

# **ULTRA** ❄️ **STAR** **REFRI** ❄️ **MASTER PLUS**



SUPERIOR QUALITY REFRIGERATION HOSES

# TWO OPTIONS - INFINITE POSSIBILITIES

In the refrigeration and climate control industries applications vary widely, but the standards of quality required are uniformly high. Manuli Refri Division have produced refrigeration hoses which are some of the best and most versatile products on the market, offering two distinct solutions, UltraStar™ and RefriMaster™ Plus. Both ranges share the distinction of having extremely low permeability rates - far exceeding the requirements of SAE J2064 - and having a wide range of standard and customised fitting solutions, including crimped, reusable and field attachable options.





## ULTRASTAR

**A hydraulic style (Type B - SAE J2064), rubber hose with superior permeability performance.**

- Suitable for refrigeration and climate control applications
- Excellent structural strength
- Unique nano-material compound allows superb performance -  $<4.5 \text{ kg/m}^2/\text{yr}$  - giving a Type B hose performance in excess of Type C, D, E & F requirements (SEA J2064)
- Available in a wide range of sizes from DN 5 to DN 35
- Excellent flexibility and low minimum bend radius
- Optional crimped and reusable fitting solutions

# ULTRA STAR

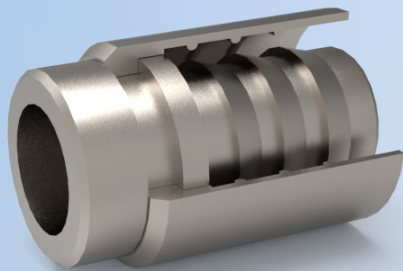
High temperature resistance, synthetic rubber outer cover

Wire braid reinforcement

Unique molecular barrier compound made from synthetic rubber (IIR) and advanced nano-materials

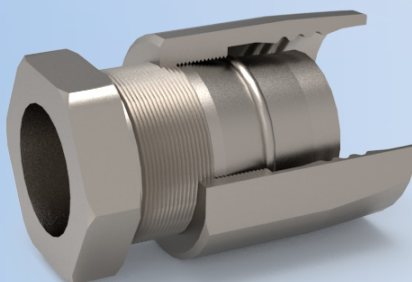


### FITTING SOLUTIONS



#### STAR-CRIMP

The factory standard crimped fitting solution designed for controlled and repeatable crimping operations



#### STAR-FIT

Reusable and field attachable fitting solution designed to enable reduced maintenance costs and easy assembly both in the factory and in the field

## REFRIMASTER PLUS

Compact construction style (Type E - SAE J2064) hose with high flexibility and exceptional permeability performance.

- Suitable for refrigeration and climate control applications
- Excellent compatibility with common refrigerant gases - R134a, R404a, R407C, R401A & HFO 1234yf
- Extremely low permeability rate - average of 1.4kg/m<sup>2</sup>/yr across all sizes
- Improved flexibility and minimum bending radius
- High temperature resistance - up to 140°C
- Great resistance to kinking and collapse
- Optional crimped and field-attachable solutions

*Synthetic rubber outer cover made from an improved EPDM based compound*

**REFRI<sup>®</sup> MASTER PLUS**

*Textile braid reinforcement*

*Synthetic rubber inner tube with a thermoplastic (PA) veneer*



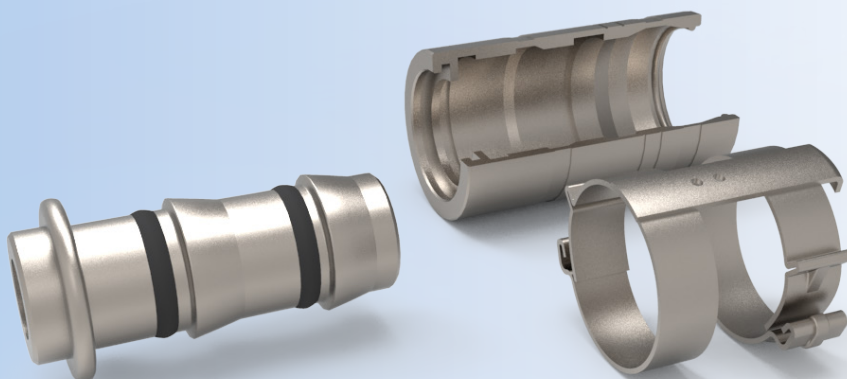
## FITTING SOLUTIONS

### FRIGOCLIC

A single insert with two distinct closing options to suit both the factory assembly and field service markets

A complete range of crimped fittings designed for repeatable, controlled crimping operations

Field attachable clip ideally suited to facilitate complex or bespoke routings and maintenance in the field



# ULTRASTAR

INNOVATIVE RUBBER CONSTRUCTION, SUPERIOR BARRIER TYPE IMPERMEABILITY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01133005*	5	-4	3/16"	11,2	0,44	13,0	0,51	35	500	150	2170	85	3,35	217	0,15	SC+C00300-04	SF+K00400-04
H01133008*	8	-6	5/16"	15,4	0,61	17,2	0,68	35	500	150	2170	85	3,35	336	0,23	SC+C00300-06	SF+K00400-06
H01133010*	10	-8	13/32"	17,5	0,69	19,3	0,76	35	500	150	2170	95	3,74	385	0,26	SC+C00300-08	SF+K00400-08
H01133012*	12	-10	1/2"	21,6	0,85	23,4	0,92	35	500	150	2170	115	4,53	533	0,36	SC+C00300-10	SF+K00400-10
H01133016*	16	-12	5/8"	25,5	1,00	27,3	1,07	35	500	150	2170	135	5,31	676	0,45	SC+C00300-12	SF+K00400-12
H01133022*	22	-16	7/8"	29,5	1,16	31,5	1,24	35	500	150	2170	100	3,94	724	0,49	SC+C00300-16	SF+K00400-16
H01133028*	28	-20	1.1/8"	36,1	1,42	38,1	1,50	35	500	150	2170	120	4,72	900	0,60	SC+C00300-20	SF+K00400-20
H01133035*	35	-24	1.3/8"	42,8	1,69	44,8	1,76	35	500	150	2170	120	4,72	1214	0,82		SF+K00400-24

## KEY FEATURES

- Very low permeability to refrigerant fluids (performance with R134a < 5 kg/m<sup>2</sup>/yr), equivalent to type E hoses
- High flexibility

## APPLICATIONS & FLUIDS

- Bus and off-highway equipment air-conditioning systems
- Recommended lubricants: PAG, POE
- Not recommended with refrigerant gases using mineral oils as lubricants
- Refrigerants: R134a; R1234yf

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

## TUBE

Unique molecular barrier compound made from synthetic rubber (CIIR) and advanced materials

## REINFORCEMENT

One steel wire braid

## COVER

High temperature and environment resistant synthetic rubber

## APPLICABLE SPECS

SAE J3062 Type B Class I (meets the performance of Type E); SAE J2064

## TYPE APPROVALS

CU-TR

## REMARKS



- *Guaranteed performance only with Manuli fittings*
- *Ask Manuli Hydraulics about other refrigerants and lubricants*



# REFRIMASTER PLUS

UNIVERSAL REFRIGERANTS HOSE WITH  
ULTRA LOW PERMEABILITY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09071008*	8	-6	5/16"			12,9	0,51	35	500	250	3620	40	1,57	80	0,05	FC+C00700-06	FC+C01000-06
H09071010*	10	-8	13/32"			16,2	0,64	35	500	250	3620	50	1,97	152	0,10	FC+C00700-08	FC+C01000-08
H09071013*	13	-10	1/2"			20,6	0,81	35	500	150	2170	70	2,76	235	0,16	FC+C00750-10	FC+C01050-10
H09071016*	16	-12	5/8"			24,0	0,94	35	500	150	2170	80	3,15	285	0,19	FC+C00750-12	FC+C01050-12
H09071016*	22	-16	7/8"			31,0	0,94	35	500	150	2170	120	4,72	405	0,27	FC+C00750-16	

## KEY FEATURES

- Universal hose, compatible with the most common compressor lubricants
- Low permeability to refrigerant fluid
- Field attachable and crimped solutions available with Frigoclic® insert
- Small bending radius
- Improved resistance to kinking

## APPLICATIONS & FLUIDS

- Air conditioning systems (off-highway machines, buses, etc.)
- Mobile refrigeration systems
- Compatibility with the most common compressor lubricants (PAG, POE, mineral oils)
- Compatibility with a wide range of refrigerants (R134a, R404A, R407C, R1234yf)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

## TUBE

High temperature resistant thermoplastic (PA) veneer

## REINFORCEMENT

One textile braid

## COVER

High temperature and environment resistant synthetic rubber (EPDM)

## APPLICABLE SPECS

SAE J3062 Type E<sub>u</sub> Class I; SAE J2064

## TYPE APPROVALS

CU-TR

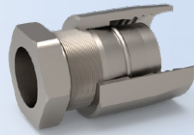
## REMARKS



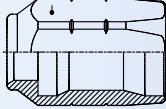
- *Guaranteed performance only with Manuli fittings*
- *Ask Manuli Hydraulics about other refrigerants and lubricants*

# FITTING SOLUTIONS

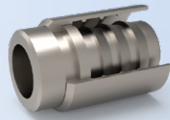
## STAR-FIT




DN	5	8	10	13	16	22	28	35
Inch	3/16"	5/16"	13/32"	1/2"	5/8"	7/8"	1.1/8"	1.3/8"
dash	-04	-06	-08	-10	-12	-16	-20	-24

K00400		STAR-FIT FERRULE	✓	✓	✓	✓	✓	✓	✓
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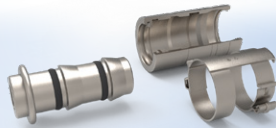
## STAR-CRIMP



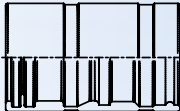

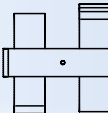
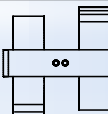
DN	5	8	10	13	16	22	28
Inch	3/16"	5/16"	13/32"	1/2"	5/8"	7/8"	1.1/8"
dash	-04	-06	-08	-10	-12	-16	-20

C00300		STAR-CRIMP FERRULE	✓	✓	✓	✓	✓	✓
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## FRIGOCLIC



DN	5	8	10	13	16	22
Inch	3/16"	5/16"	13/32"	1/2"	5/8"	7/8"
dash	-04	-06	-08	-10	-12	-16

C00700		REFRIMASTER PLUS FERRULE		✓	✓			
C00750		REFRIMASTER PLUS FERRULE				✓	✓	✓
C01000		REFRIMASTER PLUS CLAMP		✓	✓			
C01050		REFRIMASTER PLUS CLAMP				✓	✓	



[www.manuli-hydraulics.com](http://www.manuli-hydraulics.com)



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