

Difference Between G and PF – Part 2

No. 059

【Question】



Are G and PF parallel pipe external threads the same, or are they different?
Which parallel pipe threading die should be used?
Can the YAMAWA D PF Parallel Solid Die be used to machine both G and PF external threads?

【Answer】

In practice, there is no significant difference between G and PF parallel pipe external threads. You can simply consider that the thread designation has changed from PF (former JIS standard) to G (current JIS standard).

Furthermore, the YAMAWA D PF Parallel Pipe Thread Solid Die can be used to machine both:

- PF external threads • G external threads without requiring a different die.

Note: For information on the relationship between female threads and taps, please refer to Tips No.058 – Difference Between G and PF (Part 1).



【 Explanation 】

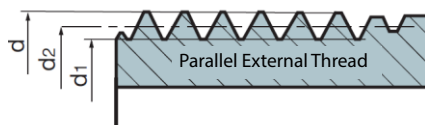


PF is the designation used in the former JIS standard for parallel pipe external threads.

Under the current JIS standard, the designation has been changed to G.

As shown in the comparison table, the standard dimensions of PF 1/2-14 and G 1/2-14 are exactly the same.

Their thread dimensions and tolerances are identical, meaning they are essentially the same thread specification, with only the designation changed under the updated JIS standard.



External Thread Diagram

External Thread Standard	Former JIS PF 1/2-14 (Class A)			Current JIS G 1/2-14 (Class A)	
	Basic Diameter	Tolerance		Basic Diameter	Tolerance
d Major Diameter	20.955	0 -0.284	➡	20.955	0 -0.284
d2 Pitch Diameter	19.793	0 -0.142		19.793	0 -0.142
d1 Minor Diameter	18.631	0 ~		18.631	0 ~
External Thread Standard	Former JIS PF 1/2-14 (Class B)			Current JIS G 1/2-14 (Class B)	
	Basic Diameter	Tolerance		Basic Diameter	Tolerance
d Major Diameter	20.955	0 -0.284	➡	20.955	0 -0.284
d2 Pitch Diameter	19.793	0 -0.284		19.793	0 -0.284
d1 Minor Diameter	18.631	0 ~		18.631	0 ~



Although the YAMAWA Parallel Pipe Thread Solid Die (D PF) is designated with the "PF" thread symbol, it can be used for machining both:

- PF parallel external threads • G parallel external threads

Therefore, a single D PF solid die can be used for both PF and G external thread applications without requiring a different die.



【 One-Point Advice 】

PF and G parallel pipe external threads are designed to be used only with PF or G parallel pipe female threads.

They must not be used together with:

- PT or Rc taper pipe female threads
- PS or Rp parallel female threads intended for taper pipe threads

This is because these thread types are designed for different applications and are based on different thread standards.

As a result, they cannot provide the proper thread engagement required for a correct and reliable connection.

In summary: Although pipe thread designations can be confusing, selecting the correct thread standard is essential to ensure proper fit, sealing performance, and safe assembly.