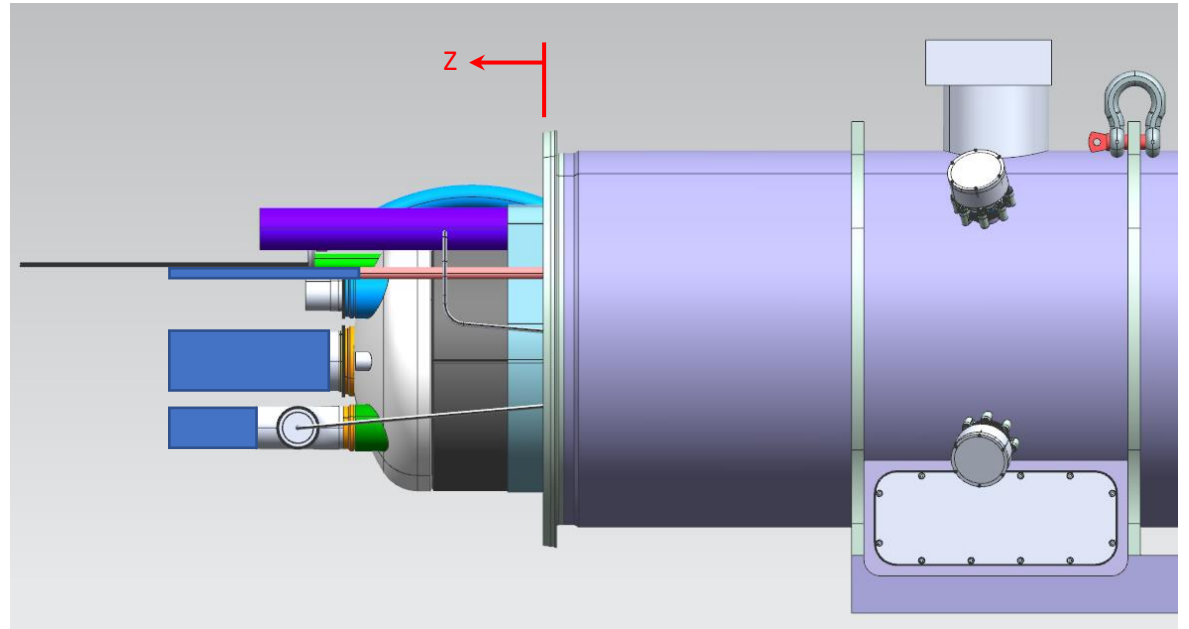
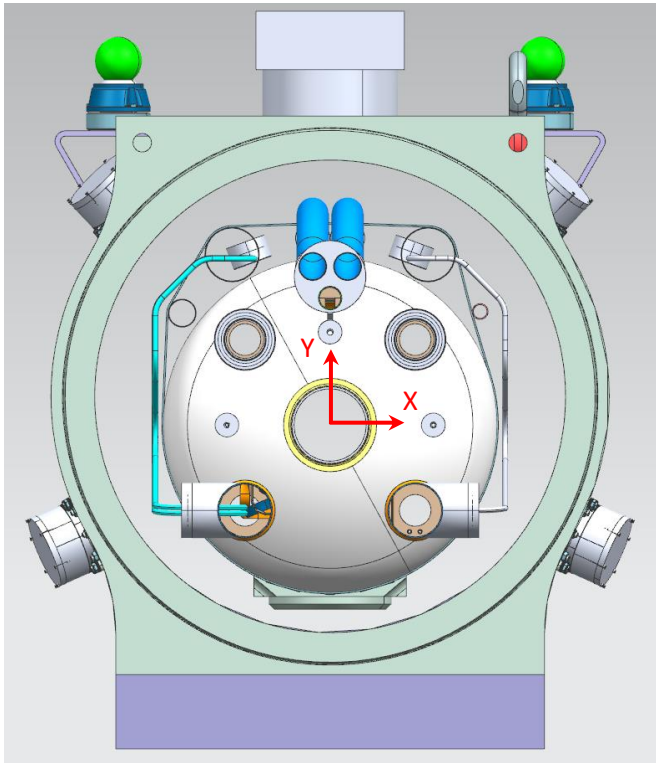


Q1a/Q3a end as delivered to FNAL (connects to FNAL test stand Feed Box)



Piping extensions dimensional data, relative to beam pipe centerline [X, Y] and vacuum vessel flange face [Z]

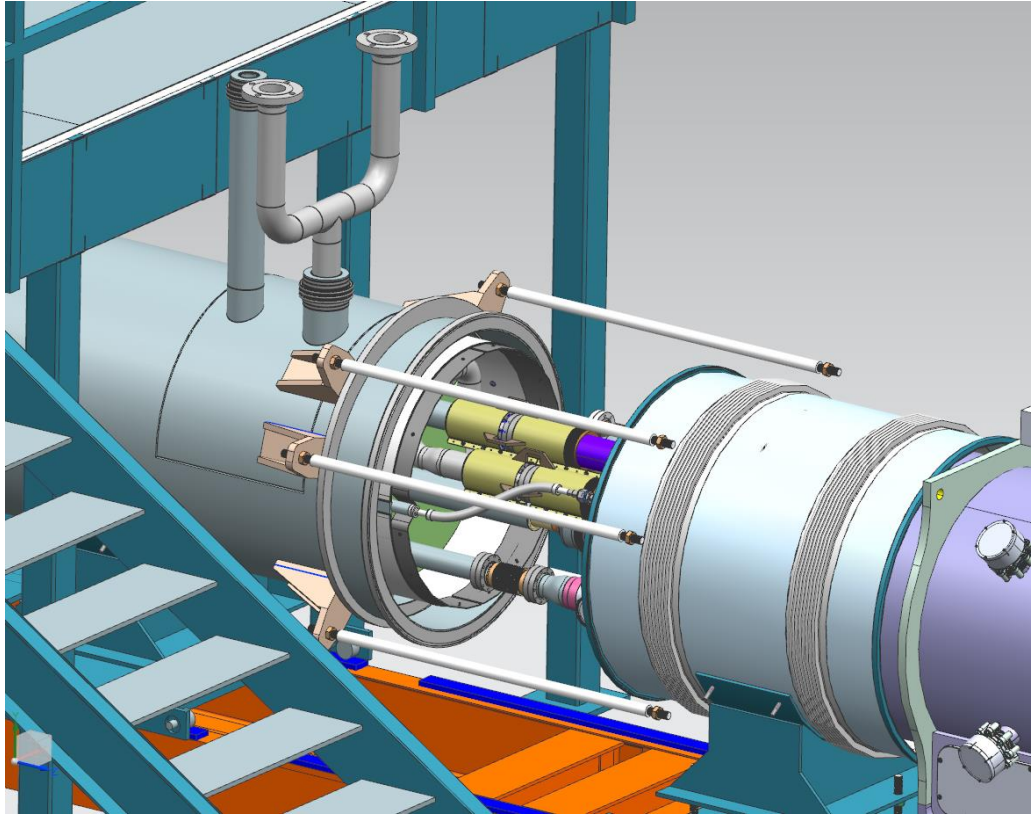
		Outer diameter x Thickness [mm]	X [mm]	Y [mm]	Z [mm]
V	Beam pipe	# x #	0	0	#
X1	1.9 K bayonet HX	# x #	#	#	#
X2	1.9 K bayonet HX	# x #	#	#	#
MN/N1/N2	Main/Trim/Corrector Bus	# x #	#	#	#
LD	Cool-down return line	# x #	#	#	#
E'H	Thermal shield supply	# x #	#	#	#
EHE'H	Thermal shield return	# x #	#	#	#
L1	CLIQ	# x #	#	#	#
L2	Instrumentation	# x #	#	#	#

Cryo-assembly dimensional data relative to beam pipe centerline [X, Y] and vacuum vessel flange face [Z].

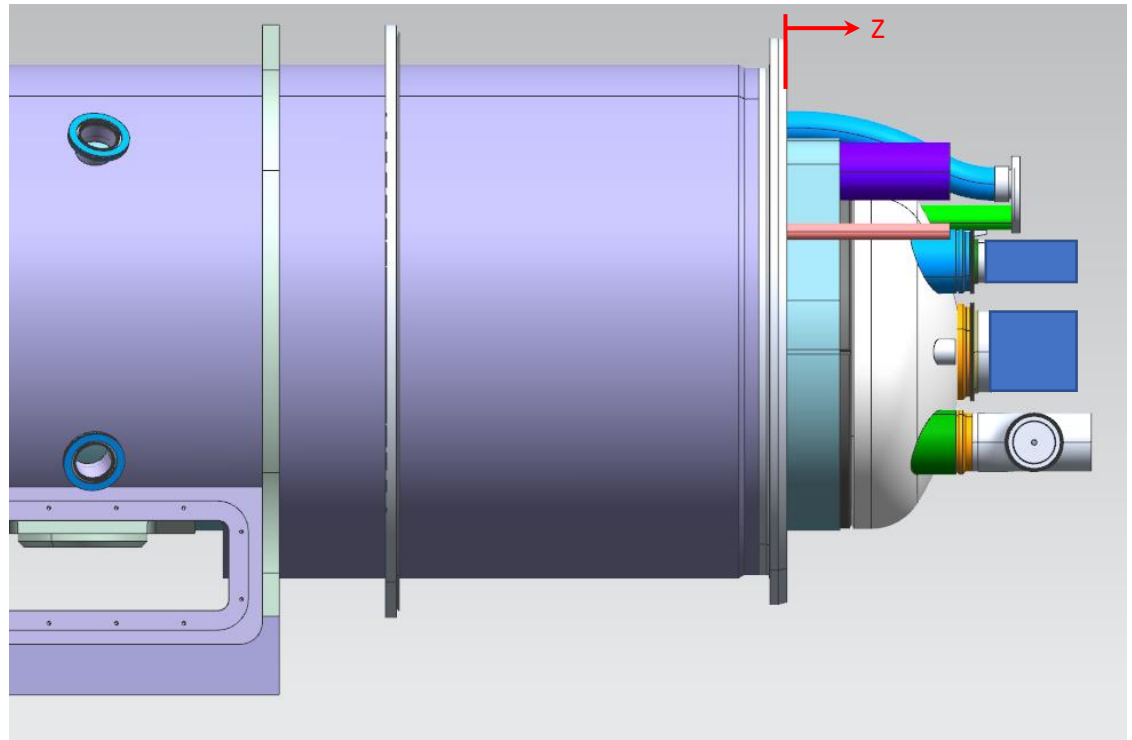
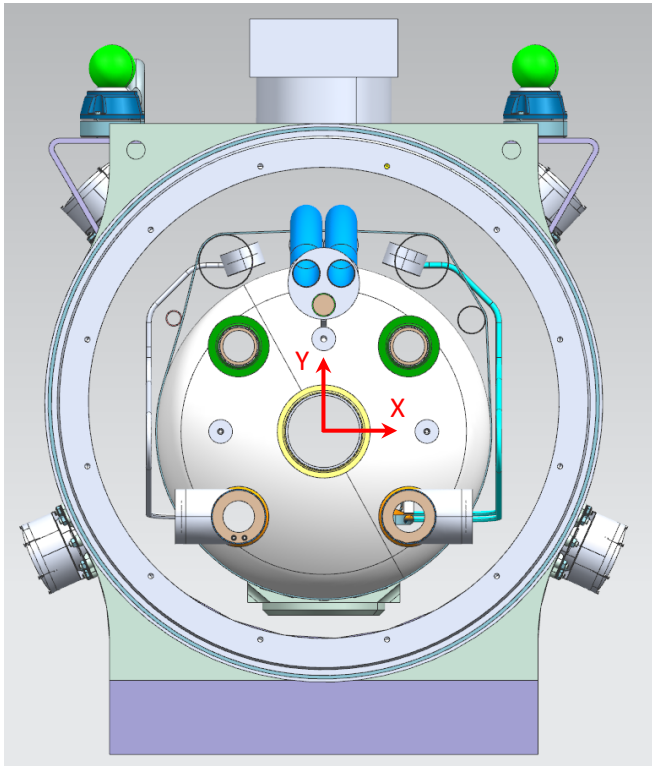
	Outer diameter x Thickness [mm]	X [mm]	Y [mm]	Z [mm]
Bus	--	#	#	#
Thermal shield	# x #	#	#	#
Vacuum vessel	# x #	#	#	0
Cryo-assembly support	--	--	--	#

Cryo-assembly mechanical data

Thermal shield	
Connection style, size, and pattern	X
Vacuum flange	
Flange type	X
Outer diameter	#
Inner diameter	#
Thickness	#
Seal type and size	X
Clamp type and size	X
Sliding ring	
Outer diameter	#
Inner diameter	#
Thickness	#
Interface to vacuum flange	
Seal type and size	X
Bolt pattern	X
Interface to sliding sleeve	
Seal type and size	X
Clamp type and size	X
Provisions for vacuum support rods	
Size and locations	X



Q1b/Q3b end as delivered to FNAL (connects to FNAL test stand Return Box)



Piping extensions dimensional data, relative to beam pipe centerline [X, Y] and vacuum vessel flange face [Z]

		Outer diameter x Thickness [mm]	X [mm]	Y [mm]	Z [mm]
V	Beam pipe	# x #	0	0	#
X1	1.9 K bayonet HX	# x #	#	#	#
X2	1.9 K bayonet HX	# x #	#	#	#
MN/N1/N2	Main/Trim/Corrector Bus	# x #	#	#	#
LD	Cool-down return line	# x #	#	#	#
E'H	Thermal shield supply	# x #	#	#	#
EHE'H	Thermal shield return	# x #	#	#	#
L1	CLIQ	# x #	#	#	#
L2	Instrumentation	# x #	#	#	#

Cryo-assembly dimensional data relative to beam pipe centerline [X, Y] and vacuum vessel flange face [Z].

	Outer diameter x Thickness [mm]	X [mm]	Y [mm]	Z [mm]
Bus	--	#	#	#
Thermal shield	# x #	#	#	#
Vacuum vessel	# x #	#	#	0
Cryo-assembly support	--	--	--	#

Cryo-assembly mechanical data

Thermal shield	
Connection style, size, and pattern	X
Vacuum flange	
Flange type	X
Outer diameter	#
Inner diameter	#
Thickness	#
Seal type and size	X
Clamp type and size	X
Sliding ring	
Outer diameter	#
Inner diameter	#
Thickness	#
Interface to vacuum flange	
Seal type and size	X
Bolt pattern	X
Interface to sliding sleeve	
Seal type and size	X
Clamp type and size	X