

AcquaCard™



**FULLY-
AUTOMATED
SYSTEM FOR
CONTROLLED
WATER DELIVERY
TO USERS
BY MEANS OF
ELECTRONIC
CARD FOR
WITHDRAWAL**

AcquaCard™ group for water delivery

- ◆ No field electric cable connections
- ◆ Operation with non need for field intervention/monitoring
- ◆ Minimization of operation and management costs
- ◆ Easy-access utilization for users

AcquaCard™ is a patent of Nicotra Sistemi spa
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AcquaCard™ is a registered Trade-mark



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**AcquaCard™ installed on
a hydraulic group in a sump**

AcquaCard™

AcquaCard™ is the most advanced system for automation of large-scale irrigation networks; it enables to control the water delivery and to charge users on the basis of the volumes of water actually withdrawn. It can be utilized both on delivery groups at a plot scale and at sector level as well. Its operation can be carried out entirely at the Consortium. There is no need for field inspection of any kind.

AcquaCard™ system is composed by the following elements:

AcquaFix – Delivery group on the plot level

It is the fix equipment to be installed in the field on the TEE of hydrants and includes:

- ◆ Electronic card with micro-processor and a Lithium battery lasting for a minimum of 10 years, replaceable at its exhaustion
- ◆ Hydrometer composed by a manually-operated hydro valve and a “finger” filter, a volumetric water meter equipped with tangential whirl, magnetic transmission and impulse emitter
- ◆ Impulse electro valve for hydro valve operation
- ◆ Stainless steel box for protecting elements subject to manumission
- ◆ Inter-flanged discharge limiter equipped with auto-modulating rubber ring
- ◆ Fitting for water delivery with quick connection

AcquaMob – Electronic card for withdrawal

It is the element to be given to users. A microprocessor unit, an alphanumeric display of 8 position and two push buttons for selecting and displaying operational parameters composes it.

Dimensions of the card, which is made of plastic material, are mm 90x55x24

AcquaKey – Interface for programming

It is the element that, held by the Consortium, interfaces *AcquaMobs* with a standard PC for their programming. Without *AcquaKey* interacting with *AcquaMobs* and therefore changing and varying the operational parameters is impossible. As for its dimensions, it is similar to *AcquaMob*.

AcquaPass – Multi-use electronic card

It is all-similar to *AcquaMob*. It is to be kept by the Consortium and allows access to all the *AcquaFix* of the distribution network and, apart from being utilized as an *AcquaMob*, it enables the reading of historic memory about all the previous withdrawals carried out by the users of each of these units. Through *AcquaPass*, when it is to be used in this way, it is possible to modify access codes.

AcquaPass enables, in other words, readings and changes that would alternatively require the use of a portable terminal.

Moreover, *AcquaPass* allows to set rotations of water delivery during the irrigation season by acting on the *AcquaFix*. This arrangement could be required when delivery “on demand” cannot be sustainable due to an unexpected lack of water.

AcquaSoft – Operational software

It allows programming the electronic cards, the management of water delivery and users and operates in a Microsoft Windows environment.

The *AcquaCard™* system, according to the scheduling arranged by the Consortium, enables to:

- ◆ Assign to each user a pre-fixed amount of irrigation water
- ◆ Fix a maximum value, either in volume or in time-duration, for any irrigation. User can vary time or volume within the pre-fixed range.
- ◆ Schedule rotations and time of withdrawal
- ◆ Obtain payment in advance for the assigned amount of water

The *AcquaCard™* system, due to its operation, is characterized as follows:

- ◆ Each *AcquaFix* can be accessed by a maximum of 12 electronic cards
- ◆ The *AcquaMob* can operate on more than one *AcquaFix*, also at the same time and can be rotated in different ways for any of these ones (*AcquaMob* - multiple). It allows user to set a program for a postponed time of delivery and for a certain time duration/volume of irrigation
- ◆ Each *AcquaFix* accepts only the cards (codes) that it has been programmed for.
- ◆ Starting the water flux requires that user insert the *AcquaMob* card in the place arranged for it on the *AcquaFix* box
- ◆ The *AcquaMob* can be removed away once water delivery has started
- ◆ Stopping the water flux can be accomplished by inserting the *AcquaMob* card again in its place or by the definitive exhaustion of volume/time scheduled by the Consortium or reduced by the user for the current irrigation.
- ◆ *AcquaFix* and *AcquaMob* memorize every withdrawal carried out by users
- ◆ No field inspection or surveillance for programming and scheduling is required.
- ◆ The system does not need any external source of energy. The normal operating-range of *AcquaFix* is a minimum of 10 years.
- ◆ Each *AcquaFix* is absolutely independent and autonomous. No electric cable connection to eventual Control Unit is required. This enables the use of *AcquaFix* on existing irrigation networks.
- ◆ All the electronic components of the system work within a range of temperature from – 20° C up to 70° C. Their protection grade is IP 65.

When the *AcquaCard™* system has to be used for the operation of single hydraulic group, as can happen in case of sector groups, the stainless steel box of *AcquaFix*, which is of very small size, contains only the electronic card with microprocessor, the manual control and the impulse electro valve. The *AcquaFix* will be installed at a location easy to be accessed by users and will be connected to the hydraulic group.

The *AcquaCard™* system is of absolute reliability: its design and construction has been carried out on the basis of a wide experience gained through several years of activities in different fields of electronics.

The *AcquaCard™* system has been approved and adopted by high-qualified Public Entities.

The *AcquaCard™* system is patented and its Trademark is registered.



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