





ORLEN OIL is a leading manufacturer and distributor of lubricants with a 20-year tradition. The company is part of the PKN ORLEN Group, the largest player in Central and Eastern Europe.

The systematically developed portfolio of specialist products meets the needs of customers in every branch of industrial production. In-house research and production facilities guarantee the ability to create unique solutions tailored to customers' needs. A comprehensive range of products and services enables the maintenance costs of industrial plants to be optimised.

ORLEN OIL, a company within the Polski Koncern Naftowy ORLEN SA Corporate Group, is involved in the comprehensive production and distribution of lubricants.



With a focus on high quality, it constantly carries out a series of studies and tests to optimise production and ensure high, stable quality for the products it manufactures.
























ORLEN OIL follows regulations and monitors current market trends on an ongoing basis. Recently, it has been rapidly developing its synthetic products while not forgetting its range of mineral and semi-synthetic oils. It offers an advanced range of engine oil technologies, oils for modern industrial transmissions, stationary as well as mobile hydraulic systems, circulating oil systems and bearings for steam, gas and water turbines, machining oils as well as greases.

The company works closely with leading additive manufacturers, research and development centres, manufacturers of industrial machinery and equipment and, above all, with customers. This results in products that create value and excel by meeting the highest user requirements, including increased machine productivity, long-lasting lubrication and reduced environmental impact. The highest quality of the oils is confirmed by the quality specifications and approvals and authorisations of the world's leading machine manufacturers, including Flender, Denison Hydraulics, Siemens, Cincinnati Machine.



AN EXPERT IN YOUR INDUSTRY



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| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Corrosion effect on Cu plate, 100°C/3h | Quality class |
|------------------------|--------------------------------------|--|-----------------|-----------------------|------------------|--|---|
| HYDROL BIO HEES EL 46 | 919,8 | 47,0 | 191 | -48 | 300 | 1 | PN-ISO 15380 Table 4 |
| HYDROL BIO HETG EL 46 | 917,7 | 47,7 | 207 | -23 | 306 | 1 | PN-ISO 15380 Table 2 |
| HYDROL POWER L-HV 32 | 855,9 | 32,2 | 186 | -39 | - | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL POWER L-HV 46 | 866,8 | 48,6 | 180 | -39 | - | 1a | |
| HYDROL POWER L-HV 68 | 871,5 | 68,4 | 180 | -36 | - | 1a | |
| HYDROL SYNT PE 46 | 839,0 | 43,7 | 140 | -54 | 258 | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL EXTRA L-HV 32 | 853,9 | 32,0 | 158 | -42 | - | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL EXTRA L-HV 46 | 878,4 | 47,0 | 157 | -39 | - | 1a | |
| HYDROL EXTRA L-HV 68 | 884,4 | 68,6 | 155 | -36 | - | 1a | |
| HYDROL ARCTIC L-HV 15 | 874,4 | 15,9 | 330 | -63 | 136 | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL ARCTIC L-HV 32 | 866,0 | 32,2 | 263 | -56 | 164 | 1a | |
| HYDROL PREMIUM L-HV 15 | 845,6 | 16,3 | 153 | -39 | 191 | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL PREMIUM L-HV 22 | 861,7 | 21,7 | 152 | -37 | 195 | 1a | |
| HYDROL PREMIUM L-HV 32 | 867,3 | 31,6 | 165 | -39 | 203 | 1a | |
| HYDROL PREMIUM L-HV 46 | 875,6 | 45,9 | 148 | -34 | 210 | 1a | |
| HYDROL PREMIUM L-HV 68 | 880,5 | 65,9 | 146 | -30 | 221 | 1a | |
| HYDROL L-HV 15 | 856,6 | 16,0 | 198 | -40 | 178 | 1a | DIN 51524-3 HVLP; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL L-HV 22 | 862,6 | 22,2 | 169 | -39 | 192 | 1a | |
| HYDROL L-HV 32 | 868,2 | 30,8 | 155 | -35 | 205 | 1a | |
| HYDROL L-HV 46 | 875,9 | 44,8 | 154 | -42 | 209 | 1a | |
| HYDROL L-HV 68 | 880,3 | 65,0 | 148 | -30 | 223 | 1a | |
| HYDROL L-HV 100 | 884,3 | 91,6 | 148 | -30 | 232 | 1a | |
| HYDROL EXTRA HLP-D 32 | 869,0 | 31,9 | 99 | -35 | 216 | 1a | |

PREMIUM - zinc-free oils
PAO - poly-alpha-olefins

| Approvals | Product description |
|--|--|
| - | Easily biodegradable hydraulic oil produced on the basis of specially selected synthetic esters. Recommended for industrial and mobile hydrostatic hydraulic systems where there is a potential risk of oil leaking into the environment. |
| - | Easily biodegradable hydraulic oil produced on the basis of a specially selected vegetable oil. Recommended for industrial and mobile hydrostatic hydraulic systems where there is a potential risk of oil leaking into the environment. |
| Central Mining Institute certificate mark B; Parker Denison HF0, HF1, HF2 | Hydraulic oils with a higher viscosity index for lubricating the hydraulic systems of mobile construction, mining and stationary industrial machinery. The DYNAVISR technology developed by EVONIK allows for reduced fuel consumption and reduced energy consumption. |
| - | Synthetic, zinc-free and ashless hydraulic oil produced on the basis of poly-alpha-olefins (PAO). Recommended for use in heavy-duty power transmission systems and hydraulic drive and control systems where very difficult operating conditions and high ambient temperatures and humidity prevail. |
| Central Mining Institute certificate mark B; Eaton Vickers Brochure 03-401-2010 (M-2950-S, I-286-S); Parker Denison HF0, HF1, HF2 | Hydraulic oils with a high viscosity index and excellent shear resistance. They are mainly intended for lubrication of the hydraulic systems of mobile construction and mining machinery operating in very difficult conditions (working pressure in hydraulic pumps up to 50 MPa), variable temperatures and humidity. |
| - | Hydraulic oils with excellent low-temperature properties and a very high viscosity index. Intended for use in hydraulic systems operating at extremely low ambient temperatures. |
| - | Zinc-free hydraulic oils intended for heavy-duty power transmission systems and hydraulic drive and control systems operating under extreme conditions of high pressure and over a wide temperature range. |
| - | Hydraulic oils intended for use in heavy-duty drive systems, high-pressure fixed and variable displacement piston pumps and precision hydraulic controls and systems. These oils are characterised by a high level of antiwear properties and additionally improved viscosity-temperature properties compared to L-HM hydraulic oils. |
| - | High-quality, zinc-free hydraulic oil with cleaning properties. The product is intended for use in stationary and mobile hydraulic systems operating in variable working conditions under high pressure and high thermal load. The oil is especially dedicated to continuous operation and where there is a danger of contamination of the system with water or condensed steam. |





| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 40°C [mm²/s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Corrosion effect on Cu plate, 100°C/3h | Quality class |
|--------------------------|-------------------------|-------------------------------------|-----------------|-----------------------|------------------|--|---|
| HYDROL PREMIUM HLP-D 32 | 874,1 | 31,1 | 98 | -34 | 215 | 1 | DIN 51524-2 HLPD; ISO 6743-4 HM; ISO 11158 HM |
| HYDROL PREMIUM HLP-D 46 | 879,5 | 45,9 | 98 | -27 | 225 | 1 | |
| HYDROL PREMIUM HLP-D 68 | 883,5 | 68,3 | 96 | -25 | 230 | 1 | |
| HYDROL PREMIUM HVLP-D 46 | 877,5 | 47,4 | 177 | -42 | 230 | 1 | DIN 51524-3 HVLPD; ISO 6743-4 HV; ISO 11158 HV |
| HYDROL PREMIUM L-HM 22 | 864,3 | 22,5 | 102 | -34 | 194 | 1a | DIN 51524-2 HLP; ISO 6743-4 HM; ISO 11158 HM |
| HYDROL PREMIUM L-HM 32 | 874,4 | 31,8 | 102 | -28 | 210 | 1a | |
| HYDROL PREMIUM L-HM 46 | 879,0 | 45,6 | 102 | -27 | 212 | 1a | |
| HYDROL PREMIUM L-HM 68 | 884,2 | 65,0 | 102 | -26 | 224 | 1a | DIN 51524-2 HLP; ISO 6743-4 HM; ISO 11158 HM |
| HYDROL L-HM/HLP 10 | 853,9 | 10,1 | 101 | -36 | 162 | 1a | |
| HYDROL L-HM/HLP 15 | 860,8 | 15,1 | 102 | -35 | 180 | 1a | |
| HYDROL L-HM/HLP 22 | 865,3 | 21,9 | 102 | -35 | 195 | 1a | |
| HYDROL L-HM/HLP 32 | 873,5 | 30,4 | 103 | -30 | 211 | 1a | |
| HYDROL L-HM/HLP 46 | 879,5 | 45,3 | 104 | -30 | 227 | 1a | |
| HYDROL L-HM/HLP 68 | 885,6 | 66,8 | 100 | -27 | 237 | 1a | |
| HYDROL L-HM/HLP 100 | 891,0 | 99,7 | 96 | -26 | 247 | 1a | |
| HYDROL L-HM/HLP 150 | 893,8 | 138,6 | 95 | -24 | 269 | 1a | |
| HYDROL L-HL 15 | 858,4 | 14,4 | 100 | -35 | 180 | 1a | |
| HYDROL L-HL 22 | 866,6 | 21,9 | 103 | -33 | 197 | 1a | |
| HYDROL L-HL 32 | 874,1 | 31,0 | 103 | -30 | 218 | 1a | |
| HYDROL L-HL 46 | 880,1 | 45,5 | 101 | -28 | 224 | 1a | |
| HYDROL L-HL 68 | 884,8 | 66,4 | 98 | -27 | 230 | 1a | |
| HYDROL L-HL 100 | 888,1 | 94,7 | 93 | -24 | 241 | 1a | |
| HYDROL L-HL 150 | 892,6 | 136,9 | 93 | -24 | 247 | 1a | |
| HYDROL HLP-D 22 | 867,1 | 22,1 | 106 | -33 | 217 | 1 | DIN 51524-2 HLPD; ISO 6743-4 HM; ISO 11158 HM |
| HYDROL HLP-D 32 | 873,8 | 30,9 | 104 | -33 | 210 | 1 | |
| HYDROL HLP-D 46 | 880,7 | 45,7 | 102 | -30 | 225 | 1 | |
| HYDROL HLP-D 68 | 886,2 | 67,6 | 99 | -30 | 232 | 1 | NO-91-A202:2019 STANAG 3748:2015 MIL-PRF-5606J |
| ORLEN OIL H-515 | 869,9 | 13,1 | 390 | -63 | 93 | 1 (135stC/ 72h) | |
| HYDROL HLPT 46 | 877,5 | 42,7 | 123 | -39 | 220 | 1 | |
| HYDROL HVLP-D 46 | 874,5 | 46,3 | 157 | -39 | 230 | 1 | |
| HYDROL SPECIAL 46 | 875,6 | 48,8 | 123 | -39 | 220 | 1 | |
| HYDROL SPECIAL 68 | 883,8 | 69,3 | 115 | -42 | 225 | 1 | |
| O.OIL OTHP3 ISO VG 32 | 872,0 | 30,9 | 122 | -42 | 202 | 1 | |

PREMIUM - zinc-free oils
PAO - poly-alpha-olefins

| Approvals | Product description |
|---|--|
| - | Zinc-free hydraulic oil with cleaning properties. The product is intended for use in stationary and mobile hydraulic systems operating in variable working conditions under high pressure and high thermal load. The oil is especially dedicated to continuous operation and where there is a danger of contamination of the system with water or condensed steam. |
| - | |
| - | |
| Eaton Vickers Brochure 03-401-2010 (M-2950-S, I-286-S) | Zinc-free hydraulic oils intended for heavy-duty power transmission systems and hydraulic drive and control systems operating under extreme conditions of high pressure and over a wide temperature range. |
| - | |
| Central Mining Institute certificate mark B | |
| Central Mining Institute certificate mark B; Parker Denison HF0, HF1, HF2 | Hydraulic oils intended for heavy-duty power transmission and hydraulic drive and control systems, i.e. hydraulic transmissions, regulating and controlling mechanisms and other similar equipment, where difficult operating conditions and increased ambient temperatures and humidity prevail. |
| Central Mining Institute certificate mark B | |
| - | |
| Central Mining Institute certificate mark B | Hydraulic oils are intended for use in low- and medium-duty power transmission systems and hydraulic drive and control systems of hydrostatic drive equipment operating under moderate temperature conditions. |
| - | |
| Schuler - Müller Weingarten DT55006 | Hydraulic oils with washing properties, intended for use in various types of stationary and mobile hydraulic systems of machines and devices operating under normal and heavy operating conditions, especially continuously and where there is a danger of the system becoming contaminated with water or condensed steam. |
| - | Hydraulic oil for aviation and ground technology. The product is intended for use in hydraulic systems, shock absorber assemblies and hydraulic dampers of aircraft and hydraulic systems of ground technology. |
| - | Hydraulic oil intended for heavy-duty power transmission and hydraulic drive and control systems, i.e. hydraulic transmissions, regulating and controlling mechanisms and other similar equipment, where difficult operating conditions and increased ambient temperatures and humidity prevail. Product with enhanced physical and chemical parameters. |
| - | Hydraulic oil with cleaning properties and a high viscosity index. Product is intended for stationary and mobile hydraulic systems of machinery and equipment operating in normal and heavy-duty conditions with a risk of contamination of the system with water or condensed steam. It can be used on construction machinery operating in high air pollution. |
| - | Hydraulic oils with improved oxidation resistance. Intended for lubricating power transmission systems, hydraulic drive and control and regulation mechanisms, hydraulic transmissions. The products have been developed for use in stationary and mobile industrial machinery, vehicles, construction and mining machinery. |
| Meets the requirements of: Parker Denison HF0, HF1, HF2 | Mineral hydraulic oil intended for stationary and mobile machines, buses, forklifts, trucks and construction machinery with automatic transmission. Can also be used as HM hydraulic fluid. |



| Viscosity class in accordance with ISO 3448 | Permissible kinematic viscosity range at 40°C for a given oil class [mm ² /s] |
|---|--|
| 2 | 1,98 - 2,42 |
| 3 | 2,88 - 3,52 |
| 5 | 4,14 - 5,06 |
| 7 | 6,12 - 7,48 |
| 10 | 9,00 - 11,0 |
| 15 | 13,5 - 16,5 |
| 22 | 19,8 - 24,2 |
| 32 | 28,8 - 35,2 |
| 46 | 41,4 - 50,6 |
| 68 | 61,2 - 74,8 |
| 100 | 90 - 110 |
| 150 | 135 - 165 |
| 220 | 198 - 242 |
| 320 | 288 - 352 |
| 460 | 414 - 506 |
| 680 | 612 - 748 |
| 1000 | 900 - 1100 |
| 1500 | 1350 - 1650 |

| ISO 6743/4 | DIN 51 524 | Composition | Application |
|------------|------------|---|---|
| HL | HL | Mineral oils with improved anti-corrosion and antioxidant properties. | Hydraulic oils are intended for use in low- and medium-duty power transmission systems and hydraulic drive and control systems of hydrostatic drive equipment operating under moderate temperature conditions. |
| HM | HLP | HL oils with improved anti-wear properties. | Hydraulic oils intended for heavy-duty power transmission and hydraulic drive and control systems, i.e. hydraulic transmissions, regulating and controlling mechanisms and other similar equipment, where difficult operating conditions and increased ambient temperatures and humidity prevail. |
| - | HLPD | Mineral oils with anti-wear, anti-oxidation and anti-corrosion additives. They contain cleaning and dispersing additives. | For use in various types of stationary and mobile hydraulic systems on machinery and equipment operating under normal and heavy-duty conditions, where there is a risk of contamination of the system with water or condensed steam. |
| HV | HVLP | HM oils with improved viscosity-temperature properties. | Hydraulic oils intended for use in heavy-duty drive systems, high-pressure fixed and variable displacement piston pumps and precision hydraulic controls and systems. |
| HEES | - | Synthetic esters. | Biodegradable hydraulic oils recommended for industrial and mobile hydrostatic hydraulic systems where there is a potential risk of the oil leaking into the environment. |
| HETG | - | Triglycerides. | |

| Product name | Kinematic viscosity at 40°C [mm ² /s] | Water content by distillation | pH of emulsion | Approvals | Product description |
|-----------------------------|--|-------------------------------|----------------|--|--|
| HYDROKOP SYNETIC | 80,0 | 52 | 7 to 10 | Safety certificate "B" No. B/2348/IV/2022. Approval for use in mining. | Emulsifying concentrate intended for the production of micro-emulsions with a concentration of 0.5-2 % (m/m) to be used in the mining industry as flame-retardant HFAE hydraulic fluid using waters with a total hardness of up to 750 mg CaCO ₃ /l (42°n). |
| HYDROKOP SEMISYNETIC | 52,0 | 60 | 8 to 10 | Safety certificate "B" No. B/2538/II/2021. Approval for use in mining. | Microemulsion emulsifying concentrate intended for the production of micro-emulsions with a concentration of 0.5-2 % (m/m) to be used in the mining industry as flame-retardant HFAE hydraulic fluid using waters with a total hardness of up to 750 mg CaCO ₃ /l (42°n). |

| Product name | Density at 20°C [g/ml] | Crystallisation temperature, max. [°C] | Flow temperature [°C] | Approvals | Product description |
|------------------|------------------------|--|-----------------------|-----------|--|
| KONHYDR T | 1,076 | -35 | 107 | - | Product intended for the transport and temporary corrosion protection of hydraulic power equipment whose components are made of steel, copper, zinc, brass and aluminium. The liquid can be used as a working medium in refrigeration systems and as a liquid for sprinkling the floors and sides of coal wagons in winter to prevent coal from freezing and caking. |



| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Resistance to foaming, 1st sequence [ml/ml] | Quality class | Approvals | Product description |
|---------------------|--------------------------------------|--|-----------------|-----------------------|------------------|---|----------------------------------|---|--|
| GALKOP 46 | 882,3 | 46,8 | 100 | -26 | 221 | 0/0 | DIN 51517-3 CLP; DIN 51524-3 HLP | Central Mining Institute certificate mark B | Hydraulic-transmission oils recommended for lubricating hydraulic systems and mechanical transmissions in the mining industry and industrial machines. |
| GALKOP 68 | 887,6 | 70,6 | 100 | -25 | 241 | 0/0 | | | |
| GALKOP 100 | 889,2 | 98,6 | 97 | -24 | 257 | 0/0 | | | |
| GALKOP 150 | 892,9 | 151,7 | 95 | -18 | 260 | 0/0 | | | |
| TRANSOL V 32 | 869,5 | 32,3 | 107 | -36 | 218 | 20/0 | DIN 51517-3 CLP; DIN 51524-2 HLP | Voith Turbo 3625-006058; Voith Turbo 3625-006072; Voith Turbo 3625-006073; Voith Turbo 3625-008426; | Hydraulic-transmission oil for industrial stationary clutches and hydrodynamic transmissions of heavy-duty machinery. |



| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Corrosion effect on Cu plate, 100°C/3h | FZG | Quality class |
|-------------------|--------------------------------------|--|-----------------|-----------------------|------------------|--|-----|---|
| TRANSGEAR PAG 150 | 998,7 | 152,8 | 201 | -30 | >260 | 1 | >13 | DIN 51517-3 CLP |
| TRANSGEAR PAG 220 | 100,9 | 217,7 | 174 | -30 | >260 | 1 | >13 | |
| TRANSGEAR PAG 320 | 100,8 | 329,2 | 198 | -30 | >260 | 1 | >13 | |
| TRANSGEAR PAG 460 | 100,6 | 480,7 | 225 | -28 | >260 | 1 | >13 | |
| TRANSGEAR PAO 150 | 852,9 | 140,4 | 168 | -51 | 258 | 1 | >12 | DIN 51517-3 CLP; ISO 6743-6 CKD/CKS/CKT; ISO 12925-1 CKD/CKS/CKT |
| TRANSGEAR PAO 220 | 881,3 | 206,5 | 163 | -39 | 236 | 1 | >12 | |
| TRANSGEAR PAO 320 | 858,0 | 326,0 | 176 | -45 | 274 | 1 | >12 | |
| TRANSGEAR PE-150 | 876,1 | 147,8 | 160 | -39 | 240 | 1 | >12 | DIN 51517-3 CLP; ISO 12925-1 CKD; ANSI/AGMA 9005-F16 US Steel 224 |
| TRANSGEAR PE-220 | 883,9 | 216,3 | 163 | -39 | 232 | 1 | >12 | |
| TRANSGEAR PE-320 | 891,7 | 318,2 | 169 | -39 | 238 | 1 | >12 | |
| TRANSGEAR PE-460 | 898,1 | 449,2 | 166 | -36 | 238 | 1 | >12 | |
| TRANSOL SP-68 | 885,1 | 68,1 | 101 | -28 | 223 | 1 | 12 | DIN 51517-3 CLP; ISO 6743-6 CKD; ISO 12925-1 CKD |
| TRANSOL SP-100 | 890,3 | 99,8 | 100 | -27 | 230 | 1 | 12 | |
| TRANSOL SP-150 | 894,2 | 154,4 | 99 | -24 | 232 | 1 | 12 | |
| TRANSOL SP-220 | 897,8 | 224,6 | 97 | -23 | 260 | 1 | 12 | |
| TRANSOL SP-320 | 900,6 | 320,9 | 95 | -18 | 265 | 1 | 12 | |
| TRANSOL SP-460 | 903,1 | 467,5 | 95 | -17 | 265 | 1 | 12 | |
| TRANSOL SP-680 | 905,6 | 681,0 | 94 | -15 | 264 | 1 | 12 | |
| TRANSOL SP-1000 | 905,7 | 1036,0 | 94 | -12 | 265 | 1 | 12 | |
| TRANSOL CLP 68 | 886,0 | 67,1 | 102 | -28 | 230 | 1 | 12 | DIN 51517-3 CLP; ISO 6743-6 CKC; ISO 12925-1 CKC |
| TRANSOL CLP 100 | 889,9 | 99,0 | 98 | -27 | 233 | 1 | 12 | |
| TRANSOL CLP 150 | 893,9 | 157,6 | 99 | -27 | 236 | 1 | 12 | |
| TRANSOL CLP 220 | 897,9 | 221,9 | 95 | -24 | 263 | 1 | 12 | |
| TRANSOL CLP 320 | 900,9 | 320,2 | 96 | -21 | 261 | 1 | 12 | |
| TRANSOL CLP 460 | 904,6 | 456,4 | 94 | -17 | 260 | 1 | 12 | |
| TRANSOL CLP 680 | 904,3 | 671,0 | 95 | -15 | 259 | 1 | 12 | |
| TRANSOL 68 | 885,0 | 68,0 | 99 | -27 | 229 | 1 | 12 | DIN 51517-3 CLP; ISO 6743-6 CKC; ISO 12925-1 CKC |
| TRANSOL 100 | 890,1 | 97,9 | 96 | -25 | 230 | 1 | 12 | |
| TRANSOL 150 | 894,0 | 158,8 | 96 | -24 | 235 | 1 | 12 | |
| TRANSOL 220 | 897,8 | 224,6 | 95 | -24 | 260 | 1 | 12 | |
| TRANSOL 320 | 901,3 | 317,2 | 95 | -15 | 261 | 1 | 12 | |
| TRANSOL 460 | 904,6 | 471,5 | 94 | -15 | 261 | 1 | 12 | |
| TRANSOL 680 | 904,6 | 676,5 | 95 | -15 | 260 | 1 | 12 | |



| Meets the requirements of | Product description |
|--|--|
| David Brown Typ G | Synthetic industrial transmission oils are produced on the basis of polyalkylene glycols. Oils intended for heavy-duty mechanical transmissions of industrial equipment operating at temperatures in excess of 200°C. |
| Central Mining Institute certificate mark B | Synthetic industrial transmission oils manufactured on the basis of poly-alpha-olefins (PAO) and esters. Products intended for various types of heavy-duty transmissions in industrial machinery and equipment exposed to micropitting, operating at temperatures up to 180°C. |
| Has the approval of: Flender T7300, Rev.16; Central Mining Institute certificate mark B | Synthetic industrial transmission oils. Products intended for various types of heavy-duty transmissions in industrial machinery and equipment exposed to micropitting, operating at temperatures up to 180°C. |
| AGMA 9005-E02; U.S. Steel 224; David Brown S1.53.101 | Industrial transmission oils, manufactured from selectively refined mineral oils and an EP - Extreme Pressure - type additive package. Products intended for heavy-duty mechanical transmissions of industrial equipment operating at temperatures up to 120°C. |
| AGMA 9005-E02; U.S. Steel 224 | Industrial transmission oils, manufactured from selectively refined mineral oils and an EP - Extreme Pressure - type additive package. Products intended for heavy-duty mechanical transmissions of industrial equipment operating at temperatures up to 120°C. |
| - | Industrial transmission oils, manufactured from selectively refined mineral oils and an EP - Extreme Pressure - type additive package. Products intended for heavy-duty mechanical transmissions of industrial equipment operating at temperatures up to 100°C. |



| Product name | Kinematic viscosity at 40°C [mm ² /s] | Viscosity index | Flash point in open cup [°C] | Flow temperature [°C] | Quality class | Product description |
|--------------------------|--|-----------------|------------------------------|-----------------------|---|--|
| CORALIA PAG 46 | 42,5 | 190 | 226 | -48 | ISO 6743-3; ISO L-DGC | Synthetic oil on the basis of water-insoluble polyalkylene glycols intended for lubricating screw compressors compressing natural gas, LPG, and other hydrocarbon gases operating under heavy-duty conditions. CORALIA PAG 46 oil is not miscible with mineral oils or other synthetic oils and cannot be used to top up oil in these systems, or vice versa. When replacing previously used mineral/synthetic compressor oil with CORALIA PAG 46 oil, an oil change operation must be carried out in conjunction with cleaning and flushing of the compressor lubrication system. |
| CORALIA PAG 85 | 89,4 | 216 | 304 | -46 | ISO 6743-3; ISO L-DGC | Synthetic oil based on water-soluble polyalkylene glycols for lubricating reciprocating and rotary compressors for natural gas, LPG and other hydrocarbon gases. CORALIA PAG 85 oil is not miscible with mineral oils or other synthetic oils and cannot be used to top up oil in these systems, or vice versa. When replacing previously used mineral/synthetic compressor oil with CORALIA PAG 85 oil, an oil change operation must be carried out in conjunction with cleaning and flushing of the compressor lubrication system. |
| CORALIA PAG 150 | 146,3 | 207 | 260 | <-40 | ISO 6743-3; ISO L-DGC | Synthetic oil based on water-insoluble polyalkylene glycols. CORALIA PAG 150 oil is not miscible with mineral oils or other synthetic oils and cannot be used to top up oil in these systems, or vice versa. When replacing previously used mineral/synthetic compressor oil with CORALIA PAG 150 oil, an oil change operation must be carried out in conjunction with cleaning and flushing of the compressor lubrication system. The product is suitable for both rotary and reciprocating compressors where the oil is in constant contact with process gases. |
| CORALIA PE 32 | 32,4 | - | - | -56 | ISO 6743-3; ISO L-DAJ | Synthetic oils (based on polyalphaolefins) intended for lubricating rotary, vane and screw air compressors operating under heavy-duty conditions. |
| CORALIA PE 46 | 45,2 | - | - | -54 | | |
| CORALIA PE 68 | 62,2 | - | - | -48 | | |
| CORALIA HC 100 | 101,8 | - | 236 | -37 | ISO 6743-3; ISO L-DAA, DAG; DIN 51506 VDL | Piston and rotary air compressor oils for spray- and splash-lubricated air compressors intended for normal and heavy-duty operating conditions. |
| CORALIA HC 150 | 136,4 | - | 248 | -34 | | |
| CORALIA ST 32 | 33,6 | - | - | -36 | ISO 6743-3; ISO L-DAA; L-DAB, DAG; DIN 51506 VDL | Oils for rotary air compressors, rotary vane and screw compressors with or without oil injection, operating under medium conditions. The products are used in circulating oil systems integrated into a transmission lubrication system and systems integrated into a turbine or compressor. |
| CORALIA ST 46 | 47,4 | - | - | -33 | | |
| CORALIA T 32 | 30,9 | - | 214 | -12 | ISO 6743-3; ISO L-DAH; ISO 6743-5 L-TSE, L-TGE; DIN 51524 part 1 L-HL | Oils intended for lubricating rotary air compressors operating in medium conditions. It can also be used as a hydraulic fluid in turbine regulation systems and to lubricate circulating systems of steam, gas and water turbines. |
| CORALIA T 46 | 41,7 | - | 232 | -9 | | |
| CORALIA VDL 32 | 30,8 | - | - | - | ISO 6743-3; ISO L-DAA, L-DAB; DIN 51506 VDL | Oils intended for lubricating reciprocating, screw (with or without oil injection) and vane (with oil injection) air compressors operating in medium conditions. |
| CORALIA VDL 46 | 44,5 | - | - | -12 | | |
| CORALIA VDL 68 | 64,7 | - | - | - | | |
| CORALIA VDL 100 | 104,4 | - | - | - | | |
| CORALIA VACUUM | 103,8 | - | 280 | -10** | - | Oil intended for use in rotary vacuum pumps. |
| CORALIA L-DAB 68 | 64,2 | 97 | 123 | -24 | ISO 6743-3; ISO L-DAB | Oils intended for lubrication of reciprocating air compressors and rotary vane compressors, drip-lubricated, with medium operating conditions. |
| CORALIA L-DAB 100 | 96,3 | 92 | 256 | -18 | | |
| CORALIA L-DAB 150 | 141,4 | 91 | 276 | -12 | | |
| CORALIA L-DAB 320 | 320,9 | 92 | 304 | -9 | | |
| CORALIA L-DAB 460 | 476,1 | 93 | 314 | -6 | | |
| CORALIA L-DAA 46 | 44,7 | 100 | 223 | -12 | ISO 6743-3; ISO L-DAA | Oils intended for lubrication of reciprocating air compressors and rotary vane compressors, drip-lubricated, with light operating conditions. |
| CORALIA L-DAA 68 | 68,0 | 97 | 248 | -12 | | |
| CORALIA L-DAA 100 | 101,4 | 93 | 243 | -12 | | |
| CORALIA L-DAA 150 | 147,4 | 89 | 272 | -12 | | |

** Solidification temperature [°C]

| Product name | Kinematic viscosity at 40°C [mm ² /s] | Flash point in open cup [°C] | Flow temperature [°C] | Quality class | Application |
|-----------------------|--|------------------------------|-----------------------|-----------------------|--|
| FRIGOL POE 68 | 68,3 | 272 | -42 | ISO 6743-3; ISO L-DRD | Synthetic oils (polyester-based) intended for use in refrigeration compressors and air-conditioning units with HFC, HCFC refrigerants. |
| FRIGOL POE 100 | 99,5 | 262 | -33 | | |
| FRIGOL M 68 | 66,4 | 202 | -35 | ISO 6743-3; ISO L-DRE | Oil intended for lubrication of all types of refrigeration compressors operating with refrigerants of the CFC (e.g. R12), HCFC (e.g. R22) and ammonia group. |

| Product name | Kinematic viscosity at 50°C [mm ² /s] | Flash point in open cup [°C] | Solidification point [°C] | Quality class | Application |
|---------------------|--|------------------------------|---------------------------|-----------------------|--|
| FRIGOL TZ-13 | 13,4 | 176 | -50 | PN-C-96072:1974 TZ-13 | Oils intended for lubricating ammonia refrigeration compressors, e.g. two-stage compressors with a circulating lubrication system. |
| FRIGOL TZ-19 | 26,8 | 228 | -34 | PN-C-96072:1974 TZ-19 | |
| FRIGOL TZ-28 | 29,5 | 230 | -34 | PN-C-96072:1974 TZ-28 | |
| FRIGOL WZ | 31,2 * | 164 | -45 | PN-C-96072:1974 WZ | Oil intended for lubrication of ammonia and acid-carbon refrigeration compressors with evaporator temperatures up to -45°C, e.g. single-stage, horizontal, slow-running compressors. |

* Kinematic viscosity at 20°C
PAG - polyalkylene glycol
POE - polyesters



| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 40°C [mm²/s] | Kinematic viscosity at 100°C [mm²/s] | Viscosity index | Flow temperature [°C] | Flash point [°C] |
|--------------|-------------------------|-------------------------------------|--------------------------------------|-----------------|-----------------------|------------------|
| VELOL P 150 | 878,1 | 152,9 | 15,5 | 102 | -33 | 280 |
| VELOL P 220 | 885,6 | 228,9 | 19,9 | 101 | -27 | 284 |
| VELOL M 220 | 896,2 | 220,2 | 18,2 | 91 | -12 | 272 |
| VELOL M 460 | 902 | 475 | 30,6 | 93 | -15 | 315 |
| VELOL RC 32 | 875,7 | 32,9 | - | 101 | -21 | 215 |
| VELOL RC 46 | 881,9 | 47,2 | - | 101 | -18 | 217 |
| VELOL RC 68 | 884,5 | 64,6 | - | 99 | -21 | 224 |
| VELOL RC 100 | 887,9 | 98,4 | - | 98 | -15 | 243 |
| VELOL RC 220 | 896,2 | 216,8 | - | 96 | -18 | 252 |
| VELOL RC 320 | 900,4 | 315,3 | - | 92 | -12 | 255 |
| VELOL 9Q | 844,2 | 10,0 * | - | - | -44 | 146 |
| VELOL 19 | 856,6 | 20,2 * | - | - | -43 | 168 |
| VELOL 8 | 866,9 | 12,2 | - | 100 | -12 | 176 |
| VELOL 10 | 864,2 | 21,1 | - | 100 | -27 | 196 |
| VELOL 15 | 874,3 | 31,5 | - | 102 | -24 | 222 |
| VELOL 20 | 879,2 | 45,4 | - | 99 | -15 | 222 |
| VELOL 50 | 888,1 | 99,3 | - | 91 | -24 | 264 |
| VELOL 60 | 891,9 | 115,6 | - | 93 | -15 | 232 |
| L-AN 10 | 853,4 | 10,3 | 2,7 | 101 | -18 | 154 |
| L-AN 15 | 850,4 | 16,2 | 3,6 | 110 | -15 | 172 |
| L-AN 22 | 863,2 | 21,1 | 4,2 | 99 | -15 | 210 |
| L-AN 32 | 875,1 | 31,7 | 5,3 | 101 | -12 | 224 |
| L-AN 46 | 879,4 | 45,4 | 6,6 | 98 | -12 | 225 |
| L-AN 55 | 883,0 | 58,1 | - | 97 | -9 | 244 |
| L-AN 68 | 883,6 | 66,4 | 8,4 | 97 | -12 | 240 |
| L-AN 100 | 889,6 | 98,4 | 10,9 | 95 | -10 | 258 |
| L-AN 150 | 892,0 | 145,1 | 13,8 | 90 | -10 | 276 |
| L-AN 15Z | 853,8 | 15,8 | - | - | -33 | - |
| L-AN 46Z | 880,8 | 48,1 | - | - | -30 | - |
| L-AN 68Z | 885,5 | 66,2 | - | - | -24 | - |
| L-AN Z 320 | 899,6 | 328,5 | - | - | -18 | 281 |

* Kinematic viscosity at 20°C [mm²/s]

| Quality class | Meets the requirements of | Product description |
|---------------------------------|--|--|
| DIN 51502 C | DIN 51517-1 C; DIN 51517-2 CL | Circulating oils characterised by very good oxidation resistance and good water release properties. The products are compatible with SRE-NBR 28/SX type seals and are used in machine circulation systems, low and medium duty enclosed transmissions and light duty, reciprocating, rotary, vane air compressors. |
| - | - | Fluid friction bearing oil for large metallurgical units in the sheet rolling process. In addition, it can be used as a non-emulsifying, refined, high-quality machine oil. The product meets MORGOL's basic requirements |
| ISO 6743-13 GB; DIN 51502 CG | Fives Cincinnati P-53 - Fives Cincinnati P-47 - Fives Cincinnati P-50 - | Oils for all types of slideways and, in particular, for lubricating horizontal slideways operating at moderate temperatures and under moderate to medium loads. They guarantee proper slide operation with particular emphasis on proper friction characteristics and the elimination of the "stick-slip" phenomenon. |
| - | - | Machine oils for through- and bath lubrication of high-speed textile machine components, machine tools and other precision equipment components in accordance with lubrication instructions. They can also be used for machining metals: steel, brass, e.g. turning, milling, threading, etc. |
| ISO 6743-1 AN | - | Oils used for light- and medium-duty rotating machine parts such as rolling and plain bearings, guides, spindles. They can also be used in washing and rinsing processes for mechanical components of machines and tanks. |
| ISO 6743-1 AN; DIN 51502 AN | DIN 51501 | Machine oils are intended for light- to medium-duty operating elements of industrial machinery and equipment, such as rolling and sliding bearings, guides, mechanical transmissions, spindles and auxiliary friction nodes. Low-solidifying machine oils intended for light- to medium-duty operating elements of industrial machinery and equipment, such as rolling and sliding bearings, guides, mechanical transmissions, spindles and auxiliary friction nodes. |

| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 50°C [mm²/s] | Kinematic viscosity at 100°C [mm²/s] | Solidification point [°C] | Flash point [°C] | Acid value [mg KOH/g] |
|-----------------------------|-------------------------|-------------------------------------|--------------------------------------|---------------------------|------------------|-----------------------|
| GREASED MACHINE OIL MN-11 | 896 | 82,2 | - | -13 | 292 | 0,15 |
| GREASED MACHINE OIL MN-15 | 898,4 | 111,2 | - | -13 | 286 | 0,02 |
| CYLINDER OIL CL-17 (PN-240) | 901,6 | - | 28,1 | -8 | 304 | 0,03 |
| CYLINDER OIL CL-30 (PP-280) | 902,2 | - | 43,0 | -6 | 324 | 0,03 |
| CYLINDER OIL CL-40 (PW-300) | 906,1 | - | 52,6 | -6 | 326 | 0,05 |
| CYLINDER OIL P 28 | 904,0 | - | 29,4 | -6 | 308 | - |
| CYLINDER OIL B 28 | 902,8 | - | 31,3 | -6 | 325 | - |
| AXLE OIL U | 886,1 | 46,9 | - | -27 | 253 | - |

EP - Extreme Pressure
AW - Antiwear

| Standards | Product description |
|---------------|--|
| PN-56/C-96074 | Greased machine oils are a mixture of mineral oils with oxidised vegetable oil. They are used for lubricating: steam engine bearings of rolling stock, bearings exposed to contact with water, with which greased machine oils form a permanent lubricating emulsion, and machine bearings exposed to higher specific loads. |
| PN-61/C-96095 | Cylinder oils are intended for lubricating cylinders, shunting parts and glands of steam engines. The main function of these oils is to prevent ring and cylinder wear and to seal spaces operating at high temperatures and with steam. |
| - | |
| PN-61/C-96097 | Oil primarily intended for lubricating sliding bearings in steam locomotives, rail and tramway cars. |



| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 40°C [mm²/s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Corrosion effect on Cu plate, 100°C/3h | Oil air-release capacity at 50°C [min.] | RPVOT (oxidation test) [min.] |
|------------------------------|-------------------------|-------------------------------------|-----------------|-----------------------|------------------|--|---|-------------------------------|
| TURBINEX POWER TG PREMIUM 32 | 857,3 | 31,9 | 115 | -18 | 212 | 1 | 2,7 | 1520 |
| TURBINEX POWER TG PREMIUM 46 | 857,3 | 46,6 | 113 | -18 | 244 | 1 | 2,7 | 1447 |
| TURBINEX TG PREMIUM 32 | 842,5 | 31,6 | 132 | -24 | 244 | 1 | 2,1 | >2300 |
| TURBINEX TG PREMIUM 46 | 845,6 | 43,6 | 130 | -21 | 250 | 1 | 2,5 | >2300 |
| TURBINEX TG 32 | 877,5 | 32,6 | 96 | -15 | 218 | 1 | 2 | >1300 |
| TURBINEX TG 46 | 879,0 | 43,4 | 98 | -12 | 225 | 1 | 2,5 | >1300 |
| TURBINEX TU 32 | 877,0 | 32,3 | 96 | -12 | 222 | 1 | 2,4 | >1000 |
| TURBINEX TU 46 | 878,7 | 42,9 | 96 | -12 | 232 | 1 | 2,7 | >1000 |
| TURBINEX TU 68 | 884,0 | 61,9 | 96 | -12 | 248 | 1 | 4 | >1000 |



| Quality class | Approvals | Opis produktu |
|--|---|--|
| DIN 51515 part 1; DIN 51515 part 2; ISO 8068 | Meets the requirements of: General Electric HTGD 90117 AC, Siemens 901305, 901304, GEK 107395A Skoda Power, BS 489 | Turbine oils recommended for the lubrication and cooling of gas and steam turbine bearings, gas-steam turbines operating in the CCGT combined cycle, also equipped with gears. Oils intended for turbine systems where elevated operating temperatures and pressures are present. They can also be used as hydraulic fluids in turbine regulation systems and to lubricate, among other things, marine turbochargers of main and auxiliary engines fuelled by exhaust gas. |
| | MAN TED 1000454696 Rev.03 Meets the requirements of: Siemens 901305, 901304, GE HTGD 90117, GEK 107395A Skoda Power, BS 489 | |
| DIN 51515 part 1; DIN 51515 part 2; ISO 8068 | Alstom HTGD 90117; Siemens TLV 901304; Siemens TLV 901305; Skoda Power | |
| | Alstom HTGD 90117; Siemens TLV 901304; Siemens TLV 901305; Skoda Power | |
| DIN 51515 part 1; DIN 51515 part 2; ISO 8068 | Alstom HTGD 90117; Siemens TLV 901304; Siemens TLV 901305, Skoda Power | |
| | Siemens TLV 901304; Siemens TLV 901305; Skoda Power. Meets the requirements of: Alstom HTGD 90117 | |
| DIN 51515 part 1; DIN 51515 part 2; ISO 8068 | Alstom HTGD 90117; Siemens TLV 901304; Siemens TLV 901305; Skoda Power | Turbine oils recommended for the lubrication and cooling of bearings in steam and water turbines also equipped with gears. The oils can be used in not particularly strained gas turbines under normal operating conditions. They can also be used as hydraulic fluids in turbine regulation systems and to lubricate, among other things, marine turbochargers of main and auxiliary engines fuelled by exhaust gas. |
| | Siemens TLV 901304; Siemens TLV 901305; Skoda Power. Meets the requirements of: Alstom HTGD 90117 | |
| | - | |

| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 40°C [mm²/s] | Kinematic viscosity at 50°C [mm²/s] | Flow temperature [°C] | Flash point [°C] | Corrosion effect on Cu plate, 100°C/3h | Deemulsification number [s] | Standards | Product description |
|------------------|-------------------------|-------------------------------------|-------------------------------------|-----------------------|------------------|--|-----------------------------|-------------------|---|
| TURBINE OIL T-30 | 881,0 | 49,9 | 30,8 | -13 | 240 | 1 | 120 | ZN-66/MPCh/NF-104 | Turbine oils for the circulating bearing lubrication of steam turbines, water turbines and geared turbine sets in the case of a common oil circuit. |



| Product name | Kinematic viscosity at 100°C [cSt] | Flow temperature [°C] | Flash point in open cup [°C] | Total alkaline number TBN [mg-KOH/g] | CCS structural viscosity at -20°C | Sulphated ash [(%/m/m)] | Approvals | Product description |
|----------------------------|------------------------------------|-----------------------|------------------------------|--------------------------------------|-----------------------------------|-------------------------|--|--|
| DELGAS PREMIUM L 40 | 13,9 | -24 | 276 | 4,6 | - | 0,53 | - | Oil intended for use in various types of stationary, four-stroke gas engines (including Jenbacher) naturally aspirated and turbocharged, fuelled with methane-rich gases such as landfill gas, mine gas and biogas. It can be used in three-way and selective catalyst systems. |
| DELGAS L 40 | 13,8 | -27 | 272 | 5,7 | - | 0,46 | MWM TR-0199-99-2105; INNIO Jenbacher TA 1000-1109, series 2, 3, 4 (version A and B) and 6 (version C and E), class A gases; Bergen Engines AS: B35:40, C26:33 and K-type engines, for medium-speed natural gas engines | Oil for use in various types of stationary, four-stroke gas engines (e.g. Jenbacher, MWM) running predominantly on natural gas. It can be used in three-way and selective catalyst systems. |
| DELGAS M 40 | 13,7 | -34 | 274 | 10,5 | - | 0,68 | - | Oil for use in various types of stationary, four-stroke gas engines (including Jenbacher, MAN, Deutz) naturally aspirated and turbocharged, fuelled with methane-rich gases such as landfill gas, mine gas and biogas. It can be used in three-way and selective catalyst systems. |
| DELGAS M 15W-40 | 14,5 | -24 | 224 | 10,2 | 6320 | 0,97 | - | Oil for use in various types of four-stroke gas engines fuelled by natural gas as well as other methane-rich gases such as landfill gas and biogas. The product is mainly dedicated to the naturally aspirated and turbocharged gas engines of containerised generators. It can be used in three-way and selective catalyst systems. |
| DELGAS A 15W-40 | 14,7 | -36 | 230 | 2,0 | 4700 | 0,001 | - | Ashless oil intended for use in two-stroke natural gas-fuelled engines operating in gas transmission and compression stations. |

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| Product name | Kinematic viscosity at 40°C [mm²/s] | Emulsion appearance at 20°C | pH 5% of emulsion | Corrosion protection capacity on steel plates using the Herbert method | Emulsion stability at 24h/20±50°C | Refractive index at 20°C |
|---------------------|-------------------------------------|---|-------------------|--|-----------------------------------|--------------------------|
| UNICOOL MIKRO EP | 65,0 | Transparent to iridescent liquid | 9,2 | H0 | withstands | 1,4 |
| UNICOOL MIKRO E | 1,0 | | - | H0 | 1A/1R/withstands | 2,5 |
| UNICOOL MIKRO 40 P | 15,8 | Transparent to iridescent liquid | 9,4 | H0 | 1A/1R/withstands | 2,3 |
| UNICOOL MIKRO 40 PS | 5,6 | | 9,4 | H0 | | - |
| UNICOOL MIKRO 40 PW | 15,8 | | 9,4 | H0 | | 2,3 |
| UNICOOL AL. | 54,0 | - | 9,3 | - | - | 1,1 |
| UNICOOL WO | 29,0 | Milk emulsion | 9,2 | H0 | withstands | 1,5 |
| EMULGOL DS 30 | 28,5 | Clear, homogeneous, amber-coloured liquid | 9,2 | | | 1,5 |
| EMULGOL ES-12 | 30,5 | Clear, homogeneous, amber-coloured liquid | 9,1 | | | 1,4 |

EP - Extreme Pressure

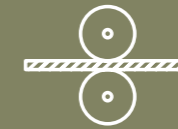
| Water hardness [°n] | Material to be processed | Recommended working concentrations | Product description |
|---------------------|--|---|---|
| From 10°n to 20°n | <ul style="list-style-type: none"> steel cast iron non-ferrous metals very hard materials, e.g. alloy steels | <ul style="list-style-type: none"> heavy grinding: 3-5%, heavy chip machining (turning, milling): 3-5%, very heavy chip machining (reaming, threading): 5-8%. | Semi-synthetic emulsifying concentrate (microemulsion) with EP additives, used for heavy metalworking operations: cutting, grinding. |
| | <ul style="list-style-type: none"> cast iron iron alloys and stainless steel aluminium alloys plastic materials | <ul style="list-style-type: none"> normal machining (turning, milling): light (3%), medium-heavy (5-6%) grinding: light (1.5-2%), medium-heavy (3-5%) stamping, forming: light (3-4%), medium-heavy (5-6%) reaming: light (4-5%), medium-heavy (8-10%) | Semi-synthetic emulsifying concentrate (microemulsion) used for typical machining processes: turning, milling, drilling, reaming, threading, shaping, grinding. Suitable for low- and high-pressure CNC systems. It can be used in central systems and on individual machines. |
| From 10°n to 15°n | <ul style="list-style-type: none"> cast iron iron alloys and stainless steel aluminium alloys plastic materials | <ul style="list-style-type: none"> normal machining (turning, milling): light (3%), medium-heavy (5-6%) grinding: light (1.5-2%), medium-heavy (3-5%) stamping, forming: light (3-4%), medium-heavy (5-6%) reaming: light (4-5%), medium-heavy (8-10%) | Semi-synthetic concentrate (microemulsion), used for typical machining processes: turning, milling, grinding. Suitable for low- and high-pressure CNC systems. It can be used in central systems and on individual machines. The product should be stored at a temperature of +10°C to +30°C in the manufacturer's packaging protected from dust, frost and excessive heat. |
| | <ul style="list-style-type: none"> steel cast iron copper aluminium and their alloys | <ul style="list-style-type: none"> normal machining (turning, milling): light (3%), medium-heavy (5-6%) grinding: light (1.5-2%), medium-heavy (3-5%) stamping, forming: light (3-4%), medium-heavy (5-6%) reaming: light (4-5%), medium-heavy (8-10%) | Semi-synthetic concentrate (microemulsion), used for typical machining processes: turning, milling, drilling, reaming, deep-hole drilling, threading, shaping, grinding. Suitable for low and high-pressure CNC systems. It can be used in central systems and individual machines. |
| | <ul style="list-style-type: none"> cast iron iron alloys and stainless steel aluminium alloys plastic materials | <ul style="list-style-type: none"> normal machining (turning, milling): light machining (3%), medium (5-6%), heavy (7-8%). grinding: light machining (1.5-2%), medium (3-5%), heavy (3-5%). heavy chip machining (tapping, deep drilling): light machining (3-4%), medium (6-8%), heavy (9%) stamping, forming: light machining (3-4%), medium (5-6%), heavy (6-8%) reaming: light machining (4-5%), medium (8-10%), heavy (10-12%). | Semi-synthetic concentrate (microemulsion), used for typical machining processes: turning, milling, drilling, reaming, deep-hole drilling, threading, shaping, grinding. Suitable for low and high-pressure CNC systems. It can be used in central systems and individual machines. |
| < 10°n | <ul style="list-style-type: none"> aluminium aluminium alloys steel and copper alloys | <ul style="list-style-type: none"> grinding: (3-5%) rough turning: (3-5%) smooth turning, finish reaming, threading: (5-8%) extrusion: (8-20%) | Semi-synthetic concentrate (microemulsion) for universal use in metal machining operations. Suitable for low- and high-pressure CNC systems. It can be used in central systems and on individual machines. |
| 10°n to 15°n | <ul style="list-style-type: none"> steel cast iron non-ferrous metals and their alloys copper and aluminium alloys | <ul style="list-style-type: none"> On water with a general hardness of up to 15°N: grinding: (3-4%) normal chip machining (e.g. turning, milling): (4-8%) heavy chip machining (e.g. threading): (8-10%, up to 15% for very heavy processing) | Cooling lubricant fluid (milk emulsion) for various machining operations |
| | <ul style="list-style-type: none"> steel cast iron non-ferrous metals and their alloys copper and aluminium alloys | <ul style="list-style-type: none"> On water with a general hardness of up to 15°N: grinding: (3-5%) turning, milling, drilling, reaming: (5-10%) threading: (10-15%) | Cooling lubricant fluid (milk emulsion) for various machining operations. |
| | <ul style="list-style-type: none"> steel cast iron non-ferrous metals and their alloys copper and aluminium alloys | <ul style="list-style-type: none"> On water with a general hardness of up to 15°N: grinding: (3-5%) turning, milling, drilling, reaming: (5-10%) threading: (10-15%) | Cooling lubricant fluid (milk emulsion) for various machining operations. |



| Product name | Density at 15°C [g/cm ³] | Kinematic viscosity at 40°C [mm ² /s] | Flow temperature °C | Flash point °C | Welding load [kG] |
|---------------------|--------------------------------------|--|---------------------|----------------|-------------------|
| ACP-1E | 0,86 | 16,7 | -3 | 148 | - |
| ACP-2E | 0,87 | 21,3 | -15 | 153 | - |
| ACP-3E | 0,87 | 26,5 | -1 | 159 | - |
| FREZOL HC 800 | 0,90 | 22,8 | -21 | 172 | 620 |
| FREZOL HC 2200 | - | 25 | - | - | 700 |
| FREZOL WS 8 | 0,88 | 8 | - | 125 | - |
| FREZOL EPX 22 | 0,89 | 23 | -15 | 170 | 450 |
| FREZOL EPX 32 | 0,89 | 31,5 | -12 | 230 | 500 |
| FREZOL EPX 46 | | 44,5 | -12 | 240 | 500 |
| FREZOL EP 5 | 0,87 | 5,2 | - | 120 | - |
| FREZOL EP 32 | 0,89 | 33,2 | - | 205 | - |
| FREZOL 22 | 0,87 | 22 | - | - | 200 |
| FREZOL 32 | 0,88 | 30 | - | - | 200 |
| FREZOL C 3280 | 0,90 | 55 | - | - | >800 |
| FREZOL CUT 3 | 0,84 | 4,5 | -66 | 134 | - |
| FREZOL CUT 25 | - | - | - | - | - |
| FREZOL CUT 25 A | 0,88 | 23 | -12 | 198 | - |
| FREZOL CUT 32 | 0,88 | 34,4 | -12 | 224 | - |
| FREZOL CUT 32 A | 0,88 | 31,98 | -12 | 224 | - |
| FREZOL CUT OC | 0,88 | 15,8 | -12 | 182 | - |
| FREZOL CUT OC MULTI | 0,88 | 15,8 | -12 | 180 | 800 |
| FREZOL CUT EC AL | 0,87 | 12,5 | -57 | 176 | - |
| FREZOL UNICUT 22 | 0,88 | 24,8 | -15 | 200 | - |
| FREZOL UNICUT 32 | 0,89 | 36,7 | -12 | 202 | - |
| SULFOFREZOL 1 | 0,87 | 22 | -16 | 162 | - |
| METALWORKING OIL SM | 0,87 | 23,3 | -6 | 180 | - |
| MILTRON AM 46 | 0,88 | 43,5 | -18 | 220 | 250 |

EP - Extreme Pressure

| Machining processes | Product description |
|--|--|
| <ul style="list-style-type: none"> forming of steel, cast iron, copper and aluminium alloys machining of toothing by chiselling • reaming with multi-cutters thread cutting | <p>Cutting oils for machining steel, cast iron, copper alloys and aluminium at high specific pressures and high cutting speeds. ACP machining oils are environmentally friendly, chloride-free, non-emulsifying metalworking oils.</p> |
| <ul style="list-style-type: none"> circumferential milling • reaming of steel with a multi-cutting reamer • thread cutting • rolling • gear shaving • pull broaching | |
| <ul style="list-style-type: none"> deep drilling • working on automatic machines | |
| <ul style="list-style-type: none"> milling (e.g. gears) • turning • threading • reaming • gear shaving chiselling and broaching | <p>New generation, non-emulsifying oils intended for use in heavy metalworking operations where a coolant with high lubricating film strength and high anti-wear properties is required.</p> |
| <ul style="list-style-type: none"> honoring • grinding • lapping | <p>Oil recommended for machining steel, non-ferrous metals and carbides during heavy and medium duty machining operations. It has been developed for metalworking processes where mineral-based machining oils are not suitable.</p> |
| <ul style="list-style-type: none"> turning • broaching • milling • chiselling • threading • reaming • cutting-off | <p>Machining oils intended for use in operations that require a coolant with a high lubricating film strength. Particularly suitable for machining difficult-to-cut, stainless and acid-resistant steels.</p> |
| <ul style="list-style-type: none"> grinding • contour grinding | <p>Oil intended for use in high-speed grinding and contour grinding operations on components made from tempered alloy steels.</p> |
| <ul style="list-style-type: none"> turning • broaching • milling • chiselling | <p>Oil intended for use in machining processes that require a coolant with a high lubricating film strength. Recommended for machining stainless and acid-resistant steels.</p> |
| <ul style="list-style-type: none"> milling (e.g. gears) turning threading | <p>Oils intended for use in light to medium processing operations on copper and its alloys and ferrous and non-ferrous metals.</p> |
| | <p>Non-emulsifying concentrate for heavy metal machining, intended as an EP booster at a minimum of 10% to the oil used in the system. It guarantees improved EP properties of the system, which consequently facilitates the machining of difficult-to-machine parts.</p> |
| <ul style="list-style-type: none"> grinding metal honing | <p>Machining oil intended for specific ferrous metal finishing work and the machining of steel and aluminium alloys.</p> |
| <ul style="list-style-type: none"> grinding turning milling drilling threading | <p>Machining oil for use in high-performance grinding operations and for machining with precision tools at low to medium cutting speeds. Suitable for machining steel and non-ferrous metals. The product is not dedicated for the machining of copper and its alloys.</p> |
| | <p>Machining oil for use in high-performance grinding operations and for machining with precision tools at low to medium cutting speeds.</p> |
| | <p>The product is not dedicated for the machining of copper and its alloys.</p> |
| | <p>Versatile machining oil for a wide range of applications, both for operations with precisely defined tool geometries and for grinding. Suitable for machining steel, non-ferrous metals and yellow metals. It can be used as a multifunctional circulating oil.</p> |
| <ul style="list-style-type: none"> turning • milling • drilling (including deep drilling) internal and external threading grinding | <p>Oil intended for machining operations with precisely defined cutting tool edge geometry. Recommended even for machining materials with very poor machinability.</p> |
| <ul style="list-style-type: none"> turning • milling • drilling • reaming | <p>Machining oil mainly for NC and CNC machining centres and for machining non-ferrous metals and their alloys. It provides an excellent effect of both cutting and cooling.</p> |
| <ul style="list-style-type: none"> milling • turning • internal and external threading drilling (including deep drilling) | <p>Oils intended for machining operations with precisely defined cutting tool edge geometry. Recommended even for machining materials with very poor machinability and for complex machining operations performed in gear manufacturing. Not suitable for machining non-ferrous metals.</p> |
| <ul style="list-style-type: none"> machining | <p>A depressant and sulphurised mineral oil for machining steel and cast iron at high speeds and high cutting tool edge temperatures, and for machining high-strength and heat-resistant steels. Not recommended for machining non-ferrous metals and where a high surface smoothness grade of the workpiece material is required. Active sulphur content 0.40% (m/m).</p> |
| <ul style="list-style-type: none"> machining • broaching • threading | <p>Greased oil is used as a finished coolant for machining alloys: ferrous and non-ferrous metals at low cutting speeds and cutting tool cutting edge temperatures of up to 120°C.</p> |
| <ul style="list-style-type: none"> drilling • turning • threading | <p>Multifunctional machining oil for lubricating and cooling tools in steel machining. It fulfils the functions of a circulating oil and its innovative technology also allows it to be used safely in the hydraulic and gear systems of processing equipment.</p> |



| Product name | Kinematic viscosity at 40°C [mm²/s] | Flash point (in open cup) min. [°C] | Flash point (in closed cup) min. [°C] | Flow temperature [°C] | Cooling rate [C/s] | Incineration residue [%] | Acid number [mg-KOH/g] | Recommended oil bath temperatures | Product description |
|----------------------|-------------------------------------|-------------------------------------|---------------------------------------|-----------------------|--------------------|--------------------------|------------------------|-----------------------------------|--|
| HARTEX 70 | 22,0 | 180 | 160 | -15 | 96 | - | 0,1 | 40-80°C | Low-temperature quenching oil intended for the heat treatment of cast iron alloy steels and carburised steels, especially in closed furnaces with a controlled atmosphere, for which a high surface cleanliness of the workpieces is required. The product also works successfully in through-baths. |
| HARTEX 70 S | 24,0 | 195 | 180 | - | 96 | 0,20 | - | | Low-temperature quenching oil intended for the heat treatment of cast iron and steel components, particularly in closed furnaces with controlled atmospheres, for which high surface cleanliness of the workpieces to be quenched is required. |
| HARTEX 70 XS | 21,0 | - | 185 | - | 99 | 0,10 | - | | |
| HARTEX 70 XKP | 41,0 | - | - | - | 100 | - | - | | |
| HARTEX 120 | 45,0 | 220 | 200 | -12 | 89 | - | - | 110-130°C | Medium-temperature quenching oil intended for the heat treatment of cast iron and steel components, particularly in closed furnaces with controlled atmosphere, for which high surface cleanliness of the workpieces to be quenched is required. |
| HARTEX 160 | 220,5 | 240 | 220 | -9 | 80 | - | - | 160-180°C | High-temperature quenching oil intended for the heat treatment of cast iron and steel components, particularly in closed furnaces with controlled atmospheres, for which high surface cleanliness of the workpieces to be quenched is required. |
| HARTEX WK | 14,0 | 190 | - | - | 105 | - | - | 40-80°C | Low-temperature quenching oil intended for the heat treatment of cast iron and steel components, particularly in closed furnaces with controlled atmospheres, for which high surface cleanliness of the workpieces to be quenched is required. |
| HARTEX WZ | 31,5* | 145 | - | - | - | 0,20 | 0,05 | | |
| OH-70 M | 22,1 | 160 | 140 | 5 | - | 0,20 | - | | Low-temperature quenching oil intended for the heat treatment of cast iron and steel components for which small geometrical deformations are permitted at the required cooling rate. |
| OH-120 M | 44,5 | 200 | 180 | -5 | - | 0,60 | - | 110-130°C | Medium-temperature quenching oil intended for the heat treatment of cast iron and steel components for which small geometrical deformations are permitted at the required cooling rate. |
| OH-150 M | 66,0 | 215 | - | -6 | - | - | - | 130-150°C | Medium-temperature quenching oil intended for the heat treatment of cast iron and steel components for which small geometrical deformations are permitted at the required cooling rate. |
| OH-160 M | 222,1 | 250 | 230 | -3 | - | 0,90 | - | 160-180°C | High-temperature quenching oil intended for the heat treatment of cast iron and steel components for which small geometrical deformations are permitted at the required cooling rate. |

* Kinematic viscosity at 20°C

| Product name | Density at 15°C [g/cm³] | Kinematic viscosity at 40°C [mm²/s] | Open cup flash point [°C] | Lubricating properties – weld load [kG] | Product description |
|------------------------------------|-------------------------|-------------------------------------|---------------------------|---|--|
| PRESSOL PT 1 | 0,78 | 1 | 52 | - | Oil mainly intended for use in the stamping process of painted steel sheets in roofing manufacture. The surface of the sheet metal after treatment does not require degreasing or other cleaning operations. The product can be applied to the sheet metal surface by brush, roller and by spraying. |
| PRESSOL WK | 0,90 | 86 | 214 | 800 | Lubricating-cooling oil recommended for precision extrusion and rolling processes. The product has additives that provide increased lubricating film strength, improved anti-corrosion performance and facilitate the washing process of components after machining operations. |
| PRESSOL ST | - | 205 | - | 800 | Oil for extrusion (all types of presses) and hollowing in the cold plastic machining process. Recommended for all types of materials, including aluminium and copper. |
| VERY DEEP-DRAWING OIL | 0,91 | 330 | 240 | 620 | The oil is used when stamping workpieces with difficult geometries and sharp curves that require very high pressures, e.g. when stamping bath tubs, sinks made of cold-rolled, high-alloy and stainless steel. |
| PLASTIC MACHINING OIL OP-35 | 0,90 | 84 | 222 | 500 | Plastic machining oil used as a cooling lubricant in the cold forging process. Product formulated on the basis of sulphurised mineral oil and additives with antioxidant and anticorrosive properties. |



| Nazwa produktu | Density at 15°C [kg/m³] | Kinematic viscosity at 20°C [mm²/s] | Kinematic viscosity at 40°C [mm²/s] | Solidification point [°C] | Flash point [°C] | Protective properties | Product description |
|-----------------------|-------------------------|-------------------------------------|-------------------------------------|---------------------------|------------------|---|--|
| ANTYKOL TS-120 | 900,7 | 120,0* | 211,8 | - | 220 | - | Protective oil for saturating self-lubricating sintered powder bushings and plain bearing races. |
| ANTYKOL 100 S | 891,7 | - | 105,9 | -26 | 204 | Corrosion on steel shank (Met.B – seawater): no corrosion | Maintenance oil used to protect the internal surfaces of internal combustion engines, air compressors and engine pumps against corrosion. |
| ANTYKOL 101 | 872,1 | - | 10,8 | - | 174 | | Maintenance oil recommended for temporary protection against atmospheric corrosion of components made of ferrous and non-ferrous metals. The product can be used to maintain and lubricate weapons, machinery, precision mechanisms and spare parts. Because it is compatible with fuel fractions and forms a thin oil film, it can serve as a preservative for engines and injection pumps. |
| AKORINOL L-5Q | 835,5 | 5,2 | 3,2 | -15 | 92 | - | Oil recommended for cleaning metal products and inter-operational corrosion protection. In addition, the product washes away and dissolves grease-based impurities. |

* Kinematic viscosity at 50°C [mm²/s]

| Product name | Density at 15°C [kg/m³] | Kinematic viscosity at 40°C [mm²/s] | Flash point [°C] | Acid number [mg KOH/g] | Quality class | Application method | Product description |
|-------------------------------|-------------------------|-------------------------------------|------------------|------------------------|---------------|--------------------------------|--|
| KONKRETON V-BIO | 877,3 | 7,15 | 150 | 6,4 | ISO 6743 B | • spray • roller | Low viscosity, biodegradable anti-adhesive oils intended for lubricating moulds made of steel, aluminium, plastic and wood, used in the manufacture of precast concrete and other concrete components. The products also protect steel moulds against corrosion in the short term. |
| KONKRETON BIO-BIT | 884,7 | 10,72 | - | - | ISO 6743 B | | |
| KONKRETON V | 842,7 | 4,7 | 146 | 6,1 | ISO 6743 B | • spray | Anti-adhesive oil intended for lubrication of moulds used in the manufacture of precast concrete elements and other concrete components. The product can be used to lubricate cold metal and plastic moulds. |
| KONKRETON VS | 849,4 | 5,7 | 115 | 6,2 | ISO 6743 B | • spray | Anti-adhesive oil intended for lubrication of moulds used in the manufacture of precast concrete elements and other concrete components. The product can be used to lubricate cold moulds. |
| KONKRETON L | 866,5 | 21,8 | 222 | 3,3 | ISO 6743 B | • spray | Anti-adhesive oil intended for lubrication of cold moulds used in the production of concrete elements and lightweight concrete blocks. |
| KONKRETON N | 878,2 | 38,8 | 228 | 3,1 | ISO 6743 B | • spray | Anti-adhesive oil intended for lubrication of moulds used in the production of concrete elements and lightweight concrete blocks. Oils can be used to lubricate cold moulds by spraying in the manufacture of cellular concrete. |
| KONKRETON P | 887,4 | 79,8 | 254 | 3,2 | ISO 6743 B | • brush | Anti-adhesive oil intended for lubrication of moulds used in the production of concrete elements and lightweight concrete blocks. |
| KONKRETON S | 891,1 | 112,5 | 278 | 3,3 | ISO 6743 B | • spray • roller | Anti-adhesive oils intended for lubrication of moulds used in the manufacture of cellular concrete blocks, where an increased thickness of the separation layer is required. Thanks to their suitable properties, the products can be used in the production process all year round. |
| KONKRETON XS | 894,4 | 156,1 | 280 | 3,0 | ISO 6743 B | | |
| KONKRETON AZ | 845,5 | 9,4 | 156 | 3,2 | ISO 6743 B | • spray • brush | Anti-adhesive oil intended for lubrication of moulds used in the production of lightweight concrete blocks, concrete circles and fences and precast concrete elements of various sizes. |
| KONKRETON MK S-E | 874,6 | 7,2 | 142 | 6,7 | ISO 6743 B | • spray • brush • roller | Low viscosity anti-adhesive oils intended for lubrication of steel, aluminium, plastic and wooden moulds used in the manufacture of precast concrete and ceramic products. |
| KONKRETON MK S-L | 863,5 | 6,2 | 150 | 6,4 | ISO 6743 B | | |
| KONKRETON SEPAR | 864,3 | 5,5 | 142 | 13,4 | ISO 6743 B | | |
| KONKRETON SDA | 866,5 | 7,8 | 154 | 10,7 | ISO 6743 B | | |
| KONKRETON 30 | 867,8 | 6,8 | 146 | 74 | ISO 6743 B | | |
| ANTI-ADHESIVE OIL B-0 | 864,1 | 17,5 | 184 | 6,0 | ISO 6743 B | • spray • brush | Anti-adhesive oil intended for lubrication of steel moulds with large surface areas and high unit pressures. |
| FORMEX Q | 847,8 | 12,5* | 110 | 5,9 | ISO 6743 B | • spray • brush • roller | Anti-adhesive oil intended for lubrication of steel moulds in precast concrete and reinforced concrete production, as well as for steel and timber formwork in the construction industry. |
| CERAMOL Q | 835,8 | 4,3* | 100 | 5,4 | ISO 6743 B | • spray • brush • roller | Oil used in the manufacture of stoneware and porcelain and electrical porcelain. |
| CERAMIC PRODUCT OIL BQ | 835,2 | 4,3* | 100 | 6,2 | ISO 6743 B | • spray • brush • roller | Anti-adhesive oil used in the manufacture of ceramic products. Product used in the manufacture of stoneware and porcelain and electrical porcelain as a component of kaolin paste. |
| SEPARATION OIL | 881,9 | 30,3 | 202 | - | - | • spray • brush | Separation oil intended for the preparation of a water-in-oil emulsion used to eliminate the phenomenon of asphalt mass sticking to the metal surfaces of asphalt transport vehicles, road paving machines and rollers. |

* Kinematic viscosity at 20°C [mm²/s]

Heat transfer medium



| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Kinematic viscosity at 100°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Residue after coking [% (m/m)] | Product description |
|----------------------|--------------------------------------|--|---|-----------------|-----------------------|------------------|--------------------------------|---|
| ITERM SYNT 3P | 1025,8* | 15,0 | 2,8 | - | ** -34 | 194 | - | Synthetic heat transfer medium used in closed-loop heating equipment where temperatures from -20°C to 350°C occur, incidentally up to 375°C. |
| ITERM-4 | 837,9 | 4,1 | 1,5 | - | -28 | 135 | - | Heat transfer oil for industrial cooling and heating systems, heaters and oil systems used for heating and closed-loop heating equipment. |
| ITERM 4 HT | 851,1 | 19,6 | 4,1 | 107 | -15 | 206 | 0,01 | High-performance oil for heat exchange systems used in closed heating systems in the temperature range from -15°C to 285°C, industrial cooling and heating systems and heaters and oil systems for preheating. |
| ITERM 5 | 866,7 | 30,2 | 5,2 | 100 | -15 | 226 | 0,01 | High-tech heat transfer medium recommended for closed and open, oil-fired heating systems, closed industrial systems, cooling and heating installations with operating temperatures up to 315°C-320°C (temperature in the oil mass) and for solid-fuel furnaces where additional heat extraction systems exist. |
| ITERM 6 MB | 877,7 | 40,1 | 5,9 | 94 | -18 | 236 | 0,24 | Heat transfer medium recommended for use in closed heating systems in the temperature range from -10°C to 285°C, industrial cooling and heating systems, heaters and oil heating systems and solid fuel fired furnaces where additional heat extraction systems are present. |
| ITERM 30 MF | 906,9 | 640,1 | 38,3 | 98 | -15 | 302 | 0,61 | Oil for lubricating machinery and equipment operating at temperatures of up to 200°C, e.g. conveyor chains in dryers. |
| ITERM 32 | 879,3 | 33,1 | 5,4 | 98 | -15 | 215 | - | Heat transfer medium recommended for use in closed heating systems, industrial cooling and heating systems, heaters and oil systems for heating. |
| ITERM 100 | 868,3 | 20,1 | 4,4 | 95 | -18 | 216 | 0,03 | Heating oil intended for use as a heat transfer medium in heating equipment and installations where the temperature of the oil in the mass does not exceed 200°C. Can be used in open systems as well as hermetically sealed systems. |

* Density at 20°C [kg/m³]

** Solidification temperature [°C]



Electrical insulating oils

| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Kinematic viscosity at -30°C [mm ² /s] | Flow temperature [°C] | Flash point [°C] | Breakdown voltage [kV] | Antioxidant content | Meets the requirements of | Product description |
|---------------------------|--------------------------------------|--|---|-----------------------|------------------|------------------------|---------------------|-----------------------------------|--|
| ORLEN OIL TRAF0 EN | 0,88 | 10,3 | 1000 | -60 | 142 | 66 | none | PN-EN IEC 60296 RIET edition 2012 | Uninhibited electrical insulating oil intended for insulating and cooling various types of electrical equipment. The product is recommended for heavy-duty use in electrical equipment requiring oil, including the filling of power and distribution transformers, switches, rectifiers and switchgear. |



Saw oils

| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point (in open cup) [°C] | Product description |
|-----------------------|--------------------------------------|--|-----------------|-----------------------|--------------------------------|--|
| PILAROL EKO | 0,84 | 63,1 | 200 | -26 | >230 | Biodegradable oil intended for lubricating the cutting system (chain) and guides of power saws used in forestry or horticulture. |
| PILAROL | 0,88 | 64,9 | 90 | -30 | >220 | High-quality oil intended for lubricating the cutting system (chain) and guides of power saws used in forestry or horticulture. |
| PILAROL VG 140 | 0,89 | 140,0 | 91 | -28 | | |
| PILAROL VG 150 | 0,89 | 157,4 | 97 | -24 | | |

Oils for locomotives



| Nazwa produktu | Quality class API | Viscosity class SAE | Kinematic viscosity at 100°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point [°C] | Total alkaline number [mg-KOH/g] | Product description |
|---------------------------------------|-------------------|---------------------|---|-----------------|-----------------------|------------------|----------------------------------|--|
| O.OIL LOKOMOTIV PREMIUM CD 40 | CD | 40 | 14,7 | 103 | -24 | 242 | 13 | Oil for heavy-duty railway compression-ignition engines operating under high thermal and mechanical loads. |
| O.OIL LOKOMOTIV EXTRA CF 40 | CF | 40 | 14,5 | 100 | -25 | 242 | 14 | Engine oil intended primarily for lubricating heavy-duty, diesel railway internal combustion engines operating under heavy-duty operating conditions. |
| O.OIL LOKOMOTIV STANDARD CD 40 | CD | 40 | 15,3 | 95 | -18 | 250 | 9 | Mineral engine oil, intended primarily for lubricating heavy-duty, diesel railway internal combustion engines operating under heavy-duty operating conditions. It can also be used to lubricate diesel engines of a similar type in other technical equipment. |



Oils for shock absorbers

| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Kinematic viscosity at -30°C [mm ² /s] | Viscosity index | Flow temperature [°C] | Flash point (in open cup) | Resistance to foaming: sequence I sequence II sequence III | Product description |
|----------------------------|--------------------------------------|--|---|-----------------|-----------------------|---------------------------|--|--|
| AMORTYZOL 15-WL 150 | 0,87 | 15,8 | 460 | 180 | -49 | 164 | 70/0 90/0 50/0 | Lubrication oil for telescopic shock absorbers intended to dampen vibrations in vehicle suspensions, truck loading ramps and vehicle hydraulics. |

Oils for pneumatic equipment



| Product name | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Flow temperature [°C] | Flash point (in open cup) [°C] | Appearance at 20°C | Lubricating properties - weld load [kG] | Opis produktu |
|-------------------------|--------------------------------------|--|-----------------------|--------------------------------|-------------------------------------|---|--|
| PNEUMATIC VG 32 | 0,88 | 31,2 | -18 | >160 | Clear, without any suspended matter | - | Oil intended for lubrication of pneumatically driven equipment, e.g. upholstery staplers, drills, assembly spanners, etc., requiring lubrication of internal moving parts. |
| PNEUMATIC VG 100 | 0,89 | 101,0 | -30 | >220 | | 300 | Oil intended for lubrication of heavy-duty pneumatic impact tools such as drills, pneumatic hammers, impact drills, etc. |



Solvents / Removers

| Nazwa produktu | Density at 15°C [kg/m ³] | Kinematic viscosity at 40°C [mm ² /s] | Flow temperature [°C] | Flash point [°C] | Opis produktu |
|--------------------------------|--------------------------------------|--|-----------------------|------------------|--|
| TECHNICAL CLEANER O.OIL | 836,4 | 2,6 | - | 107 | The remover is used, among other things, for cleaning, degreasing and maintaining metal parts. |
| TECHNICAL SOLVENT O.OIL | 837,4 | 2,6 | -54 | 102 | A solvent intended for use in coatings, adhesives and anti-adhesive agents. |



| Product name | NLGI class | Type of thickener | Base oil | Base oil viscosity at 40°C [mm ² /s] | Application temperature range [°C] | Penetration after kneading at 25°C [1/10 mm] | Dropping point [°C] | Colour | Product description | Additional properties |
|----------------------------------|------------|-------------------|-----------|---|------------------------------------|--|---------------------|--------------------------|---|---|
| BENTONITE GREASES | | | | | | | | | | |
| BENTOMOS 23 | 2 | bentonite | mineral | 230 | -10÷200 | 260-300 | > 300 | dark grey, MoS2 additive | Grease recommended for lubricating rolling and sliding bearings and other friction surfaces with a constant operating temperature above 100°C, mainly in the range of 120-200°C, and with sufficiently frequent replacement or refilling up to approximately 220°C. | It is recommended for use under high, particularly shock loads and is not suitable for lubricating low-torque driven bearings and bearings with low radial clearance. |
| BENTOR 2 | | | | | | | | brown | | |
| ALUMINIUM COMPLEX GREASES | | | | | | | | | | |
| ALITEN EP-1 | 1 | aluminium complex | mineral | 150 | -20÷120 | 305-345 | > 200 | brown | Greases are intended for lubricating rolling bearings. | Recommended for bearing lubrication of equipment with central lubrication systems, operating at low temperatures and requiring long-distance grease transfer. |
| ALITEN EP-2 | 2 | | | | | 260-300 | | | | Recommended for bearing lubrication of equipment with individual and central lubrication systems operating at high ambient temperatures and requiring short-distance grease transfer. |
| LITHIUM COMPLEX GREASES | | | | | | | | | | |
| GREASEN SYNTEX HT 2 | 2 | lithium complex | synthetic | 48 | -50÷180 | 260-300 | 260 | brown | Grease intended for lubricating highly loaded and high-speed rolling and sliding bearings and other mechanisms. | It has antistatic properties, and is compatible with copper alloy components as well as a large number of elastomers, making it possible to lubricate metal-plastic, metal-rubber friction interfaces. Allows lubrication of mechanisms exposed to shock loads, vibration, high dust, moisture and water washout. |
| GREASEN COMPLEX 2 | 2 | lithium complex | mineral | 100 | -40÷160 | 260-300 | 260 | brown | Grease intended for lubricating highly loaded rolling and sliding bearings and other mechanisms, also by means of central lubrication systems. | Particularly suitable for lubricating bearings in automotive wheel hubs, electric motors, hot fans, as well as guides, joints and other automotive and industrial mechanisms. |
| GREASEN EP-23 | 2 | lithium complex | mineral | 150 | -30÷140 | 260-300 | 220 | dark grey, MoS2 additive | Grease intended for lubricating heavy-duty friction interfaces and angular gears of strimmers. It is also recommended for use in places where there are frequent changes in the direction of motion or a combination of low speeds and high loads, e.g. in homokinetic joints. | The product is a lithium complex grease with molybdenum disulphide (3%). Resistant to moisture, steam and weak acids and alkalis. The grease is also resistant to vibration, high pressures and shock loads. |
| LITEN PREMIUM LT-4EP1 | 1 | lithium complex | mineral | 150 | -30÷140 | 310-340 | 250 | brown | Greases recommended for lubricating: rolling and plain bearings, also in central lubrication systems, slow-running, low- and medium-duty gears, joints and slideways of machines. It can be successfully used as a multifunctional grease for automobiles. | They are characterised by very high tribological performance and resistance to ageing. The modern additive composition also provides a higher dropping point, better low-temperature properties and higher resistance to water washout, compared to conventional lithium greases. |
| LITEN PREMIUM LT-4EP2 | 2 | | | | | 265-295 | 250 | | | |
| LITEN PREMIUM LT-4EP3 | 3 | | | | | 220-250 | 260 | | | |
| SMAROL NANO Mower grease | 2 | lithium complex | mineral | 100 | -30÷160 | 260-300 | 230 | dark grey | Grease intended for lubricating angular gears of all types of lawnmowers and trimmers, combustion and electric. It can be successfully used at home, in workshops and on farms to lubricate and protect against corrosion of hinges, locks, threads and vehicle and machine components in a wide range of temperatures. | The product contains a unique NANO formula comprising a mixture of solid nanoparticle lubricating bodies. The grease adheres perfectly to lubricated surfaces, forming a durable film resistant to high loads, moisture, acids, alkalis and very high temperatures |

EP - Extreme Pressure

AW - Antiwear

MoS2 - Molybdenum disulphide

* Non-standard penetration range

** Products available on request



| Product name | NLGI class | Type of thickener | Base oil | Base oil viscosity at 40°C [mm ² /s] | Application temperature range [°C] | Penetration after kneading at 25°C [1/10 mm] | Dropping point [°C] | Colour | Product description | Additional properties |
|------------------------|------------|-------------------|----------|---|------------------------------------|--|---------------------|--------------------------------------|--|--|
| LITHIUM GREASES | | | | | | | | | | |
| GREASEN LT-4 S-2 | 2 | lithium | mineral | 100 | -30÷140 | 265-295 | 200 | green | Grease intended for lubricating: automotive rolling bearings, universal joints during assembly, linkages and guides of machines and other machine elements, plain bearings operating in the permissible temperature range. | - |
| GREASEN LT-4 S-3 | 3 | | | | | 220-250 | | | | |
| LITEN LT-4P3 | 3 | lithium | mineral | 100 | -30÷140 | 220-260 | 205 | brown | Greases intended for lubricating covered rolling bearings operating in conditions of high demands with regard to properties such as: oxidation resistance, corrosion protection, water resistance and mechanical stability. | Multifunctional products, enhanced by additives with antioxidant, anticorrosive and lubricity-enhancing properties. |
| LITEN LT-41 | 1 | lithium | mineral | 100 | -30÷130 | 310-340 | 200 | brown | Greases intended for rolling and plain bearings. | Refined with a package of additives with antioxidant, anti-rust and lubricating effects. The choice of grease depends on the method of grease supply to the bearing (e.g. central lubrication or manual lubrication), the rotational speed and the operating temperature of the bearing. |
| LITEN LT-42 | 2 | | | | | 265-295 | 202 | brown | | |
| LITEN LT-43 | 3 | | | | | 220-250 | 205 | green | | |
| LITEN EP-0 | 0 | lithium | mineral | 150 | -20÷120 | 355-385 | 190 | brown | Greases recommended for lubricating rolling bearings operating under high loads as well as in less loaded bearings where impact loads are present. | For bearing lubrication of equipment with central lubrication systems, operating at low temperatures and requiring very long-distance grease transfer. |
| LITEN EP-1 | 1 | | | | | 310-340 | 200 | | | Intended for lubricating equipment with central lubrication systems, operating at moderate temperatures and requiring long-distance grease transfer. |
| LITEN EP-2 | 2 | | | | | 265-295 | 200 | | | Intended for bearing lubrication of equipment with individual and central lubrication systems operating at high ambient temperatures and requiring short-distance grease transfer. |
| LITEN EP-3 | 3 | | | | | 220-250 | 200 | | | Intended for lubricating bearings of equipment with an individual system. |
| LITEN EPX-0 | 0 | lithium | mineral | 150 | -20÷110 | 350-390 | 170 | brown | Greases recommended for lubricating closed spur and bevel gears. | Applicable in the medium temperature range specified and with medium transmission sealing. |
| LITEN EPX-00 | 00 | | | | | 395-435 | 160 | | | Applies at the lower temperatures of the specified temperature range and with a good seal. |
| TRANSMISSION GREASE | 1 | lithium | mineral | 100 | -30÷130 | 310-340 | 200 | brown | Grease intended for lubricating gears – spur and bevel gears of power tools. | The grease has very good anti-wear and anti-corrosion properties, which safeguard the proper operation of friction nodes during their service life. |
| ** LITEN LV 2-M | 2/3* | lithium | mineral | 50 | -30÷120 | 240-280 | > 180 | dark grey, MoS ₂ additive | Grease intended primarily for lubricating plain bearings operating under high pressures and dynamic stresses. It is also suitable for lubricating gears, pins, bushings and other mechanisms, as well as slow-running roller bearings. | Due to its high content of solid lubricant (5% MoS ₂) not recommended for rolling bearings with higher speeds. |
| ** LITEN LVG 2 | 2/3* | | | 50 | -30÷120 | 240-280 | > 180 | dark grey, graphite additive | Grease intended primarily for lubricating plain bearings operating under high pressures and dynamic stresses. It is also suitable for lubricating gears, pins, bushings and other mechanisms, as well as slow-running roller bearings. | Due to its content of solid lubricant not recommended for rolling bearings with higher speeds. |
| ** LITEN LVT 2-M | 1/2* | | | 200 | -25÷120 | 270-310 | > 180 | dark grey, MoS ₂ additive | Grease intended primarily for lubricating plain bearings operating under high pressures and dynamic stresses. It is also suitable for lubricating gears, pins, bushings and other mechanisms, as well as slow-running roller bearings. | Due to its high content of solid lubricant (5% MoS ₂) not recommended for rolling bearings with higher speeds. |
| ** LITEN LP 00 | 00 | | | 300 | -20÷90 | 400-430 | > 150 | dark grey, graphite additive | It is mainly intended for lubricating closed, difficult-to-seal transmissions. It has very good adhesion to metal surfaces. | - |

EP - Extreme Pressure

AW - Antiwear

MoS₂ - Molybdenum disulphide

* Non-standard penetration range

** Products available on request



| Product name | NLGI class | Type of thickener | Base oil | Base oil viscosity at 40°C [mm ² /s] | Application temperature range [°C] | Penetration after kneading at 25°C [1/10 mm] | Dropping point [°C] | Colour | Product description | Additional properties |
|--|--------------|-------------------|-----------|---|------------------------------------|--|---------------------|-----------------------------|---|---|
| CALCIUM GREASES | | | | | | | | | | |
| GREASEN STP | 1* | calcium | mineral | 40 | -20÷60 | 300-350 | 95 | brown | It is intended exclusively for the periodic lubrication of car chassis, pins, joints, guides. The grease is not suitable for lubrication of rolling bearings and water pump. | The soft consistency of the grease allows for easy use of pneumatic lubrication devices. It is quite resistant to cold water. |
| GREASEN GRAFIT | ≥ 2* | calcium | mineral | 100 | -20÷60 | >250 | 95 | dark grey, granite addition | Grease intended for lubrication of: car springs, open gears, worm gears, screw threads exposed to corrosive action, chains and other heavily loaded friction nodes. It can be used as a typical assembly grease. | The product is resistant to cold water. It is not suitable for lubricating any automotive components other than springs. It cannot be used in rolling bearings and other precision mechanisms. |
| KALTON EP-1 | 1 | calcium | mineral | 42 | -20÷60 | 305-345 | 95 | brown | Greases intended for lubricating heavily loaded rolling bearings, particularly under impact load, also when water is present, e.g. metal rolling mills, presses, heavy construction machinery, etc. | Recommended for central lubrication systems. |
| KALTON EP-2 | 2 | | | | | 260-300 | | | | Recommended for manual lubrication and for lubricators located close to the lubrication node. |
| MACHINE GREASE 2 | 2 | calcium | mineral | 100 | -10÷60 | 260-300 | 95 | brown | Greases recommended for lubricating plain bearings and other friction surfaces. The products are not suitable for lubricating rolling bearings. | Machine grease 2 is used for lubrication when fed through long, small-diameter lines. |
| MACHINE GREASE 3 | 3 | | | | | 215-255 | | | | Machine grease 3 is used for lubrication when a higher sealing ability of the bearings is required and when the grease is supplied through larger diameter conduits and over shorter distances. |
| CSW-1 | 1 | calcium | mineral | 130 | 0÷60 | 290-325 | 93 | brown | Recommended for lubricating rolling bearings in rolling mills and auxiliary equipment with a central lubrication system at operating temperatures of up to 60°C as well as in other equipment operating under high and shock loads. | CSW-1 is recommended when supplying grease through long, small-diameter lines or at low ambient temperatures. |
| CSW-2 | 2 | | | | | 250-285 | 95 | | | SW-2 is recommended when the grease lines are shorter and larger in diameter and when the sealing properties of the grease are required. |
| L GREASE FOR MECHANICAL BRAKES (PRG-L) | 0/1* | calcium | mineral | 150 | 0÷60 | 280-380 | 120 | brown | Seasonal lubricants intended for lubricating railway shunting equipment of brake mechanisms. | Product to be used in summer. |
| Z GREASE FOR MECHANICAL BRAKES (PRG-Z) | 00* | | | | | | | | | -20÷60 |
| GREASE FOR CHISELS AND DRILLS | 1 | calcium | mineral | 40 | -20÷60 | 300-350 | 95 | brown | Grease intended for periodic corrosion protection of chisels, drills and other metal components in power tools. The product is water and moisture resistant. | Prevents the drill or chisel from seizing with the power tool chuck. It can be used on most machinery and equipment requiring a grease of NLGI 1 consistency. |
| LITHIUM-CALCIUM GREASES | | | | | | | | | | |
| GREASEN N-EP 00/000 | 00/000* | lithium-calcium | mineral | 35 | -30÷90 | 400-460 | 165 | brown | Greases intended for lubricating friction interfaces in heavy commercial vehicles and buses by means of central lubrication systems. They can be used to lubricate various types of reduction gears lubricated with plastic grease. | The product is MAN 283 Li-P 00/000 approved. |
| GREASEN S-EP 00/000 | 00/000* | | synthetic | 19 | -45÷90 | | | | | Synthetic oil-based product. |
| LITEN LC EP-1 | 1 | lithium-calcium | mineral | 150 | -35÷160 | 310-340 | 220 | brown | Greases intended mainly for lubricating rolling bearings operating under high loads, i.e. when: C/P < 7 for bearings with predominantly radial load C/P > 15 for bearings with predominantly axial load and also when there are shock loads in the operation of less loaded bearings. | Intended for lubricating equipment with central lubrication systems, operating at moderate temperatures and requiring long-distance grease transfer. |
| LITEN LC EP-2 | 2* | | | | -30÷160 | 270-295 | 245 | | | Intended for bearing lubrication of equipment with individual and central lubrication systems operating at high ambient temperatures and requiring short-distance grease transfer. |
| LITEN LC EP-3 | 3 | | | | -25÷160 | 220-250 | 250 | | | Intended for lubricating bearings of equipment with an individual system |
| SULFONATE GREASES | | | | | | | | | | |
| HUTPLEX HV | 1/2* | calcium sulfonate | mineral | 420 | -30÷180 | 285-315 | > 300 | brown | High-temperature sulfonate grease intended for lubricating machine components in the mining, metallurgical, heavy industry and marine sectors, especially for friction nodes exposed to high impact loads and low torques operating under high dust and water and brine exposure conditions. | The grease is ideal in coal and copper mines for lubricating bearings, pin connections and other mechanisms of machinery and equipment operating in the specified temperature range. The product also proves its worth in tough metallurgical applications, for lubricating stand roller bearings of rolling mills. |
| HUTPLEX WR-2 | 2 | | | 180 | -25÷180 | 265-295 | | | | Thanks to its extraordinary thermal stability, the grease recovers its original structure after returning to ambient temperature. It is ideal for lubricating machine and equipment components in coal mining, copper mining, cement plants, steel and heavy industry and in all friction nodes exposed to extreme pressures and water. |
| SPECIALITY GREASES | | | | | | | | | | |
| SMAROL PTFE | spray grease | PTFE | - | - | -30÷250 | - | - | white | Grease intended for lubricating machine parts exposed to high temperatures or significant water influences. After application and drying, it leaves a protective layer on the lubricated parts in the form of an oil film, which protects very well against oxidation, thus increasing resistance to ageing. It is resistant to water, steam and aggressive media (most acids and alkalis). | In addition to individual applications, it can be used in industry to lubricate the following components: plain and spherical bearings, chains – also fitted with O-Ring or X-Ring seals, cogs, sprockets, levers, slideways, linear guide systems, spindles, hinges, wire ropes, ball joints, conveyors operating in ovens and dryers. |
| LR STEEL CABLE GREASE | 4 | special | mineral | 420 | - | - | > 55 | brown | Grease intended for the maintenance of wire ropes of various designs during their manufacture. | Not suitable for lubricating drum hoist shaft ropes or for Koepe pulley hoist ropes. |
| ** ORLEN OIL KORON L | - | paraffin | mineral | - | - | - | > 48 | dark brown to dark green | It is intended for temporary corrosion protection of metal products during storage and transport, particularly for protection in mild climates. | It is hot-applied in liquid form. |

EP - Extreme Pressure

AW - Antiwear

MoS₂ - Molybdenum disulphide

* Non-standard penetration range

** Products available on request



Table 1 Division of plastic greases into consistency classes according to NLGI

| Grease consistency class | Consistency | Penetration range according to NLGI | Primary use |
|--------------------------|-------------|-------------------------------------|---------------------------|
| 000 | very smooth | 445-475 | Mechanical transmissions |
| 00 | liquid | 400-430 | |
| 0 | semi-liquid | 335-385 | |
| 1 | very soft | 310-340 | Roller and plain bearings |
| 2 | soft | 265-295 | |
| 3 | medium | 220-250 | |
| 4 | semi-hard | 175-205 | Special mechanisms |
| 5 | hard | 130-160 | |
| 6 | very hard | 85-115 | |

Tab. 2 Types of plastic greases and their characteristics

| Type of grease by thickener | Distinguishing features |
|-----------------------------|---|
| Lithium greases | <ul style="list-style-type: none"> • versatile application • good water resistance • high durability |
| Calcium greases | <ul style="list-style-type: none"> • poor resistance to high operating temperatures • poor grip • very good water resistance |
| Aluminium complex greases | <ul style="list-style-type: none"> • very good temperature resistance • very good water resistance • good grip |
| Bentonite greases | <ul style="list-style-type: none"> • very good heat resistance • no miscibility with other greases • very good pumpability |
| Sulfonate greases | <ul style="list-style-type: none"> • excellent water resistance • excellent load-bearing capacity • very good temperature resistance |
| Lithium complex greases | <ul style="list-style-type: none"> • very good temperature resistance • very high durability and mechanical stability |

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| ACP-3E | 24 |
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| CORALIA L-DAA 100 | 14 |
| CORALIA L-DAA 150 | 14 |
| CORALIA L-DAA 46 | 14 |
| CORALIA L-DAA 68 | 14 |
| CORALIA L-DAB 100 | 14 |
| CORALIA L-DAB 150 | 14 |
| CORALIA L-DAB 320 | 14 |
| CORALIA L-DAB 46 | 14 |
| CORALIA L-DAB 460 | 14 |
| CORALIA L-DAB 68 | 14 |
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| CORALIA PAG 46 | 14 |
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| CORALIA PE 32 | 14 |
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| CORALIA PE 68 | 14 |
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| CORALIA ST 46 | 14 |
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| FREZOL CUT 32 | 24 |
| FREZOL CUT 32 A | 24 |
| FREZOL CUT EC AL | 24 |
| FREZOL CUT OC | 24 |
| FREZOL CUT OC MULTI | 24 |
| FREZOL EP 32 | 24 |
| FREZOL EP 5 | 24 |
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| FREZOL HC 800 | 24 |
| FREZOL UNICUT 22 | 24 |
| FREZOL UNICUT 32 | 24 |
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| FRIGOL POE 100 | 15 |
| FRIGOL POE 68 | 15 |
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| FRIGOL TZ-19 | 15 |
| FRIGOL TZ-28 | 15 |
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| HYDROL EXTRA HLP-D 32 | 6 |
| HYDROL EXTRA L-HV 32 | 6 |
| HYDROL EXTRA L-HV 46 | 6 |
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| HYDROL HLP-D 46 | 8 |
| HYDROL HLP-D 68 | 8 |
| HYDROL HLPT 46 | 8 |
| HYDROL HVLP-D 46 | 8 |
| HYDROL L-HL 100 | 8 |
| HYDROL L-HL 15 | 8 |
| HYDROL L-HL 150 | 8 |
| HYDROL L-HL 22 | 8 |
| HYDROL L-HL 32 | 8 |
| HYDROL L-HL 46 | 8 |
| HYDROL L-HL 68 | 8 |
| HYDROL L-HM/HLP 10 | 8 |

| HYDROL L-HM/HLP 100 | 8 |
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| HYDROL L-HM/HLP 15 | 8 |
| HYDROL L-HM/HLP 150 | 8 |
| HYDROL L-HM/HLP 22 | 8 |
| HYDROL L-HM/HLP 32 | 8 |
| HYDROL L-HM/HLP 46 | 8 |
| HYDROL L-HM/HLP 68 | 8 |
| HYDROL L-HV 100 | 6 |
| HYDROL L-HV 15 | 6 |
| HYDROL L-HV 22 | 6 |
| HYDROL L-HV 32 | 6 |
| HYDROL L-HV 46 | 6 |
| HYDROL L-HV 68 | 6 |
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