MH–DRILLING–EN 06–14

manuli® HYDRAULICS

DRILLING GUIDE

manuli® HYDRAULICS

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DRILLING

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DRILLING

Manuli Drilling Division is a creation based on 80 years' experience in manufacturing and selling for the demanding high pressure hydraulic industry and 40 years' experience in manufacturing and selling floating, sub sea marine hoses and elastomeric pipelines for the oil and gas industry.

Manuli Drilling Division uses global references and experience to drive value into your processes with an extensive API approved product range of large bore hoses for all stages of the oil and gas process.
Working in partnership with customers, Manuli understands your operating environment and engineers solutions that are reliable, durable and meet your exact requirements.

MANULI DRILLING PRODUCT RANGE

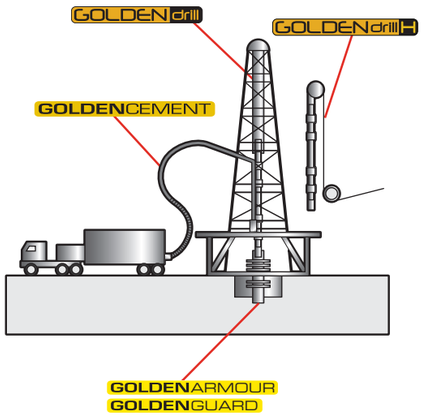
Manuli Drilling Division in-house engineering and API Q1 (ISO TS 29001) approved manufacturing facilities are able to build drilling hose assemblies to exact customer requirements.

The Drilling Division has achieved American Petroleum Industry (API) approvals for an extended range of products developed to match the needs of the offshore and onshore drilling markets, including the Goldendrill product line up to 4" grade D (5000 psi) and 3-1/2" grade E (7500 psi). The new range of steel armoured Blow Out Preventer (BOP) hoses and a range of fire rated products using the Manuli BRICKOAT technology passed the API 16D Flame Test to increase the range offered to this market and further emphasising the Manuli presence in oil and gas markets globally. All butt welded couplings are fabricated by ASME Section IX certified welders.

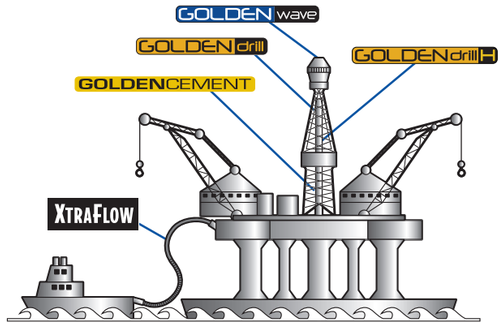
A quality assurance system fully compliant with API Q1 9th edition allows Manuli Hydraulics to exercise full control over all aspects of the hose assembly build and validation processes.

Customers can be provided with hose assembly data books such as API 7K SR3 to provide documentary evidence of performance and quality conformity.

LAND OIL RIG



OFF SHORE OIL RIG



ROTARY AND VIBRATOR HOSE

API 7K

The rotary hose is a flexible hose assembly used to convey high pressure drilling liquids between the top of the mud standpipe and the rotary swivel.

The vibrator hose is a flexible hose assembly used to convey high pressure drilling liquids between two piping systems or between the mud pump discharge outlet and the high pressure mud piping system for the purpose of attenuating noise, vibration, misalignment and/or thermal expansion.

GOLDENdrill

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
API 7K, FSL 1, ISO 14693	Up to 45mtrs	2" to 3" 2" to 4" 2" to 4" (*)	Grade C - 4,000psi Grade D - 5,000psi Grade E - 7,500psi	-20°C to +100°C

(*) 4" Available soon for grade E

CEMENT HOSE

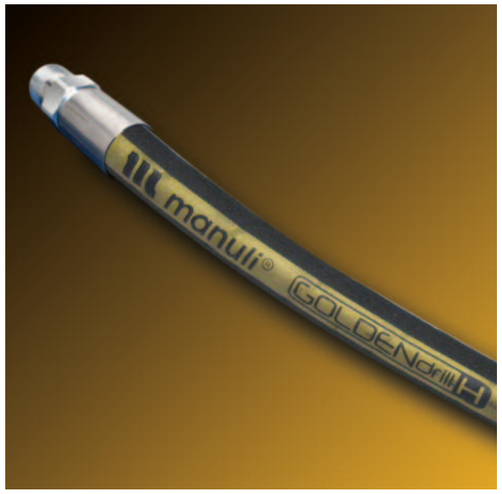
API 7K

Strictly used for the conveyance of cement slurries at high pressure to fix drill casings in place for land and offshore oil rigs.

GOLDENCEMENT

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
API 7K, FSL 0, ISO 14693	Up to 45mtrs	2" (*)	10,000psi	-20°C to +100°C

(*) 2-1/2" and 3 available soon



GREASE INJECTION HOSE

Hydraulic grease injection systems are used in oil rig and industrial plants.

Goldendrill/H is a rubber wire spiral compact hose structure with high flexibility, excellent kink resistance and outstanding performance compared to thermoplastic solutions.

GOLDENdrill H

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
Manuli Standard	Longer than 50 feet 100 feet fixed length	1/2"	15,000psi	-40°C to +100°C

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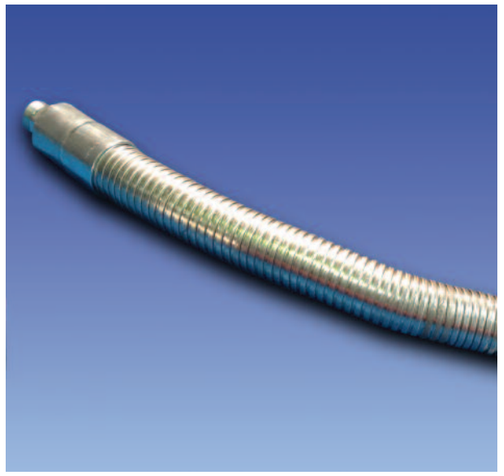
MOTION COMPENSATOR HOSE

This hose is used on offshore rigs for the purpose of compensating the effect of rig movements due to ocean waves in order to keep constant the position of the top drive and the drilling string. The hose is part of an hydraulic system and connects the pressure accumulator to the hydraulic cylinders mounted on the derrick.

GOLDEN wave

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
18752-B SAE J517	Up to 45mtrs	2" to 3"	3,000psi	-40°C to +100°C



BOP HOSES

BOP equipment on drilling rigs is critical equipment to ensure safety in the field. It operates in harsh environment and is required to perform under emergency conditions. Goldenguard and Goldenarmour range of Manuli hoses are designed, tested and certified to deliver same performance as expected of the BOP stack.

The GoldenGuard hose offers two pressure solutions (3,000psi and 5,000psi) and exceeds fire test requirements of API 16D specifications and is DNV type approved. The 3,000psi hose is a solution commonly used on land rig BOP stacks. It is a 'through the cover' partial skive one-piece fitting solution. The 5,000psi hose is supplied with a special fitting protection against heat and fire.

GOLDENGUARD

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
API 16D	45mtrs	3/4" and 1" 3/8" to 2"	3,000psi 5,000psi	-40°C to +121°C

GoldenArmour is a hose covered by a stainless steel strip wound armour guard and offers excellent fire protection compliant to API 16D. It has outstanding resistance to abrasion and protects against mechanical damage.

GOLDENARMOUR

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
API 16D	45mtrs	1/2" to 2"	5,000psi	-40°C to +121°C

BULK MATERIAL TRANSFER HOSE

Working with high flow rates, this hose offers an ideal solution for any hydraulic system in large equipment and suction/ return lines, for offshore and industrial applications of fluid transfer. All hoses are offered with compatible fittings and the integrated design guarantees optimum performance and reliability. Products are lab tested and validated in field.

XTRAFLOW

Standards	Lengths	Sizes	Working Pressure	Temperature Ranges
ISO 18752	up to 45mtrs	2.5" to 4"	500 to 2,000psi	-40°C to +100°C

CONNECTORS AND FITTINGS

API 5L

Manuli offers a wide selection of fitting termination ends for rotary drilling applications.

A range of beveled to weld fittings with integrated inserts and ferrules is available to suit any termination ends. All welds are carried out and controlled by qualified engineers following ASME IX procedures.

Termination ends comply with:
API 16A, API 6A, API 5B, API 5L, API 16BX, API 6B and API 6BX

Fittings designs, qualifications and control methods comply with:
API 7K, API 7L, ASME IX, ASTM and E709

QUICK COUPLINGS AND ACCESSORIES

API 16D

Quick couplings guarantee a fast and safe connection. Manuli offers a range of quick couplings dedicated to BOP hoses, which exceed fire test requirements of API 16D. Couplings are red for easy identification.

MQS-BOP

Standards	Sizes	Working Pressure	Safety Factor	Temperature
ISO 7241B	1/2", 3/4" and 1"	5,000psi	4.1	-20°C to +200°C

MQS-FS

Standards	Sizes	Working Pressure	Safety Factor	Temperature
	5/8" to 1-1/2"	5,000psi	4.1	-30°C to +110°C

A wide range of accessories completes the drilling offer, including lift eyes, safety clamps, Joint x Armour, metric and imperial metal sleeves.

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APPLICATIONS

Manuli Hydraulic hoses are the obvious choice for their reliability and robustness. Working with customers directly to always maximise uptime and lower the total cost of ownership.

ON LAND DRILLING
Land Rig

Drilling rigs are massive structures housing equipment used to drill oil wells or natural gas extraction wells. Drilling rigs can be mobile equipment mounted on trucks, tracks or trailers, or more permanent land based structures.

OFFSHORE DRILLING
Jackup Rig

A jackup rig is a type of mobile platform that consists of a buoyant hull fitted with a number of movable legs, capable of raising its hull over the surface of the sea. The buoyant hull enables transportation of the unit and all attached machinery to a desired location.

OFFSHORE DRILLING
Semi Submersible Shallow Water

Semi submersible rigs make stable platforms for drilling for offshore oil and gas. They can be towed into position by a tugboat and anchored, or moved by and kept in position by their own with dynamic positioning.

OFFSHORE DRILLING
Semi Submersible Deep Water

Platforms are kept in place by the use of dynamic positioning (DP) system. Semi submersibles have advanced capabilities to drill in ultra deep waters.

OFFSHORE DRILLING
Drill Ships

Operates in deep waters to 15,000 feet and unique from other offshore drilling due to the mobility. They propel themselves from location to location.

OFFSHORE DRILLING
Fixed Platforms

This type of oil rig has a fixed structure, ranging from spar, fixed jacketed platform, tension leg platform or gravity structure. Despite the structure the rig always sits at the very top.

GLOBAL PRESENCE

Manuli Hydraulics provides technical competence and commercial support guaranteeing worldwide availability of its products and services. The sales and service network is organised as follows: WHOLESALE facilities (Western/Eastern Europe, Americas, Asia and Oceania); fully owned OEM assembling facilities (Europe and East Asia); OEM ALLIANCE partner facilities (North/South Americas); world-wide DISTRIBUTOR network.

Manuli Drilling Division covers worldwide market thanks to a network of assembly units: China (Manuli Hydraulics Suzhou), UK (Manuli Hydraulics UK), US (Manuli Hydraulics Americas), Singapore (Fluiconnecto by Manuli) and Argentina (Fluiconnecto by Manuli).

DRILLING HOSE SERVICE AND SUPPORT

Dedicated ISO approved assembly sites have been set up in strategic locations around the world to offer a complete hose service and product support. These facilities are fully installed with Manuli's hose assembly and testing equipment. Assemblies are manufactured from stock for a prompt delivery service using heavy duty 2,000 tons crimping technology together with fully trained personnel capable of meeting all international and industry standards. Hoses can be produced up to 4" internal diameter, tested and certified in 45 metre test tanks up to 30,000psi. All assemblies are carefully handled, cleaned, packed using dedicated, purpose built equipment.

MANULI HYDRAULICS INNOVATION CENTRES

Manuli Hydraulic R&D activities are based at the Innovation Centre in Bologna (Italy) which also oversees the R&D centres in France, Poland, China and India. All research centres are equipped with advanced facilities. Main laboratories feature special rooms that allow researchers to simulate the most extreme environmental conditions. Manuli employs a team of highly skilled international engineers to offer integrated solutions to Manuli customers in terms of quality, product range and cost saving.

TECHNICAL ACADEMY

The technical Academy team is committed to maintaining and expanding company technical knowledge about products, applications, technologies, providing excellence in innovation, quality and service. Key aims are to stimulate mutual understanding, dialogue and integration to improve operational processes for all customers and support individual self-development.

QUALITY

Quality is the driving force for the company's activities. Manuli Hydraulics products meet and exceed the highest industry standards, proved by the achievement of many technical approvals issued by third parties and accreditation bodies.

HEALTH AND SAFETY

With a strong commitment to safeguarding the health and safety of its employees, Manuli Hydraulics was the first company in the hydraulic sector to achieve the OHSAS certificate in 2005. The Group has progressively introduced the achievement of this certificate to its manufacturing plants.

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