GOMAX®

Air conditioning and refrigeration **thermoplastic hoses and fittings.**

ZERO
PLASTIC VIBRATION ABSORBER

INFINITY
PLASTIC CONVOLUTED HOSE

QUADRA
PLASTIC CAPILLARY HOSE

● general catalogue

GOMAX®

a brand of

TRANSFER OIL

Transfer Oil

Transfer Oil first made its entrance into the **flexible thermoplastic hose** market in 1979, quickly reaching a **leadership position in Europe through the use of avant-garde research and production tools**.

In fact in 1993 it was the first company in its field to obtain the **ISO 9001 certification**. Transfer Oil's role in the international marketplace grew rapidly, and the establishment of the **Gomax** line gave way to the separate division **dedicated specifically to representing refrigeration and air conditioning products**.

Transfer Oil teamed up with a **number of partners** facilitating the production of the first flexible thermoplastic hoses, replacing the traditional, metal pipes.

In 1995 the international brand **Gomax** was officially launched, including the **Zero**, **Infinity** and **Quadra** lines.

ZERO
PLASTIC VIBRATION ABSORBER

INFINITY
PLASTIC CONVOLUTED HOSE

QUADRA
PLASTIC CAPILLARY HOSE

Quality, research and **development**

Thanks to the decision to follow the **path of research and quality innovation** Transfer Oil offers avant-garde solutions to today's international markets.

Transfer Oil ensures quality by using specific equipment to check the incoming materials in its sophisticated laboratories. The laboratories carry out viscosity index analyses needed to forecast the behaviour of the materials during processing, as well as granular humidity tests.

The careful **attention to quality** control follows the product throughout all processing phases, thanks to the **hard work of the Test Laboratory**.

The tests carried out on the finished products are divided into the following: destructive tests, to guarantee the mechanical characteristics such as bursting and assembling tests, and other controls to measure the gas seal, which subject the products to a higher working pressure than that for which they were designed for in order to guarantee maximum reliability.

Transfer Oil's collaboration with Milan Polytechnic and the technicians from Perkin Elmer have assured even further progress in the quality analysis and determination of gas permeability, thanks to the combined use of FT-IR spectrophotometer and a custom-made software, which records quantitative information.

Noise level: Zero. Waste: Zero. Nothing but advantages.

Zero is the flexible system for air conditioning and refrigeration.

Thermoplastic and vibration-proof, it competes with all of the traditional systems.

It is equipped with brazing fittings with heat dissipator.

ZERO

PLASTIC VIBRATION ABSORBER

Silent, resistant, reliable.

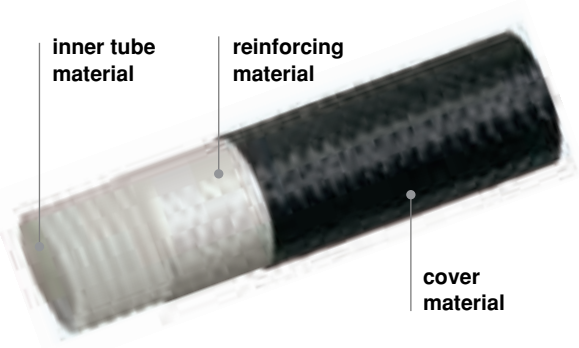
Zero problems in air conditioning and refrigeration.

Why zero?

- The constant research activity carried out by Transfer Oil has allowed the company to identify a new product, whose flexibility guarantees its **silence and reliability over time**.
- The **ZERO vibration-free thermoplastic system** does consider itself a part of the league above the traditional anti-vibration systems. Laboratory tests confirm that **ZERO reduces vibrations** far more than traditional systems.
- **ZERO's flexibility** has also been shown to be a great advantage, avoiding breakages and consequent gas leaks, which are often found in traditional systems.

The reinforcing layers are made of stress-resistant polyester fibre, while the external cover is made of anti-abrasion materials. ZERO can be applied to refrigeration and air conditioning systems and is compatible with cooling fluids in the HCFC, HFC and hydrocarbon families.

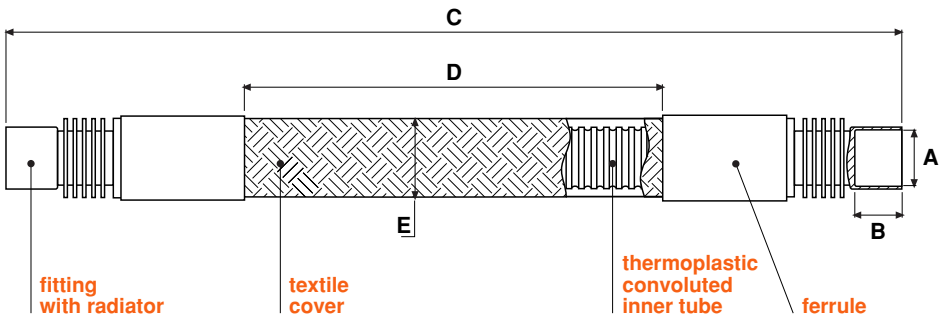
The new ZERO system is now able to support the CO_2 refrigerant and the R410 fluid with a maximum working pressure of 50 bar.



vibration absorber materials		
inner tube material	**reinforcing material**	**cover material**
thermoplastic polymer	polyester braid of high tensile strength with high modulus	black polyester braid of high tensile strength, abrasion resistant

The tests carried out by Transfer Oil involve the comparison of two systems: Zero and the traditional metal anti-vibration system. Under equal conditions of disturbing acoustic and sub-acoustic frequencies, **ZERO is much better at absorbing vibrations than other types of anti-vibration systems**.

Technical data



zero vibration absorber **with brazing metric fitting**

part number	DN	A	B	C	D	E	weight
		for tube O.D. (mm)	mm	mm	mm	mm	kg
C9M12	15	12	12	332	170	24	0,28
C9M16	15	16	15	340	170	24	0,29
C9M18	21	18	17	397	200	31	0,58
C9M22	21	22	19	401	200	31	0,58
C9M28	28	28	24	499	260	39	0,93
C9M35	38	35	30	559	260	49	1,68
C9M42	38	42	38	577	260	49	1,73
C9M54	54	54	48	635	260	69	3,44

zero vibration absorber **with brazing inch fitting**

part number	DN	A	B	C	D	E	weight
		for tube O.D. (inches)	mm	mm	mm	mm	kg
C9I12	15	1/2	12	332	170	24	0,28
C9I16	15	5/8	15	340	170	24	0,29
C9I18	21	3/4	17	397	200	31	0,58
C9I22	21	7/8	19	401	200	31	0,58
C9I28	28	1+1/8	24	499	260	39	0,93
C9I35	38	1+3/8	30	559	260	49	1,68
C9I42	38	1+5/8	38	577	260	49	1,73
C9I54	54	2+1/8	48	635	260	69	3,44

Classification of the Zero vibration absorber range according to Directive 97/23/EC

DN	classification
15-21-28	paragraph 3, article 3
38-54	category I (CE marking)

ZERO

The brazing fitting

The ZERO vibration absorber is fitted with a brazing fitting patented by Transfer Oil (patent no.1326357).

The couplings are pre-set for heat dissipation, thanks to the radiator, which facilitates and simplifies the brazing operation eliminating the need for auxiliary cooling systems.

The lateral fins, which vary according to the hose diameter, are used to dissipate the heat before it damages the thermoplastic hose the fitting is connected to.

Tests show that under normal environmental and time conditions, in the brazing phase, they never exceed 90°C at the point of coupling between the hose and the fitting.

Performance and **conditions of use**

fittings in the zero vibration absorber range

fitting type	material used	surface treatment	coupling process to be used for installation	filler material for installation
brazing fitting with heat dissipator radiator (Patent no.1326357 released 21/01/05)	drawn steel	zinc plating	hard brazing	silver alloy with low melting point

performance and **conditions of use**

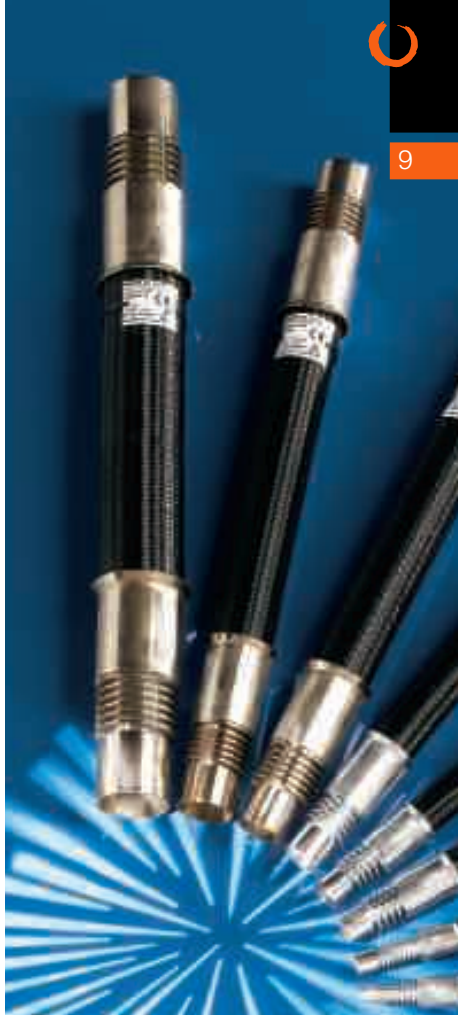
PS (maximum allowable pressure)			minimum bursting pressure			TS (minimum-maximum allowable temperature)	
bar	MPa	psi	bar	MPa	psi	min °C	max °C
50	5,0	724	250	25	3620	-45 °C	+130 °C

permitted fluids

type of gas	type of oil
HFC (R134a, R404A, R407A, R407B, R407C, R410A, R507)	polyester based
HCFC (R22)	mineral oils
CO_2	polyester based

Pressure drop and **permeability**

DN	pressure drop (bar/m)				permeability at 100 °C (g/year)	
	10 m^3/h	20 m^3/h	50 m^3/h	100 m^3/h	R134a	R407C
15	0,0054	0,0217			9	12
21	0,0012	0,0047			14	19
28		0,0015	0,009		23	32
38			0,002	0,0079	20	38
54			0,0003	0,0014	29	40



Pressure drop

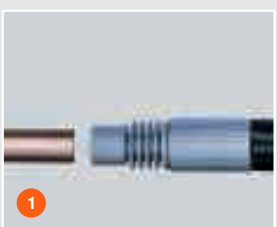
The values refer to actual tests performed using air.

Permeability

The permeability value provides an indication of the maximum leakage tested at constant conditions of use of the hose at 100°C for an entire year.
The real permeability value must therefore be measured considering the actual working time and temperatures to which the hose is subjected, keeping in mind that significant and detectable values are obtained with temperatures of more than 50°C and that the permeability increases proportionally to the temperature. The permeability values obtained at 100°C for the GOMAX hose range, of approximately 1 kg/m^2/year, are much lower than those set in the standard UNI EN 1736, which foresees a maximum permeability value of 5 kg/m^2/year.

Brazing fitting assembly instructions

Once the copper tube of suitable diameter has been fitted in the brazing fitting, heat the two ends until the filler material begins to melt.
Continue the brazing around the whole circumference of the brazing fitting.



We are exploring new boundaries. Infinite ones.

Infinity is the range of assembled hoses for air conditioning and refrigeration, cut to the lengths that fit your precise needs.

It is the flexible thermoplastic system that fits any circuit.

It is assembled with two types of combinable fittings: brazing fitting with heat dissipator and Rotalock fitting.

INFINITY

PLASTIC CONVOLUTED HOSE

Silent, resistant, flexible.

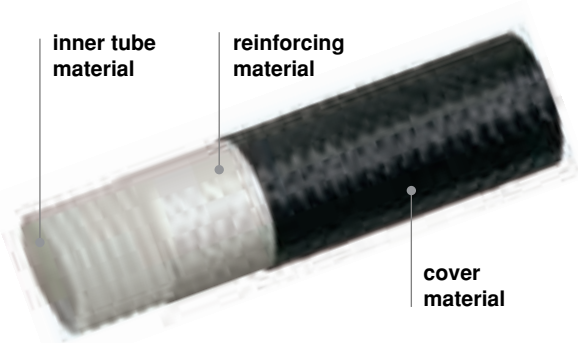
Infinite advantages for air conditioning and refrigeration.

Why infinity?

- The INFINITY system offers an absolutely innovative solution for air conditioning and refrigeration systems.
- With **just one flexible piece** you can now connect the compressor directly to the condenser or the evaporator **without any intermediate solderings**.
- INFINITY is **cut exactly to the measurement that fits your needs**, cutting costs and assembly times. Its flexibility ensures simple installation and facilitates the design process.
- By eliminating welding jobs **the risk of breakage is reduced** to assure longer life spans and unmatched soundproofing.

The reinforcing layers are made of stress-resistant polyester fibre. The external cover is made of anti-abrasion materials.
INFINITY can be applied to refrigeration and air conditioning systems and is compatible with cooling fluids in the HCFC, HFC and hydrocarbon families.

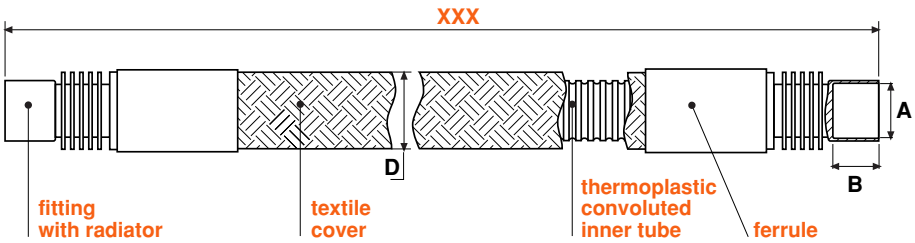
The new INFINITY system is now able to support the CO_2 refrigerant and the R410 fluid with a maximum working pressure of 50 bar.



infinity hose materials		
inner tube material	**reinforcing material**	**cover material**
thermoplastic polymer	polyester braid of high tensile strength with high modulus	black polyester braid of high tensile strength, abrasion resistant

INFINITY is supplied with either brazing fittings or Rotalock screw fittings. Design and manufacturing of the hose are in compliance with DIR 97/23/EC “Pressure equipment”.

Technical data



infinity hose **with brazing metric fitting**

part number	DN	A	B	D	minimum bending radius
		for tube O.D. (mm)	mm	mm	mm
CA1XXX	15	12	12	24	15
CA2XXX	15	16	15	24	15
CA3XXX	21	18	17	31	30
CA4XXX	21	22	19	31	30
CA5XXX	28	28	24	39	40
CA6XXX	38	35	30	49	80
CA7XXX	38	42	38	49	80
CA8XXX	54	54	48	69	110

infinity hose **with brazing inch fitting**

part number	DN	A	B	D	minimum bending radius
		for tube O.D. (inches)	mm	mm	mm
CARXXX	15	1/2	12	24	15
CASXXX	15	5/8	15	24	15
CATXXX	21	3/4	17	31	30
CAUXXX	21	7/8	19	31	30
CAVXXX	28	1+1/8	24	39	40
CAWXXX	38	1+3/8	30	49	80
CAXXXX	38	1+5/8	38	49	80
CAYXXX	54	2+1/8	48	69	110

XXX = total length of INFINITY hose in cm (multiple lengths of 10 cm)

INFINITY

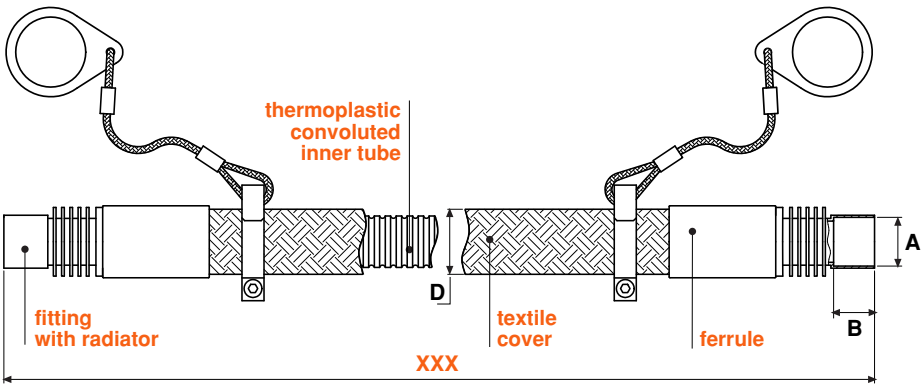
The brazing fitting

INFINITY convoluted hose for cooling systems is equipped with a brazing fitting patented by Transfer Oil (patent no.1326357).

The fitting couplings are pre-set for heat dissipation, thanks to the radiator, which facilitates and simplifies the brazing operation, eliminating the need for supplementary auxiliary cooling systems.
The lateral fins, which vary according to the hose diameter, are used to dissipate the heat before it damages the thermoplastic hose the fitting is connected to.

Tests show that under normal environmental and time conditions, they never exceed 90°C at the point of coupling between the hose and the fitting.

Technical data



infinity hose **with brazing metric fitting**
(with safety clamp)

part number	DN	A	B	D	minimum bending radius
		for tube O.D. (mm)	mm	mm	mm
CB1XXX	15	12	12	24	15
CB2XXX	15	16	15	24	15
CB3XXX	21	18	17	31	30
CB4XXX	21	22	19	31	30
CB5XXX	28	28	24	39	40
CB6XXX	38	35	30	49	80
CB7XXX	38	42	38	49	80
CB8XXX	54	54	48	69	110

infinity hose **with brazing inch fitting**
(with safety clamp)

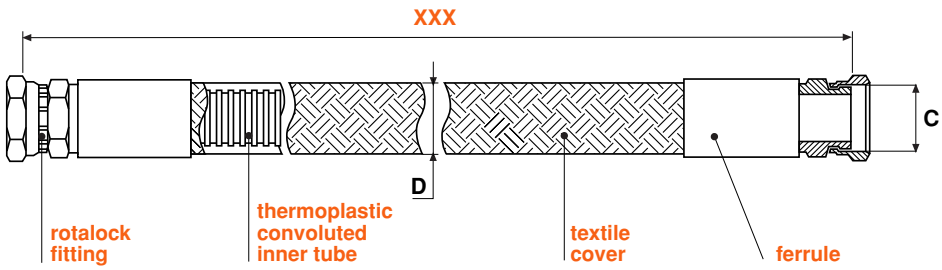
part number	DN	A	B	D	minimum bending radius
		for tube O.D. (inches)	mm	mm	mm
CBRXXX	15	1/2	12	24	15
CBSXXX	15	5/8	15	24	15
CBTXXX	21	3/4	17	31	30
CBUXXX	21	7/8	19	31	30
CBVXXX	28	1+1/8	24	39	40
CBWXXX	38	1+3/8	30	49	80
CBXXXX	38	1+5/8	38	49	80
CBYXXX	54	2+1/8	48	69	110

XXX = total length of INFINITY hose in cm (multiple lengths of 10 cm)

Brazing fitting assembly instructions

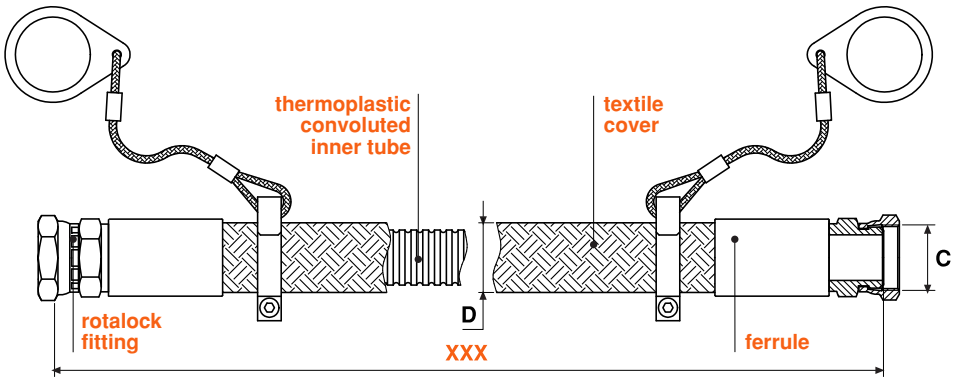
Once the copper tube of suitable diameter has been fitted in the brazing fitting, heat the two ends until the filler material begins to melt.
Continue the brazing around the whole circumference of the brazing fitting.

Technical data



infinity hose **with Rotalock fitting**

part number	DN	C	D	minimum bending radius
		ROTALOCK (inches)	mm	mm
CAIXXX	15	1	24	15
CAKXXX	21	1+1/4	31	30
CAMXXX	28	1+3/4	39	40
CANXXX	38	1+3/4	49	80
CAQXXX	54	2+1/4	69	110



infinity hose **with Rotalock fitting** (with safety clamp)

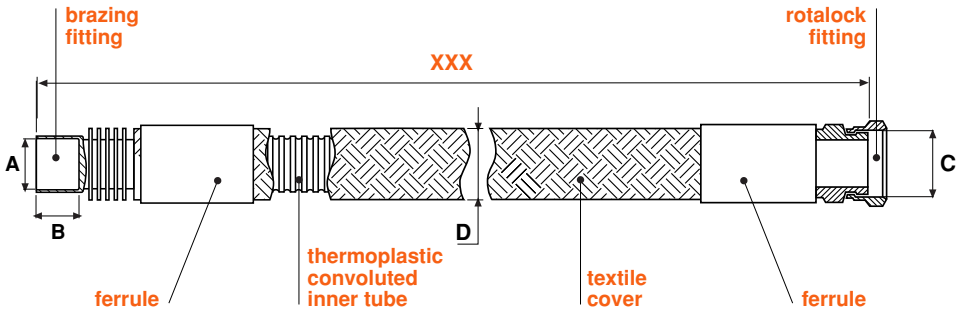
part number	DN	C	D	minimum bending radius
		ROTALOCK (inches)	mm	mm
CBIXXX	15	1	24	15
CBKXXX	21	1+1/4	31	30
CBMXXX	28	1+3/4	39	40
CBNXXX	38	1+3/4	49	80
CBQXXX	54	2+1/4	69	110

INFINITY

Rotalock fitting assembly instructions

Position the fitting near the male coupling. Screw the fitting thread onto the male fitting, clockwise by hand for the first few turns.
Screw on fully in a clockwise direction using spanners and counter spanners.

Technical data



infinity hose **with Rotalock fitting** and **brazing metric fitting**

part number	DN	A	B	C	D	minimum bending radius
		for tube O.D. (mm)	mm	inches	mm	mm
CCRXXX	15	12	12	1	24	15
CCSXXX	15	16	15	1	24	15
CCTXXX	21	18	17	1+1/4	31	30
CCUXXX	21	22	19	1+1/4	31	30
CCVXXX	28	28	24	1+3/4	39	40
CCWXXX	38	35	30	1+3/4	49	80
CCXXXX	38	42	38	1+3/4	49	80
CCYXXX	54	54	48	2+1/4	69	110

infinity hose **with Rotalock fitting** and **brazing inch fitting**

part number	DN	A	B	C	D	minimum bending radius
		for tube O.D. (inches)	mm	inches	mm	mm
CC1XXX	15	1/2	12	1	24	15
CC2XXX	15	5/8	15	1	24	15
CC3XXX	21	3/4	17	1+1/4	31	30
CC4XXX	21	7/8	19	1+1/4	31	30
CC5XXX	28	1+1/8	24	1+3/4	39	40
CC6XXX	38	1+3/8	30	1+3/4	49	80
CC7XXX	38	1+5/8	38	1+3/4	49	80
CC8XXX	54	2+1/8	48	2+1/4	69	110

XXX = total length of the INFINITY hose in cm (multiple lengths of 10 cm)

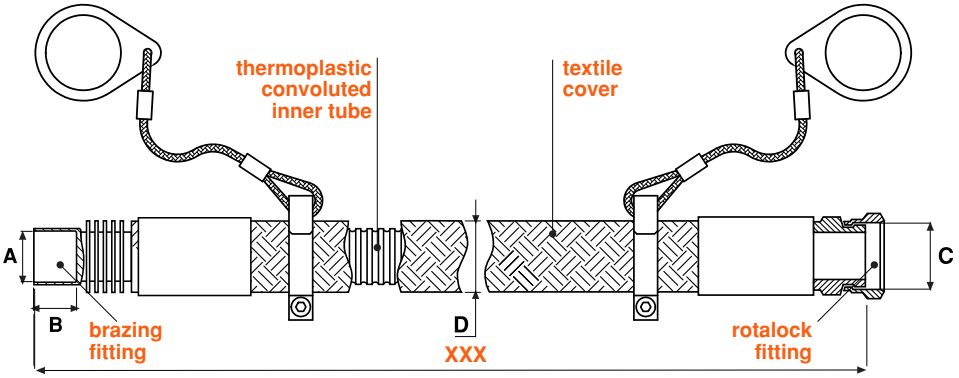
Double brazing/rotalock fitting

Today, Gomax offers yet another type of Infinity hose: Infinity hoses with brazing fitting on one end and rotalock fitting on the other.
Infinity has widened its range of assembled hoses to offer even more flexible products, able to satisfy the needs of all kinds of customers.

The double brazing/rotalock fitting can be used to connect different types of components in simple, convenient manner, without ever having to modify the fittings themselves.

The brazing/rotalock fitting completes the possible fitting combinations available, making Infinity a complete and perfectly adaptable product.

Technical data



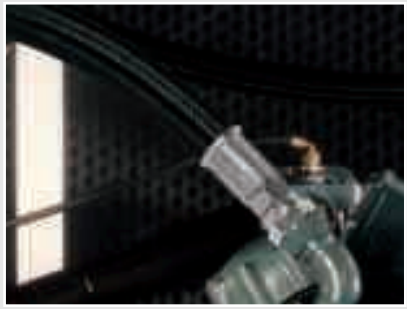
infinity hose **with Rotalock fitting** and **brazing metric fitting** (with safety clamp)

part number	DN	A	B	C	D	minimum bending radius
		for tube O.D. (mm)	mm	inches	mm	mm
CDAXXX	15	12	12	1	24	15
CDBXXX	15	16	15	1	24	15
CDCXXX	21	18	17	1+1/4	31	30
CDDXXX	21	22	19	1+1/4	31	30
CDEXXX	28	28	24	1+3/4	39	40
CDFXXX	38	35	30	1+3/4	49	80
CDGXXX	38	42	38	1+3/4	49	80
CDHXXX	54	54	48	2+1/4	69	110

infinity hose **with Rotalock fitting** and **brazing inch fitting** (with safety clamp)

part number	DN	A	B	C	D	minimum bending radius
		for tube O.D. (inches)	mm	inches	mm	mm
CDIXXX	15	1/2	12	1	24	15
CDJXXX	15	5/8	15	1	24	15
CDKXXX	21	3/4	17	1+1/4	31	30
CDLXXX	21	7/8	19	1+1/4	31	30
CDMXXX	28	1+1/8	24	1+3/4	39	40
CDNXXX	38	1+3/8	30	1+3/4	49	80
CDPXXX	38	1+5/8	38	1+3/4	49	80
CDQXXX	54	2+1/8	48	2+1/4	69	110

XXX = total length of the INFINITY hose in cm (multiple lengths of 10 cm)



Performance and conditions of use

infinity hose fittings

fitting type	material used	surface treatment	coupling procedure to use for installation	filler material for installation
Rotalock	drawn steel	zinc plating	screw-on	none
brazing fitting with heat dissipator radiator (Patent no.1326357 released 21/01/05)	drawn steel	zinc plating	strong brazing	silver alloy with low melting point

performance and condition of use

PS (maximum allowable pressure)			minimum bursting pressure			TS (minimum-maximum allowable temperature)	
bar	MPa	psi	bar	MPa	psi	min °C	max °C
50	5,0	724	250	25	3620	-45 °C	+130 °C

usable fluids

type of gas	type of oil
HFC (R134a, R404A, R407A, R407B, R407C, R410A, R507)	polyol ester
HCFC (R22)	mineral oils
CO_2	polyol ester

Pressure drop and permeability

DN	pressure drop (bar/m)				permeability at 100 °C (g/year)	
	10 m^3/h	20 m^3/h	50 m^3/h	100 m^3/h	R134a	R407C
15	0,0318	0,1275			52	73
21	0,0059	0,0237			70	97
28		0,0056	0,0348		89	123
38			0,0076	0,0304	78	110
54			0,0013	0,0053	112	156

Classification of Infinity hoses according to the Directive 97/23/EC

DN	classification
15 21-28	paragraph 3 article 3
38-54	category I (CE marking)

Pressure drop

The values refer to measurements performed by use of air on 1 m length of INFINITY hose.

Permeability

The permeability value provides an indication of the maximum leakage at constant conditions of use of the hose at 100°C for a whole year. The real permeability value must therefore be measured considering the effective working times and temperatures to which the hose is subjected, remembering that significant and detectable values are obtained with temperatures of more than 50°C and that the permeability increases proportionally to the temperature. The permeability values obtained at 100°C for the GOMAX hose range, of approximately 1 kg/m^2/year, are much lower than those set in the standard UNI EN 1736, which foresees a maximum permeability value of 5 kg/m^2/year.

The difference that makes the difference.

Quadra thermoplastic capillary hoses are designed for high and low pressure circuits.

The system is composed of now smaller-than-ever, compact hoses available in two colours making the two circuits easily distinguishable and facilitating the installation process.

QUADRA
PLASTIC CAPILLARY HOSE

Capillary, coloured, versatile.
Simple to install, zero risk of error.

Why quadra?

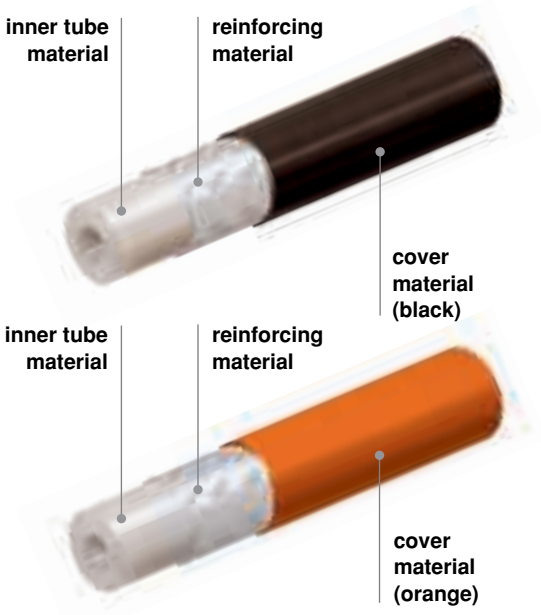
- The range of QUADRA hoses and fittings offers smaller-than-ever, compact hoses and comes in **two colours allowing the operator to distinguish between the low and high pressure circuits**.

- QUADRA DN2 and QUADRA DN4 are available in orange or black with white brandings. **The dual colouring makes it possible to save time and drastically reduce the possibility of errors, both in the initial installation and during any maintenance work**.

- To optimise functionality, Transfer Oil recommends the standardisation of use, choosing **orange for the high pressure circuit and black for the low pressure one**.

The materials used to build the hose and fittings make both the DN2 and DN4 QUADRA capillary hoses compatible with all refrigerant fluids in the HCFC, HFC and hydrocarbon families.

The new QUADRA system is now able to support the CO_2 refrigerant and the R410 fluid with a maximum working pressure of 60 bar.



quadra hose materials		
inner tube material	**reinforcing material**	**materiale rivestimento**
thermoplastic polymer	high tensile strength polyester braid with high modulus	thermoplastic polymer

The new Quadra packages

Born to make life easier for the retailer and the customer alike, the **new Quadra packages** widen the range, making it even more functional and adaptable to any sales context and any kind of use.

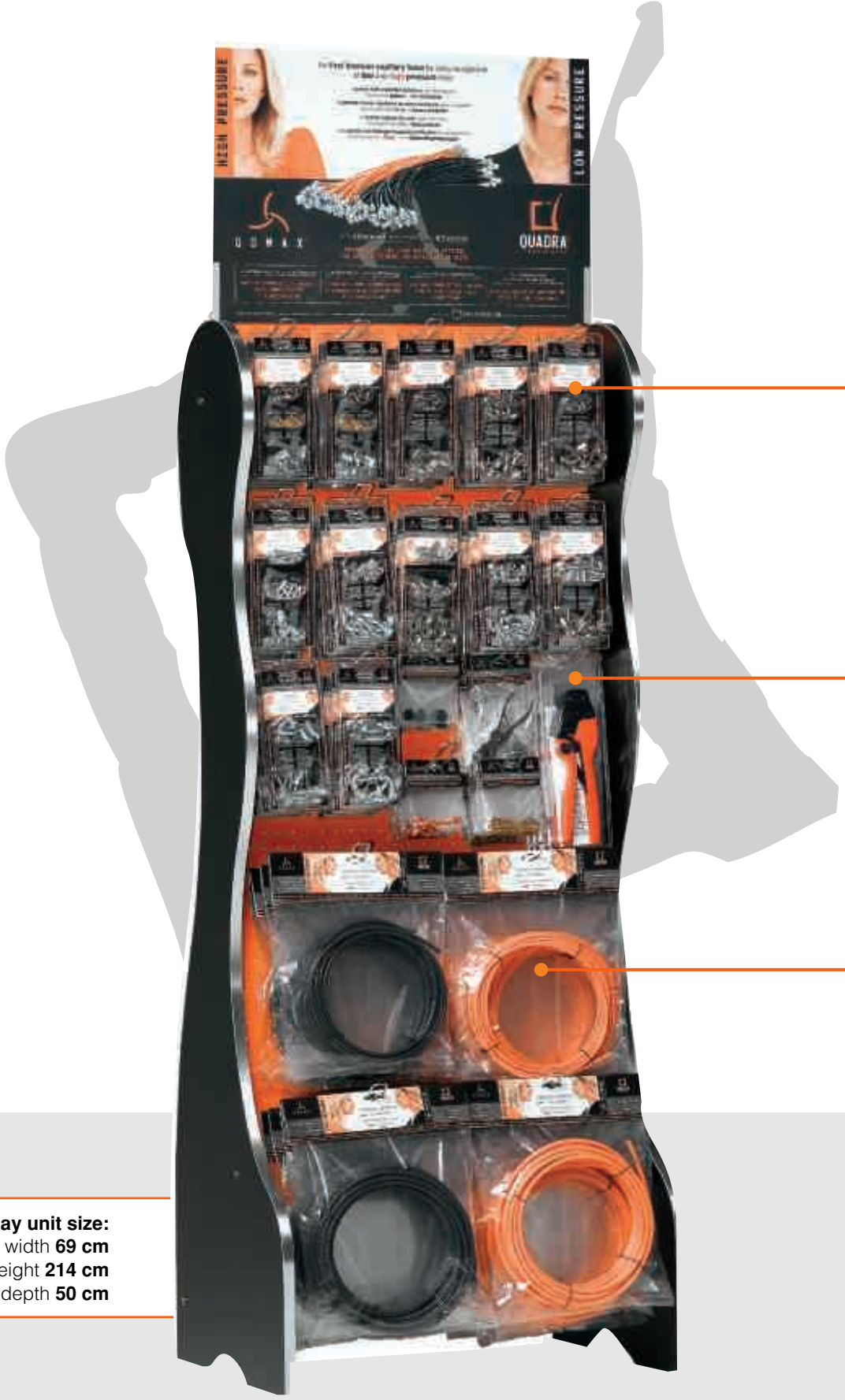
Not all customers are interested in purchasing large quantities of materials, and the chance to buy **smaller product quantities** makes the Quadra range appetising even for installers and small builders.

The products are also available in new blister packs, bags and boxes.
The new packages are not only easy to use but are also very attractive. The graphics and colours used make them very effective communication tools. Their high impact graphics make them easily recognizable and identifiable.

The new packages are perfect for putting on display, clearly displaying the products to the public.

The Gomax range also includes new communication supports tools for displaying the products: the floor display and counter display. The display units clearly and directly show off all the packages and relative products, making communication and sales/purchasing operations much easier.

floor display unit for blister packs and bags



Display unit size:
width **69 cm**
height **214 cm**
max. depth **50 cm**

The new Quadra packages

More practical with new formats!

fitting **blister packs**

accessory **bags**

hose roll **bags**

counter display unit

fitting **box**

Quadra display units

W00004	QUADRA complete floor display unit
W00000	QUADRA counter display unit
X00000	QUADRA counter display unit (with copper gasket)

Floor display unit, aluminium profile, orange background, holds an **assortment of Quadra products and accessories, packaged in blister packs and bags**.

The display unit is complete with a series of products that can be easily re-stocked.

The display unit specifically includes:

- 4 ten-piece blister packs including every type of DN2 and DN4 fittings
- 4 two-piece bags of extra cutter blades
- 4 fifty-piece packs of copper gaskets
- 4 fifty-piece packs of Schraeder valve openers
- 4 cutters
- 4 hand pliers
- 4 10 metre rolls of orange DN2 capillary hoses
- 4 10 metre rolls of black DN2 capillary hoses
- 4 10 metre rolls of orange DN4 capillary hoses
- 4 10 metre rolls of black DN4 capillary hoses

The **counter fittings display unit** is a box, complete with a selection of 400 fittings divided into 5 types, with components and instructions.

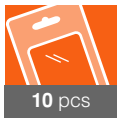
Small and large quantities, for better service.

key packages Quadra products

Quadra hose, **loose**, in 50 m roll

Quadra hose, **packaged in bags**, 10 m roll

Quadra accessories and assembled hoses, **packaged in bags**



Quadra fittings **packaged in blister packs**, 10 pieces

Quadra fittings **packaged in boxes**, 50 pieces(*)

(*)Reusable fittings are sold in packs of 25.

Quadra capillary hoses

Technical data and performance

performance and conditions of use

part number	packaging type	description	O.D.	PS (maximum allowable pressure)			Minimum bursting pressure			TS (minimum-maximum allowable temperature)		Minimum bending radius	Ø crimping using pliers	Ø crimping using hydraulic pliers
				bar	MPa	psi	bar	MPa	psi	min °C	max °C	mm	mm	mm
0780C 0780BC 0789C 0789BC	50 m	Quadra **DN2**	5,9	**60**	6,0	870	**300**	30	4345	- 45°C	+130°C	10	7±0,1	7±0,1
		Quadra **DN4**	8,2	**60**	6,0	870	**300**	30	4345	- 45°C	+130°C	25	9,6±0,1	10±0,1
0780K 0780BK 0789K 0789BK	10 m	Quadra **DN2**	5,9	**60**	6,0	870	**300**	30	4345	- 45°C	+130°C	10	7±0,1	7±0,1
		Quadra **DN4**	8,2	**60**	6,0	870	**300**	30	4345	- 45°C	+130°C	25	9,6±0,1	10±0,1

usable fluids

type of gas	type of oil
HFC (R134a, R404A, R407A, R407B, R407C, R410A, R507)	polyol ester
HCFC (R22)	mineral oils
Propane (R290)	polyol ester
CO_2	polyol ester

Classification of Quadra capillary hoses according to Directive 97/23/EC

part number	description	classification
0780C 0780BC	Quadra DN2	paragraph 3 article 3
0780K 0780BK		
0789C 0789BC	Quadra DN4	
0789K 0789BK		

Quadra capillary hoses **installed in a system**

A concrete example of a possible application of Quadra capillary hoses.

The orange capillary hose is used here for the high pressure circuit, while the black is used for the low pressure circuit.

Transfer Oil recommends the standard use of colours as shown in the example, in order to optimise the functionality of Quadra capillary systems.

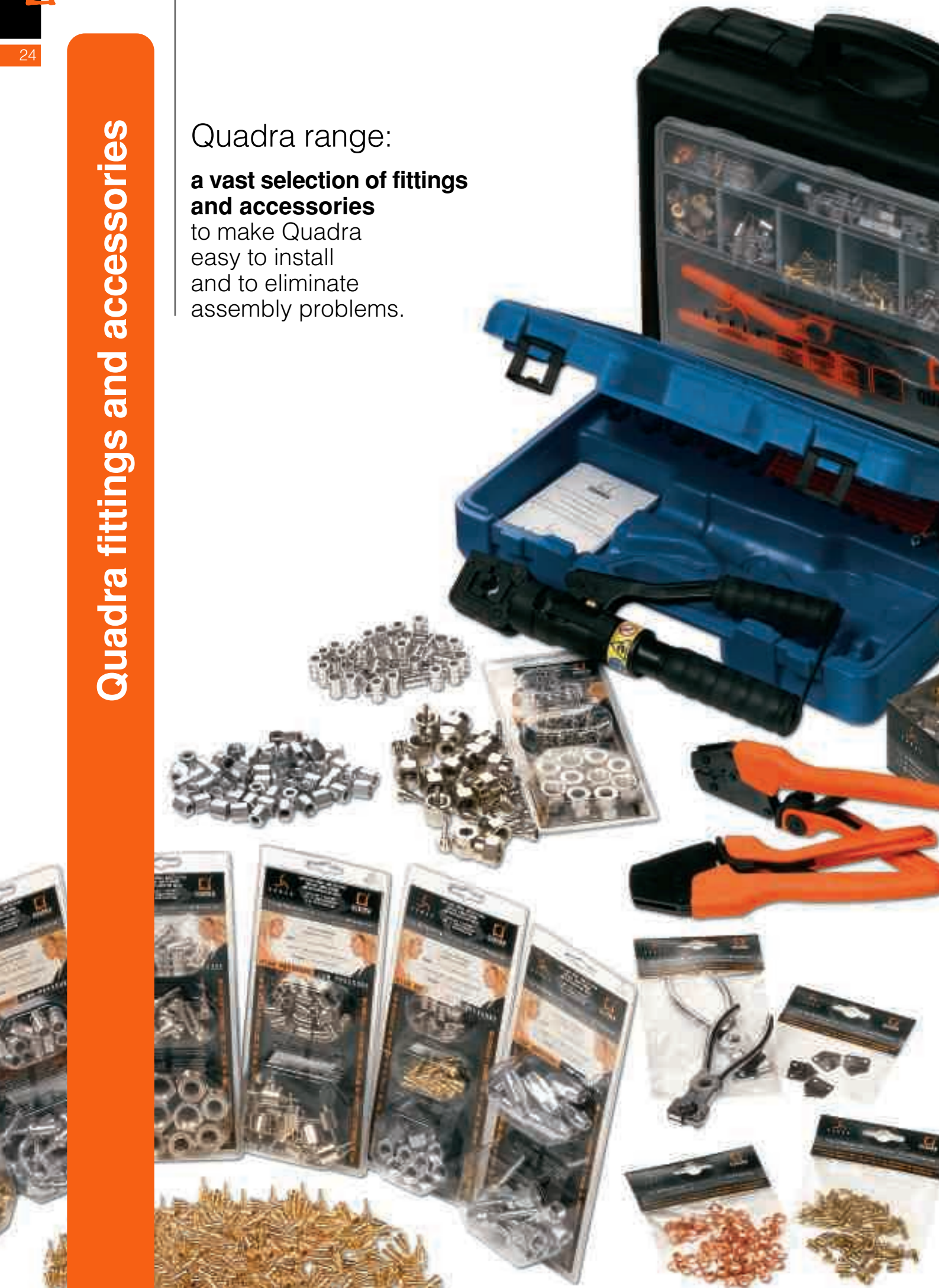
Control and maintenance activities will be made much easier and safer by creating an application standard.

Example of
SCM FRIGO S.r.l.
refrigeration system

Quadra fittings and accessories

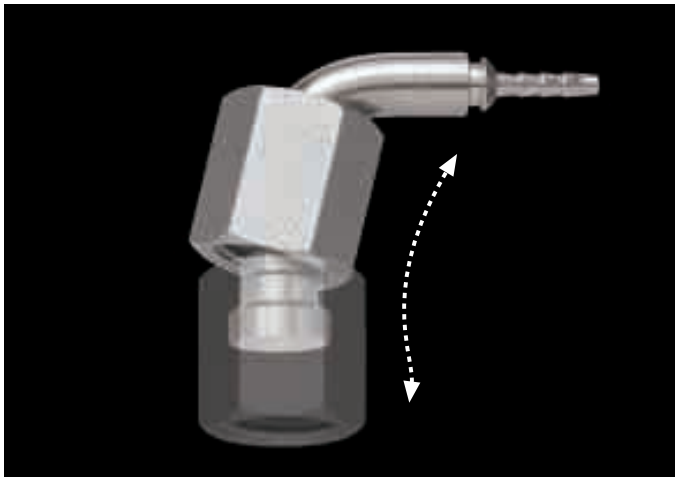
Quadra range:

a vast selection of fittings and accessories
to make Quadra
easy to install
and to eliminate
assembly problems.



New Quadra fittings

Single piece elbow fittings with free nut



In the figure:
1/4 DN2
elbow female 90°
fitting

Quadra capillary hose fittings are now offered in a **new and improved single elbow, eliminating all welded parts to assure greater solidity**. The single piece elbow is used to slide the nut to make the introduction of the gasket or of the Schraeder valve opener easier. In this way the connection can be controlled visually before screwing on the nut. The new 90° elbows are available with diameter 1/4 for DN2 capillary hoses and diameter 3/8 and 1/4 for DN4 capillary hoses.

Simple to use, avant-garde technology, resistance and reliability:
these are the promises made and kept by Gomax and are realized with the introduction of new products to the Quadra range.

New Quadra DN4 fitting

The Quadra range has been extended: new SAE fittings for Quadra DN4, the **3/8 SAE female elbow 90° crimping**, **and the 3/8 SAE straight female**. The new fitting allows for greater versatility of use for the Quadra capillary range. This type of fitting facilitates connection with components such as oil separators, which are mainly fitted with SAE 3/8 connectors. The Quadra 3/8 fitting is made of anti-corrosion nickel treated steel.

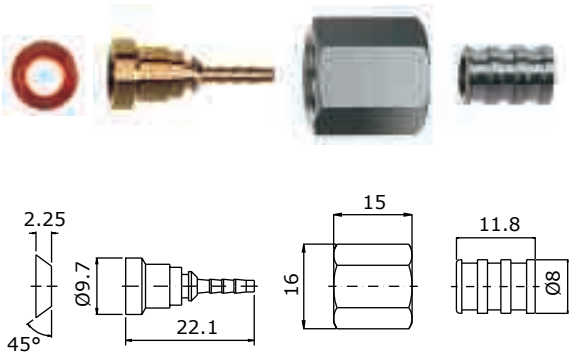
Transfer Oil has also introduced another important innovation among the Quadra accessories: **the T fitting for DN4 hoses**. This fitting is complete with three ferrules, and is made from nickel-treated steel to prevent corrosion.

Crimping fittings for DN2 hose

1/4 straight female fitting

DN2

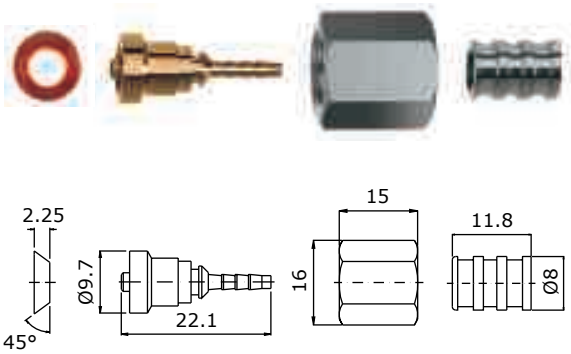
50 pcs	WBA02C	1/4 SAE straight female for QUADRA DN2 capillary hose (without copper gasket)
	XBA02C	1/4 SAE straight female for QUADRA DN2 capillary hose (with copper gasket)
10 pcs	KBA02C	1/4 SAE straight female for QUADRA DN2 capillary hose



1/4 straight female fitting+valve opener

DN2

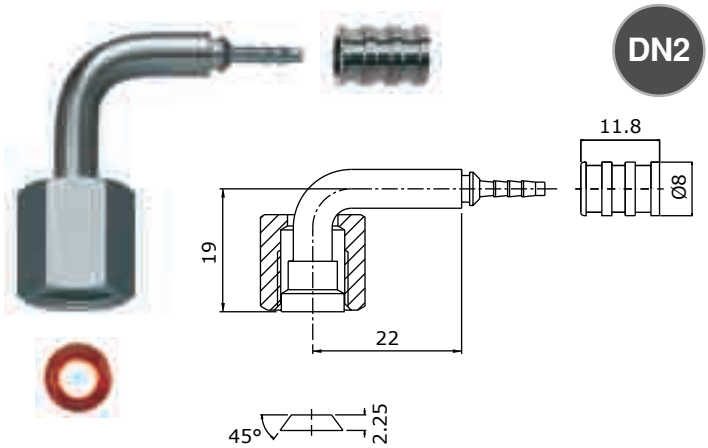
50 pcs	WBB02C	1/4 SAE straight female with Schraeder valve opener for QUADRA DN2 capillary hose (without copper gasket)
	XBB02C	1/4 SAE straight female with Schraeder valve opener for QUADRA DN2 capillary hose (with copper gasket)
10 pcs	KBB02C	1/4 SAE straight female with Schraeder valve opener for QUADRA DN2 capillary hose



1/4 female elbow 90° fitting

DN2

50 pcs	WCA02C	1/4 SAE elbow female 90° for QUADRA DN2 capillary hose (without copper gasket)
	XCA02C	1/4 SAE elbow female 90° for QUADRA DN2 capillary hose (with copper gasket)
10 pcs	KCA02C	1/4 SAE elbow female 90° for QUADRA DN2 capillary hose



QUADRA

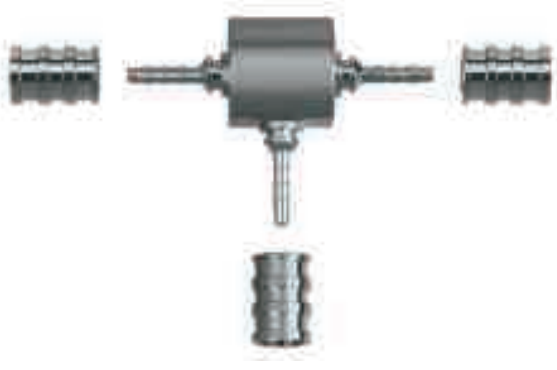
Assembly instructions for crimping fittings for Quadra DN2 capillary hose

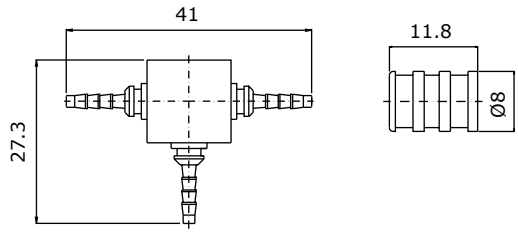
Cut the Quadra DN2 capillary hose to the required length using the special WXA004 cutter.

Insert the nut onto the hose keeping the threaded end turned towards. Insert the ferrule onto the capillary hose.

Crimping fittings for DN2 hose

DN2

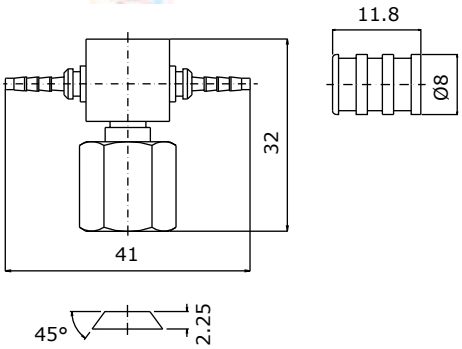




T fittings

50 pcs	**WPB0C1**	T fitting for QUADRA DN2 capillary hose
10 pcs	**KPB0C1**	T fitting for QUADRA DN2 capillary hose

DN2



T fitting with connector

50 pcs	**WPB02C**	T fitting with connector for QUADRA DN2 capillary hose (without copper gasket)
	XPB02C	T fitting with connector for QUADRA DN2 capillary hose (with copper gasket)
10 pcs	**KPB02C**	T fitting with connector for QUADRA DN2 capillary hose

Make sure that the ferrule is positioned on the very end of the capillary hose, ready to connect to the next piece. Connect the insert piece to the ferrule.

Make sure to insert the insert piece entirely and tightly fitted into the ferrule. Next, carefully slide the ferrule towards the remaining part of the insert piece.

Crimp the ferrule with our RXA003 hand pliers until the pliers automatically click. The pliers will open automatically.

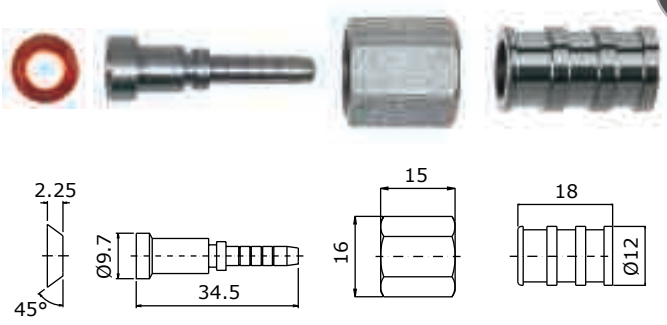
The assembling process is finished. The nut can slide freely over the ferrule: check the correct positioning of the components and the crimping.

Crimping fittings for DN4 hose

1/4 straight female fitting

DN4

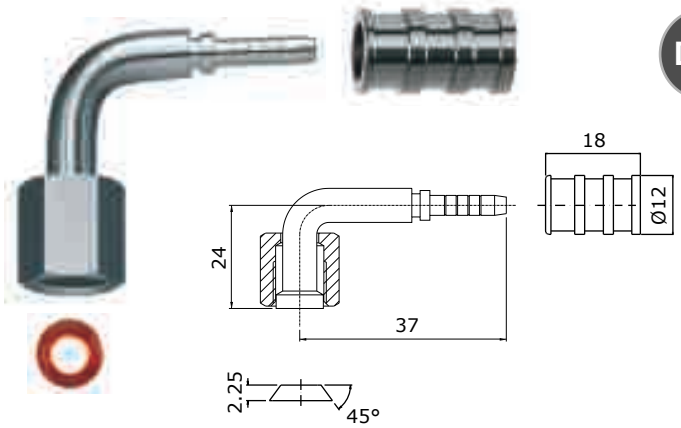
50 pcs	WBA02M	1/4 SAE straight female for QUADRA DN4 capillary hose (without copper gasket)
	XBA02M	1/4 SAE straight female for QUADRA DN4 capillary hose (with copper gasket)
10 pcs	KBA02M	1/4 SAE straight female for QUADRA DN4 capillary hose



1/4 female elbow 90° fitting

DN4

50 pcs	WCA02M	1/4 SAE elbow female for QUADRA DN4 capillary hose (without copper gasket)
	XCA02M	1/4 SAE elbow female for QUADRA DN4 capillary hose (with copper gasket)
10 pcs	KCA02M	1/4 SAE elbow female for QUADRA DN4 capillary hose



T fitting

50 pcs	WPB0M1	T fitting for QUADRA DN4 capillary hose
10 pcs	KPB0M1	T fitting for QUADRA DN4 capillary hose

QUADRA

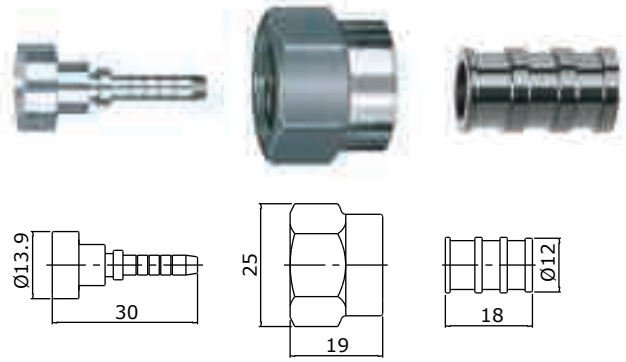
Assembly instructions for crimping fittings for Quadra DN4 capillary hose

Cut the Quadra DN4 capillary hose to the required length using the special WXA004 cutter.

Insert the ferrule onto the capillary hose.

Crimping fittings for DN4 hose

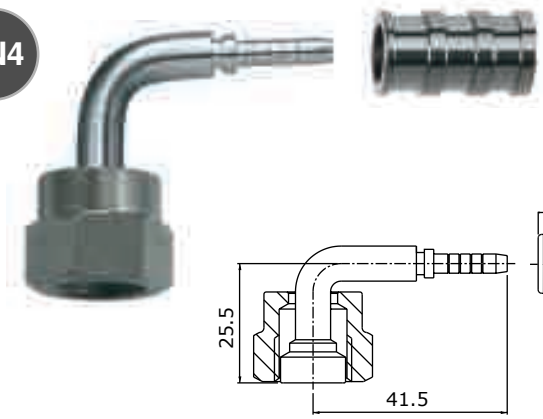
DN4



3/8 straight female fitting

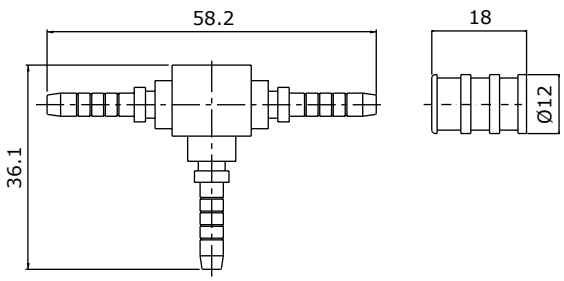
50 pcs	**WBA04M**	3/8 SAE straight female for QUADRA DN4 capillary hose (without copper gasket)
10 pcs	**KBA04M**	3/8 SAE straight female for QUADRA DN4 capillary hose

DN4



3/8 elbow female 90° fitting

50 pcs	**WCA04M**	3/8 SAE elbow female 90° for QUADRA DN4 capillary hose (without copper gasket)
10 pcs	**KCA04M**	3/8 SAE elbow female 90° for QUADRA DN4 capillary hose



DN4

Connect the insert piece and the nut simultaneously onto the capillary hose.

Make sure to insert the insert piece entirely and tightly fitted into the ferrule. Next, carefully slide the ferrule towards the remaining part of the insert piece.

Crimp the ferrule with our RXA005 hydraulic pliers until the pliers automatically click. The pliers will open automatically.

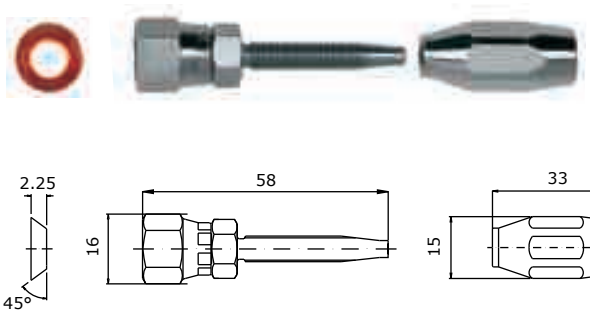
The assembling process is finished. Check to make sure that the components are positioned correctly and the crimping.

Reusable fittings for DN4 hose

1/4 straight female fitting

DN4

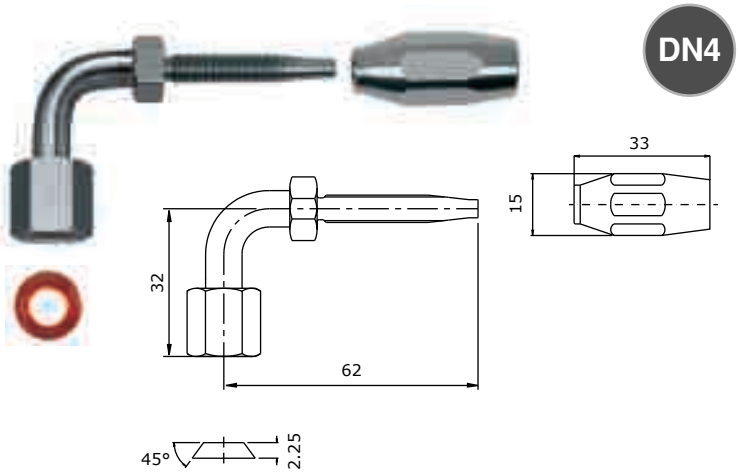
25 pcs	WIA02M	1/4 SAE straight female for QUADRA DN4 capillary hose (without copper gasket)
	XIA02M	1/4 SAE straight female for QUADRA DN4 capillary hose (with copper gasket)
10 pcs	KIA02M	1/4 SAE straight female for QUADRA DN4 capillary hose



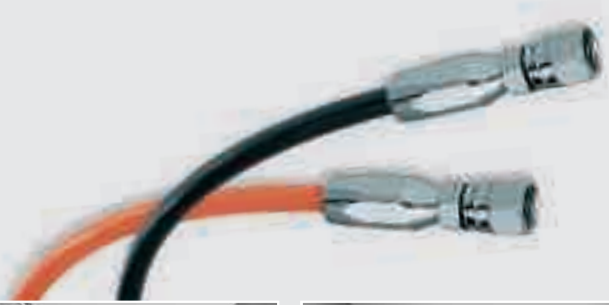
1/4 female elbow 90° fitting

DN4

25 pcs	WJA02M	1/4 SAE elbow female 90° for QUADRA DN4 capillary hose (without copper gasket)
	XJA02M	1/4 SAE elbow female 90° for QUADRA DN4 capillary hose (with copper gasket)
10 pcs	KJA02M	1/4 SAE elbow female 90° for QUADRA DN4 capillary hose



Assembly instructions for reusable fittings for Quadra DN4 capillary hose



Cut the Quadra DN4 capillary hose to the required length using the special WXA004 cutter.

Insert the ferrule onto the capillary hose.

By hand, screw the ferrule counterclockwise onto the capillary hose. When it becomes too hard, finish screwing with a wrench until it can't go any further.

Connect the insert piece to the ferrule. By hand, screw the insert piece counterclockwise onto the capillary hose.

When screwing by hand becomes too hard complete screwing with a wrench and skeleton key.

The assembling process is finished. Check to make sure that the components are positioned correctly.

Accessories for Quadra hoses

Hand pliers

1 pc	**RXA003**	Hand pliers for QUADRA DN2 capillary hose

DN2

Hydraulic pliers

RXA005	Hydraulic pliers for QUADRA DN4 capillary hose

DN4

Cutter and blades

1 pc	**WXA004**	Cutter
2 pcs	**WXB004**	Cutter blades

Valve opener and gasket

50 pcs	**WTD2Z1**	Removable Schraeder valve opener
	WRP502	Copper gasket

Nut caps

50 pcs	**WRW912**	Quadra 1/4 fitting plugs
	WRW914	Quadra 3/8 fitting plugs

Quadra case

MR043	**Empty** Quadra case
W00001	**Complete** Quadra case

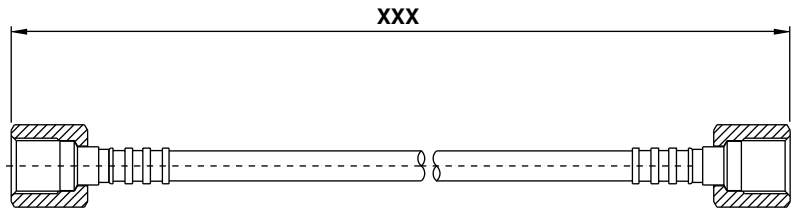
Quadra assembled capillary hoses: **cut to meet your needs**

Quadra assembled hoses: **customisable solutions, greater variety**.

Simple and **easy to fit** for pre-assembled solutions made to customer specifications. Quadra DN2 and DN4 can be mounted with a wide range of possible fittings.

DN2 assembled hoses

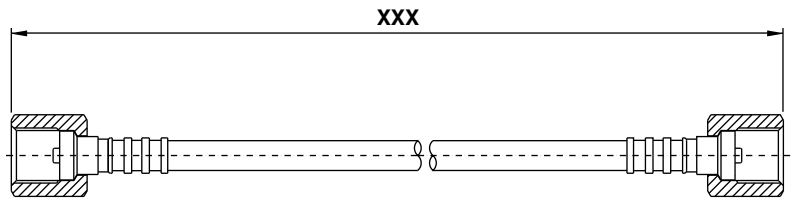
DN2



Straight female 1/4 + straight female 1/4

50 pcs

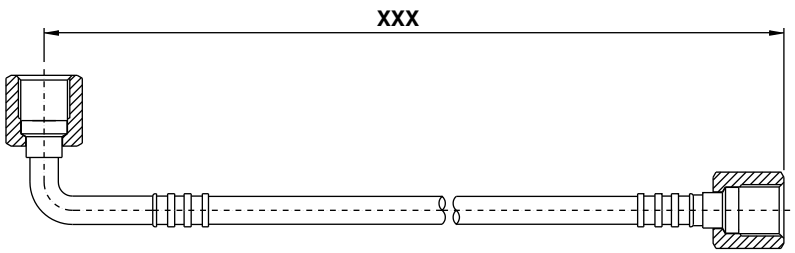
CAAXXX CCBXXX	Quadra DN2 capillary hose with 1/4 SAE straight female fittings



Straight female 1/4 + straight female 1/4 (all with valve opener)

50 pcs

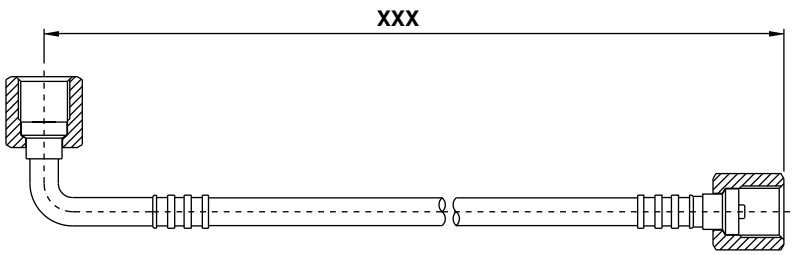
CABXXX CCCXXX	Quadra DN2 capillary hose with 1/4 SAE straight female fittings with Schraeder valve opener



Straight female 1/4 + elbow female 1/4

50 pcs

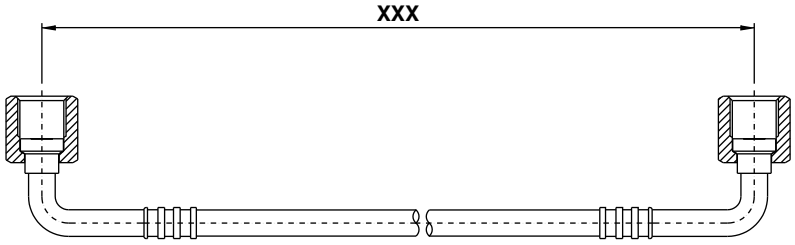
CACXXX CCDXXX	Quadra DN2 capillary hose with 1/4 SAE straight female fitting and 1/4 SAE elbow female 90° fitting



Straight female 1/4 (with valve opener) + elbow female 1/4

50 pcs

CADXXX CCEXXX	Quadra DN2 capillary hose with 1/4 SAE straight female fitting with Schraeder valve opener and 1/4 SAE elbow female 90° fitting



Elbow female 1/4 + elbow female 1/4

50 pcs

CAEXXX CCFXXX	Quadra DN2 capillary hose with 1/4 SAE elbow female 90° fittings

XXX = total length of QUADRA capillary hose in cm (multiple lenghts of 10 cm)

= QUADRA orange = QUADRA black

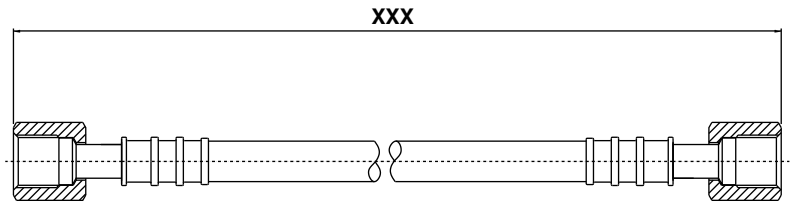
DN4

DN4 assembled hoses

Straight female 1/4 + straight female 1/4

50 pcs

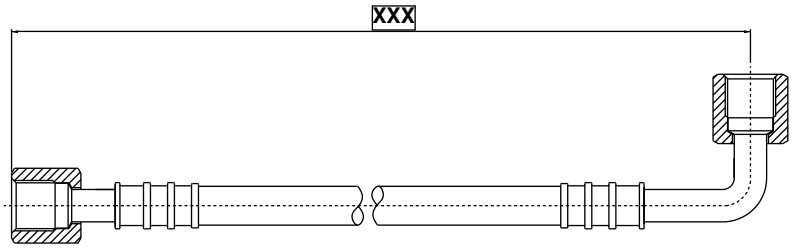
CAFXXX CCGXXX	Quadra DN4 capillary hose with 1/4 SAE straight female fittings



Straight female 1/4 + elbow female 1/4

50 pcs

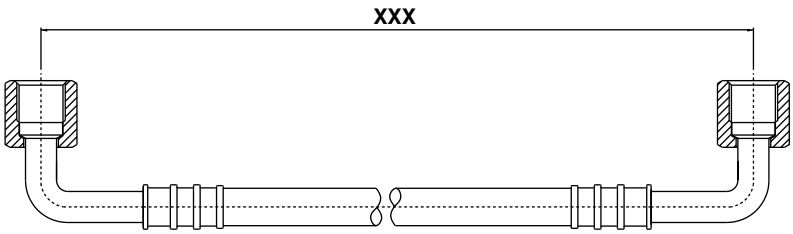
CAGXXX CCHXXX	Quadra DN4 capillary hose with 1/4 SAE straight female fitting and 1/4 SAE elbow female 90° fitting



Elbow female 1/4 + elbow female 1/4

50 pcs

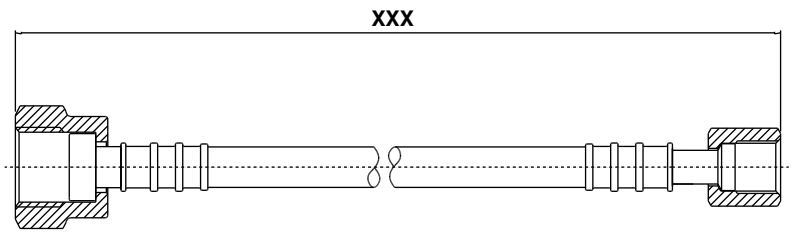
CAHXXX CCIXXX	Quadra DN4 capillary hose with 1/4 SAE elbow female 90° fittings



Straight female 3/8 + straight female 1/4

50 pcs

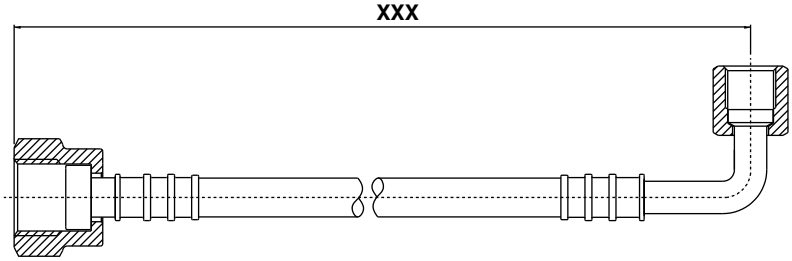
CCMXXX CCNXXX	Quadra DN4 capillary hose with 3/8 SAE straight female fitting and 1/4 SAE straight female fitting



Straight female 3/8 + elbow female 1/4

50 pcs

CCPXXX CCQXXX	Quadra DN4 capillary hose with 3/8 SAE straight female fitting and 1/4 SAE elbow female 90° fitting

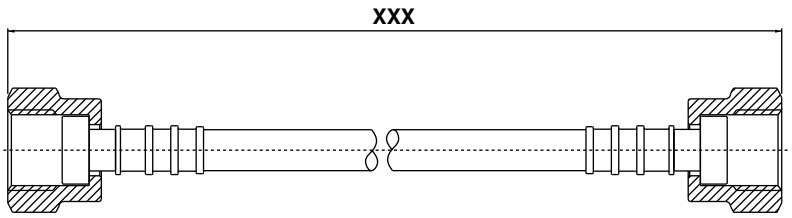


= QUADRA orange = QUADRA black

XXX = total length of QUADRA capillary hose in cm (multiple lenghts of 10 cm)

DN4 assembled hoses

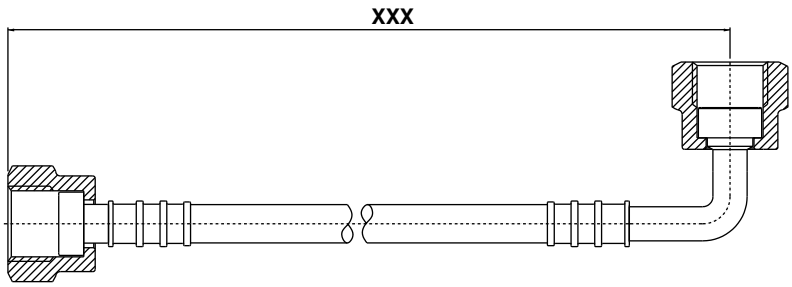
DN4



Straight female 3/8 + straight female 3/8

50 pcs

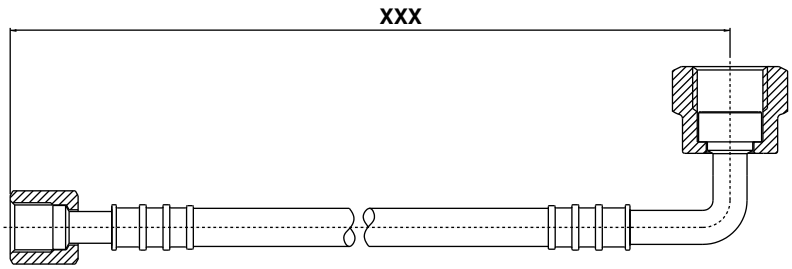
CCKXXX CCLXXX	Quadra DN4 capillary hose with 3/8 SAE straight female fittings



Straight female 3/8 + elbow female 3/8

50 pcs

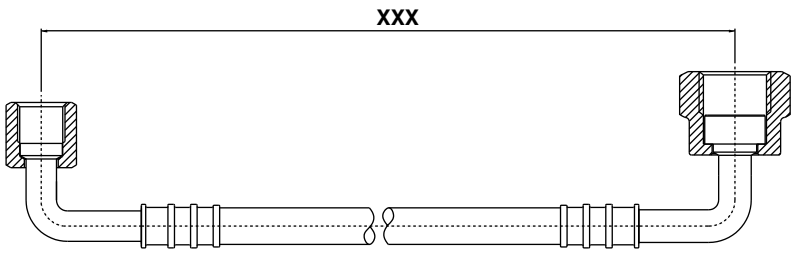
CDRXXX CDVXXX	Quadra DN4 capillary hose with 3/8 SAE straight female fitting and 3/8 SAE elbow female 90° fitting



Straight female 1/4 + elbow female 3/8

50 pcs

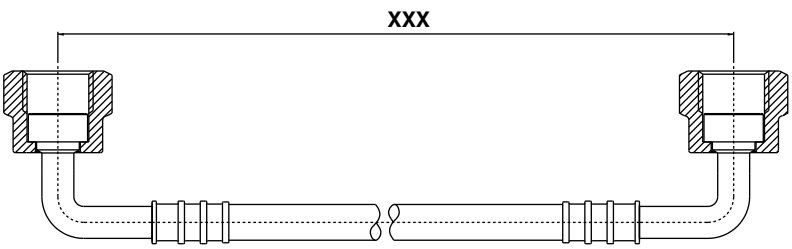
CDSXXX CDWXXX	Quadra DN4 capillary hose with 1/4 SAE straight female fitting and 3/8 SAE elbow female 90° fitting



Elbow female 3/8 + elbow female 1/4

50 pcs

CDTXXX CDXXXX	Quadra DN4 capillary hose with 3/8 SAE elbow female 90° fitting and 1/4 SAE elbow female 90° fitting



Elbow female 3/8 + elbow female 3/8

50 pcs

CDUXXX CDYXXX	Quadra DN4 capillary hose with 3/8 SAE elbow female 90° fittings

XXX = total length of QUADRA capillary hose in cm (multiple lenghts of 10 cm)

= QUADRA orange = QUADRA black

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General terms of sale

General introduction

The following terms of sale will be applied to every contract concluded through a purchase order placed via Internet, telefax, electronic mail and normal postal system mail, and relating to the standard products listed in the site and/or in the Transfer Oil catalogues, on the dedicated pages. Any different and specific terms and every order relating to personalised products may be subject to separate agreements. In the event of a variation to the standard terms and any special term agreed upon by the involved parties, the special term will take priority, but without prejudice to other general terms, as for the points below, wherever compatible. The general introduction forms an integral part of every purchase and sale contract concluded through the sending of the order form, whether by e-mail, by post or by telefax.

1. Preamble. Transfer Oil, hereafter also referred to as the Seller, sells the products listed and described in the "Products" page that can be found in official Transfer Oil web site or in one of the Transfer Oil catalogues, hereafter also referred to as the Products, which may be purchased under the terms as per the clauses below.

2. Conclusion of the contract. The purchase order on the Internet site must be compiled by the Purchaser according to the instructions in the appropriate "Orders" WEB page. The sending of the order form on the site, compiled as per the instructions, shall imply acceptance on the part of the purchaser of all the clauses outlined below. The sale and purchase contract, also in the event that the order is sent by the purchaser via telefax, e-mail or post, will be considered as concluded and complete with the dispatch, on the part of Transfer Oil, of the due acceptance of the purchase order by telefax or electronic mail.

3. Cancellation and/or modification of orders. Penalty. Any cancellations, reductions and/or modifications of orders already accepted by Transfer Oil may be made within and not later than five days from the date of the order, by means of a written communication to be sent via fax or by registered letter with advice of receipt to the seller party. Any cancellation and/or modification notified after the above indicated period, or by other means different from those provided for in the previous paragraph shall imply a penalty of 10% of the price of the already ordered goods.
The penalty referred to in the above paragraph will be invariably equal to 50% of the price should the object of the sale be personalised products according to the purchaser's wishes and requirements.

4. The products. The Products that may be purchased, and the order of which implies – if accepted – total agreement with the general terms of sale, are those listed in the appropriate WEB page in the official Transfer Oil site, or in one of the Transfer Oil catalogues.
In the event that the subject of the sale are personalised products according to the purchaser's wishes and requirements, having as a result different characteristics from standard products, these general terms of sale shall be equally applicable and binding, but without prejudice to any different, special condition that shall take priority should it be the subject of specific, separate agreement. Should the purchaser's offer or the seller's acceptance make reference to a specific sample, the product which is the subject of the relative sale, except in the event of a different written agreement, is binding with respect to the sample characteristics only within the limits of reasonable approximation.

5. Price and payment. The price shall be fixed according to the range of products chosen by the purchaser on the date of dispatch of the order and shall remain unchanged, except with reference to the provisions of the following clause, also if the delivery is deferred by agreement but nevertheless within a year from the date of the order. The customer has the right to the price relating to the range in the quantity effectively collected with reference to that order for a period of one year.
The seller has the right to revise the prices of the products on the basis of the price dynamics of raw materials, labour and packaging, but must notify the purchaser about new prices at least 30 days before their application, and in such cases, the purchaser has the right to withdrawal. Payment must categorically be made following the methods specified by Transfer Oil in the completed order form and according to the terms therein prescribed.

6. Express resolutory clause. In accordance and by the effects of art. 1456 of the civil code (c.c.), in the event of breach on the part of the purchaser of the obligations referred to in art. 5 (Price and payment), the seller shall have the right to cancel the contract/s already concluded, by means of a registered letter with advice of receipt, in which it declares to have made recourse to this clause, without prejudice, however, to any possible action for compensation for damages.
Any change in the purchaser's balance sheet situation such as to endanger the correct fulfilment of the obligation of payment of the price, shall give the seller, in accordance with art. 1461 c.c., the right to suspend deliveries already agreed, and to cancel the contract by means of a simple written notice, without prejudice, however, to the payment of the amounts due for services already carried out.
Equally, any incorrect or failed compliance with the obligations relating to the payment of the price shall give the seller the right to suspend deliveries already agreed, also those not relating to the breach in question, in accordance with art. 1460 c.c. It should be understood, in particular, that:

7. Delivery. The sale is considered as Ex-Works, and as a result, the costs of transport are fully borne by the purchaser. Transfer Oil shall arrange to deliver the Products sold to the carrier indicated by the purchaser in the order form.

8. Cancellation. The seller may cancel the contract and not fulfil the obligation to deliver whenever, by reason of force major and in any case of unforeseen and extraordinary events, the execution of the delivery service becomes excessively onerous or in any case impossible.

9. Quality. Transfer Oil carries out a random check of its products on each production batch. Any technical modifications will be subject to acceptance by the purchaser for orders in progress.

10. Delivery. The sale is considered as Ex-Works. Transfer Oil shall arrange to deliver the Products sold to the carrier indicated by the purchaser in the order form. The cost of transport from the Seller to the Purchaser shall be fully borne by the purchaser.

11. Warranty. Transfer Oil guarantees the conformity of the products supplied to the characteristics expressly indicated in the relative WEB page and in its catalogues. The warranty for defects in the products is categorically limited only to manufacture defects attributable to the seller. The warranty has a limited duration of twelve months, starting from the date of delivery, and is dependent on the regular reporting of the defect by the purchaser in accordance with the following paragraphs, as well as on the express written request to the seller to take action under the warranty. As a consequence of the aforementioned request, the seller may, at its own choice and alternatively: a) supply ex-works free of charge to the purchaser, products of the same type and quantity as those found to be defective or non-conforming to what was agreed; b) declare the cancellation of the contract in writing, offering the return of the price against restitution of the supplied products.
Except in the event of malice or gross negligence on the part of the seller, any possible compensation for damages to the purchaser may not in any case exceed the invoice price for the disputed products. The warranty here agreed to assimilates and replaces legal guarantees for defects and deformities, and excludes any other liability on the part of Transfer Oil in any way arising from the supplied products; specifically, the purchaser may not make other requests for compensation for damages, a reduction in the price or the cancellation of the contract. Once the duration of the warranty has elapsed, no claim may be made against the seller. The seller may not be held liable with respect to the purchaser for any loss of profit, non-use, loss of production, loss of contracts or any other indirect or consequential damage, but only for proven damages to persons or things, attributable to the sold products, in the event of its proven gross negligence and/or incompetence in their manufacture.

12. Claims. Claims relating to quantity, colour, or to quality faults and defects or to non-conformity that the purchaser may detect as soon as they come into possession of the goods, must be made by the purchaser in writing by means of a registered letter with advice of receipt, on penalty of forfeiture, not later than eight days from the moment in which the products arrive at their place of destination. Should the claim turn out to be unfounded, the purchaser shall be bound to reimburse the seller all costs borne by the latter for carrying out checks (any travel costs, expert opinions, etc.).

13. Interpretations. Any reference made to general terms, list prices, various attachments or to other material of the seller or of third parties, must be considered as referring to the terms and documents applied upon the conclusion of the contract.

14. Applicable law and competent court. These General terms of Sale, together with the Contract to which they refer, shall be regulated by Italian laws. The Court of Parma shall be the exclusive competent court for any dispute relating to, or deriving from, the Contract.

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