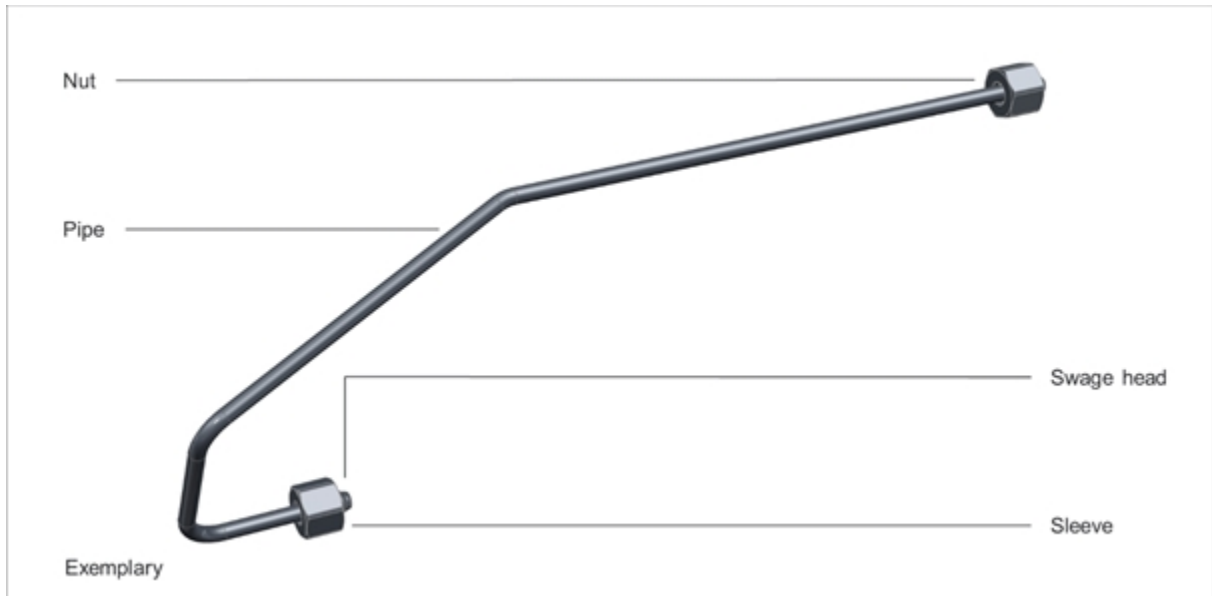


Product data sheet



TOPAQ H₂ Pipes (PPH2)

Product specification

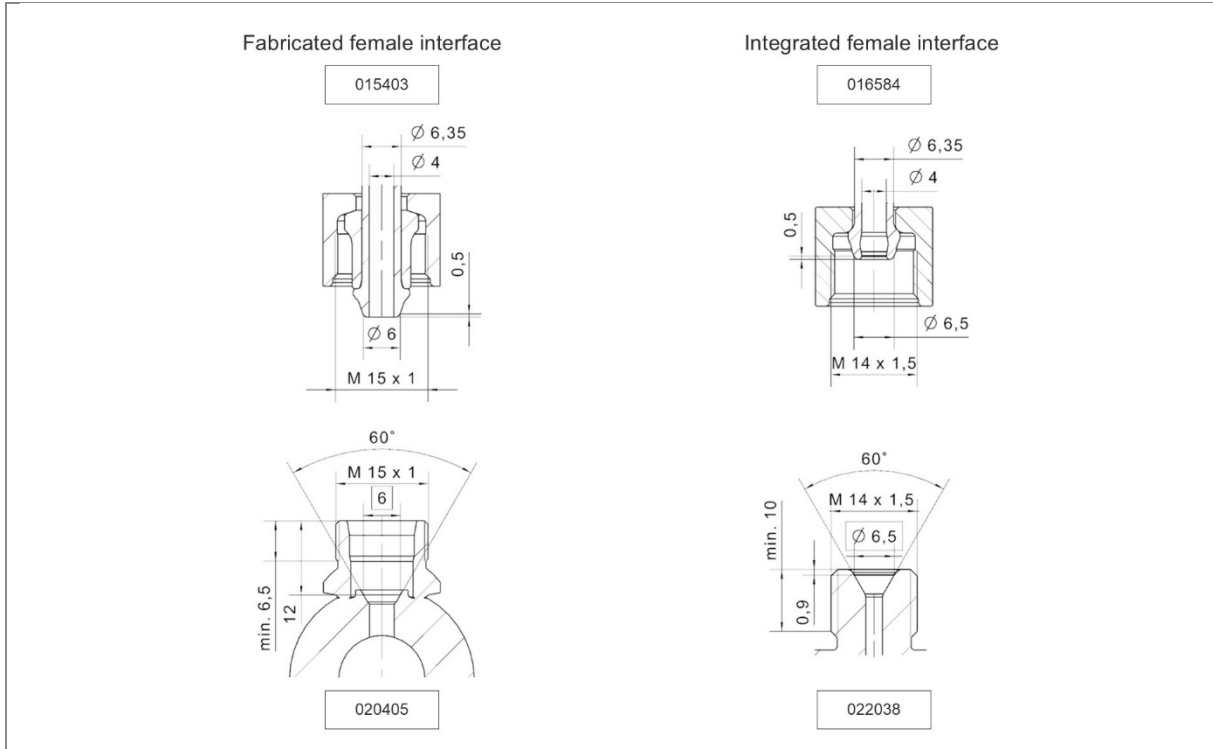


P+P's H₂ pipes are used to ensure the safe supply and distribution of hydrogen in mobile and stationary hydrogen applications.

With its certified metallic swage head connection, a reliable re-assembly is guaranteed.

By specifically varying the pipe dimensions, it is possible to meet the customer's specifications and installation space requirements in the best possible way.

Technical features

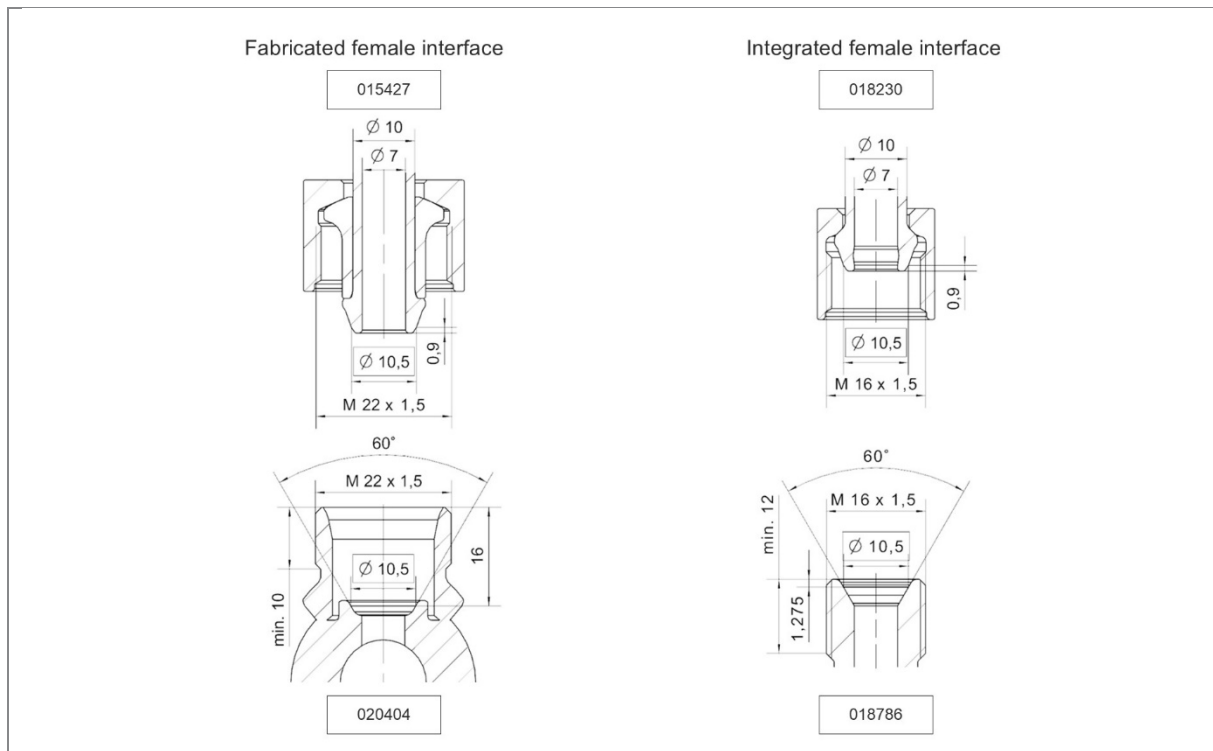


The following variants are currently under validation at P+P:

H ₂ Pipes	
Technical data	
Inner pipe diameter	4 mm
Outer pipe diameter	6.35 mm
Length pipe	max. 1.5 m
Material	PPH2 ¹⁾
Surface protection	Zn, Zn-Ni
Sealing type	Metal-to-metal
Interfaces Thread definitions	
Fabricated female interface (015403) e4*79/2009*406/2010*00075*00	M15x1-6H
Integrated female interface (016584) e4*79/2009*406/2010*00075*00	M14x1.5-6H
Operating conditions	
Operating temperature	-60 to +120 °C
Nominal working pressure (50.000 cycles)	up to 700 bar
Burst pressure	> 3200 bar
Medium	Hydrogen
Leakage rate	<10 Ncm ³ /h

1) PPH2 is a protected designation of the Poppe + Potthoff Präzisionsstahlrohre GmbH

Technical features

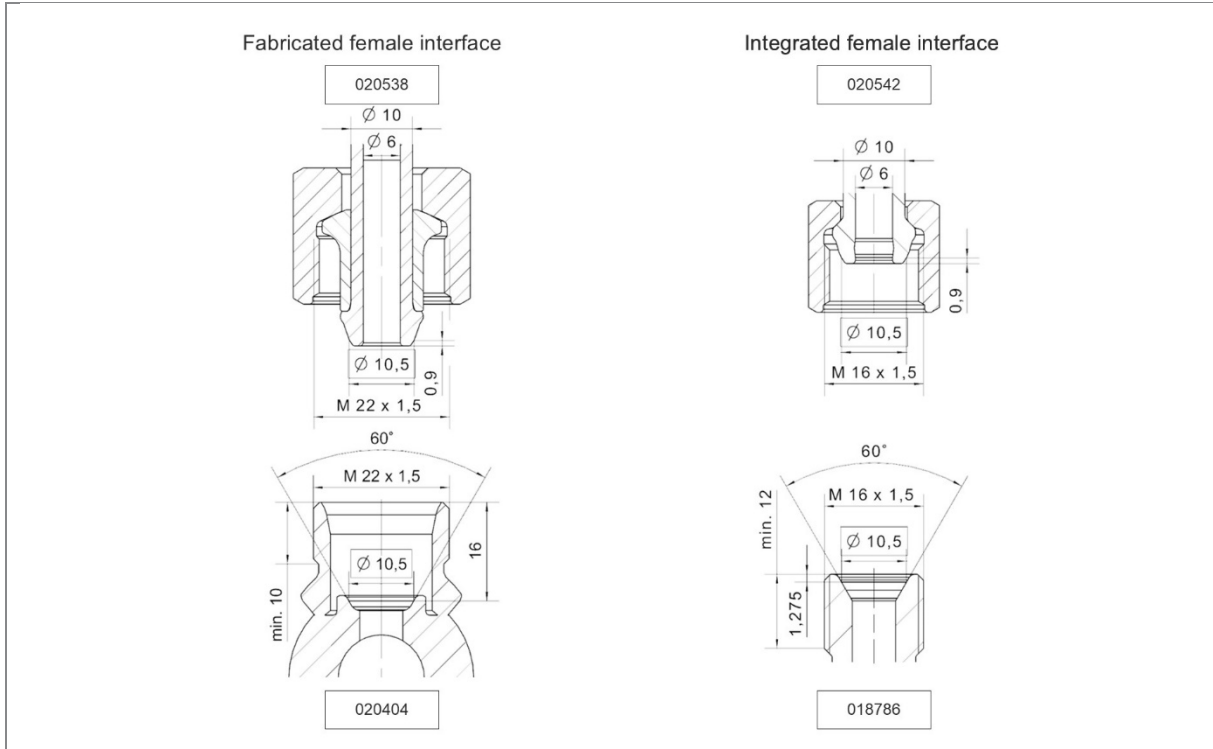


The following variants are currently under validation at P+P:

H ₂ Pipes	
Technical data	
Inner pipe diameter	7 mm
Outer pipe diameter	10 mm
Length pipe	max. 1.5 m
Material	PPH2 ¹⁾
Surface protection	Zn, Zn-Ni
Sealing type	Metal-to-metal
Interfaces Thread definitions	
Fabricated female interface (015427) e4*79/2009*406/2010*00077*01	M22x1.5-6H
Integrated female interface (018230) e4*79/2009*406/2010*00077*01	M16x1.5-6H
Operating conditions	
Operating temperature	-60 to +120 °C
Nominal working pressure (50.000 cycles)	up to 350 bar
Burst pressure	> 2500 bar
Medium	Hydrogen
Leakage rate	<10 Ncm ³ /h

1) PPH2 is a protected designation of the Poppe + Potthoff Präzisionsstahlrohre GmbH

Technical features

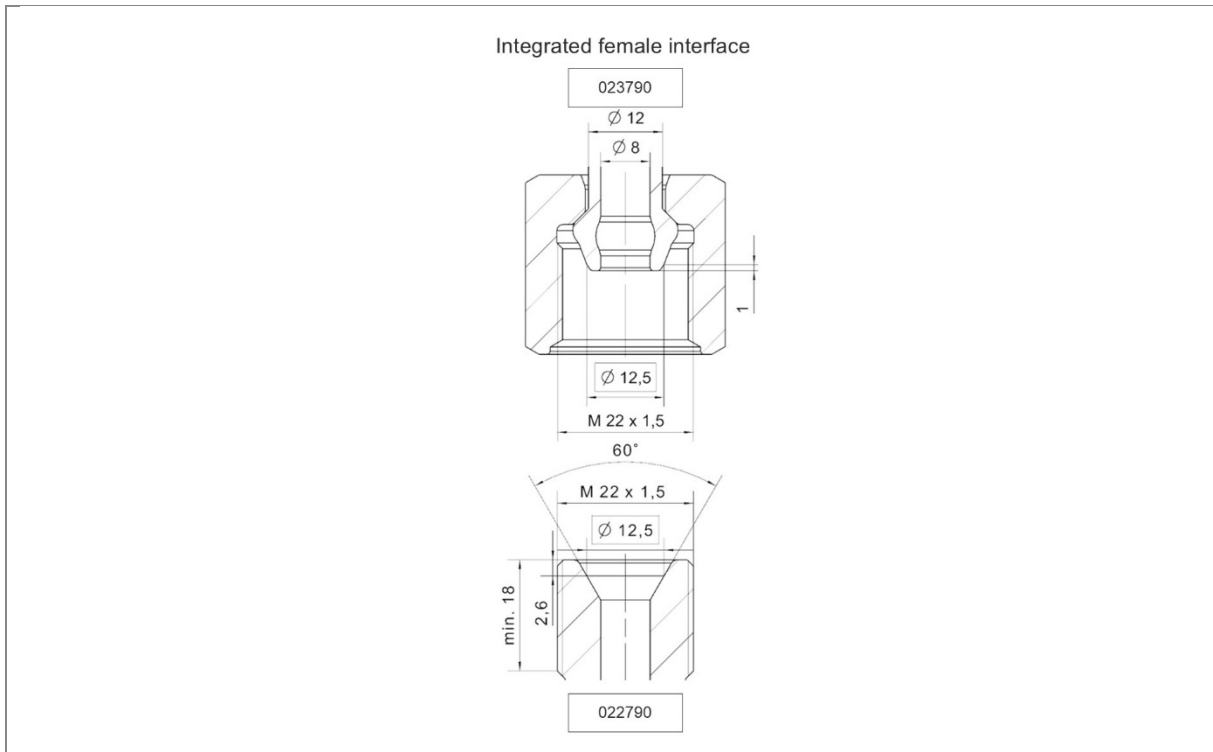


The following variants are currently under validation at P+P:

H ₂ Pipes	
Technical data	
Inner pipe diameter	6 mm
Outer pipe diameter	10 mm
Length pipe	max. 1.5 m
Material	PPH2 ¹⁾
Surface protection	Zn, Zn-Ni
Sealing type	Metal-to-metal
Interfaces Thread definitions	
Fabricated female interface (020538)	M22x1.5-6H
Integrated female interface (020542)	M16x1.5-6H
Operating conditions	
Operating temperature	-60 to +120 °C
Nominal working pressure (50.000 cycles)	up to 700 bar
Burst pressure	> 3600 bar
Medium	Hydrogen
Leakage rate	<10 Ncm ³ /h

1) PPH2 is a protected designation of the Poppe + Potthoff Präzisionsstahlrohre GmbH

Technical features



The following variants are currently under validation at P+P:

H ₂ Pipes	
Technical data	
Inner pipe diameter	8 mm
Outer pipe diameter	12 mm
Length pipe	max. 1.5 m
Material	PPH2 ¹⁾
Surface protection	Zn, Zn-Ni
Sealing type	Metal-to-metal
Interfaces Thread definitions	
Integrated female interface (023790)	M22x1.5-6H
Operating conditions	
Operating temperature	-60 to +120 °C
Nominal working pressure (50.000 cycles)	up to 700 bar
Burst pressure	> 2800 bar
Medium	Hydrogen
Leakage rate	<10 Ncm ³ /h

1) PPH2 is a protected designation of the Poppe + Potthoff Präzisionsstahlrohre GmbH

Certification & safety information

The product may only be used after installation by qualified personnel according to the corresponding installation guide. Usage for production of commercial goods is only permitted in certified countries. Otherwise, the product may only be used for testing purposes.

NOTE

Only to use with dry hydrogen according to DIN EN 17124 (3.7 or higher). Under all circumstances avoid contact with moist and/or water on the inner surface due to the risk of corrosive effects.

Acc. to ISO 19887 resistance to galvanic corrosion shall be taken under consideration when joining components containing dissimilar materials.

Make sure to not combine any materials that pose a risk of contact corrosion according to the galvanic series. If possible, only combine materials of the same type. For further information contact the manufacturer and define risk assessment.

Certificates ²⁾				
Europe				
	6.35×4	10×7	10×6	12×8
EC79/2009, EU406/2010	Certified	Certified	Tests passed ³⁾	Acc. to ⁴⁾
UN/ECE R134	n/a ⁵⁾	n/a	n/a	n/a
North America (USA, Canada)				
	6.35×4	10×7	10×6	12×8
HGV 3.1-2022	Tests passed ⁶⁾	Acc. to	Acc. to	Acc. to
SAE J2579:2018	Acc. to	Acc. to	Tests passed ⁷⁾	Acc. to

2) This information applies only to tests and certifications of the base pipe. Fitting-specific information on tests and certifications are given in the previously presented tables for relevant interfaces.

3) Tests passed for 10×6 PPH2 pipes as the possibility for EC 79/2009 / EU406/2010 certification expired July 2022.

4) Pipe design according to P+P design guidelines, which have been approved by selected and successfully tested pipe dimension in accordance with the referenced standards.

5) UN/ECE R134 does not include specific testing of pipes.

6) HGV 3.1-2022 explicitly mentions only stainless steel pipes. Nevertheless, 6.35×4 PPH2 pipes were successfully tested according to HGV 3.1-2022 chapter 5 & 19.

7) 10×6 PPH2 pipes were successfully tested in hydrogen tests according to SAE J2579:2018, appendix B.

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TOPAQ is a Poppe + Potthoff brand