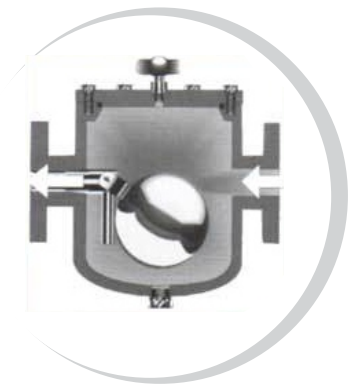


# EXCEL

Product of Quality | Best Performance



## Ball Float Controlled

Steam Traps  
Auto Drain Traps  
Float Valve  
Air Vent Valves  
Feed Control Valve  
Drain Control Valve

Thermo Dynamic(TD) Trap ●  
Safety Valve ●  
Condensate Pump ●  
Flash Vessel ●  
Moisture Separators ●  
Deaerator Head ●  
Steam Injector ●  
Sight Glass ●  
  
Sonic Soot Blower ●

**SAKTHI INDUSTRIES**  
Manufacturer of IBR & NON IBR VALVES





## Comparison EXCEL Ball Float Steam Traps with Other Ball Float Steam Traps

Characteristics	EXCEL Ball Float Trap	Other Ball Float Trap
Construction	Simple construction, only one moving part, No Hinges	Complex construction number of moving and interlinked parts
Operation at very low loads	Excellent operation at very low loads	Not Suitable for low and very low loads
Water Hammer	No Effect of water Hammer Due to the sturdy Design of Ball Float	Not Suitable in Application Involving Water Hammer
Pressure	Suitable for very high pressures like PN160(STEAM) and Pn320 for Gases. As also for every low differentials pressure of 0.01BAR	Available Upto 32Bar only, does not operate at very low pressure
Extra Strainer	Not Required	Required
Effect of Dirt	No effect Due to the scraping effect of the plug valve Rotation, preventing any such Deposition on the outlet valve seat	Dirt Deposition on Outlet seat causes continues leakage of Steam
Performance Checking	Easily possible through check valve	Requires special kit to check the performance
Back pressure	Works even at 95% back pressure, Hence also suitable for condensate recovery	Does not work at back pressures more than 60% of the inlet pressures

## Comparison EXCEL Ball Float Steam Traps with Inverted Bucket Steam Traps

Characteristics	Excel Ball Float Trap	Inverted Bucket Trap
Operation	Continuous Discharge	Intermittent Discharge
Internal Arrangement	Only one moving part	No. Of Hinges and levers
Air Venting	Excellent Air Venting even at very low pressures	Poor air venting ability at low pressures
Back Pressure	Works at even 95% back pressures	Works only at 50% back pressures
Differential	Works at very low	Not suitable for very Low
Pressure	Differential pressure of 0.01Bar	Low Pressure Differential
Connections	Horizontal or Angular	Horizontal or Vertical
Failure Position	Normally Closed	Normally Open
Pressure Range	Available up to 160Bar	Not suitable for very high pressure

## Comparison EXCEL Ball Float Steam Traps with Thermo Dynamic Steam Traps(TD)

Characteristics	Excel Ball Float Trap	TD
Operation	Continuous Discharge No. Steam Consumption for operation	Intermittent Discharge consumes steam for operation
Resistance to wear	Very Good	Poor
Back Pressure	Can operate at 95% Back Pressure	Not suitable for very low loads
Pressure	Suitable for very low pressure Application	Not Suitable for pressure below 15PSI
Effect of Dirt	No Effect of Dirt as plug valve gives scrapping effect & Remove dirt from seat	Dirt built up on seat starts steam leakage through trap
Condensate Recycling	Very Much Suitable	Not Suitable
Maintenance	Negligible	Requires disk/seat lapping frequently

## COST OF STEAM TRAP LEAKAGE

Table 1 Typical Steam Wastage and annual costs due to leaking steam traps

Trap Size	Average orifice size in steam traps (mm)	Steam Loss(Kg/H)		
		6 Bar g	14 Bar g	32 Bar g
DN15	3.0	8	19	43
DN20	5.0	24	53	119
DN25	7.5	55	121	270
DN40	10.0	98	214	478
DN50	12.5	152	335	747

### Example

A process plan has 30 steam traps of which 10% fail annually. The average trap size is DN20 and the steam pressure is 14 Bar g.

The plant runs 24 hours a day, 7 days a weeks for 50 weeks a year = 8400 hours a year  
 Average number of traps failing over a year (10% of 30) = 3 Traps  
 From the chart, the steam loss per trap = 53 Kg/H  
 Steam loss per year for the total plant = 3 x 53 x 8400 tonnes per annum  
**Steam Wasted each year = 1336 Tonnes.**

The cost of overlooking leaks: If the overall cost of steam for this plant were Rs.750 (\$ 12.5)per tonne, using coal as fuel the direct cost of ignoring these leaking steam traps would be INR. 10Lakhs(\$16660) each year.

## FLOAT CONTROLLED STEAM TRAP(IBR & NON IBR) & AUTO DRAIN TRAP



Designed for outstanding performance Simple and sturdy design

### Function

Increasing level opens and decreasing level closes the outlet proportionately, Independent of pressure and temperature, fluctuations. Very simple operational check and air venting possible through stainless steel check valve. The simple & Sturdy design of rotary valve assures you of the reliable and trouble free operation of trap without any steam / air leakage.

### Pressure Range

Vacuum to 320 kg/cm<sup>2</sup>

### End Connections

15 NB to 100 NB Welded / Flanged / Screwed.

### Media

Steam, Compressed air, Compressed Gases

### Discharge Capacity

Upto 48000 kg/hour Excel ball float controlled units are of continuous discharge type and discharge the condensate proportionate to the rate of accumulation.

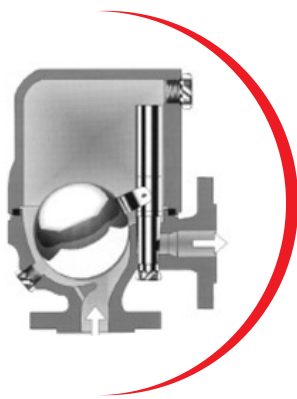
These units can handle high starting load and are also suitable for very low as well as very high loads. These units can be fitted with high floats for media with density less than one

## WHAT MAKES Excel TRAPS SO IDEAL FOR YOUR APPLICATION ?



- Only one moving part.
- Simple system, working parts manufactured from high grade corrosion resistant stainless steel.
- Insensitive to contamination.
- Extremely long working life.
- Extremely low maintenance.
- Proportional control action.
- Independent of pressure and temperature fluctuations.
- Impact –free and silent condensate discharge in exact quantity.
- No whirlpool effect, consequently no loss of steam.
- Can work even at 95% back pressure.
- Can work at very low differential pressure i.e. at 0.01 kg/cm<sup>2</sup>

## AUTOMATIC AIR VENT VALVE



For Liquid Lines

### Function

Excel ball float type vents are designed for automatic venting of air or gas from any liquid. The presence of gas in casing lowers the float and opens the outlet

### Pressure Range

Upto 63 kg/cm<sup>2</sup>

### End Connections

15 NB to 200 NB Flanged / Screwed / Welded

### Air Venting Capacity

Upto 1250 nm<sup>3</sup>/h

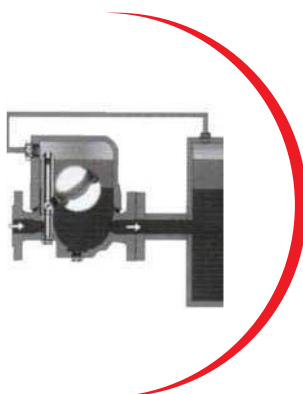
### Installations

At highest point of equipment with vertical inlet from bottom

### Application

For venting of Water / Oil pipe lines, storage tanks and other process equipments.

## LEVEL CONTROL VALVE AS FEED CONTROL



### Pressure Range

Upto 63 kg/cm<sup>2</sup>

### End Connections

15 NB to 200 NB Flanged / Screwed / Welded

### Air Venting Capacity

Upto 1250 nm<sup>3</sup>/h

### Installations

At highest point of equipment with vertical inlet from bottom

### Application

For venting of Water / Oil pipe lines, storage tanks and other process equipments.

## DRAIN CONTROL VALVE



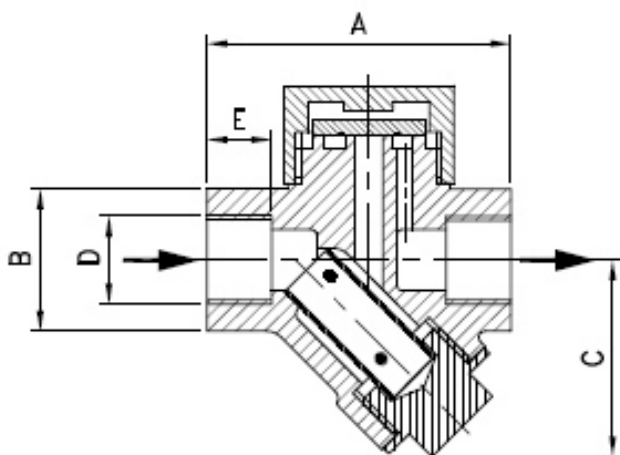
### Function

Excel offers a supreme quality range of Ball Float Auto Drain Trap / Liquid Drainers for moisture removal. Simple and reliable in operation, designed with simple float mechanism from high grade corrosion resistant material, which guarantees the smooth separation of moisture from compressed air or pressurized gases with absolutely zero air / gas leakage, also available in stainless steel body.

### Specifications

- The plug valve type discharge orifice of Excel Traps ensures safe, efficient & maintenance free operation.
- Available for very low pressure as low as 0.01 Bar & for high pressure up to 315 Bar
- Can be used for compressed air & pressurized gases like Oxygen, Hydrogen, Nitrogen, CO, CNG, Natural gas etc.
- Size - 15mm to 100mm
- End Conn - Screwed / Socket Weld End / Flanged

## THERMODYNAMIC STEAM TRAP



Dimensions			
Size(NB)	15	15	15
A	76	75	125
B	∅ 35	∅ 35	48.5 A/C
C	48	48	48
D	½" BSP	¾" BSP	1" BSP
E	16	20	20

## SAFETY VALVE



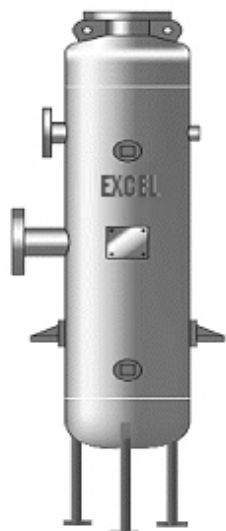
### Applications

- IBR
- NON IBR

## CONDENSATE PUMP



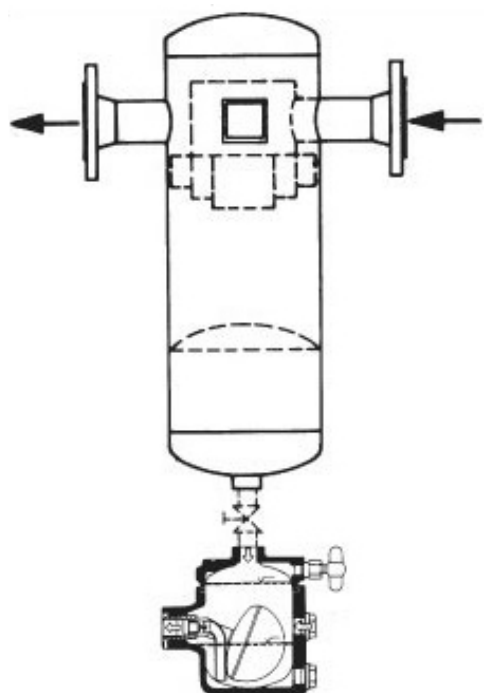
# FLASH VESSEL



## Function

Excel offers specially designed Flash Vessels to recover the maximum Flash Steam from the condensate. The inbuilt Steam Trap arrangement gives better condensate removal and eliminates requirement of Trap Module hence the saving in space and cost.

# MOISTURE SEPARATOR



## Function

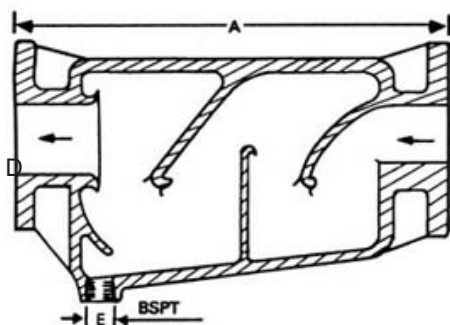
Excel high efficiency moisture separators are specifically designed for the extraction of liquid particles from air/gas flow.

A rotary motion is imported to the air/gas flow by means of a guiding device with a high circulatory velocity. The Particles, water droplets contained in the air/gas are flung on to the separator wall by centrifugal force and are collected at the bottom. The cleaned dry air/gas leaves the separator through a central dip tube.

The collected moisture at the bottom of separator casing is automatically drained by Excel Auto drain trap  
The collecting chamber is fitted with a cover plate which prevents the separated moisture being picked up again and carried forward.

Excel moisture separators cannot become clogged and their performance remains constant with a Uni-formly/low pressure drop

Baffle Type



## Pressure Range

Up to 63kg/Cm2

## Sizes

40NB to 250NB.  
Flanges

## Media

Steam / compressed air / gas

## Dimensions

Size(NB)	25	40	50	80	100	150
A	300	350	450	500	700	730
B	85	105	145	175	235	230
D	∅ 25	∅ 40	∅ 50	∅ 80	∅ 100	∅ 150
No. Of Holes	04	04	04	04	08	08

## DEAERATOR HEAD



### Nozzle Schedule

Details	Nozzle Size
Condensate Inlet Nozzle	100NB
Make Up Water Nozzle	50NB
Flash Inlet Nozzle	80NB
Vent Nozzle	½" BSP

Description	MOC
Mixing Head	IS: 2062
Deep Tube	SS 316
Thermostatic Vent	SS 316
Gasket	CAF
Mounting Pipe With Flange	IS: 1239, IS: 2062

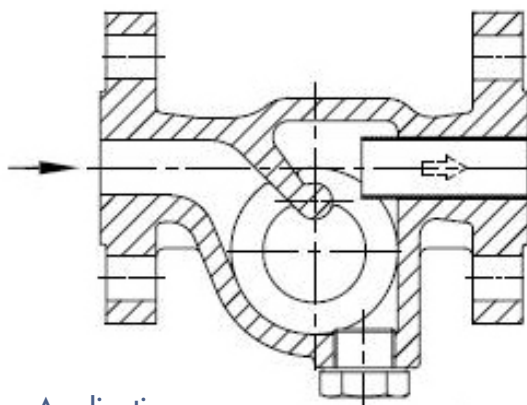
## STEAM INJECTOR



### Technical Specifications

- Body design rating PN25
- Maximum Saturated.
- Steam condition 21 bar g at 230 deg C
- Heated water temperature 95 deg C
- For higher capacities, two or more injectors may be fitted in parallel.
- Sizes –15 to 100 NB
- End Connections: Male thread of BSPT of NPT standard Butt weld ends

## SIGHT GLASS



### Applications:

The condensate monitor will show the flow actions. It is possible to find out, whether a condensate discharger is defective and permeable to vapor. Condensate monitor are used for the supervision of condensate line or condensate discharger (visual control)

Sizes: Flanged DN 15, 20, 25, 40, 50

### Operation limits:

Max. operating pressure, bar	16	13	11	10
Max. operating temperature, C	120	200	250	300
Test pressure bar	24	24	24	24

### Function:

The dividing reinforcement under the inlet and outlet holes provides a hydraulic seal. Condensate, vapor and gas are led around the dividing reinforcement through the hydraulic seal. The specifically lighter medium, vapor, runs over the condensate and presses down the condensate level at the dividing reinforcement.

## Operation

The Excel sonic generators are operated on compressed air and controlled by means of a solenoid valve and a microprocessor based control systems. The normal isonation cycle is 10 – 12 seconds after a regular interval of 30-90 minutes, depending on actual soot land. The Excel sonic generator gives an excellent and evenly distributed cleaning effect. In addition, due to its reverberation it cleans the surfaces against which it is reflected, as well as the small opening and flue gas ducts.

## Advantages:

- Fully Automatic Operations
- Lower Operation and Maintenance cost
- Continuous and Effective Cleaning
- No Mechanical wear and tear of the heating surface
- Ease of Installation
- Increased operational Availability of the Equipment

## Applications

- Package Boilers
- Water Tube Boilers
- Waste Heat Recovery Boilers
- Super heaters / Economizers / Air Heaters
- Gas - Gas Heat Exchanger
- Baghouses
- Electrostatic Precipitator
- Fans, Silos, Hoppers & Ductwork

## Our Range

- Gate Valves
- Globe Valves
- Ball Valves
- Bellow Sealed Valves
- Non Return Valves
- Butterfly Valves
- Forged Valves
- Disc Check Valves
- Y Type Strainers
- Ball Type Flush Bottom Valves
- Automation Valves
- Safety Valves
- Steam Traps Accessories

