AQUATWIN TOP

RAIN WATER RECOVERY SYSTEM PRESSURE BOOSTER SETS

TECHNICAL DATA

Line voltage: 230 V single phase.
Voltage of electric pump: 230 V single phase.
Power frequency: 50 Hz.
Installation: vertical only.
Pumped liquid temperature range: from 0 °C to +40 °C.
Maximum ambient temperature: 40 °C.
Max pressure: 5,5bar.
Pumped liquid: clean, free from solids.
Pressure regulation range: 3 to 5 bar.
Suction diameter (DNA): 1"
Delivery diameter (DNM): 1"1/2
Protection class: IP44.
IE2 motors as standard from 0,75 kW to 5,5 kW - IE3 ≥ 7,5 kW.

APPLICATIONS

The AQUATWIN TOP sets have been designed and produced to meet the needs of the modern engineering solutions of rain water recycling systems, with consequent saving of drinking water.
They are suited to medium to large applications, such as schools, healthcare establishments, hospitals, apartment complexes, hotels, gyms, shopping centres, for all uses where drinking water is not required for toilet flushing, floor washing, irrigation, car washing, etc.
AQUATWIN TOP characteristic features are versatility of use, silent operation, reliable operation, compact and stable structure.

CONSTRUCTION FEATURES

AQUATWIN TOP has a sturdy metal sheet structure, with black cataphoresis paint coating. In addition to better protection from corrosion and aggressive agents, this solution offers an aesthetically pleasing and captivating look. The structure very efficiently contains the pump set in the bottom section, the control panel on the side, and at the top a 150 litre water reservoir, which guarantees continuity of the supply also in case of lack of rain water. The adjustable base feet ensure stability also on irregular surfaces.

ADVANTAGES IN THE USE OF QUATWIN TOP AND RAIN WATER RECOVERY

The rain water recovery system has the objective to reuse rain water as an alternative to water from the public water network.
The rain water, stored in appropriate tanks, can be used to supply all those services that do not need drinking water (washing machine, WC, etc.).
Water savings are therefore guaranteed. It is calculated that in domestic application the daily water requirement per person is 150 litres.
This is particularly due to the use of the WC flushing system, cleaning activities, washing machine, garden irrigation, car washing, etc.
Approximately 50% of this water consumption can be met with rain water.
The use of rain water offers economic savings, in line with water savings, and therefore of 50%.

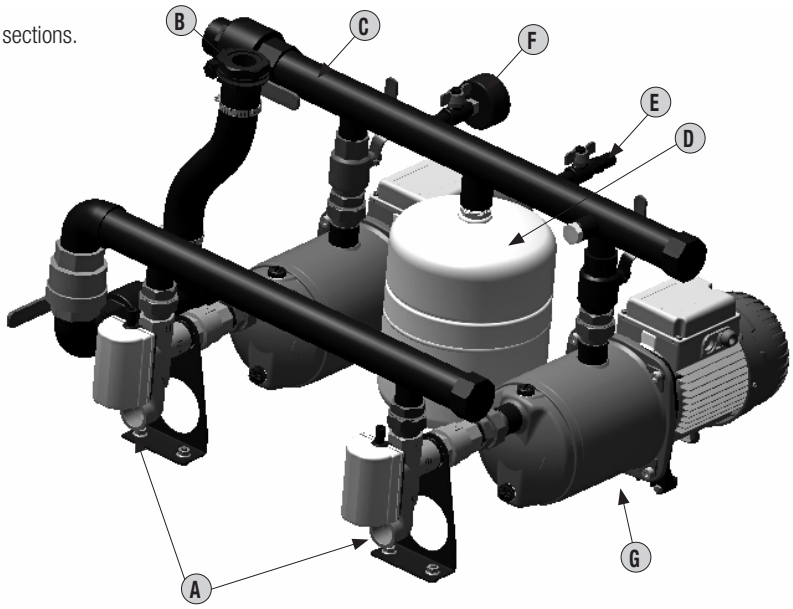
In addition to water and economic savings, the reuse of rain water offers other advantages due to its chemical composition.
Rain water has a limited lime content.
This results in softer water, with advantages for the system:
- limited presence of lime scale in the piping system.
- limited amount of lime residuals.
- detergent savings, and therefore less pollution for the environment.

HYDRAULIC SECTION

The hydraulic structure of AQUATWIN TOP is split in several sections.

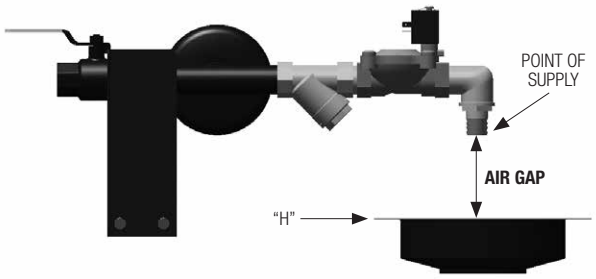
The pumping section, similar to a standard domestic pressure booster set consisting of:

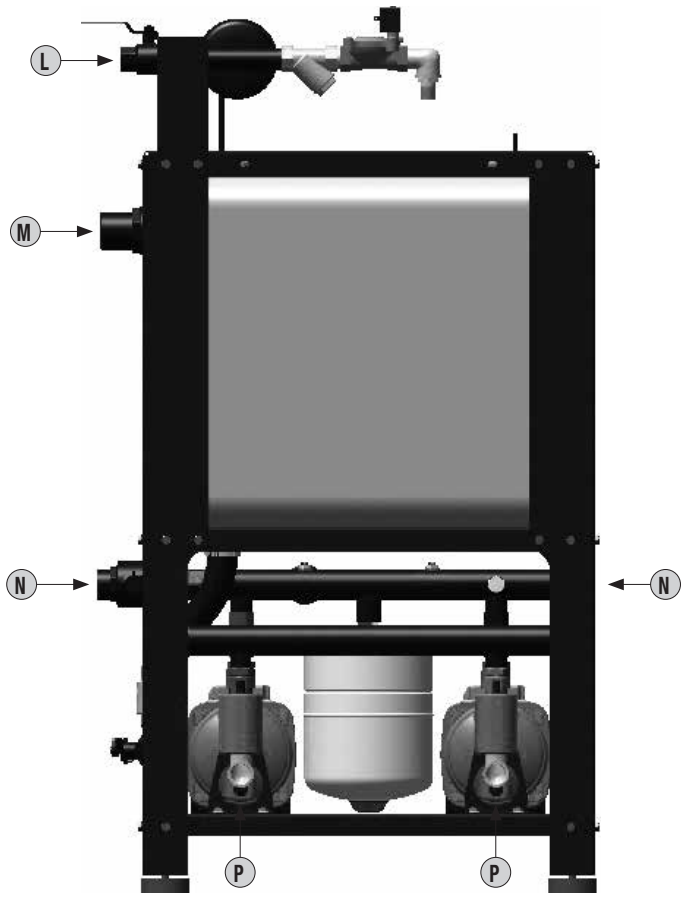
A	CONNECTION TO THE RAIN WATER TANK - THROUGH THREE-WAY SOLENOID VALVES
B	CONNECTION TO THE 150 L TANK - PUBLIC WATER MAINS
C	STAINLESS STEEL DELIVERY MANIFOLD, WITH POSSIBILITY OF CONNECTION ON BOTH SIDES
D	8 LITRE EXPANSION VESSEL
AND	PRESSURE SENSOR
F	MANOMETER
G	JETINOX OR EUROINOX PUMPS



And of a section for automatic refilling of the 150 litre water reservoir with drinking water, using a so-called “AIR GAP” system, which complies with UNI EN 1717:
Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow.

AQUATWIN complies with this standard thanks to the "AIR GAP" system, which consists in an air gap that prevents contact between water from the public water network and rain water, meeting the safety distance requirements between the point of supply and the maximum tank level (overflow limit "H").





HYDRAULIC CONNECTIONS	
L	SUPPLY FROM THE PUBLIC NETWORK
M	OVERFLOW OUTLET
N	CONNECTION TO THE USERS (REVERSIBLE)
P	CONNECTION TO THE RAIN WATER TANK

The suction contact may be single or double, in case of two separate rain water tanks.

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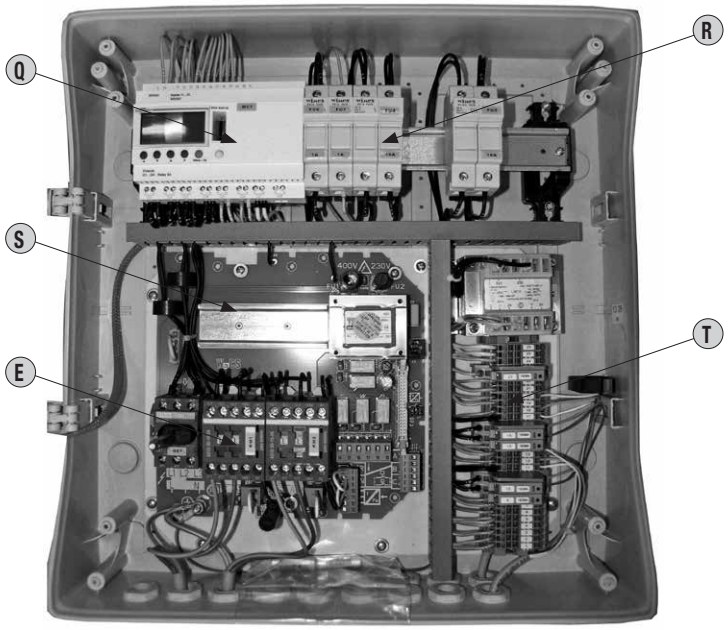
ELECTRICAL SECTION

IP 55 protection class self-extinguishing, shock-resistant plastic electric control panel on the on the front section.
The control panel protects the electric pumps with an amperometric protection against dry run and controls the operating sequence, keeping the system at an average pressure value already preset at the factory.
The average pressure value may be changed using a trimmer found inside the control panel (SP).
The pump starting order is switched at each operating cycle.

A dedicated electronic card manages the rain water tank levels (**AQUATWIN TOP can handle one or two independent first collection tanks**), controlling the two rain water/ public water network switching solenoid valves and the refilling of the 150 litre tank to ensure service continuity.

Front panel components:
- General disconnector with padlockable door lock.
- AUT - 0 - MAN function selection pushbuttons.
- Alarm RESET pushbutton.
- Operation, stop, alarm notification lamps.
- Overflow alarm buzzer.
- System monitoring graphic display.

Some additional connections are possibles in the E-Nox card, including:
- Dry run or overpressure pressure switch connection terminals (optional).
- Alarm notification clean contacts (voltage free).

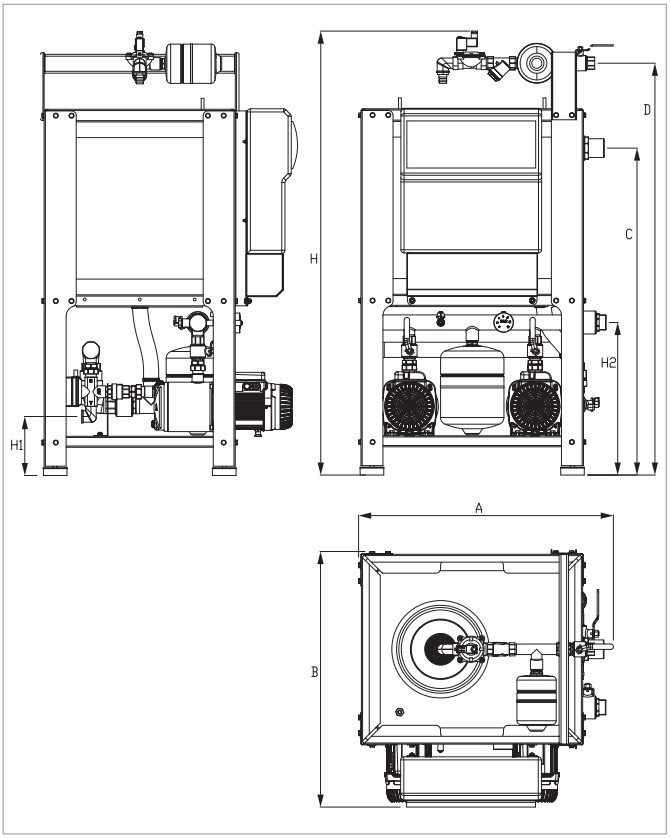


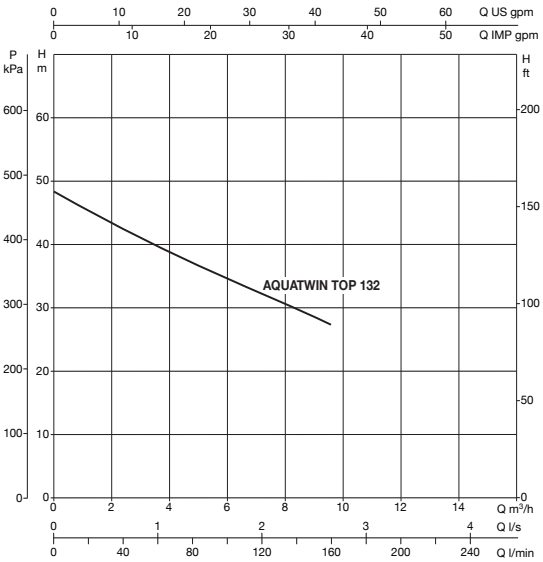
CONTROL PANEL COMPONENTS	
Q	DEDICATED ELECTRONIC CONTROL UNIT FOR THE MANAGEMENT OF THE SYSTEM
R	PROTECTION FUSES
S	E-BOX CARD
T	FLOAT CONNECTION TERMINAL BOX
V	PUMP CONNECTION

The sets are supplied in a sturdy cardboard packaging on wooden pallet and instruction leaflet with electric diagram.

AQUATWIN TOP 132 - RAIN WATER RECOVERY SYSTEM PRESSURE BOOSTER SET

Pumped liquid temperature range: from 0 °C to +40 °C - **Maximum ambient temperature:** +40 °C - **Max flow rate:** 9.6 m³/h





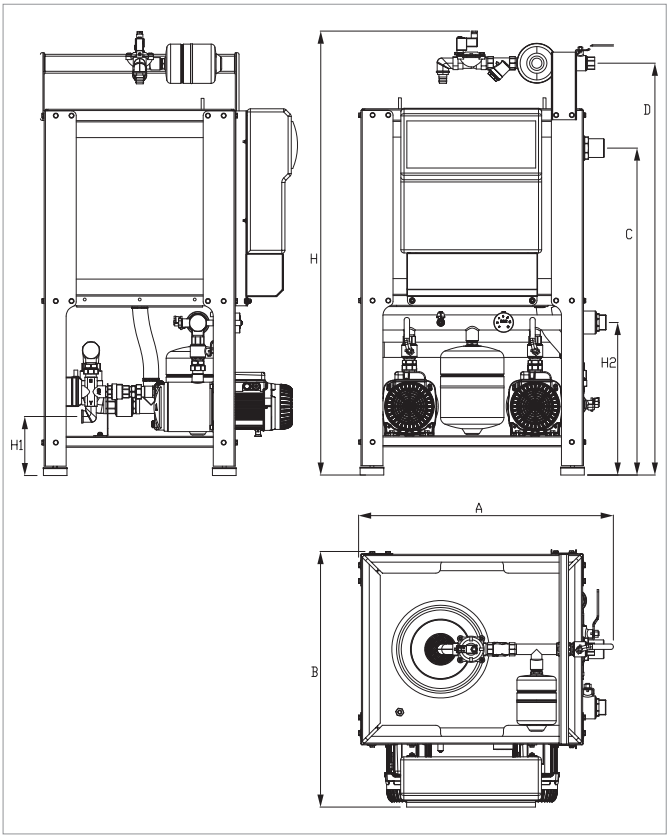
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.
Overall performance taking into account TWO pumps working at the same time.

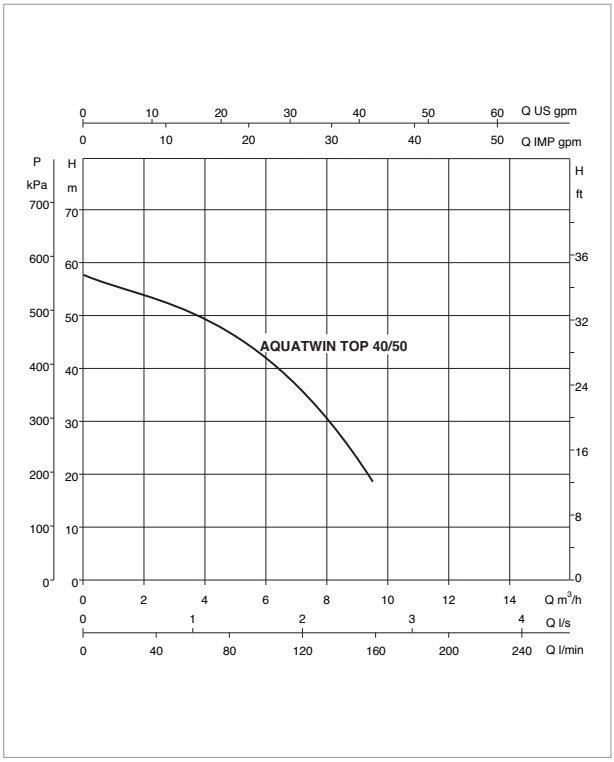
MODEL	ELECTRICAL DATA			HYDRAULIC DATA	
	50 Hz POWER INPUT	P2 NOMINAL		Q	H
		kW X 2	HP X 2	m³/h	m
AQUATWIN TOP 132	1 X 230 V ~	1	1.36	0,6-9,6	47,5-27,5

MODEL	H1	H2	A	B	H	C	D	PACKING DIMENSIONS	DNA	DNM	WEIGHT kg
AQUATWIN TOP 132	188	485	810	815	1415	1040	1310	900x1100x2200	1" + 1"	1" 1/2	113

AQUATWIN TOP 40/50 - RAIN WATER RECOVERY SYSTEM PRESSURE BOOSTER SETS

Pumped liquid temperature range: from 0 °C to +40 °C - **Maximum ambient temperature:** +40 °C - **Max flow rate:** 9.6 m³/h





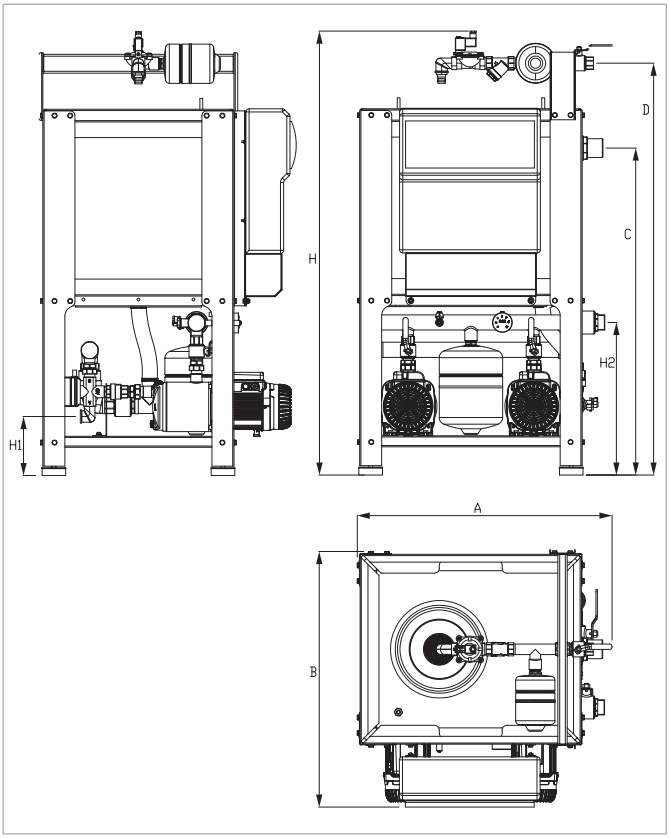
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.
Overall performance taking into account TWO pumps working at the same time.

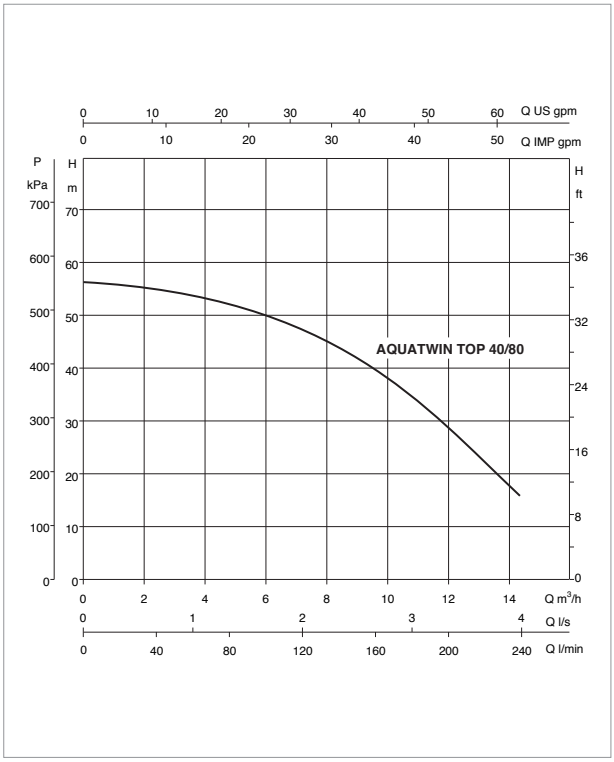
MODEL	ELECTRICAL DATA			HYDRAULIC DATA	
	50 Hz POWER INPUT	P2 NOMINAL		Q	H
		kW X 2	HP X 2	m³/h	m
AQUATWIN TOP 40/50	1 X 230 V ~	0.75	1	0,6-9,6	57,6-19

MODEL	H1	H2	A	B	H	C	D	PACKING DIMENSIONS	DNA	DNM	WEIGHT kg
AQUATWIN TOP 40/50	188	485	810	815	1415	1040	1310	900x1100x2200	1" + 1"	1" 1/2	113

AQUATWIN TOP 40/80 - RAIN WATER RECOVERY SYSTEM PRESSURE BOOSTER SET

Pumped liquid temperature range: from 0 °C to +40°C - **Maximum ambient temperature:** +40 °C - **Max flow rate:** 14.4 m³/h





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.
Overall performance taking into account TWO pumps working at the same time.

MODEL	ELECTRICAL DATA			HYDRAULIC DATA	
	50 Hz POWER INPUT	P2 NOMINAL		Q	H
		kW X 2	HP X 2	m³/h	m
AQUATWIN TOP 40/80	1 X 230 V ~	1	1.36	0,6-14,2	59-16,5

MODEL	H1	H2	A	B	H	C	D	PACKING DIMENSIONS	DNA	DNM	WEIGHT kg
AQUATWIN TOP 40/80	188	485	810	815	1415	1040	1310	900x1100x2200	1" + 1"	1" 1/2	115