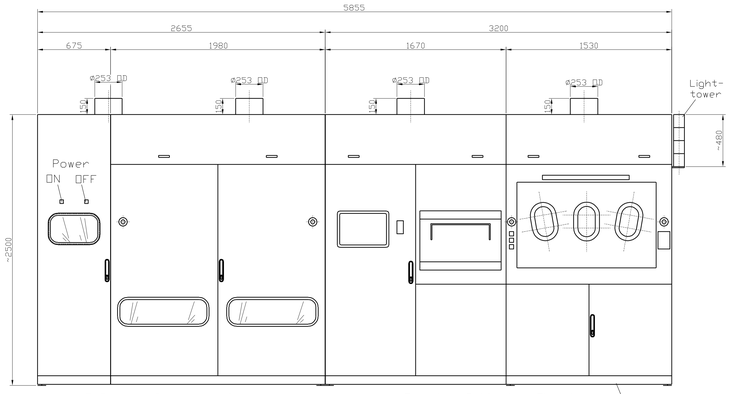
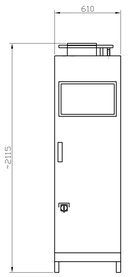
FIRST ANGLE PROJECTION

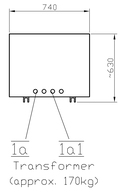
Colour of cabinets: GREY / WHITE!



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



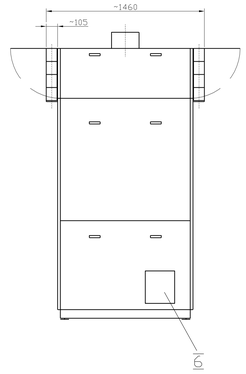
RF-Generator
TruHeat MF7100
Height 2115
(approx. 850kg)

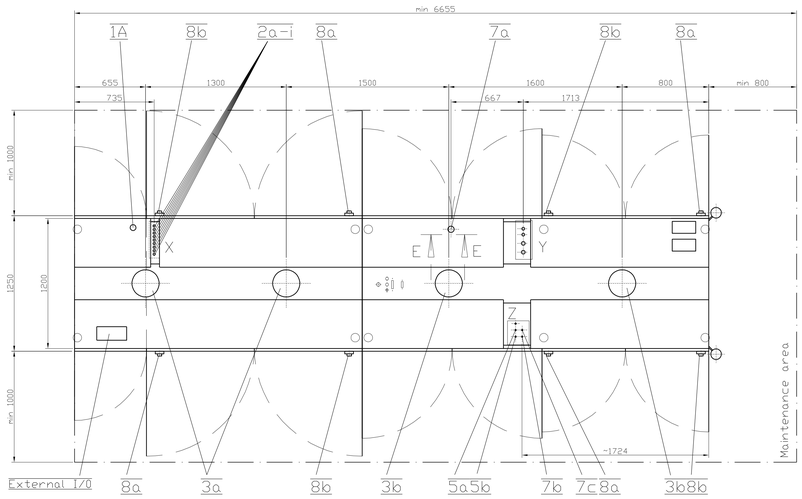


Transformer
(approx. 170kg)

for further information see "Infeeding Schematic"

Side view of the Glovebox





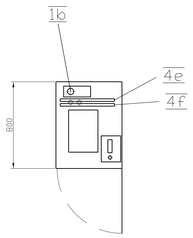
cables to & from transformer are provided by customer

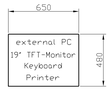
EpiTune III^2 is integrated

All cabinets have earthquake brackets!

System delivered without transport rollers!

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



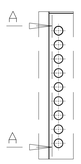


Installation Data

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 ≤ 200ppm to 5slm)
   - a Gas Mixing Cabinet: 2x9 7/8" (Ø253mm OD / Ø250mm ID)
     - each approx. 500m^3/h
   - b Reactor Cabinet: 2x9 7/8" (Ø253mm OD / Ø250mm ID)
     - each approx. 500m^3/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)

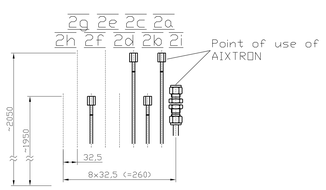
   Moisture non-condensing at room temperature
   at lowest water temperature (see diagram in RF-Manual)
5. Gas Inlet Glove-Box
   - a Forming gas (5 ... 10% H_2 in N_2) - 0.3 ... 0.5 bar, 3/8" Swagelok
   - b Working gas (N_2 5.0) - 5 ... 6 bar, 3/8" Swagelok
6. Electrical connectors to RF Generator by 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

X 1:5

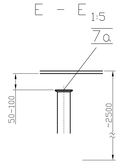


A - A 1:5

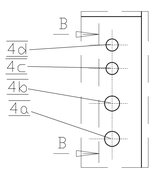
Interface on Gas Mixing Cabinet



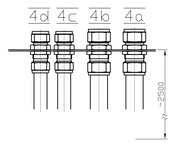
E - E 1:5



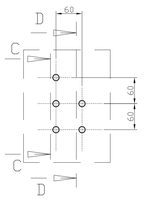
Y 1:5



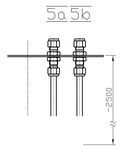
B - B 1:5



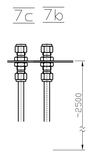
Z



C - C



D - D



Spare Provision

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	AV

701155

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

FINISH Surface area DIN ISO 1302 Ra 3.2

ISO 128

Scale: 1:20,15

Material: Rev.: 0

A0

	Date	Name
Drawn by:	09.06.10	L.Roe
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: 01.00.701155

Sheet 1 / 1

The entire contents of this document are the intellectual property of AIXTRON AG, AIXTRON Ltd and AIXTRON AB. In addition to the author's rights and copyright, AIXTRON AG, AIXTRON Ltd and AIXTRON AB reserves the right in particular to apply for industrial property rights (patents). Reproduction and/or transmission to third parties (including extracts) is not permitted without the prior written consent of AIXTRON AG, AIXTRON Ltd and AIXTRON AB. Any misuse of this document could result in civil and criminal proceedings.