Inline Split Coupled Variable Speed Pumps

Grundfos VLSE/VLSC

The Grundfos VLSE and VLSC, inline, split coupled, variable speed pumps are engineered to increase efficiency and reduce radial loads. These offerings deliver a highly efficient solution while saving on installation costs.

VLSE Models

The VLSE incorporate all essential components into one product and features a VLS pump, MLE motor and integrated variable frequency drive and control, all made by one supplier. Together with various sensors, these products allow for dynamic and intelligent solutions to many industrial and commercial building applications. The innovative solution cuts planning, purchasing, installation and commissioning costs.

The integrated variable frequency motor (MLE) is available with permanent magnet motors and exceed IE5 efficiency levels set by International Electro Technical Commission, currently the highest efficiency worldwide for electrical motors. NEMA Premium Efficient motors are equivalent to IE3, meaning these MLE motors are two levels above NEMA Premium Efficiency. The combined motor and VFD efficiency is higher than a NEMA Premium motor alone.

VLSC Models

The VLSC features a VLS pump with a Grundfos CUE variable frequency drive and control, all made by one supplier.

Key Features and Benefits

- Plug-and-pump solution speeds installation, commissioning and startup due to integrated components
- Provides seamless integration with Grundfos MLE integratedmotor, drive and control for an all-in-one solution (VLSE)
- Large, graphical display control interface (HMI) on MLE motor allows control of all settings without need of separate interface device (GO Remote) and provides user friendly operation
- Isolation pads between the motor and CUE mounting plate to absorb vibration and heat transfer (VLSC)
- Axially split coupling enhances ease of service and alignment
- Spacer coupling allows rapid mechanical seal access without motor removal for service friendly design
- Double volute design extends seal and bearing life, minimizes noise and vibration, and improves operating efficiency
- No inertia base required
- Vertical shaft configuration promotes longer seal and bearing life
- No coupling alignment or bearing frame assembly needed
- Heavy duty cast and machined motor bracket creates rigid and reliable mounting surface with easy alignment
- Case wear rings reduce maintenance costs and maintain high efficiency
- Suction baffle creates a smooth, quiet pump operation
- No flexible connectors or foundation grouting needed
- Francis Vane impeller design increases efficiency and reduces NPSH required
- Saves energy, optimizes efficiency and lowers operating cost
- Grundfos GO lets you use your smart phone to access interface, regardless of pump location

Applications

- Chilled water
- Condensed water
- Hot water
- Service water
- District heating/cooling
- Boiler/hydronic heating
- Air conditioning
- Cooling towers

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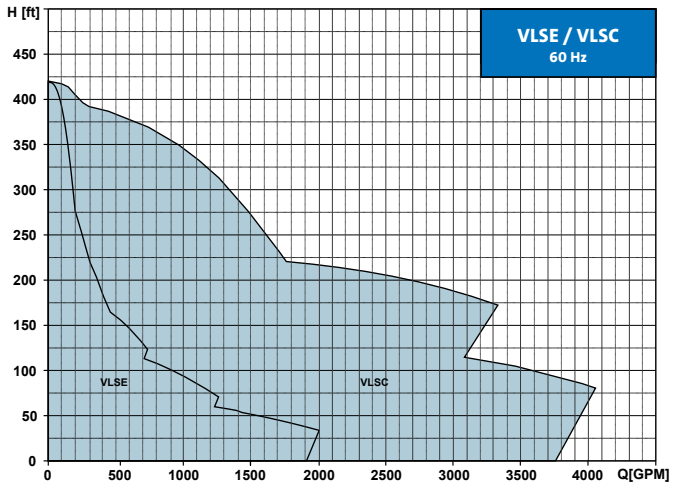
Possibility in every drop

Technical Data

	VLSE	VLSC
Flow, Q:	max. 1,900 gpm	max. 4,100 gpm
Head, H:	max. 420 ft	max. 420 ft
Liquid temperature:	10°F to 275°F	10°F to 275°F
Working pressure:	max. 175 psi	max. 175 psi
HP range/speed:	3 to 30 hp/3,600 rpm	5 to 125 hp/3,600 rpm
	3 to 25 hp/1,800 rpm	3 to 125 hp/1,800 rpm
Discharge/ Suction sizes:	1.25 to 8 in	1.25 to 8 in

Control Modes	Description		LCSE New MLE Motor	LCSE MLE Motor
		2 Pole	3-15 hp	20-30 hp
		4 Pole	3-10 hp	15-25 hp
	Constant flow		•	•
	Constant pressure		•	•
	Constant differential pressure		•	•
	Constant temperature		•	•

Performance Data



The Perfect Motor is Half the Solution

For an intelligent pumping solution, the motor is half the story. Our E-motors (MLE) are frequency converter controlled motors that have been designed specifically for use with Grundfos pumps, and they feature unique functionalities that allow for complete system optimization. The new MLE permanent magnet (ECM) motor offers an additional 7-10% decrease in energy cost over NEMA Premium motors with industry standard variable frequency drives.

Ultimate Flexibility and Efficiency

The MLE motors can be operated to meet any individual needs for a specific solution. This makes them an excellent choice for a number of applications within heating, cooling, ventilation and industrial processes—each of which are characterized by varying demands, different control needs, and varying number of operating hours.

New Functionalities for Advanced Solutions	
Real Time Clock*	**Adjustable Proportional Pressure Control Curve**
Allows for calendar function for e.g . automatic system stop during weekends.	You can select the shape and steepness of the control curve - choose between a linear or quadratic curve.
2 Analogue Inputs	**Manual Speed Operation Mode**
Get Delta P and Delta T control with two sensors.	Even while under external signal control, you can switch to manual speed operation mode to test the pump's operation.
Timer Functions on Digital Inputs	**PT100/1000 Input***
For each digital input you can activate and set a delay time and a duration time.	Get temperature and differential temperature control at a low cost.
1 Analogue Output*	**Predefined Set-Point***
Get relevant parameter information in real time.	Get dynamic response to different operation profiles.

* Advanced functional module FM300 is required for these functionalities

Visit grundfos.us/pei to learn more about Department of Energy (DOE) pump energy index (PEI) requirements and PEI ratings on specific Grundfos models.

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