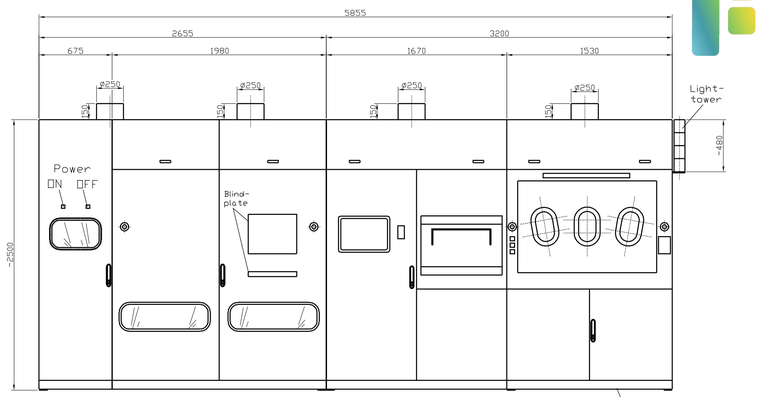
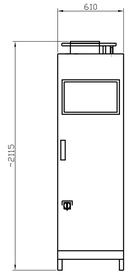
FIRST ANGLE PROJECTION

MOOV

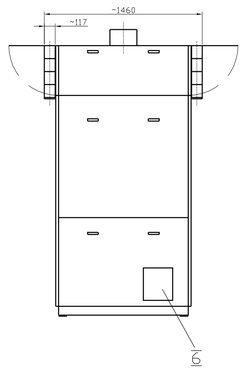
for further information see "Infeeding Schematic"



For all cabinets:
air gap of 10mm between frame and floor is necessary!



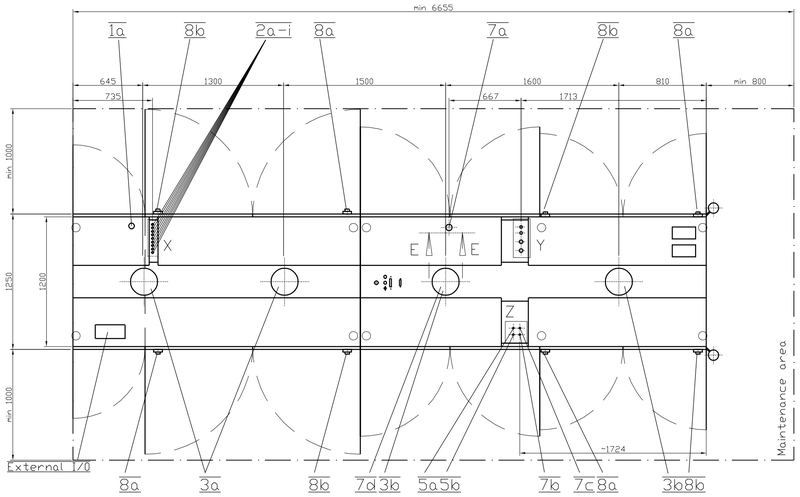
Side view of the Glovebox

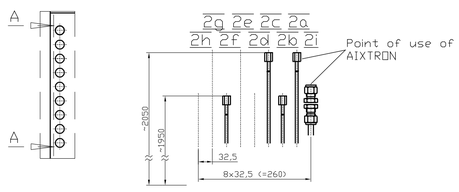


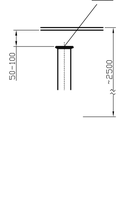
EpiCurve TT is integrated

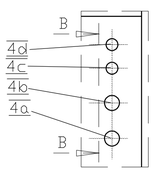
All cabinets have earthquake brackets!
System delivered without transport rollers!

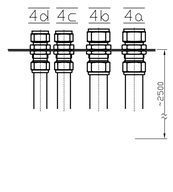
Cable length RF-Generator - Oscillator:
total 15m (10m free cable length)

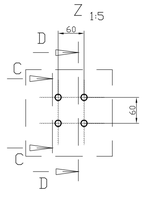


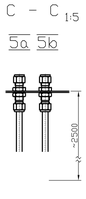


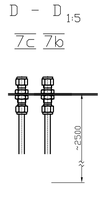












General Safety Requirements

Customer is responsible for:
1. Toxic Gas Monitoring for all utilized hydride gases according to gas mixing system
2. Hydrogen Monitoring
3. Scrubber Monitoring

Alarm signals - potential-free ("dry") contacts - to be provided by customer in order to interlock the MOCVD system.

For detailed description of all alarm inputs and outputs please see cause/effect diagram.

Spare Provision

Installation Data

1. Power Supply
   - a Infeeding System
     prov. by customer: 3/N/PE/60Hz ±1% / 208Volt ±5% AC-Fuse 100A
     prov. by AIXTRON: 3/N/PE/60Hz ±1% / 208Volt ±5% AC-Fuse 85A
     Max. Power consumption: 26kVA
   - b Infeeding RF-Heater (Big100)
     prov. by customer: 3/PE/50Hz/60Hz ±1% / 480Volt ±5% AC-Fuse 200A
     prov. by AIXTRON: 3/PE/50Hz/60Hz ±1% / 480Volt ±5% AC-Fuse 160A
     Max. Power consumption: 123,7kVA

2. Gas Interface
   VCR - AIXTRON provides female
   - a N_2 Getter purified - 1/4" VCRF - 4.0 ... 7.0 bar stabilized
   - b H_2 quality Pd-diffused - 1/4" VCRF - 4.0 ... 7.0 bar-stabilized
   - c NH_3 100% - 1/4" VCRF - 3.5 ... 4.0 bar-stabilized
     highest quality according to "Blue Ammonia" by SOLKATRONIC
   - d space
   - e space
   - f SiH_4/H_2 200ppm - 1/4" VCRF - 3.0 ... 3.5 bar-stabilzed
   - g space
   - h space
   - i N_2 tech. 1/2" Swagelok - 7.0 ... 8.5 bar
     (N_2 3.5 low O_2 content)
     (max. flowrate approx. 130slm (peak))

3. Ventilation
   (customer has to limit H_2-flow to 150slm, NH_3-flow to 100slm
   HCl-flow to 1slm, SiH_4/H_2 2% to 5slm)
   - a Gas Mixing Cabinet: 2x9 7/8" (ø250mm) - each approx. 500m³/h
   - b Reactor Cabinet: 2x9 7/8" (ø250mm) - each approx. 500m³/h
     containing minute amounts of hydrogen

4. Cooling Water (according to AIXTRON water specs)
   - a Inlet (max.) 6.5 bar, 1" Swagelok
     minimum total flow 45l/min
     temperature 17°-25°C, temperature stability: ±1°C
     waterspecs for Al-free loop
   - b Outlet (max.) 2.5 bar, 1" Swagelok
     (min. differential pressure 4 bar, @ required flow)
   - c Inlet Top-Ring-Bottom-GasInlet: maximum 6.0 bar, 3/4" Swagelok
     minimum total flow 50l/min
     temperature 20°C, temperature stability ±1°C
     waterspecs for Al-containing loop
   - d Outlet Top-Ring-Bottom-GasInlet: maximum 2.0 bar, 3/4" Swagelok
     maximum temperature 40°C
     (min. differential pressure 4 bar, @ required flow)
   - e Inlet Generator: 6 bar, min. 30l/min 3/4" Swagelok (BIG 100)
     waterspecs for Al-free loop
   - f Outlet Generator: 3/4" Swagelok
     (min. differential pressure 4 bar, @ requiered flow)

   Moisture non-condensing at room temperature
   at lowest water temperature (see diagram in RF-Manual)

5. Gas Inlet Glove-Box
   - a Forming gas (5 ... 10% H_2 in N_2) - 0.3 ... 0.5 bar, 3/8" Swagelok
   - b Working gas (N_2 5.0) - 5 ... 6 bar, 3/8" Swagelok

6. Electrical connectors to RF Generator by AIXTRON

7. Process Gas Exhaust
   - a Process gas exhaust connected to Scrubber
     DN40KF flange, 50-100mm below top of Glovebox
     open line for continious flow
     He-leaktight <= 10 E(-9) mbar l/s
     Oxygen < 1ppm
     line pressure atm > p > atm - 20 mbar
   - b Exhaust GB Pump
     3/8" Swagelok
   - c Exhaust Forming Gas
     3/8" Swagelok
     (Containing up to 10% H_2/N_2)
   - d Exhaust Vacuum Tweezer
     1/4" tube internal to Cabinet Ventilation (3b)

8. Safety Push Down Button with Guard Ring
   - a Process Stop Button
   - b Emergency Off Button

Rev.	Release	Date	None
1	Released for Production	25.02.08	BTrog
0	Released for Production	13.02.08	KD

Index	Modifications	Date	Name
1	1b, color of cabinets changed	25.02.08	KD

Drawn by / Checked: 13.02.08 KD

FINISH Surface area DIN ISO 1302 Ra 3.2
ISO 128
Scale: 1:20,15
Material:
Rev.: 1
AO
Date / Name
Drawn by 13.02.08 KD
Checked
Remove all sharp edges & burrs
DO NOT SCALE
Standard

Title: Installation Plan AIX 2800G4 HT (6x6")
Sheet 1 / 1

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