

hales



2025 LUBRICANTS



INDUSTRIAL LUBRICANTS

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Hysol MB50 has been discontinued by Castrol. See equivalent product Matrix Sol MB50

Hysol X has been discontinued by Castrol. See equivalent product Matrix Sol X

Metal Stamping Fluid - Iloform

Iloform has been discontinued by Castrol. See equivalent products Hales Evap-Lube, Matrix FDX 3012 or Matrix FDX 1001HC

Air Compressor Lubricant



Air Compressor Lubricant designed to reduce heat and friction in rotary screw and reciprocating compressors.

- Suitable for hydraulic, air and gas compressors.
- Suitable for small units to large multi-stage configurations

Product Code	Description	Pack Description
CAS-AIRCOLMR46-020	Aircol MR 46	20L Pail
CAS-AIRCOLMR46-205	Aircol MR 46	205L Drum
CAS-AIRCOLMR68-020	Aircol MR 68	20L Pail
CAS-AIRCOLMR68-205	Aircol MR 68	205L Drum
CAS-AIRCOLPD46-020	Aircol PD 46	20L Pail
CAS-AIRCOLPD100-205	Aircol PD 100	205L Drum
CAS-AIRCOLSN100-020	Aircol SN 100	20L Pail
CAS-AIRCOLSR46-020	Aircol SR 46	20L Pail
CAS-AIRCOLSR46-205	Aircol SR 46	205L Drum
CAS-AIRCOLSR68-020	Aircol SR 68	20L Pail
CAS-AIRCOLSR68-205	Aircol SR 68	205L Drum

Gear Oil - Mineral Range - Alpha SP



The Castrol Alpha SP gear oil range of high quality lubricants are based upon highly refined mineral oil, enhanced with an extreme pressure additive technology providing good thermal stability and high load carrying capacity.

Product Code	Description	Pack Description
CAS-ALPSP100-020	Alpha SP 100	20L Pail
CAS-ALPSP100-205	Alpha SP 100	205L Drum
CAS-ALPSP150-020	Alpha SP 150	20L Pail
CAS-ALPSP150-205	Alpha SP 150	205L Drum
CAS-ALPSP220-020	Alpha SP 220	20L Pail
CAS-ALPSP220-205	Alpha SP 220	205L Drum
CAS-ALPSP320-020	Alpha SP 320	20L Pail
CAS-ALPSP320-205	Alpha SP 320	205L Drum
CAS-ALPSP460-020	Alpha SP 460	20L Pail
CAS-ALPSP460-205	Alpha SP 460	205L Drum
CAS-ALPSP680-020	Alpha SP 680	20L Pail
CAS-ALPSP680-205	Alpha SP 680	205L Drum



Castrol Hyspin is a range of high quality mineral oils with a viscosity index improver.

- For modern hydraulic equipment operating under severe service conditions
- Wide temperature range and high pressure
- Suitable for injection moulders, earthmoving hydraulic systems, machine tools, agriculture equipment

Product Code	Description	Pack Description
CAS-HYSAWS010-020	Hyspin AWS 10	20L Pail
CAS-HYSAWS010-205	Hyspin AWS 10	205L Drum
CAS-HYSAWS022-020	Hyspin AWS 22	20L Pail
CAS-HYSAWS022-205	Hyspin AWS 22	205L Drum
CAS-HYSAWS032-020	Hyspin AWS 32	20L Pail
CAS-HYSAWS032-205	Hyspin AWS 32	205L Drum
CAS-HYSAWS046-020	Hyspin AWS 46	20L Pail
CAS-HYSAWS046-205	Hyspin AWS 46	205L Drum
CAS-HYSAWS046-1000	Hyspin AWS 46	1000L IBC
CAS-HYSAWS068-020	Hyspin AWS 68	20L Pail
CAS-HYSAWS068-205	Hyspin AWS 68	205L Drum
CAS-HYSAWS068-1000	Hyspin AWS 68	1000 IBC
CAS-HYSAWS100-020	Hyspin AWS 100	20L Pail
CAS-HYSAWS100-205	Hyspin AWS 100	205L Drum
CAS-HYSAWS150-020	Hyspin AWS 150	20L Pail
CAS-HYSAWS150-205	Hyspin AWS 150	205L Drum
CAS-HYSAWS220-020	Hyspin AWS 220	20L Pail
CAS-HYSAWS220-205	Hyspin AWS 220	205L Drum

Hydraulic Oil - Hyspin AWH & ZZ



The Castrol Hyspin AWH hydraulic oil with Viscosity Index improver (VI) range is based upon highly refined mineral oil enhanced with a stabilised zinc additive system.

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Product Code	Description	Pack Description
CAS-HYSAWH015-020	Hyspin AWH 15	20L Pail
CAS-HYSAWH032-020	Hyspin AWH 32	20L Pail
CAS-HYSAWH046-020	Hyspin AWH 46	20L Pail
CAS-HYSAWH046-205	Hyspin AWH 46	205L Drum
CAS-HYSAWH068-020	Hyspin AWH 68	20L Pail
CAS-HYSAWH068-205	Hyspin AWH 68	205L Drum
CAS-HYSAWH100-020	Hyspin AWH 100	20L Pail

The Castrol Hyspin ZZ hydraulic oil range of lubricants are based on a carefully selected ashless (zinc free) additive system designed to meet and exceed the most exacting performance standards.

Product Code	Description	Pack Description
CAS-HYSZZ032-020ZF	Hyspin ZZ 32	20L Pail
CAS-HYSZZ032-205ZF	Hyspin ZZ 32	205L Drum
CAS-HYSZZ046-020ZF	Hyspin ZZ 46	20L Pail
CAS-HYSZZ046-205ZF	Hyspin ZZ 46	205L Drum
CAS-HYSZZ046-1000ZF	Hyspin ZZ 46	1000L IBC
CAS-HYSZZ068-020ZF	Hyspin ZZ 68	20L Pail
CAS-HYSZZ068-205ZF	Hyspin ZZ 68	205L Drum
CAS-HYSZZ068-1000ZF	Hyspin ZZ 68	1000L IBC
CAS-HYSZZ150-020ZF	Hyspin ZZ 150	20L Pail
CAS-HYSZZ150-205ZF	Hyspin ZZ 150	205L Drum



The Castrol Magnaglide family of oils are high performance, demulsifying, slideway lubricants based on solvent refined mineral oil. These contain very efficient lubricity and extreme pressure additives for effective control of machine tool sliding surfaces.

Product Code	Description	Pack Description
CAS-MAGNASW32-020	Magna SW 32	20L Pail
CAS-MAGNASWD68-020	Magna SW D68	20L Pail
CAS-MAGNASWD68-205	Magna SW D68	205L Drum
CAS-MAGNASWD220-020	Magna SW D220	20L Pail
CAS-MAGNASWD220-205	Magna SW D220	205L Drum

Grease - Spheerol



Castrol Spheerol is a range of greases which comprises lithium based products, containing highly refined mineral oils, fortified with extreme pressure (EP) additives as well as corrosion and oxidation inhibitors.

Product Code	Description	Pack Description
CAS-SPHEEROLEPL0-0025	Spheerol EPL 0	2.5kg Tub
CAS-SPHEEROLEPL0-020	Spheerol EPL 0	20kg Pail
CAS-SPHEEROLEPL0-175	Spheerol EPL 0	175kg Drum
CAS-SPHEEROLEPL00-020	Spheerol EPL 00	20kg Pail
CAS-SPHEEROLEPL00-175	Spheerol EPL 00	175kg Drum
CAS-SPHEEROLEPL1-020	Spheerol EPL 1	20kg Pail
CAS-SPHEEROLEPL1-180	Spheerol EPL 1	180kg Drum
CAS-SPHEEROLEPL2-0045	Spheerol EPL 2	450g Cartridge
CAS-SPHEEROLEPL2-002.5	Spheerol EPL 2	2.5kg Tub
CAS-SPHEEROLEPL2-020	Spheerol EPL 2	20kg Pail
CAS-SPHEEROLEPL2-055	Spheerol EPL 2	55kg Pail
CAS-SPHEEROLEPL2-180	Spheerol EPL 2	180kg Drum
CAS-SPHEEROLEPLX200-2 045	Spheerol EPLX	450g Cartridge
CAS-SPHEEROLEPLX200-2 020	Spheerol EPLX	20kg Pail
CAS-SPHEEROLHTB2-0045	Spheerol HTB2	450g Cartridge
CAS-SPHEEROLHTB2 020	Spheerol HTB2	20kg Pail
CAS-SPHEEROLLMM-0045	Spheerol LMM	450g Cartridge
CAS-SPHEEROLLMM-002.5	Spheerol LMM	2.5kg Tub
CAS-SPHEEROLLMM 020	Spheerol LMM	20kg Pail
CAS-SPHEEROLSBX2-0045	Spheerol SBX2	450g Cartridge
CAS-SPHEEROLSBX2-020	Spheerol SBX2	20kg Pail
CAS-SPHEEROLULTRATAK-0045	Spheerol Ultratak 2	450g Cartridge
CAS-SPHEEROLULRATAK2-020	Spheerol Ultratak 2	20kg Pail

Corrosion Preventative - Rustilo DWX



Rustilo DWX has been discontinued by Castrol. See equivalent product Matrix Antirust 1 DWS



The Shell Corena range of air compressor oils has been developed to deliver value to your operations through enhanced wear protection, long oil life and high system efficiency.

Product Code	Description	Pack Description
SHEL-COR S2P068 20	Corena S2 P68	20L Pail
SHEL-COR S2P100 20	Corena S2 P100	20L Pail
SHEL-COR S2P150 20	Corena S2 P150	20L Pail
SHEL-COR S3R46 20	Corena S3 R46	20L Pail
SHEL-COR S3R46 209	Corena S3 R46	209L Drum
SHEL-COR S3R68 20	Corena S3 R68	20L Pail
SHEL-COR S4R46 20	Corena S4 R46	20L Pail

Multi Purpose Grease - Gadus







Shell Gadus is a comprehensive family of greases, that includes multi-purpose greases that can help to simplify your product inventory, as well as specific greases, including advanced poly urea synthetic products designed for the most severe extreme-temperature and long-life applications, and a range of open-gear lubricants.

Product Code	Description	Pack Description
SHEL-GAD RAILS2-018	Gadus Rail S Traction Motor	18kg Pail
SHEL-GAD S2 V100 2 .450	Gadus S2 V100 2	450g Cartridge
SHEL-GAD S2 V100 2 18	Gadus S2 V100 2	18kg Pail
SHEL-GAD S2 V100 2 180	Gadus S2 V100 2	180kg Drum
SHEL-GAD S2 V100 3 .450	Gadus S2 V100 3	450g Cartridge
SHEL-GAD S2 V100 3 18	Gadus S2 V100 3	18kg Pail
SHEL-GAD S2 V100 3 180	Gadus S2 V100 3	180kg Drum
SHEL-GAD S2 V220 00 18	Gadus S2 V220 00	18kg Pail
SHEL-GAD S2 V220 0 18	Gadus S2 V220 0	18kg Pail
SHEL-GAD S2 V220 1 18	Gadus S2 V220 1	18kg Pail
SHEL-GAD S2 V220 2 .450	Gadus S2 V220 2	450g Cartridge
SHEL-GAD S2 V220 2 18	Gadus S2 V220 2	18kg Pail
SHEL-GAD S2 V220 2 180	Gadus S2 V220 2	180kg Drum
SHEL-GAD S2 V220 AC2 .450	Gadus S2 V220 AC2	450g Cartridge
SHEL-GAD S2 V220 AC2 18	Gadus S2 V220 AC2	18kg Pail
SHEL-GAD S2 V220 AC2 180	Gadus S2 V220 AC2	180kg Drum
SHEL-GAD S2 V220 AD 18	Gadus S2 V220 AD2	18kg Pail
SHEL-GAD S2 V220 AD2 .450	Gadus S2 V220 AD2	450g Cartridge
SHEL-GAD S2 V1000 AD1.5	Gadus S2 V1000 AD1.5	18kg Pail
SHEL-GAD S2 V1000 AD2.450	Gadus S2 V1000 AD2	450g Cartridge
SHEL-GAD S3 T100 2 .450	Gadus S3 T100 2	450g Cartridge
SHEL-GAD S3 T100 2 18	Gadus S3 T100 2	18kg Pail
SHEL-GAD S3 T220 2 .450	Gadus S3 T220 2	450g Cartridge
SHEL-GAD S3 V220 C .450	Gadus S3 V220 C2	450g Cartridge
SHEL-GAD S3 V220 C2 18	Gadus S3 V220 C2	18kg Pail
SHEL-GAD S3 V220 C2 180	Gadus S3 V220 C2	180kg Drum
SHEL-GAD S3 V4608-018	Gadus S3 V460 2	18kg Pail
SHEL-GAD S5 T460 1.5 180	Gadus S5 T460 1.5	180kg Drum



Consistent and reliable lubrication, whatever the operating conditions, is key to meet the challenges of a wide range of equipment designs and applications. Shell Morlina offers a portfolio of oils that enables you to choose a product to help match your technical and operational needs.

Product Code	Description	Pack Description
SHEL-MOR S2 BL10 20	Morlina S2 BL10	20L Pail
SHEL-MOR S2 BL10 209	Morlina S2 BL10	209L Drum
SHEL-MOR S2 B150 20	Morlina S2 B150	20L Pail
SHEL-MOR S2 B150 209	Morlina S2 B150	209L Drum
SHEL-MOR S2 B220 020	Morlina S2 B220	20L Pail

Industrial Gear Oil - Omala



The Shell Omala range of industrial gear oils helps you to match oil life to your operational needs. Advanced synthetic oils such as Shell Omala S4WE can offer additional benefits by providing improved energy efficiency compared with conventional oils.

Product Code	Description	Pack Description
SHEL-OMA S2 G 068 20	Omala S2 GX 68	20L Pail
SHEL-OMA S2 G 068 209	Omala S2 GX 68	209L Drum
SHEL-OMA S2 G 150 20	Omala S2 GX 150	20L Pail
SHEL-OMA S2 G 220 20	Omala S2 GX 220	20L Pail
SHEL-OMA S2 G 220 209	Omala S2 GX 220	209L Drum
SHEL-OMA S2 G 320 20	Omala S2 GX 320	20L Pail
SHEL-OMA S2 G 320 209	Omala S2 GX 320	209L Drum
SHEL-OMA S2 G 460 20	Omala S2 GX 460	20L Pail
SHEL-OMA S2 G 460 209	Omala S2 GX 460	209L Drum
SHEL-OMA S2 G 680 20	Omala S2 GXV 680	20L Pail
SHEL-OMA S2 G 680 209	Omala S2 GXV 680	209L Drum

Premium Slideway Oil - Tonna



Shell's Tonna Range is especially designed to lubricate machine tool slides, table stand feed mechanisms. With excellent frictional properties, very good slideway adhesion and excellent anti-wear performance, it can be relied on to help provide efficient machining accuracy and reliable protection for your equipment.

Product Code	Description	Pack Description
SHEL-TONS68 20	Tonna S3 M68	20L Pail
SHEL-TONS68 209	Tonna S3 M68	209L Drum
SHEL-TONS220 20	Tonna S3 M220	20L Pail

Hydraulic Oil - Tellus SHELL LUBRICANTS



Shell Tellus fluids are high performance hydraulic fluids that use Shell's unique patented technology to provide outstanding protection and performance in most manufacturing and many mobile equipment operations.

Product Code	Description	Pack Description
SHEL-TELLMX22 20	Tellus S2 MX22	20L Pail
SHEL-TELLMX22 209	Tellus S2 MX22	209L Drum
SHEL-TELLMX32 20	Tellus S2 MX32	20L Pail
SHEL-TELLMX32 209	Tellus S2 MX32	209L Drum
SHEL-TELLMX46 20	Tellus S2 MX46	20L Pail
SHEL-TELLMX46 209	Tellus S2 MX46	209L Drum
SHEL-TELLMX46 1000	Tellus S2 MX46	1000L IBC
SHEL-TELLMX68 20	Tellus S2 MX68	20L Pail
SHEL-TELLMX68 209	Tellus S2 MX68	209L Drum
SHEL-TELLMX100 20	Tellus S2 MX100	20L Pail
SHEL-TELLMX100 209	Tellus S2 MX100	209L Drum
SHEL-TELLS2VX46 20	Tellus S2 VX46	20L Pail
SHEL-TELLS2VX46 209	Tellus S2 VX46	209L Drum
SHEL-TELLS2VX68 20	Tellus S2 VX68	20L Pail
SHEL-TELLS2VX68 209	Tellus S2 VX68	209L Drum
SHEL-TELLS3M46 209 ZF	Tellus S3 M46	209L Drum
SHEL-TELLS3M46 1000 ZF	Tellus S3 M46	1000L IBC
SHEL-TELLS3M68 209 ZF	Tellus S3 M68	209L Drum

Cleaning Solution - Dobotex Gold



Water based multi-purpose cleaning solution for truck, car and marine applications and heavy duty mining equipment.

Product Code	Description	Pack Description
SHEL-DOB AQUA 020	Dobatex Aqua Degreaser	20L Pail
SHEL-DOB G 20	Dobatex Gold	20L Pail
SHEL-DOB G 200	Dobatex Gold	200L Drum
SHEL-DOB PLAT 020	Dobatex Platinum	20L Pail

Spindle Oil - Velocite No. 3





Mobil Velocite $^{\mathbb{M}}$ 3 is a premium performance oil, primarily designed for the lubrication of high speed spindles in machine tools. Can also be used in some critical hydraulic, circulation systems and air line oilers where the appropriate viscosity grade is selected.

Formulated from select high quality, low viscosity base oils, they possess very good resistance to foaming and separate readily from water.

Product Code	Description	Pack Description
MOB-VELOCITE 3-020	Mobil Velocite 3	20L Pail



Sol-MB 50 is especially designed for machining of ferrous and aluminium alloys.

- High Performance soluble metalworking fluid
- Unique additives that enhance machining performance and surface finish
- Chlorine and Formaldehyde releasing agent free
- Improves bio-resistance properties lowers overall operations cost
- Suitable for large central systems and single pump machines

NOTE: Not recommended for use with yellow metals.

Product Code	Description	Pack Description
MAT-SOLMB50-020	SOL MB50	20 Lt Pail
MAT-SOLMB50-200	SOL MB50	200 Lt Drum

Metalworking Fluid - Soluble High Performance



Sol-X is especially designed for heavy duty machining of ferrous and non-ferrous metals.

- High Performance soluble metalworking fluid
- Unique additives that enhances machining performance and surface finish
- Chlorine free
- Suitable for large central systems
- Suitable for single pump machines

Product Code	Description	Pack Description
MAT-SOLX-020	SOL-X	20 Lt Pail

Machining Neat Cutting Oil Cut 05 MT



Cut 05 MT is a universal cutting fluid formulated from judiciously selected components.

The balanced additives maximize performance over a wide range of pressures and temperatures seen when machining difficult metals and difficult conditions. Cut 05 MT has high chemical stability, good cooling properties and minimum tendency to form oil mist. It is recommended for machining of all metals, with excellent performance under heavy operation conditions.

Product Code	Description	Pack Description
MAT-CUT05MT-020	Cutting Oil CUT 05 MT	20 Lt Pail

Grinding Fluid - Premium - Sol Plus 144 CU



A synthetic coolant, based upon the formulation of selected chemicals in solution which provides an oily grinding fluid totally formaldehyde free.

It is a transparent fluid suitable for all types of grinding applications and for the less arduous machining operations of steel, cast iron and copper.

The product is formulated from selected materials which will not support sump bacteria.

It will not foam or split even under the most turbulent conditions; the product totally rejects tramp oil making it ideal choice as grinding fluid.

The swarf settling and excellent corrosion properties of the product ensure that many months trouble free sump life can be achieved with a single charge of coolant.

Product Code	Description	Pack Description
MAT-SOLPLUS144CU-020	Grinding Fluid Sol Plus 144 CU	20 Lt Pail



Slidemax are specially compounded oils developed for the lubrication for slides and ways. They are specially developed to eliminate the phenomenon of stick-slip in machine tool operation. The combination of compounding, special base oils and additives gives Slidemax outstanding stability, extreme oiliness, adhesiveness and exceptional load carrying ability.

Product Code	Description	Pack Description
MAT-SLIDEMAX 68 20	Slidemax 68	20 Lt Pail
MAT-SLIDEMAX 68 205	Slidemax 68	205 Lt Drum

Anti Rust - DWS 1



This product is a fluid that contains solvents, rust inhibitors and water hydrophobic additives. These displace moisture and water from parts by leaving a greasy-oily film with good anti-rust properties, providing up to 18 months indoor protection. In general, this product is applied to those parts that need protection and have been machined with soluble oils. Other applications include protection of parts which have been quenched with water before being packed, or parts of machinery subjected to corrosive moistures.

Product Code	Description	Pack Description
MAT-ANTIRUST1 -020	Anti Rust DWS	20 Lt Pail

Stamping Oil - Light Evaporative - FDX 1001



FDX 1001 is a series of low viscosity evaporating oil specially formulated for stamping and forming applications.

It's polar compounds assures most effective operations.

The main advantage of FDX 1001 is that parts do not need to be degreased thanks to the forming of very little residue.

Product Code	Description	Pack Description
MAT-FDX-1001-020	Stamping Oil FDX 1001	20 Lt Pail
MAT-FDX-1001200	Stamping Oil FDX 1001	200 Lt Drum

Drawing Oil - Heavy Duty Neat - FDX 3012



FDX 3012 is an oil with EP properties specially formulated for metal stamping, sheet cutting and drawing applications. The combination of EP additives, lubricity and polar compounds make it specially suitable for obtaining very high efficiency. FDX 3012 is suitable for cold drawing of all kind of metals including steel, stainless steel, brass, bronze and aluminium and for drawing of automotive components.

- Extended die life
- Excellent surface finish
- Reduced pick-up and scoring
- Easy to apply
- High film strength

Product Code	Description	Pack Description
MAT-FDX 3012-020	FDX 3012	20 Lt Pail
MAT-FDX 3012-2051	FDX 3012	205 Lt Drum



High performance hydraulic fluid, based on the latest base oil and additive technology. The use of an ashless additive pack warrants optimal performance and a long service life

Product Code	Description	Pack Description
MAT-HYDROMAX AW32 20	Hydromax AW32	20 Lt Pail
MAT-HYDROMAX AW32 205	Hydromax AW32	205 Lt Drum
MAT-HYDROMAX AW46 20	Hydromax AW46	20 Lt Pail
MAT-HYDROMAX AW46 205	Hydromax AW46	205 Lt Drum
MAT-HYDROMAX AW46 1000	Hydromax AW46	1000 Lt IBC
MAT-HYDROMAX AW68 20	Hydromax AW68	20 Lt Pail
MAT-HYDROMAX AW68 205	Hydromax AW68	205 Lt Drum
MAT-HYDROMAX AW68 1000	Hydromax AW68	1000 Lt IBC
MAT-HYDROMAX ZF 46 205	Hydromax ZF46	205 Lt Drum
MAT-HYDROMAX ZF 68 205	Hydromax ZF68	205 Lt Drum

ZF = Zinc Free

Quenching Fluid - FDX S3 RV



FDX S RV fluids have been developed for heat treatment of ferrous metals in a wide variety of quenching operations. The fluid is formulated with carefully selected additives to achieve enhanced oxidation resistance and faster cooling

Product Code	Description	Pack Description
MAT-FDXS3-RV-020	Quenching Fluid FDX S3 RV	20 Lt Pail
MAT-FDXS3-RV200	Quenching Fluid FDX S3 RV	200 Lt Drum

Heat Transfer Oil - Heatmax B



Heatmax B is a high performance heat transfer oil recommended for most installations. It meets the requested qualities for diathermic fluids: Thermal stability, Chemical stability,

Low vapour tension, Fully neutral towards metals, Non toxic

Product Code	Description	Pack Description
MAT-HEATMAX B-020	Heat Transfer Oil	20 Lt Pail



Hales AD1500 is a high performance semi synthetic metalworking coolant designed for the machining of aluminium, steel, copper and brass. It has been formulated for use in soft water as well as hard water, and exhibits low foam and excellent stability under a wide range of conditions. Hales AD1500 offers excellent surface finish and extended tool life, even in difficult operations. Excellent corrosion protection, non-staining to ferrous materials and to aluminium and alloys.

Product Code	Description	Pack Description
HALESAD1500-020	Hales AD 1500	20L Pail
HALESAD1500-200	Hales AD 1500	200L Drum

Metal Working & Grinding Fluid - Hales Ultra 990 Synthetic



Hales Ultra 990 is a chlorine and nitrite free, synthetic coolant, specially designed for light to medium duty cutting and grinding of ferrous and non-ferrous metals. It offers improved performance in applications where conventional synthetic coolants are often used, providing enhanced grinding performance, excellent cleanliness, and providing the machining performance to extend its use to most grinding and general machining operations, on cast iron and low to medium tensile steels, aluminium alloys and copper alloys.

Product Code	Description	Pack Description
HALESULTRA-20	Hales Ultra 990	20L Pail
HALESULTRA-200	Hales Ultra 990	200L Drum

System Cleaner - Hales MTC50



Hales MTC50 is specially formulated to deal with the range of contaminants in machine tool systems, using water based coolants. Regular use of MTC50 at fluid changeover time is highly recommended , as the adoption of the simple clean out procedure dramatically reduces coolant related problems, and ensures maximum coolant life. MTC 50 is easy to use, with minimum disruption to production, being added direct to the coolant system whilst still in operation.

Product Code	Description	Pack Description
HALESMTC50 05	Machine/System Cleaner	5L Pail
HALESMTC50 20	Machine/System Cleaner	20L Pail

Evaporating Stamping Fluid - Hales Evap-Lube



Hales Evap-Lube is a low viscosity evaporative stamping fluid. Its prompt evaporation characteristics result in the manufacture of clean components which will accept welds, allow for adhesion of paint to processed parts and leave virtually no residue to react with other processing chemicals.

Applications: Suitable for light duty blanking, stamping, shallow drawing and forming, is a non-corrosive and non-staining to aluminium, copper, steel and their alloys. Suitable materials: aluminium, mild steel, brass, galvanised sheet, copper and painted stock.

Product Code	Description	Pack Description
HALESEVAPLUBE 20	Evaporating Stamping Fluid	20L Pail
HALESEVAPLUBE 200	Evaporating Stamping Fluid	200L Drum



Excellent for the removal of glues and for use as a surface cleaner prior to application of sealant. Acetone can be used for cleaning brushes used in fibreglass resin, varnish and lacquer and as a cleaning agent.

Product Code	Description	Pack Description
HALESACETONE-20	Hales Acetone	20L Pail

Solvent - Hales X55



X55 Solvent is a wide boiling range, rapidly evaporating solvent. It can be used in formulation requiring 'speed of evaporation' and combines well with organic compounds. It also delivers a high solvency of greases and oils.

Product Code	Description	Pack Description
HALESLITEX55-20	Hales Shellite X55 Solvent	20L Pail
HALESLITEX55-200	Hales Shellite X55 Solvent	200L Drum

Solvent - Hales Kerosene



Kerosene is a light, oily liquid obtained during the distilling of crude oil and is commonly used as heater fuel and degreaser.

Product Code	Description	Pack Description
HALESKEREO-20	Hales Kerosene	20L Pail
HALESKERO-200	Hales Kerosene	200L Drum

Solvent - Hales Methylated Spirits



Methylated Spirits is a very versatile cleaning agent commonly used as a heavy-duty disinfectant, hard surface cleaner or solvent. It is also a great stain remover for removing ink from non-porous surfaces.

Product Code	Description	Pack Description
HALESMETHO-20	Hales Methylated Spirits	20L Pail



Solvent thinner for automotive paints or as a surface cleaner prior to application of paint. Can be used as a cleaning agent for brushes or to remove oil based products from surfaces.

Product Code	Description	Pack Description
HALESTHINNERS-20	General Purpose Thinners	20L Pail

Solvent - Hales Isopropyl Alcohol



Isopropyl Alcohol is a colourless flammable liquid with a strong odour used in a wide range of industrial and household chemicals.

Product Code	Description	Pack Description
HALESISOPROPYL-20	Isopropyl Alcohol	20L Pail

EDM Fluid - Hales EDM 5



EDM5 is a clear, low viscosity di-electric fluid with a high flash point, which reduces the fire hazard. It is free of carcinogenic materials, has no unpleasant odour and due to its low viscosity and surface tension, has minimal drag out.

Product Code	Description	Pack Description
HALESEDM5-20	Hales EDM Fluid	20L Pail
HALESEDM5-200	Hales Kerosene	200L Drum

Liquid Lanolin - Food Grade

LANOTEC FOOD GRADE LANOLIN



A multi-purpose penetrant, lubricant and corrosion inhibitor. Available in General Purpose and Heavy Duty.

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Product Code	Description	Pack Description
LANO-GENERALPURPOSE750	Lano GP Liquid	750ml Spray
LANO-GENERALPURPOSE5L	Lano GP Liquid	5 Litre
LANO-GENERALPURPOSE20L	Lano GP Liquid	20 Litre
LANO-GENERALPURPOSE400	Lano GP Liquid	400gm Aero
LANO-HEAVYDUTY750	Lano HD Liquid	750ml Spray
LANO-HEAVYDUTY5L	Lano HD Liquid	5 Litre
LANO-HEAVYDUTY20L	Lano HD Liquid	20 Litre
LANO-HEAVYDUTY400	Lano HD Liquid	400gm Aero



New generation of technically advanced food grade grease developed by complexing modified over based calcium sulphonates. The new technology offers superior mechanical stability, high temperature, high load carrying performance, reduced wear and excellent resistance to water, steam and corrosion.

Product Code	Description	Pack Description
FM-GREASECASS00HS-18	Foodmax Grease CAS S 00 HS	18kg Pail
FM-GREASECASS1LS-040	Foodmax Grease CAS S1 LS	400g Cartridge
FM-GREASECASS1LS-18	Foodmax Grease CAS S1 LS	18kg Pail
FM-GREASECASS2HS-040	Foodmax Grease CAS S2 HS	400g Cartridge
FM-GREASECASS2HS-040SL	Foodmax Grease CAS S2 HS	400g Shuttle
FM-GREASECASS2HS-18	Foodmax Grease CAS S2 HS	18kg Pail
FM-GREASECASS2LS-040	Foodmax Grease CAS S2 LS	400g Cartridge
FM-GREASECASS2LS-18	Foodmax Grease CAS S2 LS	18kg Pail
FM-GREASECASS2LS-E120	Foodmax Pulsar Lube	120ml Dispenser

Clear Grease - Foodmax® Clear



Food grade lubricating grease suitable for the lubrication of a wide range of applications including plain and rolling element bearings in the slaughter houses, canning and bottle factories or any other food processing plants. Works well in the lubrication of plastic components and O-rings.

Product Code	Description	Pack Description
FM-CLEAR2GREASELS-040SL	Foodmax Clear 2 Grease	400g Shuttle
FM-CLEAR2GREASELS-050	Foodmax Clear 2 Grease	500g Tub

White Grease - Foodmax® ASP



Foodmax Grease ASP 2 is an aluminium complex grease designed for the lubrication of almost any type of application which requires a food grade lubricant. Superior resistance to water, is very suitable for the lubrication of chains operated in very wet conditions such as food conveyor chains.

Product Code	Description	Pack Description
FM-GREASEASP2-040	Foodmax Grease ASP 2	400g Cartridge
FM-GREASEASP2-018	Foodmax Grease ASP 2	18kg Pail



- Formulated using specially selected, highly refined base stock in combination with the latest additive technology
- Excellent anti wear properties
- Use for both power and motion transfer in machinery operated close to food production

Product Code	Description	Pack Description
FM-AWHYDRA22-020	Foodmax AW Hydra 22	20L Pail
FM-AWHYDRA46-020	Foodmax AW Hydra 46	20L Pail
FM-AWHYDRA46-210	Foodmax AW Hydra 46	210L Drum
FM-AWHYDRA68-020	Foodmax AW Hydra 68	20L Pail
FM-AWHYDRA68-210	Foodmax AW Hydra 68	210L Drum
FM-AWHYDRAPAO32-20	Foodmax AW PAO Hydra 32	20L Pail
FM-AWHYDRAPAO46-20	Foodmax AW PAO Hydra 46	20L Pail
FM-AWHYDRAPAO68-20	Foodmax AW PAO Hydra 68	20L Pail

White Oil - Foodmax® Basic



- Can be used in the authorised industrial operations whenever there is the possibility of food contact.
- Performs well as dough divider oil
- Lubricant for cutters, knives, conveyors and rollers in packaging equipments.
- Suitable for use as an anti-corrosive for food processing machines

Product Code	Description	Pack Description
FM-BASIC015-020	Foodmax Basic 15	20L Pail
FM-BASIC032-020	Foodmax Basic 32	20L Pail

Chain/Slide Way Oil - Foodmax® Chain



- Adhesive fluids for the lubrication of drive chains, conveyor chains and slide ways
- Fully synthetic Special additives extend re-lubrication intervals significantly
- Non-drip, no fling characteristics

Product Code	Description	Pack Description
FM-CHAIN068-020	Foodmax Chain 68	20L Pail
FM-CHAIN068-210	Foodmax Chain 68	210L Drum
FM-CHAIN150-020	Foodmax Chain 150	20L Pail
FM-CHAIN220-020	Foodmax Chain 220	20L Pail
FM-CHAIN220-210	Foodmax Chain 220	210L Drum
FM-CHAINHTX-020	Foodmax Chain HT-X	20L Pail

Stamping Oil - Foodmax® 1001 HE



Foodmax 1001 HE is a low viscosity evaporate oil formulated for stamping and forming applications. It contains special polar compounds for more effective operation. Correct use of Foodmax 1001 HE results in low residues leading to less costs for cleaning and degreasing of parts after the process. In its given form Foodmax 1001 HE can also be used as food grade evaporative cleaner and degreaser.

Product Code	Description	Pack Description
FM-1001HE-020	Foodmax Stamping Oil	20 Lt Pail



- Using the latest base stock technology together with a special additive package
- High performance food grade gear oil
- Also available in PAO and PAG synthetic

Product Code	Description	Pack Description
FM-GEAR220-020	Foodmax Gear 220	20L Pail
FM-GEAR320-020	Foodmax Gear 320	20L Pail
FM-GEAR460-020	Foodmax Gear 460	20L Pail
FM-GEAR680-020	Foodmax Gear 680	20L Pail
FM-GEARPAG150-020	Foodmax Gear PAG 150	20L Pail
FM-GEARPAG220-020	Foodmax Gear PAG 220	20L Pail
FM-GEARPAG320-020	Foodmax Gear PAG 320	20L Pail
FM-GEARPAG460-020	Foodmax Gear PAG 460	20L Pail
FM-GEARPAG680-020	Foodmax Gear PAG 680	20L Pail
FM-GEARPAO100-020	Foodmax Gear PAO 100	20L Pail
FM-GEARPAO150-020	Foodmax Gear PAO 150	20L Pail
FM-GEARPAO220-020	Foodmax Gear PAO 220	20L Pail
FM-GEARPAO320-020	Foodmax Gear PAO 320	20L Pail
FM-GEARPAO460-020	Foodmax Gear PAO 460	20L Pail
FM-GEARPAO680-020	Foodmax Gear PAO 680	20L Pail

Sugar Dissolving Chain Lubricant - Foodmax® Mammut



- Food safe lubricant specially developed for use on chains, sliding surfaces and moulds where build up of sugar is seen and eventually causes problems.
- Cleans, removes sugar build up
- Lubricates and prevents from corrosion and new sugar accumulation

Product Code	Description	Pack Description
FM-MAMMUTT25-020	Foodmax Mummutt 25	20L Pail

Anti-Seize - Foodmax® Assembly Paste



- · White, non-toxic, grease like compound
- Designed for use as an assembly lubricant for lubricating bushes, sliding surfaces and small open plastic or metal gears and anti-seize compound for threaded fasteners.
- To prevent damage during start up and protect against premature wear during the running-in period

Product Code	Description	Pack Description
FM-ASSEMBLYPASTE-0125	Foodmax Assembly Paste	125gm Tube
FM-ASSEMBLYPASTE-003	Foodmax Assembly Paste	3kg Tub
FM-ASSEMBLYPASTE - 0200	Foodmax Assembly Paste	Aeropack 200ml



Foodmax DWF spray is a non-toxic lubricating, penetrating and de-watering lubricant and is ideal for use on lightly loaded chains, bearings and slides in food and clean environments. Working temperature -30 °C to 145 °C.

Product Code	Description	Pack Size
FM-DDWFSPRAY-040	Foodmax DWF Spray	400g Aerosol

Silicone Spray - Foodmax® Silicon



A food grade, silicone based, anti-adherent and lubricating fluid with a very high temperature resistance. Great for packaging transport lines and for low load applications. Also suitable as anti adherent for any type of equipment, de-moulding of all type of plastics and rubbers and surface polisher.

Product Code	Description	Pack Size
FM-SILICONESPRAY-040	Foodmax Silicone Spray	400g Aerosol

Chain Spray - Foodmax® Multi



Foodmax Multi Spray is a totally waterproof tacky chain spray that contains food grade synthetic fluid and PTFE lubricant that endures aggressive environments and create a strong shear-stable lubrication film. Suitable for a broad range of applications including chains, conveyors, slides, joints, etc.

Product Code	Description	Pack Size
FM-MULTISPRAY -040	Foodmax Multi Spray	400g Aerosol

Cleaner Degreaser Spray - Foodmax® Clean



Foodmax Clean Spray is a food grade cleaner degreaser. This non-toxic formulation has been formulated to effectively clean grease and oil residue, formulated from a citrus oil derivative which is non-toxic, non-caustic, biodegradable and can be used safely with minimal protective equipment.

Product Code	Description	Pack Size
FM-CLEANSPRAY -040	Foodmax Clean Spray	400g Aerosol



Foodmax Clean E spray is a powerful, fast drying cleaner, ideal for cleaning electronic equipment and components in and around food processing areas, such as control panels, electric motors, electrical contacts and switches.

Product Code	Description	Pack Size
FM-CLEANESPRAY -040	Foodmax Clean E Spray	400g Aerosol

Grease Spray - Foodmax® CAS



Foodmax Grease CAS is a fully synthetic food grade spray grease based on calcium sulphonate. This technology is characterised by exceptional mechanical stability, high dropping point, high load carrying performance, reduced wear and excellent resistance to water, steam and corrosion.

Foodmax Grease CAS can be used for general lubrication, slide ways, chains and high load bearings in the food industry.

Product Code	Description	Pack Size
FM-CASSPRAY-040	Foodmax Grease CAS Spray	400g Aerosol

White Oil Spray - Foodmax® Easy



Foodmax Easy Spray can be used as a general lubricant as a non sticky chain oil, bearings and slides with low load, a food grade mould release, hinges and as a cleaning and conserving agent for stainless steel. Foodmax Easy Spray can be used as a food grade mould release oil as well.

Product Code	Description	Pack Size
FM-EASYSPRAY-040	Foodmax Easy Spray	400g Aerosol

Dough Dividing Spray - Foodmax® DDO



This product is produced from ester based oil and special additives to warrant a trouble free and extremely clean operation when used as a dough divider oil. Consumption of Foodmax DDO Spray is about half to two times less than the conventional release agents found such as kitchen sunflower oil. Foodmax DDO Spray offers direct contact lubrication in dough dividing applications in case the use of mineral lubricants are not allowed because of local of domestic regulations.

Product Code	Description	Pack Size
FM-DDOSPRAY-040	Foodmax DDO Spray	400g Aerosol



Foodmax Release S Spray is a silicone based fluid, anti-adherent and lubricating incorporating high temperature resistance. NSF approved for the use in food processing equipment where incidental contact with food may occur. Excellent as lubricating product for packaging transport lines and for low load applications. Also suitable as anti-adherent for any type of equipment, de-moulding of all type of plastics and rubbers and surface polisher.

Product Code	Description	Pack Size
FM-RELEASE S SPRAY -040	Foodmax Release S Spray	400g Aerosol

Semi-Dry Lubricant - Foodmax® TFD



Foodmax TFD Spray is a clean, non-toxic, non-staining and semi-dry lubricant fortified with PTFE. Provides excellent low friction properties and reduces static. Designed for repetitive movement applications in environments where a non-sticky lubricant is required. Suitable for use in food, chemical and printing industry as well as other industries requiring a clean lubricant. Temperatures range (-20°C~120°C)

Product Code	Description	Pack Size
FM-TFDSPRAY -040	Foodmax TFD Spray	400g Aerosol

High Temp - Foodmax® Extreme



This product is based on highly polar biodegradable ester base oil and is inhibited against oxidation to give a long wet film life at high temperatures up to 285°C. Foodmax Extreme is designed for the lubrication any moving part in the food, cosmetic, pharmaceutic, textile, glass, steel, and wood industry. Foodmax Extreme possesses outstanding anti wear capacity and will reduce wear on

Foodmax Extreme possesses outstanding anti wear capacity and will reduce wear or chains significantly like no other.

Product Code	Description	Pack Size
FM-EXTREMESPRAY -040	Foodmax Extreme Spray	400g Aerosol

V-Belt Spray - Foodmax® V-Belt



This product is a food grade spray containing a product to protect and prevent V-belts from slipping.

Foodmax V-Belt can be used on vehicles, drill presses, milling, food and agricultural machines, generators, conveyor belts, compressors, pumps, lawn movers, concrete mixers and many more applications where V-Belts are used.

User friendly, help to prevent slipping and creaking, excellent adhesion, long-time protection, resistant to weather influences, dilatant, delays the wear of V-belts and has a directed jet spray.

Product Code	Description	Pack Size
FM-VBELTSPRAY -040	Foodmax V-Belt Spray	400g Aerosol



Cut ADE Tapping Fluid

For direct application specially formulated for drilling, threading, reaming and severe machining of steel in severe working conditions.

It contains EP additives that avoid welding of tool and part and built-up edge formation thanks to the anti-seize properties.

Product Code	Size
MAT-CUTADE-050	500ml Bottle

CRC Trefolex Cutting Compound



Trefolex Cutting Paste is a green coloured, active cutting compound containing a colloid. It melts slowly as frictional heat is generated. It maintains efficient lubrication throughout operations such as pipe screwing, hack sawing, tapping and reaming.

Product Code	Description	Pack Size
CRC-TREF 2LT	Cutting Paste	2lt Tub
CRC-TREF 500ML	Cutting Paste	500ml Tub
CRC-TREF HD 500ML	Heavy Duty Cutting Fluid	500ml Bottle

Clean Wipes - Foodmax®



Food Grade Strong Wipes With Powerful Cleaner NSF A1 Approved.

Foodmax Clean Wipes are strong two-sided cleaning wipes containing a powerful cleaner in a resealable container.

They are suitable to clean equipment, machine parts, work areas, tools, hands, and many other surfaces. Effectively removes heavy pollutants like oil, greases, tar, PU foam, resin, soot, grass stains, paint, ink, marker, toner and graffiti.

Product Code	Size
FM-CLEANWIPES	Tub of 100 wipes

Prolon - PTFE paste



The ultimate PTFE paste for the assembly of injection mould tools, it also provides excellent anti seize on many types of moving parts.

Product Code	Description	Pack Size
PROLON-250	PTFE 901 Paste Prolon	250g Tube
PROLON-500G	PTFE 901 Paste Prolon	500ml Tub
PROLON-20KG	PTFE 901 Paste Prolon	20kg Tub



The professionals choice. CRC 5.56 multi-purpose product has superior penetrating power, that breaks through rust and corrosion while it cleans away scale and dirt.

Also available in 175g, 500ml, 1litre, 200 litres

Product Code	Description	Pack Size
CRC-5.56CAN	CRC Multi-Purpose Spray	400g Aerosol
CRC-5.564LT	CRC Multi-Purpose Fluid	4 Litre
CRC-5.5620LT	CRC Multi-Purpose Fluid	20 Litre Drum

Performance WD Spray



Performance WD is a direct jet-spray to be used as a universal oil to lubricate and protect metal and plastic parts. It is suitable to unfasten rusted nuts and bolts, remove/avoid squeaking/creaking noises, grease and lubricate runners, joints, hinges and chains.

Product Code	Description	Pack Size
MAT-PERFORM-WD 040	Performance WD Spray	400g Aerosol

Performance X3



Performance X3 utilises a blend of synthetic fluids to transport M-FLON to critical bearing surfaces protecting them from wear and corrosion.

Applications:

- Lubricates and protects chains cables slide
- Protects against corrosion
- Penetrates and frees seized components
- Removes residues from old lubricants

Product Code	Description	Pack Size
MAT-PERFORM-X3 040	Performance X3 Spray	500ml Aerosol

CO Contact Cleaner



CRC CO Contact Cleaner is a unique, plastic safe, scientifically formulated, technically proven, stable, inert high purity cleaning solvent. Non-corrosive, non-staining, rapid complete evaporation and contains no lubricants. Contains COZOL a special proprietary blend of solvents which enhances the cleaning power without damaging plastics.

Product Code	Size
CRC-COCON CLEAN	350g Aerosol



All purpose spill absorber, made from 100% absorbant granules which are effective at absorbing spills and liquids.

Environmentally safe and easy to use 20kg bags.

Product Code	Pack Size
ABSORBCLAY	20 Kg Bag

Oil Absorbant Sheets



Extremely good absorption ability and capacity for all types of organic fluids, i.e.: motor oils, hydraulic oils, gear oils, organic solvents, diesel oil, petrol, etc.

Product Code	Size	Pack Size
ABSORBSHEET 100	40cm x 50cm	100 Sheets

Plastic Pump - 20L Food Grade



Ezy-Action food grade hand -operated piston pump is made of polypropylene for resistance to chemicals, dispenses liquids at a rate of 15oz. per stroke, and is suitable for dispensing viscous fluids, hard acids, or alkali cleaning chemicals

Product Code	Description
FG-PLASTICPUMP-020	Food Grade Plastic Pump 20 Litre

Drum Pump 20 Lt (Fits Matrix Pail)



- Suitable for Matrix 20 L pails
- Easy Down stroke displacement
- 1.5m anti-kink hose
- Fitted with anti-drip nozzle and drain back nozzle holder
- Ground shaft with 'O" ring seal
- Nylon head and handle
- Special threaded adaptor

Product Code	Description
FG-CA465GCM10	Food Grade Drum Pump 20 Litre



One hand grease gun with zinc plated steel barrel to suit 400g shuttle type cartridges, and an ergonomically designed pistol grip.

Fast and clean loading and unloading without opening the gun, eliminating any contamination.

Product Code	Description
FG-LUBESHUTTLEGUN	Food Grade Pistol Shuttle Gun

Lever Shuttle Gun Food Grade



Two hand grease guns features a high quality zinc plated steel barrel body and an ergonomic hand grip to suit 400g shuttle type cartridges.

Fast and clean loading and unloading without opening the gun, eliminating any contamination

Product Code	Description
FG-LEVERLUBESHUTTLE	Food Grade Lever Shuttle Gun

Pistol Grease Gun 450g



A classic grease gun that incorporates a unique variable stroke piston and valve arrangement for true one handed operation and can produce increased pressure through short strokes or high volume shot using a full stroke. Pistol-grip design to suit 450g grease cartridges, bulk filling or J3 grease transfer pump loading.

Product Code	Description
MAC-K2901	Pistol Grease Gun suits 450 gram cartridge

Lever Grease Gun 450g



A lever-action grease gun designed for high pressure / high volume greasing and can easily clear blocked or damaged grease nipples.

The grease gun features a durable die cast aluminium head, a heavy gauge steel barrel and a heavy duty follower assembly to handle a wide range of grease viscosities. Suits 450 gram grease cartridges, bulk filling or MacNaught J3 transfer loading.

Product Code	Description
MAC-K4501	Lever Grease Gun suits 450 gram cartridge



The Lever Action Barrel Pump is a telescopic suction tube for either 60 Litre or 205 Litre drums. Comes with 1 - 1/2" & 2" bung adapters.

Can pump up to 500ml per stroke, depending on viscosity.

Wetted materials: steel, aluminium, zinc, brass, NBR, viton and suitable for lubricating oils and service fluids.

Product Code	Description
MAC-LLBP	Lever Pump suits 60 & 205 Litre Drums

Rotary Pump



Rotary pumps offer easy self-priming and ability to deliver in both directions. For both 60 Litre & 205 Litre drums.

Product Code	Description
MAC-LRPH	Rotary Pump suits 60 & 205 Litre Drums

Drum Pump 20 Lt



Designed for dispensing most service fluids including engine, gear, transmission, hydraulic and some engine coolants from 20L - 25L drums.

An extendible suction tube and two additional bung adapters ensure that the ex-

panding range of different size and types of drums are easily catered for.

An extra-long clear delivery hose gives easy identification of the fluid type and allows better reach into difficult areas.

Product Code	Description
MAC-MAOP20	Drum Pump 20 Litre

Grease Transfer Pump 20 Kg



Designed for fast, easy bulk filling of grease guns. This provides an economical solution for refilling most standard grease guns from bulk pails instead of purchasing more expensive grease cartridges. The sealed system also keeps grease free from contamination. A height adjustable lid and pump assembly offers compatibility with several different size grease pails up to 20kg.

The J3 is the best choice for high volume / low pressure grease transfer, especially in remote or on-the-job applications.

Product Code	Description
MAC-J3-01	Grease Transfer Pump 20kg

Conversion Chart Metric-Imperial

10.150	Metric	Imperial	Inch	Gauge	Metric	Imperial	Inch	Gauge	Metric	Imperial	Inch	Gauge	Metric	Imperial	Inch	Gauge
13150	0.010		0.0004		2.500		0.0984		5.953	15/64	0.2344		10.490		0.4130	Z
0.100															0.4134	
10190												В		27/64	0.4219	
10190												6				
0.190						7/6/		36				C		7/16		
0.200						//04		35				D		//10		
D210															0.4528	
10.220										1/4		Е		29/64	0.4531	
D240															0.4646	
0.224	0.230		0.0091	89	3.000		0.1181		6.500		0.2559		11.906	15/32	0.4688	
0.270			0.0094	88			0.1200	31	6.528			F			0.4724	
0.280															0.4803	
0.2990						1/8						G		31/64	0.4844	
0.300								20		17/64				1 /2		
0.317 0.0126 83 3.400 0.1339 6.800 0.2677 13.000 0.517 0.330 0.0130 81 3.500 0.1378 6.909 0.2710 13.997 33761 0.518 0.343 0.0135 80 3.5569 0.1405 28 7.000 0.2756 13.309 33761 0.518 0.368 0.0145 79 3.572 9/64 0.1406 7.036 0.2770 J 13.891 35761 0.548 0.368 0.0145 79 3.572 9/64 0.1406 7.036 0.2770 J 13.891 35761 0.548 0.400 0.0157 3.658 0.1440 27 7.137 0.2810 K 14.288 9/16 0.655 0.400 0.0160 78 3.700 0.1457 7.114 9/22 0.2813 1.4500 0.570 0.457 0.0180 77 3.734 0.1470 2.5 7.300 0.2835 1.4694 3/764 0.576 0.500 0.0190 7.3797 0.1495 2.5 7.300 0.2834 1.500 0.590 0.508 0.0200 76 3.800 0.1496 7.366 0.2900 L 15.081 19/32 0.599 0.533 0.0210 75 3.861 0.1520 2.4 7.400 0.2913 1.5781 3.9784 0.566 0.577 0.0025 3.912 0.1540 2.3 7.500 0.02953 1.560 0.610 0.000 0.0236 3.912 0.1540 2.3 7.500 0.02953 1.5600 0.610 0.0040 7.3 3.998 5/32 0.1563 7.541 1.9964 0.2999 1.6000 0.6260 0.660 0.0260 7.2 3.998 0.1570 2.7 7.671 0.3020 N 16.500 0.646 0.660 0.0260 7.1 4.039 0.1595 7.7671 0.3020 N 16.500 0.646 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 7.1 4.039 0.1590 2.1 7.700 0.3031 1.7000 0.666 0.0260 0.0260 0.0260 0.0				84				30		1//64		ш		1/2		
0.317				83								- 11				
0.343								29						33/64	0.5116	
0.348								2,							0.5313	
0.490							0.1405	28							0.5315	
0.400	0.368		0.0145	79	3.572	9/64	0.1406		7.036		0.2770	J	13.891	35/64	0.5469	
0.496	0.397	1/64	0.0156		3.600		0.1417		7.100		0.2795		14.000		0.5512	
0.457								27				K		9/16	0.5625	
0.500 0.0197 3.797 0.1495 25 7.300 0.2874 15,000 0.958 19/32 2.939 0.533 0.0210 75 3.861 0.1520 24 7.400 0.2913 15,478 39/64 0.609 0.572 0.0225 74 3.900 0.1535 7.493 0.2950 M 15,570 0.610 0.610 0.0240 73 3.969 5/32 0.1540 23 7.500 0.2999 16,272 41/64 0.660 0.635 0.0250 72 3.988 0.1570 22 7.600 0.2992 16,272 41/64 0.640 0.660 0.0260 71 4.000 0.1575 7.671 0.3020 N 16,500 0.662 0.711 0.0280 70 4.089 0.1610 20 7.800 0.3071 17,000 0.667 0.711 0.0280 70 4.089 0.1610 20 7.800 0.3110 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.5</td><td></td><td>9/32</td><td></td><td></td><td></td><td>27.6</td><td>0.5709</td><td></td></t<>								2.5		9/32				27.6	0.5709	
0.508 0.0200 76 3.800 0.1496 7.366 0.2900 L 15.081 19/22 0.593 0.532 0.0215 74 3.900 0.1520 24 7.493 0.2950 M 15.500 0.610 0.600 0.0236 3.3112 0.1540 23 7.500 0.2950 M 15.500 5.68635 0.610 0.0240 73 3.369 5/32 0.1553 7.541 19/64 0.2969 16.000 0.673 0.630 0.0250 72 3.388 0.1570 22 7.600 0.2992 16.272 41/64 0.660 0.660 0.0200 71 40.090 0.1590 21 7.700 0.3031 16.669 21/32 0.666 0.701 0.0202 69 4.009 0.1610 20 7.800 0.3011 17.000 0.669 0.742 0.0292 69 4.100 0.1644 7.730 0.3110 17.500				//										3//64		
0.533				76				25						10/22		
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1.191 3/64 0.0469 4.915 0.1935 10 8.900 0.3504 21.034 53/64 0.828 1.321 0.0520 55 4.978 0.1960 9 9.000 0.3543 21.431 27/32 0.843 1.397 0.0550 54 5.000 0.1969 9.093 0.3580 T 21.500 0.846 1.500 0.0591 5.055 0.1990 8 9.100 0.3583 21.828 55/64 0.859 1.511 0.0595 53 5.100 0.2008 9.128 23/64 0.3594 22.000 0.866 1.588 1/16 0.0625 5.105 0.2010 7 9.200 0.3622 22.225 7/8 0.875 1.613 0.0635 52 5.159 13/64 0.2031 9.300 0.3661 22.500 0.885 1.702 0.0670 51 5.182 0.2040 6 9.347 0.3680 U 22.622 57/64 0.890 1.854 0.0730 49 5.220 0.2047 <td></td> <td>S</td> <td></td> <td></td> <td>0.8268</td> <td></td>												S			0.8268	
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