# *Service*

*and*

# *Maintenance*

# Maintenance

1. General

2. Maintenance

WITT&SOHN IGW Ventilatoren

# Recommendation:

- Have data sheets & drawings at hand for reference
- Take a lot of pictures of the fan and the system and record ALL readings/ observations IN WRITING (better to have all details ready in office later)
- Use O&M-protocol, chapter 22.1 + 22.2
- Use only correct installation tools and calibrated measurement devices
- Make sure whether you have a service (mainly check the equipment) or a maintenance (also repair) contract. Avoid the later.

# Maintenance

WITT&SOHN
IGW Ventilatoren

## Read O&M Manual BEFORE Maintenance

## **(Maintenance recommended twice a year!)**

- Important chapters:

| Chapter | Page | Content |
|---|---|---|
| 5 | 6-12 | Maintenance<br>- Vibration & Bearing Monitoring<br>- Regreasing<br>- Impeller Inspection and Dismounting<br>- Troubleshooting Guide |
| 13 | 21-22 | Motor (Safety, Connection, Operation, Max. Speed, Start/ Stop/ Reversing) |
| 22.2 | 28 | Maintenance Protocol |
| 23 | 29-30 | Fundamental Safety Instructions |

## Inspect

- Fan casing, impeller & motor for any damage, corrosion, dust accumulation or abrasion
- Flexible connections and vibration attenuators for damage/ distorsion
- Motor grease and bearing status

If any defect is detected act immediately:

→ Repair or replace damaged or defective parts

→ Touch-up paint or clean fan and impeller

→ Re-grease if required

# Measure

- Record ambient conditions
  - Temperature
  - Pressure
  - Relative humidity
  - Date and time

→ Needed for correction of measured values

# Measure

- Sound pressure level
  - Axial fans (ducted in- and outlet)
    Casing break-out noise at 1m, 90°
  - Jet fans + Axial fans (free in- or outlet) Free outlet $L_p$ at 3m, 45° (in- and outlet)

→ Compare with previous values

# Measure

- Vibration levels at
  - Fan casing in 3 planes

→ at permanently marked points (as per “Commissioning“)

→ Compare with previous values

# Measure

- Vibration levels at
  - Bearing shields
    1. stop fan
    2. attach a magnetic washer to both shields
    3. locate magnetic sensor on washer
    4. use a sensor cable extension to external casing
    5. start fan and measure

  → Compare with previous values

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# Measure (at fan external terminal box)

- current consumption
- voltage
- power factor
  - correct field current to rated conditions:
    ($U_n$, rated power factor, standard density)
  - check:
    field current ≤ rated motor current

→ for details refer to data sheets (→ motor)

# Measure

- Motor insulation resistance
  - motor at standstill (after warm-up)
  - verify:
    Insulation resistance > 0.5 MΩ !
  - → at 500 V DC

# Summary

- Please read our O&M manual carefully
- Record ambient conditions and look for dirt and debris
- Measurement of:
  - vibrations
  - sound pressure level
  - motor insulation resistance
- Maintenance is mandatory and should be conducted acc. to our manual to achieve a long lifetime of the fans!