

Bayonet Connector Assemblies

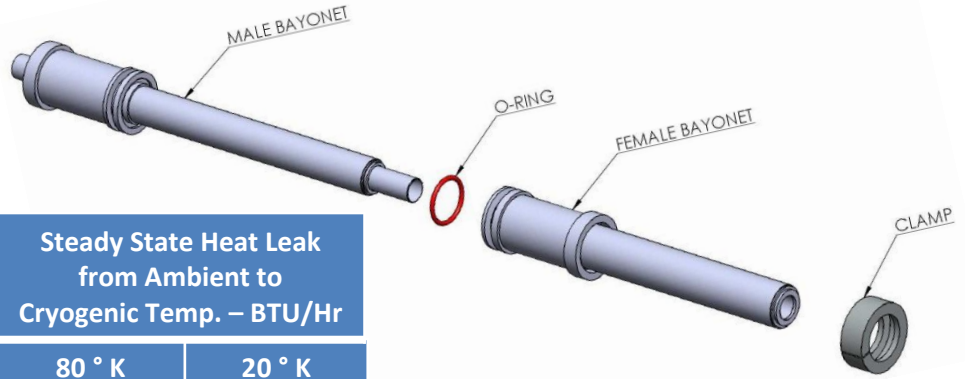


CryoPacific, Inc (CPI) Cryogenic Bayonet Connector Assemblies

CPI bayonets are of state of the art design incorporating dissimilar metal technology which uses an Invar cylindrical nose piece and a stainless steel sleeve . These materials at cryogenic temperature react very differently to create a positive cold seal. Invar, having an extremely low coefficient of thermal contraction has virtually the same dimensional characteristics at cryogenic temperatures as within an ambient environment. The stainless steel sleeve will substantially shrink while exposed to cryogenic temperatures. This material combination, designed within a very close diametrical clearance tolerance, creates the most effective cryogenic cold seal . CPI bayonets have a long, extended cold transference path, via close tolerance mating parts, creates an effective gas pocket seal. The secondary atmospheric seal is an O-ring face flange seal. The gas pocket warms as the male and female flanges meet ,resulting in an effective thermal design. All of these features results in CPI bayonets being very efficient and having very low heat leak values.

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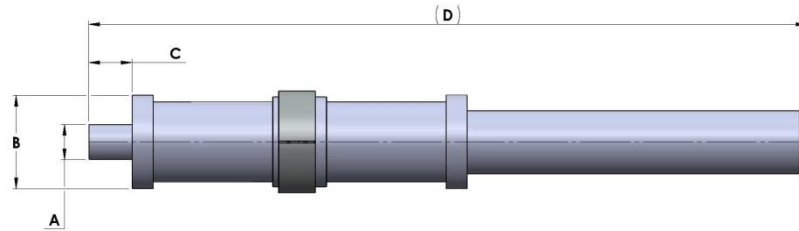
Bayonet Performance Specifications



Bayonet Size	Cool-down Loss from Ambient to Cryogenic Temp. -BTU		Steady State Heat Leak from Ambient to Cryogenic Temp. – BTU/Hr	
	80 ° K	20 ° K	80 ° K	20 ° K
½ X 2	29	31	15.2	17.2
1 X 3	42	44	22.8	25.8
1 ½ X 3 ½	52	55	24.1	26.9
2 X 4	66	69	27.5	31.1

Engineering specifications: Bayonet assemblies include the male, female, O-ring, and clamp. Bayonet connectors are normally provided in schedule 5 configuration with other schedules available upon request

Dimensional Data



Bayonet Size	"A" Inner line Size NPS	"B" Outer line Size NPS	"C" Length (Inches)	"D" Overall Assembly (Inches)
½ X 2	½" Sch 5	2" Sch 5	1"	21.5"
1 X 3	1" Sch 5	3" Sch 5	1.5"	22.5"
1 ½ X 3 ½	1 ½" Sch 5	3 ½" Sch 5	1.5"	22.5"
2 X 4	2" Sch 5	4" Sch 5	1.5"	24"

