



Zitron Nederland B.V.

SERVICE



ISO 9001 Certificate



SCC** Certificate

Service by specialists

Zitron Nederland specializes in ventilation systems for tunnels. As a reliable partner, we offer you expertise and experience for all our services, ranging from design, supply, installation and commissioning through to maintenance and repair. Over 30 tunnel ventilation systems in Germany, Switzerland, Austria and the Benelux are being serviced by our service team. We would like to help you too to keep your ventilation system in good working condition.

Maintenance

You have come to the right address at Zitron Nederland if you are looking for professional maintenance for your ventilation system and tunnel fans. Support from local partners puts us in the perfect position to offer you fast response times, coupled with maintenance by experienced professionals and detailed service reports with protocols and recommendations.

Specialized Equipment

Professional tools are a must if you want to do a good job. We have a proprietary rail vehicle, telescopic fork lift and mobile lifting platform at our disposal for all our service operations.

Spare parts in OEM quality

The operational readiness and availability of your ventilation system is of key importance. We supply blades, bearings, seals and also complete fan-motor-units for all common brands. The spare parts are supplied complete with protocols and certificates as a guarantee for their original quality.

Renovating and overhauling ventilation systems and fans

After many years of faithful service, your machines deserve a thorough overhaul. We dismantle your fans and perform a detailed revision in our workshop using a 20 tonne crane and balancing machine. Your ventilation system needs to be ready for operation as soon as possible, or remain in reduced operation mode during the overhaul process. Detailed preparation by our experienced team and their subsequent deployment guarantee that your project is finished on time and within budget.

Ensured quality and safety

The proper and safe execution of service operations is of key importance to you and Zitron Nederland. Zitron Nederland is certified according to ISO 9001. The service organization and all its employees are certified according to the safety, health and environment management standards SCC** 2008/5.1

Service of axial fans

(manufactured by Zitron or others)

Service of axial fans:

- Axial fans with hydraulic blade adjustment
- Axial fans with electro-mechanical blade adjustment
- Axial fans with fixed pitch blades
- Ducting
- Fan isolation dampers
- Fire dampers in tunnel ceiling
- Silencers
- Guide vanes

Service activities:

- Inspection and diagnostic report
- Maintenance
- Repairs
- Technical advice
- 24 hours standby service
- Single and multi-year maintenance contracts

Service reports with protocols for each machine including diagnostics and recommendations



Engelbergbasistunnel - Stuttgart, Germany



Bosrucktunnel - Arding, Austria



Ehrentalerbergtunnel - Klagenfurt, Austria



Tunnel Graitery - Moutier, Switzerland



Tunnel Gernsbach - Gernsbach, Germany

Service of jet fans (manufactured by Zitron or others)

Service of jet fans:

- Jet fans for road tunnels
- Jet fans for rail tunnels

Service activities:

- Inspection and diagnostic report
- Maintenance
- Repairs
- Technical advice
- 24 hours standby service
- Single and multi-year maintenance contracts

Service reports with protocols for each machine including diagnostics and recommendations



Bosrucktunnel - Ardning, Austria



Tunnel Walhorn - Walhorn, Belgium



Tunnel Swalmen - Swalmen, the Netherlands



Tunnel Raimeux - Moutier, Switzerland



Tunnel Tiergarten - Berlin, Germany

Overhaul of axial fans

(manufactured by Zitron or others)

Overhaul of axial fans:

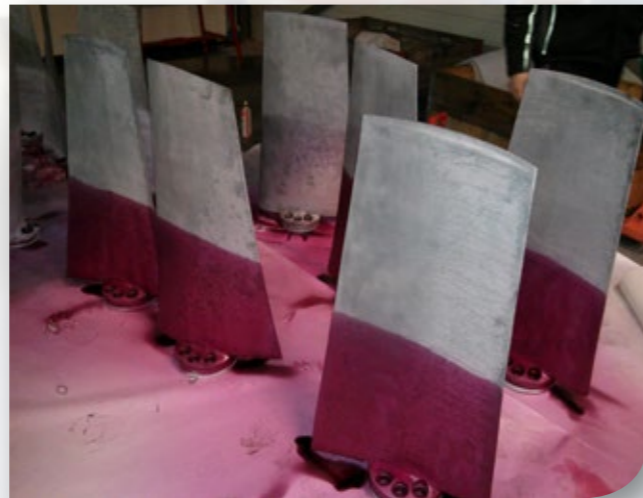
- Axial fans with hydraulic blade adjustment
- Axial fans with electro-mechanical blade adjustment
- Axial fans with fixed pitch blades
- Ducting
- Fan isolation dampers
- Fire dampers in tunnel ceiling
- Silencers
- Guide vanes

Services:

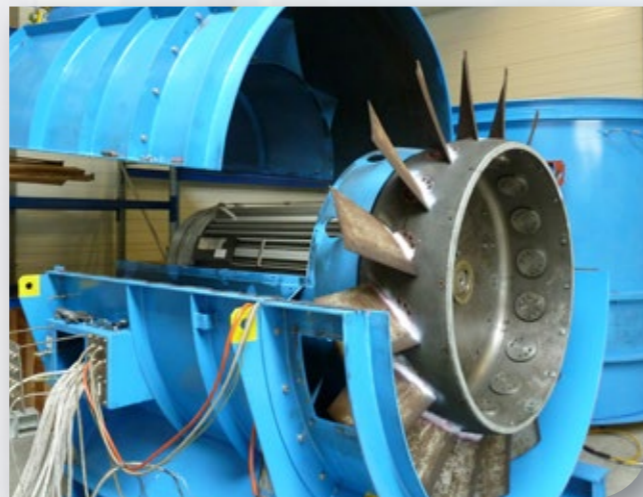
- On-site diagnostics reporting and technical advisory
- On-site dismantling and installation
- Overhaul of the fan-motor-unit at the Zitron work shop
- Renovation of fan casings and ducting (grid blasting and paint jobs) at the Zitron work shop or on-site
- Revision of drive motors by specialized firms
- Magnetic particle test of the impeller hub and blade spindles
- Dye penetrant test of the blades
- Overhaul of the impeller hub, replacement of the bearings, seals and other wear parts
- Balancing of the overhauled impeller on our proprietary balancing machine
- Commissioning by Zitron technical specialist
- Detailed service report on work performed



Mounting of drive motor with impeller hub in fan-motor-unit



Dye penetrant test of the blades



Assembly overhauled fan-motor-unit



On-site dismantling of fan-motor-unit



Overhauled impeller hub with blade adjustment

Overhaul of jet fans

(manufactured by Zitron or others)

Overhaul of jet fans:

- Jet fans for road tunnels
- Jet fans for rail tunnels

Services:

- On-site diagnostics reporting and technical advisory
- On-site dismantling and installation
- Overhaul of the jet fan at the Zitron work shop
- Revision of drive motors by specialized firms
- Installation of a regreasing device on the motors to facilitate a longer service for the motor bearing
- Dye penetrant test of the blades
- Balancing of the overhauled impeller on our proprietary balancing machine
- Mechanical running test of the jet fan at the Zitron work shop
- Commissioning by Zitron technical specialist
- Detailed service report on work performed



Dismantling of jet fan in Zitron workshop



Assembly overhauled jet fan



Balancing of the overhauled impeller on our proprietary balancing machine



Dismantling of jet fan in the tunnel



Dye penetrant test of the blades

Supply of spare fans and parts for tunnel fans

- ② Completely new fan-motor-units
- ② Completely new jet fans
- ② Axial fan impellers
- ② Drive motors
- ② Jet fan impellers
- ② Blades
- ② Fan isolation damper drives
- ② Bearings and seals
- ② Possible storage of parts in conditioned Zitron storage facility
- ② Storage on-site



Stainless steel jet fan



Impeller hub



Blades



Drive motors



Fan-motor-units

Supply and overhaul of spare parts for industry and power station fans

Blades

- Stainless steel
- Cast iron
- Aluminum

Hydraulic generators for blade adjustment

Rotating oil seals

Bearing

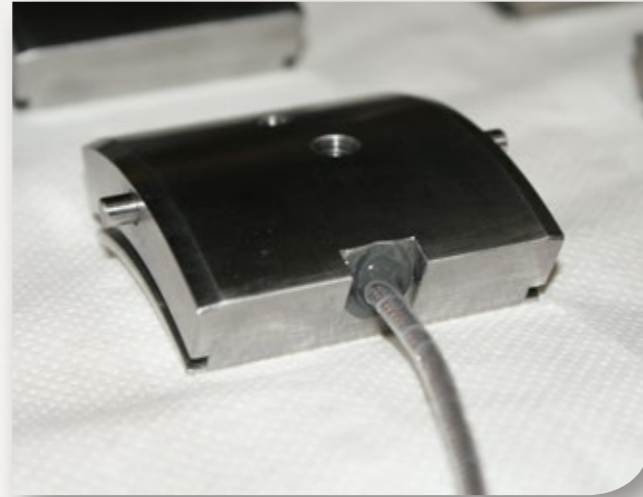
- Roller bearings
- Sleeve bearings
- Oil bath-lubricated bearings

Bearing segments for white metal sleeve bearings

Seals

Possible storage of parts in conditioned Zitron storage facility

Storage on-site



Bearing segment with PT100 (Temperature monitoring)



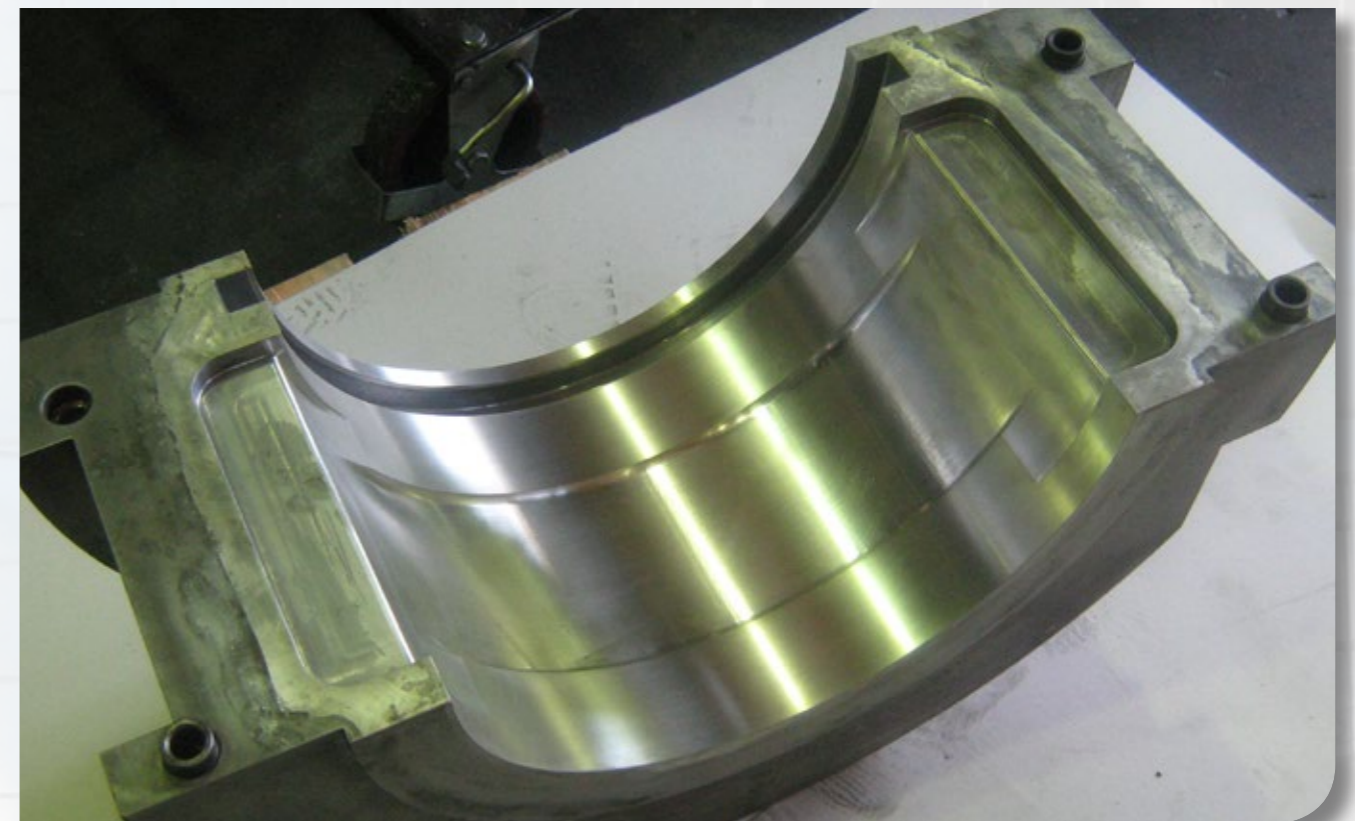
Oil bath-lubricated bearing



Blades



Rotating oil seal



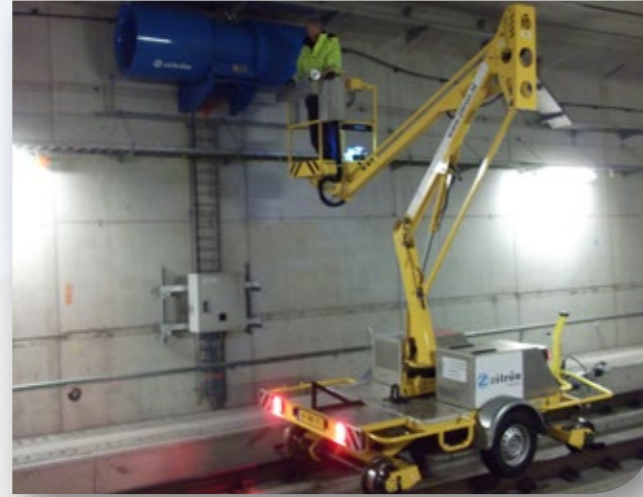
White metal sleeve bearing

Operating Equipment

- ② Fully equipped service vans
- ② Fifth wheel Pick-up truck for dismantling, installing and inspecting jet fans
- ② Eurorailer lifting platform for inspecting and maintaining jet fans in rail tunnels
- ② Telescopic fork lift with 7.5 tonne lifting capacity
- ② Fork lift with 8 tonne lifting capacity
- ② SCHENCK balancing machine for impellers up to Ø 3500 mm

Office locations

- ② Office location with work shop equipped with 2x 3.2 tonne crane capacity
- ② Office location with work shop equipped with 2x 10 tonne crane capacity
- ② Conditioned storage facility for spare parts



Eurorailer lifting platform



SCHENCK balancing machine



Office location with work shop



Fifth wheel Pick-up truck for dismantling, installing and inspecting jet fans



Workshop with 2x 10 tonne crane capacity

Major references

Major references of our service for tunnel systems

- ② **Rennsteigtunnel, A71 Motorway, Zella-Mehlis - Germany**
 - Maintenance of Zitron axial fans with hydraulically adjustable blades and jet fans
 - Overhaul of Zitron axial fans with hydraulically adjustable blades
 - Overhaul of Zitron jet fans
- ② **Diabolo, Zaventem Airport, Brussels - Belgium**
 - Maintenance of Zitron push/pull axial fans and jet fans
- ② **Bosrucktunnel, A9 Phyrn motorway, Ardnig - Austria**
 - Maintenance of Zitron axial fans with hydraulically adjustable blades and jet fans
 - Overhaul of existing axial fans with hydraulically adjustable blades
- ② **Arlberg road tunnel, S16 Arlberg expressway, Sankt Anton - Austria**
 - Overhaul of existing axial fans with hydraulically adjustable blades
- ② **Karawankentunnel, A11 Karawanken motorway, Sankt Jakob im Rosental - Austria**
 - Maintenance of Zitron axial fans with hydraulically adjustable blades
 - Overhaul of existing jet fans
 - Maintenance overhauled jet fans
- ② **Engelbergbasistunnel, A81 motorway, Leonberg - Germany**
 - Maintenance of existing axial fans with electro-mechanically adjustable blades and jet fans
 - Overhaul of existing axial fans with electro-mechanically adjustable blades
 - Overhaul of existing jet fans
- ② **Fäsenstautunnel, N4 expressway, Schaffhausen - Switzerland**
 - Overhaul of existing axial fans with hydraulically adjustable blades
 - Maintenance of overhauled axial fans with hydraulically adjustable blades
- ② **Belchentunnel, N2 expressway, Eptingen - Switzerland**
 - Overhaul of existing axial fans

Major references

Major references of our service for industrial fans and power station fans

- ② **EON Kraftwerke, Staudinger power station - Germany**
 - Supply of 32 stainless steel blades
- ② **GDF Suez, Farge power station - Germany**
 - Supply of 44 oil bath-lubricated blade spindle bearings
- ② **GDF Suez, Farge power station - Deutschland**
 - Supply of Ø 225 mm white metal sleeve bearings
- ② **Contour Global, Maritsa power station - Bulgaria**
 - Supply of a hydraulic adjusting cylinder and rotating seals
- ② **EON Kraftwerke, Knepper power station - Germany**
 - Supply of 48 nodular cast iron blades



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