



BRUNNBAUER - GREENLINE REALTIME FLOW CONTROL



- EFFICIENT PRESSURE REDUCTION
- GREEN ELECTRICITY PRODUCTION
- GRID INDEPENDENT SYSTEM
- ENERGY RECOVERY



VALPRES LOCP**OWER**



BRUNNBAUER GREENLINE

made by **VALPRES**

DRIVE

Electric, Pneumatic
Hydraulic, Pilot operated,
Electro-hydraulic

V-PACK SPINDLE SEAL

Suitable for high switching
cycles, due to design
leakage is reduced

HOLE CAGE

Internal or external,
single or multistage for
Cavitation prevention

CASING FLANGE

according to ANSI-ASME
B16.5 or EN 1092-1
Materials: Steel or cast
stainless steel

CONE

Made of stainless steel,
can withstand heavy
use ceramic carbides
are coated

AXIALTURBINE

Made of high-strength
stainless steel, can be coated
with ceramic carbides
for heavy use

STORAGE

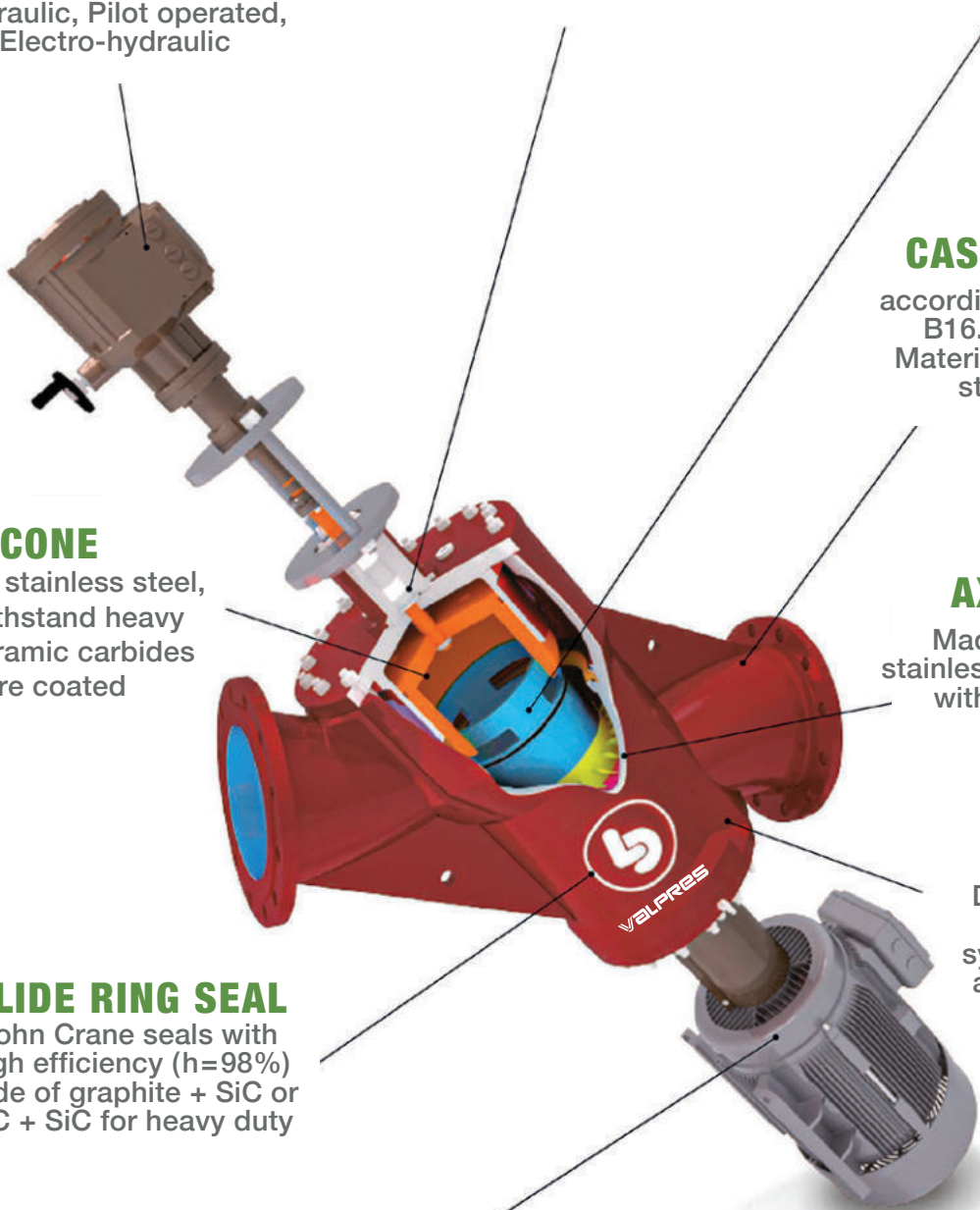
Double bearing spindle
(turbine side) for high
system system stiffness
and reduced vibrations

SLIDE RING SEAL

John Crane seals with
high efficiency ($\eta=98\%$)
made of graphite + SiC or
SiC + SiC for heavy duty

GENERATOR

Brushless with permanent
Magnets for high power



GENERAL INFORMATION

VALPRES, a BONOMI GROUP company, has developed an effective solution for energy production and patented in 22 countries: **LOCPOWER**. It consists of a new concept of a control valve that is able to "harvest" energy. That would otherwise be lost during normalflow and pressure control is equipped with an electric control console.

The LOCPOWER GREENLINE SYSTEM converts energy losses into mechanical power and then into clean electricity. Emission-free energy generation, no CO2 production.

The design of **LOCPOWER** enables various industries to control the flow and pressure of pipe and to regulate lines and produce clean electricity without neglecting safety. Regulation and control in one system.

LOCPOWER has dual flow control: hydraulic through an actuator and electrical through a turbine. The electrical control acting directly on the turbine minimizes the net pressure fluctuations.

LOCPOWER TRANSFORMS WASTED ENERGY INTO ENERGY SAVINGS



Unlike traditional control valves where the pressure drop is achieved by a single or multistage actuator, **LOCPOWER** regulates the flow by division of the pressure drop by a single or multistage turbine, which is designed to fit perfectly into the housing of the Valve fits to maximize energy recovery. On This way you "harvest" 100% renewable energy, which otherwise would be wasted. Thanks to state-of-the-art CFD and FEM simulations on software, maximum efficiency is achieved. Over and beyond Performance and reliability tests are carried out in the testing facility Valpres performed.



DESIGN

The innovative design of **LOCPOWER** aims to improve valve capacity (Cv/KV) and energy harvesting functions to the max. In addition, the majority of maintenance work can be carried out on site, without having to remove the valve from the pipeline.

ADS (ADVANCED DIAGNOSTIC SYSTEMS) / FORTGESCHRITTENE DIAGNOSESYSTEME

LOCTORQ and **LOCSENS** represent a new generation of advanced diagnostic systems; together with the 4-20 mA positioner remote control and feedback from **LOCPOWER**.

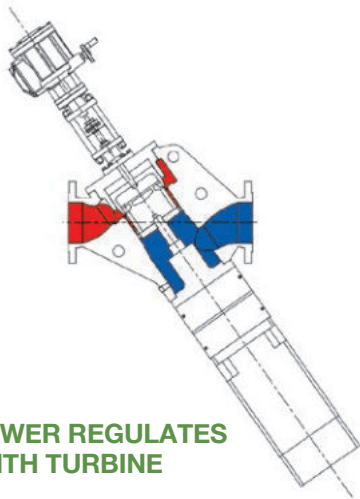
LOCTORQ and **LOCSENS** can be equipped with advanced technologies for safety and remote diagnostics.

LOCTORQ continuously monitors shaft speed and torque, to prevent any anomalous behavior directly from the control room.

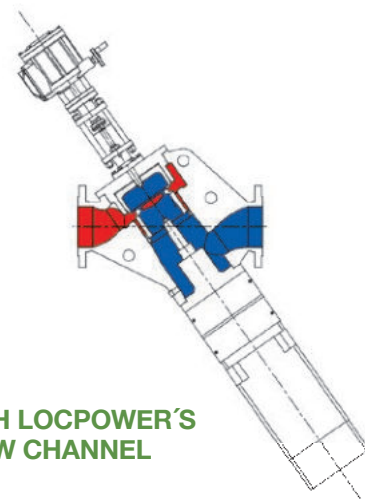
LOCSENS is a predictive diagnostic system that uses acoustic and vibration detection to detect unexpected changes in process conditions in order to prevent cavitation and to avoid premature wear or leaks.

INTERNAL FLOW CHANNEL, HIGHEST RELIABILITY

LOCPOWER features an internal flow channel. This innovation enables **LOCPOWER** to regulate even if the turbine fails or a higher flow occurs, maximizing energy recovery. This feature is the key factor for combining a turbine with a control valve in a complex piping system. Furthermore, the additional flow channel prevents unexpected overpressure and avoids damage to the downstream piping.



LOCPOWER REGULATES WITH TURBINE



INTERNAL PATH LOCPOWER'S EXTRA FLOW CHANNEL

Electric generator (5 to 300 kW)

LOCPOWER is usually offered with a state of the art synchronous power generator to extract even the smallest part of the energy from the flow. The power generators are usually connected with the latest technology of active inverters to feed energy to the general power grid / local supply or to store the energy.

Housing and upper part

LOCPOWER has a newly developed valve body that maximizes flow rate and "harvesting efficiency". The material selection is based on the application. Cast steel or stainless steel (1.0619/WCB or 1.4408/CF8M) is used as standard. Other materials on request. The following connections are available, e.g. UNI EN 1092-1 or ANSI B16.5 flanges. Other connections on request

PRODUCTION SIZES			
	Size	Pressure Rating	
NPS	3-24	150-300-600	ANSI
DN	80-600	16-40-100	PN

TURN YOUR PIPELINE INTO A RENEWABLE ENERGY SOURCE

Mechanical seals and bearings

Mechanical seals and bearings are carefully sized and selected to achieve a high level of quality reliability and service life.

Integrated UPS

In case of a power failure occurs the Locpower unit can start autonomously for up to 24 hours for start-up operation.

Drive

- Manual transmission
- Electric actuator with optional intelligent UPS unit
- Pneumatic actuator (diaphragm or piston type) with intelligent positioner
- Pilot operated

EFFICIENCY EXAMPLES FROM THE FIELD: SMALL CHANGE - BIG IMPACT

The calculations are based on real data provided by end users, based on an annual operating time of 8,600 hours.

	Case 1 Water plant	Case 2 District heating plant	Case 3 Oil pipeline
DN	200 mm	250 mm	400 mm
Q	65 l/s	105 l/s	250 l/s
Δp	3 bar	3,5 bar	7 bar
P	12 Kw	25 Kw	115 Kw
CO2 savings	34,7 T	96,4 T	621 T
Equivalent households	26 households	72 households	286 households

TAILOR-MADE FROM VALPRES AND BRUNNBauer GREENLINE SOLUTIONS

Please enter the data of your piping system in the table below and our engineers will be happy to assist you...

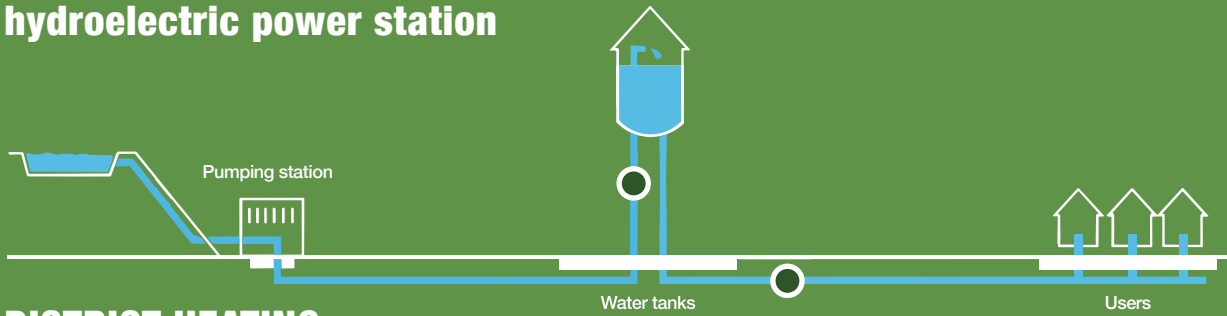
	System features	min.	max.
\varnothing	Pipe diameter	80 mm	600 mm
Q	Volume flow	10 l/s	1000 l/s
Δp	Pressure reduction	Announcement request	
h	Annual running time	Announcement request	



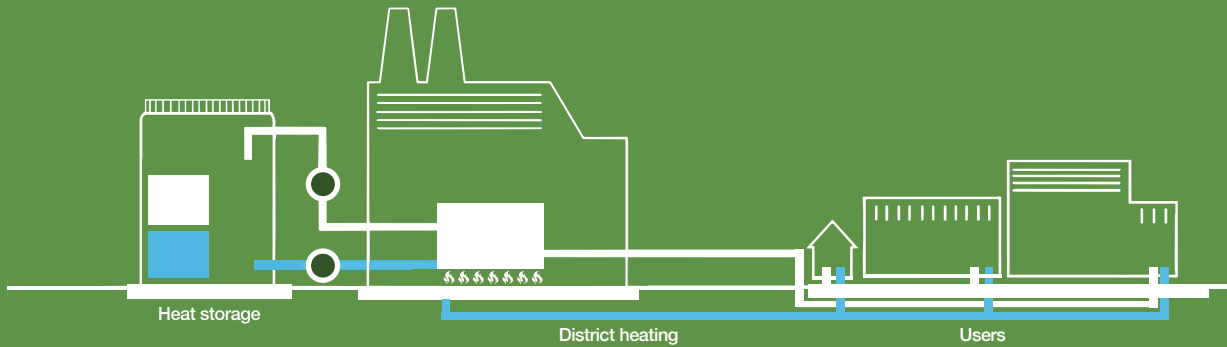
**SCAN THE QR-CODE AND CALCULATE NOW
YOUR OWN YOUR OWN ELECTRICITY PRODUCTION.**

INSTALLATION LOCATIONS

hydroelectric power station

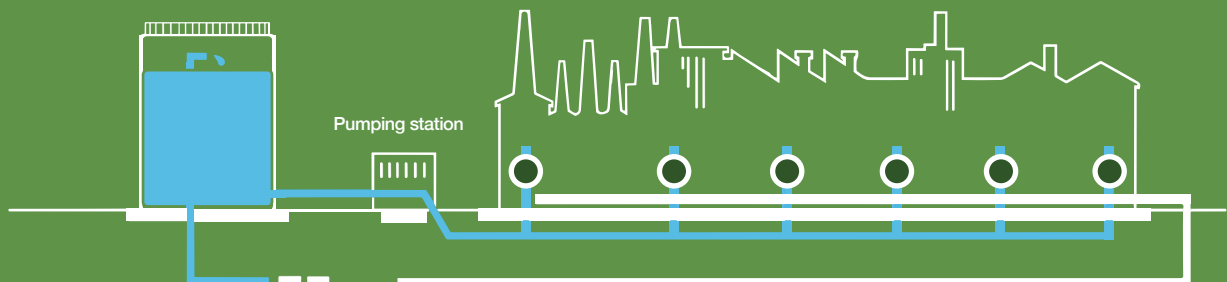


DISTRICT HEATING



WATER COOLING SYSTEM

STEELWORKS - ALUMINIUM FACTORIES - CHEMICAL AND PLASTIC INDUSTRY - SUGAR MILLS - POWER PLANTS* - IRONWORKS
* cooling towers, coal production, CO2 reduction



OIL PIPELINE

