Burner which can heat liquid with high efficiency and is used for immersion tube type liquid heating.

| Feature

- 1 Since the combustion exhaust gas flows through the immersion tube at a high flow rate (max 100 m / s), the overall heat transfer coefficient is as high as 0.09 to 0.14 kW/m²°C (about 3 times higher than conventional), and liquid heating can be performed with high efficiency,
- 2 Turn down is large, burner operation can be performed at low air ratio even at low combustion, and energy saving.
- 3 Due to high load combustion and high heat transfer coefficient, the tube space is compact.



flame

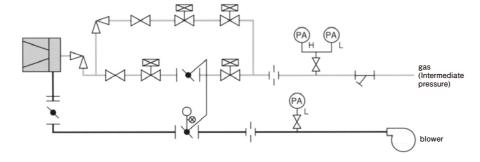
Main Usage

- Nonferrous metal melting furnace
- Various liquid heating such as hot water washing, degreasing and chemical conversion treatment in the pretreatment process such as painting and plating.



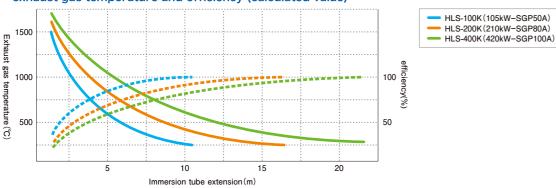
Flow sheet

(Submerged combustion device)

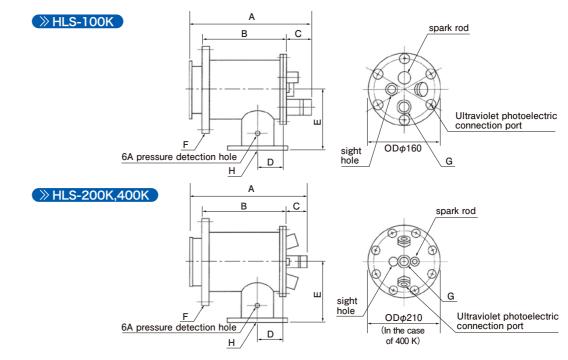


Data

■ Relation between extension of immersion tube by combustion amount and exhaust gas temperature and efficiency (calculated value)



| Specification · Overall size



Model		HLS-100K	HLS-200K	HLS-400K	Remarks
Gas type		13A			
Rated burning capacity(kW)		105	210	420	Low calorific value
Standard gas quantity(m³/h)		9.1	18.2	36.4	
Standard gas head pressure(kPa)		2.9		3.9	m=1.1 supply gas pressure 5.9kpa
Standard air quantity(m³/h)		110	220	440	m=1.1
Standard air head pressure(kPa)		2.9		3.9	supply air pressure 7.8kpa
Overall size (mm)	Α	341	381	438	
	В	222	248	308	
	С	70	100	100	
	D	66	77.5	100	
	Е	150	180	200	
Mounting size(Flange JIS5K)	F	4	6	8	
Connecting size(R)	G(gas)	3/4	1	1 1/4	
Connecting size(Flange JIS5K)	H(air)	2	3	4	
Turndown		6:1	10:1	13:1	When using standard immersion tube
Ignition method		interrupted pilot burner			
Detecting method		ultraviolet phototube			

| Handling Precautions

- •When using combustion tubes and immersion tubes outside the standard specification, it is specially specified.
- When installing, make the combustion cylinder and the burner center coincide.
- •Use the long elbow and long bend at the curved portion of the immersion tube.
- ●To prevent combustion vibrations, the butterfly valve for air maximum flow adjustment before the burner should be installed in the immediate vicinity of the air connection flange.。
- •Ignition transformers should use capacities of 6 kV or more, 100 VA or more.