



Industrial Lubricants Catalog



REPSOL

Let's invent the future



REPSOL

Technology Lab



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1. Introduction

Repsol's industrial oils are the perfect solution to lubricate your machinery. We have a wide range of industrial oils that meet the most demanding quality standards and adapt to any specific needs of the machinery, process, or customer.

In this way, we can guarantee that your machinery and equipment is perfectly lubricated and protected, thereby enhancing its functions, improving performance, contributing to energy savings, and extending its service life.

We have our research centre, **Repsol Technology Lab**, at the forefront of R&D+i worldwide. There, our technicians and researchers are constantly striving to improve every product we offer to ensure maximum efficiency, as well as enhanced technical and environmental quality.

We have a wide range of mineral oils formulated using G-I base oils obtained in our very own refineries. These top-quality base oils allow Repsol to meet most of the lubrication requirements set by industrial machinery manufacturers.

For more demanding applications that require high antioxidant properties or a lubricant with a long service life, Repsol uses synthetic G-III base oils (also produced in our own refineries) to produce premium lubricants that meet the highest lubrication standards.

We also have synthetic oils blended using ester, polyalphaolefin (PAO), or polyalkylene glycol (PAG) base oils for applications that require these types of lubricants with excellent performance.

You can also find a range of biodegradable products that ensure both your machinery and the environment are protected.

A company that has been immersed in a process of transformation and diversification of its businesses with the aim of **leading the energy transition**, being the first company in its sector to support the Kyoto Protocol and the first to issue a green bond. And also the first to set the goal, in December 2019, of achieving net zero emissions by the year 2050, with intermediate targets for reducing its Carbon Intensity Indicator in 2020, 2025, 2030, and 2040.



**The Repsol Commitment
Net Zero Emissions
by 2050**

To achieve net zero emissions by 2050, Repsol is committed to a **model that integrates all technologies** for decarbonization, based on improving efficiency, renewable power generation, products with a low, neutral or even negative carbon footprint, circular economy, industrial innovation, and the development of new solutions based on digitalization.



2. Hydraulics

Repsol's hydraulic oils are formulated using specially selected and refined base oils and cutting-edge additives that ensure all parts of your machinery are strong and reliable to meet your needs, even in extreme working conditions. To do so, when developing our hydraulic fluids, we balance the necessary additives to get anti-wear, filterability, oxidation stability, demulsibility, and corrosion protection properties combined for optimal lubrication, positioning the Company at the forefront of current lubricating oil technology. Repsol has a wide range of hydraulic oils to meet the needs of all its customers, from conventional oils with state-of-the-art zinc based anti-wear additives to cutting-edge oils with ashless technology, in addition to biodegradable oils with a high viscosity index or even fire-resistant lubricants. This all comes with our commitment to sustainability and to protect the environment thanks to the use of regenerated base oils and biodegradable fluids.

Conventional Hydraulic Oils			
Products	Quality Levels	ISO Grades	Applications
Maker Hydroflux EP	DIN 51524 HLP, ISO 6743/4 HM, AFNOR NF ISO 11158 HM, AFNOR NF E 48690/48691	32, ..., 100	Lubricant oils formulated with highly refined paraffinic base oils and anti-wear and anti-oxidation additives that are perfectly balanced to achieve high performance in hydraulic systems that operate at high temperatures and pressures.
Maker Telex E	DIN 51524 HLP, ISO 6743/4 HM, AFNOR NF ISO 11158 HM, AFNOR NF E 48690/48691, FIVE CINCINNATI P-Specs, EATON VICKERS I-286-S and M-2950-S, PARKER DENISON HF-0, H-1, HF-1 Approved by the main OEMs such as: VOITH, ORTLINGHAUS, ABB, THYSSENKRUPP, IBERCISA, IMS DELTA MATIC, ENGEL, NEGRI BOSSI	5, ..., 100	Hydraulic oils that meet the quality levels established in the DENISON HF-0 specification. Suitable for use in circuits that have piston and vane pumps and operate at high pressures, as well as, potentially, elevated temperatures. Excellent control of varnish formation, thereby improving lubrication in servo valves.
Maker Hydraulic SC	DIN 51524 HLP, ISO 6743/4 HM, AFNOR NF ISO 11158 HM, FIVE CINCINNATI P-Specs, PARKER DENISON HF-0, H-1 and HF-2 Approved by the main OEMs such as: VOITH, SIEMENS, MANULI, NESTAL - KRAUSS MAFFEI	{20}, 32, 46, 68	Oils with zinc-free [ashless] additives that are suitable for use in lubrication circuits that require an oil with these characteristics. Cutting-edge lubricants that meet DENISON HF-0 quality levels, suitable for lubricating circuits with demanding filters that operate at high pressure and temperatures.
Hydraulic Oils with a high viscosity index			
Maker Telex HVLP	DIN 51524 HVLP, ISO 6743/4 HV, AFNOR NF ISO 11158 HV, AFNOR NF E 48690/48691, EATON VICKERS I-286-S and M-2950-S, FIVE CINCINNATI P-Specs. Approved by the main OEMs such as: IBERCISA, ACCIONA, IMS DELTA MATIC, MANULI, THYSSENKRUPP	15, ..., 68	Hydraulic oils with a high viscosity index formulated using highly refined paraffinic base oils and carefully selected additives that give the lubricant excellent anti-wear and antioxidant properties. They have a viscosity index improver that allows them to maintain a stable viscosity at a wide range of temperatures. We recommend this product for hydraulic systems with a wide range of operating temperatures as they are exposed to the elements or function intermittently and are constantly switched on and off, helping cold weather start-ups and protecting equipment.

3. Gears

The oils designed by Repsol to lubricate enclosed gears include mineral and synthetic base oils to cover all application and conditions and offer solutions to meet our customers' needs. On the basic premises of protecting equipment against wear, all our oils have an optimal mix of additives that allows for an extraordinary load capacity in FZG testing, while also guaranteeing the lubricant's anti-oxidation and anti-corrosion properties. To do so, synthetic gear oils allow for prolonged drain intervals without any loss of lubrication and protection. Repsol has designed a complete range of lubricating oils to overcome the technical challenges posed by the wide variety of industrial gearboxes. In the gear oils catalog, you can also find Flender approved products for gearboxes with micropitting protection needs.

Gears			
Products	Quality Levels	ISO Grades	Applications
Maker Super Tauro	DIN 51517 CLP, ISO 6743/6 CKD, AGMA 9005-E02-EP, AIST 224, BV2060/2, DAVID BROWN S1.53.101, ENGEL, FIVE CINCINNATI P-Specs, GOST 23652-79 TAP-15V [ISO 68, 100, 150 and 220], IBERCISA, REINTJES BV 1597/2, SIEMENS GAMESA GEARBOX	68, ..., 1000	Oils recommended for the lubrication of all types of industrial gears that work in severe load conditions. Oils with extraordinary performance in the 4 ball EP test machine, offering unbeatable results compared to other products on the market.
Maker Tauro	DIN 51517 Parte 3 CLP - AIST 224 (US Steel 224) - ISO-L-CKD - AGMA 9005-F16 (Former 9005-E02-EP) - ISO 12925-1 CKD - David Brown S1.53.101	68, 100, 150, 220, 320, 460 and 680	Industrial gear assemblies with high load requirements and harsh environments, industrial gearboxes, bearings and multipliers, using splash or circulating lubrication.



4. Turbines

Repsol's range of turbine oils covers all the lubrication needs of modern equipment, from the turbines of hydroelectric power plants to steam and gas turbines in combined cycle power plants, ensuring the lubricant has a long service life. All oils fulfill the majority of international quality standards, as well as the most demanding requirements of equipment manufacturers such as Alstom, Siemens, Solar, or General Electric. The high temperatures that can be reached in some state-of-the-art gas turbine bearings require lubricants that are highly resistant to oxidation. Thanks to the G-III base oils produced in its own facilities, Repsol has a wide variety of high-performance synthetic lubricants produced that can take on the most demanding lubrication challenges. The range is complemented with a specific oil for the control system of steam turbines, where high temperatures in the servo valves need a specific fire-resistant fluid.

Turbines			
Products	Quality Levels	ISO Grades	Applications
Maker Aries	DIN 51515-L-TD, ISO 6743/5 TGA/TSA, GEK 46506 E	15, ..., 220	Oils designed to lubricate hydraulic turbines that do not have high lubrication needs but require a product that works well in wet conditions. This product is able to demulsify thanks to the quality of the base oils used, thereby preventing corrosion and the hydrolysis of additives.
Maker Turbo Aries	DIN 51515-L-TD, ISO 6743/5-TG-B/TSA,ALSTOM HTGD90117,CSN 65 6620, DOOSAN SKODA TP0010P, GEK 46506E, GEK 32568j, GEK 28143b, SIEMENS TLV 9013 04 (ISO 32 and 46), SOLAR ES9-224AA Class II	32, 46, 68	Oils specially developed to meet the demands of the manufacturers of steam or hydraulic turbines without a gearbox that require an oil with a long service life and good antioxidant properties. As they require a hydrodynamic lubrication system, an EP [extreme pressure] additive is not needed in the formulation. These oils release air very quickly, preventing problems such as foaming and controlling the formation of lacquer, varnish, and other by-products of degradation thanks to the outstanding quality of the base oils.
Maker Aries Turbo Gas	DIN 51515-L-TDP, ISO 6743/5-TGE/-TSE, GEK 46506E, GEK 32568j, GEK 28143b, GEK 101941A,SIEMENS TLV 9013 04, SOLAR ES9-224AA Class II,VOITH 3625-008427	32, 46, [80]	Oils developed for use in steam turbines with a gearbox. This type of applications in which the same oil circuit lubricates both the bearing and the gearbox require a product with carefully selected additives to protect the gear teeth without negatively affecting the lubrication of the turbine bearing.



5. Compressors and Refrigeration Equipment

Repsol's oils for compressors and refrigeration equipment are designed to guarantee ultimate reliability and maximize efficiency, as they are key to ensure a smooth operation in industrial plants. Therefore, an essential part of maintenance systems is selecting the right lubrication system. Repsol has designed a range of high-quality lubricants formulated using well refined base oils and cutting-edge additives. This allows them to meet all requirements of the different types of compressors on the market. The Repsol lubricants range includes highly-refined paraffinic oils for normal working conditions, as well as other long-life synthetic oils for air compressors operating in more severe conditions. The range is complemented by oils for refrigeration systems with both synthetic and naphthenic base oils, which are miscible and compatible with the various refrigerant gases commonly used in this type of equipment and ensure the compressor is correctly lubricated at low temperatures.

Air Compressors			
Products	Quality Levels	ISO Grades	Applications
Maker Aries	DIN 51506 VBL,ISO 6743/3DAB/D-VA/DVC/DVE	15, ..., 220	The higher viscosity index ensures excellent lubrication of reciprocating compressors. Minimal ash generation to avoid problems in compressor outlet valves.
Maker Turbo Aries	DIN 51506 VBL,ISO 6743/3 DAA/DAG	32, 46, 68	Lubrication oils suitable for use in screw compressors (ISO 32 and 46) or reciprocating compressors (ISO 68) that require excellent antioxidant properties and good lubricant film to prevent wear.
Maker Aries Turbo Gas CC	DIN 51506 VDL,ISO 6743/3 DAB/DAH	32, 46	Oils formulated with hydrotreated group III base oils that afford excellent performance in such severe oxidation conditions as the lubrication of screw compressors. During the compression stages, the oil travels with air at high temperatures, and the thermal stability of these lubricants ensures that the oil does not suffer premature degradation and lubricates the bearing correctly, while minimizing ash formation for 6,000 operational hours.
Maker Merak VDL	DIN 51506 VDL,ISO 6743/3 DAA/DAG,MacGregor (HATLAPA-,PORSGRUNN, PUSNES)	46, 68, 100	Lubrication of cylinders and rotary or reciprocating compressor mechanisms, whether air or inert gas compressors that have high discharge temperatures (up to 220 °C).
Refrigeration Equipment			
Maker Ice Oil	DIN 51503 KAA, KC, ISO 6743-3B-DRA	32, 46, 68	Naphthenic oils for refrigeration compressors that use freon, R12, R22, ammonia, or carbon dioxide as a refrigerant. They guarantee that compressors are protected at low temperatures and are highly miscible/compatible with the gases being used.

6. Heat Transfer

Repsol's oils are designed for heat transfer processes, which are crucial in a large number of industries. Repsol has worked on developing efficient lubricants for use in these processes in closed heating systems. These oils allow for rapid heat transfer, which leads to high energy efficiency. They are characterized by their long service life thanks to their resistance to degradation and to sludge formation.

Heat Transfer		
Products	Quality Levels	Applications
Maker Termico	DIN 51522-Q,ISO 6743/12-QB	Heat transfer fluid with specific additives to obtain high levels of thermal stability. For use in enclosed circuits that reach maximum temperatures of 300 °C.

7. Circulation

Repsol's circulation lubricants provide the strength and reliability required by large bearings. They also have excellent water removal properties, making them especially suitable for use in moist environments such as paper factories, as well as for general lubrication (with or without high pressure). They are all prepared in the viscosity grades traditionally used to lubricate rolling mill bearings and meet the requirements of the bearing manufacturer MORGOIL.

Circulation			
Products	Quality Levels	ISO Grades	Applications
Maker System	FC class, in accordance with ISO 6743/2. Meets the requirements of the manufacturers of MORGOIL bearings.	220, 320, [390], 460, 680	Fluid for lubricating bearings subjected to severe operating conditions (such as rolling mills), in addition to industrial gears that work in non-demanding conditions or the sumps of some compressors.

8. Special Applications

The different types of Repsol lubricating oils for special applications are developed to cover most of the industry's needs in any transformation process. From mold release agents to products for valve control, including ad-hoc developments for the specific uses of large customers.

Special Applications			
Products	Quality Levels	ISO Grades	Applications
Maker Zeus Slideway	DIN 51524, part 2 HLP: ISO 32 and 68, DIN 51517, part 3 CLP: ISO 220, ISO 6743/4-HG [ISO 32 AND 68], ISO 6743/13-G,FIVES CINCINNATI P-47 [ISO 68], NEGEL [ISO 68], P-50 [ISO 220], P-53 [ISO 32]	32, 68, 150, 220	Oils for the lubrication of horizontal and vertical machinetool slideways. The ISO 32 and 68 grades can also be used as a hydraulic fluid in systems that require lubrication of the slideways, in addition to the hydraulic circuit.

9. Gas Cogeneration

Repsol's range of oils for gas motors covers the needs for this market, adapting to the demands of each type of customer by motor, type of gas, and application. Repsol's constant technological innovation has led to a range of lubricants that perfectly meet the needs associated with gas cogeneration. They offer significant benefits and are approved by the main motor manufacturers [MWM Deutz, INNIO Jenbacher, MAN, Rolls Royce, WÄRTSILÄ, and Cummins]. They also meet the technical requirements established by Caterpillar and Waukesha, among others.

Gas Cogeneration		
Products	Quality Levels	Applications
Generator Long Life Gas 4005	BERGEN* for engines B35:40, K-GAS, CR-G CATERPILLAR TR 2105 engines CG132, CG170, CG260* CUMMINS* engines QSK60 INNIO JENBACHER TA 1000-1109* for all types of engines Series 2, 3, 4 and 6 [F&J] that use natural gas as a fuel. Also valid for CAT. MAN ENERGY SOLUTIONS* (before DIESEL & TURBO MEDIUM-SPEED ENGINES) MWM TR 2105* WÄRTSILÄ	Extremely long-lasting lubricant oil which incorporates hydrogenated base oils and state-of-the-art additives that allow oil change intervals to be increased in comparison with mineral oils. Suitable for modern stationary engines fuelled by gas which require the use of oil with a maximum ash content of 0.5%. Its balanced formulation means that its resistance to the oxidation and nitration present in these types of engines, which operate under severe conditions, is better than that of conventional lubricants. In applications where the gas used as fuel is biogas or any other type of gas, the useful life of the lubricant will depend on the contaminant level of the gas in question.

10. Insulating Oils

Repsol's insulating oils offer top performance, reliability, and safety, making them the most popular choice for use in transformers and switchgear. Both the Maker Electra and Maker Tension Centaruo ranges, which have inhibited and non-inhibited products, have a high oxidation stability, good dielectric strength, and excellent properties at low temperatures. They ensure there are no impurities such as dissolved gases, water or solids in suspension. In addition, all these products meet the requirements of international standards such as the IEC 60296 and the ASTM D3487. They have been validated and used by a wide variety of electricity companies and transformer and electrical equipment manufacturers. Furthermore, Maker Electra 3X Plus is classified as Type A or HIGH GRADE according to IEC 60296:2020 due to low hydrogen, methane and ethane concentration in stray gassing test. The range is complemented by two biodegradable products. Maker Bio Electra and Maker Bio Electra Synth, formulated with refined vegetable oils and synthetic esters, respectively. Thanks to their chemical composition, they are highly biodegradable and extremely fire-resistant. This makes them highly recommended for use in areas that, apart from demanding technical requirements, call for elevated safety conditions.

Insulating Oils		
Name	Type	Additives
Maker Electra 2X	Paraffinic	Inhibited
Maker Tension Centauro	Naphthenic	Unihibited

Insulating Oils

MAKER ELECTRA oils are light, paraffinic oils designed specifically for use as insulating fluid in electrical equipment such as power and distribution transformers, circuit breakers, rheostats, etc. In general, they can be used in any kind of electrical appliance requiring an oil bath which acts as a dielectric or coolant. They are manufactured from highly refined treated base oils which ensure the lack of any solid, polar or water compounds. The hydrogenation process guarantees that they do not contain any corrosive sulphur, which has been proven to be extremely damaging to transformers. They are highly stable to oxidation and non-corrosive to copper. Their low pour point and viscosity means that they provide excellent heat transfer properties under any operating conditions.

MAKER ELECTRA 2X: meets the standards IEC 60296:2020 Ed. 5 Type B “Standard grade” and ASTM D3487 Type II. This oil has a very low freezing point, making it ideal for cold climates.

MAKER ELECTRA oils are widely used by both transformer manufacturers and electricity companies. In order to make this possible, they have been submitted to various independent laboratories for validation, and are currently certified by the following companies: Electricity companies: Endesa, Iberdrola, EDP [Energias de Portugal], EDF [Electricité de France]. Transformer and electrical manufacturers: SIEMENS, ABB, Ormazabal. They are tested annually in inter-laboratory trials by DOBLE ENGINEERING Co.

MAKER ELECTRA 2X: meets the standards IEC 60296:2020 Ed. 5 Type B “Standard grade” and ASTM D3487 Type II. This oil has a very low freezing point, making it ideal for cold climates.

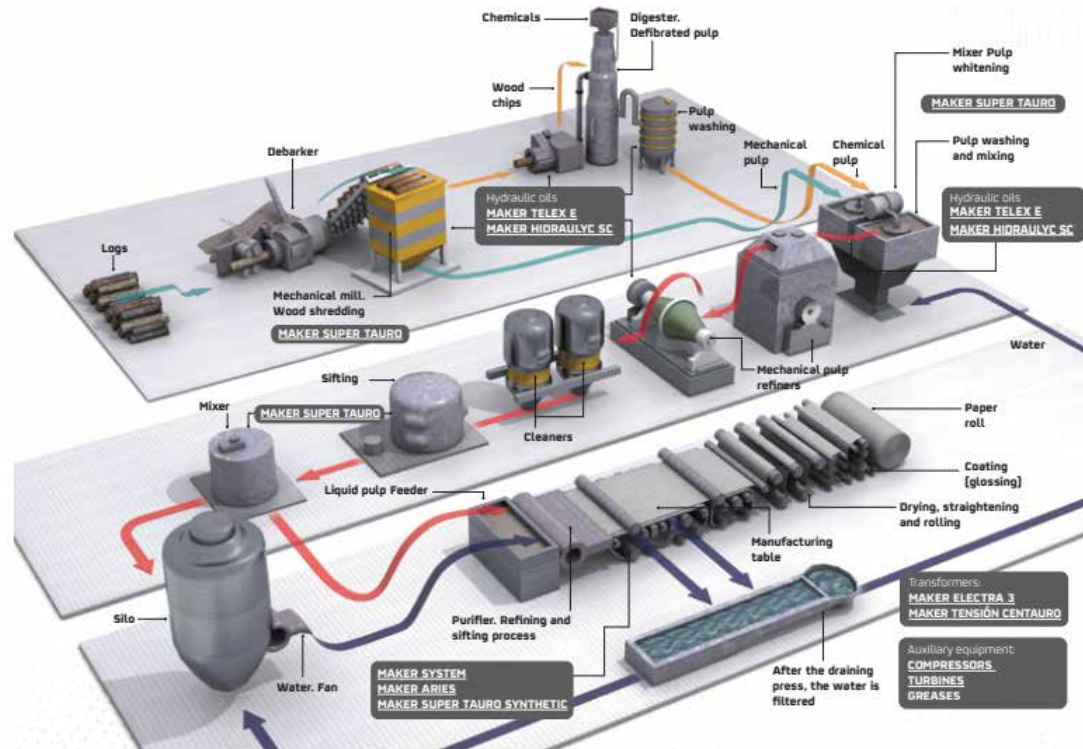
Maker Tension Centauro oils are light, naphthenic oils, particularly recommended for use as insulating fluid in electrical equipment such as power and distribution transformers, circuit breakers, rheostats, etc. In general, they can be used in any kind of electrical appliance requiring an oil bath which acts as a dielectric or coolant. Their production process ensures the lack of any solid, polar or water compounds, as well as the lack of any corrosive sulphur, which has been proven to be extremely damaging to transformers. Maker Tension Centauro is highly stable to oxidation and non-corrosive to copper. Its low pour point and viscosity means that it provides excellent heat transfer properties under any operating conditions. Maker Tension Centauro: complies with the IEC 60296:2020 Ed. 5 Type B “Standard grade” and ASTM D3487 Type I standards. Maker Tension Centauro oils are widely used by both transformer manufacturers and electricity companies. In order to make this possible, they have been submitted to various independent laboratories for validation, and are currently certified by the following companies: Electricity companies: Endesa, Iberdrola, EDP [Energias de Portugal], EDF [Electricité de France]. Transformer and electrical equipment manufacturers: SIEMENS, ABB. They are tested annually in inter-laboratory trials by DOBLE ENGINEERING Co.

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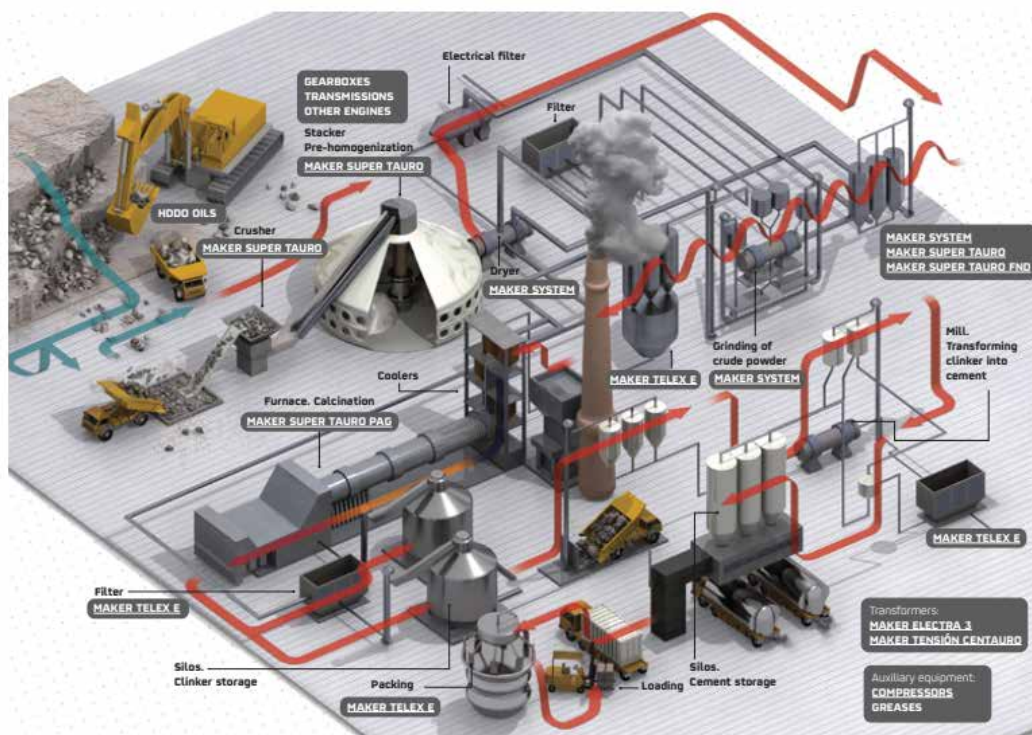


12. Industry Applications

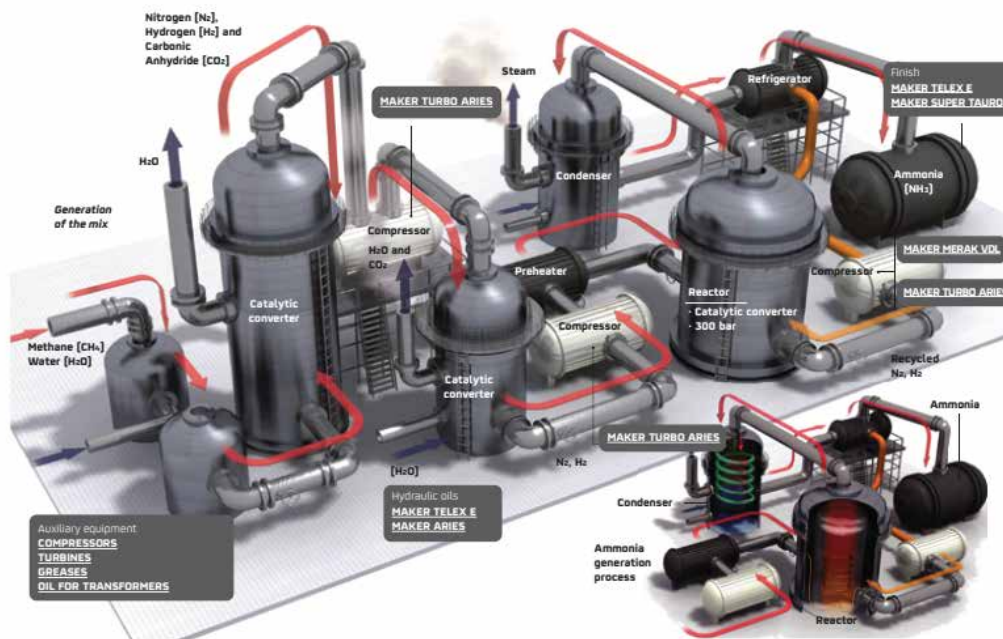
Paper mills



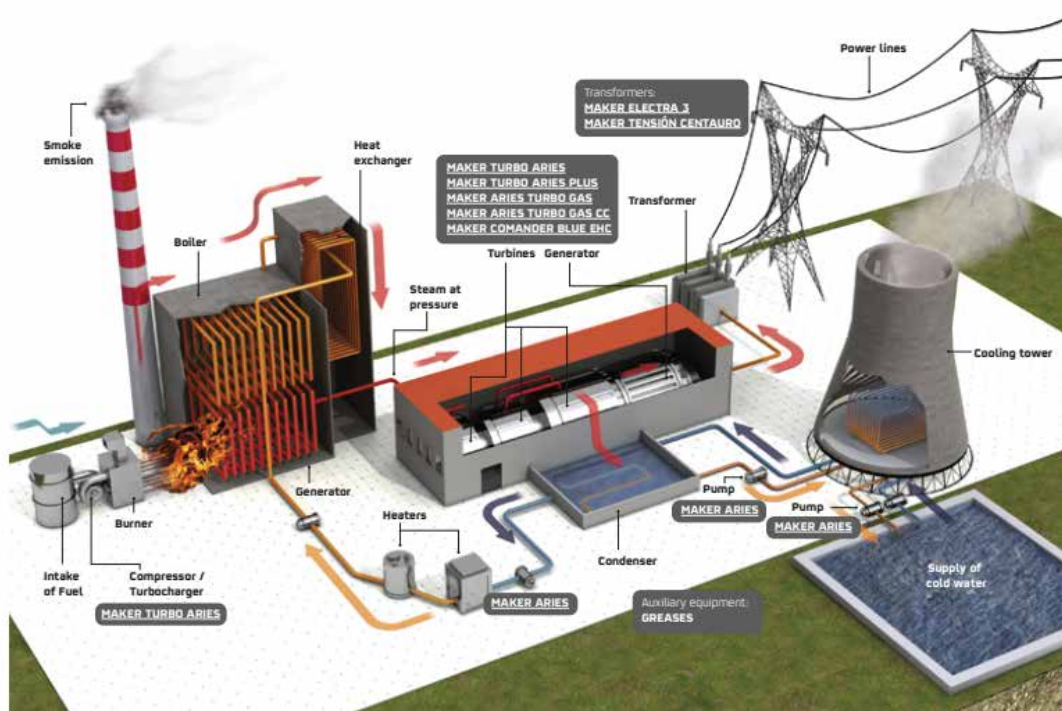
Cement industry



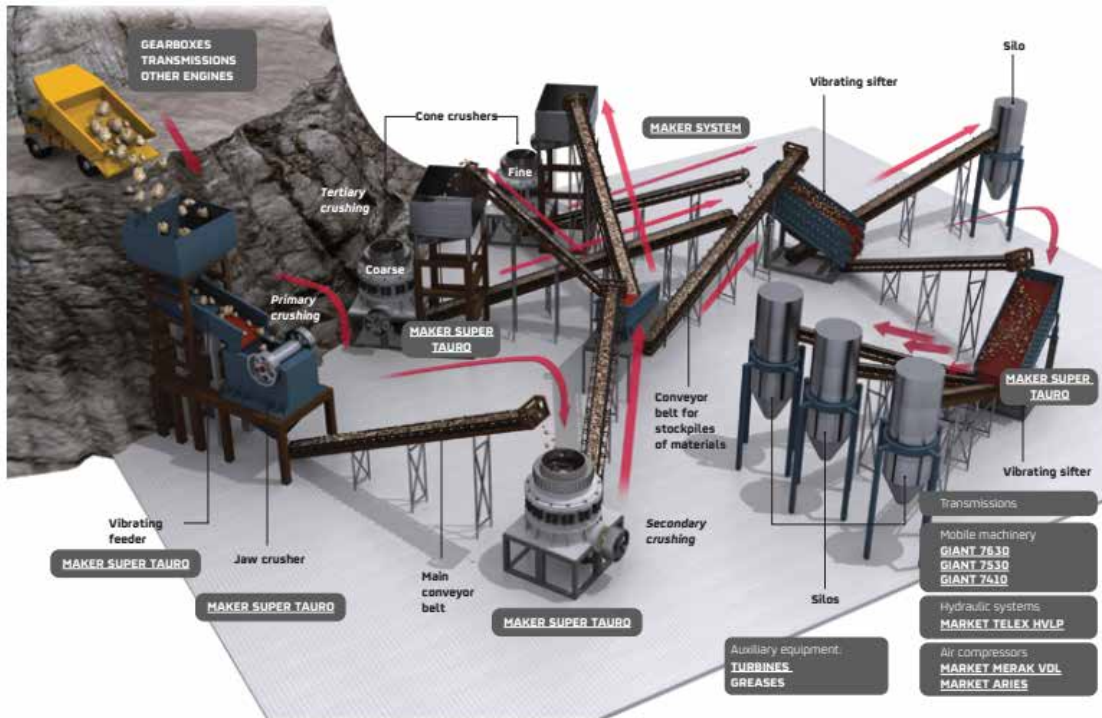
Chemical, refining, fertilizer and industrial gas industries



Power generation



Mining Industry, quarrying and aggregates industry



Commercial Offices



CENTRAL OFFICES

c/ Méndez Álvaro, 44
28045 Madrid, España
Tel: 901 111 999
lubricantes@repsol.com



France

Laetitia Lecomte
Tel: [+33] 1 46 96 65 23
Mob: [+33] 1 46 96 65 23
Fax: [+33] 1 46 96 66 42
laetitia.lecomte@repsol.com



Asia-Pacific

Víctor Velázquez López
10 Marina Boulevard, #14-01
Marina Bay Financial Centre Tower 2
Singapore 018983
Tel: [+65] 6808 1065
vvelazquezl@repsol.com



Peru

Víctor Rivera Bernuy
Av. Víctor Andrés Belaúnde, 147
Edif. Real 5, Piso 3, San Isidro, Lima, Perú
Tel: [+51] 215-6225
Cel: [+51] 939239060
Fax: [+51] 421-8591
v.rivera@repsol.com



Brazil

Silvio Frasson
Regus Jk Complexo JK, Torre B - Av. Pres.
Juscelino Kubitschek, 2041 - 5º
andar - Vila Olímpia, São Paulo - SP,
04543-011 Sala 5019 Repsol
Tel: [+55] 21-25597200
silvio.frasson@repsol.com



Portugal

João Vasques
Av. José Malhoa nº 16 B, 8º
1099-091 Lisboa, Portugal
Tel: [+351] 213 119 000
sac.rlesa@repsol.com



Indonesia

Victor Gomez
Jl. Kapuk Kamal Raya No.23 B, RT.2/RW.2,
Kamal Muara, Kec. Penjaringan, Kota Jkt Utara,
Daerah Khusus Ibukota Jakarta 14470
Tel: [+6221] 5553702
victor.gomez@repsol.com





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Let's invent the future