

INTEGRATED FLUID POWER SOLUTIONS

THE WORLD OF GATES



GATES: YOUR ONE-STOP-SHOP

THE WORLD OF GATES



Every day, design engineers, maintenance people, equipment manufacturers and their customers around the world rely on Gates and our high quality line of hydraulics products to meet their fluid power needs and to keep them running smoothly, safely and reliably. Thanks to the Gates Integrated System Approach, all your fluid power products work together seamlessly.

With our global leadership position in hose assemblies, we have expanded our capabilities and tubing technology in port-to-port hydraulics:

- › **Rigid Tube Assemblies**
- › **Robotic Tube Bending & Welding**
- › **Integrated Hose/Tube combinations**
- › **Tube Fittings, End Forming & Adaptors**
- › **VEVA (Value Engineering Value Analysis) & Services**

And there are more opportunities to come!

Wherever you are, the state-of-the-art technology in our production locations and assembly centres allow us to support OEM's around the world with customised just-in-time solutions to meet their tight schedules, volumes and high expectations. We also offer replacement market customers the right equipment to manufacture factory-quality product assembly on their own premises and be the nearby go-to distributor with the right solution to every breakdown.

All Gates tube line, tubes fittings, hose and adaptor products are designed and manufactured to provide innovative, reliable port-to-port solutions in an almost endless range of heavy equipment applications.

Gates helps you to save time, space and money - without compromising on quality or safety

But we do not stop there. Based on our wide experience in hydraulics, hose development and leak-free hose/coupling interfaces, we have been expanding our product and market knowledge in other applications and systems over the last decades and we can now offer you Gates premium performance in industrial hoses, engine hoses and harsh roughneck oilfield applications alike.

In this catalogue, you will find more details about our complete offering and how our superior products can help you to:

- 1 Find the perfect solution**
- 2 Have peace of mind**
- 3 Save money, time and effort**
- 4 Be sure the future is taken care of**

The Gates service attitude is all about you: we help you keep costs down, make things easy to use, avoid downtime and loss of production, speed up installation, maintenance and repair – that's why people choose Gates.



GET WORKING BETTER WITH THE GATES INTEGRATED SYSTEM APPROACH

THE WORLD OF GATES



*Self-assembly the Gates way
saves you time and effort*

Only a team where everyone plays their part and works together seamlessly can get a complex job done. Our hose and coupling components work together in just the same way, making it extremely simple to create high-quality hydraulic hose assemblies quickly for the equipment you're using.

This kind of easy self-assembly is based on the Gates Integrated System approach. All our hydraulic products are specifically designed, tested and validated together to produce pre-tested and validated hose/coupling combinations that perform beyond any international standard.

This unique approach is how Gates ensures full compliance with the European Machinery Directive and the reason why Gates is known as the world's most trusted hydraulic hose assembly manufacturer. That is why Gates is your total fluid power solution.

THE GATES INTEGRATED SYSTEM APPROACH, HOW DOES IT WORK AND WHAT'S IN IT FOR YOU?



Superior products, manufactured to the stringent tolerances

Our global hoses and couplings not only boast a wide array of advanced-design features but are also manufactured to rigorous tolerances, making sure that they perform to such a high standard they'll work safely and properly for longer.
Benefit from less downtime.



Advanced self-assembly machines and dies, rigorously validated

Our self-assembly machines make it quick and easy for you to produce the hose and coupling combinations you need. Gates dies have a special proprietary profile design that creates an almost perfectly cylindrical and durable crimp. We test and validate them at our factory so you can be sure they'll work time after time in your workshop.
Increase the efficiency in your workshops.



CRIMP INFORMATION - INFORMACION DE BERTISSAGE, PRESIASSAGE, INFORMACION PRESIATURA - INFORMACION PRENSADO CRIMP INFORMATE									
									24 Jan 11
Hose / Tuyau / Schlauch / Tubo / Mangera / Slang									EFG5K
Coupling / Embudo / Armador / Racord / Conexión / Koppeling									GS
Machine / Machine / Maschine / Macchina / Máquina / Machine									MCX30
Crimp Style / Type de Bertissage / Art de Pressage / Tipo de Prensado / Stijl Krimp									PALLET
Label / Label / Label / Label / Label / Label / Label / Label / Label / Label									20/09/2014
Fecha del último índice: Última Utillaje									
Ref.	Size	DN	MM	MM	MM	MM	MM	MM	MM
EFG5K	3/8	06	10	0	33	0.30	-0.0 (See Note)	24.65	25.15
EFG5K	1/2	08	12	0	33	2.75	-0.0 (See Note)	27.2	27.7
HEFG5K	5/8	10	16	0	35	0.55	-0.0 (See Note)	33.3	33.8
HEFG5K	3/4	12	20	0	35	4.25	-0.0 (See Note)	37.35	37.85
HEFG5K	1	16	25	0	37	1.10	-0.0 (See Note)	41.2	41.7
MEFG5K	1.1/4	30	32	0	310	0.40	-0.0 (See Note)	55.4	55.9

Optimal crimp data, derived from meticulous testing

Each Gates crimper comes with validated crimp settings data for the complete global hose and coupling product range. So there's no need for time consuming trial-and-error to find the ideal settings! You can even register to constantly stay up to date with the latest developments via mail or internet.
Set crimpers with the greatest of ease.



Factory-quality performance above and beyond international standards



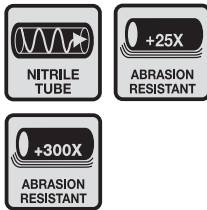
Put all this together and you get the quality, performance and reliability that Gates is known for. When Gates Global hose and couplings are crimped in accordance with the Gates Integrated System, they yield factory-quality assemblies fully compliant to European Directives and legislation exceeding all international standards. Gates global wire-braid hose and MegaCrimp® coupling assemblies are developed to withstand more than 3 times international standards. Gates spiral wire hose and GlobalSpiral coupling assemblies will work beyond a million impulse cycles.
Trust Gates' exceptional performance and reliability.

**GATES: EXCELLENCE, INNOVATION
AND RELIABILITY BUILT IN**

THE WORLD OF GATES



*Whether you need components or complete assemblies,
the Gates option gives you a wide range of important benefits:*



LONG-LASTING HOSES – THE BEST CHOICE FOR TOUGH CONDITIONS

Gates global hoses are designed for the harshest fluids and most abrasive environments. On the inside, the full nitrile inner tube resists even the most aggressive oils. On the outside, the tough standard hose covers give you unparalleled abrasion resistance. For the harshest conditions you can choose XtraTuff™ or MegaTuff™ covers to give you respectively 25x and 300x greater abrasion resistance.



SELECTION AND ASSEMBLY MADE EASY

No tooling needed to fit the coupling to the hose with the Gates global couplings and hoses, you can simply do it by hand. All our hoses and couplings are designed together – each with the other in mind. The Gates MegaCrimp® couplings and wire/textile-braid hoses are designed so that one ferrule fits the entire range for each respective construction. Our hoses and couplings carry logical part numbers to make identification simple and fast.



EASIER ROUTING WITH MORE COMPACT ASSEMBLIES

Gates global hoses are the ideal choice for tight, tortuous applications as they're designed to deliver their superior performance at incredibly tight bend radii and are manufactured to need minimal bending force.



HIGH- AND LOW-TEMPERATURE HOSES – DURABILITY AND FLEXIBILITY EVEN AT EXTREME TEMPERATURES

The Gates PolarFlex® programme uses advanced compounding technology for its hose tube and cover to bring the advantages of the MegaSys® and G2 hose ranges to arctic environments, thus ensuring extended service life, high abrasion resistance and flexibility at extremely low temperatures.

To meet the demands of modern compact engines Gates has developed a range of hoses that are at home in high and even extremely high-temperature environments, without compromising flexibility, performance or service life.

These high- and low-temperature hoses have been validated with the Gates MegaCrimp® and GlobalSpiral couplings.

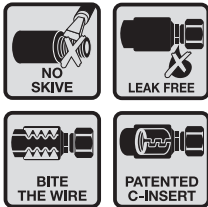
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REDUCED DOWNTIME WITH GREASE-FREE SELF-ASSEMBLY MACHINES

Lower your maintenance costs by running grease-free with Gates self-assembly machinery. Our crimpers come with a unique, self-lubricating slide bearing system, which eliminates metal-to-metal abrasion between master dies and the crimper head and cuts friction by 20% in addition. This also means your working environment is cleaner which means you can benefit from reduced downtime too, bringing the total cost of ownership of Gates crimpers to a record low.



CLEANER, LEAK-FREE ASSEMBLIES THAT LAST LONGER

All of our hydraulic hose/coupling solutions are no-skive, so your assemblies don't risk contamination you can get with their skived counterparts. Additional benefits to no-skive assemblies are that they resist moisture better than skived ones and that easy assembly saves you time and money. You get the most secure, leak-free assembly money can buy because our MegaCrimp®'s advanced tooth profile bites the wire without compressing the hose's outer cover. In addition, the revolutionary patented MegaCrimp® c-insert makes sure exactly the right crimping force is applied giving you an evenly distributed cylindrical crimp. You get better flow, improved pressure and temperature resistance and, overall, a longer assembly lifetime.



QUALITY ABOVE AND BEYOND ANY GLOBAL STANDARD

Gates global wire-braid hose and MegaCrimp® coupling assemblies are able to withstand impulse testing to more than 3 times international standards. Gates global spiral wire hose and GlobalSpiral coupling assemblies will work safely beyond a million cycles. All of this means you get reliability built in as standard.

Gates solutions
keep you running
smoothly





CARING FOR THE ENVIRONMENT – SPECIAL NOTE

Gates strives to protect the environment in a variety of ways:

- › We encourage the use of alternative lubricants like synthetic and biodegradable oils with our hoses specially designed with nitrile inner tubes
- › Our grease-free self-assembly machinery helps create a clean working environment
- › We help eliminate the risk of system contamination no-skive hose/coupling solutions
- › Leak-free assemblies exclude environmental contamination
- › Our new generation of low-permeation fuel hoses cut fuel-vapour losses
- › The newly developed patented pressure, suction and return lines for Diesel Exhaust Fluid support SCR systems
- › All our products are REACH/RoHs/WEEE compliant

SAFETY FIRST – USE GATES TO HELP YOU

THE WORLD OF GATES

When working with hydraulic equipment, it's important to be aware of the potential dangers and never to underestimate the power of a hydraulic hose assembly under pressure. Having the world's best hoses and couplings is not enough to ensure the safety of your hose assemblies. Poor assembly, a bad installation or an incorrect method of storage can compromise performance and even safety.



THE GATES SAFE HYDRAULICS PROGRAMME: THINK SAFETY!

Your safety and that of your workforce, your customer and the environment is always a top priority for us. That's why we offer all our customers the Safe Hydraulics Programme, a safety and preventive maintenance training seminar.

The programme is designed by Gates application engineers and run by experienced and certified trainers. Our seminars can be tailored to match your needs, but most include the following topics:

- › How to work safely and how to reduce your risks and protect the environment
- › The entire safety process: storage, selection, installation and inspection
- › How to avoid material and personal hazards and liability issues
- › Expert information on safety issues affecting hydraulic hose assemblies

The seminar can accommodate people from all industries, backgrounds and levels of hydraulic knowledge. Book your place on a seminar through your authorised Gates distributor or partner.

To find out more please go to our website www.safehydraulicseurope.com or ask for our Safe Hydraulics pocket guide.

IMPORTANT FACTS TO TEST YOUR KNOWLEDGE ... DID YOU KNOW:

- › It's mandatory to mark hoses, showing the day and year of manufacture (ISO 4413:2010)?
- › The lifetime of hose assemblies is limited?
- › A burst hydraulic hose under pressure can result in serious injuries or even death?
- › The assembler can be held responsible for the consequences of a failed hydraulic hose assembly (2006/42/EC – ISO 4413:2010)?
- › You cannot mix and match components of different sources that are not validated nor tested (2006/42/EC – ISO 4413:2010)?
- › The repair of hose assemblies is forbidden by law (2006/42/EC – ISO 4413:2010)?





KEEPING YOU UP TO DATE WITH SAFETY AND LEGISLATION

In Europe the main safety Directive covering hose and machinery products is the European Machinery Directive 2006/42/EC. This provides the regulatory basis for the harmonisation of essential health and safety requirements for machinery at European Union level.

In practical terms, however, the best way to be sure you're complying with the Directive is to comply with the Harmonised European Standards. These standards are tools that help manufacturers and users comply with the Directive by giving you practical guidance on how to meet its requirements. The two most important standards on safety requirements for hydraulic hose assemblies are:

- > ISO 12100:2010 ('Safety of machinery: Basic concepts, general principles for design')
- > ISO 4413:2010 ('Safety of machinery – Safety requirements for fluid power systems and their components – Hydraulics')

The good news is that the Gates Integrated System of hoses, couplings, self-assembly machines and crimp data – used together – ensure you fully comply with this European Machinery Directive.

At Gates, safety is more than a priority - it's part of everything we do



PROTECTING HEALTH – A GATES COMMITMENT TO EVERY CUSTOMER

THE WORLD OF GATES



Gates complies with all the necessary legislation and regulations about the use of chemicals in the manufacturing process and their presence in finished goods. This section sets out our commitments and confirms that we comply fully with the relevant regulations for protecting human health and the environment.

REACH

The first is REACH – a European Community regulation [Regulation (EC) No. 1907/2006] on chemicals and their safe use. It stands for Registration, Evaluation, Authorisation and Restriction of Chemicals and its aim is to improve the protection of human health and the environment.

To control the use of chemicals and some of their possible hazardous effects, the European Commission set up the European Chemicals Agency (ECHA). All substances in our product portfolio that need to will be duly registered in the central ECHA database. And we will keep you properly informed about any changes to our products resulting from REACH and agree on any suitable measures on a case-by-case basis.

Also, as far as Article 33 of REACH is concerned, we would like to tell you the following:

All Gates products included in this catalogue, are free from any SVHC (Substance of Very High Concern).

We continue to exclude fully the use of any potential SVHCs in our products. Please refer to our website for the most up-to-date version of our REACH compliance letter and status:

www.Gates.com/europe/fpreach

ROHS AND WEEE

In addition to the notification information to improve visibility and tracking of hazardous chemicals in finished articles, the European Community has also defined a chemical and material blacklist. Its aim is to ban the use of specific substances or to ban the use of undesirable substances that might be part of a company's products and which have to be disposed of at the end of the product's life. Gates complies strictly with all these regulatory requirements.

The European ban also includes the use or the restricted presence of these chemicals within chemicals/ raw materials being used to manufacture products. The restricted substances with their maximum concentrations allowed are listed in the Annex II of the Directive 2011/65/EU.

For your information the maximum concentration values by weight in homogeneous materials for the restricted chemical substances are listed below:

Lead (Pb): $\leq 0.1\%$	Mercury (Hg): $\leq 0.1\%$	Cadmium (Cd): $\leq 0.01\%$
Hexavalent Chromium: $\leq 0.1\%$		
Polybrominated biphenyls (PBB) - flame retardant: $\leq 0.1\%$		
Polybrominated diphenyl ethers (PBDE) - flame retardant: $\leq 0.1\%$		

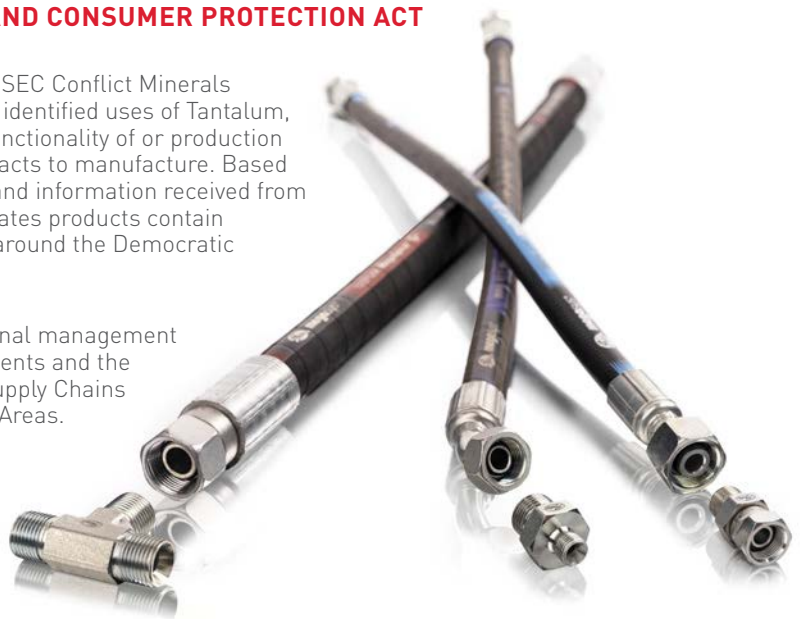
To help our customers comply with the Directive Gates declares that:

1. Gates itself does not knowingly or intentionally add any of the listed substances into any products it manufactures.
2. Gates, relying on signed declarations provided by its suppliers, verifies that the combination of chemicals/ raw materials used to manufacture its products shall not result in a Gates product that contains any of the listed substances in amounts that violate the above listed Directives.

DODD - FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT TITLE XV, SECTION 1502

A formal product assessment concluded that the SEC Conflict Minerals rule does not apply to Gates because there are no identified uses of Tantalum, Tungsten, Tin or Gold that are necessary to the functionality of or production of the products that Gates manufactures or contracts to manufacture. Based on purchasing policy, supplier selection process and information received from our major suppliers, we have no indication that Gates products contain minerals from conflict mines or smelters in and around the Democratic Republic of the Congo.

For ongoing compliance, Gates has initiated internal management programs that are aligned with the SEC requirements and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High Risk Areas.



A STRONG GLOBAL PARTNER ... YET ALWAYS AVAILABLE TO YOU

THE WORLD OF GATES

From our modest beginnings in 1911 we have been powering progress and have grown into one of the world's largest manufacturers of original equipment and aftermarket industrial and automotive belts, hoses and hydraulic products, plus a host of related products.



We are present in all the world's major markets: we have manufacturing and sales operations in Europe, North America, Asia, Australia, South America and the Middle East. We use this global presence to deliver an unmatched range of products, services and support locally to you through our vast network of distributors.

When you buy Gates products, you get the best value for your money. The combination of engineering excellence with manufacturing expertise makes sure you get the best operational life and return on investment from the Gates equipment and components you use. Part of this service is to make the right information available at the right time, quickly and accurately. Thanks to Gates' presence on the web, you have all the information you need, right at your fingertips.

The Gates corporate website offers customers solutions to specific problems, and those are often industry or market specific. Consequently, Gates has broadly divided its corporate website into five industry classifications to match the way customers see their businesses:

- > **Energy, Exploration & Extraction**
- > **Infrastructure & Agriculture**
- > **Transportation**
- > **Automotive**
- > **Processing & Specialty**

Visitors who prefer searching Gates solutions by division and product line in the traditional way can do this by clicking on 'Products & Services'. Visit www.Gates.com/europe and go exploring!

Another convenient online service is the Gates-online e-commerce site www.Gates-online.com. Registered distributors can find the most current product information, check availability in real time and enter and track orders 24 hours/day.

With Gates, you benefit from the strength and expertise of a global manufacturer, the convenience of a nearby distribution network, local product support and useful online tools. A winning combination by any standards.

Fluid Power

- › Ghent: Distribution Centre
- › Moscow: Distribution Centre
- › Erembodegem: Gates European Headquarters
- › Karvina: Coupling Manufacturing
- › Karvina: Hose Assembly Manufacturing
- › Karvina: Manipulated Tube Manufacturing
- › St Neots: Hose Assembly Manufacturing
- › St Neots: Technical Center
- › Esch (EMB): Tube Fitting Manufacturing
- › Euskirchen (EMB): Technical Center
- › Sakarya: Hose Manufacturing

*Unparalleled performance –
in manufacturing, quality,
supply and support*

