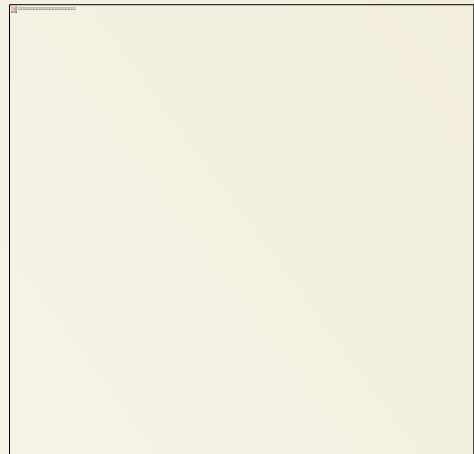


Dry Process KNORCA Flue Gas Denitrification Equipment

- **Dry Ammonia catalytic reduction method**

Features

- (1) **The arbitrary stable NOx removal efficiency is acquired and long-lasting stability operation is possible.**
- (2) **The simple structure enable very easy operation and control.**
- (3) **With lower catalyst layer occlusion or SOx poisoning the long stable running is possible for dirty gases such as coal fired, oil coke fired or C-heavy oil fired boilers containing quite high SOx or dust concentration.**
- (4) **Water treatment is not necessary due to dry system.**



Overview (Technical principles, actions, etc.)

- Previous systems have had problems with catalyst layer occlusion by soot and catalyst activity. KNORCA Fuel Gas Denitrification Equipment has solved these problems and hence having been highly evaluated among users.
- This equipment, having plenty of installments, consists of reaction tower and ammonia reservoir, urea water tank and supply system based dry ammonia contact reduction method which decomposes NOx from fixed source to harmless nitrogen and water.
- Optional and stable denitrification rate is obtained by means high-performance KNORCA honeycomb catalyst packed in the reaction tower.
- Catalyst is a cartridge type easy to install or take out.
- The fixed bed catalyst has a dust-through structure evading catalyst occlusion by soot deposit and enable a long stable running.

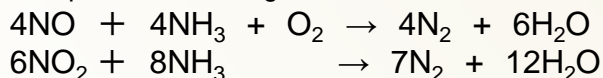
【Principle of the process】

- Ammonia (liquefied ammonia, liquid ammonia) or urea can be used as a reduction agent.

Notes) brand name KNORCA

The abbreviation for KURABO Nitrogen Oxides Reducing Catalyst.

The equation of denitrogenization is as follows



Introductory Track Record

Customer	Place	years	type	Exhaust gas flow (Nm ³ /h)	Remarks
KURABO	Osaka	'73.12	KN-0502	5,000	Test Plant
U	Chiba	'81.05	KNF-700	70,000	Lime barking furnace
M	Aichi	'86.07	KNF-1070	110,000	boiler
O	Osaka	'88.10	KNF-400	42,488	Gas turbine
T	Chiba	'89.03	KNF-820	45,000	Diesel engine
M	Osaka	'89.10	KNF-1000	100,000	boiler
M	Osaka	'90.03	KNF-74	6,600	Glass furnace
T	Okayama	'91.03	KNF-570	57,000	boiler
K City	Osaka	'95.03	KNF-980	97,650	City incinerator
H	Niigata	'97.09	KNF-1200	119,000	boiler
N	Ibaraki	'02.03	KNF-6	568	Metal melting equipment
N	Hokkaido	'03.10	KNF-2700	270,000	boiler
I	Niigata	'04.11	KNF-250 x 2	20,800	Carbonization furnace
S	Hyogo	'06.06	KNF-250	21,948	Nitric acid exhaust gas
X	Osaka	'05.12	KNF-1600	158,000	Gas turbine
K	Ibaraki	'08.08	KF-70	6,528	boiler

The above-mentioned delivery track record is extracted.
The delivery track record number will be 70 affairs as of April, 2013.

Effects

- A very high denitrification rate is also obtained.
- Water treatment is not necessary due to dry system.

Inquiries

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