

Groupe Genoyer  
**MUNRO & MILLER**  
FITTINGS





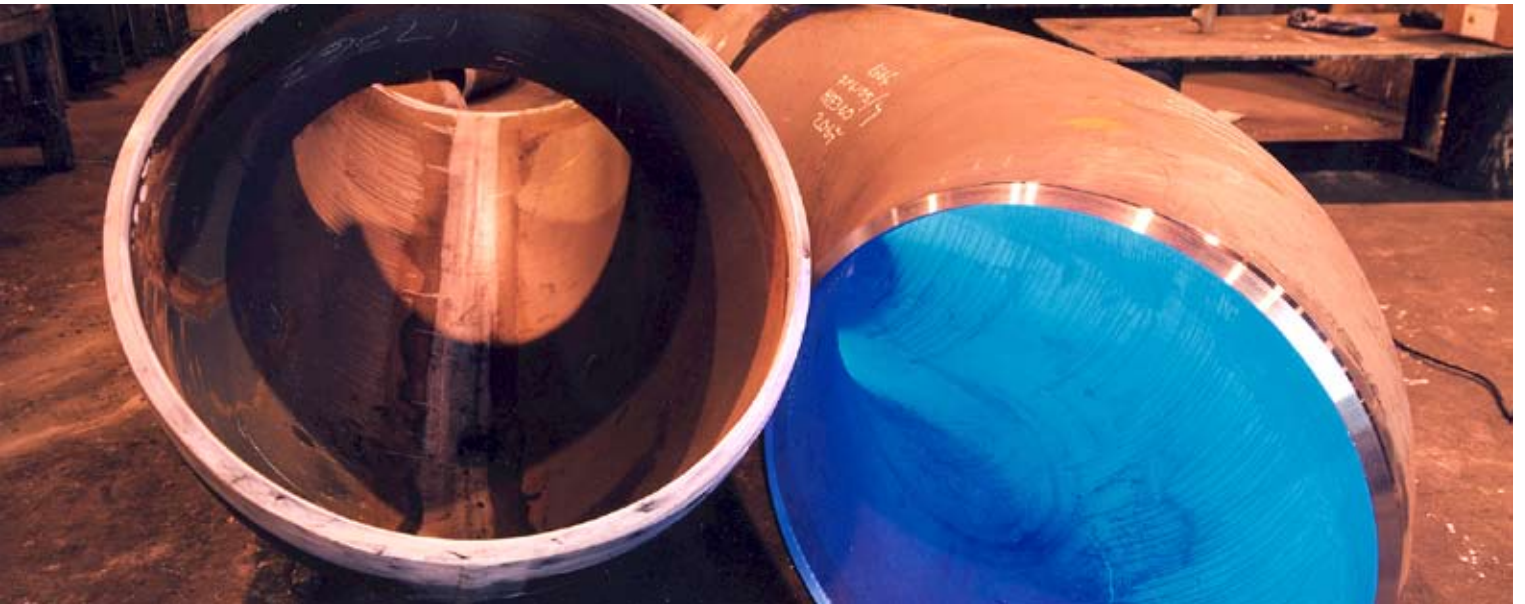
## I Forged Bends

### Offshore/Onshore

MUNRO-MILLER can supply a full range of 1 1/2D-3D radius Forged Bends for use in gas compressor stations and pipeline terminals from 200NB-1200NB, also a limited range 5D-7D radius bends. Materials we can offer include Carbon WPB/WPL6, Low Alloy Steels and we also specialise in High Yield Steels from Grades X42-X80 designed for use in onshore and offshore transmission and distribution pipelines. Of particular interest to pipeline operators is the closely toleranced bore

consistently obtained throughout the length of Munro + Miller Forged Bends, which allows the free passage of inspection pigs and also facilitates field segmentation.

Typical applications include Overland Oil & Gas Lines, Submarine Oil & Gas lines, Terminal & Compressor Stations, Offshore Riser Systems and Offshore Flow Lines.



### Extruded Branch Tees Barred Tees

In order to satisfy the needs of the large diameter gas transmission lines, MUNRO + MILLER have developed a range of Extruded Branch Tees up to 48" n.b.

Forged Tees and Extruded Tees can be manufactured with grid bars incorporated in the tee design. This type of tee is recommended for applications where the pipeline is to be pigged. Grid bars can also be produced to specific company standard or alternatively, MUNRO + MILLER can use their wide experience to offer advice on the most suitable design.





## I Expansion Joints

MUNRO + MILLER FITTINGS LTD operates from a 113,000sq. ft. modern factory situated in Broxburn which is 7 miles West of Edinburgh, Scotland's capital.

The company was first established in 1921 to undertake pipework fabrication, and in 1950, the company realised the potential of thin wall bellow type expansion joints and instigated a development programme to establish manufacture and performance data.

Techniques were developed from first principles and in 1953 MUNRO + MILLER sold their first production units.

Expansion Bellows from MUNRO + MILLER are manufactured by hydro-forming or rolling and are manufactured with only longitudinal seam welds. The choice of methods depends on the profile required and the material selected. They can be single-ply or multi-ply and external reinforcing rings can be fitted depending upon design criteria.

MUNRO + MILLER can supply standard ranges from 40mm to 5,000mm diameter. Special units can also be produced in larger sizes and assemblies up to 40 tonnes can be accommodated.

MUNRO + MILLER supply products to suit the customer's individual specifications and requirements, and work to all major European and

American codes, e.g. AD Merkblatt B.13. ASME...CODAP.

Pressure/Temperature range can vary from full vacuum to 100 Barg and -196°C to 1000°C.

There has been tremendous advancement in the materials used for Expansion Joints and great care taken to select the most appropriate material for the client's application.

We can manufacture expansion joints in 300 series stainless steels, nickel based alloys such as Alloy 400, 600, 625, 800 and 825.

MUNRO + MILLER employ state of the art computer technology for the design and drafting fields, including finite element analysis, computer aided drafting (incorporating parametric facilities) expansion joint design and pressure vessel design analysis.

MUNRO + MILLER has acquired a reputation for high standards and the quality of its products. Engineers, metallurgists, technicians and inspectors ensure that all systems and the organisation are in accordance with BS EN ISO 9001:2000.

The information technology policy of the company is aimed at producing more accurate

information (graphical/ analytical and textual) within the shortest timescales in order to improve the quality of the service provided to clients.

