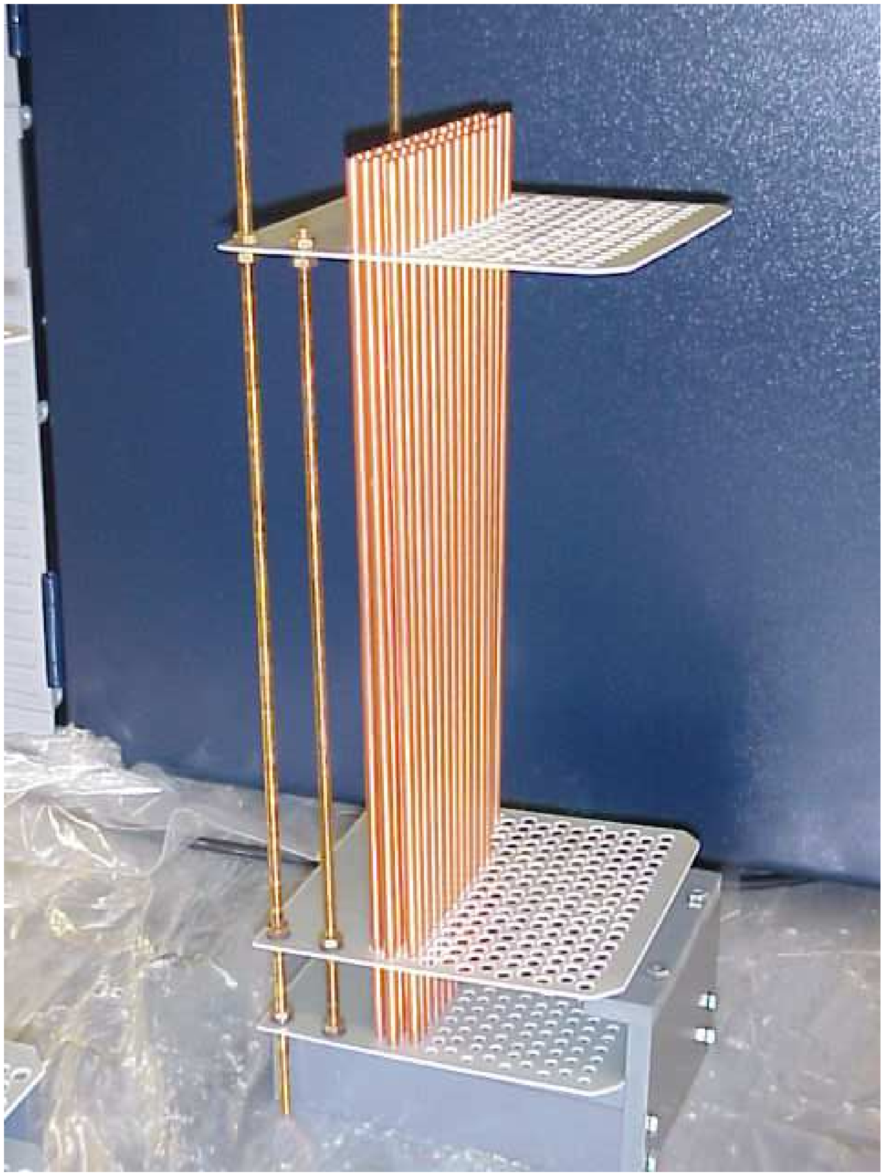
Setup for Deburring Tubes

- Should we do this operation in different area from cleaning.
- Or is PVC current separator sufficient with Vacuum chip extraction.

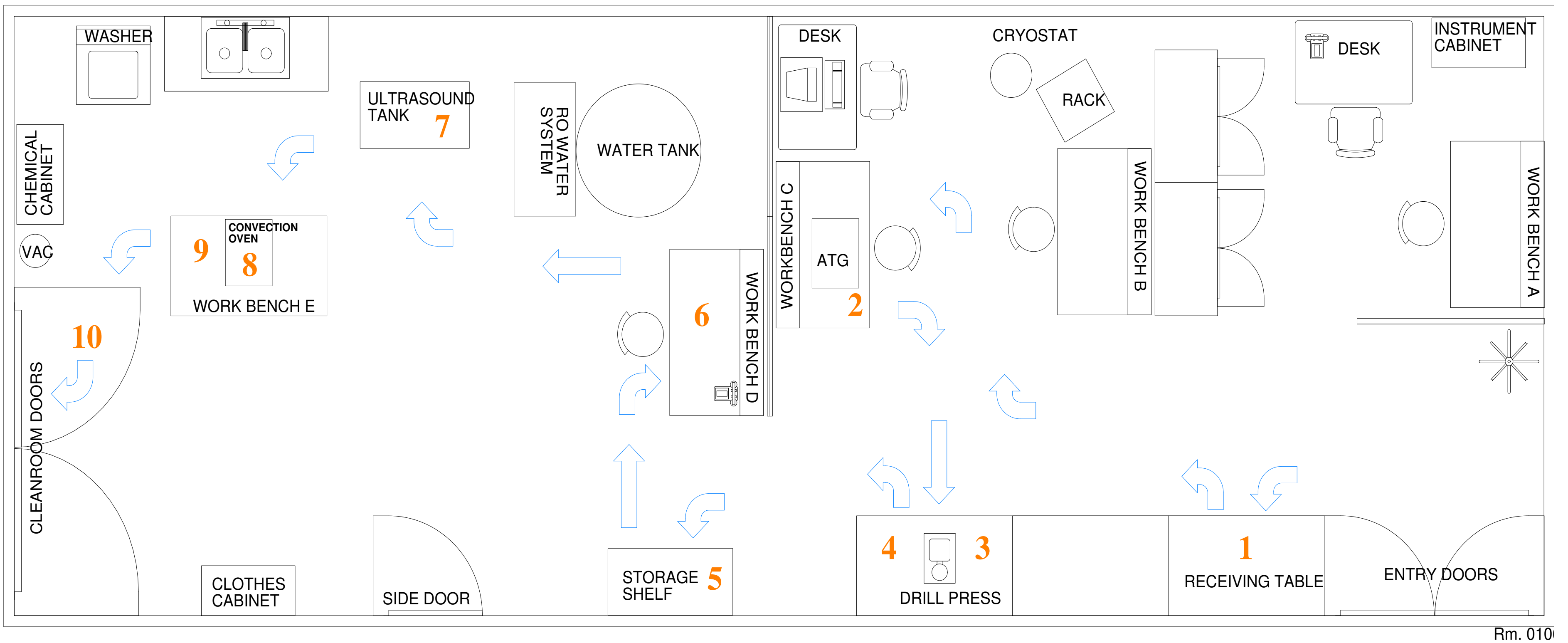
Tube Cleaning Rack



- Tubes sit in G10 end frames
- Docking station
- Will replace brass rods with stainless

Production Site Layout for FCAL2

HIGH ENERGY PHYSICS LABORATORY LAYOUT



Blue arrows indicate Tube Process work flow.
Orange numbers indicate Task #. See attached document.

Kenneth Vincent
Instrumentation Technologist

R.S. Orr July 1999 LAr Week

Production Site Layout for FCAL2

Work Flow for Copper Tubes

Refer to the drawing of the laboratory layout for locations of operations.

Step	Location	Task	Document
1	Receiving Table	Incoming packages of tubes are received, inspected and openned here.	*Incoming Tube Inspection Process Sheet*
2	Work Bench C	QC check of tubes using Automated Tube and Rod Gauge machine.	*Incoming Tube Inspection Process Sheet*
3	Drill Press	Deburring of tubes.	*Incoming Tube Inspection Process Sheet* *Tube Deburring Process Sheet*
4	Table	Tubes are batched, bagged and labeled.	*Incoming Tube Inspection Process Sheet* *Incoming Tube Inspection Report*
5	Storage Shelf	Tubes are stored here awaiting cleaning.	*Incoming Tube Inspection Process Sheet*
6	Work Bench D	Each batch of tubes are loaded into tube carrying racks.	*Tube Cleaning Process Sheet*
7	Ultrasonic Tank	Ultrasonic cleaning of tubes.	*Tube Cleaning Process Sheet*
8	Work Bench E	Tubes are dryed in convection oven.	*Tube Cleaning Process Sheet*
9	Work Bench E	QC swabs taken. Tubes are transferred from carrying racks to clean bags.	*Tube Cleaning Process Sheet* *Tube Processing Report*
10	Cleanroom	Tubes, in bags are transferred to cleanroom for storage.	*Tube Cleaning Process Sheet*

Production Site Layout for FCAL2

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