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. 20 assemblies per day	 30–60 secs. max. 50 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:

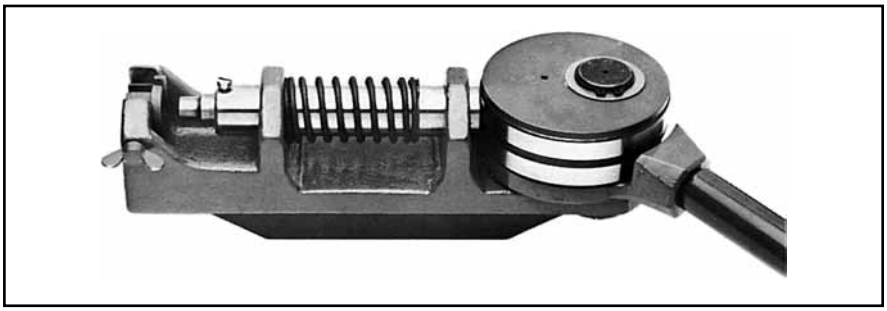
For pre-assembly of: EO Progressive Stop Ring (PSR)/Progressive Ring (DPR)
Pre-assembly equals: 1 turn of nut

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)
Economic production quantity: max. 20 ass./day

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.

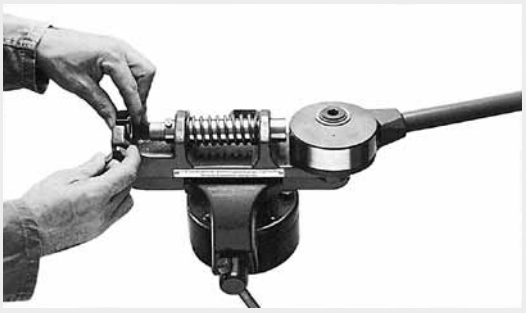
HVM-B Pre-assembly tool

1

How to use

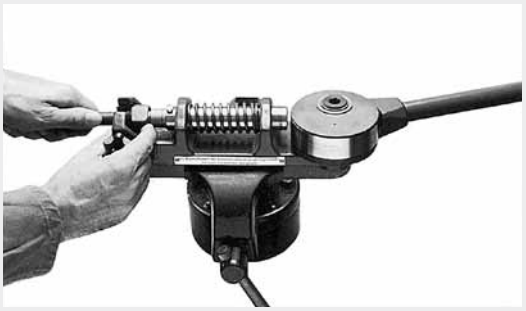
- Clamp HVM-B into vice.
- Select required assembly cone (MOSI) and insert.
- The assembly cones are marked with tube O.D. and series (e.g. 10-L).

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.

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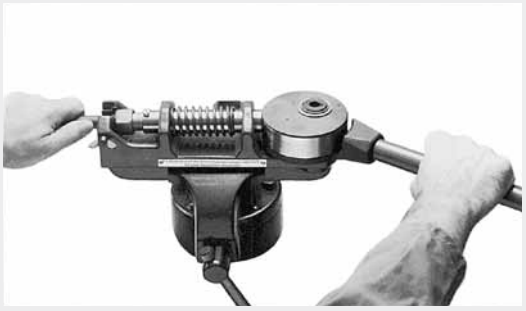

- Pull lever to turn the eccentric cam (Pre-assembly).

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
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.	EO-2	PSR/DPR
Ø [mm]	P [bar]	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°