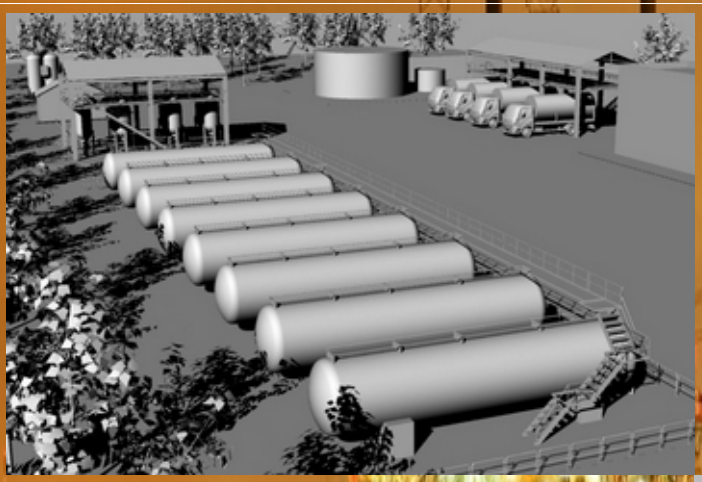
MARU
LPG SOLUTIONS

DESIGN
ENGINEERING
IMPLEMENTATION

2024



LPG STORAGE TERMINAL

AUTOGAS STATIONS

CYLINDER FILLING PLANTS

Your LPG Solution Partner

ETTGAS HARMONY IN PARTNERSHIP

MARU LPG ENGINEERING

Besides the Japanese translation of the word, which means round/circle, MARU is a collective of professionals teamed up to form the "perfect" circle. We engineer requirements of our clients via thorough studies and research, re-create their dreams and finalize this intense process by implementing these re-creations onto their products and/or facilities.

Located in industrial and financial capital, Istanbul, MARU team has fast and easy access to the main industrial zones in Turkey. Having worked in the sector for more than 20 years, our team is well-experienced with precise and divers product requirements – of both domestic and international LPG/GAS professionals – ranging from tanks, filling equipment and valves to consumables for convenience stores in addition to miscellaneous services such as design, engineering and implementation of products/projects tailored to specific needs.

We keep introducing up-to-date high-tech solutions to our clients from all over the world.

TURNKEY PROJECT MANAGEMENT

No matter what you plan to do in LPG business, just let us know your target, we will design, engineer, manufacture, install and deliver to you ready to start.

FROM SCRATCH TO START

Whether it is an Autogas Station, a Desulphurization Plant or a Cylinder Filling Plant, our experienced team of engineers design it for you and our field team makes it happen.

LPG STORAGE TANKS

Above Ground Tanks

Storage capacities starting from 5 cubic meter to 250 cubic meter enable our customers to perform a flexible production, while high performance coating applications in accordance with EN 12944 ensure durability.

NDT testing (radiographic, penetrant, ultrasonic, magnetic particle and such) of our tanks guarantee an efficient, safe and long-term operation.

LPG STORAGE TANKS

Under Ground Tanks

Storage capacities starting from 5 cubic meter to 250 cubic meter enable our customers to perform a flexible production, while high performance coating applications in accordance with EN 12944 ensure durability. With a new design of man-holes, we assist our clients save space during transportation.

Our cathodic protection system prolongs the life span of underground tanks for decades, hence stored product quality can be preserved rust-free for many years

NDT, non-destructive testing, (radiographic, penetrant, ultrasonic, magnetic particle and such), of our tanks guarantee an efficient, safe and long-term operation.

LPG STORAGE TANKS

Domestic Tanks

As the name signifies, domestic tanks are mainly used for daily household tasks such as heating, cooking and hot water, or light industrial purposes.

In areas where there is no fuel transmission networks and standard LPG cylinder capacities remain incapable or inefficient, our “Domestic Tanks” require very small installation spaces and provide an economical solution for buildings. In addition to living areas such as villas, farms, housing estates, “Domestic Tanks” can conveniently be used in commercial structures such as shopping malls, factories and warehouses for various purposes as well.

LPG STORAGE TANKS

Desulphurization Tanks

In order to reduce the sulphur content of LPG for very specific purposes such as to use in propellants in cosmetics sector; or to use in gas mixtures that are used to inflate isolation foams in building materials industry; or in refrigerants in white goods sector, these special tanks utilise very specific minerals. Purified output provides corrosion and exhaust emissions less than 6 m/nm³. Single or twin tower, serial or parallel versions are available.

With our expertise of years and know-how on these types of tanks, we meticulously design and engineer in accordance with your requirements of the final output LPG quality.

LPG STORAGE AUTOMATION

Gas Detection

Gas Detectors are compatible with appreciated MARU PLC Control Panels.

Ensures safety of your LPG tanks, stations and plants.

In case of emergency, shuts off the whole system accompanied by visual and audial alarms.

PLC Control Panel

Especially developed for our LPG storage tanks, Maru PLC Control Panel enables you to save money by buying only the module needed.

Customise without any extra charges when you change accessories such as probes or level gauges. Provides perfect software-hardware integration

Mass Flow Meter

Industrial operations often consume a lot of LPG at a very fast rate. For these purposes, MARU provides you the Mass Flow Meter, a unique device which is used to measure the mass of LPG consumed in different applications in the manufacturing process. The highly sensitive sensors giving us a direct measure of the flow of liquid or gas in the pipe pick up and analyse flow changes.

LPG STORAGE AUTOMATION

Magnetic Level Gauge

An economical solution for level measurement.

Can be used in vertical or horizontal position.

Sends data to panel via transmitter.

Probe

The magnetic ring moving vertically along the probe generates a smooth and accurate measurement without problems, for years.

A more accurate way to measure tank levels.

High quality and durable product made in Italy.

Transmits data to PLC Control Panel easily.

Radar

This is the most accurate solution for measuring tank levels.

Has no moving parts, thus never has mechanical problems caused by dirt or corrosion.

Uses high frequency microwave pulses to measure tank level very precisely.

Can transmit data via bluetooth or cable.

LPG TRANSPORT TANKS

Semi-Trailer Tanks

Used to transport relatively high amounts of LPG where high filling needs are present, semi-trailers should combine safety and efficiency needs of ground storage tanks with vehicle safety, operational reliability and low maintenance needs.

We offer manufacturing standards in line with ADR, TPED, EN 12493, ASME and CODAP.

LPG TRANSPORT TANKS

Standard Semi-Trailer Tank Specs

No.	Tank Volume	Tank Diameter Ø mm	Tare Weight kgs	Total Length mm	Total Load (Propane) kgs	Total Load (Mix A1) kgs
1	38 m³ (P355)	2250	9600	10000	15960	18000
2	40 m³ (P355)	2350	10300	10000	16800	19000
3	42 m³ (P355)	2350	10700	10500	17650	20000
4	45 m³ (P355)	2420	11100	10000	18900	21400
5	45 m³ (P460)	2420	10500	10000	18900	21400
6	47 m³ (P460)	2420	11500	10500	19740	22370
7	48 m³ (P460)	2450	10900	10500	20155	22850
8	50 m³ (P460)	2420	12000	11300	21000	23800
9	55 m³ (P460)	2350	14500	13000	23000	26200
10	57 m³ (2 axles)	2450	12600	12600	23950	27150
11	65 m³ (4 axles)	2550	16000	16000	27300	30950
12	78 m³ (P460 - NJ2)	2550	18000	18000	32750	37150

LPG SKID SYSTEMS

Skid Dispenser Systems

Skid LPG Systems are ideal to use in rural areas or for new businesses where low capacity is required. As the system is self-contained – i.e. a combination of storage tank and disposer or filling equipment with scales with all wiring and piping components installed within a 40 feet container size – there is no need for any type of construction. It is as easy and safe as to use just like Plug & Play computer equipment.

Designed to be a miniature LPG Autogas Station, Dispenser Systems are preferred in remote residence or construction areas where other means of fuel transmission networks are unavailable.

LPG SKID SYSTEMS

Skid Scale Systems

Skid LPG Systems are ideal to use in rural areas or for new businesses where low capacity is required. As the system is self-contained – i.e. a combination of storage tank and disposer or filling equipment with scales with all wiring and piping components installed within a 40 feet container size – there is no need for any type of construction. It is as easy and safe as to use just like Plug & Play computer equipment.

Scale Systems are designed to refill LPG cylinders preferred in remote residence or construction areas where other means of fuel transmission networks are unavailable.

For these systems, either mechanic or electronic filling equipment can be preferred.

LPG FILLING EQUIPMENT

Cylinder Filling Carousels

A revolving frame system on which cylinder filling machines are mounted.

Provides speed and ease for cylinder filling operations.

Compatible with any LPG cylinder filling scale.

Driven by an Ex-Proof motor redactor selected in accordance with required filling capacity and speed of chain conveyor.

Pneumatically controlled input mechanism used for loading cylinders on filling machine between conveyor and carousel.

Equipped with a bottom ventilation system to continuously remove accumulated gas concentration present during operation

Main Technical Specifications

12 Sections Carousel Filling Capacity : 600-700 cylinders per hour, ø 3650 mm

18 Sections Carousel Filling Capacity : 900-1050 cylinders per hour, ø 4800 mm

24 Sections Carousel Filling Capacity : 1200-1400 cylinders per hour, ø 5800 mm

30 Sections Carousel Filling Capacity : 1500-1700 cylinders per hour, ø 6950 mm

36 Sections Carousel Filling Capacity : 1800-2100 cylinders per hour, ø 7800 mm

9 sections & 42 sections also available.

LPG FILLING EQUIPMENT

Mechanic Filling Scales




- Long-life & Durable
- Easy Installation & Use
- Adjustable to Different Type of Cylinders
- Tested Security System
- Low Maintenance & Service
- Low Air Consumption

LPG FILLING EQUIPMENT

Electronic Filling Scales

An advanced technology for filling cylinders of all sizes.

Extremely accurate results.

Best solution for calculating your daily/weekly/monthly or annual gas consumption.

Best solution for calculating your bonuses on time.

Can transmit data to computers via wired/wireless connections.

The software manages your data and controls of your whole plant.

Alternatively, you may prefer the printer-version which does not need a computer; but prints same accurate data whenever you wish.

LPG DISPENSERS & EQUIPMENT

LPG Dispensers

Our range of products includes LG Dispensers with 1 nozzle up to 4 nozzles, all certified in compliance with internationally accepted safety standards, ATEX, MID and CE.

LPG DISPENSERS & EQUIPMENT

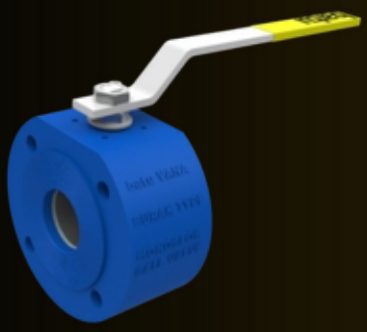
Transfer Pumps

Max Operation Pressure	: 35 Bar
Ambient Temperature Range	: -30°C to +50 °C
Maximum Capacity	: 6,6 m³/h
Maximum Speed	: 1500 rpm
Inlet Size	: PN40 DN65 Flanged
Outlet Size : PN40 DN32 Flanged	Outlet Size : PN40 DN32 Flanged

Gas Compressor

Max Working Pressure	: 24 Bar
Max Transfer Capacity	: 57,5 m³/h
Motor Power	: 11 kW
Transfer Capacity	: 770 l/min

VALVES

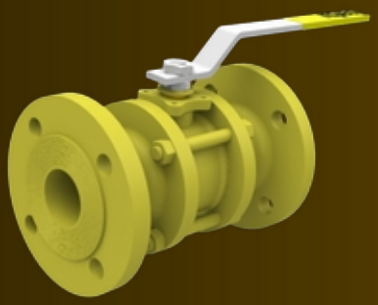


Monoblock Ball Valve

DN15 - DN150
DIN 2545 - 2635 (EN1092-1)
PN16 - PN40
CARBON STEEL BODY & STAINLESS STEEL BALL (FULL ST. STEEL AVAILABLE)
FULL BORE & FIRE-SAFE
-29°C to +180°C
HAND-LEVER OPERATED (ACTUATOR & GEAR-BOX AVAILABLE)

Flanged Ball Valve

DN15 – DN250
DIN 2545 - 2533 (EN1092-1 & 2)
PN16 - PN40 FLANGED
CARBON STEEL BODY & ST. STEEL BALL (FULL ST. STEEL AVAILABLE)
FULL BORE
-29°C to +180°C
HAND-LEVER OPERATED (ACTUATOR & GEAR-BOX AVAILABLE)



Threaded Ball Valve

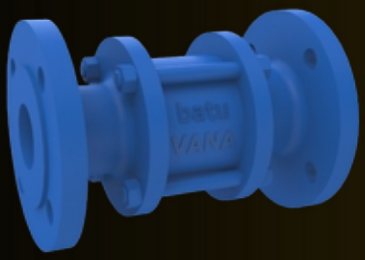
DN15 - DN50 (1/2" - 2")
DIN 2999 (EN10226-1)
PN16 - PN40 THREADED
CARBON STEEL BODY & STAINLESS STEEL BALL (FULL ST. STEEL AVAILABLE)
FULL BORE
-29°C to +180°C
HAND-LEVER OPERATED (ACTUATOR & GEAR-BOX AVAILABLE)

3-Way Ball Valve

DN15 - DN200
EN1092-1 & 2 / EN558
PN16 - PN40 FLANGED or THREADED
CARBON STEEL BODY & STAINLESS STEEL BALL (FULL ST. STEEL AVAILABLE)
FULL BORE
T-TYPE or L-TYPE BORES OPTIONAL
-29°C to +180°C
HAND-LEVER OPERATED (ACTUATOR & GEAR-BOX AVAILABLE)

VALVES

Check Valve



DN15 - DN200
DIN 2533 - 2545 (EN1092-1 & 2)
PN16 - PN40 FLANGED or THREADED
CARBON STEEL BODY
STAINLESS STEEL BALL & SPRING
-29°C to +180°C

Flanged Strainer

DN15 - DN200
DIN 2533 - 2545 (EN1092-1 & 2)
PN16 - PN40
CARBON STEEL BODY & STAINLESS STEEL FILTER
CAST & DUCTILE IRON ALSO AVAILABLE
-40°C to +400°C

Sight Glass

DN15 - DN250
DIN 2533 - 2545 (EN1092-1 & 2)
PN16 - PN40 FLANGED or THREADED
CARBON STEEL BODY (FULL ST. STEEL & CAST IRON AVAILABLE)
TEMPERED or BOROSILICATE GLASS
-30°C to +250°C

FLANGES & FITTINGS

Butt-Welded Flange

STEEL

DN15 - DN500

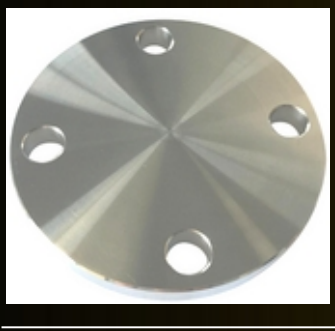
PN40

Flat-Faced Flange

STEEL

DN10 - DN600

PN40



Blind Flange

STEEL

DN10 - DN600

PN40

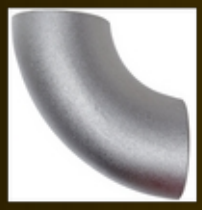
Elbow 90º & 180 º Angle

Ø 20 mm to 812,8 mm

DN2605 3 D

TS2649/1

TS EN 10253/1



T-Fitting

Ø 21,3 mm to 323,9 mm

DN2615

TS2649/6

MARU ENGINEERING, CONSULTING, EXPORT & IMPORT LTD.

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