

INFINITY



EXTREME DURABILITY FOR OEM APPLICATIONS



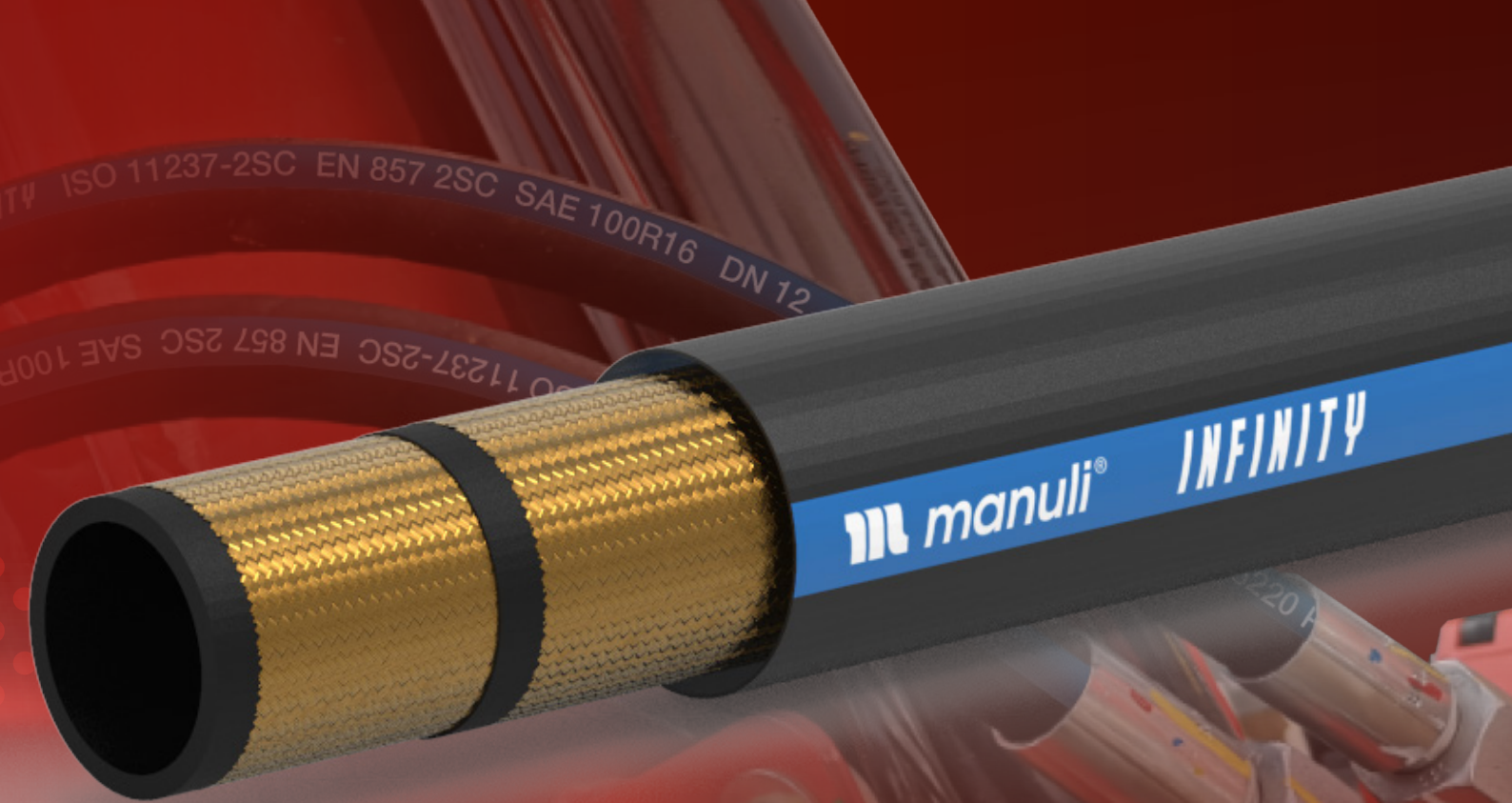
 **manuli**[®]
HYDRAULICS

WORKING WITH INDUSTRY LEADERS TO DEVELOP OUTSTANDING PRODUCTS

Manuli Hydraulics has a long history of working closely with major global OEMs to develop hydraulic connector solutions that deliver outstanding performance, reliability and durability in the most demanding applications. Over the years Manuli's ethos of continual product development and improvement has resulted in the creation of some of the most robust, high-performance hoses on the market.

One of the most common hose types required by OEMs is a 2-wire braid hose which conforms to the SAE 100R16, EN 857 2SC and / or ISO 11237 2SC standards. This versatile hose type can be found in everything from excavators and wheel loaders, to telescopic booms and mining equipment, and its mission profile requirements can be just as varied. Given that these hoses service many of the most demanding and critical systems on the equipment it is a false economy to use anything but the best.



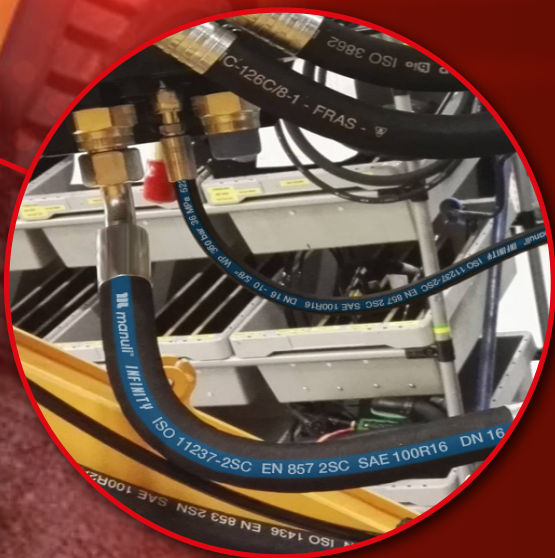


INFINITY – LONG LASTING, RELIABLE SERVICE IN SEVERE OEM APPLICATIONS

Infinity, the new OEM focused hose family from Manuli Hydraulics, has been specifically developed to suit the high performance demands of these equipment types with long-lasting, reliable service. The Infinity hose family not only meets the requirements of the above-mentioned standards, but actually surpasses them by a wide margin, meaning that equipment fitted with Infinity hoses can be run harder for longer.

FEATURES:

- Robust 2WB compact construction for outstanding pressure rating far exceeding the 2SC norm across the entire range
- Available in sizes DN 6 to DN 25 according to traditional hose arrangement methodology
- 121°C maximum continuous temperature resistance, exceeding the specification 2SC
- Long service life in severe applications, due to the unique rubber compounds and high fatigue resistance of the hose structure
- High flexibility, low bend radius and compact dimensions make it an ideal solution for difficult routings
- Wide chemical compatibility with modern Environmentally Safe hydraulic oils (HETG, HEPG, HEES & HEPR), due to Nitrile (NBR) based tube
- High environmental and abrasion resistance
- Fire extinguishing property (MSHA approval)
- Skive and no-skive fitting solutions available - skive solution is advised for maximum reliability



HELPING OEMS MEET THEIR ENVIRONMENTAL RESPONSIBILITY TARGETS



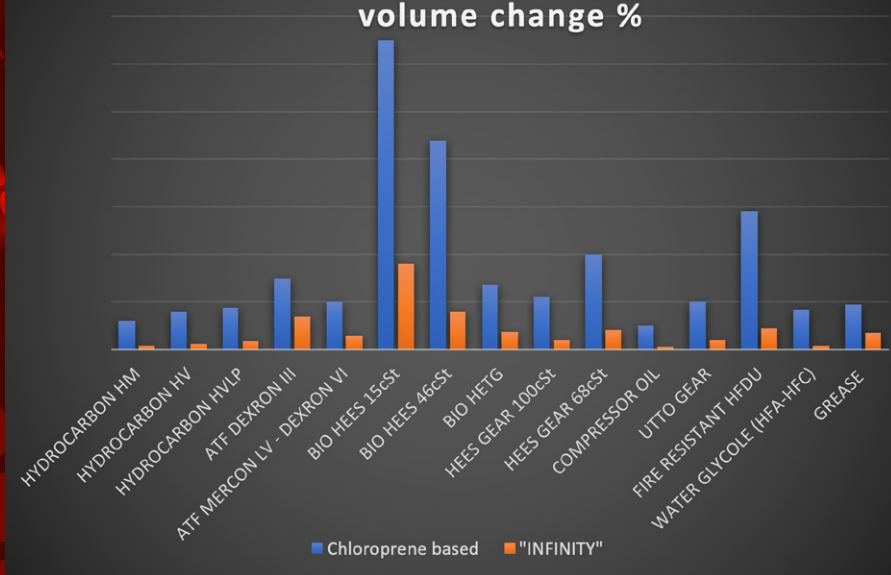
It's no secret that hydraulic systems are widely considered to be harmful to the environment. This is largely due to the hydraulic fluids that are traditionally used, and the fact that many petroleum-based fluids are known to kill marine life and contaminate soil. In recent years the development and use of "Environmentally Safe" hydraulic fluids, which often contain vegetable oils rather than petroleum, has been seen as the best way forward by agencies such as the Environmental Protection Agency (EPA) and similar.

In order to comply with the recommendations and policies put in place by these agencies, OEMs have come under increased pressure to develop hydraulic systems which use Environmentally Safe fluids such as HETG, HEPG, HEES and HEPR. The major difficulty

presented by this switchover comes from the compatibility of the fluids with rubber based components within the hydraulic systems, such as seals and, of course, hydraulic hoses. Unfortunately many Environmentally Safe fluids have extremely aggressive reactions to certain rubber compounds making them totally unsuitable for use with rubber components made from these materials.

Fluid incompatibility can cause the rubber to deteriorate, swell and eventually delaminate, leading to fluid leakage through the hose outer wall. In extreme cases the delaminated rubber can also end up getting washed through the system contaminating the fluid and potentially damaging actuators, valves and other system components.

BEHAVIOUR vs. HYDRAULIC FLUIDS
volume change %



Comparative swelling of Infinity's Nitrile Rubber tube vs. Chloroprene Rubber tube when in contact with various hydraulic fluids

The solution, of course, is to ensure that the components used are made from rubber compounds which are chemically compatible with the fluids. In the case of hydraulic hoses this often means selecting hoses that use a chemically compatible tube compound. Infinity, like the majority of Manuli's hoses, has a Nitrile Rubber (NBR) tube, meaning that it is equally at home being used with Environmentally Safe hydraulic fluids as it is with other, more traditional fluids, meaning that OEMs can rest assured that they can meet their environmental commitments without sacrificing the quality or longevity of their hydraulic hoses.



APPLICATIONS FOCUS

The Infinity hose family is designed specifically as a high-performance hose for use in original equipment. Its durability, high pressure rating, low bend radius and resistance to abrasion, aging and high temperatures make it the go-to hose for OEMs who want to ensure the reliability of their equipment.

Due to its extreme mission profile, Infinity is suitable for use in some of the most varied and demanding applications including:

- Forestry harvester heads and undercarriages
- Aerial platforms and telescopic booms
- Small-medium excavators
- Wheel loaders
- Drilling machines
- Road construction equipment
- Mining roof bolting machines

IMPROVE CONNECTION ROBUSTNESS WITH TUBE-FORMED FITTINGS

As the world's leading supplier of integrated hydraulic connector solutions, Manuli Hydraulics is committed to ensuring that every hose assembly performs to the highest possible standard. We do this by providing dedicated, proven fitting solutions for every single hose in our portfolio.

We further support our OEM partners by offering a new and improved solution for 90° slip-on nut elbow fittings. Available in BSP, ORFS and JIC configurations, these fittings are manufactured from a single piece of high-grade steel tube which has been cold-formed rather than from steel bar which has been machined and welded. Similar to the Manuli KR fittings range, they also come with a forged nut rather than a machined nut, further improving the robustness of the connection.

Advantages of this type of fitting are:

- Minimises the potential for cracks
- Very high burst pressure (> 2,000 bar)
- Slip on nut is captured without the need for a plastic retaining ring
- Fittings are lead-free making them more environmentally friendly
- Tube ovality at the bend is reduced to less than 5% for an improved pressure loss profile
- Higher tightening torques possible as well as over-torque values in line with international standards
- Better quality surface finish for even greater sealing performance



ALL YOUR OEM ASSEMBLY-SHOP NEEDS CATERED FOR

Manuli Hydraulics' dedication to providing integrated solutions also extends to our wide range of hose assembly equipment. Each and every Manuli Hydraulics assembly machine is designed to work flawlessly with our hose and fittings product range.



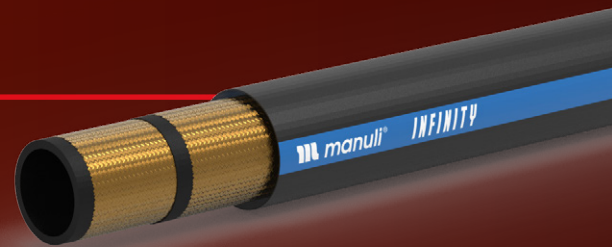
For our OEM assembly partners we offer a wide range of high-volume production machines, designed to make your assembly processes as efficient, reliable and repeatable as possible.

Our machines range from industrial standard decoilers and cutting machines, to some of the most advanced flushing and testing equipment currently available on the market, as well as everything in between.

One specific highlight of our OEM standard crimping machines is our proprietary Safe Crimp System (SCS) software which ensures that every single crimping operation is carried out to the same high standard as the last. This system also automatically sets and adjusts the crimping parameters to match the very latest available crimping data, making sure that you never fall behind.

INFINITY

LONG SERVICE LIFE & HIGH RELIABILITY



TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01164006*	6	- 4	1/4"	11.3	0.44	13.1	0.51	450	6520	1800	26107	45.0	1.77	284	0.19	MF + M00120-04	OPF-04
H01164008*	8	- 5	5/16"	12.9	0.5	14.7	0.57	400	5800	1600	23206	55.0	2.16	319	0.21	MF + M00120-05	OPF-05
H01164010*	10	- 6	3/8"	15.5	0.61	17.1	0.67	400	5800	1600	23206	65.0	2.55	440	0.3	MF + M00120-06	OPF-06
H01164012*	12	- 8	1/2"	18.6	0.73	20.6	0.81	360	5220	1440	20885	80.0	3.14	573	0.39	MF + M00120-08	OPF-08
H01164016*	16	- 10	5/8"	22.9	0.9	24.7	0.97	320	4640	1280	18565	90.0	3.54	736	0.49	MF + M00120-10	OPK-10
H01164019*	19	- 12	3/4"	27.4	1.07	29.3	1.15	320	4640	1280	18565	120.0	4.72	1046	0.7	MF + M00120-12	OPK-12
H01164025*	25	- 16	1"	33.9	1.33	36.1	1.42	225	3263	900	13053	160.0	6.29	1372	0.92	MF + M00130-16	OPK-16

KEY FEATURES

- The high-performance solution for toughest OEM specifications
- Performance far exceeds EN 857-2SC
- Extended service life and resistance to fatigue
- High temperature and environmental resistance
- Enhanced flex impulse resistance with M00120 skive ferrule
- Wide chemical compatibility with hydraulic fluids

APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe OEM applications
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F
121 °C, 250 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel braids

COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

APPLICABLE SPECS

Exceed EN 857 2SC, SAE 100R16, ISO 11237-2SC

TYPE APPROVALS

MSHA; CU-TR; FRAS; B



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