1.2 Design and Basic Orientation

A SCRUBBER HOUSING

Each housing is custom designed and fabricated in accordance to the requirements of the project. Space is carefully managed with consideration given to the footprint and maintenance space available.

Housing material is carefully selected for both mechanical strength and corrosion compatibility with process media. Mechanical calculations are performed in accordance to the relevant ASTM or DIN standard. Material of construction can be selected from:-

- Vinly ester based Fibre Reinforced Plastic (FRP)

B MIST ELIMINATOR (1R)

As a standard feature, the mist eliminator comprises of blade profiles strongly encased in a polypropylene frame. The profiles are constructed of talcum reinforced polypropylene (PPTV) for the added rigidity and at the same time providing the premium corrosion resistant.

C LIQUID DISTRIBUTION

The liquid distribution consists of an engineered network of spray header and spray nozzles. The nozzles which are non-clogged are carefully selected to deliver the required liquid flow at desired droplet size. Each nozzle is positioned to make sure that the liquid is distributed over surface of irrigated packed bed and there is no dry spot.

One special feature of the scrubber is the spray nozzles can selected to deliver the required liquid flow at desired droplet size. Each be removed from the top of scrubber without the need to unfasten many bolts & nuts.

D PACKING "2K"

The scrubber uses 2" packing which provides:

- Smaller Footprint
- Lower Pressure Drop
- Smaller Recirculation Pumps
- Inscreased Capacity
- Smaller Mist Eliminators
- Reduced Maintenance Costs
- Reduced Power Consumption

E INTEGRAL SUMP

The scrubber is designed with a scrubbant liquid sump that is intergrated with the scrubber body for compactness. The sump provides a reservoir for the recirculation liquid and is calculated with adequate retention capacity

F RECIRCULATION PUMPS

The scrubber system uses vertical, immersion recirculation pumps which are mounted on extension of intergral sump. This form of construction offers space savings and smaller footprint.

H MAINTENANCE ACCESS

For ease of maintenance, the scrubber is provided with access manways at the following locations:

I EXHAUST FAN

The scrubber is coupled to a high efficient centrifugal type exhaust fan to "pull" the gas through the system. The exhaust fan is available in PP', PPS, FRP/PP, FRP and coated steel material.

J CHEMICAL STORAGE TANK

The Chemical Storage tank is build by FRP material with double containment, it is size to hold up to 2m³ of Sulfuric acid.

K CHEMICAL DOSING PUMP

The Chemica Dosing pump, it is to dose the H2SO4(20%-40%) Sulfuric Acid in order to maintain the pH level within 6-9.

L SCRUBBER DRAIN COLLECTION SUMP PIT

Scrubber drain(waste water) collection sump will be disposed by 3rd party schedule waste vendor.

M STACK PLATFORM

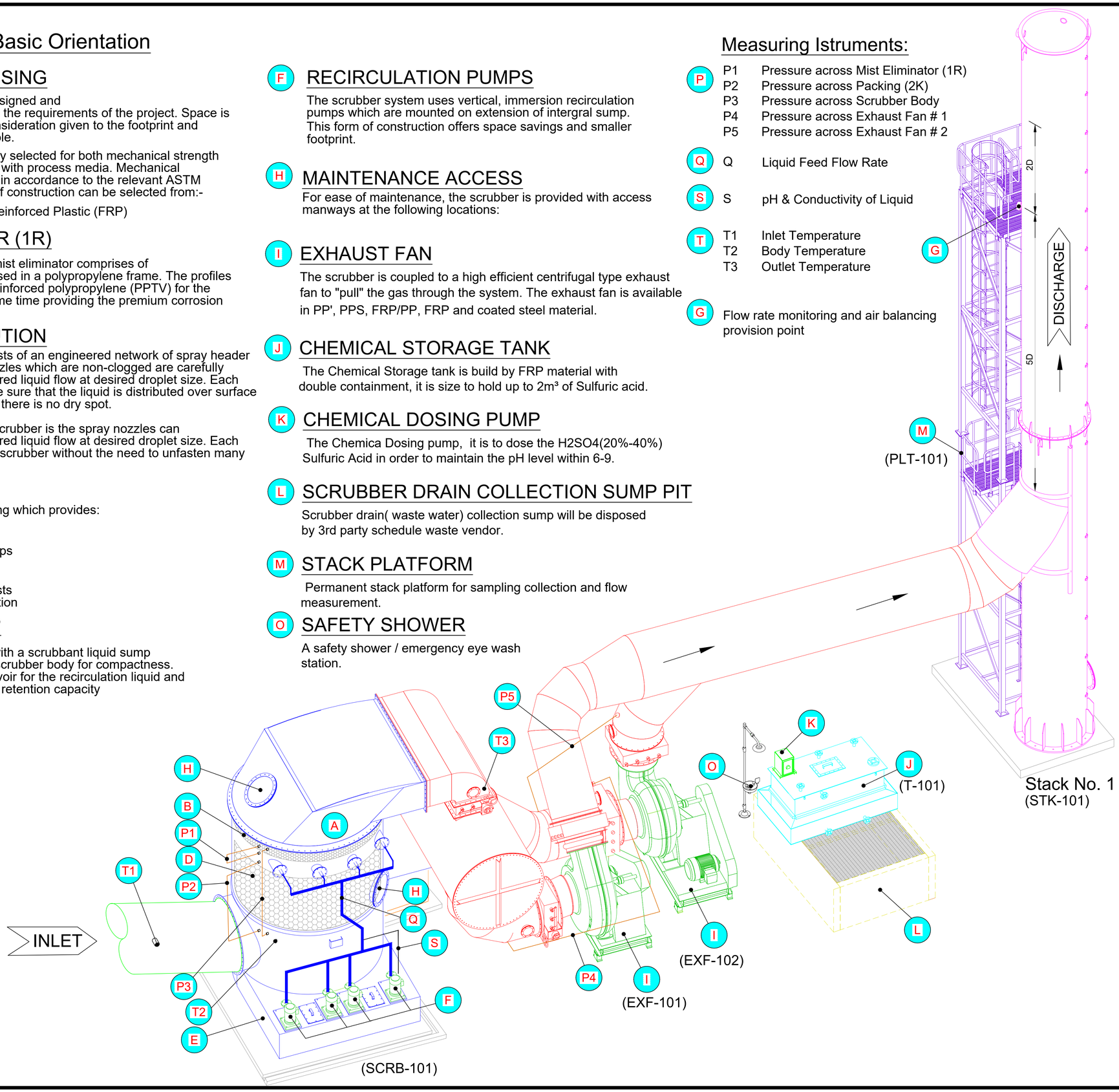
Permanent stack platform for sampling collection and flow measurement.

O SAFETY SHOWER

A safety shower / emergency eye wash station.

Measuring Istruments:

P	P1	Pressure across Mist Eliminator (1R)
	P2	Pressure across Packing (2K)
	P3	Pressure across Scrubber Body
	P4	Pressure across Exhaust Fan # 1
	P5	Pressure across Exhaust Fan # 2
Q	Q	Liquid Feed Flow Rate
S	S	pH & Conductivity of Liquid
T	T1	Inlet Temperature
	T2	Body Temperature
	T3	Outlet Temperature
G	Flow rate monitoring and air balancing provision point	



COLOR LEGEND:

- SCRUBBER
- DUCTING @ SCRUBBER YARD
- EQUIPMENT FAN AND PUMP
- CHEMICAL TANK
- COLLECTION SUMP
- STACK (Stack No. 1)
- STACK PLATFORM
- LOCAL CONTROL PANEL
- DUCTING SYSTEM

REV	DATE	DESCRIPTION	NAME

CLIENT :

VENDOR : INOTECH

PROJECT TITLE :

SCRUBBER SYSTEM

DRAWING TITLE :

DESIGN AND BASIC ORIENTATION
SCRUBBER SYSTEM

OLD DRAWING NO. : -	PROJECTION : -		
DRAWN BY :	DIMS :	SHT	OF
CHECKED BY :	REV :	SCALE :	
APPROVED BY :	DRAWING NO. :		
DATE :			

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