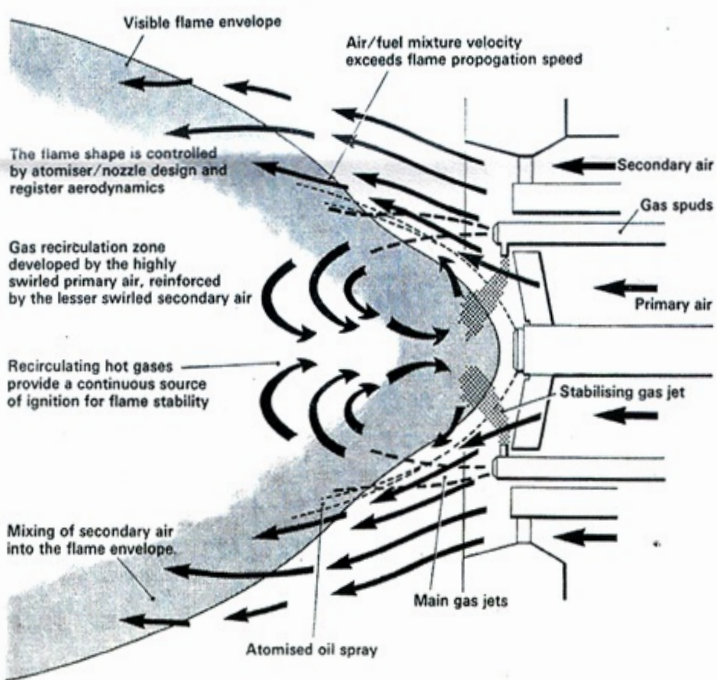
PRESSURE JET BURNERS

WESMAN
COMBUSTION EQUIPMENT

WESGEN PRESSURE JET BURNERS are designed to meet the demand of the steam generation plants for power generation, petrochemicals and heavy industrial applications. Our pressure jet burners give our customers an edge when it comes to capital and running cost.

The primary demands of a process burner are flame geometry, combustion performance maintained over wide turn-down ratios to handle fluctuating load demands and spinning reserves with minimum draught loss to conserve power. Wesman offers a range of burners which fulfill these exacting requirements.



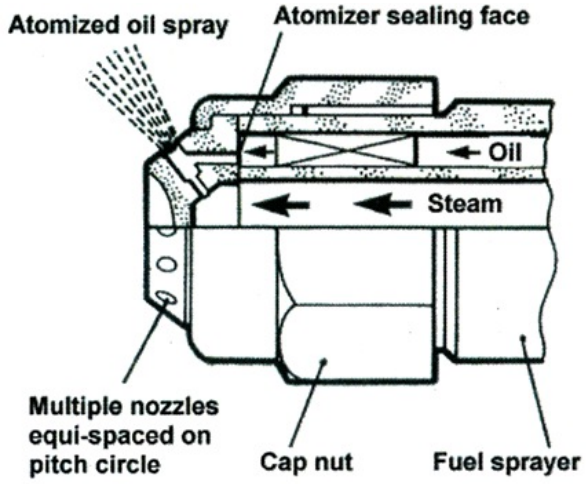
BURNERS DESIGN The burner is designed to divide the air stream into primary and secondary air. The primary air flow is through the central tube, discharging via an axial flow stabilizer. The secondary air passes through the annular section, over swirl vanes which are fixed in a pre-determined angle and discharges through a convergent/ divergent throat.

The primary section remains constant for flame stability, while variations to the secondary vane angle and throat convergent/divergent angles provide mixing of fuel and air for performance over a wide variation in flame shape requirements. The burner comes either with an independent windbox and air isolating damper, or as a multi-burner windbox installation fitted with a sleeve-type air door.

FEATURES

- Robust fixed geometric construction
- Suitable for automatic and remote control
- Able to burn oil and gas while firing on alternative fuel
- Wide turndown with good atomization
- High combustion performance with low excess air
- Fixed burner guns avoiding the need for retractions
- Suitable for vertical, horizontal or angled application
- Burns all grades of liquid fuel and a wide range of gases
- Low atomizing steam consumption with constant pressure over turndown range

STEAM ATOMIZING

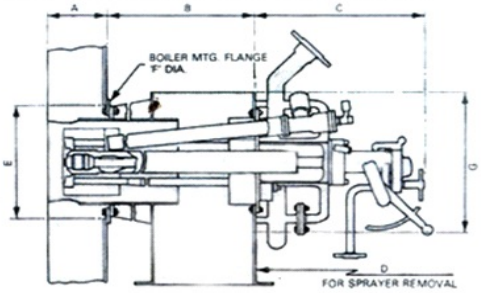


Requirements for wide turndown and high performance present problems for mechanical atomizers, such as varying spray angle and poor atomization, while in steam atomizers these remain constant. Steam atomizers also show savings over mechanical atomizers due to lower operating pressure. Atomizing steam is held at constant pressure regardless of turndown, eliminating control loops required for constant differential systems. Steam consumption ranges from 3% to 10% depending on the type and quality of fuel, atomizing steam condition and the application. Compressed air can also be used for atomizing.

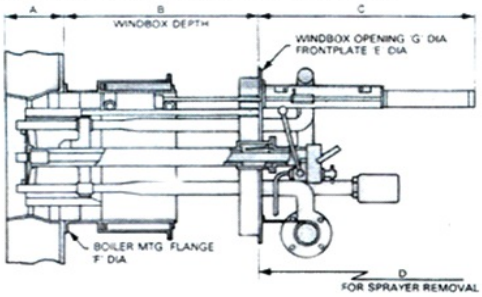
PERFORMANCE CHARACTERISTICS

The L-Series burner delivers low excess air, low atomizing, wide turndown with wide stability limits, and heat recovery using preheated combustion air. The combination of the register and internal mix steam atomizer can achieve combustion figures of 0.5% O_2 100 mg/Nm^3 stack solids (excluding fuel ash). Combustion air preheat up to 450^{0}C can be used, with preheat temperatures above this requiring heat resisting materials.

L-SERIES DIMENSIONS



D-SERIES DIMENSIONS



REGISTER SIZE	A	B	C	D	E	F	G
L-245	170	704	475	1693	360	394	552
L-270	170	709	475	1693	390	424	586
L-300	170	714	475	1693	420	454	646
L-325	170	718	475	1693	450	484	706
L-355	170	724	475	1693	480	514	766
L-395	170	730	475	1693	520	554	846

REGISTER SIZE	A	B	C	D	E	F	G
D-385	180	715	819	1565	685	560	635
D-455	210	715	819	1615	685	585	635
D-505	235	728	819	1645	765	650	710
D-570	265	895	973	1820	860	730	800
D-615	285	902	973	1840	925	770	860
D-670	312	1069	1123	2025	1010	830	935
D-715	335	1079	1123	2025	1080	880	1000
D-775	365	1106	1123	2100	1175	966	1090
D-825	385	1279	1273	2280	1250	1020	1160
D-925	435	1302	1273	2340	1400	1148	1295

***Air inlets of burners are in BSP thread**

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