



Load it up. Lock it in. Blow it away!

> ATD-Abbausysteme GmbH Premium Products

### WELCOME ...



### **ATD-Pressure Gas System**

More than 50 years is a long time to be on the job; but that is how long the ATD-Pressure Gas System is specialized in the removal of build-up and crosssectional obstructions in the Cement Industry. Experience like this teaches you important things. That is how ATD have been able to continually develop new products, new procedures and safety features to make the ATD-System the safest, most reliable and most effective system of its kind worldwide.

24 hours a day, seven days a week our clients have to keep their material moving. But at every stage of their operation, build-up and chokes can shut them down. Changing quarry conditions and the rising amount of secondary fuel components are leading to more unwanted deposits and build-up. Productions losses and downtimes can be the expensive consequences.

The ATD-Pressure Gas System is especially engineered to reach the requirements for its use during the production with none or minimum shutdown time and feeding reduction; it offers the **on line-removing of build-up under heat**.

Regardless where the problems are located: preheater tower, Lepol grate, feed shelf, riser section, feed pipes, cyclones, inlet chamber, rotary kiln, cooler and storage facilities.



#### In all those areas the ATD-Pressure Gas System offers counting advantages for the benefit of each Cement producer:

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#### fast

flexible

economical

safe

powerful, fully controlled capacity of the ATD-Pressure Gas Tubes suited to the special requirements of the plant

<sup>•</sup> build-up removal within minutes by using ATD-Tubes "ready for action"

by easy placing of Bases ATD to react on changing build-up conditions

well-aimed "blasts" only where the build-up really occurs

dramatically enhanced safety by working from outside the plant without the risks of opening all the doors and poking holes that expose the workers to the hot material

precisely definition of the capacity and effect of the ATD-Tubes

no damaging of the plant by using safety distances to the refractory

exclusive use of controlled and authorized equipments by the valid laws and regulations

to be used by well trained operators through experienced ATDcrew members according clear Operating Instructions



# How it is working







Inside the ATD-Pressure Gas Tube, the pressure of the CO2 charge gets consequent increased by activating the ATD-Pressure Gas Generator. At a very pre-determined level, the Shear Disc blows and the released CO2-gas is directed by the Discharge Head exactly where required.

Blow it away!









#### **Technical Data**

Released gaseous CO2- Volume: 150 – 600 liter Reaction time: approx. 40 ms Blasting Pressures between 1500 – 2700 bar

### ATD-Pressure Gas System CARDOX<sup>®</sup> How its been used

ATD-Lockings



ATD-Base Socket



ATD-Gripcase standard type



insertion principle The ATD-Pressure Gas Tube is been used directly where the build-up occurs. As the entry to the obstruction, ATD-Base sockets are installed i.e. on the steel shell of the plant. Through the insertion hole, the ATD-Pressure Gas Tube will be inserted into the buildup with the Discharge Head in safe distance behind the refractory. Locked with the ATD-Gripcase to the ATD-Base, the ATD-Tube is breaking up the deposits by the strong release of its CO2charge.

ATD-Pressure Gas Tube locked i.e. to the rotary kiln.

## ATD-Pressure Gas System CARDOX<sup>®</sup>

ATD is offering autarkical working Systems that make the trained operators of each plant working independently and flexible whenever necessary. For practical application of the System, the following items are required additionally:

- > ATD-Drilling Equipment to produce the necessary boreholes
- > **Priming Equipments** to ignite the ATD-Pressure Gas Tubes
- > ATD-Filling Equipments to charge the ATD-Pressure Gas Tubes

## ATD-Drilling Equipment

Holes in many soft or tacky, caked materials can be satisfactorily made by merely pushing or reaming the holes.

If the material gets harder and thicker, well designed drilling equipments are necessary in order to produce the insertion holes for the ATD-Tubes.





Drilling by hand or using special designed Drill Rigs; with the ATD-Drilling Equipments accurate bore holes can be produced in short time even under extreme conditions.

Special drill rods as well as special designed heat resistant drill bits, both suited regarding their caliber to the diameter of the ATD-Tubes, are available with the ATD-System.

## **ATD-Pressure Gas System CARDOX®** *Priming Equipment*

The blast is actuated by means of a priming machine which is directly connected by cable to the contacts of the Tube Head. For checking the connections as well as for safety reasons, a special Safety Circuit Tester will be needed also.



Priming machines with:

cord to pull

or crank







**Digital Safety Circuit Tester** 

#### Important:

All Priming Equipments must reach the valid regulations and laws for authorized blasting equipment.

### **ATD-Pressure Gas System CARDOX®**



ATD-Filling Equipment

In order to function, the ATD-Tube must contain the appropriate charge of CO2 corresponding to it's size and volume. Depending on the different requirements of the plants, ATD developed three different types of Filling Equipments. In combination with the ATD-Vice Spanner, packing and refilling of the Tubes just takes a few minutes.

The ATD-Filling Pump FP 360 is using a special liquid pump to fill the CO2 directly into the ATD-Tube.





The ATD-Filling Apparatus FG IV operates by alternately filling and releasing the gaseous CO2. It uses the principle of refrigeration of expanding gases to charge the cooled ATD-Tube

with the prescribed weight of CO2.

The ATD-Filling Machine FM/V8 operates on the principle of compression an refrigeration. In the Filling Machine, the CO2 of the bottle will be relaxed, cooled, compressed and finally fed into the ATD-Tube.

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Misapprehension and subject to change without prior notice