

VL223EX NEEDLE SCALER

OPERATIONS AND MAINTENANCE MANUAL



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INTRODUCTION

Your new Trelawny SPT tool will more than satisfy your expectations. It has been manufactured under stringent Trelawny SPT Quality Standards to meet superior performance criteria. You will find your new tool easy and safe to operate, and, with proper care, it will give you many years of dependable service.



WARNING

Carefully read through these original instructions before using your new Trelawny tool. Take special care to read the warnings. Your Trelawny power tool has many features that will make your job faster and easier. Safety, performance, and dependability have been given top priority in the development of this tool, making it easy to maintain and operate.



ENVIRONMENTAL PROTECTION

The machine, accessories and packaging should be sorted for environmentally friendly recycling. The plastic components are labelled for categorised recycling.



DISPOSAL

Waste products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

DECLARATION OF CONFORMITY

Tel: +44 (0) 1926 883781
Fax: +44 (0) 1926 450352



www.trelawny.co.uk
Email: sales@trelawny.co.uk

We,

Trelawny SPT Limited of
Trelawny House, 13 Highdown Road, Sydenham Industrial Estate, Leamington Spa, Warwickshire, CV31
1XT, United Kingdom,
Declare that under our sole responsibility for supply/manufacture of the product

Name of product Needle Scaler
Model VL223Ex

to which this document relates is in conformity with the provisions of the following Directive(s),
Normative Documents and their relevant Standards:

2006/42/EC	MACHINERY DIRECTIVE
EN ISO 11148-4:2010	HAND HELD NON-ELECTRIC (Non-Rotary Percussive Tools)
EN ISO 4414:2010	General rules and safety requirements
EN ISO 4414	SAFE PNEUMATIC EQUIPMENT OF MACHINERY

Conformity with the following relevant legislation:

2014/34/EU ATEX DIRECTIVE

Based on following harmonised standards:

EN 60079-0:2018
EN ISO 80079-36:2016
EN ISO 80079-37



II 2 G Ex h IIC T4 Gb
II 2 D Ex h IIIC T135°C Db

Year and place of issue,
2020
Leamington Spa, England



A handwritten signature in blue ink, which appears to read "Adam Dickinson".

Adam Dickinson,
Managing Director

DECLARATION OF CONFORMITY

CZ	Prohlášení o přizpůsobení My, společnost Trelawny SPT Limited podáváme daňové přiznání, že výrobek a dodávka výrobku název výrobku Model, výrobní číslo Rok výroby Pro které se průkaz týkající, je přizpůsobení s zásoby od následující příkazů a jejich pohotovosti: 98/37/EC Příkaz soustrojí 73/23/EC Příkaz nízkého napětí (upotřebitelné jediné do výrobku použití elektrické energie)	LT	ATITIKTIES DEKLARACIJA' Mes, Trelawny SPT Limited Prisiimdami visą atsakomybę deklaruojame, kad tiekiamas / gaminamas produktas Produkto pavadinimas Modelis, serijos numeris Pagaminimo Kuriam taikoma ši deklaracija, atitinka šių direktyvų, norminių aktų ir su jais susijusių standartų reikalavimus: 98/37/EC Įtrangos direktyva 73/23/EC Žemos įtampos direktyva (taikoma tik elektriniams įrengimams)
DE	Übereinstimmungserklärung Wir, Trelawny SPT Limited erklären, dass unter unserer alleinigen Verantwortung für die Lieferung und Herstellung des Produktes Name des Produktes Modell, Seriennummer Jahr der Herstellung auf welches sich dieses Dokument bezieht, stimmt mit den Vorgaben der folgenden Direktive, normativen Dokumente und deren jeweiligen Masstabe ein: 98/37/EC Maschinenriediktive 73/23/EC Niederspannungsriediktive (nur zutreffend auf Produkte, die Strom benutzen)	MT	DIKJARAZZJONI TA KONFORMITA Ahna, Trelawny SPT Limited Niddikjaraw li ahna responsabbli kompletament ghal provista / manifattura tal-prodott hawn f'msemmi: Isem il-Prodott Mudell, Serial number Sena la 'produzzjoni' Dan id-dokument magħmul għal prodott insemi hawn fuq, li huwa skond il-provizjonijiet insemiija fid-dokumenti tal-klassi tax-xogħol: 98/37/EC Machinery Directive 73/23/EC Low Voltage Directive (tapplika biss għal prodotti li jahdmu bl-elettriku)
DK	Erklæring om overensstemmelse Vi, Trelawny SPT Limited Erklærer hermed at under vores ene forhandling ansvar for vores forhandling/produktion af produktet Produkt navn Model, serie nummer Produktionsår For hvilket dette dokument referer, at deler i overensstemmelse med bestemmelser af følgende direktiver, normative dokumenter og deres relevante standard: 98/37/EC Machinery directive 73/23/EC Low voltage directive	NL	EENVORMIGHEIDSVERKLARING Wij, Trelawny SPT Limited Verklaren dat wij de volledige verantwoordelijkheid dragen voor het leveren/fabriëren van het volgende product: Naam van het product Type, Serienummer Productiejaar En verklaren dat het product waarnaar dit document verwijst eenvormig is met de voorzieningen van de volgende Richtlijn(en), Normatieve Documenten en hun relevante Standaarden: 98/37/CE MACHINERICHTLIJN 73/23/CE LAAGSPANNINGSRICHTLIJN (uitsluitend van toepassing bij producten die elektrische stroom gebruiken)
EE	TOOTE VASTAVUSE DEKLARATSIOON Meie, Trelawny SPT Limited Deklareerime, et vastutame järgmise varustuse/toote müügi eest Toote nimetus Mudel, Seeria number Aasta toodangu Antud dokument tõendab toote vastavust järgmistele direktiivide(de)le, normatiividele ja nendega samaväärsetele standarditele: 98/37/EC MASINA DIREKTIIVID 73/23/EC MADALPINGE DIREKTIIVID (Kohandatakse vaid toodetele, mis kasutavad elektrivoolu)	PL	Deklaracja Zgodności My, Firma Trelawny SPT Limited. oświadczamy w naszej odpowiedzialności, że produkcja i dostawa urzcdzenia Nazwa produktu Model, numer seryjny Rok produkcji do którego ten dokument należy, jest zgodne z klauzulami następujących zarządzeń i ich istotnych standardów: 98/37/EC Zarządzenie mechaniczne 73/23/EC Zarządzenie niskiego napięcia elektrycznego (Zastosowanie tylko przy urządzeniach elektrycznych)
ES	Declaración de Conformidad Nosotros, Trelawny SPT Limited Declaramos que bajo nuestra completa responsabilidad de la fabricación/suministro del producto Nombre del Producto Modelo, No de Serie Año de producción A quien este documento se refiere, está de acuerdo con lo relacionado en la Directriz, Normativa Documentada y sus relevantes standards: 98/37/EC Directorio de Maquinaria 73/23/EC Directorio de Bajo Voltaje (Aplicable solamente a productos que funcionen con electricidad)	PT	DECLARAÇÃO DE CONFORMIDADE CE A empresa TRELAWNY SPT LIMITED Declara, sob sua inteira responsabilidade, que o fornecimento/fabrico do seguinte produto: Designação do produto Modelo, Número de Série Ano de produção a que esta declaração se refere, está em conformidade com o preceituado nas Directivas e Normas Comunitárias abaixo indicadas: 98/37/EC DIRECTIVA DE MÁQUINAS 73/23/EC DIRECTIVA DE BAIXA VOLTAGEM (Aplicável apenas a produtos que utilizi am energia eléctrica)
FI	ILMOITUSVAHVISTUS Me, Trelawny SPT Limited Vahvistamme tuotteiden toimittamisesta/valmistamisesta Tuotenimi Malli, sarjanumero Valmistusvuosi Tällä todistuksella vahvistamme säädösket seuraviin ohje/ohjesiin, Yleisiin papereihin ja niihin liittyvät vaatimukset: 98/37/EC KONEISTON OHJEET 73/23/EC PIENJÄNNITTE OHJEET (tarvitaan ainoastaan tuotteille jotka käyttävät sähkövoimaa)	RU	СВИДЕТЕЛЬСТВО О СООТВЕТСТВИИ Мы, Trelawny SPT Limited Завяляем, что несем полную ответственность за поставку/производство нижеуказанной продукции Наименование изделия Модель, серийный номер Год выпуска на котоую выдано настоящее Свидетельство, и которая соответствует положениям сдующей(их) директив(ы), нормативным документам и относящимся к ним стандартам: 98/37/EC ДИРЕКТИВА ПО МЕХАНИЗМАМ 73/23/EC ДИРЕКТИВА ПО НИЗКОВОЛЬТНОМУ ОЪРУДОВАНИЮ (распространяется только на изделия с электропитанием)
FR	DÉCLARATION DE CONFORMITÉ Nous, soussignés Trelawny SPT Limited déclarons que le produit sous-nommé Nom du produit Modèle et Numéro de Série Année de production et pour lequel nous prenons entière responsabilité pour sa fourniture et manufacture, est conforme aux clauses des directives suivantes documents normatifs et normes qui s'y appliquent: 98/37/EC DIRECTIVE POUR LA MACHINERIE 73/23/EC DIRECTIVE POUR BAS VOLTAGE (n'est applicable qu'aux produits utilisant l'énergie électrique)	SE	FÖRSÄKRAN OM ÖVERENSSTÄMMELSE VI, TRELAWNY SPT LIMITED FÖRKLARAR ATT VI MED ENSAMT ANSVAR ANSKAFFAT / TILLVERKAT PRODUKTEN PRODUKTNAMN MODELL och SERIE NUMMER Tillverkningsår TILL VILKEN DETTA DOKUMENT HÄNVISAR ÄR I ÖVERENSSTÄMMELSE MED FÖLJANDE DIREKTIV, NORMATIVA DOKUMENT OCH DERAS RELEVANTA STANDARDER 98/37/EC MASKINDIREKTIV 73/23/EC LÅGSTRÖMSDIREKTIV (TILLÄMPLIG PÅ ELEKTRISK DRIVNA PRODUKTER)
GR	ΔΗΛΩΣΗ ΠΙΣΤΟΤΗΤΑΣ Η εταιρεία Trelawny Spt Limited Δηλώνει ότι έχει τη μονδική ευθύνη ως κατασκευαστρια / προμηθευτρια του παρακατω προϊόντος περιγραφη προϊόντος μοντελο, αριθμος σειράς έτος παραγωγής και στο οποίο αναφέρεται αυτή η δήλωση, είναι συμβάτο με τις προδιαγραφές που ορίζονται στις ακόλουθες Κοινότητες Οδηγίες Ελεγκτικές Διατάξεις κι άλλες σχετικές προδιαγραφές 98/37/EC ΟΔΗΓΙΑ ΠΕΡΙ ΜΗΧΑΝΗΜΑΤΩΝ 73/23/EC ΟΔΗΓΙΑ ΠΕΡΙ ΧΑΜΗΛΗΣ ΤΑΣΗΣ (αφορά μονον προϊόντα που λειτουργουν με ηλεκτρικο ρευμα)	SI	IZJAVA O SKLADNOSTI Trelawny SPT Limited pod polno odgovornostjo izjavljamo, da so spodaj navedeni proizvodi, ki jih dobavljamo/proizvajamo: Ime proizvoda Model, serijska številka Leto proizvodnje na katere se ta dokument nanaša, proizvedeni v skladu z določili naslednjih direktiv, normativnih dokumentov in njihovih relevant- nih standardov: 98/37/EC DIREKTIVA O STROJIH 73/23/EC DIREKTIVA O STROJIH Z NIZKO VOLTAŽO (nanaša se samo na proizvode na električni pogon)
HU	MEGFELÉLŐSÉGI NYILATKOZAT Mi, A "Trelawny SPT Limited" cég Felelősségünk tudatában kijelentjük, hogy mint a termék szállítója/gyártója Termék neve Típus, Sorozatszám Gyártási év amelyre jelen dokumentum vonatkozik, megfelel az alábbi irányelv(ek), Irányadó Dokumentumok előírásainak, és az azokat meghatározó szabványoknak: 98/37/EC GÉPÉSZETI IRÁNYELVEK 73/23/EC KISFESZÜLTÉGŰ IRÁNYELVEK (Csak az elektromos meghatású gepeknél)	TR	UYGUNLUK BEYANI Trelawny SPT Limited Aşağıdaki, üretim ve tedarkinden tek ba'yna sorumlu olduđu ürünün Ürün adı Model/Seri no Üretim yılı bu belgenin ilgili olduđu aşağıdaki yönetmeliklerin, norm belgelerinin ve ilgili standartları'nın ko-bulları'na uygun olduđuunu beyan eder: 98/37/EC MAKÝNALAR YÖNETMELÝĐÝ 73/23/EC DÜĐÜK GERÝLÝM YÖNETMELÝĐÝ (Yalnızýz elektrikle çalypan ürünlerde geçerlidir)
IT	DICHIARAZIONE DI CONFORMITA La Società Trelawny SPT Limited Dichiara, sotto la propria responsabilità, che la fornitura / produzione del prodotto Nome prodotto Modello, codice Anno di produzione a cui si riferisce tale documento è conforme alle seguenti Direttive, ai documenti della Normativa ed ai relativi standard: 98/37/EC DIRETTIVA SULLE APPARECCHIATURE 73/23/EC DIRETTIVA SUL BASSO VOLTAGGIO (applicabile esclusivamente per i prodotti che utilizzano energia elettrica)		



1

CONFORMITÉ EUROPÉENNE

TYPE EXAMINATION CERTIFICATE

2

Product or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU – Annex VIII

3

Type Examination Certificate No.: **EMT19ATEX0022X (incorporating variation V1)**

4

Product: **VL Chisel & Needle Scalers models VL203, VL223 & VL303**

5

Manufacturer: **Trelawny SPT Limited**

6

Address: **Trelawny House 13, Highdown Road, Leamington Spa, CV31 1XT, United Kingdom**

7

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8

Element Materials Technology certifies that this ATEX category 2 mechanical product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in the confidential reports **TRA-045333-33-00A** and **TRA-045333-33-01A**.

9

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN ISO 80079-36:2016

EN ISO 80079-37:2016

Except in respect of those requirements listed at section 18 of the schedule.

10

If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11

This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12

The marking of this product shall include the following:



II 2 G Ex h IIC T4 Gb

II 2 D Ex h IIIC T135 °C Db

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S.P. Winsor

S P Winsor, Certification Manager

Issue date: 2022-02-16

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CSF356 12.0

FOREWORD

Thank you for your purchase of the VL223Ex Needle Scaler. This manual contains the necessary maintenance information for you to ensure proper operation and care for this machine. It is essential for you to read through this manual thoroughly. In the unlikely event that you experience problems with your

VL223Ex Needle Scaler, please do not hesitate to contact your local Trelawny dealer or agent. We always welcome feedback and comments from our valued customers.

GENERAL INFORMATION

Before operating, performing maintenance or repairing the VL223Ex Needle Scalers, this manual must be read and understood. If in any doubt, ask your supervisor before using this equipment.

Local safety regulations must be followed at all times. Failure to follow these instructions could result in damage to the Scaler and/or personal injury. Operators should be familiar with the data given in the specification section. Please keep these instructions in a safe and accessible place.

Trelawny SPT Limited disclaims all responsibility for damage to persons or objects arising as a consequence of incorrect handling of the tool, failure to inspect the tool for damage or

other faults that may influence the operation prior to starting work, or failure to follow the safety regulations listed or applicable to the job site. The tool is primarily designed for the removal of paint, rust, scale, and for the removal of laitance from concrete, it can be used both indoors and out. This tool must not be used in a fixture.



WARNING! Before operating, performing maintenance or repairing the VL223Ex this manual must be read and understood. If in any doubt, ask your supervisor before using this equipment.

SAFETY

Do:

- Be aware that this tool is not electrically insulated.
- Be aware that the tool can create dust and flying debris.
- Keep hands and clothing away from moving parts.
- Be aware of others working around you.
- Ensure that this tool is lubricated daily.
- Store this tool in a secure and dry environment.
- Wear Personal Protective Equipment including safety goggles, footwear, ear defenders and gloves. In some environments it will be necessary to wear facemasks or breathing apparatus. (Vacuum shroud available)
- Always observe safe-working practices at all times.

Do not:

- Allow the tool to run unattended.
 - Use the scaler as a lever.
 - Modify this tool in any way, this will invalidate the warranty and could also lead to serious injury.
 - Use wire or any other fixing to lock the throttle lever in the on/open position.
 - Operate tool with the front tube (34) removed.
 - Drag the tool by the air hose.
 - Use petrol (gasoline), thinners or any other high flash point solvent to clean the tool.
 - Use the tool if you become tired, this can lead to physical strain or injuries; where practical; use a spring balance, balance weights or similar equipment to take the weight of the tool.
 - Hold the exposed needles, whilst the tool is in use, this could cause vibration damage to the hands.
- Please note: Unrestrained hoses can whip if they become

detached. Care must be taken to avoid damaging or tripping over the trailing air hose.

We recommend using a suitable vacuum system connected to the optional 38mm vacuum take off-port fitted to the tool. The Beryllium Copper spark resistant needles may create airborne dust, which may be harmful to health if ingested.

A Trelawny ATEX rated, 30 litre air operated vacuum system with a HEPA filter, is available as a separate vacuum or as a Kit containing either a VL203Ex, VL223Ex or VL303Ex Needle Scaler and also comes with an Anti-static air hose.

30 litre ATEX Vacuum
Part Number: 303.10KAV30/DH

30 litre ATEX Vacuum Kit with a VL203Ex
Part Number: 139.2503

30 litre ATEX Vacuum Kit with a VL223Ex
Part Number: 139.2523

30 litre ATEX Vacuum Kit with a VL303Ex
Part Number: 139.2533



WARNING! Always observe safe-working practices at all times.

RISK OF HAND-ARM VIBRATION INJURY

These tools may cause Hand-arm Vibration Syndrome injury if their use is not adequately managed. We advise you to carry out a risk assessment and to implement measures such as; limiting exposure time [i.e. actual trigger time, not total time at work], job rotation, ensuring the tools are used correctly, ensuring the tools are maintained according to our recommendations, and ensuring that the operators wear personal protective equipment [PPE] particularly gloves and clothing to keep them warm. Employers should consider setting up a programme of health surveillance to establish a benchmark for each operator and to detect any early symptoms of vibration injury.

We are not aware of any PPE that provides protection against vibration injury by attenuating vibration emissions. See 'Specifications' section for vibration emission data.

We strongly advise you to visit the Health & Safety Executive website <http://www.hse.gov.uk/vibration>

This site provides excellent advice and information on HAV and currently, includes a Hand-arm Vibration Exposure Calculator that is easy to use to work out the daily vibration exposure for each of your operators.

AIR SUPPLY

The compressed air must be free from water and dirt. The installation of a filter/regulator/lubricator air preparation set (with moisture trap) adjacent to the tool is strongly recommended.

In particularly cold temperatures it is recommended that a proprietary anti-freeze lubricating oil is used. Always clear the air hose before connection to the tool. Ensure that no moisture (condensation) is present in the air hose. Ensure that only 10mm (3/8") bore antistatic air hose is used and that all couplings are secure, leak free and in good condition.

For maximum efficiency, limit the length of air hose to 10M (33ft). Where extra length is necessary, for each additional 15M (50ft) of air hose used, the pressure drop is approximately 0.16bar (3psi). The correct air pressure for this machine is to 6.2bar (90psi).

Do not let the operating pressure fall below 5.5bar (80psi) or rise above 6.9bar (100psi) absolute maximum. The compressor should be able to supply a minimum of 3.77 L/s (8cfm) of free air not displaced as quoted by some compressor manufactures, this will give 3cfm of headroom, so that the compressor isn't continually running.

NOTE: If this tool stops working, it is most likely that the plastic (17) ball has worn excessively and may have passed into the cylinder, check the cylinder exhaust holes for the remnant also. This is designed to run for approximately 160hrs before requiring replacement.

STARTING WORK

Please note we recommend using a lanyard or strap attached to the optional Drop Protection fall arrestor (39). This should be attached to a belt or harness, but preferably to a fixed and secure mounting point.

Always use Trelawny Beryllium Copper Needles.

Prior to operating the tool check: -

That all fittings are secure, free from leaks and air hoses are in good condition.

That the air pressure is correct for this tool 6.2 bar (90 p.s.i.).

Put a few drops of a recommended lubricant into the air inlet of the tool.

Safe use of this tool requires a solid stance and secure foothold, the tool may be used in other postures but care must be taken that the operator adopts a firm and stable position.

Maintain contact with the work surface with sufficient pressure only to keep the tool from bouncing.

Excessive pressure can prevent the tool from working to its full capacity.

Handled correctly the VL223Ex Needle Scaler will work quickly and efficiently.

Excessive operator pressure will not improve the tool efficiency but could cause premature tool failure and operator fatigue.

Never allow the tool to run continuously whilst not in contact with the surface being prepared.

To operate the tool, pull the throttle lever (7) towards the handle and then apply the needles to the surface to be worked.

Do not place needles on the surface, and then pull the throttle lever as this will result in the tool bouncing off the surface.

To switch off, simply release the throttle lever.

Gloves and personal protective equipment must be worn when using this tool.



WARNING! VERY IMPORTANT
Only Trelawny Beryllium Copper Needles must be used in this tool.
DO NOT substitute with any other needle.

MAINTENANCE

Removing Needles

Disconnect from air supply, hold the Cover (10) in a vice using the flats provided, keeping the tool horizontal, unscrew by hand, the Front Tube assembly (30,31,32,33,34) complete with Return Spring (32), Needles (31), and Needle Holder (30). Check the condition of the Front Tube Locking O'Ring (25). Take care not to invert the Needle Scaler while removing the Front Tube (34) or the Piston (26) may fall out of the Intermediate Tube (22). Remove the Needles from the Needle Holder and dispose of the used Needles in an appropriate manner.

Re-fitting the Needles

Insert the new needles into the Needle Holder location holes; ensure that the Needles are inserted into the chamfered side of the holes. Fit new Front Tube Locking O'Ring (25) to the Intermediate Tube. Fit the Return Spring (32) over the needles (31) and insert the Needle assembly into the Front Tube. Screw the Front Tube assembly onto the intermediate Tube until hand tight.

Recommended lubricants

Oil the tool daily during use. Put a few drops of one of the following bio-degradable air tool lubricants through the air inlet.

SHELL Naturelle HF
CASTROL Carelube HTG 22

Always use clean oil from a sealed container and ensure ignition temperature is above 185Deg°.

Piston and Cylinder removal

Remove the Front Tube assembly (See Removing Needles) Hold a clean lint free cloth over the open end of the Intermediate Tube (22), remove from vice and tilt the Tube downwards to remove the Piston (26). Secure the Cover (10) in a vice with the Intermediate Tube in the vertical position, using the flats provided. Use a suitable 6mm bar through the holes provided, unscrew the Intermediate Tube anticlockwise. Carefully remove the Intermediate Tube from the cover and remove the Cylinder (15) from its location hole in the Cylinder Guide Plate (12), which is fitted in the cover (10). The Cylinder Guide Plate can be pulled out of the cover to gain access to the Guide Plate Seal (13).

Cylinder Ball Valve replacement

This is a consumable item and will require replacing after approximately 120 -160 hours use; this is dependent on the cleanliness of the air supply and frequency of lubrication. Do not replace this plastic ball with a steel version, as it will invalidate the ATEX certification. Remove the ball retaining O'Ring (18) from its groove just inside the bore of the cylinder stem using a suitable pointed implement. Remove the ball (17) from the bore, replace and refit new O'Ring into groove.

Piston Valve Pin replacement

Hold the piston (26) in a vice by the stem, using a pair of pliers break off the valve pin (28), use a 6mm drill & bit and remove the remainder from the piston. A small socket (4mm) which just fits over the actual pin, will stop damage occurring. Drive

the valve pin in up to its shoulder using a vice or a small hammer. Valve Body - Valve Stem removal Hold the Valve Body (6) in a vice using the flats provided. Using a 3 mm diameter punch, drive the Throttle Lever retaining Spring Pin (8) out of the Valve Body (6) and withdraw the Throttle Lever (7). Remove the Valve Cap (1) with O'Ring (2), Valve Spring (3), Valve Stem (4) and the Valve Seat O'Ring (5).

Valve Body removal

Remove the Front Tube assembly (30,31,32,33,34) as per instructions for Removing Needles. Replace the Front Tube (34) without the Needles etc, onto the Intermediate Tube (22) and screw up until hand tight. Clamp the Valve Body (6) with its flats securely in a vice, with the Cover (10) uppermost. Turn the tool anti-clockwise around the Valve Body by holding the Cover and Front Tube, unscrew the Valve Body from the handle until loose, remove from vice and finally unscrew by hand. A vacuum shroud (42) is available (see parts list for shroud and cuff) which fits over the front tube. Position the front of the cuff (43) with the needle tips 15-20mm inside, adjust as the needles wear. Tighten the caphead screw to secure. Use a Trelawny recommended ATEX and HEPA vacuum for 99.9% dust containment.



VERY IMPORTANT Before carrying out any dismantling, ensuring the air supply is turned off,

ASSEMBLY

Ensure all parts are clean and internal parts have a film of recommended lubricant. Replace any parts that show signs of wear. If the tool is being fully serviced, it is strongly recommended to change all O'Rings (2), (5), (14), (18), (25), (27), cushion ring (19), seals (13,) (29), ball valve (17) and Needle Holder during assembly.

Valve assembly

Replace the O'Ring (2) on the Valve Cap (1). Fit a new Valve seat O'Ring (5) in the Valve Body (6). Insert the Valve Stem (4), in the Valve Body (6). Place the Valve Spring (3) on top of the Valve Stem (4), screw down the Valve Cap (1) by hand, and then fasten until fully tight with a flat blade screwdriver. Locate Throttle Lever (7) in the Valve Body (6) using a 3 mm punch to align holes. Secure by inserting Spring Pin (8). Replacement of the Valve Body (6) onto the Cover assembly (10) is the reverse of removal. Use a few turns of P.T.F.E. tape on the threads of the handle and screw on the Valve Body initially by hand, then insert the Valve Body in a vice, holding securely on the flats provided, and with the Cover uppermost. Finally tighten up clockwise by hand, holding the Front Tube (34) and Cover, and align the Throttle Lever (7) with the front of the tool when resistance is felt.

Tool assembly

Ensure that all components are clean and lubricated with a thin film of the recommended lubricating oil. Assembly is

the reverse of dismantling. Secure the Cover (10) vertically in a vice using the flats provided, insert the Cylinder Guide Plate (12) ensuring that the flat face is uppermost, ensure that it is located onto the shoulder at the bottom of the threaded section inside the Cover. Fit the Cylinder (15) by inserting the cylinder stem into the bore of the Cylinder Guide Plate. With the removal holes uppermost carefully slide the Intermediate Tube (22) over the Cylinder, screwing down by hand. Finally tighten by using a 6mm bar x 200mm through the holes provided. (Do not over tighten). Gently insert the Piston (26), small diameter first into the Intermediate Tube, if resistance is felt, turn the piston slightly until it is located in the cylinder. Note: When removing the tool the from vice, do not point the front of the tool downwards, the piston will fall out of the tube and become damaged. Remove the tool from the vice and follow as per Re-fitting the Needles, hold the tool horizontal when completing this operation.



WARNING! Maintenance must only be carried out by a competent person, in a suitably equipped workshop. Disconnect the tool from the air supply before carrying out any of the following operations.

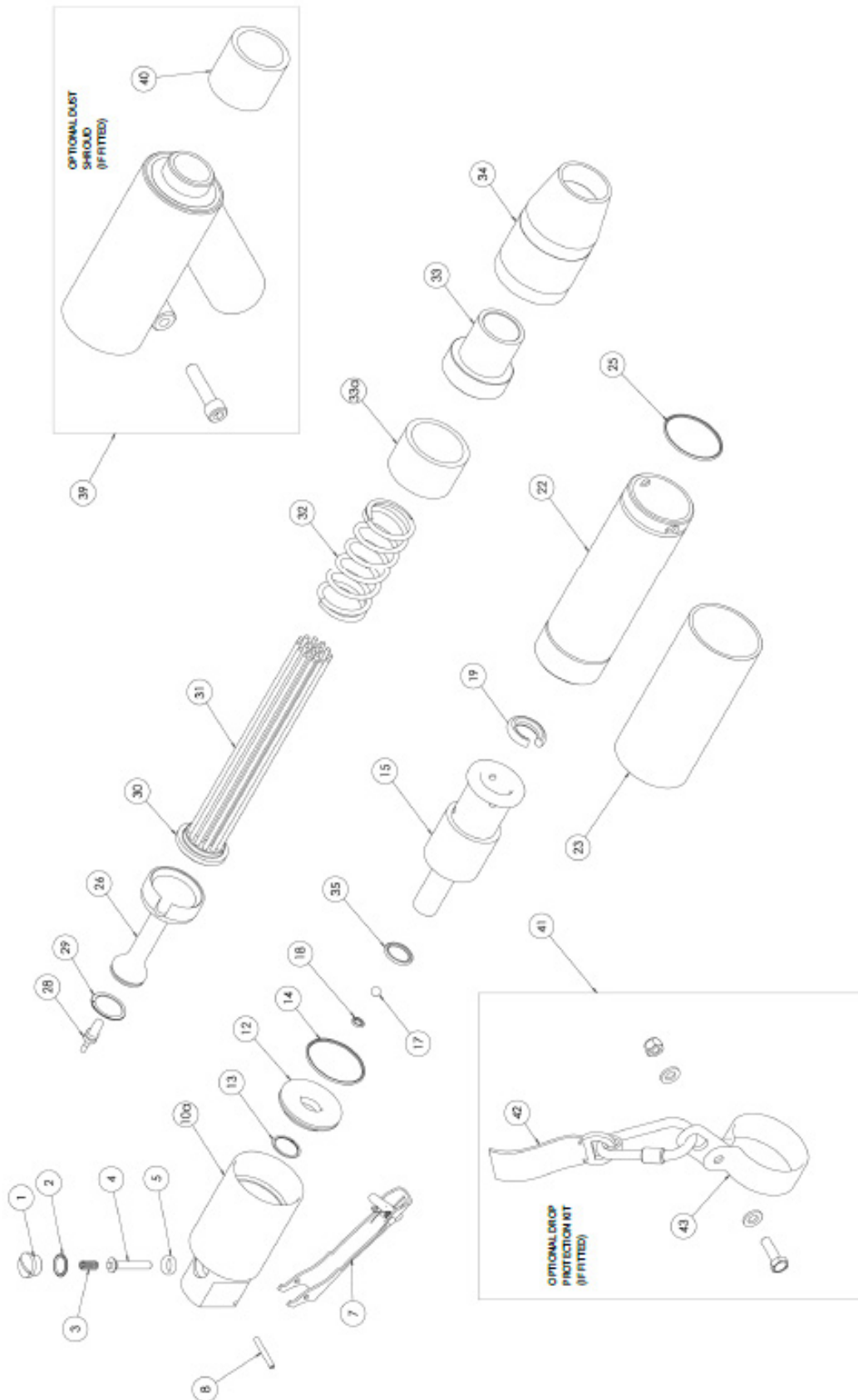
DISPOSAL

Dismantle into component form, segregate according to material composition and dispose of using waste recycling processes specified by local regulations.



VERY IMPORTANT
Only Trelawny Beryllium Copper Needles must be used in this tool.
DO NOT substitute with any other needles.

EXPLODED DIAGRAM



PARTS LIST

Item NO.	PART NO.	DESCRIPTION
1	615.3021	Valve Cap
2	809.0139	Valve Cap O'Ring
3	712.3022	Valve Spring
4	618.3022	Valve Stem
5	809.0089	Valve Seat O'Ring
7	716.1000	Safety Throttle Lever
8	813.0108	Roll Pin
10a	423.2023	VL223 Cover Assembly BSP Thread (inc 1-8 & 10a)
12	652.2003	Guide Plate
13	829.2003	Guide Plate Seal
14	809.0299	Guide Plate O'Ring
15	428.2003	Cylinder
17	816.3005	Plastic Ball 6mm diameter
18	809.0080	Ball Retaining O'Ring
19	809.2004	Piston Cushion
22	622.2031	Intermediate Tube
23	721.2003	Intermediate Tube Outer Sleeve
25	809.0299	Front Tube Locking O'Ring
26	612.2003	Piston
28	636.3003	Valve Pin
29	829.2002	Piston Ring
30	601.2030	3mm Needle Holder (19 Needles fitted as standard)
31	403.1319	Needle set (1 x set Beryllium Copper)
32	712.2003	Front Spring
33	620.2003	Front Tube Insert
33a	620.2003A	Front Tube Spacer
34	622.2030	Front Tube
35	809.3005	Cylinder Stem Reaction Ring
39	418.2003	Vacuum shroud assembly (with flat cuff. 40)
40	731.2103	Flat Cuff
41	512.2003	Fall Arrestor Clamp Assembly (inc. 42, 43)
42	415.3003	Anti Static Lanyard
43	720.2003	VL203/223 Arrestor Clamp Assembly
	446.2003X	Service Kit (2,3,4,5,7,8,13,14,17,18,19,25,28,29,30,31,32)
	819.2375	Connector 1/4" BSPT-3/8" Stem
	843.0825	1/4" BSP to NPT Connector
	735.3009	Fitting Instructions
	453.1310	Box of 100 Beryllium Copper Needles
	443.1307	Box of 500 Beryllium Copper Needles

TECHNICAL SPECIFICATION

Trouble Shooting	Cause	Action
Poor performance or lack of power.	Low air pressure.	Ensure that the air pressure is correct at 90psi, max 100psi.
	If tool has been left for some time without use, the oil may dry out slightly, causing a sticky residue.	Strip tool down, clean and re-oil.
	Needles worn or some missing.	Replace with new set of needles and new needle holder.
	Piston seal worn.	Remove seal from piston and fit into bore of cylinder. If it drops to the bottom of the bore, a replacement is required.
	Valve pin broken.	Replace valve pin and 6mm plastic ball.
Tool continues to run with trigger released.	Valve seal may have become dislodged through the tool being disconnected with the trigger in the open position.	Ensure that the trigger has not been taped or wired in the open position, reposition or replace valve seat o'ring.
High vibration.	High air pressure.	Ensure that the air pressure is correct at 90psi, max 100psi.
	Lack of lubrication.	Lubricate with the recommended air tool oil daily.
	Low air pressure 70-80psi can also cause high vibration.	Ensure that the air pressure is correct at 90psi, max 100psi.
	Front return spring weak or broken.	Replace return spring.
	Guide plate seal worn.	Replace guide plate seal.
	Piston cushion failed. (This is a split o'ring)	Replace with a new piston cushion.
Tool stopped working.	6mm plastic ball worn out.	Check for and remove the remains of the ball, possibly in an exhaust hole of cylinder and renew 6mm plastic ball.
	Valve pin broken.	Replace valve pin and 6mm plastic ball.

Model	Piston Diameter	Piston Stroke (approximate)	BPM	Air Consumption @ 6.2bar	Overall Length	Weight	Noise LwA (Power Level)	Vibration (AEO) Primary	Vibration (AEO) Secondary
VL223Ex Pistol Grip Needle	23.5mm (0.925")	11mm (0.43")	2400	1.8g/lps (4.0cfm)	340mm (13.38")	2.70kg (6.0lbs)	90.7 db(A)	2.56 m/s ² (k= 1.024m/s ²)	2.95 m/s ² (k= 1.18m/s ²)

Noise Levels: Noise level measured in accordance with: EN ISO 15744: 2008

Vibration Levels: Vibration measured in accordance with: EN ISO 28927-9:2012 and EN ISO 20643:2005. (k) Equals the factor of uncertainty, which allows for variations in measurement and production. Vibration Data figures are tri-axial, which gives the total vibration emission. Because of various factors, the range of vibration from these tools may vary between -0% +40% (2.95 m/s² -4.13 m/s²). The vibration is dependent on the task, the operators grip and feed force employed etc.

NOTE: The above vibration levels were obtained from tri-axial measurements to comply with the requirements of "The Control of Vibration at Work Regulations 2005" and the revisions to the (8662) now EN ISO 28927-9:2012 and EN ISO 20643:2005 series of standards. These values are at least 1.4 times larger than the values obtained from single axis measurements. "Based on European Union Council Directive 2002/44/EC (Physical Agents (Vibration) Directive)).

Machinery Directive Information:

This tool has been designed and produced in accordance with the following directives: and applicable harmonised standard:

2006/42/EC Machinery Directive
EN ISO 1 1148-4:2012
EN ISO 11148-4: 2010 Hand Held Non-Electric (Non-Rotary)

Percussive Tools)

This tool conforms with the following EC legislation:
Based on the following harmonised standards:

ATEX DIRECTIVE 2014/34/EU
EN60079-0:2018
EN ISO 80079-36:2016
EN ISO 80079-37

Notified Body:

Certificate Number:

Element Material Technology LTD
EMT19ATEX0022X

If your company has any problem with our products or would like to discuss the possibility of an improvement being made to them, then please do not hesitate to contact us. Your comments are both important and appreciated.

Trelawny tools are thoroughly tested under specified conditions in accordance with applicable internationally recognised standards. When a tool is used on site the conditions may not be the same as those used in our tests.

Trelawny Surface Preparation Technology operates a policy of continuous product development and refinement and therefore reserves the right to change technical specifications and product designs without giving prior notice.

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The use of non-Trelawny spare parts will invalidate the ATEX certification and also the warranty.

NOTES

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PART NUMBER INFORMATION

Part number 196.2107
VL223Ex Needle Scaler

Part number 139.2423
VL223Ex Needle Scaler kit with Dust shroud and Drop protection

ATEX Certified Chisel Scalers are also available

Part number 196.2117 VL223Ex Chisel Scaler
Part number 196.2217 VL203Ex Chisel Scaler
Part number 196.3017 VL303Ex Chisel Scaler



VERY IMPORTANT

Only the Tool Assembly is ATEX certified and any packaging comes with the tool is not covered by the certification

DEALER STAMP:

NEED TO CONTACT US?

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735.3601

