

## Water & Waste Solutions



# LO-FLO RO

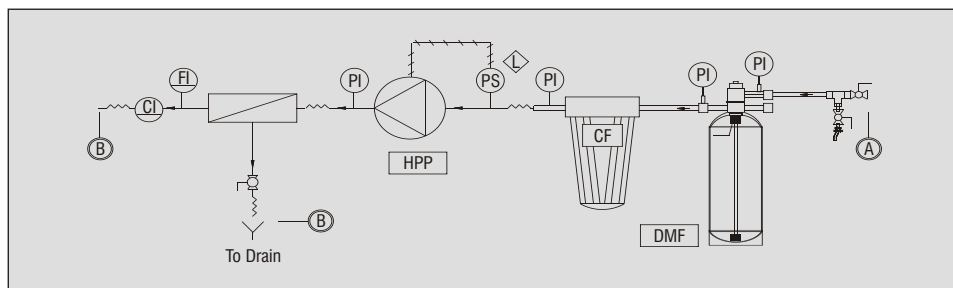
Compact & Modular  
Reverse Osmosis System

Lo-Flo Ro has been designed and standardised to cater to drinking & low flow process requirements in industrial & commercial establishments & residential use.

## Operating Principle

Reverse Osmosis is a process of physical separation of dissolved solids and minerals present in water. This technology uses the principle of osmosis wherein mineral concentration of raw water is reduced by applying high pressure through a semi-permeable membrane.

## Flow Chart



## Technical Specifications

Unit	Size	MOC	50 lph	100 lph	200 lph
Dual Media Filter	50 microns	HDPE / LLDPE	200 mm Dia.	200 mm Dia.	300 mm Dia.
Cartridge filter	5 microns	PP	1 No.	1 No.	1 No.
RO membrane	2.5 inch	TFC	1 No.	-	-
RO membrane	4 inch	TFC	-	1 No.	1 No.
Membrane housing	2.5 inch	PVC	1 No.	-	-
Membrane housing	4 inch	PVC	-	1 No.	1 No.
High press. pump	15 kg/cm <sup>2</sup>	Brass	1 No.	1 No.	1 No.
ROF indicator	200 lph	PVC	1 No.	1 No.	1 No.
Cond. Indicator	200 μs	-	1 No.	1 No.	1 No.
Low pr switch	0.5 kg/cm <sup>2</sup>	SS	1 No.	1 No.	1 No.
Starter panel (only for HPP)	Suitable	-	1 No.	1 No.	1 No.
Pressure gauges	0-5 & 0-20 (1 each)	SS	2 No.	2 No.	2 No.

## Process & Other Details

Model	Permeate Flow (m <sup>3</sup> /hr)	Average Recovery (%)	Maximum Connected Load (KW)	Maximum Size (mm)	Approx Weight (Kgs.)
LFLO-05	0.05	20	0.37	600x600x1500	150
LFLO-10	0.10	20	0.37	600x600x1500	150
LFLO-20	0.20	20	0.37	600x600x1500	150

Cleaning system & antiscalant dosing system is not a part of the scope.

The recovery rate of the plant shall be 20% (max). No anti scalant addition will be required. The above scope does not include any dosing system.

**This plant is designed only for "borewell water source" and is not designed for surface water, open well water & treated effluent / sewage.**



**THERMAX**

Sustainable Solutions in  
Energy & Environment

### WATER AND WASTE SOLUTIONS

Sai Chambers, 15, Mumbai Pune Road,  
Wakdevadi, Pune - 411 003  
Tel. : 020 25511010  
Fax : 020 25511236  
E-mail : channelm@thermaxindia.com

### AHMEDABAD

Tel. : 079 26575408/ 26577073  
Fax : 079 26577270  
E-mail : aadmin@thermaxindia.com

### BANGALORE

Tel. : 080 23467760/ 23418939  
Fax : 080 23467760  
E-mail : adminblr@thermaxindia.com

### CHENNAI

Tel. : 044 24353831/ 2/ 3/ 4  
Fax : 04424353841  
E-mail : chennaidivsupp@thermaxindia.com

### HYDERABAD

Tel. : 040 23310254/ 23312013  
Fax : 040 23312335  
E-mail : hyd\_sec@thermaxindia.com

### KOLKATA

Tel. : 033 22292423/ 22292428  
Fax : 033 22452491  
E-mail : thermcal@giasci01.vsnl.net.in

### MUMBAI

Tel. : 022 22045391/ 2, 220245324  
Fax : 022 22040859  
E-mail : psecret@thermaxindia.com

### NEW DELHI

Tel. : 011 26145319/ 26145326  
Fax : 011 26145311  
E-mail : cdelhi@thermaxindia.com

### VADDARA

Tel. : 0265 345442/ 332636  
Fax : 0265 310051  
E-mail : badmin@thermaxindia.com

[www.thermaxindia.com](http://www.thermaxindia.com)

### International offices at

Indonesia, Russia, Kazakstan, Saudi Arabia,  
Malaysia, Bangladesh, Sri Lanka, China,  
Thailand, UAE, Kenya, Nigeria, Brazil, UK, USA

## Thermax Business Portfolio

Water & Waste Solutions

Air Pollution Control

Chemicals

Boilers & Heaters

Absorption Cooling

Captive Power



## Applications



Agri Products



Automobiles



Boiler Feed



Chemicals



Commercial Applications



Cooling Towers



Distillery



Fertilisers



Food & Beverages



Hospitality



Hospitals



Paint Industry



Paper Industry



Petrochemical Industry



Poultry



Power Plants



Rubber Industry



Textile Industry



Tobacco Industry

## Advantages

The following features give you the 'RO Advantage'.

- Compact and modular RO blocks.
- Easy installation, operation and servicing.
- Need specific selection possible from a wide range.
- High level of plant automation.
- Visual Monitoring System (VMS) for ease of trouble-shooting.
- Stainless steel multistage centrifugal pump. Inline suction and delivery allows for easy maintenance and access.
- Online product water quality monitoring.
- membrane and pump protection features.
- 'RO Advantage' further enhanced through SIROSOFT & proprietary cleaning & aniscalent.
- Minimum pipe length to reduce system resistance. Easy servicing with QRC (Quick Release Coupling). Material of Constructions PVC/SS.



**THERMAX**

Sustainable Solutions in  
Energy & Environment

### WATER AND WASTE SOLUTIONS

Sai Chambers, 15, Mumbai Pune Road,  
Wakdevadi, Pune - 411 003  
Tel. : 020 25511010  
Fax : 020 25511236  
E-mail : channelm@thermaxindia.com

#### AHMEDABAD

Tel. : 079 26575408/ 26577073  
Fax : 079 26577270  
E-mail : aadmin@thermaxindia.com

#### BANGALORE

Tel. : 080 23467760/ 23418939  
Fax : 080 23467760  
E-mail : adminblr@thermaxindia.com

#### CHENNAI

Tel. : 044 24353831/ 2/ 3/ 4  
Fax : 04424353841  
E-mail : chennaidivsupp@thermaxindia.com

#### HYDERABAD

Tel. : 040 23310254/ 23312013  
Fax : 040 23312335  
E-mail : hyd\_sec@thermaxindia.com

#### KOLKATA

Tel. : 033 22292423/ 22292428  
Fax : 033 22452491  
E-mail : thermcal@giasclo1.vsnl.net.in

#### MUMBAI

Tel. : 022 22045391/ 2, 220245324  
Fax : 022 22040859  
E-mail : psecret@thermaxindia.com

#### NEW DELHI

Tel. : 011 26145319/ 26145326  
Fax : 011 26145311  
E-mail : cdelhi@thermaxindia.com

#### VADODARA

Tel. : 0265 345442/ 332636  
Fax : 0265 310051  
E-mail : badmin@thermaxindia.com

[www.thermaxindia.com](http://www.thermaxindia.com)

#### International offices at

Indonesia, Russia, Kazakstan, Saudi Arabia,  
Malaysia, Bangladesh, Sri Lanka, China,  
Thailand, UAE, Kenya, Nigeria, Brazil, UK, USA

### Thermax Business Portfolio

Water & Waste Solutions

Air Pollution Control

Chemicals

Boilers & Heaters

Absorption Cooling

Captive Power



**THERMAX**

## Water & Waste Solutions



**SIRO**

Standard Industrial  
Reverse Osmosis



**Improving your business is our business**

Thermax offers products, systems and solutions in energy and environment engineering to industrial and commercial establishments around the world. Its business expertise covers heating, cooling, waste heat recovery, captive power, water treatment & recycling, air pollution control & waste management and performance chemicals.

Thermax brings to customers extensive experience in industrial applications and expertise through technology partnerships and strategic alliances.

Operating from its headquarters in Pune (Western India), Thermax has built an international sales & service network spread over South East Asia, Middle East, Africa, Russia, UK and US. It has full fledged ISO 9001:2000 and ISO 14000 accredited manufacturing setup.

**Water & Waste Solutions Division**

offers expertise in water management recycling. Its water and waste water treatment systems support power plants, oil & gas installations, fertilisers, petrochemicals and others. Its waste management systems serve health and hospitality sectors, townships and colonies.

# REVERSE OSMOSIS



Reverse Osmosis is a process of physical separation of dissolved solids and minerals present in water. This technology uses the principle of osmosis wherein mineral concentration of raw water is reduced by applying high pressure through a semi-permeable membrane. RO is technology that offers the maximum flexibility to the user in terms of satisfying his diverse needs. Thus to gain the maximum 'RO Advantage' it is necessary that the right selection is made of the 'RO System'. To ensure this and offer you the right solutions from our wide range of combinations, we have made available to our sales force a customised software called *SIROSOFT*. *SIROSOFT* takes into consideration your inlet water quality and capacity requirements and offers you the most optimised combination from our vast SIRO range. This choice is dependent on different flux rates, pump models, membrane types and inlet water quality. All this gives you the 'Right Solutions', Reduced Running Cost & Optimised Capital Expenditure.

## Plant Automation

A unique dedicated RO Controller "SIROLOGIC" is developed for this product range which enables the following :

- Reduces chances of Membrane Scaling and Fouling.
- Pump protection from Dry Running.
- Reduced operation interface due to Fully Automated Switching Operation.
- Outlet Water Quality Monitor.

This takes place through the following features :

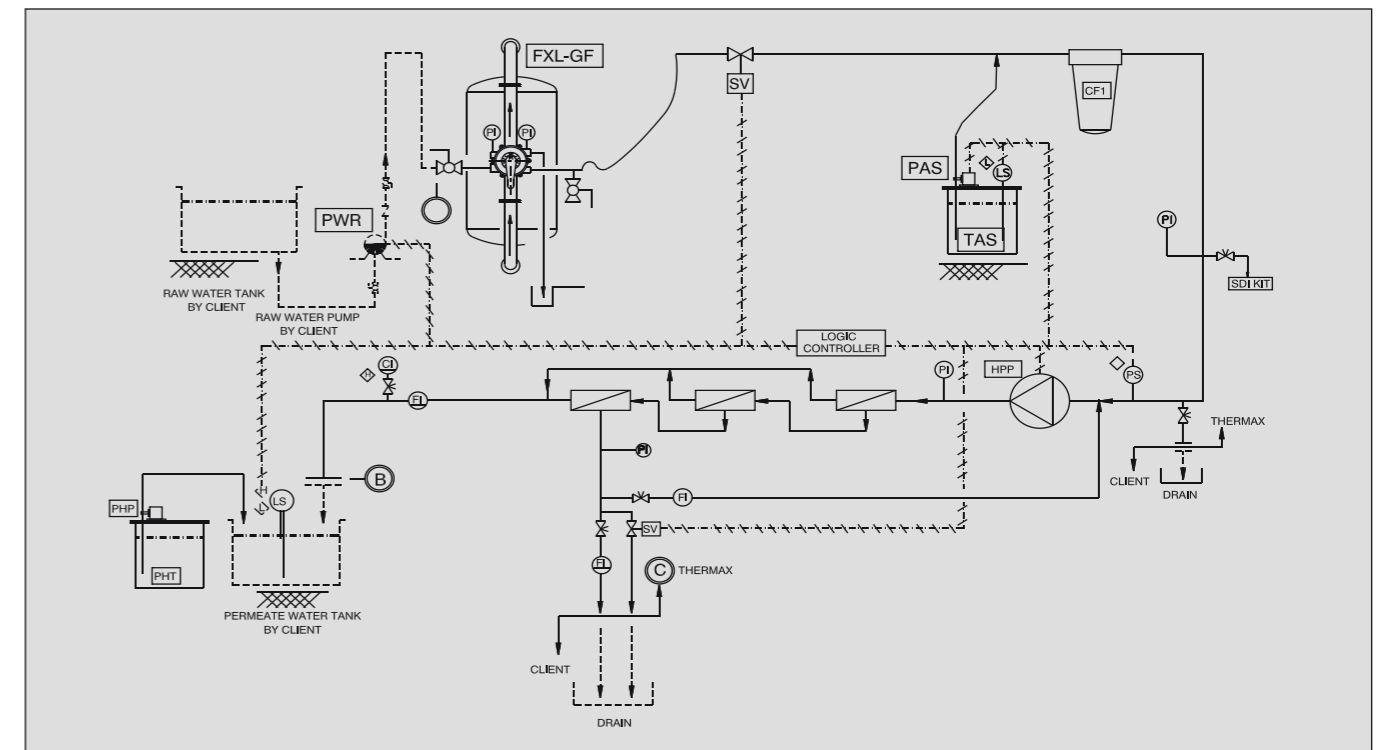
- Auto Flushing of feed side of membrane periodically.
- HPP Protection through 'trips' on Low Suction Pressure.
- Automatic Start and Stop of plant corresponding to low and high level in Permeate water tank respectively.
- Plant trips if level of antiscalant in dosing tank is low.
- Alarm on high conductivity of product water.
- Mimic Diagram to indicate plant status.

## Visual Monitoring System (VMS)

A User Friendly, ergonomically designed wet panel for ease of monitoring the plant performance through the following instrumentation:

- Pressure Guages for feed and reject pressure.
- Flow indicators for monitoring and controlling permeate, reject and reject recirculation flow, for higher capacity units
- Easily accessible reject flow valve.

## Flow Chart



## Range

Siro is available in a widely standardised range from 350lph to 60m<sup>3</sup>/hr. Multiple options are available for globally sourced components like pumps, membranes and instruments. *SIROSOFT* gives an advantage of combining all available options into standard configurations, flow diagrams and layouts designed for utmost optimisation of schemes.