

DEPRAG

Operating Instruction Booklet

Angle Drilling Machine

DREB51LLU

301553 A

Dear Customer:

This tool is the result of more than 70 years of experience in the design and manufacturing of pneumatic tools for the industrial market.

We kindly ask, that you read these operating instructions carefully, so that you will be able to use this tool safely and for many years to come. If you need additional information, please contact your DEPRAG

Representative, one of our international support offices or us direct at DEPRAG. We will be happy to answer any questions. Please visit our web site: www.deprag.com

1 List of Contents

1	LIST OF CONTENTS	2
2	SAFETY TIPS	3
2.1.	General Safety Tips.....	3
2.2.	General Safety Tips for Drills and Grinders.....	4
2.3.	Owner Obligation.....	5
2.4.	Operator Obligation	5
2.5.	Warranty and Liability.....	6
2.6.	Symbol Description	7
2.7.	Observe Environmental Regulations.....	9
3	DESIGNATED EQUIPMENT USE	9
4	INSTALLATION.....	10
5	OPERATION	11
6	HANDLING AND START-UP	11
7	ASSEMBLY - DISASSEMBLY.....	12
8	MAINTENANCE AND UPKEEP	13
8.1.	Wear Parts	13
8.2.	Trouble Shooting.....	14
9	DELIVERY CAPACITY.....	14
9.1.	Spare Parts Drawing	15
10	STORAGE.....	16
11	TECHNICAL DATA.....	16
12	DISPOSAL.....	17
13	CONFORMITY DECLARATION.....	18
14	SERVICE LOCATIONS AND AUTHORIZED PARTNERS	19

2 Safety Tips

2.1. General Safety Tips



Before operating tool make sure to carefully read and observe this operating instruction.

Generally, the operator of the equipment and/or machinery is responsible for the equipment's perfect condition and operation, while observing all necessary safety regulations. The equipment and/or machinery has been constructed in accordance with the newest stand of the technology, while recognizing all necessary safety-related requirements. Nevertheless, while operating the equipment and/or machinery there is a change of bodily harm to the operator as well as damage to equipment and/or machinery and other property. Operate the equipment and/or machinery only if equipment/machinery

- Is used for the task it was designed for
- is in perfect working condition and safe to use.

It is important to observe the technical data of the equipment, especially in regards to the environmental temperatures. The designated area of use for this equipment is clearly described in chapter *Designated Equipment Use* and those requirements have to be observed as well. Prerequisite for the safe conduct and the uninterrupted operation of the equipment, is the knowledge of the basic safety tips and the safety regulations. Additionally, all current regulations for a safe operational area, for accident-prevention guidelines of electrical and mechanical installations, as well as noise suppression demands must be observed. During any maintenance or repair work, a clean work surface is recommended. Also, it is not recommended to either eat or smoke during repair or maintenance. Arbitrary changes made to the equipment, which alters its designated use, voids the warranty and cancels the manufacturers liability.

- The tool is not insulated to protect against an electrical power surge.
- It is not recommended to use this tool in explosive hazardous environments, unless it was specifically designed for such a use.
- During the disconnection or reconnection of the tool from the compressed air, an injury is possible because of a whipping pressure-hose.

The operating-instruction booklet, especially the safety-symbols and safety-tips attached to the equipment or included in the documentation, must be observed at all times by all persons coming in contact with the equipment.

2.2. General Safety Tips for Drills and Grinders



- Use a secondary handle (side handle), if reaction torque cannot be safely supported by one hand.
- If the machine locks-up, an increased reaction torque occurs. Reason for lock-up: Tool operates over capacity; jamming of the drill bit in material or when drill bit breaks through the material.
- An unexpected motion of the tool or the breakage of a drill bit may cause an injury.
- Uncomfortable or incorrect holding of tool, will not allow Operator to correctly react to an unexpected motion of the tool..
- Disconnect tool from air supply, prior to changing inserts.
- Prior to operating tool, make sure that collet and drill bit is securely installed.
- Wear no loose clothing or jewelry, for movable parts [collet/bit] may seize them. Wear a hairnet if operator has long hair.



- Use integrated or additionally supplied side-handles to reduce reaction torque.
- Reduce down pressure, shortly before bit breaks through the material to be drilled.
- Prior to operating tool, remove key from chuck.
- If the tool is to be suspended from a Balancer, make sure it is securely attached to it.
- Make sure to not exceed maximum operating pressure given by manufacturer. Add a pressure regulator to check operating pressure before reaching the actual tool.
- Keep in mind that tool will continue to rotate, once it has been turned off. [inertia]
- Turn tool off, if the airflow is suddenly disrupted.

2.3. Owner Obligation

The owner is obliged to only let persons operate the equipment, who

- are familiar with basic work environment safety rules and accident-preventing regulations. Also, those persons must be instructed in the correct use of the equipment.
- have read and understood all safety and warning notifications in the Operating Instruction Booklet, as well as all other documentation pertaining to this equipment.
- check and confirm at regular intervals, that a safety-conscious operation is guaranteed.

Only qualified and authorized personnel is allowed to operate, maintain and repair this equipment. A malfunction, which impairs operator safety, must be immediately removed.

2.4. Operator Obligation

Personnel, who is engaged in the operation of the equipment, must always be committed to

- observe the basic safety and accident preventing regulations,
- read and observe the safety and warning notifications of this operating instruction booklet.

2.5. Warranty and Liability

Unless otherwise specified, our “General Sales and Delivery Conditions” apply. Warranty and liability claims in regards to persons or equipment damages are invalid, if one or several of the following causes apply:

- Use of the equipment in a non-designated application.
- Improper installation, operation, service or maintenance of the machine.
- Operation of the machine with either defective or removed safety and protection devices.
- Non-observance of the requirements stated in the operating instruction booklet, in regards to transportation, storage, mounting, installation, operation, maintenance and service of the equipment.
- Structural change or adjustment on the equipment to a non-designated use.
- Inadequate supervision of wear parts.
- Improper repair, inspection or maintenance.
- Catastrophic cases because of a war, acts of god or other reasons which are beyond our control.

2.6. Symbol Description



Read and observe the Operating Instruction Booklet, prior to and during operation of tool.



DANGER

Reference to an immediate danger to a person. May lead to serious injuries or even death, if unobserved!



Properly recycle environmentally damaging grease, cooling agents or detergents



RECOMMENDATIONS

Important or additional information on the equipment or in the documentation



Use eye protection or wear safety goggles



Wear hearing protection



Warning for hand-injuries.

Attention: Keep away your hands from areas, which are marked with this symbol!



There is the danger, that hands may be crushed, seized or otherwise injured.



ESD protected area

Equipment may be damaged or destroyed by an electrostatic discharge.

Maintenance and repair on hydraulic and pneumatic equipment may only be performed by specially trained personnel!



Disconnect equipment from air supply, prior to repair of pneumatic or hydraulic equipment.

Provide regular preventive maintenance on hoses and airlines. Exchange hose lines, even if there is no visible damage! (Observe corresponding requirements of the manufacturer!)

After repair and maintenance, check the following items:

- make sure all detached and re-attached connections are solid.
- confirm that removed covers, screens or filters were re-installed
- During disconnecting or reconnecting of an air-operated equipment, injury may occur due to a whipping air-hose

After conclusion of maintenance or repair and prior to start of operation, make sure to

- Remove all for the maintenance or repair needed materials, tools and other supplies from work-area of the equipment
- Remove leaked liquid or oils
- Make sure all safety devices on the equipment work perfectly!

2.7. Observe Environmental Regulations



When working on or with the equipment, it is imperative to observe all requirements in regards to waste-disposal and proper recycling.

Especially during installation-, repair or maintenance water damaging agents, such as,

- lubricating grease and –oil
- hydraulic fluid
- cooling agents
- solvent-containing cleaning agents

must not leak into the ground or into the sewage system!

Such materials must be stored, transported, contained and recycled in suitable containers.

3 Designated Equipment Use

The drill has been designed for drilling into steel, aluminum or other materials.

4 Installation

- Blow out air line and pressure hose, prior to connection it to the equipment.
- The hoses must be free of bends and kinks.
- Make sure, that all air lines have a sufficient cross-section and remove possible throttle areas.
- All DEPRAG Drills as well as Tappers, may be operated either with or without lubricated air. (see paragraph: Maintenance and Upkeep) When operating with oilfree air, a performance reduction of up to 20% occurs!
- Connect the equipment as follows:

a) for standard operation connect equipment to a maintenance unit, consisting of Filter with condensation reservoir, Regulator and Oiler. When choosing a maintenance unit, observe air consumption of the machine (see Technical Data)

Air Consumption	Part No.
< 0,5 m ³ /h	820454 A
0,15 – 1,5 m ³ /h	820455 A
0,8 – 6,0 m ³ /h	821608 A

b) for the use with minimal lubrication connect to a filter-regulator consisting of Filter with condensation reservoir and pressure regulator

Air Consumption	Part No.
< 0,5 m ³ /h	822408 A
0,15 – 1,5 m ³ /h	826981 A
0,8 – 6,0 m ³ /h	822409 A

in connection with a Point-of-Use Oiler (Part No. 378077 A)

c) For oilfree operation, connect to Filter/Regulator, consisting of Filter with condensation reservoir and Pressure Regulator.

Air Consumption	Part No.
< 0,5 m ³ /h	822408 A
0,15 – 1,5 m ³ /h	826981 A
0,8 – 6,0 m ³ /h	822409 A

- Check air pressure at F/R/L outlet. The Regulator needs to be adjusted to an airflow of 6.3 bar (90 PSI). A higher pressure than 6.3 bar leads to increased wear and tear. Pressure below 6.3 bar leads to performance loss.

In regards to air-quality according to ISO8573-1, we recommend:

	CLASS	RESIDUE OF OIL	RESIDUE OF DUST		RESIDUE OF WATER	
		Content mg/m ³	Particle Size μm	Concentration max. mg/m ³	Dew Point °C	Pressure Concentration max. g/m ³
Lubricated Air	4	5	15	8	+3	6
Dry Air	3	1	5	5	-20	0,88

5 Operation

Prior to operation, make sure that the drill bit is inserted into the collet as deep as possible and that collet has been securely tightened using the wrench. (see Safety Tips for Drills and Tappers)



Caution

Before operating the tool, test drill bit and make sure it is securely installed. A loose drill-bit causes injuries.

6 Handling and Start-Up

Use the equipment only while observing all safety tips and maintenance regulations.

The drill spindle starts by twist valve 340409 A.

7 Assembly - Disassembly

Disassembly: (see Spare Parts Drawing)



Prior to disassembly, disconnect equipment from air-supply! Only experienced maintenance personnel may assemble or disassemble this equipment.

After repair or maintenance, verify that equipment runs to specification!

Principally, use only DEPRAG original spare parts. Otherwise, a reduction in equipment power-output and an increased maintenance-requirement occurs. If NON-DEPRAG parts are installed, DEPRAG is justified to void any existing warranty and liability obligations.

8 Maintenance and Upkeep

Operator can perform inspection and maintenance. Only specialized personnel may perform assembly or disassembly of this equipment. Faulty assembly may lead to danger for the operator and to permanent damage of the equipment

This drill spindle requires little maintenance. If the following rules are observed, the tool reaches its promised high life span and remains in a safe condition to use.

- Regularly check equipment for external damage.
- Check the air filter (bleed water condensation on a regular basis) and the oil reservoir, as well as the oiler adjustment [if operated with lubricated air]. We recommend DEPRAG-Oil, Part No. 790081 E (250 cm³).
- After repair and prior to assembly, grease gearing parts with DEPRAG grease Part No. 807293 (tube: 100 g).
- After assembly, drip 2 – 3 drops of oil into the drill's air intake.
- The gearing, balls and needle bearing, as well as the seal rings, must be greased every 500 operating hours or at least once a year.
- If operated in an oilfree environment, this maintenance is necessary every 250 hours
- If machine has not been operated for some time, drip a couple drops of oil into the motor and let drill run for 5 – 10 seconds.
- If drill malfunctions, we recommend to send the machine to DEPRAG.

8.1. Wear Parts

QUANTITY	NAME	PART No.
5	Vanes	301630

8.2. Trouble Shooting

In the case of a malfunction, check and observe all instructions contained in this technical documentation. If necessary, adjust equipment as needed.

Possible faults and their causes are shown below:

ERROR	REASON	SOLUTION
Insufficient Power	Air pressure too low	Minimum air pressure should be 90 PSI for maximum performance
	Restriction in air hose	Remove bends or other restrictions
	Hose I.D. is too small	Use required hose I.D.
	Screen Support or silencer clogged	Clean screen support or exchange with new one
	Vanes are worn	Exchange vanes
Machine does not start	No air; shut-off valve is closed.	Open shut-off valve
	Vanes are worn	Exchange vanes

If necessary, please send tool to DEPRAG for service.

9 Delivery Capacity

Please check the delivery capacity in regards to its completeness.

QUANTITY	NAME	PART No.
1	Operating Instruction Booklet	010030 EN
1	Drilling Machine	301553 A

10 Storage

Unused machines should be stored in a dry, locked area.

11 Technical Data

Manufacturer DEPRAG SCHULZ GMBH u. CO.
Address Kurfürstenring 12 - 18 Postfach 1352
D-92224 Amberg D-92203 Amberg
Phone 09621/371-0
Fax 09621/371-120

Technical Data:

MODEL NO.:	DREB51LLU
Part No.	301553 A
Drilling into Steel up to (mm)	80
Reaming upto	75
Thread cutting	80
Flaring of pipes (mm)	ø120
Morse taper	5
Speed, unloaded (rpm)	90
Air Consumption, under load (m³/min)	2
Power, (kW)	2,2
Spindle advance movement (mm)	100
Distance from spindle centre to side (mm)	50
Length (mm)	580
Height with feed screw (mm)	295
Height without feed screw (mm)	230
Weight (kg)	21,7
Required Hose I.D. (mm)	19
Connecting thread	G ¾ i
Noise level (dB(A))	105
Vibration (m/s²)	< 2,5

12 Disposal

Unused machines should be stored in a dry, locked area. Observe local and environmental regulations for the separation and recycling of materials.



Recycle waste oil to avoid environmental contamination!

13 Conformity Declaration

EC-Conformity Declaration according to the EC-Machine-Guidelines 98/37/EC, Amendment IIA

We,

DEPRAG SCHULZ GMBH & CO.
PO Box 1352
D-92203 Amberg

hereby confirm, that the design of the
Drilling Machine

DREB51LLU

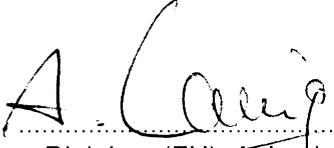
conforms to the following, relevant regulation:

- EC-Machine-Guidelines, Version 98/37/EC, Amendment No. 1 and No. 2.2.

Applicable Standard:

- EN 292

Amberg, 20.01. 2004


Dipl. Ing. (FH) A. Langig
Mr. Design Dept.

14 Service Locations and Authorized Partners

ARGENTINIEN

ERIN s.a.
Av. Constituyentes 5751
RA-1431 Buenos Aires
Tel./Fax: +54 (0) 11 / 4573.1313

AUSTRALIEN

De Rossi Industrial Pty. Ltd.
Unit 1 – 2 / 600 Liverpool Road
Strathfield South, N.S.W. 2136
Tel.: +61 (0)2 / 8732.7200
Fax: +61 (0)2 / 8732.7299
e-mail: sales@derossi.com.au

BELGIEN

Aijkens en Zumpolle B.V.
Postbus 2929
NL-5306 ZG
Brakel/Niederlande
Tel.: +31 (0)4 18 / 67 18 16
Fax: +31 (0)4 18 / 67 32 17
Internet: <http://www.zumpolle.net>
e-mail: info@zumpolle.net

BRASILIEN

METALFEMA Ltda.
Rua Saõ Pedro, 786
Saõ Leopoldo – RS –
BRAZIL
ZIP 93.010-260
Tel.: +55 (0) 51 / 592.4050
Fax: +55 (0) 51 / 590.1856
e-mail: mtfma@zaz.com.br

CHINA, SUZHOU

DEPRAG China
DEPRAG Assembly Technologies Co., Ltd.
No. 5, Xing Han St, Blk. A#06-16
Suzhou 215021, P.R. China
Tel.: +86 (0) 512 – 6767 – 1108
Fax: +86 (0) 512 – 6767 – 1109
e-mail: biz@deprag.com.cn
e-mail: d.hua@deprag.com.cn
Internet: www.deprag.com.cn

DÄNEMARK

DEPRAG Scandinavia AB
Gap Sundins väg 3
SE-63346 Eskilstuna
Tel.: +45 (0) 98572250
Fax: +45 (0) 98572253
Internet: <http://www.deprag.com>
e-mail: keld.branner@get2net.dk

DEUTSCHLAND

Werk Amberg
Kurfürstenring 12-18,
D-92224 Amberg
Postfach 1352,
D-92203 Amberg
Tel.: +49 (0) 9621 / 3 71-0
Fax: +49 (0) 9621 / 3 71-1 20
Internet: <http://www.deprag.com>
e-mail: info@deprag.de

ESTLAND

Pneumacon OY
Läkkisepäntie 4
FI-00620 Helsinki
Tel.: +358 (0) 9 / 7288.160
Fax: +358 (0) 9 / 7288.1610
Internet: <http://www.pneumacon.fi>
e-mail: info@pneumacon.fi

FINNLAND

Pneumacon OY
Läkkisepäntie 4
FI-00620 Helsinki
Tel.: +358 (0) 9 / 7288.160
Fax: +358 (0) 9 / 7288.1610
Internet: <http://www.pneumacon.fi>
e-mail: info@pneumacon.fi

FRANKREICH

DEPRAG France
9, rue du Général Frère
F-67500 Haguenau
Tel.: +33 388 / 06.14.17
Fax: +33 388 / 93.01.08
e-mail: depragfrance@evc.net

GRIECHENLAND

D. Panayotidis – J. Tsatsis S.A.
6 Pireos Street – Moschaton-
Athen
Tel.: +30 (0) 1 / 4810.817-8-9
Fax: +30 (0) 1 / 482 96 73

GROSSBRITANNIEN

DEPRAG Ltd.
Holly Farm Business Park
Honiley, Kenilworth
Warwickshire CV8 1NP
Tel.: 0044 1926 485480
Fax: 0044 1926 485481
Internet: www.deprag.co.uk
e-mail: m.searle@deprag.co.uk

IRAN

NACCARSON AIR TOOLS Co., Ltd.
Azadi Ave. No. 625
IR-Tehran 14 588
Tel.: +98 (0) 21 / 6006602 + 6015656
Fax: +98 (0) 21 / 6009451

IRLAND

Production Equipment Ltd.
Riverside Commercial Estate
IRL-Galway
Tel.: +353 (0) 91 / 745 100
Fax: +353 (0) 91 / 751 299

ITALIEN

DREX PALLOTTI S.r.l.
Via A. Manzoni, 19
I-20090 Vimodrone/Mi
Tel.: +390 02 / 2740 0561 + 0569
Fax: +390 02 / 2740 0607

JAPAN

NIPPON GESCO Ltd.
P.O. Box 255 Kyobashi Tokyo
Ginza Matsuyoshi Bldg.
17 – 8, 7-Chome, Ginza,
Chuo-Ku, Tokyo
Tel.: +81 (0) 3 / 3542.2400
Fax: +81 (0) 3 / 3542.2420
e-mail: mail@gesco.co.jp

KOREA (Süd)

Handwerkzeuge
DONG WON POWER-TECH. INC.
108-10 Moonjung-Dong
Songpa-Ku
Seaoul, Korea
Tel.: +82 (0) 2 / 409.1344
Fax: +82 (0) 2 / 409.1345
Schraubtechnik
Fatec Co.Ltd.
#903, SUNGLIM B/D 257
CHULSAN-DONG
KWANGMYUNG-CITY,
KYUNGGI-DO
Tel.: +82 (0) 2 / 2 688.2152
Fax: +82 (0) 2 / 2 688.2842
e-mail: fatec@fatec.co.kr

KROATIEN

SM AUTOMATIKA D.O.O
Trg i. Kukuljevica 6
HR-10090 Zagreb
Tel.: +385(0)13894179
Fax: +385(0)13878978
Internet: <http://www.sm-automatika.hr>
e-mail: info@sm-automatika.hr

LITAUEN

HIDROTEKA
P.O. Box 572
LT-3028 KAUNAS
Tel.: +370 (0) 37 / 352195
Fax: +370 (0) 37 / 351952
e-mail: hidroteka@post.sonexco.com

LUXEMBURG

Comptoir Technique et Industriel
321, Route d'Arlon
L-8011 Strassen
Penang, MALAYSIA
Tel. +352 / 31 31 40
Fax: +352 / 31 31 95

MALAYSIA

FI INNOVATION ENTERPRISE
175, MK D Jalan Bahru
Balik Pulau 11000
Penang, MALAYSIA
Tel. ++60/13/ 449.0386 / ++60/16/ 403.6797
e-mail: farisfi@tm.net.my

NIEDERLANDE

Zumpolle B.V.
Postbus 2929
NL-5306 ZG
Brakel/Niederlande
Tel.: +31 (0) 4 18 / 67 18 16
Fax: +31 (0) 4 18 / 67 32 17
Internet: <http://www.zumpolle.net>
e-mail: info@zumpolle.net

NORWEGEN

TORP FASTENERS
P.O. Box 2953 – Tøyen
N-0608 Oslo
Tel.: +47 (0) 2 / 2681.530
Fax: +47 (0) 2 / 2199.127

ÖSTERREICH

Amersin Olschinsky GmbH
Carlbergergasse 45
A-1230 Wien
Tel.: +43 (0)1 / 8 69 87 66
Fax: +43 (0)1 / 8 65 16 97
Internet: <http://www.amersin.at>
e-mail: information@amersin.at

POLEN

ELKREM SPOLKA Z O.O.
ul. Wielki Row 40B
87-100 Torun
Tel. ++48 / 56 / 662.3881
FAX ++48 / 56 / 662.3882
e-mail: elkrem@to.onet.pl

PORTUGAL

Anibal Pires Lda.
A.P. 23
E.N. 1 – Mourisca do Vouga
P-3750 TROFA AGD
Tel.: +351 (0) 234 / 646.820
Fax: +351 (0) 234 / 646.815
Internet: <http://www.anibalpires.pt>
e-mail: anibalpires@mail.telepac.pt

SCHWEDEN

DEPRAG Scandinavia AB
Gap Sundins Väg 3
S-633 46 Eskilstuna
Tel.: +46 (0) 16-12 61 10
Fax: +46 (0) 16-13 31 88
Internet: <http://www.deprag.se>
e-mail: info@deprag.se

SCHWEIZ

Limattec Automation AG
Schlachthausstrasse 15
CH-2540 Grenchen
Tel.: +41 (0) 32 / 6542904
Fax: +41 (0) 32 / 6542901
Internet: <http://www.limattec.ch>
e-mail: office@limattec.ch

SINGAPUR

Testel Systems Pte Ltd
1200 Depot Road # 04-07/09
Singapore 109675
Tel.: +65 / 6271-3688
Fax: +65 / 6271-8866
e-mail: testel@pacific.net.sg

SLOWENIEN

MB-NAKLO D.O.O.
Toma Zupana 16
SLO 4202 NAKLO
Tel.: +386 (0) 4 / 277 17 00
Fax: +386 (0) 4 / 277 17 17
e-mail: mb-naklo@siol.net

SPANIEN

ALCOTAN SISTEMASS S.A.
p° de la Direccion, nmro. 95,
local
E-28039 Madrid
Tel.: +349 (0) 1 / 311.17.84 + 311.18.01
Fax: +349 (0) 1 / 311.60.53

Barcelona office:
Passeig de la Mare de Déu del
Coll, 122-124
E-08023 Barcelona
Tel.: +349 (0) 3 / 2 19 77 43

TAIWAN

I HEN MACHINE Co.Ltd.
6F-9, No. 12, Lane 609, Sec. 5
Chung-Hsin Road,
San-Chung City
241 Taipei Hsen
Tel.: +886 (0) 2 / 2999.6766
Fax: +886 (0) 2 / 2999.6236

TSCHECHIEN/SLOWAKEI

DEPRAG CZ a.s.
ul. T.G. Masaryka 113
CZ -50781 Lázně Bělohrad
Tel.: +420 (0) 4 93 / 79 24 11
Fax: +420 (0) 4 93 / 79 25 12
Internet: <http://www.deprag.com>
e-mail: info@deprag.cz

TÜRKEI

MEKA AUTOMOTIVE ASSEMBLY EQUIPMENTS
4. Cadde 67. Sokak 17/1
Emek 06510 Ankara
Tel. ++90 / 312 / 215.3490
FAX ++90 / 312 / 212.8013
e-mail: melih@me-ka-assembly.com
www.me-ka-assembly.com

UNGARN

ADLER '91
Export/Import Kereskedelmi
Takarék u. 18/B
H-8800 Nagykanizsa
Tel./Fax: +36 (0) 93 / 314 633
e-mail: adler91adlovits@broadband.hu

Nóniusz Tool Trading House Ltd.
Kőbányai út. 47/6
H-1101 Budapest
Tel.: +36 (0) 1 / 260 030 30
Fax: +36 (0) 1 / 260 060 83
Internet: <http://www.noniusz.hu>
e-mail: noniusz@noniusz.hu

USA, MEXIKO, KANADA

DEPRAG INC.
645 Hembry St. / P.O. Box 1554
Lewisville, TX 75057-4726
Phone: +1 / 972 / 221 – 8731
Fax: +1 / 972 / 221 – 8163
Toll Free: (800) 4 DEPRAG
Internet: <http://www.deprag.com>
e-mail: deprag@depragusa.com

VENEZUELA

Suministros Tecnicos SUMTEC C.A.
Av. Francisco de Miranda, Centro Plaza
Torre C, Piso 16, Oficina C16 A-B
Urb. Los Palos Grandes
Caracas 1060
Tel.: +58 (0) 212 – 2856410
Fax.: +58 (0) 212 – 2851947

DEPRAG

DEPRAG SCHULZ GMBH u. CO.

Postfach 1352, D-92203 Amberg

Kurfürstenring 12-18, D-92224 Amberg

☎ (09621) 371-0

Fax (09621) 371-120

Internet: <http://www.deprag.com>

e-mail: info@deprag.de



ZERTIFIZIERT NACH DIN EN ISO 9001

Jan-04 Änderungen vorbehalten / Technical alterations reserved