Index

Index

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Parker tube fabricating equipment

Equipment described in this section is designed to make strong, accurate tubing systems easier and more dependable. Every time you make up a tubing circuit, you want to be sure you get strong dependable joints, accurate kink-free bends and a neat system that will stand up to years of hard service. You want to fabricate the system with the least effort and risk of errors.
Parker tube fabricating equipment is designed to help you get all these benefits. Parker has been leading the way in use of tubing and in fittings design for over 60 years. All this experience has shown Parker engineers a host of ways to make tube fabricating equipment more efficient and trouble free. You'll find them all in the equipment featured here – from improvements that help you make accurate concentric flares, to bender designs that make kink-free bending easier. They'll all help you get better tubing systems with less work and less risk of mistakes in fabrication.

Machine selection

Parker offers a variety of assembly devices and machines for different products and different applications.
Refer to overview in chapter E for machine recommendation.

Disposal of old equipment

The TFDE electrically driven assembly machines are large stationary industrial tools within the meaning of the Electrical and Electronic Equipment Act (EC Directive 2002/96/EC/"WEEE Directive"). This equipment is not usually used in private households but in industry. Within the scope of the Electrical Act, industrial users are responsible for the professional disposal of old equipment.

Service

Assembly machines and standard tooling for TFDE connectors are available from stock for immediate service.
Both purchasing and leasing are possible depending on machine type and volume of business. For limited projects, assembly equipment can be provided on a rental basis via our certified distributor network.
Special "demo"-equipment is available for sales presentations and fairs.

Technical support

TFDE machine service procedures ensure that reliable machine function and fitting performance is achieved when using genuine Parker assembly equipment.
All machines come with detailed operating manuals. Parker distributors and sales representatives are trained to give advice on operation and application. Experienced application engineers at TFDE are available when it comes to special application of TFDE assembly equipment.
In case of machine malfunction, spare machines can be provided on short notice so that production can continue. In the meantime, damaged machinery is checked and repaired at the TFDE machine repair facility. Well trained and experienced engineers take personal care that the machines return properly repaired and tested.

TFDE also offers a machine maintenance and calibration service. Standard spare parts like oil filters can be ordered from stock.

Repair procedure

Please contact your Parker Service Center for problem solving/repair. Your correspondent will organise the repair and arrange a spare machine if required. Please do not send in machines without notice to your sales correspondent. To assure optimum service, all machine shipments must include a documentation with information about: Machine type, serial number, purchase data, problem description, contact name, phone number and complete address for return.

Experienced engineers support proper operation of TFDE assembly machinery

Tool lifetime

Assembly tools are subject of wear and must be regularely (max. 50 assemblies) cleaned and checked (Checking instructions see chapter E). Worn out tools can cause dangerous assembly failures and must be replaced in time. Average tool lifetime is approx. 5000 cycles when properly used. Maximum lifetime can be achieved by following factors:

- Regular cleaning and checking
- Clean and corrosion-protected storage
- Proper de-burring and cleaning of tube end
- Proper tool selection and operation
- Use of specified lubricant

Manual assembly tools for EO/EO-2

VOMO – Pre-assembly tools for EO/EO-2 tube connections

Simple but essential tool for the manual presetting of EO-fittings.

The use of a VOMO assures that the bite ring securely cuts into the tube without damage on the inner fitting cone.

Pre-assembly using VOMO or EOMAT must be done for all connections of:

– EO-2 with large tube dimensions (Tube O.D. 30 mm and above)

– EO-Progressive Stop Ring/Progressive Ring with stainless steel tube or standpipe fittings (E.g.: "BE"-type hose fitting).

For proper use, see EO assembly instructions. VOMO tools wear out and then may cause assembly failures. VOMO's must be checked regularly with "KONU" cone-templates (max. after 50 assemblies) and replaced when damaged or worn out.

Specifications:

Material: hardened tool steel
Sizes: 4 LL – 12 LL,
6 L – 42 L,
6 S – 38 S

Pre-assembly of: EO-2 and Progressive Stop Ring PSR/EO progressive Ring DPR
Economic production qty: Max. 10 assemblies per day.

Features, advantages and benefits of pre-assembly tools:

1. **Marking notch** – A special ridge engraves a circular mark onto the tube end to verify that it was properly bottomed at assembly. Failures caused by improper tube cutting or bottoming in VOMO can be recognised before final installation.
2. **Flexible** – A VOMO can be used anywhere to assure safe fitting assembly – even at assembly sites where EOMAT machines are not available.
3. **Safe** – Hazardous blowout of incorrect assembled standpipe hose fittings or stainless steel tube can be avoided by VOMO-assembly.

4. **Efficient** – There is no doubt that VOMO-presetting contributes to save time and effort in bite-type assembly. The small investment pays back immediately.
5. **Special** – VOMO tools are specifically designed and manufactured to match EO-fitting standards.
6. **Tool lifetime** – Assembly tools are subject of wear and must be regularly (max. 50 assemblies) cleaned and checked (Checking instructions see chapter E). Worn out tools can cause dangerous assembly failures and must be replaced in time. Average tool lifetime is approx. 5000 cycles when properly used. Maximum lifetime can be achieved by following factors:

- Regular cleaning and checking
- Clean and corrosion-protected storage
- Proper de-burring and cleaning of tube end
- Proper tool selection and operation
- Use of specified lubricant

Series	Tube O.D. mm	Pre-assembly tools Order code	Cone-templates Order code
LL	04	VOMO04LLX	KONU04LL
	06	VOMO06LLX	KONU06LL
	08	VOMO08LLX	KONU08LL
	10	VOMO10LLX	KONU10LL
	12	VOMO12LLX	KONU12LL
L	06	VOMO06LX	KONU06L[1)]
	08	VOMO08LX	KONU08L[1)]
	10	VOMO10LX	KONU10L[1)]
	12	VOMO12LX	KONU12L[1)]
	15	VOMO15LX	KONU15L
	18	VOMO18LX	KONU18L
	22	VOMO22LX	KONU22L
	28	VOMO28LX	KONU28L
	35	VOMO35LX	KONU35L
	42	VOMO42LX	KONU42L
S	06	VOMO06SX	KONU06L[1)]
	08	VOMO08SX	KONU08L[1)]
	10	VOMO10SX	KONU10L[1)]
	12	VOMO12SX	KONU12L[1)]
	14	VOMO14SX	KONU14S
	16	VOMO16SX	KONU16S
	20	VOMO20SX	KONU20S
	25	VOMO25SX	KONU25S
	30	VOMO30SX	KONU30S
	38	VOMO38SX	KONU38S

1) Cone-templates for tube O.D.6 to 12 mm are identical in series L and S.

KONU – Cone-template for tools VOMO/MOK/MOSI

Cone-templates are essential for monitoring wear on pre-assembly tools like VOMO, MOK or MOS.

KONU must be regularly used to prevent fitting failures caused by worn out or damaged tools (DIN 3859-2: max. each 50th assembly).

For proper use see EO assembly instructions, Chapter E.

Specifications:

Material: hardened tool steel
Sizes: 4 LL – 12 LL,
6 L – 42 L,
6 S – 38 S
(Sizes 6 L – 12 L
are identical to 6 S – 12 S)

Features, advantages and benefits of cone-templates:

1. **Special** – KONU are high precision cone-templates specifically designed and manufactured to match EO standards.
2. **Maintenance tool** – A leaking fitting can be easily checked and replaced if worn-out.

Tube O.D. mm	Cone gauges Order code
04-LL	KONU04LL
06-LL	KONU06LL
08-LL	KONU08LL
10-LL	KONU10LL
12-LL	KONU12LL
06-L	KONU06L[1])
08-L	KONU08L[1])
10-L	KONU10L[1])
12-L	KONU12L[1])
15-L	KONU15L
18-L	KONU18L
22-L	KONU22L
28-L	KONU28L
35-L	KONU35L
42-L	KONU42L
06-S	KONU06L[1])
08-S	KONU08L[1])
10-S	KONU10L[1])
12-S	KONU12L[1])
14-S	KONU14S
16-S	KONU16S
20-S	KONU20S
25-S	KONU25S
30-S	KONU30S
38-S	KONU38S

[1]) Cone-templates for tube o.d. 6 to 12 are identical in series L and S.

Selection guide: Checking equipment for EO assembly

Performance of EO tube connections is depending on perfect condition of pre-assembly tools and proper assembly process.
Cone-templates KONU for monitoring MOK/VOMO tool wear and AKL gauges for checking result of PSR preassembly are available.

	KONU 	AKL 
Function	Checking of preassembly tools	Checking of PSR assemblies
Will detect: Deformed **MOK/VOMO**	Yes, compared to template	Yes, if relevant for PSR performance
Will detect: Visual damage and cracks of **MOK/VOMO**	No	Yes, if relevant for PSR performance
Will detect: Assembly failures like: tube end not bottomed, underassembly of PSR	No	Yes, if relevant for PSR performance
Will detect: Insufficient bite of **PSR**	No Visual check required	No Visual check required
Application	Expert template for trained and experienced engineers in workshop	Gauge for production of PSR assemblies

KONU – Cone-template for EO pre-assembly tools

Limitations
Cone-template KONU detect wear and deformation of pre-assembly tools like VOMO, MOK or MOS. But it does not indicate failures on completed assemblies.
Cone-template KONU will not detect all possible failures of pre-assembly tools. Pre-assembly tools must be scrapped when they show visual wear or cracks, even if KONU check is OK.

Application
KONU is expert tooling for trained and experienced engineers. For practical monitoring of assembly result in production, distance gauge AKL are recommended.

Distance Gauge for Assembly AKL

Distance Gauges AKL

Distance gauges AKL are suitable for checking the pre-assembly result of Progressive Rings PSR. They are used on pre-assembled tubes before final installation. The green LED lights up, when none of the following failures is detected:

- Excessive wear of preassembly tools MOK
- Excessive assembly force / pressure setting
- Tube end by far not bottomed in assembly tool MOK.

Therefore, assembly check by cone-template KONU can be void. Use of distance gauges AKL does not replace the check of the bite (visible collar in front of Progressive Ring).

Specification

Function:	Distance gauge with LED indication
For checking of:	Machine pre-assembly of Parker EO Progressive Ring PSR
Series:	LL/L/S
Tube-OD:	4–38/42 mm
Dimensions:	Length: approx. 130–160 mm
	Front diameter: approx. 30–52 mm
Power:	2 × Battery AA – Mignon – LR6 (included)
Scope of supply:	Distance gauge with LED indication, batteries, master piece and instructions in a plastic case

Features, Advantages & Benefits of distance gauge AKL

1. Clear – In contrast to the visual evaluation, the simple good/bad decision is obvious, even for less experienced operators.
2. Economical – The distance gauges AKL are fast in application. The production process is not slowed down noticeably compared with other testing methods.
3. Result-oriented – In the comparison to examining the tools with the AKL teachings the assembly result is examined. Thus also the failure opportunity "Tube by far not bottomed" is detected.
4. Practical – The gauges are light, handy, easy, and can be fastened with an eye. Standard batteries are used, so that a long life span is reached.
5. Safe – The measuring head consists of high-grade steel and is not adjustable or detachable. A master piece for regular functional testing is shipped with each AKL gauge.
6. Innovative – For customers of prefabricated hydraulic tubes, so far it was not easy to inspect the assembly quality of incoming goods.Thus incorrect assemblies, which are caused by use of worn pre-assembly tools, remained often undiscovered. With the distance gauges AKL an efficient and effective inspection of incoming goods can be accomplished, allowing pro-active quality management together with the tube supplier.

Limitations

- Distance gauges AKL are suitable only for the inspection of machine pre-assembly. After final tightening of the connection, a failure might be indicated, even if the Progressive Ring was properly assembled by the pre-assembly machine.
- Distance gauges AKL are designed for the use with Progressive Rings PSR. Parker does not take responsibility for the function with other bite type fittings. Distance gauges AKL are not suitable for checking EO-2 and EO2-FORM connections.
- Use of distance gauges AKL does not replace the check of the bite (visible collar in front of Progressive Ring).

Function

Distance gauges AKL are suitable for checking the effect of worn tools on pre-assembly result of Progressive Rings PSR. They are used on pre-assembled tubes before final installation. The distance gauges AKL particularly detects the position of the Progressive Ring PSR in relation to the tube end. Shining of the green LED indicates that the assembly cone can be further used. Flicker of the green LED is quite possible, since the installed tube in the gauge can have some clearance. If the wear of the assembly tool reaches 0,1 mm on the cone, the LED shines no longer and indicates that the tool is worn. These defective tube assemblies must not be installed and the worn assembly tool must be replaced. The inspection has to take place regularly, at the latest after 50 assemblies. Then, assembly tool check by cone-template KONU can be void.

Operation

- Shining of the green LED indicates that the assembly cone can be further used
- If the LED doesn't shine, the assembly must not be used

Applications

- Mass production of hydraulic tube assemblies for mobile hydraulics, automotive and agricultural vehicles
- Commercial tube manipulators for hydraulic tube assemblies
- Inspection of incoming tube assemblies at the final installation plant

Ordering

Size	Order code	Size	Order code	Size	Order code
04-LL	AKL04LL	10-L	AKL10L	10-S	AKL10S
06-LL	AKL06LL	12-L	AKL12L	12-S	AKL12S
08-LL	AKL08LL	15-L	AKL15L	14-S	AKL14S
10-LL	AKL10LL	18-L	AKL18L	16-S	AKL16S
12-LL	AKL12LL	22-L	AKL22L	20-S	AKL20S
06-L/S	AKL06LS	28-L	AKL28L	25-S	AKL25S
08-L/S	AKL08LS	35-L	AKL35L	30-S	AKL30S
		42-L	AKL42L	38-S	AKL38S

Manual assembly devices for EO/EO-2 tube connections

Machine selection guide

Manual assembly devices are available to reduce assembly time and effort. High assembly quality and consistency assures reliable fitting performance. EO assembly devices are manually operated and do not need any external power supply.

Due to the low weight, easy handling and simple but reliable design, the EO assembly devices are the ideal tool for tube preparation of small quantities.

For efficient mass production, manual devices are not suitable, therefore EOMAT machines are recommended.

Features, advantages and benefits

1. **Flexible** – Manual assembly devices are portable and do not need any power supply. Therefore they are ideal for on-site tube assembly, repair and plant maintenance.
2. **Economic** – Manual assembly devices close the gap in between manual fitting pre-assembly in a vice and the EOMAT technology. The devices contribute to save time and effort in bite type assembly. The little investment pays back immediately.
3. **Controlled assembly** – After pre-assembly, the tube joint can be easily inspected before final installation. Therefore, this mandatory step in fitting assembly is less likely to be forgotten.
4. **Special** – Each device has been especially developed for the efficient use in a certain application. The HVM-B is a handy tool for the quick pre-assembly of EO Progressive rings onto soft steel tube. The EO-KARRYMAT is a real problem solver when it comes to on-site assembly of medium to large EO-Progressive rings and EO-2 fittings onto steel and stainless steel tube.

How to select the ideal assembly device for your application:

	HVM-B 	EO-KARRYMAT 
Assembly method EO-2: PSR/DPR/D: Triple-Lok®:	 not suitable Stroke controlled not suitable	 Pressure controlled Pressure controlled not suitable
Tube specification Material: Outside diameter/mm: Min. U-bend: Wall thickness:	 Steel 4–15 mm 25 mm no limitation	 Steel, Stainless Steel 6–42 mm 66 mm no limitation
Tool specification	Special assembly cones MOSI and plates HL	Standard assembly cones MOK and plates GHP
Operation drive	Lever with eccentric cam	Handpump
Process control	Assembly stroke determined by tool geometry	Pressure control according to selection chart
Preassembly is equal to EO-2: PSR: D/DPR:	 – 1 turn 1 turn	 Gap closed 1½ turn 1¼ turn
Performance Overall cycle time: Economic production quantity:	 10 secs. max. 50 assemblies per day	 30–60 secs. max. 20 assemblies per day
Application	Simple tool for quick pre-assembly of small dimension EO-Progressive rings onto steel tubes	Most efficient for one-site assembly of medium to large DPR- and EO-2 connections onto any suitable tube material. Repair jobs and hydraulic services

HVM-B Pre-assembly tool

This pre-installation tool is a simple tool for a quick and safe pre-assembly of EO-Progressive Stop Ring/Progressive ring. The tool is very handy and can be used at any site provided a vice is available. Suitable for LL, L and S series and tube sizes from 4 to 15 mm O.D.

Attention:

- ⚠ **Not suitable for EO-2 assembly.**
- ⚠ **Not suitable for stainless steel progressive ring assembly.**
- ⚠ **Final assembly of ½ turn in fitting body required.**
- ⚠ **Not suitable for tube OD larger 15 mm**

Specifications:

For pre-assembly of: EO Progressive Stop Ring (PSR)/Progressive Ring (DPR)

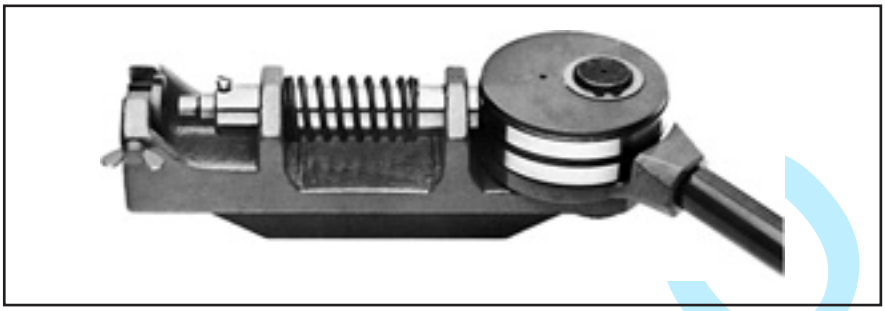
Pre-assembly equals: 1 turn of nut

For assembly check and fitting installation see assembly instructions chapter E.

Tube O.D.: 4 to 15 mm
Min. U-bend: 25 mm
Series: LL, L and S
Tube and fitting material: Steel
Weight: approx. 7.0 kg (without tools)

Features, advantages and benefits of pre-assembly tool:

1. **Special** – HVM-B is designed and manufactured to match EO-DPR standards.
2. **Vice mounted** – For easy workshop use, the HVM-B can be clamped into any vice.
3. **Flexible** – A HVM-B can be used anywhere to assure safe fitting assembly – even at assembly sites where EOMAT technology is not available.
4. **Efficient** – There is no doubt that HVM-B-presetting contributes to save time and effort in bite-type assembly. The small investment pays back immediately.



Type	Order code
HVM-B pre-assembly tool device for mount in vice, without tools	HVMBKPLX

Series	Tube O.D. mm	Tube location plate Order code	Assembly cone Order code	Cone-template Order code
LL	4	HL04X	MOSI04LLX	KONU04LL
	6	HL06X	MOSI06LLX	KONU06LL
	8	HL08X	MOSI08LLX	KONU08LL
	10	HL10X	MOSI10LLX	KONU10LL
	12	HL12X	MOSI12LLX	KONU12LL
L	6	HL06X	MOSI06LX	KONU06L[1])
	8	HL08X	MOSI08LX	KONU08L[1])
	10	HL10X	MOSI10LX	KONU10L[1])
	12	HL12X	MOSI12LX	KONU12L[1])
	15	HL15X	MOSI15LX	KONU15L
S	6	HL06X	MOSI06SX	KONU06L[1])
	8	HL08X	MOSI08SX	KONU08L[1])
	10	HL10X	MOSI10SX	KONU10L[1])
	12	HL12X	MOSI12SX	KONU12L[1])
	14	HL14X	MOSI14SX	KONU14S

1) Cone-templates for tube o.d. 6 to 12 are identical in series L and S.

HVM-B Pre-assembly tool

1

How to use

- Clamp HVM-B into vice.
- Select required assembly cone (MOSI) and insert.
- The assembly cones are marked with tube O.D. and series (e.g. 10-L).

2

- Insert the tube location plate – HL – of corresponding size and fasten with screw.
- The tube location plates are marked with tube O.D. (e.g. “10”).

3

- Slip nut “M” and Progressive Stop Ring PSR/Progressive ring “DPR” (or cutting ring “D”) over tube end and insert into pre-assembly tool.
- Nut position must be in front of tube location plate – HL – !

4

- Hold tube against stop in the assembly cone.

5

- Pull lever to turn the eccentric cam (Pre-assembly).

Attention

⚠ **For assembly check and final assembly see PSR/DPR instructions.**

Attention:

⚠ **At final assembly nut must be tightened by ½ turn.**

EO-KARRYMAT portable pre-assembly device for EO tube connections

Type	Order code
EO-KARRYMAT assembly device complete device including handpump and carrying case, including operation manual. Tools (assembly cone MOK and backing plate GHP) must be ordered separately.	EOKARRYMAT
Promotion leaflet UK/DE	4044-DE/UK
Separate operating manual UK/DE/FR/IT	4044-T
Spare parts	
Handpump	82C-2HP
Pressure gauge	EOKARRYMAT/MANO
Pressure chart sticker	EOKARRYMAT/CHART
Cover hinge	EOKARRYMAT/HINGE
Assembly head	EOKARRYMAT/BLOCK

The EO-KARRYMAT is a dependable device for safe and efficient bite-type presetting. It allows pre-assembly of even large dimension steel and stainless steel tube at assembly sites where EOMAT technology is not available.

The EO-KARRYMAT consists of a hydraulic drive and a handpump. The hydraulic assembly pressure can be read on a gauge. The EO-KARRYMAT comes as one unit with all components firmly attached to a practical carrying frame.

Specifications:

For pre-assembly of: EO PSR/DPR and EO-2

Pre-assembly equals:
EO Progressive Stop Ring (PSR): 1½ turns of nut

EO Progressive ring (DPR): 1¼ turns of nut

EO-2 "Gap closed"

⚠ **For assembly check and fitting installation see assembly instructions chapter E.**

Tube O.D.: 6 to 42 mm

Min. U-bend: 66 mm

Series: L and S

Tube and fitting material: Steel and stainless steel

Total cycle time: approx 30–60 sec.

Weight: approx. 28 kg

Economic production quantity: max. 20 assemblies per day

Oil: HLP23–1.22 (filled before delivery)

Features, advantages and benefits of EO-KARRYMAT:

1. **Ideal** – Weighing 28 kg, the EO-KARRYMAT is portable and does not need any power supply. Therefore the EO-KARRYMAT is the ideal tool for on-site tube assembly, repair and plant maintenance.
2. **Economic** – The EO-KARRYMAT closes the gap in between manual fitting pre-assembly in a vice and the EOMAT technology. EO-KARRYMAT assembly is far less hard work as manual assembly but it achieves the dependent assembly result of the EOMAT assembly machine.
3. **"Must" for stainless steel** – As direct assembly of stainless steel tubes in bite type fittings results in failure, a special pre-assembly process is mandatory according to ISO 8483 / DIN 3859 and all manufacturers instructions. The EO-KARRYMAT fulfils this requirement.
4. **Dependable** – The use of the EO-KARRYMAT is far less demanding than manual fitting assembly using wrenches. It helps to prevent failures caused by insufficiant fitting assembly which is most critical on large dimension steel and stainless steel tube.
5. **Controlled assembly** – After pre-assembly, the tube joint can be easily inspected before final assembly. Therefore, this mandatory step in fitting assembly is less likely to be forgotten.
6. **Special** – The EO-KARRYMAT has been especially developed for the efficient on-site assembly of EO Progressive ring and EO-2 fittings. The tools are designed to allow safe assembly of even large dimension steel and stainless steel tubes without excessive hard work.

The applications:

- Repair workshops
- Mobile repair service
- Plant maintenance in process engineering, paper production, power plants, offshore exploration, industrial production
- On-site assembly of tubing systems

Tube O.D. ∅ [mm]	EO-2 P [bar]	PSR/DPR P [bar]
6	45	30
8	55	40
10	65	50
12	75	60
14	95	70
15	95	70
16	110	90
18	110	90
20	160	120
22	120	110
25	210	160
28	160	140
30	300	200
35	250	180
38	350	280
42	300	230
Installation	min. 60° max. 90°	~ 30°

Assembly machines for EO/EO-2 and Triple-Lok®

Machine selection guide

EOMAT assembly is much more cost efficient than manual assembly of EO-fittings. Assembly time and effort are greatly reduced. Proper and consistant pre-assembly support safe and leakfree fitting performance.

EOMAT machines are specifically designed to match EO-2, EO PSR/DPR rings and Triple Lok® standards. Assembly is achieved with high precision and repeatability.

EOMAT machines are available in several versions to serve individual applications. All machines are designed for reliable workshop use even under severe construction site working conditions. Tool handling and machine operation are simple.

How to select the ideal EOMAT machine for your application:

Features, advantage and benefits:

1. **Universal** – Assembly of EO-2, EO PSR/DPR rings and 37° flaring for Triple-Lok® can be done with just 1 machine.
2. **Efficient** – With a cycle time of some 12 to 15 seconds the EOMAT machine greatly saves assembly time and effort. The investment pays back quickly.
3. **Safe** – Proper pre-assembly greatly reduces the danger of leaking fittings or even hazardous tube blow out.
4. **Strong** – Even 37° flaring of larger sized stainless steel tube is done within few seconds.
5. **Flexible** – All tube dimensions from 6 to 42 mm can be used. All common tube materials are covered, even plastic tube (EO-2 and PSR/DPR only).
6. **Marking notch** – A special ridge makes a circular mark onto the tube end to verify that it was properly bottomed at assembly. Failures caused by improper tube cutting or bottoming in MOK can be recognised before final installation.
7. **Reliable** – For more than 20 years, hundreds of EOMAT machines have operated under heavy duty workshop conditions.

Selection chart EOMAT Pre assembly and Flaring machines

	EOMAT ECO	EOMAT UNI	EOMAT PRO
			
Assembly method:			
EO-2	Pressure controlled	Pressure controlled	Pressure controlled
D/PSR/DPR	Pressure controlled	Pressure controlled	Stroke controlled
Triple-Lok®	–	Conventional 37° flaring	
Tube specification:			
Material	Steel, Stainless Steel	Steel, Stainless Steel	Steel, Stainless Steel, copper, nylon
Outside diameter	6–42 mm	6–42 mm	PRO22 / PRO42: 4–22/4–42 mm
Min. U-bend	75 mm	65 mm	PRO22 / PRO42: approx. 35/70 mm
Wall thickness:	No limitation	No limitation	No limitation
EO-2/PSR/DPR	not applicable	6×1 to 38×4 or 42×3 mm	–
Triple Lok®		(Tube O.D. × wall thickness)	
Operation:			
Setting	Manual pressure adjustment according to selection chart Depending on: Assembly type; Tube dimension; Tube material	Manual pressure adjustment according to selection chart Depending on: Assembly type; Tube dimension; Tube material	Tool detection and automatic adjustment Manual adjustment of pressure is possible
Process control	Pressure gauge	Pressure gauge	PLC with display
Error detection:	No	No	Warning light and message displayed if deviations in assembly process occur
Memory function	No	No	Memory options for custom application on MOK transponderchip
Oil temperature control	No	No	Warning light and message displayed
Foot operating switch	Not available	Not available	Available
Performance	1 Phase/230 V	1 Phase/230 V	400 V, 50 Hz, 3-phase
Overall cycle time (sec.):			
EO-2 presetting	20	12	PRO22 / PRO42: approx. 8/10 seconds
PSR/DPR presetting	25	15	PRO22 / PRO42: approx. 10/12 seconds
37° flaring	–	15	–
Economic production quantity:	max. 50 assemblies per day	max. 300 assemblies per day	100 or more assemblies per day
Continuous operating:	80 %	80 %	100%
Weight	approx. 30 kg	approx. 66 kg	approx. 90 kg
Application	**Portable machine for repair and workshops**	**Universal assembly machine for workshop**	**Cost-effective commercial production**

EOMAT ECO Mobile assembly machine for EO-2 and PSR hydraulic fittings

The EOMAT ECO is a portable machine for the assembly of EO-2 and EO Progressive Ring fittings.
This electro-hydraulic unit is simple to operate; the assembly pressure is set on the digital display. The equipment is simple to use, robust and easy to move.
The EOMAT ECO is an ideal piece of equipment for hydraulic service engineers.

Technical data

Application:	assembly of Parker EO-2 and PSR Progressive Ring fittings assembly of cutting ring fittings to DIN EN ISO 8434-1
Process:	pressure-controlled press operation through assembly tools
Drive:	electro-hydraulic
Assembly corresponds to:	EO-2: gap closed PSR: 11/2 turns of the nut
Tube material:	steel and stainless steel
Tube diameters:	6 to 42 mm
Series:	L and S
Min. U-bend:	75 mm
Speed:	working stroke 15 to 20 secs, total cycle time approx. 20 to 25 secs
Dimensions:	750 × 360 × 300 mm
Weight:	30 kg
Electrical power rating:	230V 1-phase 50 Hz 700 W

Operation:

for detailed assembly instructions, see our fittings technology technical handbook, chapter E. For safety information, see machine operating manual.

1. Install assembly cone and backing plate
2. Set the setting pressure on the display in accordance with the chart
3. Insert tube complete with nut and ring
4. Operate START button and keep pressed
5. Hold the tube firmly during the assembly operation and press against the stop
6. The assembly operation is complete when the cylinder has travelled back to its starting position
7. Assembly inspection and final assembly should proceed in accordance with the operating manual.

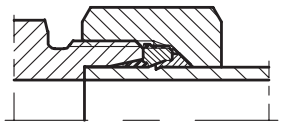
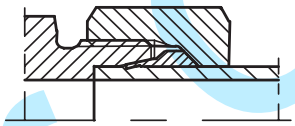
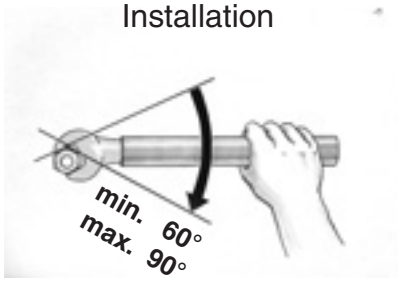
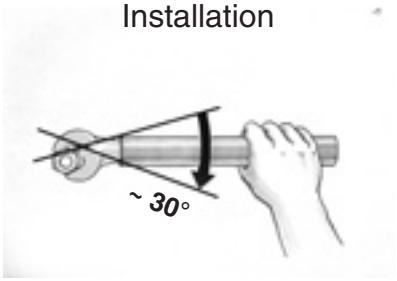
Performance:

Economic production quantity: max. 100 assemblies per day.

Type	Order code
EOMAT ECO basic machine Ready to operate, including operating manual Without tools, no separate assembly fixture required	EOMATECO230V
Bulletin	4046 via Parker catalogue service EMDC
Operating manual UK/DE/FR/IT/ES	EOMATECO/MANUAL
Pressure chart sticker	EOMATECO/CHART
Standard preventive maintenance	EOMATECO/INSPECTION

Setting pressures

EOMAT ECO

Tube-O.D.	EO-2	PSR/DPR
		
∅ (mm)	P (bar)	P (bar)
6	25	20
8	35	25
10	40	35
12	45	40
14	60	45
15	60	45
16	70	60
18	70	60
20	105	75
22	75	70
25	135	105
28	105	90
30	190	130
35	160	115
38	210	180
42	190	145
	Installation 	Installation 

The stated values are guidelines. The results of pre-assembly should therefore be thoroughly checked.

EOMAT UNI assembly and flaring machine

General

The EOMAT UNI is an electro-hydraulic machine for the assembly of:

EO-2
EO PSR/DPR and
Triple-Lok® 37° flared tube fittings.

Compared to manual assembly it greatly reduces assembly time, effort and cost and also guarantees leakfree performance of constant high-quality fitting assemblies.

Common tube materials such as steel (ST 37.4 NBK, ST 52.4 NBK), stainless steel (1.4571/1.4541/316Ti or similar) and copper can be pre-assembled.

The tool range covers all metric tube sizes from 4 to 42 mm outer diameter. The required operating pressure is variable and set at the LED-Display. The unit may therefore be used for a variety of different applications. The tooling for either EO-2/ PSR/DPR pre-assembly or tube flaring may be manually replaced, without the use of tools.

Technical data

Tube diameters: 6–42 mm

Min. U-bend: 65 mm

Series: L and S

Oil:
Esso Nuto H 32 or equal, 3.5L
(Reference oil change, see label on unit)
Operating pressure:
Variable from 15 to 200 bar
Dimensions:
Width 535 mm, height 285 mm, depth 515 mm

Performance:

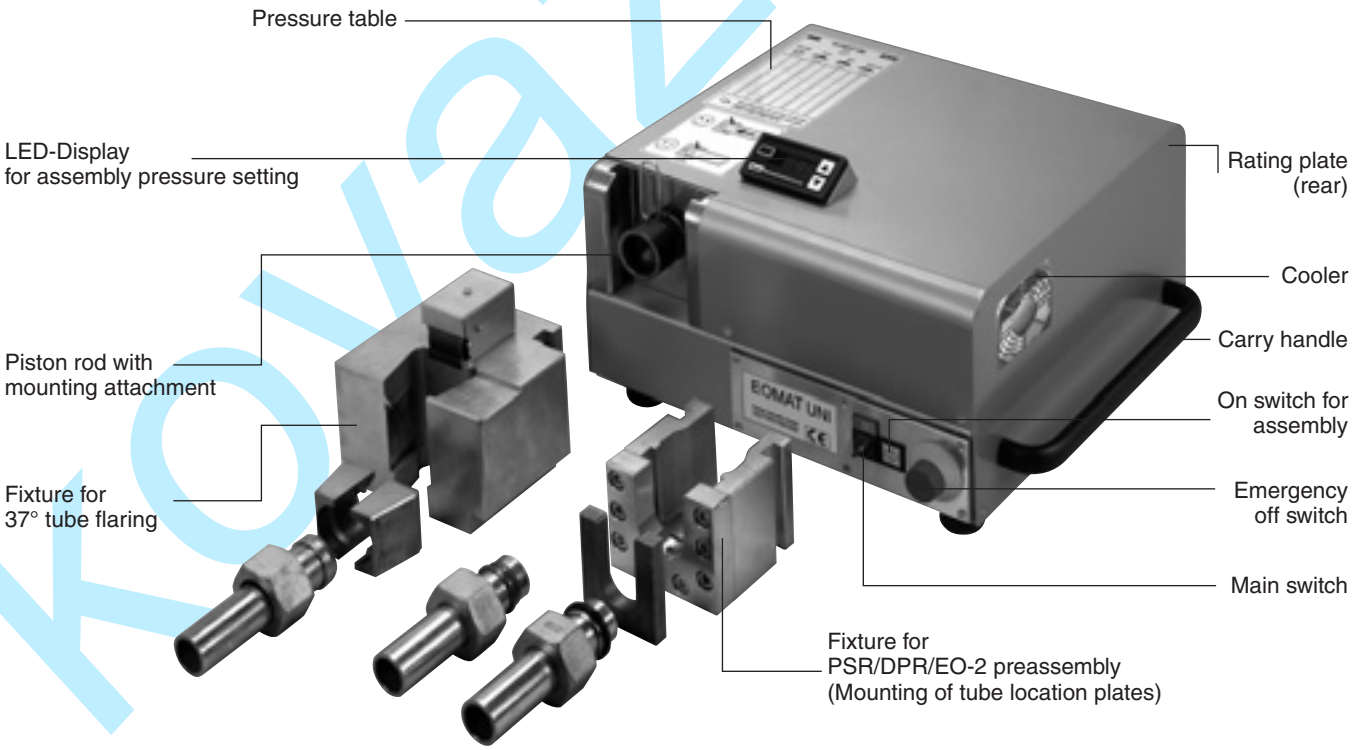
Overall cycletime: 12–15 sec.
Economic production quantity:
max. 300 assemblies per day

Hydraulic pump:
1.2 kW – 3.7 l/min
Electrical connection:
220–240 V/ 1~ / 50 Hz / 9.5 A
Connection cable:
5 m – Earth plug
Weight: 66 kg

We reserve the right to make modifications in the course of further technical development.

Features, advantages and benefits:

1. **Universal** – Assembly of EO-2, EO-PSR/DPR and 37° flaring for Triple-Lok® can be done with just 1 machine.
2. **Efficient** – With a cycle time of some 15 seconds the EOMAT UNI greatly saves assembly time and effort. The investment pays back quickly.
3. **Safe** – Proper pre-assembly greatly reduces the danger of leaking fittings or even hazardous tube blow out.
4. **Strong** – Even 37° flaring of larger sized stainless steel tube is done within few seconds.
5. **Flexible** – All tube dimensions from 4 to 42 mm can be pre-assembled. All common tube materials are covered.
6. **Workshop tool** – At 66 kg, the EOMAT UNI can be brought to an assembly site.
7. **Marking ridge** – All MOK tools feature a special ridge in the bottom surface which is designed to make a circular groove into the tube-end at assembly. No mark indicates that the tube-end has not been properly bottomed at assembly.
8. **Reliable** – For more than 20 years, hundreds of machines are operated under heavy duty workshop conditions.

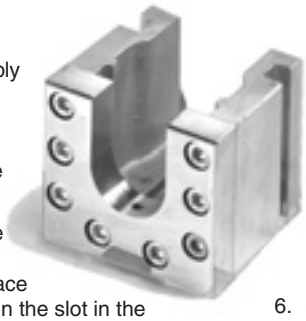


EOMAT UNI assembly and flaring machine

Basic operation for EO-2 Functional nuts

See EO-2 instructions for fitting assembly

1. Adjust EO-2 pressure according to chart (A)
2. Insert the pre-assembly fixture in the tool mounting (weight approx. 5.5 kg).
3. Select the assembly cone (MOK) and backing plate (GHP) in accordance with the tube size and type.
4. Place and lock the assembly cone in the tool holder. Place the backing plate in the slot in the fixture.



5. Slide the EO-2 functional nut onto the tube, which has been cut off square and deburred.
6. Place the tube with the EO-2 functional nut in the pre-assembly fixture between backing plate and assembly cone.
7. Press the tube against the stop in the assembly cone. Hold the tube in this position. Press and hold the start button until the pre-assembly process is complete.
8. Take the assembled tube connection out of the location plate. See EO-2 assembly instruction (chapter E) for assembly check and installation instructions.
9. Check assembly result before final installation.

Basic operation for EO PSR/DPR ferrules

See PSR/DPR instructions for fitting assembly

1. Adjust PSR/DPR pressure according to chart (A)
2. Insert the pre-assembly fixture in the tool mounting (weight approx. 5.5 kg).
3. Select the assembly cone (MOK) and backing plate (GHP) in accordance with the tube size and type. Check the assembly cone using a cone-template.
4. Place the assembly cone in the tool holder. Place the backing plate in the slot in the fixture.
5. Oil the ring, nut and assembly cone.
6. Slide the nut and ring onto the tube, which has been cut off square and deburred.
7. Place the tube with nut and progressive ring or cutting ring in the pre-assembly fixture between backing plate and assembly cone.
8. Press the tube against the stop in the assembly cone. Hold the tube in this position. Press and hold the start button until the pre-assembly process is completed.
9. Take the pre-assembled tube out of the backing plate. See EO PSR/DPR assembly instruction (chapter E) for assembly check and installation instructions.
10. Check assembly result before final installation.

Basic operation for 37˚ tube flaring

See Triple-Lok® instructions for fitting assembly

1. Adjust Triple-Lok® pressure according to chart (A)
2. Insert the tube flaring fixture in the toolmounting (weight approx. 19.5 kg).

3. Lubricate the flaring pin.
4. Insert the flaring die set corresponding to the tube size.
5. Push the nut and support sleeve onto the tube.
6. Push the tube through the flaring die hole to the stop plate. To prevent misalignment, longer tubes are to be supported during the flaring process.
7. Press and hold START button until flaring process is completed.
8. Lift the tube with the flaring die upwards out of the fixture.
9. To release the tube, place the flaring die set in the opening provided in the fixture and tilt the tube to one side.
10. Check assembly result before final installation.

Important!

Only proceed with pre-assembly when a tube with nut and cutting ring has been placed in the fixture (failure to observe this can result in damage to the tools). Longer tubes are to be suitably supported during pre-assembly.The assembly cones are to be regularly checked for correct dimensions using the cone-template and should be replaced when necessary.

Caution: do not reach into the working area of the pre-assembly fixture while it is operating!

Important!

Do not drive the flaring pin into the flaring die without a tube in position. The roughened surface of the flaring die must be absolutely free of oil and grease to prevent the tube from slipping.

Caution: do not reach into the working area of the flaring fixture while it is operating!

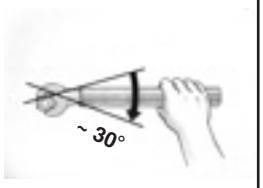
EOMAT UNI assembly and flaring machine

Pressure setting chart A

EOMAT UNI

Tube-O.D.	EO-2	PSR/DPR	Triple-Lok®
∅ (mm)	P (bar)	P (bar)	P (bar)
6	30	25	20
8	35	30	25
10	45	35	35
12	50	40	35
14	60	50	45
15	60	50	60
16	70	55	60
18	70	55	70
20	100	80	95
22	80	75	95
25	130	100	105
28	100	90	125
30	180	125	135
35	150	110	155
38	200	170	165
42	180	140	185


Installation



Steel (ST 37.4 NBK, ST 52.4 NBK, …)

Stainless Steel (ST 1.4571, 1.4541, 1.4301, 316 Ti, …)

The given values are a guide. The results of pre-assembly and/or tube flaring are therefore always to be checked.
For detailed instructions on tube preparation, tool selection, assembly check and final installation see chapter E.

EOMAT UNI assembly and flaring machine

Ordering

Type	Order code
EOMAT UNI Basic machine Ready to use, including operation manual Filled with hydraulic oil Without EO assembly fixture/Flaring fixture Without tools for EO-assembly/37˚ flaring Basic machine 230 V, 1 Phase, 50 Hz	EOMATUNI230V
Fixture for PSR/DPR/EO-2 assembly	EOMATSCHNEIDRX
37° Flaring fixture for Triple-Lok® including flaring pin	EOMATBOERDELBX
EOMAT UNI promotion leaflet UK	4042/UK
EOMAT UNI promotion leaflet DE	4042/DE
EOMAT UNI operating manual UK/DE/FR/IT	EOMATUNI/MANUAL
Standard preventive maintenance	EOMATUNI/INSPECTION

Assembly fixtures, tools, cone-templates, and lubricant must be ordered separately

Assembly tools for PSR/DPR/EO-2 see page H19–H20.

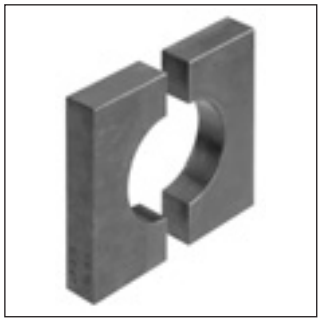
37° flaring tools for Triple-Lok® see page H30.

Spare parts

Type	Order code
Fixing clip for MOK	EOMAT/CLIP
37° flaring pin	EOMAT/FLAREPIN
O-ring for flaring pin	EOMAT/0212500
Tube stop assembly for flaring block	EOMAT/0213800
Pressure chart sticker	EOMATUNI/CHART
Spring for flaring block	EOMAT/0213500
LED Display for pressure adjustment	SCE-025-01

EO PSR/DPR and EO-2 assembly tools for EOMAT/EO-KARRYMAT


Assembly cone MOK


Tube locating plate GHP


Cone-template KONU for MOK


Assembly fixture must be installed on EOMAT UNI II/III

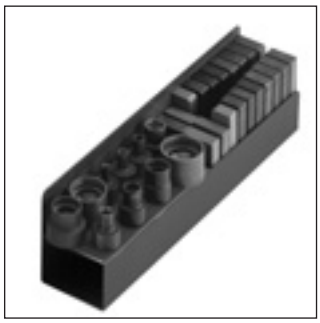
Size		Order code				
Series	Tube-O.D.	Assembly cones for EO PSR/DPR MOK	Assembly cones for EO-2[4]) MOK	Backing plates GHP	Distance control gauges AKL	Cone-templates KONU
LL[3])	4	MOK04LLX	as MOK for PSR/DPR	GHP04X		KONU04LL
	6	MOK06LLX		GHP06X		KONU06LL
	8	MOK08LLX		GHP08X		KONU08LL
	10	MOK10LLX		GHP10X		KONU10LL
	12	MOK12LLX		GHP12X		KONU12LL
L	6	MOK06LX	MOKEO206L	GHP06X[1])	AKL06LS	KONU06L[1])
	8	MOK08LX	MOKEO208L	GHP08X[1])	AKL08LS	KONU08L[1])
	10	MOK10LX	MOKEO210L	GHP10X[1])	AKL10L	KONU10L[1])
	12	MOK12LX	MOKEO212L	GHP12X[1])	AKL12L	KONU12L[1])
	15	MOK15LX	MOKEO215L	GHP15X	AKL15L	KONU15L
	18	MOK18LX	MOKEO218L	GHP18X	AKL18L	KONU18L
	22	MOK22LX	MOKEO222L	GHP22X	AKL22L	KONU22L
	28	MOK28LX	MOKEO228L	GHP28X	AKL28L	KONU28L
	35	MOK35LX	MOKEO235L	GHP35X[2])	AKL35L	KONU35L
	42	MOK42LX	MOKEO242L	GHP42X[2])	AKL42L	KONU42L
S	6	MOK06SX	MOKEO206S	GHP06X[1])	AKL06LS	KONU06L[1])
	8	MOK08SX	MOKEO208S	GHP08X[1])	AKL08LS	KONU08L[1])
	10	MOK10SX	MOKEO210S	GHP10X[1])	AKL10S	KONU10L[1])
	12	MOK12SX	MOKEO212S	GHP12X[1])	AKL12S	KONU12L[1])
	14	MOK14SX	MOKEO214S	GHP14X	AKL14S	KONU14S
	16	MOK16SX	MOKEO216S	GHP16X	AKL16S	KONU16S
	20	MOK20SX	MOKEO220S	GHP20X	AKL20S	KONU20S
	25	MOK25SX	MOKEO225S	GHP25X	AKL25S	KONU25S
	30	MOK30SX	MOKEO230S	GHP30X	AKL30S	KONU30S
	38	MOK38SX	MOKEO238S	GHP38X	AKL38S	KONU38S

Flaring tools see KARRYFLARE

1) Backing plates, cone-templates and flaring die sets for series L and S for tube outer diameter 6, 8, 10 and 12 are the same.
2) **Note:** Two-part backing plates for tube OD 35 and 42.
3) Assembly tools for LL-series for EOMAT UNI on request.
4) Special MOK for easy tube insertion. MOK for EO-2 are marked with groove.

Tool mounting rack

Practical rack for storing 10 pieces each assembly cone MOK and backing plate GHP.



Type	Order code
Tool mounting rack for GHP and MOK	EOMATWERKZGAUFN.X

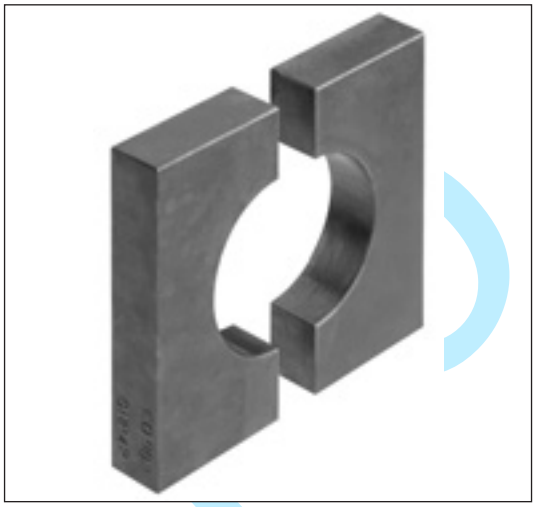
Tool lifetime

Assembly tools are subject of wear and must be regularely (max. 50 assemblies) cleaned and checked (Checking instructions see chapter E). Worn out tools can cause dangerous assembly failures and must be replaced in time. Average tool lifetime is approx. 5000 cycles when properly used. Maximum lifetime can be achieved by following factors:

- Regular cleaning and checking
- Clean and corrosion-protected storage
- Proper de-burring and cleaning of tube end
- Proper tool selection and operation
- Use of specified lubricant
- MOK EO-2 don't wear out

Ferulok assembly tools for EOMAT/EO-KARRYMAT

Assembly cone



Back-up plate

Size		Order code	
Dash size	Tube-O.D. inch	Back-up plate	Assembly cone
4	1/4	975867-4	976521-4
6	3/8	975867-6	976521-6
8	1/2	975867-8	976521-8
10	5/8	975867-10	976521-10
12	3/4	975867-12	976521-12
14	7/8	975867-14	976521-14
16	1	975867-16	976521-16
20	1 1/4	975867-20	976521-20
24	1 1/2	975867-24	976521-24
32	2	975867-32	976521-32

Assembly tools for inch tube bite type FERULOK.
FERULOK fittings see TFD US-Catalogue 4300.
Machine setting according to correspondant size EO DPR.

EOMAT PRO – Economic assembly machine for EO-2 and progressive ring fittings

The EOMAT PRO is a powerful machine for economical and safe tube installations. The device is designed for installation of Parker EO-2 and progressive ring fittings to DIN EN ISO 8483-1 (DIN 2352) with common tube materials (steel, stainless steel, copper, nylon). The EOMAT PRO is fast and quiet. It permits the assembly of very tight and complex tube bends. Automatic tool detection guarantees short set-up times and prevents errors due to setting the device incorrectly. Unlike conventional cutting ring assembly devices, the EOMAT PRO is stroke-controlled and produces accurate and reproducible assembly results.

The EOMAT PRO can be used in automatic or manual mode.

In automatic mode, the settings are read from a transponder chip in the tool. The operator cannot change the device settings in automatic mode.

In the display the tube diameter and the type of installation (EO-2 or progressive ring) will be shown.

There is also a useful piece counter which can be reset by the operator.

Other messages can appear about the assembly cones – for example, notifications about routine checks and tool lifetime.

If there is a significant, implausible variation, the display will show an error message. If universal MOK tools are used with universal parameters, this means that only implausible gross deviations will be displayed.

Adaptive assembly cones (MOK-RW) permit the operator to control and set the installation parameters and limits in a few simple steps. In this way the tool is optimized for the specific installation. These individual parameters deliver the best results for the tube material, wall thickness and lubricant used. The device will show slight deviations from the nominal values with a red warning light and a prompt in the display to check the installation. It is therefore possible to detect connections that have been incorrectly installed, check them and remove from the process if needed (e.g. the ring was mounted the wrong way around).

Automatic tool detection, the stored installation values and the display of error messages (red warning light and display) cannot be deactivated in automatic mode by the operator.

In manual mode, different installation values can be set. Manual mode is activated using a key switch. The key is supplied with every device.

The device comes in two versions:

- The quick EOMAT PRO22 for tube sizes up to 20-S/22-L. It has a compact assembly head for tight tube bends.
- The powerful EOMAT PRO42 with a robust assembly head for all sizes up to 38-S/42-L.

Technical data

Application:	Economical mass production of Parker EO tube connections Installation of Parker EO-2 and progressive stop ring (PSR) fittings Installation of cutting ring fittings in accordance with DIN EN ISO 8434-1
Process:	Automatic mode PSR: Stroke-controlled assembly with plausibility check Manual mode and EO-2: Pressure-controlled assembly without error detection
Installation requires:	EO-2: Gap to be closed PSR: 1½ turns of the union nut Other products: See the manufacturer's documentation
Tube material:	Steel, stainless steel, copper, nylon
Tube specification:	All permitted tubes for use with Parker EO couplings
Tube diameter:	EOMAT PRO22: 4 to 22 mm (except for EO-2 – 20-S) EOMAT PRO42: 4 to 42 mm
Range:	LL, L and S
Min. U-bend:	EOMAT PRO22: approx. 35 mm EOMAT PRO42: approx. 70 mm
Tool Identification:	Uses RFID technology, the transponder is in the MOK assembly cone
Error detection:	Plausibility check of the installation parameters after installation
Display:	Text messages and warning light
Available languages:	German, English, French, Spanish, Italian
Display:	Automatic mode: Type of fitting, tube diameter and range Manual mode: Pressure set Piece counter (resettable)
Error messages:	"Check installation result" in the case of non-plausible installation parameters. Reminder to check the tool after every 50 uses. Reminder to change the tool when the end of its lifetime is reached. Warnings about critical hydraulic oil level and temperature.

Speed:	EOMAT PRO 22: ca 1.0 s stroke distance, ca 8–10 s total cycle time EOMAT PRO 42: ca 2.0 s stroke distance, ca 10–12 s total cycle time
Economic production quantity:	around 100 assemblies per day
Operating duration:	100%
Noise:	Less than 75 dB (A)
Ambient temperature:	0 °C to +40 °C
Storage temperature:	–25 °C to +60 °C
Parameters:	No condensing humidity
Dimensions:	L 620 mm×W 735 mm×H 340 mm
Weight:	approx. 90 kg
Operational resources:	Esso Hydraulic Oil Nuto H32 or equivalent (filled for delivery)
Electrical power:	400 V 3-phase 50 Hz 1100 W
Cable:	5 m cable with CEE 16 A phase-inverter plug
Tools:	EOMAT PRO 22: MOK PRO assembly cones and MOS compact rear supports EOMAT PRO 42: MOK PRO assembly cones and GHP standard backing plates
Lubricant:	EO-NIROMONT
Test equipment:	AKL distance gauges

EOMAT PRO – features, advantages and benefits

- Low unit costs due to its fast and efficient hydraulic drive
- Compact assembly head for tight and complex bends
- Long lifespan of the assembly tools
- Settings are automatically read from the tool
- Stroke-control achieves a consistently good fitting result
- In automatic mode the operator cannot adjust the installation parameters
- A display showing the number of pieces processed and any error messages
- Adaptive tools for optimal installation parameters and the best possible error detection
- Oil volume and the heat capacity is designed to cope with mass assembly under continuous or shift working patterns
- The foot switch allows the operator a high degree of flexibility

Operation

Detailed installation instructions and safety information can be found in the operation manual

1. Insert the assembly cone and backing plate
2. In automatic mode, the display shows the mounting type and dimensions
3. Fit the tube with the union nut and ring
4. Press and hold the START button
5. Hold the tube securely through the whole assembly process and push it into the limit stop
6. The assembly process is finished when the cylinder moves back to the starting position
7. Assembly inspection and final assembly is done according to the assembly instructions (see chapter E)

Tool lifetime

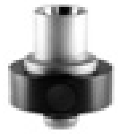
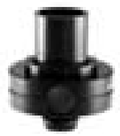
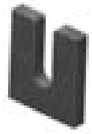
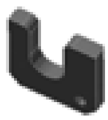
Assembly tools are subject to wear, and must be periodically (at least every 50 assemblies) cleaned and inspected (inspection instructions, see chapter E) Worn tools can cause dangerous assembly failures, and need to be replaced in good time. High tool life can be achieved by:

- Regular cleaning and lubrication
- Store protected from dirt and corrosion
- Careful trimming and cleaning of the tube ends
- Proper tool selection and operation
- Use of the recommended lubricant

The MOK PRO assembly cones are made from wear-resistant tool steel, and are therefore suited to mass production. If used properly, they should have an average lifespan of approximately 10,000 assemblies. After this lifespan is reached, the display will show that a tool change is needed. The worn tool should be **replaced,** it will no longer work in automatic mode. Worn assembly cones can be used after the end of their expected lifespan in manual mode with care.

Machine/Item	Order code
EOMAT PRO machine, ready to use, with key for selection switch Auto/Manual, with operation manual, filled with hydraulic oil, without tooling and accessories	
EOMAT PRO22 Tube-OD 4–22 mm 400 V, 50 Hz, 3 Phase Renting (monthly rate) Leasing (2 year hire purchase)	EOMATPRO22400V EOMATPRO/RENTFEE EOMATPRO/LEASEFEE
EOMAT PRO42 Tube-OD 4–42 mm 400 V, 50 Hz, 3 Phase Renting (monthly hire rate) Leasing (2 year hire purchase)	EOMATPRO42400V EOMATPRO/RENTFEE EOMATPRO/LEASEFEE
Accessoires/Item	
lubricant for assembly cone 250 ccm bottle	EONIROMONTFLUESSX
Foot switch	FOOTSWITCHSAFETYKIT
Fixing clamp for MOK	EOMATPRO/CLIP
Spare key for selection switch	EOMATPRO/KEY
EOMAT PRO promotion leaflet UK	4043 via Parker Catalogueservice EMDC
Operation manual UK/DE/FR/IT/ES	EOMATPRO/MANUAL
Standard preventive maintenance	EOMATPRO/INSPECTION

Assembly tools for EO fittings

								
Size		Tool order code						
Series	Pipe OD (mm)	Adaptive assembly cone for progressive ring	Standard assembly cone for progressive ring	Standard assembly cone for EO-2	Backing plate for EOMAT PRO42	Compact backing plate for EOMAT PRO22	Distance gauge only for progressive ring	Cone template for assembly cone
LL	04	MOK04LLPRORW	MOK04LLPRO	–	GHP04X	GHP04PRO	AKL04LL	KONU04LL
	06	MOK06LLPRORW	MOK06LLPRO	–	GHP06X	GHP06PRO	AKL06LL	KONU06LL
	08	MOK08LLPRORW	MOK08LLPRO	–	GHP08X	GHP08PRO	AKL08LL	KONU08LL
	10	MOK10LLPRORW	MOK10LLPRO	–	GHP10X	GHP10PRO	AKL10LL	KONU10LL
	12	MOK12LLPRORW	MOK12LLPRO	–	GHP12X	GHP12PRO	AKL12LL	KONU12LL
L	06	MOK06LPRORW	MOK06LPRO	MOKEO206LPRO	GHO06X	GHP06PRO	AKL06LS	KONU06L
	08	MOK08LPRORW	MOK08LPRO	MOKEO208LPRO	GHP08X	GHP08PRO	AKL08LS	KONU08L
	10	MOK10LPRORW	MOK10LPRO	MOKEO210LPRO	GHP10X	GHP10PRO	AKL10LL	KONU10L
	12	MOK12LPRORW	MOK12LPRO	MOKEO212LPRO	GHP12X	GHP12PRO	AKL12LL	KONU12L
	15	MOK15LPRORW	MOK15LPRO	MOKEO215LPRO	GHP15X	GHP15PRO	AKL15L	KONU15L
	18	MOK18LPRORW	MOK18LPRO	MOKEO218LPRO	GHP18X	GHP18PRO	AKL18L	KONU18L
	22	MOK22LPRORW	MOK22LPRO	MOKEO222LPRO	GHP22X	GHP22PRO	AKL22L	KONU22L
	28	MOK28LPRORW	MOK28LPRO	MOKEO228LPRO	GHP28X	–	AKL28L	KONU28L
	35	MOK35LPRORW	MOK35LPRO	MOKEO235LPRO	GHP35X	–	AKL35L	KONU35L
	42	MOK42LPRORW	MOK42LPRO	MOKEO242LPRO	GHP42X	–	AKL42L	KONU42L
S	06	MOK06SPRORW	MOK06SPRO	MOKEO206SPRO	GHP06X	GHP06PRO	AKL06LS	KONU06L
	08	MOK08SPRORW	MOK08SPRO	MOKEO208SPRO	GHP08X	GHP08PRO	AKL08LS	KONU08L
	10	MOK10SPRORW	MOK10SPRO	MOKEO210SPRO	GHP10X	GHP10PRO	AKL10S	KONU10L
	12	MOK12SPRORW	MOK12SPRO	MOKEO212SPRO	GHP12X	GHP12PRO	AKL12S	KONU12L
	14	MOK14SPRORW	MOK14SPRO	MOKEO214SPRO	GHP14X	GHP14PRO	AKL14S	KONU14S
	16	MOK16SPRORW	MOK16SPRO	MOKEO216SPRO	GHP16X	GHP16PRO	AKL16S	KONU16S
	20	MOK20SPRORW	MOK20SPRO	MOKEO220SPRO	GHP20X	GHP20PRO	AKL20S	KONU20S
	25	MOK25SPRORW	MOK25SPRO	MOKEO225SPRO	GHP25X	–	AKL25S	KONU25S
	30	MOK30SPRORW	MOK30SPRO	MOKEO230SPRO	GHP30X	–	AKL30S	KONU30S
	38	MOK38SPRORW	MOK38SPRO	MOKEO238SPRO	GHP38X	–	AKL38S	KONU38S
		Programmable with individual parameters for plausibility checks	Programmed with universal parameters without effective error detection	Programmed with universal parameters without effective error detection	Also suitable for EO-KARRYMAT and all EOMAT devices from Parker	Only suitable for the EOMAT PRO 22 device from Parker	To check the assembly result of Parker EO Progressive rings (not for EO-2)	To check wear of MOK assembly cones for progressive rings (not MOK EO-2)

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