



HYDRAULIC HOSES



## INTRODUCTION TO THE MANULI HOSE RANGE

The Manuli Hydraulics range of hydraulic hoses is a comprehensive selection of products aimed at supporting both general and speciality hydraulics applications in a wide range of environments. From construction and agriculture to mining, forestry and offshore, Manuli hoses are designed to meet and surpass the most demanding operational and environmental requirements, ensuring long life, high performance and reliable service.

Manuli hoses are categorised according to our unique G.H.P. System, which helps users to identify the type of properties required for their specific applications.

The G.H.P. System for hydraulic hoses comprises the following 3 categories:

### GLOBAL STANDARD

Suitable for a wide variety of general hydraulic applications, the Global Standard range of hoses are designed to meet the requirements of various international norms, including ISO, BS, SAE and JIC. Featuring some of Manuli's most successful and widely used product lines, the Global Standard range offers high quality and reliability in most standard hydraulic applications.

### HI-GRADE

These hoses are designed to meet and exceed the international specifications, making them ideal for high performance products and harsh environments. Suited to both OEM and aftermarket maintenance these hoses are split into two sections according to the selection criteria across the range. As such the range comprises hoses which use traditional design methodologies where working pressure varies according to the hose size, and Isobaric hoses, where working pressure is constant across all sizes according to the specifications of ISO 18752.

### PREMIUM

A superior range of products designed for the utmost performance in specific applications, these hoses are designed to surpass expectations and requirements. Featuring some of the most advanced hose design on the market today, these products demonstrate what can be achieved when decades of experience, intelligent design and collaboration with industry leaders are brought seamlessly together. Many of the hoses in this range have advanced properties or are designed to resist specific environmental challenges.



## MANULI COVER TECHNOLOGY

Choosing the correct hydraulic hose for the job requires careful consideration. The widespread use of hydraulics in a variety of industries and environments means that characteristics such as robustness, flexibility, chemical resistance and operating temperature must all be considered.

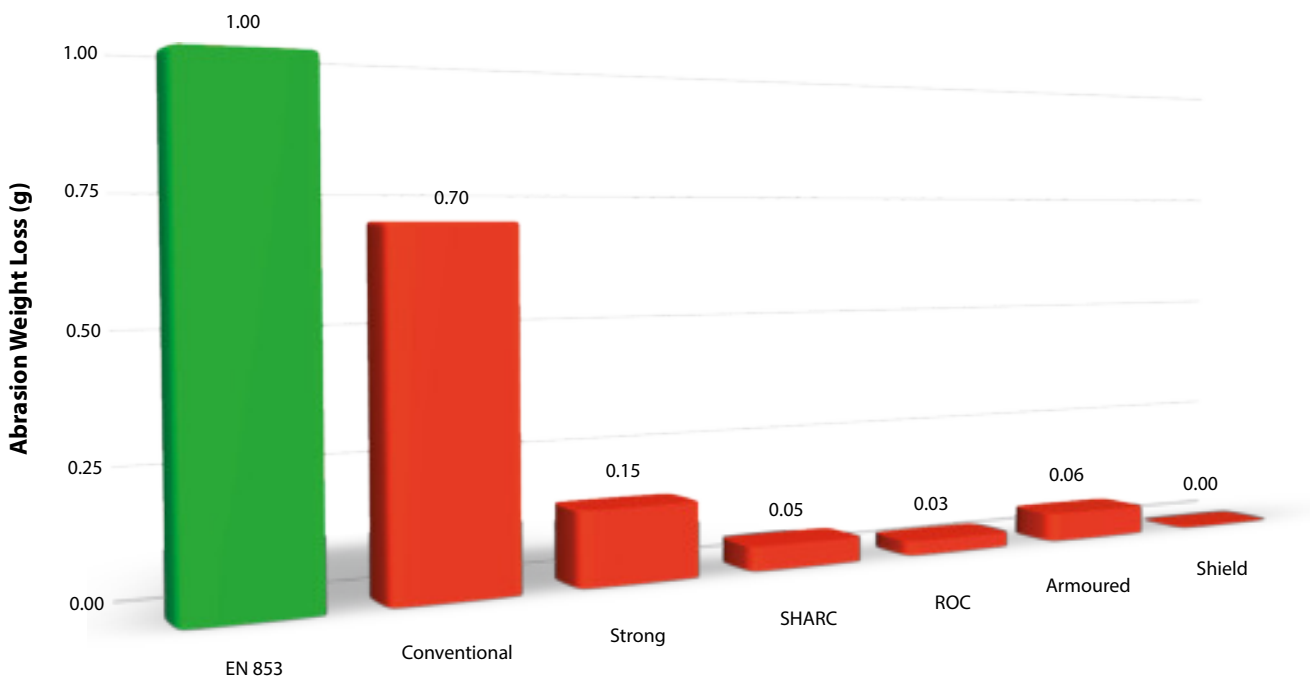
However, most experts agree that the hose cover is the singular most important part of a hose's construction, as wear of the cover due to environmental factors is the primary cause of hose failure. It is therefore critical that the hose cover be as robust and long-lasting as it can be, whilst also meeting the other specific requirements of the system it is included in.

Manuli Hydraulics has developed a range of highly innovative and proprietary cover materials and structures to ensure maximum service life in even the most harsh of environmental conditions. The outstanding performance of our cover materials compared to many of our competitors' products illustrates the fact that, whilst hose selection itself may be complex, making sure you choose the right cover need not be.

Progressively developed over several years and multiple hose families, the Manuli Hydraulics range of hose cover solutions is many and varied. Aside from certain application-specific covers dedicated to unique hose families, Manuli offers 6 fundamental hose cover types:

- **Conventional Cover** - "STD" & "XT" Type
- **Strong Cover** - "SD" & "SC" Type
- **Super High Abrasion Resistant Cover (SHARC)**
- **Rubber Outstanding Cover (ROC.)**
- **Armoured Cover**
- **Shield Cover**

The relative abrasion resistance performance of each of these cover types compared to EN 853 can be assessed from the below graph:



*ISO 6945 Abrasion Test, 5kg vertical force*

In addition to their outstanding performance against abrasion, these covers also boast a high level of resistance to cracking due to ozone exposure. The general rule of thumb is that abrasion resistance and ozone resistance for a cover compound are inversely proportional. So high abrasion resistance leads to poor ozone resistance, and vice versa.

However, in contrast to these typical material limitations, each of the above Manuli cover compounds performs noticeably better than the required test specification, EN ISO 7326.



EN ISO 7326 Ozone Resistance Test

## CONVENTIONAL COVER

As Manuli's base-line cover compound, the Conventional Cover is fully compliant to current international specifications for both abrasion and ozone resistance.

Used primarily on the classic Manuli hose ranges, such as **Tractor**, this cover is robust enough for most general hydraulic applications where excessive abrasion or ozone exposure is not expected.

With a working temperature range of -40°C to +100°C, hoses with the Conventional Cover are prime examples of the perfect balance between reliability, toughness and value.

**"XT" Type** - The Conventional Cover is also used as the basis for the "XT" type covers used on premium hose ranges such as **Equator**. In these cases, the abrasion resistance characteristic remain consistent with the Conventional Cover, but the covers have significantly upgraded ozone resistance and an extended operational temperature range of -55°C to + 135°C.

## STRONG COVER

As the first major performance step change in both abrasion and ozone resistance, the Strong Cover outperforms the Conventional Cover four times over in these areas. It is for this reason that two of Manuli's core product families, **RockMaster** and **GoldenIso** (except AntiWear) use this cover type.

The Strong Cover comes in two types:

**"SD" Type** - Used on the majority of **RockMaster** products, the "SD" cover has a minimum working temperature of -40°C.

**"SC" Type** - Used on the new **Cryoflex** range, the "SC" cover compound has an extreme resistance to low temperatures, allowing it to remain flexible down to -60°C.

## SUPER HIGH ABRASION RESISTANT COVER - SHARC

Developed as a high-protection cover, the SHARC solution provides abrasion and weathering resistance to a standard which makes it ideal for all but the most extreme of applications.

Used on the **GoldenIso AntiWear** and **Xtraflow** hydraulic hose ranges, the SHARC solution ensures long lasting, reliable hose protection in some of the toughest operational environments.

The SHARC solution also has high fire resistance and anti-static properties, making it suitable for use in highly regulated applications such as mining and offshore drilling.

## RUBBER OUTSTANDING COVER - ROC

Specifically designed for extreme abrasion and weathering resistance on heavy duty hoses, the ROC solution easily out-performs all but the toughest and most resilient hose cover solutions.

Used on the newly released **RockMaster/2 Plus Super-AntiWear** hose family and within the new **ForeMaster** range, the ROC solution has already proven itself to be a superb investment for use in the harshest of environmental conditions.

Once again, a high fire and anti-static resistance, coupled with an ability to function at very low temperatures, makes the ROC solution a highly versatile addition to the Manuli Hydraulics cover solutions range.

## ARMOURED COVER

The Armoured Cover is the culmination of years of research and development in both hose structural design and rubber compound formulation. This innovative new cover is made up of two fundamental elements:

- Outer cover made from a proprietary, specially formulated anti-wear rubber compound
- High-tensile textile breaker layer

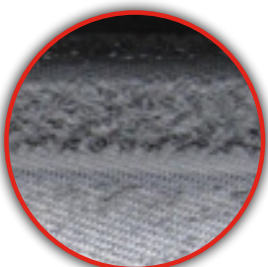
The Armoured Cover is currently used on the higher pressure hose lines within the **ForeMaster** range of hoses.

### Putting it to the test

In standard ISO 6945 abrasion tests a reciprocating 5kg load is used to create wear on the hose cover. The test lasts for 2,000 cycles and measures the mass of material lost. The lower the result, the better the performance.

However, to truly test the performance of the Armoured Cover, Manuli devised a more severe test. A 10kg reciprocating load was used, and the number of cycles required to expose the steel reinforcement was determined. In this case, the higher the result, the better the performance.

**Whilst hoses with the Armoured Cover performed up to 4 times better than the competition in standard ISO 6945 abrasion tests, they lasted as much as 30 times longer before the steel reinforcement was exposed.**



2,000 cycles (10kg)

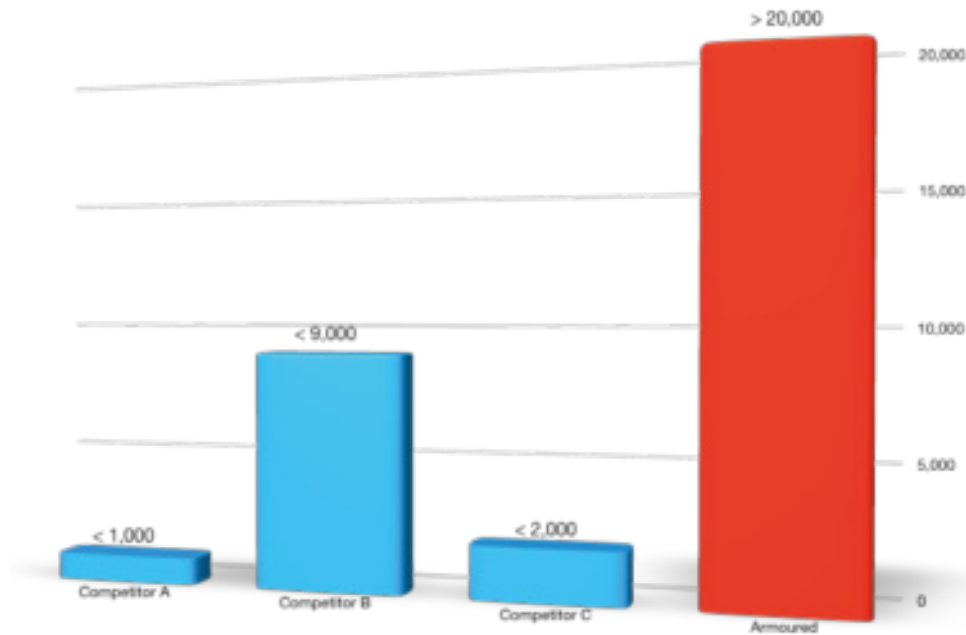


20,000 cycles (10kg)



60,000 cycles (10kg)

### Number of Cycles Before Reinforcement Exposure



*Modified ISO 6945 Abrasion Test, 10kg vertical force*

## SHIELD COVER

The Shield Cover solution is designed for maximum hose to hose abrasion and weathering resistance in none friction-flexing and non-impact applications.

Used throughout the **ShieldMaster** hose family and comprising a robust synthetic rubber layer with an additional ultra-high molecular weight polyethylene (UHMWPE) outer skin, the Shield Cover outperforms all other Manuli cover types in its resistance to both abrasion and ozone.

In fact the abrasion resistance of the Shield Cover is so great that under standard ISO 6945 test conditions it is necessary to perform around 1 million cycles to register a discernible weight loss.

The self-lubricating properties of UHMWPE make the Shield Cover perfect for situations where bunches of hoses rub against each other, and the smooth cover finish provides an easy-to-clean alternative to spring guards.

In addition to its outstanding abrasion and weathering resistance, the Shield Cover also resists cracking down to -46°C and has flame retardant and anti-static properties, making it suitable for use in even the harshest environments.

WHERE ARE THE COVERS USED?

HOSES  
6

	DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
ASTRO/2			STD	STD	STD	STD	STD	STD	STD	STD							
ASTRO/3			STD	STD	STD	STD	STD	STD	STD	STD	STD	STD					
HARVESTER/17			STD	STD	STD	STD											
JACKMASTER/70			STD		STD												
LUBEMASTER			STD		STD												
LYTE-FLEX			STD	STD	STD	STD	STD	STD	STD								
MULTITEX		STD	STD	STD	STD	STD	STD	STD	STD								
PUSHFIT			STD	STD	STD	STD	STD	STD	STD								
SPIRTEX								STD	STD	STD	STD	STD		STD	STD	STD	STD
TRACTOR/1SN			STD	STD	STD	STD											
TRACTOR/2SN			STD	STD	STD	STD											
TWINPOWER 4000					STD	STD											
EQUATOR/1 (BLACK)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT		XT			
EQUATOR/1 (BLUE)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT		XT			
EQUATOR/2 (BLACK)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT					
EQUATOR/2 (BLUE)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT					
DIAMONDSPIR								SD	SD	SD	SD	SD					
ROCKMASTER/12					SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/13			SD			SD		SD	SD	SD	SD	SD					
ROCKMASTER/15								SD	SD	SD	SD	SD					
ROCKMASTER/1SC			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD			SD		
ROCKMASTER/1SN			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD				
ROCKMASTER/2SC		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD		SD	SD		
ROCKMASTER/2SN			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD				
ROCKMASTER/2ST		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SH							SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SP			SD		SD	SD	SD	SD	SD	SD	SD	SD					
SYNERGY			SC		SC	SC	SC	SC	SC	SC							
TWINPOWER 5000				SD	SD	SD											
TWINPOWER/PLUS						SD											
ANACONDA								SC	SC	SC	SC						
CRYOFLEX/21							SC	SC	SC								
CRYOFLEX/35			SC	SC	SC	SC		SC	SC	SC							
CRYOFLEX/42								SC	SC	SC		SC					
DIAMONDSPIR/14															SC		
DIAMONDSPIR/17															SC	SC	
DIAMONDSPIR/21														SC	SC		
DIAMONDSPIR/35														SC	SC		
DIAMONDSPIR/62										SC	SC						
GOLDENISO/38 LONGLIFE								SC	SC	SC	SC	SC					
GOLDENISO/45 LONGLIFE			SC			SD	SD	SD	SD								
GOLDENISO/14 PILOT			SC	SC	SC	SC											
GOLDENISO/21 XTRAFLEX										SC	SC	SC					
GOLDENISO/28 XTRAFLEX					SC	SC	SC	SC	SC	SC	SC	SC					
GOLDENISO/35 XTRAFLEX					SC	SC	SC	SC	SC	SC	SC	SC					
GOLDENISO/42 XTRAFLEX			SC		SC	SC	SC	SC	SC	SC	SC						
GOLDENMINE														SC			
HERCULES/HT										SC	SC	SC					
HYDROPE										SC	SC	SC					
INFINITY			SC	SC	SC	SC	SC	SC	SC								
GOLDENISO/21 ANTIWEAR																	
GOLDENISO/28 ANTIWEAR																	
XTRAFLOW/2WB																	
XTRAFLOW/4WS																	
XTRAFLOW/HT														XT	XT	XT	
ROCKMASTER/2 PLUS SUPER-AW																	
FOREMASTER/21																	
FOREMASTER/28																	
FOREMASTER/35																	
FOREMASTER/42																	
SHIELDMASTER/21																	
SHIELDMASTER/28																	
SHIELDMASTER/35																	
SHIELDMASTER/42																	

CONVENTIONAL STD / XT      STRONG SD / SC      SHARC   
 ROC       ARMURED       SHIELD

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
GLOBAL STANDARD HOSES	TRACTOR/1SN	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	STANDARD HYDRAULIC APPLICATIONS	16
	TRACTOR/2SN	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R-2AT	STANDARD HYDRAULIC APPLICATIONS	17
	LYTE-FLEX	WIRE BRAIDED	MANULI DESIGN (COMPACT WIRE BRAIDED)	HIGH FLEXIBILITY	18
	HARVESTER/17	WIRE BRAIDED	SAE J517-100R17, ISO 11237-R17	LIGHT AND COMPACT STRUCTURE	19
	COVER	WIRE BRAIDED	SAE J517-100 R5	GENERAL PURPOSE HOSE	20
	SPIRTEX	TEXTILE / HELIX WIRE	SAE J517-100 R4	HIGH QUALITY R4 SUCTION HOSE	21
	MULTITEX	TEXTILE	SAE J517-100 R6, EN 854, ISO 4079 R6/1TE	UNIVERSAL LOW PRESSURE SOLUTION	22
	ASTRO/2	TEXTILE	EN 854, ISO 4079-2TE	MEDIUM PRESSURE SOLUTION	23
	ASTRO/3	TEXTILE	EN 854, ISO 4079-3TE	MEDIUM PRESSURE SOLUTION	24

## HI-GRADE ISOBARIC HOSES

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
	GOLDENISO/14 PILOT	WIRE BRAIDED	ISO 18752-C	COMPACTNESS & FLEXIBILITY	26
	GOLDENISO/21 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R17, SAE J517-100R17	EXTREME ABRASION RESISTANCE	27
	GOLDENISO/28 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R19, SAE J517-100R19	EXTREME ABRASION RESISTANCE	28
	GOLDENISO/21 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	29
	GOLDENISO/28 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	30
	GOLDENISO/35 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	31
	GOLDENISO/42 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/C PLUS	EXTREME FLEXIBILITY	32
	GOLDENISO/38 LONGLIFE	WIRE SPIRALLED	ISO 18752-C/D	HIGH FATIGUE RESISTANCE	33
	GOLDENISO/45 LONGLIFE	WIRE SPIRALLED	ISO 18752-D EXT., ISO 11237-R15, SAE J517-100R15	HIGH FATIGUE RESISTANCE	34
	SHIELDMASTER/21	WIRE BRAIDED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	35
	SHIELDMASTER/28	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	36
	SHIELDMASTER/35	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	37
	SHIELDMASTER/42	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	38
	DIAMONDSPIR/14	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	39
	DIAMONDSPIR/17	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING POWER TRANSMISSION	40
	DIAMONDSPIR/21	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	41
	DIAMONDSPIR/35	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	42
	MASTERTEX	TEXTILE	EXCEEDS SAE 100 R6, ISO 4079 R6/1TE	LOW PRESSURE, HIGH TEMPERATURE	43

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
HI-GRADE TRADITIONAL HOSES	ROCKMASTER/1SC	WIRE BRAIDED	EN 857, ISO 11237-1SC	ABRASION, WEATHER & HEAT RESISTANCE	44
	ROCKMASTER/2SC	WIRE BRAIDED	EN 857, ISO 11237-2SC, SAE J517-100R16	ABRASION, WEATHER & HEAT RESISTANCE	45
	ROCKMASTER/1SN	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	ABRASION, WEATHER & HEAT RESISTANCE	46
	ROCKMASTER/2SN	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	ABRASION, WEATHER & HEAT RESISTANCE	47
	ROCKMASTER/2ST	WIRE BRAIDED	EN 853, ISO 1436-2ST	ABRASION, WEATHER & HEAT RESISTANCE	48
	ROCKMASTER/2 PLUS SUPER ANTI-WEAR	WIRE BRAIDED	MANULI DESIGN, EN 853-2SN; SAE J517 TYPE 100R2AT. PERFORMANCE BCS 174; ISO 6805 TYPE 4	ABRASION, WEATHER & HEAT RESISTANCE	49
	ROCKMASTER/4SH	WIRE SPIRALLED	EN 856, ISO 3862-4SH	ABRASION, WEATHER & HEAT RESISTANCE	50
	ROCKMASTER/4SP	WIRE SPIRALLED	EN 856, ISO 3862-4SP	ABRASION, WEATHER & HEAT RESISTANCE	51
	ROCKMASTER/12	WIRE SPIRALLED	EN 856, ISO 3862-R12, SAE J517-100R12	ABRASION, WEATHER & HEAT RESISTANCE	52
	ROCKMASTER/13	WIRE SPIRALLED	EN 856, ISO 3862-R13, SAE J517-100R13	ABRASION, WEATHER & HEAT RESISTANCE	53
	ROCKMASTER/15	WIRE SPIRALLED	ISO 3862-R15, SAE J517-100R15	ABRASION, WEATHER & HEAT RESISTANCE	54
	EQUATOR/1 (BLACK)	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	EXTREME TEMPERATURE	55
	EQUATOR/1 (BLUE)	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	EXTREME TEMPERATURE	56
	EQUATOR/2 (BLACK)	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	EXTREME TEMPERATURE	57
	EQUATOR/2 (BLUE)	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	EXTREME TEMPERATURE	58
	INFINITY	WIRE BRAIDED	EN 857 2SC; ISO 11237-2SC; SAE J517 TYPE 100 R16	HIGH SERVICE LIFE & RELIABILITY	59
	DIAMONDSPIR	WIRE SPIRALLED	MANULI DESIGN, EXCEEDS ISO 3862-R15, SAE J517-100R15	VERY HIGH PRESSURE RATING	60
	SYNERGY	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN EXCEEDS 4SP PERFORMANCE	HIGH PRESSURE HYDRAULICS	61
	XTRAFLOW/2WB	WIRE BRAIDED	EXT. EN 857-2SC, ISO 11237-2SC	HIGH FLOW RATES, LOW PRESSURE DROPS	62
	XTRAFLOW/4WS	WIRE SPIRALLED	MANULI DESIGN	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	63
XTRAFLOW/HT	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	64	
XTRAFLOW/HTEX	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	65	
SPIRTEX/HT	TEXTILE / HELIX WIRE	SAE J517-100 R4	HIGH PERFORMANCE R4 SUCTION AND DELIVERY HOSE	66	
PUSHFIT	TEXTILE	MANULI DESIGN	PUSH-ON HOSE	67	

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
PREMIUM HOSES	FOREMASTER/21	WIRE BRAIDED	ISO 18752-C, EXCEEDS SAE J517 TYPE 100R17 & ISO 11237-R17	OUTSTANDING ABRASION RESISTANCE	69
	FOREMASTER/28	WIRE BRAIDED	ISO 18752-C, EXCEEDS SAE J517 TYPE 100R19 & ISO 11237-R19	OUTSTANDING ABRASION RESISTANCE	70
	FOREMASTER/35	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN, REF. ISO 18752-C	FORESTRY MACHINES, EXTREME ABRASION RESISTANCE	71
	FOREMASTER/42	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN, REF. ISO 18752-C	FORESTRY MACHINES, EXTREME ABRASION RESISTANCE	72
	CRYOFLEX/21	WIRE BRAIDED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	73
	CRYOFLEX/35	WIRE BRAIDED AND SPIRALLED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	74
	CRYOFLEX/42	WIRE SPIRALLED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	75
	ANACONDA	WIRE SPIRALLED	ISO 18752-C, EXCEEDS SAE J517 R15, ISO 3862 R15	HEAVY DUTY, LOW BENDING FORCE	76
	HERCULES/HT	WIRE SPIRALLED	ISO 18752-D EXT., EXCEEDS SAE J517 R15	HEAVY DUTY FOR GIANT EQUIPMENT	77
	HYDROROPE	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN	OUTSTANDING TENSILE STRENGTH	78
	DIAMONDSPIR/62	WIRE SPIRALLED	ISO 18752 GRADE A EXT., EN 16228-6	JET GROUTING & VERY HIGH PRESSURE HYDRAULICS	79
	GOLDENGUARD/3000	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752	EMERGENCY HYDRAULICS	80
	GOLDENGUARD/5000	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752, ISO 3862, SAE J517-100R13	EMERGENCY HYDRAULICS	81
	GOLDENARMOUR	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752, ISO 3862, SAE J517 TYPE 100R13	EMERGENCY HYDRAULICS	82
	SAFEMASTER/2SC	WIRE BRAIDED	EN 857 2SC; SAE 100R16; ISO 11237 2SC/R16	RAILWAYS - EN 45545-2	84
	SAFEMASTER/2SN	WIRE BRAIDED	EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT	RAILWAYS - EN 45545-2	85
	T°REX	WIRE BRAIDED	MANULI DESIGN	EXTREME TEMPERATURE	86
	TWINPOWER 4000	WIRE BRAIDED	DN 10: ISO 11237-R19, SAE J517-R19 DN 12: ISO 11237-2SC, EN 857-2SC, SAE J517-R16	COMPACT, TWINNED HOSE STRUCTURE, EASY INSTALLATIONS FOR OEMS	87
	TWINPOWER 5000	WIRE BRAIDED	EXCEEDS ISO 11237 2SC, EN 857 2SC, SAE J517 TYPE 100R16	COMPACT, TWINNED HOSE STRUCTURE	88
	TWINPOWER/PLUS	WIRE BRAIDED	EN 857, ISO 11237-2SC, SAE J517-100R16	COMPACT, TWINNED HOSE STRUCTURE	89
FIREND	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	FIRE SUPPRESSION SYSTEMS	90	
LUBEMASTER	WIRE BRAIDED	MANULI DESIGN	LUBRICATION LINE	91	
JACKMASTER/70	WIRE BRAIDED	IJ-100, MANULI DESIGN (REF. ISO/CD 16301)	EXTREME STATIC PRESSURE	92	
GOLDENMINE	WIRE SPIRALLED	MT/T 98	VERY HIGH HYDRAULIC POWER TRANSMISSION IN COAL MINES (CHINA)	93	

HOSE SIZE	WORKING PRESSURE (bar)																			
	5	6	8	10	12	16	19	22	25	28	31	35	38	46	51	60	63	76	89	102
dash	-03	-04	-05	-06	-08	-10	-12	-16	-16	-20	-20	-24	-24	-32	-32	-38	-40	-48	-56	-64
ANACONDA							420		420		420		420							
ASTRO/2		75	68	63	58	50	45		40		35									
ASTRO/3		145	130	110	93	80	70		55		45		40		33					
COVER	210	210	157	140	122	105		56		43		35		24						
CRYOFLEX/21						210	210													
CRYOFLEX/35		350		350	350		350		350		350									
CRYOFLEX/42							420		420					420						
DIAMONDSPIR							560		560		525		475		420					
DIAMONDSPIR/14																			140	
DIAMONDSPIR/17																			170	170
DIAMONDSPIR/21																	210	210		
DIAMONDSPIR/35																	350	350		
DIAMONDSPIR/62											621									
EQUATOR/1		225	215	180	160	130	105		88		65		50		40		35			
EQUATOR/2		400	350	330	275	250	215		175		150		100		90					
FIREND		225		180	160		105		88											
FOREMASTER/21		210	210	210	210	210	210		210											
FOREMASTER/28		280	280	280	280	280	280													
FOREMASTER/35							350		350		350									
FOREMASTER/42							420		420					420						
GOLDENARMOUR				345	345	345	345		345		345		345		345					
GOLDENGUARD/3000							207		207											
GOLDENGUARD/5000				345	345	345	345		345		345		345		345					
GOLDENISO/14 PILOT	140	140	140	140	140															
GOLDENISO/21 ANTIWEAR	210	210	210	210	210	210	210		210											
GOLDENISO/28 ANTIWEAR		280	280	280	280	280	280													
GOLDENISO/38 LONGLIFE							380		380		380									
GOLDENISO/45 LONGLIFE		460				460	460		460		450		450							
GOLDENISO/21 XTRAFLEX											210		210		210					
GOLDENISO/28 XTRAFLEX				280	280	280	280		280		280		280		280					
GOLDENISO/35 XTRAFLEX				350	350	350	350		350		350		350		350					
GOLDENISO/42 XTRAFLEX		420		420	420	420	420		420		420		420		420					
GOLDENMINE																		350		
HARVESTER/17		210	210	210	210															
HERCULES/HT											420		420		420					
HYDROROPE											420		420							
INFINITY		450	400	400	360	320	320		225											
JACKMASTER/70		700		700																
LUBEMASTER		210		210																
LYTE-FLEX		350	297	280	245	210	210		140											
MASTERTEX		30		30	30	30														
MULTITEX	35	30	30	30	30	30	30		30											
PUSHFIT		35	35	35	25	25	21		14											
ROCKMASTER/1SC		260	250	225	190	150	150		110		75		50		50					

HOSE SIZE	WORKING PRESSURE (bar)																			
	5	6	8	10	12	16	19	22	25	28	31	35	38	46	51	60	63	76	89	102
	dash	-03	-04	-05	-06	-08	-10	-12	-16	-16	-20	-20	-24	-24	-32	-32	-38	-40	-48	-56
ROCKMASTER/2SC	420	400	350	330	275	250	245		210		140		100		90		70	45		
ROCKMASTER/1SN		225	215	180	160	130	105		90		65		50		40	50				
ROCKMASTER/2SN		400	350	350	350	250	215		175		140		100		90	90				
ROCKMASTER/2ST	415	400	350	350	350	250	215		175		140		100		90					
ROCKMASTER/2 PLUS SUPER A/W		450		400	362	340	310		240		175		146		112			70		
ROCKMASTER/4SH						450	420		385		350		300		250					
ROCKMASTER/4SP		485		450	420	380	380		320		210		185		175					
ROCKMASTER/12				280	280	280	280		280		210		175		175					
ROCKMASTER/13		690		690	620		350		350		350		350		350					
ROCKMASTER/15							420		420		420		420							
SAFEMASTER/2SC		400	350	350	275	250	245		210											
SAFEMASTER/2SN		400	350	350	350	250	215		175		140		100							
SHIELDMASTER/21		210	210	210	210	210	210		210											
SHIELDMASTER/28		280	280	280	280	280	280		280											
SHIELDMASTER/35		350	350	350	350	350	350		350		350		350		350					
SHIELDMASTER/42		420		420	420		420		420		420		420		420					
SPIRTEX							21		17		14		11		7		4	4	3	3
SPIRTEX/HT							25		25		17		17		10		10	7	5	5
SYNERGY		450		450	420		365		300		210									
T°REX											43									
TRACTOR/1SN		225	215	180	160															
TRACTOR/2SN		400	350	330	275															
TWINPOWER 4000				280	280															
TWINPOWER 5000			350	350	350															
TWINPOWER/PLUS					310															
XTRAFLOW/2WB																	105	80	35	
XTRAFLOW/4WS																	140	105	80	35
XTRAFLOW/HT																	35	35	35	
XTRAFLOW/HTEX																	35			

	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS									MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	CCS	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Railways EN 44545-2	CU-TR
ANACONDA									*						*
ASTRO/2				*											
ASTRO/3				*											
COVER															*
CPH/2SC									*						*
CRYOFLEX/21									*						*
CRYOFLEX/35									*						*
CRYOFLEX/42									*						*
DIAMONDSPIR	*								*		*	*			*
DIAMONDSPIR/14	*		*	*					*		*				*
DIAMONDSPIR/17									*						*
DIAMONDSPIR/21	*		*	*					*			*			*
DIAMONDSPIR/35	*		*	*					*		*	*			*
DIAMONDSPIR/62									*						*
EQUATOR/1	*			*		*		*	*						*
EQUATOR/1 (BLUE)	*	*		*		*		*	*						*
EQUATOR/2	*			*		*		*	*						*
EQUATOR/2 (BLUE)	*	*		*		*		*	*						*
FIREND									*						*
FOREMASTER/21									*						*
FOREMASTER/28									*						*
FOREMASTER/35									*						*
FOREMASTER/42									*						*
GOLDENARMOUR	*		*	*		*									*
GOLDENGUARD/3000	*		*	*		*			*						*
GOLDENGUARD/5000	*		*	*		*			*						*
GOLDENISO/14 PILOT									*						*
GOLDENISO/21 ANTIWEAR								*	*		*				*
GOLDENISO/28 ANTIWEAR				*				*	*		*				*
GOLDENISO/38 LONGLIFE									*		*				*
GOLDENISO/45 LONGLIFE									*		*				*
GOLDENISO/21 XTRAFLEX	*	*				*		*	*		*	*			*
GOLDENISO/28 XTRAFLEX	*	*	*			*		*	*		*	*			*
GOLDENISO/35 XTRAFLEX	*	*		*		*	*	*	*	*	*	*			*
GOLDENISO/42 XTRAFLEX	*	*		*		*	*	*	*	*	*	*			*
GOLDENMINE									*			*			*
HARVESTER/17						*									*
HERCULES/HT									*						*
HYDROROPE									*						*
INFINITY															*
JACKMASTER/70															*
LUBEMASTER															*
LYTE-FLEX						*									*
MASTERTEX															*

	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS									MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	CCS	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Railways EN 44545-2	CU-TR
MULTITEX															
PUSHFIT															
ROCKMASTER/1SC	*		*	*		*			*						*
ROCKMASTER/2SC	*	*	*	*		*	*	*	*	*	*	*	*		*
ROCKMASTER/1SN	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/2SN	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/2ST	*	*				*	*			*	*	*			*
ROCKMASTER/2 PLUS SUPER A/W										*					*
ROCKMASTER/4SH	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/4SP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ROCKMASTER/12	*	*		*		*		*	*	*	*	*	*		*
ROCKMASTER/13	*	*	*	*		*	*	*		*	*	*	*		*
ROCKMASTER/15	*	*	*	*		*	*	*		*	*	*	*		*
SAFEMASTER/2SC														*	*
SAFEMASTER/2SN														*	*
SHIELDMASTER/21									*		*				*
SHIELDMASTER/28									*		*				*
SHIELDMASTER/35									*		*				*
SHIELDMASTER/42									*		*				*
SPIRTEX															*
SPIRTEX/HT															*
SYNERGY									*						*
T°REX															*
TRACTOR/1SN		*		*	*			*	*	*					*
TRACTOR/2SN		*		*	*			*	*	*					*
TWINPOWER 4000															*
TWINPOWER 5000									*						*
TWINPOWER/PLUS									*						*
XTRAFLOW/2WB	*			*					*		*	*			*
XTRAFLOW/4WS	*			*					*						*
XTRAFLOW/HT	*			*					*						*



**GLOBAL STD. ● HI-GRADE ● PREMIUM**

# TRACTOR/1SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

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## 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
H02004A06*	6	-4	1/4"	11.2	0.44	13.2	0.52	225	3,260	900	13,050	100	3.94	220	0.15	MF+M03400-04	OPF-04
H02004008*	8	-5	5/16"	12.8	0.50	14.8	0.58	215	3,110	850	12,320	114	4.49	270	0.18	MF+M03400-05	OPF-05
H02004010*	10	-6	3/8"	15.1	0.59	17.1	0.67	180	2,610	720	10,440	127	5.00	340	0.23	MF+M03400-06	OPF-06
H02004012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	640	9,280	178	7.01	400	0.27	MF+M03400-08	OPF-08

### KEY FEATURES

- EN/DIN and new SAE rated working pressures
- Flame retardant property of the cover compound, MSHA approved
- Smooth cover FRAS approved (DN 5-12)
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

### TYPE APPROVALS

MSHA, ABS; BV; DNV-GL; NK; CU-TR; KRS; LR; DNV-GL(MED)

# TRACTOR/2SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



## 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
H01027006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5,800	1,600	23,200	100	3.94	370	0.25	MF+M03400-04	OPF-04
H01027008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5,070	1,400	20,300	114	4.49	410	0.28	MF+M03400-05	OPF-05
H01027010*	10	-6	3/8"	16.7	0.66	18.7	0.74	330	4,780	1,320	19,140	127	5.00	530	0.36	MF+M03400-06	OPF-06
H01027012*	12	-8	1/2"	19.8	0.78	21.8	0.86	275	3,980	1,100	15,950	178	7.01	620	0.42	MF+M03400-08	OPF-08

### KEY FEATURES

- EN/DIN and new SAE rated working pressures
- Wide range of TYPE APPROVALS available
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

MSHA, ABS; BV; DNV-GL; CU-TR; KRS; NK; LR; DNV-GL(MED)

# LYTE-FLEX

COMPACT WIRE BRAID, INTEGRATED RELIABLE HOSE ASSEMBLY



## 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
H01084006*	6	-4	1/4"	11.6	0.46	13.2	0.52	350	5,070	1,400	20,300	50	1.97	265	0.18	MF+M03400-04	OPF-04
H01084008*	8	-5	5/16"	12.9	0.51	14.5	0.57	297	4,300	1,190	17,250	55	2.17	290	0.19	MF+M03400-05	OPF-05
H01084010*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	385	0.26	MF+M03400-06	OPF-06
H01084012*	12	-8	1/2"	18.5	0.73	20.3	0.80	245	3,550	980	14,210	88	3.46	465	0.31	MF+M03400-08	OPF-08
H01084016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	630	0.42	MF+M03400-10	OPF-10
H01084019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	790	0.53	MF+M03400-12	OPF-12
H01084025*	25	-16	1"	32.3	1.27	34.6	1.36	140	2,030	560	8,120	150	5.91	1,090	0.73	MF+M03400-16	OPF-16

### KEY FEATURES

- Intermediate pressure rating between 1SC & 2SC
- Lightness and flexibility
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: medium pressure lines with installation constraints
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

Manuli® Design; DN 16 and 19: SAE 100 R17; ISO 11237 R17

### TYPE APPROVALS

CU-TR; LR

# HARVESTER/17

INTEGRATED, RELIABLE HOSE ASSEMBLY



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
H01056006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	185	0.12	MF+M03300-04	OPF-04
H01056008*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	215	0.14	MF+M03300-05	OPF-05
H01056A10*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	305	0.20	MF+M03400-06	OPF-06
H01056A12*	12	-8	1/2"	17.9	0.70	19.7	0.78	210	3,040	840	12,180	90	3.54	420	0.28	MF+M03400-08	OPF-08

## KEY FEATURES

- Isobaric pressure rating
- Compact hose structures for installations in narrow spaces
- Halogen-Free hose line

## APPLICATIONS & FLUIDS

- Hydraulics: medium pressure lines with installation constraints
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

SAE 100 R17; ISO 11237 R17

## TYPE APPROVALS

CU-TR; LR

# COVER

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

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## 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
H05002005*	5	-4	3/16"	-	-	13.2	0.52	210	3,040	840	12,180	75	2.95	220	0.15	MF+M00310-03	OPF-03
H05002006*	6	-5	1/4"	-	-	14.8	0.58	210	3,040	840	12,180	85	3.35	260	0.17	MF+M00310-04	OPF-04
H05002008*	8	-6	5/16"	-	-	17.1	0.67	157	2,270	630	9,130	100	3.94	305	0.20	MF+M00310-05	OPF-05
H05002010*	10	-8	13/32"	-	-	19.4	0.76	140	2,030	560	8,120	115	4.53	365	0.25	MF+M00310-06	OPF-06
H05002012*	12	-10	1/2"	-	-	23.3	0.92	122	1,760	490	7,100	140	5.51	495	0.33	MF+M00310-08	OPF-08
H05002016*	16	-12	5/8"	-	-	27.3	1.07	105	1,520	420	6,090	165	6.50	650	0.44	MF+M00310-10	
H05002022*	22	-16	7/8"	-	-	31.2	1.23	56	810	224	3,240	185	7.28	600	0.40		
H05002028*	28	-20	1.1/8"	-	-	38.0	1.50	43	620	175	2,530	229	9.02	780	0.52		
H05002035*	35	-24	1.3/8"	-	-	44.3	1.74	35	500	140	2,030	265	10.43	1,010	0.68		
H05002046*	46	-32	1.13/16"	-	-	56.1	2.21	24	340	98	1,420	335	13.19	1,400	0.94		

### KEY FEATURES

- Robust design, general purpose hose
- Wear resistant cover

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, general purpose applications
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water, diesel fuel (up to 200°F/93°C)

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

One textile braid

### APPLICABLE SPECS

SAE 100 R5

### TYPE APPROVALS

CU-TR

# SPIRTEX

## SAE 100 R4 SUCTION AND DELIVERY HOSE



### 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
H80002019*	19	-12	3/4"	-	-	29.0	1.14	21	300	84	1,210	80	3.15	533	0.36	MF+M00321-12	
H80002025*	25	-16	1"	-	-	35.5	1.40	17	240	70	1,010	100	3.94	666	0.45	MF+M00930-16	
H80002031*	31	-20	1.1/4"	-	-	42.5	1.67	14	200	56	810	130	5.12	812	0.55	MF+M00920-20	
H80002038*	38	-24	1.1/2"	-	-	49.0	1.93	11	160	44	630	170	6.69	1,047	0.70	MF+M00910-24	
H80002051*	51	-32	2"	-	-	62.0	2.44	7	100	28	400	200	7.87	1,414	0.95	MF+M00910-32	
H80002063*	63	-40	2.1/2"	-	-	76.0	2.99	4	60	17	240	235	9.25	2,357	1.58	MF+M03400-40	
H80002076*	76	-48	3"	-	-	88.0	3.46	4	60	17	240	300	11.81	2,712	1.82	MF+M03400-48	
H80002089*	89	-56	3.1/2"	-	-	103.5	4.07	3	40	12	170	350	13.78	3,465	2.33	MF+M03400-56	
H80002102*	102	-64	4"	-	-	115.0	4.53	3	20	12	170	400	15.75	3,832	2.58	MF+M03400-64	

### KEY FEATURES

- Hardwall hose used for the suction and delivery of hydraulic oils
- High robustness of hose structure
- Long lasting in severe applications
- Resistance to Vacuum
- Improved minimum bend radius
- Max. length: 60m

### APPLICATIONS & FLUIDS

- Hydraulics: suction lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

NBR synthetic rubber

### REINFORCEMENT

High tensile synthetic cord, helix body wire

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

SAE J517 100 R4, Manuli® Design; two-thirds the SAE J517 100R4 minimum bend radius

### TYPE APPROVALS

CU-TR

# MULTITEX

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

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## 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
H09067005*	5	-3	3/16"	0.0	0.00	11.0	0.43	35	500	140	2,030	35	1.38	90	0.06	MF+M00820-03	
H09067006*	6	-4	1/4"	0.0	0.00	12.6	0.50	30	430	120	1,740	45	1.77	115	0.08	MF+M00830-04	
H09067008*	8	-5	5/16"	0.0	0.00	14.1	0.56	30	430	120	1,740	65	2.56	140	0.09	MF+M00830-05	
H09067010*	10	-6	3/8"	0.0	0.00	15.8	0.62	30	430	120	1,740	75	2.95	160	0.11	MF+M00820-06	
H09067012*	12	-8	1/2"	0.0	0.00	19.4	0.76	30	430	120	1,740	90	3.54	210	0.14	MF+M00820-08	
H09073016*	16	-10	5/8"	0.0	0.00	23.0	0.91	30	430	120	1,740	115	4.53	290	0.19	MF+M00820-10	
H09073019*	19	-12	3/4"	0.0	0.00	26.0	1.02	30	430	120	1,740	140	5.51	325	0.22	MF+M00820-12	
H09073025*	25	-16	1"	0.0	0.00	32.0	1.26	30	430	120	1,740	150	5.91	400	0.27	MF+M00820-16	

### KEY FEATURES

- High flexibility
- Wide range of fluid compatibility
- MF2000® Multifit Type couplability
- Push-On hose with MF2000® Push-Lock insert Type without ferrule

### APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines, drain lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high resistance textile braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

SAE 100 R6; EN 854 R6/1TE; ISO 4079 R6/1TE

# ASTRO/2

INTEGRATED, RELIABLE HOSE ASSEMBLY



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
H09045006*	6	-4	1/4"	-	-	13.0	0.51	75	1,080	300	4,350	40	1.57	125	0.08	MF+M00830-04	
H09045008*	8	-5	5/16"	-	-	14.6	0.57	68	980	272	3,940	50	1.97	150	0.10	MF+M00830-05	
H09045010*	10	-6	3/8"	-	-	16.1	0.63	63	910	252	3,650	60	2.36	180	0.12	MF+M00820-06	
H09045012*	12	-8	1/2"	-	-	19.2	0.76	58	840	232	3,360	70	2.76	220	0.15	MF+M00820-08	
H09045016*	16	-10	5/8"	-	-	23.6	0.93	50	720	200	2,900	90	3.54	290	0.19	MF+M00820-10	
H09045019*	19	-12	3/4"	-	-	26.5	1.04	45	650	180	2,610	110	4.33	360	0.24	MF+M00820-12	
H09045025*	25	-16	1"	-	-	33.4	1.31	40	580	160	2,320	130	5.12	440	0.30	MF+M00820-16	
H09045032*	31	-20	1.1/4"	-	-	41.5	1.63	35	500	140	2,030	140	5.51	650	0.44	MF+M00820-20	

## KEY FEATURES

- Wide range of fluid compatibility
- High flexibility of the hose structure

## APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
125 °C, 257 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high resistance textile braid

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

EN 854 2TE; ISO 4079 2TE

## TYPE APPROVALS

DNV-GL

# ASTRO/3

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

24

## 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
H09046006*	6	-4	1/4"	-	-	14.2	0.56	145	2,100	580	8,410	45	1.77	150	0.10	MF+M00310-04	
H09046008*	8	-5	5/16"	-	-	16.6	0.65	130	1,880	520	7,540	55	2.17	210	0.14	MF+M00310-05	
H09046010*	10	-6	3/8"	-	-	18.2	0.72	110	1,590	440	6,380	70	2.76	230	0.15	MF+M00310-06	
H09046012*	12	-8	1/2"	-	-	21.5	0.85	93	1,340	372	5,390	85	3.35	290	0.19	MF+M00310-08	
H09046016*	16	-10	5/8"	-	-	25.6	1.01	80	1,160	320	4,640	105	4.13	395	0.27	MF+M00310-10	
H09046019*	19	-12	3/4"	-	-	28.8	1.13	70	1,010	280	4,060	130	5.12	455	0.31	MF+M00321-12	
H09046025*	25	-16	1"	-	-	35.4	1.39	55	790	220	3,190	150	5.91	580	0.39	MF+M00310-16	
H09046032*	31	-20	1.1/4"	-	-	42.5	1.67	45	650	180	2,610	190	7.48	740	0.50	MF+M00310-20	
H09046040*	38	-24	1.1/2"	-	-	49.4	1.94	40	580	160	2,320	240	9.45	920	0.62	MF+M00910-24	
H09046051*	51	-32	2"	-	-	62.2	2.45	33	470	132	1,910	300	11.81	1,140	0.77	MF+M00910-32	

### KEY FEATURES

- Wide range of fluid compatibility
- High flexibility of the hose structure
- Low bend radii and compactness
- Exceeds performance of SAE100R3

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high resistance textile braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 854 3TE; ISO 4079 3TE

### TYPE APPROVALS

DNV-GL



**GLOBAL STD. • HI-GRADE • PREMIUM**

# GOLDENISO/14 PILOT

COMPACTNESS AND FLEXIBILITY



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
H01160005*	5	-3	3/16"	8.7	0.34	10.5	0.41	140	2,030	560	8,120	20	0.79	144	0.10	MN+M02400-03	MF+M03300-03
H01160006*	6	-4	1/4"	9.9	0.39	11.5	0.45	140	2,030	560	8,120	25	0.98	160	0.11	MN+M02400-04	MF+M03300-04
H01160008*	8	-5	5/16"	11.5	0.45	13.1	0.52	140	2,030	560	8,120	30	1.18	183	0.12	MN+M02400-05	MF+M03300-05
H01160010	10	-6	3/8"	13.2	0.52	14.8	0.58	140	2,030	560	8,120	40	1.57	220	0.15	MN+M02400-06	MF+M03300-06
H01160012*	12	-8	1/2"	16.2	0.64	18.0	0.71	140	2,030	560	8,120	50	1.97	277	0.19	MN+M02400-08	MF+M03300-08

## KEY FEATURES

- Compact dimensions
- Very low bend radius, suitable for difficult installations
- High flexibility
- Flame retardant MSHA approved cover
- MiniFit special dedicated fittings, compact dimensions, designed for small bore 1WB hose

## APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, pilot lines, auxiliary hydraulic systems
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

ISO 18752 Type C

## TYPE APPROVALS

MSHA; CU-TR

# GOLDENISO/21 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



HOSES  
27

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
H01125A05*	5	-3	3/16"	9.1	0.36	11.1	0.44	210	3,040	840	12,180	45	1.77	170	0.11	MF+M03300-03	OPF-03
H01125006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	180	0.12	MF+M03300-04	OPF-04
H01125008*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	210	0.14	MF+M03300-05	OPF-05
H01125010*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	300	0.20	MF+M03400-06	OPF-06
H01125012*	12	-8	1/2"	17.9	0.70	19.7	0.78	210	3,040	840	12,180	90	3.54	415	0.28	MF+M03400-08	OPF-08
H01125016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	620	0.42	MF+M03400-10	OPF-10
H01125019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	780	0.52	MF+M03400-12	OPF-12
H01125025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,120	0.75	MF+M03400-16	OPF-16

## KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

## APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- 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  
100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

One wire braid (DN 5-12). Two wire braid (DN 16-25)

## COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

## APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100 R17; ISO 11237-R17

## TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL(MED)

# GOLDENISO/28 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



HOSES

28

## 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
H01126006*	6	-4	1/4"	11.6	0.46	13.2	0.52	280	4,060	1,120	16,240	50	1.97	260	0.17	MF+M03400-04	OPF-04
H01126008*	8	-5	5/16"	12.9	0.51	14.5	0.57	280	4,060	1,120	16,240	55	2.17	280	0.19	MF+M03400-05	OPF-05
H01126010*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	380	0.26	MF+M03400-06	OPF-06
H01126012*	12	-8	1/2"	18.5	0.73	20.3	0.80	280	4,060	1,120	16,240	80	3.15	495	0.33	MF+M03400-08	OPF-08
H01126016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	730	0.49	MF+M03400-10	OPF-10
H01126019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,060	0.71	MF+M03400-12	OPK-12

### KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- 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

100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

Two wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100R19

### TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL; DNV-GL(MED)

# GOLDENISO/21 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES  
29

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
H10093031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	210	3,040	840	12,180	210	8.27	2,071	1.39	MF+M00920-20	OPK-20
H10093038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	210	3,040	840	12,180	260	10.24	2,989	2.01	IP+M01500-24	SP+M05400-24
H10093051*	51	-32	2"	63.2	2.49	66.8	2.63	210	3,040	840	12,180	330	12.99	4,311	2.90	IP+M01500-32	SP+M05400-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving vs traditional R12 hose construction, despite the higher working pressure of the GoldenISO Xtraflex range
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines for general hydraulics
- Return lines of hydraulic systems
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

4 high tensile steel spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

## TYPE APPROVALS

CU-TR; MSHA; FRAS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/28 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES

30

## 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
H10095010*	10	-6	3/8"	16.7	0.66	18.9	0.74	280	4,060	1,120	16,240	65	2.56	520	0.35	MF+M00910-06	OPK-06
H10095012*	12	-8	1/2"	19.6	0.77	21.8	0.86	280	4,060	1,120	16,240	90	3.54	650	0.44	MF+M00910-08	OPK-08
H10095016*	16	-10	5/8"	23.5	0.93	25.7	1.01	280	4,060	1,120	16,240	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10095019*	19	-12	3/4"	26.9	1.06	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,040	0.70	MF+M00920-12	OPK-12
H10095025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,530	1.03	MF+M00930-16	OPK-16
H10095031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,160	1.45	MF+M00920-20	OPK-20
H10095038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	280	4,060	1,120	16,240	280	11.02	2,994	2.01	IP+M01500-24	SP+M05400-24
H10095051*	51	-32	2"	63.9	2.52	67.5	2.66	280	4,060	1,120	16,240	350	13.78	4,633	3.11	IP+M01500-32	SP+M05400-32

### KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving of 20% vs traditional R12 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

4 high tensile steel spirals

### COVER

STRONG - TYPE "SC"

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

### APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

### TYPE APPROVALS

CU-TR; MSHA; FRAS; CCS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/35 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



## 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
H10096010*	10	-6	3/8"	16.7	0.66	18.9	0.74	350	5,070	1,400	20,300	80	3.15	530	0.36	MF+M00910-06	OPK-06
H10096012*	12	-8	1/2"	19.6	0.77	21.8	0.86	350	5,070	1,400	20,300	90	3.54	660	0.44	MF+M00910-08	OPK-08
H10096016*	16	-10	5/8"	23.5	0.93	25.7	1.01	350	5,070	1,400	20,300	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10096019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,220	0.82	IP+M01500-12	SP+M05400-12
H10096025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,800	1.21	IP+M01500-16	SP+M05400-16
H10096031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,340	1.57	IP+M01500-20	SP+M05400-20
H10096038*	38	-24	1.1/2"	52.9	2.08	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,165	2.80	IP+M01600-24	SP+M05500-24
H10096051*	51	-32	2"	66.8	2.63	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,161	4.14	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 10-31). Six high tensile steel spirals (DN 38, 51).

### COVER

STRONG - TYPE "SC"

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

### APPLICABLE SPECS

ISO 18752-C/D, JIS K6349-3, meets and exceed EN 856-R13 & ISO 3862-R13 performance

### TYPE APPROVALS

DNV-GL; CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); MA

# GOLDENISO/42 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES

32

## 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
H10097006*	6	-4	1/48"	11.3	0.44	13.1	0.52	420	6,090	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10097010*	10	-6	3/8"	17.6	0.69	20.0	0.79	420	6,090	1,680	24,360	100	3.94	688	0.46	MF+M00910-06	
H10097012*	12	-8	1/2"	20.3	0.80	22.7	0.89	420	6,090	1,680	24,360	120	4.72	807	0.54	MF+M00910-08	
H10097016*	16	-10	5/8"	23.9	0.94	26.4	1.04	420	6,090	1,680	24,360	140	5.51	989	0.66	IP+M01500-10	SP+M05400-10
H10097019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,285	0.86	IP+M01500-12	SP+M05400-12
H10097025*	25	-16	1"	34.8	1.37	37.3	1.47	420	6,090	1,680	24,360	210	8.27	2,007	1.35	IP+M01500-16	SP+M05400-16
H10097031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	260	10.24	3,663	2.46	IP+M01600-20	SP+M05500-20
H10097038*	38	-24	1.1/2"	53.2	2.09	56.4	2.22	420	6,090	1,680	24,360	310	12.20	4,450	2.99	IP+M01600-24	SPGX+M05500-24GX
H10097051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,310	4.91	IS+M02700-32	SPGX+M05500-32GX

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids (DN 6). Four high tensile steel spirals (DN 10-25). Six high tensile steel spirals (DN 31-51).

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

ISO 18752-C (Grade C "Plus" approved 1 Mil impulse cycles with Interlock Plus fittings), meets and exceed ISO 3862-R15 performance

## TYPE APPROVALS

CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); DNV-GL; MA

## REMARKS



- Size -20 is qualified to reduced bend radius with Interlock Plus fitting solution  
-20: MBR = 210mm

# GOLDENISO/38 LONGLIFE

HIGH FATIGUE RESISTANCE



HOSES  
33

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
H10098006*	6	-4	1/4"	11.3	0.44	13.1	0.52	380	5,510	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10098008*	8	-5	5/16"	12.9	0.51	14.7	0.58	380	5,510	1,680	24,360	55	2.17	318	0.21	MF+M00120-05	
H10098010*	10	-6	3/8"	15.5	0.61	17.1	0.67	380	5,510	1,680	24,360	65	2.56	440	0.30	MF+M00120-06	
H10098012*	12	-8	1/2"	18.6	0.73	20.6	0.81	380	5,510	1,680	24,360	80	3.15	573	0.39	MF+M00120-08	
H10098019*	19	-12	3/4"	27.7	1.09	32.0	1.26	380	5,510	1,680	24,360	170	6.69	1,410	0.95	IP+M01500-12	
H10098025*	25	-16	1"	34.8	1.37	38.1	1.50	380	5,510	1,680	24,360	220	8.66	1,964	1.32	IP+M01500-16	
H10098031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	380	5,510	1,680	24,360	267	10.51	3,663	2.46	IP+M01600-20	

## KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- 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

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids (DN 6 - 12), four high tensile steel wire spirals (DN 19 & 25), six high tensile steel wire spirals (DN 31)

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design: DN 6 to 12 exceeds ISO 18752-C extension; DN 19 to 31 exceeds SAE J517 Type 100R13; ISO 3862 R13; ISO 18752-C-D extension

## TYPE APPROVALS

CU-TR; MSHA; FRAS

# GOLDENISO/45 LONGLIFE

HIGH FATIGUE RESISTANCE



## 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
H10089006*	6	-4	1/4"	14.7	0.58	17.1	0.67	460	6,670	1,840	26,680	125	4.92	567	0.38	IP+M01500-04	
H10089016*	16	-10	5/8"	25.5	1.00	28.5	1.12	460	6,670	1,840	26,680	250	9.84	1,290	0.87	IP+M01500-10	
H10089019*	19	-12	3/4"	28.4	1.12	32.0	1.26	460	6,670	1,840	26,680	280	11.02	1,530	1.03	IP+M01500-12	
H10089025*	25	-16	1"	35.4	1.39	38.2	1.50	460	6,670	1,840	26,680	340	13.39	2,150	1.44	IP+M01500-16	
H10089031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	450	6,520	1,800	26,100	420	16.54	3,790	2.55	IP+M01800-20	
H10089038*	38	-24	1.1/2"	54.2	2.13	58.0	2.28	450	6,520	1,800	26,100	450	17.72	5,002	3.36	IP+M01600-24	

### KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel wire spirals (DN 6-25). Six high tensile steel wire spirals (DN 31-38)

### COVER

STRONG - TYPE "SC"

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

### APPLICABLE SPECS

Manuli® Design exceeds SAE J517 Type 100R15; ISO 3862 R15; ISO 18752-D extension

### TYPE APPROVALS

CU-TR; MSHA; FRAS

# SHIELDMASTER/21

OUTSTANDING WEAR RESISTANCE



HOSES 35

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
H01154006*	6	-4	1/4"	10,2	0,40	12,2	0,48	210	3040	840	12180	50	1,97	188	0,13	MF+M00120-04	OPF-04
H01154008*	8	-5	5/16"	11,5	0,45	13,6	0,54	210	3040	840	12180	55	2,17	212	0,14	MF+M00120-05	OPF-05
H01154010*	10	-6	3/8"	14,4	0,57	16,0	0,63	210	3040	840	12180	65	2,56	306	0,21	MF+M00120-06	OPF-06
H01154012*	12	-8	1/2"	18,1	0,71	20,1	0,79	210	3040	840	12180	90	3,54	444	0,30	MF+M00120-08	OPK-08
H01154016*	16	-10	5/8"	22,2	0,87	24,2	0,95	210	3040	840	12180	100	3,94	624	0,42	MF+M00120-10	OPF-10
H01154019*	19	-12	3/4"	25,6	1,01	27,7	1,09	210	3040	840	12180	120	4,72	771	0,52	MF+M00120-12	OPF-12
H01154025*	25	-16	1"	33,0	1,30	34,8	1,37	210	3040	840	12180	150	5,91	1,193	0,80	MF+M00130-16	OPF-16

## KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

## APPLICATIONS & FLUIDS

- Low, medium pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- 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

-46 °C, -50 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile wire braid (DN 6 to 12), two high tensile wire braids (DN 16 to 25)

## COVER

**SHIELD**  
Composite bi-layer structure with outstanding abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-B

## TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

## REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/28

OUTSTANDING WEAR RESISTANCE



HOSES

36

## 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
H01155006*	6	-4	1/4"	11.6	0.46	13.6	0.54	280	4,060	1,120	16,240	50	1.97	272	0.18	MF+M00120-04	OPF-04
H01155008*	8	-5	5/16"	12.9	0.51	14.9	0.59	280	4,060	1,120	16,240	55	2.17	299	0.20	MF+M00120-05	OPF-05
H01155010*	10	-6	3/8"	15.4	0.61	17.4	0.69	280	4,060	1,120	16,240	63	2.48	397	0.27	MF+M00120-06	OPF-06
H01155012*	12	-8	1/2"	18.5	0.73	20.5	0.81	280	4,060	1,120	16,240	80	3.15	507	0.34	MF+M00120-08	OPK-08
H01155016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	731	0.49	MF+M00120-10	OPK-10
H01155019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,058	0.71	MF+M00120-12	OPK-12
H01155025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,536	1.03	MF+M00930-16	OPK-16
H01155031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,171	1.46	MF+M00920-20	OPK-20

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- 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

-46 °C, -50 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6-19); Four high tensile steel spirals (DN 25-31)

### COVER

SHIELD  
Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/35

OUTSTANDING WEAR RESISTANCE



HOSES 37

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
H10119006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	288	0.19	MF+M00120-04	OPF-04
H10119008*	8	-5	5/16"	12.9	0.51	14.9	0.59	350	5,070	1,400	20,300	55	2.17	330	0.22	MF+M00120-05	OPF-05
H10119010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	393	0.26	MF+M00120-06	OPF-06
H10119012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	556	0.37	MF+M00120-08	OPK-08
H10119016*	16	-10	5/8"	23.5	0.93	25.9	1.02	350	5,070	1,400	20,300	100	3.94	964	0.65	MF+M00910-10	OPK-10
H10119019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,229	0.83	IP+M01500-12	SP+M05400-12
H10119025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,795	1.21	IP+M01500-16	SP+M05400-16
H10119031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,369	1.59	IP+M01500-20	SP+M05400-20
H10119038*	38	-24	1.1/2"	51.2	2.02	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,214	2.83	IP+M01600-24	SP+M05500-24
H10119051*	51	-32	2"	66.8	2.62	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,205	4.17	IP+M01800-32	SP+M05500-32

## KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- 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

-46 °C, -50 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids (DN 6-12); Four high tensile steel spirals (DN 16-31); Six high tensile steel spirals (DN 38-51)

## COVER

SHIELD  
Composite bi-layer structure with outstanding abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-B

## TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

## REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/42

OUTSTANDING WEAR RESISTANCE



HOSES

38

## 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
H10120006*	6	-4	1/4"	11,3	0,44	13,3	0,52	420	6090	1680	24360	45	1,77	294	0,20	MF+M00120-04	OPF-04
H10120010*	10	-6	3/8"	17,6	0,69	20,0	0,79	420	6090	1680	24360	100	3,94	699	0,47	MF+M00910-08	OPK-08
H10120012*	12	-8	1/2"	20,3	0,80	22,7	0,89	420	6090	1680	24360	120	4,72	808	0,54	MF+M00910-08	OPK-08
H10120019*	19	-12	3/4"	27,7	1,09	30,2	1,19	420	6090	1680	24360	150	5,91	1,307	0,88	IP+M01500-12	SP+M05400-12
H10120025*	25	-16	1"	35,0	1,38	37,5	1,48	420	6090	1680	24360	210	8,27	2,031	1,36	IP+M01500-16	SP+M05400-16
H10120031*	31	-20	1.1/4"	44,7	1,76	49,5	1,95	420	6090	1680	24360	260	10,24	3,701	2,49	IP+M01600-20	SP+M05500-20
H10120038*	38	-24	1.1/2"	53,2	2,09	56,4	2,22	420	6090	1680	24360	310	12,20	4,498	3,01	IP+M01600-24	SPGX+M05500-24GX
H10120051*	51	-32	2"	68,9	2,71	72,4	2,85	420	6090	1680	24360	500	19,69	7,388	4,96	IS+M02700-32	

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- Heavy duty power lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- 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

-46 °C, -50 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6); Four high tensile steel spirals (DN 10-25); Six high tensile steel spirals (DN 31-51)

### COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# DIAMONDSPIR/14

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



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
H10104076*	76	-48	3"	87.8	3.46	92.2	3.63	140	2,030	560	8,120	700	27.56	5,900	3.96	IP+M01500-48	

## KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- 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

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; CCS; DNV-GL; ABS; FRAS

# DIAMONDSPIR/17

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



HOSES  
40

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
H10104076*	76	-48	3"	89.0	3.50	92.1	3.63	170	2,460	700	10,150	600	25.98	6,060	4.07	IP+M01500-48	
H10104089*	89	-56	3.1/2"	109.7	4.32	115.6	4.55	170	2,460	800	11,600	1,200	47.24	12,735	8.56	IS+M02610-56	

## KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four or six high tensile wire spirals

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA;

# DIAMONDSPIR/21

VERY HIGH HYDRAULIC POWER TRANSMISSION



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
H10102063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	210	3,040	840	12,180	700	27.56	5,890	3.96	IP+M01500-40	
H10102076*	76	-48	3"	990.8	3.57	94.6	3.72	210	3,040	840	12,180	900	35.43	7,910	5.32	IP+M01810-48	

## KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus fitting structures

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four to six high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; MA; CCS; ABS; DNV-GL

# DIAMONDSPIR/35

VERY HIGH HYDRAULIC POWER TRANSMISSION



HOSES  
42

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
H10103063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	
H10103076*	76	-48	3"	97.9	3.85	101.9	4.01	350	5,070	1,400	20,300	1,000	39.37	12,249	8.23	IS+M02700-48	IS+M02800-48

## KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus & Interlock Super fitting structures

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six to eight high tensile wire spirals

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; MA; CCS;ABS; DNV-GL; FRAS

# MASTERTEX

LOW PRESSURE, HIGH TEMPERATURE HOSE



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
H09069006*	6	-4	1/4"			12.6	0.50	30	430	120	1,740	45	1.77	115	0.08	MF+M00830-04	
H09069010*	10	-6	3/8"			15.8	0.62	30	430	120	1,740	75	2.95	160	0.11	MF+M00820-06	
H09069012*	12	-8	1/2"			19.4	0.76	30	430	120	1,740	90	3.54	210	0.14	MF+M00820-08	
H09069016*	16	-10	5/8"			23.0	0.91	30	430	120	1,740	115	4.53	285	0.19	MF+M00820-10	

## KEY FEATURES

- Long term aging resistance
- Suitability for high temperature applications
- High flexibility
- Wide range of fluid compatibility
- MF2000 Multifit type compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines, drain lines with high temperature fluids
- Mineral oils, synthetic base oils (HS), vegetable and rape seed oils, glycol and polyglycol based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

135 °C, 275 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high resistance textile braid

## COVER

Weather and high heat resistant synthetic rubber

## APPLICABLE SPECS

Exceeds SAE 100 R6; ISO 4079 R6/1TE

# ROCKMASTER/1SC

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

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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
H01108006*	6	-4	1/4"	10.2	0.40	12.0	0.47	260	3,770	1,050	15,220	50	1.97	180	0.12	MF+M03300-04	MF+M00120-04
H01108008*	8	-5	5/16"	11.5	0.45	13.6	0.54	250	3,620	1,000	14,500	55	2.17	210	0.14	MF+M03300-05	MF+M00120-05
H01108010*	10	-6	3/8"	13.6	0.54	15.5	0.61	225	3,260	900	13,050	60	2.36	255	0.17	MF+M03300-06	MF+M00120-06
H01108012*	12	-8	1/2"	17.3	0.68	19.1	0.75	190	2,750	760	11,020	70	2.76	355	0.24	MF+M03300-08	MF+M00120-08
H01108016*	16	-10	5/8"	20.6	0.81	22.4	0.88	150	2,170	600	8,700	90	3.54	430	0.29	MF+M03400-10	MF+M00820-10
H01108019*	19	-12	3/4"	23.9	0.94	25.9	1.02	150	2,170	600	8,700	100	3.94	520	0.35	MF+M03400-12	MF+M00820-12
H01108025*	25	-16	1"	31.3	1.23	33.1	1.30	110	1,590	440	6,380	160	6.30	730	0.49	MF+M03400-16	MF+M00820-16
H01108031*	31	-20	1.1/4"	38.4	1.51	40.9	1.61	75	1,080	300	4,350	210	8.27	1,040	0.70	MF+M03400-20	MF+M00820-20
H01108038*	38	-24	1.1/2"	45.0	1.77	47.5	1.87	50	720	200	2,900	300	11.81	1,170	0.79	MF+M00820-24	
H01108051*	51	-32	2"	58.0	2.28	60.5	2.38	50	720	200	2,900	400	15.75	1,560	1.05	MF+M00820-32	
H01108063*	63	-40	2.1/2"	70.5	2.78	73.0	2.87	50	720	200	2,900	760	29.92	2,090	1.40	MF+M03400-40	
H01108076*	76	-48	3"	85.0	3.35	87.7	3.45	35	500	140	2,030	900	35.43	2,616	1.76	MF+M03400-48	

## KEY FEATURES

- Compact and flexible one wire braid hose line
- High temperature resistance for the most severe service and OEM applications
- Working pressure exceeds 1SC standards
- Superior protection with ROCKMASTER® cover compound
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 31

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 857 1SC; ISO 11237 1SC

## TYPE APPROVALS

CU-TR; LR; MSHA; ABS; CCS; DNV-GL

## REMARKS



- For hydraulic lift applications according to EN 81-20 applications, the following sizes and working pressures are recommended: DN 19 - WP = 50 bar; DN 25 - WP = 50 bar; DN 31 - WP = 50 bar

# ROCKMASTER/2SC

ABRASION, WEATHER & HEAT RESISTANCE



HOSES  
45

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
H01030005*	5	-3	3/16"	9.7	0.38	11.5	0.45	420	6,090	2,000	29,000	40	1.57	220	0.15	MF+M03300-03	OPF-03
H01030006*	6	-4	1/4"	11.3	0.44	13.1	0.52	400	5,800	1,850	26,830	45	1.77	275	0.18	MF+M03300-04	OPF-04
H01030008*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5,070	1,700	24,650	55	2.17	325	0.22	MF+M03300-05	OPF-05
H01030010*	10	-6	3/8"	15.0	0.59	16.8	0.66	330	4,780	1,500	21,750	65	2.56	390	0.26	MF+M03300-06	OPF-06
H01030012*	12	-8	1/2"	18.5	0.73	20.3	0.80	275	3,980	1,220	17,690	80	3.15	500	0.34	MF+M03300-08	OPF-08
H01030016*	16	-10	5/8"	21.8	0.86	23.6	0.93	250	3,620	1,050	15,220	90	3.54	620	0.42	MF+M03400-10	OPF-10
H01030019*	19	-12	3/4"	25.6	1.01	27.6	1.09	245	3,550	980	14,210	120	4.72	790	0.53	MF+M03400-12	OPF-12
H01030025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,180	0.79	MF+M03400-16	OPF-16
H01030031*	31	-20	1.1/4"	41.1	1.62	43.6	1.72	140	2,030	560	8,120	250	9.84	1,550	1.04	MF+M03400-20	OPK-20
H01030038*	38	-24	1.1/2"	47.7	1.88	50.7	2.00	100	1,450	400	5,800	300	11.81	1,880	1.26	MF+M03400-24	OPK-24
H01030051*	51	-32	2"	60.4	2.38	63.4	2.50	90	1,300	360	5,220	400	15.75	2,430	1.63	MF+M03400-32	OPK-32
H01030063*	63	-40	2.1/2"	73.0	2.87	76.0	2.99	70	1,010	300	4,350	760	29.92	2,900	1.95	MF+M03400-40	
H01030076*	76	-48	3"	87.8	3.46	90.5	3.56	45	650	180	2,610	900	35.43	3,120	2.10	MF+M03400-48	

## KEY FEATURES

- Compactness and flexibility
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Working pressure improvement
- Range extension to DN 76
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 76

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 857 2SC; ISO 11237 2SC; SAE 100 R16. In addition: DN 25 SAE 100 R17; ISO 11237 R17

## TYPE APPROVALS

ABS; BV; DNV-GL; CU-TR; LR; MSHA; RINA; B; FRAS; CCS; NK; DNV-GL(MED)

## REMARKS



- For hydraulic lift applications according to EN 81-20 applications, the following sizes and working pressures are recommended: DN 31 - WP = 50 bar; DN 38 - WP = 50 bar; DN 51 - WP = 45 bar

# ROCKMASTER/1SN

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

46

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
H01007006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	1,000	14,500	100	3.94	215	0.14	MF+M03400-04	OPF-04
H01007008*	8	-5	5/16"	12.6	0.50	14.6	0.57	215	3,110	950	13,770	114	4.49	260	0.17	MF+M03400-05	OPF-05
H01007010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	800	11,600	127	5.00	320	0.22	MF+M03400-06	OPF-06
H01007012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	680	9,860	178	7.01	400	0.27	MF+M03400-08	OPF-08
H01007016*	16	-10	5/8"	21.3	0.84	23.3	0.92	130	1,880	600	8,700	200	7.87	480	0.32	MF+M03400-10	OPF-10
H01007019*	19	-12	3/4"	25.3	1.00	27.3	1.07	105	1,520	500	7,250	240	9.45	600	0.40	MF+M03400-12	OPF-12
H01007025*	25	-16	1"	33.1	1.30	35.1	1.38	90	1,300	360	5,220	300	11.81	910	0.61	MF+M03400-16	OPF-16
H01007032*	31	-20	1.1/4"	40.6	1.60	43.3	1.70	65	940	260	3,770	419	16.50	1,243	0.84	MF+M03400-20	OPK-20
H01007040*	38	-24	1.1/2"	47.0	1.85	49.7	1.96	50	720	260	3,770	500	19.69	1,450	0.97	MF+M03400-24	OPK-24
H01007051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,050	1.38	MF+M03400-32	OPK-32
H01007060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	50	720	200	2,900	650	25.59	2,190	1.47	MF+M03400-38	

## KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); FRAS; CU-TR; MSHA; LR; NK; MA; CCS; KRS; RINA

# ROCKMASTER/2SN

ABRASION, WEATHER & HEAT RESISTANCE



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
H01038006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5,800	1,750	25,380	50	1.97	365	0.25	MF+M03400-04	OPF-04
H01038008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5,070	1,480	21,460	60	2.36	405	0.27	MF+M03400-05	OPF-05
H01038010*	10	-6	3/8"	16.7	0.66	18.7	0.74	350	5,070	1,400	20,300	70	2.76	530	0.36	MF+M03400-06	OPF-06
H01038012*	12	-8	1/2"	19.8	0.78	21.8	0.86	350	5,070	1,400	20,300	89	3.50	650	0.44	MF+M03400-08	OPF-08
H01038016*	16	-10	5/8"	23.0	0.91	25.0	0.98	250	3,620	1,020	14,790	100	3.94	720	0.48	MF+M03400-10	OPF-10
H01038019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	130	5.12	930	0.62	MF+M03400-12	OPF-12
H01038025*	25	-16	1"	34.8	1.37	36.8	1.45	175	2,530	670	9,710	160	6.30	1,290	0.87	MF+M03400-16	OPF-16
H01038032*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	140	2,030	600	8,700	419	16.50	1,930	1.30	MF+M03400-20	OPK-20
H01038040*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	500	7,250	500	19.69	2,262	1.52	MF+M03400-24	OPK-24
H01038051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	420	6,090	630	24.80	2,880	1.94	MF+M03400-32	OPK-32
H01038060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	90	1,300	360	5,220	650	25.59	2,670	1.79	MF+M03400-38	

## KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

## TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); LR; FRAS; CU-TR; MSHA; RINA ; B; NK; MA; DIN 5510-2; CCS; KRS

# ROCKMASTER/2ST

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

48

## 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
H01035005*	5	-3	3/16"	11.3	0.44	15.6	0.61	415	6,010	2,000	29,000	89	3.50	385	0.26	MF+M00910-03	
H01035006*	6	-4	1/4"	12.7	0.50	17.2	0.68	400	5,800	1,750	25,380	100	3.94	450	0.30	MF+M00910-04	
H01035008*	8	-5	5/16"	14.3	0.56	18.9	0.74	350	5,070	1,480	21,460	114	4.49	500	0.34	MF+M00910-05	
H01035010*	10	-6	3/8"	16.7	0.66	21.3	0.84	350	5,070	1,400	20,300	127	5.00	640	0.43	MF+M00910-06	
H01035012*	12	-8	1/2"	19.8	0.78	24.5	0.96	350	5,070	1,400	20,300	178	7.01	790	0.53	MF+M00910-08	
H01035016*	16	-10	5/8"	23.0	0.91	27.7	1.09	250	3,620	1,020	14,790	200	7.87	870	0.58	MF+M00910-10	
H01035019*	19	-12	3/4"	27.0	1.06	31.6	1.24	215	3,110	900	13,050	240	9.45	1,100	0.74	MF+M00920-12	
H01035025*	25	-16	1"	34.8	1.37	39.5	1.56	175	2,530	670	9,710	300	11.81	1,510	1.01	MF+M00930-16	
H01035032*	31	-20	1.1/4"	44.3	1.74	50.6	1.99	140	2,030	600	8,700	419	16.50	2,310	1.55	MF+M00920-20	
H01035040*	38	-24	1.1/2"	50.7	2.00	57.0	2.24	100	1,450	500	7,250	500	19.69	2,683	1.80	MF+M00910-24	
H01035051*	51	-32	2"	63.5	2.50	69.8	2.75	90	1,300	420	6,090	630	24.80	3,410	2.29	MF+M00910-32	

### KEY FEATURES

- High robustness of the cover for mining applications and tough handling
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 2ST; SAE 100 R2A; ISO 1436 2ST/R2A

### TYPE APPROVALS

BV; CU-TR; LR; B; MSHA; FRAS; ABS; RINA

# ROCKMASTER/2 PLUS SUPER ANTI-WEAR

ABRASION, WEATHER & HEAT RESISTANCE



HOSES  
49

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
H01139006*	6	-4	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	269	0.18	MF+M03400-04	
H01139010*	10	-6	3/8"	16.7	0.66	18.5	0.73	400	5,800	1,600	23,200	127	5.00	518	0.35	MF+M00910-06	OPK-06
H01139012*	12	-8	1/2"	20.1	0.79	22.1	0.87	362	5,250	1,450	21,030	150	5.91	683	0.46	MF+M00910-08	OPK-08
H01139016*	16	-10	5/8"	23.2	0.91	25.2	0.99	340	4,930	1,360	19,720	200	7.87	833	0.56	MF+M00910-10	OPK-10
H01139019*	19	-12	3/4"	27.1	1.07	29.3	1.15	310	4,490	1,240	17,980	230	9.06	1,034	0.69	MF+M00920-12	OPK-12
H01139025*	25	-16	1"	35.1	1.38	37.8	1.49	240	3,480	960	13,920	300	11.81	1,531	1.03	MF+M00930-16	OPK-16
H01139032*	31	-20	1.1/4"	44.5	1.75	47.2	1.86	175	2,530	700	10,150	380	14.96	2,055	1.38	MF+M00920-20	OPK-20
H01139038*	38	-24	1.1/2"	51.0	2.01	53.7	2.11	146	2,110	584	8,470	450	17.72	2,444	1.64	MF+M00910-24	
H01139051*	51	-32	2"	62.8	2.47	65.5	2.58	112	1,620	448	6,490	600	23.62	3,013	2.02	MF+M00910-32	
H01139076*	76	-48	3"	87.8	3.46	91.4	3.60	70	1,010	280	4,060	500	19.69	3,901	2.62	MF+M03400-48	

## KEY FEATURES

- Superior pressure rating
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Robustness thanks to skive fittings solution

## APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

R.O.C.  
Synthetic rubber with extreme abrasion and ozone resistance

## APPLICABLE SPECS

Manuli® Design exceeds ISO 1436-2SN; EN 853-2SN; SAE J517 Type 100R2AT. Performance BCS 174; ISO 6805 Type 4

## TYPE APPROVALS

MSHA; CU-TR

# ROCKMASTER/4SH

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

50

## 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
H10044016*	16	-10	5/8"	25.5	1.00	28.5	1.12	450	6,520	1,850	26,830	180	7.09	1,290	0.87	IP+M01500-10	
H10044019*	19	-12	3/4"	28.2	1.11	31.9	1.26	420	6,090	1,750	25,380	210	8.27	1,500	1.01	IP+M01500-12	SP+M05400-12
H10044025*	25	-16	1"	35.1	1.38	38.1	1.50	385	5,580	1,750	25,380	220	8.66	2,040	1.37	IP+M01500-16	SP+M05400-16
H10044032*	31	-20	1.1/4"	42.2	1.66	45.0	1.77	350	5,070	1,400	20,300	420	16.54	2,410	1.62	IP+M01500-20	SP+M05400-20
H10044038*	38	-24	1.1/2"	49.1	1.93	53.1	2.09	300	4,350	1,250	18,120	560	22.05	3,170	2.13	IP+M01500-24	SP+M05400-24
H10044051*	51	-32	2"	63.5	2.50	67.5	2.66	250	3,620	1,000	14,500	700	27.56	4,460	3.00	IP+M01500-32	SP+M05400-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 4SH; ISO 3862 4SH

### TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; LR; MA; MSHA; B; RINA; NK; CCS; KRS

# ROCKMASTER/4SP

ABRASION, WEATHER & HEAT RESISTANCE



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
H10008006*	6	-4	1/4"	14.7	0.58	17.6	0.69	485	7,030	2,400	34,800	125	4.92	590	0.40	MF+M00910-04	
H10008010*	10	-6	3/8"	17.6	0.69	21.0	0.83	450	6,520	2,000	29,000	125	4.92	740	0.50	MF+M00910-06	
H10008012*	12	-8	1/2"	20.3	0.80	24.2	0.95	420	6,090	1,750	25,380	175	6.89	880	0.59	MF+M00910-08	
H10008016*	16	-10	5/8"	23.7	0.93	27.6	1.09	380	5,510	1,600	23,200	200	7.87	1,080	0.73	MF+M00910-10	
H10008019*	19	-12	3/4"	28.2	1.11	31.7	1.25	380	5,510	1,600	23,200	240	9.45	1,450	0.97	MF+M00920-12	SP+M05400-12
H10008025*	25	-16	1"	35.0	1.38	39.0	1.54	320	4,640	1,400	20,300	340	13.39	1,880	1.26	MF+M00930-16	SP+M05400-16
H10008032*	31	-20	1.1/4"	46.1	1.81	49.7	1.96	210	3,040	1,250	18,120	460	18.11	2,990	2.01	MF+M00920-20	SP+M05500-20
H10008038*	38	-24	1.1/2"	52.4	2.06	56.1	2.21	185	2,680	1,000	14,500	560	22.05	3,500	2.35	MF+M00910-24	SP+M05500-24
H10008051*	51	-32	2"	65.4	2.57	69.0	2.72	175	2,530	1,000	14,500	660	25.98	5,010	3.37	MF+M00910-32	SP+M05400-32

## KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel spirals

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 856 4SP; ISO 3862 4SP; DN 16 & 19: thin cover style, exceeds EN 856 4SP and ISO 3862 4SP

## TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; MA; MSHA; RINA; B; LR; NK; DB (EN 45545-2); CCS; KRS

# ROCKMASTER/12

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

52

## 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
H10031010*	10	-6	3/8"	17.3	0.68	20.0	0.79	280	4,060	1,600	23,200	100	3.94	620	0.42	MF+M00910-06	OPK-06
H10031012*	12	-8	1/2"	20.4	0.80	23.5	0.93	280	4,060	1,350	19,580	125	4.92	760	0.51	MF+M00910-08	OPK-08
H10031016*	16	-10	5/8"	24.4	0.96	27.1	1.07	280	4,060	1,300	18,850	140	5.51	990	0.67	MF+M00910-10	OPK-10
H10031019*	19	-12	3/4"	27.4	1.08	30.4	1.20	280	4,060	1,300	18,850	150	5.91	1,160	0.78	MF+M00920-12	OPK-12
H10031025*	25	-16	1"	35.0	1.38	37.6	1.48	280	4,060	1,150	16,670	225	8.86	1,740	1.17	MF+M00930-16	OPK-16
H10031A32*	31	-20	1.1/4"	43.1	1.70	45.9	1.81	210	3,040	1,000	14,500	250	9.84	2,280	1.53	MF+M00920-20	OPK-20
H10031040*	38	-24	1.1/2"	50.0	1.97	53.3	2.10	175	2,530	1,000	14,500	500	19.69	3,130	2.10	MF+M00910-24	OPK-24
H10031051*	51	-32	2"	63.6	2.50	66.7	2.63	175	2,530	800	11,600	630	24.80	4,440	2.98	MF+M00910-32	OPK-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

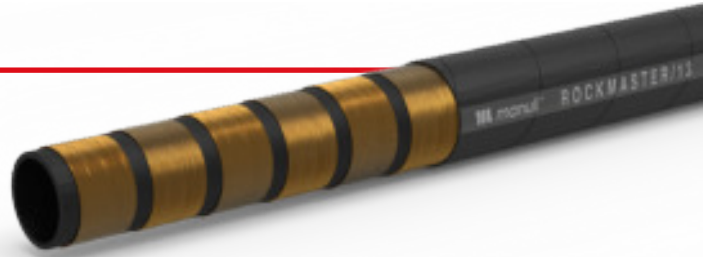
Exceeds EN 856 R12; SAE 100 R12; ISO 3862 R12

### TYPE APPROVALS

ABS; BV; FRAS; CU-TR; LR; MA; MSHA; NK; DNV-GL(MED)

# ROCKMASTER/13

ABRASION, WEATHER & HEAT RESISTANCE



## 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
H10035A06*	6	-4	1/4"	14.6	0.57	17.6	0.69	690	10,000	3,250	47,130	120	4.72	660	0.44		
H10035A10*	10	-6	3/8"	17.4	0.69	20.4	0.80	690	10,000	2,900	42,060	150	5.91	830	0.56		
H10035A12*	12	-8	1/2"	21.5	0.85	24.5	0.96	620	8,990	2,500	36,250	200	7.87	1,140	0.77		
H10035019*	19	-12	3/4"	29.0	1.14	31.8	1.25	350	5,070	1,950	28,280	240	9.45	1,630	1.10	IP+M01500-12	SP+M05400-12
H10035025*	25	-16	1"	36.0	1.42	39.2	1.54	350	5,070	1,650	23,930	300	11.81	2,190	1.47	IP+M01500-16	SP+M05400-16
H10035032*	31	-20	1.1/4"	47.0	1.85	50.0	1.97	350	5,070	1,500	21,750	420	16.54	3,600	2.42	IP+M01600-20	SP+M05500-20
H10035040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	350	5,070	1,600	23,200	500	19.69	4,700	3.16	IP+M01600-24	SP+M05500-24
H10035051*	51	-32	2"	68.4	2.69	72.0	2.83	350	5,070	1,500	21,750	630	24.80	6,800	4.57	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel spirals (DN 6-25). Six high tensile steel spirals (DN 31-51)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 R13; SAE 100 R13; ISO 3862 R13

### TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; LR; CU-TR; MA; MSHA; RINA; B; CCS; DNV-GL(MED)

# ROCKMASTER/15

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

54

## 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
H10049019*	19	-12	3/4"	28.2	1.11	31.0	1.22	420	6,090	1,750	25,380	265	10.43	1,440	0.97	IP+M01500-12	SP+M05400-12
H10049025*	25	-16	1"	35.1	1.38	38.1	1.50	420	6,090	1,750	25,380	267	10.51	2,040	1.37	IP+M01500-16	SP+M05400-16
H10049A32*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	267	10.51	3,660	2.46	IP+M01600-20	SP+M05500-20
H10049040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	420	6,090	1,680	24,360	315	12.40	4,700	3.16	IP+M01600-24	SP+M05500-24

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- 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

Four high tensile steel spirals (DN 19 - 25). Six high tensile steel spirals (DN 31 - 38)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds SAE 100 R15; ISO 3862 R15

### TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; CU-TR; LR; MA; MSHA; B; CCS; RINA; DNV-GL(MED)

# EQUATOR/1 (BLACK)

EXTREME HIGH TEMPERATURE - BLACK VERSION



HOSES 55

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
H01058006*	6	-4	1/4"	11.0	0.43	13.4	0.53	225	3,260	1,000	14,500	100	3.94	240	0.16	MF+M00120-04	OPF-04
H01058008*	8	-5	5/16"	12.6	0.50	15.0	0.59	215	3,110	900	13,050	114	4.49	280	0.19	MF+M00120-05	
H01058010*	10	-6	3/8"	15.0	0.59	17.3	0.68	180	2,610	800	11,600	127	5.00	335	0.23	MF+M00120-06	
H01058012*	12	-8	1/2"	18.1	0.71	20.5	0.81	160	2,320	680	9,860	178	7.01	430	0.29	MF+M00120-08	
H01058016*	16	-10	5/8"	21.3	0.84	23.5	0.93	130	1,880	600	8,700	200	7.87	500	0.34	MF+M00120-10	
H01058019*	19	-12	3/4"	25.2	0.99	27.7	1.09	105	1,520	500	7,250	240	9.45	640	0.43	MF+M00120-12	
H01058025*	25	-16	1"	33.1	1.30	35.8	1.41	88	1,270	360	5,220	300	11.81	970	0.65	MF+M00130-16	
H01058031*	31	-20	1.1/4"	40.6	1.60	43.5	1.71	65	940	345	5,000	420	16.54	1,300	0.87	MF+M00110-20	OPK-20
H01058038*	38	-24	1.1/2"	46.9	1.85	50.0	1.97	50	720	290	4,200	500	19.69	1,540	1.03	MF+M00110-24	OPK-24
H01058051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,100	1.41	MF+M00110-32	OPK-32
H01058063*	63	-40	2.1/2"	72.0	2.83	74.6	2.94	35	500	140	2,030	600	23.62	2,400	1.61	MF+M03400-40	

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STANDARD - TYPE "XT"  
Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR; MSHA; DNV-GL(MED)

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# EQUATOR/1 (BLUE)

EXTREME HIGH TEMPERATURE - BLUE VERSION



HOSES 56

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
H01059006*	6	-4	1/4"	11.0	0.43	13.4	0.53	225	3,260	1,000	14,500	100	3.94	240	0.16	MF+M00120-04	OPF-04
H01059008*	8	-5	5/16"	12.6	0.50	15.0	0.59	215	3,110	900	13,050	114	4.49	285	0.19	MF+M00120-05	
H01059010*	10	-6	3/8"	15.0	0.59	17.3	0.68	180	2,610	800	11,600	127	5.00	340	0.23	MF+M00120-06	
H01059012*	12	-8	1/2"	18.1	0.71	20.5	0.81	160	2,320	680	9,860	178	7.01	435	0.29	MF+M00120-08	
H01059016*	16	-10	5/8"	21.3	0.84	23.5	0.93	130	1,880	600	8,700	200	7.87	510	0.34	MF+M00120-10	
H01059019*	19	-12	3/4"	25.2	0.99	27.7	1.09	105	1,520	500	7,250	240	9.45	640	0.43	MF+M00120-12	
H01059025*	25	-16	1"	33.1	1.30	35.8	1.41	88	1,270	360	5,220	300	11.81	980	0.66	MF+M00130-16	
H01059032*	31	-20	1.1/4"	40.6	1.60	43.5	1.71	65	940	345	5,000	420	16.54	1,300	0.87	MF+M00110-20	OPK-20
H01059038*	38	-24	1.1/2"	46.9	1.85	50.0	1.97	50	720	290	4,200	500	19.69	1,540	1.03	MF+M00110-24	OPK-24
H01059051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,100	1.41	MF+M00110-32	OPK-32
H01059063*	63	-40	2.1/2"	72.0	2.83	74.6	2.94	35	500	140	2,030	600	23.62	2,400	1.61	MF+M03400-40	

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; BV; DNV-GL(MED); DNV-GL; CU-TR; LR; MSHA

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# EQUATOR/2 (BLACK)

EXTREME HIGH TEMPERATURE - BLACK VERSION



HOSES 57

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
H01060006*	6	-4	1/4"	12.7	0.50	14.9	0.59	400	5,800	1,725	25,010	100	3.94	390	0.26	MF+M00910-04	OPF-04
H01060008*	8	-5	5/16"	14.3	0.56	16.5	0.65	350	5,070	1,480	21,460	114	4.49	435	0.29	MF+M00910-05	
H01060010*	10	-6	3/8"	16.7	0.66	19.0	0.75	330	4,780	1,400	20,300	127	5.00	530	0.36	MF+M00910-06	
H01060012*	12	-8	1/2"	19.8	0.78	22.0	0.87	275	3,980	1,200	17,400	178	7.01	640	0.43	MF+M00910-08	
H01060016*	16	-10	5/8"	23.0	0.91	25.2	0.99	250	3,620	1,020	14,790	200	7.87	760	0.51	MF+M00910-10	
H01060019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	240	9.45	940	0.63	MF+M00920-12	
H01060025*	25	-16	1"	34.8	1.37	37.0	1.46	175	2,530	700	10,150	300	11.81	1,350	0.91	MF+M00930-16	
H01060031*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	150	2,170	600	8,700	420	16.54	2,010	1.35	MF+M00920-20	
H01060038*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	410	5,940	500	19.69	2,250	1.51	MF+M00910-24	OPK-24
H01060051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	370	5,360	630	24.80	3,080	2.07	MF+M00910-32	OPK-32

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STANDARD - TYPE "XT"  
Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

## TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR; MSHA; DNV-GL(MED)

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# EQUATOR/2 (BLUE)

EXTREME HIGH TEMPERATURE - BLUE VERSION



HOSES

58

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
H01061006*	6	-4	1/4"	12.7	0.50	14.9	0.59	400	5,800	1,725	25,010	100	3.94	395	0.27	MF+M00910-04	OPF-04
H01061008*	8	-5	5/16"	14.3	0.56	16.5	0.65	350	5,070	1,480	21,460	114	4.49	435	0.29	MF+M00910-05	
H01061010*	10	-6	3/8"	16.7	0.66	19.0	0.75	330	4,780	1,400	20,300	127	5.00	530	0.36	MF+M00910-06	
H01061012*	12	-8	1/2"	19.8	0.78	22.0	0.87	275	3,980	1,200	17,400	178	7.01	640	0.43	MF+M00910-08	
H01061016*	16	-10	5/8"	23.0	0.91	25.2	0.99	250	3,620	1,020	14,790	200	7.87	760	0.51	MF+M00910-10	
H01061019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	240	9.45	940	0.63	MF+M00920-12	
H01061025*	25	-16	1"	34.8	1.37	37.0	1.46	175	2,530	700	10,150	300	11.81	1,350	0.91	MF+M00930-16	
H01061032*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	150	2,170	600	8,700	420	16.54	2,010	1.35	MF+M00920-20	
H01061040*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	410	5,940	500	19.69	2,250	1.51	MF+M00910-24	OPK-24
H01061051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	370	5,360	630	24.80	3,080	2.07	MF+M00910-32	OPK-32

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

## TYPE APPROVALS

ABS; BV; DNV-GL(MED); DNV-GL; CU-TR; LR; MSHA; DIN 5510-2

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# 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	-04	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	275	0.18	MF+M00120-04	OPF-04
H01164008	8	-05	5/16"	12.9	0.51	14.7	0.58	400	5,800	1,600	23,200	55	2.17	325	0.22	MF+M00120-05	OPF-05
H01164010	10	-06	3/8"	15.0	0.59	16.8	0.66	400	5,800	1,600	23,200	65	2.56	440	0.30	MF+M00120-06	OPK-06
H01164012	12	-08	1/2"	18.6	0.73	20.4	0.80	360	5,220	1,440	20,880	80	3.15	560	0.38	MF+M00120-08	OPK-08
H01164016	16	-10	5/8"	22.7	0.89	24.7	0.97	320	4,640	1,280	18,560	90	3.54	730	0.49	MF+M00120-10	OPK-10
H01164019	19	-12	3/4"	27.1	1.07	29.3	1.15	320	4,640	1,280	18,560	120	4.72	1,070	0.72	MF+M00120-12	OPK-12
H01164025	25	-16	1"	33.7	1.33	35.9	1.41	225	3,263	900	13,050	160	6.30	1,340	0.90	MF+M00130-16	OPK-16

### KEY FEATURES

- The Hi-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

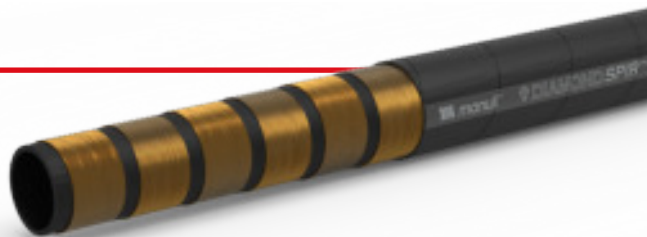
Exceed EN 857 2SC, SAE 100R16, ISO 11237-2SC

### TYPE APPROVALS

MSHA; CU-TR; FRAS; B

# DIAMONDSPIR

VERY HIGH PRESSURE



HOSES

60

## 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
H10018019*	19	-12	3/4"	29.1	1.15	32.1	1.26	560	8,120	2,240	32,480	280	11.02	1,660	1.12	IP+M01850-12	
H10018025*	25	-16	1"	38.2	1.50	41.2	1.62	560	8,120	2,240	32,480	350	13.78	2,910	1.96	IP+M01850-16	
H10018032*	31	-20	1.1/4"	47.7	1.88	50.9	2.00	525	7,610	2,100	30,450	420	16.54	4,210	2.83	IP+M01850-20	
H10018038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	475	6,880	1,900	27,550	500	19.69	5,230	3.51	IS+M02700-24	
H10018051*	51	-32	2"	68.4	2.69	71.9	2.83	420	6,090	1,680	24,360	600	23.62	6,680	4.49	IS+M02700-32	

### KEY FEATURES

- Very high pressure resistance
- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO Biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- 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

Six high tensile steel spirals (DN 25-76). Four high tensile steel spirals (DN 19)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design exceeds ISO 3862 R15

### TYPE APPROVALS

ABS; FRAS; CU-TR; MSHA; MA

# SYNERGY

## HIGH PRESSURE HYDRAULICS



HOSES  
61

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
H10137006*	6	-4	1/4"	14,0	0,55	16,6	0,65	450	6525	1800	26100	100	3,94	462	0,31	MF+M00910-04	
H10137010*	10	-6	3/8"	16,2	0,64	18,2	0,72	450	6525	1800	26100	125	4,92	513	0,34	MF+M03500-06	MF+M00910-06
H10137012*	12	-8	1/2"	20,5	0,81	23,8	0,94	420	6090	1680	24360	160	6,30	798	0,54	MF+M03500-08	MF+M00910-08
H10137019*	19	-12	3/4"	28,4	1,12	31,3	1,23	365	5292,5	1460	21170	240	9,45	1274	0,86	SP+M05400-12	MF+M00920-12GX
H10137025*	25	-16	1"	34,2	1,35	37,8	1,49	300	4350	1200	17400	340	13,39	1714	1,15	SP+M05400-16	MF+M00930-16
H10137031*	31	-20	1-1/4"	43,2	1,70	46,2	1,82	210	3045	840	12180	460	18,11	2231	1,50	SP+M05400-20	MF+M00920-20

### KEY FEATURES

- Long life resistance in severe hydraulic applications
- High abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- High flexibility and durability
- Low bend radii
- Compact dimensions

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure hydraulic lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining;
- Mineral oils, vegetable oils and synthetic ester based oils, 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

1 wire braid and 2 wire spirals, high tensile steel

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, exceeds 4SP performance

### TYPE APPROVALS

MSHA

# XTRAFLOW/2WB

HIGH FLOW RATES, LOW PRESSURE DROPS



HOSES

62

## 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
H01129063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	105	1,520	420	6,090	510	20.08	3,531	2.37	SP+M05400-40	
H01129076*	76	-48	3"	89.0	3.50	93.6	3.69	80	1,160	320	4,640	510	20.08	4,976	3.34	SP+M05400-48	
H01129089*	89	-56	3.1/2"	102.2	4.02	107.4	4.23	35	500	140	2,030	710	27.95	5,530	3.72	SP+M05400-56	

### KEY FEATURES

- Low pressure drops even with high flow rates
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance and electrical antistatic properties of the cover
- High working pressure associated to high flow rates
- Vacuum resistance with SAE 100 R4 performance

### APPLICATIONS & FLUIDS

- Medium-Low pressure hydraulic lines with high flow rates, specific installations with severe abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

Extension EN 857-2SC, ISO 11237-2SC

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL; FRAS; MA

# XTRAFLOW/4WS

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



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
H10091063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	140	2,030	700	10,150	700	27.56	5,890	3.96	SP+M05400-40	
H10091076*	76	-48	3"	87.8	3.46	92.2	3.63	105	1,520	525	7,610	700	27.56	5,367	3.61	SP+M05400-48	
H10091089*	89	-56	3.1/2"	103.7	4.08	108.7	4.28	80	1,160	400	5,800	800	31.50	8,187	5.50	SP+M05400-56	
H10091102*	102	-64	4"	120.0	4.72	126.0	4.96	35	500	140	2,030	900	35.43	10,210	6.86	SP+M05400-64	

## KEY FEATURES

- Low pressure drops even with high flow rates
- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling

## APPLICATIONS & FLUIDS

- General hydraulics with high flow rates, mine hydraulic return lines, long wall water lines
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel wire spirals

## COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

## APPLICABLE SPECS

Manuli® Design

## TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL

# XTRAFLOW/HT

HIGH TEMPERATURE SUCTION & RETURN LINES



HOSES

64

## 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
H01128063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	35	500	140	2,030	254	10.00	3,589	2.41	MF+M03400-40	
H01128076*	76	-48	3"	87.8	3.46	90.5	3.56	35	500	140	2,030	355	13.98	3,291	2.21	MF+M03400-48	
H01128089*	89	-56	3.1/2"	102.2	4.02	106.0	4.17	35	500	140	2,030	475	18.70	5,708	3.84	MF+M03400-56	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two wire braids of high tensile steel wire

### COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL

# XTRAFLOW/HTEX

## HIGH TEMPERATURE SUCTION & RETURN LINES



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
H01161063*	63	-40	2.1/2"	73.3	2.89	76.7	3.02	35	500	140	2,030	400	15.75	2,502	1.68	MF+M03400-40	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4
- Easier heat dissipation

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One wire braid of high tensile steel wire

### COVER

Black textile braid with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design

# SPIRTEX/HT

## HIGH PERFORMANCE R4 SUCTION AND DELIVERY HOSE



HOSES

66

### 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
H80003019*	19	-12	3/4"	-	-	28.5	1.12	25	360	100	1,450	80	3.15	530	0.36	MF+M00321-12	
H80003025*	25	-16	1"	-	-	35.0	1.38	25	360	100	1,450	100	3.94	672	0.45	MF+M00930-16	
H80003031*	31	-20	1.1/4"	-	-	42.0	1.65	17	250	70	1,010	130	5.12	836	0.56	MF+M00920-20	
H80003038*	38	-24	1.1/2"	-	-	48.5	1.91	17	250	70	1,010	170	6.69	1,098	0.74	MF+M00910-24	
H80003051*	51	-32	2"	-	-	61.5	2.42	10	150	42	600	200	7.87	1,408	0.95	MF+M00910-32	
H80003063*	63	-40	2.1/2"	-	-	75.0	2.95	10	150	42	600	235	9.25	2,250	1.51	MF+M03400-40	
H80003076*	76	-48	3"	-	-	87.5	3.44	7	100	28	400	300	11.81	2,703	1.82	MF+M03400-48	
H80003089*	89	-56	3.1/2"	-	-	103.0	4.06	5	70	21	300	350	13.78	3,683	2.47	MF+M03400-56	
H80003102*	102	-64	4"	-	-	114.5	4.51	5	70	21	300	400	15.75	3,937	2.65	MF+M03400-64	

### KEY FEATURES

- Hardwall hose used for the suction and delivery of hydraulic oils
- Improved minimum bend radius
- Higher working pressure than SAE J517 100R4 spec.
- Long lasting in severe applications
- Resistance to Vacuum
- Special rubber compounds for high aging resistance
- Max. length: 60m

### APPLICATIONS & FLUIDS

- Hydraulics: suction lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

135 °C, 275 °F

### TUBE

Special synthetic rubber

### REINFORCEMENT

High tensile synthetic cord, helix body wire

### COVER

Weather and ozone resistant synthetic rubber, flame retardant with high heat resistance

### APPLICABLE SPECS

SAE J517 100 R4, Manuli® Design; two-thirds the SAE J517 100R4 minimum bend radius

### TYPE APPROVALS

CU-TR

# PUSHFIT

## PUSH-ON HOSE



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
H09066006*	6	-4	1/4"	0.0	0.00	12.7	0.50	35	500	140	2,030	76	2.99	130	0.09	PL-04	
H09066008*	8	-5	5/16"	0.0	0.00	14.3	0.56	35	500	140	2,030	76	2.99	155	0.10	PL-05	
H09066010*	10	-6	3/8"	0.0	0.00	15.8	0.62	35	500	140	2,030	76	2.99	175	0.12	PL-06	
H09066012*	12	-8	1/2"	0.0	0.00	19.6	0.77	25	360	100	1,450	127	5.00	235	0.16	PL-08	
H09066016*	16	-10	5/8"	0.0	0.00	23.6	0.93	25	360	100	1,450	150	5.91	320	0.22	PL-10	
H09066019*	19	-12	3/4"	0.0	0.00	26.2	1.03	21	300	84	1,210	180	7.09	340	0.23	PL-12	
H09066025*	25	-16	1"	0.0	0.00	33.0	1.30	14	200	56	810	240	9.45	455	0.31	PL-16	

### KEY FEATURES

- Push-On hose with MF2000® Push-Lock insert Type without ferrule
- High aging resistance
- Robust assemblies (clamps recommended in long lasting mission profiles applications)
- High flexibility and easy routing

### APPLICATIONS & FLUIDS

- Push-on hose for low pressure lines, return lines, drain lines. Used in various industrial applications, stationary and mobile equipment
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One textile braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR



**GLOBAL STD. ● HI-GRADE ● PREMIUM**

# FOREMASTER/21

OUTSTANDING ABRASION RESISTANCE



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
H01166A06*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	177	0.12	MF+M00120-04	OPF-04
H01166A08*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	207	0.14	MF+M00120-05	OPF-05
H01166A10*	10	-6	3/8"	14.4	0.57	16.4	0.65	210	3,040	840	12,180	65	2.56	301	0.20	MF+M00120-06	OPF-06
H01166A12*	12	-8	1/2"	18.1	0.71	20.3	0.80	210	3,040	840	12,180	90	3.54	441	0.30	MF+M00120-08	OPF-08
H01166A16*	16	-10	5/8"	22.2	0.87	24.2	0.95	210	3,040	840	12,180	100	3.94	616	0.41	MF+M00120-10	OPF-10
H01166A19*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	761	0.51	MF+M00120-12	OPF-12
H01166A25*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,172	0.79	MF+M00130-16	OPF-16

## KEY FEATURES

- Extreme abrasion resistance
- Impact and scratch resistant cover
- Very low bend radius to suit restricted space installations
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- Vacuum resistance according to SAE 100R4 requirements

## APPLICATIONS & FLUIDS

- Low and medium pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- 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

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One wire braid (DN 6-12). Two wire braid (DN 16-25)

## COVER

R.O.C.  
Synthetic rubber with extreme abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-C; Exceeds SAE J517 Type 100R17 & ISO 11237-R17

## TYPE APPROVALS

MSHA

# FOREMASTER/28

OUTSTANDING ABRASION RESISTANCE



HOSES

70

## 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
H01167A06*	6	-4	1/4"	11.6	0.46	13.2	0.52	280	4,060	1,120	16,240	50	1.97	254	0.17	MF+M00120-04	OPF-04
H01167A08*	8	-5	5/16"	12.9	0.51	14.5	0.57	280	4,060	1,120	16,240	55	2.17	279	0.19	MF+M00120-05	OPF-05
H01167A10*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	374	0.25	MF+M00120-06	OPF-06
H01167A12*	12	-8	1/2"	18.5	0.73	20.3	0.80	280	4,060	1,120	16,240	80	3.15	488	0.33	MF+M00120-08	OPF-08
H01167A16*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	719	0.48	MF+M00120-10	OPF-10
H01167A19*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,040	0.70	MF+M00120-12	OPK-12

### KEY FEATURES

- Extreme abrasion resistance
- Impact and scratch resistant cover
- Very low bend radius to suit restricted space installations
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- Vacuum resistance according to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- 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

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile wire braids

### COVER

R.O.C.

Synthetic rubber with extreme abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-C; Exceeds SAE J517 Type 100R19 & ISO 11237-R19

### TYPE APPROVALS

MSHA

# FOREMASTER/35

EXTREME SCRATCHING RESISTANCE



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
H10133010*	10	-6	3/8"	15.5	0.61	17.1	0.67	350	5,070	1,400	20,300	65	2.56	440	0.30	MF+M00120-06	
H10133012*	12	-8	1/2"	18.6	0.73	20.6	0.81	350	5,070	1,400	20,300	80	3.15	573	0.39	MF+M00120-08	
H10133019*	19	-12	3/4"	27.5	1.08	31.7	1.25	350	5,070	1,400	20,300	140	5.51	1,251	0.84	IP+M01500-12	SP+M05400-12
H10133025*	25	-16	1"	34.6	1.36	38.8	1.53	350	5,070	1,400	20,300	190	7.48	1,843	1.24	IP+M01500-16	SP+M05400-16
H10133031*	31	-20	1.1/4"	42.1	1.66	47.1	1.85	350	5,070	1,400	20,300	230	9.06	2,484	1.67	IP+M01500-20	
H10133038*	38	-24	1.1/2"	52.9	2.08	57.9	2.28	350	5,070	1,400	20,300	300	11.81	4,268	2.87	IP+M01600-24	
H10133051*	51	-32	2"	66.8	2.63	72.2	2.84	350	5,070	1,400	20,300	360	14.17	6,278	4.22	IP+M01800-32	

## KEY FEATURES

- Extremely high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for maximum resistance in harsh environments
- Very low bend radius to suit restricted space installations
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- High impulse resistance according to ISO 18752 requirements

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Designed for forestry machines, booms and harvester heads, harsh environments and severe abrasion
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals

## COVER

DN 10-12 - R.O.C.

Synthetic rubber with extreme abrasion and ozone resistance  
DN 19 and larger - ARMoured

Synthetic rubber composite cover with textile reinforcement, high abrasion and very high scratch resistance

## APPLICABLE SPECS

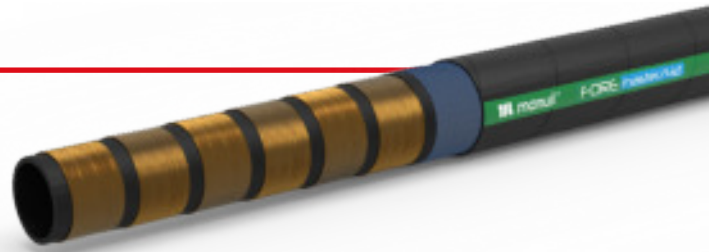
Manuli® Design, ref. ISO 18752-C

## TYPE APPROVALS

MSHA; CU-TR

# FOREMASTER/42

EXTREME SCRATCHING RESISTANCE



HOSES 72

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
H10134006*	6	-4	1/4"	11.3	0.44	13.1	0.51	420	6,090	1,680	24,360	45	1.77	284	0.19		
H10134010*	10	-6	3/8"	17.6	0.69	20.0	0.78	420	6,090	1,680	24,360	100	3.93	684	0.46	MF+M00910-06	
H10134012*	12	-8	1/2"	20.3	0.79	22.7	0.89	420	6,090	1,680	24,360	120	4.72	797	0.54	MF+M00910-08	
H10134016*	16	-10	5/8"	23.9	0.94	26.4	1.03	420	6,090	1,680	24,360	140	5.51	982	0.66	MF+M01500-10	
H10134019*	19	-12	3/4"	27.7	1.09	31.9	1.26	420	6,090	1,680	24,360	150	5.91	1,356	0.91	IP+M01500-12	
H10134025*	25	-16	1"	34.8	1.37	39.0	1.54	420	6,090	1,680	24,360	210	8.27	2,079	1.40	IP+M01500-16	
H10134031*	31	-20	1.1/4"	42.2	1.66	46.5	1.83	420	6,090	1,680	24,360	260	10.24	2,474	1.66	IP+M01500-20	
H10134038*	38	-24	1.1/2"	53.2	2.09	58.2	2.29	420	6,090	1,680	24,360	310	12.20	4,536	1.40	IP+M01600-24	
H10134051*	51	-32	2"	68.9	2.71	73.5	2.89	420	6,090	1,680	24,360	500	19.69	7,325	4.92	IS+M02700-32	SPGX+M05500-32GX

## KEY FEATURES

- Extremely high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for maximum resistance in harsh environments
- Very low bend radius to suit restricted space installations
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- High impulse resistance according to ISO 18752 requirements

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Designed for forestry machines, booms and harvester heads, harsh environments and severe abrasion
- 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals

## COVER

DN 6-16 - R.O.C.

Synthetic rubber with extreme abrasion and ozone resistance

DN 19 and larger - ARMoured

Synthetic rubber composite cover with textile reinforcement, high abrasion and very high scratch resistance

## APPLICABLE SPECS

Manuli® Design, ref. ISO 18752-C

## TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/21

EXTREME COLD ENVIRONMENTS



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
H01158016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	609	0.41	MF+M00120-10	OPF-10
H01158019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	765	0.51	MF+M00120-12	OPF-12
H01158025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,188	0.80	MF+M00130-16	OPF-16

## KEY FEATURES

- Good flexibility at very low temperatures
- Reduced bend radius, according to compact hoses standard requirements
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving vs. traditional hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- 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

-60 °C, -76 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

2 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

ISO 18752-B Ext.

## TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/35

EXTREME COLD ENVIRONMENTS



HOSES 74

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
H01159006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	285	0.19	MF+M00120-04	OPF-04
H01159006*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5,070	1,400	20,300	55	2.17	320	0.22	MF+M00120-05	OPF-05
H01159010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	390	0.26	MF+M00120-06	OPF-06
H01159012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	553	0.37	MF+M00120-08	OPF-08
H01159019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,212	0.81	IP+M01500-12	SP+M05400-12
H01159025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,773	1.19	IP+M01500-16	SP+M05400-16
H01159031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,335	1.57	IP+M01500-20	SP+M05400-20

## KEY FEATURES

- Good flexibility at very low temperatures
- Bend radius which exceeds the standard requirements by -30% to -50%
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving of 20% vs. traditional R13 hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- 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

-60 °C, -76 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

2 high tensile steel braids (DN 6-12). Four high tensile steel spirals (DN 19-31)

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

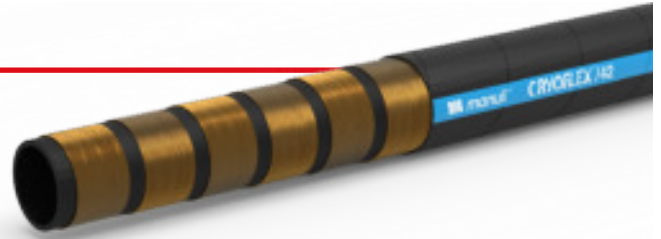
ISO 18752-B Ext.

## TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/42

EXTREME COLD ENVIRONMENTS



## 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
H10123019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,281	0.86	IP+M01500-12	SP+M05400-12
H10123025*	25	-16	1"	35.0	1.38	37.5	1.48	420	6,090	1,680	24,360	210	8.27	2,004	1.35	IP+M01500-16	SP+M05400-16
H10123031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	260	10.24	3,665	2.46	IP+M01600-20	
H10123051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,302	4.91	IS+M02700-32	

### KEY FEATURES

- Good flexibility at very low temperatures
- Bend radius which exceeds the standard requirements by -30% to -50%
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving of 20% vs. traditional R15 hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- 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

-60 °C, -76 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 19-25). Six high tensile steel spirals (DN 31-51)

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-B Ext.

### TYPE APPROVALS

MSHA; CU-TR

# ANACONDA

HEAVY DUTY, LOW BENDING FORCE



HOSES 76

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
H10132019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,288	0.87	IP+M01500-12	SP+M05400-12
H10132025*	25	-16	1"	35.3	1.39	37.7	1.48	420	6,090	1,680	24,360	210	8.27	2,012	1.35	IP+M01500-16	SP+M05400-16
H10132031*	31	-20	1.1/4"	42.2	1.66	45.5	1.79	420	6,090	1,680	24,360	260	10.24	2,453	1.65	IP+M01500-20	SP+M05400-20
H10132038*	38	-24	1.1/2"	52.5	2.07	55.5	2.19	420	6,090	1,680	24,360	300	11.81	4,076	2.74	IP+M01600-24	
H10132A38* †	38	-24	1.1/2"	50.4	1.98	53.4	2.10	350	5,070	1,400	20,300	300	11.81	3,269	2.19	IP+M01600-24	

† Compact hose

## KEY FEATURES

- Low bending force to suit difficult undercarriage installations
- Bend radius which exceeds the standard requirements
- Good flexibility across the whole temperature range
- Easy mounting in static configurations
- High impulse resistance according to ISO 18752
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines in hydrostatic transmissions
- Applications with installation constraints, short assemblies in static configurations, low bend radii in undercarriage 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

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals (six high tensile steel spirals DN 38 standard version)

## COVER

STRONG - TYPE "SC"

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

## APPLICABLE SPECS

ISO 18752 Grade C, exceeds SAE J517 R15, ISO 3862 R15

## TYPE APPROVALS

MSHA; CU-TR

## REMARKS



- Sizes -12 and -16 are qualified to reduced bend radius with Interlock Plus fitting solution  
 -12: MBR = 110mm  
 -16: MBR = 150mm

# HERCULES/HT

HEAVY DUTY FOR GIANT EQUIPMENT



## 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
H10125031*	31	-20	1, 1/4"	47.7	1.88	50.9	2.00	420	6,090	1,680	24,360	400	15.75	4,175	2.81	IP+M01850-20	
H10125038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	420	6,090	1,680	24,360	450	17.72	5,195	3.49	IS+M02700-24	
H10125051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,265	4.88	IS+M02700-32	

### KEY FEATURES

- Robustness and durability - longer than 1 year on "hump hose" applications
- Bend radius exceeds standard requirements by -30% to -50%
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Hump hoses on giant excavators
- Long durability due to special tube compound
- Applications with long assemblies with self-standing capacity
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- 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

-46 °C, -50 °F

135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Six high tensile steel wire spirals

### COVER

STRONG - TYPE "SC"

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

### APPLICABLE SPECS

ISO 18752-D Ext., exceeds SAE J517 R15

### TYPE APPROVALS

MSHA; CU-TR

### REMARKS



- Hercules/HT is enhanced by new HSSL heat shrinkable sleeves (optional). These heat shrinkable sleeves protect the ferrule from dirt inclusion and moisture ingress under the ferrule. Sleeves are made with heat shrinkable material, which is self-extinguishing and provides low voltage electrical insulation, provide the best possible protection with high abrasion resistance.

# HYDROROPE

## OUTSTANDING TENSILE STRENGTH



HOSES 78

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
H10136025*	25	-16	1	38.2	1.50	41.4	1.63	420	6,090	1,680	24,360	400	15.51	2,910	1.95	IP+M01850-16	
H10136031*	31	-20	1.1/4"	46.9	1.85	50.1	1.97	420	6,090	1,680	24,360	450	17.72	3,749	2.52	IP+M01600-20	
H10136A38*†	38	-24	1.1/2"	53.2	2.09	56.5	2.22	350	5,076	1,400	20,305	500	19.65	4,256	2.86	IP+M01600-24	
H10136038*	38	-24	1.1/2"	54.7	2.15	57.3	2.26	420	6,090	1,680	24,360	600	23.62	4,650	3.12	IS+M02700-24	
H10136051*	51	-32	2"	69.2	2.72	72.4	2.85	420	6,090	1,680	24,360	800	31.50	6,590	4.42	IS+M02700-32	
H10136063*	63	-40	2.1/2"	84.1	3.31	87.3	3.44	380	5,511	1,520	22,045	900	35.43	9,405	6.31	IP+M01900-40	
H10136076*	76	-48	3"	97.1	3.82	100.2	3.94	350	5,076	1,400	20,305	1000	39.37	11,106	7.46	IS+M02700-48	

† Compact hose

### KEY FEATURES

- Designed to resist pulling force
- High pressure resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs
- Anti-static and anti-toxic cover

### APPLICATIONS & FLUIDS

- Heavy duty power lines in severe environmental conditions
- Specific installations with tough abrasion conditions
- Off-shore applications, underground and open-pit mining, special machines where hose high pulling resistance is required (grabs, etc.)
- 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

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four (DN 25, 31, DN 38 Compact) and six (DN 38, DN 76) high tensile steel spirals + One high tensile steel wire braid

### COVER

STRONG - TYPE "SC"

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

### APPLICABLE SPECS

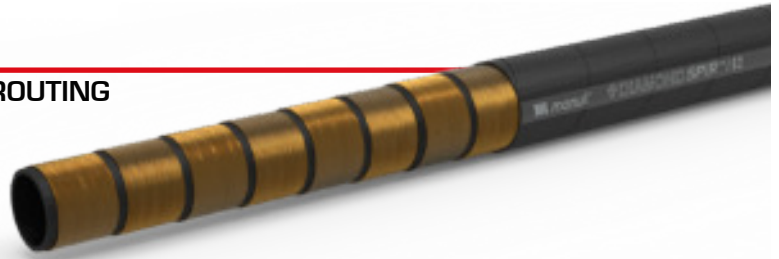
Manuli® Design

### TYPE APPROVALS

MSHA; CU-TR;

# DIAMONDSPIR/62

VERY HIGH PRESSURE HYDRAULICS & JET GROUTING



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
H10118031*	31	-20	1.1/4"	51.2	2.02	54.4	2.14	621	9,005	2,484	36,018	600	23.62	5,638	3.79	IP+M01900-20	
H10118038*	38	-24	1.1/2"	59.3	2.33	63.2	2.49	621	9,005	2,484	36,018	800	31.50	7,100	4.77	IS+M02900-24	

## KEY FEATURES

- Extremely robust structure for liquid concrete high pressure pumping, with safety factor 4:1
- Double-skive reliable fittings, also available in stainless steel
- Approved for very high pressure hydraulics with ISO 6803 fatigue test (200,000 cycles, T=100°C, WP)

## APPLICATIONS & FLUIDS

- Liquid concrete, bentonite, for jet grouting (very high pressure)
- Hydraulic oils (heavy duty, high pressure)
- Water-based hydraulic oils, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Multiple high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752 Grade A Ext., EN 16228-6: safety factor 4:1

## TYPE APPROVALS

MSHA; CU-TR

# GOLDENGUARD/3000

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES  
80

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
H11022019*	19	-12	3/4"	26.9	1.06	32.3	1.27	207	3,000	828	12,000	180	7.09	1,288	0.87	OPK-12	
H11022025*	25	-16	1"	34.1	1.34	40.1	1.58	207	3,000	828	12,000	230	9.06	1,876	1.26	OPK-16	

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Cover has flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycols and polyglycols, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel wire spirals

## COVER

Red insulant and flame retardant synthetic rubber

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2), ISO 18752-C

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D Fire Test (DNV); LR; CCS; ABS

## REMARKS



- Refer to GoldenGuard assembling instructions and crimp chart for correct assembling (partial skive required)

# GOLDENGUARD/5000

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES  
81

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
H11020019*	10	-6	3/8"	16.7	0.66	20.7	0.81	345	5,000	1,380	20,010	127	5.00	651	0.44	MF+M00910-06	OPK-06
H11020012*	12	-8	1/2"	20.1	0.79	24.1	0.95	345	5,000	1,380	20,010	150	5.91	820	0.55	MF+M00910-08	OPK-08
H11020016*	16	-10	5/8"	25.5	1.00	30.9	1.22	345	5,000	1,380	20,010	180	7.09	1,490	1.00	IP+M01500-10	
H11020019*	19	-12	3/4"	29.0	1.14	36.2	1.43	345	5,000	1,380	20,010	240	9.45	2,024	1.36	IP+M01500-12	SP+M05400-12
H11020025*	25	-16	1"	36.0	1.42	44.0	1.73	345	5,000	1,380	20,010	300	11.81	2,742	1.84	IP+M01500-16	SP+M05400-16
H11020031*	31	-20	1.1/4"	47.0	1.85	55.0	2.17	345	5,000	1,380	20,010	420	16.54	4,293	2.88	IP+M01600-20	SP+M05500-20
H11020038*	28	-24	1.1/2"	54.6	2.15	62.6	2.46	345	5,000	1,380	20,010	500	19.69	5,531	3.72	IP+M01600-24	SP+M05500-24
H11020051*	51	-32	2"	68.4	2.69	76.4	3.01	345	5,000	1,380	20,010	630	24.80	7,712	5.18	IP+M01800-32	SP+M05500-32

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Cover has flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycols and polyglycols, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Multiple plies of high tensile steel wire spirals (DN 16-25); 2 wire braids (DN 10-12)

## COVER

Red insulant and flame retardant synthetic rubber

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2), DN 10-12: ISO 18752-A; DN 16-51: ISO 18752-C (STD2 fitting) and Type C "Plus" (STD1 fitting), ISO 3862 & SAE J517-100R13 performance

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D Fire Test (DNV); LR; CCS; ABS

## REMARKS



- Refer to GoldenGuard assembling instructions and crimp chart for the use of accessories when required:
  - STD1 fitting solution: Fire sleeve & metal sleeve over the fitting area required
  - STD2 fitting solution: No accessories required
- The STD1 fitting solution has been selected for the most demanding applications
- DN 10 & 12: Max. continuous temperature 100 °C for these wire braided references

# GOLDENARMOUR

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES 82

TECHNICAL DATA												
									PROOF TEST			
PART REF.	HOSE TYPE	HOSE SIZE			MAX. W.P		BURST		TEST		FITTINGS	ACCESSORIES
		DN	dash	inch	bar	psi	bar	psi	bar	psi		
H01101010*	ROCKMASTER/2PLUS	10	-6	3/8"	345	5,000	1,380	20,000	690	10,000	MF+IM00910-06	JP45G090280099
H01101012*	ROCKMASTER/2PLUS	12	-8	1/2"	345	5,000	1,380	20,000	690	10,000	MF+IM00910-08	JP45G090320099
H10044016*	ROCKMASTER/4SH	16	-10	5/8"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-10	JP45G090400099
H10035019*	ROCKMASTER/13	19	-12	3/4"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-12	JP45G090450099
H10035025*	ROCKMASTER/13	25	-16	1"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-16	JP45G090500099
H10035032*	ROCKMASTER/13	31	-20	1.1/4"	345	5,000	1,380	20,000	690	10,000	IP+IM01600-20	JP45G090650099
H10035040*	ROCKMASTER/13	38	-24	1.1/2"	345	5,000	1,380	20,000	690	10,000	IP+IM01600-24	JP45G090750099
H10035051*	ROCKMASTER/13	51	-32	2"	345	5,000	1,380	20,000	690	10,000	IP+IM01800-32	JP45G090900099

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a stainless steel armour cover
- Long lasting resistance of the cover layer
- Flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycol and polyglycol based oils, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F (DN 10-12); 121 °C, 250 °F DN 16-51

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids (DN 10-12); Multiple plies of high tensile steel spirals (DN 16-51)

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2);  
ISO 18752-A (DN 10-12);  
ISO 18752-C, ISO 3862, SAE J517 Type 100R13 performance (DN 16-51)

## TYPE APPROVALS

DNV-GL; LR; API 16D Fire Test (DNV); ABS; CCS; CU-TR

## REMARKS

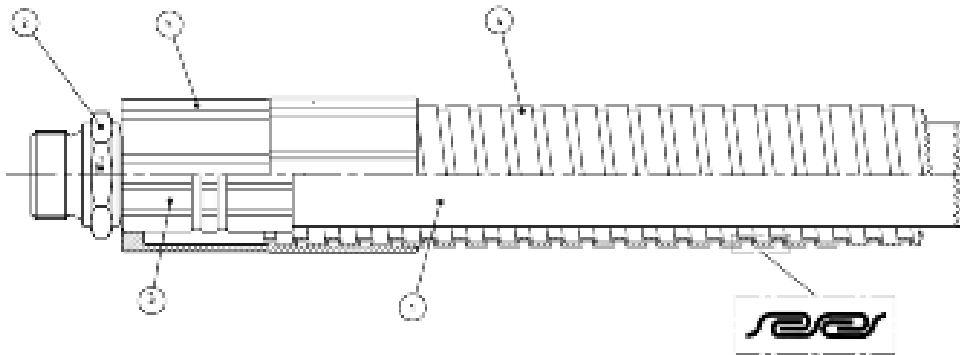


- Refer to Golden Armour assembling instructions and crimp chart for the correct assembly of the hose
- Hose Assembly Branding: The Golden Armour assembly must report at least the following information in the hose brand:
  - - inch size - WP 5,000 psi (on the metal sleeve)
  - assembling date - assembler identification (additional tag or on the metal sleeve)

# GOLDENARMOUR

## EMERGENCY HYDRAULIC SYSTEMS & BOP

### GOLDENARMOUR MAKE-UP



1. Hydraulic hose
2. Hydraulic MF2000 insert type, with additional tail o-ring only for IP fitting solution
3. Hydraulic MF2000 ferrule type
4. External flexible Metal Armour (interlocked flexible metal hose)
5. Metal Sleeve

HOSES 83

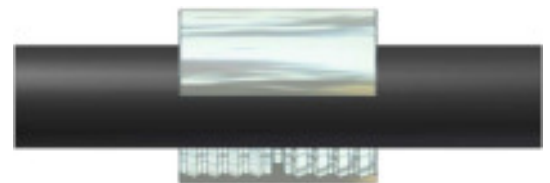
### ACCESSORIES TECHNICAL DATA

ARMOUR PART REF.	TO SUIT HOSE SIZE			ARMOUR SIZE				MIN. BEND		WEIGHT		METAL SLEEVE			ARMOUR JOINT		
				d		D						PART REF.	D	L	PART REF.	D	L
				mm	inch	mm	inch										
JP45G090280099	10	-6	3/8"	25	1"	32.0	1.26	127	5.00	565	0.38	IO82110-06GA	40.5	60	IO84210-06	40.5	65
JP45G090320099	12	-8	1/2"	31	1.1/4"	36.5	1.44	150	5.91	703	0.47	IO82110-08GA	46.8	75	IO84210-08	46.8	65
JP45G090400099	16	-10	5/8"	38	1.1/2"	44.5	1.75	180	7.09	939	0.63	IO82110-10GA	53.2	90	IO84210-10	53.2	65
JP45G090450099	19	-12	3/4"	46	1.3/4"	51.0	2.01	240	9.45	1,118	0.75	IO82110-12GA	59.5	105	IO84210-12	59.5	70
JP45G090500099	25	-16	1"	51	2"	57.5	2.26	300	11.81	1,301	0.87	IO82110-16GA	66.0	120	IO84210-16	66.0	75
JP45G090650099	31	-20	1.1/4"	63	2.1/2"	70.0	2.76	420	16.54	1,636	1.10	IO82110-20GA	78.6	135	IO84210-20	78.6	95
JP45G090750099	38	-24	1.1/2"	76	3"	82.5	3.27	500	19.69	1,920	1.29	IO82110-24GA	91.5	150	IO84210-24	91.5	105
JP45G090900099	51	-32	2"	89	3.1/2"	96.0	3.78	630	24.80	2,386	1.60	IO82110-32GA	106.5	165	IO84210-32	106.5	115

### ARMOUR JOINING PROCEDURE

Individual pieces of the Golden Armour metal sleeve can be joined using a dedicated Armour Joint. The procedure for joining the pieces of flexible armour is as follows:

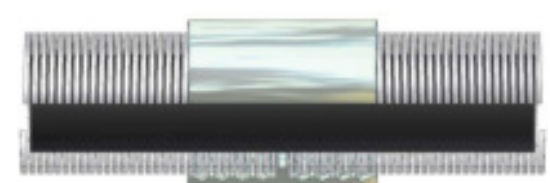
1. Slide the Armour Joint onto the hose.



2. Insert the first piece of flexible armour into the Armour Joint until it reaches the internal stop.



3. Insert the second piece of flexible armour into the other side of the Armour Joint until it also reaches the internal stop.



# SAFEMASTER/2SC

RAILWAY - EN 45545-2



HOSES

84

## 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
H01162006*	6	-4	1/4"	11.3	0.44	13.1	0.52	400	5800	1850	26830	45	1.77	290	0.19	MF+M03300-04	OPF-04
H01162008*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5070	1700	24650	55	2.17	322	0.22	MF+M03300-05	OPF-05
H01162010*	10	-6	3/8"	15.0	0.59	16.8	0.66	330	4780	1500	21750	65	2.56	388	0.26	MF+M03300-06	OPF-06
H01162012*	12	-8	1/2"	18.5	0.73	20.3	0.80	275	3980	1220	17690	80	3.15	496	0.33	MF+M03300-08	OPF-08
H01162016*	16	-10	5/8"	21.8	0.86	23.6	0.93	250	3620	1050	15220	90	3.54	615	0.41	MF+M03400-10	OPF-10
H01162019*	19	-12	3/4"	25.6	1.01	27.6	1.09	245	3550	980	14210	120	4.72	788	0.53	MF+M03400-12	OPF-12
H01162025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3040	840	12180	150	5.91	1188	0.80	MF+M03400-16	OPF-16

### KEY FEATURES

- Compactness and flexibility
- Good abrasion resistance
- High ozone and weather resistance
- Cover has flame retardant properties
- Cover has low density smoke when burning (EN 45545-2)
- Over-standard working pressures

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, railway hydraulic applications
- Mineral oils, vegetable and rape seed oils and synthetic ester based oils, glycols and polyglycols, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids

### COVER

Synthetic rubber with high ozone, weather and heat resistance and flame retardant properties

### APPLICABLE SPECS

Exceeds EN 857 2SC; SAE 100R16; ISO 11237 2SC/R16

### TYPE APPROVALS

EN 45545-2; CU-TR

# SAFEMASTER/2SN

RAILWAY - EN 45545-2



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
H01165006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5800	1750	25380	50	1.97	356	0.24	MF+M03400-04	OPF-04
H01165008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5070	1480	21460	60	2.36	394	0.26	MF+M03400-05	OPF-05
H01165010*	10	-6	3/8"	16.7	0.66	18.7	0.74	350	5070	1400	20300	70	2.76	520	0.35	MF+M03400-06	OPF-06
H01165012*	12	-8	1/2"	19.8	0.78	21.8	0.86	350	5070	1400	20300	89	3.50	651	0.44	MF+M03450-08	OPF-08
H01165016*	16	-10	5/8"	23.0	0.91	25.0	0.98	250	3620	1020	14790	100	3.94	713	0.48	MF+M03400-10	OPF-10
H01165019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3110	900	13050	130	5.12	910	0.61	MF+M03400-12	OPF-12
H01165025*	25	-16	1"	34.8	1.37	36.8	1.45	175	2530	670	9710	160	6.30	1256	0.84	MF+M03400-16	OPF-16
H01165031*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	140	2030	600	8700	419	16.50	1898	1.28	MF+M03400-20	OPK-20
H01165038*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1450	500	7250	500	19.69	2227	1.50	MF+M03400-24	OPK-24

## KEY FEATURES

- Good abrasion resistance
- High ozone and weather resistance
- Cover has flame retardant properties
- Cover has low density smoke when burning (EN 45545-2)
- Over-standard working pressures

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, railway hydraulic applications
- Mineral oils, vegetable and rape seed oils and synthetic ester based oils, glycols and polyglycols, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

Synthetic rubber with high ozone, weather and heat resistance and flame retardant properties

## APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

## TYPE APPROVALS

EN 45545-2; CU-TR

# T°REX

## EXTREME TEMPERATURE



HOSES 86

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
H01127031*	31	-20	1.1/4"	0.0	0.00	40.7	1.60	43	620	172	2,490	203	7.99	925	0.62	MF+M00110-20TX	

### KEY FEATURES

- Extreme high temperature and aging resistance
- High flexibility
- Long service duration

### APPLICATIONS & FLUIDS

- Oil cooling systems, automatic transmissions with very high temperature of the oil, low pressure high temperature applications in hydraulic systems.
- Mineral oils, Synthetic Hydrocarbons oils, glycols and polyglycols (up to 121°C, 250°F)

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

160 °C, 320 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel wire braid

### COVER

Synthetic rubber with extremely high heat resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR

# TWINPOWER 4000

EASY INSTALLATION FOR OEMS



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
H01119010*	10	-6	3/8"	15.4	0.61	18.0	0.71	280	4,060	1,120	16,240	65	2.56	830	0.56	MF+M00120-06	
H01119012*	12	-8	1/2"	18.5	0.73	21.5	0.85	280	4,060	1,120	16,240	80	3.15	1,100	0.74	MF+M00120-08	

## KEY FEATURES

- Compact hose structure and reduced bend radius
- Isobaric rating for easy selection
- Smooth cover hose ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Warehouse/logistic optimization with reduced codes in stock

## APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

DN 10: ISO 11237 R19; SAE J517 Type100R19. DN 12: ISO 11237 2SC; EN 857 2SC, SAE J517 Type 100R16

## TYPE APPROVALS

CU-TR

# TWINPOWER 5000

EASY INSTALLATION FOR OEMS



HOSES 88

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
H01120008*	8	-5	5/16"	12.9	0.51	15.3	0.60	350	5,070	1,400	20,300	55	2.17	682	0.46	MF+M00120-05	
H01120010*	10	-6	3/8"	15.0	0.59	17.6	0.69	350	5,070	1,400	20,300	65	2.56	830	0.56	MF+M00120-06	
H01120012*	12	-8	1/2"	18.6	0.73	21.6	0.85	350	5,070	1,400	20,300	80	3.15	1,190	0.80	MF+M00120-08	

## KEY FEATURES

- Compact hose structure and reduced bend radius
- Isobaric rating exceeding international specifications
- Smooth cover hose ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Higher abrasion resistant and flame retardant MSHA approved cover
- Warehouse/logistic optimization with reduced codes in stock

## APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds ISO 11237 2SC/R16; EN 857 2SC; SAE J517 Type 100R16

## TYPE APPROVALS

CU-TR; MSHA

# TWINPOWER/PLUS

EASY INSTALLATION FOR OEMS



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
H01112A12*	12	-8	1/2"	18.5	0.73	22.5	0.89	310	4,490	1,240	17,980	80	3.15	1,220	0.82	MF+M00120-08	
H01112016*	16	-10	5/8"	22.7	0.89	26.3	1.04	280	4,060	1,120	16,240	90	3.54	1,640	1.10	MF+M00120-10	

## KEY FEATURES

- Compact hose structure and reduced bend radius
- Approved with 500.000 flexing impulse cycles (1,33 WP), 125.000 flexing cycles (Manuli® testing method)
- Smooth hose cover ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Higher abrasion resistant and flame retardant MSHA approved cover
- Warehouse/logistic optimization with reduced codes in stock

## APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds ISO 11237 2SC/R16; EN 857 2SC; SAE J517 Type 100R16

## TYPE APPROVALS

CU-TR; MSHA

# FIREND

## FIRE SUPPRESSION SYSTEMS



HOSES

90

### 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
H01124006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	900	13,050	100	3.94	220	0.15	MF+M03400-04	OPF-04
H01124010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	720	10,440	127	5.00	325	0.22	MF+M03400-06	OPF-06
H01124012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	640	9,280	178	7.01	410	0.28	MF+M03400-08	OPF-08
H01124019*	19	-12	3/4"	25.3	1.00	27.9	1.10	105	1,520	420	6,090	240	9.45	660	0.44	MF+M03400-12	OPF-12
H01124025*	25	-16	1"	33.1	1.30	35.7	1.41	88	1,270	350	5,070	300	11.81	980	0.66	MF+M03400-16	

### KEY FEATURES

- SAE 100R1AT and ISO-1SN rated working pressures
- Flame retardant red cover
- Excellent performance for standard hydraulic applications
- Embossed indelible branding
- No skive MF2000 (two-pieces) and MF3000 (one-piece) fittings

### APPLICATIONS & FLUIDS

- Use in fire suppression systems of off-road vehicles, mining equipment, stationary engines. The hose present red cover for easy identification in the fire suppression system
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water, water based fire extinguishing agents

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel wire braid

### COVER

Red synthetic rubber with high ozone, abrasion and weather resistance

### APPLICABLE SPECS

ISO 1436-1SN; SAE J517 Type 100R1AT; EN 853-1SN

### TYPE APPROVALS

MSHA; CU-TR

# LUBEMASTER

## LUBRICATION LINE



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
H01135006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	180	0.12	MF+M03300-04	OPF-04
H01135010*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	300	0.20	MF+M03300-06	OPF-06

### KEY FEATURES

- Designed for applications with lubrication and transmission fluids
- Compact hose structures for installations in narrow spaces
- Isobaric pressure rating

### APPLICATIONS & FLUIDS

- Lubrication lines, auxiliary systems with transmission oils
- Mineral oils, glycols and polyglycols, transmission fluids (ATF), mineral based greases and lubrication oils.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR

# JACKMASTER/70

EXTREME STATIC PRESSURE



HOSES 92

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
H01168006*	6	-4	1/4"	12.7	0.50	14.7	0.58	700	10,510	1,750	25,380	100	3.94	370	0.25	MF+M03400-04	OPF-04
H01168010*	10	-6	3/8"	16.4	0.64	18.2	0.71	700	10,510	1,750	25,380	127	5.00	517	0.35	MF+M03400-06	OPF-06

## KEY FEATURES

- Robust structure
- ISO 16301 Class 70, Grade 1
- Extreme static pressures in remote locations
- Test certificate available upon request
- Skive and no-skive fittings available

## APPLICATIONS & FLUIDS

- Manually operated hydraulic jacking systems
- Mineral oils, vegetable oils, glycol and polyglycol based oils, synthetic ester based oils (up to 100°C/212°F)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

ISO 16301 Class 70, Grade 1

## TYPE APPROVALS

CU-TR

## REMARKS



- *Product designed for jacking applications.*
- *Any different use may reduce service life. Please contact Manuli Hydraulics for more information.*

# GOLDENMINE

CHINA COAL MINE HYDRAULICS



HOSES 93

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
H10116063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	

## KEY FEATURES

- Very high flow rates in high pressure
- Extreme robustness of the hose structures
- Hose compact dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped InterLock Plus fitting structure

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines in China coal mines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, underground and open pit mining.
- 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

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six high tensile steel spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

MT/T 98

## TYPE APPROVALS

MA; MSHA; CU-TR

## REMARKS



- The brand of the hose reports Allowable Working Pressure (AWP) 50.0 MPa (500 bar) , Safety Factor 2.8:1 according to the China Norm MT/T 98

