



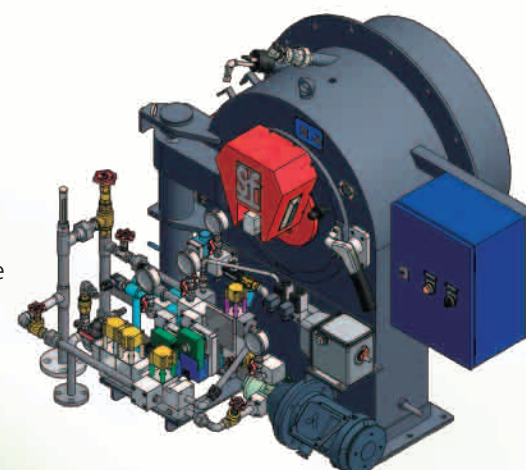
SUNFLAME CO., LTD.

SERVICE NETWORK



HISTORY OF SUNFLAME

- 1968 ● Established "Osaka-Sunflame KK" for burner service company
- 1969 ● Start producing oil fired burners
- 1972 ● Production of waste oil incinerator
- 1980 ● Development of 2nd generation rotary cup burner Model "SSR" and "R" type
- 1982 ● New company name Sunflame Co., Ltd
- 1998 ● Development of new incinerator complying IMO Annex VI Reg. 16
- 2001 ● Development of 3rd generation rotary cup burner, Model "SDR" type
- 2005 ● Obtained ISO-9001:2000 certificate by NK
Moved to new (present) factory/office in Kyoto
- 2006 ● Development of new combustion system for VLCC
- 2008 ● Development of new products
• Direct driven 3rd generation rotary cup burner for middle range and large range
• New combustion control system
- 2009 ● Development of emulsion combustion system



ROTARY CUP BURNER FOR
AUXILIARY BOILER

INCINERATOR

with ROTARY CUP BURNER



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SUNFLAME

NO MORE GARBAGE INTO THE SEA MORE GARBAGE INTO THE INCINERATOR

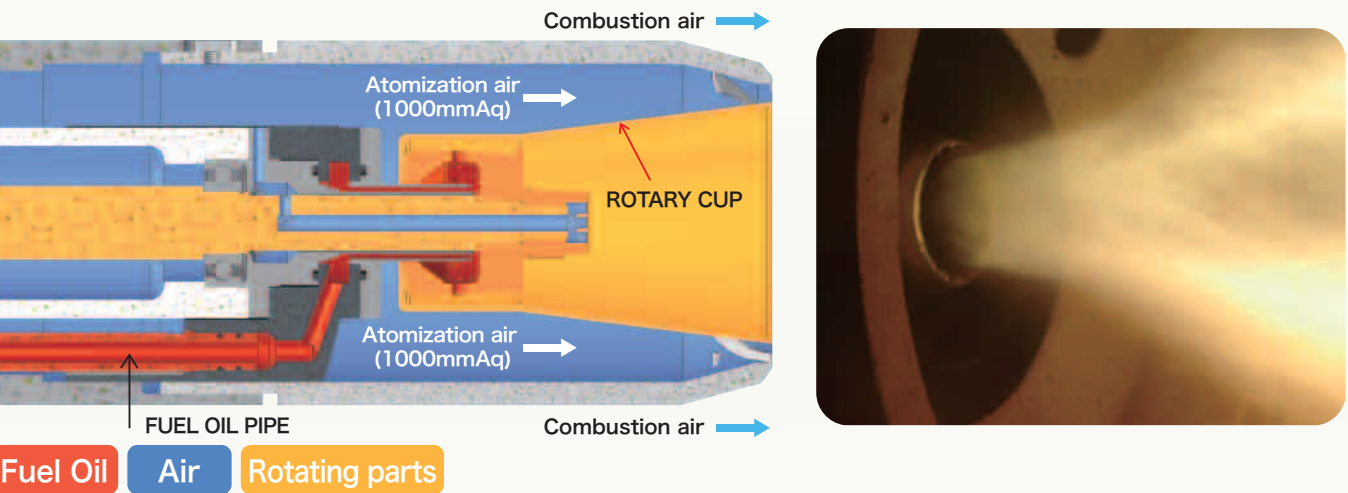
As the amendments to Annex V of MARPOL 73/78 was adopted on 15 July 2011 at MEPC.201(62) and has come into force from 1 January 2013, today the disposal of garbage on board vessels are strictly controlled, and more garbage needs to be managed onboard the vessel.

Taking account the limited storage spaces on the vessels and high expenses of discharging to the shore facilities, to burn that garbage inside the vessel is a solution to be seriously considered today.

When the amount of garbage disposed in the incinerator increases, a qualified incinerator which can meet this demand will be requested. Sunflame incinerator fulfills this necessity by adopting the superior rotary cup burner for sludge firing, and with other optional items.

ROTARY CUP BURNER FOR ALL MODELS

One of the most dominant characteristics of the Sunflame incinerator is the usage of the rotary cup burner. The rotary cup burner, which is efficient of firing low quality oil, is adopted in every Sunflame incinerator for an excellent combustion of waste oil.



FEATURES

STABLE COMBUSTION

The rotary cup burner forms a film of fuel oil by the centrifugal power of the cup rotation. By giving high air pressure to this film, it creates very fine oil mist which is necessary for a good combustion. We have no nozzle required, hence no choking possibility. Stable and long hours of low grade oil combustion is secured.

SAFETY

Very low oil pressure (0.06~0.3MPa) is needed, which is safe even if oil leaks from pipe connection.

LESS MAINTENANCE

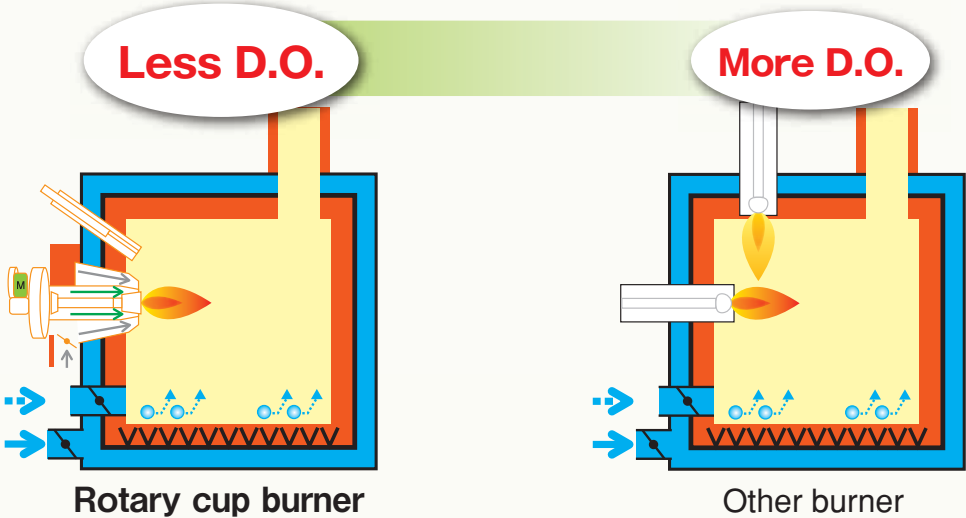
Due to low oil pressure, consumable parts are limited.

AN INCINERATOR WITH NO DIESEL OIL ASSISTING BURNER — BURN YOUR SLUDGE ALL BY ITSELF! —

An incinerator equipped with a nozzle type burner atomizing with a tiny nozzle and giving high fuel pressure, needs frequent use of a diesel oil assisting burner because of poor combustion of sludge.

SUNFLAME incinerator adopts the rotary cup burner which enables to burn all kinds of sludge and accepts wide viscosity ranges with stable combustion without assistant burning of diesel oil.

Save your D.O. by using Sunflame incinerator !



OSV2-190S COMPACT SIZE INCINERATOR

The regulation of IMO applies not only for large vessels but also for small vessels such as coastal and river vessels and etc. However, as small vessels tend to have limited space, large sized incinerators were difficult to be installed on these vessels.

The compact sized incinerator of Sunflame is specially designed for these vessels facilitating the installation of the incinerator.

Sunflame compact size incinerators is equipped with a rotary cup burner on top of the unit to ensure a good combustion quality toward sludge burning.

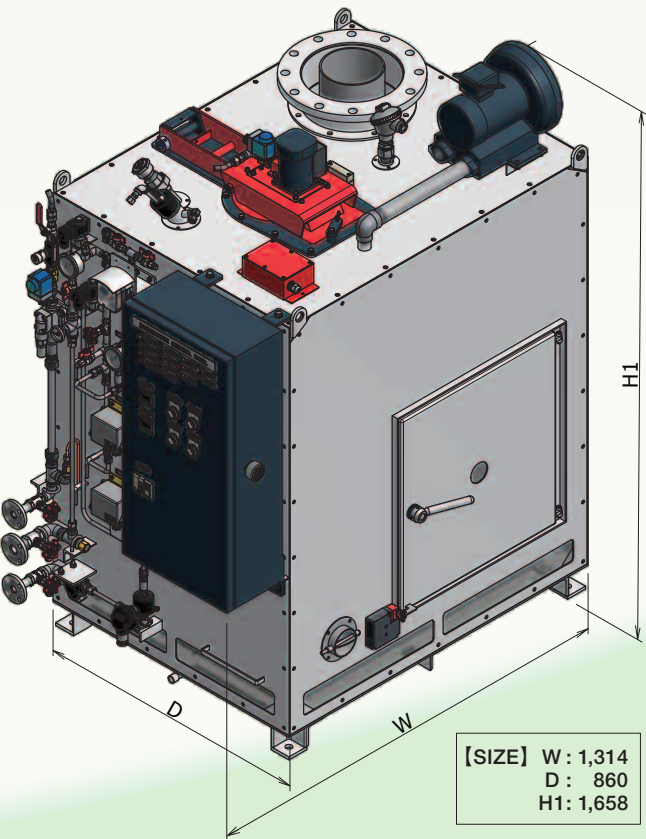
A wide door is also provided for easier garbage disposal.

Rotary cup burner adopted

Complied with IMO regulation

Space saving

Graphical touch panel (Option)



[SIZE] W: 1,314
D: 860
H1: 1,658

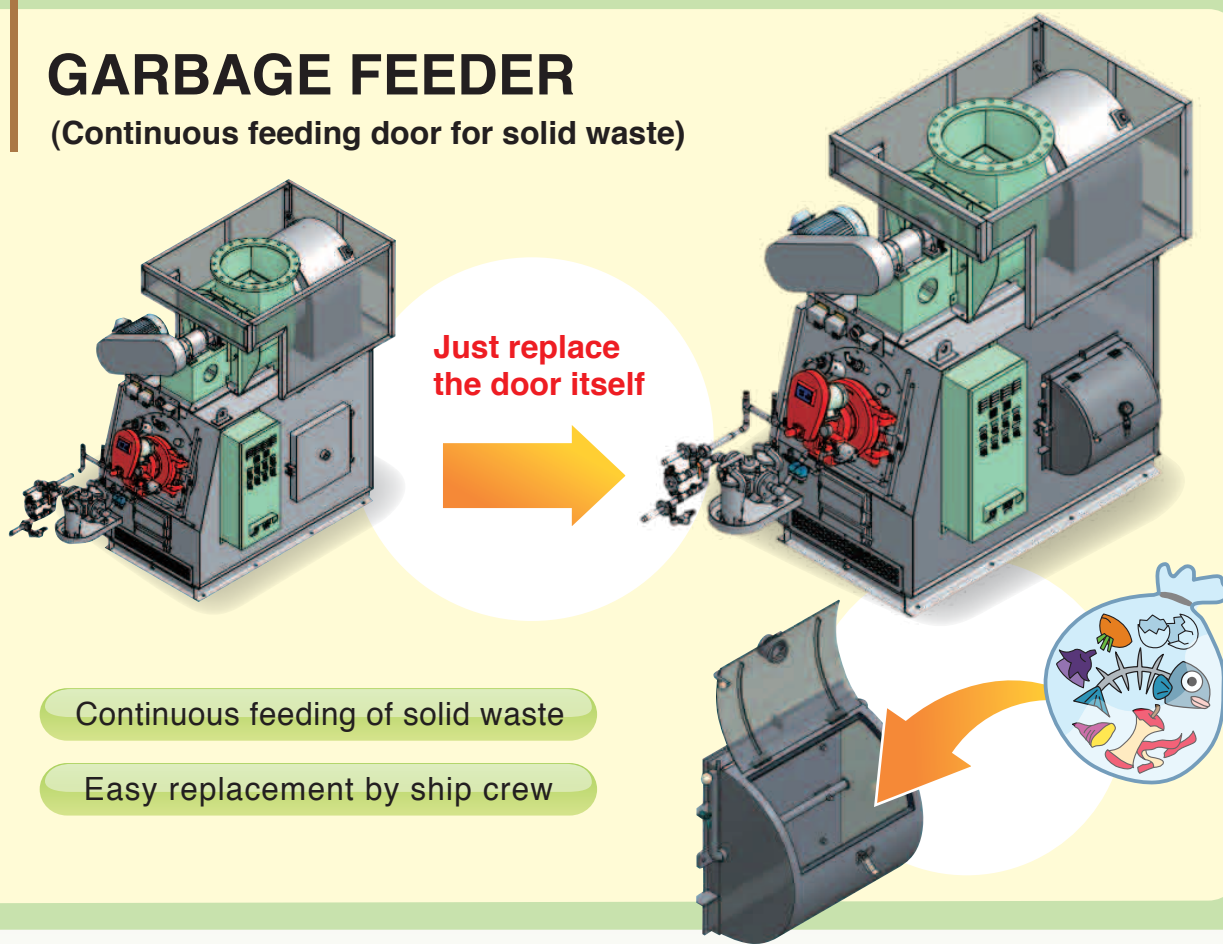
GARBAGE DISPOSAL ITEMS

These are optional items for burning more solid waste.

SUNFLAME offers you a solution for more garbage disposal by incinerator. Normally the charging door is locked by safety devices during operation and when the furnace has high temperature. The Garbage feeder enables to dispose garbage continuously under incinerator operation. By this way, the garbage can be disposed effectively. The recoding of garbage disposal is easier because the solid waste additionally incinerated during operation is able to be written in the logging book.

GARBAGE FEEDER

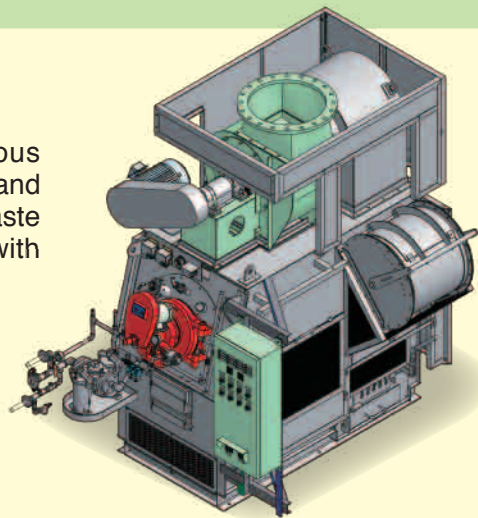
(Continuous feeding door for solid waste)



OSG type INCINEATOR

OSG type offers a higher capacity door for continuous solid feeding, a rocking grate for agitating solid waste and an ash tray. This is highly specialized for more solid waste disposal. The higher capacity door can be equipped with OSV type.

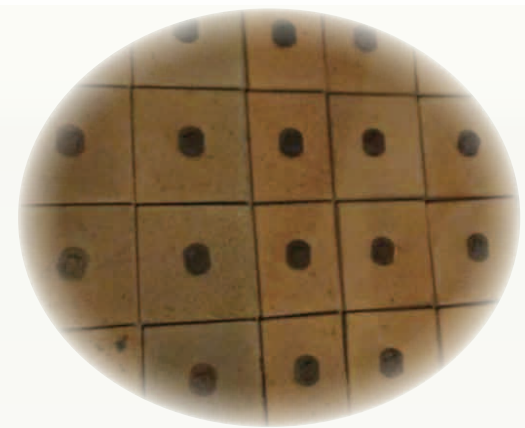
- Continuous feeding of solid waste (High capacity)
- Ashtray equipped
- Solid agitating with rocking grate



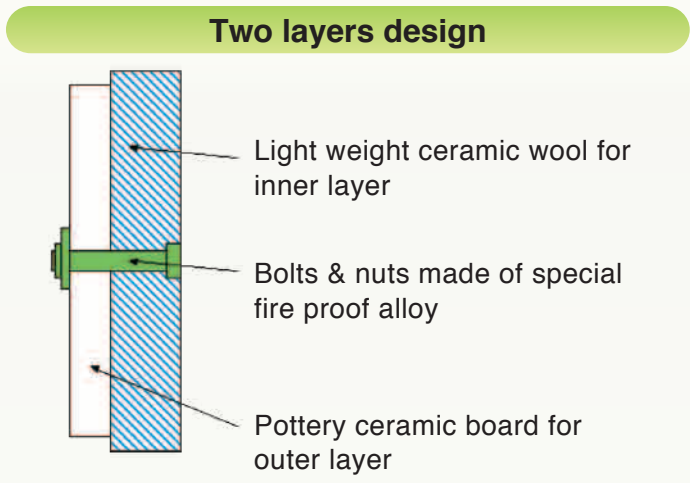
CERAMIC BOARD REFRACTORY

This is an optional item for new building and retrofit.

Patent Pending
IMO Type Approved



6month after installation



SAVE MAINTENANCE COST

	Ceramic Board	Conventional Refractory
Partial Repair	⊙ Can be done easily by ship's staff	✕ Large area should be dug out
Repairing Time	⊙ Very short (Only 10 min./a piece)	✕ Very long (2 days for one side)
Weight	⊙ Very light weight (800g/a piece)	✕ Very heavy weight (25kg/a box)
Workmanship	⊙ Same standard can be kept	✕ Very poor quality depending on worker

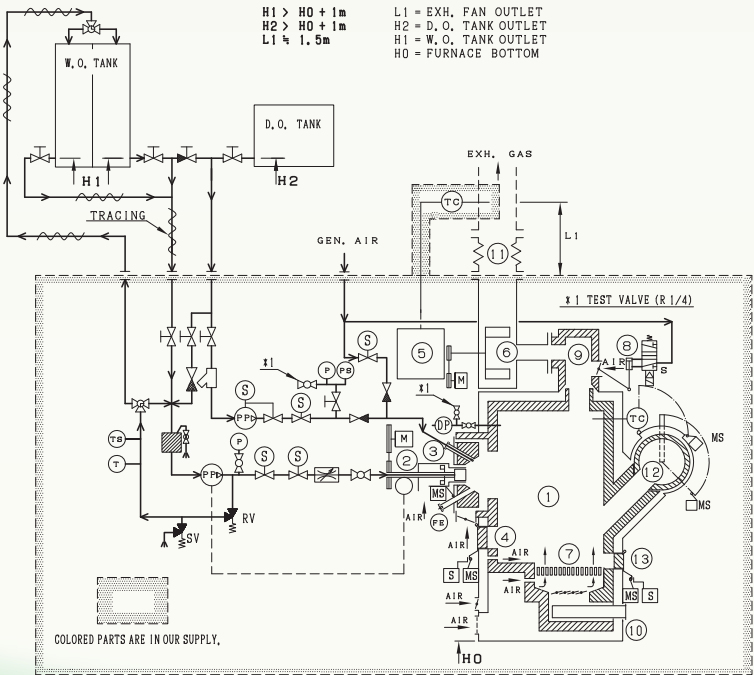
LINE UP

●We provide various models from 190kW (163,000kcal/H) to 2,400kW (2,060,000kcal/H) in order to meet your demand flexibly.

SPEC		CAPACITY			MOTOR CAPACITY				SIZE W × D × H(H1)	EXH.GAS DUCT DIAMETER	WEIGHT ≒kg
TYPE	UNIT	COMBUSTION MJ/H kcal/H	WASTE OIL kg/H	SOLID WASTE kg/H	BNR.	LD.FAN	PRIMARY AIR FAN	W.O.PUMP			
OSV	OSV2-190S	684 163,000	19	5	0.4×2	3.7×4	0.28×2	0.4 × 4	1,314 × 860 × (1,658)	250A	1,400
	OSV-240SAI	860 210,000	26	20	0.4×4	2.2×4	ON BNR.	ON BNR.	2,255 × 1,410 × 2,042(1,952)	300A	2,350
	OSV-360SAI	1,300 310,000	38	30	0.4×4	3.7×4	ON BNR.	ON BNR.	2,255 × 1,425 × 2,042(1,952)	400A	2,400
	OSV-600SAI	2,160 516,000	64	50	0.75×4	5.5×4	ON BNR.	ON BNR.	2,525 × 1,580 × 2,496(2,297)	500A	3,100
	OSV-900SAI	3,240 770,000	97	75	1.5×4	5.5×4	ON BNR.	ON BNR.	2,925 × 1,944 × 2,956(2,711)	600A	4,700
	OSV-1200SAI	4,320 1,030,000	129	100	0.4×2	7.5×4	3.7 × 2	0.75 × 4	2,890 × 2,120 × (2,791)	700A	6,100
	OSV-1500SAI	5,400 1,290,000	161	125	0.4×2	15.0×4	3.7 × 2	0.75 × 4	3,150 × 2,120 × (2,791)	800A	6,600
	OSV-2400SAI	8,640 2,060,000	258	200	0.4×2	22.0×4	3.7 × 2	0.75 × 4	4,950 × 2,138 × 2,825	1000A	8,900
OSG	OSG-360SDA	1,300 310,000	38	48	0.4×4	3.7×4	ON BNR.	ON BNR.	2,525 × 1,871 × 2,459(2,415)	400A	3,750
	OSG-600SDA	2,160 516,000	64	80	0.75×4	5.5×4	ON BNR.	ON BNR.	2,525 × 2,036 × 2,714(2,515)	500A	3,800
	OSG-900SDA	3,240 770,000	97	120	1.5×4	5.5×4	ON BNR.	ON BNR.	2,918 × 1,936 × 3,060(2,900)	600A	5,600
	OSG-1200SDA	4,320 1,030,000	129	160	0.4×2	7.5×4	3.7 × 2	0.75 × 4	2,890 × 2,380 × (2,791)	700A	7,000
	OSG-1500SDA	5,400 1,290,000	161	200	0.4×2	15.0×4	3.7 × 2	0.75 × 4	3,150 × 2,380 × (2,791)	800A	7,500

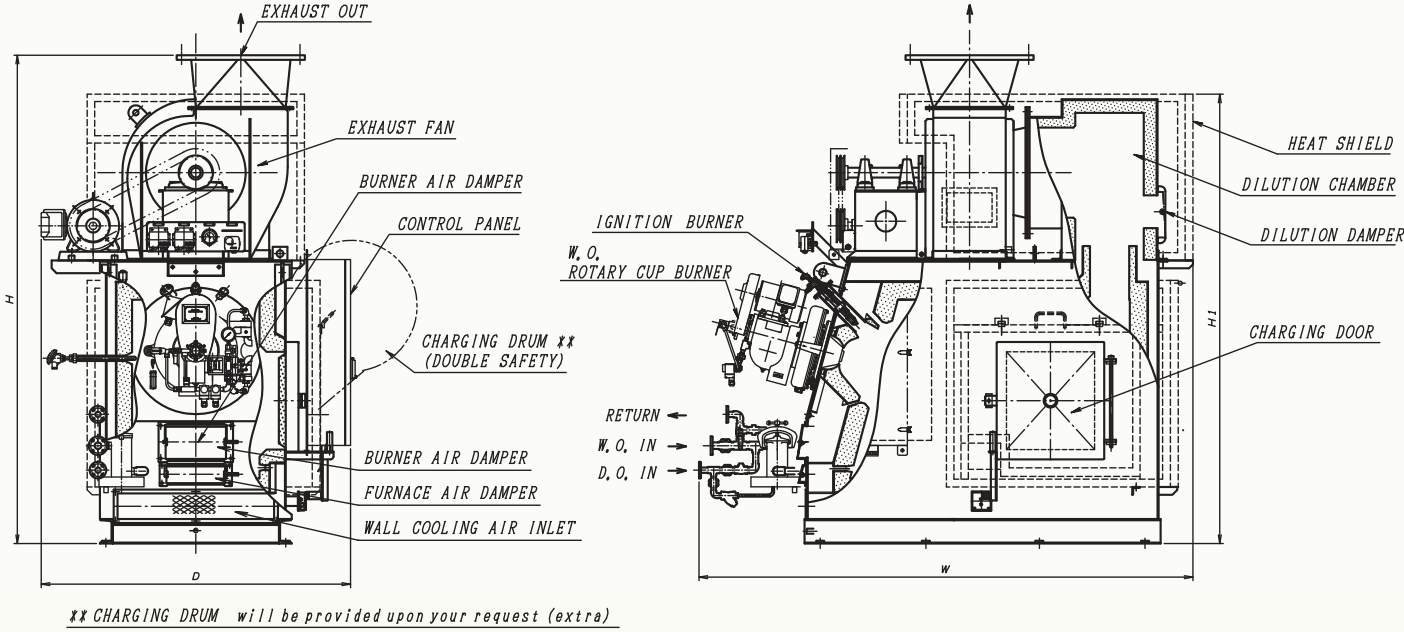
The figure in the Model indicates the capacity of the incinerator in kW.
The induced draft fan is installed separately from the furnace for models over OSV-1200SAI and OSG-1200SDA.
The specification for the incinerator installed on Japanese flag vessel is different from above. Please make an inquiry to us for details.

PIPING ARRANGEMENTS



MARK	NAME
P P	PUMP
M	MOTOR
S	SOLENOID
T	THERMO-METER
T C	THERMO-COUPLE
T S	THERMO-STAT
P	PRESSURE GAUGE
P S	PRESSURE SWITCH
D P	DIFF. PRESS. SWITCH
F E	FLAME EYE
M S	LIMIT SWITCH
R V	RELIEF VALVE
S V	SAFETY VALVE
1	FURNACE
2	MAIN BURNER UNIT
3	IGNITION BURNER UNIT
4	CHARGING DOOR
5	CONTROL PANEL
6	EXHAUST FAN
7	ROCKING GRATE (OSG-TYPE ONLY)
8	DILUTION DAMPER UNIT
9	DILUTION CHAMBER
10	ASH TRAY (OSG-TYPE ONLY)
11	EXPANSION JOINT (OUT OF OUR SUPPLY)
12	CHARGING DOOR (OSV-TYPE : SINGLE) (OSG-TYPE : OUBLE)
13	POKER DOOR (OSG-TYPE ONLY)

OSV TYPE



OSG TYPE

