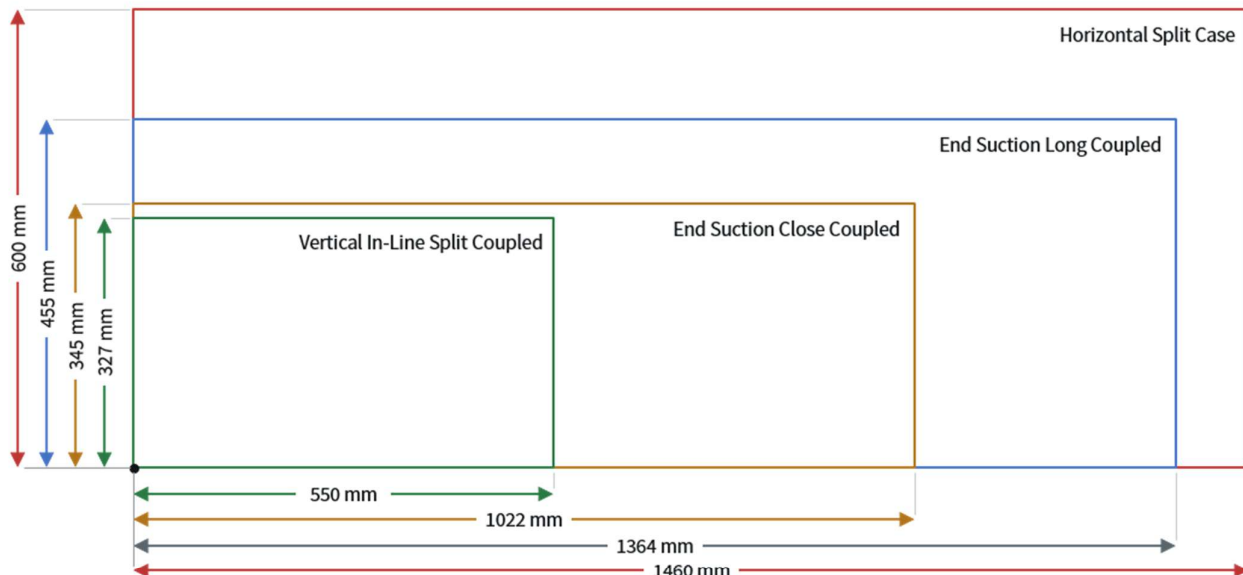
			
Hydronic Separators	Static & Dynamic Pressurisation units	Vacuum Degasser	Expansion Tanks
			
Chemical Dosing System	Manual Dosing Pot	Pressure Independent Control Valves (PICV)	Control Valves: Two Way & Three Way Valves

30 kW Pump Floor-Space Comparison

Same duty point: 50 l/s @ 40 m head

Horizontal Split Case HSW 1460 × 600 mm 0.876 m²	End Suction Long Coupled ELW 1364 × 455 mm 0.621 m²
End Suction Close Coupled ECW 1022 × 345 mm 0.353 m²	Vertical In-Line Split Coupled VLW 550 × 327 mm 0.180 m²

Scaled footprint overlay



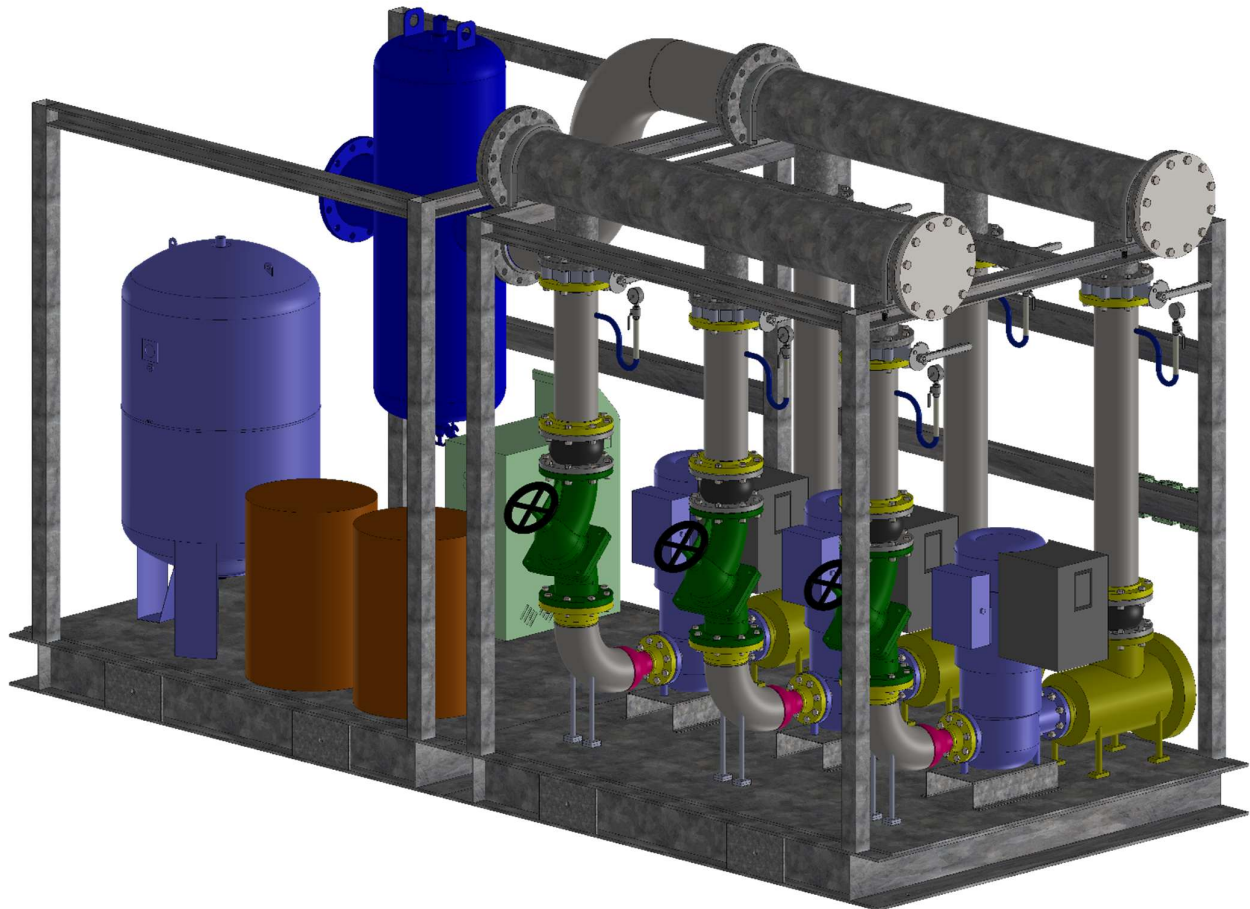
0.180 m²
Vertical in-line footprint

↓ 79.5%
Lower Floor Space
than the Horizontal Split Case for the same duty point.

Note: Equipment footprints only. Installed-space requirements depend on pipework, access and maintenance clearances.

Compact Modular Packaged Installation

Winflo skid mounted and factory assembled plug-and-pay hydronic pumping station.



One Package. Less Plantroom Infrastructure.

Integrated drive For typical duties, the pump-mounted drive can replace a separate VFD/control panel, saving wall or floor space and interconnecting cabling.	Simpler delivery Fewer interfaces, shorter power/control runs and guided setup reduce installation and commissioning effort.
Condition intelligence Baseline and load-envelope monitoring, with external vibration input and local BMS/BAS reporting.	Complete Hydronic Plant Room Pair the modular pump station with plate heat exchangers, dynamic pressurization units, vacuum degassers, air & dirt separators, and chemical dosing systems for a complete factory built plantroom.

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