hidroconta
metering technology

WHEN WATER **COUNTS**

water meter

triton

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Multi jet
technology

MID
approval

Starting flow
form 10 l/h

Magnetic
transmission

Convertible into a
Smart meter

Brass or composite
manufactured

High accuracy
R160H

Installation
UO/DO

REV8

Hydrodynamic design

Multi-jet technology ensures uniform distribution of load on the turbine lthanks to the water inlet diffuser. The movement activates the magnetic transmission that will give the final reading of the volume.

MID approval

Hidroconta's Triton water meter complies the metrological requirements based on Directive 2014/32/EU so they are normally used for the totalisation and control of domestic water consumption. At Hidroconta we carry out strict tests on the water meters to ensure their quality and accuracy.

Technical specifications

- ✓ Turbine and dial in thermoplastic material.
- ✓ Vacuum dial to prevent condensation of water.
- ✓ Magnetic transmission protected against external magnetic fields.
- ✓ Inductive pulse output pre-equipment for a remote reading. Quick connection without stopping or dismantling the water meter.
- ✓ High mechanical and wear resistance .
- ✓ MID approval for potable water. MID 2014/32 / EU Directive.
- ✓ Straight sections are not necessary at the Hidrojet input or output U0-D0.

High protection

Hidroconta's Triton water meters are designed to avoid external manipulation by magnetic fields. They have a special shielding that prevents any possible fraud in the transmission and therefore in the result of the reading.

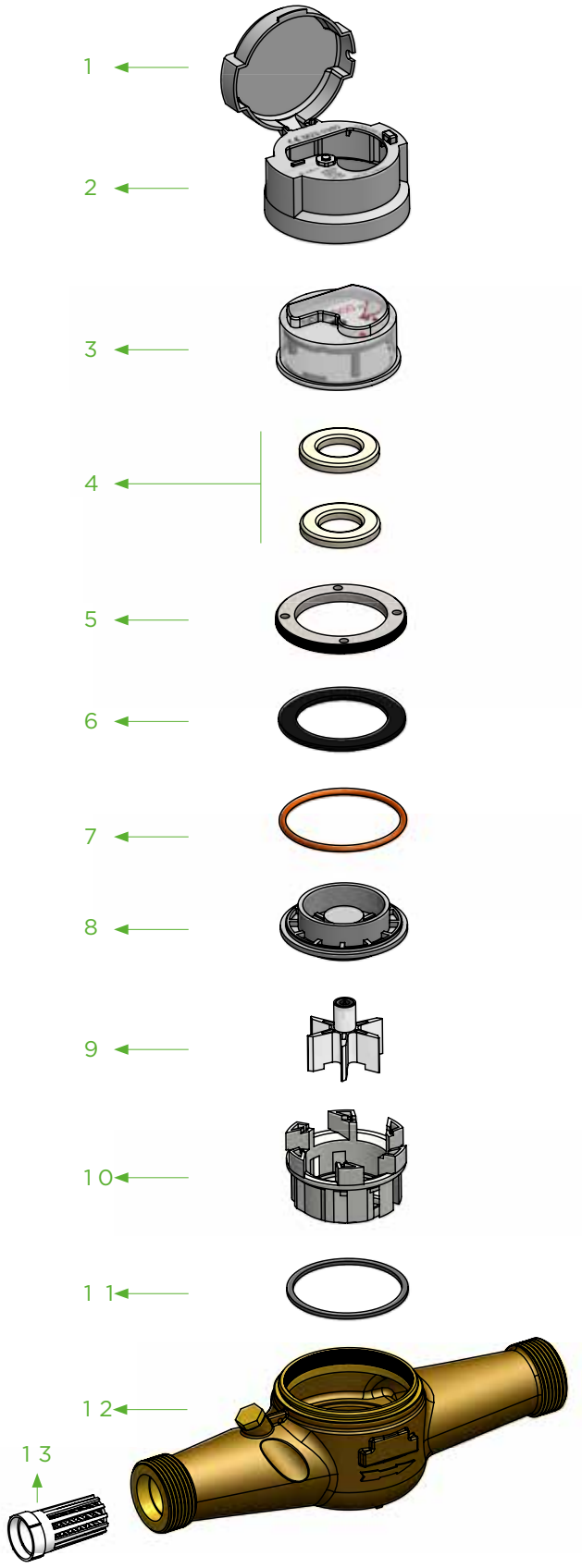
Pre-equiped

The dial of the meter has a pre-installation that allows the installation of a pulse emitter, without the need to stop the meter, this will give information on the reading.

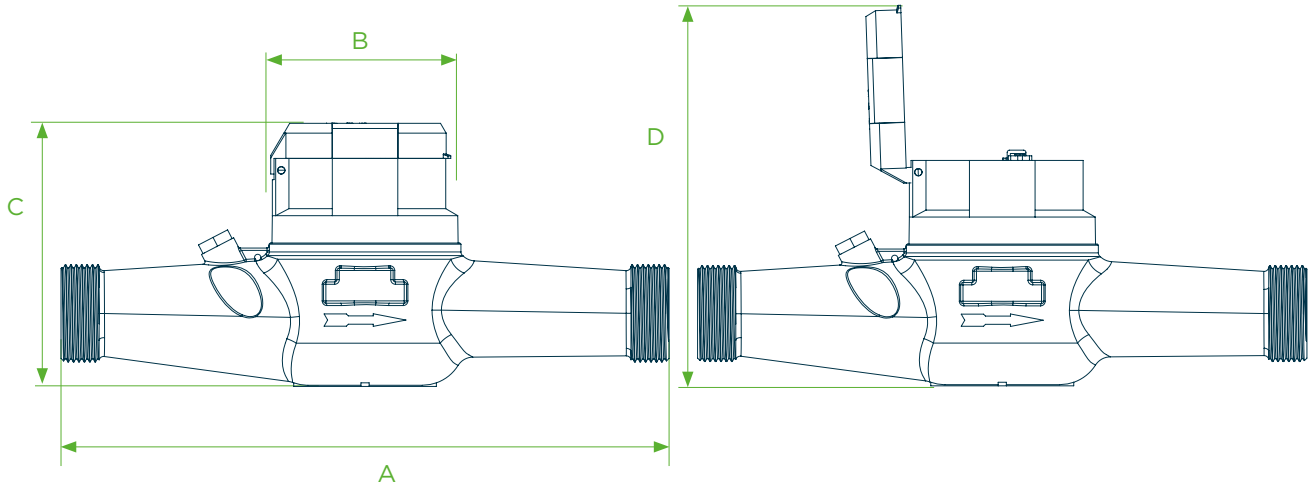
Dial

Disassembly

Nº	DESCRIPTION	MATERIAL
1	**Cover**	ABS
2	**Casing**	ABS
3	**Watchmaking**	Assembly
4	**Anti-fraud ring**	Iron
5	**Threaded ring**	Stainless steel
6	**Flat washer**	PE
7	**O-ring**	NBR
8	**Pressure plate**	Composite
9	**Propeller**	Assembly
10	**Distributor**	Composite
11	**Flat seal**	NBR
12	**Body**	Copper alloy or composite
13	Filter	Nylon



Dimensions



CALIBRE		A	A (with fittings)	B	D	C	WEIGHT WITH FITTINGS	WEIGHT WITHOUT FITTINGS	THREADED CONNECTIONS	MATERIAL
mm	in			mm				Kg		
15	1/2”	165	258	79	165	110	0,99	0,82	G 3/4” BSP	Brass
		165	258	79	165	105	0,52	0,47	G 3/4” BSP	Composite
20	3/4”	190	287	79	165	112	1,29	1,02	G 1” BSP	Brass
		190	287	79	170	110	0,61	0,53	G 1” BSP	Composite
25	1”	260	378	79	165	113	2,23	1,75	G 1-1/4” BSP	Brass

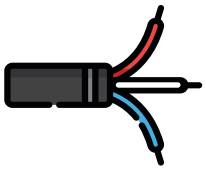
Packing

CALIBRE		PCS. PER BOX	DIMENSIONS PER BOX (CM)			GROSS WEIGHT	WATER METER MATERIAL
mm	in		Length	Width	Height	Kg	
DN15	1/2”	1	17,5	10,0	11,2	1,04	Brass
		10	51,4	18,5	26,5	13,42	
		1	--	--	--	--	Composite
		10	51,4	18,5	26,5	7,04	
DN20	3/4”	1	20,0	10,0	11,2	1,38	Brass
		10	52,9	21,4	27,8	16,88	
		1	--	--	--	--	Composite
		10	52,9	21,4	27,8	7,98	
DN25	1”	1	26,5	9,0	12,0	2,00	Brass
		10	56,5	27	15,4	14,12	

Pulse output

Compatible with wired pulse output (ARCE).

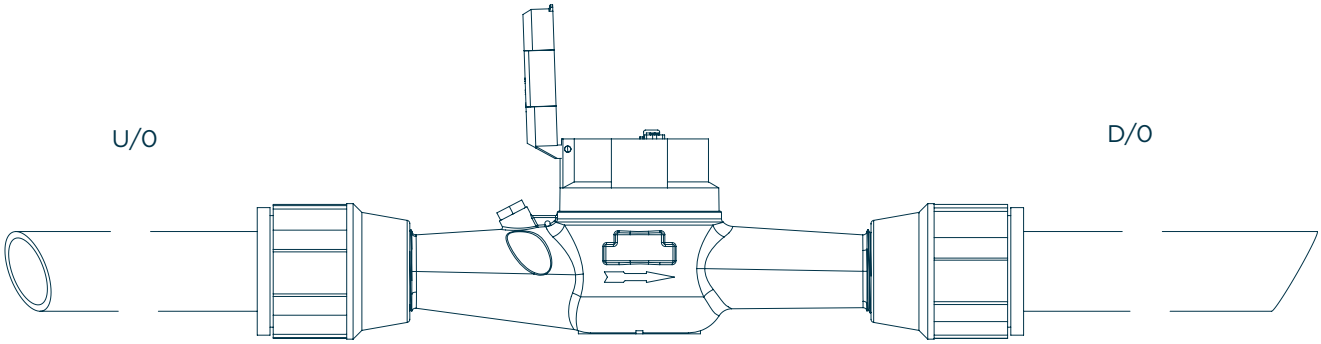
RELAY CHARACTERISTICS	
Pulse value	1 pulse 10L
Maximum resistance activated	5 Ω
Maximum load voltage	60 Vdc
Maximum load current	100 mA
Insulation voltage test	3750 Vrms



White = common.
Blue = positive pulse.
Red = negative pulse.

REV8

Installation diagrams



Installation instructions

Water meters should always be operated full of water. A minimum pressure of 0.3 bar is recommended at the outlet of the meter to ensure that it is completely filled with water. Install at a lower level with respect to the slope of the rest of the pipe, in this way, the formation of air pockets inside the pipe will also be eliminated.

If there is air in the pipeline, air release valves must be fitted to avoid incorrect readings. If the water in the pipeline contains large suspended particles, an initial screening filter should be installed.

Provide a shut-off valve upstream of the water meter to facilitate maintenance and/or repair of the meter.

Before installing a water meter in a new pipe, it is recommended to drain it to remove particles.

Do not force the water meter during installation, avoid tensile and torsion stresses, especially in the threaded connections.

Working conditions

WATER TEMPERATURE RANGE	MAXIMUM PRESSURE	
0,1 °C - 30 °C	≤ 16 bar	For brass body
	≤ 10 bar	For composite body

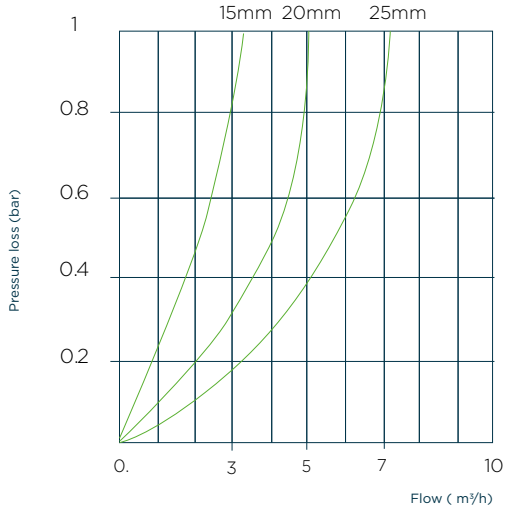
Maximum permissible error

RANGE	ERROR (%)
$Q_1 \leq Q < Q_2$	± 5%
$Q_2 \leq Q \leq Q_4$	± 2%

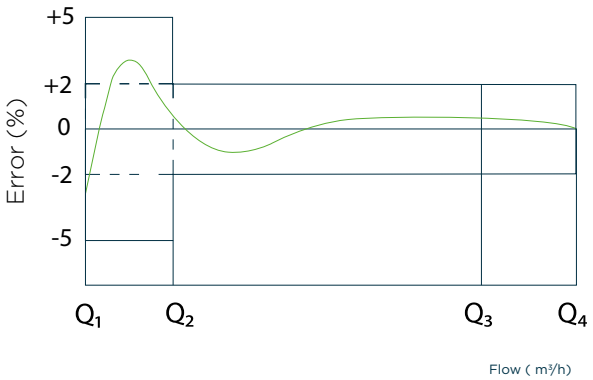
Technical specifications

CALIBRE		Q_4	Q_3	Q_2	Q_1	STARTING FLOW RATE	MINIMUM READING	MAXIMUM READING	RATIO	MATERIAL
mm	in	m^3/h		l/h		l/h	m^3			
15	1/2”	3,125	2,5	25	15,62	10	0,00005	99.999	R160H	Brass Composite
20	3/4”	5	4	40	25	10	0,00005	99.999	R160H	Brass Composite
25	1”	7,875	6,3	63	39,3	10	0,00005	99.999	R160H	Brass

Pressure loss curve



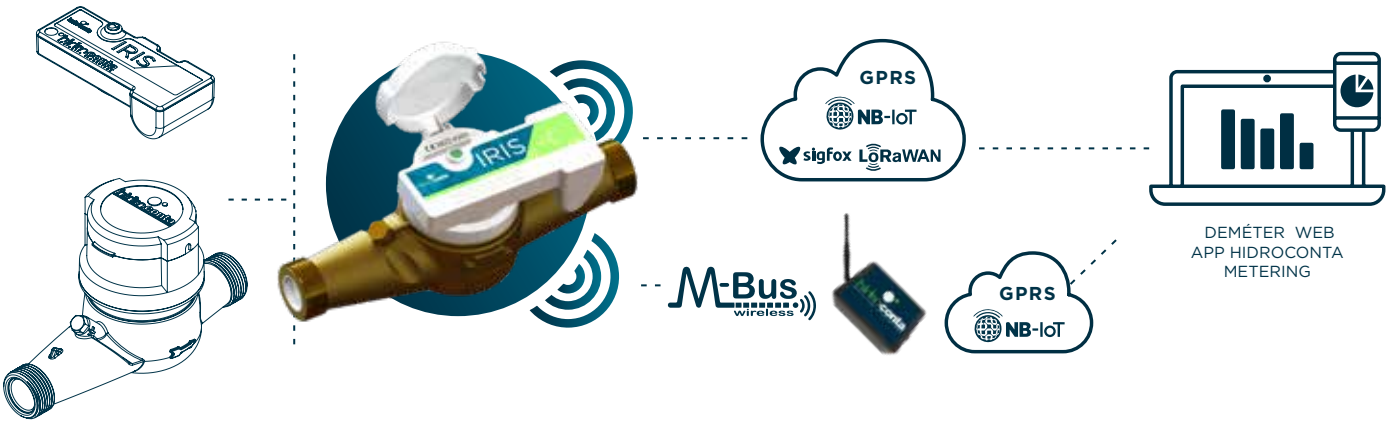
Flow error curve



Automatic meter reading

Adding the IRIS communications module to the water meter will enable automatic remote readings. IRIS devices allow mechanical meters to access the world of IoT communications. Its great versatility allows it to be integrated with a wide range of meters.

The IRIS communications module is integrated with the Demeter system. It supports the integration of a wide range of devices using various communication technologies to suit the needs of the installation.



NB-IoT	
Belts	LTE NB2/B1/B2/B3/B3/B4/B5/B8/ B12/B13/ B17/B18/B19/ B20/B25/B28/B66/ B70/B85
Transmission power	23 dBm +/-2dB
Firmware Update	Via FOTA

M-Bus
868 MHz
OMS T1 and C1

LoRaWAN		
Modulation	CSS	CSS
Frequency	EU868* ISM band	ISM band US915, AU915, AS923**/ ***
Power	14 dBm	20 dBm
Sensitivity	168 dBm	168 dBm
Bandwidth	125 kHz	125 kHz
LoRaWAN Configuration	SF12	SF12
Bidirectional	Yes/Half-duplex	Yes/Half-duplex
Encryption	AES128	AES128
Standardisation	LoRa-Alliance	LoRa-Alliance

GPRS	
Frequency	- Quad-band: GSM850, ESM900, DCS1800, PCS1900. - The module can search for these frequency bands automatically. - The frequency bands can be configured by AT command. - GSM Phase 2/2+ compliant
Transmission power	Class 4 (2W) on GSM850 and EGSM900 Class 1 (1 W) on DCS 1800 and PCS1900
Bidirectional	Yes/Half-duplex
SIM	MFF2 eSIM and nano SIM card supported

sigfox			
Geographical availability	RC1*	RC2**	RC4***
Modulation	BPSK	BPSK	BPSK
Frequency	Tx Freq. : 868.13MHz Rx Freq : 869.525MHz	Tx Freq : 902.2MHz Rx Freq : 905.2MHz	Tx Freq : 920.8MHz Rx Freq : 922.3MHz
Power	14 dBm (max) @600bps	+24dBm (max.) @600bps	+24dBm (max.) @600bps
Sensitivity	-127dBm @600bps	-129dBm(min.) @600bps	-129dBm(min.) @600bps
Bandwidth	100 Hz	100 Hz	100 Hz
Bidirectional	Limited/Half-duplex	Limited/Half-duplex	Limited/Half-duplex

Alarms

Reverse flow alarm:
Reverse flow detection. Only available for the inductive pulse version. Configuration adjusted by communications.

Leakage alarm:
Detection of continuous consumption for a maximum period of time. Configuration adjusted by communications.

Water meter stopped alarm:
The alarm is activated if no consumption is detected for a maximum period of time. Configuration adjusted by communications.

Under-dimensioned water meter alarm:
Detection of flow rate higher than the overload flow rate for a maximum period of time. Configuration adjusted by communications.

Water meter tampering alarm (tampering):
The alarm is triggered in case the device is not mounted on the meter. Only available for the inductive pulse version. Optional upon request.

Battery status alarm:
Various battery alarm levels are activated depending on the remaining battery life.

Functionality

Operating profiles based on the recording consumption and communications records requirements:

- Normal-24: Sending data every 24 hours and recording every hour.
- Normal-8: Sending data every 8 hours and recording every hour.
- Medium: Sending data every 12 hours and recording every 30 minutes.
- Extreme: Sending data every 6 hours and recording every 15 minutes.

MODE	AUTONOMY	COMUNICATION	DATA HISTORY RECORD
Normal -24	12 years	24 h	1 h
Normal -8	TBD	8 h	1 h
Medium	TBD	12 h	30 min
Extreme	TBD	6 h	15 min

* TBD (to be determined). 24 maximum storage and sending readings: each sending allows accumulating up to 24 values for each communication interval.

FAQs

1. Which is the diference between dry dial, wet dial and semi-dry water meter dial?

On water meters with dry dial the reading mechanism (clock) is tightly separated from the wet chamber of the meter.

On Wet dial water meter the watch is totally immersed in the fluid.

For water meters with semi-dry dial, the reading mechanism is totally immersed in the fluid but the dial is partially separated and protected by a sealed capsule.

2. What are the ranges of measurement and precision?

The measuring range of the meters is determined by the Directive MID 2014/32 / UE establishing the ratio between the value of the permanent flow (Q3) and that of the minimum flow (Q1). The water meter can measure up to the maximum flow rate (Q4) for short periods of time without deterioration.

The maximum permissible error, positive or negative, in volumes between the transition flow (Q2) (included) and the overload flow (Q4) would be 2% with a water temperature 30 ° C.

The maximum permissible error, positive or negative, in volumes between the minimum flow rate (Q1) and the transition flow (Q2) (excluded) would be 5%.

3. The MID directive and its compliance

The MID Directive (2014/32 / EU Measuring Instruments Directive) is a directive of the European Union whose purpose is to harmonize the diferent aspects of Legal Metrology in the member states.

The most important aspect of this directive is that equipment in possession of a MID certificate can be used in the EU.

4. How should the multijet water meters be installed?

HIDROCONTA multijet water meter do not require special installation conditions.

If you have any doubt about the installation of these equipments, it is recommended to follow the instructions indicated in the technical data sheet of the product.

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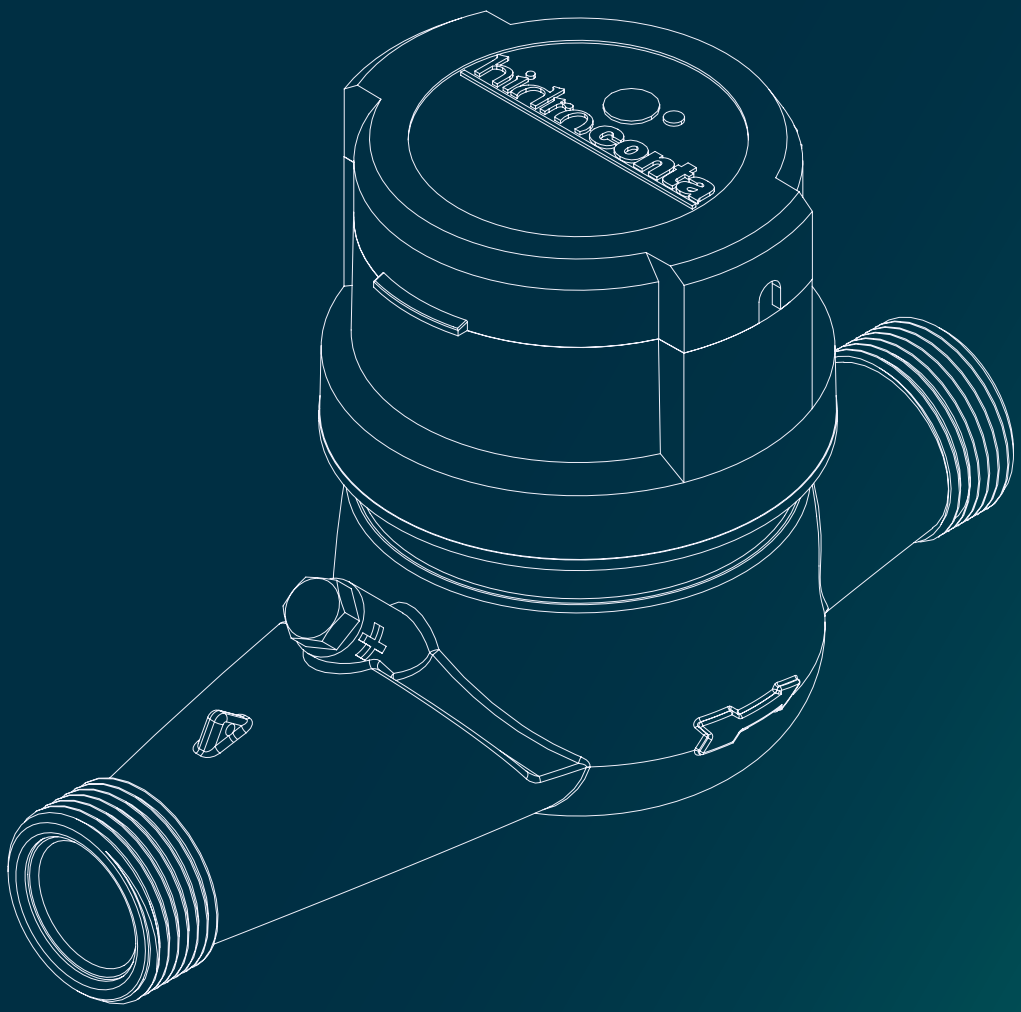

water meter
triton

Ctra. Sta Catalina, 60
Murcia (30012) España
T: +34 968 26 77 88

AENOR
GESTIÓN DE LA CALIDAD
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ER-0362/2000

CERTIFIED IQNet MANAGEMENT SYSTEM