

# End Suction Split Coupled Pump

## GRUNDFOS LCSE

The Grundfos LCSE end suction, split coupled pump with integrated motor, drive, and control serves as the industry standard in performance, quality, and durability. Together with various sensors, these products allow for dynamic and intelligent solutions to many industrial and commercial building applications. With a selection of 21 sizes available, the LCSE provides all the benefits of an LCS pump, enhanced by an integrated motor and variable frequency drive, all made by one supplier.

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.



## Key Features and Benefits

- Plug-and-pump solution speeds installation, commissioning and startup due to integrated components
- Provides seamless integration with Grundfos MLE integrated motor, drive and control for an all-in-one solution
- 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
- No baseplate grouting required
- Axially split, rigid coupling enhances ease of service with reduced maintenance costs
- No alignment required between the pump and motor eliminates laser alignment costs and reduces installation time
- Optimized, space-saving design has 35% smaller footprint than frame mount design
- Spacer coupling allows rapid mechanical seal access without motor removal for service friendly design
- Double volute design increases lowers life cycle costs and prolongs seal and bearing life
- Francis Vane impeller design increases efficiency and reduces NPSH required
- Reduced installation and wiring cost
- Integrally cast diffuser vane reduces turbulence and need for suction guides
- Trimmed and balanced impellers allow customization, reduce noise and vibration for quiet operation and prolong seal and bearing life
- Grundfos GO lets you use your smart phone to access interface, regardless of pump location
- Single source responsibility ensures one manufacturer for pump, motor, drive and control

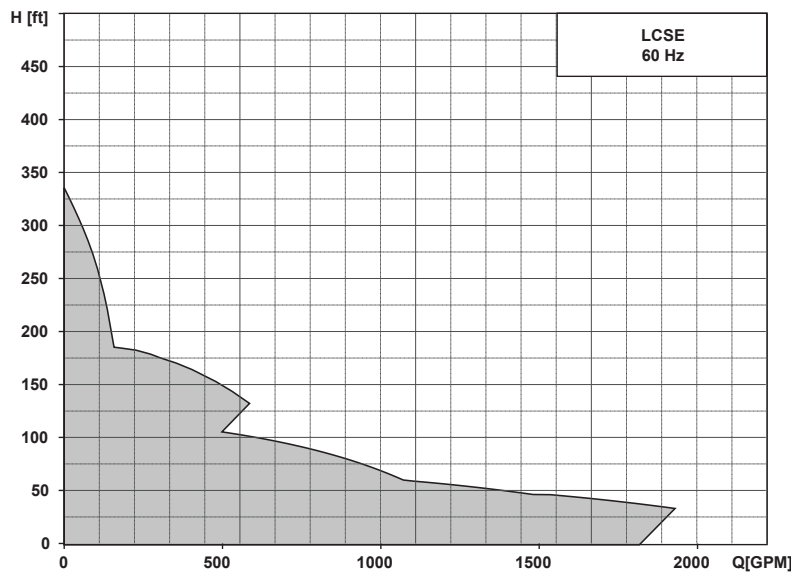
### APPLICATIONS

- Chilled water
- Condensed water
- Hot water
- District heating/cooling
- HVAC
- Process water
- Light industrial
- Water utility

# LCSE Technical Data

LCSE Information	
Flow, Q	max. 1900 gpm
Head, H	max. 380 ft
Fluid temp.	10° to 275° F
Working pressure	max. 175 psi*
HP range/Speed	3 to 30 Hp/3600 RPM
	3 to 25 Hp/1800 RPM
Discharge sizes	1 to 6 in.

\* 250 psi rating available



Control Modes	Description	LCSE	
		New MLE Motor	MLE Motor
		2 Pole	3 - 15 HP
4 Pole	3 - 10 HP	15 - 25 HP	
Constant Flow		•	•
Constant Pressure		•	•
Constant Differential Pressure		•	•
Constant Temperature		•	•

### 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	
<b>Real Time Clock*</b>	<b>Adjustable Proportional Pressure Control Curve</b>
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
<b>2 Analogue Inputs</b>	<b>Manual Speed Operation Mode</b>
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.
<b>Timer Functions on Digital Inputs</b>	<b>PT100/1000 Input*</b>
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
<b>1 Analogue Output*</b>	<b>Predefined Set-Point*</b>
Get relevant parameter information in real time	Get dynamic response to different operation profiles

\* Advanced functional module FM300 is required for these functionalities