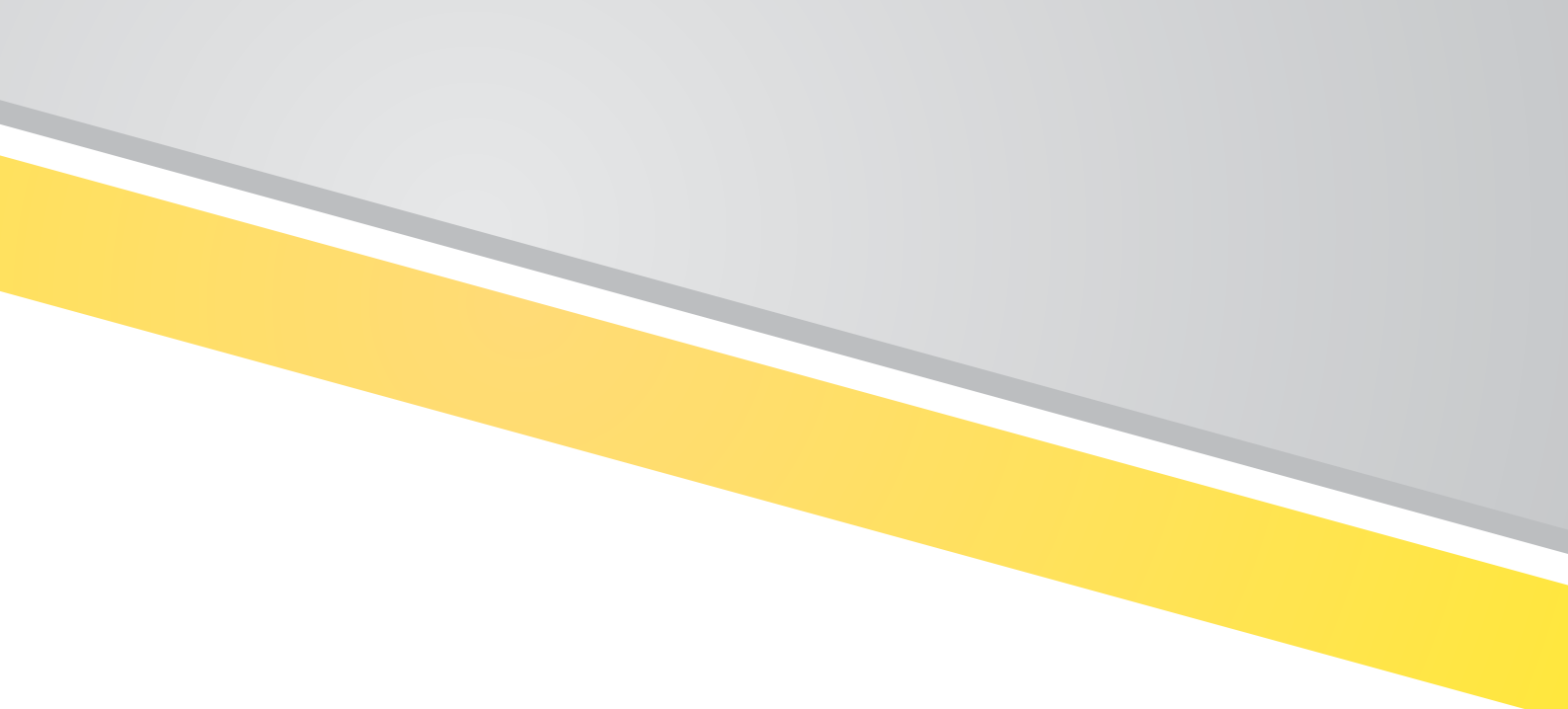




Triangle Jaune

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## WHO WE ARE

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**TRIANGLE JAUNE** is a leading water management company, located in Lebanon since 1998 and in Syria since 2009 with wide regional presence in the Middle East.

**TRIANGLE JAUNE** has been always keen to develop and deliver excellent water solutions, aiming to increase end-use benefit, enhance satisfaction, and provide a real competitive edge for its customers.

**TRIANGLE JAUNE** is your partner for success. Our main goal is helping development organizations, by specializing in **WASH** programs supplying, giving them our professional advice when needed.

We help you boost your productivity and succeed in an increasingly challenging business world by successfully integrating the latest technology products and solutions that deliver today's mission-critical services and solutions.



## VISION

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*“To be the regional water solutions & services provider of choice”*

## MISSION

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“We provide innovative, world class, independent and value added water solutions through consulting and integration services that enable clients to improve performance and fulfill their Business needs”

**TRIANGLE JAUNE** offers wide range of solutions and services that fulfill the various needs of public, private and development organization. Each of our solutions has been developed with an eye on empowering our customers, fulfilling their Business needs and capitalizing on their existing infrastructure. Our technical expertise, vast experience, and knowledge of water Solutions, ensure that all diversified applications operate smoothly together as one total solution.



## ACTIVITIES

### MECHANICAL WORKS

- Booster and submersible pumps for water and wastewater
- Fire fighting pumps
- Pipes, valves and accessories
- Anti water hammer systems



### ELECTRICAL WORKS

- Motor Control Centers (MCC) for pumps
- Control panels
- Power and low current cables
- Controls and instrumentation for water and wastewater plants (motorized valves, sensors, switches, etc.)



### WATER TREATMENT

- Dosing Pump
- RO systems
- Chemicals
- Gas Chlorinators

### CIVIL WORKS

- Pumping stations
- Valve chambers
- Manholes
- Wells
- Piping systems



## OUR PRODUCTS

- 1- PUMPS & MOTORS
- 2- DOSING PUMPS & INSTRUMENTS
- 3- CLHORINATORS & GAZ CYLINDER
- 4- WATER TREATMENT

- 5- PIPES & ACCESSORIES
- 6- PANELS
- 7- GENERATORS

**TRIANGLE JAUNE** is the agent & distributor in:

### LEBANON

- **SPCO** submersible pumps (SWISS origin).
- **INJECTA** (Italy origin) for dosing pump and instruments.
- **SEVERN TRENT** (U.S.A origin) for water treatment technology.

### SYRIA

- **SPCO** submersible pumps (SWISS origin).
- **INJECTA** (Italy origin) for dosing pump and instruments.
- **ATURIA**



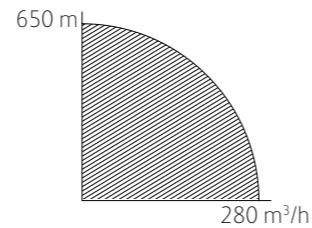
### Submersible pumps UG / UGA

**Construction:** Fully stainless steel construction in AISI 304; size 4" up to 12"

**Performance:** Flow up to 280 m<sup>3</sup>/h and head up to 650 meters

**Benefit:** Sheet metal stainless steel construction allows high efficiency and energy saving due to low power consumption

**Application:** Water supply, irrigation fire fighting, groundwater lowering.



### Submersible Motors UGM

**Construction:** Rewindable motors with standard 50 ° C temperature, also in fully stainless steel available, mechanical seal is designed for sandy and salty water; size 4" up to 12"

**Performance:** Motor power from 0.37 up to 250 kW

**Benefit:** Reliable and heavy duty motors which allow trouble free operation for long life even in even in hazardous applications

**Application:** Water supply, irrigation fire fighting, groundwater lowering.



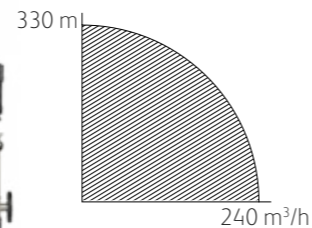
### Vertical Multistage Pumps VM / VMN / VMC

**Construction:** Fully stainless steel construction in AISI 304 or AISI 316

**Performance:** Flow up to 240 m<sup>3</sup>/h and head up to 330 meters; Motor power from 0.37 to 110 kW

**Benefit:** Energy saving, high efficiency, inline construction, easy installation

**Application:** Water supply, irrigation, industrial and chemical use, fire fighting, cooling towers and systems, temperature control systems.



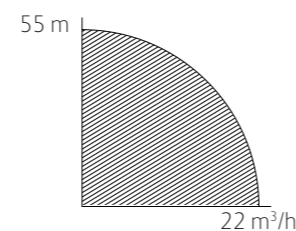
### Horizontal Multistage Pumps HM / HMN / HMC

**Construction:** Fully stainless steel construction in AISI 304 or AISI 316

**Performance:** Flow up to 22 m<sup>3</sup>/h and head up to 55 meters; Motor power from 0.37 to 3 kW

**Benefit:** Smooth in operation; energy saving

**Application:** Domestic water supply, irrigation, industrial and chemical use, fire fighting, pressure boosting.



### NDS

Horizontal axial split casing double suction pumps up to 23'000 m<sup>3</sup>/h up to 260m head  
Cast iron, Stainless steel, Duplex StSt, etc.

### Horizontal Multistage Centrifugal Pump

NDM horizontal ring-sectional multistage centrifugal pump is a kind of traditional multistage centrifugal pump with wide application, using grease-lubricated standard bearings, mechanical seal or packing

### Performance Range

Q: 1000m<sup>3</sup>/h - H: 800m - T: 105





## ABOUT ATURIA

Aturia began to operate in the Centrifugal Pumps sector in 1927 and became a leader in the Submersible Electric Pumps field by patenting the Submersible Motor in 1946. In 1960 it extended its markets to countries in the Mediterranean, America and Asia. Over time Aturia acquired four top Italian companies: Rotos (1990), Marelli (1990), Audoli & Bertola (2003) and Aris Chiappa (2009).



### SUBMERSIBLE

The installation of submersible electric pumps for the past 60 years allowed Gruppo Aturia to acquire a wealth of application experience in a range of sectors

### RADIAL – FLOW PUMPSETS

Radial solution allows the use of a high number of stages, to reach very high heads

### MIXED - FLOW PUMPSETS

Semiaxial solution is used when higher flows are required for the same well diameter.

### TECHNICAL SPECIFICATIONS

#### RADIAL- FLOW PUMPSETS

Flow rates up to	200 m <sup>3</sup> /h
Heads up to	700 m
Power up to	300 kW
Max. content of solids (silt)	30 g/m <sup>3</sup>

#### MIXED - FLOW PUMPSETS

Flow rates up to	800 m <sup>3</sup> /h
Heads up to	330 m
Power up to	400 kW
Max. content of solids (silt)	50 g/m <sup>3</sup>



### SURFACE

Gruppo Aturia offers a wide range of surface pumps that meet the needs of a range of top manufacturing sectors.

### Split-Case Pumps

#### PD & PDV series:

PD & PDV Split-case pumps are single stage, double suction centrifugal pumps.

These pumps ensure a long service life, high efficiency, low operations cost, friendly maintenance and service.

**CAPACITY:** from 50m<sup>3</sup>/h to 3.500 m<sup>3</sup>/h

**HEAD:** from 10 m to 170 m

**MAX. WORKING PRESSURE:** 25 bar

**TEMPERATURE OF PUMPING MEDIA:** 130°C



## MOTORS

The Franklin motor has been the driving force behind residential and light commercial submersible pumps for decades.

Franklin offers motors in a full line of single and three-phase voltages, frequencies, and application-specific models. Wherever there is an independent source of clean groundwater, you can find a Franklin motor.



# MULTISTAGE CENTRIFUGAL PUMPS



## TK - TKR - VTK - TTK series

TK-VTK-TKR-TKK are high pressure multistage pumps.

Connection to the driving machine (generally an electrical motor) is through a flexible coupling.

### TK – VTK Pumps are used for:

- Irrigation and land reclamation plants
- Water supply
- Power plants
- Hot and Cold water circulation
- Condensate transportation
- Snow gun
- Fire-Fighting equipment

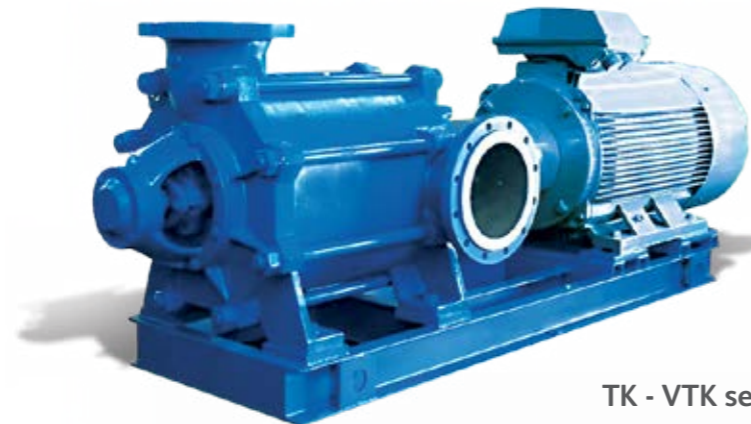
### TKR – TTK Pumps are used for:

- Boiler feed
- Pressure boosting
- Osmosis and Ultra filtration

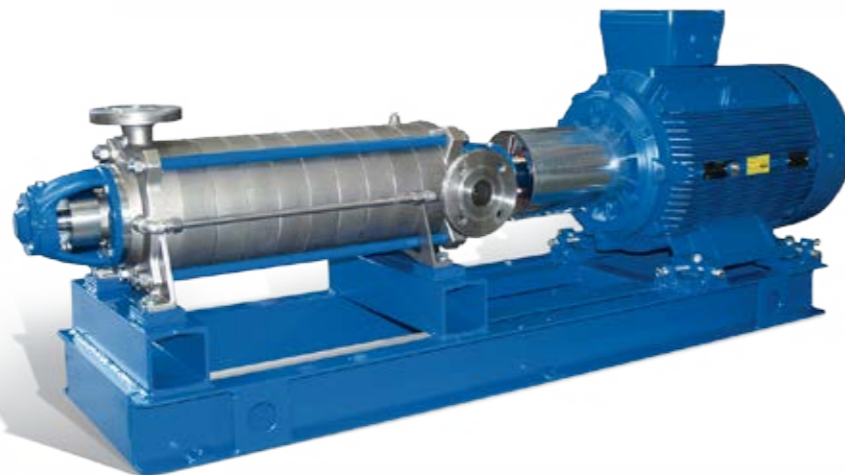
<b>TYPE:</b> from TK-VTK 25/40 to TK-VTK 65/100
<b>CAPACITY:</b> up to 100 m <sup>3</sup> /h
<b>HEAD:</b> up to 400m
<b>TYPE:</b> from TK-VTK 80/125 to TK-VTK 125/150
<b>CAPACITY:</b> up to 300 m <sup>3</sup> /h
<b>HEAD:</b> up to 350m
<b>TYPE:</b> from TK 150/200 to TK 250/300
<b>CAPACITY:</b> up to 800 m <sup>3</sup> /h
<b>HEAD:</b> up to 300m
<b>TYPE:</b> from TKR 32/50 to TKR 125/150
<b>CAPACITY:</b> up to 500 m <sup>3</sup> /h
<b>HEAD:</b> up to 600m
<b>TYPE:</b> from TTK 40/65 to TTK 200/250
<b>CAPACITY:</b> up to 900 m <sup>3</sup> /h
<b>HEAD:</b> up to 900m



TKR series



TK - VTK series



## ELECTROMAGNETIC Dosing pumps and systems



## ELECTROMECHANIC Dosing pumps and systems



## MEASURING AND CONTROL INSTRUMENTS

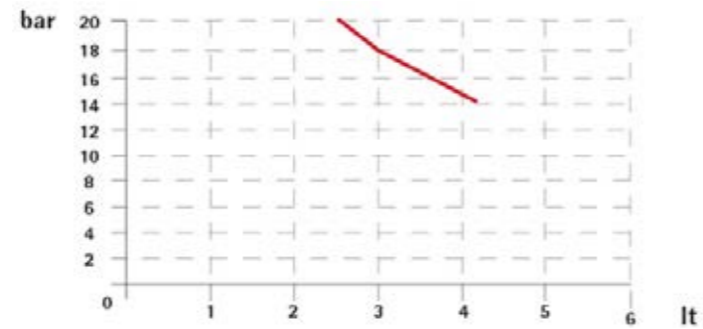


## UV STERILIZER



## SENSORS PROBES

**ELECTROMAGNETIC DOSING PUMPS  
ATHENA SERIES**



**MEASURING AND CONTROL INSTRUMENTS  
NEXUS SERIES**



**PERISTALTIC PUMPS  
SYSTEMS SERIES**



**HYDRA SERIES**



**OLIMPIA SERIES**



**ELECTROMECHANIC DOSING PUMPS  
TAURUS SERIES**



## GAS CHLORINATORS



### APPLICATIONS

For process water, waste treatment and water treatment in the municipal or industrial marketplace:

- Potable water disinfection, well water, surface water plants
- Slime and algae control: irrigation systems, cooling towers, rechlorination points, remote systems
- Wastewater disinfection: packaged plants, lagoons, industrial effluents
- Process water: chemical and pharmaceutical manufacture, food (washdown, canning, bleaching, taste and odor control)
- Cyanide, chromium removal: metal finishing wastes
- Recreation water: swimming pools, fountains, spray ponds

- Safe and reliable all-vacuum operation
- Superior materials of construction for wet or dry gas service
- Safe integral venting system
- Five capacities up to 100 PPD (2 kg/h)
- Solid silver rate and inlet valves
- Direct cylinder mounted
- Replaceable inlet capsule
- Remote metering available
- Optional switchover capability with automatic reset for uninterrupted service





## GAS CYLINDER

SEAMLESS STEEL HIGH PRESSURE GAS CYLINDERS FOR TECHNICAL & MEDICAL GASES

O.D (mm)	CYLINDER CHARACTERISTICS	
	Volume	Max. test pressure
139.7	4.0 lt	345 bar
	5.0 lt	345 bar
	6.0 lt	345 bar
	10.0 lt	345 bar
203.0	40.0 lt	345 bar
204.0	20.0 lt	345 bar
	27.0 lt	345 bar
	40.0lt	345 bar
227.0	50.0 lt	345 bar
229.0	40.0 lt	345 bar
	50.0 lt	345 bar

Bottom	Foot ring	Neck ring	Valve Thread		Customer request	Valve	Cap	Cage
			W 19.8 x 1/14"	W 28.8 x 1/14"				
Convex	••	••	•	•	••	••	••	••
Convex	•	••	•	•	••	••	••	••
Convex			•	•	••	••		
Convex	•	•	•	•	••	••	••	
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• STANDARD •• OPTIONAL CHOICE OF CUSTOMER

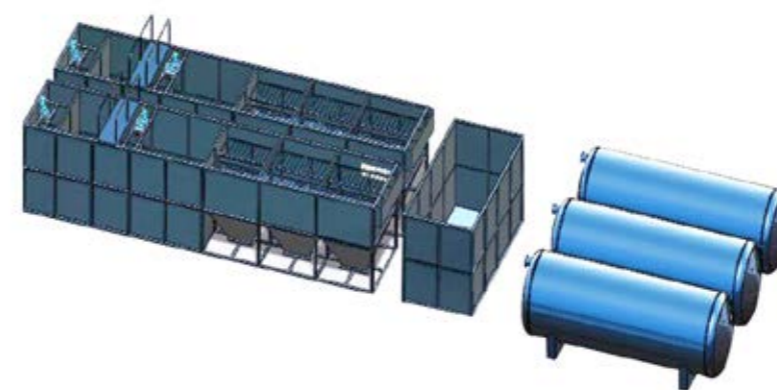
All size of cylinders on above table meet the requirement of 97/23/EC PED & 99/36/EC T.P.E.D Directive and they are produced according EN/ISO standards and technical regulations.

Steel grade	%	C	Si	Mn	P	S	Cr	Mo	Ni	Cu
34CrMo4	Min	0.30	0.10	0.60			0.90	0.15		
	Max	0.37	0.40	0.90	0.025	0.020	1.20	0.30	0.30	0.30



## WATER TREATMENT SYSTEM

- Filtration Systems
- Reverse Osmosis Systems
- Degasifier Systems
- Surface Water Treatment
- Ozonation Systems
- First Light Uv Lamps
- Chemical Dosing Systems
- Chemical and Minerals
- Accessories
- River Water Treatment System With Lamella Clarifier
- Softeners Systems
- Ultra Filtration Systems
- Deionization Systems
- Waste Water Treatment
- Ultraviolet Systems
- Sea Water Treatment Systems
- Mechanical Filtration
- Tanks and Accessories



# WATER TREATMENT SYSTEM



## PIPES



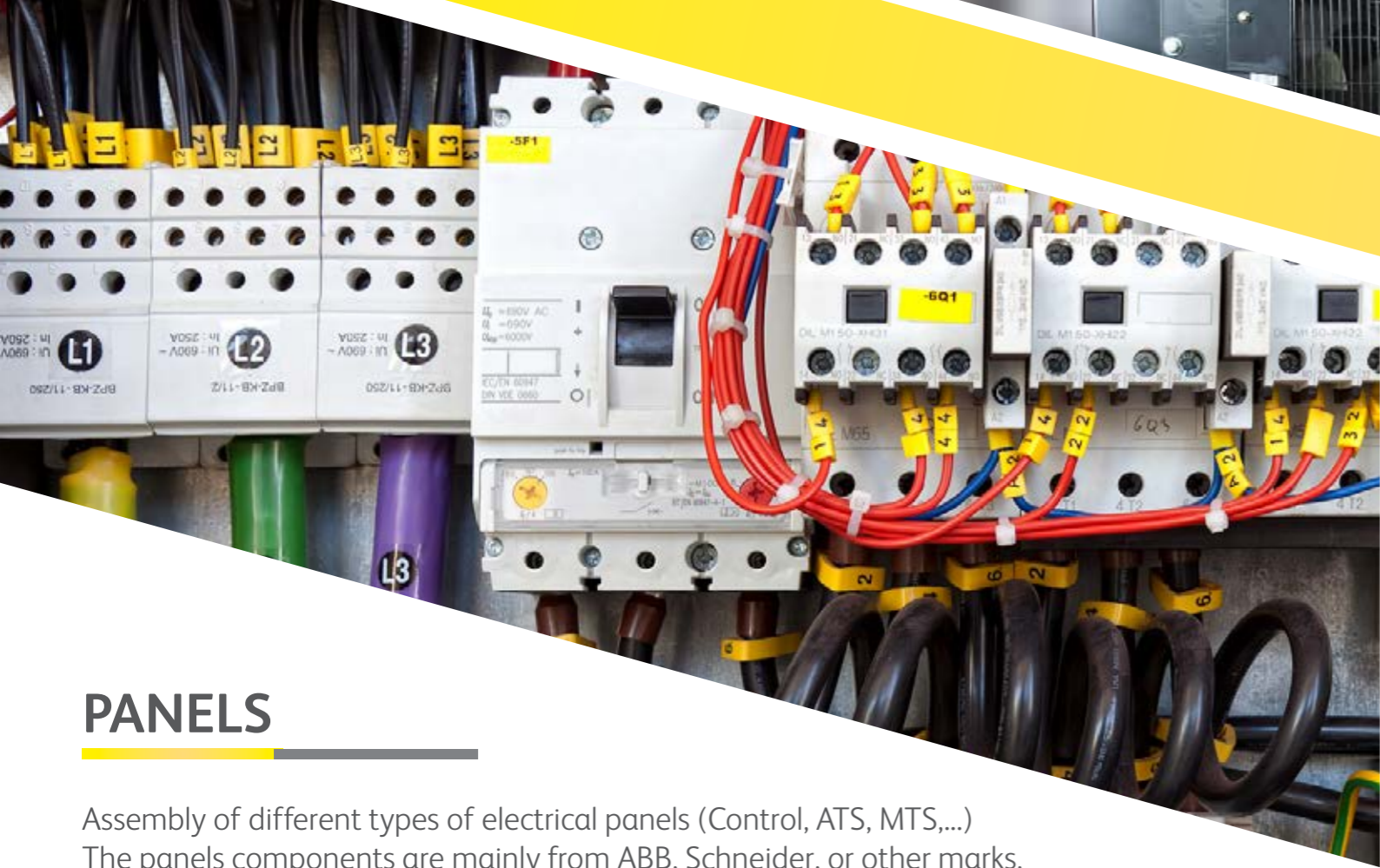
- Hot Dip Galvanized pipes
- Seamless pipes with coupling and thread according to ASTM A53 and A106 Grade B.
- HDPE Pipes
- PVC Pipes
- Ductile iron pipes & GRP Pipes

## ACCESSORIES

- Valves: check valves, gate valves, air relief valves
- Water meters
- Strainers

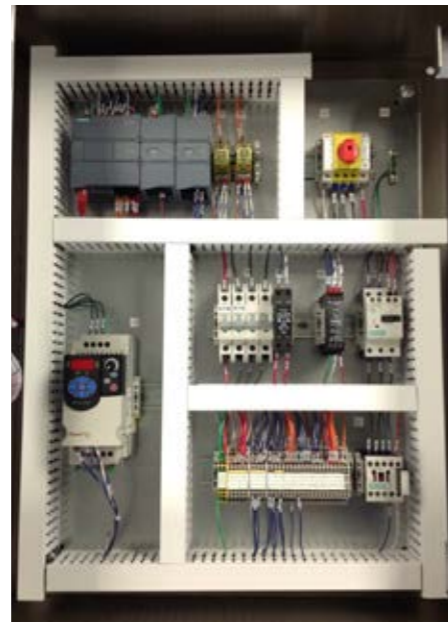


All accessories are provided by:  
**SAB - IRDO GAZ - TIS**



## PANELS

Assembly of different types of electrical panels (Control, ATS, MTS,...)  
 The panels components are mainly from ABB, Schneider, or other marks,  
 according to the clients' needs and to the project requirements.



All our products are provided by:  
**EATON - ABB - SCHNEIDER - LEGRAND**



## GENERATORS

We offer worldwide sales of Generators, Electric Power Generator Sets, Automatic Transfer Switches, and Standby Gensets . We sell high performance name brand manufactures, including:

- LEROY-SOMER, the world-leading specialist in industrial alternators and drive systems, designs and manufactures highly innovative eco-technological solutions to serve the industrial and large-scale commercial sector markets.
- Perkins, one of the world's leading providers of diesel engines.



# LATEST PROJECT

## ELECTRO-MECHANICAL WORKS

- Hermel - Pumping Station



## ELECTRO-MECHANICAL WORKS

- Bdadoun water well



## ELECTRO-MECHANICAL WORKS

- Jeita - Water Pumping Station



# LATEST PROJECT

## ELECTRO-MECHANICAL WORKS

- Jounieh - Pumping Station



## ELECTRO-MECHANICAL WORKS

- Loucy - Pumping Station



## ELECTRO-MECHANICAL WORKS

- Lower Adma Kfaryassine - Water Pumping Station



## ELECTRO-MECHANICAL WORKS

- Zouk Pumping station



# LATEST PROJECT

## ELECTRO-MECHANICAL WORKS

- Solidere - waste plant



## ELECTRO-MECHANICAL WORKS

- Saida - Pumping station



## ELECTRO-MECHANICAL WORKS

- Brissa Dam - water intake and pipeline



## LATEST PROJECT

### STEP HADJOUT 2 2012

- Waste treatment plant



## PROJECT REFERENCES

### ELECTRO-MECHANICAL CONTRACTING

- Luci pumping station in west Bekaa
- Chekhnaya pumping station
- Ras el Ain pumping station
- El Taybeh pumping station
- El Aakoura pumping station
- Btouratij pumping station
- El Aakoura pumping station
- Kornet el Hamra pumping station
- Bhannes pumping station
- Nabaa el Kadi pumping station
- Bhamdoun pumping station
- Raayan pumping station
- El Buss pumping station
- Siddikine pumping station
- Nabi Shit pumping station
- Zouk mosbih pumping station
- Bezibdin pumping station
- 6 pumping stations for the municipalities of Iklim el kharroub
- Harajel pumping station
- Ras el Aaine pumping station in Sour
- Mayfadoun pumping station
- Lala pumping station in Bekaa
- Rehabilitation of Jeita pumping station
- Aintoura pumping station (electrical, earthing and chlorination system)
- Jizzine artificial waterfall
- Rehabilitation of Beirut pumping Station - Solidere (electro-mechanical)
- Al Wadi Grand Residence (Starco).
- Rehabilitation of Loucy Pumping Station (sub-contracting)
- Hermel Pumping Station
- Lower Jounieh Pumping Station and Reservoir
- Adma Kfaryassine Pumping Station and Reservoir
- Brissa Dam (water intake structure and pipeline)
- Chabrouh Dam pipeline
- Well and valve chamber in Bleibil and Bdadoun Municipalities

### CHLORINATION & R.O SYSTEMS

- Bturram pumping station
- Kfarhazir pumping station
- Ain ed Delbeh pumping station
- Shnaniir pumping station
- 220 Stations in south Lebanon for the German Federal Agency for Technical Relief, Unicef
- R.O systems for home and industrial use.
- International Red Cross in Lebanon and in Syria

# PROJECT REFERENCES

## WASTEWATER

- Saida wastewater pumping station
- Bourj Hammoud wastewater pumping station
- Ministry of Power and Water
- Spinneys
- European committee offices
- Ghadir wastewater pumping station
- Aanquoun waste water pumping station
- Installation and startup of Ainbal
- El Chouf wastewater treatment plant
- Installation and startup of Jdeidit El Chouf wastewater treatment plant
- Installation and startup of Haitoura wastewater treatment plant
- Installation and startup of Rachaya wastewater treatment plant
- Installation and startup of Bekassine wastewater treatment plant
- Solider station in Beirut
- Installation and startup of Gharifit El Chouf wastewater treatment plant
- Supply and Install /Daraa well - Daraa - ACF
- Supply and Install Shribishat / well-Damascus-ICRC
- Supply and Install Generator set 1250 KVA /Kidneys Hospital-Barzeh-Damascuse countryside-WHO
- Supply and Install Generator set 200 KVA / Zwayteni-Homs-WHO
- Supply and Install Generator set 250 KVA / Labortatory directorate Damascus Damascus - WHO
- Supply Al - Dardaa pumping station - Homs - ICRC
- Supply Al-Meshrfeh pumping station - Homs - ICRC
- Supply Submersible pumps with motors for Adra men prison - Damascuse countryside - ICRC
- Supply Submersible pump with motors for Aleppo - Aleppo - ICRC
- Supply and Install Dosing pilot systems-Swida - ICRC
- Supply Dosing pumps for Aleppo-Aleppo-ICRC
- Supply ATS 1250A-1600A /Al-Kaddam-Damascus - ICRC
- Supply 50 control panel - Daraa - ICRC
- Rehabilitation of AIN HAROUCH pumping station
- Supply and install Four wells in Jaramana
- Rehabilitation of Delbeh pumping station and TEL KHALAKH pumping station
- Rehabilitation of Baloran pumping station (wastewater treatment)

## PROJECTS IN SYRIA

- Supply and Install Al-Hinai pumping station -Tartus -Oxfam
- Supply and Install Kfarfo pumping station - Tratus - Oxfam
- Supply and Install Al-Rabweh / wells-Damascus-ICRC
- Supply and Install Rahkeh / wells-Damascuse countryside-ICRC
- Supply and Install Blat /well -Homs- Department of Ecumenical Relations at Greek Orthodox Partrirchate of Antioch





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