



HIGH
PERFORMANCE
engineering solutions

www.ensavior.com

**Pumping
Pressurisation
Air Separation**

Energy | Environment | Sustainability



The building services industry in which Ensavior operates is a vital element of any economy and has a significant impact on the environment. This industry is one of the largest users of energy, resources, and water. With respect to such significant influence of the building industry, the sustainable building approach has a high potential to make a valuable contribution to sustainable development.

At this time when sustainability is a growing concern in all business sectors as people are waking up to the threat it poses, Ensavior is geared up to promote the products and services those revolve around the fundamentals of saving Energy and Environment with an emphasis on Economic, Environmental and Social Sustainability.

With a commitment to excellence in quality, engineering, and service, Ensavior has established enduring relationships with the major contractors and corporate entities, proudly contributing to the creation of airports, office complexes, IT parks, trade centers, metro rails, shopping malls, hospitals, five-star hotels, schools and manufacturing facilities across the Indian sub-continent.

We have a highly competent, passionate, and experienced team of professionals who are not just enthusiastic about what we do, but also find it fascinating why and how we do it. Our people are encouraged by our values and ethos and are the real ambassadors of a culture that aims to think better, advise better, engage with clients better, and deliver better.

Dinesh Semwal
Founder

Who we are



Ensuring Quality, Retaining Trust

Ensavior was founded on the belief that the smarter and healthier buildings require high-performance engineering solutions which stem from adopting best engineering practices and promoting products and services in environmentally responsible ways.

We combine state of the art products and professional engineering expertise with a special emphasis on Economic, Environmental and Social Sustainability to exceed our customer's expectations and provide them with fast, thorough and innovative solutions.

Ensavior is a full-service Design, Engineering, Sales and Maintenance firm providing various services in Heating, Ventilation, Air conditioning (HVAC), Public Health Engineering (PHE), Fire. These services include, but are not limited to the following:

- ◆ Pumps for HVAC, Plumbing, Fire
- ◆ Pressure Maintaining System
- ◆ Automatic Balancing & PICV Valves
- ◆ Customised Air Purification
- ◆ Gas Phase Filtration System
- ◆ Ultra Violet Germicidal Irradiation (UVGI) System
- ◆ Electrostatic Precipitation System;
- ◆ HVAC Sensors & Transducers.
- ◆ Thermal Energy Storage system;
- ◆ Water Filtration System for Suspended Solids
- ◆ Electrolytic Scale Remover (ESR) system for Dissolved Salts
- ◆ Condenser Cleaning System (Automatic On-line Rubber Ball
- ◆ Deaeration System

We engage in the project right from the conceptualization stage and thereby help in right selection, optimum design and implementation of most energy-efficient products. Besides that, we ensure on-site job training to project managers, facility managers and operators so that the systems are operated in most efficient and simplest manner. Based on the needs of the project, we also undertake the operation and maintenance of the system for which we have back up of spare parts and trained manpower.

For us, every project is a golden opportunity for continuous improvement and swift growth. This results in maximum cost-effectiveness, efficiency, and productivity for our customers. Realizing the rapid pace of new innovative product solutions reaching the marketplace, and ever-changing National Code revisions and requirements, we take pride in educating and training of our staff to offer our customers the latest in safety, convenience, and improvements.

At Ensavior, we firmly believe that the more you engage with customers, the clearer things become and it is easier to cater to their requirements. We have a well-established track record, and our services have always met with excellent customer satisfaction. It is our constant endeavor to make every aspect of the customer's requirement a little bit better since we know when a customer comes first, the relationship lasts.

Burj Khalifa, Dubai, UAE.

Xylem's custom-designed variable speed booster sets distribute 1000 m³ of water every day all the way up to the top floor of the 830 m building.





xylem

Let's Solve Water

Xylem is a leading water technology company committed to “solving water” by creating innovative and smart technology solutions to meet the world’s water, wastewater and energy needs. In a world of ever growing challenges, Xylem delivers innovative water technology solutions throughout the cycle of water. Their technological strength across the life cycle of water is second-to-none. From collection and distribution to reuse and return to nature, their highly efficient water technologies, industrial pumps and application solutions not only use less energy and reduce life-cycle costs, but also promote sustainability.

- ◆ Base Mounted End Suction Pumps
- ◆ Split-Coupled Vertical In-line Centrifugal Pumps
- ◆ Double Suction Vertical Split Case Pumps
- ◆ Double Suction Horizontal Split Case Pumps
- ◆ Hydro-Pneumatic Pumping System
- ◆ Modular Firefighting Booster Set
- ◆ Steady Pumps
- ◆ AC fire Pumps
- ◆ Skid Packages

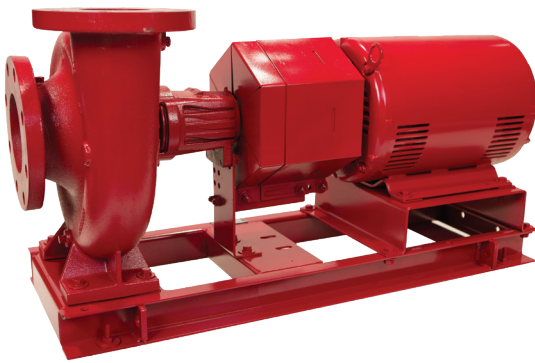
xylem brand





Bell & Gossett

Bell & Gossett is a leading manufacturer of pumps, valves, heat exchangers and accessories for plumbing and HVAC including steam and heat transfer applications. Bell and Gossett offers a complete range of energy efficient Centrifugal Pumps, Variable Speed Pumping System, ASME Expansion Tanks, Air Separator, Flow Meters.



Base Mounted End Suction Pumps

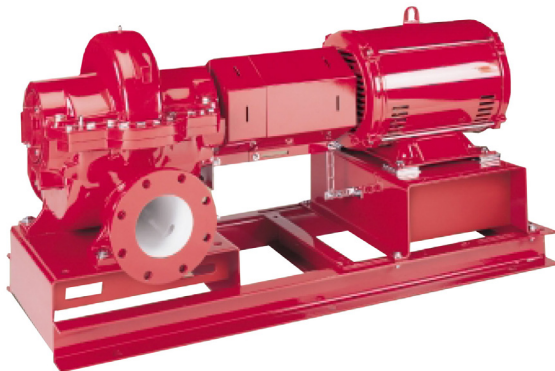
Bell & Gossett has redesigned the complete line of its best-in-class End Suction pump – to provide the highest overall efficiency in the segment for HVAC and plumbing applications. With the largest efficiency compared to other similar pumps, it reduces electricity consumption, improves overall system performance and lowers life cycle costs. This series is available in variety of sizes and configuration options that enables customization and flexibility to fit a broad range of operating conditions.

- ◆ Available with stainless steel impeller with standard working pressure of 175 PSI and optional 250 PSI.
- ◆ Available in closed coupled design also

Vertical In-Line Centrifugal Pump

Designed for space savings and easy servicing, it allows mechanical seal maintenance without disturbing the pump, motor or piping. A split coupled vertical in-line pump available in 1-1/2" through 14" discharge sizes. Motors range from 1 to 300HP with flows to 8500 GPM and heads to 202 feet. Standard features include a unitized EPR/ Carbon-Ceramic mechanical seal, ANSI/OSHA compliant guard, stainless steel pump shaft and a shaft jacking coupling to simplify maintenance.

- ◆ Available with stainless steel impeller with standard working pressure of 175 PSI and optional 250 PSI.
- ◆ Available in closed coupled design also



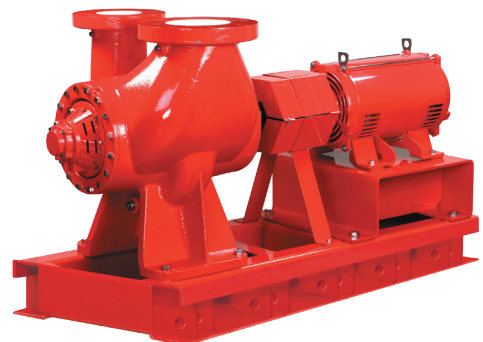
Horizontal Split Case Pumps

Horizontal Split Case base-mounted pumps having double suction type impeller are available in 2" through 10" sizes. Motor sizes through 300 HP. Flows to 6500 GPM and heads to 400 feet. Bronze-fitted construction with a maximum working pressure of 175 psig and optionally available in higher working pressures as well. These pumps feature internally self-flushing mechanical seals, Closed end steel baseplate with full seam welds and ANSI-OSHA-compliant coupling guard.

Vertical Split Case Pumps(Double Suction)

Double suction Vertical Split Case platform retains the innovative and time proven space saving design. It has reduced pump room footprint by up to 40% when compared to traditional split-case and vertical inline pumps. The high-efficiency hydraulic design and robust construction delivers proven Bell & Gossett reliability, and the unique platform design provides complete installation versatility. Simply select your hydraulic requirements and then pick any one of three different suction and discharge flange orientations that best suit your installation requirements like Top suction top discharge, Side suction top discharge, Side suction side discharge

- ◆ Flow from 500 to 28000 USGPM, Head 30 to 530 feet.
- ◆ Working Pressure Standard 175 PSI and optional 300 PSI.



Pump Accessories/Drives



Triple Duty Valves

A combination shut-off, center-guided non-slam check valve and calibrated balance valve in one device. The combination of three valves in one minimizes cost and reduces installation time. Available in angle or straight pattern in 1" through 16" sizes; in flanged, grooved or NPT connections.

The Triple Duty Valve has a cast iron body, brass seat, cast bronze disc and SS stem. A calibrated nameplate and memory button allow return of the valve to the balanced position after shut-off. The backseating valve stem allows repacking under full-line pressure.



Suction Diffuser Plus

An angle-pattern flow-straightening fitting that features our patent pending Flow Cone and combines a diffuser-strainer orifice cylinder and full-length straightening vanes to provide ideal flow conditions for the pump suction, maximizing pump efficiency retention. Sizes from 1-1/2" to 10" in NPT and flanged connections. Cast iron body, steel straightening vanes and orifice cylinder are standard. SS straightening vanes and orifice cylinder are optional. A bronze start-up strainer is standard. Optional PT ports. All internal components are replaceable.



Rolairtrol Air Separator

A full-flow separator to remove or eliminate entrained system air. Standard models from 2" to 24." Custom units in sizes 26" and larger. All units are ASME coded. Flanged or grooved connections on 3" and larger. The Rolairtrol is available with a strainer as the R model, or without a strainer as the RL model, for a lower pressure drop.



Pump logic controller & variable frequency drive

The TECHNOLOGIC Intelligent Pump Controller (IPC) from Bell & Gossett combines a market-leading variable speed drive with over 100 years of experience in designing and installing high performance pumping systems in commercial buildings. The TECHNOLOGIC provides variable speed pumping to control speed, pressure, flow and level over a wide range of hydronic system applications. Variable speed ensures your HVAC pumps operate efficiently and reliably. Programming with the setup Genie simplifies the setup process and ensures proper system configuration and TECHNOLOGIC® Variable Frequency Drive Protection. It is available in IP20, IP21, IP54, IP55 protection.

- ◆ Built-in BACnet, Modbus RTU, N2 Metasys
- ◆ 2 analog inputs, 1 analog output, Standard 4 digital inputs, 2 digital outputs
- ◆ 2 programmable relays, Available with Mains disconnect switch option
- ◆ Can be installed on wall or in panel



The Lowara offer is a complete range of pumps for residential and commercial building services, agriculture, industrial and public utilities applications. In Building services, Lowara produces pumps for pressurization, conditioning, fire-fighting systems, wastewater lifting stations and dewatering. In irrigation, Lowara produces pumps for agriculture applications, irrigation of gardens and parks. In public utilities, Lowara is committed on drinking water process, on water treatment, and district heating. In industry, Lowara products are used in a wide range of applications from washing equipment and chillers, to heavy industry such as oil & gas, mining, power generation and steel mills.



End suction single stage centrifugal pumps.



e-NSC SERIES Pumps, Frame Mounted

Built with the highest level of flexibility and modularity, the new Lowara e-NSC series is ideal for transport and a vast array of industrial applications. With efficiency levels that exceed ErP 2015, the e-NSC offers economical pumping solutions for the long term, and will be your go-to pump for all applications.

This single-stage, back pull-out, horizontal centrifugal pump is designed according to the EN733 standard for dimensions and power ratings, as well as the ISO 5199 standard for installation, maintenance, quality and safety. It's available in a block or closed coupled version, and in a frame-mounted version with a bearing bracket. Available in close coupled design also. Head range up to 160 meter, flow rate up to 1800 CMH. Standard pressure rating PN16, optional PN25.

BG SERIES self priming pumps

Self-priming close-coupled centrifugal pumps with built-in ejector system, designed to remain primed even in the presence of water-dissolved gases. The extensive use of pressed stainless steel ensures a high-performance, durable and lightweight pump. Suitable for use with drinking water. BG Garden version: including handle, cable with plug and terminal box with incorporated switch.

- ◆ Delivery: up to 4.20 m³/h, Head: up to 53 m
- ◆ Power supply: both single and three-phase 50 and 60 Hz
- ◆ Maximum operating pressure: 8 bar
- ◆ Temperature of pumped liquid: from -10 °C to 40 °C
- ◆ Application-pressure boosting, irrigation, washing, swimming pool etc.



CEA/CA-SERIES Mono Block Type Pumps

AINI 304 version used in handling of chemically and mechanically non aggressive water/liquids, irrigation, water circulation

AINI 316 version used in reverse osmosis, jewelry industry, wine production, chlorine dispensing etc.

Multi-stage pumps

Lowara has an extensive range of multi-stage products that start with the Lowara SV standard product through to the TDB range which are available in various materials including stainless steel, bronze and various iron options. Unique products within this range include the High Pressure e-SV system and a multi-outlet pump used in fire set applications.



e-SV vertical multistage stainless steel pump

The Lowara e-SV vertical multistage pump is a highly reliable and technologically advanced multipurpose pump. It's capable of satisfying the needs of a wide variety of users and many different construction designs are available. The e-SV range feature models in eleven sizes with 1-3-5-10-15-22-33-46-66-92-125 m³/h nominal capacities.

DESIGN FEATURES

- ◆ Balanced mechanical seal replaceable with out need for pump disassembling (for 10-15-22SV >=5,5kW, 33-46-66-92-125SV)
- ◆ Reduced impeller axial thrust for longer standard motor bearing life (17,500h)
- ◆ High temperature seal option (180°C max) with low NPSH design, high pressure design (up to 40 Bar), and passivated & electro-polished versions are available upon request.
- ◆ Capacity range up to 160 CMH, Head Range up to 330 Meter,
- ◆ Standard pump PN rating 16, optional 25 and 40.
- ◆ Used in water supply and pressure boosting, light industry, irrigation, HVAC etc.



e-HM series horizontal multistage stainless steel pump

- ◆ State-of-the-art hydraulics with best-in class efficiency combined with IE3 motors mean the lowest possible operating costs.
- ◆ Thick sheet metal casing, high-quality bearings and stainless steel guarantees a long service life.
- ◆ High-efficiency hydraulics, motor and thick sheet metal pump body keep the noise level to a minimum.

Specifications

- ◆ Delivery: up to 29 m³/h, Head: up to 160 m
- ◆ Power supply: both single and three-phase 50 and 60 Hz
- ◆ Maximum operating pressure: 16 bar

Applications

- ◆ Food and beverage industry, water treatment, chemical and pharmaceuticals industry, industrial washing and cleaning etc.

Drainage and wastewater products.



Borehole Submersible pumps Z-series

The Z6-ZN6 Series is designed for use in 6" wells. The head and motor support of this lightweight and sturdy pump is cast in stainless steel as are the shaft sleeves ensuring long lasting reliability and efficiency. The pump has a high sand handling capability which make it suitable for use in aggressive environments such as water supply from deep wells or irrigation over large areas such as golf courses.

Specifications

- ◆ Delivery: up to 78 m³/h, Head: up to 700 m
- ◆ Maximum operating pressure: 70 bar, Maximum immersion depth: 350 m

Applications

- ◆ Used in water supply from deep wells, pressure boosting, supply of surge tanks, fire fighting, washing system, mines etc.

DL Series Wastewater/Sewage Submersible Pumps

DL series electric pumps, made of cast iron and stainless steel, are available with single channel or Vortex impeller (DLV). Designed to handle solids-laden wastewater with Solids handling up to 40 mm.

SPECIFICATIONS

- ◆ Delivery: up to 42 m³/h, Head: up to 21 m
- ◆ Power: from 0.60 kW up to 1.50 kW
- ◆ Maximum immersion depth: 5 m, Protection IP68

Applications

- ◆ Used in pumping of sewage with suspended solids and filaments, draining of septic tank/sump, emptying of drains and tanks in industrial and ecological application, emergency draining in flooded areas.



DOMO GRI Submersible Grinder Pump

The Lowara Domo GRI is a compact, high-performance submersible grinder. The heavy duty cutting device makes it excellent for pumping wastewater in residential, commercial and agricultural applications. The grinder pump reduces waste content to fine slurry, pumped through small-diameter pipes. The main application for Domo GRI is pressurized sewage systems that are generally used when flat land, uphill topography, surface rock and high water tables pose tough challenges for conventional gravity systems.

SPECIFICATIONS

- ◆ Delivery: up to 6.60 m³/h, Head: up to 25 m
- ◆ Power supply: both single and three-phase 50 and 60 Hz
- ◆ Power: 1.10 kW, Temperature of pumped liquid: to 35 °C
- ◆ Maximum immersion depth: 5 m

Booster Pumping sets.

GS SERIES SETS

Fixed speed booster sets,

The GS range of fixed speed booster sets includes models with 2 to 3 electric service pumps, and an additional jockey pump able to adapt to specific requirements within different applications. The start and stop of the pumps is based on the pressure values set on a pressure transducer, in order to deliver the water required. One pressure transducer is connected on the delivery side of the set. A second one is connected but only as a reserve device. With the cyclic changeover function, duty assignment is rotated to ensure both pumps remain active and with even running hours, so wear is uniform and the use factor is reduced for longer pump life. This system also ensures continuity of operation, in case one of the pumps needs maintenance. The electric pumps used in the GS series booster sets are CEA/e-HM/e-SV. Pumps are controlled by an electric control panel with a new electronic card with display on the front door. The electronic card and panel can also be used for waste water applications with up to 3 pumps installed.

SPECIFICATIONS

- ◆ Max flow: up to 960m³/hr, Max head: 330 m, Max power: 55KW



GVS Variable speed booster sets

The Lowara GV series booster sets are fully automatic booster sets for water supply. They are equipped with 2-6 pumps (where one can be a jockey pump), pressure transmitters and control panel including Vconsys controller and a variable frequency drive, all mounted on a frame for easy installation. One pump is speed controlled and the rest operates at full speed. With the Vconsys controller it's easy to set and check the performance either on site or remote via Modbus or Internet. The GV series can be fitted with the following pumps:

Vertical multistage pumps series from 1SV to 125SV, End suction pumps series CEA and horizontal multistage pump series e-HM are used in these sets.

SPECIFICATIONS

- ◆ Delivery: up to 640 m³/h, Head: up to 250 m, Power: up to 37 kW



Flygt is the originator of the electrical submersible pump. Today Flygt customers have access to a complete range of products and solutions for moving water and wastewater, as well as advanced monitoring and control equipment to optimize performance and energy efficiency. Flygt pumps and mixers are ideal for everything from the toughest applications in wastewater, storm water, effluent, RAS and WAS, to lightly contaminated water and clean water applications. We are proud to offer customers both reliability, with our high-quality, clog-free pumps and mixers, and expertise in finding the right solution to meet their specific needs.

/// The new Flygt 3069



clog-free Adaptive-NTM technology

The new Flygt 3069 is the most complete compact pump ever developed by our wastewater experts. Now available with clog-free Adaptive-N™, Vortex or Grinder hydraulics, the 3069 covers all of your wastewater pumping needs. Whether you're handling wastewater for a municipal building or commercial sewage application, you want a pump that just keeps on working. That's the whole idea behind the Flygt 3069, an allround workhorse in our small range family.

Key benefits

Unique pump in its class, available with Adaptive-N technology that allows for:

- ◆ Reduced unscheduled maintenance due to its self-cleaning design, which provides reliable clog-free operation.
- ◆ Energy reduction of up to 25%

Flexible and easy to configure with four installation kits to meet every wastewater installation requirement.

Steady 1300 series Non-clog submersible pumps



The Steady 1300 series is based on technology developed and tested in tough environments throughout the world. That's why you can count on these pumps for trouble-free, reliable operation. The hydraulic design of the pumps has been proven to reduce clogging and maintain efficiency. These pumps simply work - and keep on working. Day in, day out, and under harsh conditions, they won't let you down—they're Steady.

Specification:

- ◆ Flow range up to 1700 CMH, Head range up to 70 meter.
- ◆ Solid handling capacity up to 50mm
- ◆ Material of construction-body C.I., Impeller C.I. and shaft of SS material.

Application:

- ◆ Domestic sewage pumping stations, Wastewater pumping stations, Retention basins, Storm water pumping stations, Drainage water etc.

/// GEM series Fire-Fighting Booster Set

New range of Lowara modular booster sets specifically designed for use in fire-fighting applications, compliant with the EN 12845 standard for fire automatic sprinkler systems and UNI 10779 for hydrant systems. The fire-fighting booster sets is available with the use of either an electric motor or a diesel engine, depending on the type of water supply needed and the level of reliability required from the system. The booster sets are manufactured using either cast iron or stainless steel centrifugal end suction pumps, ensuring all fire system application requirements can be met.

Fire-fighting booster sets are available in different configurations:

- ◆ Horizontal end suction electric pump, complete with electric panel
- ◆ Horizontal end suction electric pump with jockey electric pump mounted on the frame, complete with electric panels
- ◆ diesel engine driven horizontal end suction pump, complete with electric panel and fuel tank

Specifications

- ◆ Delivery: up to 766 m³/h, Head: up to 146 m
- ◆ Power: up to 200 kW (per pump)
- ◆ Maximum operating pressure: 16 bar

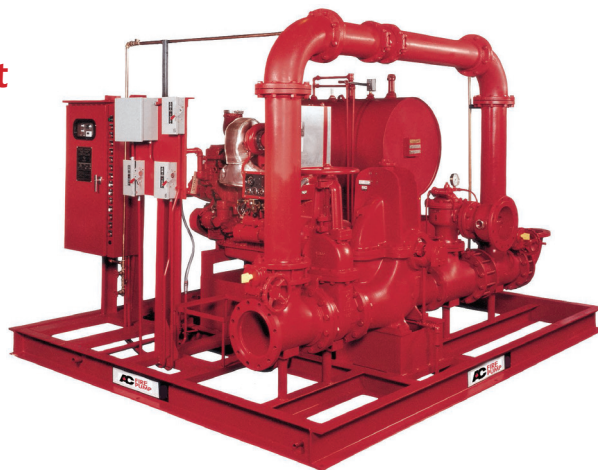


A-C Fire Pump Systems design and custom build a wide range of fire pump products and turnkey systems for commercial and industrial applications, including prefabricated packages and house units that meet every fire protection need. UL/FM approved Fire-fighting skids are also available

UL/FM approved Fire Fighting pumping set

With Xylem A-C fire pump systems you can be rest assured of :

- ◆ Pressure sensing lines installed per code requirements
- ◆ UL Listed/FM Approved diesel engine, fire pump controller, fuel tank sized per NFPA #20 and fire pump
- ◆ Listed OS&Y valve, butterfly valve, check valve and main relief valve
- ◆ Single point electrical connection (all electrical components pre-wired at the factory)
- ◆ Flow-meter loop, Pre-piped fuel system, Closed waste cone, Stuffing box and engine raw water drain



Fire Pump skid packages are available for a wide range of industries and applications related to automotive, breweries, pulp & paper, chemical, pharmaceutical, government administration buildings & embassies, military bases, hi-rise buildings, hotels, offices, warehouses, hospitals, correctional facilities, nursing homes and schools. We strive to not only provide you the best quality products, but also outstanding service. You can count on AC Fire experts to help with start-up and any future support needed because we know you don't want to take a chance.




Ensavior Technologies Pvt. Ltd

Pumping | Pressurisation & Deaeration | PICV & Automatic Balancing Valves | Thermal Storage | Water Filtration
Electrolytic Scale Remover | Air Purification | Dry Scrubber | UVGI | HVAC Sensors | Refrigerant Leak Detector

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