

# KL-0174-..

info.gam@gedore.com

Wheel Hub Puller / Cardan Shaft Extractor Series







Worldwide GEDORE service centers and offices are listed on the Internet at: www.gedore.com









# Herstelleradresse

#### **GEDORE Automotive GmbH**

Breslauer Straße 41 // 78166 Donaueschingen - GERMANY \$\$\\$+49 (0)771/83223-71 // \$\$\\$info.gam@gedore.com

## Impressum

Im Zuge der Verbesserung und Anpassung an den Stand der Technik behalten wir uns Änderungen im Hinblick auf Aussehen, Abmessungen, Gewichte und Eigenschaften sowie Leistungen vor.

Damit ist kein Anspruch auf Korrektur oder Nachlieferung bereits gelieferter Produkte verbunden. Streichungen können jederzeit vorgenommen werden, ohne dass ein rechtlicher Anspruch entsteht.

Alle Hinweise zur Benutzung und Sicherheit sind unverbindlich. Sie ersetzen keinesfalls irgendwelche Gesetzlichen oder Berufsgenossenschaftlichen Vorschriften.

Für Druckfehler übernehmen wir keine Haftung.

Ein Nachdruck, auch auszugsweise, bedarf der vorherigen schriftlichen Zustimmung durch die **GEDORE Automotive GmbH**.

Alle Rechte weltweit vorbehalten. © Copyright by GEDORE Automotive GmbH, Donaueschingen (GERMANY)

Wir verweisen auf unsere Allgemeinen Geschäftsbedingungen, ersichtlich im Impressum unter:

www.gedore-automotive.com





# CONTENTS

1. READ AND UNDERSTAND FOR YOUR SAFETY	4
1.1 Target group	.4
1.2 Obligations of the owner	.4
1.3 Intended use	.4
1.4 Reasonably foreseeable misuse	.4
1.5 Personal protective equipment	5
1.6 Labelling of the warnings	5
1.7 Work environment	5
1.8 Emissions	. 5
1.9 Basic safety instructions and warnings	. 6
1.10 Maintenance	.7
1.11 Troubleshooting	. 7
1.12 Care / Storage	.7
1.13 Repair	.7
1.14 Environmentally friendly disposal	. 7
	•
2. PRODUCT DESCRIPTION	
2.1 KL-0174 Wheel hub puller / cardan shaft extractor series	
2.2 Scope of delivery / spare parts overview1	0
2.3 Specifications1	0
3. PREPARATION	2
4. EXAMPLE OF USE	2
4.1 Mount pull bolt and perforated disc1	12
4.2 Pressing out of the cardan shaft1	13
4.3 Pulling out the wheel hub	14



# **1. READ AND UNDERSTAND FOR YOUR SAFETY**

These operating instructions are intended to familiarise you with the operation of the **WHEEL HUB EXTRACTOR** or **CARDAN SHAFT EXTRACTOR** (pneumatic injector extractor). Therefore read and understand these operating instructions **before using** the special tool and observe all safety and warning instructions for safe use! Misuse can result in **DEATH** or **SEVERE INJURIES**! The operating instructions are a part of the special tool. Therefore keep them in a safe place so that you can access them at any time, and always pass them on to subsequent users of the special tool! The special tool complies with the recognised rules of technology as well as the relevant safety regulations.

## 1.1 Target group

These operating instructions are **exclusively** intended for skilled personnel in specialised motor vehicle workshops!

The special tool **may only be** used by skilled personnel in specialised motor vehicle workshops who are familiar with the basic regulations on work safety and accident prevention!

• Never allow unauthorised, inexperienced persons, minors and children, or persons with limited physical, sensory, and mental abilities to use the wheel bearing tool!

# 1.2 Obligations of the owner

Pursuant to the German Ordinance on Industrial Safety and Health (*BetrSichV*), employers are obliged to provide their employees with safe work equipment in accordance with the recognised rules of technology and the relevant safety regulations!

- The owner of the special tool **must** ensure that **only** trained personnel in specialised vehicle workshops use the spring compressing tool!
- The owner of the special tool **must** ensure that the instructions for use are available to the user and that the user has completely read and understood the instructions for use **before** using the wheel bearing tool!
- The owner of the special tool **must** ensure that the user is familiar with the basic regulations on work safety and accident prevention, and that the personal protective equipment is available to him/her!

# 1.3 Intended use

#### The WHEEL HUB EXTRACTOR or CARDAN SHAFT EXTRACTOR ...

- ... may only be used for pulling out wheel hubs, brake drums and stub axles as well as pressing out of cardan shafts on cars and vans!
- ... may only be used on vehicles or wheel hubs as specified in Chapter 2. Product description!
- ... may only be used up to a max. load of 17 tonnes!
- ... <u>may only</u> be operated by hand with muscle power with a manual drive or a manually operated **GEDORE Automotive** hydraulic cylinder/pump combination with pressure gauge for safe pressure control!
- ... may only be used with GEDORE Automotive genuine spare parts and accessories!
- ... may only be used in the way described in these operating instructions!

Any other use can result in **DEATH** or **SEVERE INJURIES**!

## **1.4 Reasonably foreseeable misuse**

## The WHEEL HUB EXTRACTOR or CARDAN SHAFT EXTRACTOR ...

- ... <u>must never</u> be used for pulling out or pushing out other parts or in another way than intended!
- ... must never be used together with an impulse or impact screwdriver!
- ... <u>must never</u> be used with a machine drive or a machine-operated hydraulic cylinder/pump combination or any other drive than intended!
- ... must never be used for batch processing with many extracting processes within a few minutes!
- ... must never be used with a bridged, modified, or removed safety device!
- ... must never be modified, converted, or used for other purposes without authorisation!
- Always use the special as intended. Any other use can result in **DEATH** or **SEVERE INJURIES**!





## **1.5 Personal protective equipment**

For your safety, **always** wear personal protective equipment when using the special tool! The special tool can bring about mechanical hazards, such as crushing, cutting, and shock injuries.



Always wear EYE PROTECTION (for example to DIN EN 166, OSHA 29 CFR 1910.133, ANSI Z87) when using the special plug tool to protect yourself against flinging parts or particles!

• When using the special tool, flying parts or particles can cause SEVERE INJURIES to your eyes!

Always wear PROTECTIVE GLOVES (for example to DIN EN 388, OSHA 29 CFR 1910.138, ANSI 105) when using the special tool to protect yourself against sharp edges and crushing between parts!

• When working with the special tool, sharp edges and crushing between parts can cause **SEVERE INJURIES** to your **hands**!



Always wear SAFETY SHOES (for example to DIN EN ISO 20345, OSHA 29 CFR 1910.136, ANSI Z41) when using the special tool to protect yourself against falling parts!

• When working with the special tool, falling parts can cause SEVERE INJURIES to your feet and toes!

## **1.6 Labelling of the warnings**

**Warnings** warn of potential **hazards**. **Always** observe these warnings to avoid **DEATH** or **INJURIES**! For better differentiation, warnings in these operating instructions are classified as follows:

Warning sign	Meaning	
WARNING	<b>Indicates</b> a hazardous situation which, if not avoided, could cause <b>DEATH</b> or <b>SEVERE INJURIES.</b>	
	<b>Indicates</b> a hazardous situation which, if not avoided, could cause <b>MODERATE</b> or <b>MINOR INJURIES</b> .	
CAUTION	<b>Indicates</b> a situation which, if not avoided, could cause damage to the tool or an object in its vicinity.	
í	Note on important information and useful tips.	

## 1.7 Work environment

**Only** use the special tool in a safe working environment, and **do not** expose it to extreme temperatures, direct sunlight or extreme humidity and moisture!

- The workplace **must** be clean and tidy.
- The workplace **must** be sufficiently large and illuminated.
- The workplace **must** be located on a solid and non-skidding floor.
- The workplace **must** be safeguarded against access of unauthorised persons.
- The workplace **must** have a room temperature between -10°C and +40°C.

## **1.8 Emissions**

Molybdenum disulphide paste and hydraulic oil can drip or escape when using the special tool and thus pose a hazard to the environment.

- **Immediately** remove leaking hydraulic oil as well as excess molybdenum disulphide paste (using oil binding agents or a cleaning cloth, for example).
- In case of skin contact with hydraulic oil, clean the affected area **immediately** with degreasing soap and water.
- Always dispose of pollutants such as hydraulic oil and molybdenum disulphide paste in an environmentally friendly manner.
- Safety data sheets *in accordance with Regulation (EC) No. 1907/2006* for hydraulic oil (Alsus Hyd HLP 32 or 46) as well as for molybdenum- paste (MOLYKOTE<sup>®</sup> G-N PLUS PASTE) can be found on the manufacturer's site on the Internet (World Wide Web) or, if required, contact GEDORE Automotive.





## **1.9 Basic safety instructions and warnings**

#### 🔥 WARNING - Failure to observe this warning may result in an accident or death.

When using the special tool, <u>always</u> observe the following safety and warning instructions as well as measures to avoid **DEATH** or **SERIOUS INJURY** as well as property damage due to hazards, misuse, abuse and unsafe handling!

- Therefore read and understand these operating instructions **before using** the special tool and observe all safety and warning instructions for **safe use**!
- Always work with the special tool in accordance with the basic regulations on work safety, accident prevention and environmental protection!
- Always use the special tool as intended. GEDORE Automotive does not accept any liability or warranty or guarantee claims for injuries and damage , resulting from improper use or disregard of the safety regulations.
- Before **each** use, check the special tool **carefully** for damage, loose parts, or unauthorised modifications. **Never** use it, if you notice any such deficiencies! Professional inspection and repair may only be carried out by specially trained personnel from **GEDORE Automotive**!
- Only use original spare parts and accessories from GEDORE Automotive GmbH for the special tool!
- Always observe the vehicle-specific manufacturer's specifications when working with the special tool!
- Secure the special tool in particular the hydraulic cylinder against falling down and flinging around. This can be done by holding it tightly or by using the **GEDORE** safety retaining belt **KL-0040-2590** or the retaining device **KL-0040-258 A**!
- Never use the glow plug tool with an impulse or impact wrench or any other drive than intended! Drive it **only** by hand and with muscle power; use a <u>manual</u> drive or a <u>manually</u> operated **GEDORE Automotive** hydraulic cylinder/pump combination with a pressure gauge for safe pressure control!
- Never use the special tool for batch processing with many compressing processes within a within a few minutes!
- Never use the special tool when you are tired or under the influence of alcohol, drugs, or medication!
- If necessary, carry, lift, and position the severe parts of the special tool with the help of a second specialist!
- Before using the special tool, make sure that no unauthorised persons are in the immediate work environment!
- Always observe the max. loading capacity when using the special tool, and never exceed it!
- Never stand in the axial extension of the special tool, especially when it is being operated!
- Wear your personal protective equipment such , as safety goggles, protective gloves, safety shoes during work!
- Always check the stability of the special tool before use! Always make sure that the special tool is securely attached to the vehicle!
- Never leave the special tool unattended in loaded condition on the vehicle!
- Avoid dropping, hitting or knocking the special tool and never hit it with a hammer or other objects especially when its under load!
- Never clamp the special tool in a vice and always place it securely on a clean shelf or workbench to prevent it from falling!
- Before each use, check moving parts and the spindles on the special tool for sufficient lubrication. If necessary, lubricate them exclusively with molybdenum disulphide paste (e.g. GEDORE Automotive KL-0014-0030)!
- Interrupt your work **immediately** if you are unsure about using the special tool, and contact **GEDORE Automotive** if necessary!
- For safety reasons, ensure that a damaged special tool is no longer used! Professional inspection and repair may only be carried out by specially trained personnel from GEDORE Automotive GmbH!





# 1.10 Maintenance

Perform maintenance on the special tool at **regular** intervals and **only** when the tool is depressurised! Poor and improper maintenance can damage the special tool, thus causing **DEATH** or **SEVERE INJURIES**!

#### Prior to each use:

- Prior to each use, check the special tool carefully for damage, loose parts or unauthorised modifications!
- Prior to **each use** of the special tool, check the spindle for contamination and damage. If necessary, clean it, and subsequently lubricate it **only** with molybdenum disulphide paste! (For example, **GEDORE Automotive KL-0014-0030**)

#### Recommended: Every 24 months:

• Have the special tool professionally checked every 24 months by authorised specialists from GEDORE Automotive GmbH!

## 1.11 Troubleshooting

Only perform troubleshooting on the special tool when it is depressurised!

Problem: Clamping nut of the mechanical drive runs stiffly on the speical tool spindle.

Reason: The clamping nut and spindle are soiled or insufficiently lubricated, or wrong lubricant was used.

**Remedy:** Clean the clamping nut and spindle, check them for damage, and lubricate them **exclusively** with molybdenum disulphide paste. (For example, **GEDORE Automotive - KL-0014-0030**)

Problem: Hydraulic oil escapes from the hydraulic coupling between hydraulic cylinder and hand pump.

Reason: Hydraulic coupling contaminated or loose.

**Remedy:** Clean and retighten the hydraulic coupling. Top up lacking hydraulic oil (HLP 32 or 46) at the hand pump.

Problem: The hydraulic hand pump does not build up pressure or only very slowly.

**Reason:** The pressure release valve on the hand pump is open or hydraulic oil is missing.

**Remedy:** Close the pressure release valve on the hand pump completely and top up missing hydraulic oil (**HLP 32 or 46**) on the hand pump, if necessary.

## 1.12 Care / Storage

## CAUTION

Improper care and storage can damage the special tool.

- Therefore, never immerse the special tool in water, solvents, or other cleaning liquids.
- After use, clean all parts of the special tool with a dry and clean cleaning cloth.
- Store the special tool and the operating instructions at a dry and clean place.

## 1.13 Repair

## WARNING

Improper repair of the special tool can result in **DEATH** or **SEVERE INJURIES**.

- If damage, loose parts or unauthorised modifications have been found on the special tool, it must no longer be used for safety reasons!
- Repair may only be carried out by specially trained personnel from **GEDORE Automotive**!
- Only use original spare parts and accessories from GEDORE Automotive GmbH for the special tool!

If necessary, contact us, the **GEDORE Automotive** for a professional inspection and repair of the special tool.

## 1.14 Environmentally friendly disposal

Dispose of the special tool and its packaging material in an environmentally compatible way in accordance with the legal requirements. If necessary, ask your local authorities about environmentally friendly disposal options.



# **2. PRODUCT DESCRIPTION**

## 2.1 KL-0174-.. - Wheel hub puller / cardan shaft extractor series

#### Universally suitable for wheel hubs on cars and vans with a 3 / 4/ 5 hole pitch and a hole circle Ø of 90 - 180mm.

The wheel hub puller / cardan shaft extractor series enables a fast and professional pulling out of wheel hubs, brake drums and stub axles as well as a pressing out of stuck or glued cardan shafts. Due to the universal perforated discs and various pull bolts, the series can be individually adjusted to the corresponding wheel hub on the vehicle.

#### KL-0174-110 - Wheel hub puller / cardan shaft extractor kit

Suitable for VW-Audi, Alfa Romeo, BMW, Fiat, Mercedes, Opel, Porsche, Renault, Seat, Škoda, etc.

- Perforated disc size 2 for hole circle Ø 90 130mm
- Pull bolts with M12x1.5 + M14x1.5mm male thread
- Including mechanical drive parts for pressing out the cardan shaft

#### Necessary accessories

**For pulling-off the wheel hub:** KL-0049-31 - Impact extractor 4.8kg

Scope of delivery and single part overview

See chapter 2.2



## KL-0174-150 / ..-150 E - Wheel hub puller / cardan shaft extractor kit

Suitable for VW-Audi, Alfa Romeo, BMW, Citroën, Fiat, Ford, Honda, Hyundai, Jeep, KIA, Lancia, Mazda, Mercedes, Mini, Mitsubishi, Nissan, Opel, Peugeot, Porsche, Renault, Seat, Škoda, Smart, Suzuki, Toyota, Volvo etc.

• Perforated disc size 2 for hole circle Ø 90 - 130mm KL-0174-150 E • Pull bolts with M12x1, 25+ M12x1.5 + M14x1.5mm female thread • Pull bolts with M12x1.25 + M12x1.5 + M14x1.25 + M14x1.5mm male thread • Including extension adapter and thrust piece for hydraulic drive • KL-0174-150 E as KL-0174-150, but in an additional foam insert Necessary accessories For pulling out the wheel hub: KL-0049-31 - Impact extractor 4.8kg For hydraulically pressing out the cardan shaft: KL-0040-2500 - Hydraulic cylinder, 17t KL-0215-35 M25 - Hydraulic hand pump KL-0039-1930 - Thrust spindle For mechanically pressing out the cardan shaft: KL-0174-620 - Thrust spindle KL-0174-547 - Adapter Scope of delivery and single part overview See chapter 2.2






# 2.2 Scope of delivery / Overview of the single parts

		Tool kits			
<ul> <li>The table shows all components of the KL-0174 Whee puller / cardan shaft extractor series.</li> <li>Prior to using the special tool check to ensure that all the included in the scope of delivery are available.</li> </ul>	KL-0174-110	KL-0174-150 KL-0174-150 E	KL-0174-911	KL-0049-31	
Perforated disc A	ltem	-	- 7	-	
KL-0174-240 - Perforated disc size 2 for hole circle Ø 90 - 130mm	A1	٠	•		
KL-0174-360 - Perforated disc size 3 for hole circle Ø 100 - 180mm	A2				
Collar nuts B					
KL-0174-701 - Hex collar nut M14	В	• 4x	• 4x		
Pull boltC					
KL-0174-762 - Pull bolt M12x1.25mm / female thread	C1		• 4x		
KL-0174-763 - Pull bolt M12x1.5mm / female thread	C2		• 4x		
KL-0174-764 A - Pull bolt M14x1.5mm / female thread	С3		• 4x		
KL-0174-767 - Pull bolt M14x2.0mm / female thread	C4				
KL-0174-722 - Pull bolt M12x1.25mm / male thread	C5		• 4x		
KL-0174-723 - Pull bolt M12x1.5mm / male thread	C6	• 4x	• 4x		
KL-0174-724 - Pull bolt M14x1.5mm / male thread	С7	• 4x	• 4x		
KL-0174-727 - Pull bolt M14x1.25mm / male thread	<b>C</b> 8		• 4x		
KL-0174-728 - Pull bolt M15x1.25mm / male thread	С9				
Storage Systems					
KL-4999-1316 - Foam insert	-		Only150 E		
Required drive parts Z					
KL-0215-35 M25 - Hydraulic hand pump, 17t	Z1 <sup>H</sup>				
KL-0040-2500 - Hydraulic cylinder, 17t	<b>Z2</b> <sup>н</sup>				
KL-0039-1920-1 A - Pull spindle M20	Z3 <sup>⊬</sup>			٠	
KL-0041-5041- Clamping nut with insert	Z4 <sup>⊬</sup>			٠	
KL-0174-559 - Extension adapter 2 1/4"-14 UNS	Z5 <sup>⊬</sup>		•	٠	
KL-0039-1935 - Thrust piece for hydraulic drive	Z6 <sup>н</sup>		•	٠	
KL-0174-620 - Thrust spindle M20x2 x 230mm	Z7 <sup>M</sup>	•			
KL-0174-547 - Adapter 2 1/4"-14 UNS to M20x2	<b>Z8</b> <sup>M</sup>	•			
KL-0174-856 - Thrust piece for mech. drive*	<b>Z9</b> <sup>M</sup>				
KL-0049-31 - Impact extractor 4.8kg	Z10				•
KL-0174-545 - Adapter 2 1⁄4"-14 UNS to M18x2.5mm	Z11				•

## 2.3 Specifications

Maximum load capacity: .....

.....17 tonnes

10-**DE** 

DF



# **Betriebsanleitung** (Originalfassung der Betriebsanleitung)

DE





# **3. PREPARATION**

#### 🙆 1: Prepare wheel hub or drive shaft...

**1.** Lift the vehicle safely <u>according to the</u> <u>manufacturer's specifications</u> and prepare all necessary extractor parts for the subsequent work.

#### For example:

- Remove the wheel
- Dismantle the brake
- Remove central screw



# **4. TYPICAL APPLICATION**

This typical application generally describes the operation of the wheel hub extractor or cardan shaft extractor when pulling out wheel hubs, brake drums and stub axles as well as when pressing out cardan shafts directly on the vehicle. In the course of this the vehicle manufacturer's specifications must also always be followed!

## 4.1 Mount pull bolt and perforated disc



# Gira: Mount the suitable perforated disc [A..]... 3. Select a suitable perforated disc [A..] depending on the hole circle Ø of the wheel hub. 4. Place the selected perforated disc [A..] in the correct position, as shown, on the pull bolt [C..] and secure by using collar nuts [B]. (i) Tighten the collar nuts [B] with 10Nm. Pay attention to the collar side!



## 4.2 Pressing out of the cardan shaft

(i) If it is not necessary to press out the cardan shaft, continue with "Chapter 4.3 - Pulling out the wheel hub"...

#### 🛱 4: Assemble the required drive parts...

1. For pressing out the cardan shaft, assemble the required drive parts [Z..] as shown, either *mechanically* or *hydraulically*, and screw them into the correct position on the perforated disc [A..].



- \*1 If the mechanical spindle is too short to press out the cardan shaft, you can additionally use thrust piece [**Z9**] as an extension.
- \*<sup>2</sup> If the space between the wheel hub and perforated disc [A..] is too tight to use the hydraulic cylinder [Z2] or the hole circle of the wheel hub is too small, you can additionally use the adapter [Z5] as a spacer.

#### 🖸 5: Press out cardan shaft in a controlled manner...

## WARNING

The wheel hub extractor/cardan shaft extractor can break and spin around due to overloading or misuse. This can cause DEATH or SEVERE INJURIES! Therefore, never overload the wheel hub puller / cardan shaft extractor never use it with a mechanical drive or in any other way than intended! Secure the wheel hub extractor / cardan shaft extractor against falling or being thrown about, for example by holding it firmly or using the safety retaining strap - KL-0040-2590!



2. Connect the hydraulic hand pump [Z1] to the hydraulic cylinder [Z2]. Operate the hydraulic hand pump [Z1], always observing the pressure on the pressure gauge and pull out the cardan shaft in a controlled manner.

(i) Pushing out with mechanical drive parts is also based on the same principle.

(i) If the **max. stroke of 45mm** of the hydraulic cylinder **[Z2]** is reached: Interrupt the forcing process, relieve the pressure at the hydraulic hand pump **[Z1]**, re-tighten the thrust spindle **[Z3]** until it is fully applied, and continue the forcing process.



## 4.3 Pulling out the wheel hub








# **GEDORE** Automotive GmbH

Breslauer Str. 41 78166 Donaueschingen / GERMANY Tel: +49 771 83 223 0 Fax: +49 771 83 223 90 www.gedore-automotive.com

# **GEDORE Headquarter:**

#### GEDORE Werkzeugfabrik GmbH & Co. KG

Remscheider Str. 149 42899 Remscheid / GERMANY Tel: +49 2191 596 900 Fax: +49 2191 596 999 www.gedore.com

# **GEDORE International:**

#### **GEDORE Torque Solutions GmbH**

Bertha-Benz-Straße 12 71665 Vaihingen/Enz GERMANY Tel: +49 70 42 94 41 0 Fax: +49 70 42 9441 41 www.gedore-torque-solutions.com

#### **GEDORE France SARL**

Parc d'activités des Béthunes – La Mare II 10, avenue du Fief – Bâtiment 12 BP 79144 - Saint-Ouen-L'Aumône / 95074 CERGY PONTOISE CEDEX FRANCE Tél: +33 1 34 40 16 60 Fax: +33 1 34 40 16 61 www.gedore.fr

#### GEDORE Polska Sp. z.o.o.

Żwirki i Wigury 56, Mikołów POLAND Tel: +48 32 738 40-10 Fax: +48 32 738 40-20 www.gedore.pl

#### GEDORE Tools South Africa (PTY) Ltd.

103 Qashana Khuzwayo Road, Durban / Kwazulu-Natal New Germany, 3610 SOUTH AFRICA Tel: +27 3 17 05 35 87 Fax: +27 3 17 05 47 35 www.gedore.co.za

#### GEDORE Tool Trading Co., Ltd. Shanghai, China

1/F., Block 2, 1358 Pingan Road Minhang, Shanghai, China 201109 CHINA Tel: +86 21 33 88 72-58 Fax: +86 21 33 88 72-59 www.gedore.cn

#### GEDORE Ibèrica S.L., Spain

c/Arangutxi 12, Poligono Industrial de Júndiz 01015 Vitoria Alava SPAIN Tel: +34 945 292 262 Fax: +34 945 292 199 www.gedore.es

#### **GEDORE AUSTRIA GmbH**

Gedore-Straße 1 8190 Birkfeld AUSTRIA Tel: +43 3174 3636 0 Fax: +43 31 74 36 38 320 www.gedore.at

#### **GEDORE** Technag BV, Netherlands

Flemingweg 7 2408 AV Alphen aan Den Rijn NETHERLANDS Tel: +31 1 72 42 73 50 Fax: +31 1 72 42 73 60 www.gedore.nl

#### GEDORE India Pvt. Ltd.

Plot No. 148, Sector-3, IMT Manesar Gurugram, Haryana-122051 INDIA Tel: +91 124 4087979 www.gedore.in

#### Ferramentas GEDORE do Brasil S.A.

Rua Vicentina Maria Fidélis, 275 Bairro Vicentina São Leopoldo - RS - CEP: 93025-340 BRASIL Tel: +51 35 89 92 00 Fax: +51 35 89 92 22 www.gedore.com.br

#### GEDORE UK Ltd.

Marton St, Skipton North Yorkshire BD23 1TF UNITED KINGDOM Tel: +44 17 56 70 67 00 Fax: +44 17 56 79 80 83 www.gedoreuk.com

#### **GEDORE Tools Inc. USA**

300 Langner Rd., Suite 250 West Seneca, NY 14224 USA Tel: +1 843 225 5015 www.gedoretools.com