



Telephone: 22574416 [EN]

Extn:

Department of *Electrical Engineering*
Indian Institute of Technology, Madras
I.I.T.P.O., MADRAS - 600 036.

Ref. No.

Date *29.09.2016*

<i>ELE</i>	<i>ADGT</i>	<i>2016</i>	<i>HORIZONTAL TUBE</i>
------------	-------------	-------------	------------------------

WASHER

Under certificate of posting

O/c

DUEDATE: 14/10/2016

Dear Sirs,

1. Quotations are invited in duplicate for the various items shown below/overleaf/enclosed list.
2. The Quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
3. The Quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS & D Rate contract, Rate Contract Number and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate Contract price. If so, please send copy of the R.C. (Please note that we are not Direct Demanding Officers).
5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable.
6. Local Firms: Quotations should be for free delivery to this Institute. If Quotations are for Ex-Godown delivery charges should be indicated separately.
7. Firms outside Chennai: Quotations should be for F.O.R Chennai. If F.O.R. consignor station, freight charge by passenger train/lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charge must be indicated.
8. The rate of Sales/General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, claim for Sales/General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax applicable to non-Government Educational Institutions run with no profit motive for which a commission. Sales Tax certificates will be issued at the time of final settlement of the bill.
9. Good should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. Payment: Every attempt will be made to made payment within 30 days from the date of receipt of bill/acceptance of goods, whichever is later.

Specification is enclosed and quotation to be sent below address.

Yours faithfully,

*DR. AMITAVA DAS GUPTA
PROFESSOR*

Amitava Das Gupta

HEAD / Project Co-Ordinator

*ELECTRICAL ENGINEERING DEPARTMENT
IIT MADRAS
CHENNAI - 600 036.*

Technical Specifications for Horizontal Tube Washer

It is proposed to install 1“Horizontal Tube Washer” in the Wet Area of our lab as shown in the following figure 1. The complete work will involve design, fabrication and installation of Tube washer with suitable electrical and plumbing as per our required specifications.

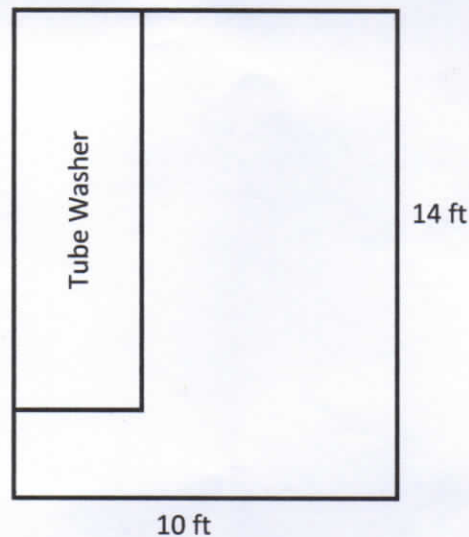


Figure 1. Layout of Room

We require the Tube Washer to have a perforated Worktop (10mm thick) for alternate wet process when tube washer is not utilized.

The specifications are as below.

Construction

- Natural white polypropylene sheet of thickness 10mm for entire construction with adjustable leveling feet.
- Operator Safety Visor made of 6mm thick transparent acrylic sheet to be fixed on the worktop for opening and closing while removing the tanks.
- Polypropylene drain of size 50mm with union connection to be provided at bottom of the sink base for draining. The drain end connection of the Horizontal Tube Washer to be connected to existing main drain.
- All materials should be selected for application in the most demanding conditions and should be clean room compatible.
- Overall Dimensions - 2096mm L x 1245mm W x 1970mm H

Amitan Das Gupta

Worktop

- The worktop should be made of 10mm thick natural polypropylene sheets with perforation and chamfered with suitable cut out for housing sinks, which can be removed for cleaning the sink base.
- Worktop spills, chemical spills and spent DI water to be drained to the plenum below and from there to a dedicated main spigot to station rear.
- The Tube Washer should have additional perforated Worktop (10mm thick) for alternate wet process when tube washer is not utilized.

Tank

- Tank material shall be natural PP 10 mm or better
- No. of tanks - 2 nos.
- Dimensions of the tank – inner 1700 L x 420 W x 350- 400 D mm
- Each tank shall have separate drain.
- Each tank shall have separate inlet water connection.
- Suitable reinforcement shall be provided to avoid deflections of tank.

Plumbing

- Water plumbing should be of dia. 20mm CPVC/PVC pipe work and should include standard inlet and outlet at rear of the station to minimize the dead legs within the pipe work exclusive pipe with front fascia mounted valve for controlling the water.
- 20mmPVC ball valve to be mounted on front fascia of the wet station.
- Supply points for sink and other for DI gun to be provided

Exhaust Requirements

- The Horizontal Tube washer should be connected with our Existing Exhaust Blower.
- The Capacity of the Blower is 900 cfm and diameter of exhaust piping is 300mm.
- The 300mm exhaust piping should be connected with the Tube washer.

Lighting

- One number of fireproof tube light with a 2 x 36W for illumination.

Electrical

- MCB for circuit protection along with timer.

Amitan Singh

Bath Fillings

- All process should to be manually filled.

Magnehelic Gauge

- Magnehelic gauge to read the Exhaust pressure drop should be provided.

Utilities

- Electrical : 230V, 3 phase, 50Hz
- Extraction : 600-700 CFM @ 300 Pascal's , Exhaust Duct Dia : 200/250 mm
- DI water (supply) for sink at 20mm MTA @ 3 barg/3 Kg/cm²
- Main drains 50mm union to be connected by other benches.
- Tank Drain 20mm to be connected.

Chemical Storage Trolley

- 2 nos. of chemical storage trolleys shall be provided

Anirban Dasgupta