

**LHCE SERIES**

**Horizontal Split Case Fire Pumpset  
Electric Motor Driven  
50 Hz**



**LISTED**  
**EX26631**

**Selected Models**

## INTRODUCTION

Lubi offers **LHCE** series state-of-the-art fire pumpset with electric motor driven, horizontal split case pump.

These pumpsets are typically used in fire-fighting applications for supplying water to fire hose reels, fire hydrants or sprinkler systems.

Pumps have a discharge range from 500 to 3000 USgpm and the head range from 47 to 220 psi.

These fire pumpsets meet or exceed the requirements of NFPA20.

Installations of these pumpsets would ensure the safety of human life, buildings, expensive plants and equipments.

LHCE fire pumpset shall be used only where a positive suction is provided as specified in NFPA20.

The fire pumpset typically consists of the following equipments:

- ☐ Pump
- ☐ Electric motor
- ☐ Fire pump controller
- ☐ Suction and discharge gauges
- ☐ Air relief valve
- ☐ Common base plate

**Note:** For your jockey pump requirements kindly refer our literature for LCR and/or LES pumps.

All above equipments except fire pump controller are mounted on a common base frame.

Lubi can also supply Packaged fire pumping system with all required accessories ready for site installation.

## APPLICATIONS

The LHCE fire pumpsets are used in fire-fighting applications for supplying water to fire hose reels, fire hydrants or sprinkler systems in areas which are prone to the hazards of fire. The typical applications are as follow:

- ☐ Commercial complexes and high rise buildings
- ☐ Petrochemical industries and Gas plants
- ☐ Oil and Gas on-shore & off-shore platforms
- ☐ Oil terminals
- ☐ Airports and ports
- ☐ Jetties
- ☐ Marine applications
- ☐ Power stations and transformer stations
- ☐ Chemical industries
- ☐ Manufacturing plants
- ☐ Fire-work industries
- ☐ Warehouses/godowns.

## FEATURES AND BENEFITS

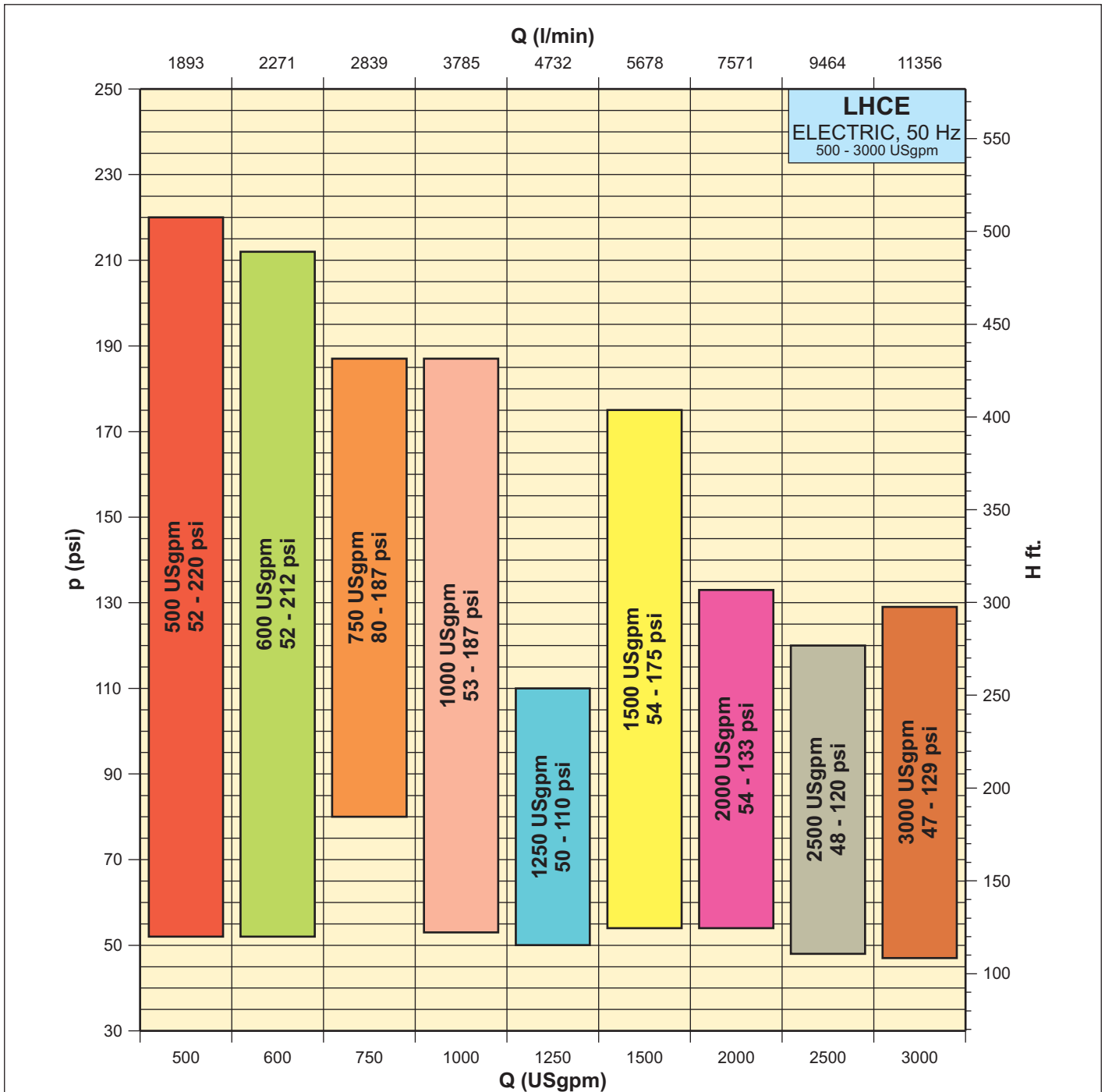
LHCE fire pumpset offers all features & benefits as mentioned in our LHC standard pump series data booklet. Following are the additional features & benefits offered by these pumpsets:

- ☐ State-of-the-art design fire pumping system.
- ☐ NFPA-20 design
- ☐ Electric motor driven pump
- ☐ Rugged construction
- ☐ Liberal water passages
- ☐ Automatic air relief valve
- ☐ Efficient operation
- ☐ Lower initial cost
- ☐ Reduced installation time and cost
- ☐ Simplified piping design
- ☐ Suitable for space saving installation systems and retrofit applications
- ☐ Easy access to all working parts
- ☐ Ease of maintenance

## TYPE KEY

<b>LHC</b>	<b>E</b>	<b>100400</b>	<b>1</b>	<b>A</b>	<b>040</b>
<b>Type range</b>	<b>Fire pumpset</b>	<b>Model</b>	<b>Stage</b>	<b>Electric motor speed [rpm]</b>	<b>Electric motor rating [hp]</b>
LHC = Horizontal split case pump	E = Electric motor driven pump, 50 Hz		1 = 1 Stage 2 = 2 Stage	A = 1450 rpm G = 2900 rpm	040 = 40 hp 600 = 600 hp

### PERFORMANCE RANGE - ELECTRIC MOTOR DRIVEN - 50 Hz



NOMINAL FLOW [USgpm]	ELECTRIC MOTOR SPEED [rpm]	
	1450	2900
500	■	■
600	■	■
750	■	■
1000	■	■
1250	■	■
1500	■	■
2000	■	
2500	■	
3000	■	

■ AVAILABLE

**ELECTRIC MOTOR**

- Horizontal, foot mounted, high reliability Totally Enclosed Fan Cooled motor with main dimensions to IEC standards
- Power safety factor as per NFPA 20
- Each electric motor is factory tested
- Available in 2 pole & 4pole.

**PUMP CONTROLLER**

- State-of-the-art designed to specifically to meet the NFPA 20
- Monitors and records system alarms, pressure and events
- Standard NEMA 2 enclosure, corresponding to IP 31
- Available from 40 to 600 HP, 380-415V, 50 Hz
- Simple start-up and maintenance procedures

**COUPLING**

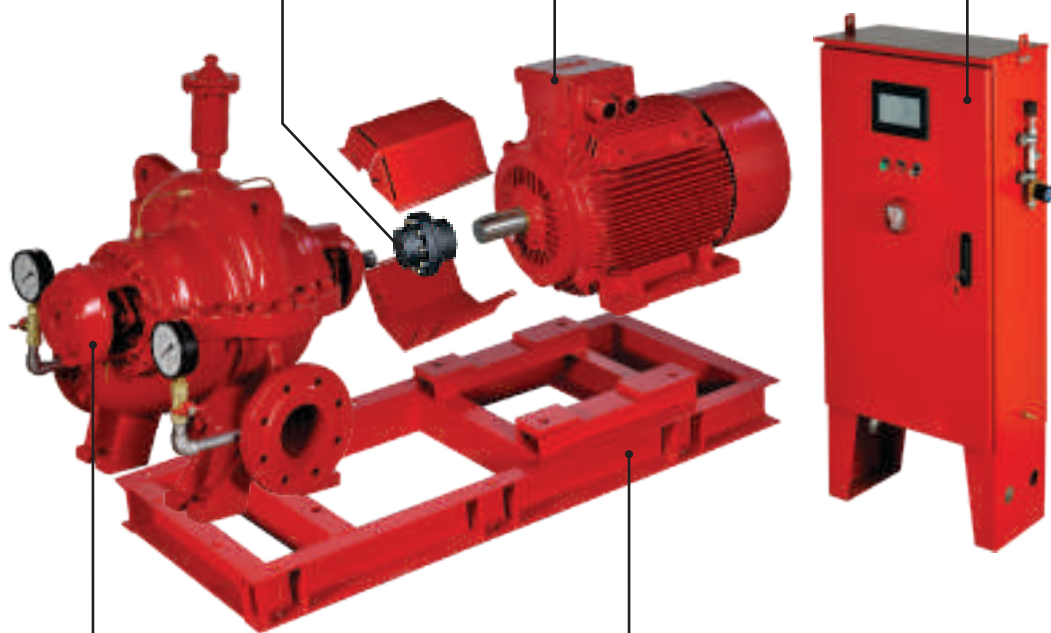
- Flexible pin-bush type coupling
- Highly flexible, resilient and absorbs large misalignment
- Maintenance free.

**FIRE PUMP**

- Horizontal split case pump as standard
- Designed for high efficiency
- Pumps are tested for hydrostatic and performance test at factory as per NFPA 20 standards
- Pump casing is designed to be robust in construction to withstand high pressure requirement
- Casing is provided with drain plug
- Dynamically balanced pump impellers
- Replaceable wear ring
- Easy maintenance and service.

**BASE FRAME**

- Robust designed fabricated steel base frame for stable mounting
- Lifting points provided on the base frame for loading and unloading.



**TECHNICAL SPECIFICATIONS - ELECTRIC MOTOR DRIVEN - 50 Hz**

The fire pumpset supplied by Lubi shall include the pump, driver, controller and fittings as detailed in the following technical specifications. All the materials supplied shall be installed as recommended in NFPA 20.

**1. PUMP TECHNICAL DETAILS**

The fire pump shall be horizontal, centrifugal single/two stage horizontal split case, construction specifically labeled for fire service and shall be a Lubi pump type \_\_\_\_\_. The fire pump shall be designed to deliver \_\_\_\_\_ USgpm of clear water at a total differential pressure of \_\_\_\_\_ psig. The pump shall be connected to the (fire standpipe) (fire sprinkler) (underground fire main) system. The suction supply for the fire pump shall be from a (public service water main) (elevated storage tank) (ground storage tank) (underground reservoir) at a maximum pressure of \_\_\_\_\_ psig and a minimum pressure of \_\_\_\_\_ psig. The pump shall be axially split into two half, upper half and lower half. Lower half shall comprise a radial suction port and radial discharge port. Suction and discharge connections shall be on the same plane. Upper half and rotating parts shall be removable and can be dismantled without disturbing the pipe work. Pump casing shall be of cast iron and fitted with replaceable bronze wear ring. Impeller shall be bronze, enclosed type dynamically balanced and keyed to an alloy steel shaft. Shaft shall be fitted with replaceable S.S AISI 410 sleeves. Shaft shall be mounted in two deep grooves and regreasable ball bearings. Each stuffing box shall be fitted with lantern rings and graphite gland packing rings. Packing

**2. ELECTRIC MOTOR DETAILS**

The fire pump shall be directly coupled through flexible coupling to a horizontal electric motor of \_\_\_\_\_ HP, \_\_\_\_\_ rpm, \_\_\_\_\_ Volt, \_\_\_\_\_ Phase, \_\_\_\_\_ Hz. Motor shall be Totally Enclosed Fan Cooled,

**3. STANDARD ACCESSORIES DETAILS**

The pump shall be supplied with the following accessories:

- Combination suction gauge, 3½" dial type with ¼" cock and lever handle - 1 no.
- Air release valve - 1 no.
- Discharge gauge, 3½" dial type with ¼" cock and lever handle - 1 no.

**4. FIRE PUMP CONTROLLER DETAILS**

The fire pump controller shall be factory assembled, wired and tested as a unit prior to shipment. The controller shall be available for 380-415 Volt, 50 Hz three phase power. The controller shall include the following standard features:

- NEMA type 2 (IP 31) drip proof metal freestanding enclosure
- The controller shall be of combined manual and automatic type designed for one of the following starting methods (a) DOL (b) Star/Delta (c) Auto transformer (d) Soft starter
- The controller shall include Isolating Disconnect Switch/Circuit breaker of adequate rating suitable for the motor kW
- The controller shall be supplied with a solid state pressure transducer with a range of \_\_\_\_\_ psi for monitoring system pressure and providing the feedback to the controller
- Touch screen color Human Interface Device (HMI) display shall be provided of minimum 5 inch size capable of being read in both direct sunlight or dark lighting conditions
- Touch screen pushbuttons shall be provided on HMI for easy screen navigation, alarm reset, and alarm silencing
- Controller settings shall be programmable through the HMI and shall be protected by passwords
- All features shall be enabled or disabled through the HMI, no jumpers or external wires shall be needed or allowed to activate or deactivate a feature
- The system status data shall be displayed on the HMI
- Audible alarm shall be provided with alarm silence feature for silenceable alarms
- Data logging shall be possible with real time/date clock to store the continuous pressure log, event log, alarm log and all user changeable set points and system data. Battery backup of any kind shall not be allowed
- The controller shall be provided with a USB port capable of accepting USB flash memory disk to download historical data of events, alarms and pressure logs
- The controller shall feature a RS 485 serial communication port for use with 2 or 4 wire ModBus RTU communication
- When emergency standby generator is to be used an automatic power transfer switch can be provided to route source of power (utility and standby generator) to the fire pump motor (optional)
- Anti condensation space heaters can be provided when controller is installed in a basement having high humidity



**TECHNICAL SPECIFICATIONS - ELECTRIC MOTOR DRIVEN - 50 Hz****5. BASE FRAME DETAILS**

- A pump and a motor shall be mounted on a common base frame
- The base frame shall have machined mounting surfaces for pumps as well as electric motor
- Lifting points shall be provided on the base frame for loading and unloading
- The baseplate will be provided with holes to accommodate heavy duty anchor bolts for mounting it on the RCC foundation.

**6. JOCKEY PUMP DETAILS**

The jockey pump shall be manufactured by Lubi Model no. \_\_\_\_\_ for a capacity of \_\_\_\_\_ USgpm at a pressure boosting of \_\_\_\_\_ psig. The jockey pump shall be driven by a TEFC electric motor of \_\_\_\_\_ HP, \_\_\_\_\_ rpm, \_\_\_\_\_ Volt, \_\_\_\_\_ Phase, \_\_\_\_\_ Hz.

**7. JOCKEY PUMP CONTROLLER DETAILS**

The jockey pump shall be controlled by an automatic jockey pump controller model \_\_\_\_\_. The jockey pump controller shall be factory assembled, wired and tested as a unit prior to shipment. The controller shall include the following standard features:

- NEMA type 2 (IP 31) drip proof metal freestanding/wall mounting enclosure
- The controller shall have a fused horse power rated door interlocked rotary switch
- The controller shall be of combined manual and automatic type designed for one of the following starting methods (a) DOL (b) Star/Delta (c) Soft starter
- The controller shall provide protection against overload and single phasing
- The controller shall be supplied with a solid state pressure transducer with a range of \_\_\_\_\_ psi for monitoring system pressure and providing the feedback to the controller
- Touch screen color Human Interface Device (HMI) display shall be provided of minimum 3 inch size capable of being read in both direct sunlight or dark lighting conditions
- Touch screen pushbuttons shall be provided on HMI for easy screen navigation, alarm reset, and alarm silencing
- Controller settings shall be programmable through the HMI and shall be protected by passwords
- All features shall be enabled or disabled through the HMI, no jumpers or external wires shall be needed or allowed to activate or deactivate a feature
- The system status data shall be displayed on the HMI
- Audible alarm shall be provided with alarm silence feature for silenceable alarms
- Data logging shall be possible with real time/date clock to store the continuous pressure log, event log, alarm log and all user changeable set points and system data. Battery backup of any kind shall not be allowed
- The controller shall be provided with a USB port capable of accepting USB flash memory disk to download historical data of events, alarms and pressure logs.

**8. MOUNTING AND TESTING DETAILS**

The pump shall be suitable for a maximum working pressure of \_\_\_\_\_. Each pump shall be hydrostatically tested at a pressure of not less than 1.5 times the no flow (shut off) head of the pump's maximum diameter impeller plus the maximum allowable suction head but in no case less than 250 psig. The pump shall be performance tested at rated speed. The pump shall furnish not less than 150% of rated capacity at a pressure not less than 65% of rated head. The shut-off total head of the pump should not exceed 140% of total rated head. A certified test curve, indicating the flow, head, power and efficiency shall be supplied. The fire pump and electric motor shall be base mounted and aligned at the pump manufacturer's factory. Final alignment shall be made after installation on site.

**9. PAINTING**

Fire pump, Electric motor & its controller and base plate are to be painted RAL 3002 as per NFPA 20.

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