

A large, stylized red flame graphic is positioned behind the main text, pointing downwards. It has a gradient from dark red at the top to a lighter red at the bottom, with a white outline.

shola[®]-V

EFFICIENT AIR HEATER



ISO 9001:2000
Certificate:04 100 064988-E3



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EFFICIENT AIR HEATER

*TIGL introduces the most efficient 5 pass **SHOLA - V** heater to minimise the TEA drying cost.*

Shola -V is a cellular multitubular heater specially designed for the Tea industry. The salient features of this heater are the double vertical rows of tube on either side of the grate which aids in either 3 pass or 5 pass of the flue gas. These heaters can be fired with either coal, leco, firewood, gas, or oil.

Since its introduction, these heaters have found wide acceptance in factories large and small not only in India, but also in other Tea producing countries like Bangladesh, Kenya, Tanzania, Indonesia, Sri Lanka, Uganda, Malawi, Malaysia.



Shola[®]- V Principle

In the Shola - V heater, hot flue gases drawn by an induced draught created over the grate by the ID Fan & Chimney pass through 2 vertical rows of Tube-bundles on either side of the grate and over the cast surfaces. Ambient fresh air drawn from the sides, back and top by the dryer fan, picks up heat from the heated surfaces and enters the drying chamber. The principle of both 3 pass and 5 pass is the same except that in 5 pass hot air is made to pass five times in the tube banks as against 3 times in the 3 pass. So heat transfer area is increased by more than 1.5 times & this improves the heater efficiency.

Technical Features

Tube banks

Shola-V heaters are fitted with tube banks instead of individual tubes. Each tube bank consists of 5 tubes. The tube banks are grooved at each joint to fit asbestos rope packing for better sealing. The number of tube banks vary according to the size of the heater. For better heat transfer, the inner tubes are made of C.I. And the outer tubes are made of M.S.

Foundation

The heater is erected on a firm and rigid concrete base. A concrete raft of 9" thick on solid earth is sufficient and no excavation is required. The heater is mounted on the concrete raft.

Draft System

Shola-V heaters are designed to handle both Induced and Forced air draughts. For maximum efficiency the fans are specially designed with aerofoil impeller blades which deliver the required quantum of hot air with low power consumption. Inlet dampers are provided in the fan for better air control.

Mechanical Stoking (Optional)

Shola-V heaters can be conveniently fitted with mechanical stokers for uniform feeding of coal. This helps to maintain steady temperature as well as reduces coal consumption.

Easy Installation

Entire Shola-V heater arch bars, tube banks, front plate, back plate, smoke box, side plates etc. Are made in parts so that handling is easy. All these parts are designed in such a way that they can be bolted together with asbestos tape sealing, so that installation can be done within a short time.

Heat Transfer

Shola-V heaters are designed with higher heat transfer area and flue gases pass 5 times or 3 times before escaping into the atmosphere. This improves the efficiency of the heater. Moreover, since the flue gases pass through the tubes instead of over them, the tubes can be cleaned and maintained for better heat transfer.

Materials

All castings are of superior quality and they are properly cleaned & fettled before assembly. Special Graded heat resistant castings are used where heater has to cope with higher temperature, i.e. when LECO is fired or while using high temperatures. In 5-pass heaters the outer tube banks are made of special M.S. tubes for better heat transfer.

Heat Insulation

The entire inner surface of front plate and retaining bolts are insulated with special heat resistant compound. The angle cleats which are welded to the fan suction ducts are insulated with special lagging compound for better insulation.

HIGH LIGHTS

Multiple Models

Shola-V heaters are available in different sizes with both 3 pass & 5 pass. The biggest model Shola-V Jumbo produces usable heat of 20.6 lacs Kcal/hr.

Better Heat Transfer

Shola-V heaters are specially designed for better heat transfer. The efficiency varies from 55-65% depending on model.

Low Power & Coal Consumption

Due to better heat transfer the coal consumption per kg of made tea is less than 0.6 kg and power is also less by 25% in the 5-pass heaters, under normal conditions of use.

Better Retention Of Heat

Shola-V heaters are constructed with better and high quality heat resistant materials, so heat loss is very minimal.

Long Life Of Castings

All parts exposed to direct heat are made of special superior castings, so they last much longer. All castings except tube banks and arch bars are guaranteed for 5 years.

No Maintenance

Since they are no moving parts, maintenance is very minimal except cleaning of tube banks.

Easy & Quick Installation

No excavations and no foundation bolts are required, since there is no moving parts. Moreover, the machine is supplied in dismantled condition for ease installation and handling.

Versatile

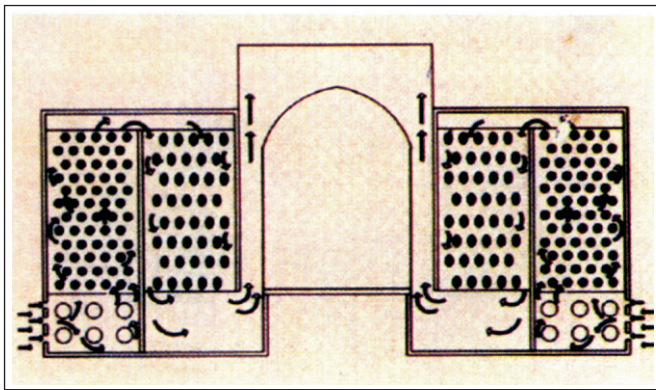
Shola-V heaters can be coupled with any type of dryer.

shola[®]-V

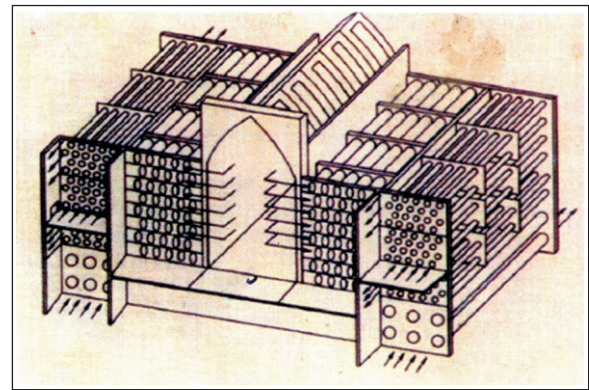
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Specifications

DESCRIPTION	10CM 5 pass	14CM 5 pass	SPECIAL 16CM 5 pass	16CM 5 pass	18CM 5 pass
No. Of Arch Bars (Back + Centre + Front)	2+16+2	2+16+2	2+16+2	2+22+2	2+26+2
Grate Area					
Ft ²	11.3	12.9	16.1	20	23.7
m ²	1.05	1.20	1.5	1.85	2.2
No. Of Tube Bundles					
C.I.	RH LH TOTAL 6 + 6 = 12	RH LH TOTAL 8 + 8 = 16	RH LH TOTAL 10+10 = 20	RH LH TOTAL 10+10 = 20	RH LH TOTAL 10+10 = 20
M.S.	3 + 3 = 6	3 + 3 = 6	3 + 3 = 6	3 + 3 = 6	3 + 3 = 6
Fifth Pass Tube	M.S. 6 + 6 = 12	6 + 6 = 12	7 + 7 = 14	7 + 7 = 14	7 + 7 = 14
Tube Length in each pass					
mm	1,840	1,840	1,840	2,310	2,310
inch	72.5	72.5	72.5	91	91
Coal Burning Capacity with coal having NCV 5000 K.Cal/kg					
A. Mechanical stoker	170	200	250	300	360
B. Manual feed	145	170	210	260	300
Heat Generation Capacity					
A. Mechanical stoker	850000	1000000	1250000	1500000	1800000
B. Manual feed	725000	850000	1050000	1300000	1500000
Air Requirement for combustion					
CFM	3,500-6,500	4,200-7,200	5,000-9,000	5,500-11,000	7,000-13,500
Over All Size (LxWxH) in mm	5350x4270x2640	5450x4270x3020	5850x4270x3450	6040x5440x3450	6490x5440x3450
Over All Weight Approx. in kgs.	16,400	19,000	23,000	28,000	29,500



PROCESS AIR FLOW DIAGRAM



FLUE GAS FLOW DIAGRAM

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