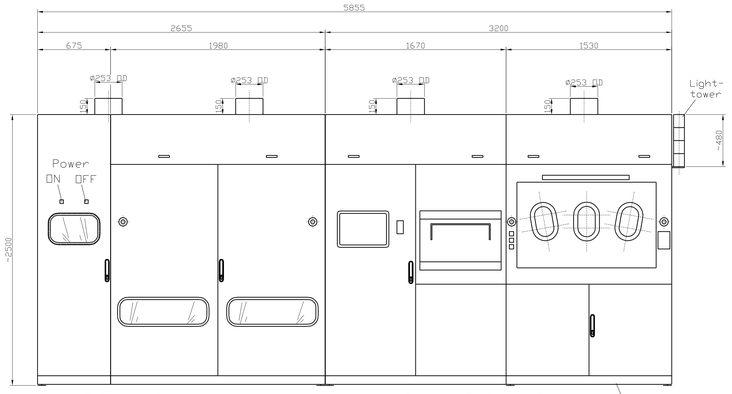
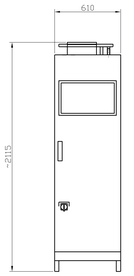
FIRST ANGLE PROJECTION

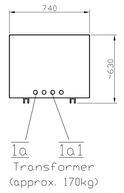
Colour of cabinets: GREY / WHITE!



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

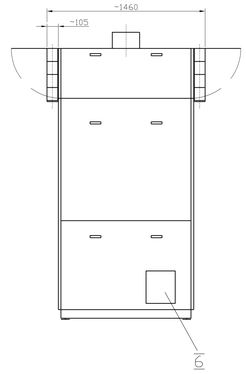


RF-Generator
TruHeat MF7100
Height 2115
(approx. 850kg)



for further information see "Infeeding Schematic"

Side view of the Glovebox



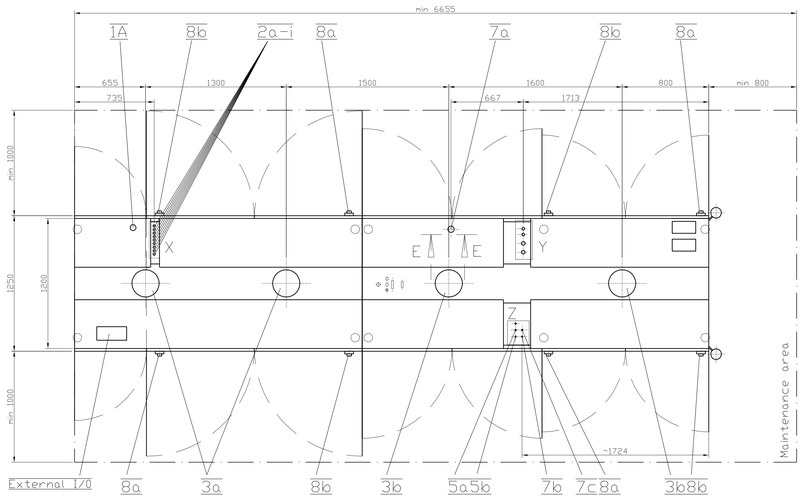
cables to & from transformer are provided by customer

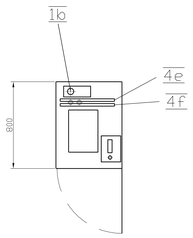
EpiTune III² is integrated

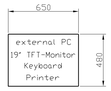
All cabinets have earthquake brackets!

System delivered without transport rollers!

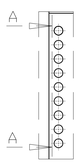
Cable length RF-Generator - □scillator:
total 15m (10m free cable length)





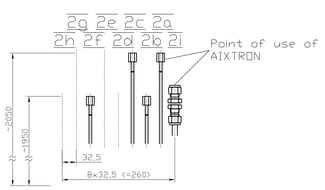


X 1:5

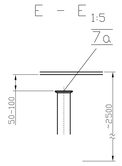


A - A 1:5

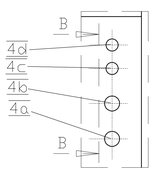
Interface on Gas Mixing Cabinet



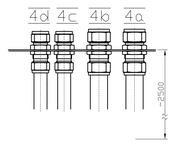
E - E 1:5



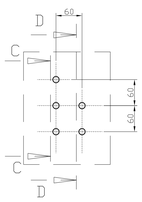
Y 1:5



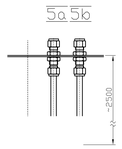
B - B 1:5



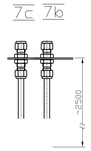
Z



C - C



D - D



Spare Provision

Installation Data

1. Power Supply
   - a Infeeding Trafo prim. - System
     prov. by customer: 3/N/PE/60Hz ±1% / 380Volt ±5% AC-Fuse 63A
     Max. Power consumption: 26kVA
   - a1 Infeeding Trafo sec. - System
     3/N/PE/60Hz ±1% / 208Volt ±5% AC
   - A Infeeding System
     prov. by AIXTRON: 3/N/PE/60Hz ±1% / 208Volt ±5% AC-Fuse 85A
     Max. Power consumption: 26kVA
   - b Infeeding RF-Heater (TruHeat MF7100)
     prov. by customer: 3/PE/50Hz/60Hz ±1% / 380Volt ±5% AC-Fuse 250A
     prov. by AIXTRON: 3/PE/50Hz/60Hz ±1% / 380Volt ±5% AC-Fuse 200A
     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 - 3.0 ... 3.5 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-stabilized
   - 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" (Ø253mm OD / Ø250mm ID)
     - each approx. 500m³/h
   - b Reactor Cabinet: 2x9 7/8" (Ø253mm OD / Ø250mm ID)
     - each approx. 500m³/h
     containing minute amounts of hydrogen

4. Cooling Water (according to AIXTRON water specs)
   tube fitting could be e.g from DK-lok or Swagelok
   - a Inlet (max.) 6.5 bar, 1" tube fitting
     minimum total flow 53l/min
     temperature 17°-25°C, temperature stability: ±1°C
     waterspecs for Al-free loop
   - b Outlet (max.) 2.5 bar, 1" tube fitting
     (min. differential pressure 4 bar, @ required flow)
   - c Inlet Top-Ring-Bottom-GasInlet: maximum 6.0 bar, 3/4" tube fitting
     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" tube fitting
     maximum temperature 40°C
     (min. differential pressure 4 bar, @ required flow)
   - e Inlet Generator: 6 bar, min. 30l/min 3/4" tube fitting (TruHeat MF7100)
     waterspecs for Al-free loop
   - f Outlet Generator: 3/4" tube fitting
     (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 Reactor Cabinet
     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)

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

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.

Rev.	Release	Date	Name
0	Released	11.06.10	LRoe

Index	Modification	DCN	Date	Name
			Drawn by:	
			Checked:	
			Drawn by:	
			Checked:	
			Drawn by:	
			Checked:	
			Drawn by:	
			Checked:	

701048/
701118/
701150

FINISH
Surface area Ra 3.2
DIN ISO 1302

ISO 128

Scale: 1:20,15

Material: Rev.: 0

A0

	Date	Name
Drawn by:	09.06.10	LRoe
Checked:		
Standard:		

Remove all sharp edges & burrs

DO NOT SCALE

AIXTRON
CONFIDENTIAL

Title: Installation Plan
AIX 2800G4 HT (11x4")
(IC Rev.7.2)

Drawing number: 01.00.

Sheet 1 / 1

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