

# **ASCENT MACHINERIES & ENGG. SERVICES**

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## **ASCENT OIL FIRED STEAM BOILER: NON-IBR**





### **INSTAVAPOR**

#### **Instant Steam Generator**

**CFR - TECHNOLOGY:** In the Counter Flue Radiation (CFR) technology the returning gases radiate heat twice in the radiant zone with ample residence time to burn the fuel particles for complete soot-free combustion. This ensures maximum heat absorption with perfect, smokeless combustion.

**FLUE GAS ROUTING:** The flue gases rise through the combustion chamber with maximum radiant heat transfer and then descend through the third pass between the outer cylindrical tube section and the gas-tight smoke box casing.

**COMBUSTION SYSTEM:** Filtered fuel oil pressurized by the high-pressure fuel pump passes through the fuel preheater (heavy oil model and model CT-30 onwards) to the burner nozzle and develops a cone of fine oil mist. The hot swirling combustion air in the pressure jet burner mixes with fuel oil mist in an efficient air-fuel mixing device and produces a flame at super combustion efficiency giving smokeless combustion.

**OPTIMUM HEAT UTILIZATION:** The radiation and convective helical coil absorb maximum heat from the hot flue gases twice in radiation zone and once in convection zone in cross-flow pattern. The residual heat in flue gases picked up by the incoming combustion air and water ensure optimum heat utilization.

**COMBUSTION CHAMBER:** The cylindrical combustion chamber is dimensioned and designed for optimal combustion and generously sized as per DIN 4754.

**ULTRA MODERN**, **SLEEK & ELEGANT DESIGN**: The boiler and Accessories are mounted on common skid with attractive front instrument and control panel. The unit, pre assembled and pre-wired reduces on site erection time. The boiler can be installed close to process.

**RELIABLE OPERATION:** The large diameter 31.8 mm OD single coil design form the rugged pressure part of the boiler. Proven and reliable components are incorporated for trouble free operation.

**FULLY AUTOMATIC SAFE OPERATION AND INSTANT INFORMATION:** A single switch controls the boiler operation. The burner cuts IN and OUT to meet process Heat loads and needs minimal attention during normal operation. Floor level, easy-to-reach -and read audio visual control and instrument panel provide instant information on heat generation.

#### **Design Benefits**

**INSTANT STEAM:** Water tube design with low thermal stored energy arranged in cross flow pattern produces steam at full working pressure within five minutes from cold start.

SUPER EFFICIENCY: The 4-pass Instavapor Instant Steam Generator with integral air heater and built in economizer achieves a super efficiency of 90 %

NO BOILER REGULATION: Instavapor Steam Generator is outside the purview of Indian Boiler regulations and therefore eliminates the need for annual shutdown

NO EXPLOSION RISKS: Instavapor Steam Generator offers low thermal inertia system and with fully automatic safety trips ensures fully safe operation.

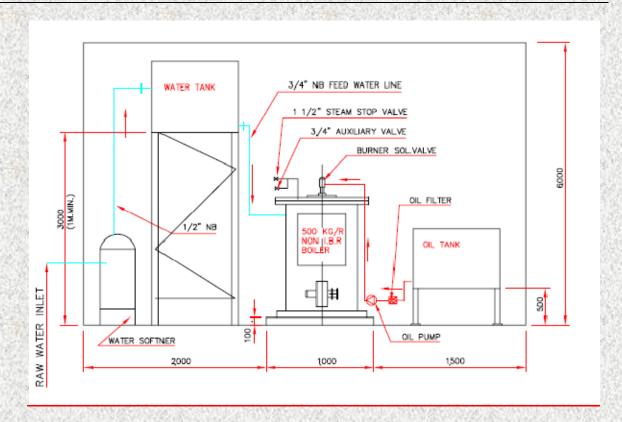
#### **Safeties And Controls**

- \_ Steam temp high- Audio Visual alarm & burner trip
- Flame Supervision- Monitored by burner programmer in Auto firing
- Steam pressure high- Visual indication & burner trip
- Fuel temp low- Audio Visual alarm & burner trip
- Flame failure- Audio visual alarm & burner trip
- Steam pressure High-Spring loaded safety valve



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## **TECHNICAL SPECIFICATIONS**

ASCENT OIL FIRED STEAM BOILER NON-IBR								
DETAILS	UNIT	ACT - 10	ACT- 20	ACT - 30	ACT- 40	ACT - 50	ACT- 60	ACT - 80
Steam Output (F&A 100°C)	Kg/h	100	200	300	400	500	600	800
Working Pressure	Kg/cm²	10.54						
Design Pressure (Pr.Parts)	Kg/cm²							
Hyd. Test Pressure	Kg/cm²	26.25						
Efficiency*	%	90±2						
Fuel Consumption LDO	Kg/h	6	12	18	24	30	36	47
FO	Kg/h	<b>从前的</b>	\$ T.	19	25	31	37	50
Gas	Kg/h	5.6	Sec.					
Electric Load			CONTRACT OF					
Blower Motor	HP/KW	0.25/0.187	0.5/0.37	1.0/0.75	1.0/0.75	2.0/1.5	2.0/1.5	3.0/2.2
Water Pump Motor	HP/KW	0.5/0.37	0.5/0.37	0.5/0.37	0.5/0.37	1.0/0.75	1.0/0.75	1.0/0.75
Fuel Pump Motor	HP/KW		3,730,000	0.5/0.37	0.5/0.37	0.5/0.37	0.5/0.37	0.5/0.37
Fuel Preheater	KW		Sign	2.0	2.0	3.0	3.0	4.5
Overall Length	М	1.3	1.4	1.5	1.5	1.6	1.6	2.0
Overall Width	М	1.0	1.2	1.5	1.5	1.7	1.7	1.9
Overall Height	М	1.2	1.5	1.8	1.8	2.2	2.2	2.6
Dry Weight	Kg	700	900	1200	1200	1600	1600	2000

NOTE: 1. Fuel Consumption is based on Net Calorific Value of:

a) 10250 K-cal/Kg for Light Diesel Oil (LDO)

b) 9650 K-cal/Kg for Furnace Oil (FO) c) The efficiency of  $90\% \pm 2$  is guaranteed with clean internal and external heating surface