INDUSTRIAL
FANS

RADIAL / AXIAL / AUXILIARY EQUIPMENT

Cement - Glass - Insulation

Dyeing - Iron Steel

Woodworks

Chemical - Pharmaceutical - Food

Wood - Tobacco - Textile etc.

This catalogue is supported
by AR Technology.

Selnikel 1955
Enerji • Isı • Hava Teknikleri

since **1955**

Selnikel specializes in energy, heat, air technics and it is one of the most prominent actors of the Turkish industry since 1955.

Today, manufacturing and administrative operations are carried out by highly qualified staff in the production plant possessing 24.000m² closed area.

The main line of activity is the design, manufacturing, installation, commissioning and after sales services of Industrial Fans, Dust Collecting Systems, Industrial Boilers and Burners.

TURKEY'S HIGHEST CAPACITY AND MOST MODERN PLANT IN ITS INDUSTRY

EXPERIENCE IN QUALITY

Our founder **Mr. Faik HIZIROĞLU** was not satisfied with only establishing our company on sound footing. His vision also became the source of Selnikel's success with his establishment of universal working principals and acting as the guardian of them.

Quality, continuous improvement, reaching the highest standards in expertise with constant training and putting this expertise in use are **Selnikel**'s indispensable principals from past to present.

Selnikel is the first industrial fan manufacturer of Turkey.

RADIAL FANS

Radial fans, sometimes also called as centrifugal fans; are the fans which the gas is in axial direction where it enters the impeller and and in radial direction where it exits the impeller due to the centrifugal force of the impeller mass.
They are frequently used in material handling applications and systems requiring air or gas flow at high temperatures. For this reason, radial fans are widely used in steel, chemical, cement and other industrial plants.

FOR 3D VIEWING
selnikel.com/webgl

Our company operates in line with international norms and standards also certifies its production and service quality with ASME S and U, CE, ISO, TÜV, TSE, TURKISH LLOYD certifications.

AXIAL FANS

Axial fans are the fans whose gas inlet and outlet are parallel to the axis of the impeller. In other words, the gas enters axial fans in the direction of the wheel axis and moves in the direction of the wheel axis, then leaves the fan on the same axis. Axial fans are generally efficient machines that require low power and produce relatively high flow rates at low and medium pressure.

They are used as a process fan or ventilation fan in industrial facilities such as cement, iron & steel, glass, chemistry etc.

JET FANS

Jet Fan is a special version of the axial fan where the velocity of the flow jet from the fan is used to move (sweep) the gases in its environment. Although these are not academically viewed as a typical type of fan, international standards and regulations categorize jet fans in their own fan classification.
Jet fans are most commonly used in tunnels and car parks for ventilation to sweep exhaust fumes from the general area. The most important feature of these fans is that they are designed to rotate according to two rotation directions of the motor.

Don't forget to follow us on Linkedin and Youtube.

DRIVE TYPES IN FANS

3 different drive types are used for both radial and axial type fans, These are;

Directly Mounted | **V-Belt Driven** | **Coupling Driven**

DRIVE CONDITIONS	Directly Mounted	V-Belt Driven	Coupling Driven
Efficiency	High	Low	Medium
Rotation Speed (rpm)	750-1000-1500-3000	Between 0-3600 rpm	750-1000-1500-3000
Maximum Power	Max. 110kW	Max. 200kW	No Limit
Speed and Capacity Increase Potential	Max. +%10, Min. -%70 with VSD (VFC)	With Belt-Pulley Replacement Up to Shaft Power Permission	With VSD (VFC) Max. +%10, Min. - %70
Maxiumum Working Temperature	+ 80 C	No Limit	No Limit
Can Dust Pass Through the Fan?	No	Yes	Yes
Cost	Low	Medium	High
Operating Costs and Failure Problem	Low	High	Medium

SPECIFIC FANS FOR CEMENT INDUSTRY

KILN ID FANS

These fans are exposed to high temperatures and wear.
Flow: 70-180 m³/s
Working Temperature: 280-430 °C
Design Temperature: 400 °C - 500 °C
Pressure: 7,000 – 10,000 Pa

OUR PRODUCTION CAPACITY

FLOW	:	100 - 1.500.000 m³/h
TOTAL PRESSURE	:	10 - 3.500 mmWG
MOTOR POWER	:	0,25 - 4.500 Kw
WORKING TEMPERATURE	:	-40, +500 °C

CLINKER COOLING FANS

It is used to lower the clinker temperature in different capacities. There is a silencer in their suction.

BOOSTER FANS

It is used to transfer high temperature and high abrasive dusts coming from the cyclone at the clinker cooler outlet. Wear protections are applied.

Raw Mill Fan

Flow: 80-350 m^3/s
Working Temperature: 90-100 °C
Design Temperature: 250 °C
Pressure: 7,000–10,000 Pa
These fans are exposed to wear because they work behind cyclone.

Raw Mill Filter Fans

Flow: 100-450 m^3/s
Working Temperature: 150 °C
Design Temperature: 200 °C
Pressure: 2,500 – 3,500 Pa

The selection of the most suitable fan for your needs is made by the expert engineers of Selnikel, depending on the system and process in which the fan will be used and other factors specific to the situation.

SPECIFIC FANS FOR IRON & STEEL INDUSTRY

SINTERING

The type of fans especially used in this process are as follows;

Fans used for gas removal (**Main Exhaust Fans**),
Cooling Fans,
Booster Fans,
Dust Collecting Fans,
Fans used for air circulation (**Circulating Fans**).

BLAST FURNACE

The type of fans especially used in this process are as follows;

Hot Blast Furnace Fans,
Hot Gas Booster Fans,
Dust Collecting Fans.

MELTSHOP

The types of fans especially used in this process are as follows;

Dust Collecting Fans,
Booster Fans.

We can choose the most suitable fan for you if you fill out the Fan Request Form on our website.

Our sales engineers are waiting for your questions on our live support line.

SPECIFIC FANS FOR MDF AND CHIPBOARD PLANTS

Requiring high temperature and high pressure in the MDF industry;

- **Hot Oil Fans**,
- **Flue Gas Fans**.

Fans that provide the combustion air needed for steam generation and combustion systems;

- **Primary Combustion Air Fans**,
- **Secondary Combustion Air Fans**,
- **Gas Circulation Fans**,
- **Mixing Room Cooling Fans**,
- **Furnace Cooling Fans**.

Fans without burning and jamming risks and are without front plate, possesses front forward special angle blades.

These fans have a high dust density and abrasive, potential burning hazard;

- **Edge cutting conveyor fans**,
- **Emery Powder Conveying and Combustion Air Fans**,
- **Reject Line Suction and Discharge Fans**,
- **Drying System System Fans**,
- **Bag Filter Suction Fans**.

Turkey's highest capacity and most modern plant in its industry since 1955

FAN SELECTION CRITERIAS

The most important factors affecting the performance of the fans are the physical and chemical properties of the fluid passing through the fan. As well as fluid density having a major effect on the fan's flow rate and pressure, the chemical structure of the fluid is also one of the most important factors in determining the design material of the fan. For this reason, detailed information should be provided to fan manufacturers about these issues.

In order to make a correct fan design, it is necessary to have complete information about the process which the fan will operate in.

1) The type, density and component structure of the gas that will pass through the fan

2) Whether any particle will pass through the fan, and if a particle will pass, the amount of the particle

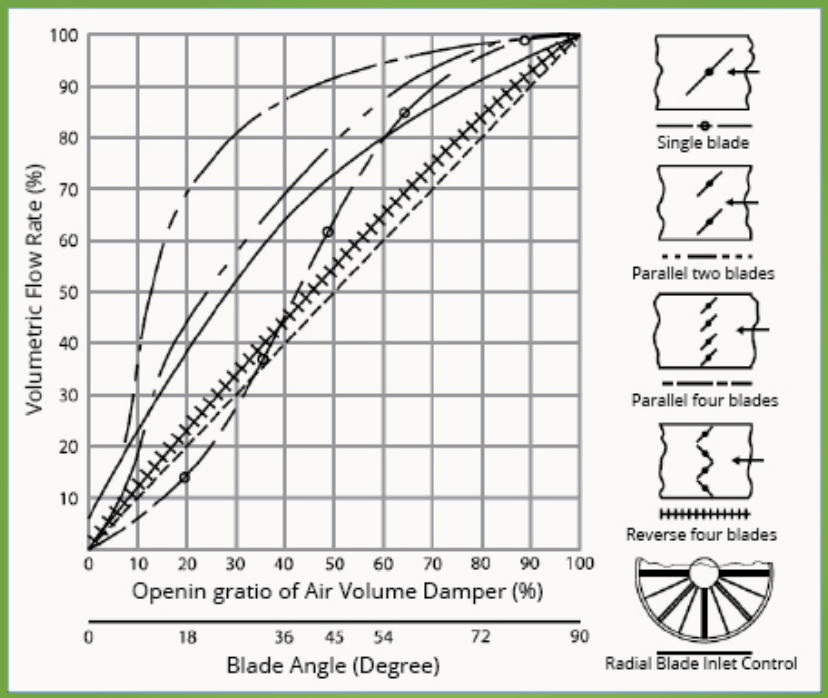
3) Gas Temperature

4) Altitude information of the operation location of the fan

5) Information about the area where the fan will be located (on the floor, on the ground, on concrete, steel etc.)

6) Information about the environment where the fan will be located (environment temperature (max. - min.), corrosive environment information, atex zone information etc.)

7) Connection type of the fan to the process
- **a)** Duct connection at fan inlet and outlet
- **b)** Duct in fan inlet, free outlet position
- **c)** Free inlet, duct in fan outlet connection
- **d)** Free inlet and outlet position



Air Flow From Damper

(by courtesy of Bill Cory)

FAN FORMULAS

SHAFT POWER FORMULA :

$$\frac{\text{Flow Rate } (m^3/h) \times \text{Total Pressure (mmSS)}}{3600 \times 102 \times \text{Fan Efficiency (\%)}} = kW$$

FAN SIMILARITY LAWS :

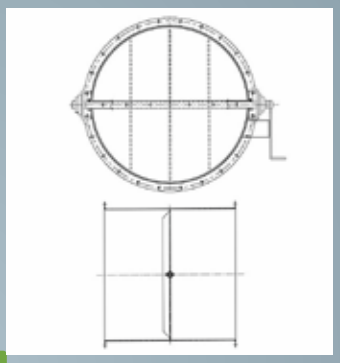
$$\frac{n_2}{n_1} = \frac{Q_2}{Q_1} = \left[\frac{P_2}{P_1}\right]^2 = \left[\frac{G_2}{G_1}\right]^3$$

n1 = first fan speed Q1 = first fan flow rate P1 = first fan pressure G1 = first fan shaft power
n2 = last fan speed Q2 = last fan flow rate P2 = last fan pressure G2 = last fan shaft power

MOTOR SHAFT POWER CALCULATION :

A x V x 3 x Cos x (motor efficiency) = kW

FAN AUXILIARY EQUIPMENT AND ACCESSORIES



AUXILIARY SELNIKEL PRODUCTS

Louvre Type Air Volume Damper
Drall Regler Type Air Volume Damper
Butterfly Type Air Volume Damper
Cylindrical Type Silencer
Prismatic Type Silencer
Compensators

SELNIKEL SUPPLIES

Actuator
Electric Motor
Temperature Sensor
Vibration Sensor

OUR CUSTOMERS

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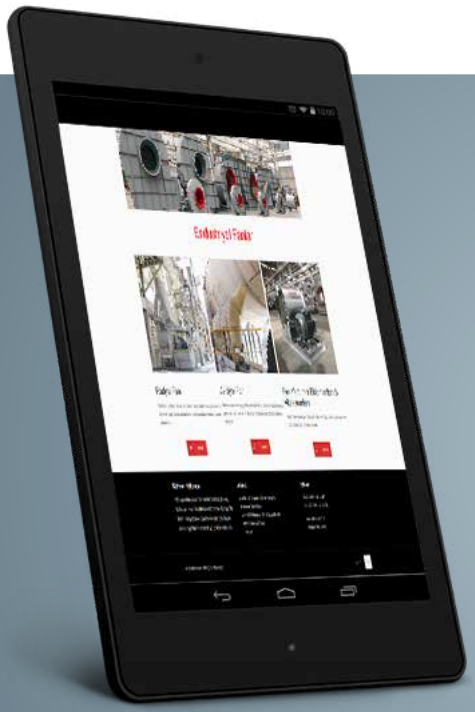

AR APPLICATION

You can view our products using this catalogue with AR **(Augmented Reality)** technology. By scanning the barcode on your phone, you can install the Selnikel Fan AR application.

selnikel.com

SELNIKEL

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