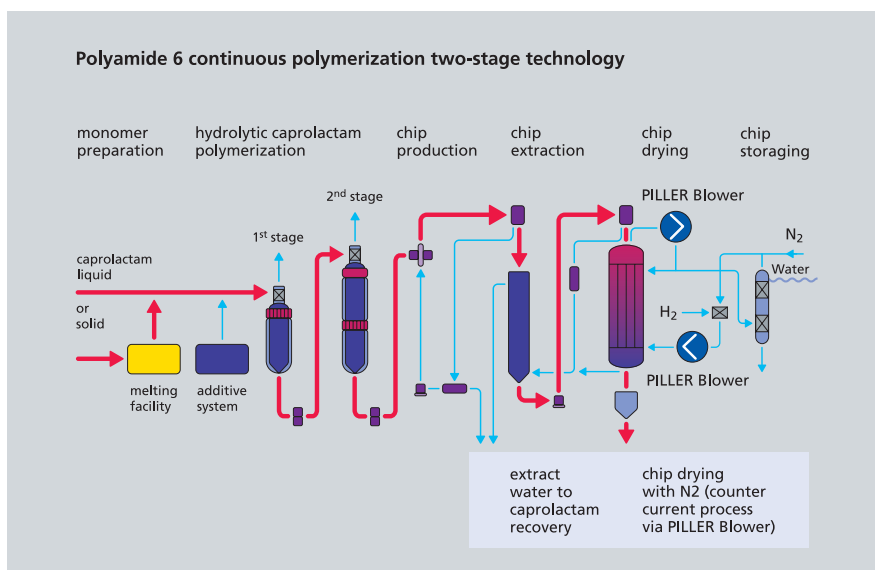


# PILLER BLOWERS IN CONTINUOUS POLYAMIDE 6 PRODUCTION

PILLER engineered blowers combine high efficiency with high pressure rise making our blowers uniquely suited for the demands of the chemical industry. Our engineered designs start with an optimized casing and impeller that are matched with the required shaft seal system and our patented squeeze oil damper bearing system. This combined with our expertise in fabricating blowers from corrosion resistant materials make our blowers the perfect selection for challenging gas steams with corrosive products and water vapor.



High pressure blower



Flow chart of Polyamide 6 process plant

- Stage I: to prepare the Caprolactam Monomer
- Stage II: for polymerization of Caprolactam with water
- Extraction: to prepare PA-6 pellets
- Drying Process: uses air tight PILLER blowers to circulate oxygen free nitrogen gas against falling pellets to dry the pellets
- Advantages:
  - energy efficient
  - recovery of raw materials
  - no industrial pollution
  - simple and safe processes

**PILLER'S PATENTED SQUEEZE OIL DAMPER BEARING SYSTEM**

Our patented squeeze oil damper bearing allows PILLER blowers to operate over large speed ranges without significant influence of the blowers critical speed. This allows use of standard rolling element or plain sleeve bearings.

**Advantages:**

- Long life of the bearings
- High availability and reliability
- Extended maintenance intervals
- A smaller, simpler lube oil system
- A single vibration probe system

**ADVANCED HIGH EFFICIENCY IMPELLER DESIGNS ARE IN A CLASS OF THEIR OWN**

PILLER is continually developing more efficient and higher performance impellers. With our impeller designs PILLER blowers can reach pressure rises of greater than 50 kPa with efficiencies of 80 % or higher.

**PILLER-Project in PA-6 plant: (reference I)**

Process	Pellets production with high-quality PA-6 2 x 165 to/day
Location	Fujian China
Gas-composition	Nitrogen (> 90 %) + H <sub>2</sub> O + Additives
Radial Blower	<b>25570 KXGAE</b> <b>80315 GL360</b>

**PILLER-Project in PA-6 plant: (reference II)**

Process	Pellets production with high-quality PA-6 2 x 200 to/day
Location	Linjiang, China
Gas-composition	Nitrogen (> 90 %) + H <sub>2</sub> O + Additives
Radial Blower	<b>32362 KXE</b> <b>80450 GL360</b>

**Technical data:**

Mass flow	20.000 kg/h
Inlet temperature	78 °C
Differential pressure	34.67 kPa
Efficiency	77 %
Shaft speed (step I)	3285 RPM
Shaft power	225.8 kW
Impeller Tip Speed	215 m/s
Material of construction casing	1.4301
Material of construction Impeller	1.4462 Duplex

**Technical data:**

Mass flow	30.124 kg/h
Inlet temperature	+ 64 °C
Differential pressure	26.43 kPa
Efficiency	80 %
Shaft speed (step I)	2955 RPM
Shaft power	254.1 kW
Impeller Tip Speed	204 m/s
Material of construction casing	1.4301
Material of construction impeller	1.4462 Duplex

Visit our website to find worldwide sales & service contacts

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