REFRIGERATION

PRODUCT CATALOGUE 2012/2013







dedicated to service

fluiconnecto by manuli®

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WHO WE ARE

Fluiconnecto is one of the leading companies in the global fluid-connector end-user market, providing tailored solutions for the mining, drilling and general industry. Located in 15 countries, Fluiconnecto operates over 135 service points, 40 service vans and 30 workshops on-site.

Fluiconnecto is a 100 % owned division of Manuli Rubber Industries, the world's leading privately owned manufacturer and engineering company in the field of hydraulic hoses and associated products with an annual turnover of more than € 320 million.

WHAT WE DO

Customer service, commitment and quality come first in our organization. We commit to deliver innovative solutions in a competitive market thus positioning us at the forefront of future development and technology.

The promise embraced by Manuli Fluiconnecto is that the brand is recognized as a world class service provider thanks to:

- commitment and drive to satisfy the customer needs
- quick response, short delivery times and wide product range
- quality solutions, expert knowledge and value added services
- extensive network and willingness to follow the customers where business opportunities arise

Our daily activities encompass

- Distribution of hydraulic products for agriculture, earth-moving, transport, mining, material handling, lifting, industrial cleaning, general industry and many others.
- Technical support service offered to all ourcustomers driven by know how and experience.
- Hose assembly production through our Service Points, completely equipped to assure a prompt delivery.
- A complete stock level of all products to provide full availability.

HOW WE WORK TOGETHER

You can contact us in various ways:

- Come to our Service Point, we serve while waiting
- Send your order, we deliver your solution on time at the required location (Delivery Service)
- Call us, we pick up the broken assembly, prepare and deliver you a new one (PickUp & Delivery Service).
- We come to you and prepare your solution on site at your location (Sevice On Site vehicle)
- We provide you with a fully equipped container or Workshop-On-Site embedded within your operation

CURRENT NETWORK

Fluiconnecto manages an ever growing network of Service Points, Service-On-Site vans and Workshops-On-Site.

Europe: through over 100 Service Points and a fleet of Service-On-Site mobile vans in Benelux, France, Poland, Czech Republic, Hungary and Lithuania

Africa & Middle East: through Service Points, Workshops-On-Site and service vans in South Africa, Botswana and the Emirates

Asia Pacific: through Service Points, Workshops-On-Site and service vans in Singapore, China, Indonesia and Australia

South America: through Service Points and Workshops-On-Site in Argentina

Fluiconnecto Holding: located in Amersfoort, the Netherlands

HISTORY

Fluiconnecto experience starts more than 25 years ago, when So.na.tra (SOcieté NAntese de TRAnsmission) was founded in 1981, in La Chapelle sur Erdre France, near Nantes. Ever since, the network expanded into a total of 15 countries on 5 continents, making it a truly international service network. Until today, we strive to offer our products and services with local customer proximity, assuring peace of mind, wherever they are.

1994	Acquisition of So.Na.Tra. (then named Manuli Sonatra), a French retail company founded in 1981, active in the hydraulic sector and market leader in providing a global product offer and technical know how.
2002	Opening of the first Service Point Fluiconnecto in Myslowice, Poland.
2006	New network development in Lithuania, Latvia, Ukraine, Czech Rep., Hungary and Argentina. The distribution network is regrouped under the Fluiconnecto by Manuli brand.. Opening of the new CEE Warehouse based in Tychy – Silesia, Poland.
2007	Service Point network grows to over 90 in 9 countries.

WHO WE ARE

2008

Fluiconnecto Benelux acquires the Dutch Hebu Group, a leading retail company established in 1940, with focus on hydraulics, operating through 16 Service Points throughout the Netherlands and 1 Service Point in Belgium.

Fluiconnecto South Africa opens a Service Point in Johannesburg and acquires Powerforce Hydraulics in Witbank.

Acquisition of SIN AA Hydraulic & Trading Pte Ltd in Singapore (renamed Fluiconnecto) a leading company with a focus on hydraulics providing advanced maintenance services to the construction industry and the other sectors in the Singapore market.

2009

Manuli Hydraulics Australia migrated to Fluiconnecto network opening 3 Service Points.

Global network reaches more than 120 Service Points, 5 Workshops-On-Site and about 25 Service-On-Site vans.

2010

Fluiconnecto acquires the assets of the Hungarian Hidro Toth, a local company operating through 3 Service Points located in the Johannesburg – Pretoria area, raising the total number of Service Points in the country to 8.

New Service Point Makay in Australia is opened, focusing on the mining industry in the Queensland area

2011

Fluiconnecto South Africa acquired Hydra-Quip, a local company operating through 3 Service Points located in the Johannesburg - Pretoria area, raising the total number of Service Points in the country to 8.

Fluiconnecto by Manuli South Africa acquired Hydra-Quip, a local company operating through 3 Service Points located in the Johannesburg - Pretoria area, raising the total number of Service Points in the country to 8.

Opening of Fluiconnecto Indonesia, on the Island of Batam

Opening of Fluiconnecto China in Suzhou

Acquisition of Fluid Tech General Trading L.L.C., now Fluiconnecto UAE, based in the Emirate of Dubai

2012

Opening of the second Service Point in Lithuania

Acquisition of the Australian Company FLOW SERVICES PTY LIMITED trading as Hose Xpress. Flow Services, based in Newcastle Australia, with its mobile fleet of vehicles and a dedicated workshop is focused to serve a diverse range of market sectors, including those in the mining, construction and marine industries.

Acquisition of FLUID SYSTEMS BOTSWANA with 2 Service Points in Gabarone and Francistown, enjoying a prominent market position in a diverse range of market sectors, including those in the mining, construction and materials handling.

Manuli Fluiconnecto fulfills the customer needs through:



MARKETS

- Construction & public works
- Open pit & underground mining
- Material handling& logistics
- Industrial, cleaning & maintenance services
- Agriculture
- Forestry
- Naval & shipyards
- Oil, gas & energy

PRODUCTS & SERVICES

- High pressure hydraulic hoses & assemblies
- High pressure water hoses & assemblies
- Refrigeration hoses & assemblies
- Hose fittings
- Staple lock fitting & adaptors
- Pipes & clamps
- Bite-ring fittings
- Adaptors
- Quick release couplings
- Refrigeration connectors
- Assembling machines
- Pressure gauges
- Protection & safety accessories
- Sealing products
- Accessories
- Technical assistance
- Maintenance services
- Off-site maintenance
- On-site maintenance

KEY STRENGTHS

- International Service Points network
- Complete range for hydraulic and air conditioning applications
- Certified products
- Technical support services driven by field know-how

GLOBAL NETWORK

- Prompt product availability
- Over 130 Service Points in France, Benelux, Eastern Europe, Argentina, South Africa, Botswana, Dubai (UAE), Australia, Singapore, China and Indonesia
- 24h maintenance service operated by:
  - a fleet of Service vans
  - a group of Workshops-On-Site

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REFRIGERATION PRODUCT RANGE



INTRODUCTION

THE OFFER

The offer consists of reinforced rubber hoses, fittings, hose assemblies and kits.

The Refrigeration **offer** is designed specifically to satisfy the most restricted requirements aimed to the development of:

- **bus air conditioning** and **mobile refrigeration** systems for "on-road industrial vehicles"
- **air conditioning systems** applied on off-highway industrial vehicles such as: agricultural machines, earth-moving machines, forestry machines, etc.

The above systems are supplied both directly to manufacturers which need significant product volumes and through specialized distributors operating as part of the Manuli Premier Distributors Network.





Bus air conditioning



Off highway air conditioning



Mobile refrigeration

"FIELD-ATTACHABLE" FITTING

The "field-attachable" fitting technology allows a convenient mounting and disassembly operation, in particular:

- Frigoclic® fitting range technology
- Reusable fitting range technology

Furthermore crimped fitting solution is completely integrated on all hose lines.

The following pages describe the main steps to correctly assembly our products.

- **Refrimaster with clamp**
- **Refrimaster with ferrule**
- **Refristar with reusable fittings**
- **Refristar with crimped fittings**
- **Refrifast with one-piece crimped fittings**

Please browse through the above procedures before consulting our catalogue and selecting the most suitable product for your need.

REFRIMASTER WITH CLAMP

The fitting operations are extremely simple, and consist of the following procedures:



1 Check the dimensions of the components.



2 Cut the end of the hose in a perpendicular direction, using the manual cutter.



3 Verify the end of the hose to be cut in a perpendicular direction.



4 Place the double clamp on the flexible hose in such a way that the tooth of bar A comes contact with the end of the hose that has been cut.

ASSEMBLING INSTRUCTIONS - REFRIMASTER PROCEDURE



5 Grease the end of the fitting joint with the same oil used in the air conditioning system.

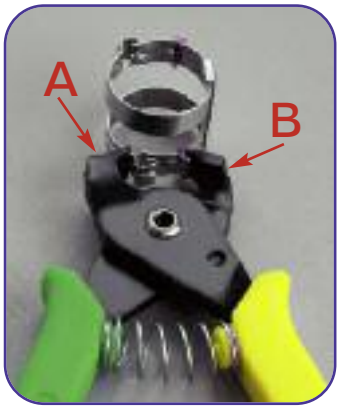


6 Find the correct orientation and insert completely the fitting into the hose.



7 **A** = round nose
B = thin nose

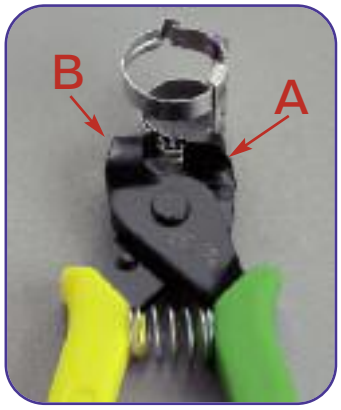
8 9 10 To place the fitting, position the round nose of the pliers (A) at the hook shaped end of the clamp and the thin nose (B) at the end with the hooked teeth. Tighten the double clamp until the click using the special "CLICK" open-close pliers. To disassemble, just reverse the position of the ends of the pliers on the clamp.



8 Closing



9 Tighting the double clamp until click to close. Reverse the position of the pliers to open.



10 Opening

WARNING: Do not reuse the clamp



11 Verify the parallelism of the two clamps.



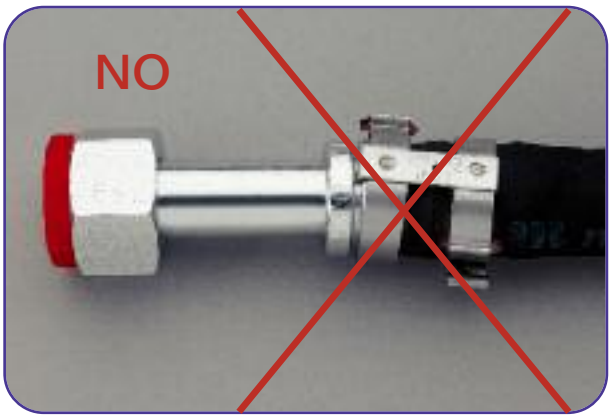
12 Pay attention in tightening clamp in the right way.

13 14 15 16

WARNING: Position correctly the clamp



13 Right
Solution with brazed insert



14 Wrong



15 Right
Solution with insert obtained by deformation



16 Wrong

REFRIMASTER MOUNTING KIT



1 Mounting kit.



2 Manual cutter.



3 "CLIC" open-close pliers.

The offer consists of:

- a practical mounting kit containing all tools necessary for the correct assembly of the Frigoclic® coupling
- the separate supply of hose in rolls, relevant fitting and complete kits according to customer specifications

REFRIMASTER WITH FERRULE



1 Check the dimensions of the components.



2 Cut the end of the hose in a perpendicular direction, using the manual cutter.



3 Verify the end of the hose to be cut in a perpendicular direction.



4 Place the ferrule on the flexible hose so that the ferrule tooth touches the end of the cut hose.



5 Grease the end of the fitting joint with the same oil used in the air conditioning system.



6 Find the correct orientation and insert completely the fitting into the hose.

ASSEMBLING INSTRUCTIONS - REFRIMASTER PROCEDURE



7 Set up the crimping machine selecting the die set that is closed to the specified dimension. Crimp to the specified diameter (table a). Ensure the dies fully cover the ferrule length.



9 Inspect the crimping dimension using a calibrated vernier. Check the diameter at the centre of the ferrule following the values in table a.



before



after

Solution with insert obtained by deformation



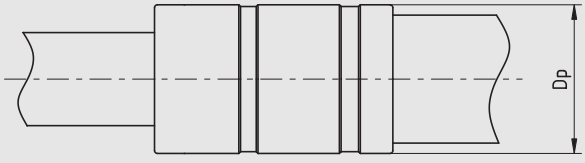
before



after

Solution with brazed insert

8 Pay attention in coupling insert and ferrule.



HOSE SIZE			Dp (±0,1 mm)
DN	Dash	Inch	mm
8	- 06	5/16"	16,9
10	- 08	13/32"	19,9
13	- 10	1/2"	21,8
16	- 12	5/8"	26,0

Table a

REFRISTAR WITH REUSABLE FITTINGS



1 Check the dimensions of the components.



4 Cut the hose by using a proper sharpened disc (see fig. 4), **do not use an abrasive disc.**
The hose must be square and clean cut.
Avoid cutting the hose not perpendicularly or cutting the hose causing damages on its wire braid (see fig. 2, 3) for a proper cutting hose operation. Clean the hose carefully from any cutting residue.



2 Wrong cut

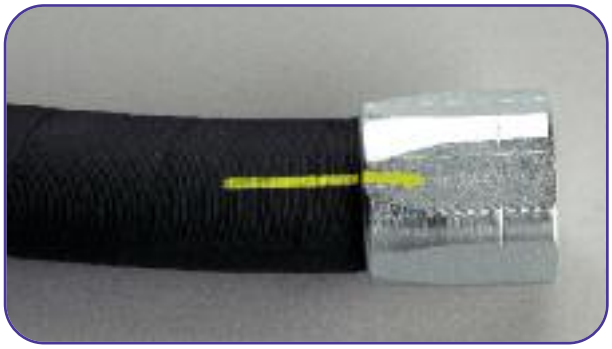


3 Right cut



5 Secure in position the socket i.e. by using a benchvise.
Screw the hose counterclockwise into the socket until it reaches the bottom.
Unscrew 1/4 turn to prevent damage in screwing.

ASSEMBLING INSTRUCTIONS - REFRISTAR PROCEDURE



6 Mark the socket and the hose using an indelible felt tip pen, to verify any absence of hose rotation inside the socket during the fittings crewing.



7 Position the hose complete with socket i.e. by using a bench vise. Grease with a lot of oil the threading and the taper of the fitting as well as the inside of hose.
WARNING: Use the same lubricant used in the A/C system.



8 Insert the fitting into the hose. Press slightly and screw by hand turning clockwise the first threads. Then by using an appropriate spanner or a screwspanner on the hexagon, screw the fitting into the socket with a continuous and constant rotation motion and verify any absence of hose rotation inside the socket during the fitting screwing. Complete the screwing until the fitting reaches the bottom against the socket. Never overtighten. Assembling is now finished.



9 You can leave a margin of max 3 mm between the hexagon of the fitting and the socket. Verify allignment.

REFRISTAR WITH CRIMPED FITTINGS

It is important that hose assemblies for A/C vehicles (for instance off highway), A/C Buses and Mobile Refrigeration using Manuli Hose, Ferrules & Fittings are manufactured to the procedures below:



1 Check the dimensions of the components.



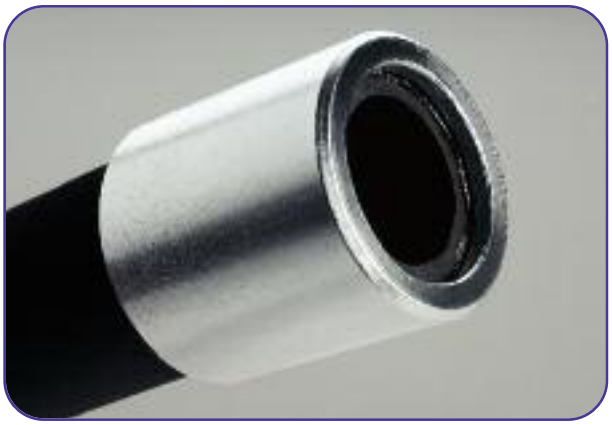
4 Cut the hose by using a proper sharpened disc (see fig. 4), **do not use an abrasive disc**. The hose must be square and clean cut. Avoid cutting the hose not perpendicularly or cutting the hose causing damages on its wire braid (see fig. 2, 3) for a proper cutting hose operation. Clean the hose carefully from any cutting residue.



2 Wrong cut



3 Right cut



5 Place the ferrule on the flexible hose so that the ferrule tooth touches the end of the cut hose.

ASSEMBLING INSTRUCTIONS - REFRISTAR PROCEDURE



6 Grease the end of the fitting joint with the same oil used in the air conditioning system.



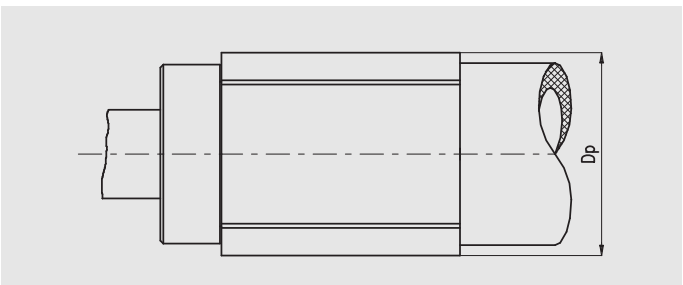
7 Find the correct orientation and insert completely the fitting into the hose.



8 Set up the crimping machine selecting the die set that is closed to the specified dimension. Crimp to the specified diameter. Ensure the dies fully cover the ferrule length.



9 Inspect the crimping dimension using a calibrated vernier. Check the diameter at the centre of the ferrule following the values on the table b.

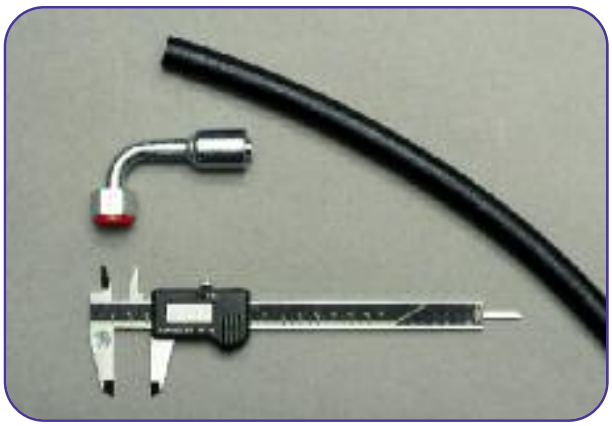


HOSE SIZE			Dp (± 0,1 mm)
DN	Dash	Inch	mm
5	- 04	3/16"	15,2
8	- 06	5/16"	20,2
10	- 08	13/32"	21,3
12	- 10	1/2"	26,0
16	- 12	5/8"	30,8
22	- 16	7/8"	34,4
28	- 20	1.1/8"	42,5

Table b

REFRIFAST WITH ONE-PIECE CRIMPED FITTINGS

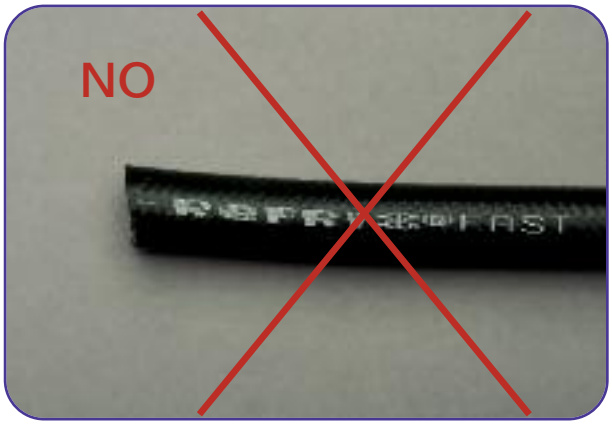
The fitting operations are extremely simple, and consist of the following procedures:



1 Check the dimensions of the components.



2 Cut the end of the hose in a perpendicular direction, using the manual cutter.



3 Verify the end of the hose to be cut in a perpendicular direction.



4 Grease the end of the fitting joint with the same oil used in the air conditioning system.

ASSEMBLING INSTRUCTIONS - REFRIFAST PROCEDURE



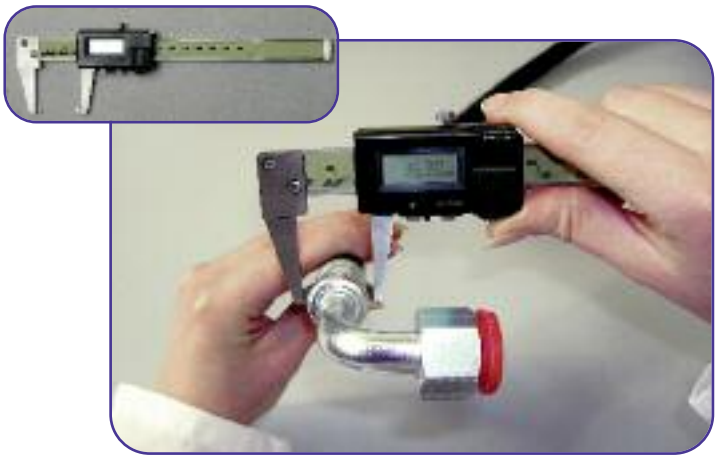
5 Find the correct orientation and insert completely the fitting into the hose.



6 Check the correct position of the hose through the proper hole in the ferrule.



7 Set up the criping machine selecting the die set that is closed to the dimension specified diameter. Place the fitting on the proper positioner to ensure that it is in the correct position (table c).



8 Inspect the crimping dimension using the proper calibrated vernier. Check the dimensions following the values in table c.

Strictly use Manuli die sets bubble crimping.

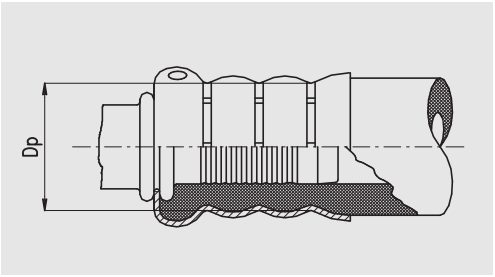


Table c

HOSE SIZE			Dp ±0,2 mm
DN	Dash	Inch	mm
8	- 06	5/16"	14,8
10	- 08	13/32"	16,3
12	- 10	1/2"	18,8
16	- 12	5/8"	21,1

REFRIGERATION HOSES



REFRIGERATION HOSES

LEGEND OF SYMBOL


Refrimaster clamp


Refrimaster Plus clamp


Refrimaster Plus ferrule


Refrimaster ferrule


Crimp ferrule for Refristar


Reusable ferrule for Refristar


One piece fitting for Refrifast



HOSE SIZE			REFRIMASTER PLUS FERRULE	REFRIMASTER PLUS CLAMP
DN	DASH	INCH	CODE	CODE
13	-10	1/2"	**C00750-10**	**C01050-10**
16	-12	5/8"	**C00750-12**	**C01050-12**
22	-16	7/8"	**C00750-16**	**C01050-16**

Fittings compatible with Refrimaster Plus

FRIGOCLIC® guarantee of sealing


ONE insert

field attachable clamp *crimped ferrule*



TWO coupling solutions for any applications


Outside Diameter (O.D.)


Working pressure


Burst pressure


Weight


Minimum bend radius



REFRIMASTER

SAE J2064 TYPE E

PART. REF.	HOSE SIZE	O.D.	WORKING PRESSURE	BURST PRESSURE	MIN. BEND RADIUS	WEIGHT	REFRIMASTER FERRULE	REFRIMASTER CLAMP

	DN	dash	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	code	code
H09002008	8	- 06	5/16"	12,7	0,50	35	500	250	3620	40,0	1,57	80	0,05	C00700-06	C01000-06
H09002010	10	- 08	13/3"	16,0	0,63	35	500	250	3620	50,0	1,97	140	0,09	C00700-08	C01000-08
H09002013	13	- 10	1/2"	18,1	0,71	35	500	150	2170	80,0	3,15	140	0,09	C00700-10	C01000-10
H09002016	16	- 12	5/8"	21,7	0,85	35	500	150	2170	90,0	3,54	195	0,13	C00700-12	C01000-12

KEY PERFORMANCE

Universal hose, compatible with the most common refrigerants and compressor lubricants Low permeability to refrigerant fluid ▪ Compact dimensions ▪ Low weight and high flexibility ▪ Field attachable and crimped solutions available with Frigoclic® insert

MAIN APPLICATIONS: Air conditioning systems (Off-Highway machines, busses, ...). Mobile Refrigeration systems
CONTINUOUS WORKING TEMPERATURE:
-40°F / +257°F -40°C / +125°C
MAX. PEAK TEMPERATURE:
+284°F +140°C
REFRIGERANTS: Compatibility with a wide range of refrigerants (eg. R134a, R404A, R407C)
LUBRICANTS: Compatibility with the most common compressor lubricants (e.g. PAG, POE, Mineral Oils)
INSERT: FRIGOCLIC®
TUBE: high temperature resistant thermoplastic (PA) veneer
REINFORCEMENT: one textile braid
COVER: high temperature and environmental resistant syntethic rubber (EPDM)
SPECIFICATIONS: SAE J2064 Type E Class I

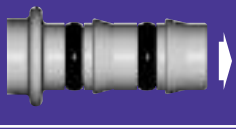




HOSE SIZE			REFRIMASTER FERRULE	REFRIMASTER CLAMP
DN	DASH	INCH	CODE	CODE
8	- 06	5/16"	**C00700-06**	**C01000-06**
10	- 08	13/32"	**C00700-08**	**C01000-08**
13	- 10	1/2"	**C00700-10**	**C01000-10**
16	- 12	5/8"	**C00700-12**	**C01000-12**

Fittings compatible with Refrimaster

FRIGOCLIC® guarantee of sealing



ONE insert

field attachable clamp *crimped ferrule*





TWO coupling solutions for any applications

NOTE: Guaranteed performance only with our fittings.

WARNING: Ask MRI about other refrigerants and lubrificants

REFRIMASTER PLUS

SAE J2064 TYPE E



PART. REF.	HOSE SIZE		O.D.	WORKING PRESSURE	BURST PRESSURE	MIN. BEND RADIUS	WEIGHT	REFRIMASTER PLUS FERRULE	REFRIMASTER PLUS CLAMP
	DN	dash	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	code	code
H09071008*	8	-06	5/16"	12,7	0,50	35	500	250	3620	40,0	1,57	80	0,05	C00700-06	C01000-06
H09071010*	10	-08	13/32"	16,0	0,63	35	500	250	3620	50,0	1,97	140	0,09	C00700-08	C01000-08
H09071013	13	- 10	1/2"	20,4	0,80	35	500	150	2170	70,0	2,76	235	0,16	C00750-10	C01050-10
H09071016	16	- 12	5/8"	23,8	0,94	35	500	150	2170	80,0	3,15	285	0,19	C00750-12	C01050-12
H09071022	22	- 16	7/8"	31,0	1,22	35	500	150	2170	120,0	4,72	405	0,27	C00750-16	C01050-16

KEY PERFORMANCE

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

MAIN APPLICATIONS: Air conditioning systems (Off-Highway machines, busses, ...). Mobile Refrigeration systems
CONTINUOUS WORKING TEMPERATURE:
-40°F / +257°F -40°C / +125°C
MAX. PEAK TEMPERATURE:
+284°F +140°C
REFRIGERANTS: Compatibility with a wide range of refrigerants (eg. R134a, R404A, R407C)
LUBRICANTS: Compatibility with the most common compressor lubricants (e.g. PAG, POE, Mineral Oils)
INSERT: FRIGOCLIC®
TUBE: high temperature resistant thermoplastic (PA) veneer
REINFORCEMENT: one textile braid
COVER: high temperature and environmental resistant syntethic rubber (EPDM)
SPECIFICATIONS: SAE J2064 Type E Class I





HOSE SIZE			REFRIMASTER PLUS FERRULE	REFRIMASTER PLUS CLAMP
DN	DASH	INCH	CODE	CODE
13	-10	1/2"	**C00750-10**	**C01050-10**
16	-12	5/8"	**C00750-12**	**C01050-12**
22	-16	7/8"	**C00750-16**	**C01050-16**

Fittings compatible with Refrimaster Plus

FRIGOCLIC® guarantee of sealing



ONE insert

field attachable clamp



crimped ferrule



TWO coupling solutions for any applications

WARNING: Ask MRI about other refrigerants and lubrificants

NOTE: Guaranteed performance only with our fittings.



REFRI STAR

SAE J2064 TYPE B

PART. REF.	HOSE SIZE	O.D.	WORKING PRESSURE	BURST PRESSURE	MIN. BEND RADIUS	WEIGHT	STAR-FIT FERRULE (REUSABLE)	STAR-CRIMP FERRULE (CRIMPED)

	DN	dash	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	code	code
H01110005	5	- 04	3/16"	13,0	0,51	35	500	150	2170	85	3,35	215	0,14	K00400-04	C00300-04
H01110008	8	- 06	5/16"	17,2	0,68	35	500	150	2170	85	3,35	325	0,22	K00400-06	C00300-06
H01110010	10	- 08	13/32"	19,3	0,76	35	500	150	2170	95	3,74	380	0,26	K00400-08	C00300-08
H01110012	13	- 10	1/2"	23,4	0,92	35	500	150	2170	115	4,53	520	0,35	K00400-10	C00300-10
H01110016	16	- 12	5/8"	27,3	1,07	35	500	150	2170	135	5,31	660	0,44	K00400-12	C00300-12
H01110022	22	- 16	7/8"	31,2	1,23	35	500	150	2170	155	6,10	670	0,45	K00400-16	C00300-16
H01110028	28	- 20	1.1/8"	38,0	1,50	35	500	150	2170	190	7,48	870	0,58	K00400-20	C00300-20
H01110035	35	- 24	1.3/8"	44,8	1,76	35	500	150	2170	230	9,06	1200	0,81	K00400-24	

KEY PERFORMANCE

Low permeability ▪ High flexibility ▪ Compatible with the most common refrigerant and compressor lubricants

MAIN APPLICATIONS: Bus and off-highway equipments air conditioning systems
CONTINUOUS WORKING TEMPERATURE:
-40°F / +257°F -40°C / +125°C
REFRIGERANTS: R134a
LUBRICANTS: PAG, POE
Ask Manuli Hydraulics about other refrigerants and lubrificants
INSERT: star-fit (Patent pending); star-crimp
TUBE: (IIR) low permeability to refrigerant fluid and compatibility with the most common compressor lubricant
REINFORCEMENT: one steel wire braid
COVER: high temperature and environmental resistant syntethic rubber (CSM)
SPECIFICATIONS: SAE J2064 Type B Class I
TYPE APPROVALS: GOST-R





HOSE SIZE	STAR-FIT FERRULE (Reusable solution)	STAR-CRIMP FERRULE (Crimped solution)

DN	DASH	INCH	CODE	CODE
5	- 04	3/16"	**K00400-04**	**C00300-04**
8	- 06	5/16"	**K00400-06**	**C00300-06**
10	- 08	13/32"	**K00400-08**	**C00300-08**
12	- 10	1/2"	**K00400-10**	**C00300-10**
16	- 12	5/8"	**K00400-12**	**C00300-12**
22	- 16	7/8"	**K00400-16**	**C00300-16**
28	- 20	1.1/8"	**K00400-20**	**C00300-20**
35	- 24	1.3/8"	**K00400-24**	









TWO coupling solutions for any applications

WARNING: Ask MRI about other refrigerants and lubrificants

NOTE: Guaranteed performance only with our fittings.

fluiconnect by manuli

REFRI FAST

SAE J2064 TYPE A



PART. REF.	HOSE SIZE		O.D.		WORKING PRESSURE		BURST PRESSURE		MIN. BEND RADIUS		WEIGHT		FITTING
	DN	dash	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	mm
H09068008	8	- 06	5/16"	15,5	0,61	35	500	150	2170	30	1,18	165	0,11	OPC-06
H09068010	10	- 08	13/3"	18,0	0,71	35	500	150	2170	50	1,97	200	0,13	OPC-08
H09068012	13	- 10	1/2"	20,0	0,79	35	500	150	2170	60	2,36	230	0,15	OPC-10
H09068016	16	- 12	5/8"	23,5	0,93	35	500	150	2170	80	3,15	295	0,20	OPC-12

KEY PERFORMANCE

Higher compact dimensions within type A hoses and outside diameter comparable with reduced barrier hoses ▪ Low weight ▪ Easy installation in space constraints ▪ High flexibility and low bend radius ▪ Compatible with a wide range of refrigerants and lubricants ▪ Low refrigerants permeability and moisture ingression

MAIN APPLICATIONS: A/C system for off-highway vehicles, small/medium busses and special vehicles such as recreation vehicles and military vehicles.
CONTINUOUS WORKING TEMPERATURE:
-40°F / +257°F -40°C / +125°C
REFRIGERANTS: R134a
LUBRICANTS: PAG, POE
Ask Manuli Hydraulics about other refrigerants and lubrificants
INSERT: fast-crimp
TUBE: (IIR) low refrigerant fluid permeability and compatibility with the most common compressor lubricant
REINFORCEMENT: one textile braid
COVER: high temperature (max 125°C) and environmental (ozone resistance) resistant synthetic rubber (EPDM)
SPECIFICATIONS: SAE J2064 Type A Class I



HOSE SIZE			FERRULE EXTERNAL DIAMETER
DN	DASH	INCH	mm
8	- 06	5/16"	22,0
10	- 08	13/32"	22,0
13	- 10	1/2"	25,8
16	- 12	5/8"	28,4

WARNING: Ask MRI about other refrigerants and lubrificants

NOTE: Guaranteed performance only with our fittings.

REFRIGERATION FITTINGS



REFRIGERATION FITTINGS

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FAST-CRIMP

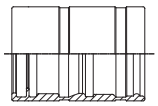
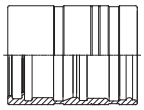
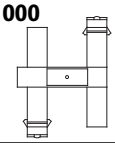
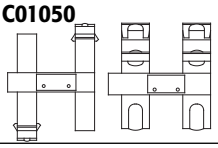
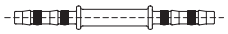
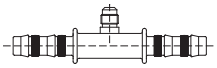
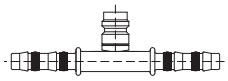
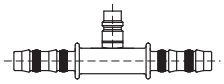
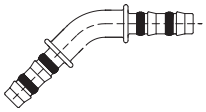
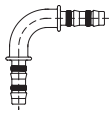
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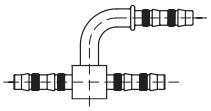
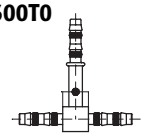
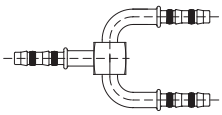
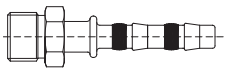
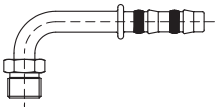
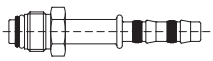
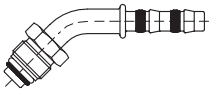
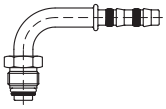
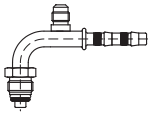
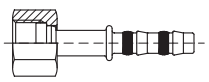
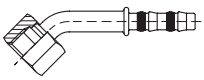
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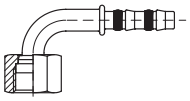
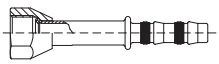
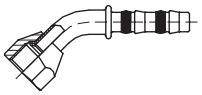
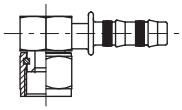
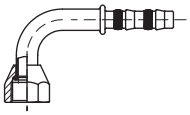
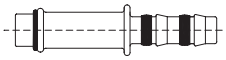
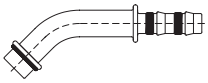
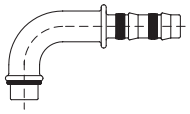
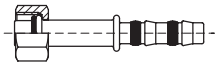
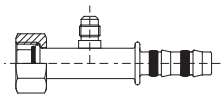
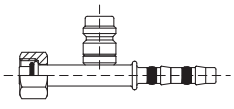
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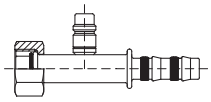
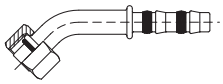
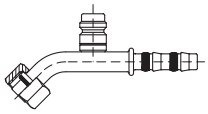
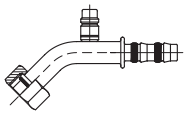
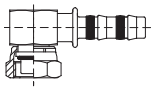
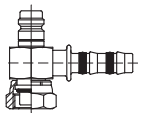
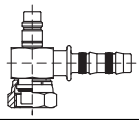
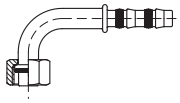
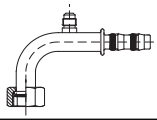
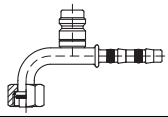
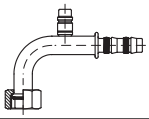
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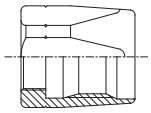
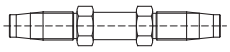
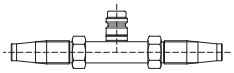
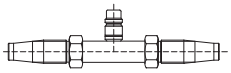
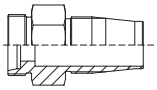
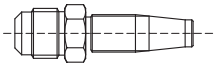
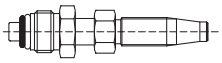
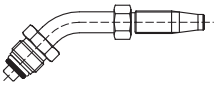
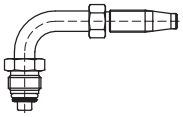
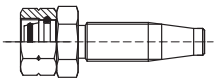
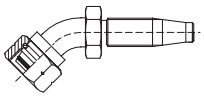
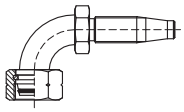
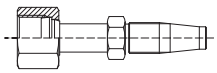
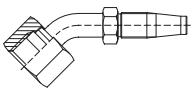
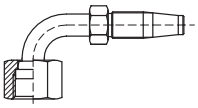
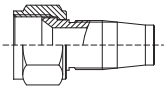
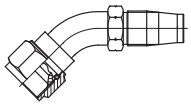
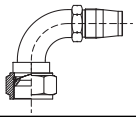
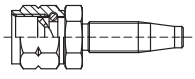
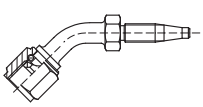
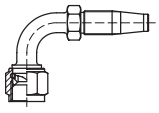
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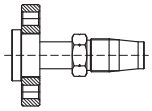
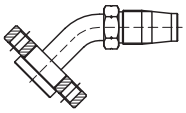
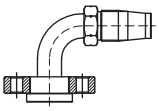
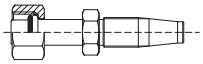
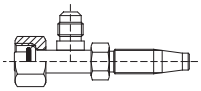
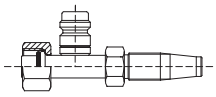
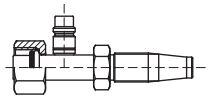
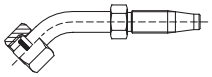
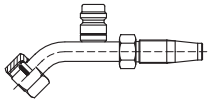
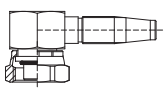
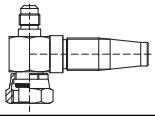
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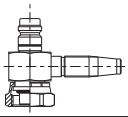
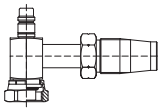
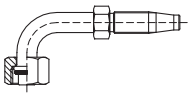
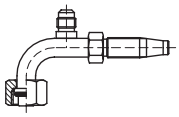
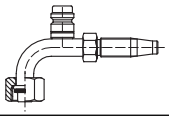
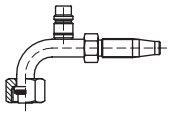
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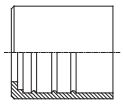
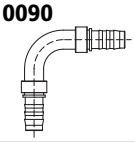
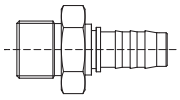
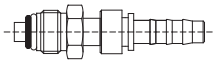
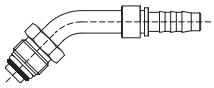
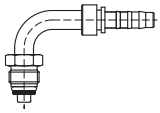
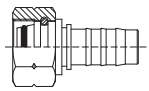
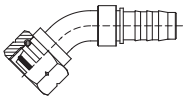
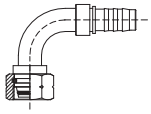
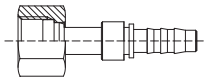
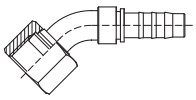
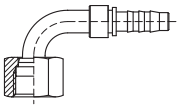
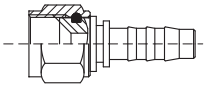
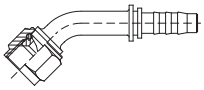
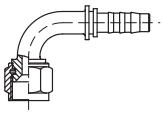
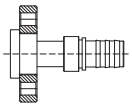
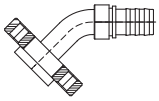
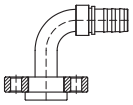
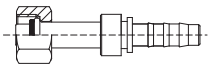
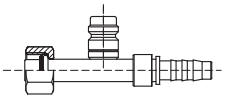
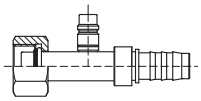
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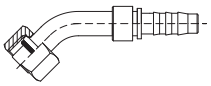
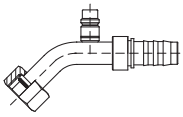
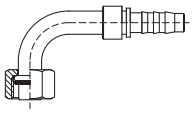
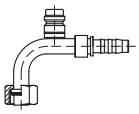
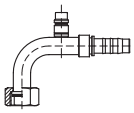
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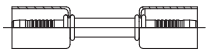
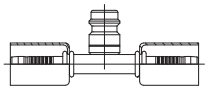
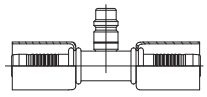
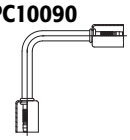
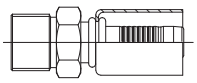
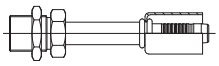
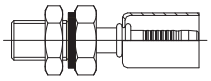
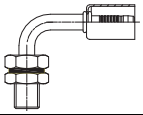
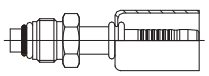
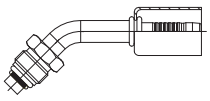
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C21510	STRAIGHT 24° DIN FLARE O-RING OGIVAL FEMALE 	81
C21540	24° DIN FLARE O-RING OGIVAL FEMALE 45° ELBOW 	81
C21590	24° DIN FLARE O-RING OGIVAL FEMALE 90° ELBOW 	81
C22410	STRAIGHT ORS FLAT SEAL FEMALE 	82
C22440	ORS FLAT SEAL FEMALE 45° ELBOW 	83
C22490	ORS FLAT SEAL FEMALE 90° ELBOW 	83
C22610	45° SAE STRAIGHT FEMALE 	76
C22640	45° SAE FEMALE 45° ELBOW 	76
C22690	45° SAE FEMALE 90° ELBOW 	77
C23710	STRAIGHT FLANGE FITTING 	81
C23740	FLANGE FITTING 45° ELBOW 	82
C23790	FLANGE FITTING 90° ELBOW 	82
C27910	STRAIGHT O-RING FEMALE 	77
C27915	STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE 	77
C27916	STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE 	78

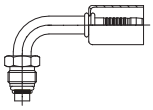
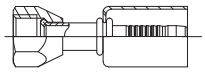
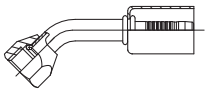
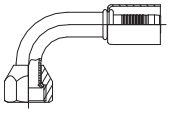
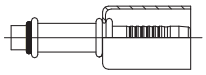
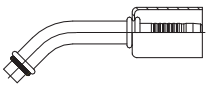
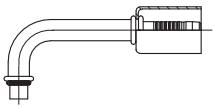
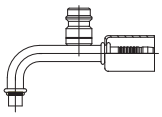
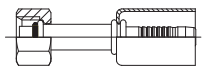
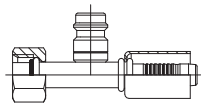
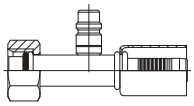
VISUAL INDEX

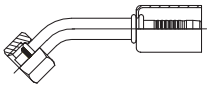
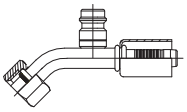
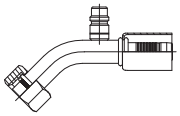
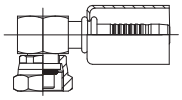
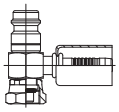
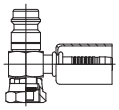
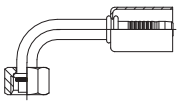
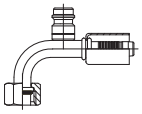
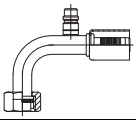
Reference	Description	Page
C27940 	O-RING FEMALE 45° ELBOW	78
C27946 	O-RING FEMALE 45° ELBOW WITH LOW PRESSURE VALVE	78
C27990 	O-RING FEMALE 90° ELBOW	79
C27995 	O-RING FEMALE 90° ELBOW WITH HIGH PRESSURE VALVE	79
C27996 	O-RING FEMALE 90° ELBOW WITH LOW PRESSURE VALVE	79

Reference	Description	Page
REFRI FAST	**FAST-CRIMP**	
OPC10010 	CONNECTION FITTING	92
OPC10015 	CONNECTION FITTING WITH HIGH PRESSURE VALVE	93
OPC10016 	CONNECTION FITTING WITH LOW PRESSURE VALVE	93
OPC10090 	CONNECTION FITTING 90° ELBOW	92
OPC17910 	STRAIGHT MALE WITH O-RING SEAT	93
OPC17910...W 	STRAIGHT MALE WITH O-RING SEAT WITH COUNTER NUT	94
OPC17910...W...Q 	STRAIGHT MALE WITH O-RING SEAT WITH COUNTER NUT AND Q-RING	94
OPC17990...W...Q 	MALE WITH O-RING SEAT WITH COUNTER NUT AND Q-RING 90° ELBOW	94
OPC18010 	STRAIGHT O-RING MALE	90
OPC18040 	O-RING MALE 45° ELBOW	90

REFRIGERATION FITTINGS

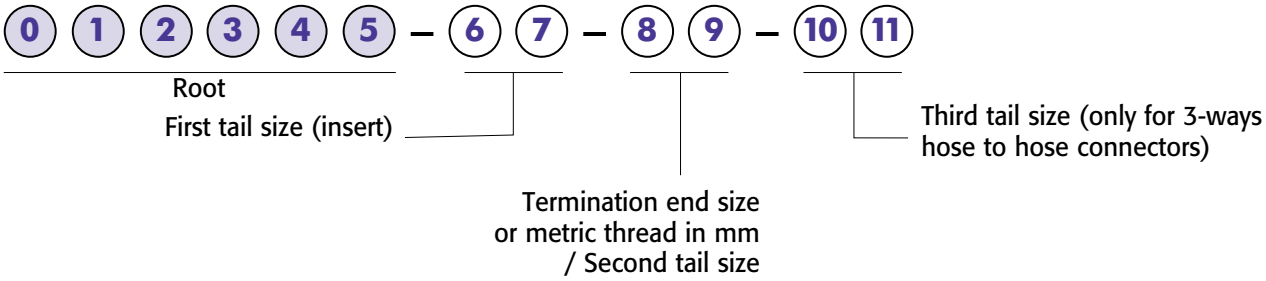
VISUAL INDEX

Reference	Description	Page
OPC18090 	O-RING MALE 90° ELBOW	90
OPC22610 	45° SAE STRAIGHT FEMALE	84
OPC22640 	45° SAE FEMALE 45° ELBOW	85
OPC22690 	45° SAE FEMALE 90° ELBOW	85
OPC27610 	STRAIGHT FITTING FOR EXPANSION VALVE	91
OPC27640 	FITTING FOR EXPANSION VALVE 45° ELBOW	91
OPC27690 	FITTING FOR EXPANSION VALVE 90° ELBOW	91
OPC27695 	FITTING FOR EXPANSION VALVE WITH HIGH PRESSURE VALVE 90° ELBOW	92
OPC27910 	STRAIGHT O-RING FEMALE	86
OPC27915 	STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE	86
OPC27916 	STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE	86

Reference	Description	Page
OPC27940 	O-RING FEMALE 45° ELBOW	87
OPC27945 	O-RING FEMALE WITH HIGH PRESSURE VALVE 45° ELBOW	87
OPC27946 	O-RING FEMALE WITH LOW PRESSURE VALVE 45° ELBOW	87
OPC27980 	SHORT VERSION O-RING FEMALE	89
OPC27985 	SHORT VERSION O-RING FEMALE WITH HIGH PRESSURE VALVE	89
OPC27986 	SHORT VERSION O-RING FEMALE WITH LOW PRESSURE VALVE	89
OPC27990 	O-RING FEMALE 90° ELBOW	88
OPC27995 	O-RING FEMALE WITH HIGH PRESSURE VALVE 90° ELBOW	88
OPC27996 	O-RING FEMALE WITH LOW PRESSURE VALVE 90° ELBOW	88

PART NUMBERING SYSTEM

TWO PIECES REFRI FITTINGS

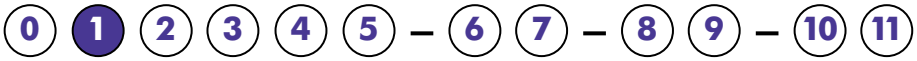


DIGIT "0"



C Always

DIGIT "1"



1 Male or "Hose to hose" Connectors type Star-Crimp
2 Female or Flange type Star-Crimp
3 Male or "Hose to hose" Connectors type Frigoclic
4 Female or Flange type Frigoclic

DIGIT "2-3"



The numbers stated in these positions refer to the termination end or to the second tail.
For the coding, see table "Termination Ends Type".

DIGIT "4"



This digit specifies the bending angle
or the configuration

1 Straight
4 45° Swept
8 Compact type
9 90° Swept
H 3-ways connector with "h" configuration
T 3-ways connector with "T" configuration
Y 3-ways connector with "Y" configuration

DIGIT "5"



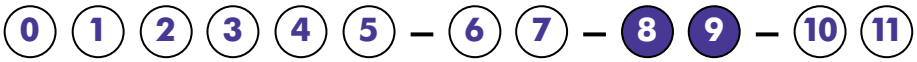
0 No charge valve
2 1/4" SAE charge valve (thread 7/16"-20-UNF)
5 High Pressure charge valve
6 Low Pressure charge valve

DIGIT "6-7"



These digits specify the first tail size

DIGIT "8-9"



These digits specify the first tail size

DIGIT "10-11"



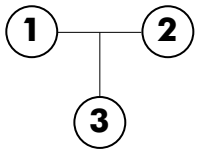
These digits specify the first tail size

TWO PIECES REFRI FITTINGS

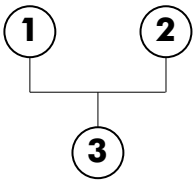
RULES FOR THE SIZE INDICATION IN THE HOSE TO HOSE CONNECTORS

In the double connectors, when the tails are part of the same family, the first size is the smallest. If the tails have the same size, this is repeated two times.

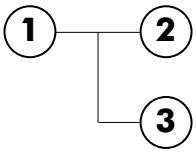
In the 3-ways connectors, tails in position "1" and "2" must be part of the same family. All the sizes are indicated following this order:



"T" configuration

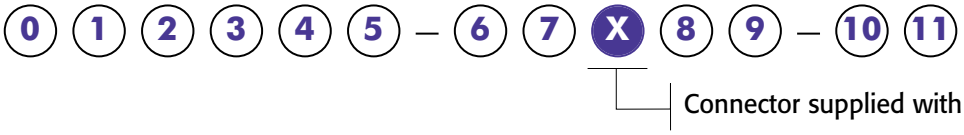


"Y" configuration



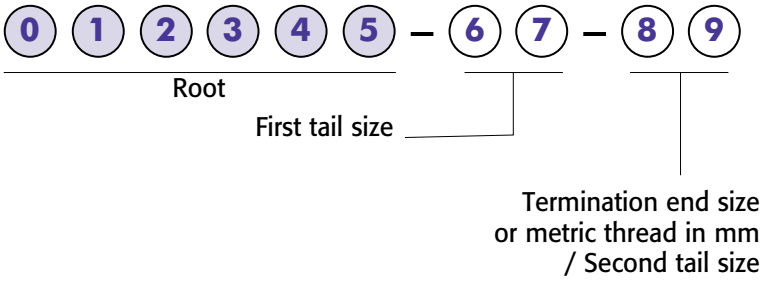
"h" configuration

CONNECTORS SUPPLIED WITH FERRULE OR CLAMP



For connectors supplied with ferrule or clamp, the second dash is replaced by a letter according to following specifications.

A Ferrule type C00700
C Ferrule type C00300
D Ferrule type C00750
R Clamp type C01000
T Clamp type C01050



DIGIT "0"

0 1 2 3 4 5 – 6 7 – 8 9

K Always

DIGIT "1"

0 1 2 3 4 5 – 6 7 – 8 9

3 Male or "Hose to hose" Star-Fit Connectors
4 Female or Flange Star-Fit

DIGIT "2-3"

0 1 2 3 4 5 – 6 7 – 8 9

The numbers stated in these positions refer to the termination end or to the second tail.
For the coding, see table "Termination Ends Type".

DIGIT "4"

0 1 2 3 4 5 – 6 7 – 8 9

This digit specifies the bending angle or the configuration.
1 Straight
4 45° Swept
8 Compact type
9 90° Swept

DIGIT "5"

0 1 2 3 4 5 – 6 7 – 8 9

0 No charge valve
2 1/4" SAE charge valve (thread 7/16"-20-UNF)
5 High Pressure charge valve
6 Low Pressure charge valve

DIGIT "6-7"

0 1 2 3 4 5 – 6 7 – 8 9

These digits specify the first tail size

DIGIT "8-9"

0 1 2 3 4 5 – 6 7 – 8 9

These digits specify the termination end size or the second tail size

RULES FOR THE SIZE INDICATION IN THE HOSE TO HOSE CONNECTORS

In the double connectors, when the tails are part of the same family, the first size is the smallest. If the tails have the same size, this is repeated two times.

FITTINGS - PART NUMBERING SYSTEM

CONNECTORS SUPPLIED WITH FERRULE OR CLAMP



For connectors supplied with ferrule, the second dash is replaced by a letter according to following specifications:

B Ferrule type K00400

0 1 2 3 4 5 – 6 7 – 8 9

Root

First tail size

Termination end size
or metric thread in mm
/ Second tail size

DIGIT "0"

0 1 2 3 4 5 – 6 7 – 8 9

OPC Always

DIGIT "1"

0 1 2 3 4 5 – 6 7 – 8 9

3 Male or "Hose to hose" Fast-Crimp Connectors obtained by deformation
2 Fast-Crimp Female or Flange obtained by deformation
3 Male or "Hose to hose" Fast-Crimp Connectors obtained by brazing
4 Fast-Crimp Female or Flange obtained by brazing

DIGIT "2-3"

0 1 2 3 4 5 – 6 7 – 8 9

The numbers stated in these positions refer to the termination end or to the second tail.
For the coding, see table "Termination Ends Type".

DIGIT "4"

0 1 2 3 4 5 – 6 7 – 8 9

This digit specifies the bending angle or the configuration.
1 Straight
4 45° Swept
8 Compact type
9 90° Swept

DIGIT "5"

0 1 2 3 4 5 – 6 7 – 8 9

0 No charge valve
5 High Pressure charge valve
6 Low Pressure charge valve

DIGIT "6-7"

0 1 2 3 4 5 – 6 7 – 8 9

These digits specify first tail size

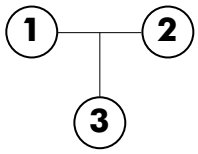
DIGIT "8-9"

0 1 2 3 4 5 – 6 7 – 8 9

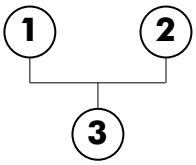
These digits specify the termination end size or the second tail size

RULES FOR THE SIZE INDICATION IN THE HOSE TO HOSE CONNECTORS

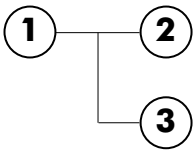
In the double connectors, when the tails are part of the same family, the first size is the smallest. If the tails have the same size, this is repeated two times.
In the 3-ways connectors, tails in position "1" and "2" must be part of the same family. All the sizes are indicated following this order:



"T" configuration



"V" configuration



"h" configuration

TERMINATION ENDS TYPE

DIGIT	DESCRIPTION
00	Double connector (same tail in two-ends connectors) / No end (plug)
10	Metric Thread (60° cone superlight)
11	Male Metric Thread (24° cone light type)
15	Female Metric Thread (24° cone O-ring light type)
24	ORFS type
25	JIC Thread (37° cone)
26	SAE Thread (45° cone)
27	JIC Thread double exag. 37° cone / ORFS type Bulkhead
29	ORFS male type long / Flanged Block for compressor connection (A/C and Refri application)
37	Flange (A/C and Refri application)
53	Manometer Port / Male for Quick Connection 30° cone seat (A/C and Refri application)
76	Expansion valve (A/C and Refri application)
79	Female O-ring and Fixed male O-ring seat (A/C and Refri application)
80	Male Swivel O-ring (A/C and Refri application)

"HOSE TO HOSE" CONNECTORS / CONECTORES "MANGUERA A MANGUERA"

C1	"STAR-CRIMP" tail (A/C and Refri application)
C3	"FRIGOCLIC®" tail (A/C and Refri application)
K3	"REUSABLE" tail (A/C and Refri application)

FITTINGS - PART NUMBERING SYSTEM – SPECIAL SUFFIX

The special suffix allows the identification of special features not included in the standard coding and must be placed at the end of the code.
El sufijo especial permite la identificación de aditamentos especiales no incluidos en la codificación estándar y debe estar colocado al final del código.

SPECIAL SUFFIX

(0)(0)(0) DROP OF THE ELBOW (in mm)

(S)(C) SOLID CONE (for special termination ends generally supplied with O-ring)

(Q) SPECIAL QUADRING GASKET (only refrigeration)

FITTINGS - PART NUMBERING SYSTEM

SIZE DETERMINATION

The first two digits identify the flexible size, the second two digits identify the connection size.

CONNECTION SIZE

DASH	SAE	SAE 45° FLARE FITTING THREAD	JIC 37° FLARE FITTING THREAD	FEMALE O-RING AND MALE O-RING SEAT FITTING THREAD	MALE O-RING FITTING THREAD	O-RING METRIC FITTING THREAD	ORS FACE SEAL FITTING	DIN 3901/3902 FITTING THREAD
- 04	1/4"	7/16"-20-UNF	7/16"-20-UNF	-	-	-	9/16"-18-UNF	-
- 06	3/8"	5/8"-18-UNF	9/16"-18-UNF	5/8"-18-UNF	5/8"-18-UNF	-	11/16"-16-UN	-
- 08	1/2"	3/4"-16-UNF	3/4"-16-UNF	3/4"-16-UNF	3/4"-18-UNS	M20x1.5	13/16"-16-UN	-
- 10	5/8"	7/8"-14-UNF	7/8"-14-UNF	7/8"-14-UNF	7/8"-18-UNS	M24x1.5	1"-14-UNS	M22x1.5
- 11	-	-	-	1"-14-UNS	-	-	-	-
- 12	3/4"	1.1/16"-14-UNS	1.1/16"-12-UNF	1.1/16"-14-UNS	1.1/16"-16-UN	M27x2	1.1/16"-14-UN	M26x1.5
- 16	1"	1.5/16"-14-UNF	1.5/16"-12-UNF	1.5/16"-14-UNF	-	-	1.7/16"-12-UN	M30x2
- 18	-	-	-	-	-	-	-	M36x2
- 20	1.1/4"	-	1.5/8"-12-UN	-	-	-	1.11/16"-12-UN	-
- 22	-	-	-	-	-	-	-	M45x2
- 24	1.1/2"	-	1.7/8"-12-UN	-	-	-	-	-

NOTE: The size for expansion valve fittings and for SDB compressor fittings is replaced by the bulge diameter: 14 and 23 for expansion valve; 26 and 30 for SDB compressor.

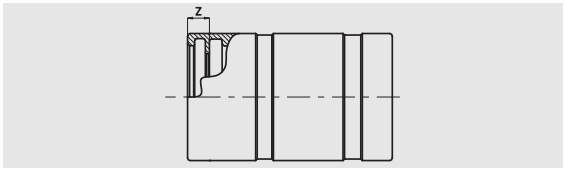
FLEXIBLE HOSE SIZE

HOSE SIZE			SAE
DN	DASH	INCH	
5	- 04	3/16"	1/4"
8	- 06	5/16"	3/8"
10	- 08	13/32"	1/2"
(12) 13	- 10	1/2"	5/8"
16	- 12	5/8"	3/4"
22	- 16	7/8"	1"
28	- 20	1.1/8"	1.1/4"
35	- 24	1.3/8"	1.1/2"

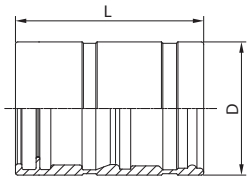


ON REQUEST
fittings for special applications can be manufactured (codesign with the customer will be very appreciate)

FRIGOCLIC® WITH FERRULE CUT-OFF DIMENSION



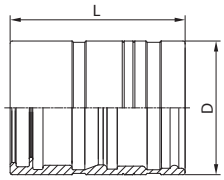
HOSE SIZE			DIMENSIONS mm
DN	DASH	Inch	Z
8	- 06	5/16"	9,0±0,1
10	- 08	13/32"	10,0±0,1
13	- 10	1/2"	12,5±0,1
16	- 12	5/8"	11,5±0,1



C00700

REFRIMASTER FERRULE

PART. REF.	HOSE BORE			DIMENSIONS mm					
	DN	Dash	inch		D	L				
C00700-06	8	- 06	5/16"		19,5	39,6				
C00700-08	10	- 08	13/32"		22,5	40,3				
C00700-10	13	- 10	1/2"		25,0	40,3				
C00700-12	16	- 12	5/8"		29,0	41,0				

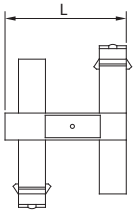


C00750

REFRIMASTER PLUS FERRULE

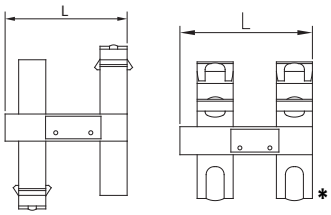
PART. REF.	HOSE BORE			DIMENSIONS mm					
	DN	Dash	inch		D	L				
C00750-10	13	- 10	1/2"		27,5	40,3				
C00750-12	16	- 12	5/8"		31,3	41,0				
C00750-16	22	- 16	7/8"		38,0	48,5				

C01000
REFRIMASTER CLAMP



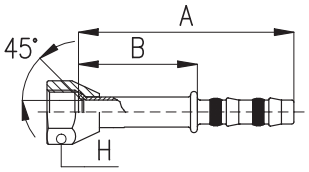
PART. REF.	HOSE BORE				DIMENSIONS mm					
	DN	Dash	inch		L					
C01000-06	8	- 06	5/16"		27,5					
C01000-08	10	- 08	13/32"		27,5					
C01000-10	13	- 10	1/2"		27,5					
C01000-12	16	- 12	5/8"		27,5					

C01050
REFRIMASTER PLUS CLAMP



PART. REF.	HOSE BORE				DIMENSIONS mm					
	DN	Dash	inch		L					
C01050-10	13	- 10	1/2"		27,5					
C01050-12	16	- 12	5/8"		27,5					
C01050-16	22	- 16	7/8"		33,1					

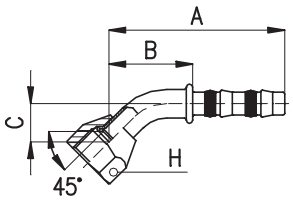
* For C01050-16 only



C42610

45° SAE STRAIGHT FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		H
C42610-06-04	8	- 06	5/16"	7/16"-20-UNF-2B	78,5	39,9		14
C42610-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	77,8	39,2		19
C42610-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	78,0	39,4		19
C42610-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	86,1	47,5		22
C42610-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	84,0	45,4		22
C42610-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	86,3	47,7		27
C42610-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	87,0	48,4		27



C42640

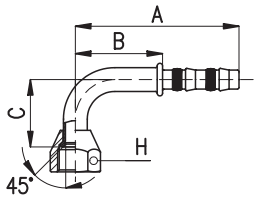
45° SAE FEMALE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C42640-06-04	8	- 06	5/16"	7/16"-20-UNF-2B	82,5	43,9	18,0	14
C42640-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	83,6	45,0	14,0	19
C42640-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	91,3	52,7	16,0	22
C42640-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	102,3	63,7	16,0	27
C42640-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	100,5	61,9	16,0	27
C42640-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	95,7	57,1	26,5	32

SAE J2064 TYPE E

C42690

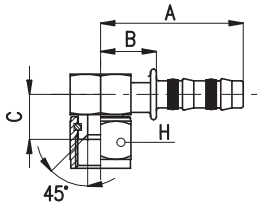
45° SAE FEMALE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C42690-06-04	8	- 06	5/16"	7/16"-20-UNF-2B	70,5	31,9	33,0	14
C42690-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	81,8	43,2	26,0	19
C42690-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	77,0	38,4	26,0	19
C42690-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	82,7	44,1	34,0	22
C42690-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	86,0	47,4	34,0	22
C42690-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	103,1	64,5	37,0	27
C42690-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	99,0	60,4	37,0	27
C42690-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	85,1	46,5	53,0	32

C42680

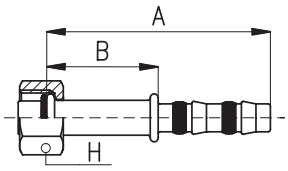
SHORT VERSION 45° SAE FEMALE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C42680-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	65,0	27,0	20,0	27

FRIGOCLIC® FITTINGS

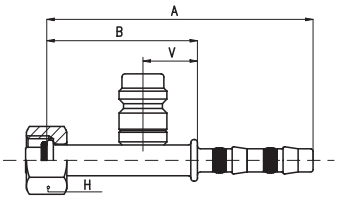
SAE J2064 TYPE E



C47910

STRAIGHT O-RING FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H	
C47910-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	68,9	30,3	19	
C47910-06-08	8	- 06	5/16"	3/4"-16-UNF-2B	83,5	44,9	22	
C47910-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	74,0	35,4	19	
C47910-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	85,0	46,4	22	
C47910-08-08105	10	- 08	13/32"	3/4"-16-UNF-2B	105,0	66,4	22	
C47910-08-11	10	- 08	13/32"	1"-14-UNS-2B	86,0	44,4	25	
C47910-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	103,0	64,4	22	
C47910-10-08103	13	- 10	1/2"	3/4"-16-UNF-2B	103,0	64,4	22	
C47910-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	85,0	46,5	27	
C47910-10-11	13	- 10	1/2"	1"-14-UNS-2B	82,4	43,8	29	
C47910-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	87,6	49,0	27	
C47910-12-11	16	- 12	5/8"	1"-14-UNS-2B	86,0	47,4	29	
C47910-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	94,2	55,6	32	
C47910-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	104,5	58,4	32	



C47915

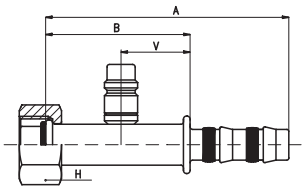
STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H	V±1
C47915-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	88,9	50,3	19	18,1
C47915-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	95,0	56,5	22	24,0
C47915-08-11	10	- 08	13/32"	1"-14-UNS-2B	86,0	47,4	29	26,9
C47915-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	97,0	58,4	22	26,0
C47915-12-10	16	- 10	5/8"	7/8"-14-UNF-2B	94,0	55,4	27	26,0

SAE J2064 TYPE E

C47916

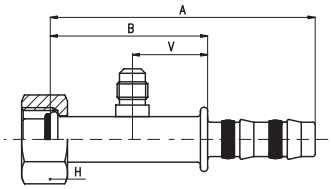
STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H	V±1
C47916-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	95,0	56,4	27	27,0
C47916-10-11	13	- 10	1/2"	1"-14-UNS-2B	82,4	43,8	29	22,3
C47916-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	94,0	55,4	27	26,0

C47912

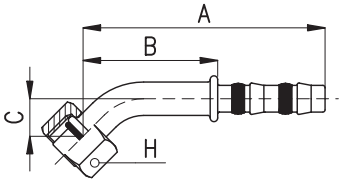
STRAIGHT O-RING FEMALE 1/4" SAE CHARGE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C47912-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	95,0	56,4	27,0	27

C47940

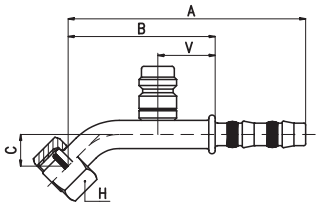
O-RING FEMALE 45° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C47940-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	84,9	46,3	12,5	19
C47940-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	91,3	52,7	13,5	22
C47940-08-11	10	- 08	13/32"	1"-14-UNS-2B	106,0	67,4	22,0	25
C47940-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	87,0	48,4	13,5	22
C47940-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	107,7	69,1	24,0	27
C47940-10-11	13	- 10	1/2"	1"-14-UNS-2B	105,2	67,3	22,0	29
C47940-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	108,5	69,9	24,0	27
C47940-12-11	16	- 12	5/8"	1"-14-UNS-2B	106,5	67,9	22,0	29
C47940-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	115,9	77,3	27,0	32
C47940-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	124,9	78,8	27,0	32

FRIGOCLIC® FITTINGS

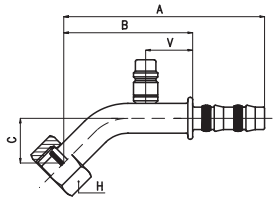
SAE J2064 TYPE E



C47945

O-RING FEMALE 45° ELBOW WITH HIGH PRESSURE VALVE

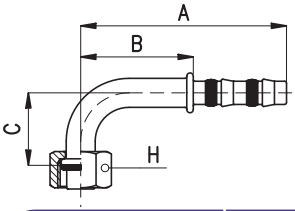
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C47945-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	101,3	62,7	13,5	22	24,4



C47946

O-RING FEMALE 45° ELBOW WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C47946-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	107,7	69,1	24,0	27	25,2
C47946-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	108,5	69,9	24,0	27	26,0



C47990

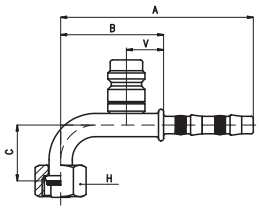
O-RING FEMALE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	C±2	H
C47990-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	72,9	34,3	24,0	19
C47990-06-08	8	- 06	5/16"	3/4"-16-UNF-2B	88,0	49,4	30,0	22
C47990-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	79,0	40,4	24,0	19
C47990-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	85,6	47,0	30,0	22
C47990-08-08037	10	- 08	13/32"	3/4"-16-UNF-2B	89,1	50,5	36,5	22
C47990-08-11	10	- 08	13/32"	1"-14-UNS-2B	84,0	45,4	39,0	25
C47990-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	90,5	51,9	36,5	22
C47990-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	104,0	65,4	45,0	27
C47990-10-11	13	- 10	1/2"	1"-14-UNS-2B	107,2	68,6	39,0	29
C47990-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	101,0	62,4	45,0	27
C47990-12-11	16	- 12	5/8"	1"-14-UNS-2B	99,1	60,5	39,0	29
C47990-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	104,9	66,3	54,5	32
C47990-16-10	22	- 16	7/8"	7/8"-14-UNF-2B	109,5	63,4	45,0	27

SAE J2064 TYPE E

C47995

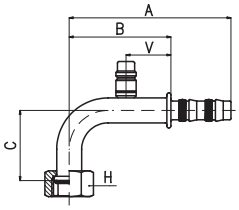
O-RING FEMALE 90° ELBOW WITH HIGH PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C47995-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	82,9	44,3	24,0	19	16,0
C47995-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	89,1	50,5	36,5	22	24,5
C47995-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	90,5	51,9	36,5	22	26,0

C47996

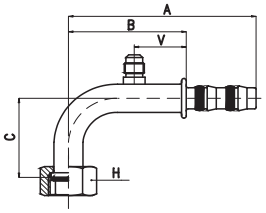
O-RING FEMALE 90° ELBOW WITH LOW PRESSURE VALVE



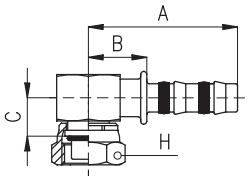
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C47996-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	103,9	65,3	45,0	27	28,8
C47996-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	101,0	62,4	45,0	27	26,0

C47992

O-RING FEMALE 90° ELBOW WITH 1/4" SAE CHARGE VALVE



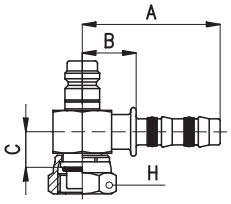
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C47992-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	89,1	50,5	36,5	22	24,6
C47992-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	103,8	65,2	45,0	27	28,8



C47980

SHORT VERSION O-RING FEMALE 90° ELBOW

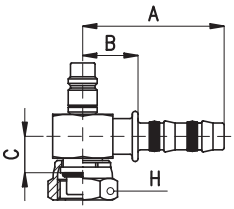
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C47980-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	61,5	23,0	16,0	22
C47980-08-11	10	- 08	13/32"	1"-14-UNS-2B	63,5	25,0	16,4	29
C47980-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	62,5	23,5	16,4	27
C47980-10-11	13	- 10	1/2"	1"-14-UNS-2B	63,0	24,5	16,4	29
C47980-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	63,0	24,5	16,4	27
C47980-12-11	16	- 12	5/8"	1"-14-UNS-2B	63,5	25,0	24,2	29



C47985

SHORT VERSION O-RING FEMALE 90° ELBOW
WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C47985-08-11	10	- 08	13/32"	1"-14-UNS-2B	63,5	25,0	16,4	29



C47986

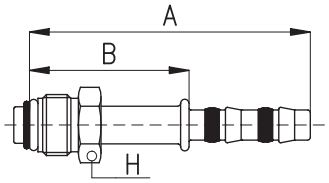
SHORT VERSION O-RING FEMALE 90° ELBOW
WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C47986-10-11	13	- 10	12"	1"-14-UNS-2B	63,0	24,5	16,4	29
C47986-12-11	16	- 12	5/8"	1"-14-UNS-2B	63,5	25,0	24,2	25

SAE J2064 TYPE E

C38010

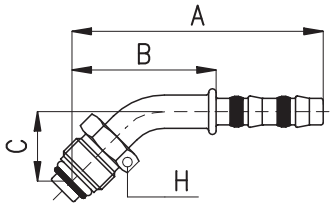
STRAIGHT O-RING MALE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	H	
C38010-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	70,2	31,6	17	
C38010-08-06	10	- 08	13/32"	5/8"-18-UNF-2A	74,0	35,4	17	
C38010-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	89,4	50,8	22	
C38010-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	91,6	53,0	22	
C38010-12-10	16	- 12	5/8"	7/8"-18-UNS-2A	86,0	47,4	22	
C38010-16-10	22	- 16	7/8"	7/8"-18-UNS-2A	94,5	48,4	22	

C38040

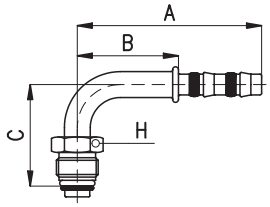
O-RING MALE 45° ELBOW



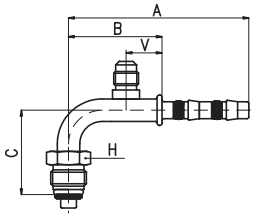
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C38040-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	92,7	54,1	21,5	17
C38040-08-06	10	- 08	13/32"	5/8"-18-UNF-2A	94,0	55,4	21,4	17
C38040-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	100,9	62,3	25,0	22
C38040-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	112,4	73,8	28,5	22
C38040-12-10	16	- 12	5/8"	7/8"-18-UNS-2A	113,0	74,4	28,5	22
C38040-12-12	16	- 12	5/8"	1.1/16"-16-UN-2A	123,0	84,3	33,4	27

C38090

O-RING MALE 90° ELBOW



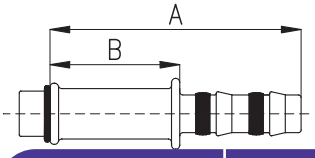
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	C±2	H
C38090-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	80,6	42,0	37,5	17
C38090-08-06	10	- 08	13/32"	5/8"-18-UNF-2A	77,0	38,4	37,5	17
C38090-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	83,0	44,4	47,0	22
C38090-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	100,9	62,3	54,5	22
C38090-12-10	16	- 12	5/8"	7/8"-18-UNS-2A	99,0	60,4	54,5	22
C38090-16-10	22	- 16	7/8"	7/8"-18-UNS-2A	109,0	62,9	54,5	22



C38092

O-RING MALE 90° ELBOW WITH 1/4" SAE CHARGE VALVE

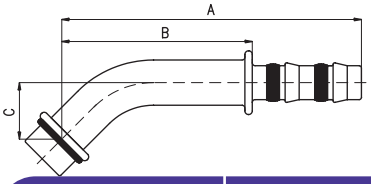
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H	V±1
C38092-06-06	8	-06	5/16"	5/8"-18-UNF-2A	80,2	41,6	37,5	17	16,0



C47610

STRAIGHT FITTING FOR EXPANSION VALVE

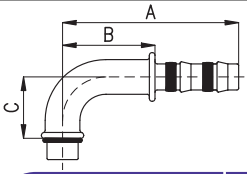
INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C47610-06-06	8	-06	5/16"		77,9	39,3		
C47610-08-06	10	-08	13/32"		84,1	45,5		
C47610-10-12	13	-10	1/2"		92,0	53,4		
C47610-12-12	16	-12	5/8"		92,0	53,4		



C47640

FITTING FOR EXPANSION VALVE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	
C47640-06-06	8	-06	5/16"		105,0	66,4	14,0	
C47640-10-12	13	-10	1/2"		106,0	86,0	20,0	
C47640-12-12	16	-12	5/8"		115,9	77,3	27,0	



C47690

FITTING FOR EXPANSION VALVE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	
C47690-06-06	8	-06	5/16"		93,9	55,3	22,0	
C47690-10-10	13	-10	1/2"		103,8	65,2	45,0	
C47690-10-12	13	-10	1/2"		104,3	65,7	41,5	
C47690-12-12	16	-12	5/8"		99,0	60,4	41,5	

FRIGOCLIC® FITTINGS

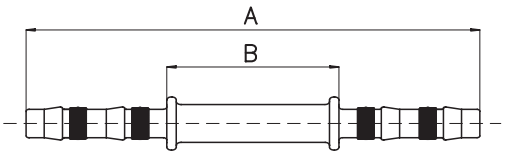
REFRIMASTER

REFRIMASTER PLUS

SAE J2064 TYPE E

C30010

STRAIGHT CONNECTION FITTINGS

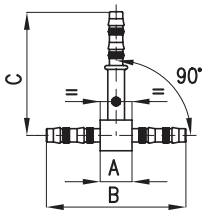


INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30010-06-06	8	- 06	5/16"		120,0	42,8		
C30010-08-08	10	- 08	13/32"		124,0	47,0		
C30010-10-10	13	- 10	1/2		124,0	47,0		
C30010-12-12	16	- 12	5/8"		124,0	47,0		
C30010-16-16	22	- 16	7/8"		151,0	58,8		

C300T0

3 WAYS CONNECTION FITTINGS

For clamp solution only

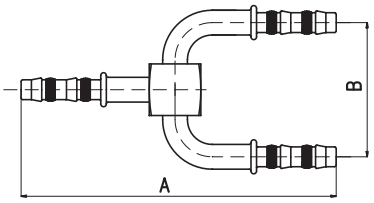


INSERT CODE ONLY	HOSE SIZE 1			HOSE SIZE 2			HOSE SIZE 3			DIMENSIONS mm		
	DN	Dash	Inch	DN	Dash	Inch	DN	Dash	Inch	A±2.5	B±2.5	C±2
C300T0-06-06-06	08	- 06	5/16"	08	- 06	5/16"	08	- 06	5/16"	22,8	100,0	85,5
C300T0-06-06-08	08	- 06	5/16"	08	- 06	5/16"	08	- 06	5/16"	22,8	100,0	85,5
C300T0-08-08-08	08	- 06	5/16"	08	- 06	5/16"	08	- 06	5/16"	22,8	100,0	86,5
C300T0-08-08-10	10	- 08	13/32"	10	- 08	13/32"	13	- 10	1/2"	22,8	100,0	86,5
C300T0-08-10-10	13	- 10	1/2"	10	- 08	13/32"	10	- 08	13/32"	22,8	100,0	86,5
C300T0-08-10-12	10	- 08	13/32"	10	- 08	13/32"	16	- 12	5/8"	22,8	100,0	86,5
C300T0-10-10-10	13	- 10	1/2"	13	- 10	1/2"	13	- 10	1/2"	22,8	100,0	86,5
C300T0-10-10-12	13	- 10	1/2"	13	- 10	1/2"	16	- 12	5/8"	22,8	100,0	86,5
C300T0-10-12-12	16	- 12	5/8"	13	- 10	1/2"	16	- 12	5/8"	22,8	100,0	86,5
C300T0-12-12-12	16	- 12	5/8"	16	- 12	5/8"	16	- 12	5/8"	22,8	100,0	88,5

C300Y0

"Y" CONNECTION FITTING

For clamp solution only

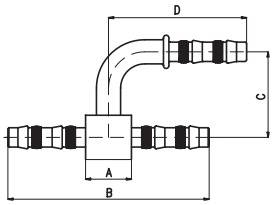


INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C300Y0-08-08-08	8	- 08	13/32"		152,5	65,0		
C300Y0-12-12-12	16	- 12	5/8"		152,0	83,0		

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FRIGOCLIC® FITTINGS

SAE J2064 TYPE E

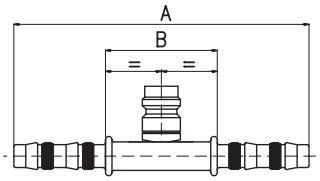


For clamp solution only

C300H0

"h" CONNECTION FITTINGS

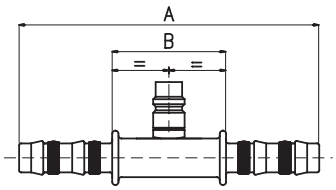
INSERT CODE ONLY	HOSE SIZE 1			HOSE SIZE 2			HOSE SIZE 3			DIMENSIONS mm			
	DN	Dash	Inch	DN	Dash	Inch	DN	Dash	Inch	A±2.5	B±2.5	C±2	D±2.5
C300H0-06-06-10	08	- 06	5/16"	08	- 06	5/16"	13	- 10	1/2"	22,8	100,0	62,5	78,0
C300H0-08-08-08	10	- 08	13/32"	10	- 08	13/32"	10	- 08	13/32"	22,8	100,0	42,5	68,0
C300H0-08-08-06	10	- 08	13/32"	10	- 08	13/32"	08	- 06	5/16"	22,8	100,0	42,5	72,0
C300H0-06-10-06	13	- 10	1/2"	08	- 06	5/16"	08	- 06	5/16"	22,8	100,0	48,5	65,0
C300H0-10-10-06	13	- 10	1/2"	13	- 10	1/2"	08	- 06	5/16"	22,8	100,0	48,5	65,0
C300H0-10-10-12	13	- 10	1/2"	13	- 10	1/2"	16	- 12	5/8"	22,8	100,0	62,5	75,0
C300H0-10-12-10	16	- 12	5/8"	13	- 10	1/2"	13	- 10	1/2"	22,8	100,0	62,5	78,0
C300H0-12-12-10	16	- 12	5/8"	16	- 12	5/8"	13	- 10	1/2"	22,8	100,0	42,5	68,5
C300H0-12-12-12	16	- 12	5/8"	16	- 12	5/8"	16	- 12	5/8"	22,8	100,0	62,5	75,0



C30015

STRAIGHT CONNECTION FITTING WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30015-06-06	8	- 06	5/16"		124,0	46,8		
C30015-08-08	10	- 08	13/32"		124,0	47,0		
C30015-10-10	13	- 10	1/2"		124,0	47,0		
C30015-12-12	16	- 12	5/8"		124,0	47,0		



C30016

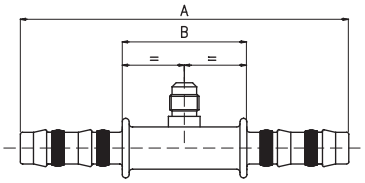
STRAIGHT CONNECTION FITTING WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30016-10-10	13	- 10	1/2"		124,0	47,0		
C30016-12-12	16	- 12	5/8"		124,0	47,0		

SAE J2064 TYPE E

C30012

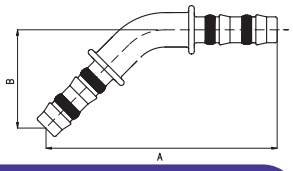
STRAIGHT CONNECTION FITTING 1/4" SAE CHARGE VALVE



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30012-06-06	8	- 06	5/16"		120,0	43,0		
C30012-08-08	10	- 08	13/32"		124,0	47,0		
C30012-10-10	13	- 10	1/2"		124,0	47,0		
C30012-12-12	16	- 12	5/8"		124,0	47,0		

C30040

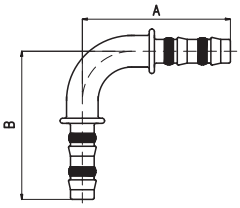
CONNECTION FITTING 45° ELBOW



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30040-06-06	8	- 06	5/16"		113,5	47,0		
C30040-08-08	10	- 08	13/32"		121,0	50,0		
C30040-10-10	13	- 10	1/2"		118,5	49,0		
C30040-12-12	16	- 12	5/8"		106,0	44,0		

FRIGOCLIC® FITTINGS

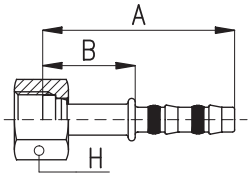
SAE J2064 TYPE E



C30090

CONNECTION FITTING 90° ELBOW

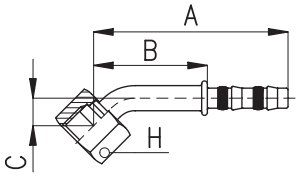
INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C30090-06-06	8	- 06	5/16"		70,0	70,0		
C30090-08-08	10	- 08	13/32"		75,0	75,0		
C30090-10-10	13	- 10	1/2"		75,0	75,0		
C30090-12-12	16	- 12	5/8"		75,0	75,0		
C30090-16-16	22	- 16	7/8"		93,5	93,5		



C42410

STRAIGHT ORS FLAT SEAL FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	H	
C42410-06-04	8	- 06	5/16"	9/16"-18-UNF-2B	72,0	33,4	19	
C42410-06-06	8	- 06	5/16"	11/16"-16-UN-2B	70,0	31,4	22	
C42410-08-08	10	- 08	13/32"	13/16"-16-UN-2B	74,5	35,9	27	
C42410-10-08	10	- 08	13/32"	13/16"-16-UN-2B	74,5	35,9	27	
C42410-10-10	13	- 10	1/2"	1"-14-UNS-2B	85,0	46,4	30	
C42410-12-12	16	- 12	5/8"	1.3/16"-12-UN-2B	85,0	46,4	36	
C42410-16-16	22	- 16	7/8"	1.7/16"'-12-UN-2B	105,5	59,4	41	



C42440

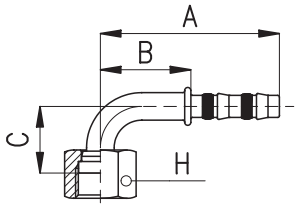
ORS FLAT SEAL FEMALE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C42440-06-04	8	- 06	5/16"	9/16"-18-UNF	64,0	25,4	10,0	19
C42440-06-06	8	- 06	5/16"	11/16"-16-UN-2B	65,0	26,4	10,5	22
C42440-08-08	10	- 08	13/32"	13/16"-16-UN-2B	93,0	54,4	13,0	27
C42440-10-08	10	- 10	1/2"	13/16"-16-UN	93,0	54,4	13,0	27
C42440-10-10	13	- 10	1/2"	1"-14-UNS-2B	82,0	43,4	18,0	30
C42440-12-12	16	- 12	5/8"	1.3/16"-12-UN-2B	94,0	55,4	30,5	36

SAE J2064 TYPE E

C42490

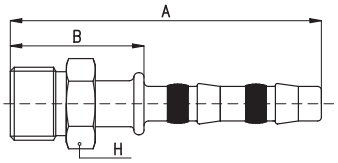
ORS FLAT SEAL FEMALE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	C±2	H
C42490-06-04	8	- 06	5/16"	9/16"-18-UNF-2B	61,5	22,9	22,5	19
C42490-06-06028	8	- 06	5/16"	11/16"-16-UN-2B	72,0	33,4	27,5	22
C42490-06-08	8	- 06	5/16"	13/16"-16-UN-2B	81,0	42,2	29,0	27
C42490-08-08	10	- 08	13/32"	13/16"-16-UN-2B	78,0	39,4	29,0	27
C42490-10-08	13	- 10	1/2"	13/16"-16-UN-2B	78,0	34,9	29,0	27
C42490-10-10	13	- 10	1/2"	1"-14-UNS-2B	75,0	36,4	36,0	30
C42490-12-10	16	- 12	5/8"	1"-14-UNS-2B	75,0	36,4	36,0	30
C42490-12-12	16	- 12	5/8"	1.3/16"-12-UN-2B	84,0	45,4	45,0	36
C42490-16-16	22	- 16	7/8"	1.7/16"-12-UN-2B	120,5	74,4	48,0	41

C37910

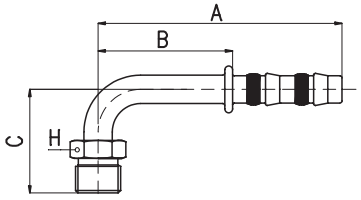
STRAIGHT MALE WITH O-RING SEAT



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H	
C37910-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	67,7	29,1	17	
C37910-08-10	10	- 08	13/32"	7/8"-14-UNF-2A	75,0	36,4	24	
C37910-10-10	13	- 10	1/2"	7/8"-14-UNF-2A	77,8	36,6	24	

C37990

MALE WITH O-RING SEAT 90° ELBOW

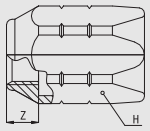


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C37990-08-06	10	- 08	13/32"	5/8"-18-UNF-2A	86,0	47,4	36,5	17
C37990-10-08	13	- 10	1/2"	3/4"-16-UNF-2A	87,0	48,4	41,5	22

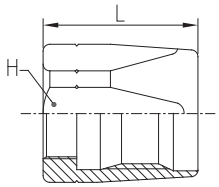
STAR-FIT FITTINGS

SAE J2064 TYPE B

CUT-OFF DIMENSION



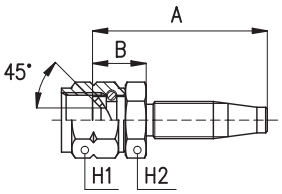
HOSE SIZE			DIMENSIONS mm	
DN	Dash	inch	Z	H
5	- 04	3/16"	9,0 ± 0,1	16
8	- 06	5/16"	10,0 ± 0,1	21
10	- 08	13/32"	12,5 ± 0,1	24
12	- 10	1/2"	9,0 ± 0,1	28
16	- 12	5/8"	11,5 ± 0,1	32
22	- 16	7/8"	10,0 ± 0,1	38
28	- 20	1.1/8"	10,0 ± 0,1	46
35	- 24	1.3/8"	10,0 ± 0,1	50



K00400

STAR-FIT FERRULE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		H	L		
K00400-04	5	- 04	3/16"		16	27,5		
K00400-06	8	- 06	5/16"		21	33,0		
K00400-08	10	- 08	13/32"		24	42,0		
K00400-10	13	- 10	1/2"		28	46,0		
K00400-12	16	- 12	5/8"		32	49,5		
K00400-16	22	- 16	7/8"		38	46,0		
K00400-20	28	- 20	1.1/8"		46	47,0		
K00400-24	35	- 24	1.3/8"		50	46,0		



K42610

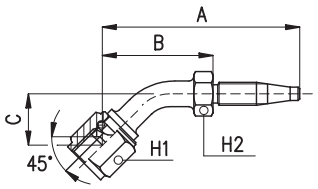
45° SAE STRAIGHT FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	H1	H2
K42610-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	41,0	14,0	15	15
K42610-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	50,5	15,5	19	19
K42610-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	59,0	18,0	22	22
K42610-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	64,0	18,0	22	22
K42610-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	65,0	19,0	27	27
K42610-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	68,5	19,0	27	27
K42610-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	91,0	41,5	32	24
K42610-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	67,5	29,5	32	32
K42610-16-16H00	22	- 16	7/8"	1.5/16"-14-UNS-2B	61,5	14,5	38	

SAE J2064 TYPE B

K42640

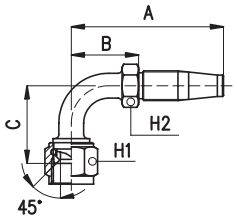
45° SAE FEMALE 45° ELBOW



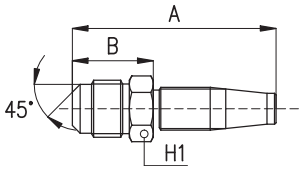
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42640-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	68,5	41,5	16,0	15	12
K42640-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	88,0	53,3	16,5	19	15
K42640-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	94,7	53,7	16,5	22	18
K42640-10-10	12	- 10	1/2"	7/8"-14-UNF-2B	94,5	48,5	23,5	27	21
K42640-12-08	16	- 12	5/8"	3/4"-16-UNF-2B	113,0	63,5	26,5	22	24
K42640-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	99,5	50,0	23,5	27	24
K42640-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	104,5	55,0	26,5	32	24
K42640-16-10	22	- 16	7/8"	7/8"-14-UNF-2B	97,0	50,0	23,5	27	30
K42640-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	101,5	54,5	26,5	32	30
K42640-16-16	22	- 16	7/8"	1.5/16"-14-UNS-2B	115,0	68,0	32,5	38	30

K42690

45° SAE FEMALE 90° ELBOW



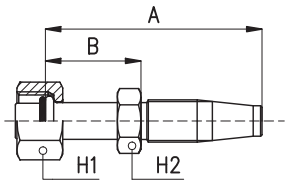
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42690-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	55,0	28,0	25,5	15	12
K42690-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	72,5	37,5	30,5	19	15
K42690-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	73,5	32,5	37,5	19	18
K42690-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	73,5	32,5	37,5	22	18
K42690-10-08	12	- 10	1/2"	3/4"-16-UNF-2B	79,5	33,5	42,5	22	21
K42690-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	83,5	37,5	46,5	27	21
K42690-12-08	16	- 12	5/8"	3/4"-16-UNF-2B	84,0	34,5	42,5	22	24
K42690-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	89,0	39,5	46,5	27	24
K42690-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	94,0	44,5	53,0	32	24
K42690-16-10	22	- 16	7/8"	7/8"-14-UNF-2B	86,5	39,5	46,5	27	30
K42690-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	90,5	43,5	53,0	32	30
K42690-16-16	22	- 16	7/8"	1.5/16"-14-UNS-2B	101,5	54,5	66,5	38	30



K32610

STRAIGHT 45° SAE FLARE MALE

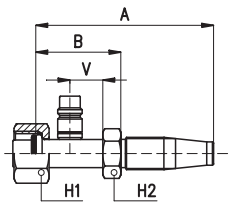
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	
K32610-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	47,5	18,7	12	
K32610-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	57,7	22,7	16	
K32610-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	68,0	27,0	19	
K32610-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	78,4	32,4	24	
K32610-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	85,9	36,4	27	
K32610-16-16	22	- 16	7/8"	1.5/16"-14-UNS-2B	85,0	39,0	36	



K47910

STRAIGHT O-RING FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	H2
K47910-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	69,0	34,0	19	14
K47910-08-06	10	- 08	13/32"	5/8"-18-UNF-2B	76,5	35,5	19	18
K47910-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	85,5	44,5	22	18
K47910-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	96,0	50,0	27	21
K47910-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	101,5	52,0	27	24
K47910-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	110,0	60,5	32	24
K47910-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	107,5	60,5	32	30



K47916

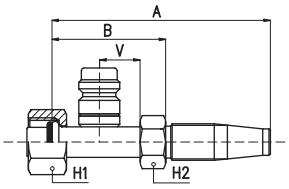
STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H1	H2
K47916-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	101,5	52,0	16,0	27	24
K47916-16-12	22	- 16	7/8"	1.1/16"-14-UNF-2B	107,5	60,5	16,0	32	30

SAE J2064 TYPE B

K47915

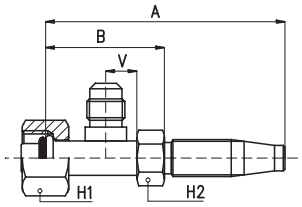
STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H1	H2
K47915-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	85,5	44,5	16,0	22	18

K47912

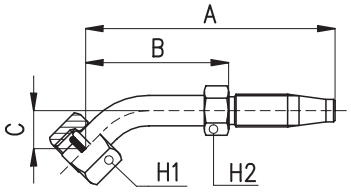
STRAIGHT O-RING FEMALE WITH 1/4" SAE CHARGE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H1	H2
K47912-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	67,3	32,3	9,0	19	14

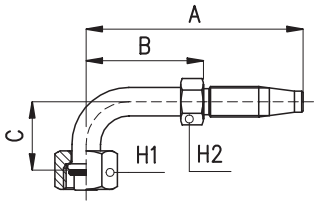
K47940

O-RING FEMALE 45° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±0.10	B±0.10	C±0.08	H1	H2
K47940-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	82,0	47,0	12,5	19	14
K47940-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	90,5	49,5	13,5	22	18
K47940-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	95,5	49,5	13,5	22	21
K47940-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	117,0	71,0	24,0	27	21
K47940-10-11	13	- 10	1/2"	1"-14-UNF-2B	115,0	69,0	22,0	29	21
K47940-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	122,5	73,0	24,0	27	24
K47940-12-11	16	- 12	5/8"	1"-14-UNS-2B	120,5	71,0	22,0	29	24
K47940-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	130,5	81,0	27,0	32	24
K47940-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	128,0	81,0	27,0	32	30

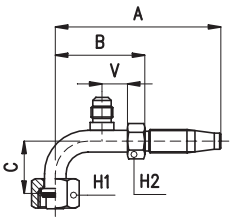
SAE J2064 TYPE B



K47990

O-RING FEMALE 90° ELBOW

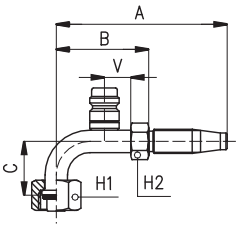
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±0.10	B±0.10	C±0.08	H1	H2
K47990-06-06	8	-06	5/16"	5/8"-18-UNF-2B	74,0	39,0	24,0	19	14
K47990-08-06	10	-08	13/32"	5/8"-18-UNF-2B	81,5	40,5	24,0	19	18
K47990-08-08	10	-08	13/32"	3/4"-16-UNF-2B	89,5	48,5	30,0	22	18
K47990-10-10	13	-10	1/2"	7/8"-14-UNF-2B	109,5	63,5	45,0	27	21
K47990-12-10	16	-12	5/8"	7/8"-14-UNF-2B	115,0	65,5	45,0	27	24
K47990-12-12	16	-12	5/8"	1.1/16"-14-UNS-2B	119,5	70,0	54,5	32	24
K47990-16-10	22	-16	7/8"	7/8"-14-UNF-2B	112,5	65,5	45,0	27	30
K47990-16-12	22	-16	7/8"	1.1/16"-14-UNS-2B	117,0	70,0	54,5	32	30
K47990-20-12	28	-20	1.1/8"	1.1/16"-14-UNS-2B	115,0	69,0	54,5	32	36



K47992

O-RING FEMALE 90° ELBOW WITH 1/4" SAE CHARGE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H1	H2
K47992-16-12	22	-16	7/8"	1.1/16"-14-UNS-2B	117,0	70,0	54,5	16,0	32	30



K47995

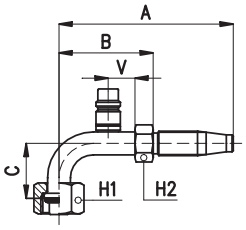
O-RING FEMALE 90° ELBOW WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H1	H2
K47995-08-08	10	-08	13/32"	3/4"-16-UNF-2B	94,0	53,0	36,5	16,0	22	18

SAE J2064 TYPE B

K47996

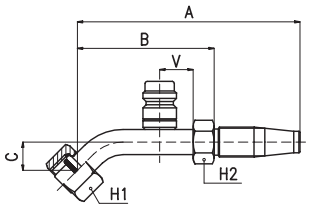
O-RING FEMALE 90° ELBOW WITH LOW PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H1	H2
K47996-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	109,5	63,5	45,0	16,0	27	21
K47996-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	115,0	65,5	45,0	16,0	27	24
K47996-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	116,0	69,0	54,5	16,0	32	30

K47945

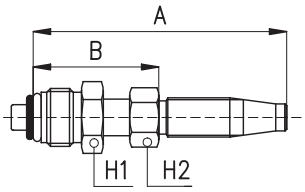
O-RING FEMALE 45° ELBOW WITH HIGH PRESSURE VALVE



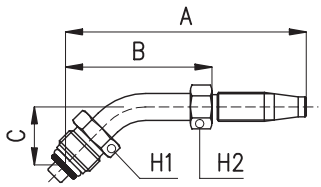
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H1	H2
K47945-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	106,8	65,3	13,5	16,0	22	18

K38010

STRAIGHT O-RING MALE



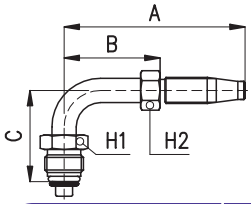
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
K38010-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	69,4	34,4	17	14
K38010-08-08	10	- 08	13/32"	3/4"-18-UNS-2B	85,5	44,5	22	18
K38010-10-10	13	- 10	1/2"	7/8"-18-UNS-2B	94,5	48,5	22	21



K38040

O-RING MALE 45° ELBOW

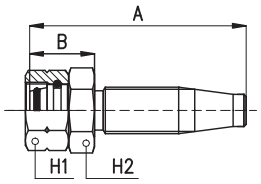
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K38040-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	89,5	54,5	21,5	17	14
K38040-08-08	10	- 08	13/32"	3/4"-18-UNS-2B	106,5	65,5	25,0	22	18
K38040-10-10	13	- 10	1/2"	7/8"-18-UNS-2B	121,5	75,5	28,5	22	21



K38090

O-RING MALE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K38090-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	74,5	39,5	37,5	17	14
K38090-08-08	10	- 08	13/32"	3/4"-18-UNS-2B	89,5	48,5	47,0	22	18
K38090-10-10	13	- 10	1/2"	7/8"-18-UNS-2B	109,0	63,0	54,5	22	21



K41510

STRAIGHT 24° DIN FLARE O-RING OGIVAL FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K41510-12-26	16	- 12	5/8"	M 26x1.5	92,0	42,5	32	27	
K41510-12-30	16	- 12	5/8"	M 30x2	94,5	45,0	36	24	
K41510-16-30	22	- 16	7/8"	M 30x2	74,0	27,0	36	36	
K41510-16-36	22	- 16	7/8"	M 36x2	75,8	28,8	41	36	
K41510-20-36	28	- 20	1.1/8"	M 36x2	76,8	30,8	41	41	

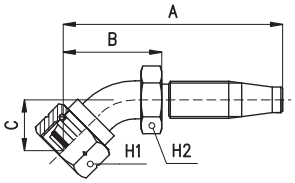
STAR-FIT FITTINGS

REFRISTAR

SAE J2064 TYPE B

K41540

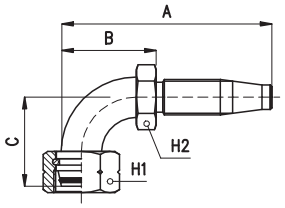
24° DIN FLARE O-RING OGIVAL FEMALE 45° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K41540-12-26	16	- 12	5/8"	M 26x1.5	107,0	57,2	28,7	32	24
K41540-12-30	16	- 12	5/8"	M 30x2	107,0	57,5	29,0	36	34
K41540-16-30	22	- 16	7/8"	M 30x2	104,0	57,1	29,4	36	30
K41540-16-36	22	- 16	7/8"	M 36x2	117,0	69,9	30,0	41	30
K41540-20-36	28	- 20	1.1/8"	M 36x2	115,0	68,9	34,0	41	36

K41590

24° DIN FLARE O-RING OGIVAL FEMALE 90° ELBOW

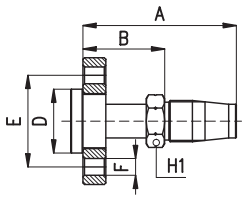


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K41590-08-26	10	- 08	13/32"	M 26x1.5	86,5	45,5	60,0	32	24
K41590-12-26	16	- 12	5/8"	M 26x1.5	94,0	44,5	56,0	32	24
K41590-12-30	16	- 12	5/8"	M 30x2	91,0	41,5	56,5	36	30
K41590-16-30	22	- 16	7/8"	M 30x2	91,0	43,5	56,5	36	30
K41590-16-36	22	- 16	7/8"	M 36x2	101,5	54,5	69,3	41	30
K41590-20-30	28	- 20	1.1/8"	M 30x2	89,4	43,5	48,5	36	36
K41590-20-36	28	- 20	1.1/8"	M 36x2	101,0	54,5	69,3	41	36

22 - 16 7/8" 107,0 60,0 41,8 60,0 Ø 11,0 30
28 - 20 1.1/8" 110,5 64,5 41,8 60,0 Ø 11,0 36

K43710

STRAIGHT FLANGE FITTING

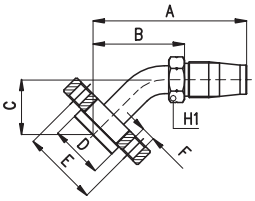


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm					
	DN	Dash	Inch	T	A±2.5	B±2.5	C±2	V±1	H1	H2
K43710-16-16	22	- 16	7/8"		107,0	60,0	41,8	60,0	Ø 11,0	30
K43710-20-16	28	- 20	1.1/8"		110,5	64,5	41,8	60,0	Ø 11,0	36

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STAR-FIT FITTINGS

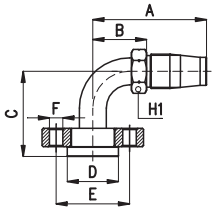
SAE J2064 TYPE B



K43740

FLANGE FITTING 45° ELBOW

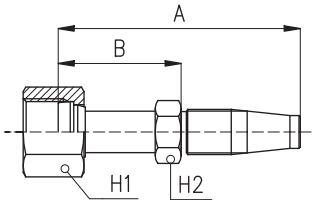
INSERT CODE ONLY	HOSE SIZE			DIMENSIONS mm						
	DN	Dash	Inch	A±2.5	B±2.5	C±2	D	E	F	H1
K43740-16-16	22	-16	7/8"	119,0	72,0	44,0	41,8	60,0	Ø 11,0	30
K43740-20-16	28	-20	1.1/8"	122,5	76,5	44,0	41,8	60,0	Ø 11,0	36



K43790

FLANGE FITTING 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			DIMENSIONS mm						
	DN	Dash	Inch	A±2.5	B±2.5	C±2	D	E	F	H1
K43790-16-16	22	-16	7/8"	90,5	43,5	79,5	41,8	60,0	Ø 11,0	30
K43790-20-16	28	-20	1.1/8"	100,5	54,5	88,5	41,8	60,0	Ø 11,0	36
K43790-20-16097	28	-20	1.1/8"	100,5	54,5	96,5	48,0	60,0	Ø 11,0	36



K42410

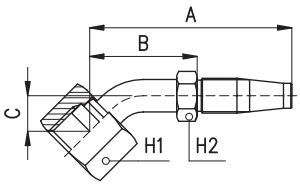
STRAIGHT ORS FLAT SEAL FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	H2
K42410-04-04	5	-04	3-16"	9/16"-18-UNF-2B	61,0	34,0	19	12
K42410-06-06	8	-06	5-16"	11-16"-UN-2B	69,0	34,0	22	14
K42410-08-08	10	-08	13/32"	13/16"-16-UN-2B	78,0	37,0	27	18
K42410-10-10	13	-10	1/2"	1"-14-UNS-2B	93,5	47,5	30	21
K42410-12-12	16	-12	5/8"	1.3/16"-12-UN-2B	99,0	49,5	36	24
K42410-12-16	16	-12	5/8"	1.7/16"-12-UNF-2B	52,5	102,0	41	27
K42410-12-16079	16	-12	5/8"	1.7/16"-12-UNF-2B	29,0	78,5	41	24
K42410-16-16	22	-16	7/8"	1.7/16"-12-UN-2B	117,5	70,5	41	30
K42410-16-20	22	-16	7/8"	1.11/16"-UN-2B	69,5	116,5	50	30
K42410-20-20	28	-20	1.1/8"	1.11/16"-12-UN-2B	114,5	68,5	50	36
K42410-24-24	35	-24	1.3/8"	2"-12-UN	115,5	70,5	60	46

SAE J2064 TYPE B

K42440

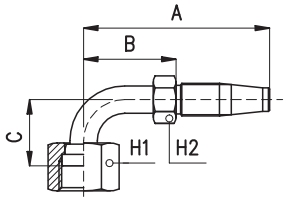
ORS FLAT SEAL FEMALE 45° ELBOW



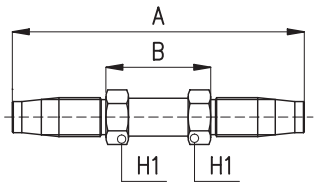
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42440-04-04	5	-04	3/16"	9/16"-18-UNF-2B	52,2	25,2	10,0	19	12
K42440-06-06	8	-05	5/16"	11/16"-16-UN-2B	62,3	27,3	10,5	22	14
K42440-08-08	10	-08	13/32"	13/16"-16-UN-2B	96,5	55,5	13,0	27	18
K42440-10-10	13	-10	1/2"	1"-14-UNS-2B	86,5	40,5	16,0	30	21
K42440-12-12	16	-12	5/8"	1.3/16"-12-UN-2B	115,0	65,5	17,0	36	24
K42440-16-16	22	-16	7/8"	1.7/16"-12-UN-2B	115,5	68,5	40,5	41	30
K42440-20-20	28	-20	1.1/8"	1.11/16"-12-UN-2B	111,5	66,5	27,0	50	36
K42440-24-24	35	-24	1.3/8"	2"-12-UN	115,5	70,5	29,0	60	46

K42490

ORS FLAT SEAL FEMALE 90° ELBOW

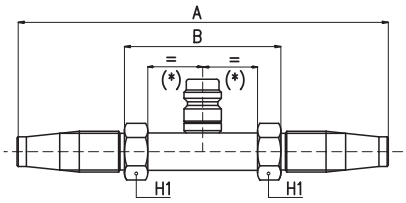


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42490-04-04	5	-04	3/16"	9/16"-18-UNF-2B	50,5	23,5	22,5	19	12
K42490-06-06	8	-06	5/16"	11/16"-16-UN-2B	62,5	27,5	25,5	22	14
K42490-08-08	10	-08	13/32"	13/16"-16-UN-2B	81,5	40,5	29,0	27	18
K42490-10-10	13	-10	1/2"	1"-14-UNS-2B	83,5	37,5	36,0	30	21
K42490-12-12	16	-12	5/8"	1.3/16"-12-UN-2B	98,0	48,5	45,0	36	24
K42490-16-16	22	-16	7/8"	1.7/16"-12-UN-2B	117,5	70,5	48,0	41	30
K42490-20-20	28	-20	1.1/8"	1.11/16"-12-UN-2B	104,5	58,5	56,0	50	36



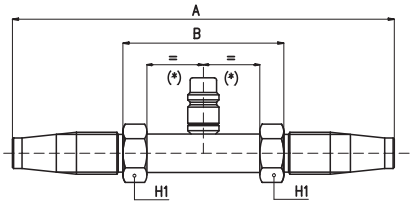
K30010
STRAIGHT CONNECTION FITTING

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	
K30010-04-04	5	- 04	3/16"		89,0	35,0	12	
K30010-06-06	8	- 06	5/16"		115,0	45,0	14	
K30010-08-08	10	- 08	13/32"		128,0	46,0	18	
K30010-10-10	13	- 10	1/2"		141,0	49,0	21	
K30010-12-12	16	- 12	5/8"		154,5	55,5	24	
K30010-16-16	22	- 16	7/8"		145,0	51,0	30	
K30010-20-20	28	- 20	1.1/8"		163,0	71,0	36	



K30015
STRAIGHT CONNECTION FITTING WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	
K30015-08-08	10	- 08	13/32"		150,0	68,0	18	
K30015-10-10	13	- 10	1/2"		159,0	67,0	21	



K30016
STRAIGHT CONNECTION FITTING WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	
K30016-10-10	13	- 10	1/2"		159,0	67,0	21	
K30016-12-12	16	- 12	5/8"		181,0	82,0	24	

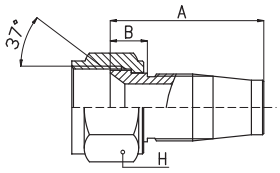
STAR-FIT FITTINGS

REFRISTAR

SAE J2064 TYPE B

K42510

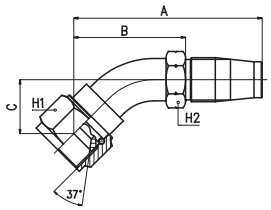
JIC 37° STRAIGHT FEMALE FITTING



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	H2
K42510-16-12	22	- 16	7/8"	1.1/16"-12-UNF-2B	78,5	31,5	32,0	30
K42510-16-16	22	- 16	7/8"	1.5/16"-12-UNF-2B	62,0	15,0	38,0	

K42540

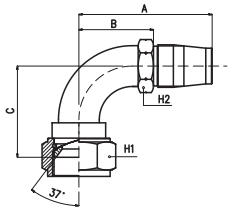
JIC 37° FEMALE FITTING 45° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42540-16-16	22	- 16	7/8"	1.5/16"-12-UNF-2B	115,5	68,5	33,0	38	30

K42590

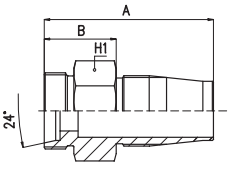
JIC 37° FEMALE FITTING 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K42590-16-16	22	- 16	7/8"	1.5/16"-12-UNF-2B	101,5	54,5	67,5	38	30
K42590-20-20	28	- 20	1.1/8"	1.5/8"-12-UNF-2B	104,5	58,5	71,5	50	36

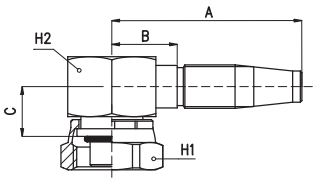
K31110

STRAIGHT 24° MALE DIN



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H1	
K31110-16-30	22	- 16	7/8"	M 30x2	71,0	24,0	32	

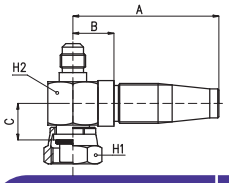
fluiconnecto by manuli



K47980

SHORT VERSION O-RING FEMALE 90° ELBOW

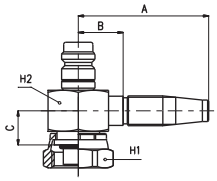
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K47980-08-11	10	- 08	13/32"	1"-14-UNF-2B	62,5	21,5	16,4	29	29
K47980-10-11	13	- 10	1/2"	1"-14-UNS-2B	67,5	21,5	16,4	29	29
K47980-12-11	16	- 12	5/8"	1"-14-UNS-2B	75,5	26,0	24,2	29	25



K47982

SHORT VERSION O-RING FEMALE 90° ELBOW WITH 1/4" SAE CHARGE VALVE

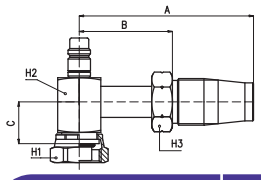
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K47982-10-08	13	- 10	1/2"	3/4"-16-UNF-2B	64,0	18,0	16,0	22	22
K47982-10-11	13	- 10	1/2"	1"-14-UNS-2B	67,5	21,5	16,4	29	29
K47982-12-08	16	- 12	5/8"	3/4"-16-UNF-2B	52,5	102,0	16,0	22	22
K47982-16-10	22	- 16	7/8"	7/8"-14-UNF-2B	101,5	54,5	16,4	27	27
K47982-16-11	22	- 16	7/8"	1"-14-UNS-2B	54,0	101,0	24,2	29	25



K47985

SHORT VERSION O-RING FEMALE 90° ELBOW WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K47985-08-11	10	- 08	13/32"	1"-14-UNS-2B	21,5	62,5	16,4	29	29
K47985-12-11	16	- 12	5/8"	1"-14-UNS-2B	24,0	75,5	24,2	29	25



K47986

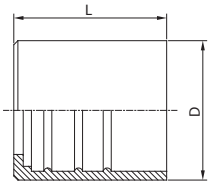
SHORT VERSION O-RING FEMALE 90° ELBOW WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
K47986-12-11	16	- 12	5/8"	1"-14-UNS-2B	24,0	75,5	24,2	29	25
K47986-16-11	22	- 16	7/8"	1"-14-UNS-2B	54,0	101,0	24,2	29	25

STAR-CRIMP FITTINGS

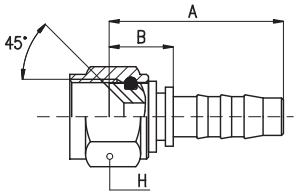
REFRISTAR

SAE J2064 TYPE B



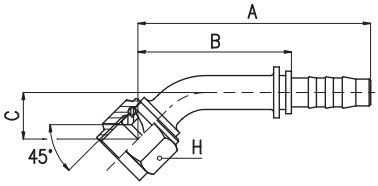
C00300
STAR-CRIMP FERRULE

PART REF.	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		D	L		
C00300-04	5	- 04	3/16"		18,0	24,3		
C00300-06	8	- 06	5/16"		23,0	30,3		
C00300-08	10	- 08	13/32"		25,0	32,3		
C00300-10	13	- 10	1/2"		29,0	37,3		
C00300-12	16	- 12	5/8"		34,0	37,3		
C00300-16	22	- 16	7/8"		38,0	39,5		
C00300-20	28	- 20	1.1/8"		46,0	51,0		



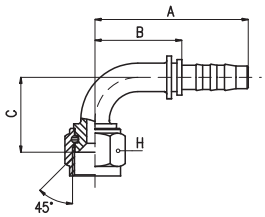
C22610
45° SAE STRAIGHT FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	H
C22610-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	34,2	14,5	15
C22610-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	42,0	16,0	19
C22610-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	44,3	16,3	22
C22610-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	50,3	17,3	27
C22610-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	50,3	18,8	32



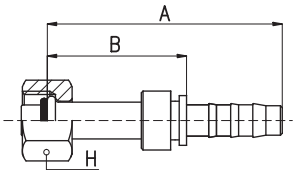
C22640
45° SAE FEMALE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C22640-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	68,2	48,5	12,0	15
C22640-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	73,7	47,7	15,5	19
C22640-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	82,3	54,3	16,5	22
C22640-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	95,3	62,3	19,5	27
C22640-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	108,0	65,5	20,5	32



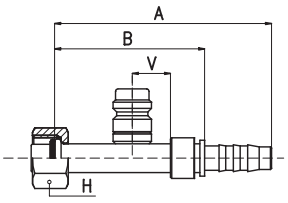
C22690
45° SAE FEMALE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C22690-04-04	5	- 04	3/16"	7/16"-20-UNF-2B	52,2	32,5	26,0	15
C22690-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	57,0	31,0	29,5	19
C22690-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	64,5	36,5	31,5	22
C22690-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	74,5	41,5	38,5	27
C22690-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	78,5	47,0	49,5	32



C27910
STRAIGHT O-RING FEMALE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	H	
C27910-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	64,0	38,0	19	
C27910-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	76,0	48,0	22	
C27910-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	86,5	53,5	27	
C27910-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	94,5	63,0	32	
C27910-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	97,5	64,5	32	



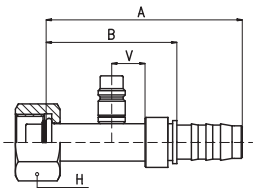
C27915
STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H
C27915-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	90.8	62.8	16,0	22
C27915-08-11	10	- 08	13/32"	1"-14-UNS-2B	78.0	50.0	16,0	29
C27915-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	94.5	63.0	16,0	32

SAE J2064 TYPE B

C27916

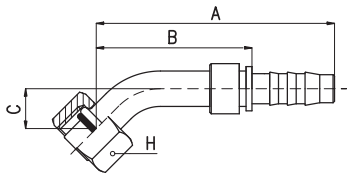
STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H
C27916-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	97,5	64,5	16,0	32

C27940

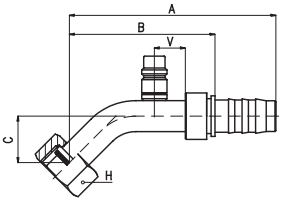
O-RING FEMALE 45° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C27940-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	77,0	51,0	12,5	19
C27940-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	81,0	53,0	13,5	22
C27940-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	107,0	74,0	24,0	27
C27940-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	106,5	75,0	24,0	27
C27940-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2B	114,5	83,0	27,0	32
C27940-16-12	22	- 16	7/8"	1.1/16"-14-UNS-2B	118,0	85,0	27,0	32

C27946

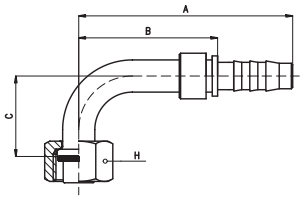
O-RING FEMALE 45° ELBOW WITH LOW PRESSURE VALVE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H1	H2
C27946-12-10	13	- 12	5/8"	7/8"-14-UNF-2B	106,5	75,0	24,0	16,0	27

STAR-CRIMP FITTINGS

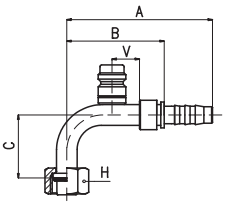
SAE J2064 TYPE B



C27990

O-RING FEMALE 90° ELBOW

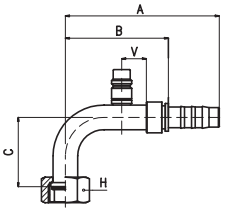
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C27990-06-06	8	-06	5/16"	5/8"-18-UNF-2B	69,0	43,0	24,0	19
C27990-06-06036	8	-06	5/16"	5/8"-18-UNF-2B	74,0	48,0	35,5	19
C27990-06-06060	8	-06	5/16"	5/8"-18-UNF-2B	68,8	42,8	60,0	19
C27990-08-08	10	-08	13/32"	3/4"-16-UNF-2B	80,0	52,0	30,0	22
C27990-10-10	13	-10	1/2"	7/8"-14-UNF-2B	100,0	67,0	45,0	27
C27990-12-10	16	-12	5/8"	7/8"-14-UNF-2B	99,5	68,0	45,0	27
C27990-12-12	16	-12	5/8"	1.1/16"-14-UNS-2B	104,0	72,5	54,5	32
C27990-16-10	22	-16	7/8"	7/8"-14-UNF-2B	104,0	70,0	45,0	27
C27990-16-12	22	-16	7/8"	1.1/16"-14-UNS-2B	107,0	74,0	54,5	32



C27995

O-RING FEMALE 90° ELBOW WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
C27995-08-08	10	-08	13/32"	3/4"-16-UNF-2B	84,5	56,5	36,5	16,0	22
C27995-08-11	10	-08	13/32"	1"-14-UNS-2B	92,8	64,8	39,0	16,0	29



C27996

O-RING FEMALE 90° ELBOW WITH LOW PRESSURE VALVE

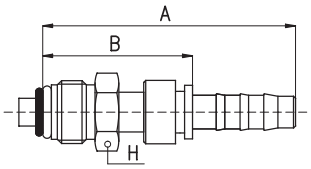
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
C27996-10-10	13	-10	1/2"	7/8"-14-UNF-2B	99,8	67,0	45,0	16,0	27

STAR-CRIMP FITTINGS

REFRISTAR

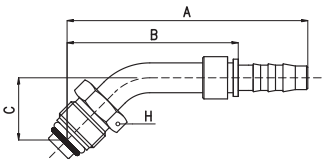
SAE J2064 TYPE B

C18010
STRAIGHT O-RING MALE



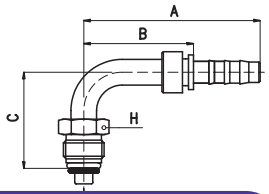
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		H
C18010-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	63,8	38,0		17
C18010-16-10	22	- 16	7/8"	7/8"-14-UNF-2B	87,5	54,5		22

C18040
O-RING MALE 45° ELBOW



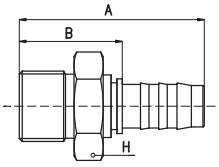
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C18040-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	83,5	57,5	21,5	17
C18040-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	11,5	78,5	28,5	22

C18090
O-RING MALE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C18090-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	69,0	43,0	37,5	17
C18090-06-06060	8	- 06	5/16"	5/8"-18-UNF-2A	69,0	42,8	60,0	17
C18090-10-10	13	- 10	1/2"	7/8"-14-UNF-2A	99,5	66,5	54,5	22
C18090-16-10	22	- 16	7/8"	7/8"-14-UNF-2A	102,0	69,0	54,5	22
C18090-16-10072	22	- 16	7/8"	7/8"-14-UNF-2A	102,0	69,0	72,0	22

C17910
STRAIGHT MALE WITH O-RING SEAT

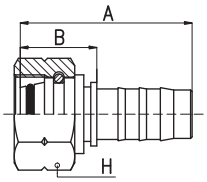


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		H
C17910-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	50,5	24,5		17
C17910-12-12	16	- 12	5/8"	1.1/16"-14-UNS-2A	71,0	39,5		30

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STAR-CRIMP FITTINGS

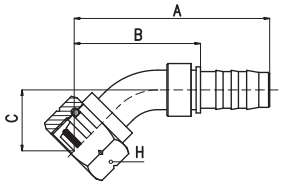
SAE J2064 TYPE B



C21510

STRAIGHT 24° DIN FLARE O-RING OGIVAL FEMALE

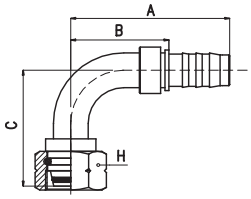
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		H
C21510-16-30	22	- 16	7/8"	M 30x2	61,0	28,0		36
C21510-20-36	28	- 20	1.1/8"	M 36x2	74,5	30,5		41



C21540

24° DIN FLARE O-RING OGIVAL FEMALE 45° ELBOW

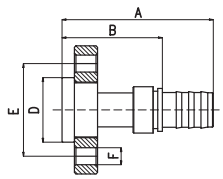
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C21540-16-30	22	- 16	7/8"	M 30x2	95,0	62,0	29,0	36
C21540-20-36	28	- 20	1.1/8"	M 36x2	118,5	74,5	34,5	41



C21590

24° DIN FLARE O-RING OGIVAL FEMALE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C21590-16-30	22	- 16	7/8"	M 30x2	81,5	48,5	56,5	36
C21590-20-36	28	- 20	1.1/8"	M 36x2	105,0	61,0	69,5	41



C23710

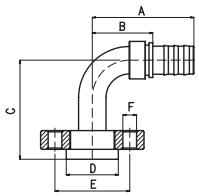
STRAIGHT FLANGE FITTING

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	D	E	F
C23710-16-16	22	- 16	7/8"		98,0	65,0	41,8	60,0	Ø 11,0
C23710-20-16	28	- 20	1.1/8"		115,0	71,0	41,8	60,0	Ø 11,0

SAE J2064 TYPE B

C23790

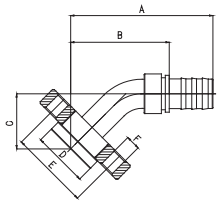
FLANGE FITTING 90° ELBOW



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H1	H2
C23790-16-16	22	- 16	7/8"		81,5	48,5	79,5	41,8	60,0	Ø 11,0
C23790-20-16	28	- 20	1.1/8"		105,0	61,0	88,5	41,8	60,0	Ø 11,0

C23740

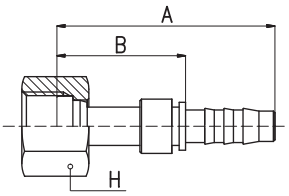
FLANGE FITTING 45° ELBOW



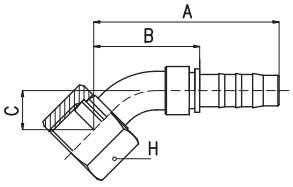
INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm					
	DN	Dash	Inch		A±2.5	B±2.5	C±2	D	E	F
C23740-16-16	22	- 16	7/8"		107,1	74,6	41,7	41,8	60,0	Ø 11,0
C23740-20-16	28	- 20	1.1/8"		126,4	82,9	44,3	41,8	60,0	Ø 11,0

C22410

STRAIGHT ORS FLAT SEAL FEMALE

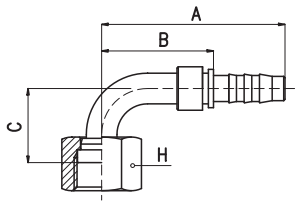


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		H
C22410-10-08	13	- 10	1/2"	13/16"-16-UN-2B	73,4	41,3		27
C22410-10-10	13	- 10	1/2"	1"-14-UNS-2B	84,0	51,0		30
C22410-16-16	22	- 16	7/8"	1.7/16"-12-UN-2B	108,5	75,5		41
C22410-20-20	28	- 20	1.1/8"	1.11/16"-12-UN-2B	119,0	75,0		50



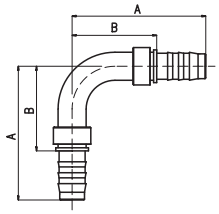
C22440
ORS FLAT SEAL FEMALE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C22440-10-10	13	- 10	1/2"	1"-14-UNS-2B	77,0	44,0	16,0	30
C22440-16-16	22	- 16	7/8"	1.7/16"-12-UN-2B	106,5	73,5	40,5	41
C22440-20-20	28	- 20	1.1/8"	1.11/16"-12-UN-2B	115,0	71,0	25,5	50



C22490
ORS FLAT SEAL FEMALE 90° ELBOW

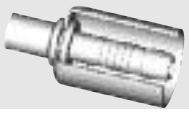
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
C22490-16-16	22	- 16	7/8"	1.7/16"-12-UN-2B	108,5	75,5	48,0	41
C22490-20-20	28	- 20	1.1/8"	1.11/16"-12-UN-2B	109,0	65,0	56,0	50



C10090
CONNECTION 90° ELBOW

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5		
C10090-06-06	8	- 06	5/16"		74,8	48,8		
C10090-16-16	22	- 16	7/8"		91,0	58,5		

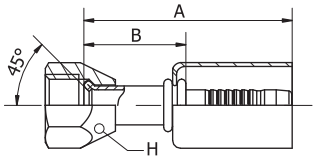
SAE J2064 TYPE A



HOSE SIZE			FERRULE EXTERNAL DIAMETER
DN	DASH	INCH	mm
8	- 06	5/16"	22,0
10	- 08	13/32"	22,0
13	- 10	1/2"	25,8
16	- 12	5/8"	28,4

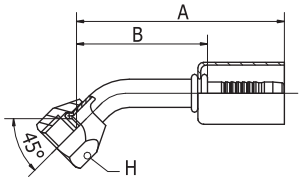
OPC22610

45° SAE STRAIGHT FEMALE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	H
OPC22610-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	53,2	26,0	19
OPC22610-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	58,7	28,5	22
OPC22610-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	60,7	30,0	27
OPC42610-12-12*	16	- 12	5/8"	1.1/16"-14-UNS	94,3	59,5	32

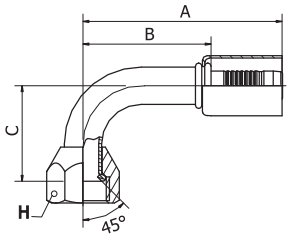
* **Obtained by brazing**



OPC22640

45° SAE FEMALE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC22640-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	73,7	46,5	12,5	19
OPC22640-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	84,7	54,5	15,0	22
OPC22640-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	114,5	83,8	26,5	27



OPC22690

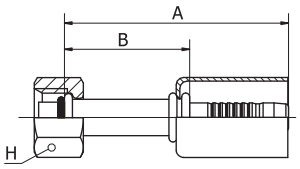
45° SAE FEMALE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC22690-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	69,2	42,0	26,0	19
OPC22690-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	75,2	45,0	35,0	22
OPC22690-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	85,7	55,0	41,0	27

SAE J2064 TYPE A

OPC27910

STRAIGHT O-RING FEMALE

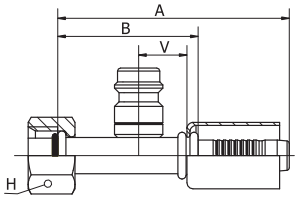


INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	H
OPC27910-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	61,2	34,0	19
OPC27910-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	66,2	36,0	22
OPC27910-08-11	10	- 08	13/32"	1"-14-UNS-2B	65,7	35,5	29
OPC27910-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	67,7	37,0	27
OPC27910-10-10078	13	- 10	1/2"	7/8"-14-UNF-2B	77,7	47,0	27
OPC27910-10-11	13	- 10	1/2"	1"-14-UNS-2B	56,2	25,5	29
OPC27910-10-11076	13	- 10	1/2"	1"-14-UNS-2B	76,2	45,5	29
OPC27910-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	68,96	39,6	27
OPC27910-12-10079	16	- 12	5/8"	7/8"-14-UNF-2B	78,9	46,9	27
OPC47910-12-11 *	16	- 12	5/8"	1"-14-UNS-2B	51,2	16,4	29
OPC47910-12-12 *	16	- 12	5/8"	1.1/16"-14-UNS	67,8	33,0	32

* Obtained by brazing

OPC27915

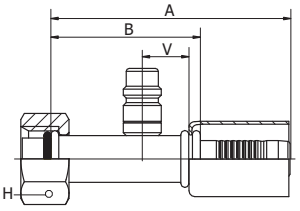
STRAIGHT O-RING FEMALE WITH HIGH PRESSURE VALVE



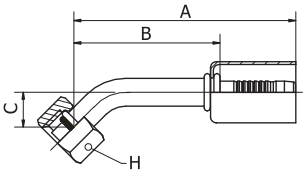
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H
OPC27915-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	70,7	43,5	16,0	19
OPC27915-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	76,7	46,5	16,0	22
OPC27915-08-11	10	- 08	13/32"	1"-14-UNS-2B	82,7	52,5	16,0	29

OPC27916

STRAIGHT O-RING FEMALE WITH LOW PRESSURE VALVE



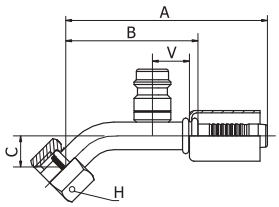
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	V±1	H
OPC27916-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	81,7	51	16,0	27
OPC27916-10-11	13	- 10	1/2"	1"-14-UNS-2B	78,7	48	16,0	29



OPC27940

O-RING FEMALE 45° ELBOW

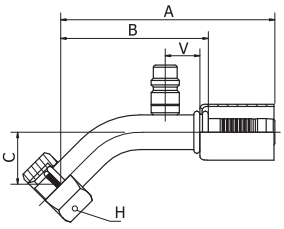
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC27940-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	79,7	52,5	12,5	19
OPC27940-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	87,7	57,5	13,5	22
OPC27940-08-11	10	- 08	13/32"	1"-14-UNS-2B	84,7	54,5	14,0	29
OPC27940-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	98,7	68,0	24,0	27
OPC27940-10-11	13	- 10	1/2"	1"-14-UNS-2B	97,7	67,0	22,0	29
OPC27940-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	98,7	66,7	24,0	27



OPC27945

O-RING FEMALE WITH HIGH PRESSURE VALVE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
OPC27945-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	79,7	52,5	12,5	16,0	19
OPC27945-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	87,7	57,5	13,5	16,0	22
OPC27945-08-11	10	- 08	13/32"	1"-14-UNS-2B	84,7	54,5	14,0	16,0	29



OPC27946

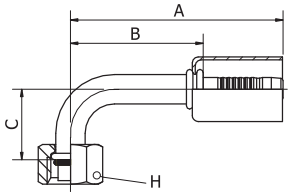
O-RING FEMALE WITH LOW PRESSURE VALVE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
OPC27946-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	98,7	68,0	24,0	16,0	27
OPC27946-10-11	13	- 10	1/2"	1"-14-UNS-2B	97,7	67,0	22,0	16,0	29

SAE J2064 TYPE A

OPC27990

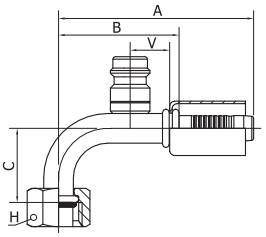
O-RING FEMALE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC27990-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	72,2	45	24,0	19
OPC27990-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	78,7	48,5	30,0	22
OPC27990-08-11	10	- 08	13/32"	1"-14-UNS-2B	77,7	47,5	33,0	29
OPC27990-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	91,7	61,0	46,5	27
OPC27990-10-11	13	- 10	1/2"	1"-14-UNS-2B	92,7	62,0	39,0	29
OPC27990-12-10	16	- 12	5/8"	7/8"-14-UNF-2B	88,7	56,7	45,0	27
OPC27990-12-11	16	- 12	5/8"	1"-14-UNS-2B	92,2	60,2	38,0	29
OPC47990-12-12	16	- 12	5/8"	1.1/16"-14-UNS	102,8	68,0	54,5	32

OPC27995

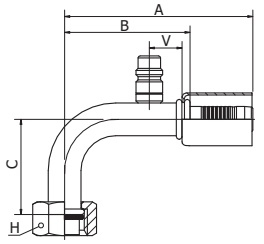
O-RING FEMALE WITH HIGH PRESSURE VALVE 90° ELBOW



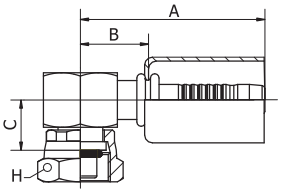
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
OPC27995-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	72,2	45,0	24,0	16,0	19
OPC27995-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	78,8	48,5	30,0	16,0	22
OPC27995-08-11	10	- 08	13/32"	1"-14-UNS-2B	79,2	49,0	32,0	16,0	29

OPC27996

O-RING FEMALE WITH LOW PRESSURE VALVE 90° ELBOW



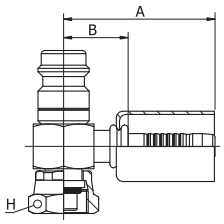
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1	H
OPC27996-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	91,7	61,0	46,5	16,0	27
OPC27996-10-11	13	- 10	1/2"	1"-14-UNS-2B	92,7	62,0	39,0	16,0	29



OPC27980

SHORT VERSION O-RING FEMALE

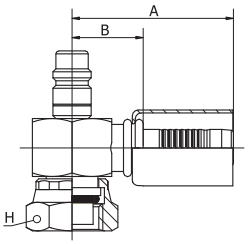
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC27980-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	47,0	17,5	12,9	19
OPC27980-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	52,0	19,0	16,0	22
OPC27980-08-11	10	- 08	13/32"	1"-14-UNS-2B	55,5	22,5	16,4	29
OPC27980-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	55,0	21,5	16,4	27
OPC27980-10-11	13	- 10	1/2"	1"-14-UNS-2B	56,0	22,5	16,4	29
OPC47980-12-11	16	- 12	5/8"	1"-14-UNS-2B	56,3	21,5	24,2	29



OPC27985

SHORT VERSION O-RING FEMALE WITH HIGH PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC27985-06-06	8	- 06	5/16"	5/8"-18-UNF-2B	47,0	17,5	12,9	19
OPC27985-08-08	10	- 08	13/32"	3/4"-16-UNF-2B	52,0	19,0	16,0	22
OPC27985-08-11	10	- 08	13/32"	1"-14-UNS-2B	55,5	22,5	16,4	29



OPC27986

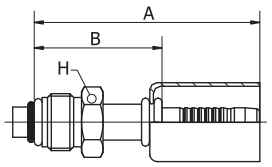
SHORT VERSION O-RING FEMALE WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC27986-10-10	13	- 10	1/2"	7/8"-14-UNF-2B	55,0	21,5	16,4	27
OPC27986-10-11	13	- 10	1/2"	1"-14-UNS-2B	56,0	22,5	16,4	29
OPC47986-12-11	16	- 12	5/8"	1"-14-UNS-2B	56,3	21,5	24,2	29

SAE J2064 TYPE A

OPC18010

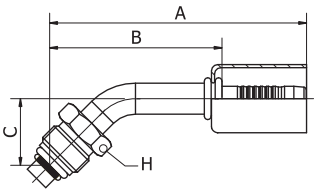
STRAIGHT O-RING MALE



INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	H
OPC18010-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	62,7	35,5	17
OPC18010-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	82,2	52,0	22
OPC18010-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	74,2	43,5	22
OPC18010-12-10	16	- 12	5/8"	7/8"-18-UNS-2A	69,7	37,7	22

OPC18040

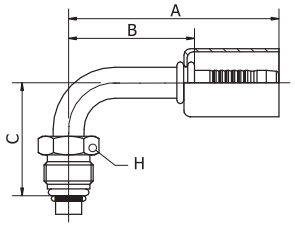
O-RING MALE 45° ELBOW



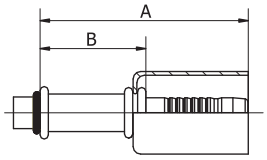
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC18040-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	82,7	55,5	21,5	17
OPC18040-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	96,7	66,5	25,0	22
OPC18040-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	102,2	71,5	30,0	22
OPC18040-12-10	16	- 12	5/8"	7/8"-18-UNS-2A	132,2	100,2	27,0	22

OPC18090

O-RING MALE 90° ELBOW



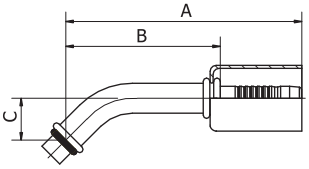
INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	H
OPC18090-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	67,7	40,5	36,5	17
OPC18090-08-08	10	- 08	13/32"	3/4"-18-UNS-2A	78,7	48,5	48,0	22
OPC18090-10-10	13	- 10	1/2"	7/8"-18-UNS-2A	86,7	56,0	54,5	22



OPC27610

STRAIGHT FITTING FOR EXPANSION VALVE

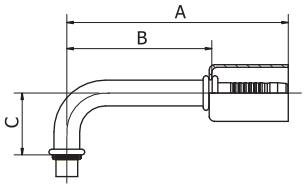
INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	
OPC27610-06-06	8	- 06	5/16"		55,2	28,0	
OPC27610-10-12	13	- 10	1/2"		56,7	26,0	



OPC27640

FITTING FOR EXPANSION VALVE 45° ELBOW

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	C±2
OPC27640-06-06	8	- 06	5/16"		78,7	51,5	14,0
OPC27640-10-12	13	- 10	1/2"		98,7	68,0	18,5
OPC27640-12-12	16	- 12	5/8"		96,2	64,2	18,5



OPC27690

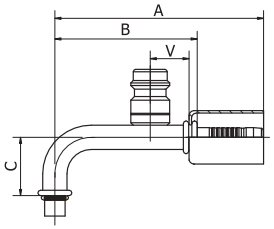
FITTING FOR EXPANSION VALVE 90° ELBOW

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	C±2
OPC27690-06-06	8	- 06	5/16"		85,7	58,5	24,0
OPC27690-10-12	13	- 10	1/2"		94,2	63,5	42,5

SAE J2064 TYPE A

OPC27695

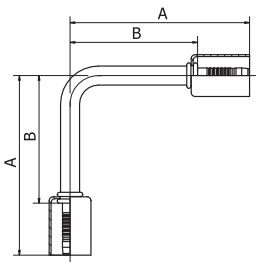
FITTING FOR EXPANSION VALVE
WITH HIGH PRESSURE VALVE 90° ELBOW



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm			
	DN	Dash	Inch		A±2.5	B±2.5	C±2	V±1
OPC27695-06-06	8	- 06	5/16"		85,7	58,5	24,0	16,0

OPC10090

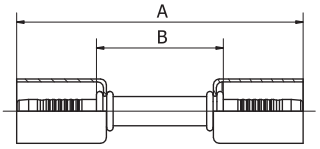
CONNECTION FITTING 90° ELBOW



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	
OPC10090-06-06	8	- 06	5/16"		94,3	67,1	
OPC10090-08-08	10	- 08	13/32"		93,7	63,5	
OPC10090-10-10	13	- 10	1/2"		98,1	67,4	

OPC10010

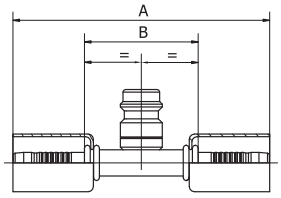
CONNECTION FITTING



INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	
OPC10010-06-06	8	- 06	5/16"		97,4	43,0	
OPC10010-08-08	10	- 08	13/32"		99,4	39,0	
OPC10010-10-10	13	- 10	1/2"		101,4	40,0	
OPC10010-12-12	16	- 12	5/8"		105,4	41,4	

FAST-CRIMP FITTINGS

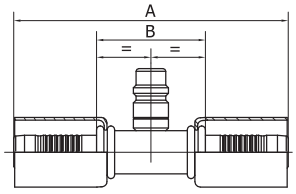
SAE J2064 TYPE A



OPC10015

CONNECTION FITTING WITH HIGH PRESSURE VALVE

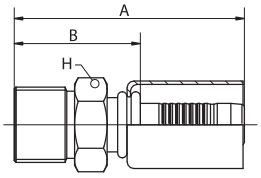
INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	
OPC10015-06-06	8	- 06	5/16"		97,4	43,0	
OPC10015-08-08	10	- 08	13/32"		94,0	33,6	



OPC10016

CONNECTION FITTING WITH LOW PRESSURE VALVE

INSERT CODE ONLY	HOSE SIZE				DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	
OPC10016-10-10	13	- 10	1/2"		96,0	34,6	
OPC10016-12-12	16	- 12	5/8"		117,9	53,9	



OPC17910

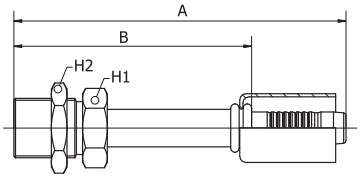
STRAIGHT MALE WITH O-RING SEAT

INSERT CODE ONLY	HOSE SIZE			THREAD	DIMENSIONS mm		
	DN	Dash	Inch		A±2.5	B±2.5	H
OPC17910-06-06	8	- 06	5/16"	5/8"-18-UNF-2A	56,0	28,5	17
OPC17910-10-10	13	- 10	1/2"	7/8"-14-UNF-2A	68,3	33,8	24

SAE J2064 TYPE A

OPC17910...W

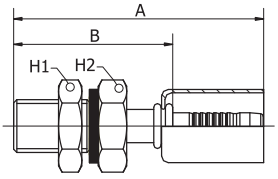
STRAIGHT MALE WITH O-RING SEAT WITH COUNTER NUT



PART. REF.	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	H1	H2
OPC17910-08-08W25	10	- 08	13/32"	3/4"-16-UNF-2A	106,2	76,0	22	25

OPC17910...W...Q

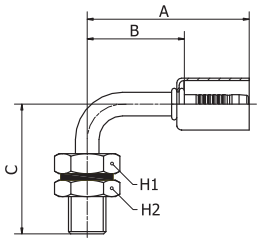
STRAIGHT MALE WITH O-RING SEAT WITH COUNTER NUT AND Q-RING



PART. REF.	HOSE SIZE			THREAD	DIMENSIONS mm			
	DN	Dash	Inch	T	A±2.5	B±2.5	H1	H2
OPC17910-06-06W24Q	8	- 06	5/16"	5/8"-18-UNF-2A	75,2	48,0	24	24
OPC17910-10-10W29Q	13	- 10	1/2"	7/8"-14-UNF-2A	82,7	52,0	29	29

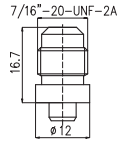
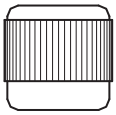
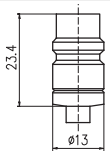
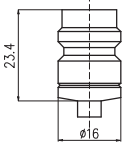
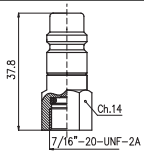
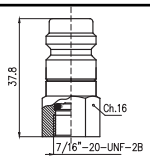
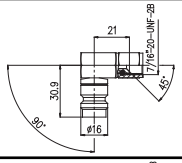
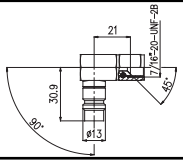
OPC17990...W...Q

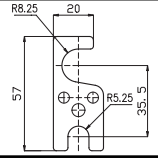
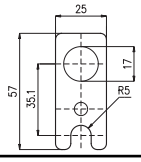
MALE WITH O-RING SEAT WITH COUNTER NUT AND Q-RING 90° ELBOW



PART. REF.	HOSE SIZE			THREAD	DIMENSIONS mm				
	DN	Dash	Inch	T	A±2.5	B±2.5	C±21	H1	H2
OPC17990-06-06W24Q	8	- 06	5/16"	5/8"-18-UNF-2A	68,4	41,2	55,0	24	24
OPC17990-10-10W30Q	13	- 10	1/2"	7/8"-14-UNF-2A	85,4	54,7	64,0	29	30

ACCESSORIES

CODE	VALVE TYPE	CHARACTERISTICS	VALVE CORE	CAP
9000984		**CHARGE VALVE** - 1/4" SAE FOR R134A	 9001188	 HP 9001186 LP 9001187 1/4 SAE CHARGE VALVE 9001210
9000981		**LOW** PRESSURE CHARGE VALVE FOR R134A		
9000980		**HIGH** PRESSURE CHARGE VALVE FOR R134A		
9000983		**LOW** PRESSURE VALVE ADAPTER		
9000982		**HIGH** PRESSURE VALVE ADAPTER		
1003326		**90° LOW** PRESSURE VALVE ADAPTER		
1004323		**90° HIGH** PRESSURE VALVE ADAPTER		

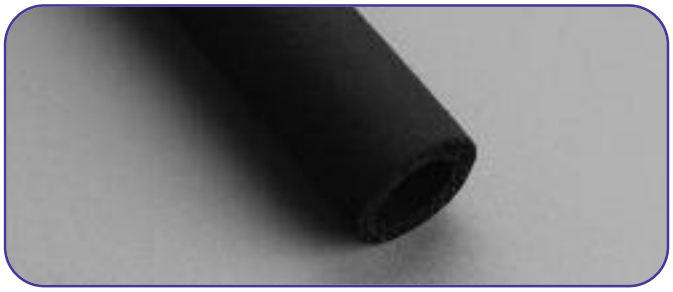
CODE	PLATE	CHARACTERISTICS
9001181		**PLATE** TO FIX THE TUBE TO THE EXPANSION VALVE
9001182		**PLATE** TO FIX THE TUBE TO THE EXPANSION VALVE

ACCESSORIES

ELASTOMERIC INSULATING SLEEVE

CODE	DESCRIPTION	I.D.	WALL THICKNESS
9001132	ARMAFLEX D18X6	18,0	6,0
9001137	ARMAFLEX D28X9	28,0	9,0
9001140	ARMAFLEX D35X9	35,0	9,0
9001141	ARMAFLEX D42X9	42,0	9,0

FURTHER DIMENSIONS AVAILABLE ON REQUEST



COMPOSITION: Elastomeric foam compounded by synthetic rubber MAIN APPLICATION: Protection to avoid condensation for refrigeration and air conditioning system TECHNICAL DATA: Temperaure resistance -40°C - +105°C

CORRUGATED TUBE

CODE	DESCRIPTION	I.D.	WALL THICKNESS
2009051	DN17 SLITTED	16,8	1,8
2007947	DN19 SLITTED	19,4	2,0
2008438	DN22 SLITTED	21,8	1,7
2009064	DN23 SLITTED	23,7	2,0

FURTHER DIMENSIONS AVAILABLE ON REQUEST



COMPOSITION: Modified polypropilen MAIN APPLICATION: Abrasion resistance

SLEEVE FOR PROTECTION FROM RADIANT HEAT

CODE	DESCRIPTION	I.D.	WALL THICKNESS
2001265	WEST-SR-D20	20,0	1,4
2001266	WEST-SR-D24	24,5	1,4
9001267	WEST-SR-D26	26,5	1,5
9007095	WEST-SR-D28	28,0	1,5
9007156	WEST-SR-D30	30,0	1,6
9007096	WEST-SR-D32	32,0	1,6
9007154	WEST-SR-D34	34,0	1,6

FURTHER DIMENSIONS AVAILABLE ON REQUEST



COMPOSITION: Inner layer: glassfabbric material laminated on aluminium - Outer layer: aluminium alloy
MAIN APPLICATION: Protection against heat radiation sources for A/C hose assemblies TECHNICAL DATA: Temperaure resistance -40°C - +250°C

PLASTIC PROTECTIVE COIL SPRING

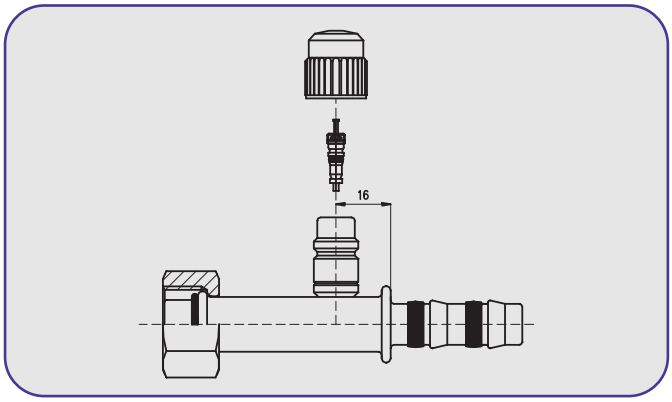
CODE	DESCRIPTION	I.D.	WALL THICKNESS
JP12B03016I099	HT PROTECTION SPRING DN16	16,0	1,8
JP12B03019I099	HT PROTECTION SPRING DN19	19,0	2,3

FURTHER DIMENSIONS AVAILABLE ON REQUEST

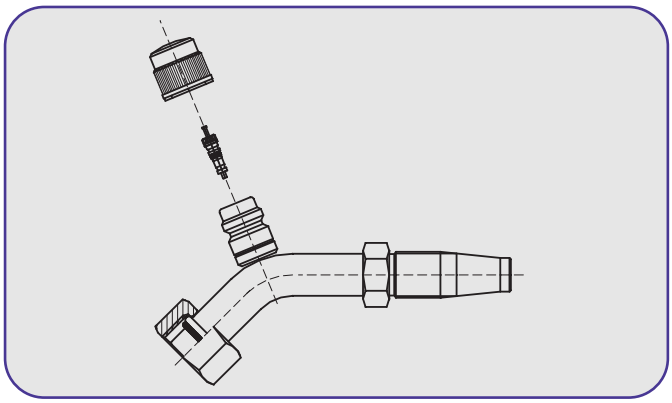


COMPOSITION: Black polyammide, rounded profile MAIN APPLICATION: Hose abrasion protection TECHNICAL DATA: Service Temperaure range -40°C - +120°C

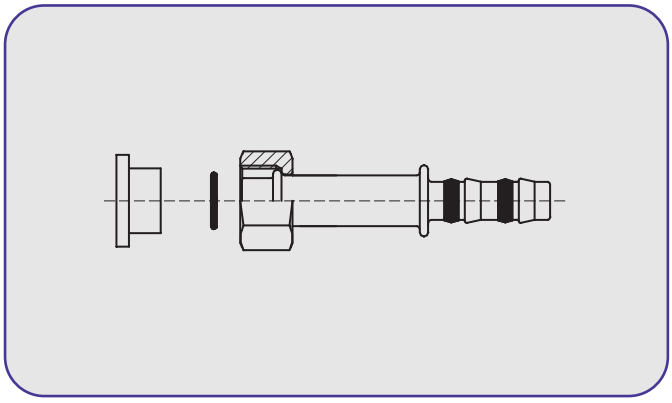
SPECIAL FEATURES



All fittings may be supplied with a charge valve equipped with cap and core positioned at 16 mm.



Different distances according to customer's request are feasible.



All fittings are equipped with protection cap and (where needed) a green HNBR O-ring.

SALES TERMS & CONDITIONS

ALL GOODS AND SERVICES PROVIDED BY MANULI FLUICONNECTO ARE FURNISHED ONLY ON THE TERMS AND CONDITIONS STATED BELOW:

1. Validity and right of variation.
These standard terms and conditions of sales (referred to below as Conditions) apply to the relationship involving the supply of products (referred to below as Products) by Manuli Fluiconnecto Companies to professional operators or end-users (referred to below as Buyer).
Manuli Fluiconnecto does hereby reserve the right to add to, amend or vary the Conditions as herein set out, by including such additions, variations or modifications to the quotation or in any written correspondence addressed to the Buyer.

2. Terms of payment.
Credits shall be granted at Manuli Fluiconnecto's absolute discretion and the following terms of payment shall then apply.
a. Payment at Net Invoice Value is due no later than the due date indicated in the invoice;
b. If the Buyer fails to make payment in the time and manner specified by Manuli Fluiconnecto or becomes insolvent or has a receiver appointed or passes a resolution for winding up, Fluiconnecto may suspend, at its option, further deliveries;
c. In case of default in payment by the date indicated on the invoice and in addition to the other remedies permitted under the applicable law and these Conditions, Manuli Fluiconnecto reserves the right to charge interest, without prior notice, at a rate equal to one and a half times the legal interest rate;
d. In event Manuli Fluiconnecto does not expressly confirm its willingness to apply the terms of payment referred in this section, the Products shall be paid by the Buyer, by means of cash, check, credit card on delivery or an irrevocable letter of credit confirmed by a primary bank accepted by Manuli Fluiconnecto and cashable against the presentation of the delivery documents and the relevant invoice. Such letter of credit must be received by Manuli Fluiconnecto together with the Buyer's Order.

3. Terms of delivery.
The delivery of the Products shall be EXW (Incoterms 2000).

4. Orders' acceptance and Manuli Fluiconnecto's disclaimers of liability
for any provided information. Any order from the Buyer shall be binding for Manuli Fluiconnecto, only when accepted in writing by Manuli Fluiconnecto itself.
Verbal, telephoned or faxed orders and any modifications to orders must be confirmed in writing by the Buyer, otherwise Manuli Fluiconnecto accepts no responsibility for errors or consequent misunderstandings. Catalogues, price lists or other advertising matters are only an indication of the type of products and no prices or other particulars contained herein shall be binding for Manuli Fluiconnecto.
All information given in price lists and catalogues or any literature are supplied by Manuli Fluiconnecto in good faith; however, whilst every effort has been made to ensure that the information is correct, Manuli Fluiconnecto does not accept any responsibility for errors which may have inadvertently been made.

5. No liability for late delivery.
Manuli Fluiconnecto shall endeavour to complete the agreement and/or deliver the Products within the time agreed (if any) but it shall not be liable for any loss or damage of any kind whatsoever caused directly or indirectly by any delay in the completion of the agreement or delivery of the Products.

6. Acceptance of the Products. All claims for transit damages, loss or shortage of Products must be submitted by the Buyer to Manuli Fluiconnecto, in writing, within 10 (ten) working days from the date in which the Buyer received the forwarded Products.
In absence of claims within these time limits, the Products shall be deemed to have been properly delivered.

7. Compliance with specifications and terms of warranty.
Manuli Fluiconnecto does hereby represent and warrant that the Product shall comply with the technical specifications forwarded by Manuli Fluiconnecto itself to the Buyer with the written acceptance of the Buyer's order. Manuli Fluiconnecto further represents and warrants that the Products are free of defects for a period equal to twelve (12) months from the date of delivery or in accordance with and subject to the limitations of liability provided for by the Products' warranty manuals actually in force in which the Products are delivered to the Buyer.
Such warranty is given in lieu of any additional warranty on the merchantability, quality and fitness for purpose. Consequently, except in case it is proven the Manuli Fluiconnecto's gross negligence, Manuli Fluiconnecto shall not be liable for any direct or indirect damage or loss of profit due to the use, the inability to use, or the incorporation of the Products in other products. Furthermore, under no circumstances Manuli Fluiconnecto shall be liable for wrong choice, bad use or normal wear of the Products.

8. Specific terms and conditions of sale. In the event that the Buyer objects to the inclusion in any agreement with Manuli Fluiconnecto of any of the excluding or exempting or indemnity terms contained herein, such objections must be brought to the attention of Fluiconnecto, in writing, before conclusion of any such agreement so that if (which shall be within the Manuli Fluiconnecto's entire discretion) Manuli Fluiconnecto agrees to the deletion or modification of any such term, appropriate increases in the price of Products to be supplied under such agreement may be agreed to reflect any increase in risks and obligations which Manuli Fluiconnecto may thus agree or bear.

9. Applicable law and settlement of disputes. All agreements with Manuli Fluiconnecto shall be deemed, construed and interpreted in accordance with the law of the country where registered office of Manuli Fluiconnecto is located. Any dispute shall be referred to the Court of the city where registered office of Manuli Fluiconnecto is located, provided however that Manuli Fluiconnecto, at its own discretion, may elect to bring an action against the Buyer before any court of competent jurisdiction. The United Nations Conventions for the International Sales of Goods does not apply to any supply of Products made hereunder by Manuli Fluiconnecto to the Buyer.

NOTE: In case of dispute, only the original English text will be used, the translation being given for guidance only.

NOTES

All dimension given in this catalogue can be modified at any moment without notice.

No responsibility is undertaken when our products are used incorrectly or wrongly fitted.

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