

【ABSTRACT】

APPARATUS FOR PRODUCING HIGHER-PURITY CARBON
DIOXIDE FOR RECOVERING CARBON DIOXIDE FROM WASTE GAS
5 CONTAINING FLAMMABLE IMPURITIES, AND METHOD FOR
RECOVERING HIGHER-PURITY CARBON DIOXIDE USING SAME

A carbon dioxide high-purity purification apparatus for recovering carbon
dioxide from exhaust gas containing combustible impurities and a method for
10 recovering high-purity carbon dioxide using the same are disclosed. In particular,
an apparatus for efficiently burning exhaust gas containing combustible impurities
using pure oxygen, thereby producing high-purity carbon dioxide, and a method
for recovering high-purity carbon dioxide using the same are disclosed. The
disclosed apparatus includes a combustion unit for burning volatile organic
15 compound (VOC) contained in process exhaust gas mixed with combustible
impurities, an external air suction fan and a burner, which are used to increase an
internal temperature of the combustion unit, a pressure reduction valve for reducing
the pressure of process exhaust gas, a mixer for mixing pure oxygen with the process
exhaust gas, an O₂ detector and an O₂ supplier, a low explosive limit (LEL) detector
20 for measuring a VOC concentration of the process exhaust gas, an assistant fuel
supplier, and a recycling fan and a heat exchanger, which removes moisture from the
combusted gas, and heating the input waste gas.

Fig. 1