

It is recommended to consult the technical department of Rubinetterie Bresciane to evaluate the suitability for different/more severe applications/performances.

Sea water and industrial plants

The TURBO CuNi system is specifically suitable in case of piping applications for sea water, brackish and industrial waters in general. The distinctive characteristics of the copper-nickel alloy used for the system make it especially resistant to the corrosion and to the high flow rate. For these reasons it can be considered like an ideal solution in case of severe environment operational mode.

Marine and naval applications

The TURBO CuNi system can be used on board of ships, yachting crafts and naval vessels for a large range of applications in accordance with the specific rules in force for piping lines categorized as 3rd class. Main applications are related to the fire-fighting, cooling, washing, desalination, ballast and bilge plants. The FKM O-ring seals assure suitable performances in case of high temperatures or in presence of hydrocarbons/oils too. Therefore, the TURBO CuNi range can be also used for compressed air, fuel, lubricant oil and other service lines. The TURBO CuNi system is approved by the main class societies for all the relevant applications in the marine and naval field.

Systems with treated and additived water

Further to the naval and marine field the TURBO CuNi system is also ideally suitable for applications with specially aggressive/corrosive waters, like for example the swimming pool ones, that are necessarily treated with high concentration of chlorine. In case of eventual different applications we recommend to consult the technical staff of Rubinetterie Bresciane in order to evaluate the relevant suitability.

Certifications: ABS – BV - DVGW - GL - LR - RINA

The TURBO CuNi system (fittings and pipe, pressed with M profile) **has the approval from American Bureau Shipping, Bureau Veritas, DVGW, Germanischer Lloyd, Lloyd's Register, Naval Italian Register.**


Tested to vibrations and shock in compliance with the relevant military rules/regulations for the use on board of naval ships.



**PRESSFITTING
System CuNi**

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To ensure the quality and technical standards at the highest level, the manufacturer reserves the right to alter the specifications without notice.
This documentation supersedes and replaces all previous editions.



Introduction

The “cold” technique of union of pipes and fittings called “pressfitting” was born about 50 years ago and is one of the most popular pairing systems in Europe and is now applied either to metal alloys or to plastic and multilayer pipe systems.

The Bonomi Group was born in 1901 in Lumezzane (BS) and since then is always active in the production of adduction systems, distribution and control of gas and water, and distributes its products exclusively through a network made up of wholesalers and retailers of proven competence and professionalism.

Turbo Pressfitting system

The pressfitting system allows the creation of inseparable joints between pipe and fittings by means of the mechanical action performed quickly and “in cold” by a pressing machine with clamping jaws. The main components of the system are pipes, fittings and the press machine with jaws.



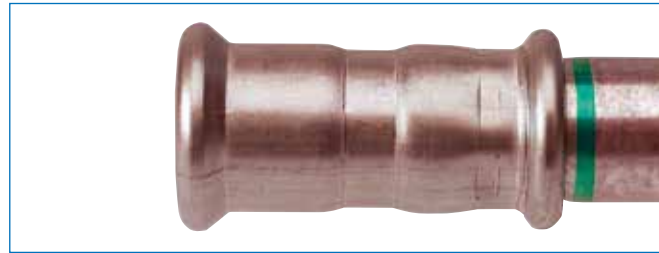
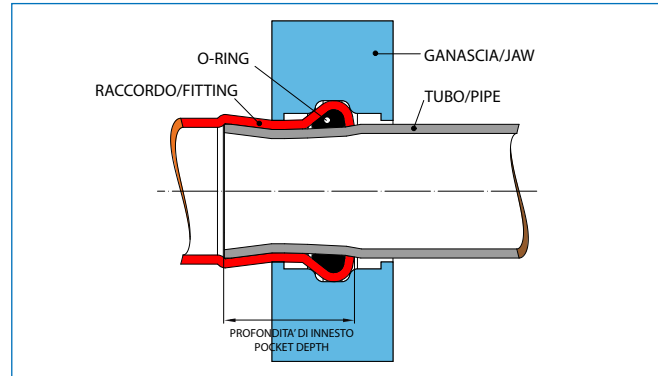
The connections at the pressfitting ends have a pocket in which the tube is inserted up to the stop end. A pressing machine with a suitably sized M jaw deforms, in a controlled way, the tip of the tube, assuring the unthreading rotation of the pipe under pressure.

The simultaneous deformation of the O-ring, housed in the toroidal site at the end of this connection and shape-memory effect free, ensures the sealing assembly. The combination of pipe and fitting thus obtained is capable of withstanding stresses which the system normally undergoes during the year (thermal expansion, water hammering, vibration, etc..), provided they have been assembled following the instructions and within the limits of temperature and pressure provided for each application.

TURBO CuNi pipes

The seamless TURBO CuNi pipes are made of copper-nickel 90/10 alloy Cu-Ni10Fe1,6Mn / WL 2.1972 (DIN 86019) – C70600 (ASTM B-111) or equivalent designation. The pipes are thin-walled (thickness 1÷2 mm), available in diameters 15÷108mm, supplied with a length

of 6 m in temper annealed condition and duly tested. The pipes are delivered clean, both internally and externally, and marked externally.



TURBO CuNi fittings

The TURBO CuNi fittings are made of the same copper-nickel 90/10 alloy used for the pipes and are available in nominal diameters 15÷108 mm. They have a socket at the ends with the typical toroidal chamber in which is housed a green FKM O-ring (standard) that ensures the seal thanks to the deformation made by means of pressing tooling. The fittings are glossy and externally identifiable by the indelible marking.

O-ring in FKM (green)

Due to the specific applications related to the marine/naval plants, the TURBO CuNi system is supplied with standard FKM O-ring. Moreover, thanks to its peculiar characteristics, the FKM O-rings are also particularly suitable for many other applications in the plumbing and industrial fields (thermal solar installations, unfiltered compressed air, high working temperature, presence of oil, etc.). For this reason they are also supplied on request to be used with the other pressfitting lines from RB (TURBO INOX and TURBO STEEL). Therefore, depending on the used system, the installer must replace or not the standard ring provided by the producer for the application listed.

Color	Applications	Operating pressure	Operating temperature
Green	Compressed air class1÷4	max 7 bar	Ambient
	Hot water		max 140°C
	Inert gas		Ambient
	Sea water		-30°C ÷ +140°C
	Fuel oils	max 1 bar	max 60°C
	Lubricating oils		
	Hydraulic oils		
	Thermal oil	max 170°C	
Low pressure steam	max 1 bar	max 120°C	

EPDM O-ring (black)

The ring can be mounted in the TURBO CuNi fittings in place of the standard one (FKM - green). This kind of O-ring, made in EPDM peroxide, provides a high chemical inertia, including oxidizing agents such as oxygen, ozone and most chemicals used in household and industrial water and high resistance to the strong and frequent temperature changes.

Color	Applications	Operating pressure	Operating temperature
Black	Fresh water	max 16 bar	-30°C + 120°C
	Treated water		
	Hot water		
	Refrigerated water		
	Osmosised water		
	Vacuum system		
	Compressed air class 0		
	Inert gas		
Sea water			

Applications



DRINKING WATER



HVAC



COMPRESSED AIR



MARINE



HEATING



INDUSTRIAL