

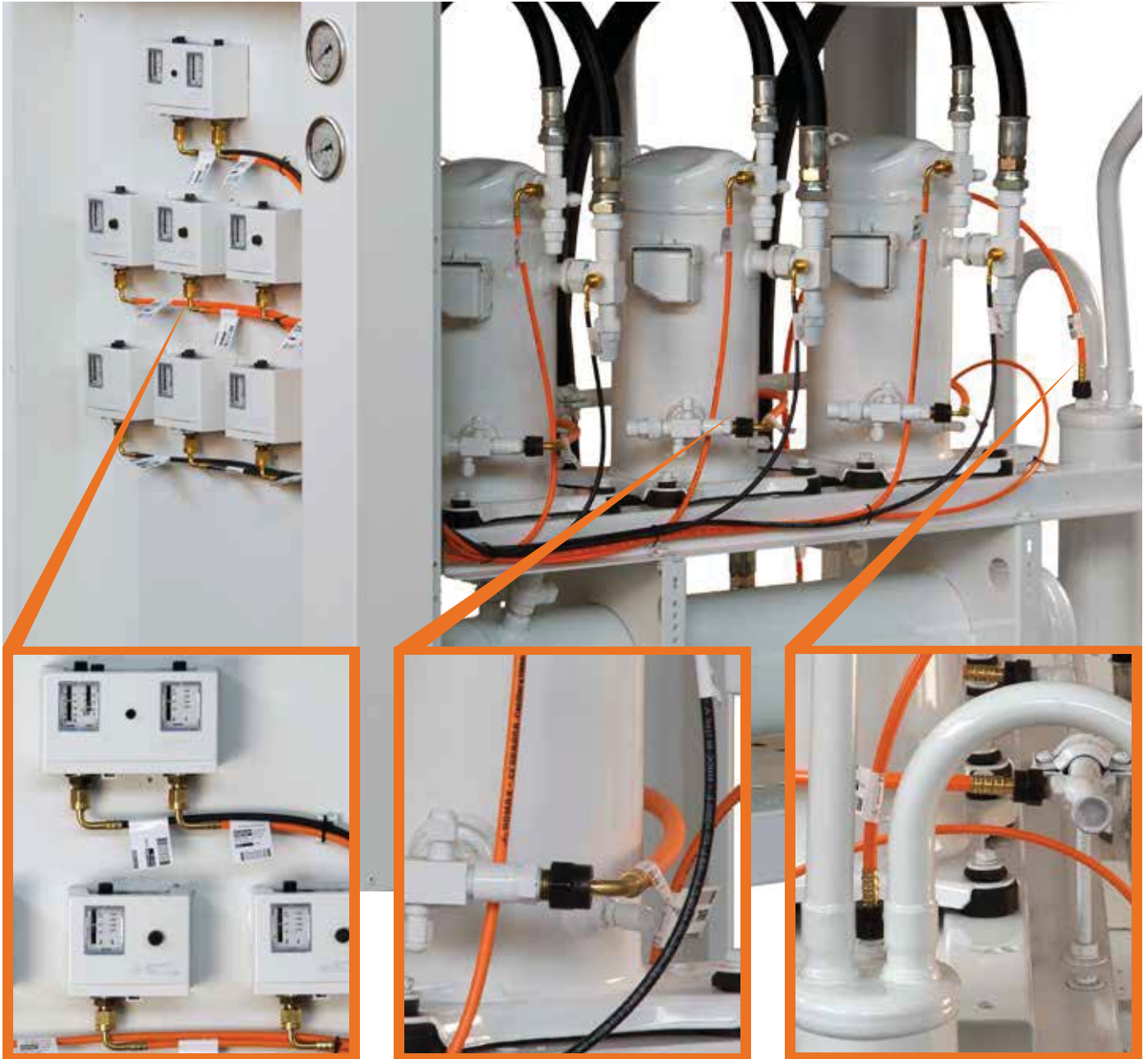
flexible hoses and fittings for AC&R

QUICK REFERENCE GUIDE



the preferred flexible choice for all pressure switch, manometer and oil line connections

APPLICATIONS



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 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".

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".

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**
- Exceeds EN 1736 CLASS 1
- **CO2 compatibility** with working pressure up to 120 bar
- **UV resistant**
- **RoHS compliance**

FULL TRACEABILITY



- Production batch code traceability of every individual component used in the assembly and the final hose assembly data.
- Customer part numbers cross referenced with Transfer Oil part numbers.
- Production history data stored on tag provides data for warranty assessment for the Manufacturer and predictive maintenance for the end user.

OEM KITTING SERVICE

1
Through one single part number the customer can now order all the finished hose (capillary) assemblies of specific units instead of multiple part numbers from the bill of material (BOM).



SIMPLIFIED
ORDER
PROCESSING

2
Kits are prepared as factory made hose assemblies in all types and lengths, delivered in a sturdy cardboard box.



FACTORY
MADE

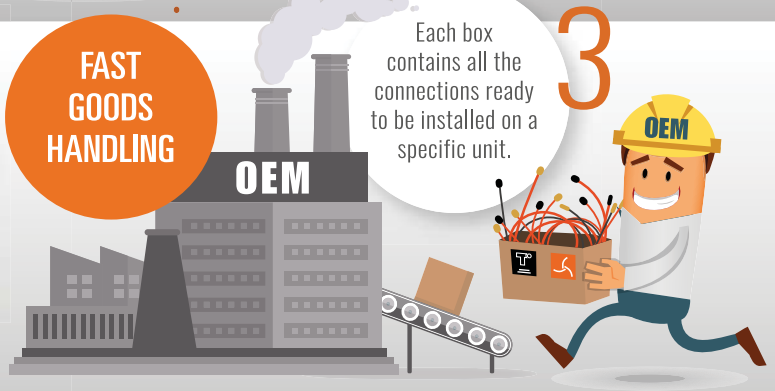
SMART
ASSEMBLY

3
The production personnel is now dedicated to one unique activity without loss of time stabilizing and rationalizing the process.



FAST
GOODS
HANDLING

4
Each box contains all the connections ready to be installed on a specific unit.



The same box can be delivered worldwide in case of service contracts, as spare parts for forecasted planned maintenance of any given unit.

HOSE DETAILS AND PERFORMANCE OF SERVICE

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

INNER TUBE

Thermoplastic polymer

REINFORCEMENT

Polyester braid of high tensile strength with high modulus

COVER

Thermoplastic polymer

APPLICATIONS

- Connection of pressure gauges, pressure switches and pressure test points
- Oil equalization
- Oil return lines

FEATURES

The **QUADRA** system - comprising of thermoplastic flexible capillary hose, fittings in brass and dedicated tooling - gives quick production, in a few simple steps, with superior quality connections to the pressure test points, gauges, and pressure switches including the oil return circuits and oil level equalization, for air conditioning and refrigeration units of each type and size.

TEMPERATURE RANGE

TS - Min allowable temperature Class -45°C | (-50°F)
TS - Max allowable temperature Class +130°C | (+266°F)

PERMITTED FLUIDS

HFC (R134a, R404A, R407A, R407B, R407C, R410A, R507)
HFO (R1234ZE)
HCFC (R22)
R744

SPECIFICATIONS

Fully compliant to Directive 97/2/CE - paragraph 3 article 3
RoHS 2011/65/EU compliant
WEEE 2002/96/EC compliant
REACH 1907/2006 compliant

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

low permeability

CLASS 1

CLASS 2

CLASS 3

high permeability

CLASS 1

TEST DATA

		Test temperature		
		+32 °C	+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
R744*	Test pressure	73,8	60,0	bar
	QUADRA™ DN2 permeability rate	2,04	5,51	g/m²/year
	QUADRA™ DN4 permeability rate	0,98	6,12	g/m²/year
	QUADRA™ DN6 permeability rate	0,45	4,37	g/m²/year

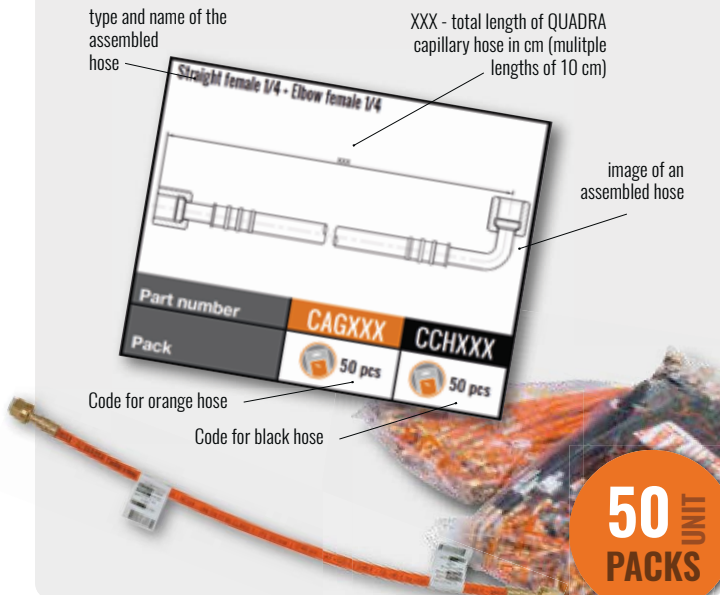
Figures indicated are average of all the highest obtained values converted from Helium to refrigerant leak rate, as specified within EN 1736:2008.

* test procedures according with the relevant sections of EN 1736:2008 (R744 is not included into the specification). Test at 73,7 bar has been performed at 31°C (the maximum allowable temperature for the refrigerant to have saturated pressure).

Test report: B0-TIS-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

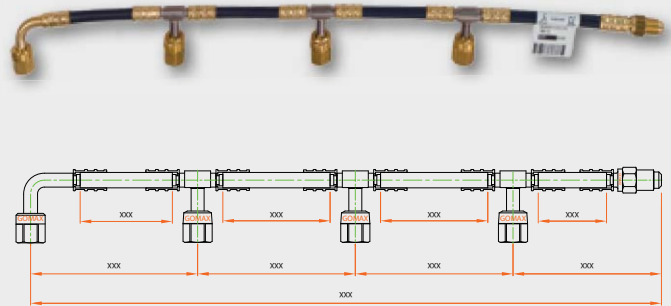
POINT TO POINT

Simple and easy to fit pre-assembled solutions made to customer specifications. QUADRA DN2, DN4 and DN6 are assembled to the specific length and fittings required by the customer. The QUADRA assemblies are supplied in **50 unit packs**.



MULTI POINT

Possibility of supplying laid out capillary circuits to customer specification especially designed for pressure test points, gauges, pressure switches including the oil return circuits and oil level equalization, for air conditioning and refrigeration units of each type.



Assemblies and quality management

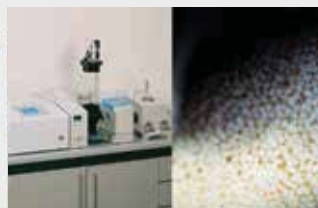
THE QUALITY SYSTEM - We take great pride in being one of the first companies of our industry to obtain the original ISO 9001 certification back in 1993. In 2013 we achieved ISO 14001:2004 certification which in 2015 was further complemented in our approval to BS OHSAS 18001:2007 certification. We have progressively developed our own internal quality systems to ensure our customer's satisfaction by utilising bespoke computerized production control systems to which all processes within our production facilities are intrinsically linked



Laser scanning system for most accurate measurement



Permeability machine To evaluate the permeability of GOMAX QUADRA hoses for every batch according to EN 1736



FT-IR spectroscopy For a straightforward polymer identification



Logistic up to date




- Every Gomax Component has been Designed, Developed and Certified to ensure Total integrity of the final hose assembly.
- Every Gomax Component and hose types are identified with Indelible permanent marking to ensure guaranteed traceability.
- Every Gomax finished hose assembly (capillary) is individually identity tagged and uniquely bar coded detailing

FITTINGS AND ACCESSORIES


DN2 fittings

1/4 SAE straight female




XBA02C	WBA02C	KBA02C
50 pcs	50 pcs	10 pcs

1/4 SAE straight female + valve opener




XBB02C	WBB02C	KBB02C
50 pcs	50 pcs	10 pcs

1/4 SAE elbow female 90°




XCA02C	WCA02C	KCA02C
50 pcs	50 pcs	10 pcs

Elbow 90°




	WPD2C1	KPD2C1
	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


DN4 fittings

1/4 SAE straight female




XBA02M	WBA02M	KBA02M
50 pcs	50 pcs	10 pcs

1/4 SAE straight female + valve opener



XBB22M	WBB22M	KBB22M
50 pcs	50 pcs	10 pcs

3/8 SAE straight female




XBA04M	WBA04M	KBA04M
50 pcs	50 pcs	10 pcs

1/4 SAE elbow female 90°




XCA02M	WCA02M	KCA02M
50 pcs	50 pcs	10 pcs

"T" fitting




	WPB0M1	KPB0M1
	50 pcs	10 pcs

"T" fitting with 1 female 1/4 SAE




	XPB2M4	WPB2M4	KPB2M4
	50 pcs	50 pcs	10 pcs

"T" fitting with 1 female 1/4 SAE



	XPB2M2	WPB2M2	KPB2M2
	50 pcs	50 pcs	10 pcs


1/4 SAE straight male



	WDN22M	KDN22M
	50 pcs	10 pcs


DN6 fittings

1/4 SAE straight female




XBA02N	WBA02N	KBA02N
50 pcs	50 pcs	10 pcs

3/8 SAE straight female




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°

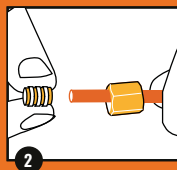


	XCA04N	WCA04N	KCA04N
	50 pcs	50 pcs	10 pcs

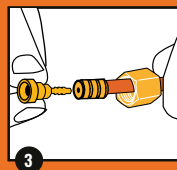
THE QUADRA SYSTEM - Assembling instructions



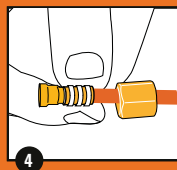
1 Cut the QUADRA capillary hose to the required length using the special WXAO04 cutter



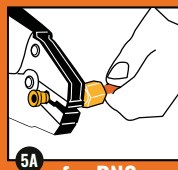
2 Slip the nut over the hose (depending on fitting type). Ensure that the threaded side is pointing towards the end of the hose that needs the assembling.



3 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.



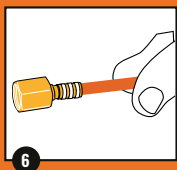
4 Pay attention not to move the components already fitted and slide the ferrule over the hose towards the insert positioning it in line with the insert.



5A for DN2 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.




5B for DN2-4-6 Crimp the ferrule using our pliers cod. RXA010. The deformation is achieved when the plier release.




6 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.

"T" fitting




WPBOC1	KPBOC1
50 pcs	10 pcs

"T" fitting with 1 female 1/4 SAE




XPBOC2	WPBOC2	KPBOC2
50 pcs	50 pcs	10 pcs

"T" fitting with 1 female 1/4 SAE




XPB2C4	WPB2C4	KPB2C4
50 pcs	50 pcs	10 pcs

"T" fitting with 2 females 1/4 SAE at 90°




XPB2C7	WPB2C7	KPB2C7
50 pcs	50 pcs	10 pcs

Cross fitting with 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 (4x6x100 mm)




WZE2C1
50 pcs

3/8 SAE elbow female 90°




XCA04M	WCA04M	KCA04M
50 pcs	50 pcs	10 pcs

Copper brazing fitting (4x6x100 mm)



WZE2M1
50 pcs

Copper brazing fitting (6x8x100 mm)




WZE2N1
50 pcs

ACCESSORIES

CUTTER AND BLADES FOR DN2 - DN4 - DN6 HOSES

Cutter blades



WXA004	WXB004
1 pcs	2 pcs

HAND PLIERS FOR DN2



RXA007
1 pcs

HYDRAULIC PLIERS FOR DN4 - DN6 HOSES



RXA005
1 pcs

QUADRA CASE



Empty	Complete
MR293	W00005
1 pcs	1 pcs

VALVE OPENER GASKETS NUT CAPS

Removable valve opener	Copper gasket 1/4	Copper gasket 3/8	QUADRA 1/4 fitting plugs	QUADRA 3/8 fitting plugs
WTD2Z1	WRP502	WRP504	WRW912	WRW914
50 pcs	50 pcs	50 pcs	50 pcs	50 pcs

NEW FREE STAND DISPLAY RACK



- W00006
DN2 display
- W00007
DN2-4 display
- W00008
DN2-4-6 display

NEW ELECTRIC PLIER DN2-4-6



A tool designed to be powerful, reliable and at the same time easy to use with its long lasting battery. The benefits of using our new Quadra Electric Plier are from the extremely compact design which will be particularly appreciated by our customers. It is lightweight for ease of transport, ease of use and simplifies assembling operations.

- RXA011
Bundle
- RXA012
Complete



Note:

Once the hose has been installed in the system, do not move or rotate it, to avoid unscrewing of the nut or damaging the fitting and the risk of leakage. Do not exceed maximum performance limits. Respect the nut torque value: - Torque wrench 14 7/16" - 20 UNF for 1/4" SAE connections | 16 ÷ 18 N-m. Do not exceed 20 N-m - Torque wrench 22 5/8" - 18 UNF for 3/8" SAE connections | 30 ÷ 32 N-m. Do not exceed 34 N-m.

Transfer Oil S.p.A. with more than 35 years of experience, are today one of the major independent thermoplastic and PTFE hose manufacturers in Europe. With a constant attention to quality and innovation and with a total capacity of more than 13 million meters (42 million feet) per year, all of our hose and bespoke fitting products are conceived, developed and produced to the highest internal standards which have been duly accredited by ISO 9001:2008 certification.



Our products are segmented into four main market sectors

TO HYDRAULIC - thermoplastic hose and fitting solutions used in a wide variety of high pressure hydraulic fluid power management systems.

TO INDUSTRIAL - thermoplastic and PTFE hose and fitting solutions for a wide variety of pressurised fluids and gasses,

TO UHP - Multi Spiral Ultra High Pressure thermoplastic hose and bespoke fitting solutions for hydraulic fluid management and a wide variety of Ultra High pressure fluids and gasses (up to 2800 bar/40600 psi).

GOMAX - thermoplastic hose and bespoke fitting solutions specifically tailored for the air conditioning and refrigeration Industry.

DISCLAIMER

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