

# Mobile Pumping Station

## AQUA-E Mobile Pumping Station



**AQUA**  
INDUSTRIAL

**We supply water  
in any form**



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
INVESTMENT IN YOUR FUTURE

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## Application

AQUA-E Mobile Pumping Station can be installed at any prepared connection site. It can also be moved during irrigation season, which enables flexible response to irrigation needs in particular areas. The arrangement of individual elements of AQUA-E pumping station (the position of the pump, suction, discharge, access points, etc.) can be adapted according to the existing connection site. By installing AQUA-E mobile pumping station, the existing stationary pumping station can be replaced without demanding reconstruction of the entire facility.

## Automatic Operation Control

The automatic operation and control of the engine power is performed by a Danfoss VLT® AQUA Drive frequency converter. The elementary function of the frequency converter is the regulation of the pump output to achieve the required pressure. Its advanced functions enable the protection of the pump against idle run and run with closed discharge. Without water intake, the frequency converter switches the pumping station into a standby mode. AQUA-E pumping station is then restarted when the pressure falls below a pre-set value. In this way, the pump operation control reduces power consumption by 30%. The priming of the pump suction piping is ensured by a vacuum pipe which is also operated in automatic mode.

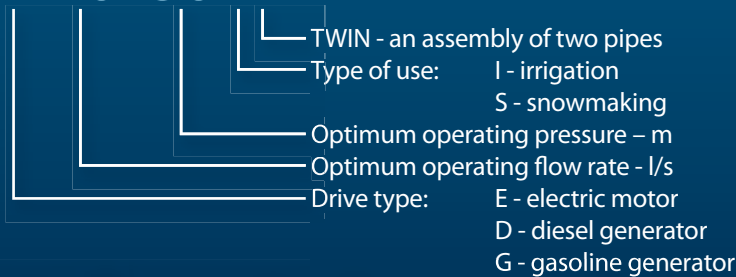
The AQUA-E pumping station automatics may be complemented with a remote data transfer system, using a radio signal or GSM modem. The data is sent to a mobile phone or a computer. From there, the operation of the AQUA-E pumping station can be both monitored and controlled.

## Container

A special container construction is designed for each pumping station type. Its design mainly aims at minimising the container dimensions.

## Marking of Mobile Units

### AQUA-E 110/80 IT



## Irrigation systems

- **Irrigation systems with a suitable piping system – AQUA-E 110/80 I**
  - Single operating pump system

parameter	flow rate Q [l/s]	pressure H [m]	motor power P [kW]
value	60-110	95-80	132

- **Irrigation systems with a partially damaged piping system – AQUA-E 140/80 IT**
  - Idle + operating pump system

parameter	flow rate Q [l/s]	pressure H [m]	motor power P [kW]
idle pump	20-38	95-80	37
main pump	60-110	95-80	132
total power	140	80	156

## Artificial snowmaking systems

The parameters of AQUA-E pump assembly in the application with the systems of artificial snowmaking are dimensioned for the first snowmaking width of 40 m and a height of 20 cm.

- **The slope length of max. 300 m, the elevation of 50 m – AQUA-E 170/6 S**

parameter	flow rate Q [l/s]	pressure H [m]	motor power P [kW]
value	4-6	210-170	18,5

- **The slope length of max. 400 m, the elevation of 80 m – AQUA-E 240/10 S**

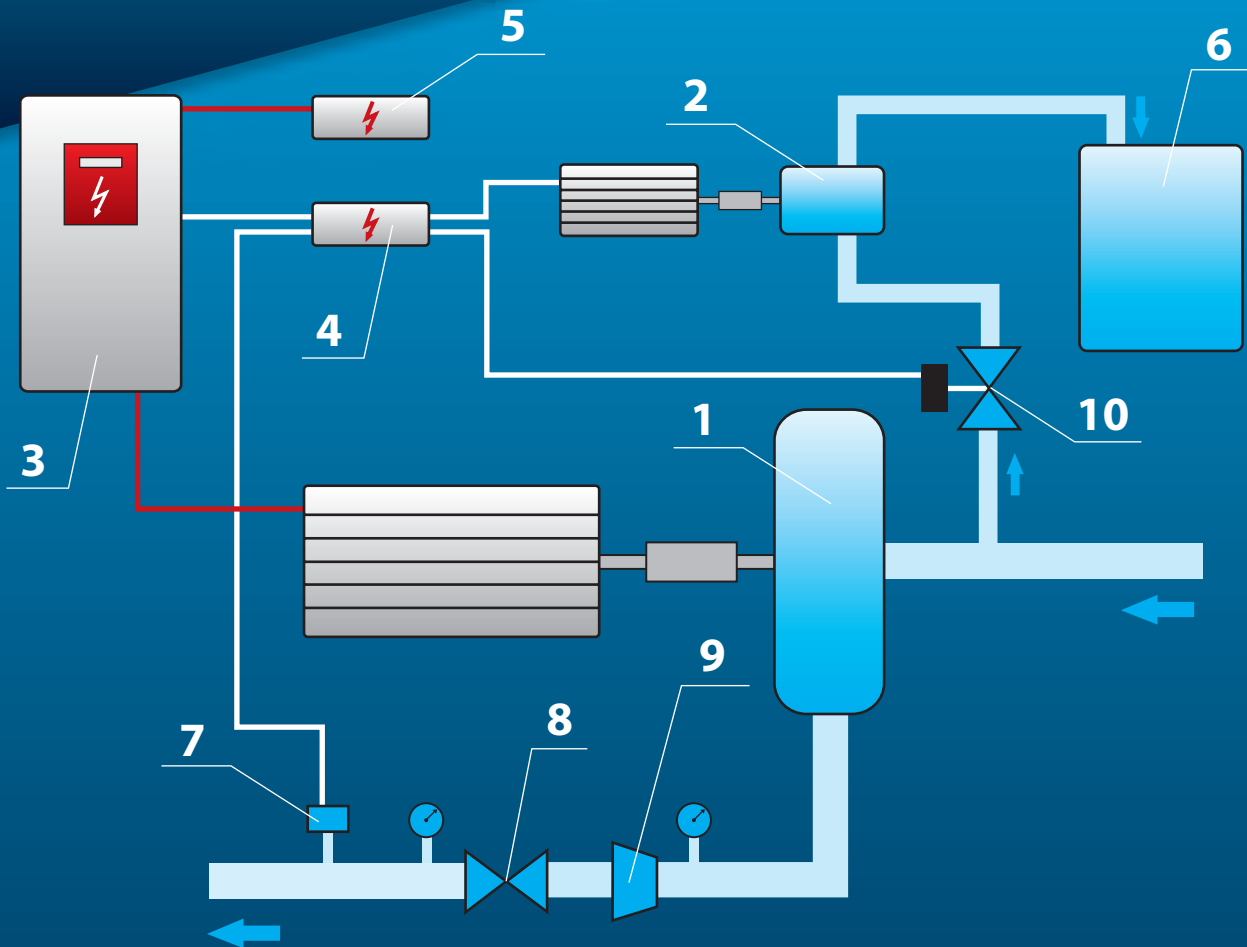
parameter	flow rate Q [l/s]	pressure H [m]	motor power P [kW]
value	5-10	280-240	37






- **The slope length of max. 500 m, the elevation of 120 m – AQUA-E 270/14 S**

parameter	flow rate Q [l/s]	pressure H [m]	motor power P [kW]
value	7-14	360-270	55



# Drawing of AQUA 110/80 mobile pumping station



Key	
1	Pressure pump
2	Sigma RV-248 vacuum pump
3	Danfoss frequency changer
4	Control switchboard
5	Power supply termination rack
6	Vacuum pump container
7	Pressure probe
8	ABO discharge butterfly valve
9	ABO discharge check valve
10	ABO discharge piping servo butterfly valve
	Pressure pump piping
	Vacuum pump piping
	Power cables
	Control cables
	Pressure gauge

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