SLIMFLANGE
SIZE-FOR-SIZE CONNECTIONS

Full end load performance without compromise

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Size-for-size flange connections for faster and cost-effective installation

SlimFlange is a unique steel reinforced flange adaptor that allows bore-size-for-size jointing of a PE pipe to a metal flange.

Compact, lightweight yet strong, it eliminates the usual need to upsize valves or other metal fittings, benefitting installers with faster, safer and more cost effective installations.

Design

SlimFlange was engineered specifically to cut gas and water installation costs with no safety compromise. The unique fitting design incorporates a steel reinforcement hoop, buried in the SlimFlange face. This allows the PE stub shoulder height and backing ring size to be reduced dramatically, with increased joint strength and improved sealing performance, including installations where SlimFlanges are bolted back to back.

Key Product Information

- Size range: from 250mm to 630mm (PE outside diameter) as standard.
- Non-standard SDRs and drillings can usually be supplied.
- Pressure ratings: up to 4bar for gas and up to 16bar for water applications.
- Materials: main body and pups – Excel (PE100); backing ring - galvanised mild steel plate to BS 4360/43A (or other steels to special order).

Approvals

SlimFlange is manufactured and tested in accordance with the following specifications:

- Gas industry - GIS/PL3 Class B (for sizes up to and including 500mm x 450mm) and GIS/PL2:Part 6 (for 250mm x 200mm).
- Water industry - WIS 4-24-01 (Type 1 at SDR17 and above).

Features

- No need for upsizing metal fittings, or for PE bore reduction.
- Fully end load bearing fitting (Type 1 at SDR17 and above).
- Reduced size and weight.
- Fully floating, compact backing ring.
- No compromise on strength and durability – stronger than the same size of conventional PE flange.
- Enhanced gasket sealing performance.

Benefits

- Cost savings via bore-size-for-size connection.
- Easier handling and installation.
- Reduced installation costs.
- Smooth bore and full flow capacity maintained.
- Improved long-term security against leaks.
- Pipeline pigging made easier.

No Upsizing

A 250mm SlimFlange connects 250mm OD (outside diameter) PE pipe directly to a 200mm DN PN16 valve. A traditional 250mm PE flange requires a 250mm ID (internal diameter) PN16 valve for bolting to match.

No Safety Compromise

SlimFlange does not lead to loss of strength, unlike PE ‘combination’ flanges. Size-for-size capability is not achieved by temporary PE bore reduction, which weakens the fitting and increases the potential for blockage.
Fully End-load Bearing
Non end-load bearing connections require external harnessing or anchor/thrust blocking. SlimFlange avoids this problem, as it is fully end-load bearing for most SDRs and under tensile loading the associated pipe will always yield before the SlimFlange.

Reduced Weight
SlimFlange is almost 50% lighter than equivalent conventional PE flange adaptors, providing significant logistical and handling benefits. Significantly reduced weight also reduces the associated health & safety burden.

Ease of Installation
SlimFlange is the only size-for-size PE flange adaptor with a freely rotating backing ring, to allow precise flange alignment and easy bolting-up to valves and other fittings in the field.

Improved Sealing Performance
The compact backing ring of SlimFlange applies loading more directly to the PE shoulder, resulting in improved long term sealing against any gas or water leakage.
Product Codes and Dimensions

**SlimFlange Assemblies***

<table>
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<tr>
<th>Size** (mm)</th>
<th>SDR11 Code</th>
<th>SDR17 Code</th>
<th>SDR17/17.6 Code</th>
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* SlimFlange is only sold as an assembly. Bolts are not supplied as standard.

** The first size refers to the outside diameter of the PE pipe and the second - to the nominal bore of the metal pipe or fitting.

L = Available leg length, standard = 0.5m for 90mm to 400mm sizes, 1.0m for 450mm to 800mm sizes.

**The 315 x 250PN16 SDR17 SlimFlange may require 20mm diameter bolts rather than the standard 24mm.

Drilled to BS EN 1092-1:2007 Table 13.

***SlimFlange Backing Rings (not for sale individually)***

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<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>PCD (mm)</th>
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* The first size refers to the outside diameter of the PE pipe and the second - to the nominal bore of the metal iron pipe or fitting.

** The 315 x 250PN16 SDR17 SlimFlange may require 20mm diameter bolts rather than the standard 24mm.

Drilled to BS EN 1092-1:2007 Table 13.

Alternative Solutions

Where SlimFlange cannot be offered, GPS can supply alternative solutions, for example in the form of Special Flange Adaptors. Please contact our Technical Support or Sales Office for further information.

Recommended procedures for bolting up are referenced in the GPS Technical Guide ITOO5.
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