



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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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/cm ²	-----10.54-----						
Design Pressure (Pr.Parts)	Kg/cm ²	-----17.5-----						
Hyd. Test Pressure	Kg/cm ²	-----26.25-----						
Efficiency*	%	-----90±2-----						
Fuel Consumption								
LDO	Kg/h	6	12	18	24	30	36	47
FO	Kg/h	-	-	19	25	31	37	50
Gas	Kg/h	5.6						
Electric Load								
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			0.5/0.37	0.5/0.37	0.5/0.37	0.5/0.37	0.5/0.37
Fuel Preheater	KW			2.0	2.0	3.0	3.0	4.5
Overall Length	M	1.3	1.4	1.5	1.5	1.6	1.6	2.0
Overall Width	M	1.0	1.2	1.5	1.5	1.7	1.7	1.9
Overall Height	M	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% + 2 is guaranteed with clean internal and external heating surface								