COUPLINGS
VIP VACUUM INSULATED PIPING

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JOHNSTON BAYONET COUPLINGS

SLEEVE COUPLINGS

DESIGN AND BENEFITS

JOHNSTON BAYONET COUPLINGS

Sections are connected with each other by inserting the male part of one section into the female part of the other section.

The tightness between sections is provided by O-rings and bimetallic sealants.

Couplings are screwd together with flanges according to the pressure class of PN25.

Bayonet couplings are used to connect sections of a vacuum-insulated system without the need of welding.

Bayonet couplings, which are screwed together, are very simple and quick to install and detach.

Using these couplings, other devices can be connected such as a gas vent or phase separator.

In piping with bayonet couplings, there is no need to pump the vacuum after connecting the sections, which significantly simplifies and speeds up the installation process.

SLEEVE COUPLINGS

Sections of piping are connected with each other by means of welding.

In order to avoid the inflow of heat to a short, welded portion between the sections, MLI insulation is used.

The use of a welded, connecting sleeve coupling and the creation of a vacuum in the space between the pipes makes avoiding of the heat inflow possible.

Vacuum valves are used.

This type of coupling ensures reliable connection with very small inflow of heat – lower in comparison with the bayonet couplings.

Minimum adjustment of the piping length at the site during the construction of installation is possible.

Option of making both straight and angled couplings.

Option of vacuum regeneration.

COUPLINGS VIP VACUUM INSULATED PIPING

TECHNICAL SPECIFICATION

MATERIALS

JOHNSTON BAYONET COUPLINGS

Female coupling:	EN 1.4301/1.4307
Male coupling:	EN 1.4301/1.4307
Flanges:	EN 1.4301/1.4307
Sealing:	bimetallic; O-rings

SLEEVE COUPLINGS

Connecting sleeve coupling:	EN 1.4301/1.4307
Insulation:	MLI + vacuum

MANUFACTURE OF BAYONET AND SLEEVE COUPLINGS

Pipes and materials according to EN standards.

PED 2014/68/EU directive conformity.

Welding processes according to ISO 3834-2 quality management system.

Maximum permissible leak: $1 \cdot 10^{-9}$ mbar • l/s - verified with a helium leak detector according to PN-EN ISO 20485.

Vacuum level ≤ 10^{-4} mbar

OPTIONS

Different types of materials.

Manufacture according to other standards.

Non-standard sizes available on request.

Insulation with perlite or foam - sleeve coupling only.

Maximum pressure class of PN40.

STANDARD PARAMETERS

Diameter		Int. pipe [mm]	Ext. pipe [mm]	Capacity* [l/h]	Inflow of heat*			
					Pipe [W/m]	Hose [W/m]	Bayonet coupling [W]	Sleeve coupling [W]
1/2"	DN15	21,3 x 1,6	60,3 x 2,0	500 - 1000	0,5	1,2	1,6	-
3/4"	DN20	26,9 x 1,6	76,1 x 2,0	1000 - 2000	0,6	1,5	2,1	-
1"	DN25	33,7 x 2,0	76,1 x 2,0	2000 - 3000	0,7	1,6	2,3	-
1 1/4"	DN32	42,4 x 2,0	88,9 x 2,0	3000 - 4000	0,8	1,7	3,0	3,2
1 1/2"	DN40	48,3 x 2,0	101,6 x 2,0	3000 - 4500	0,8	1,9	4,1	3,4
2"	DN50	60,3 x 2,0	114,3 x 2,0	4000 - 6000	1,0	2,0	4,5	3,9
3"	DN80	88,9 x 2,0	154 x 2,0	-	1,6	3,0	5,4	5,1

* - estimated value for liquid nitrogen

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