product overview

1958 2008 50 YEARS OF MEASUREMENT. AND COUNTING.

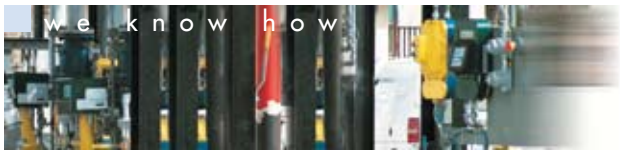
Isoil Impianti

oil product metering solutions

Our customers Albania: BALSH REFINERY, SAIPEM • Algeria: SONATRACH REFINERY SKIDDA, SAIPEM • Angola: SONANGOL LOBITO, C.T.I.P. • Argentina: NAVIPAR • Australia: LIQUIP SALES PTY LTD.,

ISOIL IMPIANTI

metering solutions for:



The solutions that count...

...this statement defines the values, driving force and motivation behind Isoil Impianti spa, which is of the upmost importance to our company's future.

- **We** aim to provide enhanced solutions and service, to meet the ever changing demands of our customers and of the petrochemical Industry.
- **We** want to provide our customers with pioneering systems, measuring solutions and service, up-to-date with the latest technologies.
- **We** want to supply our customers solutions that count within the measurement automation and flow control' field.
- **We** want to establish long lasting relationships with our customers based on mutual trust and understanding.

These are our goals. This committment involves and unifies everyone in our company.

1958 Foundation of Isothermic Swiss by Carlo Blumer and Pierluigi Guazzoni

1970 Foundation of Oil Meter Impianti and Oil Meter Elettronica for production and sales of Positive Displacement Meters and electronic control system

1981 Oil Meter has German PTB approval for custody transfer application

1985 Oil Meter Elettronica introduces MycroMatic, the first electronic field batch controller

1990 The Company changes its name into Gruppo Isoil

1993 Isoil obtains quality certification according to ISO 9001:2000

1999 Metior, a division of Isoil, is the first National Calibration Service in Italy for proving tanks and meters in accordance to the primary standards of European traceability

2000 The Company gives birth to two new companies: Isoil Impianti, focused on metering equipment for oil products, and Isoil Industria, for industrial instrumentation

2004 Isoil Impianti opens a sales office in East Asia

2006 Isoil Impianti opens China representative office

SHELL CO. LTD., SHELL AVIATION, MOBIL OIL LTD., MOBIL AVIATION, CALTEX OIL LTD., CALTEX AVIATION, ESSO LTD., AMPOL LTD., BP LTD., STATE RAIL AUTHORITY, ROAD TRAFFIC AUTHORITY , DEPARTMENT OF DEFENCE ARMY,

territories

Isoil Impianti is certified to ISO 9001:2000 quality standards and operates through a network of subsidiaries and representatives in key locations around the world.

markets

Our company is committed to expanding its presence throughout the world, offering its experience, gained in almost fifty years of operation and development.
Aware of the importance of service in providing quality customer support, we are constantly selecting and training new agents and distributors, working with them and assisting them grow, in order to offer our customers the best possible service and after sales support.
Thanks to these continuing efforts, Isoil has become the partner of most leading oil companies worldwide.

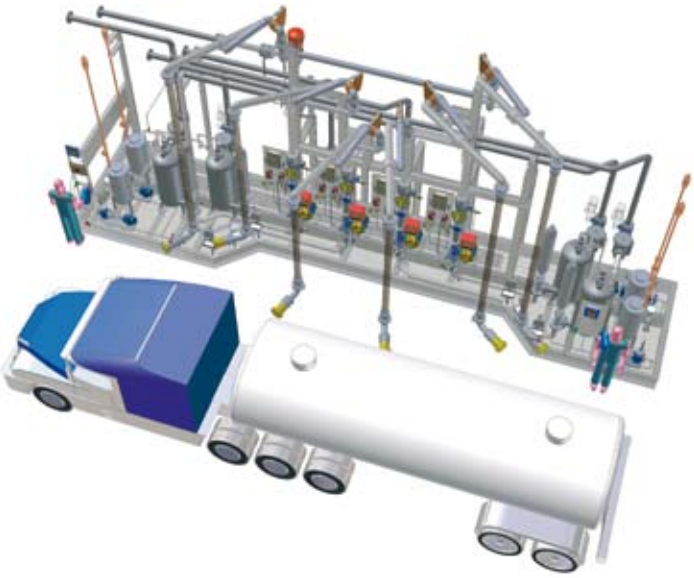
DEPARTMENT OF DEFENCE NAVY • Austria: AVANTI AG. WIEN, AGIP AUSTRIA - FÜRNITZ, AGIP AUSTRIA – ZIRL, SHELL AUSTRIA - LINZ • Azerbaijan: AZ PETROL – BAKU • Bangadlesh: SYLHET GAS

terminal & refinery:

terminal & refinery

ISOIL IMPIANTI

Our instruments are widely used on terminals for truck and train loading as well as for custody transfer lines.
We supply from single PD meter to complete multi arm skid mounted metering packages.



Belgium: PANTOCHIM S.A. FELUY, ANTWERPT DISTRIB. AND PRODUCT OPERATIONS (ADPO), STOKOTA, MONSANTO ANTEWERPEN, CORINS BENELUX/FLOWCOR • Bolivia: INSCOPET • Brasil: METROVAL - S. PAULO,

ISOIL IMPIANTI

Our metering systems are currently in service on many trucks running in several countries.
Specifically, truck measuring systems are designed to be light, compact,
accurate and meet the specification and approval requirements for use on board.
Portable systems are designed to measure oil products delivered by mobile tanks.

on truck :

ALTINBAS • Denmark TEXACO A/S, KUWAIT PETROLEUM A/S, HAAHK BENZIN A/S, ROYAL AIR FORCE, AMBA SHIPPING A/S, NATO PIPELINE SYSTEMS, SVENDBOR SHIPYARD, C.B.I, ENGINEERING - FREDERIKSUND,

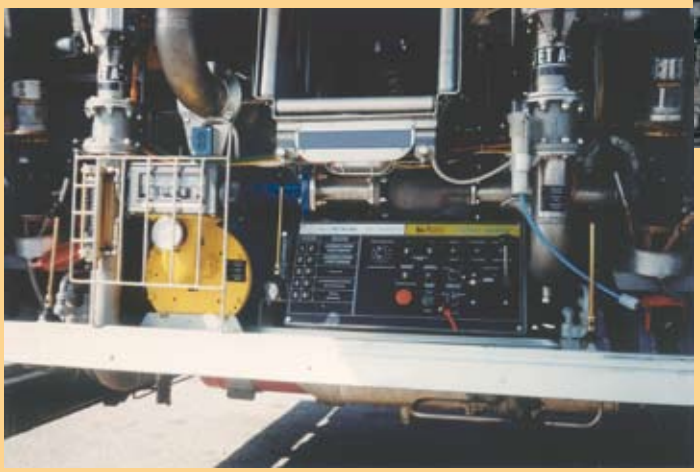
LOWENER, DANSK OLIE • Egypt: DELPCO CAIRO, PETROBEL CAIRO, TAREK BELAL SHEHAB CAIRO, LAB COMPLEX AMERYA REF. ALEXANDRIA, ESSO CAIRO, HYDROLEC • Estonia: CROODI

ISOIL IMPIANTI

Our instruments are extensively used on aircraft refuellers and dispensers, as well as portable or mobile applications for both commercial and military aviation applications. Our meters are specifically designed to meet the demanding applications and high accuracy standards required in the aviation market.

aviation:

TERMINAL, SCANTRANS • France: TOTAL PARIS, SODEXI PARIS, SAIMEX PARIS, POMPES MOUVEX PARIS, TITAN AVIATION • Germany: BADGER METER - STUTTGART, HERMANN EHLERS - OYTEN • Ghana: AGIP GHANA



Greece: ATLANTIS LTD PIRAEUS, BP HELLAS, MORAITIS GIAKOS PIRAEUS, FRIOMAR CO. PIRAEUS, ELMEC ATHENS, EKO ELDAMAC BETON HELLAS ATHENS, DEMAR MARITIME - PIRAEUS,

ISOIL IMPIANTI

Marine and refinery pipelines often move vast quantities of product at high speed and for such applications large meters are used.
Our meters are used in refineries, on docks and on board for both clean and black products.

marine:

MAGAS DUX MARINE PIRAEUS, MOTOR OIL HELLAS - CORINTHOS, SHELL CRETA, SILK OIL CRETA, SHELL, AVINETEKA, PETROLA HELLAS, EUROGAS, T.C.B., S - PETROL • Hog Kong: CHINA RESOURCES,

PETROLEUM AND CHEMICALS CO., JARDINE SHIPMENT MANAGEMENT • Holland: MAR-IN CONTROLS B.V. ROTTERDAM, ICI RESINS – WAALWIJK, ELVEBA • Hungary: CHEMOKOMPLEX BUDAPEST,

we know how:

ISOIL IMPIANTI

More than 40 year experience allows us to understand and solve customer's needs and requirements for light petroleum measurment. By understanding customer's procedures, we can provide turn key solutions that do not interfere with the daily operations, enhancing measuring and movement efficiency and control.
This includes the latest (and more restrictive) safety procedures.

As a full package solution provider, we can design, construct, test and commission systems. Our turn key solutions include skid mounted systems, that can be tested and commissioned at our production facility, allowing fast and trouble free on site installation with minimum inconvenience to existing operations.

Isoil Impianti has full certification for PED (Pressure Equipment Directive), Explosion Proof and Metrological Certification approval for Europe, China, Russia, South Africa, Australia and many other countries.
With such certifications and with our independent certified calibration laboratory, we are the right partner to provide appropriate, reliable and cost effective custody transfer solutions.

With technology packages such as 3D Autocad, trained and experienced engineers and certified sub-suppliers, Isoil Impianti tailors solutions to meet the customers' requirements by working together as a team.
Isoil Impianti has recently designed, built and commissioned several skids for truck and train loading, additive injection and bespoke applications.

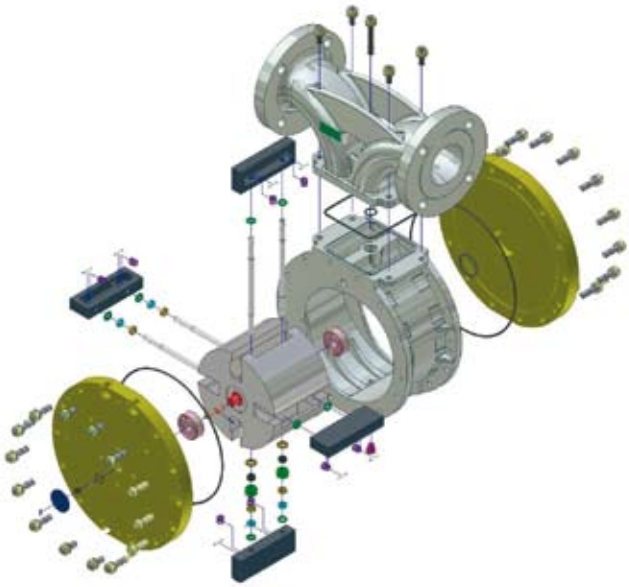
PERFECT AGIO, SHELL • India: STANDARD CASTINGS, BAHRAT PETROLEUM • Indonesia: PERTAMINA • Iraq: SOUTHERN REFINERIES BAGHDAD • Iran: N.I.O.C. TEHERAN, ARAK PETROCHEMYCAL CO.,

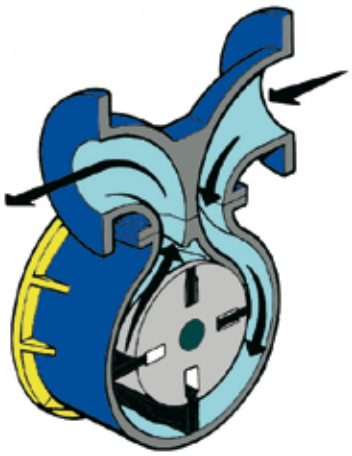
truck/railcar loading skid

additive injection skid

metering skid

Isoil Impianti BM range of meters achieves excellent accuracy, better than 0.1% with a repeatability of 0.01% over a 10:1 turndown. When a mechanical head is mounted on the meter, a calibration mechanism is supplied to calibrate the specific product used as the initial calibration is done with standard 1 cSt fluid.
With an electronic counter, a calibration mechanism is not necessary as the calibration is achieved by the input of a K-factor.
With our Vega electronic head, calibration can be set for a specific flow rate to make the meter even more accurate. Isoil's meters together with the Vega counter are widely used as Master Meters to calibrate meters of all types.





meters:

model	size	accuracy	repeatability
SBM 32	11/2″	±0.2%	±0.04%
SBM75	2″	±0.15%	±0.02%
SBM150	3″	±0.1%	±0.01%
BM200, BMD200, BMV200	3″	±0.1%	±0.01%
BM400, BMD400, BMV400	4″	±0.1%	±0.01%
P4000	4″	±0.15%	±0.02%
S9000	4″	±0.15%	±0.02%
BM600, BMD600, BMV600	6″	±0.1%	±0.01%
LBM1000	8″	±0.15%	±0.02%
LBM3000	10″	±0.15%	±0.02%

products :

single case carbon steel meters
BM - BMV - P4000

Flow rate from 100 to 4,000 l/min
Standard size: 11/2", 3", 4" and 6"
Installation vertical or horizontal
Carbon steel case
Typically for ground installation, aviation refueller, medium big terminal, marine application

single case aluminium meters
SBM

Flow rate from 30 to 1,500 l/min
Standard size: 2", 3"
Installation vertical or horizontal
Aluminium case
Typically for on board installation, military aviation, small terminals

double case meters
BMD and LBM

Flow rate from 50 to 16,000 l/min
Standard size: from 2" to 10"
Double case carbon steel
High pressure rating up to 10,000 kPa
Typically for high pressure application for marine, pipeline, big terminals

gravity / pump & gravity meters
S9000/SBM150G

Flow rate up to 1,000 l/min
Standard size: 3" and 4"
Installation horizontal
Aluminium case
Pneumatic 2 stage air elimination system including preset valve

LPG meters
BM/LPG and SBM/LPG

Flow rate from 50 to 2,500 l/min
Special dynamic seal for LPG
Standard rating 2,100 kPa
Designed for LPG application both on truck and on terminals

single case stainless steel meters
BMX and MK2

Standard size: from 2” to 6”
Single case stainless steel meter for high grade liquid compatibility
SS316 case and inner parts
Leak-proof magnetic seals
Typically for chemicals application

electronic register
Vega II

Full function head
Rugged case
On board or remote mounting
Totalizer, temperature volume compensator, preset register, error meter linearization
Host computer and printer communication
ATEX approved
24 Vdc or 110 Vac or 230 Vac power supply
Designed on OIML conformity

electronic register
Vega T

Light compact case
Remote mounting
Totalizer, temperature compensator, preset register, error meter linearization
Host computer and printer communication
ATEX approved
24 Vdc or 110 Vac or 230 Vac power supply
Designed on OIML conformity

mechanical register
V/R 7887

Standard Veeder Root mechanical register
Reading in litres, gallons or other units of measurements
No power supply required
Worldwide standard

temperature volume compensator
Vega heads and CMT

Converts liquid volume at ambient temperature (gross volume) to volume at standard temperature (net volume).
Vega is an electronic temperature compensator device to mount on board or remotely.
CMT is a mechanical temperature compensator device to mount on board only and no power supply required.

products:

mechanical preset register
V/R 7889

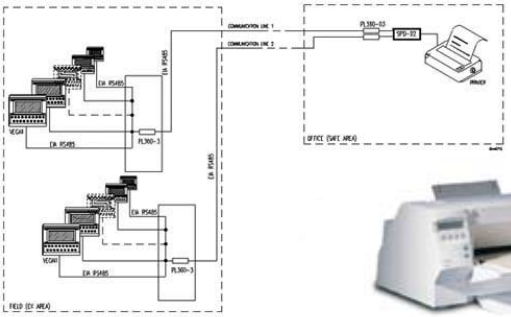
Standard Veeder Root mechanical preset register
No power supply required
Mechanical linkage to the preset valve
Pneumatic or electrical switches

mechanical ticket printers
V/R 7498-7951

Standard Veeder Root mechanical ticket printer
Zero start or accumulative

electronic ticket printers
ST series

Electronic single ticket printer for safe area
Used in conjunction with single Vega head
RS232 serial port communication (RS422 or RS485 with converter)
ST301 is with rugged stainless steel casing with cover



printing system
Sharing Printing Device, dot matrix printer

Electronic ticket printer for safe area
Used in conjunction with a network of Vega heads
Direct RS422 or 485 connection
Up to 32 Vega connected with one printer
Continuos paper feed
Multiple copy paper allowed

pulse emitters
EM345, EM1264, EM6422

EM345 to mount inside V/R register
EM1264 to mount between the V/R register and the meter
EM6422 to mount on the meter shaft
For metrological applications

read out device
LFD and ROF

LFD-6 Large Figure Display is a remote EX proof totalizer with high efficiency LED display
ROF is a mechanical rate of flow indicator to mount on board

pneumatic or mechanical preset valve
V705, V705/P, V735

Size 2”, 3” and 4” as standard
Aluminium or carbon steel case
Mechanical valve with or without check valve built in
Ready to be connected with standard V/R head
Pneumatic valve with 2 stage shut off and opening

diaphragm control valve
Ise and Isovalve

Size from 3” to 10”
Carbon steel body
Diaphragm type suitable for all types of flow and pressure
Control as 2 stage, digital, non return pressure relieve, etc.

strainers
SFA, FA and FY

Standard size: from 2” to 10”
Carbon steel or aluminium or stainless steel body
SS316 filter basket
From 20 to 150 mesh filter basket
Typically for using with PD meters

strainers air eliminators
SFDA, SAS and FDA

Standard size: from 2” to 10”
Floating system air eliminator
Carbon steel or aluminium or stainless steel body
SS316 filter basket
From 20 to 150 mesh filter basket
Typically for using with PD meters

Spain: CLH, CAPESA - BARCELONA, SAROIL, TERMINALES PORTUARIOS, EUROENERGO, BP, IBERFLUID S.S. BARCELONA, IESSEBI ALGORTA, PAULAR MADRID, REPSOL PETROLEO REFINERIA DE ESCOMBRERAS CARTAGNA

grounding systems
MT30

To earth a tank truck filled during loading / unloading operations of no-conductive liquid (e.g. hydrocarbon or solvents)
ATEX approved
Capacitive & resistive working principle
High efficency LED signalling with relay outputs
Programmable via transponder
Complete with self-releasing clamp, cable and cable roller

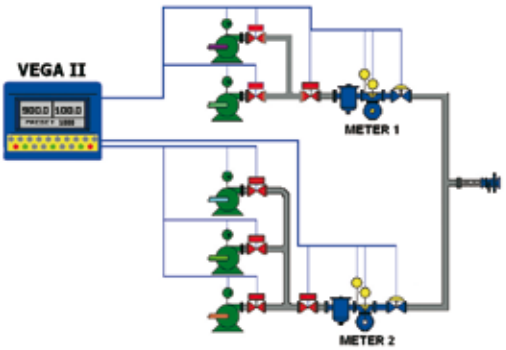
additive injection system
MBS

System for single or multiple additive
Stainless steel piping and components
Complete with gear meter
ATEX approved
Bespoke solutions for LPG

Vega II blending controller

Full specs register, with built in blending controller:
- sequential blending
- side stream blending
- ratio blending

host computer and printer communication
ATEX approved
24 Vdc or 110 Vac or 230 Vac power supply designed on OIML compliance

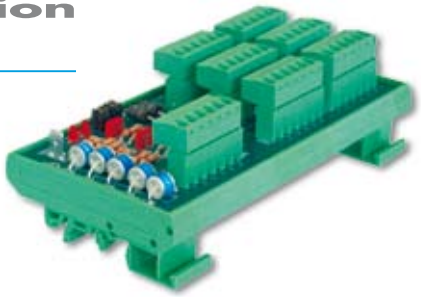


badge reader for terminal automation
Helios

Standard magnetic card or reader/writer chip card
4 x40 display and 16 keys keyboard
Atex approved
N°2 RS232/422/485 communication lines
Badge interlock remotely controlled
To use in conjunction with a Personal Computer software

serial port protection
PL and Protecs

To use in conjunction with Vega head
Serial port protection for extra-voltage
Suitable for RS232, RS485 and RS422
DIN rail mounting
Primary protection 90V 10KA
Secondary protection 1,5 KV 1 msec
High rate 64 Kbit/sec.



products :

software:

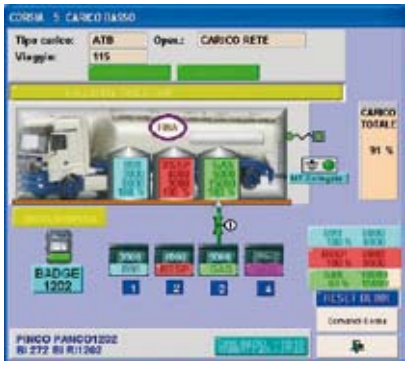
Isoil Impianti, with its associate company Oil Meters Sistemi, as a full automation supplier, is aiming at reaching the following goals:

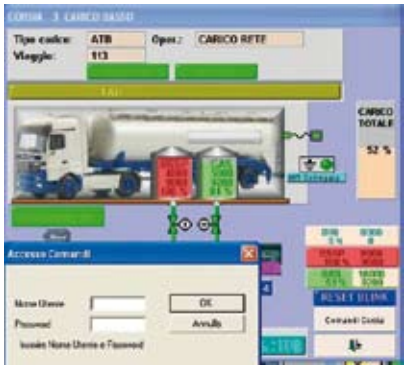
- automation tool development for oil products handled in storage and refineries facilities;
- study and propose solutions to solve specific automation needs;
- software implementation, installation and servicing.

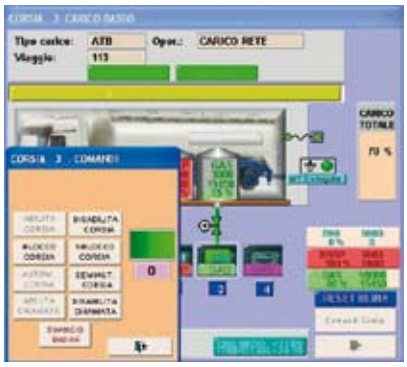
The offered solutions are based on a system architecture using standard hardware and software components, simplifying the system maintenance and granting a safe protection of the investments.
This grants a high modularity, both hardware and software, allowing the choice of the solution accomplishing the customer's current needs and having the opportunity of adding further features in the future to satisfy the customer's modified needs.
A specific software is dedicated to truck (both top and bottom loading) facility automation.
Such a system is based on the VEGA series electronic counter and (optional) HELIOS badge reader.
Software shows the operator, via coloured graphics synoptic diagrams, information about the current loading data and alarms, allowing a faster intervention on the plant if needed, granting the loading operations are performed according to the safety procedures.
All the data regarding loading are stored in the memory and are available both for statistics, for printing the loading data and for the host computer handling the invoicing.
It is suitable both for small size operations and much bigger ones with the following modules:

- PIN management, truck loading data management, operator functions
- Graphic Synoptic Diagrams
- Helios badge reader identification
- Truck access management
- Host computer interfacing
- Tank level supervision
- Pump management

Almost any kind of customisation may be realised on request, according to the specific needs of the application.







Tunisi: SITEP TUNIS, SOCIETE NATIONALE DE DISTRIBUTIONDE PETROLES • Turkey: AKFEN ANKARA, PETROL OFISI A.S. ANKARA, PETROL OFISI A.S. ISTANBUL (airport), ISDEMIR TURKIYE ISKENDERUN, M.S.B. NATO ENF. DAIRE ANKARA,

calibration:

All PD meters manufactured by Isoil are individually calibrated and tested on a test bench using a calibrated tank with a volume corresponding to the volume measured by the meter at the maximum flow rate in two minutes work time.
Isoil Impianti's testing room is officially approved as SIT Centre (Italian System of Indipendent Calibration Laboratory) for positive displacement meter calibration and for calibrated tanks as well.
In order to allow periodical calibrations of its PD meters on site, **Isoil Impianti** provides two easy and reliable tools:

Proving tanks

Available from 10 litres up to 25,000 litres size, the calibrated tanks manufactured by **Isoil Impianti** are suitable for the periodic calibrations of the flow meters.
They are available both in carbon Steel and Stainless Steel, according to the application requirements.
In order to allow to use just one tank for several meters, the **Isoil Impianti** tanks are also available on wheels, to move easily around the depot, thus reducing the number of proving tanks required.

Master Meters

A good alternative to the calibrated tanks is the master meter, i.e. a PD meter manufactured with very strict tolerances and, therefore, granting higher accuracy.
The master meter is very carefully calibrated on several points of the working flow range and comes out together with a diagram stating precisely the error curve which, therefore, can be taken into account while calibrating other flow meters by comparison.
To aid mobility, master meters can be trolley mounted, with the option of hoses and couplers.

SGS REDWOOD, MOD, CABINMARK LTD, JORDAN KENT MS, WARNER LEWIS • United Arab Emirates: ALI TARISH - ABU DHABI, GULF COMM. GROUP - DUBAI, SEDANA - ABU DHABI, T.P.C. - ABU DHABI, TECHNICAL PARTS - ABU DHABI

www.isoilmeter.com

ISOIL IMPIANTI

The solutions that count

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