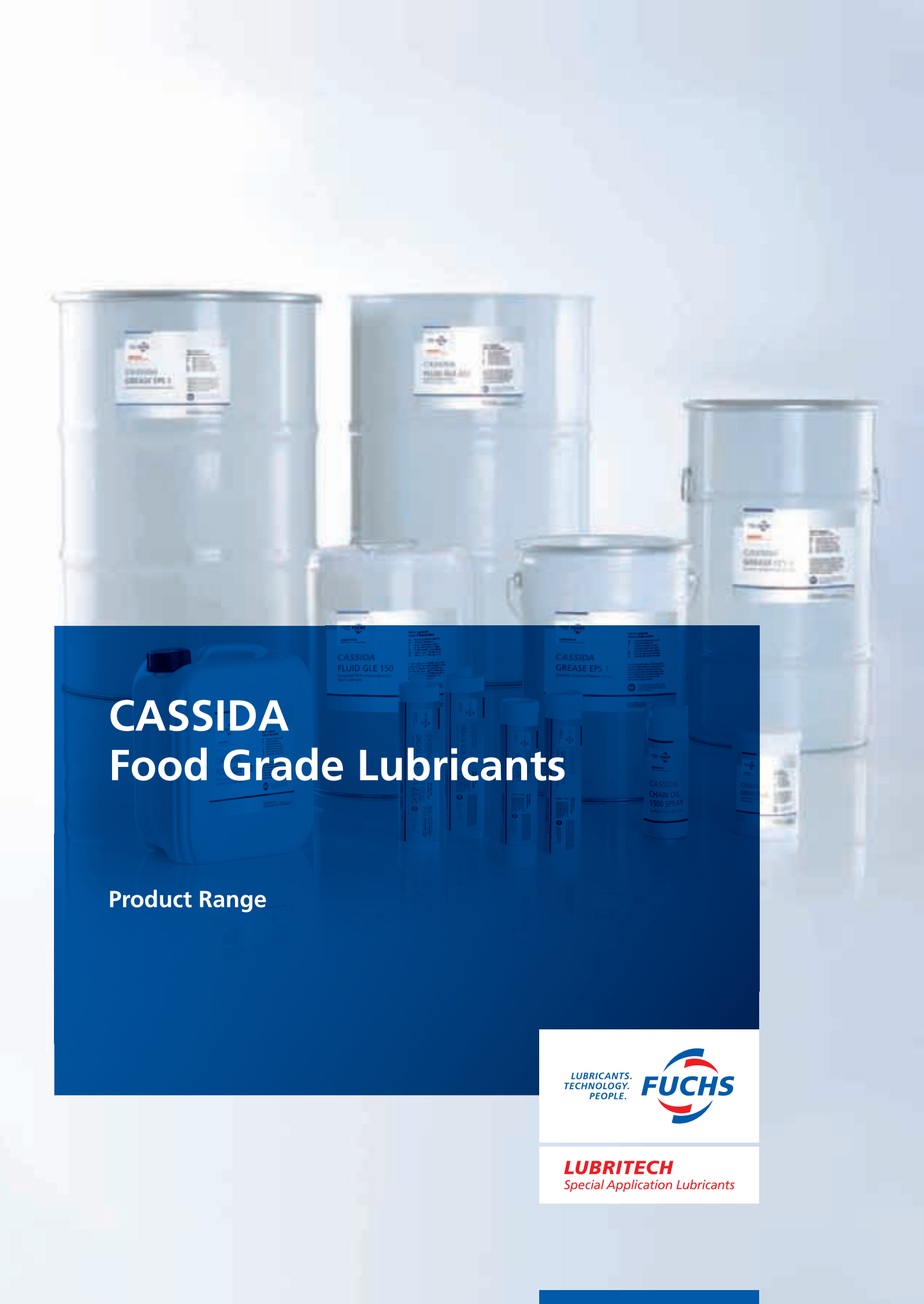




CASSIDA Food Grade Lubricants

Product Range

LUBRICANTS.
TECHNOLOGY.
PEOPLE.



LUBRITECH
Special Application Lubricants

LUBRICANTS. TECHNOLOGY. PEOPLE.

FUCHS LUBRITECH – Special Application Lubricants

We focus consistently on high-quality lubricants and related specialties. We develop innovative and holistic solutions for a wide variety of applications. We value the high level of commitment of our employees and their trusting interaction with one another.



LUBRITECH

Special Application Lubricants

Facts and Figures

Company: FUCHS LUBRITECH GmbH, part of the FUCHS Group, based in Kaiserslautern, Germany

LUBRITECH: the Special Application Division of the FUCHS Group

Product range: LUBRITECH GROUP offers a full range of more than 1,000 special products, including food grade lubricants, adhesive lubricants, lubricating fluids and greases, pastes, solid film lubricants, concrete release agents, aerosols and metal-forming lubricants

Certifications: ISO 9001: 2008, ISO 21469, Halal, Kosher

FUCHS has developed, produced and sold lubricants and related specialties for more than 80 years – for virtually all applications and sectors. With over 100,000 customers and 50 companies worldwide, the FUCHS Group is the world's leading independent lubricant supplier.

Within the FUCHS Group, **FUCHS LUBRITECH** is the expert for Special Application Lubricants. A team of more than 500 specialists around the world work to meet your needs. However demanding the application, we offer a specialised solution. Service is a crucial and fundamental component of our offering. Our experts offer on-site technical consultation to assure performance, efficiency and process reliability.

FUCHS LUBRITECH special application lubricants stand for highest performance and sustainability, safety and reliability, and efficiency and cost savings. They represent a promise: **technology that pays back.**



CASSIDA – FOOD GRADE LUBRICANTS

The CASSIDA product line of FUCHS LUBRITECH offers a comprehensive range of high-performance lubricants for the food and beverage industries, including fully synthetic as well as semi-synthetic and white-oil-based products. Each product's composition is always optimised to ensure maximum suitability for their respective application.

This product catalogue introduces our product portfolio and gives an overview of the wide range of CASSIDA products, including CASSIDA Fluids (fully synthetic), CASSIDA Greases (fully synthetic) and FM Lubricants (white-oil-based and semi-synthetic).

The food experts of the LUBRITECH team or your local sales partner will be happy to assist you in finding the best products for your application. You will receive individual, competent advice and recommendations for products that are best suited for fulfilling your particular requirements.





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Industries Served by CASSIDA Food Grade Lubricants



Beverage and brewing industry

The production of food, beverages and related products puts the strictest requirements on the lubricants used in the manufacturing process. Consumer protection is absolutely essential. Incidental oil contamination during the bottling and canning process must be avoided by breweries and beverage manufacturers, who brew, mix, can and bottle millions of gallons of beverages for global markets every year.

Meat and poultry industry

Millions of pounds of meat and poultry are processed every year. Just as in all other food industries, the safety of the production process is crucial. CASSIDA food grade lubricants support this safety. In addition, ensuring that the production process runs smoothly and is highly effective (meaning longer component lifetimes and extended maintenance intervals) is our number one priority.

Dairy industry

Customers from the dairy industry as well as the other food-related industries benefit from the excellent quality of the CASSIDA portfolio, which has been confirmed by numerous OEM approvals given by well-known manufacturers of production and manufacturing equipment. This assures that the highest demands of the industry are met.



Bakery and confectionery industry

With the high temperatures required by the bakery and confectionery industry, high heat resistance and stability of the lubricant is crucial. FUCHS LUBRITECH's research into extreme applications ensures that CASSIDA food grade lubricants perform at the highest level to allow for safe and reliable production and manufacturing processes.



Animal feed industry

Only safe feed will allow safe food to be produced. CASSIDA food grade lubricants provide this safety to the producers of animal feed. The products comply with the vast variety of feed requirements for livestock and other animals – from dairy cows and poultry to pets and fish.



Edible oil processing industry

In modern cuisine and with changing eating habits, edible oil, such as olive oil, sunflower oil and rapeseed oil, play an integral role in our diets. With CASSIDA food grade lubricants, FUCHS LUBRITECH offers a wide choice of lubricating fluids and greases for safe and efficient lubrication of the production processes.

Serving the Highest Safety Standards of the Food and Beverage Industry

Our product portfolio – at a glance

Lubricants for the production, processing and packaging of food, beverages, medications and cosmetic products must fulfil stringent requirements. Consumer protection is crucial, which is why FUCHS LUBRITECH practises the highest safety standards in all aspects of development, production, sales and after-sales service.

FUCHS LUBRITECH customers benefit from the excellent quality of the CASSIDA product line, which has OEM approvals from well-known manufacturers of production and manufacturing equipment.

FUCHS LUBRITECH food grade lubricants are formulated with the most advanced rust and oxidation, anti-wear and extreme-pressure additives available, all of which provide the maximum level of protection for your expensive food processing equipment. From hydraulic systems and transmissions to bearings and compressors: close cooperation already during the development phase pays off for our customers.

Safety, our number one priority

All lubricants for the production, processing and packaging of food, beverages, medications and cosmetic products must fulfil stringent requirements. Consumer protection is crucial, which is why food safety is very important in all aspects of development, production, sales and after-sales service. This is the reason why all of our food grade lubricants are registered by NSF International in accordance with the respective food-related categories.

Our manufacturing plant in Kaiserslautern as well as the food grade lubricants produced there are certified in accordance with the international standard ISO 21469. This standard determines the hygienic requirements for the composition, manufacturing and use of lubricants that may have incidental contact with food products – assuring that our products fulfil the highest possible safety standard.

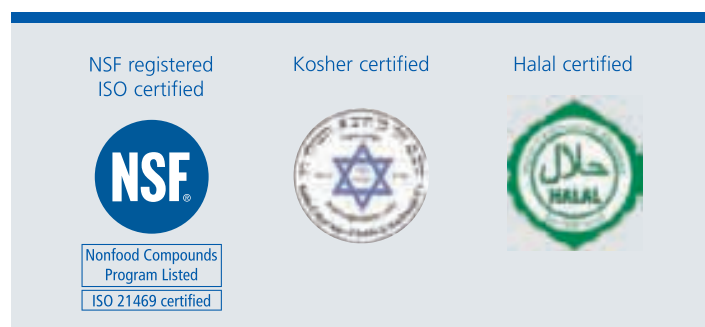
Additionally, our CASSIDA products fulfil the strict requirements of both Jewish and Muslim laws and regulations. The respective Kosher and Halal certificates guarantee the highest possible level of product and food safety.

Our most important product: individual consulting and service

We set standards not only with our high-performance products, but also with our exceptional service! This includes providing advice on how to optimise the use of food grade lubricants taking into account stringent QA management procedures in order to avoid food contamination (in accordance with HACCP = Hazard Analysis and Critical Control Points), examination of used lubricants, development of lubrication and maintenance schedules, support in changing lubricants, active support for practical testing, careful documentation of all measures and much more.

Finding comprehensive, sustainable and safe solutions for all tribological issues arising from our customers' requirements and their applications is our declared goal. Customer seminars and training sessions held globally complete our service programme.

With its competent technical advice and widespread sales network, our global Food Division team supports you in your production and processing activities to ensure that you will always achieve optimal results.



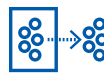
Guide to Symbols



Roller bearings



Plain bearings



Flushing



High temperature



Low temperature

Can seamers
and sterilisers

Chains



Conveyors



Gears – open



Gears – enclosed



Extreme pressure



Industrial coolants



Heat transfer



Hydraulics

Valves, taps
and fittings

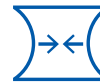
Compressors



Direct food contact



Sugar dissolving



Vacuum pumps



Maintenance spray



Slideways

Mounting/assembly/
disassembling aid

Maintenance aid



Worm gears



Linkages, pins



Anti-corrosive



NSF registered



CASSIDA FLUIDS

CASSIDA lubricating fluids based on fully synthetic base oils are developed to meet related industry specifications and to fulfil the stringent guidelines governing food-compatible lubricants. The high-performance lubricating fluids of the CASSIDA range enable the efficient operation of demanding manufacturing processes, a higher degree of utilisation of machines and a reduction in maintenance costs. They are used in various branches of the food and beverage industry.

FUCHS LUBRITECH's extensive range of food grade lubricating fluids offers the user a wide choice of CASSIDA-branded products for lifetime and total loss lubrication.

In addition to mineral-oil-based fluids, a very diverse selection of synthetic lubricating fluids are available for a wide range of applications in the food and beverage industry.

These high-performance lubricating fluids enable the efficient operation of demanding production and manufacturing processes, a higher degree of utilisation of machines and a reduction in maintenance.

FUCHS LUBRITECH researches constantly to increase performance and offer optimum lubricating fluids for maximum safety in food grade applications.

Overview of CASSIDA Fluids

Chain oils	CASSIDA CHAIN OIL 150 320 SPRAY 1500 1500 SPRAY 5000 SPRAY	14
	CASSIDA CHAIN OIL LT LT SPRAY	14
	CASSIDA CHAIN OIL SP	14
	CASSIDA CHAIN OIL HTE	14
	CASSIDA CHAIN OIL HTX	15
Compressor fluids	CASSIDA FLUID CR 32 46 68 100 150	15
	CASSIDA FLUID RF 46 68	15
Direct contact and heat transfer fluids	CASSIDA FLUID DC 20 32	16
Gear fluids	CASSIDA FLUID GL 150 220 320 460 680	16
	CASSIDA FLUID GLE 150 220	16
	CASSIDA FLUID WG 220 320 460 680 1000	17
Hydraulic oils	CASSIDA FLUID HF 15 32 46 68 100	17
	CASSIDA FLUID FL 15 32 46 68 100	17
	CASSIDA FLUID HFS 46 68	18
Vacuum pump fluids	CASSIDA FLUID VP 68 100	18
Maintenance fluids	CASSIDA FLUID FL 5 FL 5 SPRAY	18
	CASSIDA SILICONE FLUID CASSIDA SILICONE FLUID SPRAY	19
	CASSIDA PTFE DRY SPRAY	19
	CASSIDA FLUID CP CASSIDA FLUID CP SPRAY	19

CHAIN OILS

CASSIDA CHAIN OIL | 150 | 320 Spray | 1500 | 1500 Spray | 5000 Spray

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	
	Fully synthetic, very high-performance chain oils. Highly resistant to fling-off or wash-off. Excellent protection against wear and corrosion.	CASSIDA CHAIN OIL 150	150	19
		CASSIDA CHAIN OIL 320 SPRAY	320*	34*
		CASSIDA CHAIN OIL 1500	1500	135
		CASSIDA CHAIN OIL 1500 SPRAY	1500*	135*
		CASSIDA CHAIN OIL 5000 SPRAY	5000*	350*

*after evaporation of solvent

CASSIDA CHAIN OIL LT | LT Spray

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, high-performance anti-wear chain oil suitable for a wide range of temperatures, including sub-zero conditions.	CASSIDA CHAIN OIL LT	32	6.5
	CASSIDA CHAIN OIL LT SPRAY	32*	6.5*

Main application: Transport mechanisms inside food freezers such as spiral freezers. Lubrication of metal-metal and metal-ceramic contact points in open machinery, such as slideways and chains. Plain and anti-friction bearings.

*after evaporation of solvent

CASSIDA CHAIN OIL SP

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Fully synthetic, high-performance, anti-wear chain oil with excellent creeping and penetrating features	CASSIDA CHAIN OIL SP	85	460*

Main application: Drive and transport chains in the food industry, slideways, levers, joints and bolts, ropes, spindles and guide pulleys. Also intended for use in equipment for manufacturing food packaging.

*after evaporation of solvent

CASSIDA CHAIN OIL HTE

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, ester-based, high-temperature chain lubricant suitable for temperatures of up to 240°C.	CASSIDA CHAIN OIL HTE	220	20

Main application: Drive and transport chains in the food industry. Also intended for use in equipment for manufacturing food packaging.

Main application: Drive and transport chains in the food industry. Also intended for use in equipment for manufacturing food packaging.

CHAIN OILS

CASSIDA CHAIN OIL HTX

   		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, extreme-temperature chain lubricant suitable for temperatures up to 300°C. Main application: Drive and transport chains in the food industry (e.g. bakeries). Also intended for use in equipment for manufacturing food packaging.	CASSIDA CHAIN OIL HTX	330	40

COMPRESSOR FLUIDS

CASSIDA FLUID CR 32 | 46 | 68 | 100 | 150

   		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, very high-performance, long-life compressor oils. Meet DIN 51506 VBL, VCL, VDL and ISO 6743-3A DAH, DAG, DAJ specifications. Main application: Oil-flooded rotary vane and screw air compressors in food processing plants.	CASSIDA FLUID CR 32	32	6.1
	CASSIDA FLUID CR 46	46	8.0
	CASSIDA FLUID CR 68	68	11
	CASSIDA FLUID CR 100	100	14
	CASSIDA FLUID CR 150	150	19

CASSIDA FLUID RF 46 | 68

  		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic lubricants for refrigeration compressors used in the food industry. Main application: Recommended for use in open- and semi-open compressors, both screw and reciprocating types. Designed for applications with ammonia (R717), offering excellent performance under high and low evaporation temperatures. Can also be used with halogenated hydrocarbons (R22) and isobutane (R600a).	CASSIDA FLUID RF 46	46	7.8
	CASSIDA FLUID RF 68	68	9.7

DIRECT CONTACT AND HEAT TRANSFER FLUIDS

CASSIDA FLUID DC 20 | 32

   		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, multipurpose, low-volatility fluids suitable for both direct and incidental food contact applications. Can handle a wide range of application temperatures and have excellent thermal and oxidative stability to minimise cracking and promote long service life. Main application: In absorber oil columns designed to remove traces of hexane from steam/air/hexane mixtures. As forming oil for the manufacture of both two- and three-piece cans for the food and beverage industry. In closed circuit and pressureless heat transfer systems with a bulk oil temperature of approximately -30°C to 280°C where direct food contact may occur.	CASSIDA FLUID DC 20	23	4.8
	CASSIDA FLUID DC 32	32	6

GEAR FLUIDS

CASSIDA FLUID GL 150 | 220 | 320 | 460 | 680

  		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, very high-performance, long-life, anti-wear gear oils. Meet DIN 51517 CLP and ISO 6743/6 specifications. Main application: Suitable for gearboxes on food handling and processing equipment. May also be used for general machine lubrication, for example, on chains.	CASSIDA FLUID GL 150	150	19
	CASSIDA FLUID GL 220	220	25
	CASSIDA FLUID GL 320	320	33
	CASSIDA FLUID GL 460	460	44
	CASSIDA FLUID GL 680	680	59

CASSIDA FLUID GLE 150 | 220

   		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, high-performance, anti-wear gear fluids for use in the food canning industry. Provides excellent lubrication, even when operating in locations where the product may be subject to contamination with water, juice and food. CASSIDA FLUID GLE holds these contaminants in suspension, thus protecting metal surfaces from wear and corrosion. Approved by Angelus Sanitary Can Seaming Company for can seamer lubrication. Main application: Lubrication of rotary can seaming machines, including both enclosed and total loss systems, and for circulating and bearing oil systems where contamination with water or food juices can occur.	CASSIDA FLUID GLE 150	150	19
	CASSIDA FLUID GLE 220	220	25

GEAR FLUIDS

CASSIDA FLUID WG 220 | 320 | 460 | 680 | 1000

  	Fully synthetic, high-performance gear lubricants for worm gearboxes. High resistance to micro-pitting. Provides exceptional thermal stability and corrosion protection. Exceptional low-friction characteristics providing efficient power transmission. Meet DIN 51717 CLP and ISO 6743/6 specifications.	CASSIDA FLUID WG 220	220	42
		CASSIDA FLUID WG 320	320	61
		CASSIDA FLUID WG 460	460	83
		CASSIDA FLUID WG 680	680	122
		CASSIDA FLUID WG 1000	1000	163
	Main application: For the lubrication of worm gearboxes in food processing plants. Ideal for all worm gear applications. Suitable for use in situations where equipment gets routinely cleaned before and after use and where water might enter the lubricant.			

HYDRAULIC OILS

CASSIDA FLUID HF 15 | 32 | 46 | 68 | 100

  		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	
	Fully synthetic, high-performance, long-life, anti-wear hydraulic oils. Meet ISO 6743/4 HM, DIN 51524 HLP, HVLP and DIN 51517 CLP (ISO 68 and ISO 100) specifications.	CASSIDA FLUID HF 15	15	3.6
		CASSIDA FLUID HF 32	32	6
		CASSIDA FLUID HF 46	46	8
		CASSIDA FLUID HF 68	68	11
		CASSIDA FLUID HF 100	100	14
	Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment.			

CASSIDA FLUID FL 15 | 32 | 46 | 68 | 100

  		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, high-performance, long-life, anti-wear speciality hydraulic oils. Meet ISO 6743/4HM and DIN 51524 HLP and HVLP specifications. Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment.	CASSIDA FLUID FL 15	15	4
	CASSIDA FLUID FL 32	32	6
	CASSIDA FLUID FL 46	46	8
	CASSIDA FLUID FL 68	68	11
	CASSIDA FLUID FL 100	100	14

HYDRAULIC OILS

CASSIDA FLUID HFS 46 | 68

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, high-performance, long-life, anti-wear hydraulic oils with boosted solvency and lubricity. Resist the formation of harmful oxidation products, even at elevated temperatures. Meet ISO 6743/4 HV and DIN 51524 HLP, HVLP and DIN 51517 CLP (HFS 68) specifications. Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment. Can be used on demanding injection moulding machinery.	CASSIDA FLUID HFS 46	46	7.9
	CASSIDA FLUID HFS 68	68	11

VACUUM PUMP FLUIDS

CASSIDA FLUID VP 68 | 100

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Fully synthetic, high-performance vacuum pump oils. Main application: Vacuum pumps producing a medium vacuum, used in the food and beverage processing and packing industry.	CASSIDA FLUID VP 68	68	10.5
	CASSIDA FLUID VP 100	100	14

MAINTENANCE FLUIDS

CASSIDA FLUID FL 5 | FL 5 Spray

		Typical Viscosity at 20°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Fully synthetic penetrating fluid with excellent creeping and penetrating features. Capillary effect allows quick penetration between rusty and encrusted contact surfaces. Lubricates and protects against corrosion. Has a neutral odour and taste. Main application: Penetrating fluid for use in food grade equipment. Can be used for the disassembling of screws, interlocking nuts and other components. Offers corrosion protection for metal components. Can be used for lubrication of various non-demanding applications where food grade lubricants are required.	CASSIDA FLUID FL 5	3.8	1.1
	CASSIDA FLUID FL 5 SPRAY	3.8*	1.1*

*without propellant

MAINTENANCE FLUIDS

CASSIDA SILICONE FLUID | CASSIDA SILICONE FLUID Spray

		Typical Viscosity at 25°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Silicone-based, fully synthetic, multipurpose fluid. Thermal stability up to 250°C. Excellent adhesive properties minimise fling-off in use and wash-off by both cold and hot water. Readily displaces water. Formulated for use on metal-to-non-metal or non-metal-to-non-metal contact surfaces. Main application: For lubrication of conveyors; slow rotating machinery; small, slow-speed bearings and pivot points found in equipment in the food industry.	CASSIDA SILICONE FLUID	350	270
	CASSIDA SILICONE FLUID Spray	1000*	730*

*without propellant

CASSIDA PTFE DRY Spray

		Typical Viscosity at 20°C [mm²/s]
Synthetic PTFE multipurpose and maintenance lubricant, based on a unique blend of components. Main application: For use on belts, cams, chains, cables, conveyors, sliding tracks, joints, pivots, lifts, pulleys, threaded parts, bolts, rollers, taps, valves and many other moving parts. For lubrication and protection of seals and guides, operating in food, pharmaceutical and other clean environments where incidental food contact is possible.	CASSIDA PTFE DRY SPRAY	0.8*

*including solvent

CASSIDA FLUID CP | CASSIDA FLUID CP Spray

		Typical Viscosity at 20°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Easy-to-handle, fully synthetic corrosion protection fluid with excellent yield for use in machinery in the food and beverage processing and packaging industry. Provides a thin, highly efficient molecular film on components. Main application: Protection for machinery of all kind during shipping and distribution. For metal parts and tools after galvanic conditioning and cleaning processes. For gearbox housings, gear-wheels, couplings, driveshafts, measuring tools, precision tools, etc. As a temporary protection of sub-assemblies.	CASSIDA FLUID CP	4.9*	3.8*
	CASSIDA FLUID CP SPRAY	4.9**	3.8**

* including solvent

** without propellant, including solvent



CASSIDA GREASES

CASSIDA greases are fully based on synthetics and fulfil the same technical requirements as non-food grade lubricants – i.e. to reduce friction and wear or to protect against corrosion. For the food and beverage industry they support maximum food safety. With our range of CASSIDA greases, we cover all of the applications where there is potential for incidental food contact – as found in various branches of the food and beverage industry.

Included in the CASSIDA range of greases are direct contact lubricants which are both NSF H1 and also 3H registered for safety. This means the lubricants are acceptable for incidental contact with food as well as for use as release agents on hard surfaces which are in direct contact with meat and poultry.

Our CASSIDA GREASE EPS range of lubricants has been developed to provide high performance and wear protection for machinery operating at high pressures and loads.

At slower speeds, high pressures and high loads, a heavy-duty grease is required which helps protect machinery. We provide CASSIDA greases that are specifically designed for heavy-loaded and shock-loaded applications.

Other product series include highly water-resistant greases, assembly pastes and low-temperature greases.

Overview of CASSIDA Greases

Regular load	CASSIDA GREASE RLS 000 00 0 1 2	22
Extreme pressure	CASSIDA GREASE EPS 00 1 2	22
Heavy duty	CASSIDA GREASE HDS 00 2	22
Specialties	CASSIDA GREASE GTS 2 GTS SPRAY	23
	CASSIDA GREASE GTX 2 0	23
	CASSIDA GREASE HTS 2	23
	CASSIDA GREASE LTS 1	23
	CASSIDA GREASE P 1	24
	CASSIDA GREASE CLEAR 2	24
	CASSIDA GREASE MD 2	24
	CASSIDA GREASE FC 1 2	24
	CASSIDA PASTE AP	25

REGULAR LOAD

CASSIDA GREASE RLS 00 | 00 | 0 | 1 | 2

    		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Main application: For use on bearings, bushings and linkages on food manufacturing equipment. CASSIDA GREASE RLS 0 and 00 are particularly recommended for centralised lube systems or other similar systems where an NLGI 2 grease may be difficult to dispense.	CASSIDA GREASE RLS 000	100	13	<000
	CASSIDA GREASE RLS 00	100	13	00
	CASSIDA GREASE RLS 0	150	18	0
	CASSIDA GREASE RLS 1	150	18	1
	CASSIDA GREASE RLS 2	150	18	2

EXTREME PRESSURE

CASSIDA GREASE EPS 00 | 1 | 2

     		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
High-performance, extreme-pressure aluminium complex greases with synthetic base fluid.	CASSIDA GREASE EPS 00	220	25	00
Main application: For use on bearings, bushings and linkages on food manufacturing equipment, particularly where high pressure and loads, high temperatures and water spray occur. CASSIDA GREASE EPS 00 is especially recommended for centralised lube sytems and enclosed gears.	CASSIDA GREASE EPS 1	220	25	1
	CASSIDA GREASE EPS 2	220	25	2

HEAVY DUTY

CASSIDA GREASE HDS 00 | 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
High-performance, high-viscosity heavy-duty aluminium complex greases with synthetic base fluid.	CASSIDA GREASE HDS 00	800	68	00
Main application: For use on bearings, bushings and linkages on food manufacturing equipment, particularly where slower speeds, high pressure and loads, high temperatures and water spray are present. CASSIDA GREASE HDS 00 is recommended for open gears and centralised lube systems.	CASSIDA GREASE HDS 2	800	68	2

SPECIALTIES

CASSIDA GREASE GTS 2 | GTS SPRAY

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Speciality extreme-pressure calcium sulphonate complex greases with synthetic base fluid. Excellent extreme pressure, anti-wear and corrosion prevention properties.	CASSIDA GREASE GTS 2	85	12.8	2
	CASSIDA GREASE GTS SPRAY	85*	12.8*	2*
Main application: For use on bearings of electric motors, pumps, conveyors, mixers, gear units and medium- to high-speed bearings operating up to 170°C.				

*without propellant

CASSIDA GREASE GTX 0 | 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
High-performance, extreme-pressure calcium sulphonate complex grease with synthetic base fluid. Excellent extreme pressure, anti-wear and corrosion prevention properties.	CASSIDA GREASE GTX 0	460	44	0
	CASSIDA GREASE GTX 2	460	44	2
Main application: For use on bearings of electric motors, pumps, conveyors, mixers, gear units and bearings. Heavy-loaded and shock-loaded applications with low- to medium-speed bearings operating up to 180°C, such as machines used to process pet food and animal feed.				

CASSIDA GREASE HTS 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Inorganically thickened grease with synthetic base fluid.	CASSIDA GREASE HTS 2	400	40	2
Main application: Suitable for applications on food manufacturing equipment where high temperatures (peak 220°C) may be experienced.				

CASSIDA GREASE LTS 1

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
High-performance aluminium complex grease with low-viscosity synthetic base fluid.	CASSIDA GREASE LTS 1	20	4.5	1
Main application: For use on bearings, bushing and linkages on food manufacturing equipment. Particularly recommended for use in cold storage situations with temperatures down to -50°C.				

SPECIALTIES

CASSIDA GREASE P 1

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Specialty high-performance grease. Inorganically thickened with fully synthetic base fluids. Main application: Lubrication of heavily loaded plain or roller bearings, joints, linkages and slides up to 150°C (peak 180°C) and protection of seals and guides.	CASSIDA GREASE P 1	770	65	1

CASSIDA GREASE CLEAR 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Inorganically thickened clear grease with synthetic base fluid and highly micronised white solid lubricant (PTFE). Main application: Lubrication of plain or roller bearings, joints, linkages and slides. Lubrication and protection of seals and guides, operating in food, pharmaceutical and other clean environments.	CASSIDA GREASE CLEAR 2	75	11.5	2

CASSIDA GREASE MD 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
High-performance, silicone-based speciality grease specially developed for the lubrication and sealing of taps, valves and fittings with EPDM seals. Suitable for use with other seal materials normally used in food machinery lubrication systems. Good resistance to hot water, steam and disinfectant solutions. Main application: Taps, flow meters and fittings used for the handling of water, drinks and beer. Seals on autoclaves and sterilisers. Suitable for continuous operation at temperatures up to 180°C and short-term exposure to temperatures not exceeding 250°C.	CASSIDA GREASE MD 2	650	250	2–3

CASSIDA GREASE FC 1 | 2

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
Fully synthetic, high-performance, high-temperature greases for the filled-for-life lubrication of bearings and seals used in extreme temperatures and/or aggressive environments. Effective anti-corrosion prevention characteristics. Excellent elastomer compatibility. Suitable for applications where components might be exposed to reactive chemicals and gases; chemically inert or non-reactive in the event of contact with strong acids, alkalis and halogens. Excellent elastomer compatibility. Main application: Plain/roller bearing elements, joints, microbearings, precision tools, linkages and mechanical seals. Suitable for continuous operation at temperatures up to 260°C and short-term exposure to temperatures not exceeding 300°C.	CASSIDA GREASE FC 1	510	47	1
	CASSIDA GREASE FC 2	510	47	2

SPECIALTIES**CASSIDA PASTE AP**

Synthetic assembly/disassembly paste for food and beverage processing equipment.

CASSIDA PASTE AP

Typical Viscosity
at 40°C [mm²/s]

85

Typical Viscosity
at 100°C [mm²/s]

12

NLGI-Grade

1

Main application: Assembly and disassembly paste with an extremely large range of applications, for example, screw paste for high-alloy steels to optimise the tightening torque, mounting and pressing of bearings, and disks, wheels and bolts, for the lubrication of adjusting mechanisms as well as for drifting, bending, punching, pressing and stamping. Protects from fretting corrosion. Protects from seizing – easy disassembling.





FM RANGE

The FM Series of the CASSIDA product portfolio are white-oil-based or semi-synthetic-based food grade lubricating fluids and greases. They are used in similar applications as the CASSIDA series. Especially in cases of total loss lubrication FM lubricants are preferred – as found for example in the animal feed and beverage industry.

Overview of the FM Range

Hydraulic oils	FM HYDRAULIC OIL 32 46 68 100	28
Gear oils	FM GEAR OIL TLS 150	28
	FM GEAR OIL 220 460	28
Specialties	FM FLUID DC 20 68	29
	FM FLUID RC 150 220	29
	FM FLUSHING FLUID 32	29
	FM HEAT TRANSFER FLUID 32	29
	FM SUGAR DISSOLVING FLUID	30
	FM COOLANT	30
Greases	FM GREASE DC 2 FM GREASE DC Spray	30
	FM GREASE HD 1.5 2	31
Grease Gun	HD GREASE GUN CASSIDA	31

HYDRAULIC OILS

FM HYDRAULIC OIL 32 | 46 | 68 | 100

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Hydraulic fluids for food and beverage processing equipment. Main application: Hydraulic systems, hydrostatic gears and control systems, plain and anti-friction bearings on food handling and processing equipment.	FM HYDRAULIC OIL 32	32	5.7
	FM HYDRAULIC OIL 46	46	7
	FM HYDRAULIC OIL 68	68	9
	FM HYDRAULIC OIL 100	100	11.5

GEAR OILS

FM GEAR OIL TLS 150

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Speciality anti-wear gear lubricant specifically designed for use in the food and beverage canning industry. Provides good lubrication even when operating in locations where it is subject to contamination with water, juice and food. Holds these contaminants in suspension, thus protecting metal surfaces from wear and corrosion. Only to be used for total loss systems. Main application: Suitable for can seamer gearboxes on food handling and processing equipment. May also be used for general machine lubrication.	FM GEAR OIL TLS 150	150	15

FM GEAR OIL 220 | 460

		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Gear lubricants for food and beverage processing equipment.	FM GEAR OIL 220	220	20
	FM GEAR OIL 460	460	30
Main application: Suitable for gearboxes on food handling and processing equipment. May also be used for general machine lubrication or as a flushing fluid.			

SPECIALTIES

FM FLUID DC 20 | 68

 		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
White mineral oil, multipurpose, low-volatility fluids suitable for both direct and incidental food contact applications. Can handle a wide range of applications.	FM FLUID DC 20	22	4
	FM FLUID DC 68	68	9.5
Main application: Absorber oils for edible oil extraction plant solvent recovery systems. Release agent used on grills, loaf pans, cutters, boning benches, chopping blocks or other hard surfaces to help prevent food from adhering during processing. Forming oils for the manufacture of both two- and three-piece cans for food and beverages.			

FM FLUID RC 150 | 220

   		Typical Viscosity at 20°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Special high-performance fluids specially developed for use in rotary cooking equipment in food and beverage canning plants. Provide good lubrication even when operating in locations where they are subject to contamination with water.	FM FLUID RC 150	150	15.5
	FM FLUID RC 220	220	20.4
Main application: For use in the centralised systems of rotary cookers and sterilisers which lubricate the can exchange valves and other moving components.			

FM FLUSHING FLUID 32

 		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Specialty cleaning and flushing concentrate for heat transfer systems operating in the food and beverage industry.	FM FLUSHING FLUID 32	31	5.2
Main application: FM FLUSHING FLUID 32 is recommended for use in closed heat transfer systems which suffer from carbon formation due to thermal and oxidative degradation.			

FM HEAT TRANSFER FLUID 32

 		Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
High-performance heat transfer fluid. Can handle a wide range of application temperatures and has excellent thermal and oxidative stability to minimise cracking and promote long service life.	FM HEAT TRANSFER FLUID 32	35	6
Main application: For closed-circuit and pressureless heat transfer systems with a bulk oil temperature range of approximately -10°C to max. +325°C where the surface temperature of the heating elements (oil film temperature) should not exceed +340°C.			

SPECIALTIES

FM SUGAR DISSOLVING FLUID

			Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]
Emulsifiable oil-based cleaning and rust protecting concentrate. Designed to be used in mixtures with potable water on machine surfaces in the food and sugar manufacturing industry.	FM SUGAR DISSOLVING FLUID		34	6
Main application: For cleaning and flushing sugar or sugar-based deposits from food and beverage manufacturing equipment. For freeing moving parts or screws and bolts that are stuck with sugar deposits. For lubrication of lightly loaded bearings and slideways, especially where sugar deposits are likely to form.				

FM COOLANT

			Typical Viscosity at 20°C [mm²/s]	Typical Viscosity at 40°C [mm²/s]
Propylene-glycol-based fluid containing anti-corrosion additives, for use in closed systems to chill, cool or heat food or beverages in food industry applications. Designed to be used in mixtures with potable water. Suitable for operation in the range of -45°C to 120°C.	FM COOLANT		47	17
Main application: Secondary cooling, or heating, in the food and beverage industry. For use in closed cooling systems, including those where there is potential for incidental food contact. Not to be used for applications where there is direct contact between food and the coolant.				

GREASES

FM GREASE DC 2 | FM GREASE DC SPRAY

			Typical Viscosity at 40°C [mm²/s]	Typical Viscosity at 100°C [mm²/s]	NLGI-Grade
White mineral oil grease, multipurpose, suitable for both direct and incidental food contact applications. Can handle a wide range of applications.	FM GREASE DC 2		100	11	2
	FM GREASE DC 2 SPRAY		100	11	00*
Main application: For use as a direct food contact release agent for grills, loaf pans, cutters, boning benches, chopping blocks and other hard surfaces to help prevent food from adhering during processing. Lubrication and protection of seals, guides, bearings and blades operating in food, pharmaceutical and other clean environments where direct food contact is inevitable.					

*without propellant

GREASES

FM GREASE HD 1.5 | 2



Modified aluminium complex heavy-duty, extreme-pressure greases.

Main application: For use on slow to medium-speed plain and rolling element bearings in heavy-loaded and shock-loaded applications. Recommended for use in machinery requiring frequent changes of the grease charge or with a high product consumption rate, such as machines used to process pet food and animal feed.

FM GREASE HD 1.5

Typical Viscosity
at 40°C [mm²/s]

550

Typical Viscosity
at 100°C [mm²/s]

38

NLGI-Grade

1.5

FM GREASE HD 2

550

38

2

GREASE GUN

HD GREASE GUN CASSIDA

The two-handed gun guarantees clean and safe lubrication of machines in the food industry. It delivers a large volume of lubricant per stroke. Particularly simple handling is achieved with the use of matching cartridges with a screw cap.

The gun is pre-lubricated with food grade grease, which ensures the highest level of food safety.

- Operation pressure up to 400 bar / 5,800 psi
- Ergonomic grips for optimum operation
- Twin-lock system protects the piston from wear and avoids grease escaping the piston
- Protecting cap to prevent contamination at hose end
- Flexible armoured hose for optimum accessibility of lubricating points
- Output: 1.5 cm³/stroke
- Available with 500 g SR cartridges
- Complete discharge of the SR cartridge by special piston shape
- Colour coding of cartridges avoids mixing up different lubricants



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We therefore recommend that you consult a FUCHS LUBRITECH application engineer to discuss application conditions and the performance criteria of the products before the product is used. It is the responsibility of the user to test the functional suitability of the product and to use it with the corresponding care.

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Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS engineers will be glad to advise on products for the application in question and also on our full range of lubricants.



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