



## SERIE CNG / *CNG SERIES*

Tubi Termoplastici per Automotive e Industria  
Automotive and General Industry Thermoplastic Hoses



THERMOPLASTIC TUBING AND HOSES



## ZEC: flessibilità per scelta

Siamo operativi dal 1961, anno in cui Eugenio Zantelli, il fondatore, ha iniziato le attività a Colorno, in provincia di Parma, Italia.

Tenacia e processi strategici di sviluppo, sia interni produttivi che commerciali, ci hanno favorito da subito, prima nel mercato interno, poi europeo ed oggi in oltre 90 paesi nel mondo.

Già dal 1970 si svolgevano ricerche e studi per la realizzazione di una gamma completa di tubi termoplastici ad altissima pressione per il trasporto di fluidi come solventi, vernici, prodotti chimici e gas nel totale rispetto delle principali normative internazionali.

Oggi, ZEC S.p.A. è tra le prime aziende a livello mondiale nel settore e dispone di una vastissima gamma di tubi termoplastici lineari, singoli, multipli e a spirale, standard o speciali, con caratteristiche tecniche di prodotto che spaziano da 2 a 40 mm di diametro interno, con pressioni di esercizio da 5 a 1280 bar e temperature di utilizzo estreme, da -200°C a +260°C, a seconda delle tipologie.

Progettazione, sviluppo, impianti moderni e tecnologicamente automatizzati, accurata selezione delle materie prime e severi controlli qualitativi sono le caratteristiche del ciclo produttivo di tutta la gamma di tubi termoplastici, che avviene esclusivamente all'interno dei nostri stabilimenti grazie ad un team di elevato livello professionale.

Tutti i prodotti a catalogo, oltre 1500 articoli, sono realizzati in regime di sistema di qualità UNI EN ISO 9001-2015 e conformi alle principali normative internazionali dei rispettivi settori di applicazione: SAE, EN, DIN e ISO.

## ZEC: flexibility for choice

*We have been in business since 1961, the year in which Eugenio Zantelli founded the company in Colorno, in the province of Parma, Italy.*

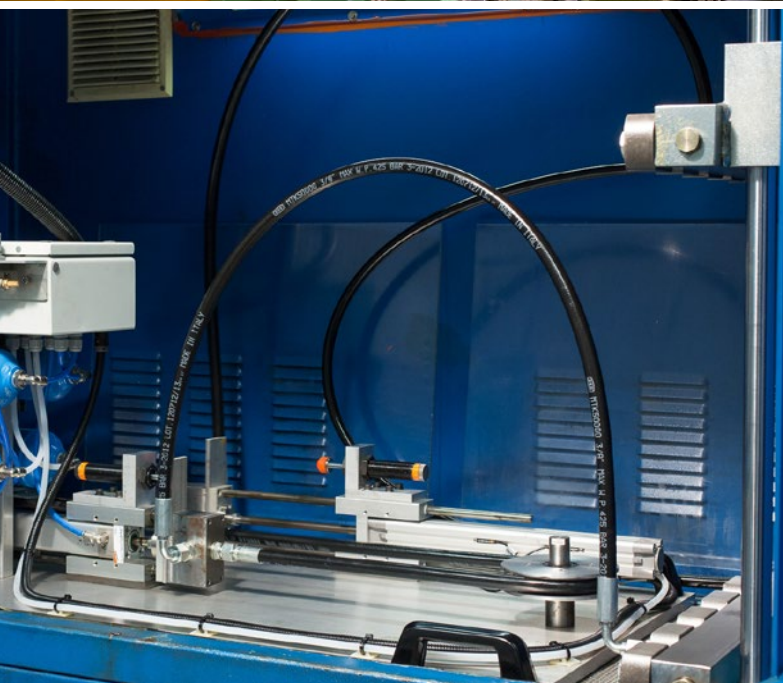
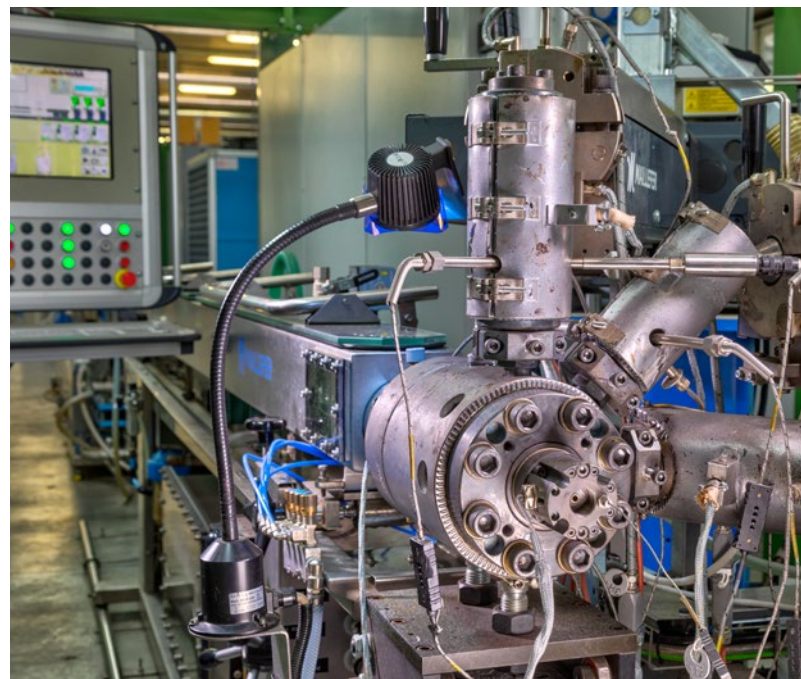
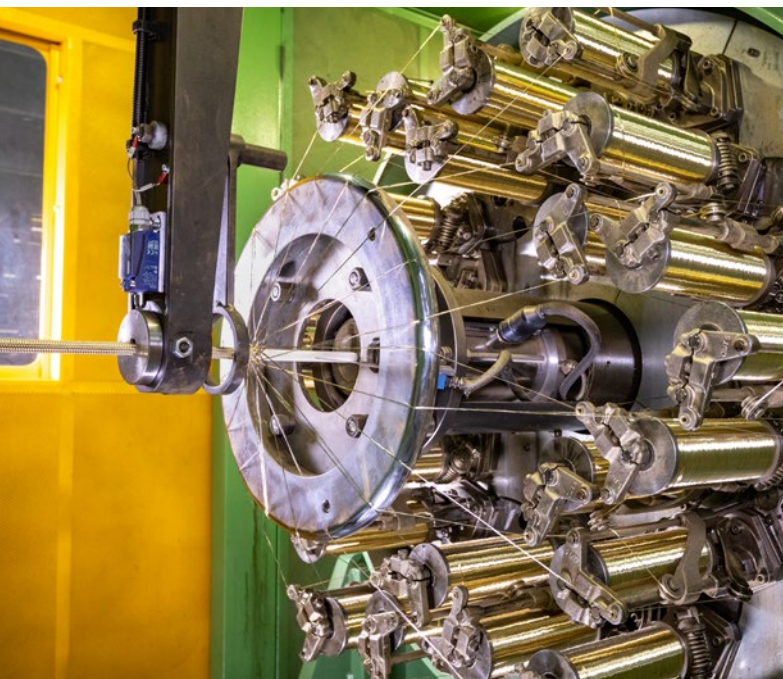
*Tenacity and strategic development processes, affecting both internal production and commercial activities, immediately brought us success, first on the domestic market and then in Europe and today in more than 90 countries worldwide.*

*As long ago as 1970 research and studies were being undertaken to provide a complete range of extremely high pressure thermoplastic hoses for carrying fluids such as solvents, paints, chemicals and gas in full compliance with the major international standards.*

*Today, ZEC S.p.A. is one of the industry leaders on the world's markets and supplies a wide range of standard or special single, multiple and spiral thermoplastic hoses, with technical characteristics within the range of 2 to 40 mm ID, working pressures from 5 to 1280 bar and extreme operating temperatures from -200°C to +260°C, depending on series.*

*Design, development, modern and technologically automated equipment, careful selection of raw materials and strict quality controls are characteristics of the production cycle for the entire range of thermoplastic hoses. The entire process takes place in our own factories, handled by a highly qualified professional team.*

*All the products in our catalogue, over 1500 articles, are manufactured according to the UNI EN ISO 9001-2015 quality system and compliant with the main international standards of the respective sectors of application: SAE, EN, DIN and ISO.*

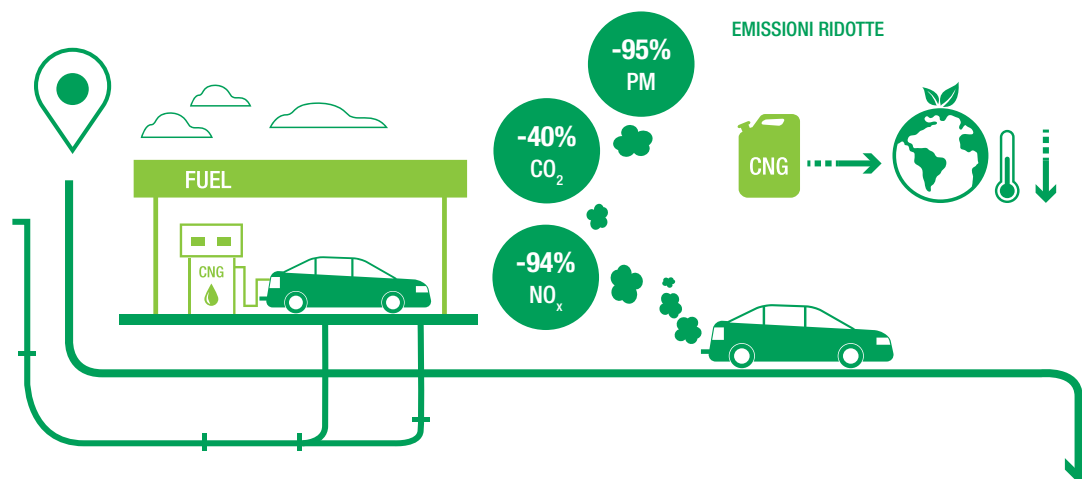


## Le soluzioni ZEC per la conduzione ad alta pressione di GAS naturale



La gamma di tubi ZEC Serie CNG è stata sviluppata per la conduzione di gas naturale. In natura questa sostanza si trova comunemente allo stato fossile, insieme al petrolio, al carbone o in giacimenti di gas naturale. Il suo principale componente è il metano, oltre a questo contiene anche idrocarburi come etano e propano e piccole quantità di altri gas come azoto, elio, anidride carbonica, zolfo e vapore acqueo.

### Caratteristiche e benefici del gas naturale rispetto ad altri carburanti:



### APPLICAZIONI

I tubi CNG sono utilizzati in applicazioni industriali e automotive, tra cui:

- Impianti di estrazione e compressione di gas naturale
- Impianti CNG a bordo veicolo
- Trasferimento di carburante CNG fino alla pompa
- Gestione CNG in ambiente industriale e domestico

### NORMATIVE

Le soluzioni ZEC CNG sono conformi alle normative **ISO 15500-17**, **SAE J517-100R8**, **MSHA**.

I tubi e raccordi ZEC sono stati progettati per rispondere alle seguenti certificazioni:

- NAG 415/416/417, ANSI/CSA NGV 4.2-2014 e CSA 12.52-2014 American National Standard,
- CSA standard hoses for natural gas vehicles and dispensing systems - Part II
- IRAM (Instituto Argentino de Normalización y Certificación), secondo normativa NAG E409:2005.



### Caratteristiche e benefici della soluzione CNG ZEC:

- Estrema **flessibilità**
- Copertura **MSHA** ed **antiabrasione**
- **Sviluppo soluzione tubo-raccordo** attraverso test con gas inerte fino a 500bar
- **Disponibilità di tutte le connessioni** richieste sul mercato
- **Marcatura personalizzata** e disponibilità di tubi multipli

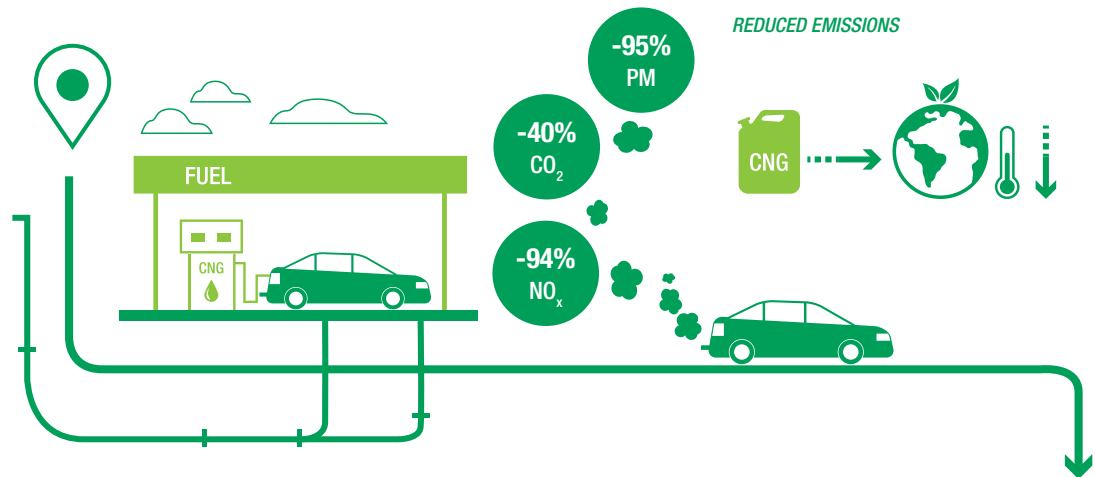


## ZEC solutions for the high pressure conduction of CNG



ZEC CNG thermoplastic hoses series has been created for the high pressure conduction of CNG. In nature this substance is commonly found at fossil state, together with petroleum, coal or in natural gas fields. Its main component is methane, in addition to this it also contains hydrocarbons such as ethane and propane and small amounts of other gases such as nitrogen, helium, carbon dioxide, sulfur and water vapor.

### Features and benefits of Natural Gas compared to other fuels:



### APPLICATIONS

CNG hoses are used in industrial and automotive applications, as:

- Natural gas extraction and compression plants
- CNG systems onboard vehicles
- CNG fuel transfer up to the pump
- Industrial and domestic CNG handling

### STANDARDS

ZEC CNG solutions meet or exceed **ISO 15500-17**, **SAE J517-100R8**, **MSHA standards**.

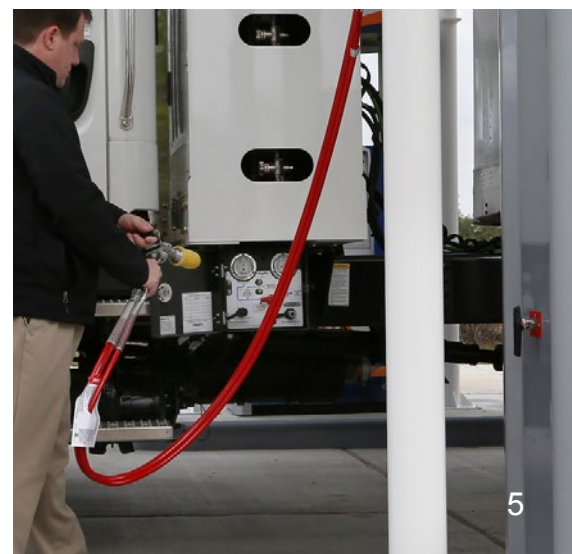
ZEC hoses and fittings have been designed according to the following certifications:

- NAG 415/416/417, ANSI/CSA NGV 4.2-2014 and CSA 12.52-2014 American National Standard,
- CSA standard hoses for natural gas vehicles and dispensing systems - Part II
- IRAM (Instituto Argentino de Normalización y Certificación) according to NAG E409:2005 standard.



### Features and benefits of ZEC CNG solution:

- **Extreme flexibility**
- **MSHA and anti-abrasion cover**
- **Hose-fitting solution development** through tests with inert gas up to 500bar
- **Availability of all connections** required by the market
- **Customization** and availability of multiple hoses



## CNG

### WATERPROOF COVER



Figura 1 / Picture 1

### Caratteristiche principali

- Pressione di esercizio costante 345 bar
- Normativa ISO 15500-17, SAE J517-100R8, MSHA
- Supera i requisiti NFPA 52, ANSI/CSA NGV 4.2-2014 e CSA 12.52-2014
- Elettricamente conduttivo
- Molto flessibile, facile da installare con un veloce inserimento e manutenzione semplice
- Tubazioni dal design robusto in grado di resistere a sollecitazioni, corrosione ed effetti ambientali

### Main Features

- Constant working pressure at 345 bar
- ISO 15500-17, SAE J517-100R8, MSHA Standards
- Exceeds NFPA 52, ANSI/CSA NGV 4.2-2014 and CSA 12.52-2014 requirements
- Electrically conductive
- Very flexible, easy to install with faster routing and simple maintenance
- Robust hose design resistant to mechanical stress, corrosion, and environmental effects

### Caratteristiche tecniche

#### • Caratteristiche tecnico-costruttive:

Anima interna in poliammide conduttiva, rinforzo con trecce in fibre tessili ad alta tenacità, ricopertura esterna di poliuretano rosso antiabrasione, microperforato, stabilizzato ai raggi UV, resistente all'ozono, ai micro-organismi ed all'idrolisi. Disponibili a richiesta in versione binata o multipla.

#### • Conduttività:

La resistenza elettrica della tubazione risulta inferiore a 0.12 MΩ/m secondo la norma ISO 8031.

#### • Temperature di utilizzo:

da -40°C a +85°C (-40°F a +185°F)

#### • Pressioni d'esercizio:

rapporto di sicurezza 1:4

#### • Valore max. di vuoto:

0.93 bar; 700 mm Hg

### Technical Features

#### • Technical-constructive features:

Inner core of electrically conductive polyamide, reinforcement of high toughness textile fiber braid, external pinpricked antiabrasion red polyurethane covering, UV-stabilized, resistant to ozone, microorganisms and hydrolysis. Twin-line or multi-line version available on request.

#### • Conductivity:

The electric resistance of the hose is less than 0.12 MΩ/m in accordance with ISO 8031 Standard.

#### • Working temperatures:

from -40°C to +85°C (-40°F to +185°F)

#### • Working pressures:

Safety ratio 1:4

#### • Vacuum rating:

0.93 bar; 700 mm Hg

### Scheda tecnica - Data Sheet

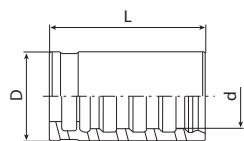


| CODE       | inch  | -dash | mm   | inch  | mm   | bar | psi  | mm  | inch | g/m | lbs/ft | FERRULE CODE |
|------------|-------|-------|------|-------|------|-----|------|-----|------|-----|--------|--------------|
| CNG37105   | 1/4"  | -4    | 6.4  | 0.492 | 12.5 | 345 | 5000 | 45  | 1.77 | 105 | 0.071  | BP14MT1      |
| CNGM37105* | 1/4"  | -4    | 6.4  | 0.591 | 15.0 | 345 | 5000 | 50  | 1.97 | 162 | 0.109  | BP14MT2      |
| CNG47105   | 5/16" | -5    | 8.0  | 0.591 | 15.0 | 345 | 5000 | 60  | 2.36 | 142 | 0.095  | BP516R7V     |
| CNG57105   | 3/8"  | -6    | 9.7  | 0.650 | 16.5 | 345 | 5000 | 75  | 2.95 | 155 | 0.104  | BP38R7V      |
| CNG67105   | 1/2"  | -8    | 13.0 | 0.866 | 22.0 | 345 | 5000 | 95  | 3.74 | 245 | 0.165  | BP12R9R      |
| CNG87105   | 3/4"  | -12   | 19.2 | 1.142 | 29.0 | 345 | 5000 | 185 | 7.28 | 360 | 0.242  | BP34MTKM     |
| CNG97105   | 1"    | -16   | 25.6 | 1.515 | 38.5 | 345 | 5000 | 230 | 9.06 | 510 | 0.343  | BP1MTKM      |

\* Soluzione "anti-kinking" raccomandata in particolare per collegamento valvola ed attacco veicolo (vedi figura 1).

\* Recommended "anti-kinking" solution in particular between valve and vehicle connection (see picture 1).

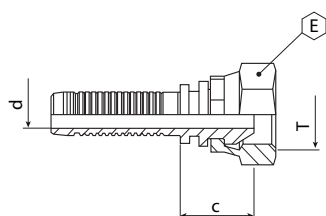
## Boccole a pressare per tubi serie CNG - Acciaio AVP zincato Swaged ferrules for CNG series hoses - Zinc plated carbon steel



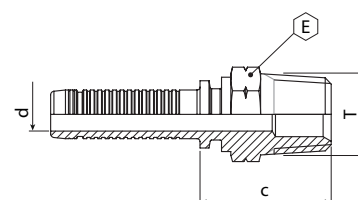
| Codice boccolla<br>Ferrule code | Tubo<br>Hose | Dimensioni boccolla / Ferrule Dimensions |    |    |
|---------------------------------|--------------|------------------------------------------|----|----|
|                                 |              | d                                        | D  | L  |
| BP14MT1                         | 1/4"         | 13.0                                     | 18 | 29 |
| BP14MT2                         | 1/4" M       | 15.4                                     | 20 | 30 |
| BP516R7V                        | 5/16"        | 15.4                                     | 20 | 30 |
| BP38R7V                         | 3/8"         | 17.0                                     | 22 | 32 |
| BP12R9R                         | 1/2"         | 23.0                                     | 30 | 45 |
| BP34MTKM                        | 3/4"         | 32.5                                     | 42 | 55 |
| BP1MTKM                         | 1"           | 40.5                                     | 50 | 75 |

## Raccordi serie CNG - Acciaio AVP zincato CNG series fittings - Zinc plated carbon steel

### RACCORDO FEMMINA BSP 60° / BSP FEMALE FITTING 60°



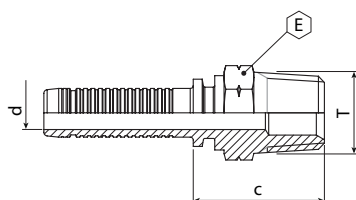
### RACCORDO MASCHIO NPT 60° / NPT MALE FITTING 60°



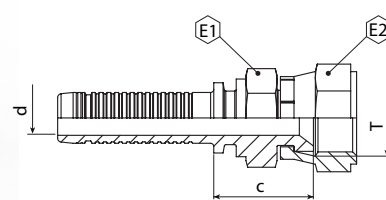
| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    | hex |      | Cut-off |
|-------------------|-------------|-------|------|------------------|------|-----|------|---------|
|                   | in          | -dash | mm   |                  |      | E   | C    |         |
| RGPF14BP14C       | 1/4"        | -4    | 6.4  | 1/4"-19 BSP      | 3.5  | 19  | 17.3 |         |
| RGPF14BP516C      | 5/16"       | -5    | 8.0  | 1/4"-19 BSP      | 5.0  | 19  | 17.3 |         |
| RGPF38BP38C       | 3/8"        | -6    | 9.7  | 3/8"-19 BSP      | 6.5  | 22  | 19.5 |         |
| RGPF12BP12L       | 1/2"        | -8    | 13.0 | 1/2"-14 BSP      | 9.0  | 27  | 22.8 |         |
| RGPF34BP34L       | 3/4"        | -12   | 19.2 | 3/4"-14 BSP      | 14.0 | 32  | 23.8 |         |
| RGPF1BP1L         | 1"          | -16   | 25.6 | 1"-11 BSP        | 19.0 | 38  | 26.7 |         |

| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    | hex |      | Cut-off |
|-------------------|-------------|-------|------|------------------|------|-----|------|---------|
|                   | in          | -dash | mm   |                  |      | E   | C    |         |
| RGPM14NC14C       | 1/4"        | -4    | 6.4  | 1/4"-18 NPT      | 3.5  | 15  | 27.5 |         |
| RGPM14NC516C      | 5/16"       | -5    | 8.0  | 1/4"-18 NPT      | 5.0  | 15  | 27.5 |         |
| RGPM38NC38C       | 3/8"        | -6    | 9.7  | 3/8"-18 NPT      | 6.5  | 19  | 28.0 |         |
| RGPM12NC12L       | 1/2"        | -8    | 13.0 | 1/2"-14 NPT      | 9.0  | 22  | 35.3 |         |
| RGPM34NC34L       | 3/4"        | -12   | 19.2 | 3/4"-14 NPT      | 14.0 | 27  | 38.7 |         |
| RGPM1NC1L         | 1"          | -16   | 25.6 | 1"-11.1/2 NPT    | 19.0 | 36  | 45.5 |         |

### RACCORDO MASCHIO NPTF 60° / NPTF MALE FITTING 60°



### RACCORDO FEMMINA JIC 74° / JIC FEMALE FITTING 74°



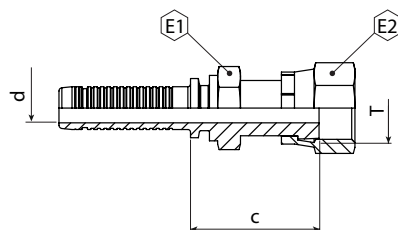
| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    |      | hex E   |       | Cut-off C |      |
|-------------------|-------------|-------|------|------------------|------|------|---------|-------|-----------|------|
|                   | in          | -dash | mm   |                  | inch | mm   | inch    | mm    | inch      | mm   |
| RGPM18NF14CH      | 1/4"        | -4    | 6.4  | 1/8"-27          | 0.14 | 3.5  | 9/16"   | 14.29 | 0.92      | 23.3 |
| RGPM14NF14CH      | 1/4"        | -4    | 6.4  | 1/4"-18          | 0.14 | 3.5  | 9/16"   | 14.29 | 1.08      | 27.5 |
| RGPM14NF516CH     | 5/16"       | -5    | 8.0  | 1/4"-18          | 0.20 | 5.0  | 9/16"   | 14.29 | 1.08      | 27.5 |
| RGPM38NF516C      | 5/16"       | -5    | 8.0  | 3/8"-18          | 0.20 | 5.0  | 3/4"    | 19.0  | 1.08      | 27.5 |
| RGPM14NF38CH      | 3/8"        | -6    | 9.7  | 1/4"-18          | 0.26 | 6.5  | 11/16"  | 17.46 | 1.10      | 28.0 |
| RGPM38NF38C       | 3/8"        | -6    | 9.7  | 3/8"-18          | 0.26 | 6.5  | 3/4"    | 19.0  | 1.10      | 28.0 |
| RGPM12NF12L       | 1/2"        | -8    | 13.0 | 1/2"-14          | 0.35 | 9.0  | 7/8"    | 22.0  | 1.39      | 35.3 |
| RGPM34NF34L       | 3/4"        | -12   | 19.2 | 3/4"-14          | 0.55 | 14.0 | 1 1/16" | 27.0  | 1.52      | 38.7 |
| RGPM1NF1L         | 1"          | -16   | 25.6 | 1"-11-1/2        | 0.75 | 19.0 | 1 7/16" | 36.0  | 1.79      | 45.5 |

| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    |      | E1      |       | E2     |       | Cut-off C |      |
|-------------------|-------------|-------|------|------------------|------|------|---------|-------|--------|-------|-----------|------|
|                   | in          | -dash | mm   |                  | inch | mm   | inch    | mm    | inch   | mm    | inch      | mm   |
| RGPF16J14CH       | 1/4"        | -4    | 6.4  | 7/16"-20         | 0.14 | 3.5  | 9/16"   | 14.29 | 9/16"  | 14.29 | 0.76      | 19.2 |
| RGPF16J14CH       | 1/4"        | -4    | 6.4  | 9/16"-18         | 0.14 | 3.5  | 9/16"   | 14.29 | 3/4"   | 19.0  | 0.88      | 22.3 |
| RGPF16J516CH      | 5/16"       | -5    | 8.0  | 9/16"-18         | 0.20 | 5.0  | 9/16"   | 14.29 | 3/4"   | 19.0  | 0.88      | 22.3 |
| RGPF16J516C       | 5/16"       | -5    | 8.0  | 9/16"-18         | 0.20 | 5.0  | 0.63    | 16.0  | 3/4"   | 19.0  | 0.88      | 22.3 |
| RGPF16J38CH       | 3/8"        | -6    | 9.7  | 9/16"-18         | 0.26 | 6.5  | 11/16"  | 17.46 | 3/4"   | 19.0  | 0.90      | 22.8 |
| RGPF16J38C        | 3/8"        | -6    | 9.7  | 9/16"-18         | 0.26 | 6.5  | 0.67    | 17.0  | 3/4"   | 19.0  | 0.90      | 21.7 |
| RGPF34J38C        | 3/8"        | -6    | 9.7  | 3/4"-16          | 0.26 | 6.5  | 3/4"    | 19.0  | 15/16" | 24.0  | 0.92      | 23.4 |
| RGPF34J12L        | 1/2"        | -8    | 13.0 | 3/4"-16          | 0.35 | 9.0  | 7/8"    | 22.0  | 15/16" | 24.0  | 1.01      | 25.7 |
| RGPF1P116J12L     | 1/2"        | -8    | 13.0 | 1 1/16"-12       | 0.35 | 9.0  | 0.98    | 25.0  | 1 1/4" | 32.0  | 1.14      | 29.0 |
| RGPF1P116J34L     | 3/4"        | -12   | 19.2 | 1 1/16"-12       | 0.55 | 14.0 | 1 3/16" | 30.0  | 1 1/4" | 32.0  | 1.21      | 30.7 |
| RGPF1516J1L       | 1"          | -16   | 25.6 | 1 5/16"-12       | 0.75 | 19.0 | 1 7/16" | 36.0  | 1 1/2" | 38.0  | 1.41      | 35.8 |

L'uso di raccordi serie CNG e boccole ZEC è necessario per la sicurezza del sistema. Disponibili su richiesta anche in acciaio inox AISI316L.

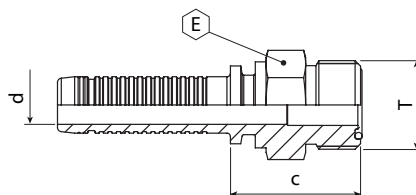
Use of ZEC CNG fittings series and ferrules are strictly recommended for safety reasons. On request available also of AISI316L stainless steel.

## RACCORDI FEMMINA ORFS / ORFS FEMALE FITTINGS



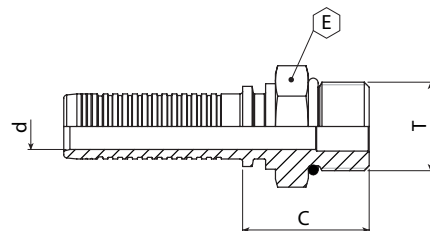
| Codice<br>Part nr | Tubo / Hose |       |      | Filetto /<br>Thread | d    |      | E1      |       | E2      |       | Cut-off<br>C |      |
|-------------------|-------------|-------|------|---------------------|------|------|---------|-------|---------|-------|--------------|------|
|                   | in          | -dash | mm   |                     | inch | mm   | inch    | mm    | inch    | mm    | inch         | mm   |
| RGPF0916014CH     | 1/4"        | -4    | 6.4  | 9/16"-18            | 0.14 | 3.5  | 9/16"   | 14.29 | 11/16"  | 17.46 | 1.20         | 30.5 |
| RGPF0916014CH     | 1/4"        | -4    | 6.4  | 11/16"-16           | 0.14 | 3.5  | 11/16"  | 17.46 | 7/8"    | 22.0  | 1.24         | 31.5 |
| RGPF09160516CH    | 5/16"       | -5    | 8.0  | 11/16"-16           | 0.20 | 5.0  | 11/16"  | 17.46 | 7/8"    | 22.0  | 1.24         | 31.5 |
| RGPF0916038CH     | 3/8"        | -6    | 9.7  | 11/16"-16           | 0.26 | 6.5  | 11/16"  | 17.46 | 7/8"    | 22.0  | 1.26         | 32.0 |
| RGPF0916038C      | 3/8"        | -6    | 9.7  | 13/16"-16           | 0.26 | 6.5  | 3/4"    | 19.0  | 15/16"  | 24.0  | 1.34         | 34.0 |
| RGPF0916012L      | 1/2"        | -8    | 13.0 | 13/16"-16           | 0.35 | 9.0  | 3/4"    | 19.0  | 15/16"  | 24.0  | 1.55         | 39.3 |
| RGPF091012L       | 1/2"        | -8    | 13.0 | 1"-14               | 0.35 | 9.0  | 15/16"  | 24.0  | 1"3/16" | 30.0  | 1.65         | 41.8 |
| RGPF0916034L      | 3/4"        | -12   | 19.2 | 1"3/16"-12          | 0.55 | 14.0 | 1"1/4"  | 32.0  | 1"7/16" | 36.0  | 1.82         | 46.3 |
| RGPF09171601L     | 1"          | -16   | 25.6 | 1"7/16"-12          | 0.75 | 19.0 | 1"7/16" | 36.0  | 1"5/8"  | 41.0  | 1.93         | 49.0 |

## RACCORDO MASCHIO ORFS / ORFS MALE FITTINGS



| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    |     | hex<br>E |       | Cut-off<br>C |      |
|-------------------|-------------|-------|------|------------------|------|-----|----------|-------|--------------|------|
|                   | in          | -dash | mm   |                  | inch | mm  | inch     | mm    | inch         | mm   |
| RGPM0916014CH     | 1/4"        | -4    | 6.4  | 9/16"-18         | 0.14 | 3.5 | 5/8"     | 15.87 | 0.91         | 23.2 |
| RGPM0916014C      | 1/4"        | -4    | 6.4  | 11/16"-16        | 0.14 | 3.5 | 3/4"     | 19.0  | 1.01         | 25.7 |
| RGPM09160516C     | 5/16"       | -5    | 8.0  | 11/16"-16        | 0.20 | 5.0 | 3/4"     | 19.0  | 1.01         | 25.7 |
| RGPM0916038C      | 3/8"        | -6    | 9.7  | 11/16"-16        | 0.26 | 6.5 | 3/4"     | 19.0  | 1.03         | 26.2 |
| RGPM0916038C      | 3/8"        | -6    | 9.7  | 13/16"-16        | 0.26 | 6.5 | 7/8"     | 22.0  | 1.14         | 29.0 |
| RGPM0916012L      | 1/2"        | -8    | 13.0 | 13/16"-16        | 0.35 | 9.0 | 7/8"     | 22.0  | 1.19         | 30.3 |

## RACCORDO MASCHIO O-RING BOSS / O-RING BOSS MALE FITTING

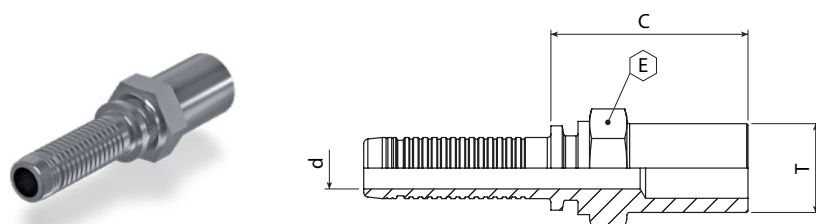


| Codice<br>Part nr | Tubo / Hose |       |      | Filetto / Thread | d    |      | hex<br>E |       | Cut-off<br>C |      |
|-------------------|-------------|-------|------|------------------|------|------|----------|-------|--------------|------|
|                   | in          | -dash | mm   |                  | inch | mm   | inch     | mm    | inch         | mm   |
| RGPM09160B14CH    | 1/4"        | -4    | 6.4  | 7/16"-20         | 0.14 | 3.5  | 9/16"    | 14.29 | 0.98         | 25.0 |
| RGPM09160B14CH    | 1/4"        | -4    | 6.4  | 9/16"-18         | 0.14 | 3.5  | 11/16"   | 17.46 | 1.04         | 26.5 |
| RGPM09160B516CH   | 5/16"       | -5    | 8.0  | 9/16"-18         | 0.20 | 5.0  | 11/16"   | 17.46 | 1.04         | 26.5 |
| RGPM09160B38CH    | 3/8"        | -6    | 9.7  | 9/16"-18         | 0.26 | 6.5  | 11/16"   | 17.46 | 1.06         | 27.0 |
| RGPM09160B38C     | 3/8"        | -6    | 9.7  | 3/4"-16          | 0.26 | 6.5  | 7/8"     | 22.0  | 1.20         | 30.5 |
| RGPM09160B34L     | 3/4"        | -12   | 19.2 | 1"1/16"-12       | 0.55 | 14.0 | 1"1/4"   | 32.0  | 1.52         | 38.5 |

L'uso di raccordi serie CNG e boccole ZEC è necessario per la sicurezza del sistema. Disponibili su richiesta anche in acciaio inox AISI316L.

Use of ZEC CNG fittings series and ferrules are strictly recommended for safety reasons. On request available also of AISI316L stainless steel.

## RACCORDO TUBOLARE / STUB END TUBE FITTING



| Codice<br>Part nr | Tubo / Hose |       |      | T    |       | d    |     | hex<br>E |       | Cut-off<br>C |      |
|-------------------|-------------|-------|------|------|-------|------|-----|----------|-------|--------------|------|
|                   | in          | -dash | mm   | inch | mm    | inch | mm  | inch     | mm    | inch         | mm   |
| EGP14DE14C        | 1/4"        | -4    | 6.4  | 1/4" | 6.35  | 0.14 | 3.5 | 9/16"    | 14.29 | 1.20         | 30.5 |
| EGP38DE14C        | 1/4"        | -4    | 6.4  | 3/8" | 9.50  | 0.14 | 3.5 | 9/16"    | 14.29 | 1.28         | 32.5 |
| EGP38DE516C       | 5/16"       | -5    | 8.0  | 3/8" | 9.50  | 0.20 | 5.0 | 9/16"    | 14.29 | 1.28         | 32.5 |
| EGP38DE38C        | 3/8"        | -6    | 9.7  | 3/8" | 9.50  | 0.26 | 6.5 | 3/4"     | 19.0  | 1.30         | 33.0 |
| EGP12DE38C        | 3/8"        | -6    | 9.7  | 1/2" | 12.70 | 0.26 | 6.5 | 3/4"     | 19.0  | 1.54         | 39.0 |
| EGP12DE12L        | 1/2"        | -8    | 13.0 | 1/2" | 12.70 | 0.35 | 9.0 | 7/8"     | 22.0  | 1.67         | 42.3 |
| EGP34DE12L        | 1/2"        | -8    | 13.0 | 3/4" | 19.05 | 0.35 | 9.0 | 7/8"     | 22.0  | 1.67         | 42.3 |

Boccole e raccordi in acciaio zincato sono disponibili su richiesta anche in AISI 316  
*Ferrules and fittings made of galvanized carbon steel are available on request also in AISI 316.*

## Protezione per tubi / Hose bend restrictor



• **Descrizione:**  
 Manicotti di protezione in vinile di colore nero, idonei per la riduzione dello stress a flessione della tubazione nella zona della raccordatura.

• **Temperature di esercizio:**  
 da +5°C a +80°C (da -41°F a +176°F)

• **Description:**  
 Black vinyl protection sleeves, suitable to reduce hose bending stress in the crimping area.

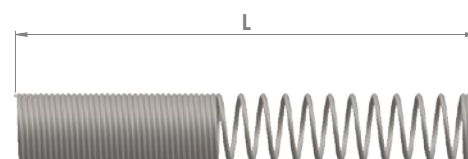
• **Working temperature:**  
 from +5°C to +80°C (from -41°F to +176°F)

## Scheda tecnica - Data Sheet

| Codice / Code | A (mm) | B (mm) | C (mm) | Tubo / Hose   |
|---------------|--------|--------|--------|---------------|
| HBR 10        | 13.0   | 15.0   | 135    | 1/4"          |
| HBR20         | 15.5   | 16.5   | 135    | 1/4"M - 5/16" |
| HBR40         | 17.0   | 18.3   | 163    | 3/8"          |
| HBR100        | 22.5   | 24.6   | 197    | 1/2"          |
| HBR120        | 29.5   | 34.2   | 225    | 3/4"          |
| HBR140        | 39.0   | 41.6   | 260    | 1"            |

## Molle di protezione / Protection springs

| Codice / Code          | Tubo / Hose<br>inch | L (mm) |
|------------------------|---------------------|--------|
| Tolleranza / Tolerance | Inch                | ±1     |
| PC14                   | 1/4"                | 136    |
| PC14M                  | 1/4"M               | 143.5  |
| PC516                  | 5/16"               | 151    |
| PC38                   | 3/8"                | 178    |
| PC12                   | 1/2"                | 188    |
| PC34                   | 3/4"                | 220    |
| PC1                    | 1"                  | 232.5  |



Molle di protezione in acciaio al carbonio zincato.  
*Galvanized carbon steel protection springs.*

## Sistema qualità certificato / Certified quality system

Ogni lotto di tubo prodotto è testato in accordo alle specifiche riportate in **SAE J517-100R8**:

- controllo dimensionale
- collaudo in pressione al 200% della max. pressione di esercizio
- variazione in lunghezza alla pressione di esercizio
- verifica della pressione di scoppio

Per ogni lotto prodotto è disponibile un certificato di ispezione 3.1 in accordo a EN 10204.

Anche la raccordatura è testata per garantire la massima qualità, tramite:

- collaudo del tubo raccordato con azoto al 110% della pressione di esercizio.
- prova a impulsi in accordo alle norme SAE J517-100R8

I tubi vengono marcati con un numero di lotto che ne garantisce la totale tracciabilità. Inoltre un campione per ogni lotto prodotto viene conservato per almeno 5 anni.

Each manufactured hose lot is tested according to **SAE J517-100R8** specifications:

- dimensional check
- pressure test at 200% of the maximum working pressure
- length variation test at the maximum working pressure
- burst pressure test

For each production lot a 3.1 report according to EN 10204 is available.

In order to guarantee maximum quality, the crimping is also tested:

- tightness test with nitrogen at 110% W.P.
- impulse pressure test according to SAE J517-100R8 specifications

All hoses are marked with a lot number in order to guarantee the traceability. In addition one sample for each production lot is stored for at least 5 years at our premises.



Banco per il collaudo con azoto della raccordatura  
Bench for nitrogen pressure test



Tester invecchiamento accelerato UV  
UV accelerated weathering tester

ZEC S.p.A. THERMOPLASTIC HOSES

COLORNO (PARMA) ITALY - Tel. (0521) 816631

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =

## CERTIFICATO DI CONTROLLO 3.1 n° 5662

INSPECTION CERTIFICATE 3.1

|                                       |                                     |                                  |           |
|---------------------------------------|-------------------------------------|----------------------------------|-----------|
| TIPO DI TUBO:<br>TYPE OF HOSE         | 5/16 CNG                            | CODICE:<br>CODE                  | CNG40105  |
| LOTTO DI PROD.:<br>LOT OF MANUFACTURE | 150717/15                           | METODO ANALISI:<br>SPECIFICATION | SAE 100R8 |
| TIPO DI CONTROLLO:<br>TYPE OF CONTROL | PRODOTTO FINITO<br>FINISHED PRODUCT |                                  |           |

|                      |           |
|----------------------|-----------|
| CLIENTE:<br>CUSTOMER | MAGAZZINO |
|----------------------|-----------|

| TIPO PROVA<br>TYPE TEST                                                                        | U.M. | VALORI<br>STANDARD<br>STANDARD VALUE | TOLLERANZE<br>TOLERANCE | VALORI<br>RISCONTRATI<br>TEST VALUE |
|------------------------------------------------------------------------------------------------|------|--------------------------------------|-------------------------|-------------------------------------|
| DIAMETRO ESTERNO<br>OUTSIDE DIAMETER                                                           | mm   | 15.0                                 | +/- 0.20                | 14.97                               |
| DIAMETRO INTERNO<br>INSIDE DIAMETER                                                            | mm   | 8.0                                  | +0.20 -0.10             | 8.0                                 |
| RAGGIO MIN. DI CURVATURA<br>BENDING RADIUS                                                     | mm   | 60                                   | -----                   | 60                                  |
| PRESSIONE D'ESERCIZIO<br>WORKING PRESSURE                                                      | bar  | 345                                  | -----                   | -----                               |
| PRESSIONE DI COLLAUDO<br>TESTING PRESSURE                                                      | bar  | 690                                  | -----                   | -----                               |
| PRESSIONE DI SCOPPIO<br>BURSTING PRESSURE                                                      | bar  | 1380                                 | -----                   | 1417                                |
| LUNGHEZZA INIZIALE TUBO<br>INITIAL LENGTH OF THE HOSE                                          | mm   | 600                                  | +60.0 -0.0              | 606                                 |
| LUNGHEZZA TUBO ALLA<br>PRESSIONE D'ESERCIZIO<br>LENGTH OF THE HOSE AT THE<br>WORKING PRESSURE  | mm   | -----                                | -----                   | 610.3                               |
| VARIAZIONE DI LUNGHEZZA<br>LENGTH VARIATION                                                    | %    | 0.00                                 | +/- 1.5                 | 0.71                                |
| DIAMETRO ESTERNO ALLA<br>PRESSIONE DI ESERCIZIO<br>OUTSIDE DIAMETER AT THE WORKING<br>PRESSURE | mm   | -----                                | -----                   | -----                               |
| VARIAZIONE DI DIAMETRO<br>DIAMETER VARIATION                                                   | %    | -----                                | -----                   | -----                               |
| TEMPERATURA DI PROVA<br>TEMPERATURE OF TEST                                                    | °C   | 23                                   | +/- 5                   | 27                                  |

NOTE:

NOTES

IL TUBO RISULTA: CONFORME

THE HOSE IS: COMPLYING

IN ACCORDO CON EN 10204 TIPO 3.1

ACCORDING TO EN 10204 TYPE 3.1

DATA: 17/07/2015

DATE:

TIMBRO E FIRMA C.O.  
STAMP AND SIGNATURE  
QUALITY CONTROL



Camera climatica  
Weathering machine



Banco di scoppio  
Burst test rig



Banco per prova ad impulsi secondo norma SAE  
Bench for impulse pressure test according to SAE standard



Banco per prova ad impulsi secondo norma SAE (interno)  
Bench for impulse pressure test according to SAE standard (inside)

Istruzioni e diametri di pressatura sono disponibili e sempre aggiornati nell'Area Riservata sul sito ZEC: [www.zecspa.com/it/area-riservata](http://www.zecspa.com/it/area-riservata)

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THERMOPLASTIC TUBING AND HOSES

