



# HOSES



# HOSES

## INTRODUCTION

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The hydraulic hose range is dedicated to hydraulic systems and equipment in many different sectors, such as construction machines, mining, industrial processes, agriculture, road construction equipment, drilling, forestry machines, material handling and lifting, road transportation, marine and offshore, and many others.

High pressure hydraulics is a means to transmit, control and distribute energy and power using a pressurised liquid, most often oil and water-based fluids, as a medium.

Manuli's UNIVERSAL hose range meets the ISO, EN, SAE, and JIS International Norms, while the EXTREME hose range is designed to meet special performance requirements in OEM severe applications. This second hose family also includes a group of hoses dedicated to Special Applications - products developed as a result of over 80 years of experience in the field.

The hose families follow traditional norms or the modern isobaric approach, which features a friendly methodology for users thanks to constant pressure levels for any size.

# HOSES INDEX

**HOSES**  
H0-2

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	SECTION	ITEM	
UNIVERSAL	TRADITIONAL	TRACTOR/1SN	Wire braided	EN 853, ISO 1436-1SN, SAE J517-100R1AT	Standard hydraulic applications	H1	1
		TRACTOR/2SN	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R-2AT	Standard hydraulic applications		2
		TRACTOR/1SC	Wire braided	EN 857, ISO 11237-1SC	Standard hydraulic applications		3
		TRACTOR/2SC	Wire braided	EN 857, ISO 11237-2SC, SAE J517-100R16	Standard hydraulic applications		4
		HARVESTER/17	Wire braided	SAE J517-100R17, ISO 11237-R17	Light and compact structure	H2	1
		GOLDENISO/14	Wire braided	ISO 18752 Type A	Compact, high flexibility	H3	1
		LYTE-FLEX	Wire braided	Manuli Design (compact wire braided)	High flexibility	H4	1
		COVER	Wire braided	SAE J517-100 R5	General purpose hose	H5	1
		SPIRTEX/K	Textile / Helix wire	SAE J517-100 R4	High quality suction hose	H6	1
		MULTITEX	Textile	SAE J517-100 R6, EN 854, ISO 4079 R6/1TE	Universal low pressure solution	H7	1
		ASTRO/2	Textile	EN 854, ISO 4079-2TE	Medium pressure solution	H8	1
		ASTRO/3	Textile	EN 854, ISO 4079-3TE	Medium pressure solution		2
		HYDROPLAST	Textile	EN 855, ISO 3949-R7, SAE J517-R100R7	Thermoplastic solution	H9	1
		HYDROTWIN	Textile	EN 855, ISO 3949-R7, SAE J517-R100R7	Twinned thermoplastic solution	H10	1
EXTREME	TRADITIONAL	ROCKMASTER/1SN	Wire braided	EN 853, ISO 1436-1SN, SAE J517-100R1AT	Abrasion, weather & heat resistance	H11	1
		ROCKMASTER/2SN	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R2AT	Abrasion, weather & heat resistance		2
		ROCKMASTER/2ST	Wire braided	EN 853, ISO 1436-2ST	Abrasion, weather & heat resistance		3
		ROCKMASTER/2 PLUS	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R2AT, perf. BCS174, ISO 6805-4	Abrasion, weather & heat resistance		4
		ROCKMASTER/1SC	Wire braided	EN 857, ISO 11237-1SC	Abrasion, weather & heat resistance		5
		ROCKMASTER/2SC	Wire braided	EN 857, ISO 11237-2SC, SAE J517-100R16	Abrasion, weather & heat resistance		6
		ROCKMASTER/4SP	Wire spiralled	EN 856, ISO 3862-4SP	Abrasion, weather & heat resistance		7
		ROCKMASTER/4SH	Wire spiralled	EN 856, ISO 3862-4SH	Abrasion, weather & heat resistance		8
		ROCKMASTER/12	Wire spiralled	EN 856, ISO 3862-R12, SAE J517-100R12	Abrasion, weather & heat resistance		9
		ROCKMASTER/13	Wire spiralled	EN 856, ISO 3862-R13, SAE J517-100R13	Abrasion, weather & heat resistance		10
		ROCKMASTER/15	Wire spiralled	ISO 3862-R15, SAE J517-100R15	Abrasion, weather & heat resistance		11
		EQUATOR/1 (BLUE)	Wire braided	EN 853, ISO 1436-1SN, SAE J517-100R1AT	Extreme temperature	H12	1
EQUATOR/1 (BLACK)	Wire braided	EN 853, ISO 1436-1SN, SAE J517-100R1AT	Extreme temperature	2			

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RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	SECTION	ITEM	
EXTREME	TRADITIONAL	EQUATOR/2 (BLUE)	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R2AT	Extreme temperature	H12	3
		EQUATOR/2 (BLACK)	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R2AT	Extreme temperature		4
		PILOT	Wire braided	Manuli Design	Superior lightness and flexibility	H13	1
		NOZONE/2K	Wire braided	EN 857, ISO 11237-2SC	Outstanding ozone resistance	H14	1
		ETERNITY/2	Wire braided	EN 857, ISO 11237-2SC, SAE J517-100R16	High service-life and reliability	H15	1
		DIAMONDSPIR	Wire spiralled	ISO 3862-R15, SAE J517-100R15	Very high pressure rating	H16	1
		SHIELDMASTER/2 PLUS MINE	Wire braided	EN 853, ISO 1436-2SN, SAE J517-100R2AT, perf. BCS174, ISO 6805-4	Outstanding abrasion resistance, MSHA approved	H17	1
		PUSHFIT	Textile	Manuli Design	Push-on hose	H18	1
		XTRAFLOW/2WB	Wire braided	Ext. EN 857-2SC, ISO 11237-2SC	Hiigh flow rates, low pressure drops	H19	1
		XTRAFLOW/4WS	Wire spiralled	Manuli Design	High flow rates, outstanding abrasion resistance		2
		XTRAFLOW/HT	Wire braided	Manuli Design	High temperature, suction and return lines		3
	ISOBARIC	GOLDENISO/21 ANTIWEAR	Wire braided	ISO 18752-A, ISO 11237-R17, SAE J517-100R17	Extreme abrasion resistance	H20	1
		GOLDENISO/28 ANTIWEAR	Wire braided	ISO 18752-A, ISO 11237-R19, SAE J517-100R19	Extreme abrasion resistance		2
		GOLDENISO/21 XTRAFLEX	Wire spiralled	ISO 18752-C/D, JIS K6349	Extreme flexibility		3
		GOLDENISO/28 XTRAFLEX	Wire spiralled	ISO 18752-C/D, JIS K6349	Extreme flexibility		4
		GOLDENISO/35 XTRAFLEX	Wire spiralled	ISO 18752-C/D, JIS K6349	Extreme flexibility		5
		GOLDENISO/42 XTRAFLEX	Wire spiralled	ISO 18752-C/C Plus	Extreme flexibility		6
		GOLDENISO/35 LONGLIFE	Wire braided	ISO 18752-B	High fatigue resistance		7
		GOLDENISO/38 LONGLIFE	Wire spiralled	ISO 18752-C/D	High fatigue resistance		8
		GOLDENISO/45 LONGLIFE	Wire spiralled	ISO 18752-D ext., ISO 11237-R15, SAE J517-100R15	High fatigue resistance		9
		SHIELDMASTER/2000	Wire braided	Manuli Design	Outstanding abrasion resistance		H21
SHIELDMASTER/4000	Wire braided and spiralled	Manuli Design	Outstanding abrasion resistance	2			
SHIELDMASTER/5000	Wire braided and spiralled	Manuli Design	Outstanding abrasion resistance	3			
SHIELDMASTER/6000	Wire braided and spiralled	Manuli Design	Outstanding abrasion resistance	4			
SHIELDMASTER/5000 MINE	Wire braided and spiralled	perf. BCS174, ISO 6805	Outstanding abrasion resistance, MSHA approved	5			
SHIELDMASTER/6000 MINE	Wire spiralled	ISO 3862-R15, SAE J517-100R15, perf. BCS174, ISO 6805-6	Outstanding abrasion resistance, MSHA approved	6			
SHIELDMASTER/17 WS	Wire spiralled	EN 856 R12, ISO 3862 R12, SAE J517-100R12	Outstanding abrasion resistance	7			

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**HOSES**  
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RANGE		HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	SECTION	ITEM
EXTREME	ISOBARIC	DIAMONDSPIR/14	Wire spiralled	ISO 18752-C ext.	High flow rates, outstanding abrasion resistance	H22	1
		DIAMONDSPIR/21	Wire spiralled	ISO 18752-C ext.	Very high hydraulic power transmission		2
		DIAMONDSPIR/35	Wire spiralled	ISO 18752-C ext.	Very high hydraulic power transmission		3
		FORESTMASTER/35	Wire spiralled	Manuli Design, ref. ISO 18752-C	Forestry machines, extreme abrasion resistance	H23	1
		FORESTMASTER/42	Wire spiralled	Manuli Design, ref. ISO 18752-C	Forestry machines, extreme abrasion resistance		2
				MASTERTEX	Textile	Exceeds SAE 100 R6, ISO 4079 R6/1TE	Low pressure, high temperature
APPLICATION ORIENTED		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	H25	1
		TWINPOWER 5000	Wire braided	Exceeds ISO 11237 2SC, EN 857 2SC, SAE J517 type 100R16	Compact, twinned hose structure		2
		TWINPOWER/PLUS	Wire braided	EN 857, ISO 11237-2SC, SAE J517-100R16	Compact, twinned hose structure		3
		T°REX	Wire braided	Manuli Design	Extreme temperature	H26	1
		LUBEMASTER	Wire braided	Manuli Design	Lubrication line	H27	1
		JACKMASTER	Wire braided	IJ-100, Manuli Design (ref. ISO/CD 16301)	Extreme static pressure	H28	1
		FIREND	Wire braided	EN 853, ISO 1436-1SN, SAE J517-100R1AT	Fire suppression systems	H29	1
		CPH/2SC	Wire braided	-	Cable protection hose	H30	1
		GOLDENMINE	Wire spiralled	MT/T 98	Very high hydraulic power transmission in coal mines (China)	H31	1
		GOLDENGUARD/3000	Wire spiralled	API 16D Fire Test (pr. 10.1.2), ISO 18752	Emergency hydraulics	H32	1
		GOLDENGUARD/5000	Wire spiralled	API 16D Fire Test (pr. 10.1.2), ISO 18752, ISO 3862, SAE J517-100R13	Emergency hydraulics		2
		GOLDENARMOUR	Wire spiralled	API 16D Fire Test (pr. 10.1.2), ISO 18752, ISO 3862, SAE J517 type 100R13	Emergency hydraulics	H33	1

# HOSES BY WORKING PRESSURE

HOSE SIZE	WORKING PRESSURE (bar)																				
	DN	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
TRACTOR/1SN		250	225	215	180	160	130	105		88		63		50		40	50				
TRACTOR/2SN		415	400	350	330	275	250	215		165		125		90		80	90				
TRACTOR/1SC			225	215	180	160	130	105		88		63		50		40		50	35		
TRACTOR/2SC			400	350	330	275	250	215		165		125		100		90		70	45		
HARVESTER/17			210	210	210	210															
GOLDENISO/14			140	140	140																
LYTE-FLEX			350	297	280	245	210	210		140											
COVER		210	210	157	140	122	105		56		43		35		24						
SPIRTEX/K						21	21			17		14		10		7		4	4	3	2
MULTITEX		35	30	30	30	30	30	30		30											
ASTRO/2			75	68	63	58	50	45		40		35									
ASTRO/3			145	130	110	93	80	70		55		45		40		33					
HYDROPLAST		210	192	187	175	140															
HYDROTWIN		210	192	187	175	140															
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			450		400	362	340	310		240		175		146		130			70		
ROCKMASTER/1SC			260	250	225	190	150	150		110		75		50		50					
ROCKMASTER/2SC		420	400	350	330	275	250	245		210		140		100		90		70	45		
ROCKMASTER/4SP			485		450	420	380	380		320		210		185		175					
ROCKMASTER/4SH						450	420			385		350		300		250					
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							
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					
PILOT		150	150	120	100	100															
NOZONE/2K			400	350	330	275	250	215													
ETERNITY/2			450	400	365	350	300	300		225											
DIAMONDSPIR								560		560		525		475		420					
SHIELDMASTER/2 PLUS MINE			400	400	362		310			240		175		146		130					
PUSHFIT			35	35	35	25	25	21		14											
XTRAFLOW/2WB																		105	80	35	
XTRAFLOW/4WS																		140	105	80	35
XTRAFLOW/HT																		35	35	35	
GOLDENISO/21 ANTIWEAR		210	210	210	210	210	210	210		210											
GOLDENISO/28 ANTIWEAR			280	280	280	280	280	280													
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					
GOLDENISO/35 LONGLIFE			350		350																

# HOSES BY WORKING PRESSURE

HOSES  
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HOSE SIZE	WORKING PRESSURE (bar)																				
	DN	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
GOLDENISO/38 LONGLIFE								380		380		380		380		380					
GOLDENISO/45 LONGLIFE		460					460	460		460		450									
SHIELDMASTER/2000		140		140	140																
SHIELDMASTER/4000		276	276	276	276	276	276		276		276		276		276		276				
SHIELDMASTER/5000		345	345	345	345	345	345		345												
SHIELDMASTER/6000		420		420	420	420	420		420		420		420		420		420				
SHIELDMASTER/5000 MINE		345	345	345	345	345	345		345		345										
SHIELDMASTER/6000 MINE											420		420		420						
SHIELDMASTER/17 WS																175					
DIAMONDSPIR/14																				140	
DIAMONDSPIR/21																		210	210		
DIAMONDSPIR/35																		350	350		
FORESTMASTER/35								350		350											
FORESTMASTER/42						420	420		420		420										
MASTERTEX		30		30	30	30															
TWINPOWER 4000				280	280																
TWINPOWER 5000			350	350	350																
TWINPOWER/PLUS					310																
T°REX												43									
LUBEMASTER		210		210																	
JACKMASTER		725		725																	
FIREND		225		180	160		105		88												
GOLDENMINE																		350			
GOLDENGUARD/3000							207		207												
GOLDENGUARD/5000				345	345	345	345		345		345		345		345		345				
GOLDENARMOUR				345	345	345	345		345		345		345		345		345				



# HOSES BY APPROVALS

	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS								MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Elevators EN81-2	CU-TR
TRACTOR/1SN			*											*
TRACTOR/2SN			*											*
TRACTOR/1SC			*									*		*
TRACTOR/2SC			*									*		*
HARVESTER/17					*									*
GOLDENISO/14								*						*
LYTE-FLEX					*									*
COVER														*
SPIRTEX/K														*
MULTITEX														*
ASTRO/2			*											*
ASTRO/3			*											*
HYDROPLAST														*
HYDROTWIN														*
ROCKMASTER/1SN	*	*	*	*	*		*	*	*		*	*		*
ROCKMASTER/2SN	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/2ST		*			*			*	*	*	*			*
ROCKMASTER/2 PLUS		*	*		*			*	*	*	*			*
ROCKMASTER/1SC					*			*	*	*	*			*
ROCKMASTER/2SC	*	*	*		*	*		*	*	*	*			*
ROCKMASTER/4SP	*	*	*		*	*	*	*	*	*	*			*
ROCKMASTER/4SH	*	*	*		*	*	*	*	*	*	*			*
ROCKMASTER/12	*	*			*		*	*	*		*	*		*
ROCKMASTER/13	*	*	*		*	*	*	*	*	*	*			*
ROCKMASTER/15	*	*	*		*		*	*	*	*	*			*
EQUATOR/1	*		*		*			*	*					*
EQUATOR/1 (BLUE)	*	*	*		*		*	*	*					*
EQUATOR/2	*		*		*			*	*					*
EQUATOR/2 (BLUE)	*	*	*		*		*	*	*					*
PILOT								*	*					*
NOZONE/2K								*	*					*
ETERNITY/2	*		*				*	*	*	*	*			*
DIAMONDSPIR	*							*	*	*	*			*
SHIELDMASTER/2 PLUS MINE								*	*					*
PUSHFIT														*
XTRAFLOW/2WB								*	*					*
XTRAFLOW/4WS								*	*	*	*			*
XTRAFLOW/HT								*	*					*
GOLDENISO/21 ANTIWEAR								*	*	*	*			*
GOLDENISO/28 ANTIWEAR								*	*	*	*			*
GOLDENISO/21 XTRAFLEX								*	*	*	*			*

# HOSES BY APPROVALS

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	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS								MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Elevators EN81-2	CU-TR
GOLDENISO/28 XTRAFLEX								*		*			*	
GOLDENISO/35 XTRAFLEX			*					*		*			*	
GOLDENISO/42 XTRAFLEX								*		*			*	
GOLDENISO/35 LONGLIFE								*					*	
GOLDENISO/38 LONGLIFE								*		*			*	
GOLDENISO/45 LONGLIFE								*		*			*	
SHIELDMASTER/2000													*	
SHIELDMASTER/4000													*	
SHIELDMASTER/5000													*	
SHIELDMASTER/6000													*	
SHIELDMASTER/5000 MINE								*		*			*	
SHIELDMASTER/6000 MINE								*		*			*	
SHIELDMASTER/17 WS								*					*	
DIAMONDSPIR/14								*					*	
DIAMONDSPIR/21								*			*		*	
DIAMONDSPIR/35								*			*		*	
FORESTMASTER/35								*					*	
FORESTMASTER/42								*					*	
MASTERTEX													*	
TWINPOWER 4000													*	
TWINPOWER 5000								*					*	
TWINPOWER/PLUS								*					*	
T°REX													*	
LUBEMASTER													*	
JACKMASTER													*	
FIREND								*					*	
CPH/2SC								*					*	
GOLDENMINE								*			*		*	
GOLDENGUARD/3000			*		*								*	
GOLDENGUARD/5000			*		*								*	
GOLDENARMOUR			*		*								*	

## TRACTOR/1SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H01006005*	5	- 3	3/16"	9,5	0,37	11,5	0,45	250	3620	1000	14500	89	3,50	197	0,13	MF+M03400-03	OPF-03
H02004A06*	6	- 4	1/4"	11,2	0,44	13,2	0,52	225	3260	900	13050	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	3110	850	12320	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	2610	720	10440	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	2320	640	9280	178	7,01	400	0,27	MF+M03400-08	OPF-08
H01006016*	16	- 10	5/8"	21,3	0,84	23,3	0,92	130	1880	520	7540	200	7,87	490	0,33	MF+M03400-10	OPF-10
H01006019*	19	- 12	3/4"	25,3	1,00	27,3	1,07	105	1520	420	6090	240	9,45	610	0,41	MF+M03400-12	OPF-12
H01006025*	25	- 16	1"	33,1	1,30	35,1	1,38	88	1270	350	5070	300	11,81	920	0,62	MF+M03400-16	OPF-16
H01006032*	31	- 20	1.1/4"	40,6	1,60	43,3	1,70	63	910	250	3620	419	16,50	1260	0,85	MF+M03400-20	OPK-20
H01006040*	38	- 24	1.1/2"	47,0	1,85	49,7	1,96	50	720	200	2900	500	19,69	1470	0,99	MF+M03400-24	OPK-24
H01006051*	51	- 32	2"	60,4	2,38	63,1	2,48	40	580	160	2320	630	24,80	2075	1,39	MF+M03400-32	OPK-32
H01006060*	60	- 38	2.3/8"	68,8	2,71	71,5	2,81	50	720	200	2900	650	25,59	2210	1,49	MF+M03400-38	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

MSHA, ABS; BV; DNV-GL; FRAS; NK; CU-TR; KRS; LR;



#### Remarks:

DN 5, 16, 19, 25, 31, 38, 51, 60 references not to be used anymore on new projects: phase out planned.

## TRACTOR/2SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H01027005*	5	- 3	3/16"	11,3	0,44	13,3	0,52	415	6010	1650	23930	89	3,50	315	0,21	MF+M03400-03	OPF-03
H01027006*	6	- 4	1/4"	12,7	0,50	14,7	0,58	400	5800	1600	23200	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	5070	1400	20300	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	4780	1320	19140	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	3980	1100	15950	178	7,01	620	0,42	MF+M03400-08	OPF-08
H01027016*	16	- 10	5/8"	23,0	0,91	25,0	0,98	250	3620	1000	14500	200	7,87	720	0,48	MF+M03400-10	OPF-10
H01027019*	19	- 12	3/4"	27,0	1,06	29,0	1,14	215	3110	860	12470	240	9,45	940	0,63	MF+M03400-12	OPF-12
H01027025*	25	- 16	1"	34,8	1,37	36,8	1,45	165	2390	660	9570	300	11,81	1290	0,87	MF+M03400-16	OPF-16
H01027032*	31	- 20	1.1/4"	44,3	1,74	47,0	1,85	125	1810	500	7250	419	16,50	1944	1,31	MF+M03400-20	OPK-20
H01027040*	38	- 24	1.1/2"	50,7	2,00	53,4	2,10	90	1300	360	5220	500	19,69	2250	1,51	MF+M03400-24	OPK-24
H01027051*	51	- 32	2"	63,5	2,50	66,2	2,61	80	1160	320	4640	630	24,80	2900	1,95	MF+M03400-32	OPK-32
H01027060*	60	- 38	2.3/8"	68,8	2,71	71,5	2,81	90	1300	360	5220	650	25,59	2700	1,81	MF+M03400-38	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Environment 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



#### Remarks:

DN 5, 16, 19, 25, 31, 38, 51, 60 references not to be used anymore on new projects: phase out planned.

## TRACTOR/1SC

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

- High flexibility and excellent bend radius
- Low weight
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 31
- Range extension to DN 76

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines with installation constraints, pilot lines, return lines (suction lines: sizes lower or equal to DN 31)
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### 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	Std1	Std2
H01013006*	6	- 4	1/4"	10,2	0,40	12,0	0,47	225	3260	1050	15220	50	1,97	185	0,12	MF+M03300-04	MF+M00120-04
H01013008*	8	- 5	5/16"	11,5	0,45	13,6	0,54	215	3110	1000	14500	55	2,17	215	0,14	MF+M03300-05	MF+M00120-05
H01013010*	10	- 6	3/8"	13,6	0,54	15,5	0,61	180	2610	850	12320	60	2,36	265	0,18	MF+M03300-06	MF+M00120-06
H01013012*	12	- 8	1/2"	17,1	0,67	18,9	0,74	160	2320	660	9570	70	2,76	335	0,23	MF+M00820-08	MF+M00120-08
H01013016*	16	- 10	5/8"	20,6	0,81	22,4	0,88	130	1880	620	8990	90	3,54	445	0,30	MF+M00820-10	MF+M00820-10
H01013019*	19	- 12	3/4"	23,9	0,94	25,9	1,02	105	1520	480	6960	100	3,94	540	0,36	MF+M00820-12	MF+M00820-12
H01013025*	25	- 16	1"	31,3	1,23	33,3	1,31	88	1270	400	5800	160	6,30	770	0,52	MF+M00820-16	MF+M00820-16
H01013031*	31	- 20	1.1/4"	38,4	1,51	40,9	1,61	63	910	400	5800	210	8,27	1080	0,73	MF+M00820-20	MF+M00820-20
H01013038*	38	- 24	1.1/2"	45,0	1,77	47,5	1,87	50	720	200	2900	300	11,81	1220	0,82	MF+M00820-24	
H01013051*	51	- 32	2"	58,0	2,28	60,5	2,38	40	580	160	2320	400	15,75	1630	1,10	MF+M00820-32	
H01013063*	63	- 40	2.1/2"	70,5	2,78	73,0	2,87	50	720	200	2900	760	29,92	2090	1,40	MF+M03400-40	
H01013076*	76	- 48	3"	85,0	3,35	87,7	3,45	35	500	140	2030	900	35,43	2780	1,87	MF+M03400-48	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

EN 857 1SC; ISO 11237 1SC

#### TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR; MSHA (only DN 63 & 76); ELEVATORS EN 8-12;



#### Remarks:

For hydraulic lift applications according to EN 81-2 specification: DN 19: WP = 50 bar - DN 25: WP = 50 bar - DN 31: WP = 50 bar. The ref. spec. EN 81-2 is identified in the standard hose branding for these specific applications.

DN 16, 31, 38, 51, 63, 76 references not to be used anymore on new projects: phase out planned.

## TRACTOR/2SC

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

- High flexibility and excellent bend radius
- Low weight
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line
- 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, return lines and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### 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	Std1	Std2
H01025006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	400	5800	1850	26830	45	1,77	280	0,19	MF+M03400-04	OPF-04
H01025008*	8	- 5	5/16"	12,9	0,51	14,7	0,58	350	5070	1700	24650	55	2,17	330	0,22	MF+M03400-05	OPF-05
H01025010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	330	4780	1500	21750	65	2,56	395	0,27	MF+M03400-06	OPF-06
H01025012*	12	- 8	1/2"	18,5	0,73	20,3	0,80	275	3980	1220	17690	80	3,15	510	0,34	MF+M03400-08	OPF-08
H01025016*	16	- 10	5/8"	21,8	0,86	23,6	0,93	250	3620	1050	15220	90	3,54	630	0,42	MF+M03400-10	OPF-10
H01025019*	19	- 12	3/4"	25,6	1,01	27,6	1,09	215	3110	920	13340	120	4,72	800	0,54	MF+M03400-12	OPF-12
H01025025*	25	- 16	1"	33,0	1,30	35,2	1,39	165	2390	720	10440	160	6,30	1130	0,76	MF+M03400-16	OPF-16
H01025031*	31	- 20	1.1/4"	41,1	1,62	43,6	1,72	125	1810	560	8120	250	9,84	1570	1,06	MF+M03400-20	OPK-20
H01025038*	38	- 24	1.1/2"	47,7	1,88	50,7	2,00	100	1450	400	5800	300	11,81	1900	1,28	MF+M03400-24	OPK-24
H01025051*	51	- 32	2"	60,4	2,38	63,4	2,50	90	1300	360	5220	400	15,75	2460	1,65	MF+M03400-32	OPK-32
H01025063*	63	- 40	2.1/2"	73,0	2,87	76,0	2,99	70	1010	300	4350	760	29,92	2980	2,00	MF+M03400-40	
H01025076*	76	- 48	3"	87,8	3,46	90,5	3,56	45	650	180	2610	900	35,43	3250	2,18	MF+M03400-48	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

MSHA, ABS; DNV-GL; CU-TR; LR; ELEVATORS  
EN 8-12



#### Remarks:

For hydraulic lift applications according to EN 81-2 specification: DN 31: WP = 50 bar - DN 38: WP = 50 bar - DN 51: WP = 45 bar. These ratings are identified with additional embossed branding on the hose references.

DN 16, 31, 38, 51, 63, 76 references not to be used anymore on new projects: phase out planned.

## HARVESTER/17

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H01056006*	6	- 4	1/4"	10,2	0,40	12,0	0,47	210	3040	840	12180	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	3040	840	12180	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	3040	840	12180	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	3040	840	12180	90	3,54	420	0,28	MF+M03400-08	OPF-08

#### CONTINUOUS SERVICE TEMPERATURE

**RANGE**  
-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

SAE 100 R17; ISO 11237 R17

#### TYPE APPROVALS

CU-TR; LR

## GOLDENISO/14

COMPACTNESS & FLEXIBILITY



### KEY FEATURES

- Compact dimensions, smooth cover
- 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

### 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	Std1	Std2
H02011006*	6	- 4	1/4"	10,2	0,40	12,4	0,49	140	2030	560	8120	25	0,98	190	0,13	MN+M02400-04	OPF-04
H02011008*	8	- 5	5/16"	11,9	0,47	14,0	0,55	140	2030	560	8120	30	1,18	214	0,14	MN+M02400-05	OPF-05
H02011010*	10	- 6	3/8"	14,5	0,57	16,5	0,65	140	2030	560	8120	40	1,57	298	0,20	MN+M02400-06	OPF-06

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One wire braid (DN 6 to 12) or two wire braids

#### COVER

Synthetic rubber with high ozone and wheater resistance

#### APPLICABLE SPECS

ISO 18752 type A

#### TYPE APPROVALS

CU-TR



## LYTE-FLEX

COMPACT WIRE BRAID, INTEGRATED RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H01084006*	6	- 4	1/4"	11,6	0,46	13,2	0,52	350	5070	1400	20300	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	4300	1190	17250	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	4060	1120	16240	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	3550	980	14210	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	3040	840	12180	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	3040	840	12180	120	4,72	790	0,53	MF+M03400-12	OPF-12
H01084025*	25	- 16	1"	32,3	1,27	34,6	1,36	140	2030	560	8120	150	5,91	1090	0,73	MF+M03400-16	OPF-16

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

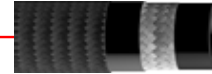
Manuli Design; DN 16 and 19: SAE 100 R17;  
ISO 11237 R17

#### TYPE APPROVALS

CU-TR; LR

## COVER

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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)

### 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	Std1	Std2
H05002005*	5	- 4	3/16"			13,2	0,52	210	3040	840	12180	75	2,95	220	0,15	MF+M00310-03	OPF-03
H05002006*	6	- 5	1/4"			14,8	0,58	210	3040	840	12180	85	3,35	260	0,17	MF+M00310-04	OPF-04
H05002008*	8	- 6	5/16"			17,1	0,67	157	2270	630	9130	100	3,94	305	0,20	MF+M00310-05	OPF-05
H05002010*	10	- 8	13/32"			19,4	0,76	140	2030	560	8120	115	4,53	365	0,25	MF+M00310-06	OPF-06
H05002012*	12	- 10	1/2"			23,3	0,92	122	1760	490	7100	140	5,51	495	0,33	MF+M00310-08	OPF-08
H05002016*	16	- 12	5/8"			27,3	1,07	105	1520	420	6090	165	6,50	650	0,44	MF+M00310-10	
H05002022*	22	- 16	7/8"			31,2	1,23	56	810	224	3240	185	7,28	600	0,40		
H05002028*	28	- 20	1.1/8"			38,0	1,50	43	620	175	2530	229	9,02	780	0,52		
H05002035*	35	- 24	1.3/8"			44,3	1,74	35	500	140	2030	265	10,43	1010	0,68		
H05002046*	46	- 32	1.13/16"			56,1	2,21	24	340	98	1420	335	13,19	1400	0,94		

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °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/K

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

- Resistance to Vacuum
- Compact SAE 100 R4 architecture

### 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

### 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	Std1	Std2
H30005016*	16	- 10	5/8"			26,0	1,02	21	300	64	920	96	3,78	590	0,40	MF+M00310-10	
H30005019*	19	- 12	3/4"			29,0	1,14	21	300	84	1210	125	4,92	550	0,37	MF+M00320-12	
H30005025*	25	- 16	1"			35,0	1,38	17	240	70	1010	150	5,91	680	0,46	MF+M00930-16	
H30005031*	31	- 20	1.1/4"			42,0	1,65	14	200	56	810	200	7,87	840	0,56	MF+M00920-20	
H30005038*	38	- 24	1.1/2"			48,5	1,91	10	140	42	600	254	10,00	1024	0,69	MF+M00910-24	
H30005051*	51	- 32	2"			61,5	2,42	7	100	28	400	300	11,81	1420	0,95	MF+M00910-32	
H30005063*	63	- 40	2.1/2"			76,0	2,99	4	50	17	240	355	13,98	2150	1,44	MF+M03400-40	
H30005076*	76	- 48	3"			88,0	3,46	4	50	16	230	457	17,99	2850	1,92	MF+M03400-48	
H30005090*	89	- 56	3.1/2"			103,0	4,06	3	40	12	170	530	20,87	3450	2,32		
H30005102*	102	- 64	4"			115,0	4,53	2	20	10	140	610	24,02	3900	2,62		

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two textile reinforcements with steel helical body wire

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

SAE 100 R4

#### TYPE APPROVALS

CU-TR

## MULTITEX

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H09067005*	5	- 3	3/16"			11,0	0,43	35	500	140	2030	35	1,38	90	0,06	MF+M00820-03	
H09067006*	6	- 4	1/4"			12,6	0,50	30	430	120	1740	45	1,77	115	0,08	MF+M00830-04	
H09067008*	8	- 5	5/16"			14,1	0,56	30	430	120	1740	65	2,56	140	0,09	MF+M00830-05	
H09067010*	10	- 6	3/8"			15,8	0,62	30	430	120	1740	75	2,95	160	0,11	MF+M00820-06	
H09067012*	12	- 8	1/2"			19,4	0,76	30	430	120	1740	90	3,54	210	0,14	MF+M00820-08	
H09073016*	16	- 10	5/8"			23,0	0,91	30	430	120	1740	115	4,53	290	0,19	MF+M00820-10	
H09073019*	19	- 12	3/4"			26,0	1,02	30	430	120	1740	140	5,51	325	0,22	MF+M00820-12	
H09073025*	25	- 16	1"			32,0	1,26	30	430	120	1740	150	5,91	400	0,27	MF+M00820-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 257 °F  
-40 °C / 125 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high resistance textile braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

CU-TR



#### Remarks:

Working Pressure with Push-Lock fittings: DN 5, 6, 8, 10, 12, 16, 19: WP = 17 bar - DN 25: WP = 12 bar

## ASTRO/2

INTEGRATED, RELIABLE HOSE ASSEMBLY



### 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

### 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	Std1	Std2
H09045006*	6	- 4	1/4"			13,0	0,51	75	1080	300	4350	40	1,57	125	0,08	MF+M00830-04	
H09045008*	8	- 5	5/16"			14,6	0,57	68	980	272	3940	50	1,97	150	0,10	MF+M00830-05	
H09045010*	10	- 6	3/8"			16,1	0,63	63	910	252	3650	60	2,36	180	0,12	MF+M00820-06	
H09045012*	12	- 8	1/2"			19,2	0,76	58	840	232	3360	70	2,76	220	0,15	MF+M00820-08	
H09045016*	16	- 10	5/8"			23,6	0,93	50	720	200	2900	90	3,54	290	0,19	MF+M00820-10	
H09045019*	19	- 12	3/4"			26,5	1,04	45	650	180	2610	110	4,33	360	0,24	MF+M00820-12	
H09045025*	25	- 16	1"			33,4	1,31	40	580	160	2320	130	5,12	440	0,30	MF+M00820-16	
H09045032*	31	- 20	1.1/4"			41,5	1,63	35	500	140	2030	140	5,51	650	0,44	MF+M00820-20	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 257 °F  
-40 °C / 125 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high resistance textile braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

EN 854 2TE; ISO 4079 2TE

#### TYPE APPROVALS

DNV-GL; CU-TR

## ASTRO/3

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

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

### 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	Std1	Std2
H09046006*	6	- 4	1/4"			14,2	0,56	145	2100	580	8410	45	1,77	150	0,10	MF+M00310-04	
H09046008*	8	- 5	5/16"			16,6	0,65	130	1880	520	7540	55	2,17	210	0,14	MF+M00310-05	
H09046010*	10	- 6	3/8"			18,2	0,72	110	1590	440	6380	70	2,76	230	0,15	MF+M00310-06	
H09046012*	12	- 8	1/2"			21,5	0,85	93	1340	372	5390	85	3,35	290	0,19	MF+M00310-08	
H09046016*	16	- 10	5/8"			25,6	1,01	80	1160	320	4640	105	4,13	395	0,27	MF+M00310-10	
H09046019*	19	- 12	3/4"			28,8	1,13	70	1010	280	4060	130	5,12	455	0,31	MF+M00320-12	
H09046025*	25	- 16	1"			35,4	1,39	55	790	220	3190	150	5,91	580	0,39	MF+M00310-16	
H09046032*	31	- 20	1.1/4"			42,5	1,67	45	650	180	2610	190	7,48	740	0,50	MF+M00310-20	
H09046040*	38	- 24	1.1/2"			49,4	1,94	40	580	160	2320	240	9,45	920	0,62	MF+M00910-24	
H09046051*	51	- 32	2"			62,2	2,45	33	470	132	1910	300	11,81	1140	0,77	MF+M00910-32	

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 257 °F  
-40 °C / 125 °C

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high resistance textile braids

### COVER

Environment resistant synthetic rubber

### APPLICABLE SPECS

EN 854 3TE; ISO 4079 3TE

### TYPE APPROVALS

DNV-GL; CU-TR

## HYDROPLAST

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

- High flexibility
- Tight Bend Radius
- Excellent abrasion resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium pressure hydraulic applications, hoisting, hydraulic transmission
- Mineral and biological oils, ASTM 1, ASTM 3, polyglycol based oils, water, water oil emulsions

### 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	Std1	Std2
H30010005*	5	- 3	3/16"			10,2	0,40	210	3040	840	12180	35	1,38	80	0,05	MF+M00820-03	
H30010006*	6	- 4	1/4"			12,0	0,47	192	2780	770	11160	50	1,97	95	0,06	MF+M00830-04	
H30010008*	8	- 5	5/16"			14,3	0,56	187	2710	750	10870	55	2,17	135	0,09	MF+M00830-05	
H30010010*	10	- 6	3/8"			16,3	0,64	175	2530	700	10150	75	2,95	165	0,11	MF+M00820-06	
H30010012*	12	- 8	1/2"			20,3	0,80	140	2030	560	8120	95	3,74	225	0,15	MF+M00820-08	

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

### MAX OPERATING TEMPERATURE

100 °C, 212 °F

### TUBE

Oil resistant thermoplastic elastomer

### REINFORCEMENT

Two polyester braids

### COVER

Thermoplastic elastomer with high ozone and abrasion resistance

### APPLICABLE SPECS

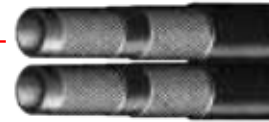
EN 855 R7; SAE 100R7

### TYPE APPROVALS

CU-TR

## HYDROTWIN

INTEGRATED, RELIABLE HOSE ASSEMBLY



### KEY FEATURES

- High flexibility
- Tight Bend Radius
- Excellent abrasion resistance
- Twin version for easy mounting in OEMs lines

### APPLICATIONS & FLUIDS



- Hydraulics: medium pressure hydraulic applications, hoisting, hydraulic transmission
- Mineral and biological oils, ASTM 1, ASTM 3, polyglycol based oils, water, water oil emulsions

### 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	Std1	Std2
H30011005*	5	- 3	3/16"			10,2	0,40	210	3040	840	12180	35	1,38	160	0,11	MF+M00820-03	
H30011006*	6	- 4	1/4"			12,0	0,47	192	2780	770	11160	50	1,97	222	0,15	MF+M00830-04	
H30011008*	8	- 5	5/16"			14,3	0,56	187	2710	750	10870	55	2,17	290	0,19	MF+M00830-05	
H30011010*	10	- 6	3/8"			16,3	0,64	175	2530	700	10150	75	2,95	330	0,22	MF+M00820-06	
H30011012*	12	- 8	1/2"			20,3	0,80	140	2030	560	8120	95	3,74	450	0,30	MF+M00820-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

100 °C, 212 °F

#### TUBE

Oil resistant thermoplastic elastomer

#### REINFORCEMENT

Two polyester braids

#### COVER

Thermoplastic elastomer with high ozone and abrasion resistance

#### APPLICABLE SPECS

EN 855 R7; SAE 100R7

#### TYPE APPROVALS

CU-TR



**ROCKMASTER/1SN**

ABRASION, WEATHER &amp; HEAT RESISTANCE

**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

**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	Std1	Std2
H01007006*	6	- 4	1/4"	11,0	0,43	13,0	0,51	225	3260	1000	14500	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	3110	950	13770	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	2610	800	11600	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	2320	680	9860	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	1880	600	8700	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	1520	500	7250	240	9,45	600	0,40	MF+M03400-12	OPF-12
H01007025*	25	- 16	1"	33,1	1,30	35,1	1,38	90	1300	360	5220	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	3770	419	16,50	1243	0,84	MF+M03400-20	OPK-20
H01007040*	38	- 24	1.1/2"	47,0	1,85	49,7	1,96	50	720	260	3770	500	19,69	1450	0,97	MF+M03400-24	OPK-24
H01007051*	51	- 32	2"	60,4	2,38	63,1	2,48	40	580	250	3620	630	24,80	2050	1,38	MF+M03400-32	OPK-32
H01007060*	60	- 38	2.3/8"	68,8	2,71	71,5	2,81	50	720	200	2900	650	25,59	2190	1,47	MF+M03400-38	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °F / 212 °F  
-40 °C / 100 °C

**MAX OPERATING TEMPERATURE**

125 °C, 257 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

One high tensile steel braid

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

Exceed 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

**ROCKMASTER/2SN**

ABRASION, WEATHER &amp; HEAT RESISTANCE

**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

**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	Std1	Std2
H01038006*	6	- 4	1/4"	12,7	0,50	14,7	0,58	400	5800	1750	25380	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	5070	1480	21460	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	5070	1400	20300	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	5070	1400	20300	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	3620	1020	14790	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	3110	900	13050	130	5,12	930	0,62	MF+M03400-12	OPF-12
H01038025*	25	- 16	1"	34,8	1,37	36,8	1,45	175	2530	670	9710	160	6,30	1290	0,87	MF+M03400-16	OPF-16
H01038032*	31	- 20	1.1/4"	44,3	1,74	47,0	1,85	140	2030	600	8700	419	16,50	1930	1,30	MF+M03400-20	OPK-20
H01038040*	38	- 24	1.1/2"	50,7	2,00	53,4	2,10	100	1450	500	7250	500	19,69	2262	1,52	MF+M03400-24	OPK-24
H01038051*	51	- 32	2"	63,5	2,50	66,2	2,61	90	1300	420	6090	630	24,80	2880	1,94	MF+M03400-32	OPK-32
H01038060*	60	- 38	2.3/8"	68,8	2,71	71,5	2,81	90	1300	360	5220	650	25,59	2670	1,79	MF+M03400-38	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °F / 212 °F  
-40 °C / 100 °C

**MAX OPERATING TEMPERATURE**

125 °C, 257 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Two high tensile steel braids

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

Exceed 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

**ROCKMASTER/2ST**

ABRASION, WEATHER &amp; HEAT RESISTANCE

**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

**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	Std1	Std2
H01035005*	5	- 3	3/16"	11,3	0,44	15,6	0,61	415	6010	2000	29000	89	3,50	385	0,26	MF+M00910-03	
H01035006*	6	- 4	1/4"	12,7	0,50	17,2	0,68	400	5800	1750	25380	100	3,94	450	0,30	MF+M00910-04	
H01035008*	8	- 5	5/16"	14,3	0,56	18,9	0,74	350	5070	1480	21460	114	4,49	500	0,34	MF+M00910-05	
H01035010*	10	- 6	3/8"	16,7	0,66	21,3	0,84	350	5070	1400	20300	127	5,00	640	0,43	MF+M00910-06	
H01035012*	12	- 8	1/2"	19,8	0,78	24,5	0,96	350	5070	1400	20300	178	7,01	790	0,53	MF+M00910-08	
H01035016*	16	- 10	5/8"	23,0	0,91	27,7	1,09	250	3620	1020	14790	200	7,87	870	0,58	MF+M00910-10	
H01035019*	19	- 12	3/4"	27,0	1,06	31,6	1,24	215	3110	900	13050	240	9,45	1100	0,74	MF+M00920-12	
H01035025*	25	- 16	1"	34,8	1,37	39,5	1,56	175	2530	670	9710	300	11,81	1510	1,01	MF+M00930-16	
H01035032*	31	- 20	1.1/4"	44,3	1,74	50,6	1,99	140	2030	600	8700	419	16,50	2310	1,55	MF+M00920-20	
H01035040*	38	- 24	1.1/2"	50,7	2,00	57,0	2,24	100	1450	500	7250	500	19,69	2683	1,80	MF+M00910-24	
H01035051*	51	- 32	2"	63,5	2,50	69,8	2,75	90	1300	420	6090	630	24,80	3410	2,29	MF+M00910-32	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °F / 212 °F  
-40 °C / 100 °C

**MAX OPERATING TEMPERATURE**

125 °C, 257 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Two high tensile steel braids

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

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

**TYPE APPROVALS**

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

**ROCKMASTER/2 PLUS**

ABRASION, WEATHER &amp; HEAT RESISTANCE

**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

**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	Std1	Std2
H01101006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	450	6520	1800	26100	45	1,77	275	0,18	MF+M03400-04	
H01101010*	10	- 6	3/8"	16,7	0,66	18,5	0,73	400	5800	1600	23200	127	5,00	520	0,35	MF+M00910-06	
H01101012*	12	- 8	1/2"	20,1	0,79	22,1	0,87	362	5250	1450	21030	150	5,91	700	0,47	MF+M00910-08	
H01101016*	16	- 10	5/8"	23,2	0,91	25,2	0,99	340	4930	1360	19720	200	7,87	860	0,58	MF+M00910-10	
H01101019*	19	- 12	3/4"	27,1	1,07	29,3	1,15	310	4490	1240	17980	230	9,06	1060	0,71	MF+M00920-12	OPK-12
H01101025*	25	- 16	1"	35,1	1,38	37,8	1,49	240	3480	960	13920	300	11,81	1570	1,06	MF+M00930-16	OPK-16
H01101032*	31	- 20	1.1/4"	44,5	1,75	47,2	1,86	175	2530	700	10150	380	14,96	2120	1,42	MF+M00920-20	OPK-20
H01101038*	38	- 24	1.1/2"	51,0	2,01	53,7	2,11	146	2110	584	8470	450	17,72	2460	1,65	MF+M00910-24	
H01101051*	51	- 32	2"	62,8	2,47	65,5	2,58	130	1880	530	7680	600	23,62	3090	2,08	MF+M00910-32	
H01101076*	76	- 48	3"	87,8	3,46	91,4	3,60	70	1010	280	4060	500	19,69	4290	2,88	MF+M03400-48	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °F / 212 °F  
-40 °C / 100 °C

**MAX OPERATING TEMPERATURE**

125 °C, 257 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Two high tensile steel braids

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

MANULI® Design: Exceed ISO 1436-2SN; EN 853-2SN; SAE J517 type 100R2AT.  
Performance BCS 174; ISO 6805 type 4

**TYPE APPROVALS**

BV; DNV-GL; CU-TR; LR; MA (except DN 76);  
MSHA; FRAS

## ROCKMASTER/1SC

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H01108006*	6	- 4	1/4"	10,2	0,40	12,0	0,47	260	3770	1050	15220	50	1,97	180	0,12	MF+M00120-04	
H01108008*	8	- 5	5/16"	11,5	0,45	13,6	0,54	250	3620	1000	14500	55	2,17	210	0,14	MF+M00120-05	
H01108010*	10	- 6	3/8"	13,6	0,54	15,5	0,61	225	3260	900	13050	60	2,36	255	0,17	MF+M00120-06	
H01108012*	12	- 8	1/2"	17,3	0,68	19,1	0,75	190	2750	760	11020	70	2,76	355	0,24	MF+M00820-08	
H01108016*	16	- 10	5/8"	20,6	0,81	22,4	0,88	150	2170	600	8700	90	3,54	430	0,29	MF+M00820-10	
H01108019*	19	- 12	3/4"	23,9	0,94	25,9	1,02	150	2170	600	8700	100	3,94	520	0,35	MF+M00820-12	
H01108025*	25	- 16	1"	31,3	1,23	33,1	1,30	110	1590	440	6380	160	6,30	730	0,49	MF+M00820-16	
H01108031*	31	- 20	1.1/4"	38,4	1,51	40,9	1,61	75	1080	300	4350	210	8,27	1040	0,70	MF+M00820-20	
H01108038*	38	- 24	1.1/2"	45,0	1,77	47,5	1,87	50	720	200	2900	300	11,81	1170	0,79	MF+M00820-24	
H01108051*	51	- 32	2"	58,0	2,28	60,5	2,38	50	720	200	2900	400	15,75	1560	1,05	MF+M00820-32	
H01108063*	63	- 40	2.1/2"	70,5	2,78	73,0	2,87	50	720	200	2900	760	29,92	2090	1,40	MF+M03400-40	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Exceed EN 857 1SC; ISO 11237 1SC

#### TYPE APPROVALS

CU-TR; LR; MSHA; FRAS

## ROCKMASTER/2SC

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H01030005*	5	- 3	3/16"	9,7	0,38	11,5	0,45	420	6090	2000	29000	40	1,57	220	0,15	MF+M03400-03	OPF-03
H01030006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	400	5800	1850	26830	45	1,77	275	0,18	MF+M03400-04	OPF-04
H01030008*	8	- 5	5/16"	12,9	0,51	14,7	0,58	350	5070	1700	24650	55	2,17	325	0,22	MF+M03400-05	OPF-05
H01030010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	330	4780	1500	21750	65	2,56	390	0,26	MF+M03400-06	OPF-06
H01030012*	12	- 8	1/2"	18,5	0,73	20,3	0,80	275	3980	1220	17690	80	3,15	500	0,34	MF+M03400-08	OPF-08
H01030016*	16	- 10	5/8"	21,8	0,86	23,6	0,93	250	3620	1050	15220	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	3550	980	14210	120	4,72	790	0,53	MF+M03400-12	OPF-12
H01030025*	25	- 16	1"	33,0	1,30	35,2	1,39	210	3040	840	12180	150	5,91	1180	0,79	MF+M03400-16	OPF-16
H01030031*	31	- 20	1.1/4"	41,1	1,62	43,6	1,72	140	2030	560	8120	250	9,84	1550	1,04	MF+M03400-20	OPK-20
H01030038*	38	- 24	1.1/2"	47,7	1,88	50,7	2,00	100	1450	400	5800	300	11,81	1880	1,26	MF+M03400-24	OPK-24
H01030051*	51	- 32	2"	60,4	2,38	63,4	2,50	90	1300	360	5220	400	15,75	2430	1,63	MF+M03400-32	OPK-32
H01030063*	63	- 40	2.1/2"	73,0	2,87	76,0	2,99	70	1010	300	4350	760	29,92	2900	1,95	MF+M03400-40	
H01030076*	76	- 48	3"	87,8	3,46	90,5	3,56	45	650	180	2610	900	35,43	3120	2,10	MF+M03400-48	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Exceed 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; MA; MSHA; RINA; B; FRAS; CCS

## ROCKMASTER/4SP

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H10008006*	6	- 4	1/4"	14,7	0,58	17,6	0,69	485	7030	2400	34800	125	4,92	590	0,40	MF+M00910-04	
H10008010*	10	- 6	3/8"	17,6	0,69	21,0	0,83	450	6520	2000	29000	125	4,92	740	0,50	MF+M00910-06	
H10008012*	12	- 8	1/2"	20,3	0,80	24,2	0,95	420	6090	1750	25380	175	6,89	880	0,59	MF+M00910-08	
H10008016*	16	- 10	5/8"	23,7	0,93	27,6	1,09	380	5510	1600	23200	200	7,87	1080	0,73	MF+M00910-10	
H10008019*	19	- 12	3/4"	28,2	1,11	31,7	1,25	380	5510	1600	23200	240	9,45	1450	0,97	MF+M00920-12	SP+M05400-12
H10008025*	25	- 16	1"	35,0	1,38	39,0	1,54	320	4640	1400	20300	340	13,39	1880	1,26	MF+M00930-16	SP+M05400-16
H10008032*	31	- 20	1.1/4"	46,1	1,81	49,7	1,96	210	3040	1250	18120	460	18,11	2990	2,01	MF+M00920-20	SP+M05500-20
H10008038*	38	- 24	1.1/2"	52,4	2,06	56,1	2,21	185	2680	1000	14500	560	22,05	3500	2,35	MF+M00910-24	SP+M05500-24
H10008051*	51	- 32	2"	65,4	2,57	69,0	2,72	175	2530	1000	14500	660	25,98	5010	3,37	MF+M00910-32	SP+M05400-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Exceed EN 856 4SP; ISO 3862 4SP; DN 16 & 19: thin cover style, exceeding performance 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)



#### Remarks:

If service temperature is lower than 212°F/100°C, Rockmaster/4SP can be used with reduced Min. Bend Radius for small sizes (DN6 100mm, DN10 110mm, DN12 120mm, DN16 140mm, DN19 170mm).

## ROCKMASTER/4SH

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H10044016*	16	- 10	5/8"	25,5	1,00	28,5	1,12	450	6520	1850	26830	180	7,09	1290	0,87	IP+M01500-10	
H10044019*	19	- 12	3/4"	28,2	1,11	31,9	1,26	420	6090	1750	25380	210	8,27	1500	1,01	IP+M01500-12	SP+M05400-12
H10044025*	25	- 16	1"	35,1	1,38	38,1	1,50	385	5580	1750	25380	220	8,66	2040	1,37	IP+M01500-16	SP+M05400-16
H10044032*	31	- 20	1.1/4"	42,2	1,66	45,0	1,77	350	5070	1400	20300	420	16,54	2410	1,62	IP+M01500-20	SP+M05400-20
H10044038*	38	- 24	1.1/2"	49,1	1,93	53,1	2,09	300	4350	1250	18120	560	22,05	3170	2,13	IP+M01500-24	SP+M05400-24
H10044051*	51	- 32	2"	63,5	2,50	67,5	2,66	250	3620	1000	14500	700	27,56	4460	3,00	IP+M01500-32	SP+M05400-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Exceed EN 856 4SH; ISO 3862 4SH

#### TYPE APPROVALS

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



**ROCKMASTER/12**

ABRASION, WEATHER &amp; HEAT RESISTANCE

**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

**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	Std1	Std2
H10031010*	10	- 6	3/8"	17,3	0,68	20,0	0,79	280	4060	1600	23200	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	4060	1350	19580	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	4060	1300	18850	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	4060	1300	18850	150	5,91	1160	0,78	MF+M00920-12	OPK-12
H10031025*	25	- 16	1"	35,0	1,38	37,6	1,48	280	4060	1150	16670	225	8,86	1740	1,17	MF+M00930-16	OPK-16
H10031A32*	31	- 20	1.1/4"	43,1	1,70	45,9	1,81	210	3040	1000	14500	250	9,84	2280	1,53	MF+M00920-20	OPK-20
H10031040*	38	- 24	1.1/2"	50,0	1,97	53,3	2,10	175	2530	1000	14500	500	19,69	3130	2,10	MF+M00910-24	OPK-24
H10031051*	51	- 32	2"	63,6	2,50	66,7	2,63	175	2530	800	11600	630	24,80	4440	2,98	MF+M00910-32	OPK-32

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °F / 250 °F  
-40 °C / 121 °C

**MAX OPERATING TEMPERATURE**

125 °C, 257 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Four high tensile steel spirals

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

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

**TYPE APPROVALS**

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

## ROCKMASTER/13

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H10035A06*	6	- 4	1/4"	14,6	0,57	17,6	0,69	690	10000	3250	47130	120	4,72	660	0,44		
H10035A10*	10	- 6	3/8"	17,4	0,69	20,4	0,80	690	10000	2900	42060	150	5,91	830	0,56		
H10035A12*	12	- 8	1/2"	21,5	0,85	24,5	0,96	620	8990	2500	36250	200	7,87	1140	0,77		
H10035019*	19	- 12	3/4"	29,0	1,14	31,8	1,25	350	5070	1950	28280	240	9,45	1630	1,10	IP+M01500-12	SP+M05400-12
H10035025*	25	- 16	1"	36,0	1,42	39,2	1,54	350	5070	1650	23930	300	11,81	2190	1,47	IP+M01500-16	SP+M05400-16
H10035032*	31	- 20	1.1/4"	47,0	1,85	50,0	1,97	350	5070	1500	21750	420	16,54	3600	2,42	IP+M01600-20	SP+M05500-20
H10035040*	38	- 24	1.1/2"	54,6	2,15	57,5	2,26	350	5070	1600	23200	500	19,69	4700	3,16	IP+M01600-24	SP+M05500-24
H10035051*	51	- 32	2"	68,4	2,69	72,0	2,83	350	5070	1500	21750	630	24,80	6800	4,57	IP+M01800-32	SP+M05500-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

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

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

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

## ROCKMASTER/15

ABRASION, WEATHER & HEAT RESISTANCE



### 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

### 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	Std1	Std2
H10049019*	19	- 12	3/4"	28,2	1,11	31,0	1,22	420	6090	1750	25380	265	10,43	1440	0,97	IP+M01500-12	SP+M05400-12
H10049025*	25	- 16	1"	35,1	1,38	38,1	1,50	420	6090	1750	25380	267	10,51	2040	1,37	IP+M01500-16	SP+M05400-16
H10049A32*	31	- 20	1.1/4"	46,3	1,82	49,5	1,95	420	6090	1680	24360	267	10,51	3660	2,46	IP+M01600-20	SP+M05500-20
H10049040*	38	- 24	1.1/2"	54,6	2,15	57,5	2,26	420	6090	1680	24360	315	12,40	4700	3,16	IP+M01600-24	SP+M05500-24

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

### MAX OPERATING TEMPERATURE

125 °C, 257 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

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

### COVER

Synthetic rubber with high ozone, weather and heat resistance

### APPLICABLE SPECS

Exceed SAE 100 R15; ISO 3862 R15

### TYPE APPROVALS

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

**EQUATOR/1 (BLUE)**

EXTREME TEMPERATURE - BLUE VERSION

**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)

**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	Std1	Std2
H01059006*	6	- 4	1/4"	11,0	0,43	13,4	0,53	225	3260	1000	14500	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	3110	900	13050	114	4,49	285	0,19	MF+M00120-05	
H01059010*	10	- 6	3/8"	15,0	0,59	17,3	0,68	180	2610	800	11600	127	5,00	340	0,23	MF+M00120-06	
H01059012*	12	- 8	1/2"	18,1	0,71	20,5	0,81	160	2320	680	9860	178	7,01	435	0,29	MF+M00120-08	
H01059016*	16	- 10	5/8"	21,3	0,84	23,5	0,93	130	1880	600	8700	200	7,87	510	0,34	MF+M00120-10	
H01059019*	19	- 12	3/4"	25,2	0,99	27,7	1,09	105	1520	500	7250	240	9,45	640	0,43	MF+M00120-12	
H01059025*	25	- 16	1"	33,1	1,30	35,8	1,41	88	1270	360	5220	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	5000	420	16,54	1300	0,87	MF+M00110-20	OPK-20
H01059038*	38	- 24	1.1/2"	46,9	1,85	50,0	1,97	50	720	290	4200	500	19,69	1540	1,03	MF+M00110-24	OPK-24
H01059051*	51	- 32	2"	60,4	2,38	63,1	2,48	40	580	250	3620	630	24,80	2100	1,41	MF+M00110-32	OPK-32
H01059063*	63	- 40	2.1/2"	72,0	2,83	74,6	2,94	35	500	140	2030	600	23,62	2400	1,61	MF+M03400-40	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-67 °F / 275 °F  
-55 °C / 135 °C

**MAX OPERATING TEMPERATURE**

150 °C, 300 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

One high tensile steel braid

**COVER**

Synthetic rubber with high ozone, weather and heat resistance

**APPLICABLE SPECS**

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

**TYPE APPROVALS**

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

**Remarks:**

- Compressed air applications require cover pin-pricking and additional safety devices
- Equator hose is not suitable for high temperature water applications
- Equator hose is not designed and not approved for "air brake" applications on railway and/or mobile equipment.

**EQUATOR/1 (BLACK)**

EXTREME TEMPERATURE - BLACK VERSION

**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)

**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	Std1	Std2
H01058006*	6	- 4	1/4"	11,0	0,43	13,4	0,53	225	3260	1000	14500	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	3110	900	13050	114	4,49	280	0,19	MF+M00120-05	
H01058010*	10	- 6	3/8"	15,0	0,59	17,3	0,68	180	2610	800	11600	127	5,00	335	0,23	MF+M00120-06	
H01058012*	12	- 8	1/2"	18,1	0,71	20,5	0,81	160	2320	680	9860	178	7,01	430	0,29	MF+M00120-08	
H01058016*	16	- 10	5/8"	21,3	0,84	23,5	0,93	130	1880	600	8700	200	7,87	500	0,34	MF+M00120-10	
H01058019*	19	- 12	3/4"	25,2	0,99	27,7	1,09	105	1520	500	7250	240	9,45	640	0,43	MF+M00120-12	
H01058025*	25	- 16	1"	33,1	1,30	35,8	1,41	88	1270	360	5220	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	5000	420	16,54	1300	0,87	MF+M00110-20	OPK-20
H01058038*	38	- 24	1.1/2"	46,9	1,85	50,0	1,97	50	720	290	4200	500	19,69	1540	1,03	MF+M00110-24	OPK-24
H01058051*	51	- 32	2"	60,4	2,38	63,1	2,48	40	580	250	3620	630	24,80	2100	1,41	MF+M00110-32	OPK-32
H01058063*	63	- 40	2.1/2"	72,0	2,83	74,6	2,94	35	500	140	2030	600	23,62	2400	1,61	MF+M03400-40	

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-67 °F / 275 °F  
-55 °C / 135 °C

**MAX OPERATING TEMPERATURE**

150 °C, 300 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

One high tensile steel braid

**COVER**

Synthetic rubber with high ozone, weather and heat resistance.

**APPLICABLE SPECS**

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

**TYPE APPROVALS**

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

**Remarks:**

- Compressed air applications require cover pin-pricking and additional safety devices
- Equator hose is not suitable for high temperature water applications
- Equator hose is not designed and not approved for "air brake" applications on railway and/or mobile equipment.

**EQUATOR/2 (BLUE)**

EXTREME TEMPERATURE - BLUE VERSION

**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)

**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	Std1	Std2
H01061006*	6	- 4	1/4"	12,7	0,50	14,9	0,59	400	5800	1725	25010	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	5070	1480	21460	114	4,49	435	0,29	MF+M00910-05	
H01061010*	10	- 6	3/8"	16,7	0,66	19,0	0,75	330	4780	1400	20300	127	5,00	530	0,36	MF+M00910-06	
H01061012*	12	- 8	1/2"	19,8	0,78	22,0	0,87	275	3980	1200	17400	178	7,01	640	0,43	MF+M00910-08	
H01061016*	16	- 10	5/8"	23,0	0,91	25,2	0,99	250	3620	1020	14790	200	7,87	760	0,51	MF+M00910-10	
H01061019*	19	- 12	3/4"	27,0	1,06	29,0	1,14	215	3110	900	13050	240	9,45	940	0,63	MF+M00920-12	
H01061025*	25	- 16	1"	34,8	1,37	37,0	1,46	175	2530	700	10150	300	11,81	1350	0,91	MF+M00930-16	
H01061032*	31	- 20	1.1/4"	44,3	1,74	47,0	1,85	150	2170	600	8700	420	16,54	2010	1,35	MF+M00920-20	
H01061040*	38	- 24	1.1/2"	50,7	2,00	53,4	2,10	100	1450	410	5940	500	19,69	2250	1,51	MF+M00910-24	OPK-24
H01061051*	51	- 32	2"	63,5	2,50	66,2	2,61	90	1300	370	5360	630	24,80	3080	2,07	MF+M00910-32	OPK-32

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-67 °F / 275 °F  
-55 °C / 135 °C

**MAX OPERATING TEMPERATURE**

150 °C, 300 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Two high tensile steel braids

**COVER**

Synthetic rubber with high ozone, weather and heat resistance.

**APPLICABLE SPECS**

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

**TYPE APPROVALS**

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

**Remarks:**

- Compressed air applications require cover pin-pricking and additional safety devices
- 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 TEMPERATURE - BLACK VERSION



### 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)

### 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	Std1	Std2
H01060006*	6	- 4	1/4"	12,7	0,50	14,9	0,59	400	5800	1725	25010	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	5070	1480	21460	114	4,49	435	0,29	MF+M00910-05	
H01060010*	10	- 6	3/8"	16,7	0,66	19,0	0,75	330	4780	1400	20300	127	5,00	530	0,36	MF+M00910-06	
H01060012*	12	- 8	1/2"	19,8	0,78	22,0	0,87	275	3980	1200	17400	178	7,01	640	0,43	MF+M00910-08	
H01060016*	16	- 10	5/8"	23,0	0,91	25,2	0,99	250	3620	1020	14790	200	7,87	760	0,51	MF+M00910-10	
H01060019*	19	- 12	3/4"	27,0	1,06	29,0	1,14	215	3110	900	13050	240	9,45	940	0,63	MF+M00920-12	
H01060025*	25	- 16	1"	34,8	1,37	37,0	1,46	175	2530	700	10150	300	11,81	1350	0,91	MF+M00930-16	
H01060031*	31	- 20	1.1/4"	44,3	1,74	47,0	1,85	150	2170	600	8700	420	16,54	2010	1,35	MF+M00920-20	
H01060038*	38	- 24	1.1/2"	50,7	2,00	53,4	2,10	100	1450	410	5940	500	19,69	2250	1,51	MF+M00910-24	OPK-24
H01060051*	51	- 32	2"	63,5	2,50	66,2	2,61	90	1300	370	5360	630	24,80	3080	2,07	MF+M00910-32	OPK-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-67 °F / 275 °F  
-55 °C / 135 °C

#### MAX OPERATING TEMPERATURE

150 °C, 300 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

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

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

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



#### Remarks:

- Compressed air applications require cover pin-pricking and additional safety devices
- 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

## PILOT

EXTREME LIGHTNESS



### KEY FEATURES

- High temperature working conditions
- ROCKMASTER® cover compound for tough environment, high abrasion, ozone, aging resistance
- Superior lightness and flexibility
- Extreme compact structure
- Approved at 1.000.000 cycles at rated working pressure
- Kink resistant solution for pilot applications

### APPLICATIONS & FLUIDS



- Hydraulics: specifically studied for pilot lines, useful also for low pressure lines with installation constraints. Ideal for severe installations, e.g. for engine compartments and for high temperature applications
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### 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	Std1	Std2
H01015005*	5	- 3	3/16"	8,7	0,34	10,5	0,41	150	2170	600	8700	20	0,79	145	0,10	MF+M03300-03	
H01015A06*	6	- 4	1/4"	9,9	0,39	11,5	0,45	150	2170	600	8700	25	0,98	160	0,11	MF+M03300-04	MN+M02400-04
H01015008*	8	- 5	5/16"	11,5	0,45	13,1	0,52	120	1740	480	6960	30	1,18	185	0,12	MF+M03300-05	MN+M02400-05
H01015010*	10	- 6	3/8"	13,2	0,52	14,8	0,58	100	1450	400	5800	40	1,57	205	0,14	MF+M03300-06	MN+M02400-06
H01015012*	12	- 8	1/2"	16,2	0,64	18,0	0,71	100	1450	400	5800	50	1,97	270	0,18	MF+M00820-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR; MSHA



## NOZONE/2K

OUTSTANDING OZONE RESISTANCE



### KEY FEATURES

- Outstanding ozone resistance
- Superior weather and UV resistance
- High temperature resistance
- High aging resistance

### APPLICATIONS & FLUIDS



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

### 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	Std1	Std2
H01039006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	400	5800	1850	26830	45	1,77	280	0,19	MF+M03400-04	OPF-04
H01039008*	8	- 5	5/16"	12,9	0,51	14,7	0,58	350	5070	1700	24650	55	2,17	330	0,22	MF+M03400-05	OPF-05
H01039010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	330	4780	1500	21750	65	2,56	395	0,27	MF+M03400-06	OPF-06
H01039012*	12	- 8	1/2"	18,5	0,73	20,3	0,80	275	3980	1220	17690	80	3,15	510	0,34	MF+M03400-08	OPF-08
H01039016*	16	- 10	5/8"	21,8	0,86	23,6	0,93	250	3620	1050	15220	90	3,54	600	0,40	MF+M03400-10	OPF-10
H01039019*	19	- 12	3/4"	25,6	1,01	27,6	1,09	215	3110	920	13340	120	4,72	800	0,54	MF+M03400-12	OPF-12

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

135 °C, 275 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Exceed EN 857 2SC; ISO 11237 2SC

#### TYPE APPROVALS

CU-TR; MSHA

## ETERNITY/2

HIGH SERVICE LIFE AND RELIABILITY



### 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

### 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

### 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	Std1	Std2
H01102006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	450	6520	1800	26100	45	1,77	275	0,18	MF+M00120-04	OPF-04
H01102008*	8	- 5	5/16"	12,9	0,51	14,7	0,58	400	5800	1600	23200	55	2,17	325	0,22	MF+M00120-05	OPF-05
H01102010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	365	5290	1460	21170	65	2,56	390	0,26	MF+M00120-06	OPF-06
H01102A12*	12	- 8	1/2"	18,6	0,73	20,4	0,80	350	5070	1400	20300	80	3,15	560	0,38	MF+M00120-08	OPF-08
H01102016*	16	- 10	5/8"	22,7	0,89	24,7	0,97	300	4350	1200	17400	90	3,54	730	0,49	MF+M00120-10	
H01102019*	19	- 12	3/4"	27,1	1,07	29,3	1,15	300	4350	1200	17400	120	4,72	1070	0,72	MF+M00120-12	
H01102025*	25	- 16	1"	33,7	1,33	35,9	1,41	225	3260	900	13050	160	6,30	1340	0,90	MF+M00130-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

135 °C, 275 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Exceed EN 857 2SC; SAE 100R16; ISO 11237 2SC

#### TYPE APPROVALS

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

## DIAMONDSPIR

VERY HIGH PRESSURE



### 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

### 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	Std1	Std2
H10018019*	19	- 12	3/4"	29,1	1,15	32,1	1,26	560	8120	2240	32480	280	11,02	1660	1,12	XL+M01750-12	
H10018025*	25	- 16	1"	38,2	1,50	41,2	1,62	560	8120	2240	32480	350	13,78	2910	1,96	XL+M01800-16	
H10018032*	31	- 20	1.1/4"	47,7	1,88	50,9	2,00	525	7610	2100	30450	420	16,54	4210	2,83	XL+M01800-20	
H10018038*	38	- 24	1.1/2"	55,2	2,17	58,7	2,31	475	6880	1900	27550	500	19,69	5230	3,51	XL+M01800-24	
H10018051*	51	- 32	2"	68,4	2,69	71,9	2,83	420	6090	1680	24360	600	23,62	6680	4,49	XL+M01800-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

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

#### COVER

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

#### APPLICABLE SPECS

MANULI® Design; Exceed ISO 3862 R15

#### TYPE APPROVALS

ABS; FRAS; CU-TR; MSHA; MA

## SHIELDMASTER/2 PLUS MINE

OUTSTANDING ABRASION RESISTANCE, MSHA APPROVED



### KEY FEATURES

- MSHA approved composite cover for mining applications
- Outstanding abrasion and ozone resistance
- Easy assembling and mounting operations, no protection sleeves are required
- Indelible branding technology
- Reduced bend radius for difficult installations
- Flame retardant and electrical antistaticity cover properties

### APPLICATIONS & FLUIDS



- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing among hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe mining environments, underground and open pit, long resistance to ozone and weathering, cold temperatures, antistatic and flame retardant properties of the cover
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H01122006*	6	- 4	1/4"	11,3	0,44	12,7	0,50	450	6520	1800	26100	45	1,77	285	0,19	MF+M03400-04	
H01122008*	8	- 5	5/16"	12,9	0,51	14,3	0,56	400	5800	1600	23200	85	3,35	330	0,22	MF+M00120-05	
H01122010*	10	- 6	3/8"	16,7	0,66	18,5	0,73	400	5800	1600	23200	127	5,00	549	0,37	MF+M00910-06	
H01122012*	12	- 8	1/2"	20,1	0,79	22,1	0,87	362	5250	1450	21030	150	5,91	710	0,48	MF+M00910-08	
H01122019*	19	- 12	3/4"	27,1	1,07	29,3	1,15	310	4490	1240	17980	230	9,06	1090	0,73	MF+M00920-12	OPK-12
H01122025*	25	- 16	1"	35,1	1,38	37,8	1,49	240	3480	960	13920	300	11,81	1610	1,08	MF+M00930-16	OPK-16
H01122031*	31	- 20	1.1/4"	44,5	1,75	47,2	1,86	175	2530	700	10150	380	14,96	2170	1,46	MF+M00920-20	OPK-20
H01122038*	38	- 24	1.1/2"	51,0	2,01	53,7	2,11	146	2110	584	8470	450	17,72	2520	1,69	MF+M00910-24	
H01122051*	51	- 32	2"	62,8	2,47	65,5	2,58	130	1880	520	7540	600	23,62	3170	2,13	MF+M00910-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two wire braids of high tensile steel wire

#### COVER

Composite bi-layer structure with outstanding abrasion and ozone resistance

#### APPLICABLE SPECS

EN 853 type 2SN; ISO 1436 2SN; SAE J517 100R2AT. Exceed performances of: BCS 174 (British Coal Specification '92); ISO 6805 type 4 (Rubber hoses and hose assemblies for underground mining)

#### TYPE APPROVALS

MSHA; CU-TR



#### Remarks:

Applications with materials projection 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.

## PUSHFIT

### PUSH-ON HOSE



#### 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

#### 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	Std1	Std2
H09066006*	6	- 4	1/4"			12,7	0,50	35	500	140	2030	76	2,99	130	0,09	PL	
H09066008*	8	- 5	5/16"			14,3	0,56	35	500	140	2030	76	2,99	155	0,10	PL	
H09066010*	10	- 6	3/8"			15,8	0,62	35	500	140	2030	76	2,99	175	0,12	PL	
H09066012*	12	- 8	1/2"			19,6	0,77	25	360	100	1450	127	5,00	235	0,16	PL	
H09066016*	16	- 10	5/8"			23,6	0,93	25	360	100	1450	150	5,91	320	0,22	PL	
H09066019*	19	- 12	3/4"			26,2	1,03	21	300	84	1210	180	7,09	340	0,23	PL	
H09066025*	25	- 16	1"			33,0	1,30	14	200	56	810	240	9,45	455	0,31	PL	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber compound

#### REINFORCEMENT

One textile braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

Manuli design

#### TYPE APPROVALS

CU-TR

## XTRAFLOW/2WB

HIGH FLOW RATES, LOW PRESSURE DROPS



### 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

### 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	Std1	Std2
H01129063*	63	- 40	2.1/2"	75,8	2,98	78,5	3,09	105	1520	420	6090	510	20,08	3531	2,37	SP+M05400-40	
H01129076*	76	- 48	3"	89,0	3,50	93,6	3,69	80	1160	320	4640	510	20,08	4976	3,34	SP+M05400-48	
H01129089*	89	- 56	3.1/2"	102,2	4,02	107,4	4,23	35	500	140	2030	710	27,95	5530	3,72	SP+M05400-56	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel wire braids

#### COVER

Synthetic rubber with high ozone, weather and abrasion resistance

#### APPLICABLE SPECS

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

#### TYPE APPROVALS

CU-TR; MSHA

## XTRAFLOW/4WS

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



### 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, longwalls water lines
- Mineral oils, vegetable oils and sythetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H10091063*	63	- 40	2.1/2"	77,5	3,05	81,5	3,21	140	2030	700	10150	700	27,56	5890	3,96	SP+M05400-40	
H10091076*	76	- 48	3"	87,8	3,46	92,2	3,63	105	1520	525	7610	700	27,56	5367	3,61	SP+M05400-48	
H10091089*	89	- 56	3.1/2"	103,7	4,08	108,7	4,28	80	1160	400	5800	800	31,50	8187	5,50	SP+M05400-56	
H10091102*	102	- 64	4"	120,0	4,72	126,0	4,96	35	500	140	2030	900	35,43	10210	6,86	SP+M05400-64	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel wire spirals

#### COVER

Synthetic rubber with high abrasion, ozone and weather resistance

#### APPLICABLE SPECS

Manuli Design

#### TYPE APPROVALS

CU-TR; MSHA; FRAS

## XTRAFLOW/HT

HIGH TEMPERATURE SUCTION & RETURN LINES



### 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.
- Remark: compressed air applications require cover pin-pricking and additional safety devices.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### 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	Std1	Std2
H01128063*	63	- 40	2.1/2"	75,8	2,98	78,5	3,09	35	500	140	2030	254	10,00	3589	2,41	MF+M03400-40	
H01128076*	76	- 48	3"	87,8	3,46	90,5	3,56	35	500	140	2030	355	13,98	3291	2,21	MF+M03400-48	
H01128089*	89	- 56	3.1/2"	102,2	4,02	106,0	4,17	35	500	140	2030	475	18,70	5708	3,84	MF+M03400-56	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-67 °F / 275 °F  
-55 °C / 135 °C

#### MAX OPERATING TEMPERATURE

150 °C, 300 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two wire braids of high tensile steel wire

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Manuli design

#### TYPE APPROVALS

CU-TR; MSHA



## GOLDENISO/21 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



### 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

### 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	Std1	Std2
H01125A05*	5	- 3	3/16"	9,1	0,36	11,1	0,44	210	3040	840	12180	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	3040	840	12180	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	3040	840	12180	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	3040	840	12180	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	3040	840	12180	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	3040	840	12180	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	3040	840	12180	120	4,72	780	0,52	MF+M03400-12	OPF-12
H01125025*	25	- 16	1"	33,0	1,30	35,2	1,39	210	3040	840	12180	150	5,91	1120	0,75	MF+M03400-16	OPF-16

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

### MAX OPERATING TEMPERATURE

121 °C, 250 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

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

### COVER

High abrasion resistant synthetic rubber

### APPLICABLE SPECS

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

### TYPE APPROVALS

CU-TR; MSHA; FRAS

## GOLDENISO/28 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



### 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

### 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	Std1	Std2
H01126006*	6	- 4	1/4"	11,6	0,46	13,2	0,52	280	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	120	4,72	1060	0,71	MF+M03400-12	OPK-12

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### TUBE

Synthetic rubber

#### REINFORCEMENT

Two wire braids

#### COVER

High abrasion resistant synthetic rubber

#### APPLICABLE SPECS

ISO 18752 grade A; SAE J517 type 100R19

#### TYPE APPROVALS

CU-TR; MSHA; FRAS

## GOLDENISO/21 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



### KEY FEATURES

- Bend radius which exceed the standard requirements by -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- 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

### 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	Std1	Std2
H10093031*	31	-20	1.1/4"	41,7	1,64	44,5	1,75	210	3040	840	12180	210	8,27	2071	1,39	MF+M00920-20	OPK-20
H10093038*	38	-24	1.1/2"	48,9	1,93	52,1	2,05	210	3040	840	12180	260	10,24	2989	2,01	IP+M01500-24	SP+M05400-24
H10093051*	51	-32	2"	63,2	2,49	66,8	2,63	210	3040	840	12180	330	12,99	4311	2,90	IP+M01500-32	SP+M05400-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

4 high tensile steel spirals

#### COVER

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

#### APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

#### TYPE APPROVALS

CU-TR; MSHA; FRAS

## GOLDENISO/28 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



### KEY FEATURES

- Bend radius which exceed 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 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

### 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	Std1	Std2
H10095010*	10	- 6	3/8"	16,7	0,66	18,9	0,74	280	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	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	4060	1120	16240	120	4,72	1040	0,70	MF+M00920-12	OPK-12
H10095025*	25	- 16	1"	34,1	1,34	36,5	1,44	280	4060	1120	16240	150	5,91	1530	1,03	MF+M00930-16	OPK-16
H10095031*	31	- 20	1.1/4"	41,7	1,64	44,5	1,75	280	4060	1120	16240	210	8,27	2160	1,45	MF+M00920-20	OPK-20
H10095038*	38	- 24	1.1/2"	48,9	1,93	52,1	2,05	280	4060	1120	16240	280	11,02	2994	2,01	IP+M01500-24	SP+M05400-24
H10095051*	51	- 32	2"	63,9	2,52	67,5	2,66	280	4060	1120	16240	350	13,78	4633	3,11	IP+M01500-32	SP+M05400-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

4 high tensile steel spirals

#### COVER

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

#### APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

#### TYPE APPROVALS

CU-TR; MSHA; FRAS; CCS

## GOLDENISO/35 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



### KEY FEATURES

- Bend radius which exceed 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 R13 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

### 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	Std1	Std2
H10096010*	10	- 6	3/8"	16,7	0,66	18,9	0,74	350	5070	1400	20300	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	5070	1400	20300	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	5070	1400	20300	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	5070	1400	20300	120	4,72	1220	0,82	MF+M00920-12	OPK-12
H10096025*	25	- 16	1"	34,6	1,36	37,0	1,46	350	5070	1400	20300	150	5,91	1800	1,21	IP+M01500-16	SP+M05400-16
H10096031*	31	- 20	1.1/4"	42,1	1,66	44,9	1,77	350	5070	1400	20300	230	9,06	2340	1,57	IP+M01500-20	SP+M05400-20
H10096038*	38	- 24	1.1/2"	52,9	2,08	56,1	2,21	350	5070	1400	20300	300	11,81	4165	2,80	IP+M01600-24	SP+M05500-24
H10096051*	51	- 32	2"	66,8	2,63	70,4	2,77	350	5070	1400	20300	360	14,17	6161	4,14	IP+M01800-32	SP+M05500-32

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals (DN 6÷31). Six high tensile steel spirals (DN 38÷51).

#### COVER

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

#### APPLICABLE SPECS

ISO 18752-C/D, JIS K6349-3

#### TYPE APPROVALS

DNV-GL; CU-TR; MSHA; FRAS; B

## GOLDENISO/42 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



### KEY FEATURES

- Bend radius which exceed 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

### 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	Std1	Std2
H10097010*	10	- 6	3/8"	17,6	0,69	20,0	0,79	420	6090	1680	24360	100	3,94	550	0,37	MF+M00910-06	
H10097012*	12	- 8	1/2"	20,3	0,80	22,7	0,89	420	6090	1680	24360	120	4,72	807	0,54	MF+M00910-08	
H10097016*	16	- 10	5/8"	23,9	0,94	26,4	1,04	420	6090	1680	24360	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	6090	1680	24360	150	5,91	1285	0,86	IP+M01500-12	SP+M05400-12
H10097025*	25	- 16	1"	34,8	1,37	37,3	1,47	420	6090	1680	24360	210	8,27	1915	1,29	IP+M01500-16	SP+M05400-16
H10097031*	31	- 20	1.1/4"	46,3	1,82	49,5	1,95	420	6090	1680	24360	260	10,24	3663	2,46	IP+M01600-20	SP+M05500-20
H10097038*	38	- 24	1.1/2"	53,2	2,09	56,4	2,22	420	6090	1680	24360	310	12,20	4450	2,99	IP+M01600-24	SPGX+ M05500-24GX

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

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

#### COVER

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

#### APPLICABLE SPECS

ISO 18752-C (Grade C "Plus" approved 1 Mil impulse cycles with Interlock Plus fittings)

#### TYPE APPROVALS

CU-TR; MSHA; FRAS; B

## GOLDENISO/35 LONGLIFE

HIGH FATIGUE RESISTANCE



### 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
- Skive robust fitting solution
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS



- Hydraulics: high pressure power lines, heavy duty earth moving equipment, drilling applications, lifting equipment and telescopic booms, 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

### 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	Std1	Std2
H01134006*	6	- 4	1/4"	11,3	0,44	13,1	0,52	350	5070	1800	26100	45	1,77	284	0,19	MF+M00120-04	
H01134010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	350	5070	1400	20300	65	2,56	392	0,26	MF+M00120-06	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel wire braids (DN 6 to 12)

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Manuli special design exceeds ISO 18752-B

#### TYPE APPROVALS

CU-TR; MSHA

## GOLDENISO/38 LONGLIFE

HIGH FATIGUE RESISTANCE



### 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

### 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	Std1	Std2
H10098019*	19	- 12	3/4"	27,7	1,09	32,0	1,26	380	5510	1680	24360	170	6,69	1410	0,95	IP+M01500-12	
H10098025*	25	- 16	1"	34,8	1,37	38,1	1,50	380	5510	1680	24360	220	8,66	1964	1,32	IP+M01500-16	
H10098031*	31	- 20	1.1/4"	46,3	1,82	49,5	1,95	380	5510	1680	24360	267	10,51	3663	2,46	IP+M01600-20	
H10098038*	38	- 24	1.1/2"	55,2	2,17	59,1	2,33	380	5510	1900	27550	500	19,69	5280	3,55	IP+M01800-24	
H10098051*	51	- 32	2"	68,4	2,69	72,4	2,85	380	5510	1520	22040	630	24,80	6796	4,57	IP+M01800-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel wire spirals (DN 19 & 25),  
six high tensile steel wire spirals (DN 31)

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Manuli special design exceeds SAE J517  
type100R13; ISO 3862 R13; ISO 18752-C-D  
extension

#### TYPE APPROVALS

CU-TR; MSHA; FRAS



## GOLDENISO/45 LONGLIFE

HIGH FATIGUE RESISTANCE



### 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

### 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	Std1	Std2
H10089006*	6	- 4	1/4"	14,7	0,58	17,1	0,67	460	6670	1840	26680	125	4,92	567	0,38	IP+M01500-04	
H10089016*	16	- 10	5/8"	25,5	1,00	28,5	1,12	460	6670	1840	26680	250	9,84	1290	0,87	IP+M01500-10	
H10089019*	19	- 12	3/4"	28,4	1,12	32,0	1,26	460	6670	1840	26680	280	11,02	1530	1,03	IP+M01500-12	
H10089025*	25	- 16	1"	35,4	1,39	38,2	1,50	460	6670	1840	26680	340	13,39	2150	1,44	IP+M01500-16	
H10089031*	31	- 20	1.1/4"	46,3	1,82	49,5	1,95	450	6520	1800	26100	420	16,54	3790	2,55	IP+M01800-20	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel wire spirals (DN 16÷25).  
Six high tensile steel wire spirals (DN 31)

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Manuli special design exceeds SAE J517 type100R15; ISO 3862 R15; ISO 18752-D extension

#### TYPE APPROVALS

CU-TR; MSHA; FRAS

## SHIELDMASTER/2000

OUTSTANDING ABRASION RESISTANCE



### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- FROST suitable for very cold environments
- Compact solution for difficult installation

### APPLICATIONS & FLUIDS



- Low pressure hydraulic lines, pilot lines with shield architecture
- High resistance to abrasion conditions, including rubbing among 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
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### 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	Std1	Std2
H01106A06*	6	- 4	1/4"	10,2	0,40	12,3	0,48	140	2030	560	8120	50	1,97	185	0,12	MF+M00120-04	OPF-04
H01106010*	10	- 6	3/8"	13,6	0,54	15,8	0,62	140	2030	560	8120	60	2,36	270	0,18	MF+M00120-06	
H01106012*	12	- 8	1/2"	17,1	0,67	19,3	0,76	140	2030	560	8120	70	2,76	350	0,24	MF+M00120-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 212 °F  
-46 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### MIN EXTERNAL TEMPERATURE

-55 °C, -67 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR



#### Remarks:

Applications with materials projection 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/4000

OUTSTANDING ABRASION RESISTANCE



### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- FROST suitable for very cold environments

### APPLICATIONS & FLUIDS



- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing among 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
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H01031006*	6	- 4	1/4"	11,6	0,46	13,6	0,54	276	4000	1110	16090	50	1,97	275	0,18	MF+M00120-04	
H01031008*	8	- 5	5/16"	12,9	0,51	14,9	0,59	276	4000	1110	16090	57	2,24	324	0,22	MF+M00120-05	
H01031010*	10	- 6	3/8"	15,4	0,61	17,4	0,69	276	4000	1110	16090	63	2,48	400	0,27	MF+M00120-06	
H01031012*	12	- 8	1/2"	18,5	0,73	20,5	0,81	276	4000	1110	16090	80	3,15	510	0,34	MF+M00120-08	
H01031016*	16	- 10	5/8"	22,7	0,89	24,7	0,97	276	4000	1110	16090	90	3,54	730	0,49	MF+M00120-10	
H01031019*	19	- 12	3/4"	27,1	1,07	29,3	1,15	276	4000	1110	16090	120	4,72	1070	0,72	MF+M00120-12	
H01031025*	25	- 16	1"	35,1	1,38	38,1	1,50	276	4000	1110	16090	267	10,51	1950	1,31	MF+M00930-16	
H01031031*	31	- 20	1.1/4"	43,8	1,72	47,0	1,85	276	4000	1110	16090	400	15,75	2590	1,74	MF+M00920-20	
H01031038*	38	- 24	1.1/2"	50,0	1,97	53,5	2,11	276	4000	1110	16090	500	19,69	3160	2,12	MF+M00910-24	
H01031051*	51	- 32	2"	63,5	2,50	68,0	2,68	276	4000	1110	16090	700	27,56	4580	3,08	IP+M01500-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 212 °F  
-46 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### MIN EXTERNAL TEMPERATURE

-55 °C, -67 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids (DN 6÷19). Four high tensile steel spirals (DN 25÷51)

#### COVER

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR



#### Remarks:

Applications with materials projection 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/5000

OUTSTANDING ABRASION RESISTANCE



### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- FROST suitable for very cold environments

### APPLICATIONS & FLUIDS



- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing among 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
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H01032006*	6	- 4	1/4"	11,6	0,46	13,6	0,54	345	5000	1380	20010	50	1,97	275	0,18	MF+M00120-04	
H01032008*	8	- 5	5/16"	12,9	0,51	15,1	0,59	345	5000	1380	20010	55	2,17	340	0,23	MF+M00120-05	
H01032010*	10	- 6	3/8"	15,0	0,59	17,2	0,68	345	5000	1380	20010	65	2,56	400	0,27	MF+M00120-06	
H01032012*	12	- 8	1/2"	19,8	0,78	21,8	0,86	345	5000	1380	20010	120	4,72	650	0,44	MF+M00910-08	
H01032016*	16	- 10	5/8"	24,4	0,96	27,2	1,07	345	5000	1380	20010	200	7,87	995	0,67	MF+M00910-10	
H01032019*	19	- 12	3/4"	28,2	1,11	31,2	1,23	345	5000	1380	20010	230	9,06	1360	0,91	IP+M01500-12	
H01032025*	25	- 16	1"	35,1	1,38	38,1	1,50	345	5000	1380	20010	267	10,51	1950	1,31	IP+M01500-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 212 °F  
-46 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### MIN EXTERNAL TEMPERATURE

-55 °C, -67 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids (DN 6÷12). Four high tensile steel spirals (DN 16÷25)

#### COVER

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR



#### Remarks:

Applications with materials projection 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/6000

OUTSTANDING ABRASION RESISTANCE



### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- FROST suitable for very cold environments

### APPLICATIONS & FLUIDS



- Heavy duty hydraulic power lines
- High resistance to abrasion conditions, including rubbing among 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
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H01A32006*	6	- 4	1/4"	11,3	0,44	13,5	0,53	420	6090	1680	24360	45	1,77	290	0,19	MF+M00120-04	
H01A32010*	10	- 6	3/8"	17,6	0,69	20,6	0,81	420	6090	1680	24360	110	4,33	710	0,48	MF+M00910-06	
H01A32012*	12	- 8	1/2"	20,3	0,80	23,5	0,93	420	6090	1680	24360	120	4,72	840	0,56	MF+M00910-08	
H01A32016*	16	- 10	5/8"	23,7	0,93	27,0	1,06	420	6090	1680	24360	140	5,51	1000	0,67	MF+M00910-10	
H01A32019*	19	- 12	3/4"	28,2	1,11	32,0	1,26	420	6090	1680	24360	170	6,69	1480	0,99	IP+M01500-12	
H01A32025*	25	- 16	1"	35,1	1,38	38,1	1,50	420	6090	1680	24360	220	8,66	2050	1,38	IP+M01500-16	
H01A32031*	31	- 20	1.1/4"	46,3	1,82	49,5	1,95	420	6090	1680	24360	267	10,51	3690	2,48	IP+M01600-20	
H01A32038*	38	- 24	1.1/2"	54,6	2,15	57,8	2,28	420	6090	1680	24360	315	12,40	4780	3,21	IP+M01600-24	
H01A32051*	51	- 32	2"	68,4	2,69	72,0	2,83	420	6090	1680	24360	600	23,62	6760	4,54	XL+M01800-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 212 °F  
-46 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### MIN EXTERNAL TEMPERATURE

-55 °C, -67 °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

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR



#### Remarks:

Applications with materials projection 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/5000 MINE

OUTSTANDING ABRASION RESISTANCE, MSHA APPROVED



### KEY FEATURES

- MSHA approved cover for mining applications
- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Indelible branding technology

### APPLICATIONS & FLUIDS



- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing among hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe mining environments, underground and open pit, long resistance to ozone and weathering, cold temperatures, antistatic and flame retardant properties of the cover
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H01104006*	6	- 4	1/4"	11,6	0,46	13,6	0,54	345	5000	1380	20010	50	1,97	280	0,19	MF+M00120-04	
H01104008*	8	- 5	5/16"	12,9	0,51	15,1	0,59	345	5000	1380	20010	55	2,17	350	0,24	MF+M00120-05	
H01104010*	10	- 6	3/8"	15,0	0,59	17,2	0,68	345	5000	1380	20010	65	2,56	410	0,28	MF+M00120-06	
H01104012*	12	- 8	1/2"	19,8	0,78	21,8	0,86	345	5000	1380	20010	120	4,72	670	0,45	MF+M00910-08	
H01104016*	16	- 10	5/8"	24,4	0,96	27,2	1,07	345	5000	1380	20010	200	7,87	1030	0,69	MF+M00910-10	
H01104019*	19	- 12	3/4"	28,2	1,11	31,2	1,23	345	5000	1380	20010	230	9,06	1420	0,95	IP+M01500-12	
H01104025*	25	- 16	1"	35,1	1,38	38,1	1,50	345	5000	1380	20010	267	10,51	1990	1,34	IP+M01500-16	
H01104031*	31	- 20	1.1/4"	42,2	1,66	45,2	1,78	345	5000	1380	20010	350	13,78	2500	1,68	IP+M01500-20	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids (DN 6÷12). Four high tensile steel spirals (DN 16÷31)

#### COVER

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design. Performances ISO 3862 - R13

#### TYPE APPROVALS

CU-TR; MSHA; FRAS



#### Remarks:

Applications with materials projection 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/6000 MINE

OUTSTANDING ABRASION RESISTANCE, MSHA APPROVED



### KEY FEATURES

- MSHA approved composite cover for mining applications
- Outstanding abrasion and ozone resistance
- Easy assembling and mounting operations, no protection sleeves are required
- Indelible branding technology
- Reduced bend radius for difficult installations
- Flame retardant and electrical antistaticity cover properties

### APPLICATIONS & FLUIDS



- Heavy duty hydraulic power lines
- High resistance to abrasion conditions, including rubbing among hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe mining environments, underground and open pit, long resistance to ozone and weathering, cold temperatures, antistatic and flame retardant properties of the cover
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H10086031*	31	-20	1.1/4"	46,3	1,82	49,5	1,95	420	6090	1680	24360	260	10,24	3760	2,53	IP+M01600-20	
H10086038*	38	-24	1.1/2"	54,6	2,15	57,8	2,28	420	6090	1680	24360	310	12,20	4850	3,26	IP+M01600-24	
H10086051*	51	-32	2"	68,4	2,69	72,0	2,83	420	6090	1680	24360	600	23,62	6860	4,61	XL+M01800-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Six high tensile steel wire spirals

#### COVER

Composite bi-layer structure with outstanding abrasion and ozone resistance

#### APPLICABLE SPECS

ISO 3862 type R15; SAE J517 type 100 R15; exceed performances of BCS 174 (British Coal Specification 1992); ISO 6805 type 6 (rubber hoses and hose assemblies for underground mining)

#### TYPE APPROVALS

MSHA, CU-TR; FRAS



#### Remarks:

Applications with materials projection 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/17 WS

OUTSTANDING ABRASION RESISTANCE



### KEY FEATURES

- MSHA approved cover for mining applications
- Outstanding abrasion and ozone resistance
- Compact overall dimensions
- Easy assembling and mounting operations (no protection sleeves required)
- Indelible branding technology

### APPLICATIONS & FLUIDS



- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing among hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe mining environments, underground and open pit, long resistance to ozone and weathering, cold temperatures, antistatic and flame retardant properties of the cover
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H10113051*	51	- 32	2"	63,6	2,50	66,7	2,63	175	2530	700	10150	630	24,80	4461	3,00	MF+M00910-32	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals (DN 51)

#### COVER

Composite bi-layer structure with outstanding abrasion resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

CU-TR; MSHA



#### Remarks:

Applications with materials projection 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



### 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

### 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	Std1	Std2
H10104076*	76	- 48	3"	87,8	3,46	92,2	3,63	140	2030	560	8120	700	27,56	5900	3,96	IP+M01500-48	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four or six high tensile wire spirals

#### COVER

Synthetic rubber with high abrasion, ozone and weather resistance

#### APPLICABLE SPECS

Manuli Design, ISO 18752-C extension

#### TYPE APPROVALS

CU-TR; MSHA; CCS

## DIAMONDSPIR/21

VERY HIGH HYDRAULIC POWER TRANSMISSION



### KEY FEATURES

- Very high flow rates in high pressure hydraulics
- 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 fittings 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

### 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	Std1	Std2
H10102063*	63	- 40	2.1/2"	77,5	3,05	81,5	3,21	210	3040	840	12180	700	27,56	5890	3,96	IP+M01500-40	
H10102076*	76	- 48	3"	90,8	3,57	94,6	3,72	210	3040	840	12180	900	35,43	7910	5,32	IP+M01810-48	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four to six high tensile steel spirals

#### COVER

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

#### APPLICABLE SPECS

MANULI® Design: ISO 18752 grade C extension

#### TYPE APPROVALS

CU-TR; MSHA; MA; CCS

## DIAMONDSPIR/35

VERY HIGH HYDRAULIC POWER TRANSMISSION



### 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 & InterLock Super fittings 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

### 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	Std1	Std2
H10103063*	63	- 40	2.1/2"	80,6	3,17	84,8	3,34	350	5070	1400	20300	800	31,50	8105	5,45	IP+M01810-40	
H10103076*	76	- 48	3"	97,9	3,85	101,9	4,01	350	5070	1400	20300	1000	39,37	12249	8,23	IS+M02700-48	IS+M02800-48

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Six to eight high tensile steel spirals

#### COVER

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

#### APPLICABLE SPECS

MANULI® Design: ISO 18752 grade C extension

#### TYPE APPROVALS

CU-TR; MSHA; MA; CCS

## FORESTMASTER/35

FORESTRY MACHINES



### KEY FEATURES

- Extreme high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for the maximum resistance in harsh environments
- Reduced bend radius
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- 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 abrasions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H10111019*	19	- 12	3/4"	27,5	1,08	31,7	1,25	350	5070	1400	20300	140	5,51	1251	0,84	IP+M01500-12	SP+M05400-12
H10111025*	25	- 16	1"	34,6	1,36	38,8	1,53	350	5070	1400	20300	190	7,48	1843	1,24	IP+M01500-16	SP+M05400-16
H10111031*	31	- 20	1.1/4"	42,1	1,66	47,1	1,85	350	5070	1400	20300	230	9,06	2484	1,67	IP+M01500-20	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals

#### COVER

Composite cover with textile reinforcement, realized with high abrasion and ozone resistant synthetic rubber

#### APPLICABLE SPECS

Manuli design, ref. ISO 18752-C

#### TYPE APPROVALS

CU-TR; MSHA

## FORESTMASTER/42

FORESTRY MACHINES



### KEY FEATURES

- Extreme high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for the maximum resistance in harsh environments
- Reduced bend radius
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- 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 abrasions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### 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	Std1	Std2
H10112019*	19	- 12	3/4"	27,7	1,09	31,9	1,26	420	6090	1680	24360	150	5,91	1331	0,89	IP+M01500-12	
H10112025*	25	- 16	1"	34,8	1,37	39,0	1,54	420	6090	1680	24360	210	8,27	1970	1,32	IP+M01500-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Four high tensile steel spirals

#### COVER

Composite cover with textile reinforcement, realized with high abrasion and ozone resistant synthetic rubber

#### APPLICABLE SPECS

Manuli design, ref. ISO 18752-C

#### TYPE APPROVALS

CU-TR; MSHA

## MASTERTEX

LOW PRESSURE HIGH TEMPERATURE HOSE



### KEY FEATURES

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

### 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

### 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	Std1	Std2
H09069006*	6	- 4	1/4"			12,6	0,50	30	430	120	1740	45	1,77	115	0,08	MF+M00830-04	
H09069010*	10	- 6	3/8"			15,8	0,62	30	430	120	1740	75	2,95	160	0,11	MF+M00820-06	
H09069012*	12	- 8	1/2"			19,4	0,76	30	430	120	1740	90	3,54	210	0,14	MF+M00820-08	
H09069016*	16	- 10	5/8"			23,0	0,91	30	430	120	1740	115	4,53	285	0,19	MF+M00820-10	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 275 °F  
-40 °C / 135 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high resistance textile braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

Exceed SAE 100 R6; ISO 4079 R6/1TE

#### TYPE APPROVALS

CU-TR

## TWINPOWER 4000

EASY INSTALLATION FOR OEMs



### 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 easyness 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

### 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	Std1	Std2
H01119010*	10	- 6	3/8"	15,4	0,61	18,0	0,71	280	4060	1120	16240	65	2,56	830	0,56	MF+M00120-06	
H01119012*	12	- 8	1/2"	18,5	0,73	21,5	0,85	280	4060	1120	16240	80	3,15	1100	0,74	MF+M00120-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Synthetic rubber

#### REINFORCEMENT

Two high tensile steel wire braids

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### 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



### 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 easyness 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

### 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	Std1	Std2
H01120008*	8	- 5	5/16"	12,9	0,51	15,3	0,60	350	5070	1400	20300	55	2,17	682	0,46	MF+M00120-05	
H01120010*	10	- 6	3/8"	15,0	0,59	17,6	0,69	350	5070	1400	20300	65	2,56	830	0,56	MF+M00120-06	
H01120012*	12	- 8	1/2"	18,6	0,73	21,6	0,85	350	5070	1400	20300	80	3,15	1190	0,80	MF+M00120-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Synthetic rubber

#### REINFORCEMENT

Two high tensile steel wire braids

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Exceed ISO 11237 2SC/R16; EN 857 2SC; SAE J517 type 100R16

#### TYPE APPROVALS

CU-TR; MSHA



## TWINPOWER/PLUS

EASY INSTALLATION FOR OEMs



### 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 easyness 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

### 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	Std1	Std2
H01112A12*	12	- 8	1/2"	18,5	0,73	22,5	0,89	310	4490	1240	17980	80	3,15	1220	0,82	MF+M00120-08	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### MAX OPERATING TEMPERATURE

135 °C, 275 °F

#### TUBE

Synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Synthetic rubber with high ozone, abrasion and weather resistance

#### APPLICABLE SPECS

Exceed ISO 11237 2SC/R16; EN 857 2SC; SAE J517 type 100R16

#### TYPE APPROVALS

CU-TR; MSHA

## T°REX

EXTREME TEMPERATURE



### 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)

### 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	Std1	Std2
H01127031*	31	- 20	1.1/4"			40,7	1,60	43	620	172	2490	203	7,99	925	0,62	MF+	M00110-20TX

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 320 °F  
-40 °C / 160 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

One high tensile steel wire braid

#### COVER

Synthetic rubber with high ozone, weather and heat resistance

#### APPLICABLE SPECS

Manuli design

#### TYPE APPROVALS

CU-TR

## LUBEMASTER

LUBRICATION LINE



### 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.

### 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	Std1	Std2
H01135006*	6	- 4	1/4"	10,2	0,40	12,0	0,47	210	3040	840	12180	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	3040	840	12180	65	2,56	300	0,20	MF+M03300-06	OPF-06

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Synthetic rubber

#### REINFORCEMENT

One high tensile steel braid

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

Manuli Design

#### TYPE APPROVALS

CU-TR

## JACKMASTER

EXTREME STATIC PRESSURE



### KEY FEATURES

- High static pressures in remote locations
- Weight-lifting and hydraulic actuations by means of jacking system
- Extreme static pressure
- Tested and approved for specific jacking applications
- Test certificate available upon request
- Standard MF2000 fittings couplability (no special fittings required)
- Halogen-Free hose line

### APPLICATIONS & FLUIDS



- Hydraulic jacking systems
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### 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	Std1	Std2
H01034006*	6	- 4	1/4"	12,7	0,50	14,7	0,58	725	10510	1450	21030	100	3,94	370	0,25	MF+M03400-04	OPF-04
H01034010*	10	- 6	3/8"	15,0	0,59	16,8	0,66	725	10510	1450	21030	127	5,00	395	0,27	MF+M03400-06	OPF-06

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### MAX OPERATING TEMPERATURE

121 °C, 250 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Environment resistant synthetic rubber

#### APPLICABLE SPECS

IJ100 hydraulic jack spec., ISO/CD 16301

#### TYPE APPROVALS

CU-TR



#### Remarks:

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

## FIREEND

FIRE SUPPRESSION SYSTEMS



### 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

### 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	Std1	Std2
H01124006*	6	- 4	1/4"	11,0	0,43	13,0	0,51	225	3260	900	13050	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	2610	720	10440	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	2320	640	9280	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	1520	420	6090	240	9,45	660	0,44	MF+M03400-12	OPF-12
H01124025*	25	- 16	1"	33,1	1,30	35,7	1,41	88	1270	350	5070	300	11,81	980	0,66	MF+M03400-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### 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

## CPH/2SC

CABLE PROTECTION HOSE



### KEY FEATURES

- High flexibility
- Low weight
- High-tech manufacturing process
- Easy routing
- Blue flame retardant cover
- MSHA approval of the cover compound

### APPLICATIONS & FLUIDS



- Cable protection hose for mining applications;

### 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	Std1	Std2
H01033010*	10	- 6	3/8"	15,0	0,59	16,8	0,66							395	0,27	MF+M03400-06	OPF-06
H01033012*	12	- 8	1/2"	18,5	0,73	20,3	0,80							495	0,33	MF+M03400-08	OPF-08
H01033019*	19	- 12	3/4"	25,6	1,01	27,6	1,09							815	0,55	MF+M03400-12	OPF-12

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 212 °F  
-40 °C / 100 °C

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Two high tensile steel braids

#### COVER

Blue synthetic rubber with high ozone and weather resistance

#### APPLICABLE SPECS

MANULI® Design

#### TYPE APPROVALS

MSHA; CU-TR

## GOLDENMINE

CHINA COAL MINE HYDRAULICS



### 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

### 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	Std1	Std2
H10116063*	63	- 40	2.1/2"	80,6	3,17	84,8	3,34	350	5070	1400	20300	800	31,50	8105	5,45	IP+M01810-40	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °F / 250 °F  
-46 °C / 121 °C

#### MAX OPERATING TEMPERATURE

125 °C, 257 °F

#### TUBE

Oil resistant synthetic rubber

#### REINFORCEMENT

Six high tensile steel spirals

#### COVER

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

#### APPLICABLE SPECS

MT/T98

#### TYPE APPROVALS

MA China; MSHA; CU-TR



#### Remarks:

REMARK: The brand of the hose reports Allowable Working Pressure 50.0 MPa (500 bar), Safety Factor 2,8:1, according to the China norm MT/T98.

## GOLDENGUARD/3000

EMERGENCY HYDRAULIC SYSTEMS & BOP



### KEY FEATURES

- High robustness of the hose structures
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Flame retardant properties of the cover
- 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, defense, 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

### 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	Std1	Std2
H11022019*	19	- 12	3/4"	26,9	1,06	32,3	1,27	207	3000	828	12000	180	7,09	1288	0,87	OPK-12	
H11022025*	25	- 16	1"	34,1	1,34	40,1	1,58	207	3000	828	12000	230	9,06	1876	1,26	OPK-16	

#### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °F / 250 °F  
-40 °C / 121 °C

#### TUBE

High grade NBR oil resistant 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 type C

#### TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D fire test (DNV), LR



#### Remarks:

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



## GOLDENGUARD/5000

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES

H 32-2

### KEY FEATURES

- High robustness of the hose structures
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Flame retardant properties of the cover
- 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, defense, 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

### 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	Std1	Std2
H11020010*	10	- 6	3/8"	16,7	0,66	20,7	0,81	345	5000	1380	20010	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	5000	1380	20010	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	5000	1380	20010	180	7,09	1490	1,00	IP+M01500-10	
H11020019*	19	- 12	3/4"	29,0	1,14	36,2	1,43	345	5000	1380	20010	240	9,45	2024	1,36	IP+M01500-12	SP+M05400-12
H11020025*	25	- 16	1"	36,0	1,42	44,0	1,73	345	5000	1380	20010	300	11,81	2742	1,84	IP+M01500-16	SP+M05400-16
H11020031*	31	- 20	1.1/4"	47,0	1,85	55,0	2,17	345	5000	1380	20010	420	16,54	4293	2,88	IP+M01600-20	SP+M05500-20
H11020038*	38	- 24	1.1/2"	54,6	2,15	62,6	2,46	345	5000	1380	20010	500	19,69	5531	3,72	IP+M01600-24	SP+M05500-24
H11020051*	51	- 32	2"	68,4	2,69	76,4	3,01	345	5000	1380	20010	630	24,80	7712	5,18	IP+M01800-32	SP+M05500-32

### CONTINUOUS SERVICE TEMPERATURE

**RANGE**  
-40 °F / 250 °F  
-40 °C / 121 °C

### TUBE

High grade NBR oil resistant rubber

### REINFORCEMENT

Multiple plies of high tensile steel wire spirals (DN 16 to 51), 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 and SAE J517-100R13 performance

### TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D fire test (DNV), LR



### 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 are required
- STD2 fitting solution: No accessories required

The STD1 fitting solution has to be selected for the most demanding applications.

DN 10 & 12: Max. continuous temperature 100°C for these wire braided references.



## EMERGENCY HYDRAULIC SYSTEMS & BOP

### KEY FEATURES

- High robustness of the hose structures
- Thermal insulation of the hose with a stainless 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, defense, 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.*

HOSE SIZE			MAX W.P.		TEST PRESSURE		BURST PRESSURE		HOSE		FITTING		ACCESSORIES	
			bar	psi	bar	psi	bar	psi	PART. REF.	Insert	Ferrule	Armour guard	Metal Sleeve	
10	-6	3/8"	345	5000	690	10000	1380	20000	ROCKMASTER/2PLUS	H01101010	MF	IM00910-06	JP45G090280099	IO82110-06GA
12	-8	1/2"	345	5000	690	10000	1380	20000	ROCKMASTER/2PLUS	H01101012	MF	IM00910-08	JP45G090320099	IO82110-08GA
16	-10	5/8"	345	5000	690	10000	1380	20000	ROCKMASTER/4SH	H10044016	IP	IM01500-10	JP45G090400099	IO82110-10GA
19	-12	3/4"	345	5000	690	10000	1380	20000	ROCKMASTER/13	H10035019	IP	IM01500-12	JP45G090450099	IO82110-12GA
25	-16	1"	345	5000	690	10000	1380	20000	ROCKMASTER/13	H10035025	IP	IM01500-16	JP45G090500099	IO82110-16GA
31	-20	1-1/4"	345	5000	690	10000	1380	20000	ROCKMASTER/13	H10035032	IP	IM01600-20	JP45G090650099	IO82110-20GA
38	-24	1-1/2"	345	5000	690	10000	1380	20000	ROCKMASTER/13	H10035040	IP	IM01600-24	JP45G090750099	IO82110-24GA
51	-32	2"	345	5000	690	10000	1380	20000	ROCKMASTER/13	H10035051	IP	IM01800-32	JP45G090900099	IO82110-32GA

**CONTINUOUS SERVICE TEMPERATURE RANGE: TUBE:** High grade NBR oil resistant rubber

DN 10, 12:  
-40°C / +100°C  
-40°F / +212°F

DN16-51:  
-40°C / +121°C  
-40°F / +250°F

**REINFORCEMENT:** Multiple plies of high tensile steel wire spirals (DN 16 to 51), 2 wire braids (DN 10, 12)

**COVER:** High abrasion and ozone resistant rubber

**FITTINGS:** MF2000 Interlock Plus crimped fittings (DN 10, 12 Multifit fittings), stainless steel and carbon steel

**EXTERNAL PROTECTION:** stainless steel flexible armour

**APPLICABLE SPECS:** API 16D Fire Test (pr. 10.1.2).


DN 10, 12: ISO 18752-A  
DN 16-51: ISO 18752-C, ISO 3862 and SAE J517 type 100R13 performance

**TYPE APPROVALS:** MSHA, DNV-GL, LR, (API 16D fire test)



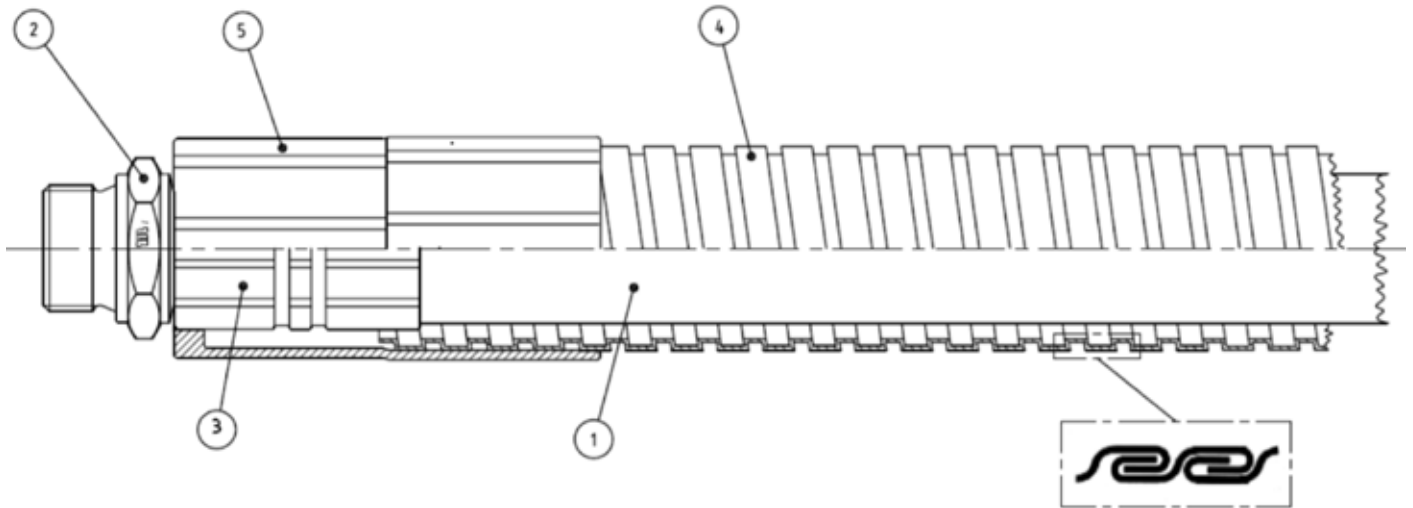
**Remark:**  
Refer to GOLDENARMOUR assembling instructions and crimp chart for the correct assembling of the hose.



**Hose assembly branding:**  
The GOLDENARMOUR must report at least the following information in the hose brand:  
 - **inch size - WP 5000 psi** (on the metal sleeve)  
 - **assembling date - assembler identification** (additional tag or on the metal sleeve)

## GOLDENARMOUR MAKE-UP

The GoldenArmour assembly is made up of the following components:



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

## ARMOUR JOINING PROCEDURE

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

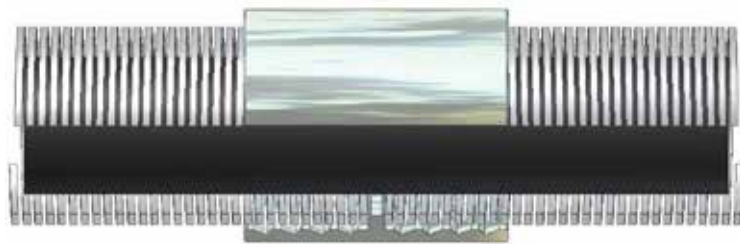
1. Slide the Armour Joint onto the hose.



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.



## ACCESSORIES DATASHEETS

## ACCESSORIES



## STAINLESS STEEL ARMOUR GUARD

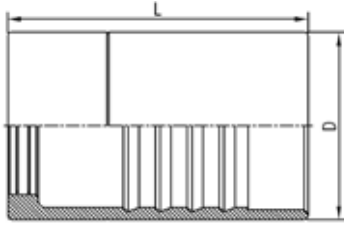
### METAL FLEXIBLE STRIP WOUND HOSE

PART. REF.	SIZE		MAX OD		MIN. BEND RADIUS		WEIGHT	
	DN	inch	mm	inch	mm	inch	g/m	lb/ft
JP45G090280099	25	1"	32.00	1.26	127	5.00	565	0.38
JP45G090320099	31	1.1/4	36.50	1.44	150	5.91	703	0.47
JP45G090400099	38	1.1/2	44.50	1.75	180	7.09	939	0.63
JP45G090450099	46	1.3/4	51.00	2.01	240	9.45	1118	0.75
JP45G090500099	51	2	57.50	2.26	300	11.81	1301	0.87
JP45G090650099	63	2.1/2	70.00	2.76	420	16.54	1636	1.10
JP45G090750099	76	3	82.50	3.25	500	19.69	1920	1.29
JP45G090900099	89	3.1/2	96.00	3.78	630	24.80	2386	1.60

## ACCESSORIES

### IO821GA

METAL SLEEVE FOR ARMOUR (STAINLESS STEEL)

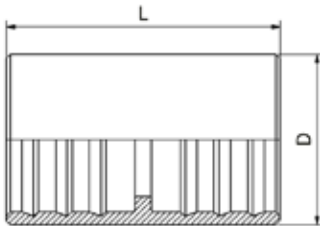


PART. REF.	HOSE BORE			DIMENSIONS mm									
	DN	Dash	inch			D	L						
IO82110-06GA	10	- 6	3/8"			40,5	60						
IO82110-08GA	12	- 8	1/2"			46,8	75						
IO82110-10GA	16	- 10	5/8"			53,2	90						
IO82110-12GA	19	- 12	3/4"			59,5	105						
IO82110-16GA	25	- 16	1"			66	120						
IO82110-20GA	31	- 20	1.1/4"			78,6	135						
IO82110-24GA	38	- 24	1.1/2"			91,5	150						
IO82110-32GA	51	- 32	2"			106,5	165						

## ACCESSORIES

### IO84210

ARMOUR-JOINT



PART. REF.	HOSE BORE			DIMENSIONS mm									
	DN	Dash	inch			D	L						
IO84210-06	10	- 6	3/8"			40,5	65						
IO84210-08	12	- 8	1/2"			46,8	65						
IO84210-10	16	- 10	5/8"			53,2	65						
IO84210-12	19	- 12	3/4"			59,5	70						
IO84210-16	25	- 16	1"			66	75						
IO84210-20	31	- 20	1.1/4"			78,6	95						
IO84210-24	38	- 24	1.1/2"			91,5	105						
IO84210-32	51	- 32	2"			106,5	115						

