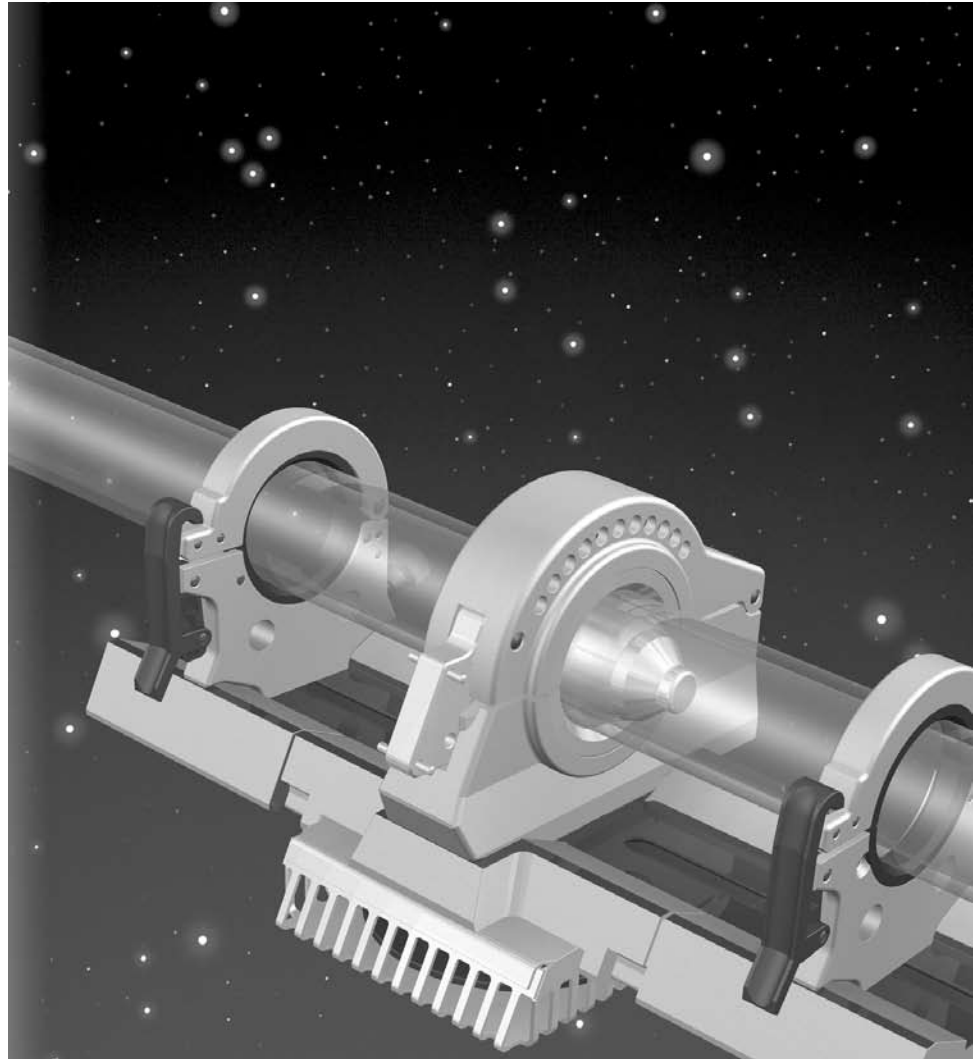


Bead and Crevice Free (BCF[®]) Plus Joining



Evolution of Innovation

Unsurpassed fusion weld quality

- No beads
- No crevices
- No transitions
- No dead legs and no microorganic deposits
- Very high fusion weld stability
- Very little stress in the fusion zone, therefore less prone to stress cracking corrosion
- Controlled and secured manufacturing processes thanks to own machine production
- Worldwide recognized and certified training of quality control personnel and installers

Joining technology

Fusion joining of PVDF

BCF® Plus fusion joining of SYGEF® PVDF piping systems

Fusion joining method

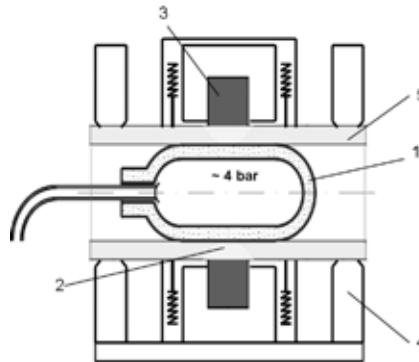
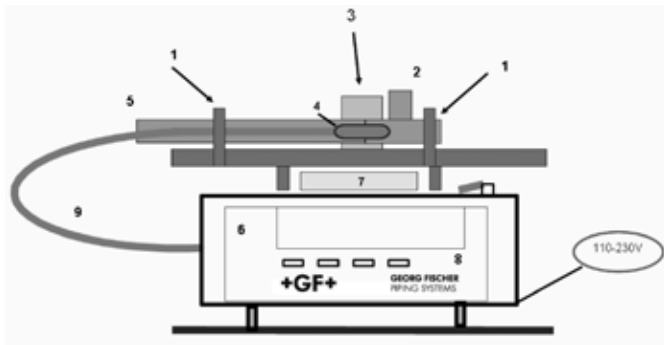
The fusion joining process consists in transmitting precisely defined thermal energy to the pipe and fitting ends being joined by means of half-shell heating elements.

At the same time an elastic, pressurised bladder supports the inside surface of the fusion zone in order to prevent the formation of an internal fusion bead.

Holding the melted thermoplastic under controlled pressure ensures ideal, homogeneous fusion of the plastic components.

Fully automatic process control of the fusion joining process with a fusion joining machine developed in-house by GF permits very simple handling and reproducible fusion quality.

- 1 Pipe clamping element
- 2 Fitting
- 3 Heating element with fitting - clamping device
- 4 Pressurised bladder
- 5 Pipe
- 6 Compressor for bladder
- 7 Cooling air blower
- 8 Control unit control panel
- 9 Compressed air supply



- 1 Pressurised bladder
- 2 Welding zone
- 3 Heating element
- 4 Clamping position
- 5 Pipe / Fitting

Tools required

BCF joining requires the SYGEF® HP BCF® joining machine in addition to the tools normally used for plastic pipework construction (pipe cutters, etc.).



Preparing the fusion joint and operating the BCF® Plus fusion jointing machine

In principle, BCF® Plus fusion jointing machines do not require any special preparation, other than to ensure that all components being joined are clean.

Operation of the BCF® Plus machines is defined exactly in the operating instructions, but we strongly recommend attending a 1-day training course to become a qualified BCF® welder.

Properties and characteristics of BCF® Plus fusion joints

Welding free from beads and crevices

The result of the jointing process is a surface similar to the actual pipeline components, free from beads or crevices. There are therefore no dead spaces, the surface roughness lies in the range Ra 0.25.

Reproducible jointing processes

The high reproducibility of the joints is assured by the clearly defined and controlled process sequence.

Clear, simple operator guidance

Clear, unambiguous operator guidance via the liquid

crystal display leads the user interactively through the fusion process in logical operating steps.

Welding report/traceability

The welding parameters for the relevant welding operations can be read out directly via various interfaces on the machine. It is possible to print these out on paper (commercially available printers), on labels or to employ electronic data output (PCMCIA card).

This automatically provides an accurate record with all essential fusion parameters for each individual fusion joint.