

Operation Instructions

Side Channel Compressor

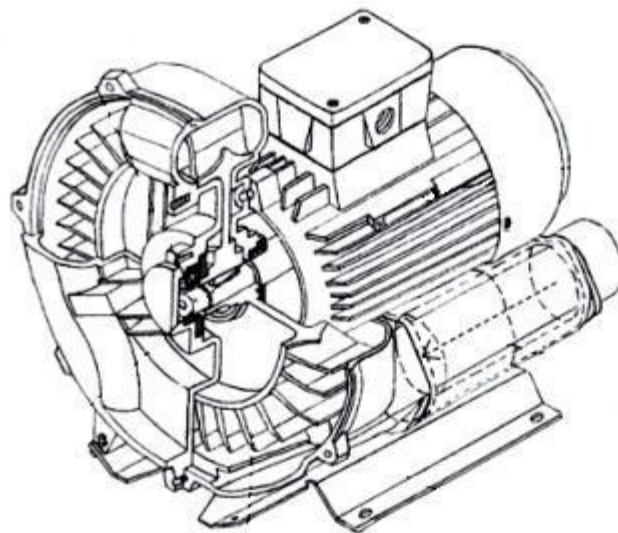


Table of Contents

Chapter 1	<u>General Information</u>	<u>Page</u>
	1.1 General	4
	1.2 Copyright note	4
	1.3 Manufacturer	4
	1.4 Service	5
	1.5 Warranty	5
	1.6 Noise level	6
	1.7 Nameplate	6
Chapter 2	<u>Use /Application</u>	<u>Page</u>
	2.1 Application	6
	2.2 Conveyed medium /temperature of conveyed medium	6
Chapter 3	<u>Safety</u>	<u>Page</u>
	3.1 General safety instructions	7
	3.2 Norms / directives / rules	7
	3.3 Duties of the owner	7
Chapter 4	<u>Side Channel Compressor</u>	<u>Page</u>
	4.1 Pictorial description	8
	4.2 Side Channel Compressor	8
	4.3 Functional principle	9
	4.4 Applications and advantages	9

Table of Contents

Chapter 5	<u>Installation / setting up</u>	<u>Page</u>
	5.1 Inspection on arrival	10
	5.2 Transport	10
	5.3 General notes before start-up	10
	5.4 Installation	11
	5.4.1 Electrical installation	11
	5.4.2 Start-up	11
	5.4.3 Inspections after start-up	11
Chapter 6	<u>Maintenance</u>	<u>Page</u>
	6.1 Maintenance work	12
	6.2 Job card	12
Chapter 7	<u>Troubleshooting</u>	<u>Page</u>
	7.1 Troubleshooting	13
Chapter 8	<u>Start-up report / INFO and accessories</u>	<u>Page</u>
	8.1 Start-up report	14 / 15
	8.2 INFO and accessories - KONZ-Lufttechnik	16

1.1 General

Please read these Operation Instructions from cover to cover before you use the Side Channel Compressor.



The Operation Instructions must be available to the operators and maintenance personnel of the Side Channel Compressor.

1.2 Copyright note

The copyright owner of these Operation Instructions is KONZ-Lufttechnik GmbH.

Drawings, sketches, procedures and texts or any parts thereof must not be duplicated, disclosed or distributed.

The use of these Operation Instructions is only permitted with the express agreement of KONZ-Lufttechnik GmbH.

KONZ-Lufttechnik GmbH is not responsible for mistakes in these Operation Instructions.

Any liability for direct or indirect damage caused in connection with these Operation Instructions is **excluded**.

1.3 Manufacturer

KONZ-Lufttechnik GmbH
Autenbachstrasse 12
71711 Steinheim / Murr
Germany

Tel. No.: +49 (0)7144 -890067
Fax: +49 (0)7144 -207335

Web: www.konz-lufttechnik.de
Mail : info@konz-lufttechnik.de

V.A.T. ID : DE 216028478
Stuttgart District Court – HRB 311128

Managing director : Erwin Konz

1.4 Service

Questions concerning the products of KONZ-Lufttechnik GmbH should be addressed to:

KONZ-Lufttechnik GmbH
Autenbachstrasse 12
71711 Steinheim / Murr
Germany

Tel. No.: +49 (0)7144 -890067
Fax: +49 (0)7144 -207335

Web: www.konz-lufttechnik.de
Mail : info@konz-lufttechnik.de

V.A.T. ID : DE 216028478
Stuttgart District Court – HRB 311128

Managing director : Erwin Konz

Please have the order number ready when you call.

1.5 Warranty

Justified complaints should be addressed to: see chapter 1.4

The warranty period for products made by KONZ-Lufttechnik GmbH commences on the date of delivery.

The warranty period is: 12 months.

In addition, the applicable statutory provisions apply.

KONZ-Lufttechnik GmbH is not liable for damage during the warranty period caused due to

- improper handling,
- wrong installation / setting up of mechanical parts / components,
- wrong installation / setting up of electrical parts / components,
- poor maintenance (see job card, chapter 6.2),
- additions or modifications by the customer to products of KONZ- Lufttechnik GmbH,
- use of accessories or accessory parts from other suppliers.

The warranty terms of KONZ-Lufttechnik GmbH include the return of chapter 8 within the prescribed period of 3 weeks after receipt !!

1.6 Noise level

The noise level is indicated in units of decibel dB (A). The noise level is measured at the open air test site at 1.5 m distance with the unit running at full load, intake and discharge ends of the Side Channel Compressor connected as required by the UNI norm.

1.7 Nameplate

- The nameplates should be legible. Any lost nameplate should be replaced without delay.
- The information on the nameplate is binding and gives the user a complete overview of the side channel blower ordered.

Chapter 2 Use /Application

2.1 Use / Application

The following instructions must be observed:



- Ambient temperature max. 40 °C,
- Make sure of sufficient ventilation at all times (ambient temperature, motor cooling),
- Install a vacuum relief valve in the intake line,
- Install a pressure relief valve in the discharge line,
- Install an intake filter in the intake line (if no filter is installed, make sure that the air entering the Side Channel Compressor is not contaminated (dust, particles)).

→ **The Side Channel Compressor must not be used in a potentially explosive atmosphere!!**

- It is important that the Side Channel Compressor can take in and deliver air without working against obstacles. The air cools the Side Channel Compressor. If the air cannot cool the Side Channel Compressor, it may get too hot (which can destroy the Side Channel Compressor).

2.2 Conveyed medium /temperature of conveyed medium

The following instructions must be observed:



- Conveyed medium: air only (no transport of any material)
- Temperature of the conveyed medium not to exceed 40 °C

3.1 General safety instructions

- Products of KONZ-Lufttechnik GmbH are designed and made in compliance with the present state of the art.
- It is absolutely necessary that you read these Operation Instructions before starting the Side Channel Compressor from KONZ-Lufttechnik GmbH.
- All applicable accident prevention rules and regulations should be observed when using products of KONZ-Lufttechnik GmbH.
- Make sure to observe all instructions and recommendations in these Operation Instructions.
- Operate the Side Channel Compressor only in good technical state.

3.3 Duties of the owner

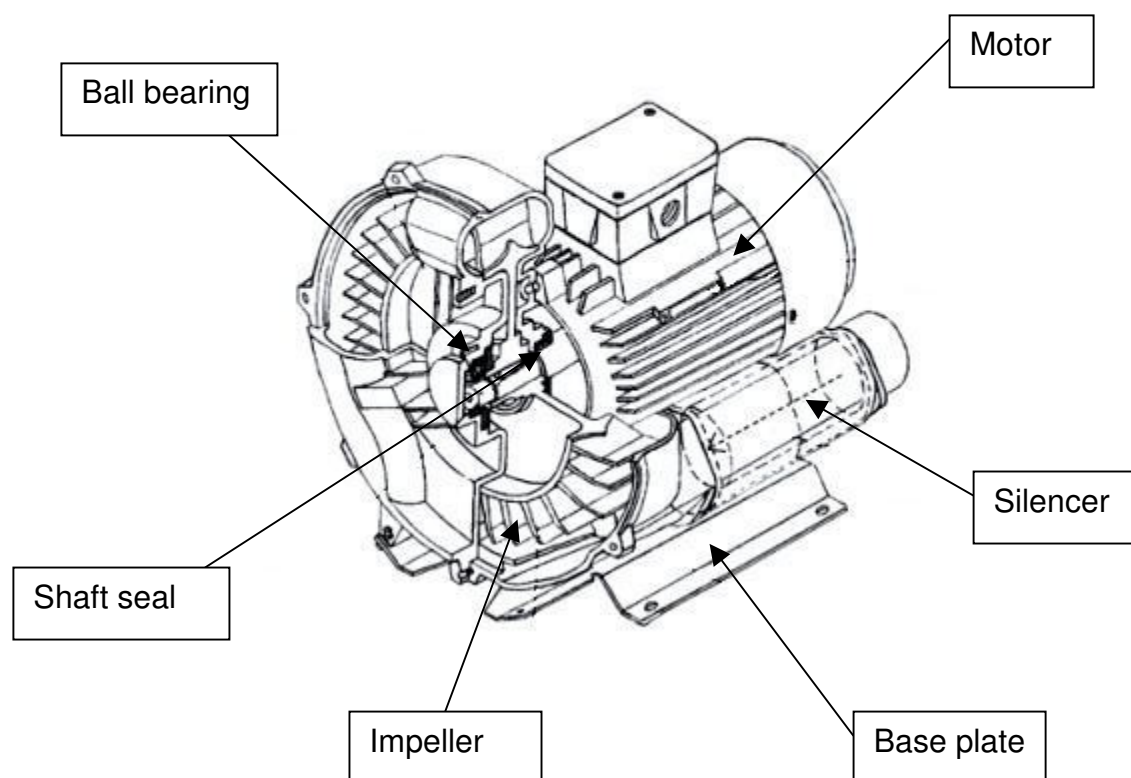
- The owner is responsible that the product is only used for the intended purpose.
- The Operation Instructions should be available to operators and maintenance personnel.
- All persons working at the Side Channel Compressor should be instructed in the applicable rules and regulations.
- All applicable accident prevention rules and regulations should be observed when using products of KONZ-Lufttechnik GmbH.
- Have a trained electrician disconnect the power supply before starting maintenance or repair work at the Side Channel Compressor.
- Issue personal protection equipment to the operators if required by law.

Chapter 4 Side Channel Compressor

4.1 Pictorial description

4.1.1 Side Channel Compressor

Typical illustration



4.1.2 Functional principle

The Side Channel Compressor consists of the housing, an impeller, an air duct and the inlet and outlet ducts.

When the impeller rotates, air is taken in through the inlet duct.

The impeller geometry compresses the air and accelerates its flow.

These blowers compress air to a substantially higher level than radial fans.

4.1.3 Applications and advantages

Ring blowers (side channel compressors) can be used for all applications in which pressure higher than that provided by conventional radial fans is needed.

The rotating parts do not touch the housing. So there is no friction during operation and no lubrication is required.

Advantages

- Simple installation
- Low noise level
- No vibration
- Little maintenance
- Higher pressure
- Small and compact design

5.1 Inspection on arrival

When the consignment arrives, make a check for short delivery and damage and report these without delay. If the Side Channel Compressor has been damaged in transit, inform the forwarder of the damage directly.

5.2 Transport

Transport the Side Channel Compressor only in suitable packaging. Protect the Side Channel Compressor from damage and external effects (moisture, heat).

5.3 General notes before start-up

- **The Side Channel Compressor should be installed by trained and instructed personnel according to the applicable regulations.**
- **Electric work should only be carried out by a trained electrician according to VDE rules.**



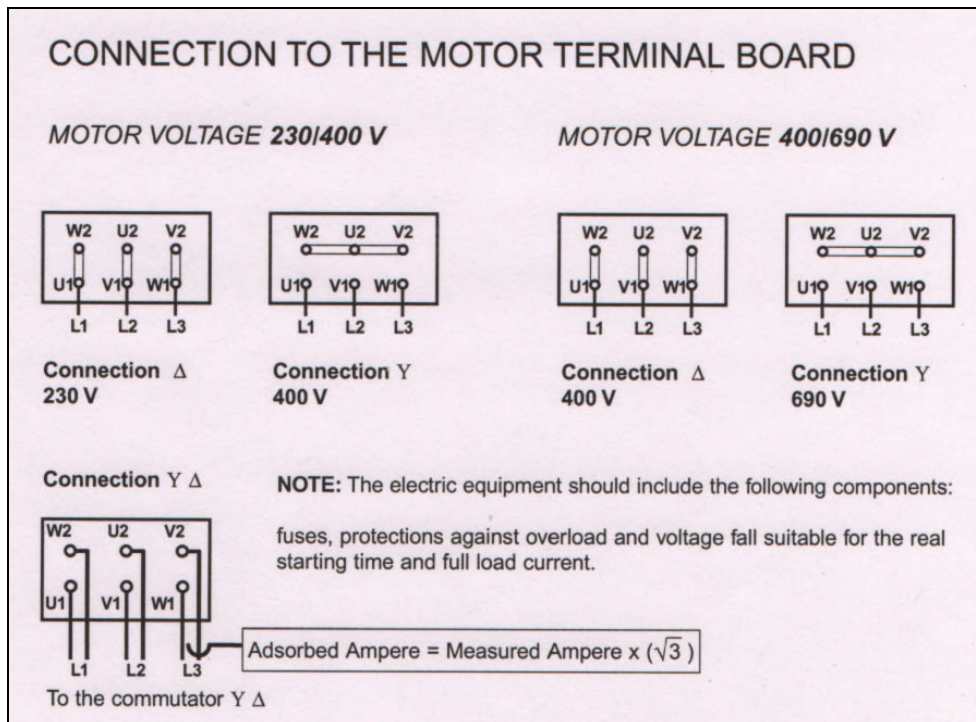
- 1 Gate valves (if installed) in the intake and discharge lines must be open.
- 2 Make sure that the base plate is properly anchored in the floor.
- 3 Make the electrical connections according to VDE.
- 4 Never operate the Side Channel Compressor without the protective grid at the discharge end. There is risk of injury due to ejected particles or objects that may have been taken in accidentally.

5.4 Installation

5.4.1 Electrical installation



Observe all applicable regulations and rules for work at the electrical equipment of the Side Channel Compressor.



5.4.2 Start-up

- 1 Start the Side Channel Compressor only after proper installation.
- 2 When starting the Side Channel Compressor for the first time, make sure that the electrical data on the nameplate and the mains supply are identical.

5.4.3 Inspections after start-up


- 1 Check to make sure that the mains voltage and the mains frequency of the supplying mains are the same as the data on the nameplate.
- 2 Start the motor briefly and check that the sense of rotation is correct (arrowed on the housing).
- 3 Change the rotation of necessary.

Chapter 6 Maintenance

6.1 Maintenance work

- Before starting maintenance or repairs, have a trained electrician disconnect the Side Channel Compressor from the power supply and padlock it to prevent unauthorized starting.
- Note: If the housing is hot, wait until it cools. (The housing can become hot in operation.) Read the Operation Instructions.
- If guards were removed, install them at the end of the maintenance or repair work before starting the Side Channel Compressor.

6.2 Job card

Job Card for inspection and repair work to technical equipment and products of KONZ-Lufttechnik							
Item No.	Description of the inspection or repair work carried out	Intervals (months)					Comments , should-be state, other data and agreements
		1	3	6	12	24	
	Air equipment						
1	Side Channel Compressor						
1.1	Side Channel Compressor						Maintenance-free
1.2	Clean			x			
2	Motor						
2.1	Inspect for contamination, damage, corrosion and firm seating				x		Maintenance-free
3	Intake filter						
3.1	Inspect for contamination, damage, corrosion and firm seating		x				see manufacturer recommendation for change an cleaning intervals

The following are recommended, in addition:

- Regularly inspect all fastening bolts and screws of the Side Channel Compressor for firm seating.
- Inspect the power consumption of the Side Channel Compressor regularly.
- Inspect the ambient temperature (max. 40°C) regularly.

7.1 Troubleshooting

Problem	Action
Motor not running	Check voltage, check fuses
Motor run loud or erratic	Damaged bearing, check run hours
Side Channel Compressor run loud or erratic	Damaged motor bearing, check run hours
	Check pressure valves
	Clean / change intake line filter
	Check intake / discharge line (valves open?)
Not enough air delivery	Check motor rotation
	Check motor voltage
	Clean / change intake line filter
	Check intake / discharge line (valves open?)

Work at the Side Channel Compressor

- 1) Disconnect the Side Channel Compressor from the power supply.
- 2) Set up a warning sign to ensure that disconnected fuses are not reconnected accidentally.
- 3) Make sure that the Side Channel Compressor is disconnected from the power supply before you start working at it.



Electrical work must only be carried out according to the applicable electrical rules.

Start Up Report 1/2



Customer: _____

Order No.: _____ **Invoice date:** _____

Fan type: _____ **Year of construction:** _____

Make the following checks and visual inspections before starting the fan:

Item	Check/inspection	Yes	No	Comment
1.	Visual inspection of the fan / fan housing / motor / accessories	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Fan mounted on vibration dampers	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Electrical connection according to VDE	<input type="checkbox"/>	<input type="checkbox"/>	

Inspector:	
	Date / signature

* Warranty condition: (chapter 1.5): To complete and return report to the supplier within 3 weeks of receipt of the goods



Start Up Report 2/2

Item	Machine No.	Voltage V	Frequency Hz	Rated current A	Actual power consumption A	Vibrations mm	Ambient temperature °C	Conveyed medium temperature °C	Switching frequency	Conveyed medium	Altitude
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											

Service and accessories



Where air is the be-all and end-all

KONZ-Lufttechnik is supplier of:

- Radial fans
- Axial fans
- Roof fans
- Special fans
- Heat exchangers
- Plastic fans
- Filter systems
- Control equipment
- Side channel compressors
- etc.

KONZ-Lufttechnik provides:

- Consultancy
- Analysis on site
- Hotline
- Offers and proposals
- Repairs
- Maintenance / customer service

KONZ-Lufttechnik supplies accessories:

- Motors
- Vibration dampers
- Flaps
- Silencers
- Molded parts
- Collars
- Guard grids
- etc.

KONZ-Lufttechnik GmbH
Autenbachstrasse 12
71711 Steinheim / Murr
Germany

Tel. No.: +49 (0)7144 -890067
Fax: +49 (0)7144 -207335

V.A.T. ID : DE 216028478
Stuttgart District Court – HRB
311128

www.konz-lufttechnik.de
info@konz-lufttechnik.de

Managing director : Erwin Konz

If you want that we contact you :

Sender:

Name:

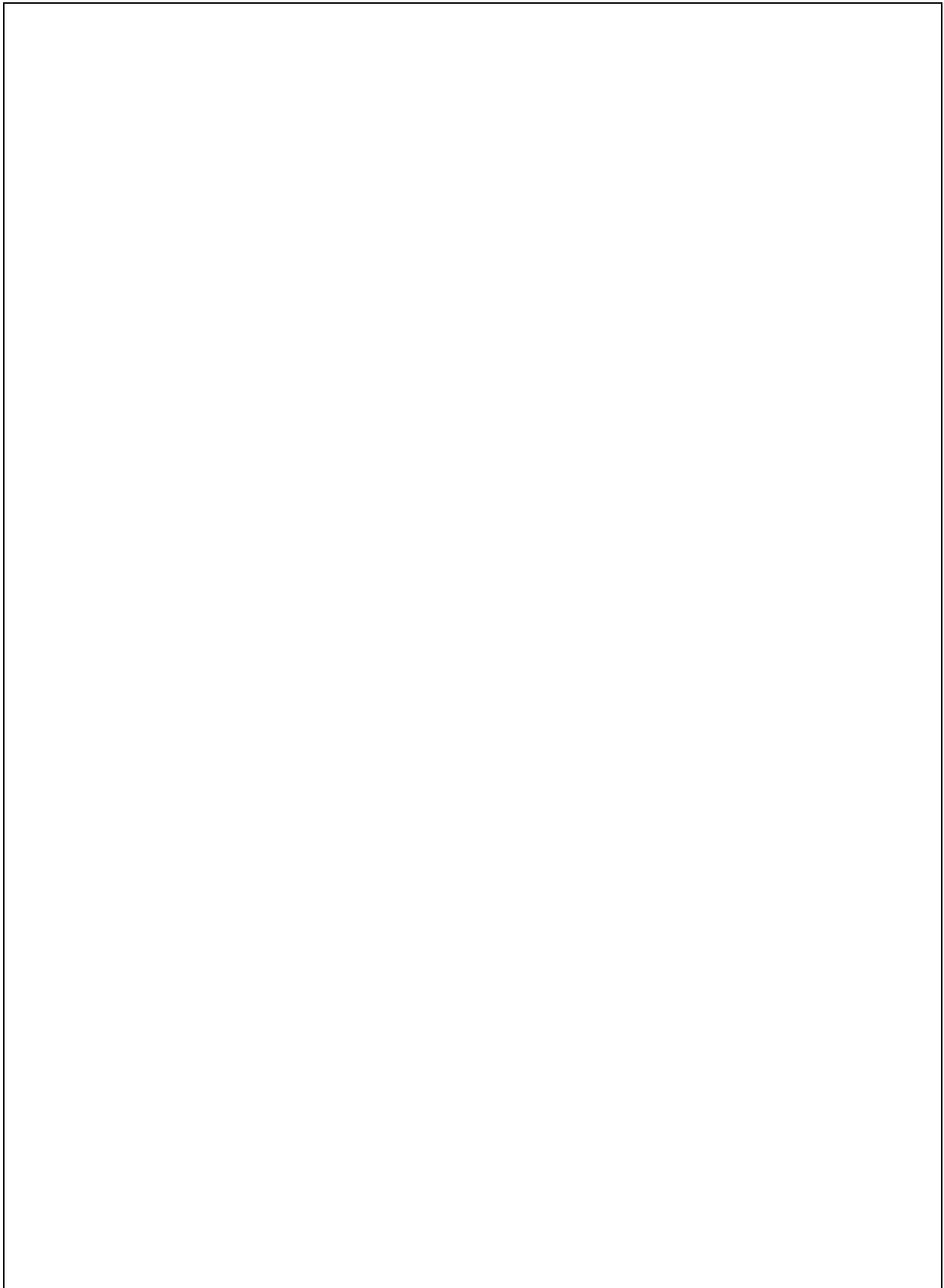
Tel. No.:

Reason:

Notes

A large, empty rectangular box with a thin black border, occupying most of the page. It is intended for the user to write notes.

Notes

A large, empty rectangular box with a thin black border, occupying most of the page. It is intended for the user to write notes.

Notes