



**ALFAGOMMA**

**FOOD**





## // HOSE & FITTINGS FOR FOOD APPLICATIONS

Alfagomma offers a comprehensive range of high-quality **hoses and fittings**, engineered to meet the stringent requirements of the **food industry**.

Our solutions are ideal for transferring a wide variety of **liquid** and **bulk food products** across multiple applications.

### KEY APPLICATIONS

- ▲ **Food Processing Plants**
- ▲ **Dairy Product Handling and Milk Collection**
- ▲ **Breweries and Wineries**
- ▲ **Cleaning Operations in Food Environments**

### SUITABLE FOR HANDLING

- ▲ **Milk**
- ▲ **Liquid Non-fatty Foods**
- ▲ **Alcoholic Beverages**
- ▲ **Fatty Foods**
- ▲ **Bulk Foods**

### ENGINEERED FOR PERFORMANCE

Alfagomma hoses are manufactured using various tube compounds and constructions to ensure:

- ▲ **Optimal chemical resistance** based on the type of food conveyed
- ▲ **Tailored performance** for each specific application
- ▲ **Maximum durability, hygiene**, and regulatory **compliance** in demanding food environments

### FITTINGS AND HOSE ASSEMBLY SOLUTIONS

Alfagomma supplies a wide range of industrial fittings with suitable ferrules, clamps and accessories to guarantee quality, reliability and optimal performance with Alfagomma hoses:

- ▲ **AISI 316 stainless steel** material for full compatibility with the fluids transferred.
- ▲ Broad assortment of **connection styles** to match customer requirements across different applications and countries.
- ▲ Assembled on industrial hoses using crimped or clamped solutions for an **integrated tested system** that meet the specific technical requirements of food applications.

// HOSE IDENTIFICATION TABLE

| HOSE | TECHNICAL FEATURES |                |    |           |             |          | NORMS        |       |                           |            |                     |                          | ALCOHOLIC BEVERAGES |       |       |       | DAIRY & MILK             | FOOD PROCESSING PLANTS |             |          |           | CLEANING       |
|------|--------------------|----------------|----|-----------|-------------|----------|--------------|-------|---------------------------|------------|---------------------|--------------------------|---------------------|-------|-------|-------|--------------------------|------------------------|-------------|----------|-----------|----------------|
|      | Tube               | Hose structure | WP | Max temp. | Bend radius | ID range | FDA Title 21 | 18-03 | EC 1935/2004 EC 2023/2006 | EU 10/2011 | ITALY D.M. 21/03/73 | FRANCE 05/08/2020 CAT. D | ≤ 20%               | ≤ 50% | ≤ 75% | ≤ 95% | Processing and transport | Acid food              | Liquid food | Fat food | Bulk food | Food Environm. |

| LIQUID FOOD                                                                                                     |      |                   |                        |                   |          |                       |     |          |  |  |  |  |       |       |       |       |   |   |   |   |  |  |
|-----------------------------------------------------------------------------------------------------------------|------|-------------------|------------------------|-------------------|----------|-----------------------|-----|----------|--|--|--|--|-------|-------|-------|-------|---|---|---|---|--|--|
|  // 49000                      | PVC  | Tubing            |                        | +60 °C (+14 °F)   | NA       | 3-25 mm (1/8"-1")     | FDA |          |  |  |  |  |       |       |       |       |   |   | ● |   |  |  |
|  // 49200                      | PVC  | Delivery          | max 20 bar * (300 psi) | +60 °C (+14 °F)   | NA       | 6-51 mm (1/4"-2")     | FDA |          |  |  |  |  | ≤ 20% |       |       |       |   |   | ● |   |  |  |
|  // 4660L                      | PVC  | S&D               | max 8 bar * (120 psi)  | +60 °C (+14 °F)   | 4,5 x ID | 20-152 mm (3/16"-6")  | FDA |          |  |  |  |  | ≤ 20% |       |       |       |   |   | ● |   |  |  |
|  // 4680H                      | PVC  | S&D               | max 7 bar * (100 psi)  | +60 °C (+14 °F)   | 5 x ID   | 25-120 mm (1"-4 3/4") | FDA |          |  |  |  |  | ≤ 20% |       |       |       |   |   | ● |   |  |  |
|  // 47200                      | PVC  | S&D Steel helix   | max 15 bar * (225 psi) | +60 °C (+14 °F)   | 4 x ID   | 10-152 mm (3/8"-6")   | FDA |          |  |  |  |  | ≤ 20% |       |       |       |   |   | ● |   |  |  |
|  // 452LH                    | NR   | Delivery          | 10 bar (150 psi)       | +80 °C (+176 °F)  | NA       | 13-76 mm (1/2"-3")    | FDA |          |  |  |  |  |       | ≤ 50% |       |       |   |   | ● |   |  |  |
|  // 402LH                    | NR   | S&D               | 10 bar (150 psi)       | +80 °C (+176 °F)  | 3 x ID   | 25-102 mm (1"-4")     | FDA |          |  |  |  |  |       | ≤ 50% |       |       |   |   | ● |   |  |  |
|  // 410LL<br>Crush resistant | CIIR | S&D PET helix     | 16 bar (240 psi)       | +108 °C (226 °F)  | 4 x ID   | 25-76 mm (1"-3")      | FDA | Class IV |  |  |  |  |       |       |       | ≤ 95% |   | ● | ● |   |  |  |
|  // 412LE                    | NR   | S&D               | 10 bar (150 psi)       | +80 °C (+176 °F)  | 2 x ID   | 25-102 mm (1"-4")     | FDA |          |  |  |  |  |       | ≤ 50% |       |       | ● |   | ● |   |  |  |
|  // 418LE<br>Crush resistant | NR   | S&D PET helix     | 10 bar (150 psi)       | +80 °C (+176 °F)  | 3 x ID   | 51-76 mm (2"-3")      | FDA |          |  |  |  |  |       | ≤ 50% |       |       | ● |   | ● |   |  |  |
|  // 455LE                    | NBR  | Delivery          | 10 bar (150 psi)       | +100 °C (+212 °F) | NA       | 13-51 mm (1/2"-1")    | FDA | Class II |  |  |  |  |       |       | ≤ 75% |       |   | ● | ● | ● |  |  |
|  // 400LE EVOLUTION          | NBR  | S&D Extruded tube | 10 bar (150 psi)       | +120 °C (+248 °F) | 2 x ID   | 25-102 mm (1"-4")     | FDA | Class II |  |  |  |  |       |       | ≤ 75% |       | ● | ● | ● | ● |  |  |
|  // 405LE                    | NBR  | S&D               | 10 bar (150 psi)       | +100 °C (+212 °F) | 3 x ID   | 19-152 mm (3/4"-6")   | FDA | Class II |  |  |  |  |       |       | ≤ 75% |       |   | ● | ● | ● |  |  |
|  // 407LE                    | NBR  | S&D               | 16 bar (240 psi)       | +100 °C (+212 °F) | 4 x ID   | 38-76 mm (1 1/2"-3")  | FDA | Class II |  |  |  |  |       |       | ≤ 75% |       |   | ● | ● | ● |  |  |
|  // 417LE<br>Crush resistant | NBR  | S&D PET helix     | 16 bar (240 psi)       | +100 °C (+212 °F) | 4 x ID   | 38-76 mm (1 1/2"-3")  | FDA | Class II |  |  |  |  |       |       | ≤ 75% |       |   | ● | ● | ● |  |  |

\* WP varies by hose ID

| HOSE | TECHNICAL FEATURES |                |    |           |             |          | NORMS        |         |                           |            |                     |                          | ALCOHOLIC BEVERAGES |       |       |       | DAIRY & MILK             | FOOD PROCESSING PLANTS |             |          |           | CLEANING       |
|------|--------------------|----------------|----|-----------|-------------|----------|--------------|---------|---------------------------|------------|---------------------|--------------------------|---------------------|-------|-------|-------|--------------------------|------------------------|-------------|----------|-----------|----------------|
|      | Tube               | Hose structure | WP | Max temp. | Bend radius | ID range | FDA Title 21 | A 18-03 | EC 1935/2004 EC 2023/2006 | EU 10/2011 | ITALY D.M. 21/03/73 | FRANCE 05/08/2020 CAT. D | ≤ 20%               | ≤ 50% | ≤ 75% | ≤ 95% | Processing and transport | Acid food              | Liquid food | Fat food | Bulk food | Food Environm. |

BULK FOOD

|                                                                                            |    |          |                  |                  |        |                         |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------|----|----------|------------------|------------------|--------|-------------------------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  // 720LA | NR | S&D      | 10 bar (150 psi) | +80 °C (+176 °F) | 3 x ID | 76-102 mm (3"-4")       | FDA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  // 760LA | NR | Delivery | 5 bar (75 psi)   | +80 °C (+176 °F) | NA     | 75-110 mm (3"- 4 5/16") | FDA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

CLEANING

|                                                                                                        |      |          |                                                |                                                   |    |                    |     |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------|------|----------|------------------------------------------------|---------------------------------------------------|----|--------------------|-----|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  // 395BT             | PVC  | Delivery | 40 bar (600 psi)                               | +70 °C (158 °F)                                   | NA | 12 mm (1/2")       |     |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  // 350LE            | EPDM | Delivery | Water 15 bar (225 psi)<br>Steam 6 bar (90 psi) | Water +120 °C (248 °F)<br>Steam +165 °C (+330 °F) | NA | 13-51 mm (1/2"-2") | FDA | Class III |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  // 450LE EVOLUTION | NBR  | Delivery | Water 15 bar (225 psi)<br>Steam 6 bar (90 psi) | Water +120 °C (248 °F)<br>Steam +165 °C (+330 °F) | NA | 13-25 mm (1/2"-1") | FDA |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

// HOSE CLEANING GUIDELINES

PVC FOOD HOSE

It is recommended to clean PVC hoses using a 5% sodium hydroxide solution at 23 °C for 15 minutes before the first use and after each subsequent use.

RUBBER FOOD HOSE

Alfagomma cleaning instructions are intended as general guidelines. They are based on laboratory tests and may not fully reflect actual operating conditions.

Cleaning frequency, method, and duration can significantly affect hose performance and lifespan.

General Recommendations

- Inspect hoses regularly for signs of physical or mechanical damage.
- Do not use high-pressure cleaning systems.
- Alfagomma food hoses are designed for product transfer only and are not suitable for product stagnation.
- Store hoses away from direct sunlight and heat sources to preserve performance and extend service life.

Before First Use

Perform the following initial cleaning procedure:

1. Fill the hose with drinking water at 80 °C (176 °F).
2. Let the water sit in the hose for 2 hours.
3. Proceed with one of the approved cleaning methods listed in the following table.
4. Rinse with drinking water at 80 °C for 10 minutes.

For use of alternative cleaning media, please consult Alfagomma before proceeding.

After Each Use

1. Clean the hose using one of the approved methods listed in the following table.
2. Rinse with drinking water at 80 °C for 10 minutes.

Approved Cleaning Methods

| Hose                                                                   | Media               | Max concentration | Max temperature | Max exposure time |
|------------------------------------------------------------------------|---------------------|-------------------|-----------------|-------------------|
| 452LH<br>402LH<br>412LE<br>418LE<br>410LL<br>720LA<br>760LA            | Hot Water           | -                 | 80 °C           | 30 min            |
|                                                                        | Steam               | -                 | 110 °C          | 30 min            |
|                                                                        | Sodium Hydroxide    | 2,0%              | 40 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 23 °C           | 15 min            |
|                                                                        | Potassium Hydroxide | 2,0%              | 40 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 23 °C           | 15 min            |
|                                                                        | Nitric Acid         | 0,1%              | 23 °C           | 10 min            |
|                                                                        | Peracetic Acid      | 1,0%              | 23 °C           | 15 min            |
| 455LE<br>400LE EVOLUTION<br>405LE<br>407LE<br>417LE<br>450LE EVOLUTION | Hot Water           | -                 | 80 °C           | 30 min            |
|                                                                        | Steam               | -                 | 130 °C          | 30 min            |
|                                                                        | Sodium Hydroxide    | 2,0%              | 80 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 40 °C           | 15 min            |
|                                                                        | Potassium Hydroxide | 2,0%              | 80 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 40 °C           | 15 min            |
|                                                                        | Nitric Acid         | 0,1%              | 23 °C           | 10min             |
|                                                                        | Peracetic Acid      | 1,5%              | 23 °C           | 15 min            |
| 350LE                                                                  | Hot Water           | -                 | 80 °C           | 30 min            |
|                                                                        | Steam               | -                 | 130 °C          | 30 min            |
|                                                                        | Sodium Hydroxide    | 2,0%              | 80 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 40 °C           | 15 min            |
|                                                                        | Potassium Hydroxide | 2,0%              | 80 °C           | 15 min            |
|                                                                        |                     | 5,0%              | 40 °C           | 15 min            |
|                                                                        | Nitric Acid         | 0,1%              | 80 °C           | 10 min            |
|                                                                        |                     | 1,0%              | 23 °C           | 15 min            |
|                                                                        | Peracetic Acid      | 1,5%              | 23 °C           | 15 min            |

## // HOSE COMPLIANCE WITH FOOD REGULATIONS

Alfagomma **rubber and PVC food hoses** are specially designed to **comply with the relevant European and American regulations and legislation** related to materials intended for contact with food, including:

- EC 1935/2004
- EC 2023/2006 (GMP)
- EU 10/2011
- EU 3190/2024
- Italian Ministerial Decree of 21/03/1973
- French Arrêté of 05 August 2020
- FDA – Title 21
- 3-A Sanitary Standard 18-03

In addition, the entire food hose range conforms to **EU 2011/65 (ROHS)** and **EC 1907/2006 (REACH)**.

**Phthalates and Bisphenols are not intentionally used**  
in either the materials or the manufacturing process.

All hoses in the range are marked with the “**glass and fork**” symbol  confirming their suitability for food contact.



## // FITTINGS & HOSE ASSEMBLIES

A wide range of **specific AISI 316 stainless steel hygienic couplings** and **industrial fittings** are available to provide fit-for-purpose and fast solutions tailored to customer requirements:

- ▲ **DIN 11851**
- ▲ **Triclamp ISO/DIN**
- ▲ **Macon**
- ▲ **Cam & Groove**
- ▲ **Symmetric Guillemin NF E 29.572**
- ▲ **Storz**
- ▲ **Threaded couplings**
- ▲ **Safety clamp (EN 14 420-3)**
- ▲ **Ferrules**
- ▲ **Clamps and Band-it system**

Alfagomma offers **tested hose assembly systems with appropriate and quality fittings** for the different types of Alfagomma hoses for liquid, bulk food products and cleaning application.

- Fittings can be crimped or clamped onto the hose to meet the specific technical requirements of market segments and applications.
- Alfagomma assembly centers guarantee complete control of the quality and reliability and ensuring the safety of the hose assembly during all operations.
- Suitable adapters and accessories are available to complete the system.



// FITTINGS & ACCESSORIES

| LIQUID FOOD                                                                         |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Fittings                                                                            |                                                                                     |                                                                                     |                                                                                       |
|    |    |    |    |
| SMS 1145                                                                            | DIN 11851                                                                           | Triclamp                                                                            | Macon                                                                                 |
|    |    |   |    |
| Symmetric Guillemín<br>NF E 29.572                                                  | Storz                                                                               | Cam & Groove<br>MIL A-A-59326                                                       | Cam & Groove<br>EN 14420-7                                                            |
|   |                                                                                     |                                                                                     |                                                                                       |
| Threaded EN 14420-5<br>couplings                                                    |                                                                                     |                                                                                     |                                                                                       |
| Ferrule, Clamps & Accessories                                                       |                                                                                     |                                                                                     |                                                                                       |
|  |  |  |  |
| Serrated ferrule                                                                    | EN 14420<br>Safety clamps                                                           | Smooth ferrule                                                                      | Rubber protection ring                                                                |

| BULK FOOD                                                                             |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Fittings                                                                              |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|    |    |    |    |                                                                                       |
| SMS 1145                                                                              | DIN 11851                                                                             | Triclamp                                                                              | Symmetric Guillemín<br>NF E 29.572                                                    |                                                                                       |
|    |    |    |                                                                                       |                                                                                       |
| Storz                                                                                 | Cam & Groove<br>MIL A-A-59326                                                         | Cam & Groove<br>EN 14420-7                                                            |                                                                                       |                                                                                       |
| Ferrule, Clamps & Accessories                                                         |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|  |  |  |                                                                                       |                                                                                       |
| Serrated ferrule                                                                      | EN 14420<br>Safety clamps                                                             | Clamps (Superclamp / P-W clamp / Worm gear clamp)                                     |                                                                                       |                                                                                       |
| CLEANING                                                                              |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Fittings                                                                              | Ferrule, Clamps & Accessories                                                         |                                                                                       |                                                                                       |                                                                                       |
|  |  |  |  |  |
| Hydraulic fittings                                                                    | Hydraulic ferrule                                                                     | Washing gun                                                                           | Spray cleaning<br>nozzle                                                              | Rubber handle<br>protection                                                           |

[illegible]

# THE ALFAGOMMA GROUP

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