

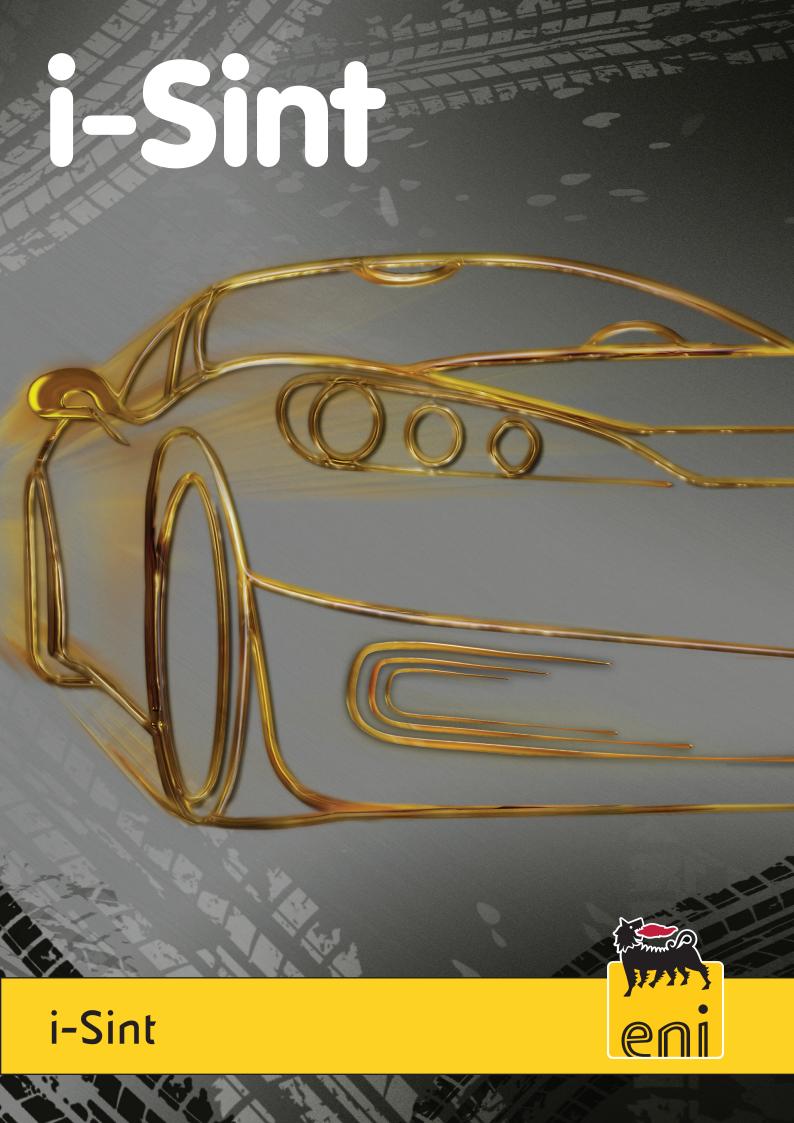
### **Product Guide** Lubricants & Speciality products



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# Eni i-Sint



This line of high-performance lubricants is designed to perform the needs of modern car fleet. It includes oils designed for the latest generation of engines which are particularly suited for vehicles fitted with antiparticle filters. i-Sint engine oils, designed to lubricate most of the existing car fleet, guarantee a high level of reliability in all driving conditions, for all types of cars, from compacts to sports cars, with petrol or diesel engines. The Eni i-Sint range is a complete range of top synthetic and synthetic technology lubricants designed to meet the needs of all kind of engines in different weather and road conditions thanks to an accurate selection and balance of raw materials.

|   |          |  | exhaust gas<br>after treatment<br>systems<br>compability | cold start<br>lubrication | fuel<br>economy | multi<br>OEM | oil drain<br>interval |
|---|----------|--|--|---------------------------|-----------------|--------------|-----------------------|
| synthetic<br>technology                     | MS 5W-30 | API SN<br>ACEA C3<br>MB-Approval 229.51, 229.52<br>BMW LL-04<br>VW 502 00 + 505 01<br>GM DEXOS 2 quality             | 0000   | 0000                      | 000             |              | 0000                  |
| synthetic<br>technology                     | MS 5W-40 | API SN<br>ACEA C3<br>MB-Approval 229.51<br>BMW LL-04<br>Porsche A40<br>VW 505 00 + 505 01<br>GM DEXOS 2 quality      | 000  |                           | 00              |              | 000                   |
| <mark>top</mark><br>synthetic<br>technology | 5W-30    | ACEA C3<br>VW 504 00 + 507 00<br>BMW LL-04<br>Porsche C30  |  | 0000                      | 000             |              | 0000                  |
| synthetic<br>technology                     | 5W-40    | API SN<br>ACEA A3/B4<br>MB-Approval 229.3<br>BMW LL-01<br>Renault RN 0700, 0710<br>VW 502 00, 505 00<br>Porsche A40  |  | 0000                      | 00              |              |                       |
| synthetic<br>technology                     | 10W-40   | MB-Approval 229.3<br>ACEA A3/B4<br>API SN  | 000  | 000                       | 00              | 00           | 000                   |
| synthetic<br>technology                     | 0W-20    | API SN RC<br>ILSAC GF-5  | 000  |                           |                 | ۵            | 000                   |
| <mark>top</mark><br>synthetic<br>technology | 0W-40    | ACEA A3/B4<br>API SN<br>MB-Approval 229.5<br>VW 502 00 + 505 00<br>BMW LL-01<br>Renault RN 0700, 0710<br>Porsche A40 | 000  | 0000                      | 000             |              | 0000                  |
| synthetic<br>technology                     | FE 5W-30 | ACEA C2<br>ACEA A5/B5<br>API SN<br>meets FIAT 9.55535 S1   |  | 0000                      |                 | 00           | 000                   |

### **i-Sint** Engine oils

# Eni i-Sint tech

| 0W-30       | VW 503 00, 506 00,<br>506 01                               | Top synthetic long-life lubricant designed for "Model year 2000"<br>engines of Volkswagen group, with extremely high fuel economy, cold<br>start qualities.  | The Eni i-Sint tech line is<br>aimed at customers looking<br>for product excellence, which<br>is able to satisfy the specific<br>needs of some of the world's |
|-------------|--|--|---|
| M 5W-30     | ACEA C1,C2<br>JLR.03.5005<br>FORD 934-B                    | Synthetic technology lubricant designed for Mazda engines. Extremely<br>high compatibility with after-treatment systems, very high cold starting<br>properties and fuel economy.   | leading car manufacturers.<br>Using very high quality<br>bases and highly innovative<br>components, i-Sint<br>tech lubricants are a                           |
| ECO F 5W-20 | ACEA A1/B1<br>Ford WSS-M2C 948-B<br>API SN                 | Synthetic technology lubricant specific for EcoBoost and Duratec Ford<br>engines. It can be used also in other Ford models. Extremely high fuel<br>economy, very high compatibility with after-treatment systems, very<br>high cold starting properties.   | technological response to<br>the specific requirements of<br>manufacturers.   |
| VV 0W-20    | Volvo RBS0-2AE<br>ACEA C5                                  | Synthetic technology lubricant designed for the newest generation of Volvo engines.  |   |
| R 5W-30     | ACEA C4<br>Renault RN0720<br>MB 229.51, 226.51             | Synthetic technology lubricant specific for Renault diesel engines.<br>Suitable also for Mercedes models equipped with Renault diesel<br>engines where RN 0720 is required. Extremely high compatibility with<br>after treatment system, very high cold starting properties and fuel<br>economy. |   |
| F 5W-30     | Ford WSS-M2C913-D<br>API SL/CF<br>ACEA A5/B5<br>ACEA A1/B1 | Synthetic technology lubricant designed for Ford engines. Very high cold start and fuel economy qualities.   |   |
| P 0W-30     | ACEA C2<br>PSA B71 2312 level                              | Top synthetic lubricant developed for specific Peugeot and Citroën gasoline and diesel engines of passenger cars and light vans.   |   |
| P 5W-30     | ACEA C2<br>PSA B71 2290                                    | Synthetic technology lubricant specific for Peugeot and Citroën<br>engines. Extremely high compatibility with after-treatment system, very<br>high cold starting properties and fuel economy.  |   |
| G 5W-30     | API SL/CF<br>GM LL-A-025,<br>LL-B-025                      | Synthetic technology formula designed and manufactured to meet<br>lubrication requirements for GM engines, requiring lubricants with long<br>replacement intervals (LL - Long Life) in accordance with the<br>specifications: GM-LL-A-025 or GM-LL-B-025.  |   |
| VK 0W-20    | VW 508 00, 509 00<br>ACEA A1/B1<br>Porsche C20             | Synthetic technology, especially developed for the lubrication of the current gasoline and diesel engines in the Volkswagen Group, also for the application with exhaust gas after-treatment systems and for prolonged oil-change intervals.   |   |
| VK 0W-30    | ACEA C3<br>VW 504 00, 507 00                               | High technology engine oil with mid SAPS characteristics, for modern<br>passenger cars and light vans gasoline or diesel engines of<br>Volkswagen Group with or without particulate filter (DPF) also at<br>prolonged oil-change intervals according to the manufacturer's<br>recommendation.    |   |

# Eni i-Sint professional



This line has been specifically designed for professionals of the sector such as mechanics and accessory dealers. They meet the performance specifications of most important European and American bodies. The applicability of the products in this line depends on the evaluation and the competence of professionals in the sector, who can also always rely on the Eni technical assistance team's support.

|                         |        |  | exhaust gas<br>after treatment<br>systems<br>compability | cold start<br>lubrication | fuel<br>economy | multi<br>OEM | oil drain<br>interval |
|-------------------------|--------|--|--|---------------------------|-----------------|--------------|-----------------------|
| synthetic<br>technology | 5W-40  | MB 229.1<br>VW 501 01, 505 00 quality<br>API SL/CF | 00   |                           | 00              | ٥            | 00                    |
| synthetic<br>technology | 10W-40 | MB 229.1<br>VW 501 01, 505 00 quality<br>API SL/CF | 00   | 000                       | 00              | ۵            | 00                    |



Series of mineral engine oils for traditional engines featuring high reliability and cleaning of mechanical parts. This line guarantees high engine protection for the entire duration of the oil load.

|            |                        |  | exhaust gas<br>after treatment<br>systems<br>compability | cold start<br>lubrication | fuel<br>economy | multi<br>OEM | oil drain<br>interval |
|------------|------------------------|--|--|---------------------------|-----------------|--------------|-----------------------|
| re-refined | 15W-40<br>Professional | API SJ/CF  | ٥  | $\Diamond$                | ٥               | ۵            | 00                    |
| mineral    | 15W-40                 | MB 229.1<br>API SM/CF<br>VW 501 01, 505 00 quality | 00   | 000                       | 00              | ٥            | 00                    |

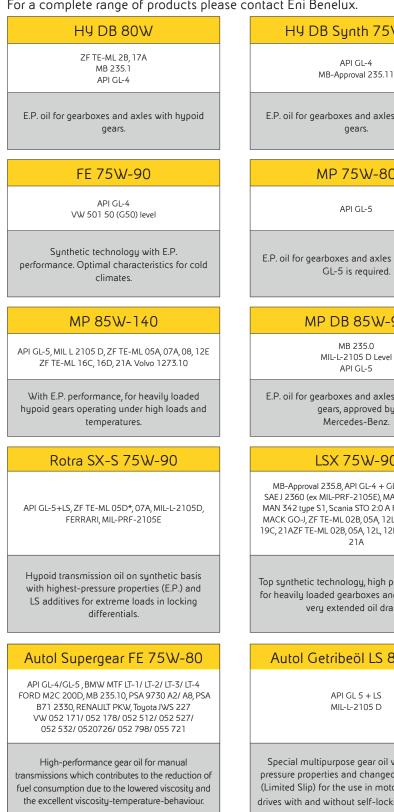


# Eni Rotra

Eni lubricants for car transmissions have been designed to meet the main application needs for gearboxes and differentials used in both manual and automatic transmission systems.

The use of selected components allows the lubricant to offer a high protection in gears, in particular those subject to E.P.\* and to keep the same performances for many kilometres.

Suitable for use in the latest generation vehicles as well as traditional ones. For a complete range of products please contact Eni Benelux.



\*E.P. (extreme pressure)

Hy DB Synth 75W-90

E.P. oil for gearboxes and axles with hypoid

### MP 75W-80

E.P. oil for gearboxes and axles for which API GL-5 is required.

### MP DB 85W-90

MIL-L-2105 D Level

E.P. oil for gearboxes and axles with hypoid gears, approved by Mercedes-Benz.

### LSX 75W-90

MB-Approval 235.8, API GL-4 + GL-5, API MT-1 SAE J 2360 (ex MIL-PRF-2105E), MAN 341 type Z2, MAN 342 type S1, Scania STO 2:0 A FS, Volvo 97312 MACK GO-J, ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21AZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C,

Top synthetic technology, high performance oil for heavily loaded gearboxes and axles, allows very extended oil drains.

#### Autol Getribeöl LS 80W-90

Special multipurpose gear oil with highestpressure properties and changed friction value (Limited Slip) for the use in motor vehicle axle drives with and without self-locking differential.

#### HY 80W-90

API GL-4 ZF TE-ML 02A, 16A, 17A, 19A MIL-L-2105 Level

With E.P. performance, for highly loaded gears.

### FE 75W-80

API GL-4 MB 235.1 ZF TE-ML 06L, 08, 17A, 24A

Synthetic technology with E.P. performance. Optimal characteristics for cold climates

### MP 80W-90

API GL-5 MILL 2105 D MAN 342 tupe M1 MAN 342 type M2, ZF TE-ML 05A, 07A, 08, 12E ZF TE-ML 16B, 17B, 19B, 21A

With E.P. performance, for heavily loaded hypoid gears operating under high loads and temperatures.

### MP/S 85W -90

ZF TE-ML 05C, 12C, 16E, 21C API GI-5

E.P. oil with 'limited slip' characteristics for self-blocking differentials (fitted with hypoid gears and wet clutches).

### HLZ 75W-140

API GL-5 + LS. BMW BG 33. ZF TE-ML-05D, 12D, 16G. 21D

A fully synthetic noise reducing hypoid gear oil, especially developed for BMW rear axles.

#### Autol Getribeöl VSL-5 75W-80

API GI-4 MAN 341 Z-5 ZF TE-ML 01E/02E/16P Volvo 97307 DAF Extreme 75W-80

Modern gear oil for commercial vehicles for manual transmission for longest change intervals up to 540.000 km according to manufacturer.

### ORDER NOW: 🖀 +31 010 294 1512 SALESBENELUX@ENI.COM

### Automatic transmission oils

# Eni Rotra ATF

| ATF II D  | ATF II E   |
|---|--|
| "FORD MERCON Level<br>GM DEXRON IID level<br>ALLISON C-4<br>CATERPILLAR TO-2<br>MAN 339 V-1 level + Z-1 level<br>MB 236.6<br>VOITH H55.6335.xx<br>ZF TE-ML 04D, 05L, 09, 11A, 14A, 17C"   | GM DEXRON I<br>GM DEXRON<br>MAN 339 type V2, 2<br>MB 236.9<br>VOITH H55.633<br>ZF TE-ML 03D, 04D, 14B,   |
| For automatic transmissions and<br>power-steering systems requiring GM Dexron<br>IID performance.   | Top synthetic technology o<br>transmissions and power-s<br>delivers exceptional perform<br>very extended oil   |
| ATF VI  | ATF Mul  |
| JASO 1-A<br>GM DEXRON VI<br>FORD MERCON LV  | JASO 1-A<br>ALLISON TES-2<br>BMW LT 7114<br>AISIN JWS 330<br>TOYOTA T-IV<br>NISSAN MATIC E<br>CHRYSLER ATF+<br>MB-Approval 23<br>GM DEXRON I<br>FORD MERCON/ME |
| Top synthetic oil for latest technology automatic<br>transmissions, featuring an exceptional low<br>viscosity at low temperatures. It complies with<br>most severe performance levels issued by the<br>main international manufacturers | Top synthetic oil for automa<br>fitted on modern vehicles pro<br>leading manufac   |
| ATF MB  | ATF MB (   |
| MB 236.14, ALLISON C-4 Level,<br>DEXRON II, DEXRON IIIH   | MB 236.15  |
| Fully synthetic automatic transmission oil,<br>specially developed for automatic transmissions<br>where the MB 236.14 specification is<br>recommended.  | Fully synthetic automatic<br>specially developed for autom<br>where the MB 236.15 sp<br>recommende   |

IIIH IIE Z2, Z11 36.xx , 16L, 17C, 20B

oil for automatic steering systems, nances and allows drains.

#### lti

295 41 309 V D, J, K, +3/+4 36.9, шн RCON V

atic transmissions duced by the world cturers.

### GT

transmission oil, natic transmissions pecification is ed.

### ATF III

GM DEXRON IIIG FORD MERCON MB 236.6 ALLISON C-4 MAN 339 type L - 1,V - 1,Z - 1 VOLVO 97340 VOITH H55.6335.xx ZF TE-ML 04D, 05L, 09, 14A, 21L

For automatic transmissions and power-steering systems requiring GM Dexron IIIG performance.

### ATF DCT

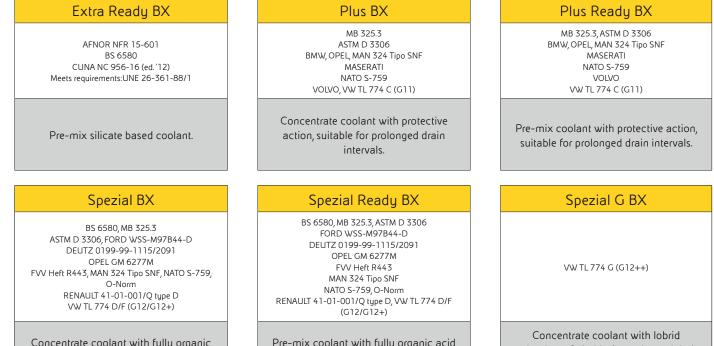
BMW EU 83 22 2 148 578 BMW EU 83 22 2 148 579 VW G 052 529 VW TL 521 82

High performance fully synthetic long life ATF, specially developed for use in the latest generation DCT (double clutch transmission) transmissions of the VAG group.

# Eni Antifreeze

Eni Antifreeze products are ideal for use in the most modern vehicles since they help guarantee an effective coolant action for engines, including very high-powered engines; it also offers maximum protection against corrosion.

All products are highly biodegradable thanks to their 'NAP free' formula (Nitrites, Amines and Phosphates Free).



Concentrate coolant with fully organic acid technology, protective action and suitable for prolonged drain intervals.

Pre-mix coolant with fully organic acid technology, protective action and suitable for prolonged drain intervals. Concentrate coolant with lobrid technology. Suitable for prolonged drain intervals and contains environmentally friendly additives.

### Eni brake fluids

For the best braking system performance in the most extreme conditions, Eni Brake fluids are the ideal solution. Even for racing, Eni Brake Fluid products guarantee a prompt and effective braking action.

Their special formula makes it possible to prevent dangerous vapour lock and to keep the braking circuit in perfect working order thanks to the anticorrosion properties for metals and chemical compatibility with rubber seals.

Eni products comply with the severe performance standard issued by FMVSS116 DOT (Department Of Traffic) adopted by OEM's and that can be found in the maintenance booklet of the vehicles.

### DOT 4 BX

SAE J 1703, SAE J 1704, RENAULT, F.M.V.S.S. No.116 DOT3 and DOT4, FIAT 9.55597, FORD, ISO 4925 Class 3 / 4, JIS K2233 Class 3 / 4, MAN, NH 800 A, OPEL / GM 1942421

### DOT 5.1 BX

SAE J 1703 SAE J 1704, FMVSS 116 DOT 5.1 ISO 4925 Class 5.1, JIS K2233 Class 5







# i-Sigma

# Top MS



High technology product line designed to meet all heavy duty vehicles needs, meeting the most stringent performance specifications set by the top manufactures in the sector. The line also includes lubricants designed specifically for new generation Euro V and Euro VI engines fitted with exhaust gas after-treatment system that require a special additive formulation to maintain their effectiveness. Top MS lubricants may be used for the maximum recommended oil drain intervals.

|  |                          |  | drain interval | cold start<br>qualities | engine<br>protection | fuel<br>economy                       | multi<br>OEM |
|--|--------------------------|--|----------------|-------------------------|----------------------|---------------------------------------|--------------|
| <mark>top</mark> synthetic<br>technology | 5W-30                    | ACEA E4, E6, E7, E9<br>API CJ-4<br>MB-Approval 228.51, 228.31<br>VOLVO VDS-4<br>DEUTZ DQC IV-10 LA MAN M 3677,M 3477,<br>M 3575, M 3271-1 MACK EO-O Premium Plus<br>MTU type 3.1<br>CATERPILLAR ECF-3<br>RENAULT RVI RLD-3,<br>CUMMINS CES 20081<br>SCANIA Low Ash, LDF-4<br>DETROIT DIESEL 93K218 |                |                         |                      |                                       |              |
| synthetic<br>technology                  | 10W-30                   | ACEA E9, API CK-4, MB-Approval 228.31<br>MAN M 3575, MTU type 2.1, Volvo VDS-4.5<br>MACK EO-S-4.5, Caterpillar ECF-3,<br>Deutz DQC III-10 LA, Detroit Diesel 93K222<br>JASO DH-2-15, Renault VI RLD-3<br>Cummins CES 20086, Deutz DQC III-10 LA  |                |                         |                      |                                       |              |
| synthetic<br>technology                  | 10W-40                   | ACEA E4, E6, E7, E9, API CI-4, Caterpillar ECF-3<br>Cummins CES 20081, Detroit Diesel 93K218<br>Deutz DQC IV-10 LA, JASO DH-2-17<br>MACK EO-O PP, MAN M 3271-1, M 3477, M 3575<br>MB-Approval 228.51, Renault RVI RLD-3<br>Scania Low Ash, Volvo VDS-4, MTU type 3.1                               |                |                         |                      | $\bigcirc \bigcirc \bigcirc \bigcirc$ |              |
| synthetic<br>technology                  | 15W-40                   | API CJ-4/SN, ACEA E7, E9, MB-Approval 228.31<br>Caterpillar ECF-1a, ECF-2, ECF-3<br>Curmins CES 20076, 20077, 20081<br>Deutz DQC III-10 LA, MACK EO-O Premium Plus<br>MAN M 3575, MTU type 2.1, Renault RVI RLD-3<br>Volvo VDS-4, Detroit Diesel 93K218  |                | 000                     |                      | 00                                    |              |
| synthetic<br>technology                  | Special<br>TMS<br>10W-40 | ACEA E6, E7, Deutz DQC IV-10 LA<br>MAN M 3477, 3271-1, API CI-4<br>Renault RVI RLD-2, MB-Approval 228.51<br>Volvo VDS-3, MTU type 3.1<br>Cummins CES 20076, 20077, MACK EO-N   |                | 0000                    | 00000                | 000                                   |              |



The high technology product line is capable of meeting the most demanding heavy duty vehicle needs. The Top MS line include lubricants that are innovative top of the range products which offer excellent performance and maximum oil drain intervals.

|  |        |  | drain interval | cold start<br>qualities | engine<br>protection | fuel<br>economy | multi<br>OEM |
|--|--------|--|----------------|-------------------------|----------------------|-----------------|--------------|
| <mark>top</mark> synthetic<br>technology | 5W-30  | API CI-4, ACEA E4, E7<br>MB-Approval 228.5, Deutz DQC IV-10<br>MACK EO-N, MAN M 3277, M 3377<br>MTU type 3, Renault RVI RLD-2<br>Volvo VDS-3, Caterpillar ECF-1a, ECF-2            | 66666          |                         | 00000                | 00000           | 00000        |
| synthetic<br>technology                  | 10W-40 | Volvo VDS-3, MTU type 3, MAN M 3277<br>ACEA E4, E7, API CF, Cummins CES 20072<br>MB-Approval 228.5, Renault RVI RLD-2<br>ZF TE-ML 04C, MACK EO-N, Scania LDF-3<br>Deutz DQC III-10 |                | 0000                    |                      | 000             |              |

### Performance

High performance line for conventional engines providing excellent reliability and cleaning of mechanical parts. Permits application of optimum oil drain intervals and, like all Eni lubricants, guarantees high level of engine protection and extended service life.

|                         |           |  | drain interval | cold start<br>qualities | engine<br>protection | fuel<br>economy | multi<br>OEM |
|-------------------------|-----------|--|----------------|-------------------------|----------------------|-----------------|--------------|
| synthetic<br>technology | E4 10W-40 | ACEA E4<br>MB-Approval 228.5<br>MAN M 3277, M 3377<br>MTU type 3   | 0000           | 00000                   |                      | 000             | 0000         |
| mineral                 | E7 15W-40 | MB-Approval 228.3<br>Deutz DQC III-05<br>MAN M 3275-1<br>API CI-4/CH-4/SL<br>ACEA E7, E5, E3, B3<br>MTU type 2<br>Volvo VDS-3<br>MACK EO-N<br>Deutz DQC III-10<br>Caterpillar ECF-1a, ECF-2<br>Renault RVI RLD-2 |                | 000                     | 000                  | 00              |              |
| mineral                 | E3 15W-40 | MB 228.1<br>MAN M 3275-1<br>MTU type 2<br>ACEA E3<br>API CG-4  |                | 000                     | 000                  | 00              | 000          |

# Universal



Line of high performance lubricants suitable for heavy duty vehicles that can also be used in gasoline engines. Ideal for lubrication of mixed vehicles fleets.

The lubricants comprising the universal line comply with stringent specifications and protect the engine from wear and deposits on the pistons.

|                         |        |  | drain interval | cold start<br>qualities | engine<br>protection | fuel<br>economy              | multi<br>OEM |
|-------------------------|--------|--|----------------|-------------------------|----------------------|------------------------------|--------------|
| synthetic<br>technology | 10W-40 | ACEA E7, Renault RVI RLD-2, Volvo VDS-3<br>ACEA A3/B3, A3/B4, API CI-4<br>MB-Approval 228.3, MB 229.1<br>Curmins CES 20076, 20077, 20078<br>MACK E0-N<br>Global DHD-1<br>JASO DH-1<br>MAN M 3275-1<br>MTU type 2<br>DETROIT DIESEL DDC 93K215<br>Deutz DQC III-10<br>Allison C-4 | 0000           | 0000                    | 0000                 | $\Diamond \Diamond \Diamond$ |              |
| mineral                 | 15W-40 | API CG-4/SL<br>ACEA E2<br>MB 228.1, 229.1<br>MAN 271   | 000            | 000                     | 00                   | 00                           | 0000         |

### Monograde

i-Sigma

Eni i-Sigma monograde is a lubricant for naturally aspirated and supercharged diesel engines operating under mild duty service conditions.

|         |                     |  | drain interval | cold start<br>qualities | engine<br>protection | fuel<br>economy | multi<br>OEM |
|---------|---------------------|--|----------------|-------------------------|----------------------|-----------------|--------------|
| mineral | 10W-20,30,<br>40,50 | API CF/SJ<br>MIL-L-2104 D + MIL-L-46152 C<br>ALLISON C-3 | 00             | ٥                       | 00                   | ٥               | ۵            |



### Transmission oils

Innovative product line suitable for use in classic transmissions as well as in most modern driveline systems. The line complies with a wide range of performance specifications issued by the leading international organisations and required by most tractors and construction machinery operating today.

### Rotra MP 80W-90

API GL-5, MIL L 2105 D, MAN 342 type M1, MAN 342 type M2 ZF TE-ML 05A, 07A, 08, 12E, ZF TE-ML 16B, 17B, 19B, 21A

- Extreme pressure oil for heavily loaded hypoid gears, typical use in final drives and power take-off
- It protects against corrosion and wear, keeping all lubricated components in perfect conditions.

### Rotra MP 85W-140

API GL-5, MIL L 2105 D, ZF TE-ML 05A, 07A, 08, 12E ZF TE-ML 16C, 16D, 21A, Volvo 1273.10

- Extreme pressure oil for heavily loaded hypoid gears, typical use in final drives and power take-off
- It protects against corrosion and wear, keeping all lubricated components in perfect conditions.

#### Rotra MP DB 85W-90

MB 235.0 MIL-L-2105 D Level API GL-5

- Extreme pressure oil
- For lubrication of Daimler Chrysler transmissions
- Excellent antiwear and oxidation stability properties.

#### Rotra MP/S 85W-90

ZF TE-ML 05C, 12C,16E, 21C API GL-5

- Extreme pressure oil dedicated to applications where antistick-slip properties are required
- Particularly suitable for lubrication of wet brakes and limited-slip differentials.

### Rotra MP DB synth 75W-90

API GL-5, SCANIA STO 1 : 0, MB 235.8 MAN 342 type S1, ZF TE-ML 12B, 16F, 17B, Volvo 97312

- Fully synthetic high performance oil for lubrication of Daimler Chrysler transmissions
- Outstanding antiwear and oxidation stability properties
- Maximum protection of gears for the best performances and long life use.

### Rotra LSX 75W-90

MB-Approval 235.8, API GL-4 + GL-5 API MT-1, SAE J 2360 (ex MIL-PRF-2105E) MAN 341 type Z2, MAN 342 type S1 Scania STO 2:0 A FS, Volvo 97312, MACK GO-J ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21A

- Fully synthetic high performance transmission oil for universal use
- It provides long term protection of gears and is suitable for extended
   oil drain intervals
- Outstanding antiwear and oxidation stability properties.

### Rotra HY 80W-90

API GL-4 ZF TE-ML 02A, 16A, 17A, 19A MIL-L-2105 Level

- Extreme pressure oil for hypoid gears, typical use in final drives and power take-off
- Antiwear and anticorrosion properties
- · High protection against rust and foaming.

### Transmission oils



### Rotra Multigear 75W-80

API GL-4, MAN 341 type Z4, ZF TE-ML 01L, 02L, 08, 13, 16K, DAF, VOLVO 97305 + 97307, IVECO, RENAULT Note Technique B0032/2 Annex 3 EATON semi synthetic (300.000 km)

• Eni Rotra Multigear 75W-80 is an E.P. (Extreme Pressure) gear oil, suitable for use in heavy-duty manual gearboxes. It can be recommended specifically for transmissions fitted with intarder and retarder systems.

### Rotra Truck Gear 85W-140

API GL-4, GL-5, MT-1, SAE J2360 ZF TE-ML 2B, 5A, 7A, 12E, 16D, 21A SCANIA STO-1 level

- Special oil suitable for use in gearboxes and axles of construction machinery
- Provides excellent thermal and oxidation stability for maximum protection even under severe load and temperature conditions.

### Rotra Truck Gear 80W-90

API GL-4, GL-5, MT-1, SAE J2360 ZF TE-ML 2B, 5A, 7A, 12E, 16B, 17B, 19B, 21A MAN 341 type E2, Z2 + 342 type M2 SCANIA STO-1 level, NATO O-226

- Special oil suitable for use in gearboxes and axles of construction machinery
- Provides excellent thermal and oxidation stability for maximum protection even under severe load and temperature conditions.

### Rotra Truck Gear S 75W-90

API GL-4, GL-5, MIL-L-2105E ZF TE-ML 02B, 05B, 12B, 16F, 17B, 19C, 21B MAN M 3343 Type S (withdrawn), MAN 341 Type Z2, Type E3, MAN 342 Type S1 MB-Approval 235.8, SCANIA STO 1:0

 Fully synthetic, universally applicable gear oil for manual gears, transfer gears and differentials of modern commercial vehicles, passenger cars, agricultural and constructional equipment.







### i-Ride

### Scooter

france oils

Engine oils for scooters designed for an extensive urban use and also suitable for extra-urban use.

|                         |              |                        | Performance:  |
|-------------------------|--------------|------------------------|---|
| mineral                 | 2Т           | API TC<br>JASO FC      | <ul> <li>Minimizes formation of deposits and lacquer</li> <li>Ensures cleansing of the exhaust ports</li> <li>Reduces exhaust smoke</li> </ul>  |
| synthetic<br>technology | 10W-40       | api sj<br>Jaso ma ma2  | <ul> <li>Reduces the formation of carbon deposit</li> <li>Suitable for stop &amp; go use</li> <li>Extended oil change intervals</li> <li>Suitable for urban and extra-urban use</li> <li>Caters for wide operating temperature range</li> </ul> |
| mineral                 | 15W-50       | API SJ<br>JASO MA, MA2 | <ul> <li>Particularly recommended for urban use</li> <li>High detergency</li> <li>Reduced lubricant consumption</li> </ul>  |
| synthetic<br>technology | MB<br>10W-30 | API SJ<br>JASO MB      | <ul> <li>Minimizes friction</li> <li>Specific for scooters requiring JASO MB standard lubricants</li> </ul>   |

### Racing

Lubricants designed to guarantee an excellent reliability and motor protection specially in the extreme conditions of motor sports competitions.

|  |        |                                      | Performance:   |
|--|--------|--------------------------------------|--|
| <mark>top</mark> synthetic<br>technology | 2T     | ISO-L-EGD<br>JASO FC/FD<br>HUSQVARNA | <ul> <li>Low exhaust smoke</li> <li>Low residue and deposits</li> <li>High compatibility with state-of-the-art catalytic converters</li> <li>Reduced power loss</li> <li>Maximum antiseize protection</li> </ul> |
| <mark>top</mark> synthetic<br>technology | 5W-40  | API SL<br>JASO MA, MA2               | <ul> <li>Resistance to high temperatures</li> <li>High stability</li> <li>Exceptional detergency</li> </ul>  |
| <mark>top</mark> synthetic<br>technology | 10W-60 | API SL<br>JASO MA, MA2               | <ul> <li>Resistance to high temperatures</li> <li>High stability</li> <li>Exceptional detergency</li> </ul>  |



### Lubricants designed to guarantee an excellent motor reliability and protection; suitable for long highway driving and urban traffic use.

# **Street & Touring**

|                            |                   |                        | Performance:   |
|----------------------------|-------------------|------------------------|--|
| synthetic                  | Moto              | API SL                 | <ul> <li>High wear protection</li> <li>Guarantees the integrity of moving parts</li> <li>Excellent detergency and dispersancy</li> </ul>   |
| technology                 | 10W-30            | JASO MA, MA2           |  |
| synthetic                  | Moto              | API SL                 | <ul> <li>Guarantees a high mileage</li> <li>Protects from wear</li> <li>Reduces carbon deposit</li> <li>Recommended for touring vehicles</li> </ul>  |
| technology                 | 10W-40            | JASO MA, MA2           |  |
| mineral                    | Moto<br>15W-50    | API SL<br>JASO MA, MA2 | <ul> <li>Resistance to stress</li> <li>Recommended for multi-valve engines</li> <li>Guarantees motor protection and durability</li> </ul>  |
| <mark>top</mark> synthetic | Moto              | API SL                 | <ul> <li>High thermal and oxidation stability; maximum mechanical stability</li> <li>Excellent detergency and dispersancy</li> <li>Reduces the formation of sludge, lacquer, and deposits</li> <li>Recommended for sporty driving</li> </ul> |
| technology                 | 20W-50            | JASO MA, MA2           |  |
| mineral                    | Special<br>20W-50 | API SJ<br>JASO MĄ MA2, | Excellent detergency and dispersancy   |

### Offroad

Lubricants specifically developed to guarantee the highest possible performance, resistant to the strongest stress in offroad use.

|  |                             | Performance:  |
|--|-----------------------------|---|
| <mark>top</mark> synthetic<br>technology | Racing<br>Offroad<br>10W-50 | <ul> <li>High detergency in extreme use conditions</li> <li>MA2, Ensures the long-term protection of the gearbox</li> </ul> |



Mineral and synthetic oil for lubrication of two-stroke engines, either with or without oil mixer. Ensures motor protection and detergency of inner parts, for all small motors that operate under moderate stress conditions.

|                     |                   |                                | Performance:  |
|---------------------|-------------------|--------------------------------|---|
| mineral             | MIX 2T            | API TC                         | Mix 2T Lubricant developed for 2-stroke engines of scooters and motorcycles, air- or liquid-cooled.   |
| synthetic<br>castor | Kart 2T           |                                | Kart 2T Racing lubricant, based upon a blend of synthetic<br>basestocks, castor oil and a particularly tailored additive<br>system, expressly formulated for two stroke kart engines<br>either water or air cooled. |
| top synthetic       | Snow Racing<br>2T | API TC<br>ISO-L-EGD<br>JASO FC | Snow Racing 2T is a low smoke, synthetic lubricant for very high-powered, high-speed engines operating in extremely cold temperatures.  |

### Additional products

Eni completes its range of engine oils with ancillary products formulated to satisfy the everyday biker needs that cares for the maintenance of his/ her vehicle and wants the best performance in any condition.

Rotra is designed to satisfy the demands of manual gearboxes. Also suitable for scooters. Its specific composition caters for a high protection of the gearings, as well as consistent performance in time.

Fork oil is designed for use in motorcycle/scooter forks and suspensions, suitable for both road and offroad performance.

Brake fluid is designed for braking systems and for servo motor commands for hydraulic clutches. Our line guarantees maximum efficiency and quickness of braking action.

|                                   |  |   | Performance:   |
|-----------------------------------|--|---|--|
| mineral                           | Chain Lube   |   | <ul> <li>High-performance and water-resistant</li> <li>Excellent antifling characteristics</li> <li>Colloidal P.T.F.E. for added we ar and corrosion resistance</li> </ul>                       |
|                                   | Rotra Bike<br>80W-90   | API GL-4  | <ul> <li>Reduces friction and wear of the gearings</li> <li>Protects from corrosion and rust</li> <li>Eliminates/reduces noise and vibrations</li> <li>Prevents the formation of foam</li> </ul> |
| synthetic<br>technology           | Rotra Bike<br>Synth<br>75W-90  | API GL-4 + GL-5   | <ul> <li>Reduces friction and wear of the gearings</li> <li>Protects from corrosion and rust</li> <li>Eliminates/reduces noise and vibrations</li> <li>Prevents the formation of foam</li> </ul> |
| mineral                           | Fork oil<br>• Fork Oil 5 W<br>• Fork Oil 7,5 W<br>• Fork Oil 10 W<br>• Fork Oil 15 W |   | <ul> <li>Quick release of trapped air</li> <li>Maximum corrosion protection of inner parts</li> <li>Performance stability against temperature changes</li> </ul>                                 |
| organic<br>(O.A.T.)<br>technology | Antifreeze<br>Bike S   | ASTM D 3306<br>CUNA NC 956-16<br>(ed. '12)                      | <ul><li>Freezing protection</li><li>Corrosion protection</li><li>Extended coolant change intervals</li></ul>   |
| mineral                           | Brake Fluid DOT 5.1  | FMVSS 116<br>DOT 5.1<br>SAE J 1703<br>ISO 4925/05<br>(CLASS 05) | <ul> <li>Prevents vapour lock</li> <li>Ensures perfect efficiency of the braking circuit</li> <li>Guarantees chemical compatibility with rubber seals</li> </ul>                                 |



### **AGIP Novecento**

AGIP Novecento is a lubricant for classic vehicles manufactured between 1900 and 1990 powered by gasoline or diesel engines. Its formulation developed for engines subject to deposits and wear caused by the typical construction characteristics of the time.

The formulation of engine oils is aimed at capturing specific peculiarities:

- For historical racing vehicles a product has been designed with optimal technical features for the protection of engines subjected to important stresses.
- For vehicles subject to normal use, engine oils have been splitted into three categories (1900-1950 / 1950-1970 / 1970-1990) according to the age of the vehicle and of the formulations which are more suitable for these uses.
- A protective lubricating oil, strongly recommended for engines that remain inactive for long periods, has been introduced.
- For transmission lubricants, a different criterion was chosen, because in this case the mechanical parts (gearboxes, differentials, transaxle groups) have lubrication necessities directly related to the age of the vehicle, but are determined by the type of transmission and the construction materials.

### Engine oils

### AGIP Novecento 40

#### API SJ

AGIP Novecento 40 is a lubricant for classic vehicles manufactured between 1900 and 1950 powered by gasoline or diesel engines. Its formulation developed for engines subject to deposits and wear caused by the typical construction characteristics of the time.

### AGIP Novecento 15W-50

API SL

AGIP Novecento 15W-50 is a multigrade lubricant formulated for classic vehicle engines manufactured between 1970 and 1990.

### AGIP Novecento Racing 10W-60

API SL

AGIP Novecento 10W-60 is a top synthetic lubricant aimed at the high performance classic car engaged in sport events on road and on track.

#### AGIP Novecento 50

API SC

AGIP Novecento 50 is a lubricant for classic vehicles manufactured between 1900 and 1950 powered by gasoline or diesel engines. Its formulation developed for engines subject to deposits and wear caused by the typical construction characteristics of the time.

### AGIP Novecento 20W-50

API SL

AGIP Novecento 20W-50 is a multigrade lubricant, designed for classic vehicle engines manufactured between 1950 and 1970.

### Transmission oils

#### AGIP Novecento 90

API GL-3

AGIP Novecento 90 is a lubricant that offers high antiwear characteristics, designed and formulated for the transmission of classic cars. It designed for the lubrication of the transmissions only or in the differentials assembled in a single gearbox and without hypoid couplings (front-wheel drive vehicles with transverse engine) in which the power transfer occurs without excessive pressure and slipping between the teeth, for which the manufacturers recommend a performance API GL-3.

### AGIP Novecento 85W-140

API GL-5I

AGIP Novecento 85W-140 is a lubricant for manual transmissions with exceptional performance at extreme pressures (EP). Also recommended for the lubrication of hypoid gears. Its formulation, result of Eni's experience, to meet the specific lubrication requirements of transmissions and bevel gears of classic vehicles.

### AGIP Novecento 80W-90

API GL-4

AGIP Novecento 80W-90 is a lubricant used in transmission systems, especially in manual transmissions and differential with excellent performance at extreme pressures (E.P.). The product allows to meet the lubrication requirements required by the transmissions that equip classic cars.

### **Additional products**

### AGIP Novecento gasoline additive

AGIP Novecento is a gasoline additive for the protection of valve guides and seats of vintage cars engines without catalyst.

### AGIP Novecento Dot 4

FMVSS 116 SAE J 1704 ISO 4925/05 (CLASS 04)

AGIP Novecento DOT 4 is a high performance hydraulic brake fluid for use in disc or drum brake systems and in the hydraulic clutch systems of classic cars.

#### AGIP Novecento protective lubricant

AGIP Novecento is a specific protective lubricant for classic cars by exhibition or intended for prolonged stops interrupted by short periods of operation



### i-Care

### Interior car care

Meeting driver's needs is our daily mission that is carried out offering innovative services to travelers and ensuring car care and maintance. The Eni i-Care range is the result of experience gained in more than 90 years of activity on the roads of Europe. The line offers high quality and easy application products, specific for car interiors and exteriors. 360 °C car care and maintance now takes less energy than ever!

#### **Board Clean Matt**

Size: 500 ml

Cleans and renews the matt dashboard and all plastic surfaces of the car. Thanks to its special formulation it eliminates dirt, dust and debris from the treated surface, returning a greater brilliance.

### Board Clean Gloss

Size: 500 ml

Cleans and renews the dashboard and all plastic surfaces of the car. Thanks to its special formulation it eliminates dirt, dust and debris from the treated surface, returning a greater brilliance and a polish effect. Suitable for use also on rubber parts.

### Clean & Defog

Size: 300 ml

Prevents fogging in all glass surfaces of the car in strong moisture and cold conditions ensuring a good visibility. Doesn't damage plastic and rubber seals.

### Crystal Clean

Size: 500 ml

Degreases and cleanses glasses, crystals and mirrors in the car deeply and easily. Dries quickly without leaving halos. Preserve the treated surface and remove easily dirt.

#### Interiors Clean

Size: 500 ml

Foam cleaner for carpets and upholstery. It penetrates and removes quickly spots, dirt and grease stains, preserving colours and restoring the fabric back to its original quality. Eliminates unpleasant odours leaving a delicate fragrance of aloe.

### Leather Clean

Size: 500 ml

Cleans, softens and revitalizes leather upholstery leaving a delicate and pleasing aroma. Protects leather from natural aging and further damage as drying and cracking.

### Disinfect & Clean

Size: 500 ml

Cleans all internal washable surfaces of the car leaving them smooth and shiny. Contains TAYFORM that performs a deep disinfectant action against germs and bacteria. Deodorizes and lea ves a fresh, clean fragrance.

### **Exterior car care**

#### Shampoo & Wash

Size: 1L

Cleaner and degreaser for manual cleaning of the car. Efficiently removes dust and dirt from all surfaces leaving a brilliant streak-free finish and a pleasant clean fragrance.

#### De-Icer

Size: 300 ml

Defrost and removes ice quickly from the windscreen and car glasses, clearing the surface and allowing perfect visibility. Also suitable for removing ice from door hinges and locks. Prevents the formation of ice. Doesn't damage seals and windscreen wiper blades even at low temperatures.

#### Tyre Polish

Size: 500 ml

Prevents aging of tyres maintaining the original elasticity. It gives brilliance while leaving a glossy and homogeneous finish. Also suitable for mats, plastics and all rubber parts of the car.

### Brake Cleaner

Size: 500 ml

Effectively removes contaminants like oil, grease, salts, brake fluid and street grime from all possible parts. Prevents brake squeaking. Dries quickly, precise and secure leaving absolutely no residue.

### Tyre Repair

Size: 300 ml

Sealant seals and inflates punctured tyres instantly. Suitable for both tyres with inner tube and tubeless. The operation can be carried out without changing the wheel at the roadside keeping clean hands. It can be easily washed out with warm water before the tyre repair. Not suitable for large holes or rips.

### Wheel Shine

Size: 500 ml

Cleans and detergents light alloy wheels from stubborn brake dust and smog. Doesn't damage chrome plating and leaves wheels clean and brilliant.

### **Bumper Renew**

Size: 500 ml

Cleans and renews bumper and all external plastic surfaces of the car. It contains polishing and protective substances that guarantee longlasting brightness and shine to the treated surfaces for a long time.

### Window washer fluid

### Glass clean -10 °C

Sizes: 1L 5L

Degreases and cleans car windscreen without leaving any halos. Removes insects, grease and smog ensuring clear visibility. Doesn't damage paint, chrome plating and rubber parts. Prevents limescale build-up in spray nozzles and can be used also for headlamp washers. Suitable for use in all seasons down to -10°C.

### Glass clean -20 °C

Sizes: 1L 5L

Degreases and cleans car windshields without streaking. Removes insects, grease and grime, ensuring clear visibility. Doesn't damage paint, chrome or rubber parts. Prevents limescale build-up in spray nozzles and is also ideal for headlamp washers. Suitable for use in the winter season down to -20°C.

### Antifreeze -20 °C

Size: 1L 5L

Ready-to-use coolant for engine cooling circuits. It guarantees high: protection against corrosion, prevents fouling, doesn't damage hoses and other rubber components, and prevents rust formation. Protects against freezing down to -20°C.

### Antifreeze

#### Antifreeze -20 °C

Size: 1L 5L

Ready-to-use coolant for engine cooling circuits. It guarantees high: protection against corrosion, prevents fouling, doesn't damage hoses and other rubber components, and prevents rust formation. Protects against freezing down to -20°C.



# **Engine oils**

High technology product line designed to meet all off-highway vehicles needs, complying with the most stringent performance specifications set by leading manufacturers. This line also includes lubricants specifically designed for new generation EURO V and VI engines fitted with exhaust gas after-treatment systems that require a special additive formulation to maintain their effectiveness.

#### i-Sigma Top 5W-30 i-Sigma Performance E7 15W-40 MB-Approval 228.3, Deutz DQC III-05, MAN M 3275-1, API CI-4/CH-4/SL API CI-4, ACEA E4, E7, MB-Approval 228.5, Deutz DQC IV-10, MACK EO-N ACEA E7, E5, E3, B3, MTU type 2, Volvo VDS-3, MACK EO-N, Deutz DQC III-10 MAN M 3277, M 3377, MTU type 3, Renault RVI RLD-2, Volvo VDS-3 Caterpillar ECF-1a, ECF-2, Renault RVI RLD-2 Caterpillar ECF-1a, ECF-2 High performance for a wide range of engine types Top synthetic lubricant idea for extremely severe working conditions Allows extended oil drain intervals · Excellent fuel saving characteristics and cold start qualities · Ideal for extra extended oil drain intervals. · Maximum protection of engine components from wear and deposits i-Sigma Top 10W-40 i-Sigma Top MS 5W-30 Volvo VDS-3, MTU type 3, MAN M 3277, ACEA E4, E7, API CF API CJ-4, ACEA E4, E6, E7, E9, MB-Approval 228.51, 228.31, Volvo VDS-4 Cummins CES 20072, MB-Approval 228.5, Renault RVI RLD-2, ZF TE-ML 04C Deutz DQC IV-10 LA, MAN M 3677, M 3477, M 3575, M 3271-1, MACK EO-N, Scania LDF-3 MACK EO-O Premium Plus, Caterpillar ECF-3, MTU type 3.1, Renault RVI RLD-3 Deutz DQC III-1 Cummins CES 20081, Scania Low Ash, Scania LDF-4 Detroit Diesel 93K218 · High performance fuel efficiency engine oil with synthetic • Top synthetic oil suitable for Euro VI and previous version engines technologu · Excellent fuel saving characteristics and cold start qualities • High performance oil for the latest generation diesel engines (EURO · Outstanding detergent and protection properties. V and VI). i-Sigma Top MS 10W-40 i-Sigma Top MS 15W-40 ACEA E4, E6, E7, E9, API CJ-4, Caterpillar ECF-3, Cummins CES 20081 API CJ-4/SN, ACEA E7, E9, MB-Approval 228.31, Caterpillar ECF-1a, ECF-2, ECF-3 Detroit Diesel 93K218, Deutz DQC IV-10 LA, JASO DH-2-17, MACK EO-O PP Cummins CES 20076, 20077, 20081, Deutz DQC III-10 LA, MACK EO-O Premium Plus MAN M 3271-1, M 3477, M 3575, MB-Approval 228.51, Renault RVI RLD-3 MAN M 3575, MTU type 2.1, Renault RVI RLD-3, Volvo VDS-4 Scania Low Ash, Volvo VDS-4, MTU type 3.1 Detroit Diesel 93K218 • High performance oil for the latest generation diesel engines (EURO • High performance oil for Euro III to Euro V engines V and VI) • Suitable in extremely servere working conditions · Capable of extended oil drain intervals. Outstanding detergent and protection properties.

### Transmission oils

Innovative product line suitable for use in classic transmissions as well as in most modern driveline systems. The line complies with a wide range of performance specifications issued by the leading international organisations and required by most tractors and construction machinery operating today.

### Rotra MP 80W-90

API GL-5, MIL L 2105 D, MAN 342 type M1, MAN 342 type M2 ZF TE-ML 05A, 07A, 08, 12E, ZF TE-ML 16B, 17B, 19B, 21A

- Extreme pressure oil for heavily loaded hypoid gears, typical use in final drives and power take-off
- It protects against corrosion and wear, keeping all lubricated components in perfect conditions.

### Rotra MP 85W-140

API GL-5, MIL L 2105 D, ZF TE-ML 05A, 07A, 08, 12E ZF TE-ML 16C, 16D, 21A, Volvo 1273.10

- Extreme pressure oil for heavily loaded hypoid gears, typical use in final drives and power take-off
- It protects against corrosion and wear, keeping all lubricated components in perfect conditions.

### Rotra MP DB 85W-90

MB 235.0 MIL-L-2105 D Level API GL-5

- Extreme pressure oil
- For lubrication of Daimler Chrysler transmissions
- · Excellent antiwear and oxidation stability properties.

#### Rotra MP/S 85W-90

ZF TE-ML 05C, 12C,16E, 21C API GL-5

- Extreme pressure oil dedicated to applications where antistick-slip properties are required
- Particularly suitable for lubrication of wet brakes and limited-slip differentials.

### Rotra MP DB synth 75W-90

API GL-5, SCANIA STO 1 : 0, MB 235.8 MAN 342 type S1, ZF TE-ML 12B, 16F, 17B, Volvo 97312

- Fully synthetic high performance oil for lubrication of Daimler Chrysler transmissions
- Outstanding antiwear and oxidation stability properties
- Maximum protection of gears for the best performances and long life use.

### Rotra LSX 75W-90

MB-Approval 235.8, API GL-4 + GL-5 API MT-1, SAE J 2360 (ex. MIL-PRF-2105E) MAN 341 type Z2, MAN 342 type S1 Scania STO 2:0 A FS, Volvo 97312, MACK GO-J ZF TE-ML 028, 05A, 12L, 12N, 16F, 17B, 19C, 21A

- Fully synthetic high performance transmission oil for universal use
- It provides long term protection of gears and is suitable for extended
   oil drain intervals
- Outstanding antiwear and oxidation stability properties.

### Rotra HY 80W-90

API GL-4 ZF TE-ML 02A, 16A, 17A, 19A MIL-L-2105 Level

- Extreme pressure oil for hypoid gears, typical use in final drives and power take-off
- Antiwear and anticorrosion properties
- High protection against rust and foaming.

### Agriculture

### Transmission oils

### Rotra Multigear 75W-80

API GL-4, MAN 341 type Z4, ZF TE-ML 01L, 02L, 08, 13, 16K, DAF, VOLVO 97305 + 97307, IVECO, RENAULT Note Technique B0032/2 Annex 3 EATON semi synthetic (300.000 km)

 Eni Rotra Multigear 75W-80 is an E.P. (Extreme Pressure) gear oil, suitable for use in heavy-duty manual gearboxes. It can be recommended specifically for transmissions fitted with intarder and retarder systems.

### Rotra Truck Gear 85W-140

API GL-4, GL-5, MT-1, SAE J2360 ZF TE-ML 2B, 5A, 7A, 12E, 16D, 21A SCANIA STO-1 level

- Special oil suitable for use in gearboxes and axles of construction machinery
- Provides excellent thermal and oxidation stability for maximum protection even under severe load and temperature conditions.

Rotra Truck Gear 80W-90

API GL-4, GL-5, MT-1, SAE J2360 ZF TE-ML 2B, 5A, 7A, 12E, 16B, 17B, 19B, 21A MAN 341 type E2, Z2 + 342 type M2 SCANIA STO-1 level, NATO O-226

- Special oil suitable for use in gearboxes and axles of construction machinery
- Provides excellent thermal and oxidation stability for maximum protection even under severe load and temperature conditions.

### Rotra Truck Gear S 75W-90

API GL-4, GL-5, MIL-L-2105E ZF TE-ML 02B, 05B, 12B, 16F, 17B, 19C, 21B MAN M 3343 Type S (withdrawn), MAN 341 Type Z2, Type E3, MAN 342 Type S1 MB-Approval 235.8, SCANIA STO 1:0

 Fully synthetic, universally applicable gear oil for manual gears, transfer gears and differentials of modern commercial vehicles, passenger cars, agricultural and constructional equipment.

### **Multifunctional oils**

Multipurpose products designed for lubrication of a wide range of devices fitted on modern tractors and construction machinery. They are generally grouped in two categories:

- UTTO (Universal Tractor Transmission Oil): Lubricants potentially suitable for use in all auxiliary equipment, engine excluded.
- STOU (Super Tractor Oil Universal): Lubricants potentially suitable for use in engine and all auxiliary equipment fitted.

#### Multitech JD/F

API GL-4, ALLISON C-4, FORD ESN M2C 134-D, JOHN DEREE JDM J20C MASSEY FERGUSON M1135, M1141, M1143, M1145 KUBOTA UDT FLUID, KOMATSU (KES 07.866) CNH MAT 3525, MAT 3526, MAT 3510, FORD ESN M2C 86B, C FNHA-2-C-201.00 + 2-C-200.00, VOLVO VCE WB 101 ZF TE-ML 03E, 05F, 06K, 17E, 21F level

- UTTO lubricant for transmission and hydraulics combined systems
- Suitable for lubrication of wet brakes axles
- Low viscosity at low temperatures for ensuring easy start even in rigid climates.

#### Multitech THT 15W-30

API GL-4, ALLISON C-4, FORD ESN M2C 86B + ESN M2C 134-D MASSEY FERGUSON M1135, M1141, M1143, M1145 NEW HOLLAND. FNHA-2-C-201.00 ZF TE-ML 03E, 05F, 06K, 17E, 21F level

- UTTO lubricant for transmission and hydraulics combined systems
- Suitable for lubrication of wet brakes
- Contains high quality antiwear additives for better protection and correct systems operating.

# **Multifunctional oils**

### Agriculture

### Multitech 10W-30

ACEA E2, API GL-4, API CG-4, API SF DIN 51524-2 HLP JOHN DEERE JDM J27, FORD ESN M2C 159B, CATERPILLAR TO-2 MASSEY FERGUSON M 1144, M 1145, ALLISON C-4, MB 228.1 ZF TE-ML 06B, 06C, 07B

• STOU lubricant suitable for use in all devices (engine, transmissions, hydraulics, wet brakes, power take-off and power steering).

### Multitech 15W-40

ACEA E2, API GL-4, API CG-4, API SF, JOHN DEREE JDM J27, MASSEY FERGUSON M 1144, M 1145 CATERPILLAR TO-2, ALLISON C-4, MB 228.1 FENDT VARIO ZF TE-ML 06B, 06C, 07B

• STOU lubricant suitable for use in all devices (engine, transmissions, hydraulics, wet brakes, power take-off and power steering).

### Multitech CT 30

API CF/CF-2 level, CATERPILLAR TO-4, ALLISON C-4, KOMATSU KES 07.868.1 DANA Powershift Transmissions ZF TE-ML 03C, 07F

- Special multifunctional lubricant designed to meet the severe technical requirements of Caterpillar
- Protects powershift transmission for best performance during its service life and eliminates brake chatter.

### Super Tractor Universal 10W-30

ACEA E3-96, API SF/CG-4/GL-4 Mil-L-2104D Meets the requirements of: FORD M2C159-C + M2C134-D, MB 227.1 JOHN DEERE J27 + J20C, ZF TE-ML 06B/07b CATERPILLAR TO-2, ALLISON C4 MASSEY FERGUSON CMS M1135/M1143/M1144/M1145, NH 410B

- An up-to-date multifunctional lubricating oil for agricultural and earthmoving equipment, formulated with top-grade solvent refined base oils and additives, to achieve the following properties:
  - a powerful dispersion and detergency
  - a high activity against wear, corrosion and foam
  - a very strong resistance to oxidation
  - excellent E.P. properties
  - a high and stable viscosity index.

Multitech 10W-40

ACEA E2, API GL-4, API CG-4, API SF, MIL-L-2105 D° JOHN DEERE JDM J27, CATERPILLAR TO-2 MASSEY FERGUSON M 1144, M 1145, Allison C-4 MB 228.1, ZF TE-ML 06B, 06C, 07B

• STOU lubricant suitable for use in all devices (engine, transmissions, hydraulics, wet brakes, power take-off and power steering).

#### Multitech CT 10W

API CF/CF 2 level KOMATSU KES 07.868.1, DANA Powershift Transmissions CATERPILLARTO-4, ALLISON C-4 EATON VICKERS 35VQ-25 ZF TE-ML 03C,

- Special multifunctional lubricant designed to meet the severe technical requirements of Caterpillar
- Protects powershift transmission for best performance during its service life and eliminates brake chatter.

### Multitech CT 50

API CF/CF-2 level CATERPILLAR TO-4,KOMATSU KES 07.868.1 TREMEC/TTC EATON VICKERS 35VQ-25

- Special multifunctional lubricant designed to meet the severe technical requirements of Caterpillar
- Protects powershift transmission for best performance during its service life and eliminates brake chatter.

\*E.P. (extreme pressure)

### Antifreeze

### Agriculture

Special ethylene glycol-based coolant line recommended for outstanding protection of the cooling circuits fitted on modern tractors and work machinery. The special formulations adopted guarantee heat exchange efficiency into the radiator ensuring safe engine operation even in severe operation conditions. All coolants are environmentally friendly since they are formulated without Nitrites, Ammines and Phosphates (N.A.P. free).

### Plus BX/Plus Ready BX

MB 325.3 ASTM D 3306 BMW, OPEL MAN 324 Tipo SNF MASERATII NATO S-759 VOLVO VW TL 774 C (G11)

• Concentrate or pre-mix (Ready) coolant with protective action, suitable for prolonged drain intervals.

#### Spezial G BX

#### VW TL 774 G (G12++)

- Full carboxylate-based technology coolant
- Environmentally friendly.

### Extra ready BX

AFNOR NFR 15-601, BS 6580, CUNA NC 956-16 (ed. '12), Meets requirements:UNE 26-361-88/1

· Pre-mixed silicate based coolant (traditional technology).

#### Spezial BX / Spezial Ready BX

BS 658, MB 325.3 ASTM D 3306 FORD WSS-M97B44-D DEUTZ 0199-99-1115/2091 OPEL GM 6277M,FVV Heft R443,MAN 324 Tipo SNF NATO S-759,O-Norm RENAULT 41-01-001/Q type D,VW TL 774 D/F (G12/G12+)

• Concentrate or pre-mix (Ready) coolant with full organic technology (O.A.T.), protective action and suitable for prolonged drain intervals.

#### NM Ready BX

#### CAT EC-1

• Silicate free antifreeze which provides a long life and corrosion protection for all metals in the engine, including aluminum and ferro-alloys. It is recommended to replace the coolant every 5 years or above the recommended mileage or operating time.

Full range of lubricants for excellent hydraulic and hydrodynamic performance. Available in several qualities and viscosity grades, these lubricants match all demands of construction and agricultural machinery. The choice of

#### Arnica

EATON VICKERS M-2950-S, REXROTH RD 90220-01/12.10, EATON VICKERS I-286-S level, DIN 51524-3 HVLP, Fives Cincinnati P-70, DENISON HF-0, ISO 11158 HV AFNOR NF E 48603 HVBS 4231 HSE Commercial Hydraulics Linde AISE 127 CETOP RP 91 H HV Sauer Danfoss 520L0463 Danieli Standard n. 0.000.001 - Rev.15 ZF TE-ML 04R

• Superior quality 'low-zinc' mineral antiwear hydraulic oils, with a high viscosity index, developed to satisfy the needs of modern applications that operate in the severest conditions.

#### Arnica S

ISO 12922 HFDU, ISO 15380 HEES, Inline Hydraulik Gmbh, REXROTH RD 90221-01/03, Hoerbiger Micro fluid, VII Report of Luxemburg, Danieli Standard n. 0.000.001

Biodegradable synthetic oil for use in applications that are exposed to fire hazards or the risk of contamination of soil and land
Resistant to heat / fire. It does not emit and is thermally stable.

Hydraulic fluids

fluid depends on the type of use, on operating conditions and on the characteristics of the components of the hydraulic systems.

#### Arnica ESB

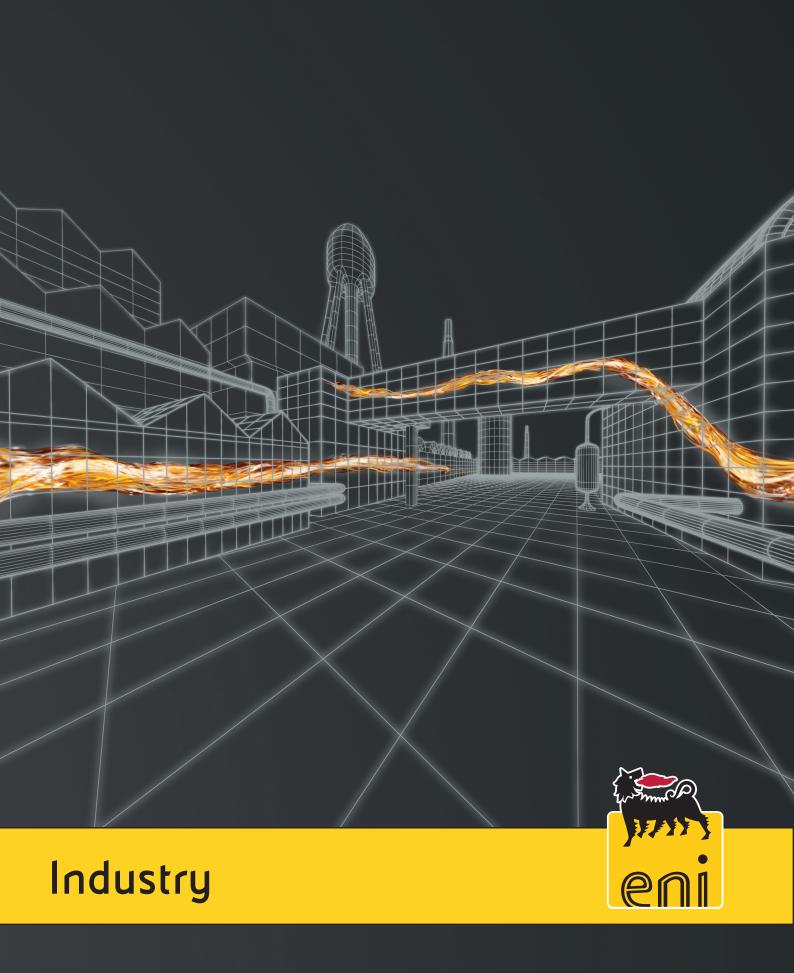
ISO 15380 HEES EATON VICKERS 35VQ-25 EU ECOLABEL - nº DE/027/142

- Eco-friendly high performance hydraulic fluids based on saturated synthetic esters, readily biodegradable and not bioaccumulative
- Fulfills the requirements of the EU Ecolabel for hydraulic fluids.

### Arnica DV

ISO 11158 HV DIN 51524-3 HVLP-D

- Special hydraulic oil with very high viscosity index and withstands a lot of cold for optimal operation
- · Provides excellent thermal and oxidation stability.



### Industry

AFNOR NF E 48600 HV CETOP RP 91 H HV

# Hydraulic oils

Eni has developed a complete series of lubricants for hydraulic applications with excellent performance. The oils are available in various qualities and viscosity grades in order to satisfy all lubrication requirements. In addition to the normal hydraulic product line, Eni also developed a biodegradable line to comply with environmental regulations. The high quality lubricants possess a high viscosity index, excellent resistance to oxidation and aging and outstanding anticorrosion, antirust and antiwear properties.

#### Mineral High quality hydraulic oil specially developed for use in all types of hydraulic systems and Oso ISO VG 10-150 equipments. ISO 11158 HM, DIN 51524-2 HLP AFNOR NF E 48603 HM, BS 4231 HSD, Fives Cincinnati P-70 level, ATOS Table P002-1/E Eaton Vickers I-286-S Denison HF-0, HF-1, HF-2 Rexroth RD 90220-01/12.10 Danieli Standard n. 0.000.001 - Rev.15 Muller Weingarten DT 55 005, ZF TE-ML 04K Detergent-dispersant hydraulic oil for use in circuits where water is or can be present. They are Oso D ISO VG 32-46 obtained from highly-refined base stocks containing additives of anticorrosion, antioxidant and antiwear. ISO 11158 HM DIN 51524-2 HLP-D MAN N 698 Oso S Ashless, zinc-free high quality hydraulic oil developed for use in all types of hydraulic systems and ISO VG 46-68 equipment, specially where products with very high filterability are required. Formulated from selected paraffinic base stocks treated with antirust, antioxidant and antiwear additives. ISO 11158 HM DIN 51524-2 HLP AFNOR NF E 48603 HM BS 4231 HSD Denison HF-0 level, Fives Cincinnati P-70 level Eaton Vickers I-286-S level + M-2950-S level Oso PM Special ashless, zinc-free high quality hydraulic oils characterized by very high antiwear properties. ISO VG 46 Formulated from selected paraffinic base stocks treated with antirust, antioxidant and antiwear additives ISO 11158 HM. DIN 51524-2 HLP AFNOR NF E 48603 HM BS 4231 HSD Muller Weingarten DT 55 005 Mineral lubricant, specially developed for use in hydraulic systems requiring fluids possessing an Arnica ISO VG 15-100 extremely high viscosity index and a very low pour point for correct operation. ISO 11158 HV, DIN 51524-3 HVLP AFNOR NF E 48603 HV BS 4231 HSE Rexroth RD 90220-01/12.10 Eaton Vickers I-286-S level + M-2950-S Fives Cincinnati P-70 Denison HF-0 Commercial Hydraulics Linde AISE 127 CETOP RP 91 H HV Sauer Danfoss 520L0463 Danieli Standard n. 0.000.001 - Rev.15 ZF TE-ML 04R Special hydraulic fluid with a high viscosity index and a low pour point, particularly suitable for use in Arnica DV ISO VG 46 ceramic industry presses. ISO 11158 HV DIN 51524-3 HVLP-D Arnica P Mineral hydraulic oil formulated expressly for use in Poclain machinery. It can also be employed in all ISO VG 46 hydraulic systems that require fluids with high viscosity index and low pour point. DIN 51524-3 HV

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### Hydraulic oils

### Industry

### Mineral and fire resistant

Arnica 104/FR ISO VG 46 Non-flammable hydraulic fluid with high viscosity index and low pour point. It consists of a glycol/water solution additive-treated to prevent corrosion.

ISO 12922 HFC ISO 15380 HE.P.G VII Report of Luxemburg Danieli Standard n. 0.000.001 - Rev.15

### Synthetic

#### Arnica LT ISO VG 15

ISO 11158 HV DIN 51524-2 HVLP DENISON HF 0 level EATON VICKERS M-2950-S + I-286-S

#### Arnica PSX ISO VG 46

ISO 11158 HV DIN 51524-3 HVLP-D Red coloured hydraulic oil having a very high viscosity index and very good properties at low temperatures. Formulated from highly refined, paraffinic base oil and ashless additives. The special formulation ensures a high viscosity index, very low pour point, antiwear and antirust properties, good filtrability and very high thermal and oxidation stability.

Hydraulic fluid, with very high performances, specially developed for use in ceramic industry presses. The synthetic base, treated with special additive packages, possesses detergent/dispersant, antioxidant, antirust and antiwear properties. It allows longer oil change intervals than typical with mineral oils.

### Synthetic and biodegradable

### Arnica ABX

ISO-L-HEPR

WGK 1

Arnica ESB

ISO 15380 HEES EATON VICKERS 35VQ-25 EU ECOLABEL (n° DE/027/142)

Arnica Extra Plus

DIN 51524-3 HV EU ECOLABEL (n° DE/027/118) AFNOR NF E 48600 HV CETOP RP 91 H HV

#### Arnica V ISO VG 32, 46, 68

ISO 15380 HETG WGK 1 Biodegradable hydraulic fluid, containing antioxidants, antirust, antiwear and friction modifier additives. It has excellent features at low temperature and it is characterized by a very high viscosity index.

\*Eco-friendly' high performance hydraulic fluid based on saturated synthetic esters, readily biodegradable and not bio-accumulative. EU ECOLABEL registered.

Fast biodegradable hydraulic fluid on synthetic ester basis for all high loaded hydraulic systems.

Biodegradable hydraulic fluid, synthesized from selected natural esters. Intended for those applications where the problem of environmental pollution is prevalent.

# Hydraulic oils

## Synthetic and fire resistant

Arnica S ISO VG 46 - 68

ISO 12922 HFDU ISO 15380 HEES Inline Hydraulik Gmbh Rexroth RD 90221-01/03 Hoerbiger Micro fluid VII Report of Luxemburg Danieli Standard n. 0.000.001 - Rev.15

Arnica S FR ISO VG 46 - 68

ISO 15380 HEES ISO 12922 HFDU Danieli Standard n. 0.000.001 - Rev.15 FM Approval Class 6930 Biodegradable synthetic fluid for use in applications particularly exposed to fire hazards or involving soil-contamination risks. Formulated from synthetic bases composed of organic esters treated with special additive packages.

Biodegradable synthetic lubricant, Factory Mutual approved as fire resistant hydraulic fluid, suitable for use where it is exposed to the risk of fire hazards and environmental pollutions. Formulated with organic ester and specific additives.

# Gear oils

## Industry

Eni gear oils have been developed to meet the widest range of requirements for (E.P.)\* lubrication. The Blasia range is characterized by the high quality of used components, which provide excellent performance in terms of lubrication, protection and long-service life. Both mineral and synthetic based products contain additives, that ensure the capability of the oil to withstand the high loads it can be exposed to.

### Mineral

Blasia ISO VG 32 - 680

ISO 12925-1 CKD DIN 51517-3 CLP AIST No.224 ANSI/AGMA 9005-E02 David Brown S1.53 101 level Fives Cincinnati P-76 level Muller Weingarten DT 55 005 CLP

#### Blasia P

ISO VG 1000, 2200, 3200

ISO 12925-1 CKC DIN 51517-3 CLP ANSI/AGMA 9005-E02 David Brown S1.53 101 level

Blasia BM ISO VG 220

ISO 12925-1 CKD DIN 51517-3 CLP ANSI/AGMA 9005-E02

#### Blasia FMP ISO VG 100 - 460

ISO 12925-1 CKD, DIN 51517-3 CLP AIST No.224, ANSI/AGMA 9005-E02 Fives Cincinnati P-74 level David Brown S1.53 101 level Muller Weingarten DT 55 005 CLP - level Danieli Standard n. 0.000.001 - Rev.15 Siemens MD (Flender) Rev. 15

Fin 332/F

ISO 6743/6 CKH-DIL DIN 51513 BC-V"

#### Fin 360/EP/F

ISO L CKJ-DIL DIN 51513 BC-V Developed to meet the widest range of requirements of E.P. lubrication, such as gears operating under severe duty.

Very viscous oil treated with E.P. additive to ensure proper lubrication of heavily loaded, slow-moving parts. The two ISO VG grades 1000 and 2200 are mineral based, whereas the 3200 is partially synthetic.

Developed to meet the widest range of requirements where E.P. properties are requested (gears operating under severe duty). Manufactured from paraffinic base stocks and additives (sulphur and phosphorus compounds), to ensure good high-speed and shock-load performance. The presence of molybdenum compound ensures reliable wear protection under shock loads and unfavorable operating conditions cushioning vibrations and muffle noise.

Very high performance gear oil for lubricating in E.P.\* of the latest generation industrial gear reducers, in particular, those extremely compact and of high specific power that could have problems of micropitting damages.

Very adhesive black-coloured mineral-based lubricant suitable for lubrication of machinery exposed to the atmosphere.

Suitable for lubricantion and protection of machinery exposed to the atmosphere, open gears, wire ropes, springs, guides, racks and open machinery parts in general, subjected to severe mechanical loads and thermal stresses.

\*E.P. (extreme pressure)

## Industry

# Gear oils

### Synthetic

Blasia S ISO VG 150 - 460

ISO 12925-1 CKE ISO 12925-1 CKT DIN 51502 CLP-PG ANSI/AGMA 9005-E02 Sacmi 200.02.A01

Blasia SX ISO VG 100 - 320

ISO 12925-1 CKS DIN 51517-3 CLP Alfa Laval

Blasia FSX ISO VG 320, 460

ISO 12925-1 CKD DIN 51517-3 CLP ANSI/AGMA 9005-E02 AIST No.224 Fives Cincinnati P-74 level David Brown 51.53 101 level Siemens Flender BA 7300 Table A level"

Telium VSF ISO VG 220-320

ISO 12925-1 CKT ISO 12925-1 CKE DIN 51502 CLP-PG ANSI/AGMA 9005-E02 High pressure gear oil based on synthetic base oils of Polyglycol type for the lubrication of high loaded spur and worm gears as well as rolling and sliding bearings under extreme operational conditions.

Developed for the lubrication of gears and bearings operating at high temperatures. It is formulated from a synthetic base (polyalphaolefin) and additive-treated to provide appropriate antirust, antiwear properties and exceptional oxidation and thermal stability.

Very high performance synthetic PAO\* gear oil for lubricating in E.P. of the latest generation industrial gear reducers, in particular, those extremely compact and of high specific power that could have problems of micropitting damages.

Synthetic lubricant formulated with selected water-soluble polyglycols, suitable for lubrication of bearings, gears and other couplings operating at very high temperatures with particular regard to worm gears.

### Synthetic gear oil for wind turbine

most important manufacturers.

Blasia WT

ISO 12925-1 CKD DIN 51517-3 CLP Hansen Siemens MD (Flender) Rev.16.

### Synthetic and biodegradable

Blasia ESB ISO VG 220 - 460 Formulated from biodegradable synthetic bases composed of esters treated with special additive packages.

Recommended for lubrication of the main gearbox and bearings in wind turbine systems produced by

ISO 12925-1 CKC DIN 51502 CLP-E

> \*E.P. (extreme pressure) \*PAO (Polyalphaoletin)

# **Compressor oils**

The Eni product line for compressors comprises of products for high and low temperature applications. When compressing a gas, the lubricant is exposed to high temperatures and, especially in case of air compression, high oxidative stress. The Eni Dicrea product line is a complete series of lubricants for air and industrial gas compressors. The lubricants are very stable at high temperatures, limiting the formation of deposits in the hot areas. The Eni Betula product line is a range of lubricants for refrigeration compressors. Even at very low temperatures, the lubricant is still sufficiently fluid to be able to ensure lubrication. Moreover, the lubricant is tolerant with respect to the cooling medium.

### Mineral Air Compressors oil

Dicrea ISO VG 32, 46, 68, 100, 150, 220, 320 Mineral oil formulated with paraffinic base stocks, recommended for the lubrication of air compressors, including those with very high air delivery temperatures (200°C or more). The ISO VG 32 and 46 have been developed specifically for rotary compressors (screw and vane).

ISO 6743/3 DAH ISO 6743/3 DAB ISO 6743/3 DVA DIN 51506-VDL Italvacuum HATLAPA NEA Neuman & Esser Sulzer Burckhardt

### Synthetic Air Compressor oil

Dicrea SX ISO VG 32, 46, 68

ISO 6743/3 DAB ISO 6743/3 DAJ DIN 51506-VDL

Dicrea ESX ISO VG 100

DIN 51506-VDL ISO 6743/3 DAB ISO 6743/3 DAJ Synthetic oil with a polyalphaolefin base. They are compatible with the type of rubber used in air compressors. Due to the fully synthetic base, maintenance intervals can be significantly extended compared to mineral based lubricants.

Synthetic oil with an ester base. It minimizes the formation of damaging carbon deposits and sludges on the valves. It has been specifically designed for reciprocating compressors.

# **Compressor oils**

### Mineral refrigeration compresor oils

(ammonia, freon 12, freon 22, etc.).

| Betula            |  |
|-------------------|--|
| ISO VG 32, 46, 68 |  |
|                   |  |

ISO-L-DRA ISO-L-DRC DIN 51503 KAA DIN 51503 KC Bitzer KT-500-5

DIN 51503 KD

### Synthetic refrigeration compresor oils

| Betula S<br>ISO VG 32 - 100   | Formulated with special synthetic base (PAO). Intended for lubrication of refrigeration compressors<br>(reciprocating, rotary-screw and vane) of the closed domestic type, open and semi-sealed industrial units<br>for refrigeration, or heat pump systems using all types of refrigerant (ammonia, Freon 12, Freon 22 etc.). |
|---|--|
| ISO 6743/3 DRA<br>ISO 6743/3 DRC<br>ISO 6743/3 DRE<br>DIN 51503 KAA<br>DIN 51503 KC | They may also be used in other equipment and machinery operating at very low temperatures.   |
| Betula ESX<br>ISO VG 32 - 150   | Formulated with special synthetic base (polyolesthers), used in refrigerators where HFC refrigerants are used (R134a, R 404a, R407c, R507).  |
| ISO 6743/3 DRD<br>ISO 6743/3 DRE  |  |

Formulated with special naphthenic base oils appropriately refined, for all types of refrigerants

| Gas Compressors oil  |   |
|--|---|
| Dicrea S<br>ISO VG 150   | Fully synthetic lubricant with a polyglycol base developed specifically to guarantee outstanding lubrication for compressors handling natural gas, LPG, ammonia and chlorine-fluorine derivatives.                                    |
| ISO 6743/3 DRB<br>ISO 6743/3 DGC<br>Sulzer Burckhardt              |   |
| Sic C<br>ISO VG 150-220  | Recommended for cylinders of air and gas compressors operating in severe conditions due to very high humidity content, provided that outlet temperature is not very high.   |
| ISO L-DGB  |   |
| Dicrea TC<br>ISO VG 46-68  | Lubricant for turbocompressors used by chemical industy in the ethylene and ammonia syntesis processes.   |
| DVS 40   | Synthetic polyglycol based oil specifically formulated for hypercompressors involved in the polyethylene production suitable also for compressor operating with natural gas, LPG, ethylene, ammonia or fluorine-chlorine derivatives. |
| US FDA 21 CFR 178.3570<br>Nuovo Pignone SOP 86677- Class E<br>Iube | riuorine-chiorine derivatives.  |
| Dicrea VR 220<br>ISO VG 220  | Pharmaceutical-grade white oil recommended for lubrication of ethylene reciprocating compressors and hypercompressors operating at extremely high pressures (about 3000 bar) for polyethylene production in chemical industry.        |

# Stationairy engine oils

## Industry

These are products intended for all those applications where internal combustion engines are used for generating electric power. This category of lubricants comprises oils for application in engines running on diesel fuel or fuelled by natural gas or landfill gas (biogas). Considering the delicacy of the application, it is fundamental to receive, besides the high quality of Eni Geum, also Eni's technical support.

| Mineral   |  |
|---|--|
| Geum<br>SAE 40<br>Caterpillar<br>Rolls-Royce<br>MDE<br>MTU<br>Dresser-Rand                        | Eni Geum 40 is a lubricant for stationary engines, spark-ignition type, burning natural or methan gas<br>where a low ash oil is required. Eni Geum 40 is formulated with high viscosity index basestocks and<br>selected additives that deliver detergent-dispersant, antioxidant, antiwear and antifoam properties.   |
| Geum C<br>SAE 40<br>Wartsila<br>Guascor   | Eni Geum C 40 is a lubricant for stationary engines, spark-ignition type, burning natural or methan<br>gas where a low ash oil is required.<br>Eni Geum C 40 is formulated with high viscosity index basestocks and selected additives that deliver<br>detergent-dispersant, antioxidant, antiwear and antifoam properties. The product has a low content of<br>phosphorus.  |
| Geum E<br>SAE 40<br>MAN 3271-4 level  | Eni Geum E 40 is a lubricant for modern stationary engines, spark-ignition type, burning landfill gas,<br>biogas or other gasses with a high rate of acidity.<br>Eni Geum E 40 is formulated with high viscosity index basestocks and selected additives that deliver<br>detergent-dispersant, antiwear and antifoam properties. The product has a high content of sulphated<br>ashes and a low content of phosphorus.                       |
| Geum NG<br>SAE 40<br>GE Jenbacher engines type 2/3/4/6 on gas class A<br>and B<br>MWM<br>Wartsila | Eni Geum NG 40 is a lubricant for modern stationary engines, spark-ignition type, burning natural gas, methan or biogas where a low ash oil is required.<br>Eni Geum NG 40 is formulated with high viscosity index basestocks and selected additives that deliver detergent-dispersant, antiwear and antifoam properties. The product retains a particularly high resistance to oxidation processes.   |
| Geum LFG<br>SAE 40<br>GE Jenbacher engines type 2/3/4/6 on gas class B<br>and C<br>MAN M 3271-4   | Eni Geum LFG 40 is a lubricant for modern stationary engines, spark-ignition type, burning landfill<br>gas, biogas or other fermentation gases (digestors).<br>Eni Geum LFG 40 is formulated with high viscosity index basestocks and selected additives that<br>deliver detergent-dispersant, antiwear and antifoam properties. The product retains a particularly<br>high resistance to oxidation processes and low content of phosphorus. |

## Semi Synthetic

Geum SXEni Geum SX 40 is a synthetic technology lubricant for stationary engines, spark-ignition type,<br/>burning natural or methan gas where a low ash oil is required.<br/>Eni Geum SX 40 is formulated with very high viscosity index basestocks and selected additives that<br/>deliver detergent-dispersant, antioxidant, antiwear and antifoam properties.

# **Circulation oils**

## Industry

Eni circulation oils are developed for use in circulation systems, intended for the lubrication of bearings, crankshafts, oil-filled couplings and gears, where no E.P.\* properties are required. The oils can also be used in hydraulic systems, where resistance against aging and antirust properties are required. The different viscosity classes of the Eni product line make it possible to select the right oil for all operating conditions.

| Circulation oils   |  |
|--|--|
| Radula<br>ISO VG 32 - 460  | Radula oil is recommended for most machinery lubricated by a circulation system.   |
| ISO 11158 HH BS 4231 HSB   |  |
| Acer<br>ISO VG 15, 22, 32, 46, 68, 100, 150, 220, 320,<br>460, 540, 680, 800   | High quality (R&O) lubricant for use in circulation systems and hydraulic circuits. This oil is based on selected paraffinic base oils with antioxidation and anticorrosion additives.                                   |
| ISO 11158 HL, DIN 51524-1 HL<br>AFNOR NF E 48603<br>HL CETOP RP 91 H HL BS 4231 HSC ISO<br>12925-1 CKB<br>DIN 51517-2 CL ANSI/AGMA 9005-E02<br>ISO 6743/3 DAB DIN 51506 VCL<br>Morgoil rev. 3.0 - 1999 |  |
| Acer MP<br>ISO VG 100 - 460  | Suitable for use in circulation systems. This oil is based on selected paraffinic base oils with antioxidation<br>and anticorrosion additives. Excellent demulsibility even in the presence of large quantities of water |
| Danieli Standard n. 0.000.001 - Rev.15   |  |
| Acer MPK<br>ISO VG 150, 220  | Special lubricant specifically intended for simultaneous lubrication of bearings and gears under high temperatures. Mainly used in the paper industry .  |
| Carcano (A4-415-511986)  |  |
| Acer LD 100<br>ISO VG 100  | Lubricant specifically designed for the lubrication of No-Twist Rod mills' bearings.   |
| Danieli Standard n. 0.000.001 - Rev.15   |  |

# Heat transfer oils

Eni's product line for filling heat transfer units can be used in all open or closed systems. The different viscosity grades enable selection of the most suitable oil for operating conditions. The oils have excellent oxidation stability and withstand thermal decomposition. They also have high demulsibility property and air release performance, thus ensuring proper operation of the heat transfer unit.

| Mineral                       |   |
|-------------------------------|---|
| Alaria 2<br>ISO 6743/12 QB    | High performance fluid for transfer of thermal energy to diathermic systems. Can be used in any type of plant, either open or closed system and under forced circulation. The maximum operating temperatures are: Maximum bulk oil temperature: 270°C. Maximum oil film temperature: 290°C.           |
| Alaria 3<br>ISO VG 32         | High performance fluid for transfer of thermal energy to diathermic systems. Can be used in any type of plant, either open or closed system and under forced circulation. The maximum operating temperatures are Maximum bulk oil temperature: 300°C. Maximum oil film temperature: 320°C.            |
| Alaria 3 HT<br>ISO 6743/12 QB | High performance fluid for transfer of thermal energy to diathermic systems. Can be used in any type of<br>plant, either open or closed system and under forced circulation. The maximum operating temperatures<br>are:<br>Maximum bulk oil temperature: 320°C. Maximum oil film. temperature: 340°C. |
| Alaria 7<br>Iso vg 32         | High performance fluid for transfer of thermal energy to diathermic systems to be used in any type of plant,<br>either open or closed system and under forced circulation. The maximum operating temperatures are:<br>Maximum bulk oil temperature: 270°C. Maximum oil film temperature: 290°C.       |

\*E.P. (extreme pressure)

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# **Textile oils**

# Industry

The Eni Codium series are special oils for the textile industry, formulated using colourless oils that, due to their extreme degree of refining, are free of hydrocarbons that are difficult to remove. A particular additive treatment provides these products with certain features that distinguish them as high quality textile oils with excellent antirust properties for the protection of lubricated components, optimum adhesiveness and antidrip properties, good wash-ability for removal of any traces of oil from the fabric and they are free of colouration to minimize any effects of residual contamination after washing.

### Mineral

Codium L ISO VG 46, 100 Specially for the textile industry developed colourless, good washable and free of hydrocarbons that are difficult to remove.

### Synthetic

Codium LS 32

Specifically for the textile industry developed colourless, washable and free of hydrocarbons that are difficult to remove. Contains a synthetic component that combined with additives, provides a product that is more resistant to harsh conditions than traditional textile oils.

# White oils

Eni's OBI line of white mineral oils are highly refined, colourless, tasteless and odourless and mainly used for pharmaceutical, cosmetic and phytopharmaceutical applications. The OBI T line is a technical white vaseline with a slight petroleum odour, which is suitable for the lubrication of precision mechanisms.

| Mineral   |  |
|---|--|
| OBI 10<br>ISO VG 68<br>Farmacopea Italiana<br>Farmacopea Europea<br>US FDA, 21 CFR 172.878<br>US FDA, 21 CFR 178.3620 (a) | Eni OBI 10 is a highly refined white mineral oil suitable for pharmaceutical use, cosmetic and<br>phyto-pharmaceutical applications.<br>The particular properties of the oil, make it suitable as a lubricant in specialised industrial<br>applications such as: CO2 compressors for dry ice production, SO2 refrigerator compressors and<br>ethylene compressors for polyethylene production. |
| OBI 12<br>ISO VG 15<br>Farmacopea Italiana<br>Farmacopea Europea<br>US FDA, 21 CFR 172.878<br>US FDA, 21 CFR 178.3620 (a) | Eni OBI 12 is a highly refined white mineral oil suitable for medicinal use, preparation of perfumery and cosmetics products.  |
| OBI T 13<br>ISO VG 15   | Eni OBI T 13 is a technical white vaseline oil with a slight petroleum odour. It is suitable for lubrication of precision mechanisms, watches, firearms and textile machinery. It is also used as a fungicide and as a plasticizer in rubber.  |

## ORDER NOW: 🖀 +31 010 294 1512 ■ SALESBENELUX@ENI.COM

## Industry

# **Turbine oils**

### Mineral

Ote ISO VG 32, 46, 68, 80,100

ISO 8068 TSA/TGA DIN 51515-1 TD, BS 489:1999 Ansaldo Energia 606W807 Rev.C (2012) GE GEK 28143B Siemens TLV 9013 04 ASTM D 4304 Type I JIS K 2213 - 1983 Type II Dossan Skoda Power Nuovo Pignone SOM 17366 Mitsubishi Spec. NO. E00-001 Rev.2 CEI 10-8 (1994)

#### Ote GT ISO VG 15, 32, 46, 68

ISO 8068 TSA/TSE/TGA/TGB/TGE/TGSB/TGSE DIN 51515-1 TD DIN 51515-2 TG ASTM D 4304 Type II GM Lubricant Standard LS2 GE GEK 28143B GE THERMODYN ISPSH902SDI MAN GHH BORSIG SP 079984 E 0000 E 99 Siemens MAT812109 Siemens MAT812107 SOLAR ES 9-224U - Class II ALSTOM HTDG 90117 V0001 X Ansaldo Energia 606W807 Rev.C (2012) Ansaldo Energia TGO2-0171-E00001/B (2016) Siemens TLV 9013 04 Siemens TVL 9013 05

#### Alisma 32 PV

ISO VG 32

ISO 8068 TSA

Top quality mineral oil designed to satisfy even the most severe lubrication requirements of steam, gas and water turbines, having especially high oxidation and aging resistance as well as very high demulsibility.

Superior quality lubricants specifically designed for use in gas turbine applications, formulated with selected base stocks and specially chosen additives to ensure an exceptional resistance to oxidation and antirust. It's 'mild E.P.' properties makes it suitable for lubrication of turbine reduction gear units.

Specifically designed for initial filling during acceptance testing. It provides also protection during storage, shipping and long stop of gas and steam turbines and turbocharges.

## Mineral

Turbo 23699 ISO VG 22

NATO O-156 DEF-STAN 91-101/1 MIL-PRF-23699 Class STD ISO 6743/5 TGCE Pratt & Whitney PWA 521-B High performance lubricant for aircraft gas turbine engines used in industrial and marine applications requiring MIL-PRF-23699-STD level performance.

# Chain oils

# Industry

### Mineral

Eni Forest ISO VG 100 A mineral oil specifically formulated for the manual or automatic lubrication of chains and guide bars of the chainsaw.

## Synthetic

Arum HT 220 ISO VG 220

ISO 12925-1 CKS DIN 51502 CLP-E High quality lubricant, formulated with special ester synthetic bases that do not leave deposits at high temperatures. It is also reinforced with specific additive that ensure antiwear propeties and exceptional resistance to oxidation. applied by hand with a brush.

A chains lubricant formulated with high quality synthetic esters that do not leave deposits even at very high temperatures (peaks up to 250°C) and special additives to impart excellent antiwear properties and

Arum ESX

ISO VG 220

ISO 12925-1 CKS DIN 51502 CLP-E

### Biodegradable

Eni Eco Lube MS ISO VG 46 A special biodegradable lubricant formulated with natural quality esters and antiwear additives that make it particularly suitable for manual or automatic lubrication of the chain saw.

# Rust prevention oils

resistance to oxidation.

| Rust prevention oils   |  |
|------------------------|--|
| Rustia NT              | Eni Rustia NT is a new formulated oily film antirust protective fluid especially developed for coating low-carbon steel sheets and zinc sheets used to make automobiles and domestic electrical applicances. |
| Rustia 27<br>JAN-C-372 | Eni Rustia 27 provides an oily film antirust coating especially for protection of finished components and machinery. This product complies with Military Specification JAN-C-372 for antirust gun oils.      |

# Rust prevention oils

| Rust prevention oils with solvents                    |  |  |
|---|--|--|
| Rustia 68 F/N   | Eni Rustia 68 F/N is a dewatering and corrosion inhibitor, formulated with isoparaffinic hydrocarbon solvent and specific anitcorrosion additives. After the solvent evaporation, it leaves a light oily film on the metallic surfaces.  |  |
| Rustia 100 F/N  | Eni Rustia 100 F/N is a special corrosion inhibitor product formulated with isoparaffinic hydrocarbon solvent and specific anticorrosion additives. After the solvent evaporation, it leaves an oily film on the treated surfaces which ensures effective long-term rust protection in wet and marine environment. |  |
| Rustia 250 F/N<br>MIL-PFR-16173 E : Class I - Grade 2 | Eni Rustia 250 F/N is a special corrosion inhibitor formulated with isoparaffin hydrocarbon solvent and specific anticorrosion additives that forms on the metallic surfaces a semitransparent waxy film.  |  |

# Food grade oils

| Food grade oils                         |   |
|---|---|
| Tilia<br>ISO VG 15, 22, 32, 46, 68, 100 | HYDRAULIC OIL - It is a high performance hydraulic and multipurpose fluid developed to meet the stringent requirements of food and pharmaceutical industries. It is recommended for the lubrication of hydraulic systems and of pneumatic systems.                              |
| Tilia SX<br>150 VG 32, 46, 68, 100      | HYDRAULIC OIL - It is a high performance hydraulic and multipurpose fluid developed to meet the<br>stringent requirements of food and pharmaceutical industries. It is recommended for the lubrication of<br>hydraulic systems and of pneumatic systems.                        |
| Tilia C<br>ISO VG 46, 68, 100           | COMPRESSOR OIL - A multipurpose high performance fluids specially developed for use in rotary screw and air compressors used in the food and pharmaceutical industries. It is based on synthetic bases with a special combination of antiwear, anticorrosive and EP* additives. |
| Myrtus HT<br>150 vg 150, 220, 320       | CHAIN OIL - These are "food grade" high performance lubricants developed for the lubrication of chains and conveyors operating in food, pharmaceutical and other clean environments.  |
| Myrtus TSX<br>ISO VG 320                | CHAIN OIL - These are 'food grade' high performance lubricants developed for the lubrication of chains and conveyors operating in food, pharmaceutical and other clean environments.  |
| *E.P. (extreme pressure)                |   |

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# Food grade oils

# Industry

| Lubricants                                      |  |
|---|--|
| <b>Ribes</b><br>ISO VG 150, 220, 320, 460, 680  | GEAR OIL - These are "food grade" high performance fluids specially developed for the lubrication of gear to meet the stringent requirements of food and pharmaceutical industries.  |
| <b>Ribes SX</b><br>ISO VG 150, 220, 320, 460    | GEAR OIL - These are 'food grade' high performance and E.P.* gear lubricants specially developed to meet<br>the stringent requirements of food and pharmaceutical industries.  |
| Ribes Multipurpose<br>ISO VG 150, 220, 320, 460 | MULTIPURPOSE - This is a 'food grade' multipurpose lubricant, fully synthetic, colorless, suitable for the lubrication of connections, chains, conveyor belts, bearings, small gears, joints, slideways, gaskets operating in a wide temperature range.  |
| Ribes Silicone Fluid                            | MULTIPURPOSE - This is a multipurpose 'food grade', colorless silicone spray. As lubricating fluid facilitates the sliding of the mechanical parts of machinery not subject to very high loads and operating in a wide temperature range (-50/+200°C) in the food, pharmaceutical and cosmetic industry.       |
| Ribes Rust Remover                              | RUST PREVENTION OIL - This is a "food grade" lubricant spray, fully synthetic, colorless, highly penetrating, recommended for the removal of rust, for the release of seized components and for long-term corrosion protection of components and machinery of food, pharmaceuticals and cosmetics industries.  |
| Lavanda Universal                               | INDUSTRIAL CLEANER - This is a multipurpose "food grade", colorless silicone spray. As lubricants fluid facilitates the sliding of the machanicals parts of machinery not subject to very high loads and operating in a wide temperature range (-50/+200°C) in the food, pharmaceutical and cosmetic industry. |
| Antifreeze Foodgrade                            | ANTIFREEZE - This is a concentrated antifreeze coolant, based on propylene glycol, specifically designed<br>for the needs of refrigerating plants in food and pharmaceutical production facilities, and in any case for all<br>equipment and installations where health or ecological aspects are important.   |

\*E.P. (extreme pressure)

# Metal working fluids

| Neat cutting oils  |  |
|--|--|
| Grinding, lapping and honing oils<br>OPL 5<br>Eni Aster L/S, L, MM/E, RF<br>FSM 22 | Metalworking fluids recommended for honing, lapping and grinding of ferrous and<br>non-ferrous metals. Products are formulated with high quality base oil and selected<br>addittives that deliver antiwear, anticorrosive and antimist properties. Suitable for<br>different operations, even severe and light cutting operations like turning, milling,<br>drilling and for machining of small metal parts of ferrous and non-ferrous metals. |
| Multifunctional Oil<br>Eni Aster MP  | Eni Aster MP is an E.P.*, multifunctional oil without chlorine suitable for metal cutting machinings and for the lubrication of the machine tools. Recommended for automatic machining (milling, turning, drilling, threading) of ferrous and non-ferrous metals.  |
| Cutting oils for medium-severe operations<br>Eni Aster MM, TA/E, LO                | Chlorine-free metal-cutting fluids able to satisfy the most advanced requirements of mechanical industry. Recommended for metal cutting machinings of medium severity as milling, turning, drilling, threading, on cast iron, medium alloyed steels, stainless steels, aluminum and yellow alloys.   |
| EP cutting oils for severe operations<br>Eni Aster DE, TA/S                        | Neat cutting oils with E.P.* properties. Recommended for medium and severe cutting operations as turning, milling, gear cutting, threading, tapping and punching. Suitable for machining stainless steel, steel alloys, titanium, aluminium and yellow metals.   |
| EP active cutting oils for severe operations<br>Eni Aster FP, TG, S, M             | It is a series a E.P.* cutting oil, chlorine free, suitable for severe machining like gear cutting, deep drilling, boring, slotting, vertical broaching on various types of steel, aluminium and titanium and their alloys. Not suitable for machining of copper and yellow metals.  |
| Water miscible cutting oils  |  |
| Eni Aquamet MY BF FAD  | It is water miscible, mineral oil containing cooling lubricant, universally applicable up<br>to severe machining processes of steel, aluminium and suitable for the processing of<br>non-ferrous metals.   |
| Eni Aquamet HD EP FAD  | It is a water miscible, mineral oil containing, chlorine free, high-performance cooling<br>lubricant with special polar agents. Universally applicable for all medium severe and<br>severe machining operations of aluminium, steels and cast iron, suitable for high water<br>hardness.   |
| Eni Aquamet LMX EP   | It is a mineral oil containing, water emulsifying cooling lubricant concentrate for the<br>general machining. Suitable for the general machining such as turning, milling, drilling<br>and sawing of cast iron, alloyed as well as unalloyed steels, aluminium and partially<br>non-ferrous metals. The product is successfully applied in soft and hard water.  |
| Eni Aquamet LMK GG   | It is a water emulsifiable cooling lubricant concentrate for the general machining of cast iron and steel as well as for grinding. The product excels with high performance, outstanding rinsing effect as well as the application in soft and hard preparation water.   |
| Eni Aquamet LMK 2020 Plus  | It is a water miscible, mineral oil containing chlorine-free high performance cooling<br>lubricant of the latest generation with selected EP addittives and extra ordinary ph<br>value stability. Universally applicable for all medium and severe machining processes<br>of metallic materials.   |
| Eni Aquamet LMK AL 517   | It is a water soluble cooling lubricant, developed on a modern additive and inhibitor combination. Suitable for the machining of different aluminium alloys, such as 2024, 5083, 6061, 6082, 7075 and 7068 but also for the general up to severe machining of steel and highly alloyed steels.   |

\*E.P. (extreme pressure)

For a fuller rangen of Eni products under the category Water miscible cutting oils please access the website www.enibenelux.com

# Metal working fluids

## Metalforming oils

| Chlorine free press-forming oils<br>Alnus SSC 608, Eni Alnus SSC 616/L, Eni Trafila 605 | Chlorine-free oil suitable for press-forming, deep-drawing and punching operations of carbon, alloy and stainless steel sheets. Eni Trafila 605 is suitable for drawing and profiling copper pipes and its alloys in applications that require low speeds and high reductions.                       |
|---|--|
| Press-forming and drawing oils Alnus PF 610, Alnus PF 612, Alnus 336 AV                 | Special chlorinated product for die-drawing and press-forming operations.  |
| Rolling oils<br>Eni Rolling TNX, Rolling AST 2, Lamium 11 C                             | Eni Rolling AST 2 and Eni Rolling TNX is a special oil suitable for stainless steel cold rolling on Sendzimir mills. Eni Lamium 11 C is particularly suitable for cold rolling thin sheets and strips of thin aluminum (7-15 $\mu$ m) intended for the food, pharmaceutical and cosmetic industries. |

# **Special oils**

Under the header "special oils" there is a diversity in products. In all Eni's product range, the highest attention was paid to the specific application whilst formulating the products. The products are of the highest quality and are ideal for deployment in the toughest conditions in the envisaged application.

| Mineral  |   |
|--|---|
| Exidia HG 68<br>DIN 51502 CGLP<br>Stanimuc GA + GB<br>ISO 11158 HG<br>ISO 6743/13 GA<br>ISO 6743/13 GB | Eni Exidia HG 68 is a premium quality lubricant especially designed for slideways, even under high loads, with circulation and total loss lubrication systems.  |
| ASP<br>ISO VG 100, 150, 220  | Adhesive oil on mineral oil base, reducing oil consumption in the event of loss-lubrication, centrifugal forces and vibrations.   |
| ASP C<br>ISO VG 32, 100  | Special mineral oil wih tackiness properties. It absorbs moisture. Intended for use in pneumatic tools as well as in the paper, textile and packaging industry.   |
| Acer MV<br>ISO VG 10<br>ISO 6743/2 FC  | Special oil with very low viscosity, based on selected base stocks with antirust,<br>antioxidant and antiwear additives. It is specially designed for the lubrication of fast spindles of<br>machine tools.                   |
| ITE 600/ITE 600 X<br>IEC 60296 ed. 4 (2012) - type U   | A mineral insulating uninhibited oil for transformers. It is formulated from a highly refined petroleum base stock on impart excellent dielectric properties.   |
| VAS 460/ VAS 900<br>ISO VG 460, 1000   | Eni VAS is a straight mineral oil specifically designed for lubrication of cylinders of steam engines where condensate is recovered.  |
| Eni Acorus 7032<br>Iso vg 32, 100  | Designed for lubricating moulds used to make plain and reinforced concrete and earthenware products. Facilitates release of parts from the mould avoiding surface defects.  |
| Eni Agrimotor 2T<br>ISO VG 68<br>API TC  | Lubricant designed for agricultural or gardening equipment fitted with 2-stroke air-cooled engines<br>(chainsaws, motor mowers, tillers etc.). The product is suitable for the manual preparation of the<br>fuel-oil mixture. |

## Industry

# Greases

### Grease AC

DIN 51825 KP 1N-20/DIN 51825 KP 2N-20 ISO 12924 L-XBDHB 1/ISO 12924 L-XBDHB 2

This is available in NLGI grade 1 and 2. E.P.\* grease with good resistance to water washout suitable for steel industry

### Grease CC

DIN 51825 K 2G-20/DIN 51825 K 3G-20/DIN 51825 K 4G-20 ISO 12924 L-XBBGA 2/ISO 12924 L-XBBGA 3/ISO 12924 L-XBBGA 4

This is available in grade 2,3 and 4. Water resistent - even hot water- grease where thermal and mechanical loads are relatively low.

## Grease HTX-SIL

DIN 51825 KSI 3,5S - 40 ISO 12924 L-XDGAA 3,5

Long term lubrication/Extreme temp/resistant to water/chemicals/oil/ gas at low speed. NLGI 3.5.

### Grease LCX

DIN 51825 KPHC 1,5R - 40/DIN 51825 KPHC 1P-40/DIN 51825 KPHC 2P-40/ DIN 51825 KPHC 2P-40/ DIN 51825 KPHC 2N-50 ISO 12924 L-XDFHB 1,5/ISO 12924 L-XDEHB 1/ISO 12924 L-XDEHB 2/ ISO 12924 L-XDEHB 2/ISO 12924 L-XEDHB 2

Eni Grease LCX is a lithium complex multipurpose grease formulated with synthetic base oil. The particular combination of antiwear, EP, anticorrosive and antioxidants additives guarantees excellent performance in severe operating conditions such as high loads and in presence of vibrations. NLGI 1, 2.

### Grease MSX 2-460

DIN 51825 KPFHC 2R-40 ISO 12924 L-XDFHB 2

It is an EP lithium complex grease formulated with syntethic base oil (PAO) with presence of a high percentage of solid lubricant (molybdenum disulphide) to improve the EP properties. NLGI 2.

### Grease MU EP

DIN 51826 GP 00K-20/DIN 51825 KP0K-20/DIN 51826 GP 0K-20/DIN 51825 KP 1K-20/DIN 51826 GP 1K-20/DIN 5151825 KP 2K-20/DIN 51825 KP 3K-20 ISO 12924 L-XBCHB 00/ISO 6743/6 L-CKG 00/ISO 12924 L-XBCHB 0/ISO 6743-6 L-CKG 0/ISO 12924 L-XBCHB 1/ISO 6743-6 L-CKG 1/ISO 12924 L-XBCHB 2/ ISO 12924 L-XBCHB 3

Multipurpose EP grease lithium base Suitable for the lubrication of flat and rolling bearings, also loaded, operating at high temperatures and in couplings with particularly critical start-up lubrication conditions. Suitable for lubricating gears and other components subjected to vibrations and operating at high temperatures. NLGI 00, 0, 1, 2, 3. Grease LC

DIN 51825 KP 1N-20/DIN 51825 KP 2N-20 ISO 12924 L-XBDHB 1/ISO 12924 L-XBDHB 2

Special 'multipurpose' grease, formulated with lithium complex soap and anti-rust, antioxidant and EP (Extreme Pressure) additives. Characterized by a high dropping point and high stability, Eni Grease LC 2 has been designed to meet the particular needs of steel industry. NLGI 1, 2.

#### Grease LP

DIN /DIN 51825 KP 1K-20/DIN 51826 GP 1K-20/DIN 51825 KP 2K-20/ DIN 51826 GP 2K-20 ISO 12924 L-XBCHB 0/ISO12924 L-XBCHB 1/ISO 6743-6 L-CKG 1/ ISO 12924 LXBCHB 2/ISO 6743-6 L-CKG 2

This is available in grade 1 and 2 Bearing grease - Steel manufacturing

### Grease MU

DIN 51825 K 1K-20/DIN 51825 K 2K-20/DIN 51825 K 3K-20 ISO 12924 L-XBCHA 1/ISO 12924 L-XBCHA 2/ISO 12924 L-XBCHA 3

Multipurpose grease lithium based for application where EP characteristic are not required. Suitable for the lubrication of flat and rolling bearings, joints and other parts of industrial, construction and agricultural equipment. NLGI 1,2,3.

### Grease PV

DIN 51502 KPF 2G-20 ISO 12924 L-XBBHB 2

Calcium based grease for lubrication and protection of mechanical parts exposed to hostile conditions e.g. (sea)water. NLGI 2.

\*E.P. (extreme pressure)

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# Greases

# Industry

### Grease Sagus 60

DIN 51826 GF 0-00G-10 ISO 6743-6 L-CKG 0-00

dark-grey graphite grease. suitable for use on exposed machine parts, even those operating at high temperature and especially for the lubrication of gears, power screws, racks, rollers, chains, wire ropes. It finds application principally in cement works, cable transport facilities, chemical plants. NLGI 0-00.

#### Grease SLL

DIN 51826 GPG 00K-30 ISO 12924 L-XCDHE 00/ISO 6743-6 L-CKG 00

Exceptional oxidation stable grease for lubrication of "filled-for-life" reduction gears such sealed gear boxes of electric/pneumatic tools, household appliances, gear couplings, etc. NLGI 00.

### Eco Grease

DIN 51825 K 0F-30/DIN51825 K 2F-30 ISO 12924 L-XCBDA 0/ISO 12924 L-XCBDA 2

Can be used as disposable lubricant for agricultural machinery, marble cutting and machinery operating in natural reserves or in waste water treatment plant. Especially developed for the continuous lubrication of the bearings of the TBM (Tunnel Boring Machine) for the mechanized excavation of tunnels. NLGI 0, 2.

### Longtime Grease 2

DIN 51825 T.3 KP 2K-30

Lithium-calcium-soap basis with synthetic base oil and EP additives very good working stability and excellent adhesive properties. NLGI 2.

### Top 2000 Fettspray

DIN

Should be used for the lubrication of parts that are difficult to reach such as Bowden wires, cables and chains, but is also suitable for friction points that are exposed to high impact loads, vibration and/or adverse weather conditions.

### Grease Sagus AC 460

DIN 51826 OGFP 00K-10 ISO 12924 L-XADHB 2/ISO 6743-6 L-CKG 00

Black graphite grease aluminum complex mineral-based. particularly suitable for the lubrication of components discovered operating even at high temperatures: gears, worm screws, racks, rollers, chains, metal cables. NLGI 0.

#### Grease SM

DIN 51826 G 00-000 K-20 ISO 12924 L-XBCDA 00-000

Lithium based EP grease with molybdenum disuphide. Particularly suitable for the lubrication of roller bearings and/or rolling bearings subjected to extreme mechanical and/or thermal stress such even in presence of vibrations. NLGI 2.

### Eco Grease Plus 2

DIN 51825 KP 2K-30 UISO 12924 L-XCCHB 2

Lubrication of bearings, chains, wire ropes and components operating in environmentally sensitive areas where contamination of the environment is a risk. NLGI 2.

### Top 2000

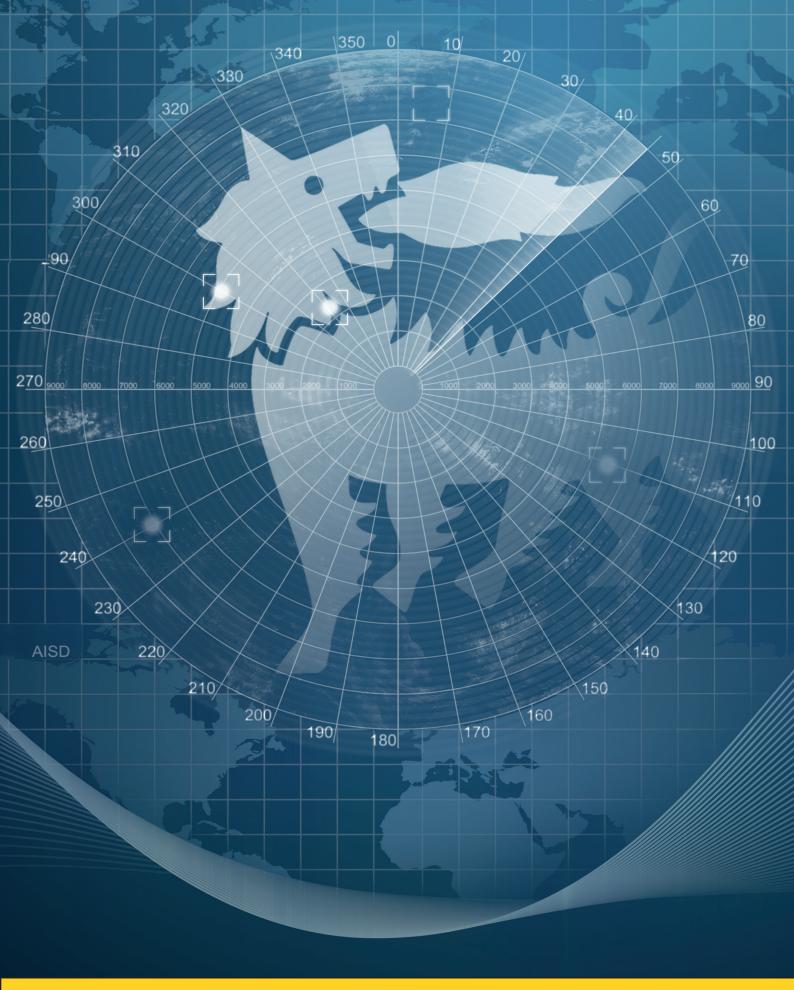
DIN 51825 KP 2K-30 ISO 12924 L-XCBHB 2

Grease with exceptional adhesive properties and very good extreme-pressure-properties. Under difficult conditions it reduces wear and is especially resistant to wash outs in the lubrication points. It is extremly resistant to salt water. NLGI 2

### Top 2000 High Temperature

DIN 51825 KP 2K-20

It is a high-pressure high-temperature grease suitable for the lubrication of roller and slide bearings, even under impact loads. NLGI 2.



# Marine

# Engine oils

Marine

Eni offers a line of lubricants for marine crosshead Diesel engines formulated from a high-quality base stock, additivetreated to guarantee superior cylinder lubrication of two-stroke crosshead diesel engines:

| Two-stroke engine oils                      |  |
|---|--|
| Punica 5100                                 | Cylinder lubricant designed to lubricate and protect the pistons, rings and liners of low speed two-stroke   |
| Cylinder oil SAE 50 TBN 100<br>MAN          | crosshead engines operating with high sulphur oil.   |
| Punica 570                                  | Cylinder lubricant designed to lubricate and protect the pistons, rings and liners of low speed two-stroke crosshead engines operating with medium or high sulphur residual fuel oil.              |
| Cylinder oil SAE 50 TBN 70<br>WIN GD        |  |
| Punica 540                                  | Cylinder lubricant designed to lubricate and protect the pistons, rings and liners of low speed two-stroke   |
| Cylinder oil SAE 50 TBN 70                  | crosshead engines operating with low sulphur residual fuel oil.  |
| Punica 525                                  | Cylinder lubricant designed to lubricate and protect the pistons, rings and liners of low speed two-stroke   |
| Cylinder oil SAE 50 TBN 25<br>MAN<br>WIN GD | crosshead engines operating with low sulphur oil.  |
| Cladium 50                                  | Detergent lubricant formulated from an additive-treated high-quality base stock, suitable for use as crank-<br>case oil in large crosshead engines. It can also be used as a stern tube lubricant. |
| System Oil SAE 30 TBN 5<br>WIN GD           |  |

| Four-stroke engine oils  |   |
|--|---|
| Cladium 120<br>SAE 30/40 TBN 12                                  | Specifically formulated for naturally-aspirated or even highly supercharged marine diesel engines. Its additive package is suitably balanced in order to permit the use of either gasoil or marine diesel fuels, while ensuring top performance in engines with very high mean effective pressures. Despite its high detergent/   |
| API CF   | dispersant efficiency, the demulsibility characteristics allow rapid separation of water accidentally entering the engine.  |
| Cladium 140 S<br>SAE 40 TBN 14                                   | Specifically developed for high performance aspirated or supercharged Diesel engines, for marine and railway propulsion and industrial applications, using liquid fuels like gasoil, Marine Diesel Oil (MDO), Light   |
| API CF<br>Wartsila   | Fuel Oil (LFO) and vegetable oil, or using gas in a dual-fuel system. The use of this product must be in agreement with the OEM's indications.  |
| Cladium 300<br>SAE 30/40 TBN 30<br>API CF                        | Lubricant for use in four-stroke diesel engines operating on residual fuels and under conditions which ask<br>an oil with a medium-high Total Base Number. The product is specifically designed for diesel engines, which<br>form significant amounts of acid mist versus a low power or stop-and-go activities.  |
| Cladium 400<br>SAE 30/40<br>API CF<br>Wartsila (Vasa 32 Engines) | Four-stroke engine oil for use in diesel engines that operate with a high sulfur content, thus requiring a particularly high Total Base Number particularly in operating conditions. It has so much calcium carbonate reserve in order to fight efficiently the formation of acid mists as a result of the use of fuel oil with a very high sulfur fuel. This reserve is also particularly useful in engines with very low oil consumption or operating at such low temperatures to promote sulfuric acid condensation. |
| Cladium 300 S<br>SAE 30/40 TBN 30<br>API CF<br>Wartsila          | Marine engine oils of the latest generation intended for use in those modern four-stroke diesel engines operating with high-sulphur fuels which require lubricants of higher performances, namely with anti black sludge' properties. This lubricant provides also better deposit control in the hottest parts of the engine, namely in the piston cooling gallery.   |
| Cladium 400 S<br>SAE 30/40 TBN 40<br>API CF<br>Wartsila          | Lubricant for use in 4-stroke diesel engines that operate on residual fuels. The product is specifically designed for diesel engines, which form significant amounts of acid mist versus a low power or stop-and-go activities. Good water separation features enable efficient separation of water that enters the engine by mistake.  |
| Cladium 500 S<br>SAE 40 TBN 50<br>API CF<br>Wartsila             | Lubricating oil for diesel engines, both with and without turbo charging, under the most severe conditions<br>which are subject to precipitation or have excessive wear because of their design or available fuel. Suitable<br>as motor oil in large crosshead engines with oil-cooled pistons.   |

# Marine

# Engine oils for other on board applications

To complete the line for the marine sector, Eni provides a line of lubricants to satisfy further lubricating needs in engines for special on board applications, such as life and rescue boats and auxiliary and emergency generators.

| i-Sigma Top<br>10W-40<br>ACEA E4, E7 API CF Volvo VDS-3 MTU<br>type 3 MAN M 3277 DAF Extended Drain<br>Cummins CES 20072 Voith Retarder Oil Class<br>A MB-Approval 228.5 Renault RVI RLD-2 ZF<br>TE-ML 04C MACK EO-N Scania LDF-3 Deutz<br>DQC III-10 | 10W-40 gradation enables Eni i-Sigma top 10W-40 to be suitable for any weather condition allowing<br>easy cold starting. Eni i-Sigma top 10W-40 is officially approved or meets the requirements of the service<br>specifications of most manufacturers particularly for Scania engines. The large percentage of additives<br>adopted enables very long life between oil drains and the product is also indicated in case of discontinuous<br>engine operation. |
|---|---|
| i-Sigma Performance<br>E7 15W-40<br>ACEA E7, E5, E3, B3 API CI-4/CH-4/SL<br>MB-Approval 228.3 Deutz DQC III-05 MAN<br>M 3275-1 MTU type 2 Volvo VDS-3 MACK<br>E0-N Deutz DQC III-10 Cat ECF-1a, EFC-2<br>Renault RVI RLD-2                            | Long-drain multigrade oil for diesel engines operating under severe duty. The superior quality of the base<br>stock and the large percentage of additives used enable very long life in service. The oil can also be used,<br>with a wide margin of quality, in previous generation diesel engines installed in vehicles engaged on urban<br>and short-haul goods and passenger service.  |
| i-Sigma Performance<br>E3 15W-40<br>ACEA E3 API CG-4 MB 228.1 MAN M 3275-1<br>MTU type 2  | Its detergent-dispersant properties, combined with its very high, long-lasting ability to neutralize acidic products of combustion, confirmed by the compliance with requirements of ACEA E5, E3, B3 and API service CH-4, SJ, keep pistons exceptionally clean, while solid combustion products are held in suspension, thus preventing the formation of harmful crankcase deposits.   |
| i-Sigma Universal<br>15W-40<br>Api cg-4/sl Acea e2, A3/B3-04 MB 228.1,<br>229.1 MAN 271   | S.H.P.D.* multigrade long oil-drain engine lubricant suitable for the lubrication of supercharged diesel engines operating under severe duty; it is also suitable for the lubrication of all gasoline car engines, either naturally aspirated or turbocharged, thus offering an ideal choice for the lubrication of mixed fleets. The superior quality of the base stock used and the large percentage of additives adopted enable long drainage intervals.     |

\*S.H.P.D. (Super High Performance Diesel)



# Hydraulic oils

### Oso

#### Oso

Eni Oso 15 ISO 11158 L-HM, ISO L-FD, DIN 51524-2 L-HLP Eni Oso 22

ISO L-FD, DIN 51524-2 HLP, ISO 11158 L-HM, REXROTH RD 90220-01/12.10

#### Eni Oso 32

BS 4231 HSD, Fives Cincinnati P-68 level Eaton Vickers I-286-S, Denison HF-0 level REXROTH RD 90220-01/12.10, ATOS Table P002-1/E, DIN 51524-2 L-HLP, ISO 11158 L-HM, AFNOR NF E 48603 HM

#### Eni Oso 46

DIN 51524-2 HLP, ISO 11158 HM, AFNOR NF E 48603 HM, BS 4231 HSD, Fives Cincinnati P-70 level, Eaton Vickers I-286-S Denison HF-0, HF-1, HF-2, Rexroth RD 90220-01/12.10, ATOS Table P002-1/E, Danieli Standard n. 0.000.001 - Rev.15, Muller Weingarten DT 55 005, ZF TE-ML 04K, ARBURG

#### Eni Oso 68

REXROTH RD 90220-01/12.10, ATOS Table P002-1/E, Danieli Standard n. 0.000.001 - Rev.15, Muller Weingarten DT 55 005, BS 4231 HSD, Fives Cincinnati P-69 level, DIN 51524-2 L-HLP, ISO 11158 L-HM, Denison HF-0 level, Eaton Vickers I-286-S, AFNOR NF E 48603 HM

#### Eni Oso100

REXROTH RD 90220-01/12.10, AFNOR NF E 48603 HM, DIN 51524-2 L-HLP, ISO 11158 L-HM, BS 4231 HSD

Eni Oso 150

BS 4231 HSD, AFNOR NF E 48603 HM, ISO 11158 L-HM, DIN 51524-2 L-HLP

#### Arnica

#### Eni Arnica 22

ISO 11158, ISO L-HV, DIN 51524-3 HVLP Eni Arnica 32

Fives Cincinnati P-68, CETOP RP 91 H HV, AFNOR NF E 48603 HV, BS 4231 HSE, Commercial Hydraulics, Linde, AISE 127 Sauer Danfoss 520L0463, Eaton Vickers I-286-S, DIN 51524-3 HVLP, ISO 11158 HV, Eaton Vickers M-2950-S level, Rexroth RD 90220-01/12.10. ZF TE-ML 04R

#### Eni Arnica 46

DIN 51524-3 HVLP, Danieli Standard n. 0.000.001 - Rev.15, Sauer Danfoss 520L0463, CETOP RP 91 H HV AISE 127, Linde, Commercial Hydraulics, BS 4231 HSE, AFNOR NF E 48603 HV, Fives Cincinnati P-70, Eaton Vickers I-286-S level, Eaton Vickers M-2950-S, Rexroth RD 90220-01/12.10, Denison HF-0, ISO 11158 HV, ZF TE-ML 04R

#### Eni Arnice 68

Commercial Hydraulics, Linde, AISE 127, CETOP RP 91 H HV, Danieli Standard n. 0.000.001 - Rev.15, BS 4231 HSE, AFNOR NF E 48603 HV, Eaton Vickers I-286-S, Sauer Danfoss 520L0463, Fives Cincinnati P-69, Rexroth RD 90220-01/12.10, Denison HF-0, ISO 11158 HV, Eaton Vickers M-2950-S level, DIN 51524-3 HVLP Eni Amica 100

AISE 127, Commercial Hydraulics, AFNOR NF E 48603 HV, Eaton Vickers M-2950-S level, Eaton Vickers I-286-S level, CETOP RP 91 H HV, REXROTH RD 90220-01/12.10, Linde, DIN 51524-3 HVLP, ISO 11158 L-HV, BS 4231 HSE

#### Acer

#### Eni Acer 100

En Acer 100 DIN 51524-1 HL, ISO 11158 L-HL, AFNOR NF E 48600 HL, BS 4231 HSC, CETOP RP 91 H HL, ISO L-CKB, J.P. Sauer & Sohn Morgoil rev. 3.0 - 1999, ISO L-DAB, ANSI/AGMA 9005-E02, DIN 51517-2 CL, DIN 51506 VCL Eni Acer 150 DIN 51517-2 CL, ISO-L-DAB, DIN 51506 VBL, ISO 11158 L-HL, DIN 51524-1 HL, AFNOR NF E 48600 HL, BS 4231 HSC, CETOP RP 91 H HL, ANSI/AGMA 9005-E02, ISO L-CKB Eni Acer 220 DIN 51517-2 CL, ANSI/AGMA 9005-E02, DIN 51506 VBL Eni Acer 320 DIN 51506 VBL, ANSI/AGMA 9005-E02 Eni Acer 460 DIN 51506 VBL, ANSI/AGMA 9005-94 Eni Acer 680

ANSI/AGMA 9005-E02 \*E.P. (extreme pressure) Eni OSO is a high performance antiwear hydraulic oil, specifically designed to meet the most rigorous performance requirements of a wide range of hydraulic system and component manufacturers. It's formulated with selected base oils treated with 'low zinc' technology ensuring excellent antiwear, antirust and antioxidant properties. It has an outstanding filterability in service. Eni OSO is also suitable for other duties in which lubricants of high oxidation stability and lubrication performance are required, allowing use of a single product with excellent performance characteristics.

Eni Arnica is a high performance antiwear hydraulic oil, specifically designed to meet the needs of modern, high pressure, industrial and mobile equipment hydraulic systems. It's formulated with selected base oils treated with 'low zinc' technology ensuring excellent thermal, oxidative and hydrolytic stability. Eni Arnica is recommended for outdoor equipment which are likely to operate in wide temperature range, such as systems where cold start-up and high operating temperatures are typicals (marine applications). It's suitable also for indoor manufacturing equipment that incorporates control systems requiring minimal viscosity change with temperature.

Eni Acer is a lubricant for circulation systems, oleodynamic circuits and air compressors where antirust and antioxidant properties are required. Eni Acer is particularly recommended for lubrication of journal and rolling bearings, crank mechanisms and gear couplings that are not demanding antiwear or E.P.\* performances, joints and wet clutches not for automotive applications. Eni Acer can also be used as crankcase oil in large diesel engines with separate lubrication and water-cooled pistons.

# Gear oils

### Mineral & synthetic oils

#### Rotra

Eni Rotra ATF II D

MAN 339 V-1 level MAN 339 Z-1 level Ford MERCON Level GM DEXRON IID level Allison C-4 Caterpillar TO-2 MB 236.6 Voith H55.6335.xx ZF TE-ML 04D, 05L, 09, 11A, 14A, 17C

Eni Rotra ATF Multi FORD MERCON/MERCON VI NISSAN MATIC D.J.KI TOYOTA T-IVI MB-Approval 236.9 JASO 1-A BMW LT 71141 GM DEXRON III H AISIN JWS 3309 CHRUSLER ATF+3/+4

#### Eni Rotra MP 80W-90

API GL-5| MIL L 2105 D| MAN 342 type M1| MAN 342 type M2| ZF TE-ML 05A, 07A, 08, 12E ZF TE-ML 16B, 17B, 19B, 21A

#### FIN

Eni FIN 332/F ISO L-CKH DIL DIN 51513 BC-V Eni FIN 360/EP/F ISO L CKJ-DIL DIN 51513 BC-V

Blasia

#### Eni Blasia 68

DIN 51517-3 CLP AIST No.224 ANSI/AGMA 9005-E02 EP David Brown S1.53.101 level ISO 12925-1 CKD Muller Weingarten DT 55 005 CLP Fives Cincinnati P-63 level

#### Eni Blasia 100

ISO 12925-1 CKD DIN 51517-3 L-CLP AIST No.224 ANSI/AGMA 9005-E02 EP David Brown \$1.53.101 level Fives Cincinnati P-76 level Muller Weingarten DT 55 005 CLP

#### Eni Blasia 150

ANSI/AGMA 9005-E02 EP AIST No.224 DIN 51517- 3 CLP ISO 12925-1 CKD David Brown S1.53.101 level Muller Weingarten DT 55 005 CLP Danieli Standard n. 0.000.001 - Rev.15 Fives Cincinnati P-77 level

#### Eni Blasia 220

Muller Weingarten DT 55 005 CLP Danieli Standard n. 0.000.001 -Rev.15 Fives Cincinnati P-74 level AIST No.224 ISO 12925-1 CKD DIN 51517-3 CLP ANSI/AGMA 9005-E02 David Brown \$1,53 101 level

#### Eni Blasia 320

David Brown S1.53.101 level ANSI/AGMA 9005-E02 EP AIST No.224 DIN 51517-3 L-CLP Fives Cincinnati P-59 level Muller Weing DT 55 005 CLP ISO 12925-1 L-CKD Danieli Standard n. 0.000.001 - Rev.15

#### Eni Blasia 460

ISO-L-CKD ISO 12925-1 CKD DIN 51517-3 CLP AIST No.224 AGMA 9005-E02 DAVID BROWN \$1.53.101 level Fives Cincinnati P-35 level Muller Weingarten DT 55 005 CLP

#### Eni Blasia 680

Fives Cincinnati P-34 level David Brown S1.53.101 level ANSI/AGMA 9005-E02 EP AIST No.224 DIN 51517-3 L-CLP ISO 12925-1 L-CKD Danieli Standard n. 0.000.001 - Rev.15

#### Blasia SX

Eni Blasia SX 100 ISO 12925-1 CKS DIN 51517-3 CLP ANSI/AGMA 9005-E02 ZF TE-ML 04H Eni Blasia SX 150 ISO 12925-1 CKS DIN 51517-3 CLP Alfa Laval Eni Blasia SX 220 DIN 51517-3 CLP ISO 12925-1 CKS Alfa Laval Eni Blasia SX 320 Alfa Laval DIN 51517-3 CLP ISO 12925-1 CKS

#### Blasia S

#### Eni Blasia S 150

ANSI/AGMA 9005-E02 DIN 51502 CLP-PG ISO 12925-1 CKE ISO 12925-1 CKT Eni Blasia S 220 ANSI/AGMA 9005-E02 DIN 51502 CLP-PG ISO 12925-1 CKT ISO 12925-1 CKE Sacmi 200.02.A01 Eni Blasia S 320 ANSI/AGMA 9005-E02| DIN 51502 CLP-PG| Schindler| ISO 12925-1 CKT| ISO 12925-1 CKE Eni Blasia S 460

ISO 12925-1 CKE ANSI/AGMA 9005-E02 DIN 51502 CLP-PG ISO 12925-1 CKT

\*E.P. (extreme pressure) \*PAO (polyalphaoletin)

Eni Rotra is a mineral or synthetic oil for the lubrication of manual transmissions and differentials. These products are suitable for first filling and for topping up in automatic and hydraulic transmissions of those manufacturers.

Eni FIN is a oil with good adhesive properties for open gears and wire ropes. These oils are adhesive black-coloured mineral-based lubricant suitable for lubrication of machinery exposed to the atmosphere. Eni FIN 332/F has been developed, notably, for lubrication and protection of open gears, wire ropes, springs, guides, racks and open machinery parts in general, subjected to moderate mechanical loads and thermal stresses.

Eni Blasia gear oils have E.P.\* characteristics for enclosed industrial gears lubricated with splash or circulation systems especially where high loads and temperatures, high speeds and sliding friction is present. Eni Blasia can be also used to lubricate other heavily-loaded components such as couplings, transmission screws and low speed plain bearings. Suitable for use in oil-mist lubrication systems.

The products is a synthetic oil for the lubrication of gears and bearings operating at high temperatures (continuous bulk temperatures up to 120 °C with peaks in the hottest points up to 200 °C) The choice of a high quality synthetic basestock (PAO)\* and a carefully selected additive system has allowed to get very high performances with particular regard to thermal-oxidation stability. Eni Blasia SX 100 is recommended for the lubrication of bearings of marine separators, gears and other couplings operating at high temperatures (glassforming machines, steelstrip mills, furnaces and ceramic and paper-making machinery); the product can also be used in rotary air compressors.

Eni Blasia S is a line that has synthetic lubricant formulated with selected polyglycols and special additives that deliver high lubricity properties. Eni Blasia S 220 is specifically suitable for lubrication of rolling and sliding bearings, gears and other couplings operating at very high temperatures (ovens and machineries for glass manufacture, plastic materials production, paper and woodpulp machineries, ceramic production, etc).

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# **Compressor oils**

# Marine

To complete the line for the marine sector, Eni provides a line of lubricants to satisfy further lubricating needs in engines for special on board applications, such as life and rescue boats and auxiliary and emergency generators. The most important products are:

### Oils for air compressors

#### Dicrea

Eni Dicrea 32

ISO 6743-3 DAH, DAB, DVA, DIN 51506/VDL Eni Dicrea 46 ISO 6743/3 DAH, DAB, DVA. DIN 51506-VDL Eni Dicrea 68 ISO L-DAH, L-DAB, L-DVA, DIN 51506 VDL Eni Dicrea 100 ISO L-DVA, DAG, DAB, Italvacuum, HATLAPA, DIN 515-6 VDL, NEA Neuman & Esser, Sulzer Burckhardt Eni Dicrea 150 ISO L-DVA, DAB, DAG, Sulzer Burckhardt, Neunenhauser Kompressoren, DIN 51506 VDL, Italvacuum Eni Dicrea 220 ISO L-DDA, ISO L-DAG, DIN 51506 VBL Eni Dicrea 320 DIN 51506 VBL, ISO L-DAA, ISO L-DAG

This is a lubricant for rotary air compressors (vane or screw type) that can be used even in case of very high air delivery temperature (more than 200°C ).

#### Dicrea SX

Eni Dicrea SX 32 ISO L-DAB, DAJ, DIN 51506 VDL, Voith Turbo Eni Dicrea SX 46 ISO L-DAB, ISO L-DAJ, DIN 51506 VDL Eni Dicrea SX 68 ISO L-DAB, ISO L-DAJ, ABB Turbo HZTL 90617, DIN 51506 VDL, Wartsila 4V92A670 Rev.J

### Dicrea ESX 100

DIN 51506-VDL, ISO L-DAB, ISO L-DAJ

Eni Dicrea SX is a synthetic lubricant based on polyalphaolefin for rotary and reciprocating air compressors that allows to considerably prolong the oil charge life if compared with mineral lubricants.

Eni Dicrea ESX 100 is a synthetic lubricant based on esthers specifically formulated for cylinders of reciprocating air compressors. It allows to prolong the oil charge life and is also suitable for lubrication of

## Marine

# Turbine oils

To complete the line for the marine sector, Eni provides a line of lubricants to satisfy further lubricating needs in engines for special on board applications, such as life and rescue boats and auxiliary and emergency generators.

#### **Mineral oils**

Ote ISO VG 32, 46, 68, 80,100

#### ISO 8068 TSA/TGA

DIN 51515-1 TD, BS 489:1999 Ansaldo Energia 606W807 Rev.C (2012) GE GEK 28143B Siemens TLV 9013 04 ASTM D 4304 Type I JIS K 2213 -1983 Type II Doosan Skoda Power Nuovo Pignone SOM 17366 Mitsubishi Spec. NO. E00-001 Rev.2 CEI 10-8 (1994 Top quality mineral oil designed to satisfy even the most severe lubrication requirements of steam, gas and water turbines, having especially high oxidation and aging resistance as well as very high demulsibility.

### Ote GT

ISO VG 15, 32, 46, 68

ISO 8068 TSA/TSE/TGA/TGB/TGE/TGSB/TGSE DIN 51515-1 TD DIN 51515-2 TG ASTM D 4304 Type II GM Lubricant Standard LS2 GE GEK 28143B GE THERMODYN ISPSH902SDI MAN GHH BORSIG SP 079984 E 0000 E 99 Siemens MAT812109 Siemens MAT812107 SOLAR ES 9-224U - Class II ALSTOM HTDG 90117 V0001 X Ansaldo Energia 606W807 Rev.C (2012) Ansaldo Energia TGO2-0171-E00001/B (2016) Siemens TLV 9013 04 Siemens TVL 9013 05

# Superior quality lubricants specifically designed for use in gas turbine applications, formulated with selected base stocks and specially chosen additives to ensure an exceptional resistance to oxidation and antirust. It's 'mild E.P.' properties makes it suitable for lubrication of turbine reduction gear units.

#### Ote 80 EP

ISO VG 80

MII-L-17331H (SH) (NATO symbol O-250).

#### Ote 65 MM

ISO VG 68 MM-O-2001/B (NATO code O-240)

# Principally developed for the lubrication of all parts of steam turbines (bearings, gears, governor systems, etc.) particularly for marine use.

It is recommended for the forced lubrication of gears, propulsion gearboxes, mechanical devices, reversing gears and for hydraulic systems installed on ships.

#### Synthetic oils

### Turbo 23699

ISO VG 22

NATO O-156, DEF-STAN 91-101/1, MIL-PRF-23699 Class STD, ISO 6743/5 TGCE, Pratt & Whitney PWA 521-B Eni Turbo 23699 is a high performance lubricant for aircraft gas turbine engines used in industrial and marine applications requiring MIL-PRF-23699-STD level performance. It is formulated with synthetic base stocks and additives ensuring excellent thermal and oxidative stability, as well as outstanding antiwear properties.

# Greases

To complete the line for the marine sector, Eni provides a line of lubricants to satisfy further lubricating needs in engines for special on board applications, such as life and rescue boats and auxiliary and emergency generators.

#### Lithium greases

#### Grease MU

Eni Grease MU 1 DIN 51825 K 1K - 20, ISO 12924 L-XBCHA 1 Eni Grease MU 2 ISO 12924 L-XBCHA 2, DIN 51825 K 2K -20 Eni Grease MU 3 ISO 12924 L-XBCHA 3, DIN 51825 K 3K -20

#### Grease MU EP

#### Eni Grease MU EP 00

ISO 12924 L-XBCHB 00, DIN 51826 GP 00K -20, ISO 6743/6 L-CKG 00 Eni Grease MU EP 0 ISO 12924 L-XBCHB 0, ISO 6743/6 L-CKG 0, DIN 51825 KP 0K -20, DIN 51826 GP 0K -20 Eni Grease MU EP 1 ISO 12924 L-XBCHB 1, ISO 6743/6 L-CKG 1, DIN 51826 GP 1K -20, DIN 51825 KP 1K -20 Eni Grease MU EP 2 ISO 12924 L-XBCHB 2, DIN 51825 KP 2K -20

Eni Grease MU EP 3 ISO 12924 L-XBCHB 3, DIN 51825 KP 3K -20

#### Grease SM 2

DIN 51825 KPF 2K -20, ISO 6743/6 L-CKG 2, ISO 12924 L-XBCHB 2, DIN 51826 OGPF 2K -20 Eni Greases are yellow-brown greases, mineral-based and thickened with lithium soap. The high dropping point allow the greases to be used in a wide range of temperature. Eni Grease MU is suitable for the lubrication of flat and rolling bearings, joints and other parts of industrial, construction and agricultural equipment, even in damp environments and also in direct contact with water, thanks to the water repellency characteristics.

#### Eni Grease MU EP are yellow-brown high performance greases, lithium based, and

homogeneous-pomaded appareances. The E.P.\* additive enable the formation of a lubricating layer able to resist of mechanical stresses and/or strong impulsive loads. Suitable for the lubrication of cylindrical, conical and helical gears operating in crank case, where is difficult achieve an effective seal, using a oil and where it is necessary to extend the relubrication times. Eni Grease MU EP is suitable for the lubrication of joints, pins and other parts of industrial, construction and agricultural equipment of linear guides, machine tools and in centralized lubrication of machinery and industrial vehicles.

Eni Grease SM 2 is an E.P.\* grease, smooth-textured and black in color, with mineral oil based and lithium. The presence in the grease of extremely pure molybdenum disulphide assure long re-greasing intervals when this kind of operation is impossible or must be delayed. Eni Grease SM 2 adheres firmly to metal surfaces, filling the micro cavities thanks to its excellent adhesion properties. The resistance to water washout and the anticorrosive properties make the greases suitable for application exposed to wet environment and in presence of water. Particularly suitable for the lubrication of roller bearings and/or rolling bearings subjected to extreme mechanical and/or thermal stress such even in presence of vibrations. It can be used on worksites as a universal grease suitable for both heavy machinery and for inaccessible parts when the plant is in operation and can be lubricated only at the beginning of every work turn.

#### Lithium complex greases

#### Grease LC

Eni Grease LC 1 DIN 51825 KP 1N -20, ISO 12924 L-XBDHB

Eni Grease LC 2 ISO 12924 L-XBDHB 2, DIN 51825 KP 2N -20

Grease LCX

ISO 12924 L-XEDHB 2 DIN 51825 KPHC 2N-50 Eni Grease LC are special 'multipurpose' greases, formulated with lithium complex soap and antirust, antioxidant and E.P.\* additives. Characterized by a high dropping point and high stability, Eni Grease LC has been designed to meet the particular needs of the steel industry where the grease is intended for the lubrication of bearings operating at high temperatures (roller pathways for slabbing, ovens outputs roller way's of continuous casting). It is also used for the lubrication of bearings and other organs operating under severe conditions (joints, bearings of paper mills, rolling mill bearings and flat bearings and rolling bearings exposed to wather washout), subject to heavy loads and shocks in a range of temperatures ranging from -20°C to +150°C.

Eni Grease LCX is a lithium complex multipurpose grease formulated with synthetic base oil. The particular combination of antiwear, E.P.\*, anticorrosive and antioxidants additives guarantees excellent performance in severe operating conditions such as high loads and in presence of vibrations.

\*E.P. (extreme pressure)

### Calcium greases

#### Grease PV 2

ISO 12924 L-XBBHB 2 DIN 51502 KPF 2G -20 NATO Code-G-460 BWB TL 9150 066 DEF STAN 91-34/2 E.P.\* mineral, anhydrous calcium grease with outstanding protective and anticorrosive properties are such as to satisfy the requirements of the Nato Code G-460 specification as 'Grease Sea Water Resisting' and make it particularly suitable for protecting metal surfaces in wet and in marine or otherwise corrosive environments.

### Biodegradable greases

| Eco Grease O<br>ISO 12924 L-XCBDA 0<br>DIN 51825 K OF -30<br>Biodegradability CEC L-33-T82: >95%       | Ecological grease with biodegradable vegetable oil base and thickened with calcium soap. It can be used as disposable lubricant for agricultural machinery, marble cutting and machinery operating in natural reserves or in waste water treatment plant.  |
|--|--|
| Eco Grease 2<br>ISO 12924 L-XCBDA 2<br>DIN 51825 K 2F -30<br>Biodegradability CEC L-33-A-93: >80%      | Ecological grease with biodegradable vegetable oil base and thickened with calcium soap. recommended for most lubrication of agricultural and marble cutting machineries and of components operating in environmentally sensitive areas where contamination of the environment is a risk. Suitable for the continuous lubrication of the bearings of the TBM (Tunnel Boring Machine) for the mechanized excavation of tunnels.                             |
| Eco Grease Plus  | Eni Eco Grease Plus is an 'eco-friendly' grease, readily biodegradable according to OECD 301B method.<br>It's a multipurpose anhydrous calcium grease formulated with synthetic esters, antirust, antioxidant and<br>E.P.* additives. Eni Eco Grease Plus is specifically designed for the lubrication of bearings, chains, wire ropes<br>and components operating in environmentally sensitive areas where contamination of the environment is<br>a risk. |
| Eco Grease Plus 2<br>ISO 12924 L-XCBDA 2<br>DIN 51825 K 2F -30<br>Biodegradability CEC L-33-A-93: >80% | Ecological grease with biodegradable vegetable oil base and thickened with calcium soap. recommended<br>for most lubrication of agricultural and marble cutting machineries and of components operating in<br>environmentally sensitive areas where contamination of the environment is a risk. Suitable for the<br>continuous lubrication of the bearings of the TBM (Tunnel Boring Machine) for the mechanized excavation<br>of tunnels.                 |

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