

# AUTOMATED BASTI PREPARATION MACHINE

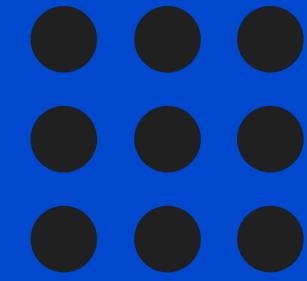
MINISTRY: All India Institute of Ayurveda - Ministry of AYUSH

PROBLEM STATEMENT: Automated Basti (Enema) Preparation machine

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TEAM LEAD: SHREYA SETH

COLLEGE CODE: 109



# Basti Karma

Basti Karma is one of the modalities among the five bio-cleansing/detoxifying procedures (Panchakarma procedures) advocated in Ayurveda. In Basti Karma the medicated oil or herbal decoction is administered through the anal route. In modern medicine enemas are most commonly given to clean the lower bowel as a last resort for constipation treatment when all other methods fail.



# Why invest here?

The main reason for the latest surge in demand for AYUSH and Alternative Medicine In India is rising consumer awareness of the long and short-term side effects of using chemical products.



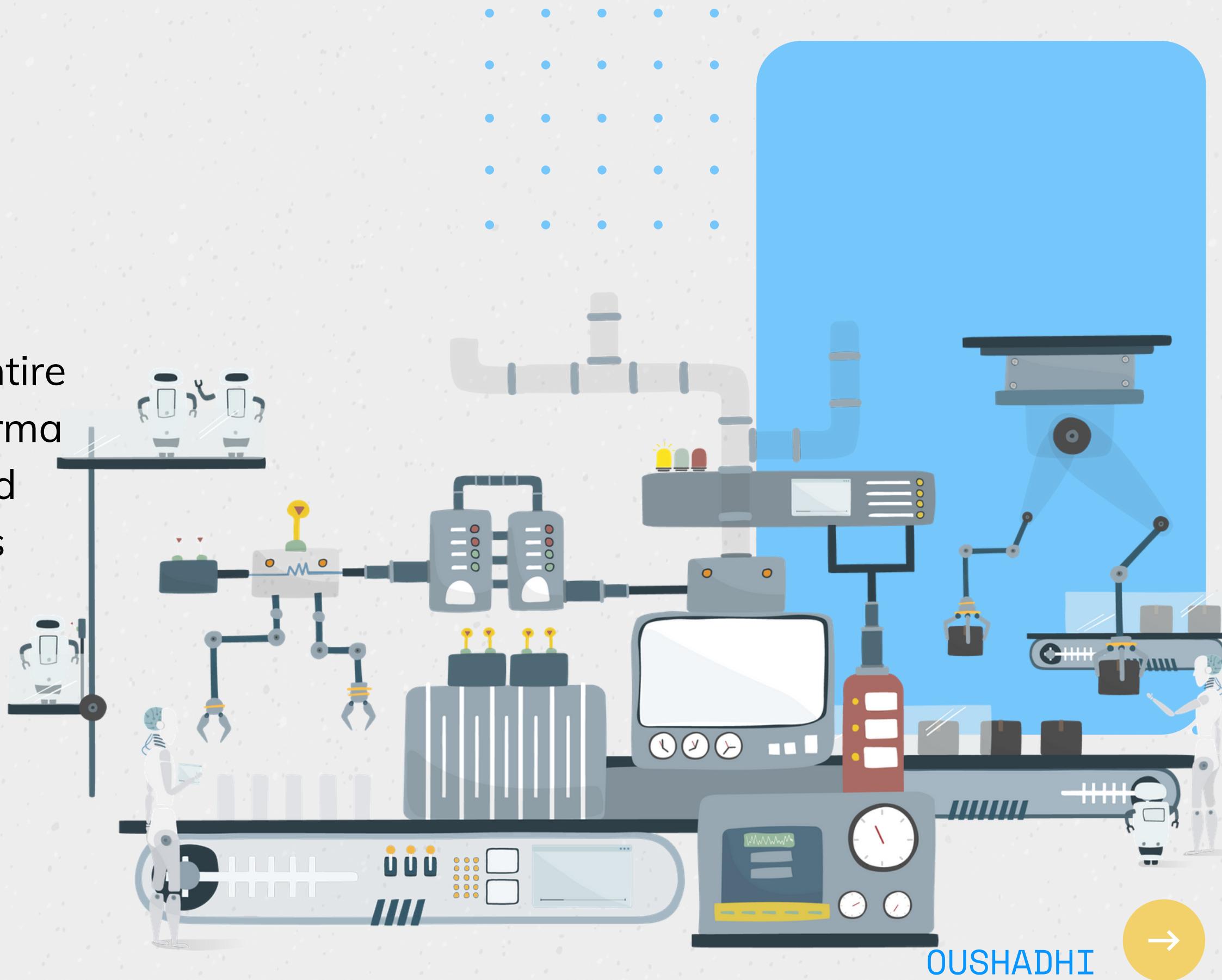
"Indian ayurvedic products market is expected to grow at a CAGR of 14% during 2019-2024."

→  
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# What we did

## Oushadhi as a product

Our objective is to automate the entire process of preparation of Basti Karma which is by and large done by hand right now, and is extremely tedious and cumbersome.



# Parts and Stages of OUSHADHI

The different steps that go into manufacture of the Basti.

## Stage V: Purification of equipment

The equipments need to be sterilized before every step in the procedure.

### Stage I: A Honey Refractometer

It's designed for checking the quality and concentration of honey.

### Stage II: TDS and Salinity Measure

TDS Meter/Digital TDS Meter with Temperature.

### Stage III: Grinders, Grinders, Grinders

Looking at the procedure that's followed for the preparation of the grind mixture, we'll need several sorts of grinders that would help mix those ingredients in order.

### Stage IV: Herbal Extraction Distillation Plant

This plant basically makes sure that we extract the essential oils from the herbs that are a part of the preparation of Basti.

## STAGE 1:

We would need a Honey Refractometer in the first step of the process.

It's designed for checking the quality and concentration of honey.

Measuring Range: Water Content (Moisture) 12-27%, Brix 58-90%, Be' (Baume) 38-43. Division: 0.5% Water, 0.5% Brix, 0.25 Be'(Baume).



**Honey needed:  
80% concentrated, Locust Variety**



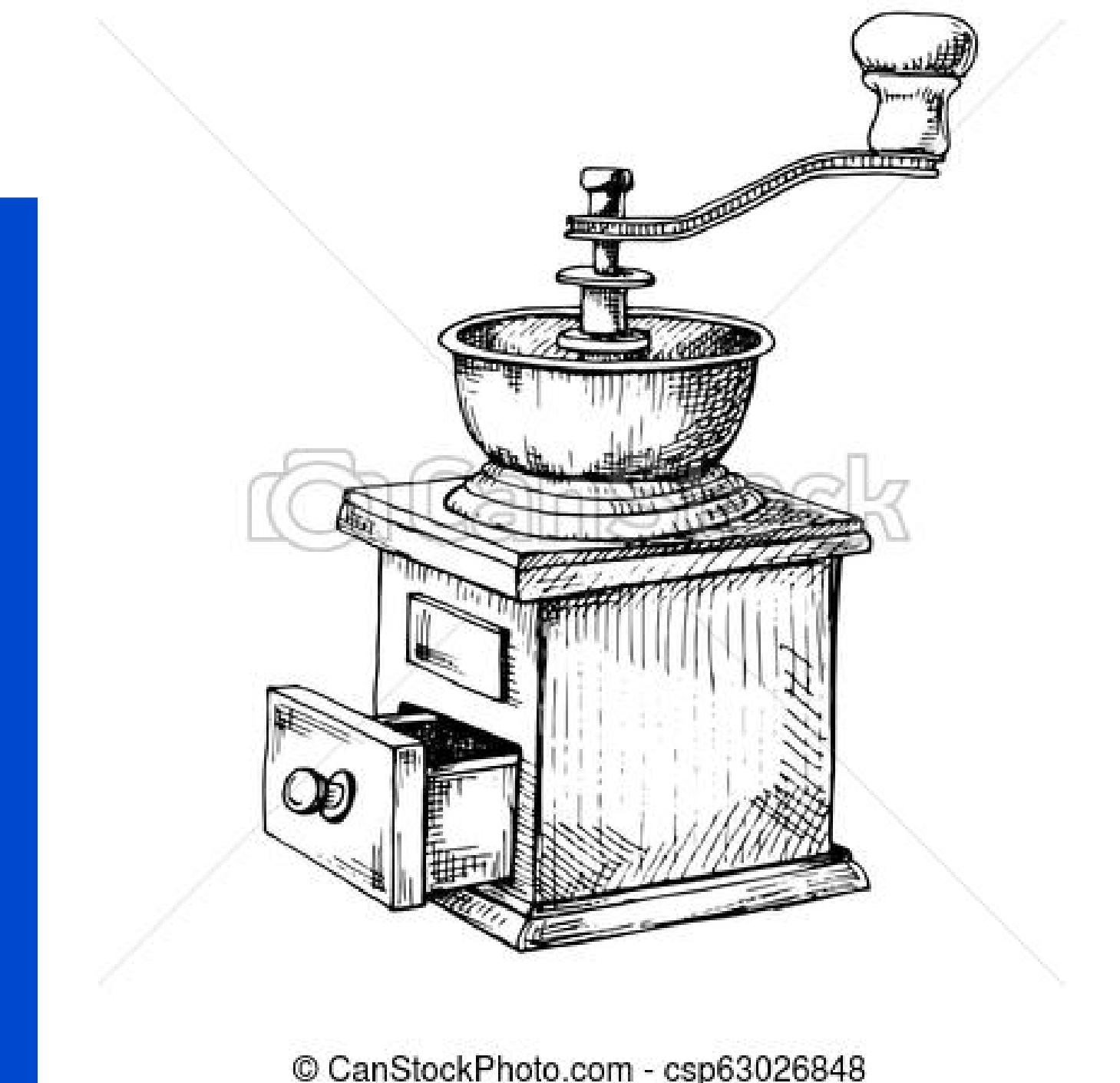
## STAGE 2:

We would need a TDS and Salinity Meter in the second stage of the process.  
A TDS Meter/Digital TDS Meter with Temperature.



### STAGE 3:

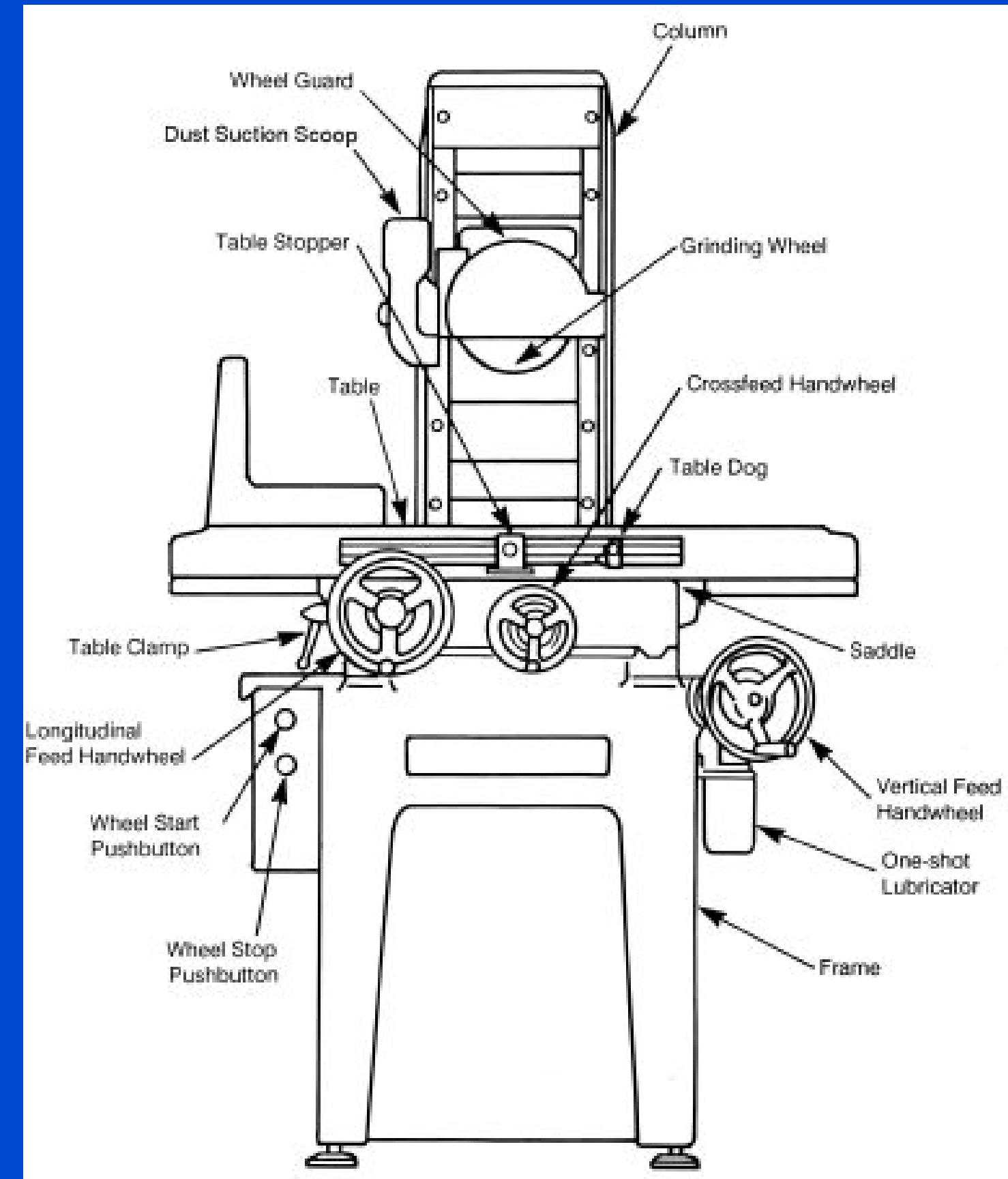
Looking at the procedure that's followed for the preparation of the grind mixture, we'll need several sorts of grinders that would help mix those ingredients in order. So, we take the approach followed, as in the problem statement.

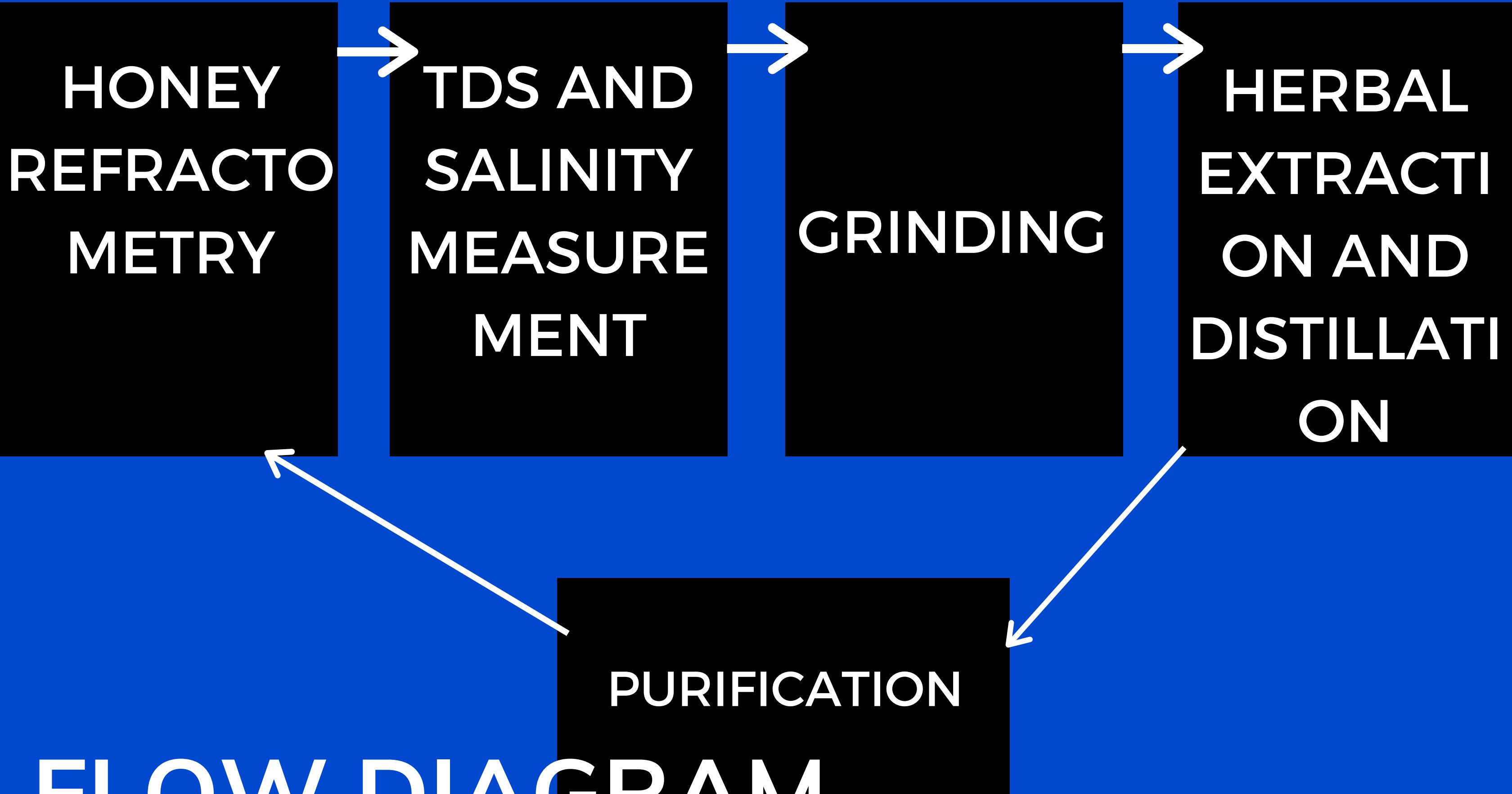


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# GRINDER TYPE 2





# FLOW DIAGRAM

## STAGE 4:

Herbal Extraction and Distillation Plant:

The whole unit consists of four parts:

- Main Vessel: 3-layered
- Connecting Pipes: The upper lid is connected through S.S pipe to a condensing unit all
- A Connecting unit made of S.S.: The S.S. condenser outlet tube is connected to a valve, which is connected to the solvent collecting unit.
- Solvent collecting: The other two way size of the valve at the end of the condensing unit made of unit 304 quality stainless steel is further connected to the collecting vessel through S.S. pipe. The collecting vessel is closed type fitted on S.S stand with S.S. ball valve for removal of collected condensed solvent.



## STAGE 5:

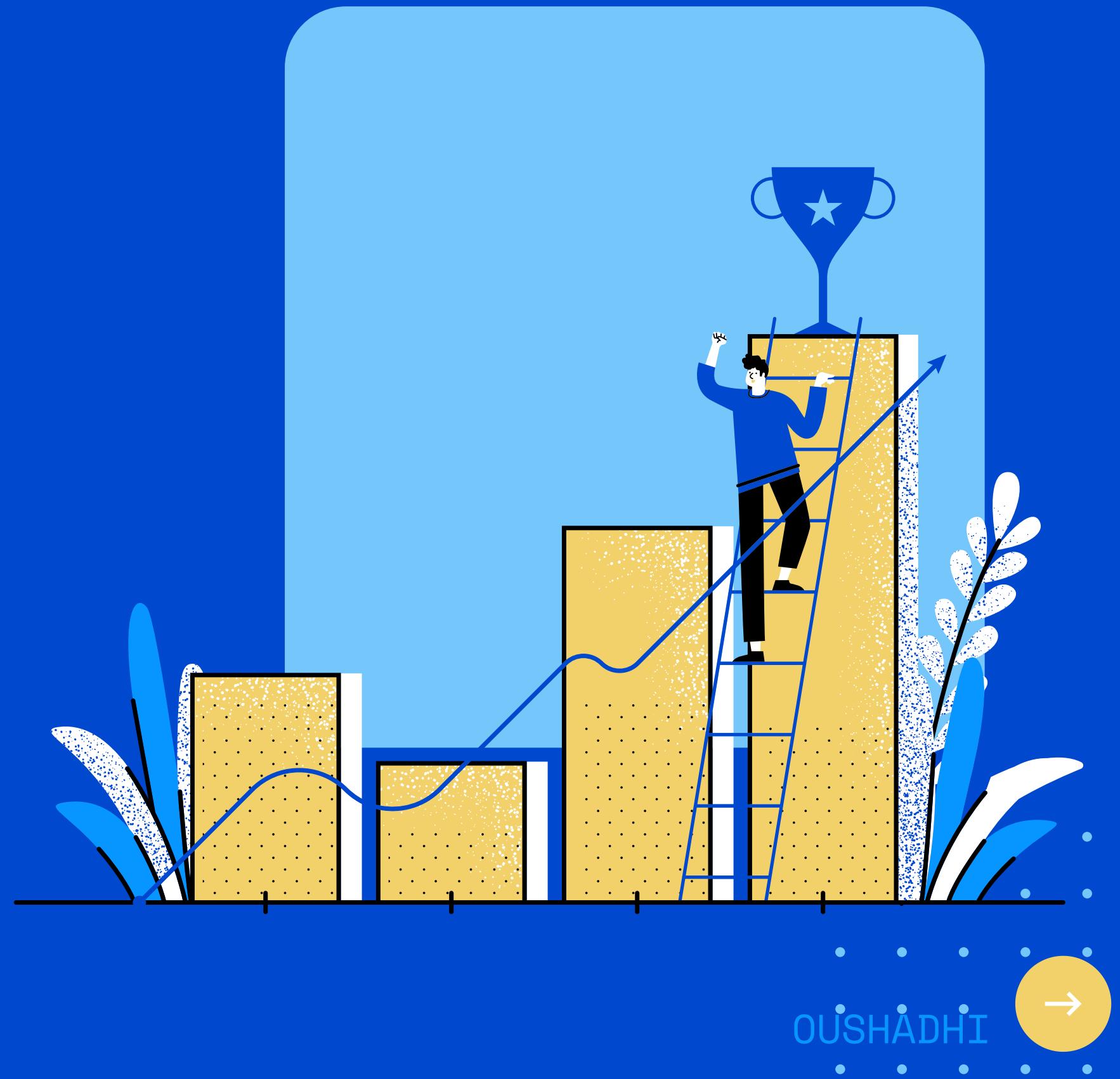
We take inspiration from the ways they treat medical apparatus according to the NCBI Norms, resulting in best quality measures. We take into analysis, two forms of sterilization procedures. These two are:

1. Ethylene Oxide Sterilization - For purifying the solid apparatus and the equipments involved.
2. Dry Heat Sterilization - For purifying the air and quality of apparatus.



# The Technology Stack

- Honey Refractometer
- TDS and Salinity Measuring Meter
- Grinding Equipment
- Herbal Extraction and Distillation Plant
- Sterilization Apparatus



# Use Cases

The Basti Karma procedure in itself is quite popular and healing and has found applications in multiple fields, helping in curing:

- 1) constipation
- 2) low back ache
- 3) Inflammatory disorders like Gout, rheumatism
- 4) Neurological disorders like sciatica
- 5) Nervous disorders like vata headache
- 6) Obesity
- 7) Emaciation
- 8) sexual weakness, infertility
- 9) Muscular atrophy
- 10) Rheumatoid Arthritis



Potential buyers/investors of the product would include: Ayurvedic Drug Development, The Household Market, The Global Natural Therapeutic Market

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# The Show-stopper

Getting access to the proper amount and quality of raw materials is rather difficult without added cost of logistics and exploration.

It would be simpler if we could get access to quality raw materials in the first go.



# THANK YOU