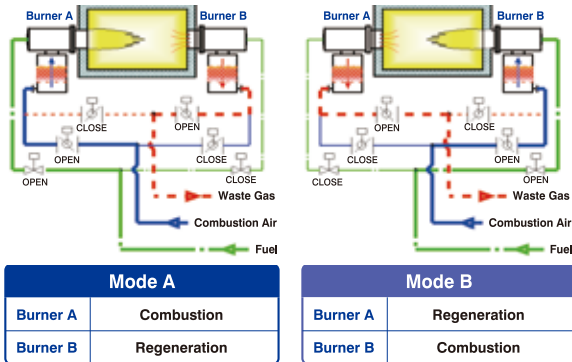




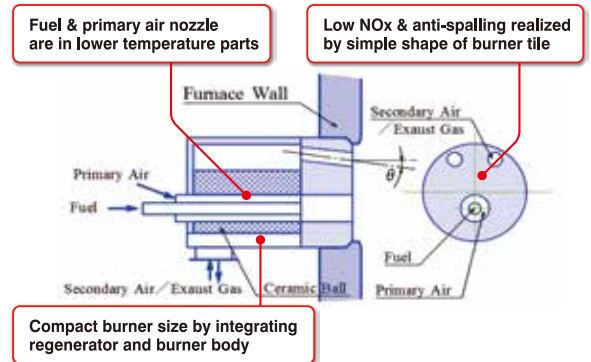
Regenerative Burner

NIPPON STEEL
ENGINEERING

Operating principle of regenerative burner system



Schematic of regenerative burner system

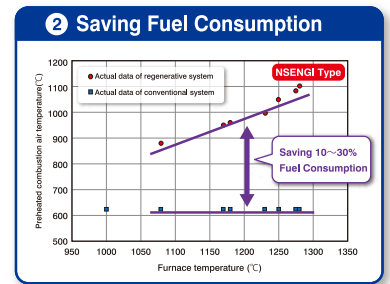


Features

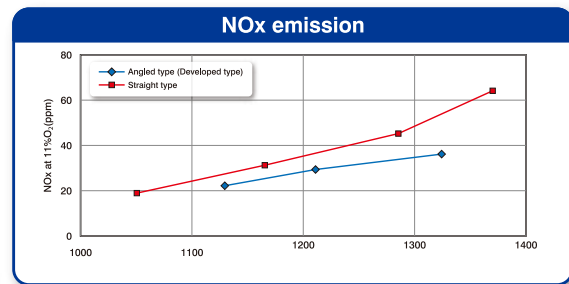
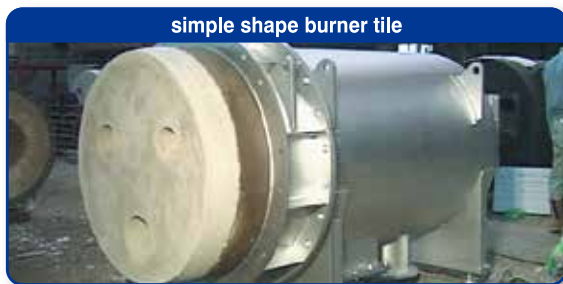
1. Compact burner size by combining with the regenerator and burner



	Regenerative Burner Type	Conventional Burner Type
Heat-Recovery equipment	Regenerative Burner	Recuperators
Heat Exchange Material	Ceramic Ball	Metallic Tube
Max Preheated Combustion Air Temp.	1100°C	700°C



2. Low NOx and anti-spalling performance achieved by simple shape burner tile



3. Fuel nozzle in the low temperature area

Nozzle Maintenance Frequency : Low

4. Others

- ① Our regenerative burner is serialized from 0.9 MW (0.8 Gcal/hr) to 8.1 MW (7.0 Gcal/hr)
- ② Both Gas and Oil can be utilized as the fuel

Supply record

Total 173 Units

Year (Start-up)	Country	Customer	Contents		
			No. of Units	Type of fuel	
1	2016	Indonesia	Krakatau Osaka Steel	14	LNG
2	2015	Japan	*NSSMC Kimitsu	29	COG
3	2009	Japan	*NSSMC Yawata	23	LNG
4	2009	Japan	Chubu Steel Plate	32	LNG
5	2009	Japan	*NSSMC Hirohata	4	Mix gas
6	2008	Japan	*NSSMC Yawata	6	COG

Year (Start-up)	Country	Customer	Contents		
			No. of Units	Type of fuel	
7	2008	Japan	Tokyo Tekko	16	LNG
8	2006	Japan	Aichi Steel	16	LNG
9	2006	Indonesia	Gunung Garuda (NEDO)	24	Oil/LNG
10	2004	Japan	*NSSMC Kimitsu	8	COG
11	2001	Japan	*NSSMC Hirohata	1	Mix gas

* : Nippon Steel & Sumitomo Metal