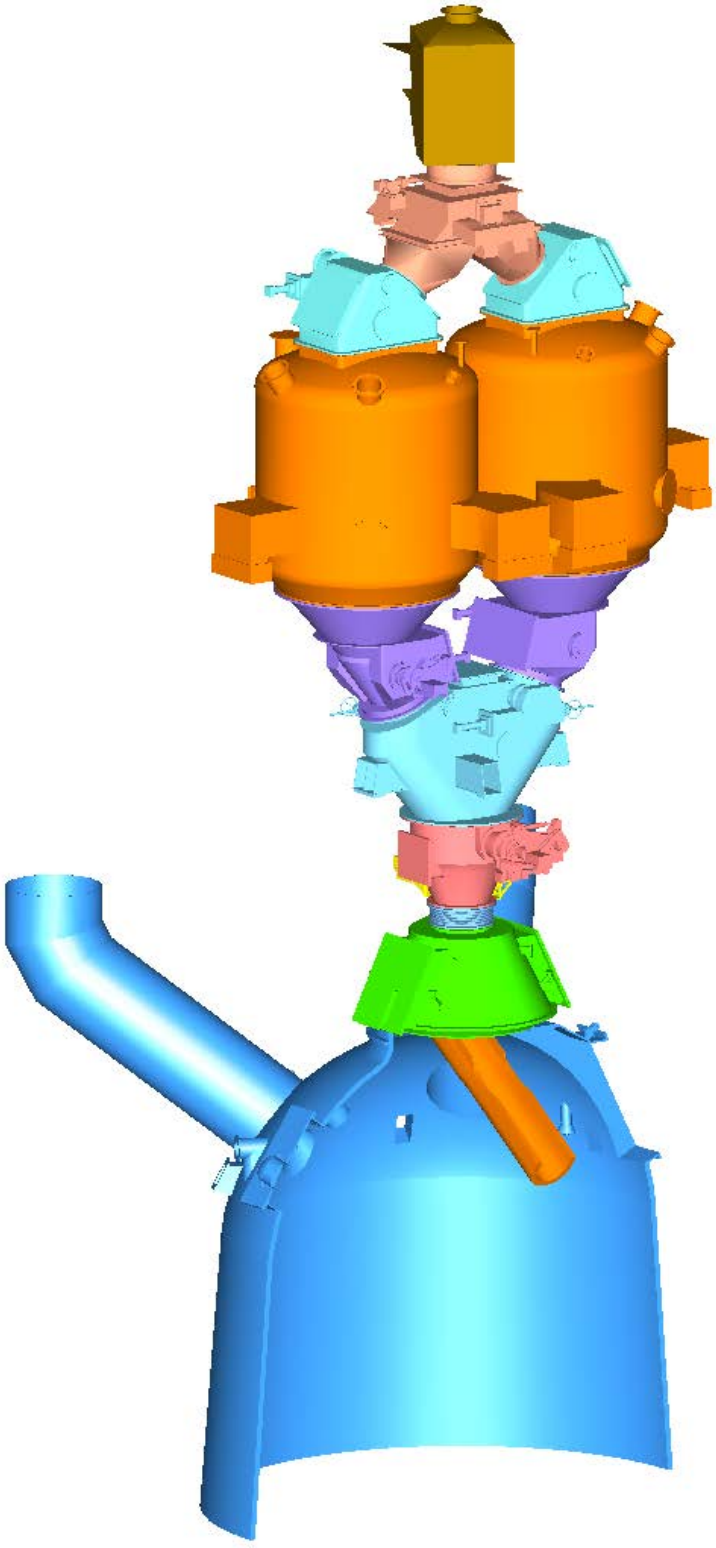
Top Charging System

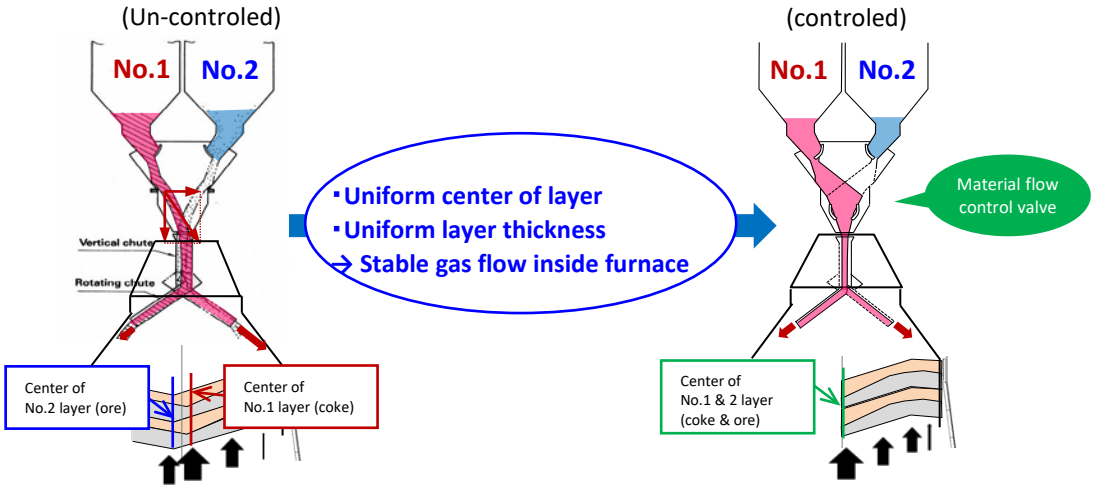


Top Charging System

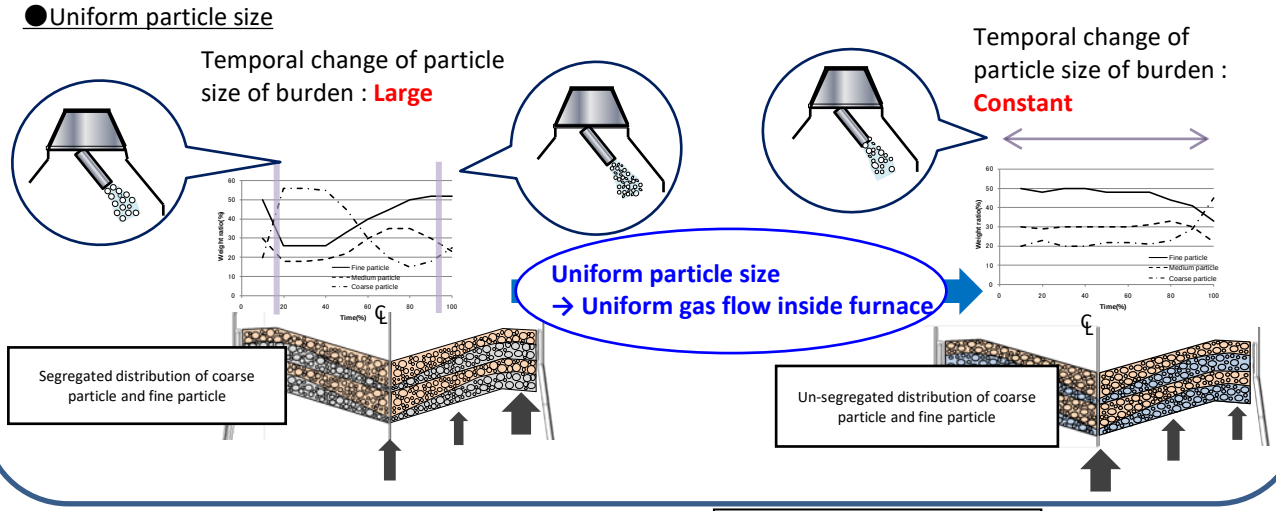
* Nippon Steel Engineering has supplied 80 or more units of blast furnaces and delivered two types of top charging system: bell type and bell-less type according to the customer needs.
* For the stable operation of blast furnace, it is important to uniformly charge burden peripherally. Nippon Steel Engineering 's top charging system has the function for realizing such requirement.

Anti-segregation technology

●Uniform center of layer & Uniform layer thickness



●Uniform particle size



Stable running

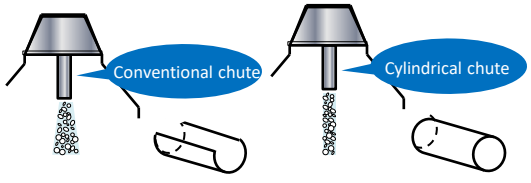
Service life : 15 years

●Nippon Steel Engineering's original chute drive unit

* Structure to reduce wear on large bearing of slewing chute drive unit

Center feed of coke

●Nippon Steel Engineering's original chute structure

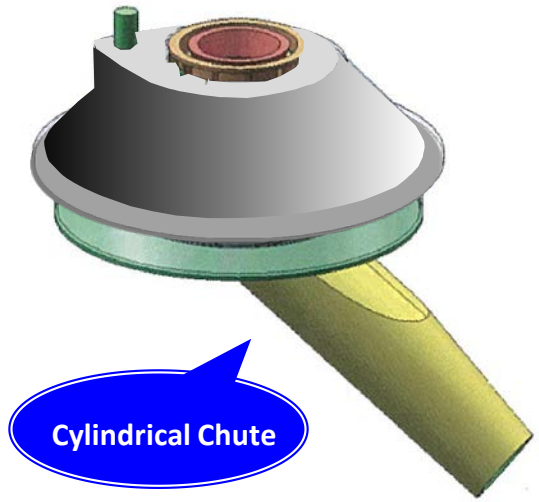


Accuracy for center feed is enhanced by the cylindrical chute.

Top Charging System

New type BF charging equipment

Nippon Steel Engineering developed a new type top charging system for the purpose of enhancing the raw material charging accuracy.



* Nippon Steel Engineering is planning to carry out a model test using a prototype with a chute of approx. 2m length.

- **Simple&Compact structure→Manufacturing cost is unexpensive.**
- **Short free fall length of material & varying material impact area by rotating chute → Chute liner life is long.**
- **High-speed tilting → It is possible to shorten the time of center feed, which is normally the bottleneck for the time schedule.**

Supply record

Actual result of delivery : 86unit

* Table below covers the latest 10 cases.

No.	Year	Country	Customer	BF	Contents
1	2004	Japan	Nippon Steel	Oita 2BF	Bell type
2	2007	Japan	Nippon Steel	Nagoya 1BF	Chute-type (Parallel Double-stage Hopper)
3	2007	Japan	Kobe Steel	Kakogawa 2BF	Bell type
4	2009	Japan	Nippon Steel	Oita 1BF	Bell type
5	2012	Japan	Nippon Steel	Kimitsu 2BF	Chute-type (Parallel Double-stage Hopper)
6	2014	Japan	Nippon Steel	Tobata 4BF	Chute-type (Parallel Double-stage Hopper)
7	2016	India	JSW Steel	Dolvi 1BF	Chute-type (Parallel Double-stage Hopper)
8	2016	Japan	Kobe Steel	Kakogawa 3BF	Bell type
9	2020	Japan	Nippon Steel	Muroran 2BF	Chute-type (Parallel Double-stage Hopper)
10	2020	India	JSW Steel	Dolvi 2BF	Chute-type (Parallel Double-stage Hopper)(Under Construction)