# Lowest Life-cycle Cost (LLC)<sup>™</sup> Series of Pump





# **LOWEST LIFE-CYCLE COST SERIES (LLC)™ SPLIT CASE AND VERTICAL TURBINE PUMPS**



## Lowest Life Cycle Cost (LLC)™: A Concept

- The Life Cycle Cost (LCC) of any equipment is the total "Lifetime Cost" incurred to purchase, install, operate, maintain and dispose it. Typically out of the total cost of running the equipment, the energy cost works out to 80-85% vis-à-vis capital cost of 1%.
- It is in the fundamental interest of the user to evaluate the Life Cycle Cost of different pumping systems before installing a new pumping station and/or carrying out a major overhaul.
- Capital expenditure should be thoroughly evaluated vis-à-vis total
   Life Cycle Cost over a period of 20 to 25 years.

#### Applications:

- Water Supply
- Drainage & Irrigation
- Water and Effluent Treatment Plant
- Booster Pumping Stations
- Industrial Utility Services
- Cooling Tower Circulation
- Hot / Cold Water Circulation
- Sea Water Handling
- Reclaim Water Pumping Stations
- Desalination Plants

#### Benefits:

- Enhanced product life
- Sustained Efficiency Saving Energy
- Accelerated capital cost recovery
- Reduced maintenance Reducing down time
- Reduced carbon foot print
- Cost effective solution



#### **ENERGY**

Rising Energy Consumption Costs

## OPERATIONAL COSTS

Reducing Operational Costs by upgrading conventional technology

# SUSTAINABILITY

Increasing demand for Sustainability

#### UNFORESEEN BREAKDOWNS

Urge to reduce Unforeseen Breakdowns and Resultant Losses

# DEPRECIATION & EFFICIENCY LOSS

Operational
Depreciation and
Loss of Systemic
Efficiencies

# PRODUCTIVITY & INNOVATION

Urge to enhance Productivity using Innovative Cost Effective Solutions

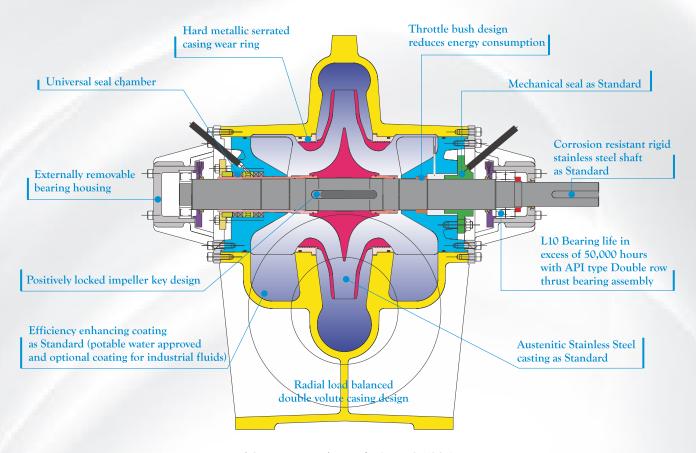
#### **ENVIRONMENTAL FRIENDLY**

Increasing awareness and need for Environmental Friendly Solutions



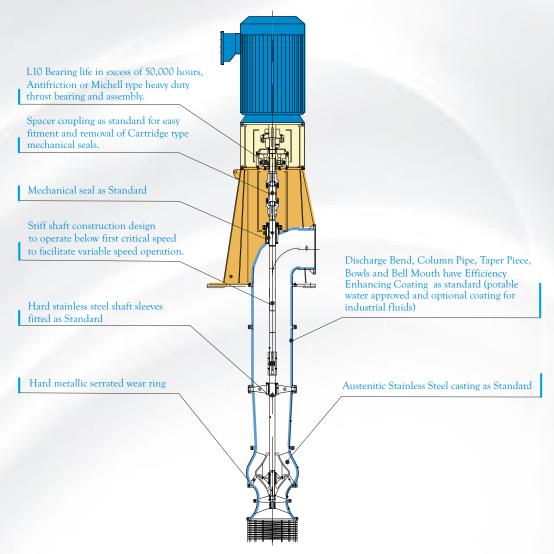
KBL with its expertise in blending technological innovations and hydraulic engineering worked on these conceptual requirements to evolve KBL's Lowest Life Cycle Cost Series (LLC)™

Evolution of Lowest Life Cycle Cost (LLC)<sup>TM</sup>



Typical Cross – sectional view of KBL-LLC HSC Pump

STANDARDISED MATERIAL OF CONSTRUCTION	
Casing	Cast Iron with Corrocoat
Impeller	Stainless Steel
Wear Rings (Csg)	Zinc Free Bronze
Shaft	Stainless Steel
Insert (DE / NDE)	Cast Iron with Corrocoat
Mechanical seal	
Fasteners	Carbon Steel

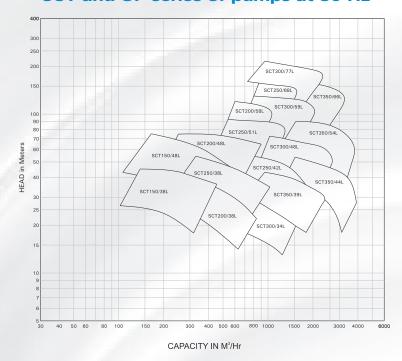


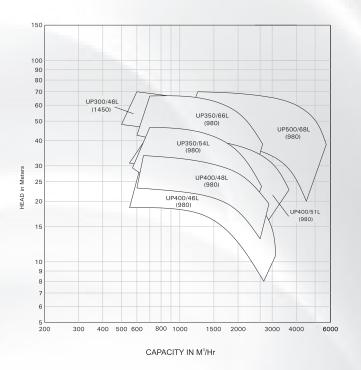
Typical Cross - sectional view of KBL-LLC VT Pump

STANDARDISED MATERIAL OF CONSTRUCTION	
Strainer	Stainless Steel
Bell Mouth / Bowl / Impeller Guide Piece	Cast Iron with Corrocoat
Impeller	Stainless Steel
Wear Rings (Csg)	Zinc Free Bronze
Impeller Shaft / Intermediate Shaft / Head Shaft	Stainless Steel
Shaft Sleeves	Stainless Steel
Transmission Bearings	Orkot - Self Lub. Polymer Brg
Taper / Column Pipe	MS with Sigma-guard Coat
Discharge Head	MS Fabricated with Coating (Inner Bend)
Thrust Bearing Type	Antifriction
Mechanical Seal Type	Cartridge Type
Fasteners	Stainless Steel

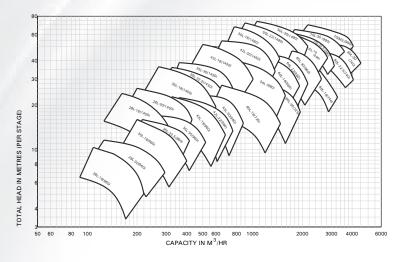
# **FAMILY CURVE**

# SCT and UP series of pumps at 50 Hz

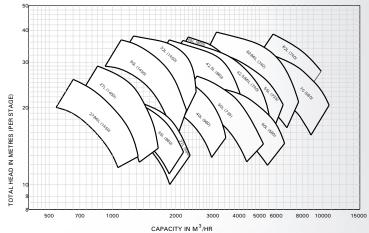




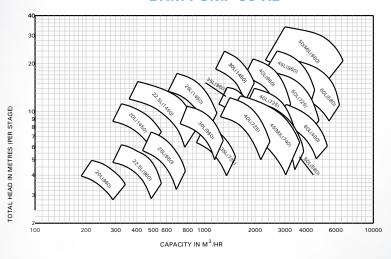
#### **BHR PUMP 50 Hz**



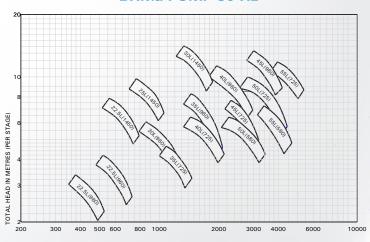
### **BHQ PUMP 50 Hz**



#### **BHM PUMP 50 Hz**



#### **BHMa PUMP 50 Hz**





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