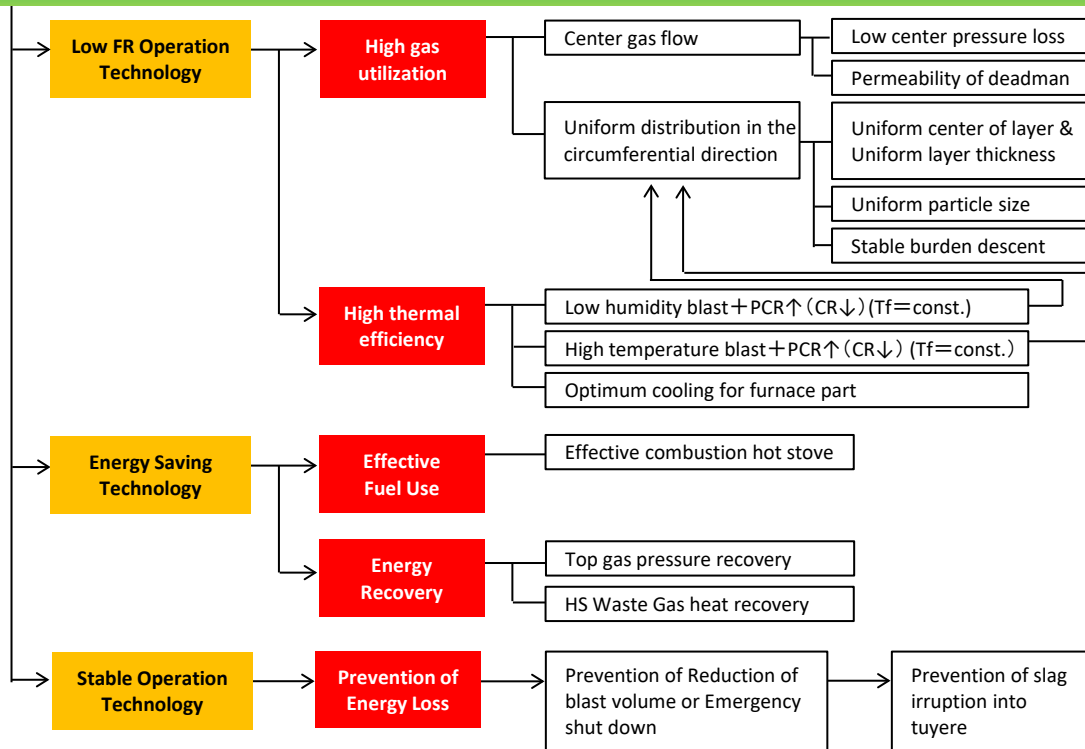


Nippon Steel Engineering's Green Blast Furnace



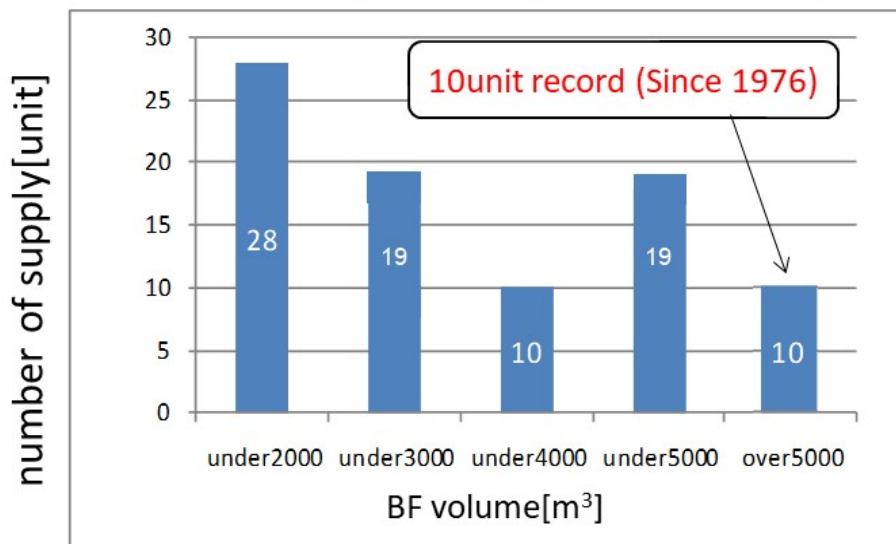
We are the total engineering company
from design to construction
 for ALL iron-making equipments of Green Blast Furnace.

Green Blast Furnace

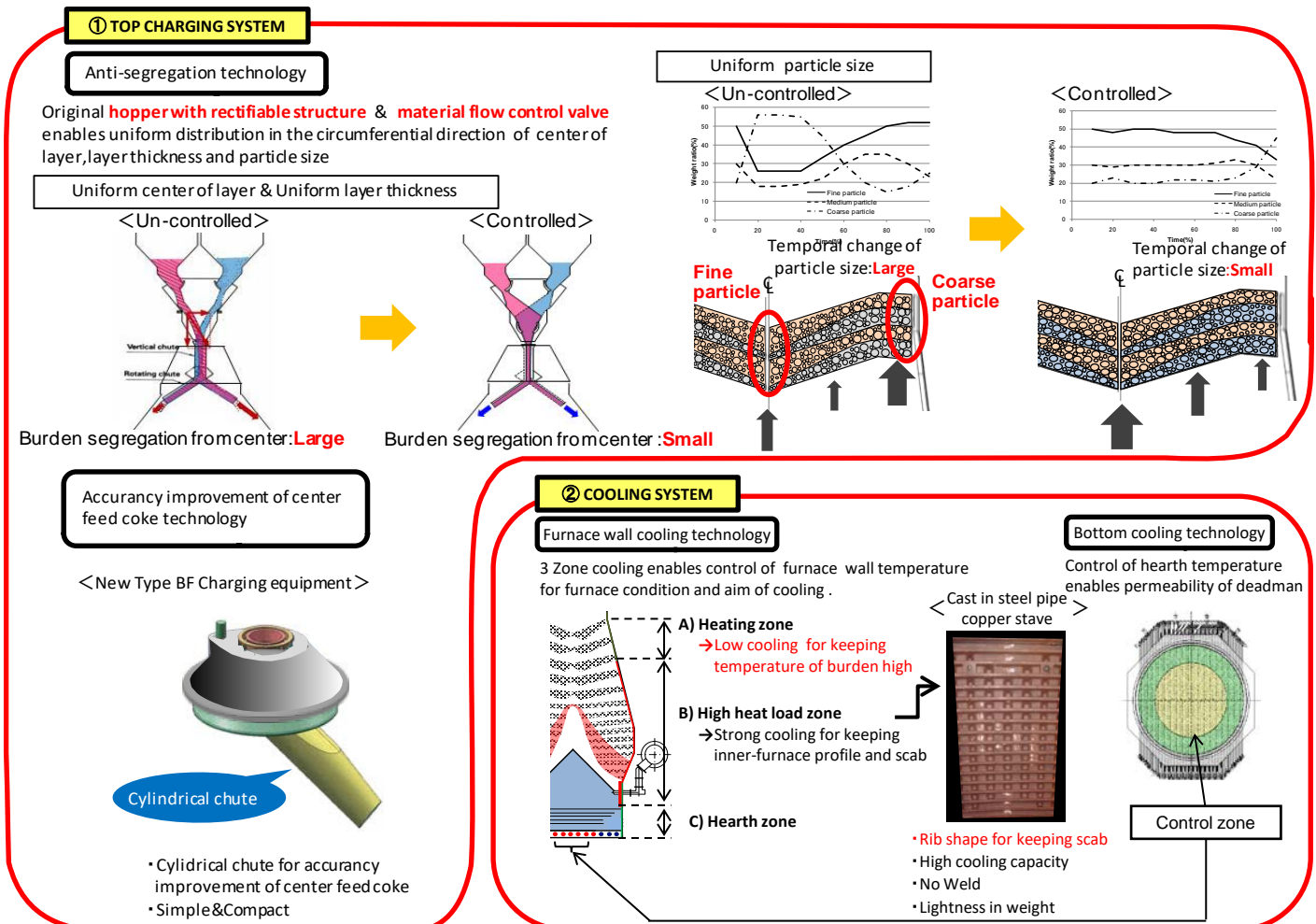
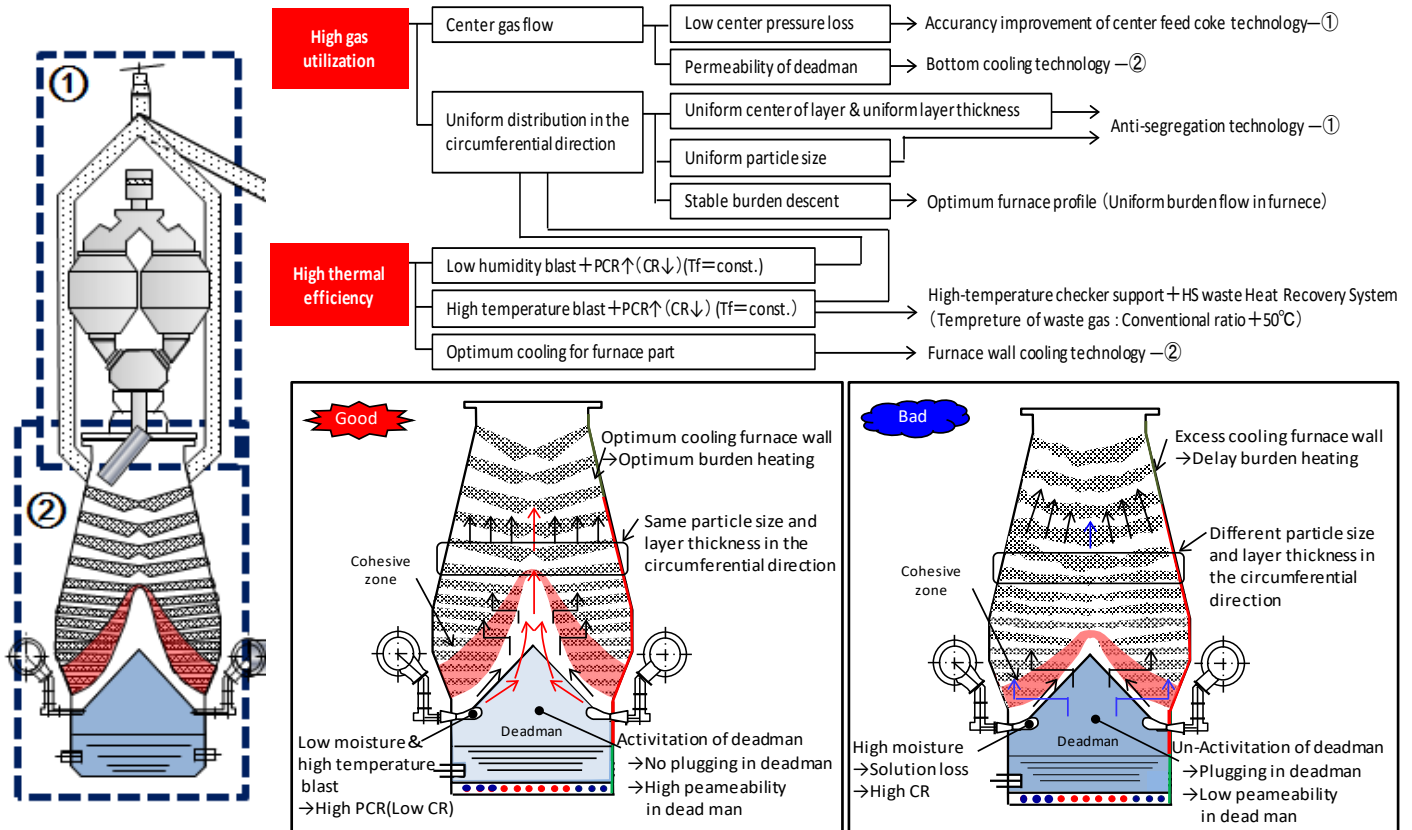


Nippon Steel Engineering have **a lot of iron-making equipments supply record**.
 We can accept your request widely.

BF SUPPLY RECORD(Since 1964, Total: over 80 unit)



Low FR operation technology (FR is 5~10% down!! Production increase drastically!!)



※1 FR: Fuel Ratio (=RAR)

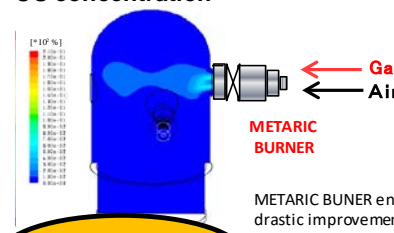
※2 Above FR reduce rate is 550~560kg/thm condition.

Energy saving technology (Saving Energy is 2.5×10^5 bbl/year!!) ※equivalent in oil

③ HOT STOVE

Top combustion HS with MB

CO concentration

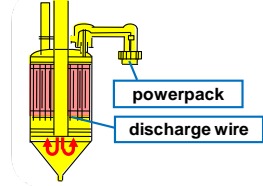


Low unburnt CO : conventional HS ratios 1/10

METARIC BURNER enables drastic improvement of mixing efficiency.

④ GAS CLEANING SYSTEM

Multi-vessel Electrostatic Precipitator

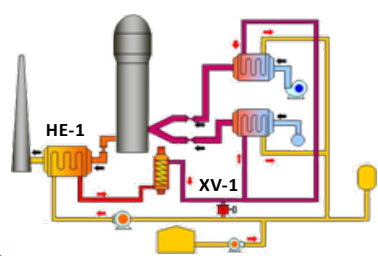


Low energy loss of furnace -Top gas (temperature & pressure)

TRT output: wet type ratio 30%UP

⑤ HEAT RECOVERY SYSTEM

HS Heat Transfer Medium System

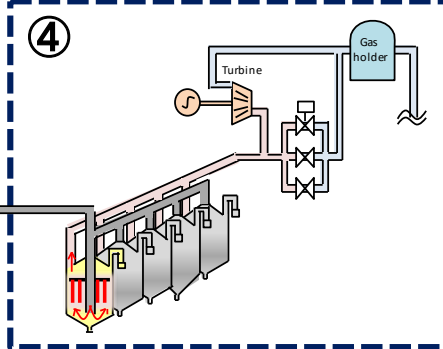


- Temperature of HE-1 outlet is controlled by heat transfer medium flow control valve(XV-1), for over acid dew-point at any time. ⇒ High-efficiency recovery of waste gas energy
- Additional heater enables mono-combustion of BFG.

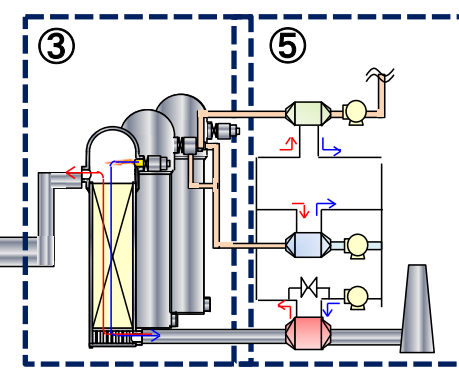
Fuel : 40%DOWN by installation

※ Above energy saving is based on 5000m3 class Blast Furnace.

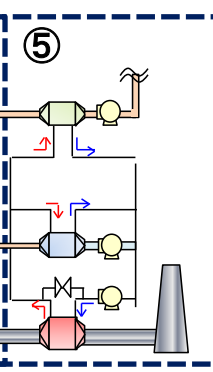
④



③




⑤



Stable operation technology (Prevention of energy loss)

CAST HOUSE EQUIPMENT

HOT METAL POT

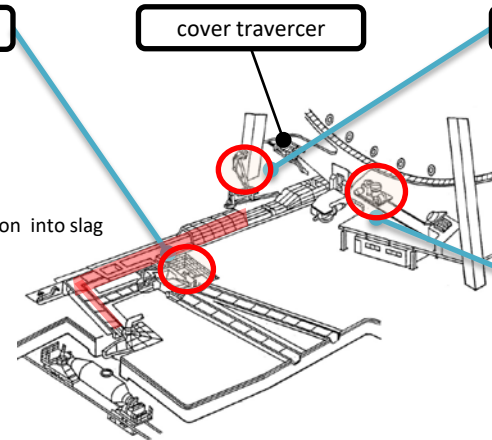


Prevention of Pig interfusion into slag

↓


Low risk of hydrovolcanic explosion at granulation

cover traverser

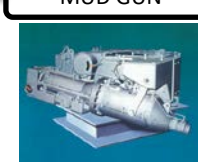


TAPHOLE OPNER

Anti-jamming control



MUD GUN



Adaptign hard mud

↓

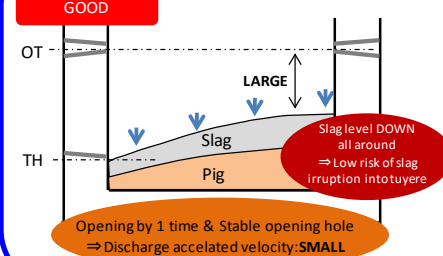
Tapping time is 70%UP

↓

Low risk of slag irruption into tuyere

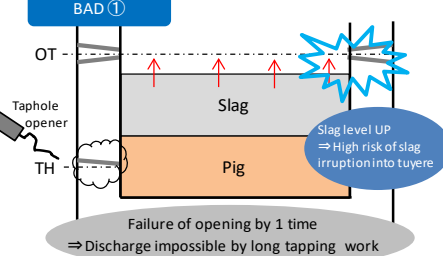
Stable Tapping

GOOD



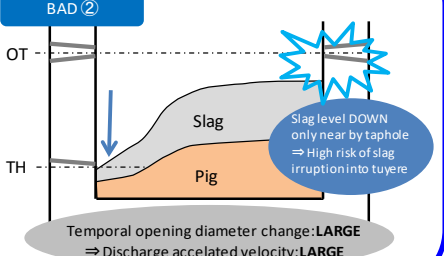
Opening by 1 time & Stable opening hole
⇒ Discharge accelated velocity: **SMALL**

BAD ①



Failure of opening by 1 time
⇒ Discharge impossible by long tapping work

BAD ②



Temporal opening diameter change: **LARGE**
⇒ Discharge accelated velocity: **LARGE**