

Automotive industry

The winning way

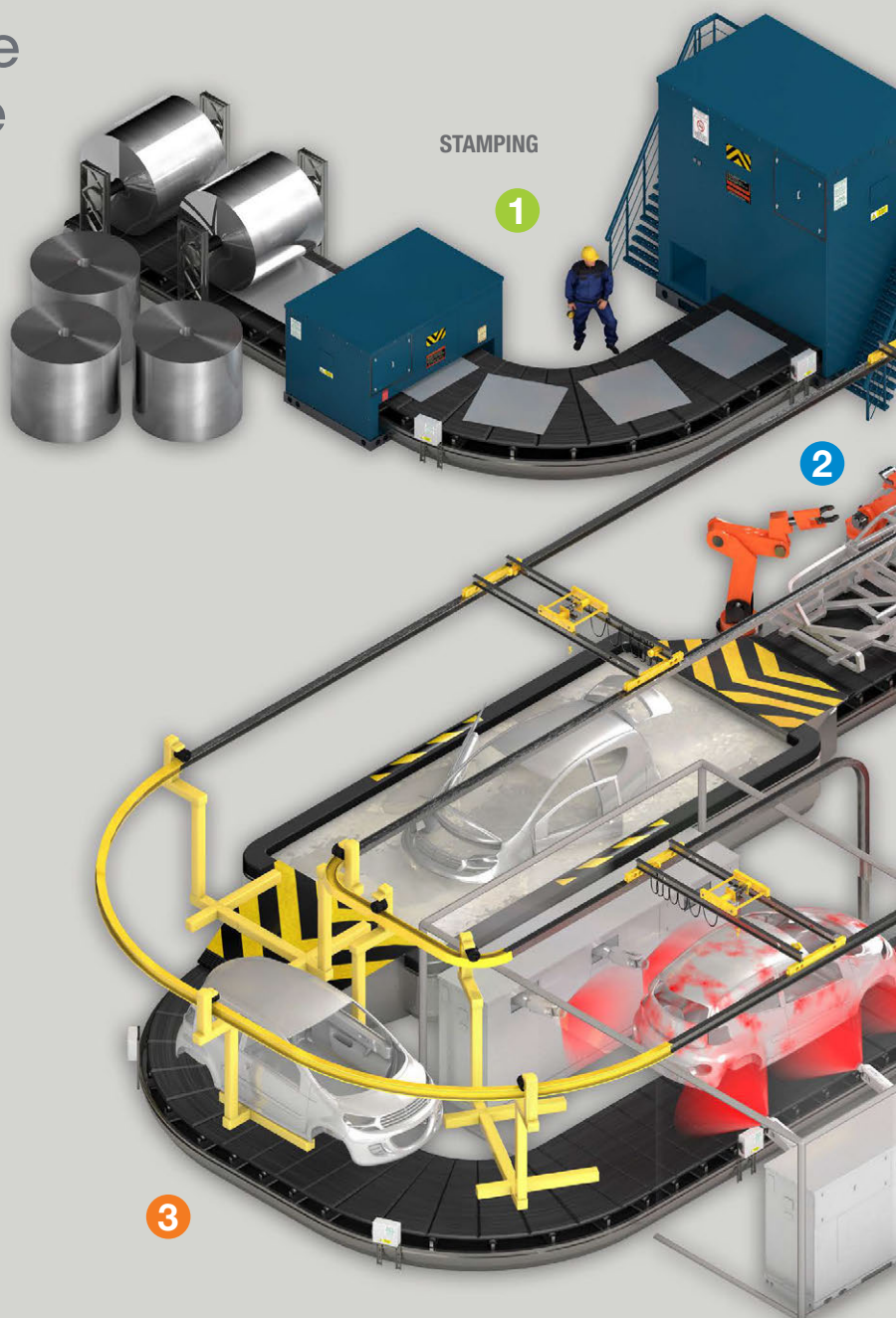


Total Lubricants accompanies manufacturers in the automotive industry in pursuit of excellence for more than 60 years. We are totally committed to Research & Development, developing high value added services.

Continuous investment in Research and Development

Total has 3 R&D sites, specializing in chemistry, tribology and engine testing. Around 300 researchers are dedicated to formulating and testing lubricants and greases for the future of today's automotive industry.

An expertise in all the multiple facets of the automotive industry



1 Stamping shop

- **FINAROL**
Prelube / Washing oil
- **MARTOL**
Stamping oil



2 Welding robots

- **LUBRILLOG**
Lubrillog grease
- **CARTER**
Gearbox oil



3 Conveyor chain

- **CORTIS**
Chain oil

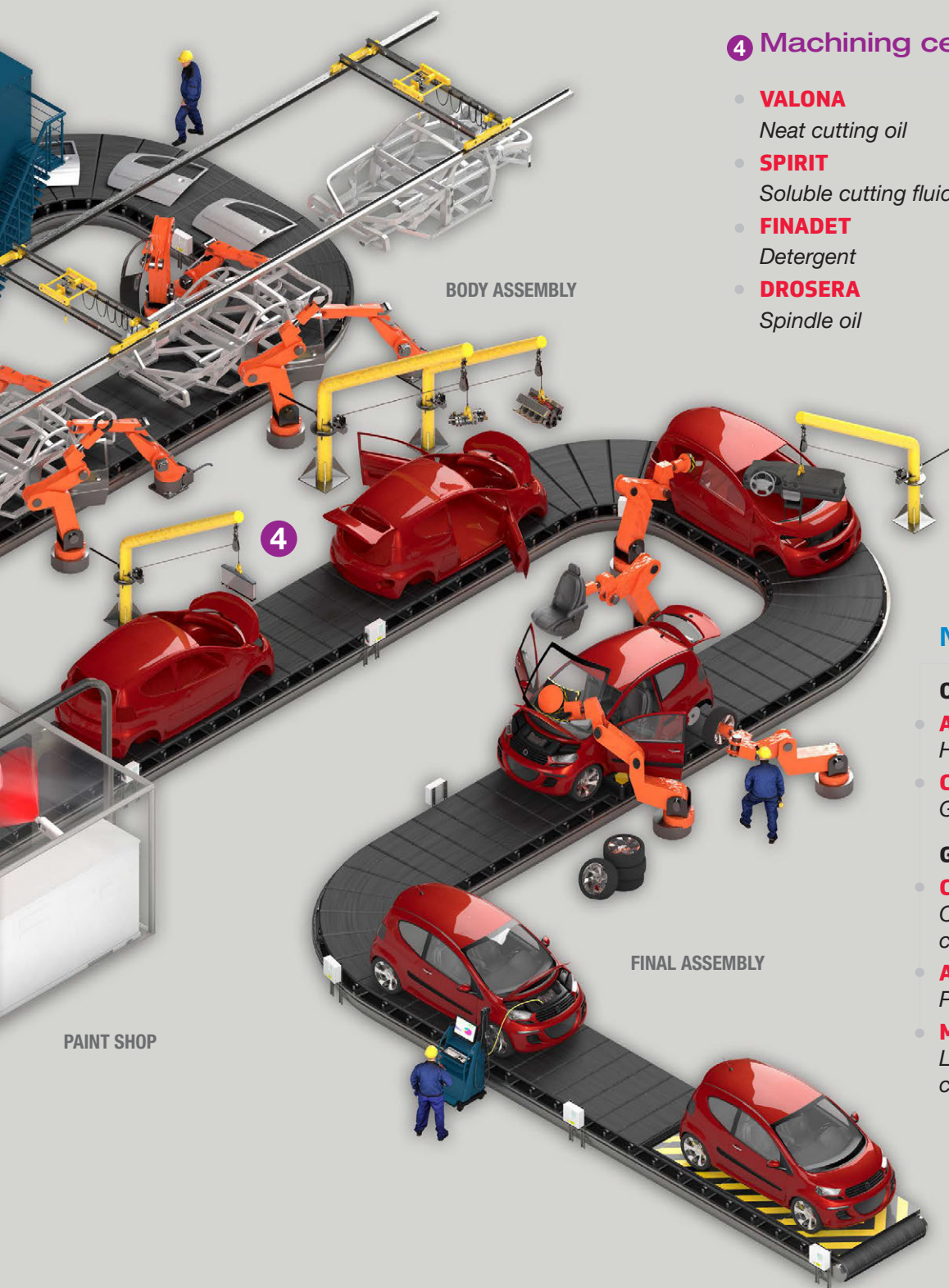


A range of innovative lubricants to optimize industrial processes

Ensuring safety and compatibility with technological requirements, Total Lubricants' products are used at all stages of the car and car parts (Tier1) manufacturing process. Based on the latest technologies, we offer customized solutions allowing optimum reliability of your production and lower consumption.

A dedicated team at your service

Total operates in more than **150 countries** via its network of subsidiaries and distributors, guaranteeing you a robust and **local supply chain**.



4 Machining center



- **VALONA**
Neat cutting oil
- **SPIRIT**
Soluble cutting fluid
- **FINADET**
Detergent
- **DROSERA**
Spindle oil

Maintenance



OILS

- **AZOLLA**
Hydraulic oil
- **CARTER**
Gear oil

GREASES

- **CERAN**
Calcium sulfonate complex grease
- **ALTIS**
Polyurea grease
- **MULTIS**
Lithium and lithium complex grease



AUTOMOTIVE INDUSTRY

Total : proven expertise, dedicated to car manufacturers and parts suppliers.









- Maintenance oils and greases to lubricate and protect your equipments.
- Cutting and stamping oils for all types of metal related operations.
- Specific products to protect and degrease car parts.
- High-quality first fill greases.

Drive your performance in total safety

Your challenges

- **The pursuit of efficiency and productivity** is your priority.
- **The reliability** of your equipment is essential to guarantee a zero-defect production.
- Your high added-value production equipment requires **specific lubricants and tailor-made support**.

MAINTENANCE OILS AND GREASES

	Solutions	Applications
SPINDLE OIL FOR MACHINE TOOL	 DROSERA MS	Multipurpose range for all machine tool parts.
HYDRAULIC OIL	 AZOLLA ZS	Hydraulic systems operating in high temperature and high pressure conditions.
	 AZOLLA ECO2 	Hydraulic systems operating in high temperature and high pressure conditions.
HYDRAULIC OIL 	 EQUIVIS HE	Hydraulic systems operating in high temperature and high pressure conditions.
GEAR OIL	 CARTER EP 68 – 1000	Industrial gears, bearings under high loads and high temperatures.
MAINTENANCE GREASE	 MULTIS EP 1, 2, 3	Extreme pressure, multipurpose greases for a wide range of automotive applications.
	CERAN XM 100, XM 220	High performance greases for high speed applications over a wide range of temperatures.
	ALTIS EM 2	High-performance greases suited for high speed bearings and high temperature applications such as electric motors.

Our solutions

■ Savings generated by our recognized, high-performance lubricants

All of our products are developed in partnership with **OEMs**, ensuring the highest level of **performance**.

Our new hydraulic Equivis HE oil, is highly efficient and has an extended service life, **saving you up to 5% on energy**.

■ Solutions enhancing the performance of your equipment

Our **Fluid Management** offers enable you to monitor your production, reduce your consumption and guarantee an optimum service life for your lubricants.

Specific advantages	Viscosity*	Specifications
Multi-purpose range, depending on the viscosity of the lubricant: Hydraulics, slideways, gears, spindle movements, feed and gearboxes.	2 to 220	Depending on grade: ISO 6743-2: FD 2-5-10-15-22 • ISO 6743-4: HG 32-46 • ISO 6743-13: GA 68-100-150-220 • DIN 51502: CGLP 46-68-100-150-220 Cincinnati-Milacron : P-65, P-62, P-47, P-50, P-53, P-45
Reinforced protection of equipment thanks to antiwear and anticorrosion properties. Good thermal stability and resistance to oxidation. Considerable service life for fluids, preventing the build-up deposits. Good filterability even in the presence of water.	ISO VG 10 to 150	ISO 11158 HM • DIN 51524-2 HLP • Eaton I-286S, M-2950S • Denison HF0, HF1, HF2
Regenerated oil complying with ISO HM 46 standard. Product contributing to reduce the environmental footprint of lubricants production by participating in the circular economy.	ISO VG 46	ISO 11158 HM • DIN 51524-2 HLP • Eaton I-286S, M-2950S • Denison HF0, HF1, HF2
High-efficiency: energy savings of up to 5%. Extension of drain intervals due to an excellent thermal stability and resistance to oxidation. Excellent shear stability. Excellent filterability.	ISO VG 32 46 68	ISO 11158 HV • DIN 51524-3 HVLP • DENISON HF0
Extension of oil drain intervals. Good protection against micropitting.	ISO VG 68 to 100	ISO 12925-1 CKD • DIN 51517-3 CLP • AGMA 9005-E02 EP • U.S. Steel 224 • Flender
Enables to rationalize stocks and simplify maintenance operations.	150	ISO 6743-9 • L-XBCEB1-2-3 • DIN 51502 • KP1K-30, KP2K-25, KP3K-20
Excellent resistance to water. Extended relubrication intervals.	100 / 220	• KP1/2R-30
Reduced vibration. Reduced energy consumption. Extended relubrication intervals.	110	ISO 6743-9 • L-XBFHA 2 • DIN 51502- KP2R-20











* Viscosity at 40°C unless otherwise specified



Total Lubricants simplifies the management of your maintenance operations and offer preventive and corrective solutions.

TOTAL ANAC INDUS : a completely personalized oil diagnosis on all of the relevant mechanical components, promising a winning edge.

- **Reduce** operating costs.
- **Anticipate and plan** maintenance operations to perform them at the best time.
- **Optimize** drain intervals and extend the lifetime of your equipment.
- **Improve the reliability and performance** of your equipment.

CUTTING AND FORMING FLUIDS		
	Solutions	Applications
SOLUBLE CUTTING OIL	 SPIRIT 5000	Grinding and general machining of ferrous and non-ferrous metals.
NEAT CUTTING OIL	 VALONA GR 5000 HC series	Honing and superfinishing with high detergent properties adapted to carbide silicon honing stones or pinions honing.
	 VALONA GR 7000 HC series	Grinding operations such as gear grinding (VG 7 or 12) or grinding of highly alloyed steels (VG 22).
NEAT OIL FOR METAL FORMING	 MARTOL EP CF	For all severe deforming operations on hard steels and stainless steels.
EVANESCENT OIL	 MARTOL EV 10 CF	Light cutting and die stamping operations with thicknesses from 0.2 to 0.5 mm. Manufacturing of mechanically-assembled radiators.
	 MARTOL LVG 25 AQ	Stamping and fine blanking with thicknesses of < 0.3 mm. Manufacturing of brazed radiators.
SOLUBLE DEFORMATION OIL	 MARTOL SOLUBLE ST	Stamping and fine blanking of hard automotive steels.
PRELUBE	 MARTOL EV 30 AQ	Blanking and stamping steel less than 1 mm thick, or zinc-coated steel bands.
	 FINAROL B 5746	Sheet metal forming.
SPECIFIC PRODUCTS		
	Solutions	Applications
DETERGENT	 CLEANER F & V	Cleaner for lubrication circuits: hydraulics, heat transfer circuits.



In addition to oil analysis, **TIG 6** is a software designed to optimize your maintenance planning and boost your productivity.



Technical assistance for innovative solutions:

- **On-site training** for your operational teams.

- **Tailor-made technical assistance** and advice.

- **Lubrication audit**, to optimize your operations and rationalize your stocks.

- **Product recommendations, optimizations, best practices for usage and storage.**

- **Appropriate solutions** for disposing of your used oils and packaging.

Specific advantages	Viscosity*	Specifications
Multi-purpose product (metals, machining operations) used by OEMs. <i>HSE: Non-irritating soluble oil.</i>		ISO-L-MAF
Translucent economic product with low volatility and reduced odor. <i>HSE: Neat oil with no polycyclic aromatic hydrocarbons including benzopyrene, for a better operator protection</i>	5	ISO-L-MHE
Optimized for demanding grinding operations. <i>HSE: Neat oil with no polycyclic aromatic hydrocarbons including benzopyrene, for a better operator protection</i> <i>References: Tier 1 and OEM machining center for GROB, PCI TONGTAI machining shops.</i>	7 12 22	ISO-L-MHF
Large range of viscosities to cover all kinds of forming geometries and all the metal thicknesses. Used by many original equipment manufacturers in the automotive sector. <i>Approved by the RENAULT group.</i>	5/65/100/235/405	ISO-L-MHF
Excellent film coverage and odorless. <i>HSE: Chlorine-free and sulphur-free.</i>	2.2 to 20°C	ISO-L-MHB
Does not stain aluminum and elimination of residue by thermal degreasing. Excellent spreading capacity and odorless. <i>HSE: chlorine-free, sulphur-free and aromatic compound-free.</i> <i>Approved by VALEO.</i>	4.5 to 20°C	ISO-L-MHB
Soluble oil which prevents fumes during welding. Rationalization of lubrication in the workshop. Good performance with hard water and highly compatible with zinc-coated steels. Prevents formations of white rust. Used by many parts suppliers in the automotive industry. <i>HSE: Chlorine-free, formaldehyde-free.</i> <i>Approved by the RENAULT group.</i>	50	ISO-L-MAD
Excellent wetting ability, good stamping properties and odorless. Does not contain chlorine or sulphur. <i>References: Stamping workshop of HYUNDAI and KIA motors factories.</i>	2,73	ISO-L-MAD
Multipurpose product, developed for the car industry and steelmaking. <i>References: PSA group and RENAULT factories' stamping shops for SCHUELLER presses.</i>	9,75	ISO-L-RC

Specific advantages	Viscosity
High level dispersing detergent for effective circuit cleaning. Recommended for removing varnishes.	52 (F) 173 (V)

* Viscosity at 40°C unless otherwise specified



TOTAL
LUBRICANTS

A major player

With our production, supply chain and commercial presence in more than 150 countries, we deliver a full range of lubricants.

Support and partnership

Thanks to local technical presence, we provide a high level of service to optimize your Total cost of Ownership.

References & OEMs

TOTAL Lubricants cooperates with equipment manufacturers to create high-technology products for optimal performance and protection of your machinery.

5 good reasons for choosing TOTAL

Innovation & Research

TOTAL invests in biotechnologies to find the most suitable components to reach energy efficiency through formulations designed in our Research Centers.

Quality and environment

TOTAL Lubricants ISO 9001 certification is the guarantee of a long term commitment to quality. From the initial design stage, our R&D teams seek to develop products that minimize toxicity risks and environmental impact.

Safety Data Sheets are available at quickfds.com
industrial.lubricants.total.com



TOTAL
Committed to Better Energy