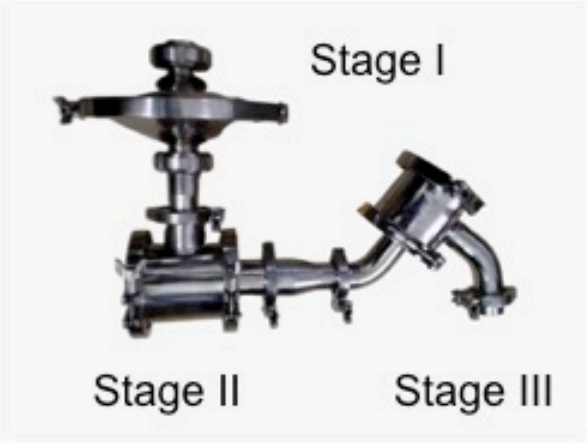
S. S. EQUIPMENT

# Su-Raksha

Suruchi Consultants

Unique Filtration system to improve Milk quality, MBRT and Shelf life

Uses
1.Milk Parlors
2.Milk collection centers
3.Milk chilling center/BMC
4.After Pasteurizer
5. Before packaging
6. Milk products lines


**Multi Stage Filtration system**

Stage I- Physical Impurities
Stage-II- Fine dust and microbes
Stage-III- Somatic cells

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**A milk quality conservation system from Suruchi Consultants**

Dairy is a single raw material industry. No technology in the world could make a high quality milk product from a low quality Raw milk. It is also very difficult to make high value added milk products by using poor quality raw milk. There are three major issues, which depend upon the raw milk quality.

a. Taste
b. Microbial load ( As determined by its MBRT time in dairy industry)
c. Shelf life of the final product

Majority of the milk in India comes from small and marginal farmers and collected at the Village level collection center commonly known as VLC or VLCC. The animal husbandry practices in India at milk production levels are not very hygienic. The milk production and handling is done in open areas full of dust and other extraneous matter.

Milk has intrinsic quality to get produced naturally at very low levels of microbial load. Immediately after its production milk starts to gain microbial contamination from the teats, hands of milking personnel, air, water, utensils and most importantly the extraneous matter going into it.

The best way to control this microbial load is either to chill the milk instantly after the production or micro filter it so that at least the load due to dust etc does not impact.

In Indian conditions the milk reaches the point of chilling in atleast 3-4 hours of its production. The same milk is then chilled within next 1-2 hours in case of instant chilling center and 2.5-3 hrs in case of Bulk milk coolers. Microbial growth rate by that time has already seen its peak and now you can not do much.

Su-Raksha comes as a savior of milk quality at this stage. Removal of dirt and microbial load at the initial stages of milk collection ensures natural taste of milk as well as better shelf life and higher MBRT time.

We install a multi-stage milk filtration system at your procurement area depending upon the initial microbial load of milk at your source. The Filters are made of high quality virgin polypropylene.

To get pure milk, Su-Raksha offers three levels of filtration system which is appropriate for any milk volume from 50 to 100 000 liters .

Our solution will be based as per your requirements in terms of current milk quantities, flow rates and microbial loads.

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**1st level - PRELIMINARY PURIFICATION OF MILK-**Clear your milk from large mechanical impurities (straw, sawdust, insects dust, manure and feed particles). Normally all of you have this filter which is normally called as an inline filter. It covers extraneous matter up to 100-200 microns and bigger size.

**2nd level - PURIFICATION OF MILK- It** clears milk from dirt debris and other smaller sized particles upto 5 Micron size which in turn controls bacterial cell count and acidity of milk .

**3rd level - FINE PURIFICATION OF MILK-** This third level is important for raw milk which has complaints related to fine dust and sand , which otherwise is not getting cleared by other kinds of filtration systems. This system if used in tandem with other two stages could also ensure reduction in Somatic cell count depending upon the initial raw milk quality. The size of filters in this case is as low as 3 Microns.

The most important part is that these filters work the best before the milk is chilled. They are being used on raw milk at ambient temperature. If these are used after the milk has ben chilled then the bacterial load has already reached to higher levels and there is no more increase in the load.

**For Pasteurized milk**

This filtration system is also very useful after the pasteurizer. A single 3 micron filter after pasteurization will take care of all the burnt particles from the heating section of the pasteurizer. The shelf life of pasteurized milk will also improve depending upon the raw milk quality.

**For dairy products**

This system is very effective for making dairy products with higher shelf life. So fermented milk products like curd/cheese/yogurt etc being made out of our filtered milk will surely be having higher shelf life and better taste.

**Comparison of Micro filter and other filtration machines**

| S. No. | Properties | Micro Filter | Separator | Bactofugation |
|---|---|---|---|---|
| 1. | Filtering principle | Multilayer | Centrifugation | Centrifugation |
| 2. | Simply installed and used | Yes | No | No |
| 3. | Purification of mechanical impurities | Up to 98% | Up to 50% | Up to 50% |
| 4. | Reduction of bacteria level | Yes | No | Yes |
| 5. | Filter mesh size | Up to 3 microns | - | - |
| 6. | Loss of fat | No | 0.5% | Up to % |
| 7. | Loss of milk | No | 3% | 5% |
| 8. | Extra staff for maintenance | No | Yes | Yes |

By using our Su-Raksha filtration solution at a commercial dairy farm, milk chilling center and dairy processing plant , you will be getting naturally tasting milk with higher shelf life and higher MBRT time.