

PLASSON Case Study

Italy
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Translating Customer Needs Into Product Features

Customer Needs

Unareti - among the top 5 gas suppliers in Italy, serving over 1.2 million inhabitants - have been purchasing from PLASSON the PE ball valves up to 110 mm diameter.

During one of our routine meetings with their technical staff, the new version of valves was presented - equipped with vents, available in sizes 90 and 110 mm - to get their feedback.

Unareti immediately connected the new version to one of their current improvement projects: they were looking for a smart solution to check the line pressure upstream and downstream of each newly installed PE ball valves, as close as possible to the valve; the challenge of the project was limited available space in the 200x200 mm manhole, and they perceived PLASSON compact valves with vents could be a viable solution.

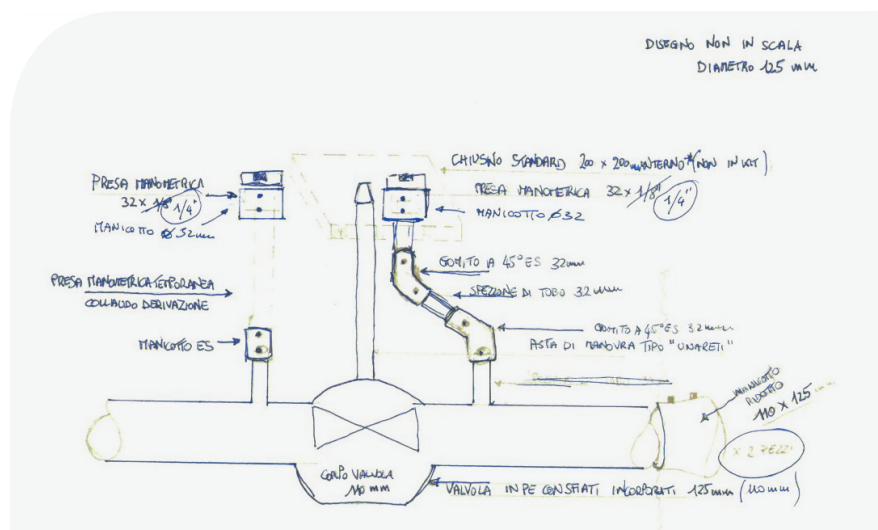


Project

The main characteristics identified by Unareti for the required solution were:

- Upstream vent to be used for a one-off test once installation is completed; no need to have accessibility inside the manhole in normal operations, since the vent would be plugged after the test.
- Downstream vent to be used for regular maintenance pressure check with portable pressure gauge, to be installed on a connection accessible through the manhole.
- Pressure gauge connection size: 1/4".
- Line operating pressure up to 40 mbar.

A handmade sketch was developed by Unareti with PLASSON, identifying the solution for the 125 mm line (the most critical one in terms of dimensions), shown in the attached sketch: the use of two 32 mm 45° elbows and three segments of 32 mm PE pipe provided the right geometry of the vent line as close as possible to the extension spindle and accessible through the manhole.



Bill of material - supplied as a kit to be installed onsite, allowing flexibility in adapting to potential local constrains - includes:

KIT PE BALL VALVE size 125 mm.				
PN	Description	Size (mm)	Qty.	Notes
4362071102S	PE ball valve with 2 vents	110	1	
491104125110	Reduction coupler	110x125	2	
653008625	Extension spindle	-	1	
49120432	End cap	32	1	to plug vent after test
-	PE tubing	32	3	each 800 mm long
490604032	Elbow 45°	32	3	
490104040	Coupler	32	2	
(000.032.014)	Fitting for pressure gauge	¼ (inch) - threaded	2	with protection cap

All components are available in PLASSON catalogue or on the market, except the fitting for pressure gauge, which had to be co-engineered by the two teams.

After reviewing different alternatives, the best solution for fitting for pressure gauge was identified as a segment from a machined PE rod, bored with a 1/4" threaded nickel-plated brass insert and completed with a male plug with an O-ring, to seal the connection when not in use; the fitting comes with a protection cap, preventing sand/dust/etc. to affect the connection.



Unareti tested the fitting for pressure gauge by means of several decohesion tests, performed according to UNI 10521 standard, with a positive outcome.

Pilot Installation

Once the concept was developed, the bill of material was defined, and all components were available. Unareti tested the kit on site, with a pilot installation of the 90 mm valve, under PLASSON supervision.



Both technical and installation teams of the gas company were satisfied by the solution, which was found easy and quick to install and – most importantly – fully safe: all components are welded, apart the final threaded part, and the assembly is fully leak free. They therefore released the final approval for the 90 and the 125 solutions, the latter based on a 110 valve.

Further Developments

Unareti was so pleased with the solution that they asked PLASSON to extend the concept to small diameter lines (32, 50 and 63 mm), for which the valves with integrated vents are not available; PLASSON proposed a solution based on their “standard” valves coupled with tees to install the vents.

Conclusions



“We are satisfied to have transformed an operational need into a new product useful for improving the field activities. We wish to thank PLASSON for its active and fruitful collaboration.”

Andrea Spadaro

Maintenance Engineer, Unareti



“We are glad that Unareti trusted PLASSON to develop together a creative solution, from the conceptual draft through co-engineer and final acceptance test on site.”

Sara Cesare

Managing Director, PLASSON Italy