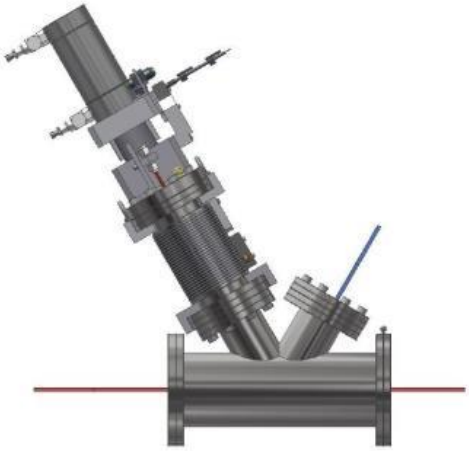
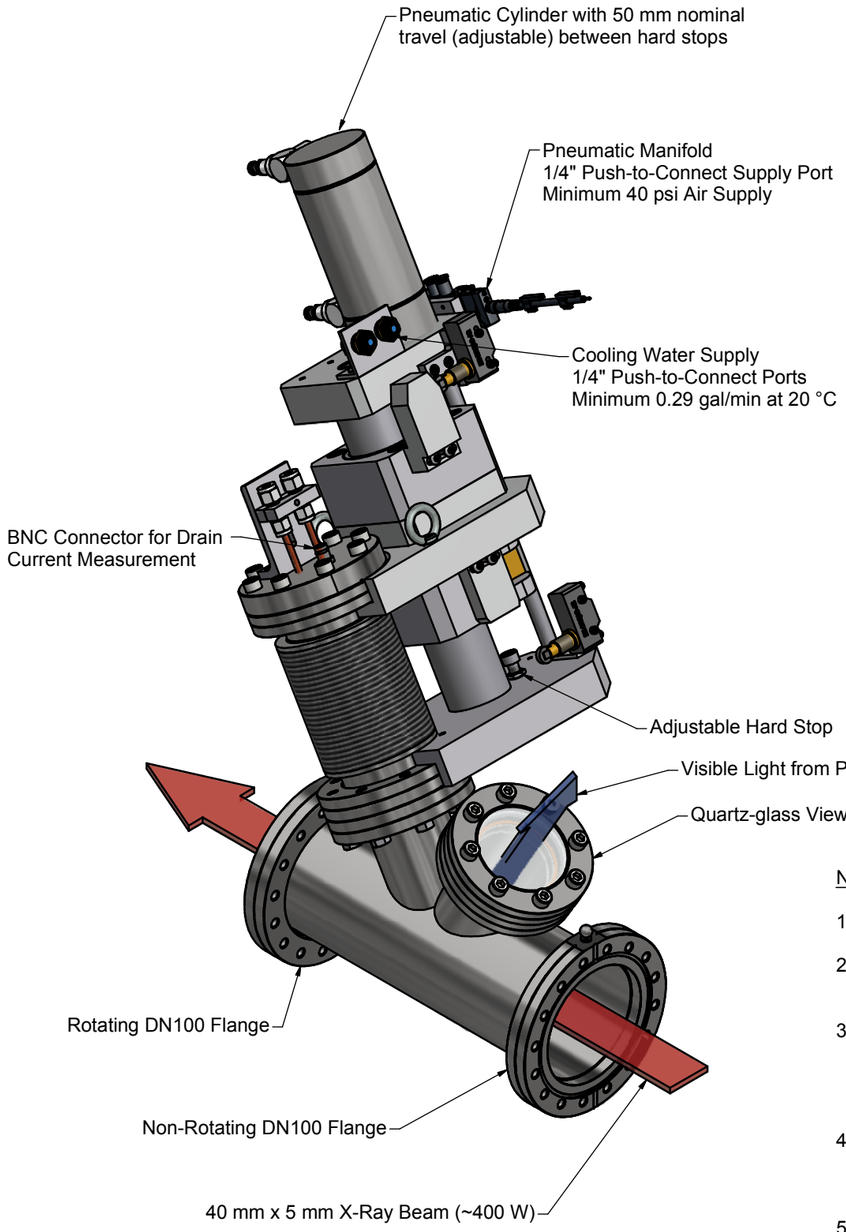
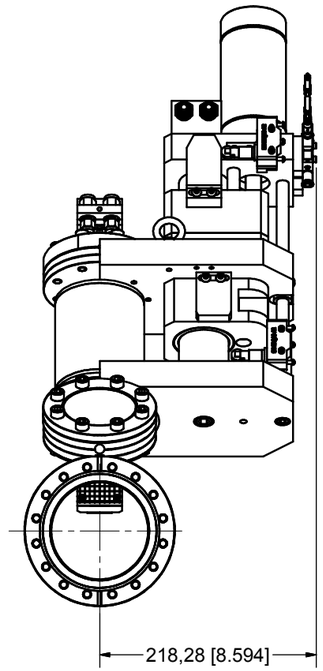
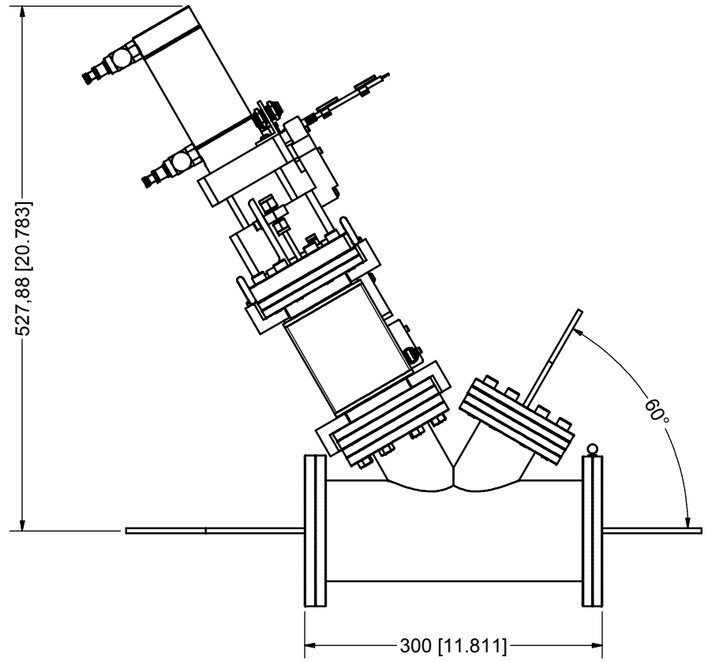
Fluorescent Screen Assembly

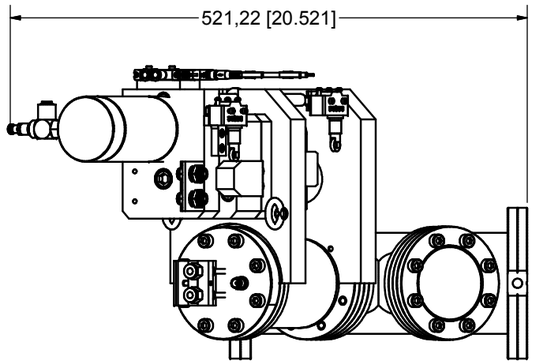


ADC has manufactured the FC-204 unit which allows the user to view the position and profile of an incident X-ray beam. The full assembly of the fluorescent screen consists of three main components: a custom 4-way cross; a linear actuator mounted on top of the 4-way cross; and a water-cooled fluorescent screen. The upstream and downstream CF flanges of the custom 4-way cross can be sized to match the user's beamline. On the bottom side of the 4-way cross is an angled port (60° from horizontal) with a tapped, non-rotatable 4 ½"CF for connecting a viewport. On the top side of the 4-way cross is another angled, non-rotatable 4 ½" CF for connecting the fluorescent screen actuator. The screen plates, which are available both cooled and un-cooled, are coated with a fluorescent material to convert X-rays to visible light and can be moved in and out of the beam by remote control. A CCD camera and motorised zoom lens looks up through a viewport directly onto the grid plate of the screen; camera magnification and focus can be controlled remotely. Equally spaced grooves are cut into the surface of the screen to provide a reference for imaging from below. The full assembly of the fluorescent screen consists of three main components: a welded vacuum chamber; a linear actuator mounted to one branch of the chamber; and a water-cooled fluorescent screen.









Notes:

1. System Mass/Weight: 30 kg (66.2 lb)
2. Screen Position Stroke: 50 mm Between Hard Stops
   (Lower hard stop adjustable for precise screen location)
3. Fluorescent Screen Specifications:
   - P22R Phosphor
   - Electrically Isolated with Connector for Drain Current
   - 20 mm x 45 mm Open Face with 5.8 mm Tall x 5 mm Wide Grid
4. Required Fluid Supplies:
   - Pressurized Air at 40 psi Minimum (1/4" Push-In Connector)
   - Water at 20 °C and Minimum Flow Rate of 0.29 gal/min (1/4" Push-In Connector)
5. End Flanges: DN100 (6" CF) with Clearance Holes
6. Water and Pneumatic Lines Omitted from Drawing

UHV

DO NOT USE CHLORINE OR SULPHUR BEARING OILS OR ABRASIVES
USE ONLY APPROVED UHV COMPATIBLE LUBRICANTS AND COOLANTS

UHV approval by: M Popov | Date: 9/17/2013

Purchased Part Modification: No

First Angle Projection
All dimensions are mm [in]
inch dimensions are reference

Material | Protective Finish

Drawing Standard: ANSI Y14.5M-1994		Date
Drawn by	T Shea	10/9/2013
Eng approval	M Popov	10/9/2013
Mfg approval		
Assy approval		

UNLESS OTHERWISE SPECIFIED
All Dimensions BASIC
N7 machined surfaces
0,13 / 0,38
0,25 A B C
0,25 A B C

ADC USA, Inc.
126 Ridge Road
Lansing, NY 14882
Phone: 607.533.3531 / Fax: 607.533.3618
E-mail: adc@adc9001.com / Web: www.adc9001.com

Fluorescent Screen, Electrically Isolated, Top Assembly

Part Number	Revision	Size	Sheet
00022220	0	A2	