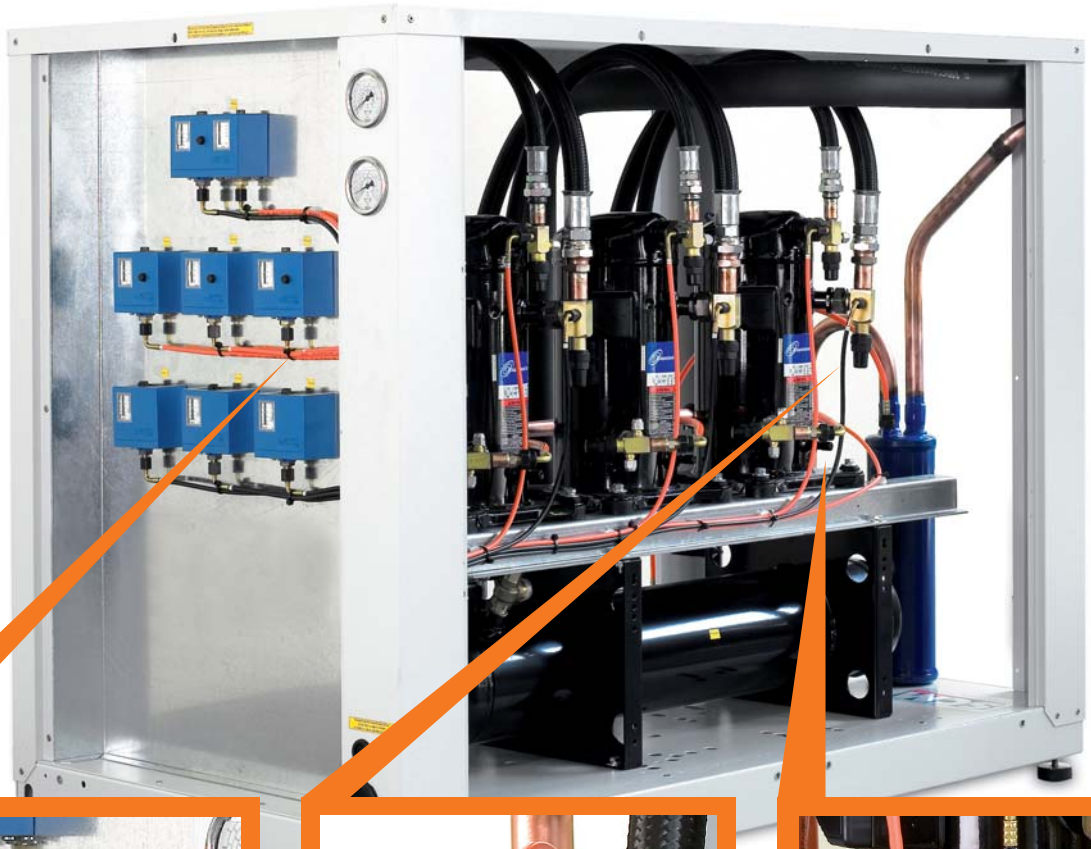
CO_2 SAVER.

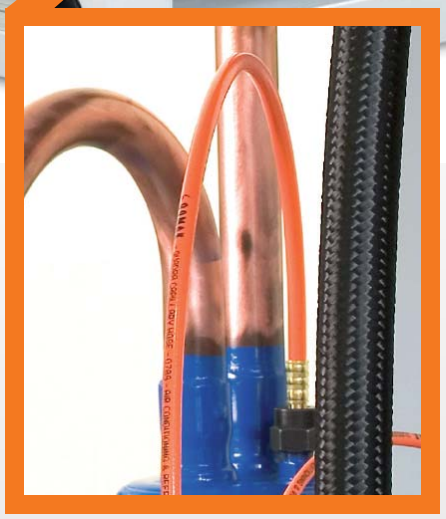
Quick Reference Guide

QUADRA

The market leading brand of thermoplastic hose and fittings designed specifically for Air Conditioning and Refrigeration systems.
The preferred flexible choice for all pressure switch, manometer and oil line connections.



The **QUADRA DN2** flexible hose represents the most efficient solution for the connection of pressure gauges, pressure switches and pressure test points. The **QUADRA DN2** hoses have an internal diameter of 2 mm and therefore they can substitute capillary rigid copper tubing



The **QUADRA DN4** flexible hose is the ideal solution for equalizing and oil return lines. The **QUADRA DN4** hoses have an internal diameter of 4 mm and therefore they can substitute rigid copper tubing of OD 6 mm or 1/4".

The **QUADRA DN6** flexible hose is the perfect solution for the oil return lines and for the oil equalization systems. The **QUADRA DN6** hoses are characterized by an internal diameter of 6 mm, and therefore they can substitute rigid copper tubing of OD 8 mm or 5/16".

APPLICATIONS

How much CO_2 equivalent, through emissions of HFCs, have you introduced in our environment so far?
We are all requested to decrease CO_2 equivalent emissions of HFCs in order to control the global warming of our planet.

The new **QUADRA** flexible hose is a **"CO_2 EQUIVALENT" SAVER** , due to its very low permeability to the majority of the refrigerant gasses exceeding EN 1736 CLASS 1, and due to its capacity to reduce system vibrations as well as its simplicity to be installed.

Due to its FLEXIBILITY the introduction of the **QUADRA** product range assures the following advantages:

- **SPEED UP the assembly procedure**
- **ABSORB the VIBRATION of the compressor**
- **REDUCE the NOISE**

The **QUADRA** system is composed of hoses, fittings and the assembly tools. The entire **QUADRA** system is conceived to work in all refrigeration and air conditioning applications and can guarantee the following key features:

- **Exceeds EN 1736 CLASS 1**
- **CO_2 compatibility with working pressure up to 120 bar**
- **UV resistant**
- **RoHS compliance**

BENEFITS

PERFORMANCE and conditions of use DN2 - DN4 - DN6

part number	Pack	DN	OD mm	WP bar	WP MPa	WP psi	BP bar	BP MPa	BP psi	WT min°C	WT max°C	BEND RADIUS mm	CRIMPING DIAMETER Ø mm	CRIMPING DIAMETER Ø mm	CRIMPING DIAMETER Ø mm
0780C 0780BC	50 m	DN2	6,1	120	12,0	1740	600	60	8700	-45°	+130°	10	7 ±0,1	NA	7 ±0,15
0780K 0780BK	10 m														
0789C 0789BC	50 m	DN4	8,3	120	12,0	1740	600	60	8700	-45°	+130°	25	NA	9,8 ±0,1	10 ±0,15
0789K 0789BK	10 m														
0786C 0786BC	50 m	DN6	10,9	120	12,0	1740	600	60	8700	-45°	+130°	35	NA	12,4 ±0,1	12,4 ±0,2
0786K 0786BK	10 m														

PERMITTED FLUIDS

Type of Gas	Type of Oil
HFC (R134a, R404A, R407A, R407B, R407C, R410A, R507)	polyol ester based
HCFC (R22)	mineral oils
CO_2	polyol ester based

120 bar CO_2 SUITABLE

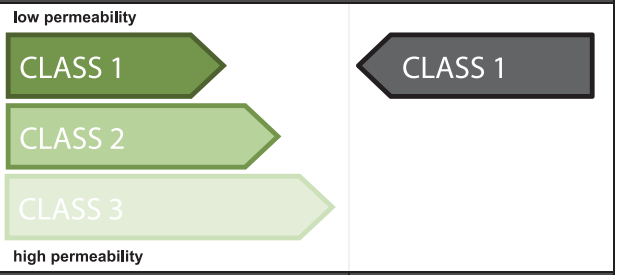
The QUADRA capillaries and fittings can now be used with CO_2 at working pressures of up to 120 bar.

Classification of QUADRA capillary hoses

according to Directive 97/23/CE - paragraph 3 article 3

WORKING FEATURES	GOMAX MODEL:
PS = 120 bar	QUADRA DN 2 QUADRA DN 4 QUADRA DN 6
TS = -45°C / +130°C	

Permeability classification according to the European Standard EN 1736:2008 for non metallic tubes used in air conditioning and refrigeration systems



	TEST DATA	Test temperature +32 °C	Test temperature +100 °C	
R404A	Test pressure	14.0	60.0	bar
	QUADRA™ DN2 permeability rate	0.12	8.20	g/m²/year
	QUADRA™ DN4 permeability rate	0.19	9.10	g/m²/year
	QUADRA™ DN6 permeability rate	0.13	6.50	g/m²/year
R407C	Test pressure	13.3	60.0	bar
	QUADRA™ DN2 permeability rate	0.11	7.63	g/m²/year
	QUADRA™ DN4 permeability rate	0.17	8.46	g/m²/year
	QUADRA™ DN6 permeability rate	0.11	6.05	g/m²/year
R410A	Test pressure	18.8	60.0	bar
	QUADRA™ DN2 permeability rate	0.14	7.13	g/m²/year
	QUADRA™ DN4 permeability rate	0.22	7.92	g/m²/year
	QUADRA™ DN6 permeability rate	0.15	5.66	g/m²/year
R134a	Test pressure	7.1	60.0	bar
	QUADRA™ DN2 permeability rate	0.06	8.45	g/m²/year
	QUADRA™ DN4 permeability rate	0.10	9.37	g/m²/year
	QUADRA™ DN6 permeability rate	0.07	6.69	g/m²/year

Figures indicated are average of all the highest obtained values converted from Helium to refrigerant leak rate, as specified within EN 1736:2008.

Test report: BO-TI S- 219890 -TUV- 01- 03- 12 **issued by TÜV Italia**
The test method and procedures have been verified by TÜV Italia as third party.
As a result of the assessment and inspection of the characteristics and performance of the permeability test machine, of the test procedures utilized, carried out at the premises of Transfer Oil S.p.A. – Italy, TÜV Italia confirms that it meets the requirements of EN 1736:2008

QUADRA DN2 fittings

1/4 Sae Straight Female Fitting

XBA02C	WBA02C	KBA02C
50 pcs	50 pcs	10 pcs

1/4 Straight Female Fitting + Valve Opener

XBB02C	WBB02C	KBB02C
50 pcs	50 pcs	10 pcs

1/4 Female Elbow 90° Fitting

XCA02C	WCA02C	KCA02C
50 pcs	50 pcs	10 pcs

Elbow Fitting 90°

	WPD2C1	KPD2C1
	50 pcs	10 pcs

"T" Fitting

	WPB0C1	KPB0C1
	50 pcs	10 pcs

"T" Fitting With One Female 1/4 Sae

XPB0C2	WPB0C2	KPB0C2
50 pcs	50 pcs	10 pcs

"T" Fitting With One Female 1/4 Sae

XPB2C4	WPB2C4	KPB2C4
50 pcs	50 pcs	10 pcs

"T" Fitting With Females 1/4 Sae At 90°

XPB2C7	WPB2C7	KPB2C7
50 pcs	50 pcs	10 pcs

"T" Fitting With 2 Females 1/4 Sae At 180°

XPB2C3	WPB2C3	KPB2C3
50 pcs	50 pcs	10 pcs

Cross Fitting

	WPA2C1	KPA2C1
	50 pcs	10 pcs

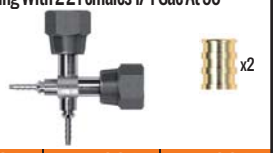
Cross Fitting With 1 Female 1/4 Sae

XPA2C2	WPA2C2	KPA2C2
50 pcs	50 pcs	10 pcs

Cross Fitting With 2 Females 1/4 Sae At 180°

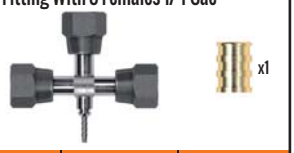
XPA2C3	WPA2C3	KPA2C3
50 pcs	50 pcs	10 pcs

Cross Fitting With 2 2 Females 1/4 Sae At 90°



XPA2C4	WPA2C4	KPA2C4
50 pcs	50 pcs	10 pcs

Cross Fitting With 3 Females 1/4 Sae



XPA2C5	WPA2C5	KPA2C5
50 pcs	50 pcs	10 pcs

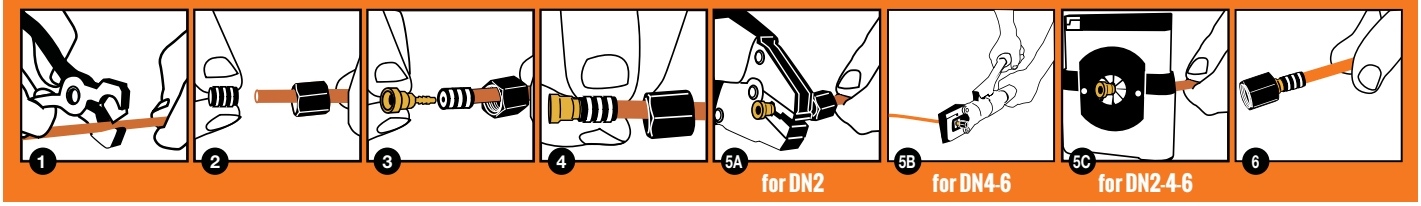
1/4 Sae Straight Male

	WDN22C	KDN22C
	50 pcs	10 pcs

Copper Brazing Fitting (4 X 6 X 100 mm)

	WZE2C1	
	50 pcs	

THE QUADRA SYSTEM - Assembling instructions



Cut the QUADRA capillary hose to the required lenght using the special WXA004 cutter

Slip the nut over the hose (depending on fi tting type). Ensure that the threaded side is pointing towards the end of the hose that needs assembling.

When pushing the ferrule over the hose end, ensure its correct positioning, in line with the hose end. Push the insert into the hose end you want to assemble.

Pay attention not to move the components already fitted and slide the ferrule over the hose towards the insert positioning it in line with the insert.

Crimp the ferrule with our hand pliers type RXA007, up to the limit stop of the pliers: once the optimal deformation has been achieved the pliers will open automatically

Crimp the ferrule using our pliers cod.RXA005: open the punches using the special lever, then put the ferrule properly between the pinches. The deformation is achieved when the pliers release and the lever idles.

Crimp the ferrule with our crimper RXA006-RXA008. Keep the lever pulled. Once the optimal deformation has been achieved the crimper will stop automatically.

The assembling is finished and the eventual nut can easily slide over the ferrule: check the correct positioning of the components and make sure the entire surface of the ferrule has been swaged.

Note:

Once the hose assembly is connected to the machine, do not move or rotate it, otherwise you risk loosening the nut or damaging the fitting by compromising its tightness. In case you have to modify the orientation of the coupling, unscrew the nut, position the hose assembly, then tighten the nut again respecting the torque value of min 20 N·m, max 25 N·m.

QUADRA DN4 fittings

1/4 Sae Straight Female Fitting

XBA02M	WBA02M	KBA02M
50 pcs	50 pcs	10 pcs

1/4 Straight Female Fitting + Valve Opener

XBB22M	WBB22M	KBB22M
50 pcs	50 pcs	10 pcs

3/8 Sae Straight Female Fitting

XBA04M	WBA04M	KBA04M
50 pcs	50 pcs	10 pcs

1/4 Sae Elbow Female 90°

XCA02M	WCA02M	KCA02M
50 pcs	50 pcs	10 pcs

3/8 Sae Elbow Female 90°

XCA04M	WCA04M	KCA04M
50 pcs	50 pcs	10 pcs

T Fitting

	WPB0M1	KPB0M1
	50 pcs	10 pcs

T" Fitting With One Female 1/4 Sae

XPB2M4	WPB2M4	KPB2M4
50 pcs	50 pcs	10 pcs

"T" Fitting With One Female 1/4 Sae

XPB2M2	WPB2M2	KPB2M2
50 pcs	50 pcs	10 pcs

1/4 Sae Straight Male Fitting

	WDN22M	KDN22M
	50 pcs	10 pcs

Copper Brazing Fitting (4 X 6 X 100 mm)

	WZE2M1	
	50 pcs	

QUADRA DN6 fittings

1/4 Sae Straight Female Fitting

XBA02N	WBA02N	KBA02N
50 pcs	50 pcs	10 pcs

3/8 Sae Straight Female Fitting

XBA04N	WBA04N	KBA04N
50 pcs	50 pcs	10 pcs

1/4 Sae Elbow Female 90°

XCA02N	WCA02N	KCA02N
50 pcs	50 pcs	10 pcs

3/8 Sae Elbow Female 90°

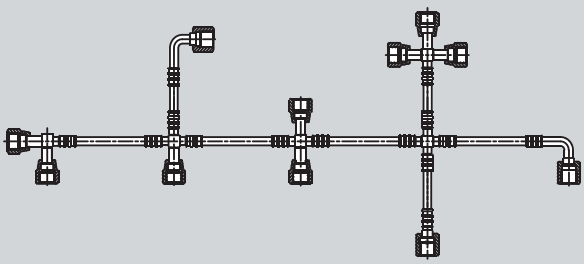
XCA04N	WCA04N	KCA04N
50 pcs	50 pcs	10 pcs

Copper Brazing Fitting (6 X 8 X 100 mm)

	WZE2N1	
	50 pcs	

Custom made hose assembly

Possibility of supplying laid out capillary circuits to customer specification.



Packaging Features

HOSES

- 50m — QUADRA hose LOOSE in 50m roll
- 10m — QUADRA hose PACKAGED IN BAGS in 10m roll

FITTINGS

- 50 pcs — QUADRA fittings PACKAGED IN BOXES 50 pieces
- 10 pcs — QUADRA fittings PACKAGED IN BLISTER PACKS 10 pieces

ASSEMBLED HOSES

- 50 pcs — QUADRA assembled hoses PACKAGED IN BAGS of 50 pcs

QUADRA fittings key Features

720 hrs STEEL CORROSION RESISTANT

100% BRASS CORROSION FREE

ACCESSORIES

CUTTER AND BLADES FOR DN2-DN4-DN6 HOSES

Cutter

Cutter blades

Part number	WXA004	WXB004
Pack	1 pcs	2 pcs

HAND PLIERS FOR DN2 HOSES

Part number	RXA007
Pack	1 pcs

QUADRA-CRIMP FOR DN2-DN4-DN6 HOSES

Part number	RXA006 RXA008
Pack	1 pcs

HYDRAULIC PLIERS FOR DN4 - DN6 HOSES

Part number	RXA005
Pack	1 pcs

VALVE OPENER, GASKET AND NUT CAPS

Removable valve opener

Copper gasket 1/4

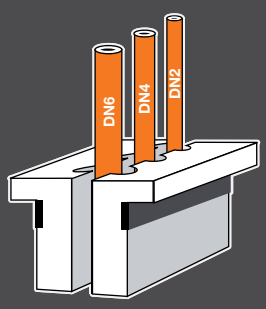
Copper gasket 3/8

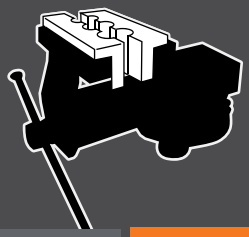
QUADRA 1/4 fitting plugs

QUADRA 3/8 fitting plugs

Part number	WTD2Z1	WRP502	WRP504	WRW912	WRW914
Pack	50 pcs	50 pcs	50 pcs	50 pcs	50 pcs

QUADRA - CLAMPS





Part number	RXB007
Pack	1 pcs

QUADRA CASE

Empty

Complete

- 10 m. ref. 0780K
- 10 m. ref. 0780BK
- 20 ref. WBA02C
- 20 ref. WBB02C
- 10 ref. WCA02C
- 10 ref. WPB0C1
- 10 ref. WPB0C2
- 50 ref. WRP502
- 50 ref. WTD2Z1
- 1 ref. RXA007
- 1 ref. RXA004
- 1 ref. WXB004

Part number	MR043	W00001
Pack	1 pcs	1 pcs

Transfer Oil S.p.A., with more than 30 years of experience, are today one of the major independent manufacturers of Thermoplastic and PTFE hose, catering for numerous applications within the medium, high and very high pressure Hydraulic and Industrial markets.

Since its founding all products manufactured by Transfer Oil are designed, developed and produced in State of the art Production facilities Headquartered in Colorno, Italy, With a total capacity of more than 13 million meters (42 million feet) per year.

Long standing cooperation with the Industries most prominent Global suppliers ensure a responsive network of Distribution Partners extending through over 65 countries across the globe. Providing quick availability and technical support for whatever the demands may be.

The GOMAX® business division of the company is committed to the manufacturing and marketing of thermoplastic hose and fitting solutions for air conditioning and refrigeration industry. GOMAX products are composed by three main product ranges (ZERO | INFINITY | QUADRA) that are used for suction and discharge lines as well as for pressure switches, manometers and oil lines connection thanks to the world recognized QUADRA Capillary hose system.


CERTIFICATO

TRANSFER OIL S.p.A.

UNI EN ISO 9001:2008

Hoses made by Transfer Oil are made to the highest internal standards which have been accredited by ISO 9001:2008 TÜV certification.

Engineered integrity is maintained throughout the manufacturing process that ensures that the critical dimensions can be continuously controlled and maintained throughout the production cycle.

All hoses conform and perform, where applicable, to the relevant RoHS - WEEE - REACH - ISO - CE - EN standards.

THE QUALITY SYSTEM

Transfer Oil - one of the first companies in the industry to obtain the ISO 9001 certification in 1993 - has developed its own quality system to guarantee customer's satisfaction by using computerized control production systems to which all processes of both production facilities are connected.

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