

# PILLER INDUSTRIAL AIR BLOWERS

PILLER designs and manufactures high quality engineered blowers for industrial processes according to customer specifications. PILLER's centrifugal blowers offer a wide operating range, easy maintenance, unmatched reliability, and simple operation. They are used in demanding combustion processes such as hydrogen, sulfuric acid, carbon black production, where a constant supply of combustion air with oxygen is required. In the mining industry, blowers provide the necessary air in the flotation process to form air bubbles together with mineral grains in the slurry, thus ensuring the separation process and further processing of the concentrated mineral particles. In fluidized bed roasting of zinc concentrate, PILLER centrifugal blowers provide the air supply used to fluidize solid particles in rising gas streams. This process is an important component in primary zinc production.

## KEY FEATURES OF THE PILLER INDUSTRIAL AIR BLOWERS

- Volume flow up to 500 000 m<sup>3</sup>/h
- Differential pressure single stage up to 60 kPa (at atmospheric air)
- System pressure from 1.5 bar(a) up to 20 bar(a); depending on the size of the housing
- Shaft power up to 5500 kW
- Various metallurgy such as Super-Duplex or N-A-Xtra are available for challenging applications and for outdoor installation at low temperatures
- The high-quality carbon ring seal with the horizontally split casing for easy assembly and maintenance without disassembly of the impeller.
- For indoor or outdoor installation at ambient temperatures down to -50 °C
- Use in potentially hazardous areas



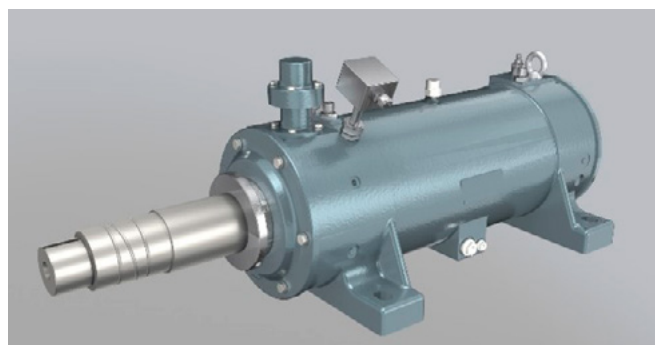
*PILLER industrial air blowers are used in industries where higher air flow at high pressure rise is required*

## DESIGN FEATURES

- Designed for the highest achievable efficiency using closed radial impellers
- Pressure and shock-resistant design according to the European pressure equipment guideline

## THE DRIVE CONCEPT

- PILLER's patented squeeze oil damper bearing: Supercritical antifriction bearing system for highest resistance against imbalance
- VFD (Variable Frequency Drive) or D.O.L (Direct On Line) with inlet guide vane operation
- Electric motors or steam turbines, according to customer specifications and technical requirements.



*Squeeze oil damper bearing to ensure safe operation*

### PILLER AIR BLOWERS IN HYDROGEN TECHNOLOGY

Steam reforming is an endothermic reaction and is one of the best-known technologies for the industrial production of hydrogen. The required heat is provided by the burners. The installation of two PILLER blowers in series is a reliable and economical solution to supply the combustion process with air at the required high differential pressure (> 75 kPa).

#### PILLER in hydrogen technology

Radial blower	63790 KXQ 90800 – Two blowers in series with connecting ductwork Explosion-proof Ex h IIB (+H2) T3 Gc
Location	East Europe
Gas composition	Air

#### Technical Data

Suction volume flow	124 422 m³/hr
Inlet temperature	–30 °C to +37 °C
Differential pressure	82.11 kPa
Efficiency, blower 1	84.3 %
Efficiency, blower 2	84.5 %
Shaft power, blower 1	1413.9 kW
Shaft power, blower 2	1485.2 kW
Material	
– Impeller/Casing	N-A-XTRA® (ASTM A 709) / 1.4301
– Shaft	1.4571 (AISI 316Ti)
– Bearing casing	0.7040 (GGG 40)

### PILLER AIR BLOWERS IN SULFURIC ACID PROCESS

The starting point for sulfuric acid production is the production of sulfur dioxide SO<sub>2</sub>, which is produced, for example, by burning sulfur. The task of the PILLER blower is to convey the required pre-dried air through the entire plant into the combustion chamber and to overcome the system resistances in apparatus and piping. The blower is usually located downstream of the drying tower or can also be installed upstream of the drying tower, in which case it conveys moist atmospheric air.

#### PILLER in Sulfuric acid process

Radial blower	56790 KXGAE 91000
Location	Central Asia
Gas composition	Air

#### Technical Data

Suction volume flow	306 000 m³/h
Inlet temperature	+5 °C to +40 °C
Differential pressure	48 kPa
Efficiency blower	84 %
Shaft power blower	4869 kW
Material	
– Impeller/Casing	1.4462 (Duplex) / 1.4404 / AISI 316L
– Shaft	1.0570

### PILLER AIR BLOWERS IN FLUIDIZED BED REACTORS FOR PRIMARY ZINC PRODUCTION

About 90 percent of the primary zinc produced is obtained by the hydrometallurgical process. After enrichment by flotation, the zinc concentrate is roasted at temperatures of 900 to 1,000 °C. During this process, zinc sulfide is converted into zinc oxide. Today, the roasting process typically takes place in fluidized bed furnaces, with air blowers providing the necessary air supply. Perfectly designed high-performance PILLER blowers ensure a stable fluidized bed and continuous operation of the furnace.

#### PILLER in the roasting process in fluidized bed furnaces

Radial blower	25573 KX 80355
Location	North Asia
Gas composition	Air

#### Technical Data

Suction volume flow	25 000 m³/h
Inlet temperature	–40 °C to +40 °C
Differential pressure	40.3 kPa
Efficiency blower	77 %
Shaft power blower	354.6 kW
Material	
– Impeller/Casing	St 52-3 / N-A-XTRA®
– Shaft	St 52-3

Visit our website to find worldwide sales & service contacts

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