



ENERGY & PROCESS SOLUTIONS

Elegant & Intelligent Solutions for the Energy Transition

EQUIPMENT & SOLUTIONS PORTFOLIO

COMPRESSORS AND PACKAGES • VALVES • HEAT EXCHANGERS



Q-boss Energy and Process Solutions is a specialised Australian-based equipment solutions provider formed to source and support our clients in the region and internationally with world-leading innovative, highly reliable, money-saving equipment and process solutions in the energy (oil and gas, blue hydrogen, green hydrogen), chemicals and process, mining, industrial gases, and refrigeration industries.

We are committed to long-term relationships with you, our clients, and are therefore committed to the utmost care in the quality of our solutions in equipment supply and the supporting process engineering design. We pride ourselves on offering you reliable and durable products and equipment of the highest global quality and reliability that optimise our clients' Total Cost of Ownership.



Elegant & Intelligent Solutions for the Energy Transition

S E R V I C E S

- Support from the feasibility design, PMC and FEED stages onwards
 - Technical and commercial firm and budget quotations
 - After sales and original spare parts

V A L U E A D D E D

- Quick and prompt feedback
- Reliable products from selected top quality Partners (Italy, Europe)
 - Customised products according to clients specifications
 - ISO 9001:2015 Certified
- Cost saving customised solutions

O U R C L I E N T S



O U R P A R T N E R S



Dedicated product brochures and references are available on request.

PRODUCTS

COMPRESSORS AND PACKAGES SOLUTIONS

VALVES

HEAT EXCHANGERS

	AIR SEPARATION UNIT (ASU)	SMALL MODULAR ASU (SMART LIQUID PLANT)	SMALL SCALE LNG (SMART LNG PLANT)	BIO LIQUEFIERS (PURE LNG)	CO ₂ PLANT	BIOGAS UPGRADING PLANT	RECIPROCATING COMPRESSOR	METAL BALL VALVE	SOFT SEATED BALL VALVE	CRYOGENIC BALL VALVE	GATE, GLOBE, CHECK, PLUG, CONTROL, BUTTERFLY, PRESSURE / SAFETY / THERMAL	HIGH PRESSURE BALL AND GATE VALVE	PLATE AND SHELL	SHELL AND TUBE	SPIRAL	BLOCK TYPE	
MADE IN	Italy	Italy	Italy	Italy	Italy	Italy	Italy	Italy	Italy	Italy	Italy, Germany, Asia (Korea, Singapore, Japan, Taiwan)	Italy	Finland	case by case	France	France	
Capacity:	up to 90,000 Nm ³ /h (3,080 TPD)	330 Nm ³ /h - 2,500 Nm ³ /h	Plant involving the use of liquid nitrogen as the cooling factor. Nm ³ /h: 50-280 TPD: 1-5 kg/h: 40-208	PURE LNG-LIN Plant involving the use of liquid nitrogen as the cooling factor. Nm ³ /h: 50-280 TPD: 1-5 kg/h: 40-208	CO ₂ Recovery Plants CO ₂ Extraction Plants CO ₂ Liquefaction Plants	Biomethane delivery pressure: from 10 bar to 20 bar Biogas capacity: from 50 Nm ³ /h to 3,000 Nm ³ /h	Type: lube and oil free Power: from 10 kW to 8.7 MW Compression stages: up to 6 Speed: low, moderate and high Capacity: up to 90,000 Nm ³ /h Pressure: up to 600 Bar(a) Cylinder arrangement: vertical, horizontal Gas: All gases (O ₂ , H ₂ , N ₂ , Air, CO ₂ , CO, N ₂ O, H ₂ S, Hydrocarbons, Natural Gas)	Size: 1/2" - 48" Rating: 150 Lb. - 2,500 Lb. / PN16 - PN420 Temperature: -100°C to 700°C Service: dangerous & abrasive gases Gas/Fluid: all Construction: 2 ways or 3 ways	Size: 1/2" - 56" Rating: 150 Lb. - 2,500 Lb. / PN16 - PN40 Temperature: -46°C to 200°C Gas/Fluid: all Construction: 2 ways	Size: 1/2" - 10" Rating: 150 Lb. - 1,500 Lb. / PN16 - 250 Temperature: -196°C to 700°C Service: cryogenic Gas/Fluid: all Construction: 2 ways	case by case	Size: 7.1/16" - 11" Rating: API 2000 - API 15000 psi Temperature: -60°C to 200°C Service: all Gas/Fluid: all (inc. Hydrogen) Construction: 2 ways	Pressure: FV / 200 bar(g) Temperature: -196°C / 550°C Area: 2,000 m ² Applications: Liquid / Liquid Gas / Liquid Phase Change Key Features: • High Efficiency • Optimised temperature fouling applications approach • Shock differential of 490°C • Suitable for fouling fluids, particularly on the shell side	case by case	Pressure: FV / 60 bar(g) Temperature: -100°C / 450°C Area: 3,000m ² Applications: Liquid / Liquid Gas / Liquid Phase Change Key Features: • Most suited to the highest fouling applications • 100% of the slurry flows in a single heat transfer channel promoting a self-cleaning effect. • In-situ Cleaning • Low gas pressure drops	Pressure: FV / 35 bar(g) Temperature: -100°C / 350°C Area: 500 m ² Applications: Liquid / Liquid Phase Change Key Features: • High Efficiency • Optimised temperature approach • Clean Fluids	
Purity:	Oxygen: up to 99.95% Nitrogen: less than 1ppm (O ₂) Argon: less than 1ppm (O ₂)	Oxygen: 99.6% O ₂ Nitrogen: 99.99% & up to 10 ppm of O ₂ Gas/Fluid: Oxygen, Nitrogen (Liquid)	SMART DCE-LNG Technology of direct compression, cooling, expansion and liquefaction of methane Nm ³ /h: 280-560 TPD: 5-10 kg/h: 208-415 SMART TB-LNG Nitrogen recycling plant with expansion turbine and booster. Nm ³ /h: 560-33,600 TPD: 10-600 kg/h: 415-25,000	PURE LNG-DCE Direct compression, cooling, expansion and liquefaction of BIO-methane Nm ³ /h: 280-560 TPD: 5-10 kg/h: 208-415 PURE LNG-TB Nitrogen recycling plant with expansion turbine and booster. Nm ³ /h: 560-1,400 TPD: 10-25 kg/h: 415-1,040													
Gas:	Oxygen, Nitrogen, Argon (Liquid or Gas)																
VALUE ADDED	<ul style="list-style-type: none"> Long history in the gas sector High process efficiency High purity O₂, N₂, Ar thanks to cryogenic technology Tailor made fabrication to the end user's specific requirements Easy to use: full automated system for easy and reliable unattended management Remote monitoring system service by SIADMI 	<ul style="list-style-type: none"> Maximum operating flexibility High purity O₂ (99.6%) & N₂ (99.999%) High efficiency: energy saving of at least 10% compared to previous solutions Complete installation in just 15 days High level skid mounted technology (5 main modules) Fully automatic system for easy and reliable unattended operation Compact design for the easiest maintenance Optimum CAPEX and OPEX compromise for the lowest overall product cost 	<ul style="list-style-type: none"> SIADMI can boast hundreds of systems for cryogenic liquefaction of technical gases Safety: they use Nitrogen as cooling fluid Environmental friendly Reliable Simple plant management process and control system in all stages of operation 	<ul style="list-style-type: none"> Compact and modularized design Best-in-class efficiency Simple liquefaction process with no refrigerant fluids (up to 10TPD) Highest quality standards with design, engineering, and manufacturing Flexibility about turndown ratio and inlet gas composition Energy recovery to reduce power consumption Completely automatized, unmanned and remote-controlled plant 	<ul style="list-style-type: none"> Complete tailor made solutions available on request Extremely low steam consumption Based on simple MEA amine solvent, without expensive formulations or licensing fees Compact liquefaction and stripping technology ensuring O₂ content < 2 ppm Double stage oil lubricated screw compressor to ensure uninterrupted service and low cost of ownership Available as PED or ASME VIII design, others on request 100% Customizable 24/7 remote service available 	<ul style="list-style-type: none"> Long experience in CO₂ High pressure operating system Simple and innovative system High performances (> than 99% purity) The membrane solution allows a great flexibility Possibility to modulate the system and decrease the flow rates up to 50% of the nominal value Different network codes The system can be adapted to existing lines or supply only some components if the customer already has existing pre-treatments Reduction of energy cost using piston or screw compressors Customised or standard sizes 	<ul style="list-style-type: none"> High performance with the lowest power consumption: <ul style="list-style-type: none"> Simplified configuration Reduced friction Improved cylinder flow dynamics behaviour Optimized valve positioning Simplified piping routing Eco compatibility <ul style="list-style-type: none"> New materials for a longer life Elimination of critical pollutant components Safety (proper material selection) Tailor-made compressors skid mounted or on foundation API 618, API 11P, EIGA, Standard Manufacturer Easy maintenance thanks to the ergonomic layout SAE specification for Hydrogen application 	<ul style="list-style-type: none"> Competitive delivery (from 4 to 18 weeks) Flexible in the design of gasket & seat Main certifications (PED, ATEX, ISO, Fire Safe, SIL, Ta-Luft, CRCC) Pentafite technology: <ul style="list-style-type: none"> Perfect Tightness No additional machining Easy maintenance and lower cost Gas tightness 	<ul style="list-style-type: none"> Competitive delivery (from 4 to 18 weeks) Flexible in the design of gasket & seat Main certifications (PED, ATEX, ISO, Fire Safe) 	<ul style="list-style-type: none"> Competitive delivery (from 8 to 18 weeks) Flexible in the design of gasket & seat Main certifications (PED, ATEX, ISO, Fire Safe, SIL, A.B.S) Pentafite technology: <ul style="list-style-type: none"> Perfect Tightness No additional machining Easy maintenance and lower cost Gas tightness 	case by case	<ul style="list-style-type: none"> High performances Flexible in the design of gasket and seat Compact design Main certifications (PED, ATEX, ISO, Fire Safe, fugitive emission, API 6A) 	<ul style="list-style-type: none"> The original plate & shell heat exchangers Fully welded and strong construction Ultra compact in weight and footprint High thermal efficiency Easy maintenance Tailor made solutions <ul style="list-style-type: none"> No gasket Low fouling Close approach temperatures 	<ul style="list-style-type: none"> case by case 	<ul style="list-style-type: none"> High heat transfer K coefficient value Self cleaning effect Welded and strong construction Low maintenance and OPEX costs (only two gaskets and a direct access to both channels) Easy access for inspection and cleaning Fully customisable 	<ul style="list-style-type: none"> Close temperature approach Compact size and easy installation The unique plate design and welding experience allows it to work with identical pressures on both side of the plate Evolute design (interchangeable heart/ adaptable and removable baffles / assembly of multiple hearts) Easy to inspect Maximised heat transfer coefficient 	

INDUSTRIES																	
*please refer to dedicated brochure	GREEN ENERGY (H ₂ , AMMONIA)																
	BLUE HYDROGEN (inc. CCS)																
	CEMENT	O ₂ ASU															
	CHEMICAL	O ₂ ASU, N ₂ ASU, O ₂ /N ₂ ASU															
	COLD GASES TRANSPORTATION & STORAGE	N ₂ ASU															
	ELECTRONICS																
	ENERGY & POWER GENERATION	O ₂ /N ₂ ASU, N ₂ ASU															
	FOOD & BEVERAGE																
	GLASS	N ₂ ASU															
	LIQUEFIED NATURAL GAS (LNG)	N ₂ ASU															
	METAL PRODUCTION	O ₂ ASU, O ₂ /Ar ASU, O ₂ /Ar/N ₂ ASU															
	MINING	O ₂ ASU, O ₂ /N ₂ ASU															
	OIL & GAS, EXPLORATION & PRODUCTION	N ₂ ASU															
	OFF-SHORE (FLNG, FPSO, FLNG)																
	PETROCHEMICAL	O ₂ /N ₂ ASU, N ₂ ASU															
	REFINERY	O ₂ /N ₂ ASU, N ₂ ASU															
	TECHNICAL GASES	O ₂ ASU, O ₂ /Ar ASU, O ₂ /N ₂ ASU															
	WATER TREATMENT & TRANSMISSION	O ₂ /N ₂ ASU, N ₂ ASU															
	REFRIGERATION																
	SOLAR PLANT																



OTHER EQUIPMENT

SCREW COMPRESSORS • N₂ GENERATORS • STANDARD AIR COMPRESSORS • CENTRIFUGAL COMPRESSOR
 • COMBUSTION PACKAGES (INCLUDING BATH HEATERS, FUEL GAS CONDITIONING SKIDS, REGENERATIVE THERMAL OXIDIZERS, PROCESS BURNERS) • GAS MEMBRANE SEPARATORS • AFTER SALES (INCLUDING ORIGINAL SPARE PARTS, FIELD SERVICE, REVAMPING, MONITORING, TRAINING) • WELLHEADS AND XMAS TREES • PACKAGED SYSTEMS (INCLUDING HIPPS, SUBSEA SYSTEM, WELLHEAD CONTROL PANELS)



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