

Product Portfolio



Lowara's values...

Lowara shares certain fundamental objectives with its customers: creating new products, perfecting quality and improving processes.

Therefore Lowara's values are centred on its customers. The Lowara people work in teams, since having common objectives is the best way to attain excellence in production and distribution. In its relationship with co-workers, customers and the outside world in general, Lowara consistently refers to its values: respect for people and the environment, quality of life, innovation, excellence, integrity and the pride of belonging to the team.

Lowara pumps... engineered for life













Lowara is committed to studying, developing, manufacturing and distributing pumps and pumping systems for water technology applications.

Founded in 1968 and based in Montecchio Maggiore, near Vicenza in Italy, Lowara has been serving customers and users of hydraulic pumps in various sectors over 40 years.

Water is the principle element of life and the common denominator of all applications where Lowara pumps are used.

Lowara pumps are made in fabricated stainless steel, which keeps the water free of contamination.

The laser welding technology creates pumps that are resistent to aggressive chemicals and guarantees that the production process respects the natural environment.

Advanced pump control and regulation systems ensure the safe, reliable and economic use of water.

Our mission.

We will provide efficient and reliable products, services and solutions for the water supply and water pumping needs in the residential, irrigation, building services and commercial markets worldwide, in order to maximize value for our customers, co-workers and shareholders.

Innovation for quality.

Innovation has always been one of Lowara's distinctive characteristics, as the offer of quality needs to be maintained and developed over time. Lowara invests economic, human and technological resources in training and research in order to ensure continuous improvements of its products and processes. As a member of Xylem, Lowara also shares the most advanced research, design and industrial engineering skills with other Group Companies. This wealth of knowledge enhanced Lowara's innovation capabilities.







Applications.

Lowara offers a complete range of pumps for residential, agriculture and industrial applications.

For residential service, Lowara produces pumps for pressurisation, conditioning, fire-fighting systems, lifting stations and dewatering.

For irrigation, Lowara produces pumps for agriculture applications, irrigation of gardens and parks.

For industrial applications, Lowara is committed on drinking water process, on water treatment, industrial washing equipment and machine tool cooling.





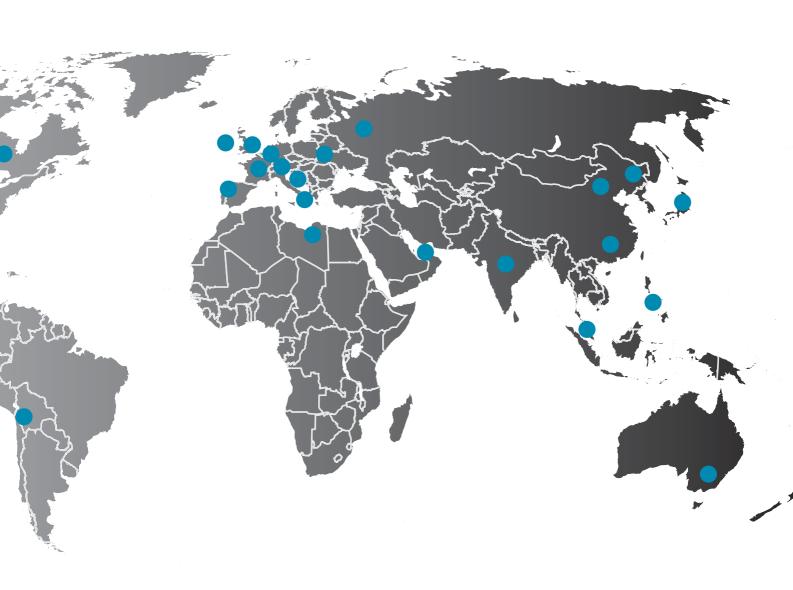




Residential and Commercial Water Group Facilities and Offices

The Lowara World.

Lowara is a leader in the Eurpean residential and commercial pump market. It is part of Xylem, the world's largest producer of pumps and complementary products for water and industrial fluid applications. Xylem is a global multi-industrial company active in fluid technology, defense systems, components for the automative industry, connectors and switches for information systems and telecommunications.



Global distribution.

Lowara serves the global market directly or through the distribution network of other companies.

Lowara operates its own branches throughout Europe and is capable of reaching every market in the world from its distribution centre in Montecchio Maggiore.

Lowara's services organisation guarantees its customers consultancy, assistance, accurate and timely information along the entire distribution chain.



Headquarters Italy



Austria



Nederland



Deutchsland



Portugal



France



Unite Kingdom



Ireland



Poland

Pump selection guide.

Lowara is widely recognised as being one of the most innovative companies in the sector of hydraulic pumps and control and water handling systems.

Lowara's concept of competitiveness involves developing top quality and extremely reliable products at competitive prices, hence the optimising the level of customer satisfaction and service.

This pump selection guide is designed to help you find and specify the best pump for your service.

LOOP4U & Xylect.

A pump selection programme which assists in the correct selection of pumps within the Lowara range. With LOOP4U as client version and Xylect as web based version the user has a very powerful tool that will assist in the work greatly, ensuring the selections made both from a technical and commercial aspect are correct and more importantly meet the customers needs.







Applications.

	RESIDENTIAL	COMMERCIAL-LIGH	BUILDING SERVICE	IRRIGATION
	RES	85	BOI	R
END SUCTION CENTRIFUGAL PUMPS				
HM-HMS Series				
CEA-CEAN Series				
CA-CAN Series SP Series				
BG Series				
JEC-AG Series				
P-PB-PK Series				
FHE-FHS Series FHF Series				
CO-COF-SHO Series				
SHE-SHS-SHF Series				
CLOSE COUPLED IN-LINE PUMPS				
TLC Series TLCH Series				
TLCB Series				
TLCHB Series				
TLCSOL Series				
TLCK Series				
EV Series EA Series				
FLC Series				_
FLCG Series				
EFLC Series				
EFLCG Series				
FCT Series				
MULTISTAGE				
e-SV Series				
DPS Series				
TDB-TDV Series				
SVI Series				
SUBMERSIBLE, DRAINAGE & SEWAGE PUMPS				
DOC Series				
DOMO Series				
DOMO GRI Series DIWA Series				
DN Series				
DIGGER Series				
DL Series				
GLS-GLV-DLG Series				
Minibox, Midibox, Singlebox Plus, Doublebox Plus Series				
BOREHOLE				
GS Series				
SCUBA Series				
Z6 Series Z8-Z10-Z12 Series				
40S-L4C Motors				
L6C-L6W Motors				
L8W-L10W-L12W Motors				
BOOSTER SETS Block Pressure Set				
GXS Series				
GMD Series				
GTKS Series				
GHV Series				
GEN Fire Fighting Systems EN 12845				
VARIABLE SPEED CONTROLS				
Teknospeed				
HYDROVAR®				
Hydrovar Sensorless				
Hydrovar Sensorless Hydrovar Watercooled				
Aquontroller				
ACCESSORIES				
Genyo, Vessels, Motors, Float switches Filters, Softners*, Dosing Pumps*				
Control Boxes				
*C				U3

GHT SHT

* Sold in Italy Only

End suction centrifugal pumps.



Capacities to 700m³/h Head to 100 metres Powers to 55kW

SHO SERIES open impeller stainless steel pumps

Capacities to 53m³/h Head to 50 metres Powers to 11kW



Capacities to 31m³/h Head to 62 metres Powers to 3kW

SHE-SHS-SHF SERIES 316 stainless steel pumps

> Capacities to 240m³/h Head to 110 metres Powers to 75kW

The centrifugal range is the largest available within the Lowara portfolio and covers a multitude of applications. The products available range from the smallest P range used for small transfer schemes through to a comprehensive range of multistage products giving various material options. Within the range there are products that have complex seal arrangements.



Capacities to 54m³/h Head to 24 metres Powers to 3kW



Capacities to 4.2m³/h Head to 53 metres Powers from 0.37 to 1.1kW Lifts to 8 metres



P-PB-PK SERIES Peripheral pumps

Capacities to 3.72m³/h Head to 82 metres Powers to 1.1kW



Capacities to 17m³/h Head to 13 metres Powers to 0.55kW



Capacities to 32m³/h Head to 19 metres Powers to 1.5kW



BLOCK PRESSURE SETS

Pre-assembled sets for use with the Lowara range of end suction pumps



Capacities to 7.2m³/h Head to 60 metres Powers to 0.9kW



Capacities to 650m³/h Head to 100 metres Max temp to 140°C



Capacities to 2.75m³/h Head to 49 metres Powers to 0.55 and 0.75kW Lifts to 7 metres

In-line centrifugal pumps.



FCE SERIES in-line circulator pumps

Capacities to 330m³/h Head to 89 metres Powers to 22kW Temp -10°C to +130°C The in-line centrifugal range includes models ranging from glandless variable speed, glandless and glanded pumps. The units are suited for many applications including heating, air conditioning systems and hot water.

The range currently available includes pumps from 1" to 6" discharge size.



Execution: Single Capacities: up tp 3 m³/h Head: up to 5,5 m Maximum pressure: 6 bar Temp: from -10°C to 95°C



FCS SERIES in-line circulator pumps

Capacities to 330m³/h Head to 89 metres Powers to 22kW Temp -20°C to 140°C



FCT SERIES twin in-line circulator pumps

Capacities to 330m³/h Head to 89 metres Powers to 22kW Max temp to 140°C

Multi-stage pumps.



e-SV SERIES vertical multi-stage pumps

Capacities to 160m³/h Head to 330 metres Powers to 55kW Temp -30°C to +120°C The range of pumps features 11 models and can be specially configured for a wide range of applications.



TDB-TDV SERIES vertical multi-stage pumps

Capacities to 340m³/h Head over 500 metres Max temp to 140°C 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 DPS system and a multi-outlet pump used in fire set applications.



SVI SERIES immersible vertical multi-stage pumps

Capacities to 72m³/h Head to 247 metres Powers to 22kW Temp -10°C to +90°C



DPS SERIES in-series multi-stage pumps

Capacities to 72m³/h Maximum working pressure 40 bar Powers to 22kW

Submersible drainage and sewage pumps.

Submersible pumps available cover small and medium sized applications with pump discharge sizes ranging to 12". The products are suited to applications such as cellar drainage through to industrial liquid transfer.

The main application of the larger sized units is pumping of sewage. The range also includes a 316 stainless steel and bronze unit which are suited to chemical transfer and sea water transfer applications respectively.





DIWA SERIES de-watering pumps

Capacities to 25m³/h Head to 21 metres Powers to 1.5kW





Capacities to 40m³/h Head to 14.5 metres Powers to 1.5kW Solids to 50mm Powers to 22kW Temp -10°C to +130°C



DOC SERIES cellar drainage pumps standard or tube float switch available

Capacities to 14m³/h Head to 11 metres Powers to 0.55kW Solids to 20mm



GLS-GLV SERIES wastewater/sewage pumps in cast iron with single cannel or vortex impeller

Capacities to 244 m³/h Head to 41 m Powers to 7,4 kW Discharge size to 100 mm Motors 2-4 polesTemp -10°C to +90°C



Capacities to 18m³/h Head to 14 metres Powers to 0.75kW Solids to 7mm



DLG SERIES drainage/ wastewater pumps

Capacities to 15 m³/h Head to 52 metres Powers to 5,1 kW Discharge size to DN 50 Max permissible solids to 6 mm Motors 2 or 4 poles



DN SERIES drainage/ wastewater pumps

Capacities to 17m³/h Head to 20 metres Powers to 0.75kW Solids to 5mm



DL SERIES wastewater/ sewage pumps with single channel or vortex impeller

Head to 21 m Powers to 1,5 kW Solids to 45 mm Motors 2 poles

BOX SERIES prefabricated lifting stations

- 1. Minibox
- 2. Midibox
- 3. Singlebox Plus
- 4. Doublebox Plus



Submersible borehole pumps.



Water and oil filled 4" submersible motors series

Powers to 7,5 kW

Z8-Z10-Z12 SERIES 8"-10"-12"dia. borehole pumps

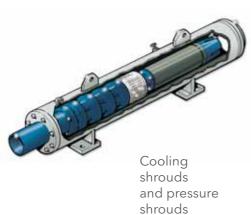
Capacities to 520m³/h Head to 550 metres Powers to 350kW





Z6 SERIES 6" dia. borehole pumps

Capacities to 78m³/h Head to 700 metres Powers to 55kW



The Lowara borehole range offers products ranging in pump diameters from 4" to 12". Various material options are available including cast iron and various grades of stainless steel.

In addition to the products shown, Lowara can offer alternative mounting options of this range including cooling shrouds and pressure shrouds.



L6W-L8WL10W-L12W SERIES Rewindable motors

Powers to 300 kW



SCUBA SERIES 5" dia. submersible pumps

Capacities to 7.5m³/h Head to 80 metres Powers to 1.1kW Available with float switch



GS SERIES 4" dia. borehole pumps

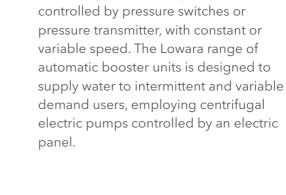
Capacities to 21 m³/h Head to 340 metres Powers to 7.5kW

Booster sets.

GXS SERIES SETS

Single-phase power supply, fixed speed and pressure switch control. For BG, CA, CEA, HM and SV series electric pumps.

Flow rate up to $28 \text{ m}^3/\text{h}$. Power up to $2 \times 1.5 \text{ kW}$.



Wide range of 2, 3 or 4 pump units



GHV SERIES SETS

Single-phase or three-phase power supply, variable speed and control by pressure transducers and HYDROVAR® electronic speed controllers mounted on the motor. For SV series electric pumps.

Flow rate up to $400 \text{ m}^3/\text{h}$. Power up to $4 \times 45 \text{ kW}$



GMD SERIES SETS

Three-phase power supply, fixed speed and pressure switch control. For BG, CA, CEA, HM and SV series electric pumps. Flow rate up to 400 m³/h. Power up to 4 x 45 kW.



FIRE FIGHTING SYSTEMS EN 12845

Fire pump package manufactured in accordance to EN 12845. Max. power size for service pump 132kW. Manifold in painted steel pipe with anchor bolts to fix to a wall or floor.



GTKS SERIES SETS

Single-phase power supply, variable speed and control by pressure transducers and Teknospeed electronic speed controllers integrated with the motor. For BG, CA, CEA, HM and SV series electric pumps.

Flow rate up to $16 \text{ m}^3/\text{h}$. Power up to $2 \times 1.1 \text{ kW}$

Variable speed drives... Teknospeed.

Series of Variable Speed Electric Pumps and Pressure Booster Units.

The single-phase Teknospeed variable speed electric pumps and pressure booster units are designed for residential applications as they provide all the comfort and advantages of constant pressure in the home. The Teknospeed series comprises a frequency converter integrated into the pump which adjusts motor speed so as to constantly provide users with the same pressure, even when demand for water changes. The main applications for which the Teknospeed series offers elevated comfort and benefits are: home pressurisation, irrigation, greenhouses, light industry, fountains and creative water displays.



The range features a large number of models and pump types.

Horizontal and vertical pumps: TKS/HMZ, TKS/BG, TKS/CA-CEA, TK/SV. Single pump or two-pump pressure booster units: GTKS20/HMZ, GTKS20/CA, GTKS20/SV

Specifications.

Delivery: up to 16m³/h

Head: up to 75m

Power supply: single-phase 50 and 60Hz

Power: from 0.3kW up to 1.1kW

Temperature of pumped liquid: to 80°C

Applications.

Water distribution

Industrial washing equipment

Pressure boosting

Irrigation

Water treatment

H.V.A.C.

Cooling and chiller accessories



Variable speed drives... HYDROVAR®.

HYDROVAR® - the intelligent and user friendly speed controller for pumps!

HYDROVAR® is a pump or wall-mounted variable speed, microprocessor based system controller, and was the world's first of its type to manage motor speed and match pump performance to a range of hot and cold water applications.

Due to the unique modular design the HYDROVAR® unit can be mounted or retrofitted to any existing centrifugal pump which has a standard IEC motor.

This is the long-awaited solution for highlevel installations requiring failsafe systems with a superior range of features, while its modularity also provides a cost-effective solution for low-level, reduced feature demands.

The HYDROVAR® needs no additional master control and enables virtually any configuration of pumps: up to 8 master drives or a mix of master and slave drives. The units are available in powers from 1,1-22 kW.

The HYDROVAR® does much more than just change the motor speed.

It truly manages your pump performance to match a wide range of system conditions, allowing energy savings up to 70% approved by TUEV Austria)*

* Tests carried out by TUEV Austria (Austrian testing authority) on 5 March 2005 based on comparative tables and data on intake performance at identical flow.





The HYDROVAR® eliminates the need for.

Expensive additional master control panels and circuitry.

System control valves.

Large pressure vessels.

Benefits.

Sizes available 1,1 - 22 kW.

Extension up to 315 kW by using the external Hydrovar Smart controller.

Shuts off at zero demand.

Easy to integrate into BMS systems - ModBus communication included as standard.

Can be mounted directly on any standard IEC motors.

Included 2 line LCD display.

Enclosure IP 55 protection.

Up to 8 HYDROVAR® pumps can be connected to one system.

Available in 3 different levels (Master/ Single/Basic) to offer the right solution for system requirement.

2 sensor inputs for implementing of two actual value signals within one system (min/max, difference) or for a second sensor for safety reasons (Master Inverter).

Different types of sensors supported (4-20mA, 0-20mA, 0-10Vdc, 2-10Vdc).

Energy savings up to 70% achievable.

Error Log with Time and date stamp.

Extended manual control mode with different fixed speed valued selectable via external contact.

Typical examples of application.

Maintaining a constant pressure, as in water boosting or irrigation.

Maintains a constant flow, as in filter and water supply applications.

Compensating for losses in a system (following a system curve), as in heating systems.

Control of pump performance by temperature sensors.

Emptying or filling tanks by level probes.

Control of boiler feed water.

Cascade control capability by combining different executions (Master/Basics) of the modular HYDROVAR® family.

Typical energy savings. Pump Type: In-line FCE 80 - 200/110 at a

head of 25 metres

Energy savings.

Energy saving is a large issue within the heating and ventilating market and within the Lowara product portfolio we can offer a variable speed drive, the HYDROVAR®. A unique parameter gives the HYDROVAR® an added advantage. This parameter allows the pump to follow a system curve, the minimum system head is set together with the maximum and the pump will then operate between these two points.

This option has been specifically developed for use in the heating industry as it allows the user to save up to 70% energy costs over a fixed speed pump. Due to the energy saving capabilities of the HYDROVAR® the unit has achieved the high requirements set by the Energy Saving Trust to allow Lowara to promote the HYDROVAR® product.

HYDROVAR® booster sets.

The HYDROVAR® allows up to 8 units to be interfaced together which offers the user ultimate flexibility. The pumps have an automatic cyclic changeover facility and in the case of failure the remaining pump/s take up the duty. The HYDROVAR® utilises a 4 - 20A signal to regulate the motor speed in order to meet the system requirements. By controlling the pump in this way the user can make substantial savings in comparison to conventionally controlled systems.



CAPACITY	POWE	R USED	POWER	LENGTH	TOTAL
	CONSTANT SPEED	VARIABLE SPEED	SAVED	OF TIME	
m³/h	kW	kW	kW	h	kWh
40	7,13	4,95	2,18	2.190	4.774
60	8,17	6,29	1,88	4.380	8.234
90	9,81	9,43	0,38	2.190	832

TOTAL ENERGY SAVINGS

13.840

Retro-fitting

The HYDROVAR® speed controller can be mounted or retro-fitted to any existing centrifugal pump manufacturer's unit, which has a standard IEC motor. The units are available in powers from 1.1-22 kW. The units can be mounted directly on to the pump motor (horizontal or vertical) or can be wall mounted. The

HYDROVAR® can also be connected by cable to another control system with microprocessor, using the RS-485 database located on the main terminal board under the cover. This enables the HYDROVAR® system to send information about the system conditions to an external unit, and to be controlled from a distance.



HYDROVAR® Smart.

The HYDROVAR Smart device includes all control functions of a HYDROVAR and can be combined with all standard frequency converters, regardless of the power range and the available supply voltage range. The inbuilt microprocessor manages all pump specific control requirements including cascading of up to 4 drives in multipump systems. The patented HYDROVAR controller ensures an immediate stop of the pump at zero demand.

Advantages

Patented HYDROVAR Control System.

Integrated multi pump controller.

No external power supply required (24V AC/DC output of the VFD can be used).

Enclosure IP55 for panel or wall mounting.

Suitable for combination with all standard frequency converters.

No limitation of the power range.

HYDROVAR controlled variable speed drive for any supply voltage range possible.

RS485 interface input included as standard.

Hydrovar Watercooled for low power boosting systems.

As the name implies the unit utilises the water pumped through it to cool the internal electronics and its unique design has been developed for use within residential applications. The Hydrovar Watercooled variable speed drive will be supplied along with a pump and will protect the unit from dry running, overheating, short circuit and over-current and due to the soft start/stop operation protect the system from water hammer. The Hydrovar Watercooled is an important part of the HYDROVAR® product family to complete the product portfolio on the low power end and continue to offer its users a reliable variable speed drive solution.



Aquontroller 230 VAC drive for single phase motors.

The Aquontroller is specially designed for maintaining constant pressure independent of flow for maximum comfort. Energy savings are the result of the precise speed control. Top quality components guarantee high reliability and a trouble-free life. The inverter has inbuilt protection against various and electrical faults.

Smooth operation and soft starting ensure silent running and an extended pump life. With pipe or wall mounted versions, the quick set up means easy installation.



Vessels, motors and accessories.

Lowara SM motors.

Environmentally friendly and efficiency increased replacement motors are available for the complete range of pumps supplied. Other features include:

Noise level reductions.

User friendly wiring.

Overload protection in the terminal box.

Protection against humidity.



Pressure Vessels.

Sizes to 5000 litre.

Horizontal and vertical.

Pressure to 10bar.

Temperature to 99°C.

Products available with WRc approved materials.

Control Boxes.

A range of control boxes suitable for use with both submersible and surface pumps.

Accessories.

An extensive range of accessories is available to complement the pump range illustrated in this brochure. This includes:

Pressure switches.

Pressure gauges.

5 way connector.

Flexible connector.

Genyo.

Float switches.

Flow switches.

Direct on line starter.

Non return valves, strainers and hosetails.

Water softners.

Filters.

Dosing Pumps.

Genyo.

The Genyo is designed to replace traditional pressure boosting systems in domestic applications; it offers the advantages of smaller overall dimensions and no maintenance is required.

Genyo provides the electric pump with adequate protection against dry running.

Two models: Genyo 8A and Genyo 16A.

Maximum current 16 A.

Maximum pressure 10 bar.

IP 65 protection.

Delivery up to 170 l/min (10m³/h).

Maximum liquid temperature 60°C.

Low friction loss.





Seminars, training and new product launches.









LTC - in-house training, seminars, and new product launches.

With our Lowara Training Centre we provide a learning environment that promotes the transfer of new skills and knowledge to the work setting through both classroom and technology-based instruction. Our training team comprises experienced individuals throughout the of our products, markets and services. We are available to assist you and your organisation to meet your training needs.



sectors. For many years Lowara have been demonstrating the benefits of the HYDROVAR® energy control system, and since the launch of the new Teknospeed a number of small Teknospeed organisation who have expert knowledge demonstration units are also now available.





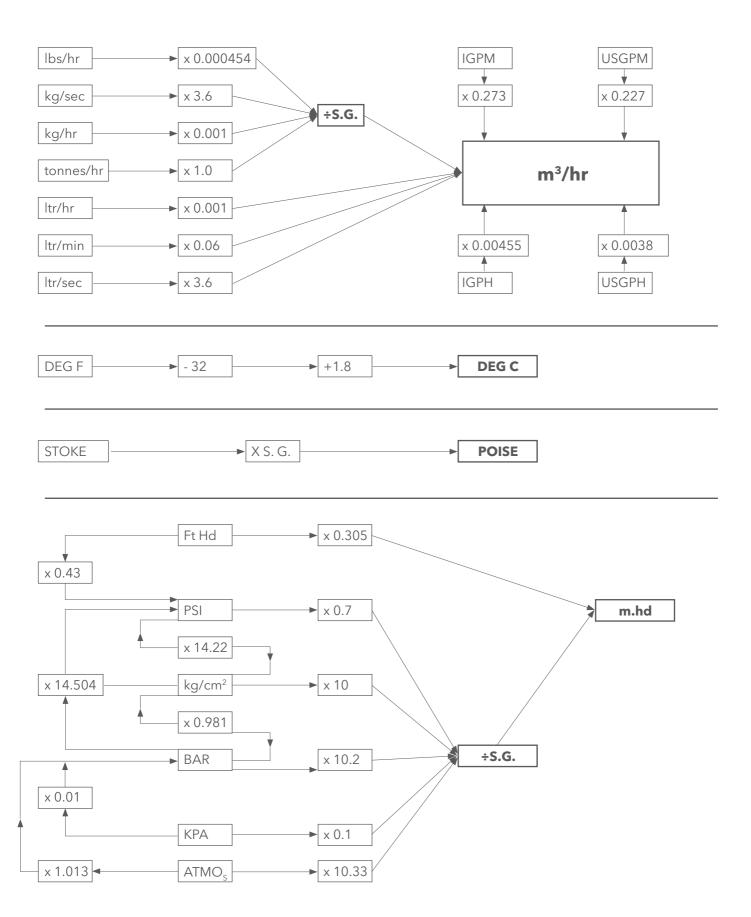


Exhibitions.

Lowara is a regular contributor to industry exhibitions and conferences the world over. We also believe that it is important that our customers fully understand the Lowara experience, which is why we host a series of exhibitions and trade shows. Working together with our customers we can also assist in supplying exhibition pumps, posters etc. or actually help them organise the show; a true partnership. For up to date news on product and services please visit our web site

www.lowara.com

Calculation and conversion charts.



Conversions.

To convert to litres/sec.

IGPM	x 0.0757
m³/hr	x 0.278
m³/min	x 16.68
Metric tonnes/hr	x 0.278 ÷ S.G.
Litres/min	x 0.0167
Kilogrammes/hr	x 0.000278 ÷ S.G.
USGPM	x 0.063
Cubic feet/sec	x 28.3
Cubic feet/min	x 0.47
British tons/hr	x 0.282 ÷ S.G.
British barrels/hr	x 0.453

To convert to m³/hr

IGPM	x 0.273
Litres/sec	x 3.60
Litres/min	x 0.06
Metric tonnes/hr	x 1 ÷ S.G.
m³/min	x 60
Kilogrammes/hr	x 0.001 ÷ S.G.
Kilogrammes/sec	x 3.6 ÷ S.G.
Kilogrammes/sec USGPM	x 3.6 ÷ S.G. x 0.227
USGPM	x 0.227
USGPM Cubic feet/sec	x 0.227 x 102.0

Pumping Head Conversions.

To convert to metres.

Feet	x 0.305
kg/cm ²	x 10 ÷ S.G.
PSI	x 0.704 ÷ S.G.
Inches Hg	x 0.345 ÷ S.G.
cm Hg	x 0.1362 ÷ S.G.
Atmospheres	x 10.35 ÷ S.G.
KN/m² (KPa)	x 0.102 ÷ S.G.
Bar	x 10.2 ÷ S.G.

Power Conversions

To convert to kilowatts.

Horse power x 0.746

To convert to HP

Kilowatts x 1.341

kW =

 m^3 / hr x Total head in metres x S.G.

367.87 x Pump Efficiency

BHP =

IMP.GPM x Total head in Ft x S.G. x 10 33,000 x Pump Efficiency



What can Xylem do for you?

Xylem /'zīləm/ 1) The tissue in plants that brings water upward from the roots; 2) a leading global water technology company.

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation. For more information on how Xylem can help you, go to xyleminc.com.

www.xyleminc.com







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